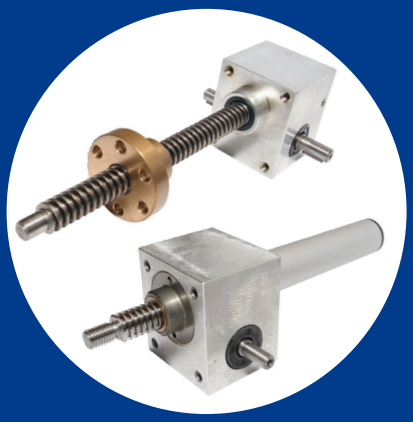








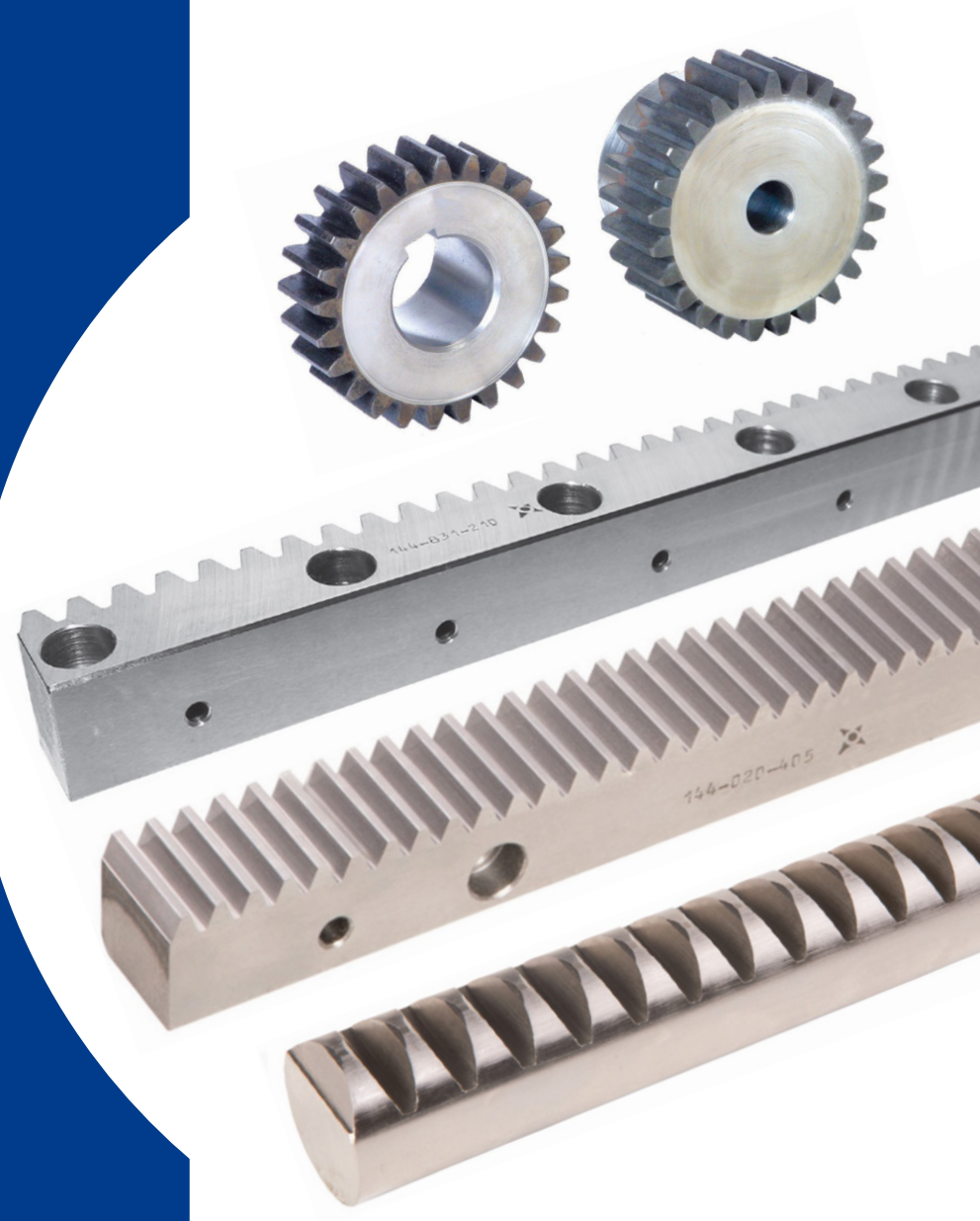
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" Part of your drive "

TRANSMISSION PRODUCTS

STOCK CATALOGUE

EDITION 03

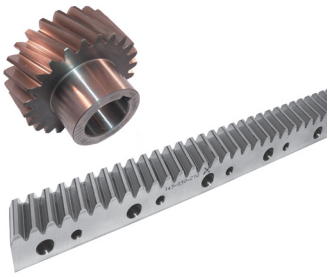


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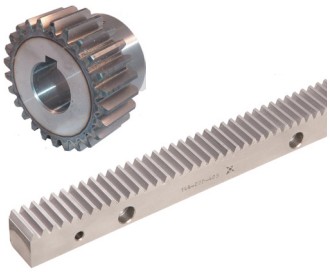
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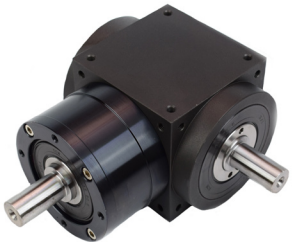
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STRAIGHT RACK-PINION



BEVEL GEARS



BEVEL GEARBOXES



LEADSCREWS



BALLSCREWS



SUPPORT UNITS



COUPLINGS



POLYGON & SPLINE



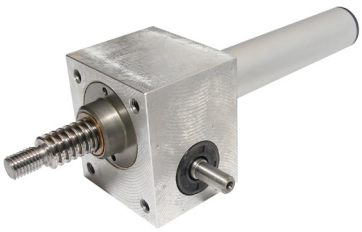
LOCKING DEVICES



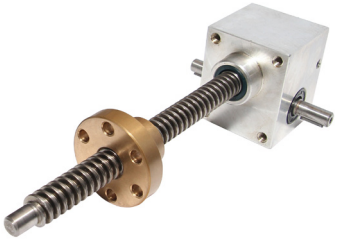
WORMS & WHEELS



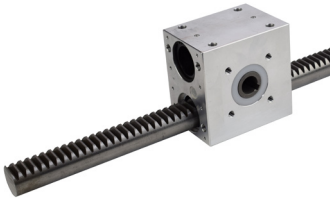
CHAIN & SPROCKETS



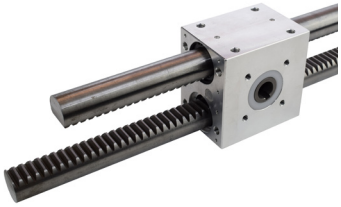
TRAV. SCREW JACKS



TRAV. NUT JACKS



SINGLE RACK JACKS



DOUBLE RACK JACKS

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Interactive Contents

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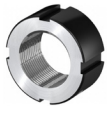
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Welcome

WMH have been a market leader in power transmission component design and manufacture for over 50 years.

Our professional sales team and technical support staff are dedicated to quality customer service, reliability and product excellence.

With years of commercial experience, ISO 9001/2008 accreditation and a highly skilled workforce from the shop floor through to management, you can be confident in choosing WMH for all you power transmission needs.

We hold extensive stock of over £1.5 million at our headquarters in Tamworth, Staffordshire situated on junction 10 of the M42 just north of the N.E.C, Birmingham providing excellent access to the motorway network and our customers.

WMH have extensive knowledge in the selection and manufacture of power transmissions components specifically focusing on:

- **Rack and pinion milling & grinding -**
- **Whirling of leadscrews & nut manufacture -**
- **Machining & assembly of ballscrew -**
- **Screw jack & rack jack systems -**

Our in-house, fully equipped CNC machine shop and years of industry experience gives us the capability to tailor any products to specific customer requirements – contact our sales team with your requirements.

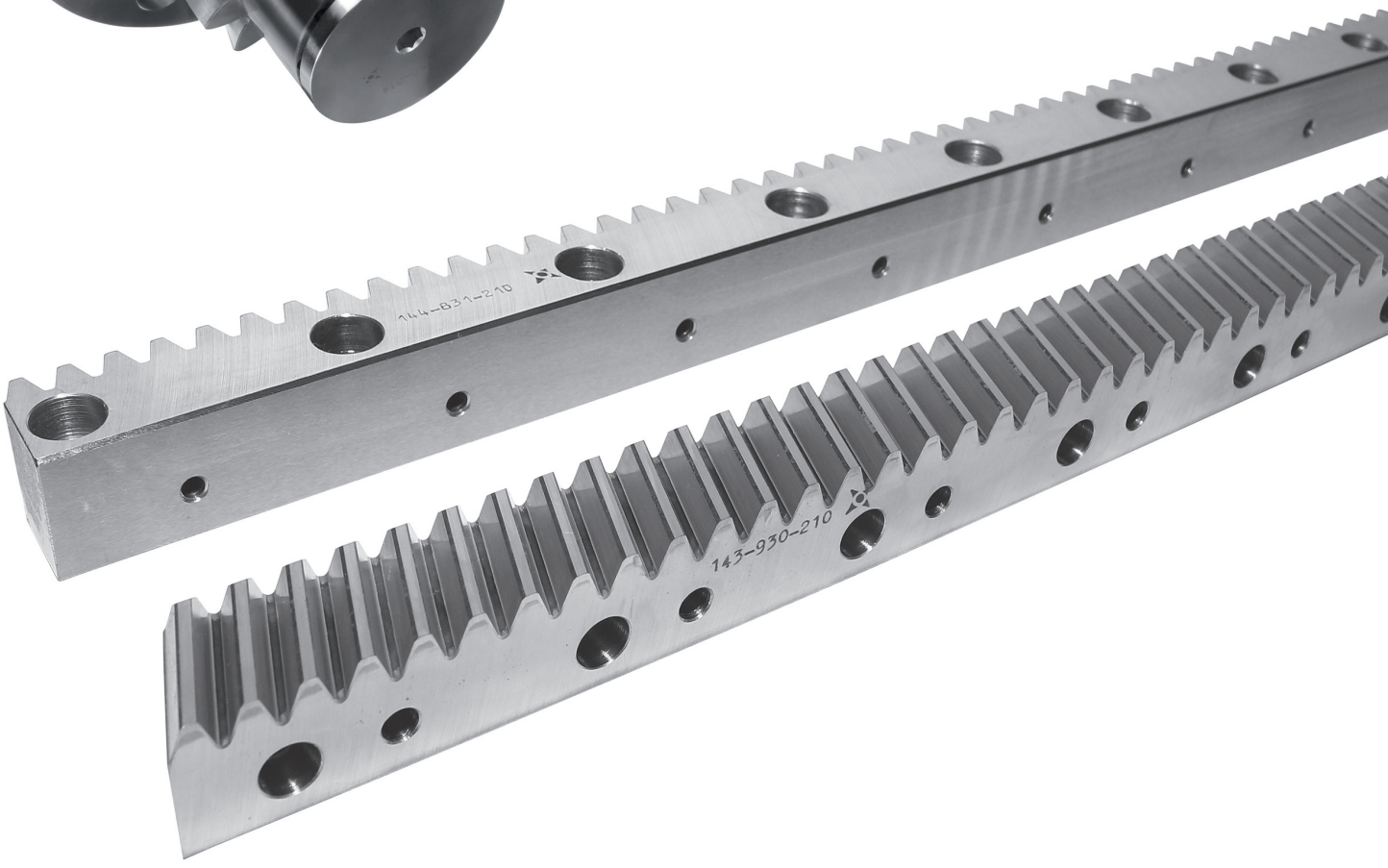


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Helical Rack & Pinions







AS WELL AS OUR RANGE OF STANDARD PRODUCTS WE CAN ALSO MANUFACTURE SPECIAL COMPONENTS IN HOUSE – PLEASE CONTACT OUR SALES TEAM WITH YOUR REQUIREMENTS

WMH Transmissions Limited



Tooth Pitch Deviation

DIN 3962 Standard

Quality 6						
MOD	fp/300	Fp/300	fp/500	Fp/500	fp/1000	Fp/1000
1	7	25	8	28	8	32
2	7	25	8	28	8	32
3	7	28	8	32	8	36
4	9	28	9	36	10	40
5	9	28	9	36	10	40
6	9	28	9	36	10	40
8	10	32	11	36	11	40
10	10	32	11	36	11	40

Quality 7						
MOD	fp/300	Fp/300	fp/500	Fp/500	fp/1000	Fp/1000
1	10	32	11	40	12	45
2	10	32	11	40	12	45
3	10	36	11	45	12	50
4	12	40	12	45	14	56
5	12	40	12	45	14	56
6	12	40	12	45	14	56
8	14	45	14	56	16	63
10	14	45	14	56	16	63

Quality 8						
MOD	fp/300	Fp/300	fp/500	Fp/500	fp/1000	Fp/1000
1	14	50	16	56	16	63
2	14	50	16	56	16	63
3	14	50	16	63	16	71
4	16	56	18	71	20	80
5	16	56	18	71	20	80
6	16	56	18	71	20	80
8	20	63	20	71	22	80
10	20	63	20	71	22	80

Quality 9						
MOD	fp/300	Fp/300	fp/500	Fp/500	fp/1000	Fp/1000
1	20	63	22	80	22	90
2	20	63	22	80	22	90
3	20	71	22	90	22	100
4	25	80	25	90	28	110
5	25	80	25	90	28	110
6	25	80	25	90	28	110
8	28	90	28	100	32	110
10	28	90	28	100	32	110

Quality 10						
MOD	fp/300	Fp/300	fp/500	Fp/500	fp/1000	Fp/1000
1	32	110	36	125	36	140
2	32	110	36	125	36	140
3	32	125	36	140	36	160
4	40	125	40	140	45	180
5	40	125	40	140	45	180
6	40	125	40	140	45	180
8	45	140	45	160	50	180
10	45	140	45	160	50	180

Quality 12						
MOD	fp/300	Fp/300	fp/500	Fp/500	fp/1000	Fp/1000
1	80	280	90	320	90	360
2	80	280	90	320	90	360
3	80	320	90	360	100	400
4	100	320	100	360	110	450
5	100	320	100	360	110	450
6	100	320	100	360	110	450
8	110	360	125	400	125	450
10	110	360	125	400	125	405

fp = Maximum pitch error for one single tooth (µm)

Fp = Maximum Cumulative pitch error over length (µm)

QUALITY GRADES ONLY SHOWN FOR RACKS KEPT IN STOCK – FOR ERRORS OF OTHER QUALITIES, PLEASE REFER TO DIN 3962 STANDARD OR CONTACT OUR SALES TEAM FOR MORE INFORMATION

WMH HAVE THE CAPACITY TO MANUFACTURE RACK & PINIONS IN QUALITY 12 UP TO QUALITY 4
SOME STANDARD RACKS ARE ALSO AVAILABLE IN HIGHER OR LOWER QUALITIES ON REQUEST

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Application Guide

DIN Quality	1	2	3	4	5	6	7	8	9	10	11	12
Manufacturing Method							Punched, Pressed, Injection Moulded					
						Planed, Milled, Shaped						
					Shaved							
		Ground										
Circumferential Speed										< 3 m/s		
								3 – 6 m/s				
					6 – 20 m/s							
		> 20 m/s										
Typical Applications								Agricultural Machines				
							Lifting Devices, Conveyors, Office Machinery					
						Construction Machinery						
							Apparatus Construction					
					Machine Tool Manufacturing							
					Internal Combustion Engines							
				Turbines, Measuring Equipment								
		Testing Equipment										

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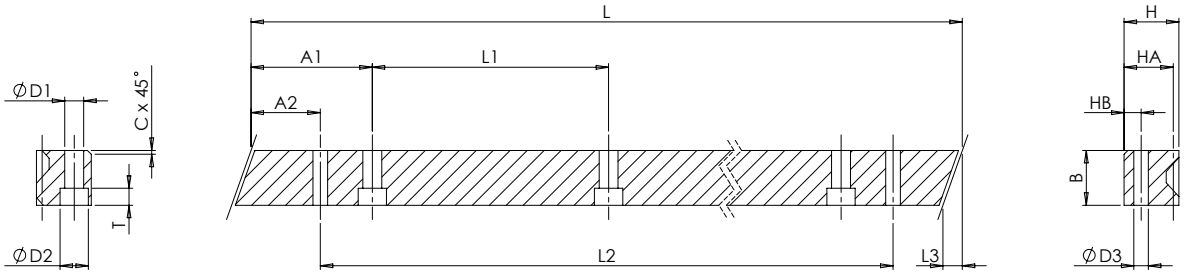
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Precision Helical Racks

Ground Rear & Contact Surfaces – Ground Teeth

Helix Angle	Pressure Angle	Tooth Quality	Tooth Finish	Material	Hardness
R/H 19° 31' 42"	20°	Q6 h23 **	Ind. Hard + Ground	C45 (1.0503)	50~55 HRC *



MOD	Length (mm)	Tooth Number	B	H	HA (PCD)	HB	L1	L2	L3	A1	A2	D1	D2	D3	C +0.5	T	Mass (kg)	Order Code
2	500	75	24	24	22	8	125	436.6	8.5	62.5	31.7	7	11	5.7	2	7	2.1	143-020-405
	1000	150						936.6									4.3	143-020-410
3	500	50	29	29	26	9	125	430.0	10.3	62.5	35.0	10	15	7.7	2	9	3.0	143-030-405
	1000	100						930.0									6.1	143-030-410
4	506.66	38	39	39	35	12	125	433.0	13.8	62.5	33.3	10	15	7.7	3	9	5.5	143-040-405
	1000	75						933.4									10.9	143-040-410
	2000	150						1933.4									21.8	143-040-420
5	500	30	49	39	34	12	125	425.0	17.4	62.5	37.5	14	20	11.7	3	13	6.5	143-050-405
	1000	60						925.0									13.0	143-050-410
	2000	120						1925.0									26.0	143-050-420
6	500	25	59	49	43	16	125	425.0	20.9	62.5	37.5	18	26	15.7	3	17	9.9	143-060-405
	1000	50						925.0									19.8	143-060-410
	2000	100						1925.0									36.2	143-060-420
8	480	18	79	79	71	25	120	240.0	28.0	60.0	120.0	22	33	19.7	3	21	21.0	143-080-405
	960	36						720.0									42.5	143-080-410
	1920	72						1680.0									85.0	143-080-420
10	1000	30	99	99	89	32	125	750.0	35.1	62.5	125.0	33	48	19.7	3	32	68.7	143-100-410

* Module 1~3 teeth flanks & roots hardened. Module 4~10 only flanks hardened
** Racks with nominal length of 2000mm are finished to Q6 h24 tolerance

Un-Bored Order Code	143-XXX-3XX

BOTH ENDS OF EACH RACK ARE MACHINED TO ALLOW CONTINUOUS MOUNTING.
WMH RECOMMENED THE USE OF A MOUNTING PIECE AND GREASE OR OIL LUBRICATION.

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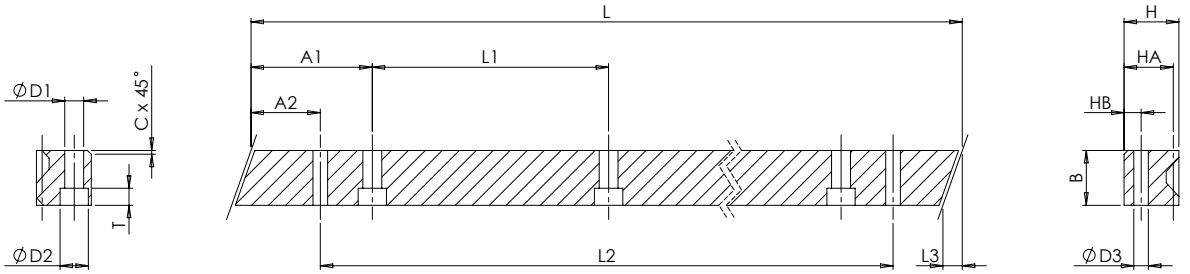


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Precision Helical Racks

Ground Rear & Contact Surfaces – Milled Teeth

Helix Angle	Pressure Angle	Tooth Quality	Tooth Finish	Material	Hardness
R/H 19° 31' 42"	20°	Q10 h27	Ind. Hard + Milled	C45 (1.0503)	50~55 HRC *



MOD	Length (mm)	Tooth Number	B	H	HA (PCD)	HB	L1	L2	L3	A1	A2	D1	D2	D3	C +0.5	T	Mass (kg)	Order Code
2	500	75	24	24	22	8	125	436.6	8.5	62.5	31.7	7	11	5.7	2	7	2.1	143-020-805
	1000	150						936.6									4.3	143-020-810
	2000	300						1936.6									8.6	143-020-820
3	500	50	29	29	26	9	125	430.0	10.3	62.5	35.0	10	15	7.7	2	9	3.0	143-030-805
	1000	100						930.0									6.1	143-030-810
	2000	200						1930									12.2	143-030-820
4	506.66	38	39	39	35	12	125	433.0	13.8	62.5	33.3	10	15	7.7	3	9	5.5	143-040-805
	1000	75						933.4									10.9	143-040-810
	2000	150						1933.4									21.8	143-040-820
5	500	30	49	39	34	12	125	425.0	17.4	62.5	37.5	14	20	11.7	3	13	6.5	143-050-805
	1000	60						925.0									13.0	143-050-810
6	500	25	59	49	43	16	125	425.0	20.9	62.5	37.5	18	26	15.7	3	17	9.9	143-060-805
	1000	50						925.0									19.8	143-060-810

* Module 1~3 teeth flanks & roots hardened. Module 4~10 only flanks hardened

Un-Bored Order Code	143-XXX-9XX

BOTH ENDS OF EACH RACK ARE MACHINED TO ALLOW CONTINUOUS MOUNTING.
WMH RECOMMENED THE USE OF A MOUNTING PIECE AND GREASE OR OIL LUBRICATION.

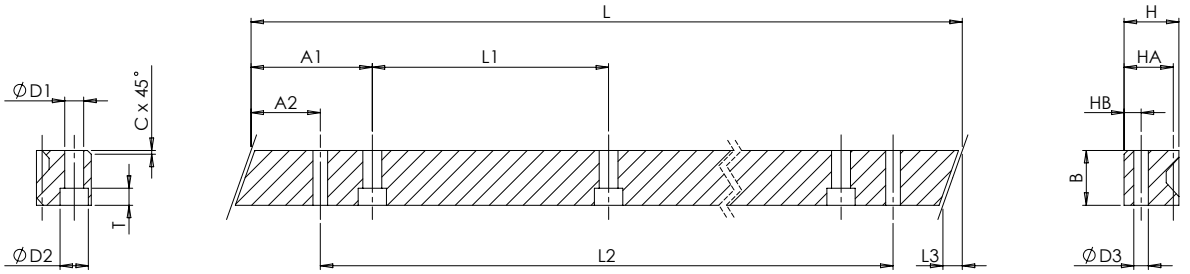
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Economy Helical Racks

Milled Rear & Contact Surfaces – Milled Teeth

Helix Angle	Pressure Angle	Tooth Quality	Tooth Finish	Material	Hardness
R/H 19° 31' 42"	20°	Q9 h27	Milled	C45 (1.0503)	Soft



MOD	Length (mm)	Tooth Number	B	H	HA (PCD)	HB	L1	L2	L3	A1	A2	D1	D2	D3	C +0.5	T	Mass (kg)	Order Code
1.5	1000	200	17	16.8	15.3	6	125	936.6	6.0	62.5	31.7	6	10	5.7	-	6	2.0	145-015-210
	1500	300						1436.6									3.0	145-015-215
	2000	400						1936.6									4.0	145-015-220
2	500	75	25	24.75	22.75	8	125	436.6	8.9	62.5	31.7	7	11	5.7	-	7	2.2	145-020-205
	1000	150						936.6									4.4	145-020-210
	1500	225						1436.6									6.6	145-020-215
	2000	300						1936.6									8.8	145-020-220
3	500	50	30	29.75	26.75	9	125	430.0	10.6	62.5	35.0	10	15	7.7	-	9	3.1	145-030-205
	1000	100						930.0									6.2	145-030-210
	2000	200						1930.0									12.5	145-030-220
4	506.66	38	40	39.7	35.7	12	125	433.0	14.2	62.5	33.3	10	15	7.7	-	9	5.6	145-040-205
	1000	75						933.4									11.1	145-040-210
	2000	150						1933.4									22.2	145-040-220
5	1000	60	50	39.7	34.7	12	125	925.0	17.7	62.5	37.5	14	20	11.7	-	13	13.3	145-050-210
	2000	120						1925.0									26.5	145-050-220
6	1000	50	60	49.7	43.7	16	125	925.0	21.3	62.5	37.5	18	26	15.7	-	17	20.1	145-060-210
	2000	100						1925.0									40.2	145-060-220
8	960	36	80	79.6	71.6	25	120	720.0	28.4	60.0	120.0	22	33	19.7	-	21	44.8	145-080-210
	1920	72						1680.0									89.7	145-080-220
10	1000	30	100	99.0	89.0	32	125	750.0	35.5	62.5	125.0	33	48	19.7	-	32	69.8	145-100-210

Un-Bored Order Code	145-XXX-1XX

BOTH ENDS OF EACH RACK ARE MACHINED TO ALLOW CONTINUOUS MOUNTING.
WMH RECOMMENED THE USE OF A MOUNTING PIECE AND GREASE OR OIL LUBRICATION.

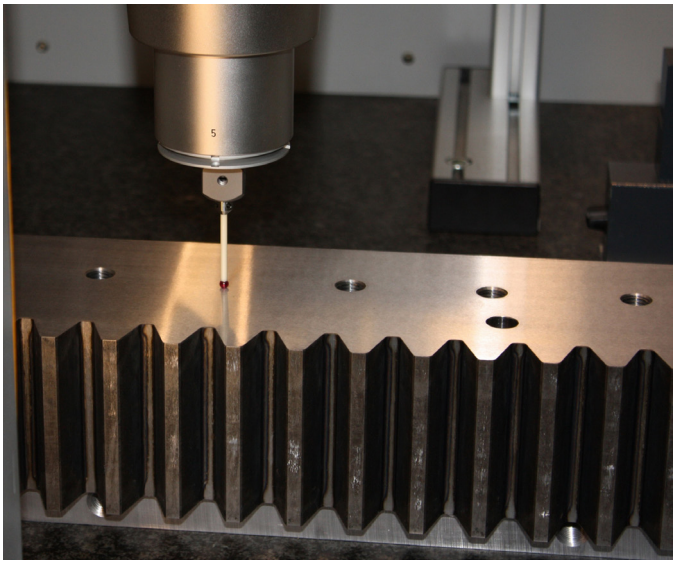
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WMH Transmissions Limited

Special Manufacture Racks





WMH IS A MARKET LEADER IN THE MANUFACTURE OF RACK & PINIONS AND WAS ONE OF THE FIRST COMPANIES TO GRIND RACKS IN EUROPE

AT OUR FACILITY IN TAMWORTH, STAFFORDSHIRE WE HAVE THE MACHINERY AND INDUSTRY EXPERTISE TO MODIFY ANY OF OUR STANDARD RACK & PINIONS IN-HOUSE

WMH ALSO HAS THE CAPABILITY TO PRODUCE ALMOST ANY RACK IMAGINABLE BE IT CORRECTED TOOTH GEOMETRY, EXOTIC MATERIALS AND EVEN CURVED SEGMENTS

STANDARD RACKS ARE RIGHT HANDED AND ALL STANDARD PINIONS ARE LEFT HANDED BUT **WMH** CAN PRODUCE LEFT HANDED RACKS AND RIGHT HANDED PINIONS ON REQUEST

CONTACT OUR SALES TEAM WITH YOUR REQUIREMENTS AND WE WILL BE HAPPY TO HELP





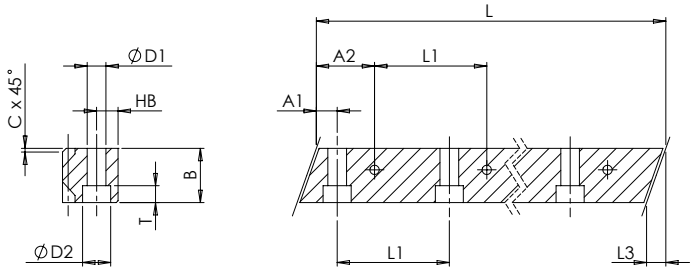
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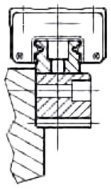
Precision Helical Racks

Ground Contact Surfaces – For Linear Guides

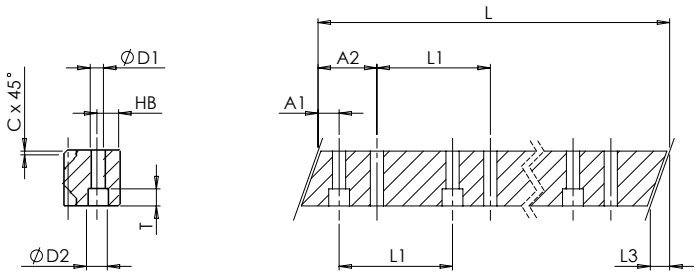
Helix Angle	Pressure Angle	Tooth Quality	Tooth Finish	Material	Hardness
R/H 19° 31' 42"	20°	Q6 h23	Ind. Hard + Ground	C45 (1.0503)	50~55 HRC



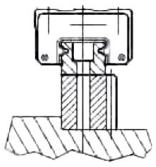
180°



MOD	Length (mm)	Tooth Number	B	H	HA (PCD)	HB	L1	L3	A1	A2	D1	D2	M1	M2	C +0.5	T	Mass (kg)	Order Code
2	960	144	19	19.5	17.5	7.5	60	6.7	10	30	5.8	10	M4	8	1	6	2.7	143-820-110
2	960	144	24	24.5	22.5	10	60	8.5	10	30	7	11	M5	11	1	7	4.2	143-820-210
3	960	96	29	29.75	26.75	11.5	60	10.3	10	30	10	15	M6	13.5	2	9	5.6	143-830-210
4	960	72	39	39.75	35.75	14	80	13.8	20	40	12	18	M8	16	2	12	10.5	143-840-310
4	960	72	39	48.75	44.75	17	80	13.8	20	40	12	18	M8	16	2	12	13.0	143-840-410
4	840	63	49	58.0	54.0	22.5	105	17.4	30	60	14	20	M12	25	2	13	17.3	143-840-510



90°



MOD	Length (mm)	Tooth Number	B	H	HA (PCD)	HB	L1	L3	A1	A2	D1	D2	D3	C +0.5	T	Mass (kg)	Order Code
2	960	144	19	19.5	17.5	7.5	60	6.7	10	30	4.5	7.5	4.5	1	5.3	2.7	143-920-110
2	480	72														1.3	143-920-105
2	960	144	24	24.5	22.5	10	60	8.5	10	30	6	9.5	6	1	8.5	4.2	143-920-210
2	480	72														2.1	143-920-205
3	960	96	29	29.75	26.75	11.5	60	10.3	10	30	7	11	7	2	9	5.6	143-930-210
3	480	48														2.8	143-930-205
4	960	72	39	39.75	35.75	14	80	13.8	20	40	10	15	10	2	9	10.5	143-940-310
4	480	36														5.2	143-940-305
4	960	72	39	48.75	44.75	17	80	13.8	20	40	10	15	10	2	9	13.0	143-940-410
4	408	36														6.5	143-940-405
4	840	63	49	58.0	54.0	22.5	105	17.4	30	60	14	20	14	2	13	17.3	143-940-510

BOTH ENDS OF EACH RACK ARE MACHINED TO ALLOW CONTINUOUS MOUNTING.
WMH RECOMMENED THE USE OF A MOUNTING PIECE AND GREASE OR OIL LUBRICATION.

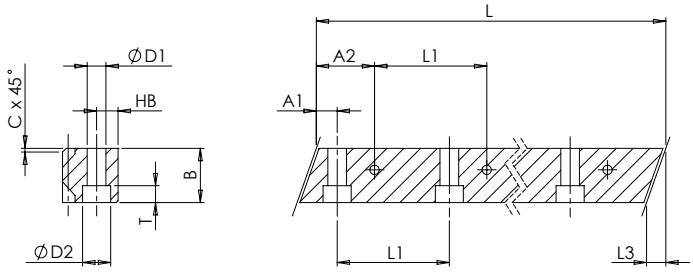
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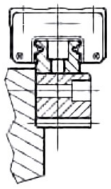
Economy Helical Racks

Milled Contact Surfaces – For Linear Guides

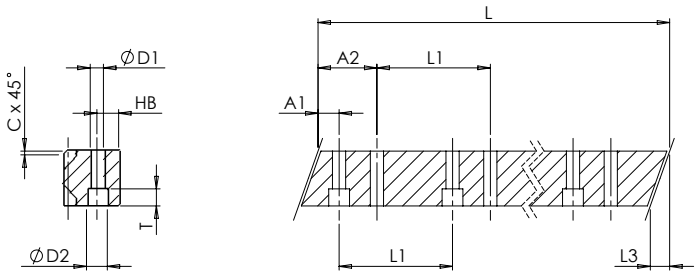
Helix Angle	Pressure Angle	Tooth Quality	Tooth Finish	Material	Hardness
R/H 19° 31' 42"	20°	Q9 h27	Milled	C45 (1.0503)	Soft



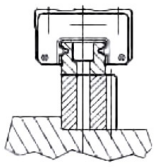
180°



MOD	Length (mm)	Tooth Number	B	H	HA (PCD)	HB	L1	L3	A1	A2	D1	D2	M1	M2	C +0.5	T	Mass (kg)	Order Code
2	1920	288	20	19.5	17.5	7.5	60	7.1	10	30	5.8	10	M4	8	-	6	5.4	145-820-120
2	1920	288	25	24.5	22.5	10	60	8.9	10	30	7	11	M5	11	-	7	8.4	145-820-220
3	1920	192	30	29.75	26.75	11.5	60	10.6	10	30	10	15	M6	13.5	-	9	11.2	145-830-220
4	1920	144	40	39.75	35.75	14	80	14.2	20	40	12	18	M8	16	-	12	21.5	145-840-320



90°



MOD	Length (mm)	Tooth Number	B	H	HA (PCD)	HB	L1	L3	A1	A2	D1	D2	D3	C +0.5	T	Mass (kg)	Order Code
2	1920	288	20	19.5	17.5	7.5	60	7.1	10	30	4.5	7.5	4.5	-	5.3	5.4	145-920-120
2	1920	288	25	24.5	22.5	10	60	8.9	10	30	6	9.5	6	-	8.5	8.4	145-920-220
3	1920	192	30	29.75	26.75	11.5	60	10.6	10	30	7	11	7	-	9	11.2	145-930-220
4	1920	144	40	39.75	35.75	14	80	14.2	20	40	10	15	10	-	9	21.5	145-940-320

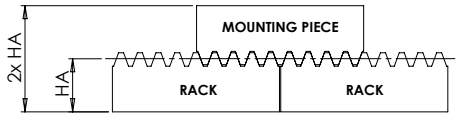
BOTH ENDS OF EACH RACK ARE MACHINED TO ALLOW CONTINUOUS MOUNTING.
WMH RECOMMENED THE USE OF A MOUNTING PIECE AND GREASE OR OIL LUBRICATION.

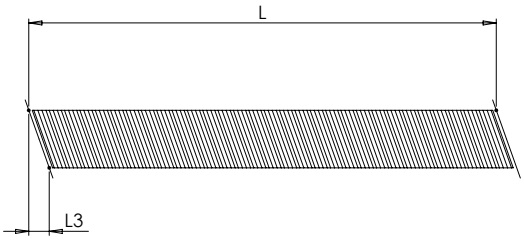
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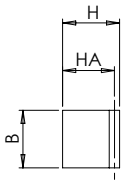


Helical Mounting Pieces

Helix Angle	Pressure Angle	Tooth Quality	Tooth Finish	Material	Hardness
L/H 19° 31' 42"	20°	Q5 / Q8	Milled / Ground	C45 (1.0503)	Soft







MOD	Length (mm)	Tooth Number	B	H	HA (PCD)	L3	Mass (kg)	Order Code	
								Q5 Ground	Q8 Milled
2	200	30	24	24	22	8.5	0.9	143-020-002	-
			25	24.75	22.75	8.9	0.9	-	143-020-001
3	200	20	29	29	26	10.3	1.2	143-030-002	-
			30	29.75	26.75	10.6	1.3	-	143-030-001
4	200	15	39	39	35	13.8	2.2	143-040-002	-
			40	39.7	35.7	14.2	2.2	-	143-040-001
5	200	12	49	39	34	17.4	2.6	143-050-002	-
			50	39.7	34.7	17.7	2.7	-	143-050-001
6	200	10	59	49	43	20.9	3.6	143-060-002	-
			60	49.7	43.7	21.3	4.0	-	143-060-001
8	215	8	79	79	71	28.0	8.5	143-080-002	-
			80	79.6	71.6	28.4	9.0	-	143-080-001
10	235	7	99	99	89	35.1	13.7	143-100-002	-
			100	99.0	89.0	35.5	13.4	-	143-100-001

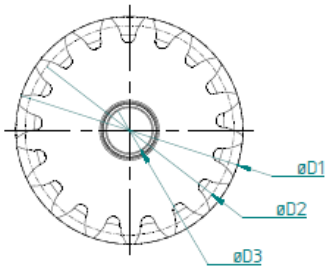
WMH RECOMMENED THE USE OF A MOUNTING PIECE AND GREASE OR OIL LUBRICATION.

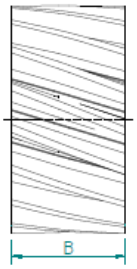
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Helical Lubrication Pinions

For Standard Helical Racks





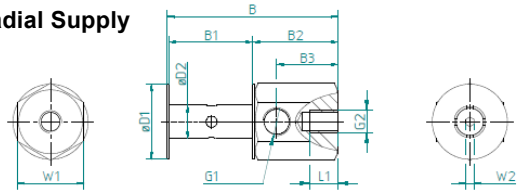
Design Parameter	Value
Helix Angle	L/H 19° 31' 42"
Pressure Angle	20°
Tooth Form	DIN 867
Material	PU Foam

Lubrication pinions are supplied complete with suitable bushing and sleeve bearing

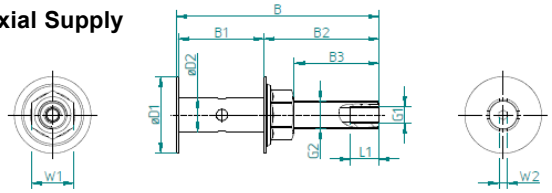
MOD	Tooth Number	Face Width (B)	Ø D3 (BORE)	Ø D2 (PCD)	Ø D1	Order Code
1.5	24	15	12	38.197	41.197	132-015-024
2	17	20	12	36.075	40.075	132-020-017
3	17	30	12	54.113	60.113	132-030-017
4	17	40	12	72.150	80.150	132-040-017
5	17	50	20	90.188	100.188	132-050-017
6	17	60	20	108.226	120.226	132-060-017
8	17	80	20	144.301	160.301	132-080-017
10	17	100	20	180.376	200.376	132-100-017

Mounting Axis

Radial Supply



Axial Supply



MOD	B1	D1	D2	L1	W2	B	B2	B3	G1	G2	W1	Order Code	
												Radial	Axial
1.5	15.2	27	12	10	3	46.4	30.6	22	G1/8	M8	24	133-015-001	-
						60.2	44.6	34.2	M6	M10	15	-	133-015-002
2	20.2	27	12	10	3	54.4	30.6	22	G1/8	M8	24	133-020-001	-
						61.2	41.2	30.6	M6	M10	15	-	133-020-002
3	30.2	27	12	10	3	61.4	30.6	22	G1/8	M8	24	133-030-001	-
						71.2	40.4	30	M6	M10	15	-	133-030-002
4	40.2	27	12	10	3	71.4	30.6	22	G1/8	M8	24	133-040-001	-
						81.2	40.4	30	M6	M10	15	-	133-040-002
5	50.2	60	20	10	4	81.4	30.6	22	G1/8	M8	24	133-050-001	-
						116.4	65.6	49.1	G1/8	M16	24	-	133-050-002
6	60.2	60	20	10	4	91.4	30.6	22	G1/8	M8	24	133-060-001	-
						126.4	65.6	49.1	G1/8	M16	24	-	133-060-002
8	80.2	60	20	10	4	111.4	30.6	22	G1/8	M8	24	133-080-001	-
						146.4	65.6	49.1	G1/8	M16	24	-	133-080-002
10	100.2	100	20	10	4	131.4	30.6	22	G1/8	M8	24	133-100-001	-
						166.4	65.6	49.1	G1/8	M16	24	-	133-100-002

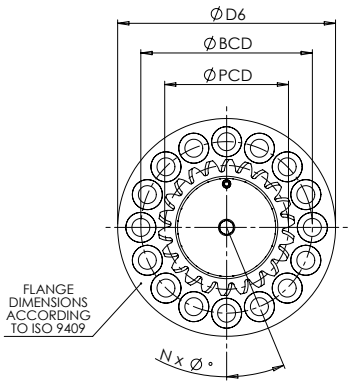
WMH RECOMMENED THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION
PLEASE SEE OUR LUBRICATION CATALOGUE FOR OUR LUBRICANTS, PUMPS & ACCESSORIES

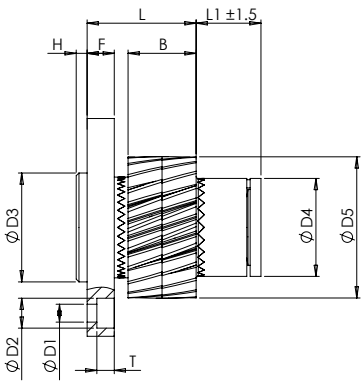
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Helical Double Pinions

For Anti-Backlash Applications





Design Parameter	Value
Helix Angle	L/H 19° 31' 42"
Pressure Angle	20°
Tooth Quality	Q6 e25
Tooth Finish	Case Hard + Ground
Material	16MnCr5 (1.7131)
Hardness	58~62 HRC

Only one half of the double pinion transmits power at any given time hence all calculations should be based on half of the face width (B)

MOD	Tooth Number	X *	B	BCD	PCD	D1	D2	D3	D4	D5	D6	F	H	L	L1**	T	N x Ø °	Order Code
2	22	0.330	25	63	48	6.6	11	40	36	52	80	10	4	40	23	6.4	16 x 22.5	123-020-122
3	14	0.239	30	63	46	6.6	11	40	36	52	80	10	4	45	23	6.4	16 x 22.5	123-030-114
4	13	0.353	40	80	58	9	15	50	45	66	100	13	6	58	38	8.6	12 x 30	123-040-113
5	14	0.573	50	125	80	11	18	80	65	90	160	20	6	75	38	10.6	12 x 30	123-050-114

* X = Addendum modification factor

** Dimension L1 can vary due to the nature of the preload adjustment mechanism

MOD	Tooth Number	X *	B	Max Torque (Nm) ***		Resultant Speed (rpm) Based on 2.5 m/s Travel	Order Code
				Without Preload	With Max. Preload		
2	22	0.330	25	132	66	1071	123-020-122
3	14	0.239	30	147	74	1071	123-030-114
4	13	0.353	40	305	153	865	123-040-113
5	14	0.573	50	594	297	643	123-050-114

* X = Addendum modification factor

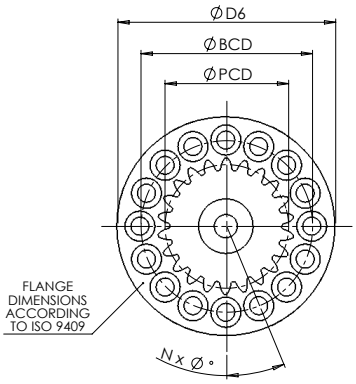
*** Stated values based on 20,000 hours service life with continuous grease lubrication

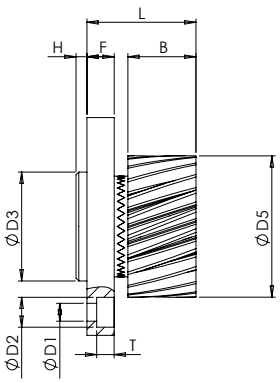
WMH RECOMMENED THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION FOR ALL RACK & PINION APPLICATIONS – LIFE TIME CALCULATIONS AVAILABLE ON REQUEST

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Helical Flange Pinions





Design Parameter	Value
Helix Angle	L/H 19° 31' 42"
Pressure Angle	20°
Tooth Quality	Q6 e25
Tooth Finish	Case Hard + Ground
Material	16MnCr5 (1.7131)
Hardness	58~62 HRC

MOD	Tooth Number	X *	B	BCD	PCD	D1	D2	D3	D5	D6	F	H	L	T	N x Ø °	Order Code
2	22	0.330	25	63	48	6.6	11	40	52	80	10	4	40	6.4	16 x 22.5	122-120-022
3	14	0.239	30		46								45			122-130-014
3	18	0.450	30	80	60	9	15	50	66	100	13	6	58	8.6	12 x 30	122-230-018
4	13	0.353	40		58								58			122-240-013
4	19	0.170	40	125	82	11	18	80	90	160	20	6	65	10.6	12 x 30	122-340-019
5	14	0.573	50		80								75			122-350-014

* X = Addendum modification factor

WMH CAN PRODUCE CUSTOM FLANGE PINIONS AS WELL AS OUR STANDARD RANGE

MODULE & NUMBER OF TEETH CAN BE ADJUSTED TO CUSTOMER SPECIFICATION

PLEASE CONTACT OUR SALES TEAM WITH YOUR REQUIREMENTS

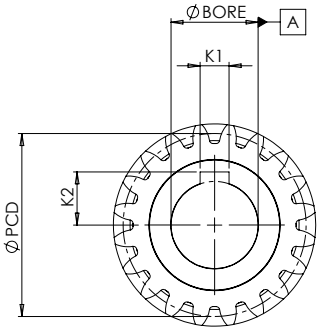
WMH RECOMMENED THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION FOR ALL RACK & PINION APPLICATIONS – LIFE TIME CALCULATIONS AVAILABLE ON REQUEST

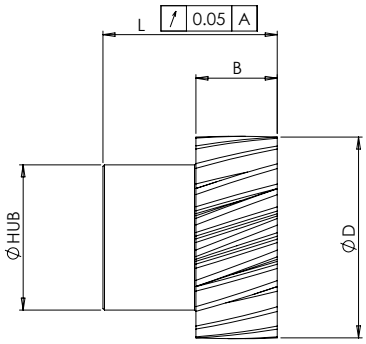
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Precision Helical Pinions

Case Hardened – With Hub





Design Parameter	Value
Helix Angle	L/H 19° 31' 42"
Pressure Angle	20°
Tooth Quality	Q7 e25
Tooth Finish	Case Hard + Ground
Material	16MnCr5 (1.7131)
Hardness	58~62 HRC

Case hardened gears are supplied with bore and key size specified below and cannot be modified

Keyway aligned with tooth root within +/- 0.5mm

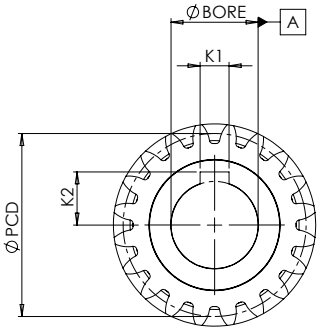
MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø H6	HUB Ø h8	Length (L)	K1	K2	Order Code
2	28	20	42.441	46.441	19	30	56	6	12.3	125-120-920
					22	36	56	6	13.8	125-220-220
		21	44.563	48.563	22	36	56	6	13.8	125-220-221
		22	46.686	50.686	19	30	56	6	12.3	125-120-922
					22	36	56	6	13.8	125-220-222
		25	53.052	57.052	19	30	56	6	12.3	125-120-925
					22	36	56	6	13.8	125-220-225
		28	59.418	63.418	19	30	56	6	12.3	125-120-928
					22	36	56	6	13.8	125-220-228
		30	63.662	67.662	22	36	56	6	13.8	125-220-230
					30	50	60	8	18.3	125-320-030
					32	55	65	10	19.3	125-320-230
		32	67.906	71.906	22	36	56	6	13.8	125-220-232
		39	82.761	86.761	32	55	65	10	19.3	125-320-239
3	28	20	63.662	69.662	22	36	56	6	13.8	125-230-220
					25	44	60	8	15.8	125-230-520
					30	50	60	8	18.3	125-330-020
					32	55	65	10	19.3	125-330-220
		22	70.028	76.028	32	55	65	10	19.3	125-330-222
					40	62	65	12	23.3	125-430-022
		25	79.578	85.578	22	36	56	6	13.8	125-230-225
					25	44	60	8	15.8	125-230-525
					30	50	60	8	18.3	125-330-025
					32	55	65	10	19.3	125-330-225
					35	55	65	10	20.8	125-330-525
					40	62	65	12	23.3	125-430-025
		28	89.127	95.127	32	55	65	10	19.3	125-330-228
					40	62	65	12	23.3	125-430-028
		32	101.859	107.859	32	55	65	10	19.3	125-330-232
					40	62	65	12	23.3	125-430-032
4	40	18	76.394	84.394	32	55	75	10	19.3	125-340-218
		21	89.127	97.127	32	55	75	10	19.3	125-340-221
					35	55	75	10	20.8	125-340-521
					40	62	75	12	23.3	125-440-021
					45	68	75	14	26.3	125-440-521
		24	101.859	109.859	32	55	75	10	19.3	125-340-224
					35	55	75	10	20.8	125-340-524
					40	62	75	12	23.3	125-440-024
					45	68	75	14	26.3	125-440-524
					55	80	80	16	31.8	125-540-524
		25	106.103	114.103	55	80	80	16	31.8	125-540-525

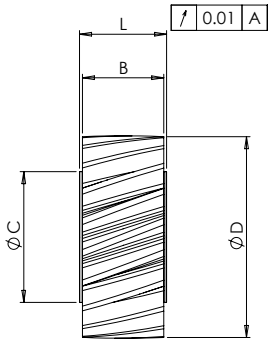
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Precision Helical Pinions

Case Hardened – Without Hub





Design Parameter	Value
Helix Angle	L/H 19° 31' 42"
Pressure Angle	20°
Tooth Quality	Q7 e25
Tooth Finish	Case Hard + Ground
Material	16MnCr5 (1.7131)
Hardness	58~62 HRC

Case hardened gears are supplied with bore and key size specified below and cannot be modified

Keyway aligned with tooth root within +/- 0.5mm

MOD	Face Width (B)	Length (L)	Tooth Number	PCD	Ø D	BORE Ø H6	Ø C	K1	K2	Order Code
2	28	30	20	42.441	46.441	20	30	6	12.8	123-220-020
			25	53.052	57.052	20	30	6	12.8	123-220-025
						25	36	8	15.8	123-220-525
			28	59.418	63.418	35	48	10	20.8	123-320-528
			30	63.662	67.662	25	36	8	15.8	123-220-530
						30	45	8	20.8	123-320-030
			32	67.906	71.906	20	30	6	12.8	123-220-032
						25	36	8	15.8	123-220-532
						35	48	10	20.8	123-320-532
			36	76.394	80.394	35	48	10	20.8	123-320-536
			40	84.883	88.883	35	48	10	20.8	123-320-540
3	28	30	20	63.662	69.662	30	45	8	18.3	123-330-020
						35	48	10	20.8	123-330-520
			22	70.028	76.028	25	36	8	15.8	123-230-522
						30	45	8	18.3	123-330-022
						35	48	10	20.8	123-330-522
			25	79.578	85.578	25	36	8	15.8	123-230-525
						30	45	8	18.3	123-330-025
						35	48	10	20.8	123-330-525
4	40	50	19	80.639	88.639	35	48	10	20.8	123-340-515
			20	84.883	92.883	35	48	10	20.8	123-340-520
						45	58	14	26.3	123-440-520
			22	93.371	101.371	35	52	10	20.8	123-340-522
						45	65	14	26.3	123-440-522
			25	106.103	114.103	35	48	10	20.8	123-340-525
						45	58	14	26.3	123-440-525

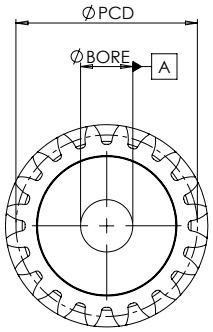
WMH RECOMMENED THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION FOR ALL RACK & PINION APPLICATIONS – LIFE TIME CALCULATIONS AVAILABLE ON REQUEST

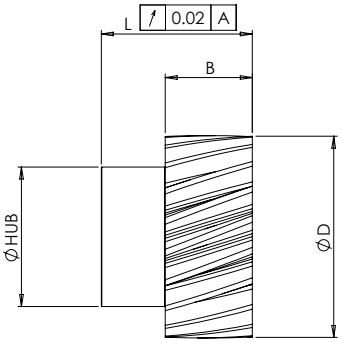
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Precision Helical Pinions

Induction Hardened & Ground Teeth Only





Design Parameter	Value
Helix Angle	L/H 19° 31' 42"
Pressure Angle	20°
Tooth Quality	Q6 e25
Tooth Finish	Ind. Hard + Ground
Material	16MnCr5 (1.7131)
Hardness	60 HRC

Induction hardened gears have soft cores and so can be reworked in-house on request

MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø H7	HUB Ø	Length (L)	Order Code
2	25	18	38.197	42.197	18	30	47	127-020-018
		20	42.441	46.441	18	30	47	127-020-020
		22	46.686	50.686	18	36	47	127-020-022
		25	53.052	57.052	18	44	53	127-020-025
		28	59.418	63.418	18	50	53	127-020-028
		30	63.662	67.662	24	54	53	127-020-030
		32	67.906	71.906	24	55	53	127-020-032
		36	76.394	80.394	24	65	53	127-020-036
		40	84.883	88.883	24	68	53	127-020-040
3	30	18	57.296	63.296	24	45	52	127-030-018
		20	63.662	69.662	24	48	52	127-030-020
		22	70.028	76.028	24	55	52	127-030-022
		25	79.578	85.578	24	62	58	127-030-025
		28	89.127	95.127	24	68	58	127-030-028
		30	95.493	101.493	24	68	58	127-030-030
		32	101.859	107.859	24	68	58	127-030-032
		36	114.592	120.592	24	68	58	127-030-036
4	40	18	76.394	84.394	24	62	73	127-040-018
		20	84.883	92.883	24	62	73	127-040-020
		22	93.371	101.371	24	68	73	127-040-022
		25	106.103	114.103	24	80	74	127-040-025
		28	118.836	126.836	24	80	74	127-040-028
		30	127.324	135.324	30	80	74	127-040-030
		32	135.812	143.812	30	110	74	127-040-032
		36	152.789	160.789	30	110	74	127-040-036
5	50	22	116.714	126.714	24	90	91	127-050-022
		25	132.629	142.629	24	110	101	127-050-025
		28	148.545	158.545	24	110	101	127-050-028
		30	159.155	169.155	30	110	101	127-050-030
		32	169.766	179.766	30	110	101	127-050-032
		36	190.986	200.986	30	110	101	127-050-036
6	60	20	127.324	139.324	30	100	140	127-060-020
		25	159.155	171.155	30	130	140	127-060-025
		28	178.254	190.254	30	130	140	127-060-028
		30	190.986	202.986	30	140	140	127-060-030

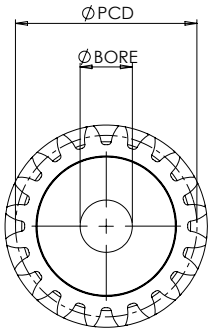
WMH OFFER IN-HOUSE MACHINING SERVICES FOR ALL SOFT CORE GEARS – CONTACT US TODAY

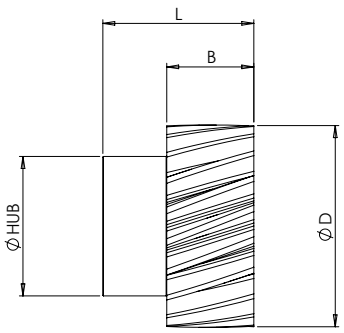
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Economy Helical Pinions

Soft Core & Teeth





Design Parameter	Value
Helix Angle	L/H 19° 31' 42"
Pressure Angle	20°
Tooth Quality	Q9 e27
Tooth Finish	Milled
Material	C45 (1.0503)
Hardness	Soft

Economy milled gears are un-hardened and so can be fully reworked in-house on request

MOD	Face Width (B)	Length (L)	Tooth Number	PCD	Ø D	BORE Ø	HUB Ø	Order Code
2	28	35	20	42.441	46.441	9	30	126-020-020
			25	53.052	57.052	12	35	126-020-025
			30	63.662	67.662	12	40	126-020-030
3	30	50	20	63.662	69.662	14	45	126-030-020
			25	79.578	85.578	14	60	126-030-025
4	40	60	15	63.662	71.662	16	50	126-040-015
			20	84.883	92.883	16	60	126-040-020
			25	106.103	114.103	16	75	126-040-025
5	50	70	20	106.103	116.103	20	70	126-050-020
			25	132.629	142.629	20	80	126-050-025
6	60	80	20	127.324	139.324	20	90	126-060-020
			25	159.155	171.155	20	110	126-060-025
8	80	120	20	169.766	185.766	40	120	126-080-020

WMH CAN PRODUCE SPECIAL MANUFACTURED HELICAL GEARS ON REQUEST

MODULE & NUMBER OF TEETH CAN BE ADJUSTED TO CUSTOMER SPECIFICATION

PLEASE CONTACT OUR SALES TEAM WITH YOUR REQUIREMENTS

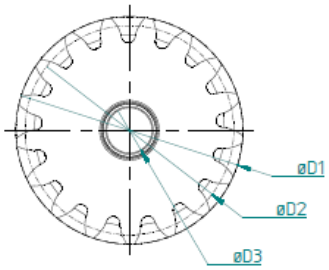
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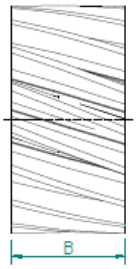
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Helical Lubrication Pinions

For Standard Helical Pinions





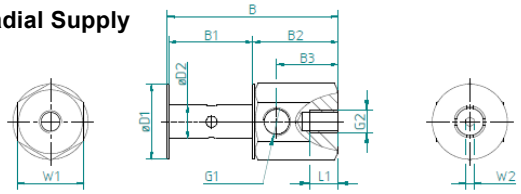
Design Parameter	Value
Helix Angle	R/H 19° 31' 42"
Pressure Angle	20°
Tooth Form	DIN 867
Material	PU Foam

Lubrication pinions are supplied complete with suitable bushing and sleeve bearing

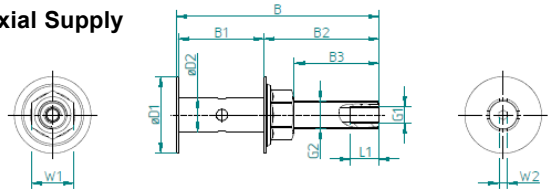
MOD	Tooth Number	Face Width (B)	Ø D3 (BORE)	Ø D2 (PCD)	Ø D1	Order Code
1.5	24	15	12	38.197	41.197	131-015-024
2	17	20	12	36.075	40.075	131-020-017
3	17	30	12	54.113	60.113	131-030-017
4	17	40	12	72.150	80.150	131-040-017
5	17	50	20	90.188	100.188	131-050-017
6	17	60	20	108.226	120.226	131-060-017
8	17	80	20	144.301	160.301	131-080-017
10	17	100	20	180.376	200.376	131-100-017

Mounting Axis

Radial Supply



Axial Supply



MOD	B1	D1	D2	L1	W2	B	B2	B3	G1	G2	W1	Order Code	
												Radial	Axial
1.5	15.2	27	12	10	3	46.4	30.6	22	G1/8	M8	24	133-015-001	-
						60.2	44.6	34.2	M6	M10	15	-	133-015-002
2	20.2	27	12	10	3	54.4	30.6	22	G1/8	M8	24	133-020-001	-
						61.2	41.2	30.6	M6	M10	15	-	133-020-002
3	30.2	27	12	10	3	61.4	30.6	22	G1/8	M8	24	133-030-001	-
						71.2	40.4	30	M6	M10	15	-	133-030-002
4	40.2	27	12	10	3	71.4	30.6	22	G1/8	M8	24	133-040-001	-
						81.2	40.4	30	M6	M10	15	-	133-040-002
5	50.2	60	20	10	4	81.4	30.6	22	G1/8	M8	24	133-050-001	-
						116.4	65.6	49.1	G1/8	M16	24	-	133-050-002
6	60.2	60	20	10	4	91.4	30.6	22	G1/8	M8	24	133-060-001	-
						126.4	65.6	49.1	G1/8	M16	24	-	133-060-002
8	80.2	60	20	10	4	111.4	30.6	22	G1/8	M8	24	133-080-001	-
						146.4	65.6	49.1	G1/8	M16	24	-	133-080-002
10	100.2	100	20	10	4	131.4	30.6	22	G1/8	M8	24	133-100-001	-
						166.4	65.6	49.1	G1/8	M16	24	-	133-100-002

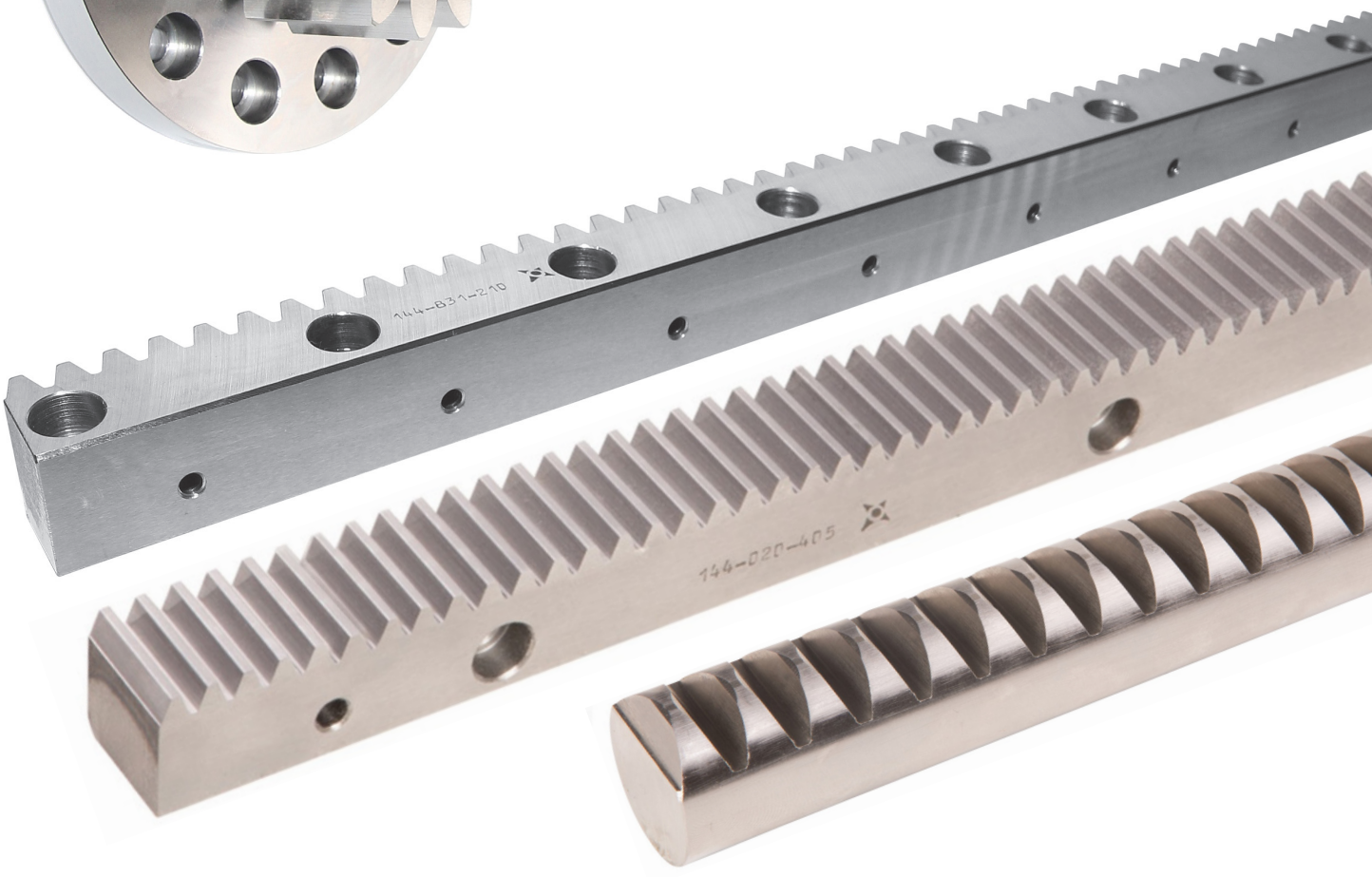
WMH RECOMMENED THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION
PLEASE SEE OUR LUBRICATION CATALOGUE FOR OUR LUBRICANTS, PUMPS & ACCESSORIES

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Straight Rack & Pinions







AS WELL AS OUR RANGE OF STANDARD PRODUCTS WE CAN ALSO MANUFACTURE SPECIAL COMPONENTS IN HOUSE – PLEASE CONTACT OUR SALES TEAM WITH YOUR REQUIREMENTS

WMH Transmissions Limited



Tooth Pitch Deviation

DIN 3962 Standard

Quality 6						
MOD	fp/300	Fp/300	fp/500	Fp/500	fp/1000	Fp/1000
1	7	25	8	28	8	32
2	7	25	8	28	8	32
3	7	28	8	32	8	36
4	9	28	9	36	10	40
5	9	28	9	36	10	40
6	9	28	9	36	10	40
8	10	32	11	36	11	40
10	10	32	11	36	11	40

Quality 7						
MOD	fp/300	Fp/300	fp/500	Fp/500	fp/1000	Fp/1000
1	10	32	11	40	12	45
2	10	32	11	40	12	45
3	10	36	11	45	12	50
4	12	40	12	45	14	56
5	12	40	12	45	14	56
6	12	40	12	45	14	56
8	14	45	14	56	16	63
10	14	45	14	56	16	63

Quality 8						
MOD	fp/300	Fp/300	fp/500	Fp/500	fp/1000	Fp/1000
1	14	50	16	56	16	63
2	14	50	16	56	16	63
3	14	50	16	63	16	71
4	16	56	18	71	20	80
5	16	56	18	71	20	80
6	16	56	18	71	20	80
8	20	63	20	71	22	80
10	20	63	20	71	22	80

Quality 9						
MOD	fp/300	Fp/300	fp/500	Fp/500	fp/1000	Fp/1000
1	20	63	22	80	22	90
2	20	63	22	80	22	90
3	20	71	22	90	22	100
4	25	80	25	90	28	110
5	25	80	25	90	28	110
6	25	80	25	90	28	110
8	28	90	28	100	32	110
10	28	90	28	100	32	110

Quality 10						
MOD	fp/300	Fp/300	fp/500	Fp/500	fp/1000	Fp/1000
1	32	110	36	125	36	140
2	32	110	36	125	36	140
3	32	125	36	140	36	160
4	40	125	40	140	45	180
5	40	125	40	140	45	180
6	40	125	40	140	45	180
8	45	140	45	160	50	180
10	45	140	45	160	50	180

Quality 12						
MOD	fp/300	Fp/300	fp/500	Fp/500	fp/1000	Fp/1000
1	80	280	90	320	90	360
2	80	280	90	320	90	360
3	80	320	90	360	100	400
4	100	320	100	360	110	450
5	100	320	100	360	110	450
6	100	320	100	360	110	450
8	110	360	125	400	125	450
10	110	360	125	400	125	405

fp = Maximum pitch error for one single tooth (µm)

Fp = Maximum Cumulative pitch error over length (µm)

QUALITY GRADES ONLY SHOWN FOR RACKS KEPT IN STOCK – FOR ERRORS OF OTHER QUALITIES, PLEASE REFER TO DIN 3962 STANDARD OR CONTACT OUR SALES TEAM FOR MORE INFORMATION

WMH HAVE THE CAPACITY TO MANUFACTURE RACK & PINIONS IN QUALITY 12 UP TO QUALITY 4
SOME STANDARD RACKS ARE ALSO AVAILABLE IN HIGHER OR LOWER QUALITIES ON REQUEST

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Application Guide

DIN Quality	1	2	3	4	5	6	7	8	9	10	11	12
Manufacturing Method							Punched, Pressed, Injection Moulded					
						Planed, Milled, Shaped						
					Shaved							
		Ground										
Circumferential Speed										< 3 m/s		
								3 – 6 m/s				
					6 – 20 m/s							
		> 20 m/s										
Typical Applications								Agricultural Machines				
							Lifting Devices, Conveyors, Office Machinery					
						Construction Machinery						
							Apparatus Construction					
					Machine Tool Manufacturing							
					Internal Combustion Engines							
				Turbines, Measuring Equipment								
		Testing Equipment										

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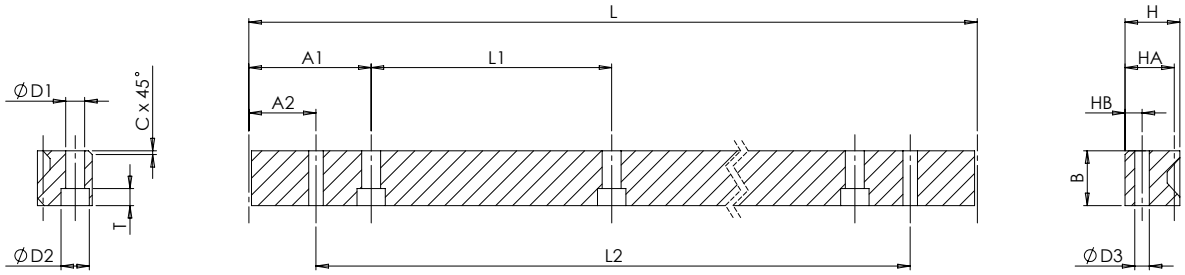
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Precision Straight Racks

Ground Rear & Contact Surfaces – Ground Teeth

Helix Angle	Pressure Angle	Tooth Quality	Tooth Finish	Material	Hardness
STRAIGHT 0°	20°	Q6 h23 **	Ind. Hard + Ground	C45 (1.0503)	50~55 HRC *



MOD	Length (mm)	Tooth Number	B	H	HA (PCD)	HB	L1	L2	A1	A2	D1	D2	D3	C +0.5	T	Mass (kg)	Order Code
2	502.65	80	24	24	22	8	125.66	440.1	62.8	31.3	7	11	5.7	2	7	2.1	144-020-405
	1005.30	160						942.7								4.2	144-020-410
3	508.93	54	29	29	26	9	127.23	440.1	63.6	34.4	10	15	7.7	2	9	3.0	144-030-405
	1017.87	108						949.1								6.0	144-030-410
4	502.65	40	39	39	35	12	125.66	427.7	62.8	37.5	10	15	7.7	3	9	5.3	144-040-405
	1005.30	80						930.3								10.5	144-040-410
	2010.61	160						1935.6								21.0	144-040-420
5	502.65	32	49	39	34	12	125.66	442.4	62.8	30.1	14	20	11.7	3	13	6.7	144-050-405
	1005.30	64						945.0								13.4	144-050-410
	2010.61	128						1950.4								26.8	144-050-420
6	508.93	27	59	49	43	16	127.23	446.1	63.6	31.4	18	26	15.7	3	17	10.4	144-060-405
	1017.87	54						955.0								20.2	144-060-410
	2035.75	108						1973.0								40.4	144-060-420
8	502.65	20	79	79	71	25	125.66	449.5	62.8	26.6	22	33	19.7	3	21	22.4	144-080-405
	1005.30	40						952.0								44.8	144-080-410
	2010.61	80						1957.3								89.5	144-080-420
10	1005.30	32	99	99	89	32	125.66	754.0	62.8	125.7	33	48	19.7	3	32	68.7	144-100-410

* Module 1~3 teeth flanks & roots hardened. Module 4~10 only flanks hardened
** Racks with nominal length of 2000mm are finished to Q6 h24 tolerance

Un-Bored Order Code	144-XXX-3XX

BOTH ENDS OF EACH RACK ARE MACHINED TO ALLOW CONTINUOUS MOUNTING.
WMH RECOMMENED THE USE OF A MOUNTING PIECE AND GREASE OR OIL LUBRICATION.

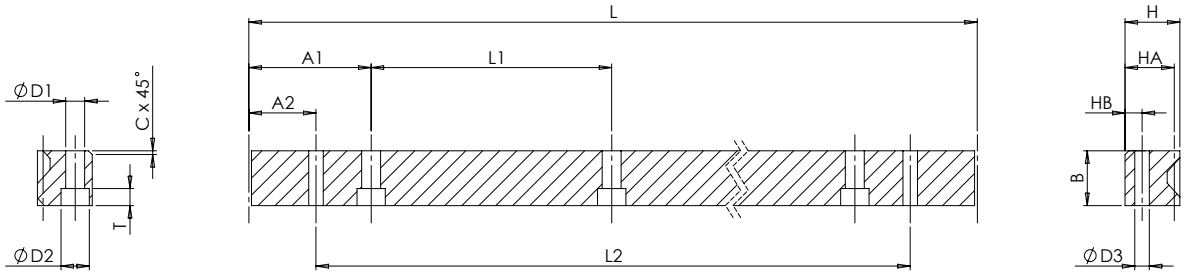
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Precision Straight Racks

Ground Rear & Contact Surfaces – Milled Teeth

Helix Angle	Pressure Angle	Tooth Quality	Tooth Finish	Material	Hardness
STRAIGHT 0°	20°	Q10 h27	Ind. Hard + Milled	C45 (1.0503)	50~55 HRC *



MOD	Length (mm)	Tooth Number	B	H	HA (PCD)	HB	L1	L2	A1	A2	D1	D2	D3	C +0.5	T	Mass (kg)	Order Code
2	502.65	80	24	24	22	8	125.66	440.1	62.8	31.3	7	11	5.7	2	7	2.1	144-020-805
	1005.30	160						942.7								4.2	144-020-810
	2010.61	320						1948.0								8.4	144-020-820
3	508.93	54	29	29	26	9	127.23	440.1	63.6	34.4	10	15	7.7	2	9	3.0	144-030-805
	1017.87	108						949.1								6.0	144-030-810
	2035.75	216						1967.0								12.0	144-030-820
4	502.65	40	39	39	35	12	125.66	427.7	62.8	37.5	10	15	7.7	3	9	5.3	144-040-805
	1005.30	80						930.3								10.5	144-040-810
	2010.61	160						1935.6								21.0	144-040-820
5	502.65	32	49	39	34	12	125.66	442.4	62.8	30.1	14	20	11.7	3	13	6.7	144-050-805
	1005.30	64						945.0								13.4	144-050-810
	2010.61	128						1950.4								26.8	144-050-820
6	508.93	27	59	49	43	16	127.23	446.1	63.6	31.4	18	26	15.7	3	17	10.4	144-060-805
	1017.87	54						955.0								20.2	144-060-810
	2035.75	108						1973.0								40.4	144-060-820

* Module 1~3 teeth flanks & roots hardened. Module 4~10 only flanks hardened

Un-Bored Order Code	144-XXX-9XX

BOTH ENDS OF EACH RACK ARE MACHINED TO ALLOW CONTINUOUS MOUNTING.
WMH RECOMMENED THE USE OF A MOUNTING PIECE AND GREASE OR OIL LUBRICATION.

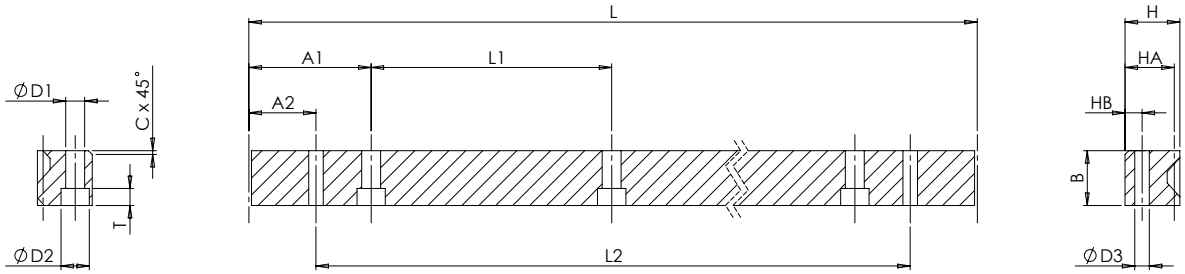
WMH Transmissions Limited



Economy Straight Racks

Milled Rear & Contact Surfaces – Milled Teeth

Helix Angle	Pressure Angle	Tooth Quality	Tooth Finish	Material	Hardness
STRAIGHT 0°	20°	Q9 h27	Milled	C45 (1.0503)	Soft



MOD	Length (mm)	Tooth Number	B	H	HA (PCD)	HB	L1	L2	A1	A2	D1	D2	D3	C +0.5	T	Mass (kg)	Order Code *
1	499.51	159	10	9.80	8.80	-	-	-	-	-	-	-	-	-	-	0.4	146-010-905
	999.03	318						-								0.7	146-010-910
1.5	499.51	106	15	14.80	13.30	-	-	-	-	-	-	-	-	-	-	0.8	146-015-905
	999.03	212						-								1.6	146-015-910
	1998.05	424						-								3.1	146-015-920
2	502.65	80	20	19.75	17.75	8	125.66	440.1	62.8	31.3	7	11	5.7	-	7	1.4	146-020-805
	1005.31	160						942.7								2.8	146-020-810
	2010.62	320						1948.0								5.6	146-020-820
	3015.93	480				-	-	-	-	-	-	-	-	-	-	8.5	146-020-930
2.5	502.65	64	25	24.75	22.25	-	-	-	-	-	-	-	-	-	-	2.1	146-025-905
	1005.31	128						-								4.2	146-025-910
	2010.62	256						-								8.4	146-025-920
	3015.93	384						-								12.6	146-025-930
3	508.94	54	30	29.75	26.75	9	127.23	440.1	63.6	34.4	10	15	7.7	-	9	3.1	146-030-805
	1017.88	108						949.1								6.2	146-030-810
	2035.75	216						1967.0								12.4	146-030-820
	3053.63	324				-	-	-	-	-	-	-	-	-	-	19.3	146-030-930
4	502.65	40	40	39.70	35.70	12	125.66	427.7	62.8	37.5	10	15	7.7	-	9	5.5	146-040-805
	1005.31	80						930.3								11.0	146-040-810
	2010.62	160						1935.6								22.0	146-040-820
	3015.93	240				-	-	-	-	-	-	-	-	-	-	33.9	146-040-930
5	502.65	32	50	49.70	44.70	12	125.66	442.4	62.8	30.2	14	20	11.7	-	13	8.6	146-050-805
	1005.31	64						945.0								17.2	146-050-810
	2010.62	128						1950.4								34.4	146-050-820
	3015.93	192				-	-	-	-	-	-	-	-	-	-	51.6	146-050-930
6	508.94	27	60	59.65	53.65	16	127.23	446.1	63.6	31.4	18	26	15.7	-	17	12.3	146-060-805
	1017.88	54						955.0								24.5	146-060-810
	2035.75	108						1973.0								49.0	146-060-820
8	502.65	20	80	79.60	71.60	25	125.66	449.5	62.8	26.6	22	33	19.7	-	21	21.4	146-080-805
	1005.31	40						952.0								42.7	146-080-810
	2010.62	80						1957.3								85.4	146-080-820
10	1005.31	32	100	99.60	89.60	32	125.66	754.0	62.8	125.7	33	48	19.7	-	32	70.6	146-100-810

* Modules 1, 1.5 & 2.5 and all 3000mm racks not available pre-bored as standard

Un-Bored Order Code	146-XXX-9XX

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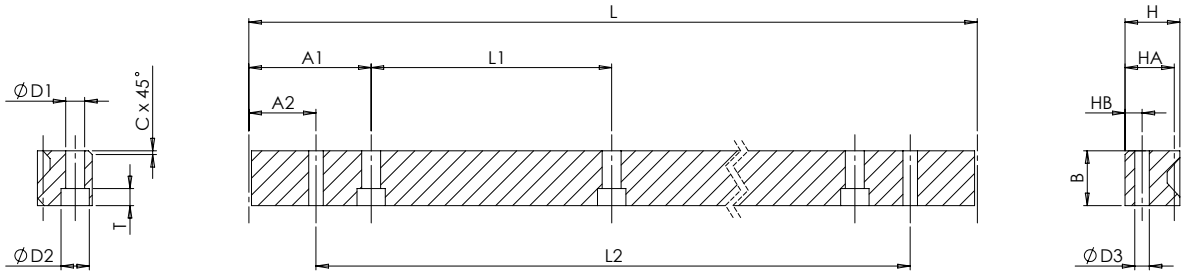
WMH Transmissions Limited



Economy Straight Racks

Milled Rear & Contact Surfaces – Milled Teeth

Helix Angle	Pressure Angle	Tooth Quality	Tooth Finish	Material	Hardness
STRAIGHT 0°	20°	Q10 h27	Ind. Hard + Milled	C45 (1.0503)	50~55 HRC **



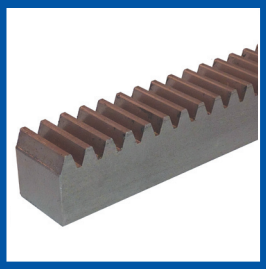
MOD	Length (mm)	Tooth Number	B	H	HA (PCD)	HB	L1	L2	A1	A2	D1	D2	D3	C +0.5	T	Mass (kg)	Order Code *
1	499.51	159	10	9.80	8.80	-	-	-	-	-	-	-	-	-	-	0.4	146-010-305
	999.03	318						-								0.7	146-010-310
1.5	499.51	106	15	14.80	13.30	-	-	-	-	-	-	-	-	-	-	0.8	146-015-305
	999.03	212						-								1.6	146-015-310
	1998.05	424						-								3.1	146-015-320
2	502.65	80	20	19.75	17.75	8	125.66	440.1	62.8	31.3	7	11	5.7	-	7	1.4	146-020-705
	1005.31	160						942.7								2.8	146-020-710
	2010.62	320						1948.0								5.6	146-020-720
2.5	502.65	64	25	24.75	22.25	-	-	-	-	-	-	-	-	-	-	2.1	146-025-305
	1005.31	128						-								4.2	146-025-310
	2010.62	256						-								8.4	146-025-320
3	508.94	54	30	29.75	26.75	9	127.23	440.1	63.6	34.4	10	15	7.7	-	9	3.1	146-030-705
	1017.88	108						949.1								6.2	146-030-710
	2035.75	216						1967.0								12.4	146-030-720
4	502.65	40	40	39.70	35.70	12	125.66	427.7	62.8	37.5	10	15	7.7	-	9	5.5	146-040-705
	1005.31	80						930.3								11.0	146-040-710
	2010.62	160						1935.6								22.0	146-040-720
5	502.65	32	50	49.70	44.70	12	125.66	442.4	62.8	30.2	14	20	11.7	-	13	8.6	146-050-705
	1005.31	64						945.0								17.2	146-050-710
	2010.62	128						1950.4								34.4	146-050-720
6	508.94	27	60	59.65	53.65	16	127.23	446.1	63.6	31.4	18	26	15.7	-	17	12.3	146-060-705
	1017.88	54						955.0								24.5	146-060-710
	2035.75	108						1973.0								49.0	146-060-720
8	502.65	20	80	79.60	71.60	25	125.66	449.5	62.8	26.6	22	33	19.7	-	21	21.4	146-080-705
	1005.31	40						952.0								42.7	146-080-710
	2010.62	80						1957.3								85.4	146-080-720
10	1005.31	32	100	99.60	89.60	32	125.66	754.0	62.8	125.7	33	48	19.7	-	32	70.6	146-100-710

* Modules 1, 1.5 & 2.5 racks not available pre-bored as standard

** Module 1~3 teeth flanks & roots hardened. Module 4~10 only flanks hardened

Un-Bored Order Code	146-XXX-3XX

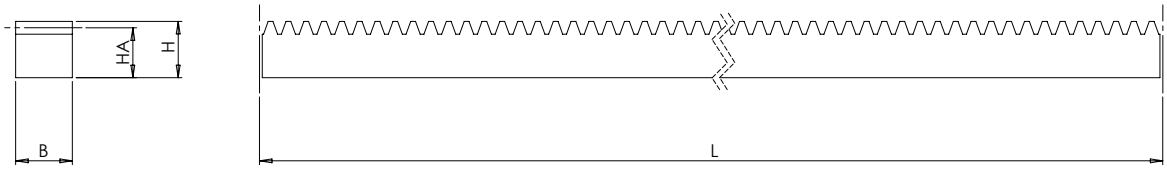
BOTH ENDS OF EACH RACK ARE MACHINED TO ALLOW CONTINUOUS MOUNTING.
WMH RECOMMENED THE USE OF A MOUNTING PIECE AND GREASE OR OIL LUBRICATION.



Circular Pitch Straight Racks

Milled Rear & Contact Surfaces

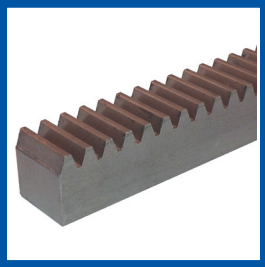
Helix Angle	Pressure Angle	Tooth Quality	Tooth Finish	Material	Hardness
STRAIGHT 0°	20°	Q9 / Q10 h27	Milled	C45 (1.0503)	Soft / 50~55 HRC*



MOD	Pitch	Length (mm)	Tooth Number	B	H	HA (PCD)	Mass (kg)	Order Code	
								Q9 Soft	Q10 Hard
1.5916	5	500	100	15	14.8	13.21	0.8	146-016-905	146-016-305
		1000	200				1.6	146-016-910	146-016-310
		2000	400				3.1	146-016-920	146-016-320
3.1831	10	500	50	30	29.7	26.52	3.1	146-031-905	146-031-305
		1000	100				6.2	146-031-910	146-031-310
		2000	200				12.4	146-031-920	146-031-320

BOTH ENDS OF EACH RACK ARE MACHINED TO ALLOW CONTINUOUS MOUNTING.
WMH RECOMMENED THE USE OF A MOUNTING PIECE AND GREASE OR OIL LUBRICATION.

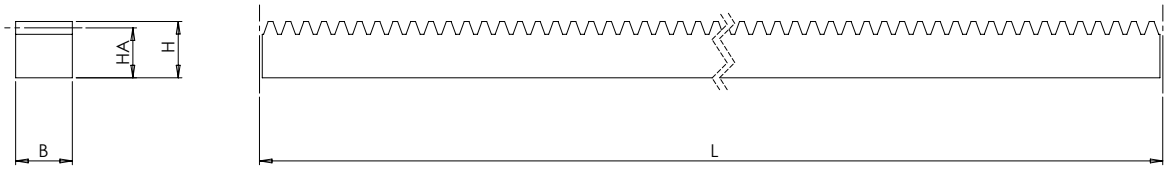
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Stainless Steel Straight Racks

Milled Rear & Contact Surfaces

Helix Angle	Pressure Angle	Tooth Quality	Tooth Finish	Material	Hardness
STRAIGHT 0°	20°	Q8 h27	Milled	X8 CrNiS 18-9 (1.4305)	Soft



MOD	Pitch	Length (mm)	Tooth Number	B	H	HA (PCD)	Mass (kg)	Order Code
1	3.1416	499.51	159	10	9.80	8.80	0.3	146-010-605
		999.02	318				0.7	146-010-610
1.5	4.7124	499.51	106	15	14.80	13.30	0.8	146-015-605
		999.02	212				1.6	146-015-610
1.5916	5	250	50	15	14.80	13.21	0.4	146-016-602
		500	100				0.8	146-016-605
		1000	200				1.6	146-016-610
2	6.2832	502.65	80	20	19.75	17.75	1.4	146-020-605
		999.02	159				2.8	146-020-610
		1998.05	318				5.6	146-020-620
3	9.4248	499.51	53	30	29.75	16.75	3.1	146-030-605
		999.02	106				6.2	146-030-610
		1998.05	212				12.4	146-030-620
3.1831	10	250	25	30	29.70	26.52	1.6	146-031-602
		500	50				3.1	146-031-605
		1000	100				6.2	146-031-610
		2000	200				12.4	146-031-620
4	12.5664	1005.30	80	40	39.70	35.70	11.0	146-040-610
		1998.05	59				22.0	146-040-620

BOTH ENDS OF EACH RACK ARE MACHINED TO ALLOW CONTINUOUS MOUNTING.
WMH RECOMMENED THE USE OF A MOUNTING PIECE AND GREASE OR OIL LUBRICATION.

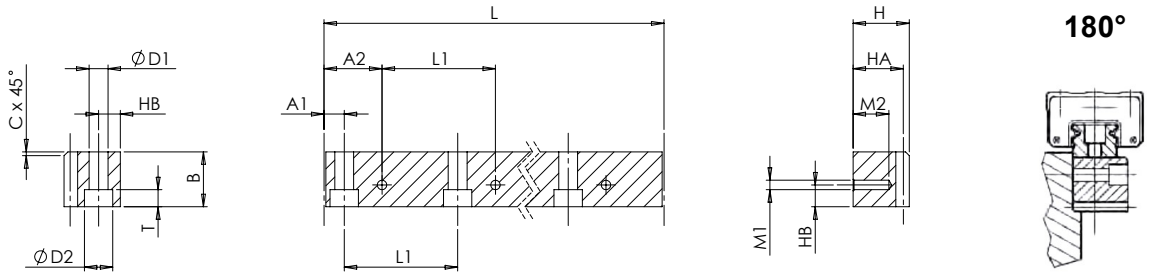
WMH Transmissions Limited



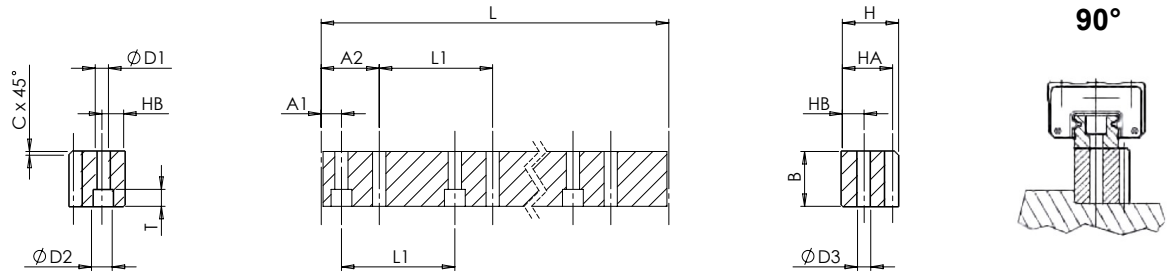
Precision Straight Racks

Ground Contact Surfaces – For Linear Guides

Helix Angle	Pressure Angle	Tooth Quality	Tooth Finish	Material	Hardness
STRAIGHT 0°	20°	Q6 h23	Ind. Hard + Ground	C45 (1.0503)	50~55 HRC



MOD	Pitch (mm)	Length (mm)	Tooth Number	B	H	HA (PCD)	HB	L1	A1	A2	D1	D2	M1	M2	C +0.5	T	Mass (kg)	Order Code
1.591	5	960	192	19	19.5	17.91	7.5	60	10	30	5.8	10	M4	8	1	6	2.7	144-816-110
1.591	5	960	192	24	24.5	22.91	10	60	10	30	7	11	M5	11	1	7	4.2	144-816-210
3.183	10	960	96	29	29.75	26.57	11.5	60	10	30	10	15	M6	13.5	2	9	5.6	144-831-210



MOD	Pitch (mm)	Length (mm)	Tooth Number	B	H	HA (PCD)	HB	L1	A1	A2	D1	D2	D3	C +0.5	T	Mass (kg)	Order Code
1.591	5	960	192	19	19.5	17.91	7.5	60	10	30	4.5	7.5	4.5	1	5.3	2.7	144-916-110
1.591	5	960	192	24	24.5	22.91	10	60	10	30	6.0	9.5	6.0	1	8.5	4.2	144-916-210
3.183	10	960	96	29	29.75	26.57	11.5	60	10	30	7.0	11	7.0	2	9.0	5.6	144-931-210

BOTH ENDS OF EACH RACK ARE MACHINED TO ALLOW CONTINUOUS MOUNTING.
WMH RECOMMENED THE USE OF A MOUNTING PIECE AND GREASE OR OIL LUBRICATION.

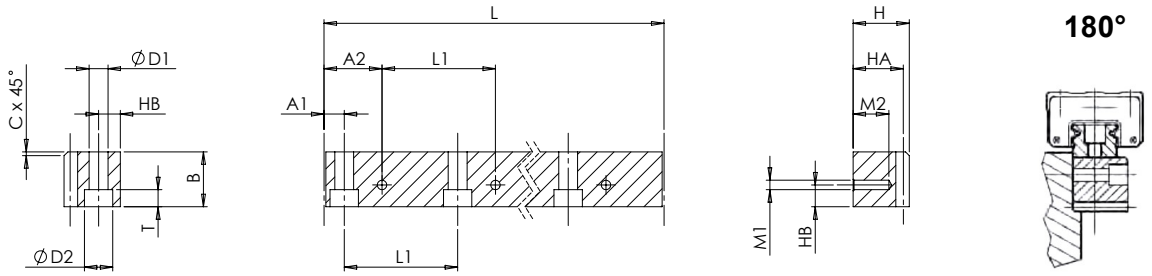
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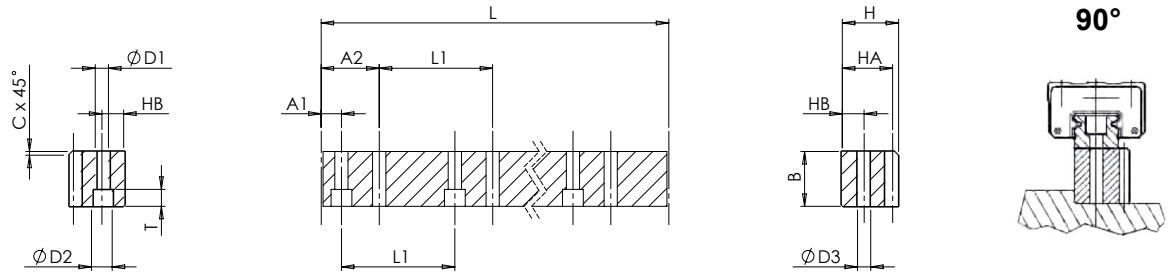
Economy Straight Racks

Milled Contact Surfaces – For Linear Guides

Helix Angle	Pressure Angle	Tooth Quality	Tooth Finish	Material	Hardness
STRAIGHT 0°	20°	Q9 h27	Milled	C45 (1.0503)	Soft



MOD	Pitch (mm)	Length (mm)	Tooth Number	B	H	HA (PCD)	HB	L1	A1	A2	D1	D2	M1	M2	C +0.5	T	Mass (kg)	Order Code
1.591	5	1920	384	20	19.5	17.91	7.5	60	10	30	5.8	10	M4	8	-	6	5.4	146-816-120
1.591	5	1920	384	25	24.5	22.91	10	60	10	30	7	11	M5	11	-	7	8.4	146-816-220
3.183	10	1920	192	30	29.75	26.57	11.5	60	10	30	10	15	M6	13.5	-	9	11.2	146-831-220



MOD	Pitch (mm)	Length (mm)	Tooth Number	B	H	HA (PCD)	HB	L1	A1	A2	D1	D2	D3	C +0.5	T	Mass (kg)	Order Code
1.591	5	1920	384	20	19.5	17.91	7.5	60	10	30	4.5	7.5	4.5	-	5.3	5.4	146-916-120
1.591	5	1920	384	25	24.5	22.91	10	60	10	30	6.0	9.5	6.0	-	8.5	8.4	146-916-220
3.183	10	1920	192	30	29.75	26.57	11.5	60	10	30	7.0	11	7.0	-	9.0	11.2	146-931-220

BOTH ENDS OF EACH RACK ARE MACHINED TO ALLOW CONTINUOUS MOUNTING.
WMH RECOMMENED THE USE OF A MOUNTING PIECE AND GREASE OR OIL LUBRICATION.

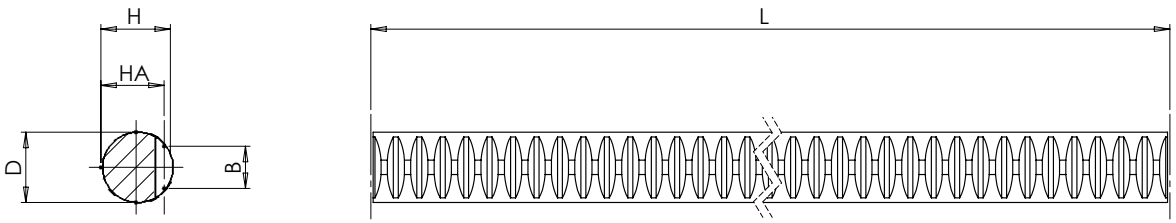
WMH Transmissions Limited



Straight Round Racks

Standard C45 Steel

Helix Angle	Pressure Angle	Tooth Quality	Tooth Finish	Material	Hardness
STRAIGHT 0°	20°	Q8 h27	Milled	C45 (1.0503)	Soft



MOD	Pitch (mm)	Length (mm)	Tooth Number	Ø D h11	H	HA (PCD)	B	Mass (kg)	Order Code
1	3.1416	499.51	159	15	15	14	7.5	0.7	141-610-050
		999.02	318					1.4	141-610-100
1.5	4.7124	499.51	106	17	17	15.5	9.6	0.9	141-615-050
		999.02	212					1.8	141-615-100
1.5916	5	500	100	15	14.8	13.2	9.7	0.9	141-616-050
		1000	200					1.8	141-616-100
2	6.2832	502.65	80	20	20	18	12	1.1	141-620-050
		999.02	159					2.2	141-620-100
2.5	7.8540	502.65	64	25	25	22.5	15	1.8	141-625-050
		997.45	127					3.6	141-625-100
3	9.4248	499.51	53	30	30	27	18	2.5	141-630-050
		999.02	106					5.1	141-630-100
3.1831	10	500	50	30	29.7	26.5	19.3	2.5	141-631-050
		1000	100					5.1	141-631-100
4	12.5664	502.65	40	40	40	36	24	4.5	141-640-050
		1005.30	80					9.1	141-640-100
5	15.7080	502.65	32	50	50	45	30	7.1	141-650-050
		1005.30	64					14.3	141-650-100
		2010.60	128					28.6	141-650-200

BOTH ENDS OF EACH RACK ARE MACHINED TO ALLOW CONTINUOUS MOUNTING.
WMH RECOMMENED THE USE OF A MOUNTING PIECE AND GREASE OR OIL LUBRICATION.

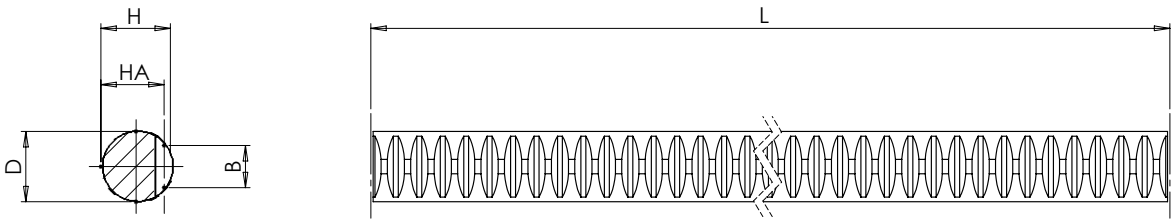
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Straight Round Racks

Stainless Steel & ETG®100 Alloy Steel

Helix Angle	Pressure Angle	Tooth Quality	Tooth Finish	Material	Hardness
STRAIGHT 0°	20°	Q8 h27	Milled	Stainless / ETG®100	Soft



MOD	Length (mm)	Tooth Number	Ø D * h9 / h6*	H	HA (PCD)	B	Mass (kg)	Order Code	
								X8 CrNis 18-9	ETG®100 **
1	499.51	159	10	10	9	6	0.7	141-510-050	141-410-050
	999.02	318					1.4	141-510-100	141-410-100
1.5	499.51	106	15	15	13.5	9	0.9	141-515-050	141-415-050
	999.02	212					1.8	141-515-100	141-415-100
2	502.65	80	20	20	18	12	1.1	141-520-050	141-420-050
	999.02	159					2.2	141-520-100	141-420-100
3	499.51	53	30	30	27	18	2.5	141-530-050	141-430-050
	999.02	106					5.1	141-530-100	141-430-100
	1998.05	212					10.2	-	141-430-200
4	502.65	40	40	40	36	24	4.5	-	141-440-050
	1005.30	80					9.1	-	141-440-100
	2010.62	160					18.2	-	141-440-200

* Stainless Steel (1.4305) = h9, ETG®100 = h6 ground bar diameter

** ETG®100 high quality alloy steel has 960-1100 N/mm² tensile strength

BOTH ENDS OF EACH RACK ARE MACHINED TO ALLOW CONTINUOUS MOUNTING.
WMH RECOMMENED THE USE OF A MOUNTING PIECE AND GREASE OR OIL LUBRICATION.

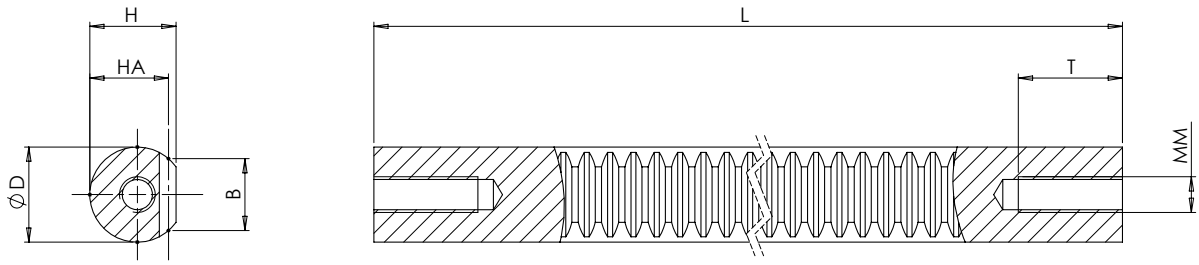
WMH Transmissions Limited



Rack Jack Round Racks

With Straight Teeth

Helix Angle	Pressure Angle	Tooth Quality	Tooth Finish	Material	Hardness
STRAIGHT 0°	20°	Q8 h27	Milled	ETG®100 *	Soft



MOD	Suits Rack Jack Size	Pitch (mm)	Length (mm)**	Tooth Number	Ø D h6	H	HA (PCD)	B	M	T	Mass (kg)	Order Code
1.0	R1	3.1416	2900	923	25	22.5	21.5	15.0	M10	30	10.2	141-210-529
2.5	R2	7.8540	2900	369	32	29.0	26.5	18.6	M12	35	16.0	141-325-229
2.5	R3	7.8540	2900	369	60	52.0	49.5	40.8	M20	50	55.4	141-625-029

* ETG®100 high quality alloy steel has 960-1100 N/mm² tensile strength

** Maximum available rack length / number of teeth
(Shorter lengths available upon request)

WMH rack jacks feature specially made round type racks. They have increased section diameter and tooth width over standard round racks as well as squared-off tooth profiles to prevent rotation within the jack body. The racks are also made from high tensile ETG®100 alloy steel to increase the capacity of the jacks.

WMH rack jacks require protection against side and transverse loads as they can only transfer tensile and compressive forces.

This support is usually done via the use of linear guides or ball bushes running parallel with the rack travel.

Please contact our sales team for information on the options available from stock.

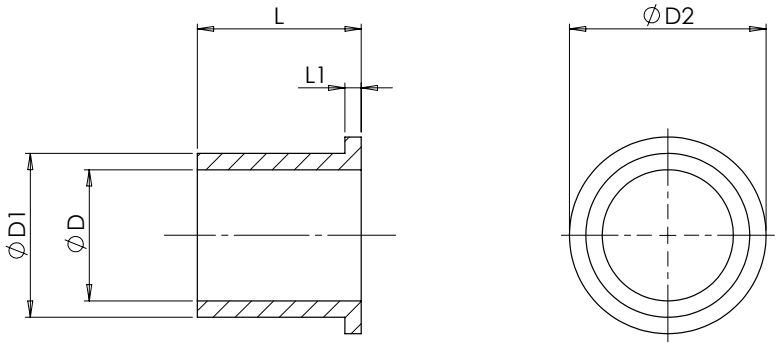
RACK ENDS ARE MACHINED WITH TEETH EQUISPACED UNLESS OTHERWISE SPECIFIED.
WMH RECOMMENED THE USE OF GREASE OR OIL LUBRICATION FOR ALL RACK SYSTEMS.

TEL: 01827 288122
sales@wmh-trans.co.uk
FAX: 01827 253390
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Round Rack Bushes

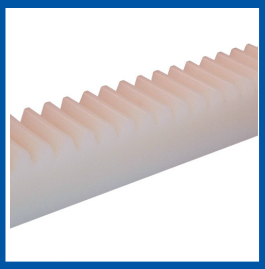
Oil Impregnated Bronze With Added MoS2



Suits Round Rack MOD *	ØD E7**	ØD1 r7	ØD2	L	L1	Mass (kg)	Order Code
1.0	10	16	22	16	3	0.02	141-010-000
1.0 / 1.5 / 1.5916	15	21	26	16	3	0.03	141-015-000
2.0	20	26	32	25	3	0.04	141-020-000
3.0 / 3.1416	30	38	46	30	4	0.12	141-030-000
4.0	40	50	60	50	5	0.27	141-040-000
5.0	50	60	70	63	5	0.60	141-050-000

* Bushes are not intended for use with rack jack specific round racks
Please note bar diameter on 1.0 & 1.5 module C45 round racks
** Internal bore tolerance on Ø50mm bush is E8

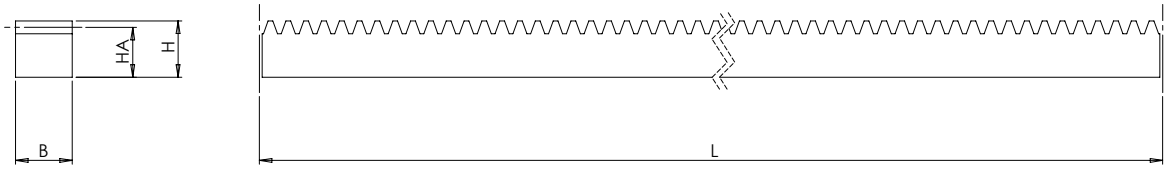
OIL IMPREGNATED BRONZE BUSHES WITH ADDED MOS2
THEREFOR PRACTICALLY MAINTENANCE FREE OPERATION



Synthetic Racks

With Straight Teeth

Helix Angle	Pressure Angle	Tooth Quality	Tooth Finish	Material	Hardness
STRAIGHT 0°	20°	Q10 h27	Milled	Nylon P6	Soft



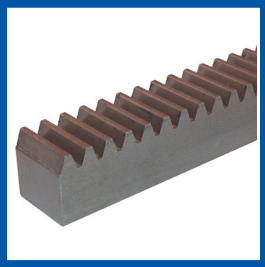
MOD	Length (mm)	Tooth Number	B	H	HA (PCD)	Mass (kg)	Order Code
1	251.32	80	10	10	9	0.03	148-010-602
	499.51	159				0.05	148-010-605
	999.02	318	15	15	14	0.30	148-010-610
1.5	249.75	53	15	15	13.5	0.06	148-015-602
	499.51	106				0.11	148-015-605
	999.02	212	17	17	15.5	0.36	148-015-610
2	251.32	40	20	20	18	0.13	148-020-602
	502.65	80				0.20	148-020-605
	997.45	159				0.40	148-020-610
2.5	254.46	32	25	25	22.5	0.15	148-025-602
	502.65	64				0.31	148-025-605
	997.45	127				0.61	148-025-610
3	254.46	27	30	30	27	0.20	148-030-602
	499.51	53				0.40	148-030-605
	999.02	106				0.80	148-030-610

WMH CAN ALSO OFFER A LARGE RANGE OF INJECTION MOULDED SYNTHETIC RACKS INCLUDING MODULES 0.5, 0.7 & 1.25 ON REQUEST

WMH CAN PRODUCE ALMOST ANY RACK TO AMY SPECICATION ON REQUEST PLEASE CONTACT OUR SALES TEAM WITH YOUR REQUIREMENTS

BOTH ENDS OF EACH RACK ARE MACHINED TO ALLOW CONTINUOUS MOUNTING.

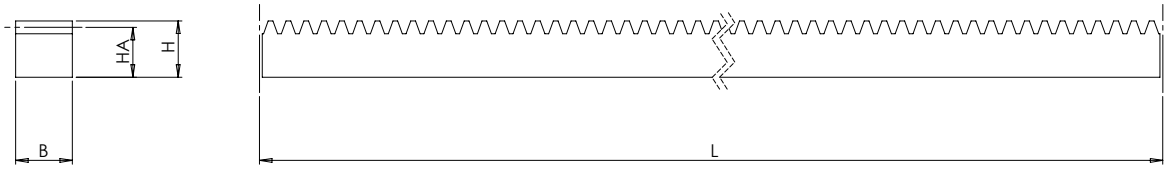
TEL: 01827 288122
sales@wmh-trans.co.uk
FAX: 01827 253390
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Commercial Straight Racks

For Low Speed Applications

Helix Angle	Pressure Angle	Tooth Quality	Tooth Finish	Material	Hardness
STRAIGHT 0°	20°	Q12 +	Milled	C45 (1.0503)	Soft



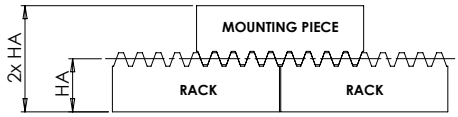
MOD	Length (mm)	Tooth Number	B	H	HA (PCD)	Mass (kg)	Order Code
1	499.51	159	15	15	14	0.8	147-010-005
	1002.17	319				1.6	147-010-010
	2001.19	637				3.3	147-010-020
1.5	504.23	107	17	17	15.5	1.0	147-015-005
	1003.74	213				2.0	147-015-010
	2002.77	425				4.1	147-015-020
2	502.65	80	20	20	18	1.4	147-020-005
	1005.31	160				2.8	147-020-010
	2004.34	319				5.6	147-020-020
2.5	502.65	64	25	25	22.5	2.2	147-025-005
	1005.31	128				4.4	147-025-010
	2002.77	255				8.8	147-025-020
3	508.94	54	30	30	27	3.2	147-030-005
	1008.45	107				6.3	147-030-010
	2007.48	213				12.6	147-030-020
4	502.65	40	40	40	36	5.6	147-040-005
	1005.31	80				11.2	147-040-010
	2010.62	160				22.4	147-040-020
5	502.65	32	50	50	45	8.8	147-050-005
	1005.31	64				17.5	147-050-010
	2010.62	128				35.0	147-050-020
6	1017.88	54	60	60	54	25.2	147-060-010
	2016.90	107				50.4	147-060-020
8	1005.31	40	80	80	72	44.0	147-080-010
	2010.62	80				89.0	147-080-020

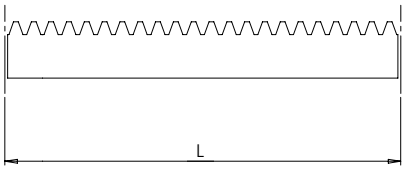
BOTH ENDS OF EACH RACK ARE MACHINED TO ALLOW CONTINUOUS MOUNTING
CALCULATIONS NOT AVAILABLE – NOT RECOMMENDED FOR AUTOMATED APPLICATIONS

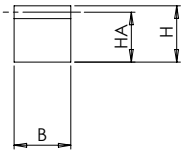


Straight Mounting Pieces

Helix Angle	Pressure Angle	Tooth Quality	Tooth Finish	Material	Hardness
STRAIGHT 0°	20°	Q5 / Q8	Milled / Ground	C45 (1.0503)	Soft







MOD	Length (mm)	Tooth Number	B	H	HA (PCD)	Mass (kg)	Order Code	
							Q5 Ground	Q8 Milled
1	200	63	10	9.8	8.8	0.2	-	144-010-001
1.5	200	42	15	14.8	13.3	0.4	-	144-015-001
1.5916	200	40	15	14.8	13.21	0.4	-	144-016-001
2	200	31	24	24	22	0.9	144-020-002	-
			25	24.75	22.75	0.9	-	144-020-001
2.5	200	25	-	-	-	-	-	-
			25	24.75	22.25	0.9	-	144-025-001
3	200	21	29	29	26	1.2	144-030-002	-
			30	29.75	26.75	1.3	-	144-030-001
3.1831	200	20	-	-	-	-	-	-
			30	29.7	26.52	1.3	-	144-031-001
4	200	16	39	39	35	2.2	144-040-002	-
			40	39.7	35.7	2.2	-	144-040-001
5	200	12	49	39	34	2.6	144-050-002	-
			50	39.7	34.7	2.7	-	144-050-001
6	200	10	59	49	43	3.6	144-060-002	-
			60	49.7	43.7	4.0	-	144-060-001
8	200	8	79	79	71	8.5	144-080-002	-
			80	79.6	71.6	9.0	-	144-080-001
10	220	7	99	99	89	13.7	144-100-002	-
			100	99.0	89.0	13.4	-	144-100-001

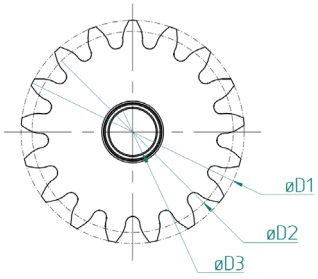
WMH RECOMMENED THE USE OF A MOUNTING PIECE AND GREASE OR OIL LUBRICATION.

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WMH Transmissions Limited



Straight Lubrication Pinions

For Straight Rack & Pinions





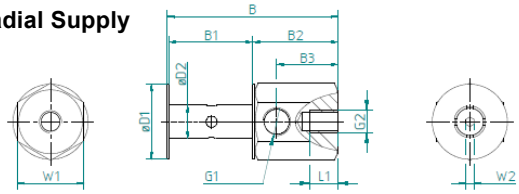
Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Form	DIN 867
Material	PU Foam

Lubrication pinions are supplied complete with suitable bushing and sleeve bearing

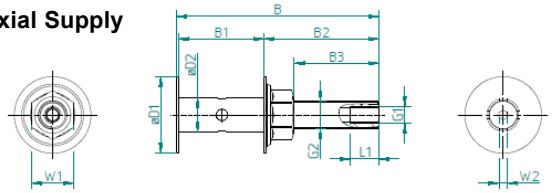
MOD	Tooth Number	Face Width (B)	Ø D3 (BORE)	Ø D2 (PCD)	Ø D1	Order Code
1.5	24	15	12	36	39	130-015-024
2	17	20	12	34	38	130-020-017
3	17	30	12	51	57	130-030-017
4	17	40	12	68	76	130-040-017
5	17	50	20	85	95	130-050-017
6	17	60	20	102	114	130-060-017
8	17	80	20	136	152	130-080-017
10	17	100	20	170	190	130-100-017

Mounting Axis

Radial Supply



Axial Supply



MOD	B1	D1	D2	L1	W2	B	B2	B3	G1	G2	W1	Order Code	
												Radial	Axial
1.5	15.2	27	12	10	3	46.4	30.6	22	G1/8	M8	24	133-015-001	-
						60.2	44.6	34.2	M6	M10	15	-	133-015-002
2	20.2	27	12	10	3	54.4	30.6	22	G1/8	M8	24	133-020-001	-
						61.2	41.2	30.6	M6	M10	15	-	133-020-002
3	30.2	27	12	10	3	61.4	30.6	22	G1/8	M8	24	133-030-001	-
						71.2	40.4	30	M6	M10	15	-	133-030-002
4	40.2	27	12	10	3	71.4	30.6	22	G1/8	M8	24	133-040-001	-
						81.2	40.4	30	M6	M10	15	-	133-040-002
5	50.2	60	20	10	4	81.4	30.6	22	G1/8	M8	24	133-050-001	-
						116.4	65.6	49.1	G1/8	M16	24	-	133-050-002
6	60.2	60	20	10	4	91.4	30.6	22	G1/8	M8	24	133-060-001	-
						126.4	65.6	49.1	G1/8	M16	24	-	133-060-002
8	80.2	60	20	10	4	111.4	30.6	22	G1/8	M8	24	133-080-001	-
						146.4	65.6	49.1	G1/8	M16	24	-	133-080-002
10	100.2	100	20	10	4	131.4	30.6	22	G1/8	M8	24	133-100-001	-
						166.4	65.6	49.1	G1/8	M16	24	-	133-100-002

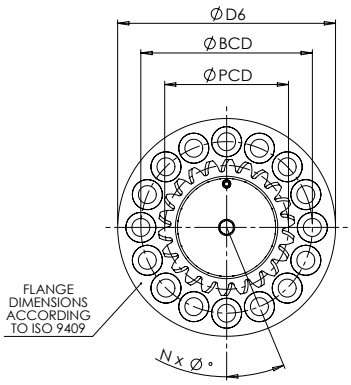
WMH RECOMMENED THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION
PLEASE SEE OUR LUBRICATION CATALOGUE FOR OUR LUBRICANTS, PUMPS & ACCESSORIES

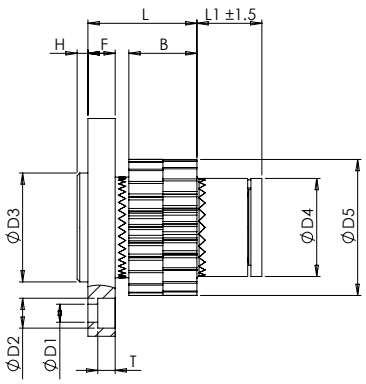
WMH Transmissions Limited



Straight Double Pinions

For Anti-Backlash Applications





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q6 e25
Tooth Finish	Case Hard + Ground
Material	16MnCr5 (1.7131)
Hardness	58~62 HRC

Only one half of the double pinion transmits power at any given time hence all calculations should be based on half of the face width (B)

MOD	Tooth Number	X *	B	BCD	PCD	D1	D2	D3	D4	D5	D6	F	H	L	L1**	T	N x Ø °	Order Code
2	22	0.500	25	63	46	6.6	11	40	36	50	80	10	4	40	23	6.4	16 x 22.5	113-020-122
3	15	0.167	30	63	46	6.6	11	40	36	52	80	10	4	45	23	6.4	16 x 22.5	113-030-115
4	14	0.250	40	80	58	9	15	50	45	66	100	13	6	58	38	8.6	12 x 30	113-040-114
5	15	0.500	50	125	80	11	18	80	65	90	160	20	6	75	38	10.6	12 x 30	113-050-115

* X = Addendum modification factor

** Dimension L1 can vary due to the nature of the preload adjustment mechanism

MOD	Tooth Number	X *	B	Max Torque (Nm) ***		Resultant Speed (rpm) Based on 2.5 m/s Travel	Order Code
				Without Preload	With Max. Preload		
2	22	0.500	25	92	46	1061	113-020-122
3	15	0.167	30	109	55	1061	113-030-115
4	14	0.250	40	237	119	853	113-040-114
5	15	0.500	50	623	312	637	113-050-115

* X = Addendum modification factor

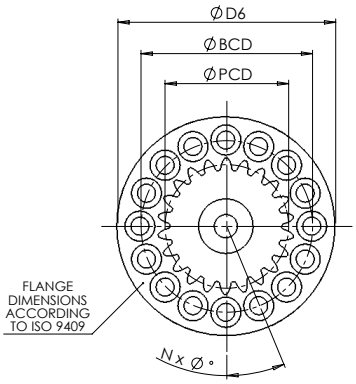
*** Stated values based on 20,000 hours service life with continuous grease lubrication

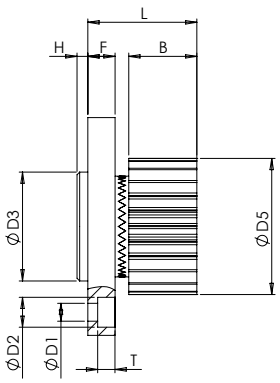
WMH RECOMMENED THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION FOR ALL RACK & PINION APPLICATIONS – LIFE TIME CALCULATIONS AVAILABLE ON REQUEST

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Straight Flange Pinions





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q6 e25
Tooth Finish	Case Hard + Ground
Material	16MnCr5 (1.7131)
Hardness	58~62 HRC

MOD	Tooth Number	X *	B	BCD	PCD	D1	D2	D3	D5	D6	F	H	L	T	N x Ø °	Order Code
2	22	0.500	25	63	46	6.6	11	40	50	80	10	4	40	6.4	16 x 22.5	112-120-022
3	15	0.167	30		46				52				45			112-130-015
3	19	0.500	30	80	60	9	15	50	66	100	13	6	58	8.6	12 x 30	112-230-019
4	14	0.250	40		58								58			112-240-014
4	20	0.250	40	125	82	11	18	80	90	160	20	6	65	10.6	12 x 30	112-340-020
5	15	0.500	50		80								75			112-350-015

* X = Addendum modification factor

WMH CAN PRODUCE CUSTOM FLANGE PINIONS AS WELL AS OUR STANDARD RANGE

MODULE & NUMBER OF TEETH CAN BE ADJUSTED TO CUSTOMER SPECIFICATION

PLEASE CONTACT OUR SALES TEAM WITH YOUR REQUIREMENTS

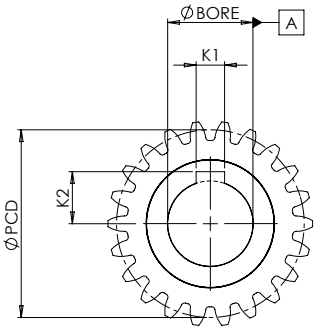
WMH RECOMMENED THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION FOR ALL RACK & PINION APPLICATIONS – LIFE TIME CALCULATIONS AVAILABLE ON REQUEST

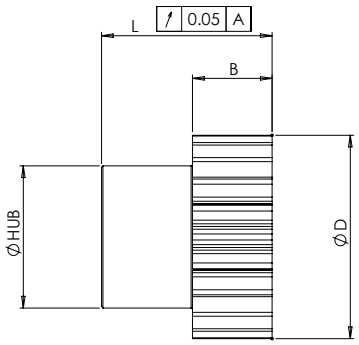
WMH Transmissions Limited



Precision Straight Pinions

Case Hardened – With Hub





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q7 e25
Tooth Finish	Case Hard + Ground
Material	16MnCr5 (1.7131)
Hardness	58~62 HRC

Case hardened gears are supplied with bore and key size specified below and cannot be modified

Keyway aligned with tooth root within +/- 0.5mm

MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø H6	HUB Ø h8	Length (L)	K1	K2	Order Code
2	28	20	40	44	19	30	56	6	12.3	115-120-920
					22	36	56	6	13.8	115-220-220
		22	44	48	19	30	56	6	12.3	115-120-922
					22	36	56	6	13.8	115-220-222
		25	50	54	16	30	54	5	10.3	115-120-625
					19	30	56	6	12.3	115-120-925
					22	36	56	6	13.8	115-220-225
		28	56	60	19	30	56	6	12.3	115-120-928
					30	50	60	8	18.3	115-320-028
		32	64	68	16	30	54	5	10.3	115-120-632
					22	36	56	6	13.8	115-220-232
					30	50	60	8	18.3	115-320-032
					32	55	65	10	19.3	115-320-232
		36	72	76	40	62	65	12	23.3	115-420-036
		40	80	84	32	55	65	10	19.3	115-320-240
					40	62	65	12	23.3	115-420-040
					45	68	65	14	26.3	114-420-540
		50	100	104	45	68	65	14	26.3	115-420-550
3	28	22	66	72	22	36	56	6	13.8	115-230-222
					25	44	60	8	15.8	115-230-522
					30	50	60	8	18.3	115-330-022
					32	55	65	10	19.3	115-330-232
					35	55	65	10	20.8	115-330-522
					40	62	65	12	23.3	115-430-022
		25	75	81	32	55	65	10	19.3	115-330-225
					40	62	65	12	23.3	115-430-025

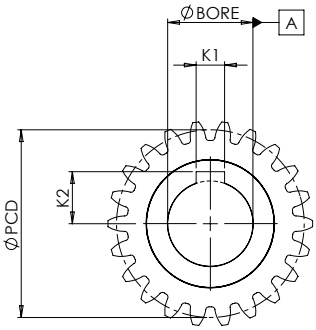
WMH RECOMMENED THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION FOR ALL RACK & PINION APPLICATIONS – LIFE TIME CALCULATIONS AVAILABLE ON REQUEST

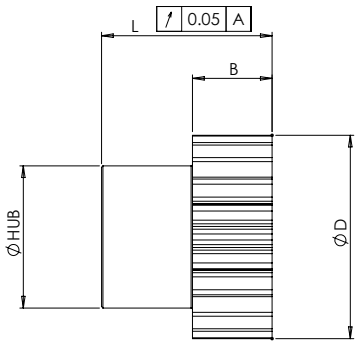
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Precision Straight Pinions

Case Hardened – With Hub





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q7 e25
Tooth Finish	Case Hard + Ground
Material	16MnCr5 (1.7131)
Hardness	58~62 HRC

Case hardened gears are supplied with bore and key size specified below and cannot be modified

Keyway aligned with tooth root within +/- 0.5mm

MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø H6	HUB Ø h8	Length (L)	K1	K2	Order Code
3	28	28	84	90	22	36	56	6	13.8	115-230-228
					25	44	60	8	15.8	115-230-528
					30	50	60	8	18.3	115-330-028
					32	55	65	10	19.3	115-330-228
					35	55	65	10	20.8	115-330-528
					40	62	65	12	23.3	115-430-028
					45	68	65	14	26.3	115-430-528
		32	96	102	32	55	65	10	19.3	115-330-232
					40	62	65	12	23.3	115-430-032
		36	108	114	45	68	65	14	26.3	115-430-536
4	40	20	80	88	32	55	75	10	19.3	115-340-220
					35	55	75	10	20.8	115-340-520
					40	62	75	12	23.3	115-440-020
		22	88	96	45	68	75	14	26.3	115-440-522
		25	100	108	32	55	75	10	19.3	115-340-225
					35	55	75	10	20.8	115-340-525
					40	62	75	12	23.3	115-440-025
					55	80	80	16	31.8	115-540-525
		28	112	120	45	68	75	14	26.3	115-440-528
		32	128	136	55	80	80	16	31.8	115-540-532
					75	110	100	20	42.9	115-740-532
		40	160	168	75	110	100	20	42.9	115-740-540

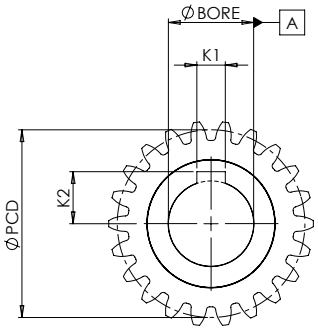
WMH RECOMMENED THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION FOR ALL RACK & PINION APPLICATIONS – LIFE TIME CALCULATIONS AVAILABLE ON REQUEST

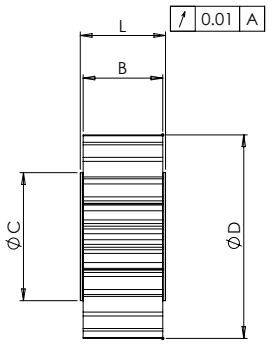
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Precision Straight Pinions

Case Hardened – Without Hub





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q7 e25
Tooth Finish	Case Hard + Ground
Material	16MnCr5 (1.7131)
Hardness	58~62 HRC

Case hardened gears are supplied with bore and key size specified below and cannot be modified

Keyway aligned with tooth root within +/- 0.5mm

MOD	Face Width (B)	Length (L)	Tooth Number	PCD	Ø D	BORE Ø H6	Ø C	K1	K2	Order Code
2	28	30	16	32	36	15	25	5	9.8	113-120-516
			18	36	40	20	25	6	12.8	113-220-018
			20	40	44	20	30	6	12.8	113-220-020
			22	44	48	15	25	5	9.8	113-120-522
						20	30	6	12.8	113-220-022
						25	36	8	15.8	113-220-522
			25	50	54	20	30	6	12.8	113-220-025
						25	36	8	15.8	113-220-525
						30	45	8	18.3	113-320-025
			28	56	60	20	30	6	12.8	113-220-028
						25	36	8	15.8	113-220-528
						30	45	8	18.3	113-320-028
						35	48	10	20.8	113-320-528
			32	64	68	20	30	6	12.8	113-220-032
						25	36	8	15.8	113-220-532
						30	45	8	18.3	113-320-032
						35	48	10	20.8	113-320-532
			36	72	76	25	36	8	15.8	113-220-536
						30	45	8	18.3	113-320-036
						35	48	10	20.8	113-320-536
						45	58	14	26.3	113-420-536
			40	80	84	25	36	8	15.8	113-220-540
						30	45	8	18.3	113-320-040
						35	48	10	20.8	113-320-540
						45	58	14	26.3	113-420-540
			45	90	94	35	48	10	20.8	113-320-545
						45	58	14	26.3	113-420-545
			50	100	104	35	48	10	20.8	113-320-550
						45	58	14	26.3	113-420-550

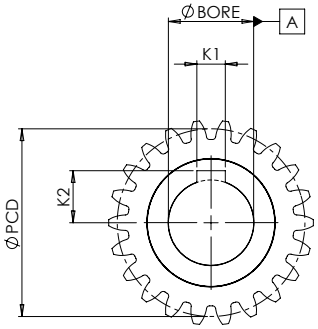
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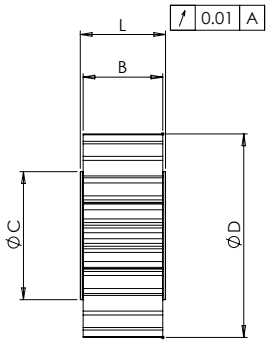
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Precision Straight Pinions

Case Hardened – Without Hub





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q7 e25
Tooth Finish	Case Hard + Ground
Material	16MnCr5 (1.7131)
Hardness	58~62 HRC

Case hardened gears are supplied with bore and key size specified below and cannot be modified

Keyway aligned with tooth root within +/- 0.5mm

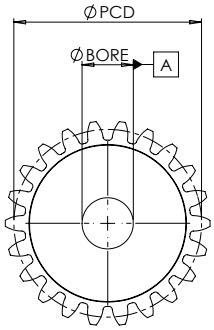
MOD	Face Width (B)	Length (L)	Tooth Number	PCD	Ø D	BORE Ø H6	Ø C	K1	K2	Order Code
3	28	30	18	54	60	25	36	8	15.8	113-230-518
			20	60	66	25	36	8	15.8	113-230-520
						30	45	8	18.3	113-330-020
						35	48	10	20.8	113-330-520
			22	66	72	25	36	8	15.8	113-230-522
						30	45	8	18.3	113-330-022
						35	48	10	20.8	113-330-522
			25	75	81	25	36	8	15.8	113-230-525
						30	45	8	18.3	113-330-025
						35	48	10	20.8	113-330-525
						45	58	14	26.3	113-430-525
			28	84	90	25	36	8	15.8	113-230-528
						30	45	8	18.3	113-330-028
						35	48	10	20.8	113-330-528
						45	58	14	26.3	113-430-528
			32	96	102	25	36	8	15.8	113-230-532
						30	45	8	18.3	113-330-032
						35	48	10	20.8	113-330-532
						45	58	14	26.3	113-430-532
			36	108	114	35	48	10	20.8	113-330-536
						45	58	14	26.3	113-430-536
			40	120	126	35	48	10	20.8	113-330-540
						45	58	14	26.3	113-430-540
4	40	50	20	80	88	35	52	10	20.8	113-340-520
						45	65	14	26.3	113-440-520
			22	88	96	35	52	10	20.8	113-340-522
						45	65	14	26.3	113-440-522
			25	100	108	35	52	10	20.8	113-340-525
						45	65	14	26.3	113-440-525
			28	112	120	35	52	10	20.8	113-340-528
						45	65	14	26.3	113-440-528
			32	128	136	35	52	10	20.8	113-340-532
						45	65	14	26.3	113-440-532
			40	160	168	45	65	14	26.3	113-440-540
						60	80	18	34.3	113-640-040

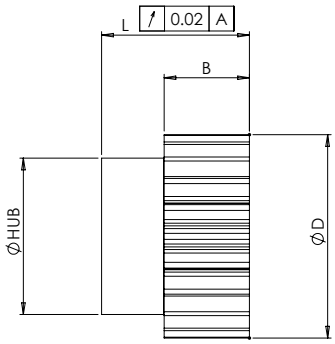
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Precision Straight Pinions

Induction Hardened & Ground Teeth Only





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q6 e25
Tooth Finish	Ind. Hard + Ground
Material	16MnCr5 (1.7131)
Hardness	60 HRC

Induction hardened gears have soft cores and so can be reworked in-house on request

MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø H7	HUB Ø	Length (L)	Order Code
2	25	18	36	40	18	30	47	117-020-018
		20	40	44	18	30	47	117-020-020
		22	44	48	18	36	47	117-020-022
		25	50	54	18	44	53	117-020-025
		28	56	60	18	50	53	117-020-028
		30	60	64	24	54	53	117-020-030
		32	64	68	24	55	53	117-020-032
		36	72	76	24	65	53	117-020-036
		40	80	84	24	68	53	117-020-040
3	30	18	54	60	24	45	52	117-030-018
		20	60	66	24	48	52	117-030-020
		22	66	72	24	55	52	117-030-022
		25	75	81	24	62	58	117-030-025
		28	84	90	24	68	58	117-030-028
		30	90	96	24	68	58	117-030-030
		32	96	102	24	68	58	117-030-032
		36	108	114	24	68	58	117-030-036
4	40	18	72	80	24	62	73	117-040-018
		20	80	88	24	62	73	117-040-020
		22	88	96	24	68	73	117-040-022
		25	100	108	24	80	74	117-040-025
		28	112	120	24	80	74	117-040-028
		30	120	128	30	80	74	117-040-030
		32	128	136	30	110	74	117-040-032
		36	144	152	30	110	74	117-040-036
5	50	22	110	120	24	90	91	117-050-022
		25	125	135	24	110	101	117-050-025
		28	140	150	24	110	101	117-050-028
		30	150	160	30	110	101	117-050-030
		32	160	170	30	110	101	117-050-032
		36	180	190	30	110	101	117-050-036
6	60	20	120	132	30	100	140	117-060-020
		25	150	162	30	130	140	117-060-025
		28	168	180	30	130	140	117-060-028
		30	180	192	30	140	140	117-060-030

WMH OFFER IN-HOUSE MACHINING SERVICES FOR ALL SOFT CORE GEARS – CONTACT US TODAY

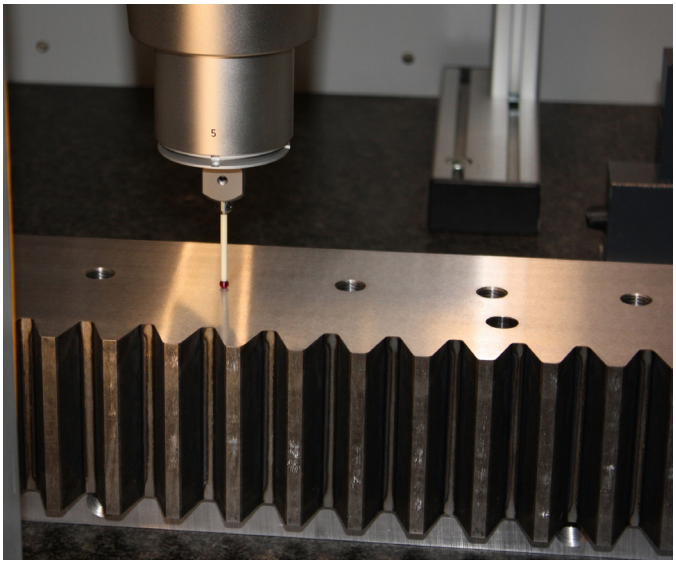
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Special Manufacture Pinions





WMH IS A MARKET LEADER IN THE MANUFACTURE OF RACK & PINIONS AND HAS 3D MILLING EQUIPMENT THAT CAN PRODUCE PINIONS UP TO 3M IN DIAMETER

AT OUR FACILITY IN TAMWORTH, STAFFORDSHIRE WE HAVE THE MACHINERY AND INDUSTRY EXPERTISE TO MODIFY ANY OF OUR STANDARD RACK & PINIONS IN-HOUSE

WMH ALSO HAS THE CAPABILITY TO PRODUCE ALMOST ANY PINION IMAGINABLE BE IT CORRECTED TOOTH GEOMETRY, EXOTIC MATERIALS AND EVEN HERRINGBONE TEETH

STANDARD RACKS ARE RIGHT HANDED AND ALL STANDARD PINIONS ARE LEFT HANDED BUT **WMH** CAN PRODUCE LEFT HANDED RACKS AND RIGHT HANDED PINIONS ON REQUEST

CONTACT OUR SALES TEAM WITH YOUR REQUIREMENTS AND WE WILL BE HAPPY TO HELP





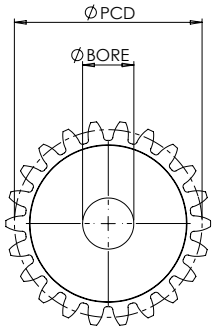


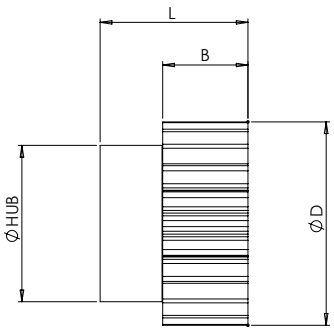
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Economy Straight Pinions

Standard Pinions – For General Purpose





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q9 / Q10 e27
Tooth Finish	Milled
Material	C45 (1.0503)
Hardness	Soft / 60 HRC

Induction hardened gears have soft cores and so can be reworked in-house on request

MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø H7	HUB Ø	Length (L)	Order Code	
								Q9 Soft	Q10 Ind. Hard
1	8	12	12	14	4	9	18	111-010-012	-
		13	13	15	4	10	18	111-010-013	-
		14	14	16	4	12	18	111-010-014	-
		15	15	17	5	12	18	111-010-015	111-010-415
		16	16	18	5	12	18	111-010-016	-
		17	17	19	6	14	18	111-010-017	-
		18	18	20	6	15	18	111-010-018	-
		19	19	21	6	15	18	111-010-019	-
		20	20	22	6	15	18	111-010-020	111-010-420
		21	21	23	6	18	18	111-010-021	-
		22	22	24	6	18	18	111-010-022	-
		23	23	25	6	18	18	111-010-023	-
		24	24	26	6	18	18	111-010-024	-
		25	25	27	6	18	18	111-010-025	111-010-425
		28	28	30	8	20	18	111-010-028	-
		30	30	32	8	20	18	111-010-030	111-010-430
		36	36	38	8	25	18	111-010-036	-
		38	38	40	8	25	18	111-010-038	-
		40	40	42	8	25	18	111-010-040	111-010-440
		45	45	47	8	30	18	111-010-045	-
		48	48	50	8	30	18	111-010-048	-
		50	50	52	8	35	18	111-010-050	-
		52	52	54	10	35	18	111-010-052	-
		56	56	58	10	35	18	111-010-056	-
		60	60	62	10	40	18	111-010-060	111-010-460
		76	76	78	10	-	-	110-010-076	-
		80	80	82	10	-	-	110-010-080	-
		95	95	97	10	-	-	110-010-095	-
		120	120	122	10	-	-	110-010-120	-

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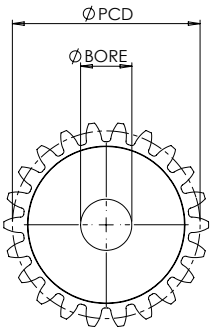
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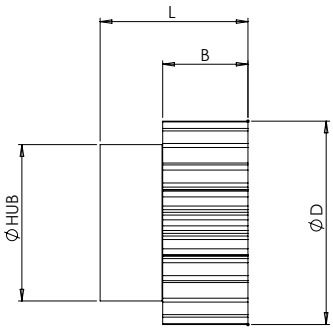
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Economy Straight Pinions

Standard Pinions – For General Purpose





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q9 / Q10 e27
Tooth Finish	Milled
Material	C45 (1.0503)
Hardness	Soft / 60 HRC

Induction hardened gears have soft cores and so can be reworked in-house on request

MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø H7	HUB Ø	Length (L)	Order Code	
								Q9 Soft	Q10 Ind. Hard
1.5	12	12	18	21	6	14	25	111-015-012	-
		13	19.5	22.5	6	15	25	111-015-013	-
		14	21	24	6	16.5	25	111-015-014	-
		15	22.5	25.5	6	18	25	111-015-015	111-015-415
		16	24	27	6	18	25	111-015-016	-
		17	25.5	28.5	6	20	25	111-015-017	-
		18	27	30	8	20	25	111-015-018	-
		19	28.5	31.5	8	20	25	111-015-019	-
		20	30	33	8	20	25	111-015-020	111-015-420
		21	31.5	34.5	8	25	25	111-015-021	-
		22	33	36	8	25	25	111-015-022	-
		23	34.5	37.5	8	25	25	111-015-023	-
		24	36	39	8	25	25	111-015-024	-
		25	37.5	40.5	8	25	25	111-015-025	111-015-425
		28	42	45	10	30	25	111-015-028	-
		30	45	48	10	30	25	111-015-030	111-015-430
		36	54	57	10	40	25	111-015-036	-
		38	57	60	10	40	25	111-015-038	-
		40	60	63	10	40	25	111-015-040	111-015-440
		45	67.5	70.5	10	45	25	111-015-045	-
		48	72	75	10	45	25	111-015-048	-
		50	75	78	12	50	25	111-015-050	-
		52	78	81	12	50	25	111-015-052	-
		56	84	87	12	50	25	111-015-056	-
		60	90	93	12	60	25	111-015-060	111-015-460
		76	114	117	16	-	-	110-015-076	-
		80	120	123	16	-	-	110-015-080	-
		95	142.5	145.5	16	-	-	110-015-095	-
		120	180	183	16	-	-	110-015-120	-

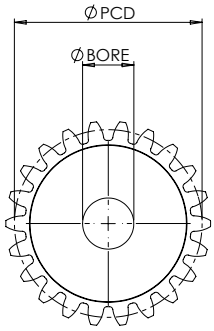
WMH RECOMMEND THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION
FOR ALL RACK & PINION APPLICATIONS – LIFE TIME CALCULATIONS AVAILABLE ON REQUEST

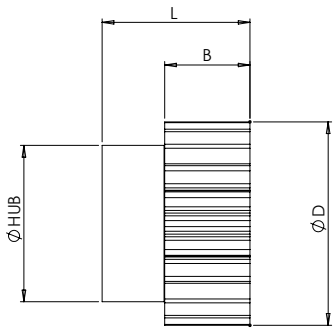
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Economy Straight Pinions

Standard Pinions – For General Purpose





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q9 / Q10 e27
Tooth Finish	Milled
Material	C45 (1.0503)
Hardness	Soft / 60 HRC

Induction hardened gears have soft cores and so can be reworked in-house on request

MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø H7	HUB Ø	Length (L)	Order Code	
								Q9 Soft	Q10 Ind. Hard
1.5916	12	12	19.0986	22.2817	6	14	25	111-016-012	-
		15	23.8732	27.0563	6	18	25	111-016-015	111-016-415
		18	28.6479	31.8310	8	20	25	111-016-018	-
		20	31.8310	35.0141	8	20	25	111-016-020	111-016-420
		24	38.1972	41.3803	8	25	25	111-016-024	-
		25	39.7887	42.9718	8	25	25	111-016-025	111-016-425
		30	47.7465	50.9296	10	30	25	111-016-030	111-016-430
		36	57.2958	60.4789	10	40	25	111-016-036	-
		40	63.6620	66.8451	10	40	25	111-016-040	111-016-440
		45	71.6197	74.8028	10	45	25	111-016-045	-
		50	79.5775	82.7606	12	50	25	111-016-050	-
		60	95.4930	98.6761	12	60	25	111-016-060	111-016-460

WMH RECOMMEND THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION
FOR ALL RACK & PINION APPLICATIONS – LIFE TIME CALCULATIONS AVAILABLE ON REQUEST

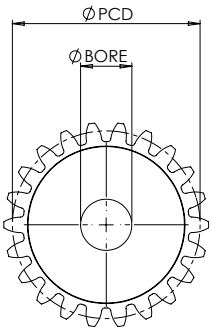
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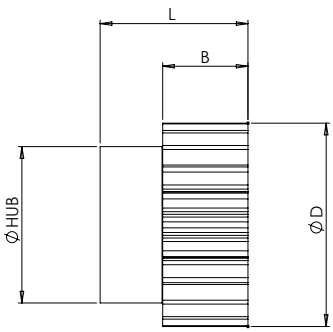
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Economy Straight Pinions

Standard Pinions – For General Purpose





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q9 / Q10 e27
Tooth Finish	Milled
Material	C45 (1.0503)
Hardness	Soft / 60 HRC

Induction hardened gears have soft cores and so can be reworked in-house on request

MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø H7	HUB Ø	Length (L)	Order Code	
								Q9 Soft	Q10 Ind. Hard
2	16	12	24	28	8	18	30	111-020-012	-
		13	26	30	8	20.5	30	111-020-013	-
		14	28	32	8	22.5	30	111-020-014	-
		15	30	34	8	24	30	111-020-015	111-020-415
		16	32	36	8	25	30	111-020-016	-
		17	34	38	8	27.5	30	111-020-017	-
		18	36	40	10	28	30	111-020-018	-
		19	38	42	10	28	30	111-020-019	-
		20	40	44	10	28	30	111-020-020	111-020-420
		21	42	46	10	30	30	111-020-021	-
		22	44	48	10	30	30	111-020-022	-
		23	46	50	10	30	30	111-020-023	-
		24	48	52	10	30	30	111-020-024	-
		25	50	54	10	30	30	111-020-025	111-020-425
		28	56	60	10	40	30	111-020-028	-
		30	60	64	12	40	30	111-020-030	111-020-430
		36	72	76	12	50	30	111-020-036	-
		38	76	80	12	50	30	111-020-038	-
		40	80	84	12	50	30	111-020-040	111-020-440
		45	90	94	12	60	30	111-020-045	-
		48	96	100	12	60	30	111-020-048	-
		50	100	104	15	70	30	111-020-050	-
		52	104	108	15	70	30	111-020-052	-
		56	112	116	15	70	30	111-020-056	-
		60	120	124	15	80	30	111-020-060	111-020-460
		76	152	156	16	-	-	110-020-076	-
		80	160	164	16	-	-	110-020-080	-
		95	190	194	16	-	-	110-020-095	-
		120	240	244	20	-	-	110-020-120	-

WMH RECOMMEND THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION
FOR ALL RACK & PINION APPLICATIONS – LIFE TIME CALCULATIONS AVAILABLE ON REQUEST

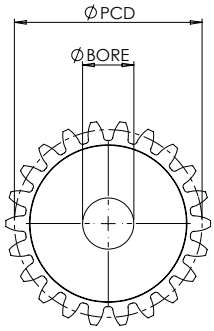
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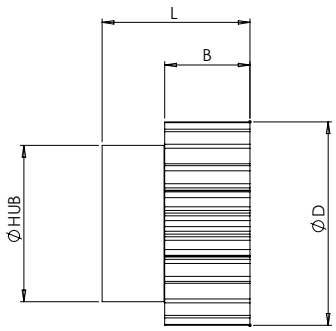
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Economy Straight Pinions

Standard Pinions – For General Purpose





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q9 / Q10 e27
Tooth Finish	Milled
Material	C45 (1.0503)
Hardness	Soft / 60 HRC

Induction hardened gears have soft cores and so can be reworked in-house on request

MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø H7	HUB Ø	Length (L)	Order Code	
								Q9 Soft	Q10 Ind. Hard
2.5	20	12	30	35	10	23	35	111-025-012	-
		13	32.5	37.5	10	25	35	111-025-013	-
		14	35	40	10	25	35	111-025-014	-
		15	37.5	42.5	10	25	35	111-025-015	111-025-415
		16	40	45	10	25	35	111-025-016	-
		17	42.5	47.5	10	30	35	111-025-017	-
		18	45	50	12	30	35	111-025-018	-
		19	47.5	52.5	12	30	35	111-025-019	-
		20	50	55	12	30	35	111-025-020	111-025-420
		21	52.5	57.5	12	40	35	111-025-021	-
		22	55	60	12	40	35	111-025-022	-
		23	57.5	62.5	12	40	35	111-025-023	-
		24	60	65	12	40	35	111-025-024	-
		25	62.5	67.5	12	40	35	111-025-025	111-025-425
		28	70	75	12	45	35	111-025-028	-
		30	75	80	15	50	35	111-025-030	111-025-430
		36	90	95	15	60	35	111-025-036	-
		38	95	100	15	60	35	111-025-038	-
		40	100	105	15	60	35	111-025-040	111-025-440
		45	112.5	117.5	15	70	35	111-025-045	-
		48	120	125	15	70	35	111-025-048	-
		50	125	130	20	80	35	111-025-050	-
		52	130	135	20	80	35	111-025-052	-
		56	140	145	20	80	35	111-025-056	-
		60	150	155	20	90	35	111-025-060	111-025-460
		76	190	195	16	-	-	110-025-076	-
		80	200	205	16	-	-	110-025-080	-
		95	237.5	242.5	16	-	-	110-025-095	-

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FOR ALL RACK & PINION APPLICATIONS – LIFE TIME CALCULATIONS AVAILABLE ON REQUEST

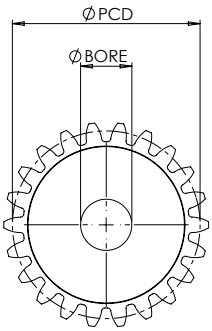
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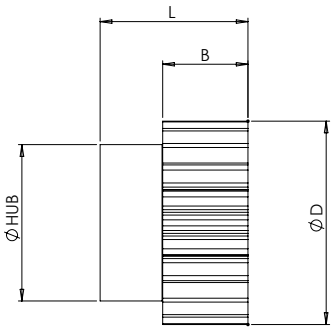
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Economy Straight Pinions

Standard Pinions – For General Purpose





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q9 / Q10 e27
Tooth Finish	Milled
Material	C45 (1.0503)
Hardness	Soft / 60 HRC

Induction hardened gears have soft cores and so can be reworked in-house on request

MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø H7	HUB Ø	Length (L)	Order Code	
								Q9 Soft	Q10 Ind. Hard
3	25	12	36	42	10	25	40	111-030-012	-
		13	39	45	10	30	40	111-030-013	-
		14	42	48	10	30	40	111-030-014	-
		15	45	51	12	30	40	111-030-015	111-030-415
		16	48	54	12	30	40	111-030-016	-
		17	51	57	12	40	40	111-030-017	-
		18	54	60	15	40	40	111-030-018	-
		19	57	63	15	40	40	111-030-019	-
		20	60	66	15	40	40	111-030-020	111-030-420
		21	63	69	15	45	40	111-030-021	-
		22	66	72	15	50	40	111-030-022	-
		23	69	75	15	50	40	111-030-023	-
		24	72	78	15	50	40	111-030-024	-
		25	75	81	15	50	40	111-030-025	111-030-425
		28	84	90	15	60	40	111-030-028	-
		30	90	96	20	60	40	111-030-030	111-030-430
		36	108	114	20	70	40	111-030-036	-
		38	114	120	20	70	40	111-030-038	-
		40	120	126	20	80	40	111-030-040	111-030-440
		45	135	141	20	-	-	110-030-045	-
		48	144	150	20	-	-	110-030-048	-
		50	150	156	20	-	-	110-030-050	-
		52	156	162	25	-	-	110-030-052	-
		56	168	174	25	-	-	110-030-056	-
		60	180	186	25	-	-	110-030-060	110-030-460
		76	228	234	25	-	-	110-030-076	-
		80	240	246	25	-	-	110-030-080	-
		95	285	291	25	-	-	110-030-095	-

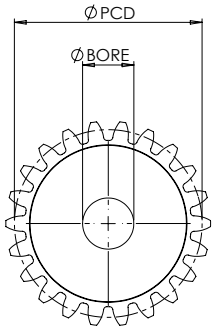
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FOR ALL RACK & PINION APPLICATIONS – LIFE TIME CALCULATIONS AVAILABLE ON REQUEST

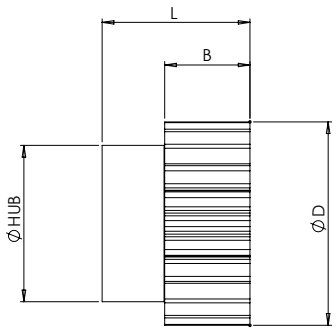
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Economy Straight Pinions

Standard Pinions – For General Purpose





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q9 / Q10 e27
Tooth Finish	Milled
Material	C45 (1.0503)
Hardness	Soft / 60 HRC

Induction hardened gears have soft cores and so can be reworked in-house on request

MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø H7	HUB Ø	Length (L)	Order Code	
								Q9 Soft	Q10 Ind. Hard
3.1831	25	12	38.1972	44.5634	10	25	40	111-031-012	-
		15	47.7465	54.1127	12	30	40	111-031-015	111-031-415
		18	57.2958	63.6620	15	40	40	111-031-018	-
		20	63.6620	70.0282	15	40	40	111-031-020	111-031-420
		24	76.3944	82.7606	15	50	40	111-031-024	-
		25	79.5775	85.9437	15	50	40	111-031-025	111-031-425
		30	95.4930	101.8592	20	60	40	111-031-030	111-031-430
		36	114.5916	120.9578	20	70	40	111-031-036	-
		40	127.3240	133.6902	20	80	40	111-031-040	111-031-440
		45	143.2394	149.6056	20	-	-	110-031-045	-
		50	159.1549	165.5211	20	-	-	110-031-050	-
		60	190.9859	197.3521	25	-	-	110-031-060	110-031-460

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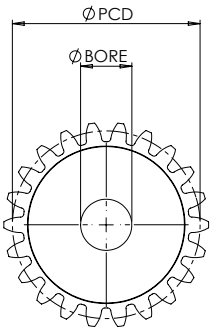
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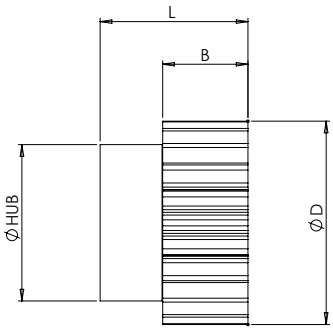
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Economy Straight Pinions

Standard Pinions – For General Purpose





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q9 / Q10 e27
Tooth Finish	Milled
Material	C45 (1.0503)
Hardness	Soft / 60 HRC

Induction hardened gears have soft cores and so can be reworked in-house on request

MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø H7	HUB Ø	Length (L)	Order Code	
								Q9 Soft	Q10 Ind. Hard
4	32	12	48	56	12	36	50	111-040-012	-
		13	52	60	12	40	50	111-040-013	-
		14	56	64	12	44	50	111-040-014	-
		15	60	68	15	45	50	111-040-015	111-040-415
		16	64	72	15	45	50	111-040-016	-
		17	68	76	15	50	50	111-040-017	-
		18	72	80	20	50	50	111-040-018	-
		19	76	84	20	50	50	111-040-019	-
		20	80	88	20	50	50	111-040-020	111-040-420
		21	84	92	20	60	50	111-040-021	-
		22	88	96	20	60	50	111-040-022	-
		23	92	100	20	60	50	111-040-023	-
		24	96	104	20	60	50	111-040-024	-
		25	100	108	20	60	50	111-040-025	111-040-425
		28	112	120	20	70	50	111-040-028	-
		30	120	128	25	80	50	111-040-030	111-040-430
		36	144	152	25	-	-	110-040-036	-
		38	152	160	25	-	-	110-040-038	-
		40	160	168	25	-	-	110-040-040	110-040-440
		45	180	188	25	-	-	110-040-045	-
		48	192	200	25	-	-	110-040-048	-
		50	200	208	25	-	-	110-040-050	-
		52	208	216	30	-	-	110-040-052	-
		56	224	232	30	-	-	110-040-056	-
		60	240	248	30	-	-	110-040-060	110-040-460
		76	304	312	30	-	-	110-040-076	-
		80	320	328	30	-	-	110-040-080	-
		95	380	388	30	-	-	110-040-095	-

WMH RECOMMEND THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION FOR ALL RACK & PINION APPLICATIONS – LIFE TIME CALCULATIONS AVAILABLE ON REQUEST

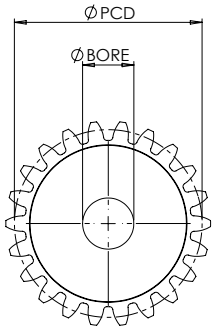
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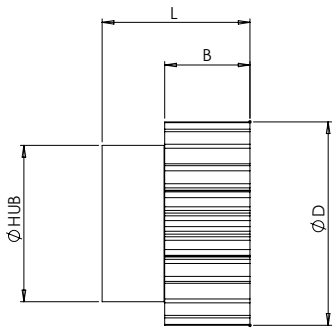
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Economy Straight Pinions

Standard Pinions – For General Purpose





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q9 / Q10 e27
Tooth Finish	Milled
Material	C45 (1.0503)
Hardness	Soft / 60 HRC

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MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø H7	HUB Ø	Length (L)	Order Code	
								Q9 Soft	Q10 Ind. Hard
5	40	12	60	70	15	45	60	111-050-012	-
		13	65	75	15	50	60	111-050-013	-
		14	70	80	15	50	60	111-050-014	-
		15	75	85	20	50	60	111-050-015	111-050-415
		16	80	90	20	50	60	111-050-016	-
		17	85	95	20	64	60	111-050-017	-
		18	90	100	25	65	60	111-050-018	-
		19	95	105	25	68	60	111-050-019	-
		20	100	110	25	70	60	111-050-020	111-050-420
		21	105	115	25	75	60	111-050-021	-
		22	110	120	25	75	60	111-050-022	-
		23	115	125	25	80	60	111-050-023	-
		24	120	130	25	80	60	111-050-024	-
		25	125	135	25	80	60	111-050-025	111-050-425
		28	140	150	25	-	-	110-050-028	-
		30	150	160	30	-	-	110-050-030	110-050-430
		36	180	190	30	-	-	110-050-036	-
		38	190	200	30	-	-	110-050-038	-
		40	200	210	30	-	-	110-050-040	110-050-440
		45	225	235	30	-	-	110-050-045	-
		48	240	250	30	-	-	110-050-048	-
		50	250	260	30	-	-	110-050-050	-
		52	260	270	40	-	-	110-050-052	-
		56	280	290	40	-	-	110-050-056	-
		60	300	310	40	-	-	110-050-060	110-050-460
		76	380	390	40	-	-	110-050-076	-
		80	400	410	40	-	-	110-050-080	-
		95	475	485	40	-	-	110-050-095	-

WMH RECOMMEND THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION
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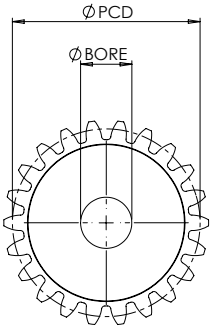
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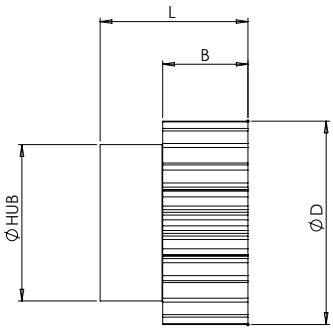
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Economy Straight Pinions

Standard Pinions – For General Purpose





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q9 / Q10 e27
Tooth Finish	Milled
Material	C45 (1.0503)
Hardness	Soft / 60 HRC

Induction hardened gears have soft cores and so can be reworked in-house on request

MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø H7	HUB Ø	Length (L)	Order Code	
								Q9 Soft	Q10 Ind. Hard
6	48	12	72	84	20	54	70	111-060-012	-
		13	78	90	20	60	70	111-060-013	-
		15	90	102	25	60	70	111-060-015	111-060-415
		16	96	108	25	60	70	111-060-016	-
		18	108	120	25	70	70	111-060-018	-
		20	120	132	25	70	70	111-060-020	111-060-420
		24	144	156	30	80	70	111-060-024	-
		25	150	162	30	80	70	111-060-025	111-060-425
		28	168	180	30	-	-	110-060-028	-
		30	180	192	30	-	-	110-060-030	110-060-430
		36	216	228	30	-	-	110-060-036	-
		38	228	240	30	-	-	110-060-038	-
		40	240	252	30	-	-	110-060-040	110-060-440
		45	270	282	40	-	-	110-060-045	-
		48	288	300	40	-	-	110-060-048	-
		50	300	312	40	-	-	110-060-050	-
		52	312	324	40	-	-	110-060-052	-
		56	336	348	40	-	-	110-060-056	-
		60	360	372	40	-	-	110-060-060	110-060-460
		76	456	468	40	-	-	110-060-076	-
		80	480	492	50	-	-	110-060-080	-
		95	570	582	50	-	-	110-060-095	-
8	64	15	120	136	25	80	95	111-080-015	111-080-415
		20	160	176	30	100	95	111-080-020	111-080-420
		25	200	216	30	125	95	111-080-025	111-080-425
		30	240	256	30	-	-	110-080-030	110-080-430
		40	320	336	40	-	-	110-080-040	110-080-440
		60	480	496	50	-	-	110-080-060	110-080-460

WMH RECOMMEND THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION
FOR ALL RACK & PINION APPLICATIONS – LIFE TIME CALCULATIONS AVAILABLE ON REQUEST

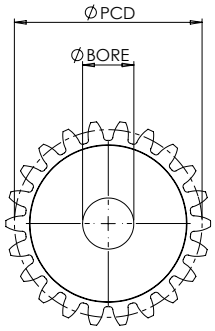
WMH OFFER IN-HOUSE MACHINING SERVICES FOR ALL SOFT CORE GEARS – CONTACT US TODAY

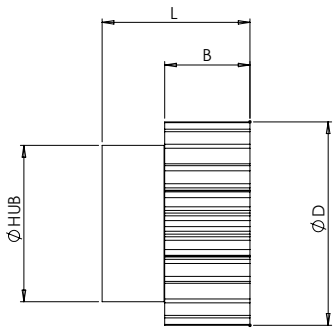
WMH Transmissions Limited



Stainless Steel Pinions

With Straight Teeth





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q9 e27
Tooth Finish	Milled
Material	X8CrNiS 18-9 (1.4305)
Hardness	Soft

MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø H7	HUB Ø	Length (L)	Order Code
1	8	15	15	17	5	12	18	111-010-615
		20	20	22	6	15	18	111-010-620
		25	25	27	6	18	18	111-010-625
		30	30	32	8	20	18	111-010-630
		40	40	42	8	25	18	111-010-640
		60	60	62	10	40	18	111-010-660
1.5	12	15	22.5	25.5	6	18	25	111-015-615
		20	30	33	8	20	25	111-015-620
		25	37.5	40.5	8	25	25	111-015-625
		30	45	48	10	30	25	111-015-630
		40	60	63	10	40	25	111-015-640
		60	90	93	12	60	25	111-015-660
2	16	15	30	34	8	24	30	111-020-615
		20	40	44	10	28	30	111-020-620
		25	50	54	10	30	30	111-020-625
		30	60	64	12	40	30	111-020-630
		40	80	84	12	50	30	111-020-640
		60	120	124	15	80	30	111-020-660
3	25	15	45	51	12	30	40	111-030-615
		20	60	66	15	40	40	111-030-620
		25	75	81	15	50	40	111-030-625
		30	90	96	20	60	40	111-030-630
		40	120	126	20	80	40	111-030-640
		60	180	186	25	-	-	110-030-660
4	32	15	60	68	15	45	50	111-040-615
		20	80	88	20	50	50	111-040-620
		25	100	108	20	60	50	111-040-625
		30	120	128	25	80	50	111-040-630
		40	160	168	25	-	-	110-040-640
		60	240	248	30	-	-	110-040-660

WMH RECOMMEND THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION
FOR ALL RACK & PINION APPLICATIONS – LIFE TIME CALCULATIONS AVAILABLE ON REQUEST

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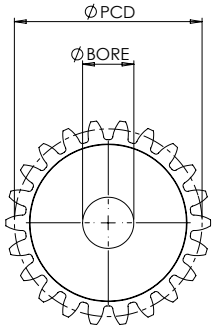
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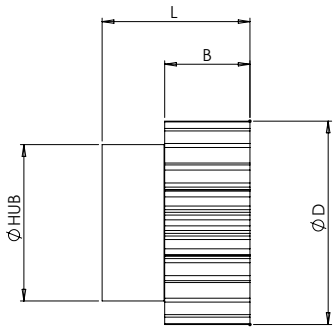
WMH Transmissions Limited



Synthetic Pinions

With Straight Teeth





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q10 e27
Tooth Finish	Milled
Material	Nylon P6
Hardness	Soft

MOD	Face Width (B)	Length (L)	Tooth Number	PCD	Ø D	BORE Ø H7	HUB Ø	Order Code
1	8	18	15	15	17	5	12	118-010-015
			16	16	18	5	12	118-010-016
			18	18	20	6	15	118-010-018
			20	20	22	6	15	118-010-020
			24	24	26	6	18	118-010-024
			25	25	27	6	18	118-010-025
1.5	12	25	15	22.5	25.5	6	18	118-015-015
			16	24	27	6	18	118-015-016
			18	27	30	8	20	118-015-018
			20	30	33	8	20	118-015-020
			24	36	39	8	25	118-015-024
			25	37.5	40.5	8	25	118-015-025
2	16	30	15	30	34	8	25	118-020-015
			16	32	36	8	25	118-020-016
			18	36	40	10	28	118-020-018
			20	40	44	10	28	118-020-020
			24	48	52	10	30	118-020-024
			25	50	54	10	30	118-020-025
2.5	25	35	15	37.5	42.5	10	25	118-025-015
			16	40	45	10	25	118-025-016
			18	45	50	12	30	118-025-018
			20	50	55	12	30	118-025-020
			24	60	65	12	40	118-025-024
			25	62.5	67.5	12	40	118-025-025

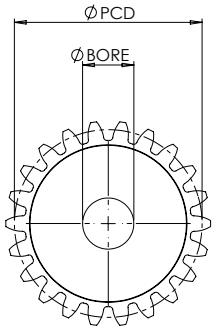
WMH OFFER IN-HOUSE MACHINING SERVICES FOR ALL SOFT CORE GEARS – CONTACT US TODAY

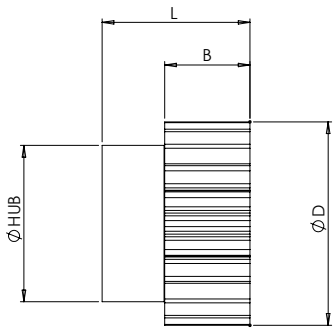
WMH Transmissions Limited



Commercial Straight Pinions

For Low Speed Applications





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q12 +
Tooth Finish	Milled
Material	C45 (1.0503)
Hardness	Soft

WMH offer in-house machining services for all soft gears including bore and keying

MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø (Pilot)	HUB Ø	Length (L)	Order Code
1	15	12	12	14	- *	9	25	116-010-012
		13	13	15	- *	10	25	116-010-013
		14	14	16	- *	11	25	116-010-014
		15	15	17	- *	12	25	116-010-015
		16	16	18	- *	13	25	116-010-016
		17	17	19	- *	14	25	116-010-017
		18	18	20	8	15	25	116-010-018
		19	19	21	8	15	25	116-010-019
		20	20	22	8	16	25	116-010-020
		21	21	23	8	16	25	116-010-021
		22	22	24	8	18	25	116-010-022
		23	23	25	8	18	25	116-010-023
		24	24	26	10	20	25	116-010-024
		25	25	27	10	20	25	116-010-025
		26	26	28	10	20	25	116-010-026
		28	28	30	10	20	25	116-010-028
		30	30	32	10	20	25	116-010-030
		32	32	34	10	25	25	116-010-032
		35	35	37	10	25	25	116-010-035
		36	36	38	10	25	25	116-010-036
		38	38	40	10	25	25	116-010-038
		40	40	42	10	25	25	116-010-040
		42	42	44	10	30	25	116-010-042
		45	45	47	10	30	25	116-010-045
		48	48	50	10	30	25	116-010-048
		50	50	52	12	30	25	116-010-050
		52	52	54	12	40	25	116-010-052
		54	54	56	12	40	25	116-010-054
		56	56	58	12	40	25	116-010-056
		58	58	60	12	40	25	116-010-058
		60	60	62	12	40	25	116-010-060
		70	70	72	12	50	25	116-010-070
		76	76	78	12	-	-	114-010-076
		80	80	82	12	-	-	114-010-080
		95	95	97	12	-	-	114-010-095
		110	110	112	12	-	-	114-010-110
		114	114	116	12	-	-	114-010-114

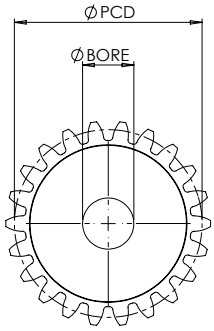
* Gears previously stocked with Ø6mm pilot bores are now discontinued

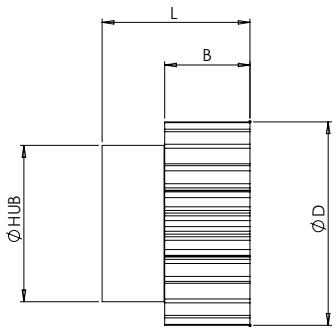
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Commercial Straight Pinions

For Low Speed Applications





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q12 +
Tooth Finish	Milled
Material	C45 (1.0503)
Hardness	Soft

WMH offer in-house machining services for all soft gears including bore and keying

MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø (Pilot)	HUB Ø	Length (L)	Order Code
1.5	17	12	18	21	8	14	30	116-015-012
		13	19.5	22.5	8	15	30	116-015-013
		14	21	24	8	17	30	116-015-014
		15	22.5	25.5	8	18	30	116-015-015
		16	24	27	8	19	30	116-015-016
		17	25.5	28.5	8	20	30	116-015-017
		18	27	30	8	20	30	116-015-018
		19	28.5	31.5	8	20	30	116-015-019
		20	30	33	8	25	30	116-015-020
		21	31.5	34.5	10	25	30	116-015-021
		22	33	36	10	25	30	116-015-022
		23	34.5	37.5	10	25	30	116-015-023
		24	36	39	10	25	30	116-015-024
		25	37.5	40.5	10	25	30	116-015-025
		26	39	42	12	30	30	116-015-026
		28	42	45	12	30	30	116-015-028
		30	45	48	12	30	30	116-015-030
		32	48	51	12	35	30	116-015-032
		35	52.5	55.5	12	35	30	116-015-035
		36	54	57	12	35	30	116-015-036
		38	57	60	12	40	30	116-015-038
		40	60	63	12	40	30	116-015-040
		42	63	66	12	50	30	116-015-042
		45	67.5	70.5	12	50	30	116-015-045
		48	72	75	14	50	30	116-015-048
		50	75	78	14	50	30	116-015-050
		52	78	81	14	60	30	116-015-052
		54	81	84	14	60	30	116-015-054
		56	84	87	16	60	30	116-015-056
		58	87	90	16	60	30	116-015-058
		60	90	93	16	60	30	116-015-060
		70	105	108	16	70	30	116-015-070
		76	114	117	16	-	-	114-015-076
		80	120	123	16	-	-	114-015-080
		95	142.5	145.5	16	-	-	114-015-095
		110	165	168	16	-	-	114-015-110
		114	171	174	16	-	-	114-015-114

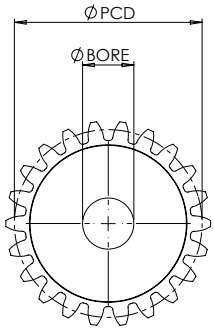
WMH RECOMMEND THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION

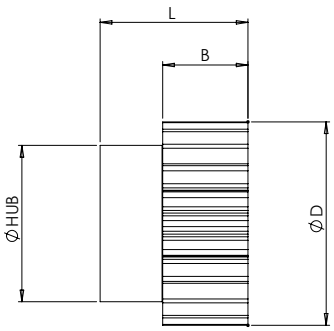
WMH Transmissions Limited



Commercial Straight Pinions

For Low Speed Applications





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q12 +
Tooth Finish	Milled
Material	C45 (1.0503)
Hardness	Soft

WMH offer in-house machining services for all soft gears including bore and keying

MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø (Pilot)	HUB Ø	Length (L)	Order Code
2	20	12	24	28	10	18	35	116-020-012
		13	26	30	10	20	35	116-020-013
		14	28	32	10	20	35	116-020-014
		15	30	34	10	24	35	116-020-015
		16	32	36	10	25	35	116-020-016
		17	34	38	10	25	35	116-020-017
		18	36	40	10	25	35	116-020-018
		19	38	42	10	25	35	116-020-019
		20	40	44	10	30	35	116-020-020
		21	42	46	12	30	35	116-020-021
		22	44	48	12	30	35	116-020-022
		23	46	50	12	30	35	116-020-023
		24	48	52	12	35	35	116-020-024
		25	50	54	12	35	35	116-020-025
		26	52	56	12	40	35	116-020-026
		28	56	60	12	40	35	116-020-028
		30	60	64	14	40	35	116-020-030
		32	64	68	14	45	35	116-020-032
		35	70	74	14	45	35	116-020-035
		36	72	76	14	45	35	116-020-036
		38	76	80	14	50	35	116-020-038
		40	80	84	14	50	35	116-020-040
		42	84	88	16	55	35	116-020-042
		45	90	94	16	60	35	116-020-045
		48	96	100	16	70	35	116-020-048
		50	100	104	16	70	35	116-020-050
		52	104	108	16	70	35	116-020-052
		54	108	112	16	70	35	116-020-054
		56	112	116	16	70	35	116-020-056
		58	116	120	16	70	35	116-020-058
		60	120	124	16	80	35	116-020-060
		70	140	144	16	80	35	116-020-070
		76	152	156	20	-	-	114-020-076
		80	160	164	20	-	-	114-020-080
		95	190	194	20	-	-	114-020-095
		110	220	224	20	-	-	114-020-110
		114	228	232	20	-	-	114-020-114

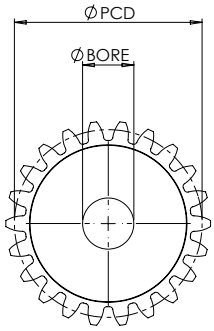
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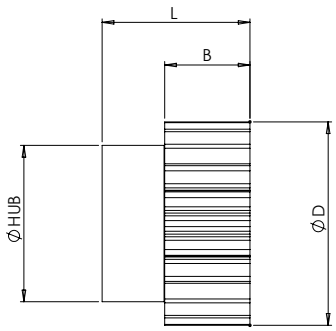
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Commercial Straight Pinions

For Low Speed Applications





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q12 +
Tooth Finish	Milled
Material	C45 (1.0503)
Hardness	Soft

WMH offer in-house machining services for all soft gears including bore and keying

MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø (Pilot)	HUB Ø	Length (L)	Order Code
2.5	25	12	30	35	10	22	45	116-025-012
		13	32.5	37.5	10	25	45	116-025-013
		14	35	40	10	28	45	116-025-014
		15	37.5	42.5	10	30	45	116-025-015
		16	40	45	12	32	45	116-025-016
		17	42.5	47.5	12	35	45	116-025-017
		18	45	50	12	35	45	116-025-018
		19	47.5	52.5	12	35	45	116-025-019
		20	50	55	12	40	45	116-025-020
		21	52.5	57.5	14	40	45	116-025-021
		22	55	60	14	45	45	116-025-022
		23	57.5	62.5	14	45	45	116-025-023
		24	60	65	14	45	45	116-025-024
		25	62.5	67.5	14	50	45	116-025-025
		26	65	70	14	50	45	116-025-026
		28	70	75	14	50	45	116-025-028
		30	75	80	14	55	45	116-025-030
		32	80	85	16	55	45	116-025-032
		35	87.5	92.5	16	60	45	116-025-035
		36	90	95	16	60	45	116-025-036
		38	95	100	16	60	45	116-025-038
		40	100	105	16	70	45	116-025-040
		42	105	110	16	70	45	116-025-042
		45	112.5	117.5	16	70	45	116-025-045
		48	120	125	20	80	45	116-025-048
		50	125	130	20	80	45	116-025-050
		52	130	135	20	90	45	116-025-052
		54	135	140	20	90	45	116-025-054
		56	140	145	20	100	45	116-025-056
		58	145	150	20	100	45	116-025-058
		60	150	155	20	100	45	116-025-060
		70	175	180	20	-	-	114-025-070
		76	190	195	20	-	-	114-025-076
		80	200	205	20	-	-	114-025-080
		95	237.5	242.5	20	-	-	114-025-095
		110	275	280	20	-	-	114-025-110
		114	285	290	20	-	-	114-025-114

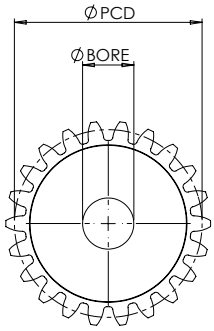
WMH RECOMMEND THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION

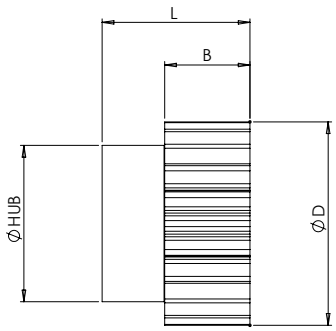
WMH Transmissions Limited



Commercial Straight Pinions

For Low Speed Applications





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q12 +
Tooth Finish	Milled
Material	C45 (1.0503)
Hardness	Soft

WMH offer in-house machining services for all soft gears including bore and keying

MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø (Pilot)	HUB Ø	Length (L)	Order Code
3	30	12	36	42	12	27	50	116-030-012
		13	39	45	12	30	50	116-030-013
		14	42	48	12	33	50	116-030-014
		15	45	51	12	35	50	116-030-015
		16	48	54	14	38	50	116-030-016
		17	51	57	14	42	50	116-030-017
		18	54	60	14	45	50	116-030-018
		19	57	63	14	45	50	116-030-019
		20	60	66	14	45	50	116-030-020
		21	63	69	16	45	50	116-030-021
		22	66	72	16	50	50	116-030-022
		23	69	75	16	50	50	116-030-023
		24	72	78	16	50	50	116-030-024
		25	75	81	16	60	50	116-030-025
		26	78	84	16	60	50	116-030-026
		28	84	90	16	60	50	116-030-028
		30	90	96	16	60	50	116-030-030
		32	96	102	16	70	50	116-030-032
		35	105	111	16	70	50	116-030-035
		36	108	114	20	70	50	116-030-036
		38	114	120	20	80	50	116-030-038
		40	120	126	20	80	50	116-030-040
		42	126	132	20	80	50	116-030-042
		45	135	141	20	90	50	116-030-045
		48	144	150	20	100	50	116-030-048
		50	150	156	20	-	-	114-030-050
		52	156	162	20	-	-	114-030-052
		60	180	186	20	-	-	114-030-060
		76	228	234	25	-	-	114-030-076
		80	240	246	25	-	-	114-030-080
		95	285	291	25	-	-	114-030-095
		100	300	306	25	-	-	114-030-100
		114	342	348	30	-	-	114-030-114

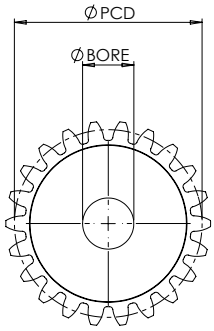
WMH RECOMMEND THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION

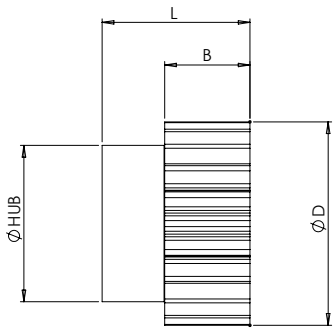
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FAX: 01827 253390
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WMH Transmissions Limited



Commercial Straight Pinions

For Low Speed Applications





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q12 +
Tooth Finish	Milled
Material	C45 (1.0503)
Hardness	Soft

WMH offer in-house machining services for all soft gears including bore and keying

MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø (Pilot)	HUB Ø	Length (L)	Order Code
4	40	12	48	56	14	35	60	116-040-012
		13	52	60	14	40	60	116-040-013
		14	56	64	14	45	60	116-040-014
		15	60	68	14	45	60	116-040-015
		16	64	72	16	50	60	116-040-016
		17	68	76	16	50	60	116-040-017
		18	72	80	16	50	60	116-040-018
		19	76	84	16	60	60	116-040-019
		20	80	88	16	60	60	116-040-020
		21	84	92	16	70	60	116-040-021
		22	88	96	16	70	60	116-040-022
		23	92	100	20	75	60	116-040-023
		24	96	104	20	75	60	116-040-024
		25	100	108	20	75	60	116-040-025
		26	104	112	20	75	60	116-040-026
		28	112	120	20	75	60	116-040-028
		30	120	128	20	75	60	116-040-030
		32	128	136	20	80	60	116-040-032
		35	140	148	20	80	60	116-040-035
		36	144	152	25	80	60	116-040-036
		38	152	160	25	-	-	114-040-038
		40	160	168	25	-	-	114-040-040
		45	180	188	25	-	-	114-040-045
		48	192	200	25	-	-	114-040-048
		50	200	208	25	-	-	114-040-050
		52	208	216	25	-	-	114-040-052
		60	240	248	25	-	-	114-040-060
		76	304	312	30	-	-	114-040-076
		80	320	328	30	-	-	114-040-080
		95	380	388	30	-	-	114-040-095
		100	400	408	30	-	-	114-040-100
		114	456	464	30	-	-	114-040-114

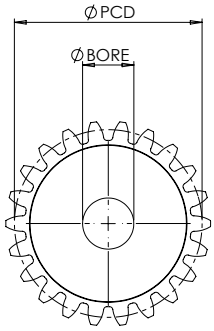
WMH RECOMMEND THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION

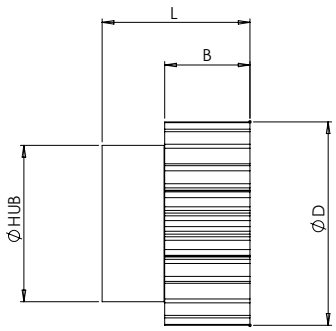
WMH Transmissions Limited



Commercial Straight Pinions

For Low Speed Applications





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q12 +
Tooth Finish	Milled
Material	C45 (1.0503)
Hardness	Soft

WMH offer in-house machining services for all soft gears including bore and keying

MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø (Pilot)	HUB Ø	Length (L)	Order Code
5	50	12	60	70	20	45	75	116-050-012
		13	65	75	20	50	75	116-050-013
		14	70	80	20	55	75	116-050-014
		15	75	85	20	60	75	116-050-015
		16	80	90	20	65	75	116-050-016
		17	85	95	20	70	75	116-050-017
		18	90	100	20	70	75	116-050-018
		19	95	105	20	70	75	116-050-019
		20	100	110	20	80	75	116-050-020
		21	105	115	20	80	75	116-050-021
		22	110	120	20	80	75	116-050-022
		23	115	125	20	90	75	116-050-023
		24	120	130	20	90	75	116-050-024
		25	125	135	20	90	75	116-050-025
		26	130	140	20	100	75	116-050-026
		28	140	150	25	100	75	116-050-028
		30	150	160	25	110	75	116-050-030
		32	160	170	25	-	-	114-050-032
		35	175	185	25	-	-	114-050-035
		38	190	200	25	-	-	114-050-038
		40	200	210	25	-	-	114-050-040
		45	225	235	25	-	-	114-050-045
		48	240	250	25	-	-	114-050-048
		50	250	260	30	-	-	114-050-050
		52	260	270	30	-	-	114-050-052
		60	300	310	30	-	-	114-050-060
		76	380	390	30	-	-	114-050-076
		80	400	410	30	-	-	114-050-080
		95	475	485	30	-	-	114-050-095
		100	500	510	30	-	-	114-050-100
		114	570	580	30	-	-	114-050-114

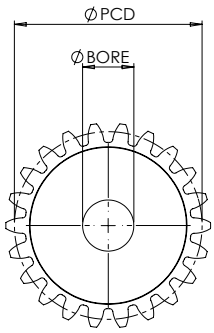
WMH RECOMMEND THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION

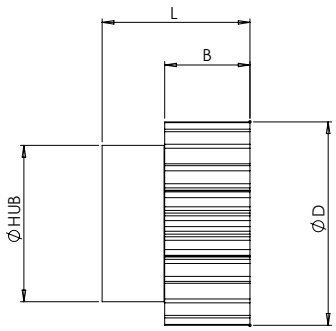
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Commercial Straight Pinions

For Low Speed Applications





Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Quality	Q12 +
Tooth Finish	Milled
Material	C45 (1.0503)
Hardness	Soft

WMH offer in-house machining services for all soft gears including bore and keying

MOD	Face Width (B)	Tooth Number	PCD	Ø D	BORE Ø (Pilot)	HUB Ø	Length (L)	Order Code
6	60	12	72	84	20	54	80	116-060-012
		13	78	90	20	60	80	116-060-013
		15	90	102	20	70	80	116-060-015
		16	96	108	20	75	80	116-060-016
		18	108	120	20	80	80	116-060-018
		20	120	132	20	90	80	116-060-020
		24	144	156	25	110	80	116-060-024
		25	150	162	25	110	80	116-060-025
		28	168	180	25	-	-	114-060-028
		30	180	192	25	-	-	114-060-030
		32	192	204	25	-	-	114-060-032
		35	210	222	25	-	-	114-060-035
		38	228	240	25	-	-	114-060-038
		40	240	252	25	-	-	114-060-040
8	80	15	120	136	25 *	90	110 *	116-080-015
		18	144	160	25 *	100	110 *	116-080-018
		20	160	176	30 *	120	110 *	116-080-020
		24	192	208	30 *	150	110 *	116-080-024
		25	200	216	30 *	150	110 *	116-080-025
		30	240	256	30 *	190	110 *	116-080-030

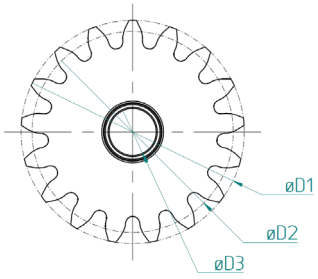
* Gears previously stocked with Ø40mm pilot bores and 120mm overall length are now discontinued

WMH RECOMMEND THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION



Straight Lubrication Pinions

For Straight Rack & Pinions





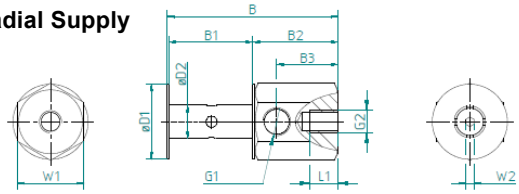
Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Tooth Form	DIN 867
Material	PU Foam

Lubrication pinions are supplied complete with suitable bushing and sleeve bearing

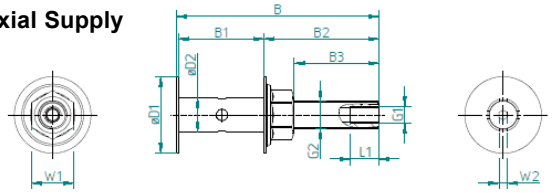
MOD	Tooth Number	Face Width (B)	Ø D3 (BORE)	Ø D2 (PCD)	Ø D1	Order Code
1.5	24	15	12	36	39	130-015-024
2	17	20	12	34	38	130-020-017
3	17	30	12	51	57	130-030-017
4	17	40	12	68	76	130-040-017
5	17	50	20	85	95	130-050-017
6	17	60	20	102	114	130-060-017
8	17	80	20	136	152	130-080-017
10	17	100	20	170	190	130-100-017

Mounting Axis

Radial Supply



Axial Supply

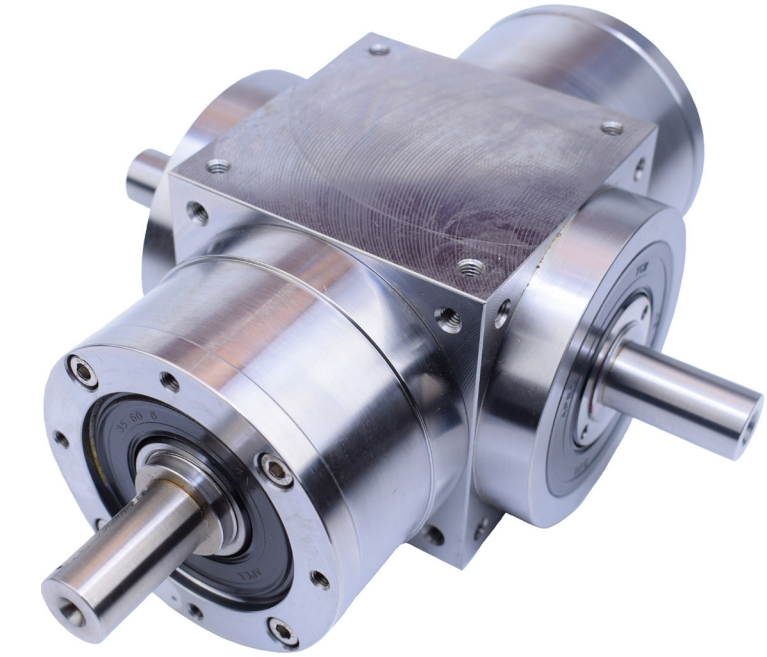


MOD	B1	D1	D2	L1	W2	B	B2	B3	G1	G2	W1	Order Code	
												Radial	Axial
1.5	15.2	27	12	10	3	46.4	30.6	22	G1/8	M8	24	133-015-001	-
						60.2	44.6	34.2	M6	M10	15	-	133-015-002
2	20.2	27	12	10	3	54.4	30.6	22	G1/8	M8	24	133-020-001	-
						61.2	41.2	30.6	M6	M10	15	-	133-020-002
3	30.2	27	12	10	3	61.4	30.6	22	G1/8	M8	24	133-030-001	-
						71.2	40.4	30	M6	M10	15	-	133-030-002
4	40.2	27	12	10	3	71.4	30.6	22	G1/8	M8	24	133-040-001	-
						81.2	40.4	30	M6	M10	15	-	133-040-002
5	50.2	60	20	10	4	81.4	30.6	22	G1/8	M8	24	133-050-001	-
						116.4	65.6	49.1	G1/8	M16	24	-	133-050-002
6	60.2	60	20	10	4	91.4	30.6	22	G1/8	M8	24	133-060-001	-
						126.4	65.6	49.1	G1/8	M16	24	-	133-060-002
8	80.2	60	20	10	4	111.4	30.6	22	G1/8	M8	24	133-080-001	-
						146.4	65.6	49.1	G1/8	M16	24	-	133-080-002
10	100.2	100	20	10	4	131.4	30.6	22	G1/8	M8	24	133-100-001	-
						166.4	65.6	49.1	G1/8	M16	24	-	133-100-002

WMH RECOMMENED THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION
PLEASE SEE OUR LUBRICATION CATALOGUE FOR OUR LUBRICANTS, PUMPS & ACCESSORIES

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Bevel Gears & Gearboxes





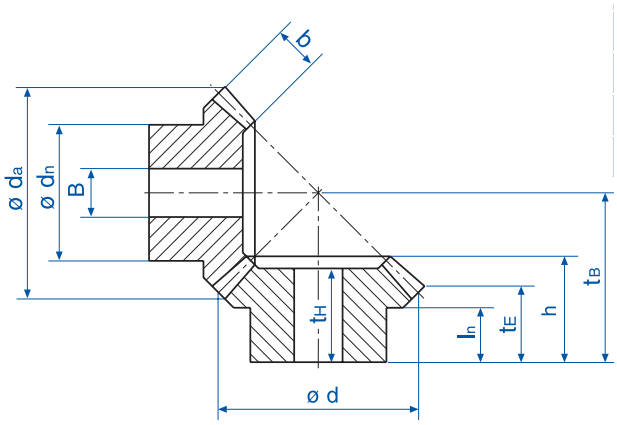
AS WELL AS OUR RANGE OF STANDARD PRODUCTS WE CAN ALSO MANUFACTURE SPECIAL COMPONENTS IN HOUSE – PLEASE CONTACT OUR SALES TEAM WITH YOUR REQUIREMENTS

WMH Transmissions Limited



Bevel Gears

With Straight Teeth



Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Shaft Angle	90°
Ratio	1:1
Material	C45 (1.0503)
Hardness	Soft

WMH offer in-house machining services for all soft gears including bore and keying

MOD	Tooth Number	Ø da	Ø d	Ø dn	Ø B	b	h	ln	tB	tH	tE	Order Code
1	16	17.41	16	14	5	4.0	12.3	8	17	11	9.71	151-110-016
	19	20.41	19	16	6	4.5	13.2	9	19	12	10.21	151-110-019
	22	23.41	22	19	6	5.0	15.0	9.5	22	13.5	11.71	151-110-022
	26	27.41	26	22	8	6.0	16.7	10	25	15.5	12.71	151-110-026
	30	31.41	30	25	8	7.0	18.4	10.5	28	17	13.71	151-110-030
1.5	16	26.11	24	20	8	6.0	16.9	10	24	15	13.06	151-115-016
	19	30.62	28.5	24	8	6.5	18.0	10.5	27	16	13.81	151-115-019
	22	35.12	33	26	8	7.5	20.5	11	31	18.5	15.56	151-115-022
	26	41.12	39	28	10	8.5	22.2	13	35	20.5	16.56	151-115-026
	30	47.12	45	30	10	10.0	24.3	13.5	39	22.5	17.56	151-115-030
2	16	34.83	32	26	10	8.0	21.5	12	31	19	16.41	151-120-016
	19	40.83	38	30	10	9.0	23.3	12	35	21	17.41	151-120-019
	22	46.83	44	32	12	10.0	25.0	13	39	23	18.41	151-120-022
	26	54.83	52	36	12	11.5	28.1	14	45	26	20.41	151-120-026
	30	62.83	60	40	14	13.5	30.5	15	50	28	21.41	151-120-030
2.5	16	43.54	40	32	12	10.0	25.2	13	37	22	18.77	151-125-016
	19	51.04	47.5	38	12	11.0	28.2	14.5	43	25	21.02	151-125-019
	22	58.54	55	40	14	12.5	30.5	16	48	28	22.27	151-125-022
	26	68.54	65	45	16	14.5	33.0	17	54	30	23.27	151-125-026
	30	78.54	75	50	18	16.5	35.4	18	60	32	24.27	151-125-030
3	16	52.24	48	38	14	12.0	28.9	14	43	25	21.12	151-130-016
	19	61.24	57	40	14	13.5	31.4	16	49	28	22.62	151-130-019
	22	70.24	66	45	16	15.0	35.0	18	56	31	25.12	151-130-022
	26	82.24	78	52	18	17.0	39.5	20	65	36	28.12	151-130-026
	30	94.24	90	60	20	19.5	43.3	22	73	39	30.12	151-130-030

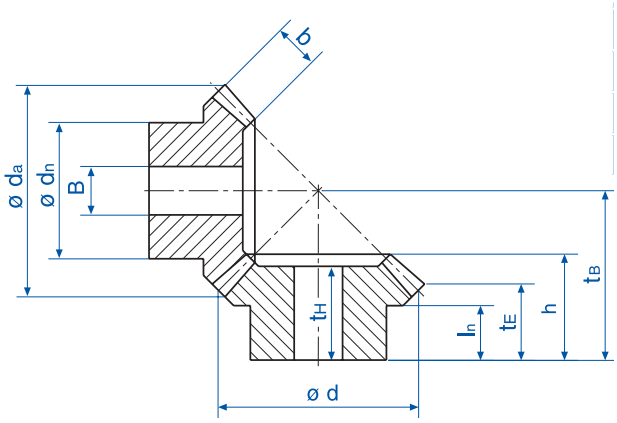
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WMH Transmissions Limited



Bevel Gears

With Straight Teeth



Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Shaft Angle	90°
Ratio	1:1
Material	C45 (1.0503)
Hardness	Soft

WMH offer in-house machining services for all soft gears including bore and keying

MOD	Tooth Number	Ø da	Ø d	Ø dn	Ø B	b	h	ln	tB	tH	tE	Order Code
3.5	16	60.95	56	45	16	14	33.5	16.5	50	29	24.48	151-135-016
	19	71.45	66.5	50	16	16	36.7	18	57	32	26.22	151-135-019
	22	81.95	77	55	18	17.5	39.6	20	64	35	27.98	151-135-022
	26	95.95	91	60	20	20	43.4	21	73	39	29.98	151-135-026
	30	109.95	105	70	22	23	48.5	23	83	44	32.98	151-135-030
4	16	69.66	64	50	18	16	38.1	18	57	33	27.83	151-140-016
	19	81.66	76	55	18	18	41.6	20	65	37	29.83	151-140-019
	22	93.66	88	60	20	20	45.0	22	73	40	31.83	151-140-022
	26	109.66	104	70	22	23	48.2	23	82	44	32.83	151-140-026
	30	125.66	120	80	25	26	52.4	25	92	48	34.83	151-140-030
4.5	16	78.36	72	58	20	18	42.8	21	64	38	31.18	151-145-016
	19	91.86	85.5	60	22	20	45.5	21	72	40	32.43	151-145-019
	22	105.36	99	70	25	22.5	49.6	23	81	44	34.68	151-145-022
	26	123.36	117	80	28	25.5	53.7	25	92	48	36.68	151-145-026
	30	141.36	135	85	30	29	59.2	28	104	54	39.68	151-145-030
5	16	87.07	80	65	22	20	46.4	22.5	70	41	33.54	151-150-016
	19	102.07	95	70	25	22	49.4	23	79	44	35.04	151-150-019
	22	117.07	110	80	28	25	54.1	25	89	48	37.54	151-150-022
	26	137.07	130	85	30	29	60.9	29	103	55	41.54	151-150-026
	30	157.07	150	90	35	32	66.1	32	116	60	44.54	151-150-030
6	16	104.49	96	80	25	22.5	50.7	24	80	44	36.24	151-160-016
	19	122.49	114	85	28	26	54.2	25	90	48	37.24	151-160-019
	22	140.49	132	95	30	30	58.1	26	100	51	38.24	151-160-022
	26	164.49	156	105	35	35	65.6	30	116	58	42.24	151-160-026
	30	188.49	180	120	40	40	73.2	33	132	66	46.24	151-160-030

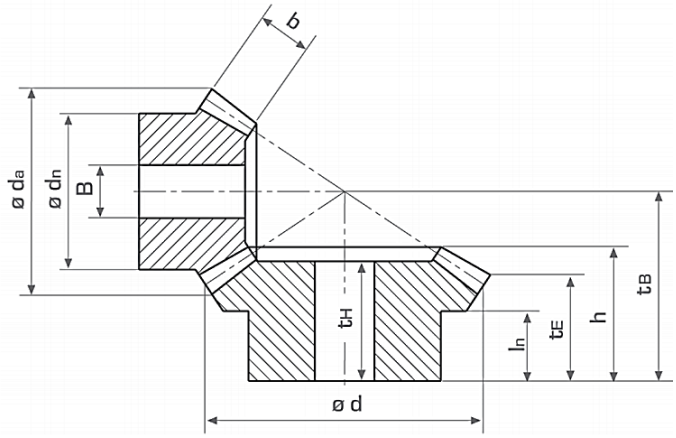
WMH RECOMMEND THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION

WMH Transmissions Limited



Bevel Gears

With Straight Teeth



Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Shaft Angle	90°
Ratio	1:1.5
Material	C45 (1.0503)
Hardness	Soft

WMH offer in-house machining services for all soft gears including bore and keying

MOD	Tooth Number	Ø da	Ø d	Ø dn	Ø B	b	h	ln	tB	tH	tE	Order Code
1	16	17.66	16	13.5	5	4.5	12.1	7.2	20	11	8.55	151-210-016
	24	25.11	24	21	6	4.5	15.1	9.7	20	13.5	12.83	151-210-024
1.5	16	26.50	24	20	8	7	18.4	10.6	30	17	12.83	151-215-016
	24	37.66	36	26	8	7	19.7	12	27	17.5	16.25	151-215-024
2	16	35.33	32	26	10	10	23.0	12	38	21	15.11	151-220-016
	24	50.22	48	35	12	10	25.6	15	35	23	20.66	151-220-024
2.5	16	44.16	40	32	12	12.5	27.3	13.3	46	25	17.39	151-225-016
	24	62.77	60	42	14	12.5	30.2	16	42	27	24.08	151-225-024
3	16	53.00	48	40	14	14.5	31.2	15.3	54	28	19.66	151-230-016
	24	75.33	72	50	16	14.5	34.7	18	49	30	27.50	151-230-024
3.5	16	61.82	56	47	16	17	35.4	17	62	32	21.94	151-235-016
	24	87.88	84	58	18	17	40.3	21	57	36	31.91	151-235-024
4	16	70.66	64	54	18	19	39.3	18.7	70	35	24.22	151-240-016
	24	100.44	96	66	20	19	45.8	24	65	40	36.33	151-240-024
4.5	16	79.49	72	60	20	21.5	44.5	21	79	40	27.50	151-245-016
	24	113.00	108	75	25	21.5	51.4	26	73	45	40.74	151-245-024
5	16	88.32	80	65	22	24	49.8	23	88	45	30.77	151-250-016
	24	25.55	120	85	30	24	56.1	28	80	49	44.16	151-250-024
6	16	105.98	96	80	25	28.5	55.9	24.7	102	50	33.33	151-260-016
	24	150.66	144	105	35	28.5	61.1	32	90	52.5	46.99	151-260-024

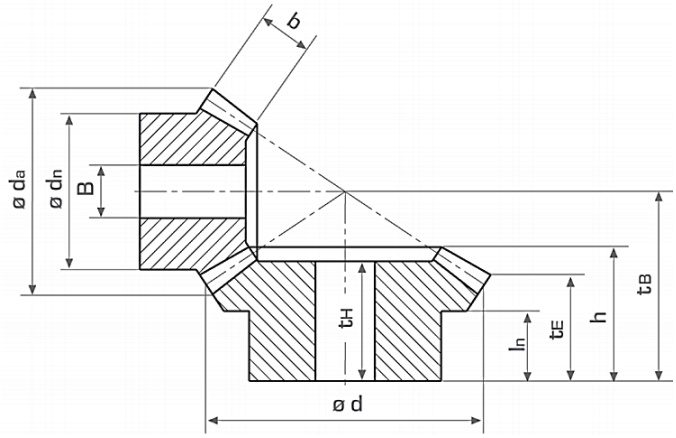
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Bevel Gears

With Straight Teeth



Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Shaft Angle	90°
Ratio	1:2
Material	C45 (1.0503)
Hardness	Soft

WMH offer in-house machining services for all soft gears including bore and keying

MOD	Tooth Number	Ø da	Ø d	Ø dn	Ø B	b	h	ln	tB	tH	tE	Order Code
1	15	16.79	15	12.5	5	5	12.8	7.4	23	12	8.45	151-310-015
	30	30.89	30	22	8	5	15.4	9	20	14	13.40	151-310-030
1.5	15	25.18	22.5	19	8	8	19.1	10.6	34	18	12.17	151-315-015
	30	46.34	45	32	10	8	21.2	13	28	19	18.09	151-315-030
2	15	33.58	30	25	10	11.5	23.9	11.8	43	22	13.89	151-320-015
	30	61.79	60	40	14	11.5	26.3	15	35	23	21.79	151-320-030
2.5	15	41.97	37.5	31	12	14.5	29.2	13.9	53	27	16.62	151-325-015
	30	77.24	75	50	18	14.5	31.2	17	42	27	25.49	151-325-030
3	15	50.37	45	38	14	17	34.1	16.3	63	32	19.34	151-330-015
	30	92.68	90	60	20	17	35.9	19	49	31	19.18	151-330-030
3.5	15	58.76	52.5	44	16	19.5	39.0	18.4	73	36	22.06	151-335-015
	30	108.13	105	70	22	19.5	41.6	22	57	36	33.88	151-335-030
4	15	67.16	60	50	18	22	43.9	20.5	83	41	24.79	151-340-015
	30	123.58	120	80	25	22	47.2	25	65	42	38.58	151-340-030
4.5	15	75.55	67.5	55	20	25	49.2	22.4	93	46	27.51	151-345-015
	30	139.02	135	90	30	25	53.1	28	73	47	43.27	151-345-030
5	15	83.94	75	60	22	28	54.5	24.3	103	51	30.23	151-350-015
	30	154.47	150	100	35	28	58.0	30	80	51	46.97	151-350-030
6	15	100.73	90	75	25	32.5	60.9	26.3	120	56	32.68	151-360-015
	30	185.37	180	120	40	32.5	63.2	33	90	54	50.37	151-360-030

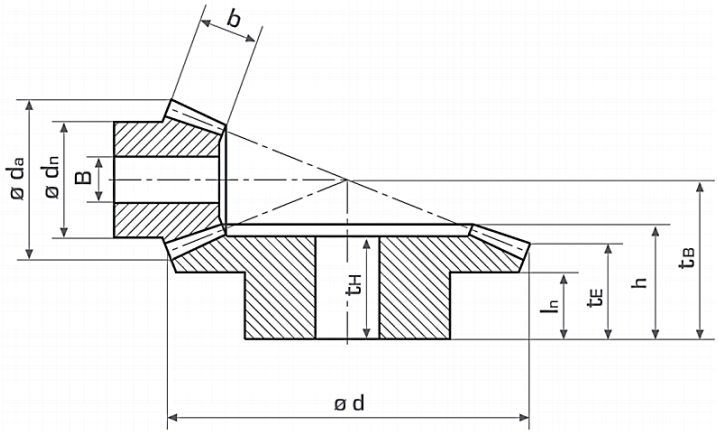
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WMH Transmissions Limited



Bevel Gears

With Straight Teeth



Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Shaft Angle	90°
Ratio	1:2.5
Material	C45 (1.0503)
Hardness	Soft

WMH offer in-house machining services for all soft gears including bore and keying

MOD	Tooth Number	Ø da	Ø d	Ø dn	Ø B	b	h	ln	tB	tH	tE	Order Code
1	16	17.86	16	13.5	5	6	13.8	7.5	28	13	8.37	151-410-016
	40	40.74	40	25	8	6	15.9	9	21	14	13.93	151-410-040
1.5	16	26.79	24	20	8	9	20.8	11.2	42	19.5	12.56	151-415-016
	40	61.11	60	38	12	9	22.3	13.5	30	20	19.39	151-415-040
2	16	35.71	32	26	12	13.5	28.0	13.8	55	26	15.74	151-420-016
	40	81.49	80	50	18	13.5	29.3	18	39	26	24.86	151-420-040
2.5	16	44.64	40	32	14	17	33.4	15.4	67	32	17.93	151-425-016
	40	101.86	100	60	20	17	33.9	20	46	30	28.32	151-425-040
3	16	53.57	48	40	16	20	38.3	17.4	79	36	20.11	151-430-016
	40	122.23	120	70	22	20	40.3	23	55	36	33.78	151-430-040
3.5	16	62.50	56	45	18	23.5	43.7	18.8	91	41	22.30	151-435-016
	40	142.60	140	80	25	23.5	45.0	26	62	40	37.25	151-435-040
4	16	71.43	64	52	20	27	50.1	21.6	104	47	25.49	151-440-016
	40	162.97	160	90	30	27	52.6	30	72	46	43.71	151-440-040
4.5	16	80.36	72	60	22	30	55.0	23.6	116	52	27.67	151-445-016
	40	183.34	180	100	35	30	59.0	34	81	52	49.18	151-445-040
5	16	89.28	80	65	25	33	60.9	26	129	58	30.86	151-450-016
	40	203.71	200	110	40	33	63.5	36	88	56	52.64	151-450-040
6	16	107.14	96	80	25	36.5	65.5	26.8	150	62	32.23	151-460-016
	40	244.46	240	125	40	36.5	64.5	34	95	55	52.57	151-460-040

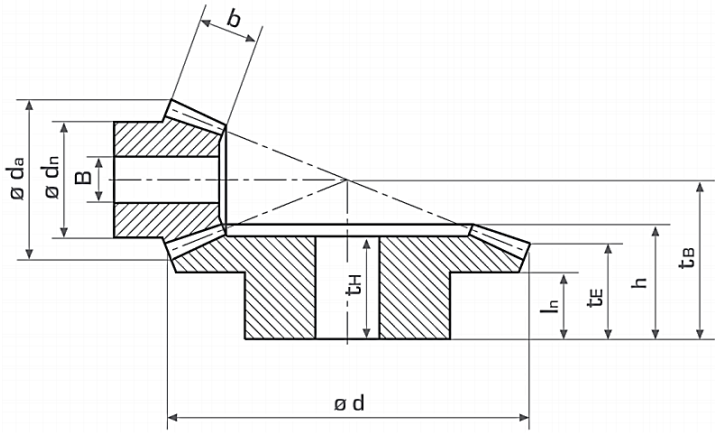
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Bevel Gears

With Straight Teeth



Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Shaft Angle	90°
Ratio	1:3
Material	C45 (1.0503)
Hardness	Soft

WMH offer in-house machining services for all soft gears including bore and keying

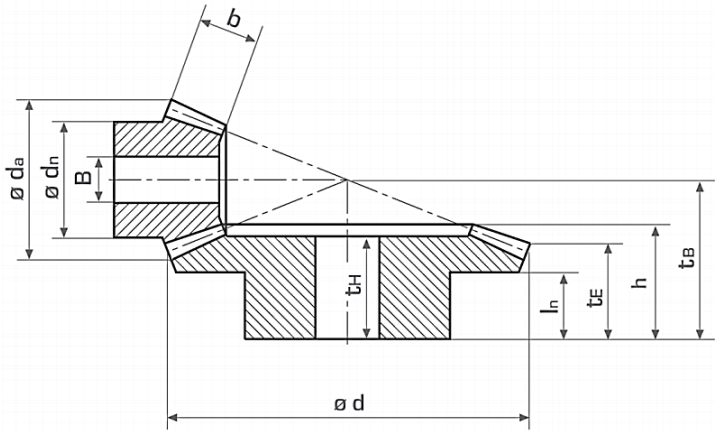
MOD	Tooth Number	Ø da	Ø d	Ø dn	Ø B	b	h	ln	tB	tH	tE	Order Code
1	15	16.90	15	12.5	5	7	15.4	8.1	31	14.5	8.82	151-510-015
	45	45.63	45	28	10	7	17.4	10	22	15.5	15.45	151-510-045
1.5	15	25.35	22.5	19	8	10	22.1	11.7	46	21	12.72	151-515-015
	45	68.45	67.5	40	14	10	23.9	14.5	31	21.5	21.17	151-515-045
2	15	33.79	30	25	12	14	28.7	14.2	60	27	15.63	151-520-015
	45	91.26	90	50	18	14	31.8	20	41	28	27.90	151-520-045
2.5	15	42.24	37.5	31	14	17.5	33.9	15.7	73	32	17.54	151-525-015
	45	114.08	112.5	60	20	17.5	36.4	22	48	32	31.62	151-525-045
3	15	50.69	45	38	16	21	39.1	17.3	86	37	19.54	151-530-015
	45	136.90	135	70	22	21	42.1	25	56	37	36.35	151-530-045
3.5	15	59.14	52.5	44	18	24.5	45.3	19.8	100	43	22.36	151-535-015
	45	159.71	157.5	80	25	24.5	47.8	28	64	42	41.07	151-535-045
4	15	67.59	60	50	20	28	51.4	22.3	114	49	25.26	151-540-015
	45	182.53	180	90	30	28	54.5	32	73	48	46.79	151-540-045
4.5	15	76.04	67.5	55	22	31	57.2	24.7	128	54	28.17	151-545-015
	45	205.35	202.5	105	35	31	60.1	35	81	53	51.52	151-545-045
5	15	84.49	75	60	25	34	62.9	27	142	60	31.08	151-550-015
	45	228.16	225	120	40	34	65.6	38	89	58	56.24	151-550-045
6	15	101.38	90	75	25	41	70.3	27.5	165	66	31.90	151-560-015
	45	273.39	270	140		41	70.0	35	98	60	58.69	151-560-045

WMH RECOMMEND THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION



Bevel Gears

With Straight Teeth



Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Shaft Angle	90°
Ratio	1:4
Material	C45 (1.0503)
Hardness	Soft

WMH offer in-house machining services for all soft gears including bore and keying

MOD	Tooth Number	Ø da	Ø d	Ø dn	Ø B	b	h	ln	tB	tH	tE	Order Code
1	15	16.94	15	12.5	5	9	16.9	7.7	38	16.5	8.24	151-710-015
	60	60.49	60	35	12	9	18.1	10	23	16.5	16.47	151-710-060
1.5	15	25.41	22.5	19	8	12	23.9	11.6	57	23	12.36	151-715-015
	60	90.73	90	50	16	12	25.7	15.5	33	23	23.21	151-715-060
2	15	33.88	30	25	12	16	30.9	14.4	75	30	15.48	151-720-015
	60	120.97	120	65	20	16	35.3	22	45	32	31.94	151-720-060
2.5	15	42.35	37.5	31	14	20	37.9	17.2	93	36	18.60	151-725-015
	60	151.21	150	80	22	20	40.9	25	53	36	36.68	151-725-060
3	15	50.82	45	38	16	25	44.8	20.1	111	43	21.73	151-730-015
	60	181.46	180	95	28	25	47.5	28	62	42	42.41	151-730-060
3.5	15	59.29	52.5	44	18	28	51.8	22.9	129	50	24.85	151-735-015
	60	211.70	210	110	32	28	52.1	30	69	46	46.15	151-735-060
4	15	67.76	60	48	20	32	56.8	23.5	145	55	25.97	151-740-015
	60	241.94	240	125	35	32	60.6	35	80	53	53.88	151-740-060
4.5	15	76.23	67.5	55	22	36	62.7	25.4	162	60	28.09	151-745-015
	60	272.18	270	140	40	36	66.2	37	88	57	58.62	151-745-060
5	15	84.70	75	60	25	40	69.7	28.1	180	67	31.21	151-750-015
	60	302.42	300	160	45	40	70.8	38	95	62	62.35	151-750-060
6	15	101.64	90	75	25	45	74.7	28.1	210	71	31.45	151-760-015
	60	362.91	360	180	50	45	73.3	38	103	62	63.82	151-760-060

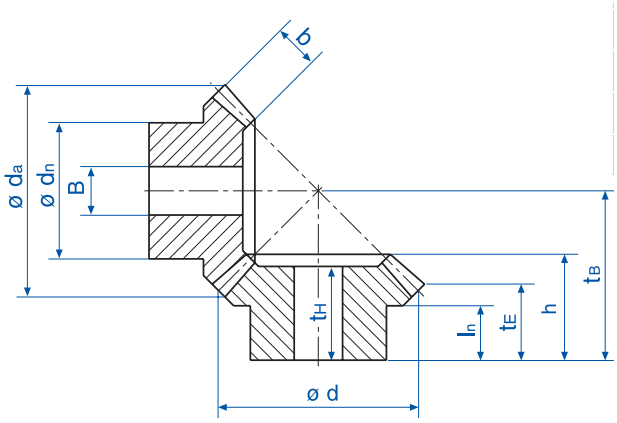
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Bevel Gears – Moulded

With Straight Teeth



Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Shaft Angle	90°
Ratio	1:1
Material	Acetal Hostaform C
Process	Injection Moulded

WMH offer in-house machining services for all soft gears including bore and keying

MOD	Tooth Number	Ø da	Ø d	Ø dn	Ø B	b	h	ln	tB	tH	tE	Order Code
0.5	16	8.7	8	7	3	2	8	6	10.5	8	-	159-105-016
1	16	17.6	16	12	5	4.7	13.6	8	18.4	13.6	-	159-110-016
	30	31.4	30	15	6	7.4	15.3	7.4	24.8	12.9	-	159-110-030
1.5	16	26.4	24	18.5	8	7	18.4	10	25.8	16.2	-	159-115-016
2	16	34.9	32	21.9	10	10	21.2	9.6	30.4	18.3	-	159-120-016
2.5	16	43.5	40	25.2	12	12.3	25.5	11.5	37	22.9	-	159-125-016
3	16	52.3	48	28.8	14	13.8	29.2	13.2	43	25.8	-	159-130-016
3.5	16	61.4	56	33.3	18	15.8	33.1	14.4	49.5	28.1	-	159-135-016

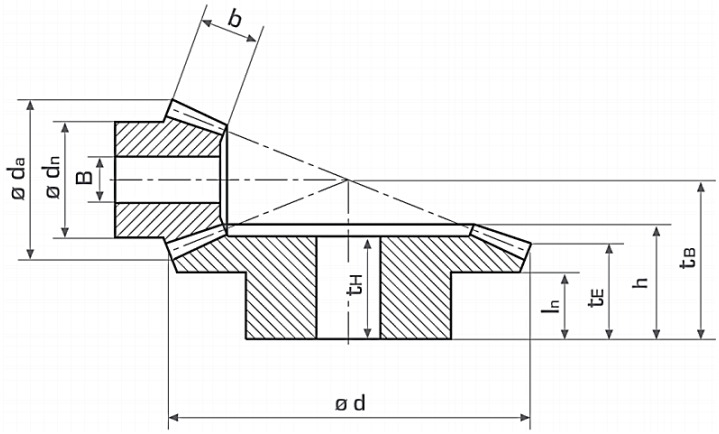
Design Parameter	Value
Ratio	1:3

MOD	Tooth Number	Ø da	Ø d	Ø dn	Ø B	b	h	ln	tB	tH	tE	Order Code
1	15	16.6	15	12.3	5	9.2	20.4	11	34.4	20.4	-	159-510-015
	45	46.1	45	23.4	10	9.2	18.2	9.6	22.7	16.5	-	159-510-045
1.5	15	25.1	22.5	17.2	8	14	26.8	12.5	47.9	26.8	-	159-515-015
	45	68.8	67.5	30.4	12	14	23	11.5	29.4	21.5	-	159-515-045
2	10	24.0	20	16.6	6	12.5	25	12	43.7	25.0	-	159-520-010
	30	61.7	60	30.3	12	12.5	22.5	11.5	28.0	20.2	-	159-520-030
2.5	10	29.7	25	18.8	8	15.7	28	13	52.4	28.8	-	159-525-010
	30	77.2	75	36.1	18	15.7	29	15.5	35.7	25.2	-	159-525-030



Bevel Gears – Moulded

With Straight Teeth



Design Parameter	Value
Helix Angle	STRAIGHT 0°
Pressure Angle	20°
Shaft Angle	90°
Ratio	1:2
Material	Acetal Hostaform C
Process	Injection Moulded

WMH offer in-house machining services for all soft gears including bore and keying

MOD	Tooth Number	Ø da	Ø d	Ø dn	Ø B	b	h	ln	tB	tH	tE	Order Code
1	15	16.8	15	12.2	5	6.6	17	10.6	26.4	17	-	159-310-015
	30	31.1	30	18	8	6.6	16.2	9.1	20.9	14.8	-	159-310-030
1.5	15	25.4	22.5	17	8	10.5	22.8	11.5	35.8	22.8	-	159-315-015
	30	46.4	45	23.4	10	10.5	19.5	9.6	26.2	17.5	-	159-315-030
2	15	33.6	30	22.5	10	14.6	27	11.8	44.2	26	-	159-320-015
	30	62.2	60	30.2	12	14.6	24.2	11.8	32.6	22.6	-	159-320-030
2.5	15	42.0	37.5	26.5	12	17.3	31.2	13	53.3	29.6	-	159-325-015
	30	77.3	75	36.1	16	17.3	29.5	15	40.5	27.5	-	159-325-030
3	15	50.3	45	32.1	14	20.5	36.3	14.8	63.3	35	-	159-330-015
	30	93.0	90	45	18	20.5	37	19	49.5	34.2	-	159-330-030

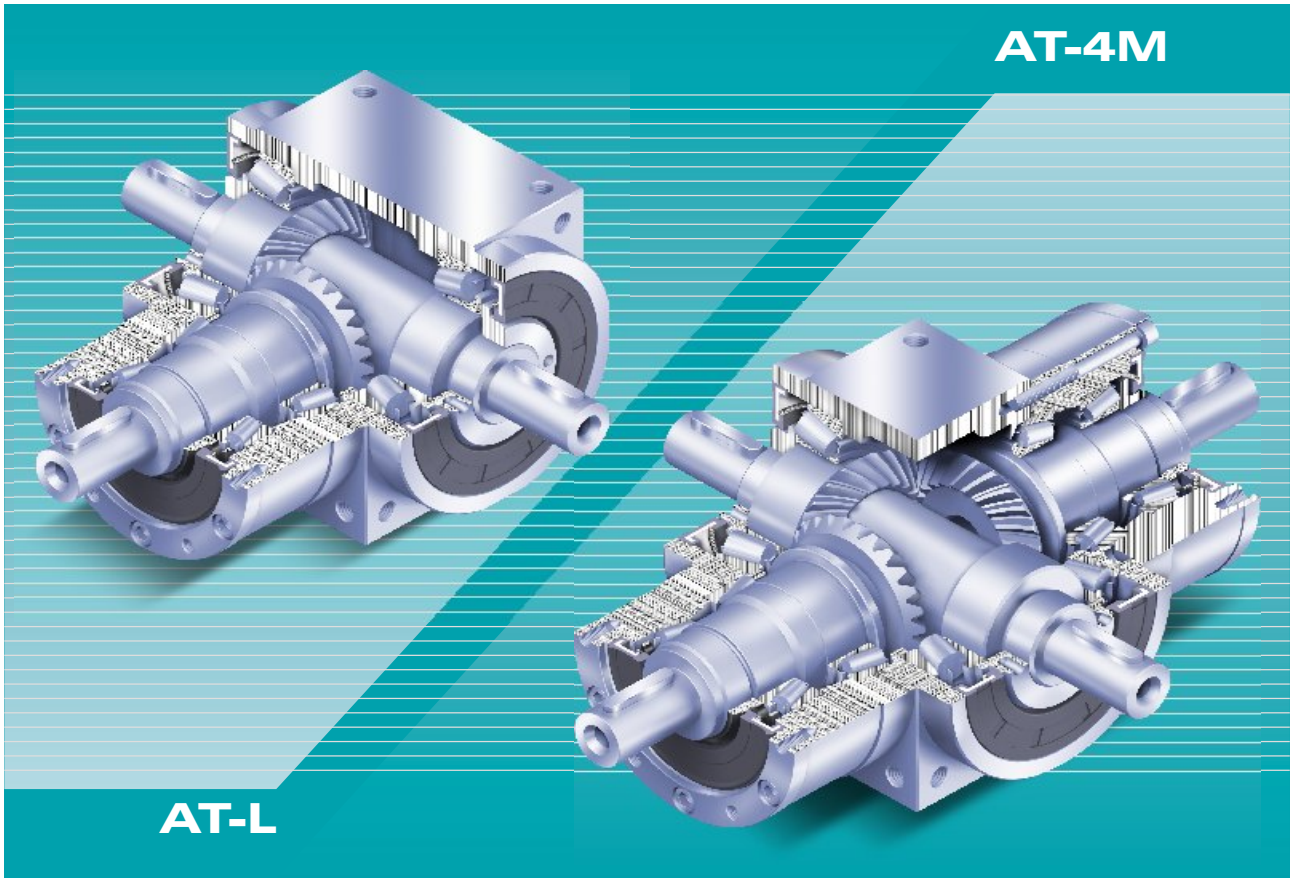
Design Parameter	Value
Ratio	1:4

MOD	Tooth Number	Ø da	Ø d	Ø dn	Ø B	b	h	ln	tB	tH	tE	Order Code
1	10	12.0	10	7.8	4	8.2	17.7	9.3	30.1	17.7	-	159-710-010
	40	40.8	40	23.4	10	8.2	17	10.8	20.1	15.7	-	159-710-040
1.5	10	18.0	15	11.3	5	12.3	23.5	10.9	41.7	23.5	-	159-715-010
	40	61.2	60	30.4	12	12.3	21.7	12.8	26.2	20.0	-	159-715-040
2	10	23.8	20	14.3	6	16.3	28.9	12.8	54.0	28.9	-	159-720-010
	40	81.5	80	36.0	18	16.3	27	16.6	32.5	24.7	-	159-720-040

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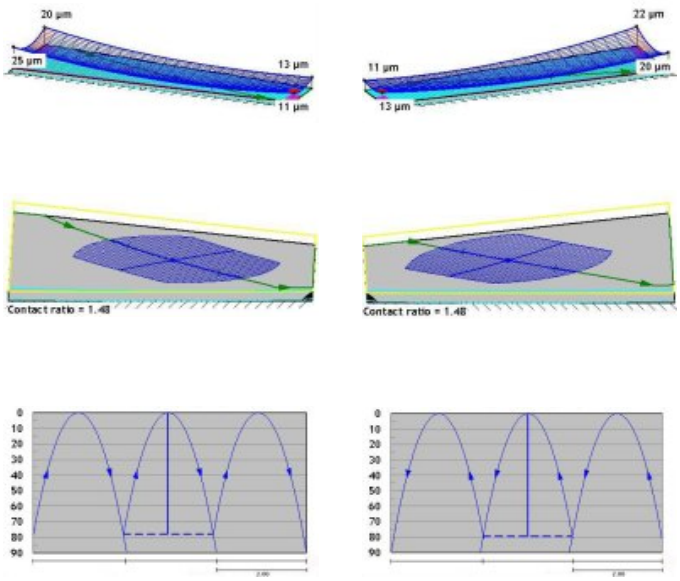
Bevel Gearboxes

With Spiral Teeth



The performance, dimensions and other specifications of both the AT and ATB series are identical

- **Single piece stainless steel (AT) and steel (ATB) housings for maximum rigidity**
- **Multiple precision machined surfaces for ease of installation**
- **Gearing design is optimised by state of the art software for highest performance**
- **Carburised high tensile alloy steel is precision ground to exceed DIN 5 specifications**
- **Stainless steel input and output shaft with multiple design configurations to meet all industrial requirements**
- **High precision ground spiral bevel gear sets are combined with optimised planetary geometry to create reduction ratios up to 500:1**
- **High torque, low backlash and compact designs are ideal for all servo applications**
- **Maintenance free, lubricated for life**





Bevel Gearboxes

Performance Summary

Parameter	Unit	Stage	Ratio	AT 065	AT 075	AT 090	AT 110	AT 140	AT 170	AT 210	AT 240	AT 280
Nominal Output Torque	Nm	1	1:1	25	45	78	150	360	585	1300	2150	3200
			1.5:1	25	45	78	150	360	585	1300	2150	3200
			2:1	24	42	68	150	330	544	1220	2010	3050
			3:1	18	33	54	120	270	450	1020	1650	2850
			4:1	13	28	48	100	224	376	860	1410	2300
			5:1	12	25	40	85	196	320	740	1210	2000
		2	7:1	12	12	33	91	91	91	195	358	358
			10:1	24	28	68	150	208	208	430	846	846
			15:1	18	33	54	120	270	312	645	1269	1269
			20:1	13	28	48	100	224	376	860	1410	1692
			25:1	12	25	40	85	196	320	740	1210	2000
			35:1	12	25	40	85	196	320	740	1210	1790
			50:1	12	25	40	85	196	320	740	1210	1465
		3	75:1	-	-	-	120	210	312	585	1269	1269
			100:1	-	-	-	100	224	376	780	1410	1692
			125:1	-	-	-	85	196	320	740	1210	2000
			150:1	-	-	-	120	135	312	390	975	975
			200:1	-	-	-	100	180	376	520	1300	1300
			250:1	-	-	-	85	196	320	650	1210	1625
			350:1	-	-	-	85	196	320	740	1210	1790
			500:1	-	-	-	85	196	320	740	1210	1465
Max Acceleration Torque	Nm	1 / 2 / 3	1 ~ 500	1.5 x Nominal Output Torque								
Nom Output Speed	rpm	1 / 2 / 3	1 ~ 500	1500								
Max Input Speed	rpm	1	1 ~ 5	7500	6500	5500	4500	3500	3000	2200	2000	1700
		2	7 ~ 50	8000	8000	6000	6000	6000	6000	4800	3600	3600
		3	75 ~ 500	-	-	-	8000	8000	6000	6000	6000	6000
Backlash *	Arcmin	1	1 ~ 5	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6
		2	7 ~ 50	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8
		3	75 ~ 500	-	-	-	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
Max Radial Load Input	N	1 / 2 / 3	1 ~ 500	700	950	1450	2100	2700	3800	7800	9600	10500
Max Radial** Load Output	N	1 / 2 / 3	1 ~ 500	900	1100	1700	2700	4800	6600	11500	16000	18000
Max Axial Load Input	N	1 / 2 / 3	1 ~ 500	350	425	725	1050	1350	1900	3900	4800	5250
Max Axial** Load Output	N	1 / 2 / 3	1 ~ 500	450	550	850	1350	2400	3300	5750	8500	9000
Efficiency	%	1	1 ~ 5	≥ 98								
		2 / 3	7 ~ 500	≥ 94								
Operating Temperature	°C	1 / 2 / 3	1 ~ 500	-10 ~ +90								
Protection Rating	IP	1 / 2 / 3	1 ~ 500	IP65								
Noise ***	dB (A)	SHAFT	1 ~ 5	≤ 68	≤ 70	≤ 74	≤ 76	≤ 77	≤ 78	≤ 80	≤ 82	≤ 83
		FLANGE	1 ~ 500	≤ 71	≤ 72	≤ 76	≤ 77	≤ 78	≤ 79	≤ 81	≤ 83	≤ 84

* Backlash is measured @ 2% nominal output torque

** Applied at centre of output shaft (Length/2)

*** Based on 1:1 ratio @ 1500 rpm without load

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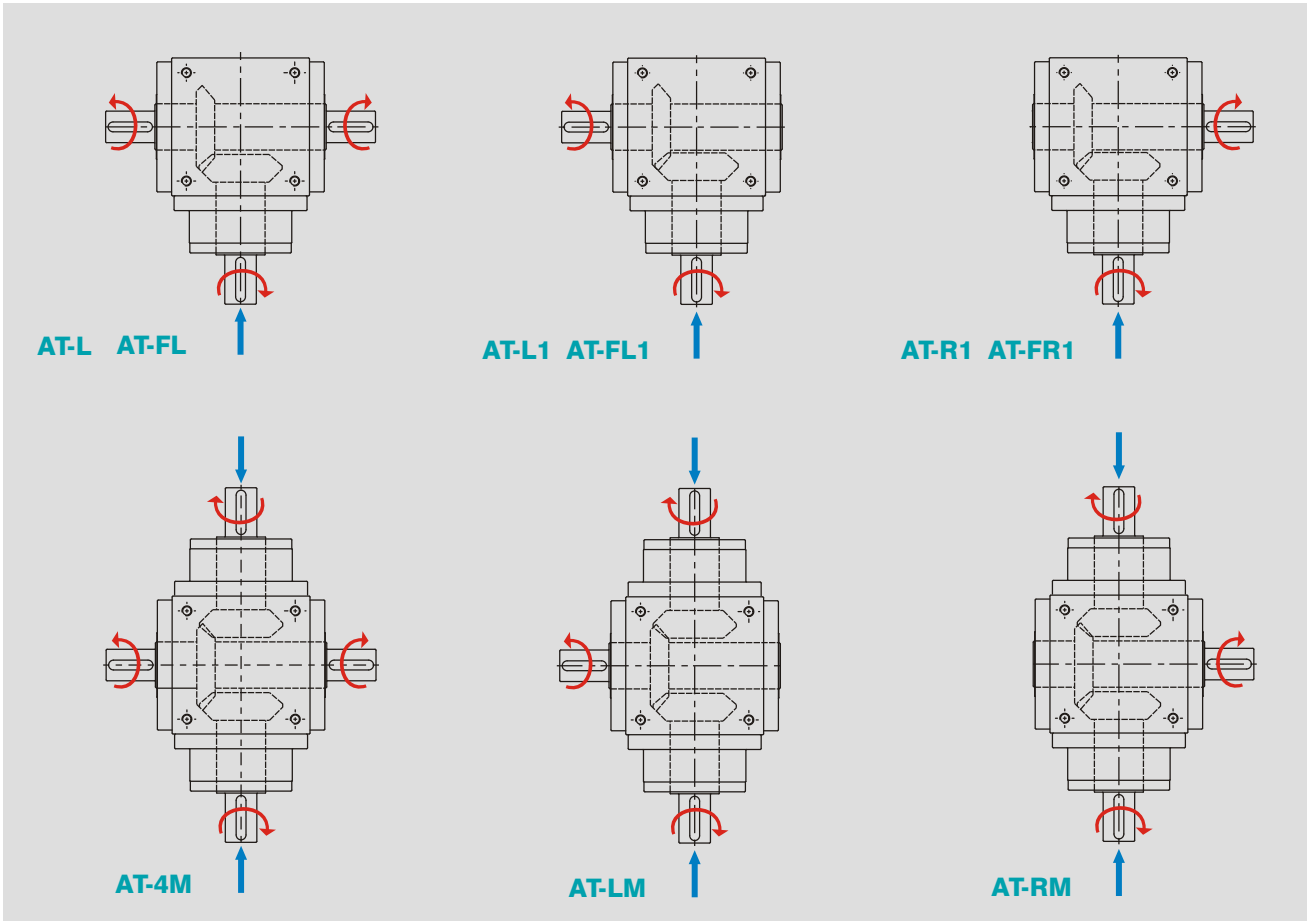
Bevel Gearboxes

Ordering Codes

AT B 110 L - 001 - S2

- **AT** — AT series gearbox
- **B** — Chemically blacked carbon steel construction option (omit if stainless steel required)
- **110** — Gearbox frame size
- **L** — Gearbox output style
  - L = Shaft series, 2 outputs
  - L1 = Shaft series, 1 output
  - R1 = Shaft series, 1 output
  - LM = Opp rotation, 2 outputs
  - RM = Opp rotation, 2 outputs
  - 4M = Opp rotation, 2 in 2 out
  - H = Hollow output series
  - C = Clamp output series
- **001** — Gearbox Ratio (omit if LM, RM or 4M series)
- **S2** — Shaft options
  - S2 = Shafts with keys
  - S1 = Smooth shafts

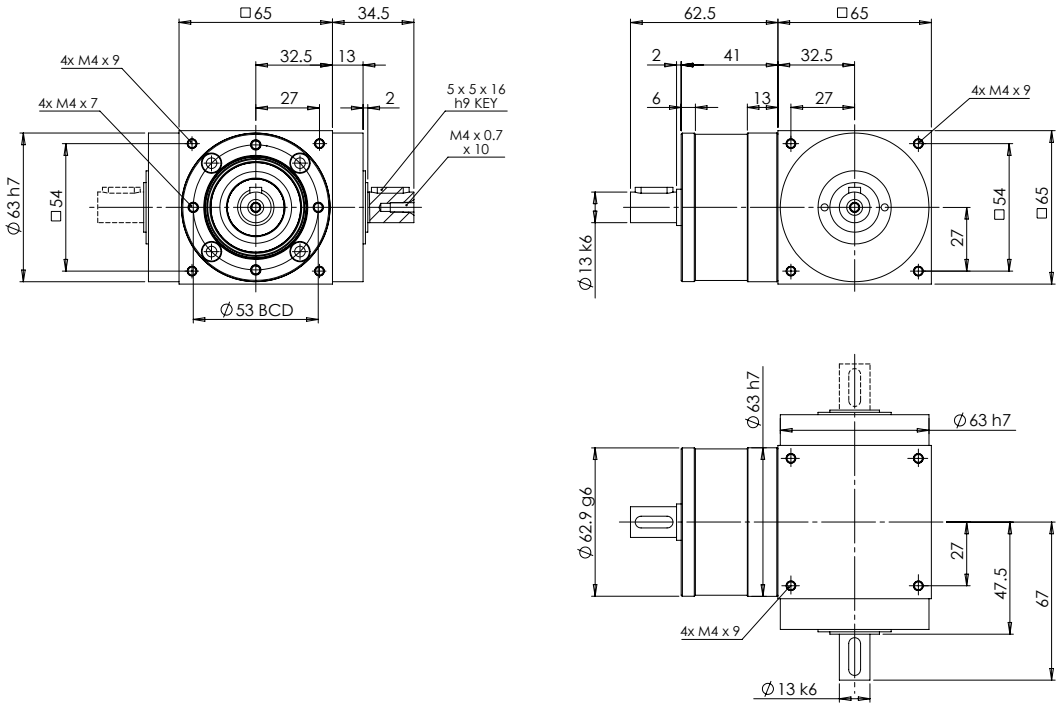
Example Order Code: **ATB090R1-003-S2**



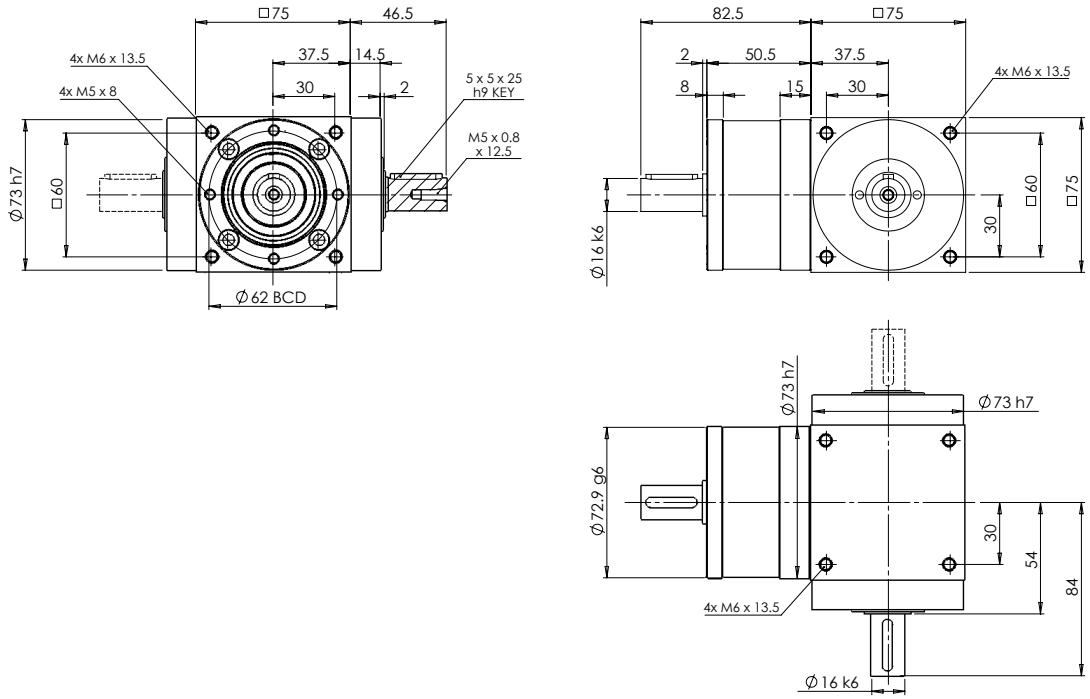


Bevel Gearboxes

065 Frame – Ø13mm Shafts



075 Frame – Ø16mm Shafts

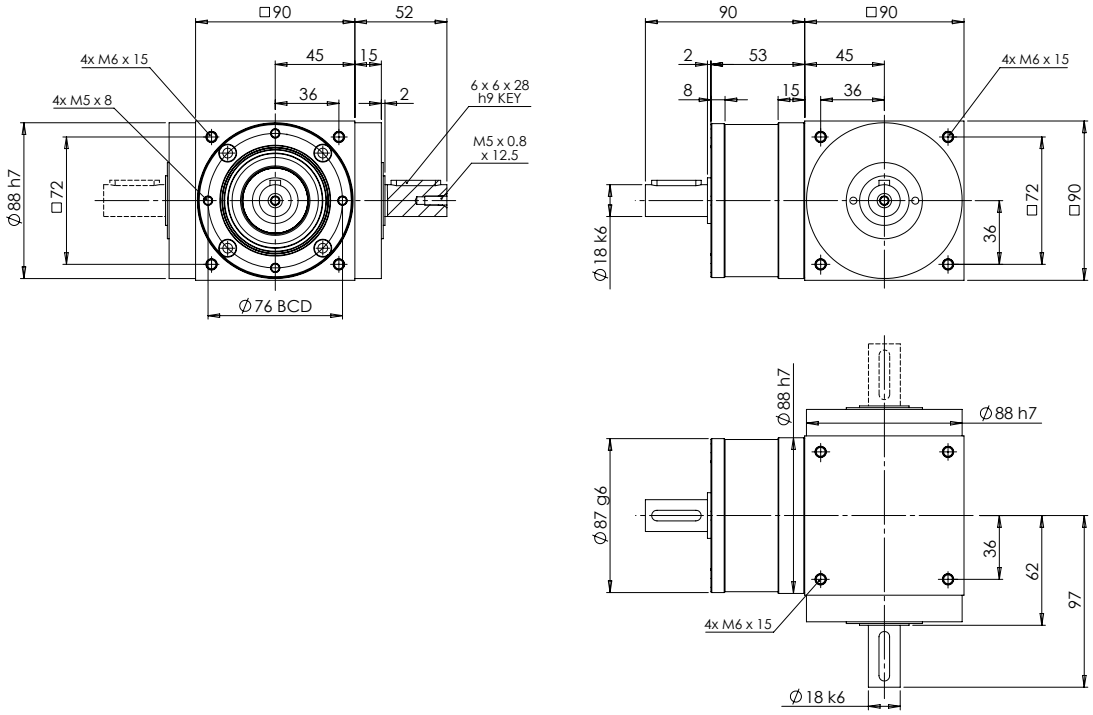


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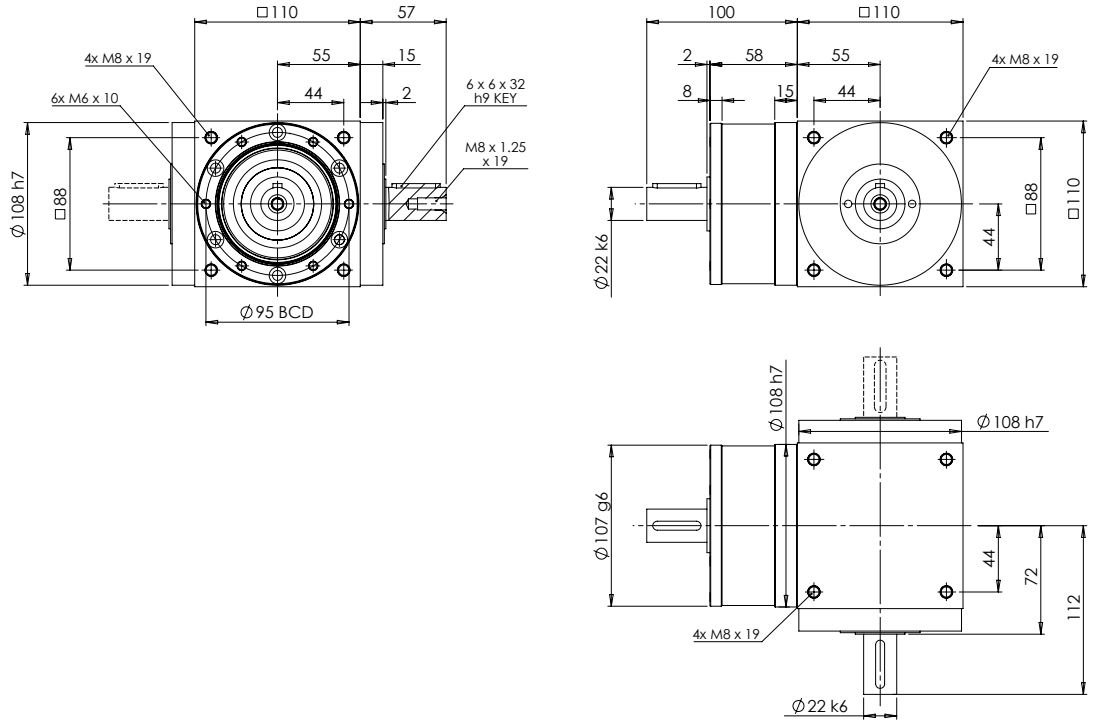


Bevel Gearboxes

090 Frame – Ø18mm Shafts



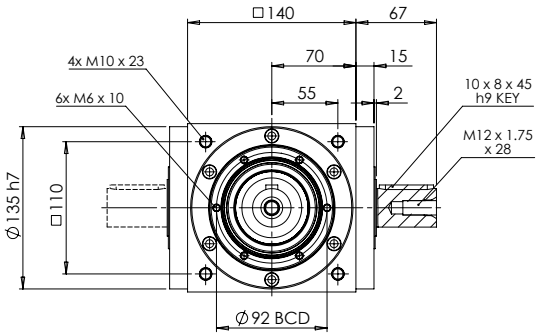
110 Frame – Ø22mm Shafts

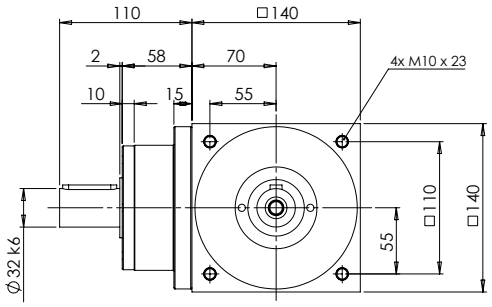


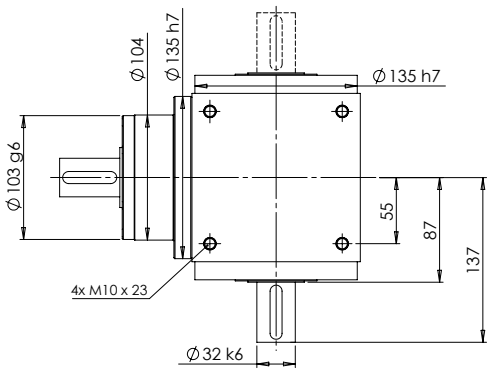


Bevel Gearboxes

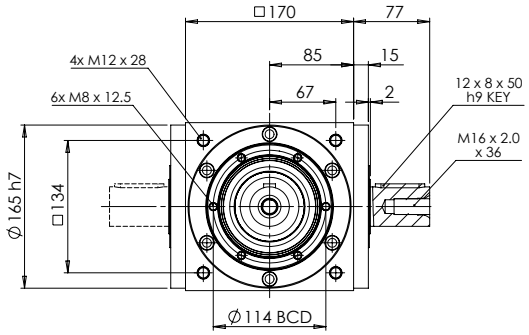
140 Frame – Ø32mm Shafts

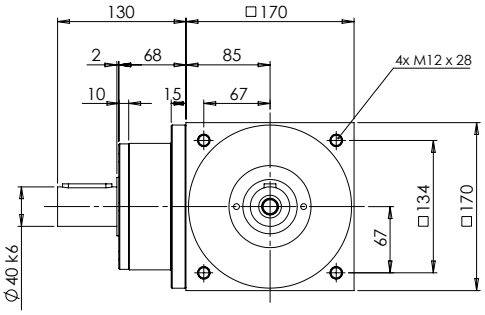


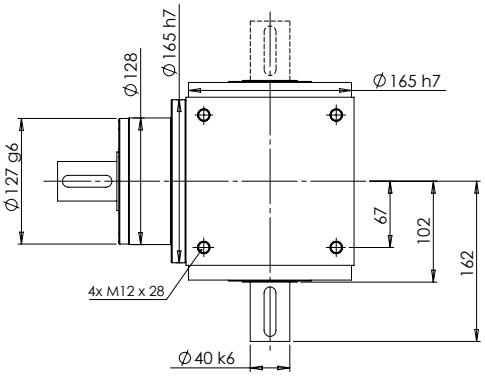




170 Frame – Ø40mm Shafts





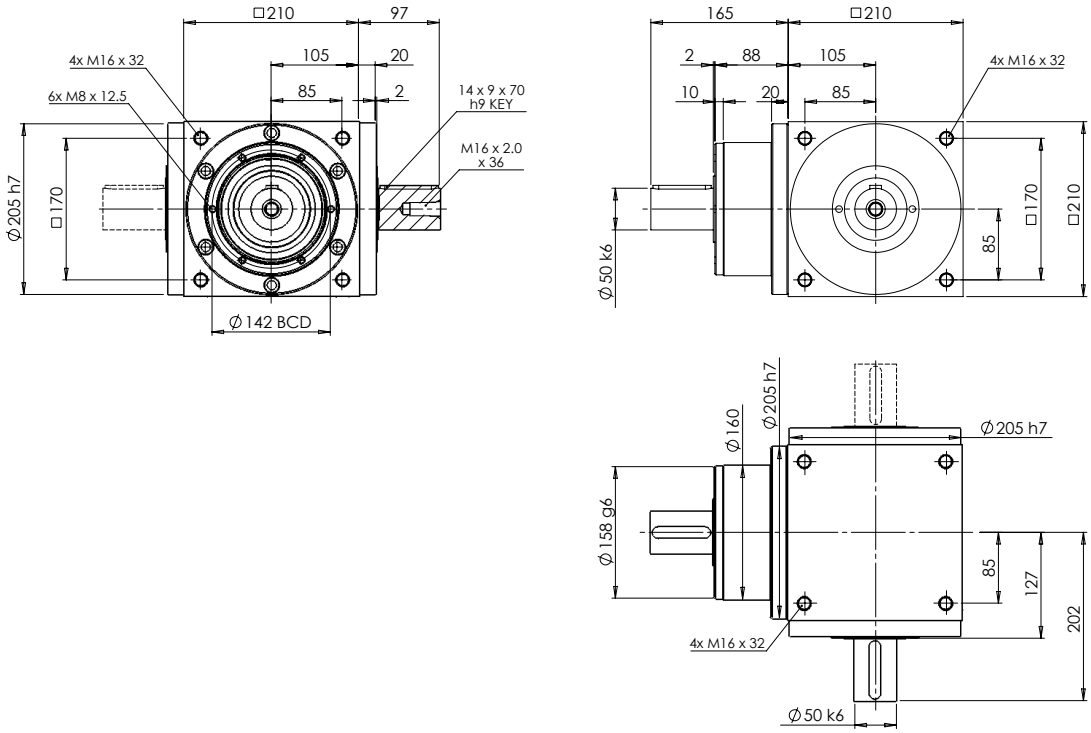


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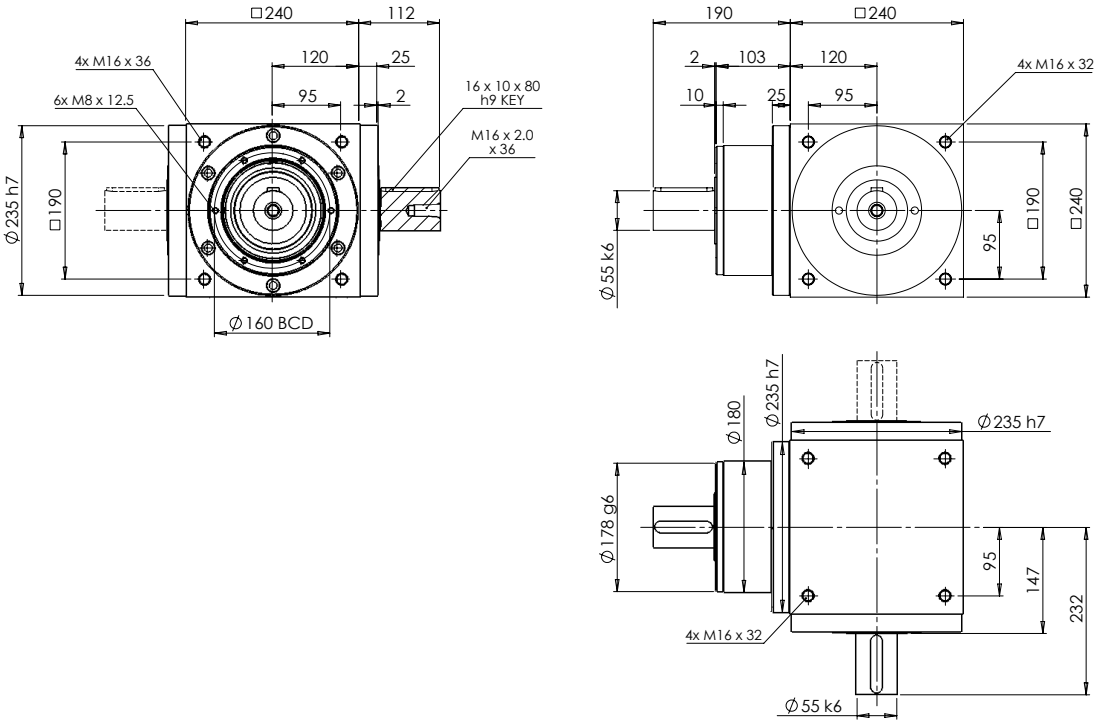


Bevel Gearboxes

210 Frame – Ø50mm Shafts



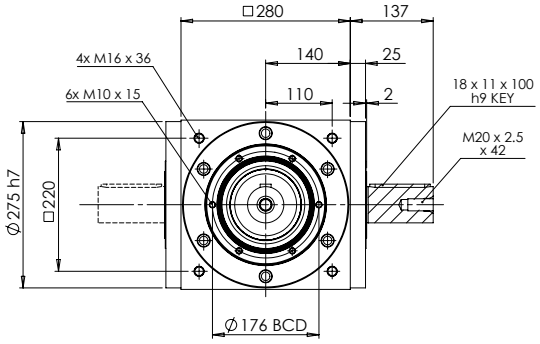
240 Frame – Ø55mm Shafts

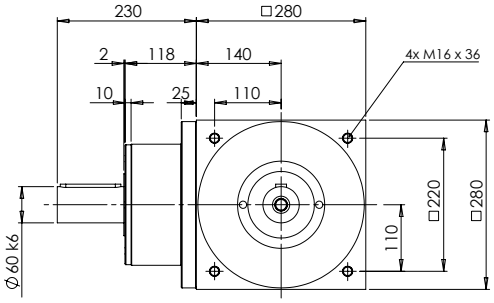


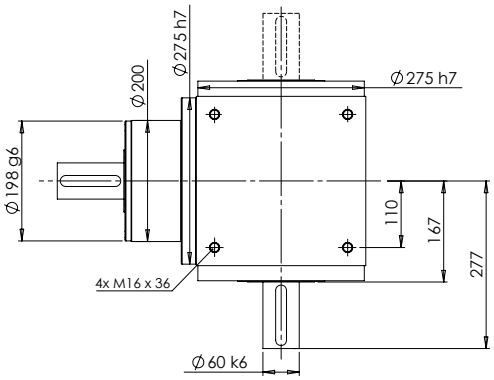


Bevel Gearboxes

280 Frame – Ø60mm Shafts







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Bevel Gearboxes

Additional Options



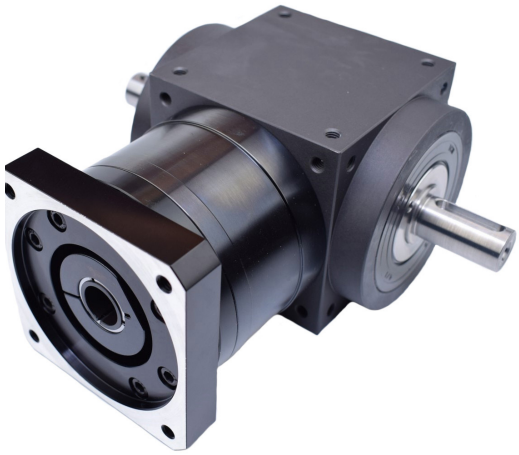
AT-H Series

- Hollow through bore and key output
- From Ø13mm up to Ø60mm output bores
- Available in stainless (AT) and steel (ATB)
- Available in all frame sizes



AT-C Series

- Hollow through bore with shrink disc outputs
- From Ø13mm up to Ø60mm output bores
- Available in stainless (AT) and steel (ATB)
- Available in all frame sizes



AT-F Series

- Motor mounting flange and clamp coupling input
- Reduction ratios up to 500:1 available
- Available in stainless (AT) and steel (ATB)
- Available in all frame sizes in all output options*

* Excluding LM, RM & 4M opposite rotation series

THIS CATALOGUE DOES NOT SHOW THE FULL RANGE OF GEARBOXES AVAILABLE FROM WMH
PLEASE SEE OUR PRECISION GEARBOXES STOCK CATALOGUE FOR MORE DETAILS



Special Manufacturing

In-house Leadscrew & Nut Production



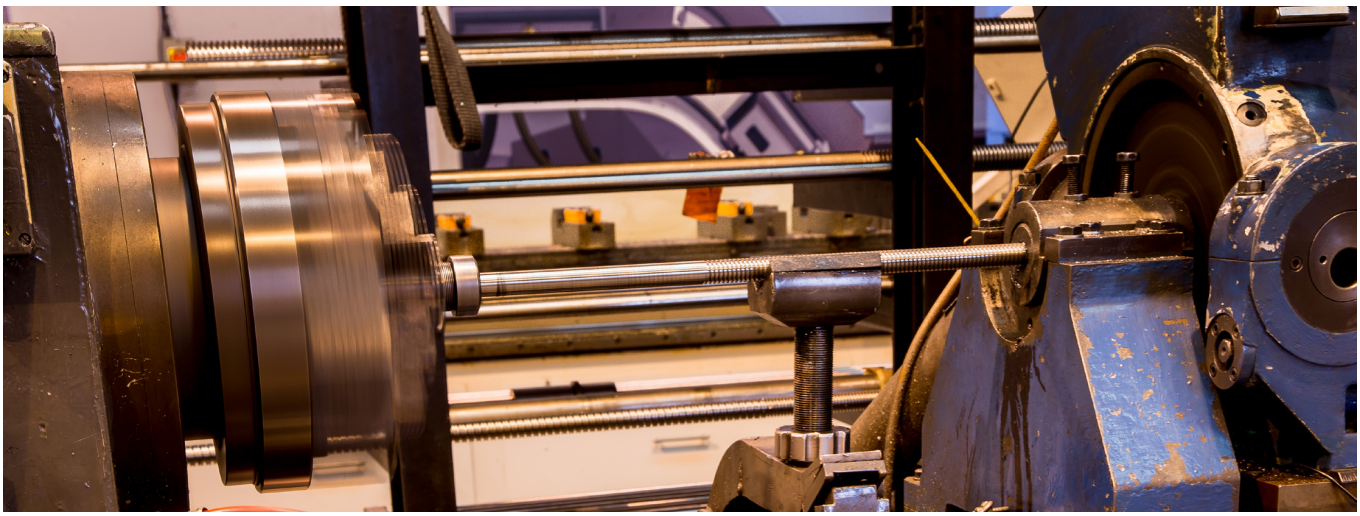
WMH HAS BEEN A MARKET LEADER IN MANUFACTURING LEADSCREWS FOR OVER A DECADE

AT OUR FACILITY IN TAMWORTH, STAFFORDSHIRE WE HAVE THE MACHINERY AND INDUSTRY EXPERTISE TO MANUFACTURE ALMOST ANY LEADSCREW IN-HOUSE

WMH CAN PRODUCE ANY SIZE AND LENGTH LEADSCREW FROM Ø16mm UP TO Ø100mm IN ALL RANGES OF MATERIALS FROM STEEL AND STAINLESS STEEL TO PLASTIC AND ALUMINIUM

LEFT AND RIGHT HAND SCREWS ARE POSSIBLE AS WELL AS MULTIPLE START THREAD FORMS

CONTACT OUR SALES TEAM WITH YOUR REQUIREMENTS AND WE WILL BE HAPPY TO HELP



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Trapezoidal Leadscrews & Nuts

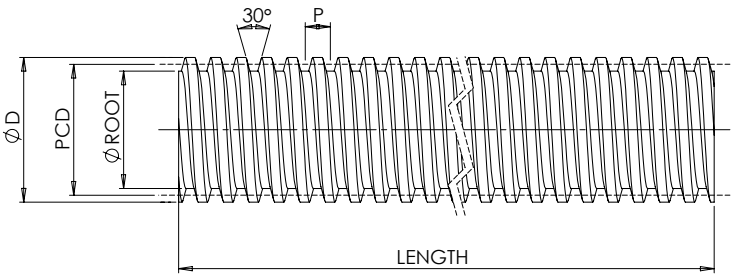


AS WELL AS OUR RANGE OF STANDARD PRODUCTS WE CAN ALSO MANUFACTURE SPECIAL COMPONENTS IN HOUSE – PLEASE CONTACT OUR SALES TEAM WITH YOUR REQUIREMENTS

WMH Transmissions Limited



Steel Leadscrews



Design Parameter	Value
Material Type	Mild Steel
Grade (Rolled)	C35
Grade (Whirled)	En1A / En3B
DIN Standard	103 7e
Lead Error (Rolled)	0.100 / 300 mm
Lead Error (Whirled)	0.050 / 300 mm
Straightness	0.300 / 300 mm

ROLLED SCREWS

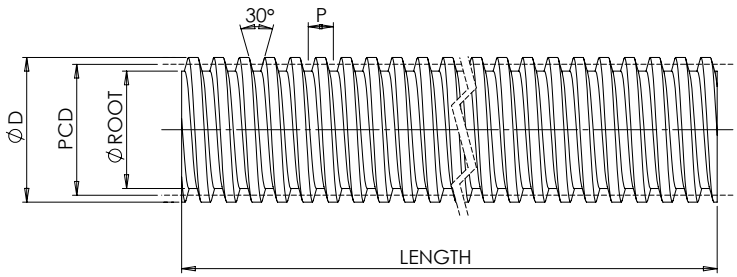
Tr D x P	PCD Min	PCD Max	Root Min	Length	Left Hand	Right Hand
10 x 3	10.191	8.415	5.80	1000	-	500-010-010
				2000	-	500-010-020
				3000	-	500-010-030
12 x 3	10.191	10.415	7.800	1000	505-012-010	500-012-010
				2000	505-012-020	500-012-020
				3000	505-012-030	500-012-030
14 x 3	12.191	12.415	9.800	1000	505-014-010	500-014-010
				2000	505-014-020	500-014-020
				3000	505-014-030	500-014-030
16 x 4	13.640	13.905	10.800	1000	505-016-010	500-016-010
				2000	505-016-020	500-016-020
				3000	505-016-030	500-016-030
18 x 4	15.640	15.905	12.800	1000	505-018-010	500-018-010
				2000	505-018-020	500-018-020
				3000	505-018-030	500-018-030
20 x 4	17.640	17.905	14.800	1000	505-020-010	500-020-010
				2000	505-020-020	500-020-020
				3000	505-020-030	500-020-030
22 x 5	19.114	19.394	15.500	1000	505-022-010	500-022-010
				2000	505-022-020	500-022-020
				3000	505-022-030	500-022-030
24 x 5	21.094	21.394	17.500	1000	505-024-010	500-024-010
				2000	505-024-020	500-024-020
				3000	505-024-030	500-024-030
26 x 5	23.094	23.394	19.500	1000	505-026-010	500-026-010
				2000	505-026-020	500-026-020
				3000	505-026-030	500-026-030
28 x 5	25.094	25.394	21.500	1000	505-028-010	500-028-010
				2000	505-028-020	500-028-020
				3000	505-028-030	500-028-030

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Steel Leadscrews



Design Parameter	Value
Material Type	Mild Steel
Grade (Rolled)	C35
Grade (Whirled)	En1A / En3B
DIN Standard	103 7e
Lead Error (Rolled)	0.100 / 300 mm
Lead Error (Whirled)	0.050 / 300 mm
Straightness	0.300 / 300 mm

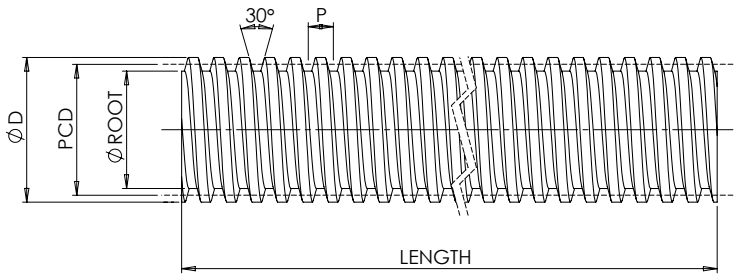
	Tr D x P	PCD Min	PCD Max	Root Min	Length	Left Hand	Right Hand
ROLLED SCREWS	30 x 6	26.547	26.882	21.900	1000	505-030-010	500-030-010
					2000	505-030-020	500-030-020
					3000	505-030-030	500-030-030
	32 x 6	28.547	28.882	23.900	1000	505-032-010	500-032-010
					2000	505-032-020	500-032-020
					3000	505-032-030	500-032-030
	36 x 6	32.547	32.882	27.900	1000	505-036-010	500-036-010
					2000	505-036-020	500-036-020
					3000	505-036-030	500-036-030
	40 x 7	36.020	36.375	30.500	1000	505-040-010	500-040-010
					2000	505-040-020	500-040-020
					3000	505-040-030	500-040-030
	44 x 7	40.020	40.375	34.500	1000	505-044-010	500-044-010
					2000	505-044-020	500-044-020
					3000	505-044-030	500-044-030
	48 x 8	43.468	43.868	37.800	1000	505-048-010	500-048-010
					2000	505-048-020	500-048-020
					3000	505-048-030	500-048-030
WHIRLED SCREWS	50 x 8	45.468	45.868	40.370	1000	506-050-010	501-050-010
					2000	506-050-020	501-050-020
					3000	506-050-030	501-050-030
	60 x 9	54.935	55.360	49.330	1000	506-060-010	501-060-010
					2000	506-060-020	501-060-020
					3000	506-060-030	501-060-030
	70 x 10	64.425	64.850	58.320	1000	506-070-010	501-070-010
					2000	506-070-020	501-070-020
					3000	506-070-030	501-070-030

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WMH Transmissions Limited



Stainless Leadscrews



Design Parameter	Value
Material Type	Stainless Steel
Grade (Rolled)	303 (X12CrNiS 18.8)
Grade (Whirled)	303 (X12CrNiS 18.8)
DIN Standard	103 7e
Lead Error (Rolled)	0.100 / 300 mm
Lead Error (Whirled)	0.050 / 300 mm
Straightness	0.300 / 300 mm

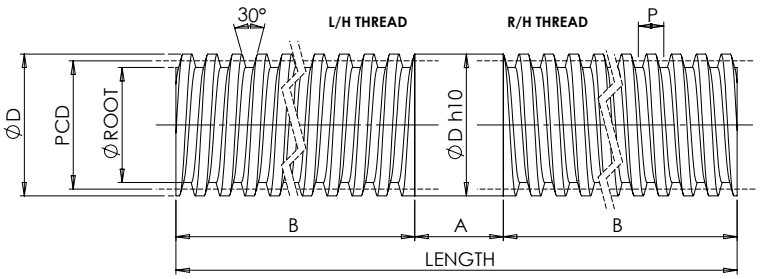
	Tr D x P	PCD Min	PCD Max	Root Min	Length	Left Hand	Right Hand
ROLLED SCREWS	12 x 3	10.191	10.415	7.800	1000	505-012-210	500-012-210
					2000	505-012-220	500-012-220
					3000	505-012-230	500-012-230
	14 x 3	12.191	12.415	9.800	1000	505-014-210	500-014-210
					2000	505-014-220	500-014-220
					3000	505-014-230	500-014-230
	16 x 4	13.640	13.905	10.800	1000	505-016-210	500-016-210
					2000	505-016-220	500-016-220
					3000	505-016-230	500-016-230
	18 x 4	15.640	15.905	12.800	1000	505-018-210	500-018-210
					2000	505-018-220	500-018-220
					3000	505-018-230	500-018-230
WHIRLED SCREWS	20 x 4	17.640	17.905	15.180	1000	506-020-210	501-020-210
					2000	506-020-220	501-020-220
					3000	506-020-230	501-020-230
	24 x 5	21.094	21.394	18.020	1000	506-024-210	501-024-210
					2000	506-024-220	501-024-220
					3000	506-024-230	501-024-230
	26 x 5	23.094	23.394	19.500	1000	506-026-210	501-026-210
					2000	506-026-220	501-026-220
					3000	506-026-230	501-026-230
	28 x 5	25.094	25.394	21.500	1000	506-028-210	501-028-210
					2000	506-028-220	501-028-220
					3000	506-028-230	501-028-230
	30 x 6	26.547	26.882	22.460	1000	506-030-210	501-030-210
					2000	506-030-220	501-030-220
					3000	506-030-230	501-030-230
	32 x 6	28.547	28.882	24.460	1000	506-032-210	501-032-210
					2000	506-032-220	501-032-220
					3000	506-032-230	501-032-230
	36 x 6	32.547	32.882	28.460	1000	506-036-210	501-036-210
					2000	506-036-220	501-036-220
					3000	506-036-230	501-036-230
	40 x 7	36.020	36.375	31.430	1000	506-040-210	501-040-210
					2000	506-040-220	501-040-220
					3000	506-040-230	501-040-230
	50 x 8	45.468	45.868	40.370	1000	506-050-210	501-050-210
					2000	506-050-220	501-050-220
					3000	506-050-230	501-050-230

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Whirled Leadscrews



Design Parameter	Value
Material (Mild Steel)	En1A / En3B
Material (Stainless)	303 (X12CrNiS 18.8)
DIN Standard	103 7e
Lead Error	0.050 / 300 mm
Straightness	0.300 / 300 mm

LEADSCREWS WHIRLED FROM SOLID BAR IN-HOUSE

WHIRLED SCREWS

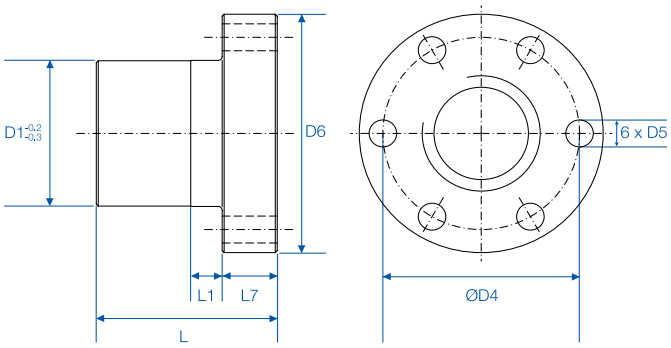
Tr D x P	PCD Min	PCD Max	Root Min	A	B	Length	Steel	Stainless Steel
16 x 4	13.640	13.905	11.070	8	496	1000	5016-016-010	5016-016-210
					996	2000	5016-016-020	5016-016-220
					1496	3000	5016-016-030	5016-016-230
18 x 4	15.640	15.905	13.070	8	496	1000	5016-018-010	5016-018-210
					996	2000	5016-018-020	5016-018-220
					1496	3000	5016-018-030	5016-018-230
20 x 4	17.640	17.905	15.180	8	496	1000	5016-020-010	5016-020-210
					996	2000	5016-020-020	5016-020-220
					1496	3000	5016-020-030	5016-020-230
24 x 5	21.094	21.394	18.020	10	495	1000	5016-024-010	5016-024-210
					995	2000	5016-024-020	5016-024-220
					1495	3000	5016-024-030	5016-024-230
26 x 5	23.094	23.394	20.020	10	495	1000	5016-026-010	5016-026-210
					995	2000	5016-026-020	5016-026-220
					1495	3000	5016-026-030	5016-026-230
28 x 5	25.094	25.394	22.020	10	495	1000	5016-028-010	5016-028-210
					995	2000	5016-028-020	5016-028-220
					1495	3000	5016-028-030	5016-028-230
30 x 6	26.547	26.882	22.460	12	494	1000	5016-030-010	5016-030-210
					994	2000	5016-030-020	5016-030-220
					1494	3000	5016-030-030	5016-030-230
32 x 6	28.547	28.882	24.460	12	494	1000	5016-032-010	5016-032-210
					994	2000	5016-032-020	5016-032-220
					1494	3000	5016-032-030	5016-032-230
36 x 6	32.547	32.882	28.460	12	494	1000	5016-036-010	5016-036-210
					994	2000	5016-036-020	5016-036-220
					1494	3000	5016-036-030	5016-036-230
40 x 7	36.020	36.375	31.430	14	493	1000	5016-040-010	5016-040-210
					993	2000	5016-040-020	5016-040-220
					1493	3000	5016-040-030	5016-040-230
50 x 8	45.468	45.868	40.370	14	493	1000	5016-050-010	5016-050-210
					993	2000	5016-050-020	5016-050-220
					1493	3000	5016-050-030	5016-050-230
60 x 9	54.935	55.360	49.330	16	492	1000	5016-060-010	5016-060-210
					992	2000	5016-060-020	5016-060-220
					1492	3000	5016-060-030	5016-060-230
70 x 10	64.425	64.850	58.320	16	492	1000	5016-070-010	5016-070-210
					992	2000	5016-070-020	5016-070-220
					1492	3000	5016-070-030	5016-070-230

ALTERNATIVE MATERIALS SUCH AS PLASTIC AND ALUMINIUM AND SPECIAL SIZES / LENGTHS ARE ALSO AVAILABLE ON REQUEST – PLEASE CONTACT OUR SALES TEAM FOR DETAILS



Bronze Flanged Nuts

With Holes



Design Parameter	Value
Material	Bronze SAE 660
DIN Standard	103 8H

Tr D x P	Ø D1 h7	Ø D4	Ø D5	Ø D6	L	L1	L7	Left Hand	Right Hand
12 x 3	28	38	6	48	35	8	12	516-012-671	511-012-671
14 x 3	28	38	6	48	35	8	12	516-014-671	511-014-671
16 x 4	28	38	6	48	44	8	12	516-016-671	511-016-671
18 x 4	28	38	6	48	44	8	12	516-018-671	511-018-671
20 x 4	32	45	7	55	44	8	12	516-020-671	511-020-671
22 x 5	32	45	7	55	44	8	12	516-022-671	511-022-671
24 x 5	32	45	7	55	44	8	12	516-024-671	511-024-671
30 x 6	38	50	7	62	46	8	14	516-030-671	511-030-671
32 x 6	45	58	7	70	54	10	16	516-032-671	511-032-671
36 x 6	45	58	7	70	59	10	16	516-036-671	511-036-671
40 x 7	63	78	9	95	73	10	16	516-040-671	511-040-671
50 x 8	72	90	11	110	97	10	18	516-050-671	511-050-671
60 x 9	85	105	11	125	99	10	20	516-060-671	511-060-671

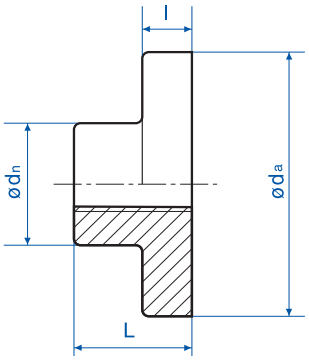
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Bronze Flanged Nuts

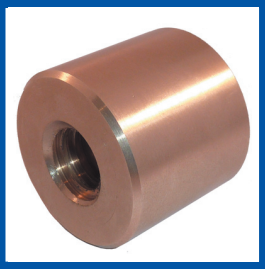
Without Holes



Design Parameter	Value
Material	Bronze SAE 660
DIN Standard	103 8H

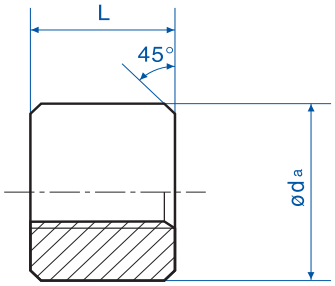
Tr D x P	Ø da	L	Ø dn	l	Left Hand	Right Hand
10 x 3	35	15	20	6	516-010-670	511-010-670
12 x 3	42	20	24	7	516-012-670	511-012-670
14 x 3	52	24	30	10	516-014-670	511-014-670
16 x 4	52	24	30	10	516-016-670	511-016-670
18 x 4	62	26	38	11	516-018-670	511-018-670
20 x 4	62	26	38	11	516-020-670	511-020-670
22 x 5	77	33	50	13	516-022-670	511-022-670
24 x 5	77	33	50	13	516-024-670	511-024-670
26 x 5	77	33	50	13	516-026-670	511-026-670
28 x 5	90	48	58	15	516-028-670	511-028-670
30 x 6	90	48	58	15	516-030-670	511-030-670
32 x 6	115	60	80	20	516-032-670	511-032-670
36 x 6	115	60	80	20	516-036-670	511-036-670
40 x 7	140	65	80	20	516-040-670	511-040-670
44 x 7	140	65	80	20	516-044-670	511-044-670
48 x 8	170	70	90	20	516-048-670	511-048-670
50 x 8	170	70	90	20	516-050-670	511-050-670

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Plain Round Nuts

Steel & Bronze



Design Parameter	Value
Material (Steel)	1.0737
Material (Bronze)	SAE 660
DIN Spec (Steel)	103 7H
DIN Spec (Bronze)	103 8H

NOTE: DIMENSION SHOWN IN BRACKETS APPLIES TO 26x5 STEEL NUT ONLY

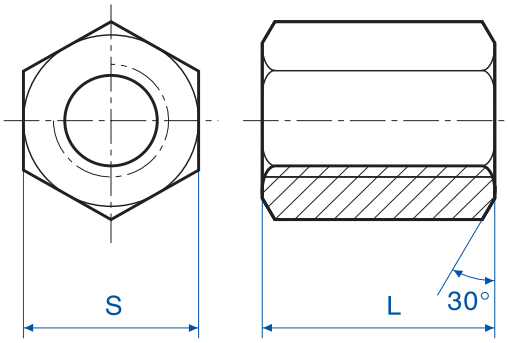
Tr D x P	Ø da	L	Steel		Bronze	
			Left Hand	Right Hand	Left Hand	Right Hand
10 x 3	22	20	516-010-100	511-010-100	516-010-600	511-010-600
		15	516-010-110	511-010-110	-	-
12 x 3	26	24	516-012-100	511-012-100	516-012-600	511-012-600
		18	516-012-110	511-012-110	-	-
14 x 3	30	28	516-014-100	511-014-100	516-014-600	511-014-600
		21	516-014-110	511-014-110	-	-
16 x 4	36	32	516-016-100	511-016-100	516-016-600	511-016-600
		24	516-016-110	511-016-110	-	-
18 x 4	40	36	516-018-100	511-018-100	516-018-600	511-018-600
		27	516-018-110	511-018-110	-	-
20 x 4	45	40	516-020-100	511-020-100	516-020-600	511-020-600
		30	516-020-110	511-020-110	-	-
22 x 5	45	44	516-022-100	511-022-100	516-022-600	511-022-600
		33	516-022-110	511-022-110	-	-
24 x 5	50	48	516-024-100	511-024-100	516-024-600	511-024-600
		36	516-024-110	511-024-110	-	-
26 x 5	55 (50)	52	516-026-100	511-026-100	516-026-600	511-026-600
		39	516-026-110	511-026-110	-	-
28 x 5	60	56	516-028-100	511-028-100	516-028-600	511-028-600
		42	516-028-110	511-028-110	-	-
30 x 6	60	60	516-030-100	511-030-100	516-030-600	511-030-600
		45	516-030-110	511-030-110	-	-
32 x 6	60	64	516-032-100	511-032-100	516-032-600	511-032-600
		48	516-032-110	511-032-110	-	-
36 x 6	75	72	516-036-100	511-036-100	516-036-600	511-036-600
		54	516-036-110	511-036-110	-	-
40 x 7	80	80	516-040-100	511-040-100	516-040-600	511-040-600
		60	516-040-110	511-040-110	-	-
44 x 7	80	88	516-044-100	511-044-100	516-044-600	511-044-600
		66	516-044-110	511-044-110	-	-
48 x 8	90	96	516-048-100	511-048-100	516-048-600	511-048-600
		72	516-048-110	511-048-110	-	-
50 x 8	90	100	516-050-100	511-050-100	516-050-600	511-050-600
		75	516-050-110	511-050-110	-	-
60 x 9	100	120	516-060-100	511-060-100	516-060-600	511-060-600
		90	516-060-110	511-060-110	-	-
70 x 10	110	140	516-070-100	511-070-100	516-070-600	511-070-600
		105	516-070-110	511-070-110	-	-

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Hexagonal Nuts

Steel



Design Parameter	Value
Material	Steel (1.0737)
DIN Standard	103 7H

Tr D x P	S	L	Left Hand	Right Hand
10 x 3	17	15	516-010-150	511-010-150
12 x 3	19	18	516-012-150	511-012-150
14 x 3	22	21	516-014-150	511-014-150
16 x 4	* 24 *	24	516-016-150	511-016-150
18 x 4	27	27	516-018-150	511-018-150
20 x 4	30	30	516-020-150	511-020-150
22 x 5	* 30 *	33	516-022-150	511-022-150
24 x 5	36	36	516-024-150	511-024-150
26 x 5	* 36 *	* 39 *	516-026-150	511-026-150
28 x 5	41	42	516-028-150	511-028-150
30 x 6	46	45	516-030-150	511-030-150
32 x 6	* 50 *	48	516-032-150	511-032-150
36 x 6	55	54	516-036-150	511-036-150
40 x 7	* 60 *	60	516-040-150	511-040-150
44 x 7	65	66	516-044-150	511-044-150
48 x 8	75	72	516-048-150	511-048-150
50 x 8	75	75	516-050-150	511-050-150
60 x 9	90	90	516-060-150	511-060-150
70 x 10	90	105	516-070-150	511-070-150

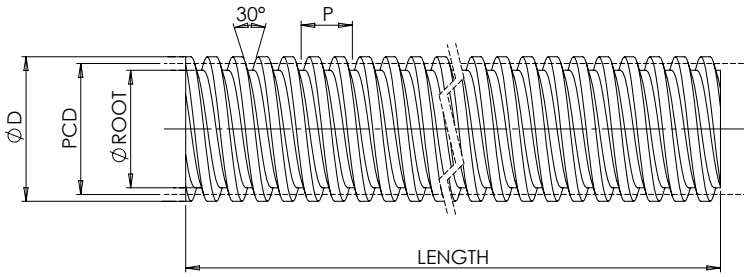
NOTE: ** REPLACES PREVIOUS DIMENSIONS

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2-Start Leadscrews



Design Parameter	Value
Material Type	Mild Steel
Grade	C35
DIN Standard	103 7e
Lead Error	0.100 / 300 mm
Straightness	0.300 / 300 mm

ROLLED SCREWS

Tr D x P	PCD Min	PCD Max	Root Min	Length	Left Hand	Right Hand
12 x 6 P3	10.164	10.415	7.840	1000	-	502-012-010
				2000	-	502-012-020
				3000	-	502-012-030
16 x 8 P4	13.608	13.905	10.800	1000	-	502-016-010
				2000	-	502-016-020
				3000	-	502-016-030
18 x 8 P4	15.608	15.905	12.800	1000	-	502-018-010
				2000	-	502-018-020
				3000	-	502-018-030
20 x 8 P4	17.608	17.905	14.800	1000	-	502-020-010
				2000	-	502-020-020
				3000	-	502-020-030
24 x 10 P5	21.058	21.394	17.500	1000	-	502-024-010
				2000	-	502-024-020
				3000	-	502-024-030
30 x 12 P6	26.547	26.882	21.900	1000	-	502-030-010
				2000	-	502-030-020
				3000	-	502-030-030
36 x 12 P6	32.547	32.882	27.900	1000	-	502-036-010
				2000	-	502-036-020
				3000	-	502-036-030
40 x 14 P7	35.978	36.375	30.500	1000	-	502-040-010
				2000	-	502-040-020
				3000	-	502-040-030

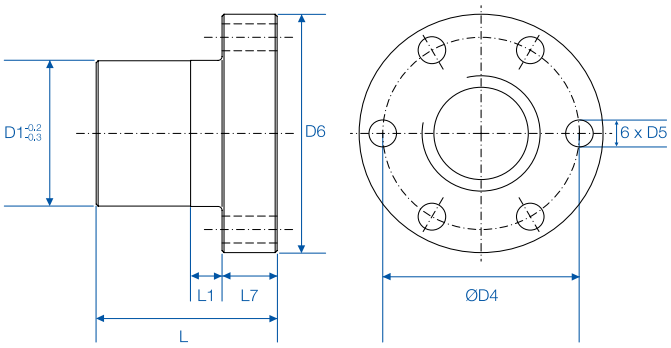
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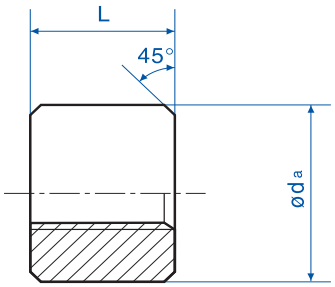
2-Start Nuts

Bronze



Design Parameter	Value
Material	Bronze SAE 660
DIN Standard	103 8H

Tr D x P	Ø D1 h7	Ø D4	Ø D5	Ø D6	L	L1	L7	Left Hand	Right Hand
12 x 6 P3	28	38	6	48	35	8	12	-	512-012-671
16 x 8 P4	28	38	6	48	44	8	12	-	512-016-671
18 x 8 P4	28	38	6	48	44	8	12	-	512-018-671
20 x 8 P4	32	45	7	55	44	8	12	-	512-020-671
24 x 10 P5	32	45	7	55	44	8	12	-	512-024-671
30 x 12 P6	38	50	7	62	46	8	14	-	512-030-671
36 x 12 P6	45	58	7	70	59	10	16	-	512-036-671
40 x 14 P7	63	78	9	95	73	10	16	-	512-040-671



Design Parameter	Value
Material	Bronze SAE 660
DIN Standard	103 8H

Tr D x P	Ø da	L	Left Hand	Right Hand
12 x 6 P3	26	24	-	512-012-600
16 x 8 P4	36	32	-	512-016-600
18 x 8 P4	40	36	-	512-018-600
20 x 8 P4	45	40	-	512-020-600
24 x 10 P5	50	48	-	512-024-600
30 x 12 P6	60	60	-	512-030-600
36 x 12 P6	75	72	-	512-036-600
40 x 14 P7	80	80	-	512-040-600

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Special Manufacturing

In-house Leadscrew & Nut Production



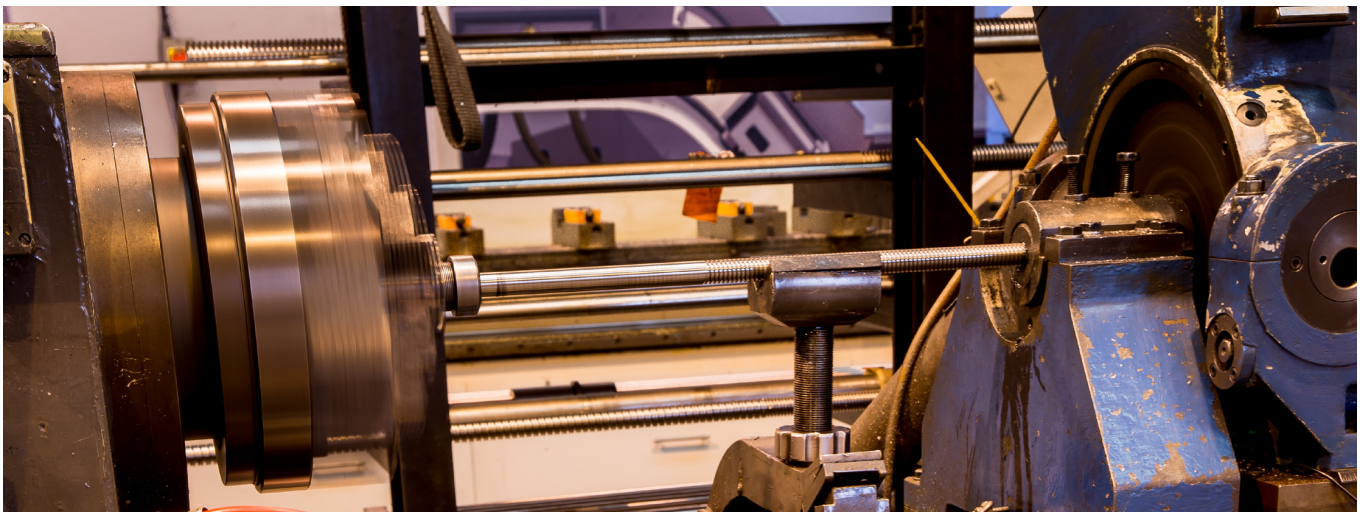
WMH HAS BEEN A MARKET LEADER IN MANUFACTURING LEADSCREWS FOR OVER A DECADE

AT OUR FACILITY IN TAMWORTH, STAFFORDSHIRE WE HAVE THE MACHINERY AND INDUSTRY EXPERTISE TO MANUFACTURE ALMOST ANY LEADSCREW IN-HOUSE

WMH CAN PRODUCE ANY SIZE AND LENGTH LEADSCREW FROM Ø16mm UP TO Ø100mm IN ALL RANGES OF MATERIALS FROM STEEL AND STAINLESS STEEL TO PLASTIC AND ALUMINIUM

LEFT AND RIGHT HAND SCREWS ARE POSSIBLE AS WELL AS MULTIPLE START THREAD FORMS

CONTACT OUR SALES TEAM WITH YOUR REQUIREMENTS AND WE WILL BE HAPPY TO HELP



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WMH Transmissions Limited

Precision Ballscrews



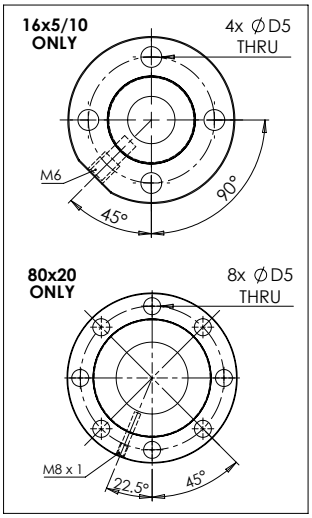
AS WELL AS OUR RANGE OF STANDARD PRODUCTS WE CAN ALSO MANUFACTURE SPECIAL COMPONENTS IN HOUSE – PLEASE CONTACT OUR SALES TEAM WITH YOUR REQUIREMENTS

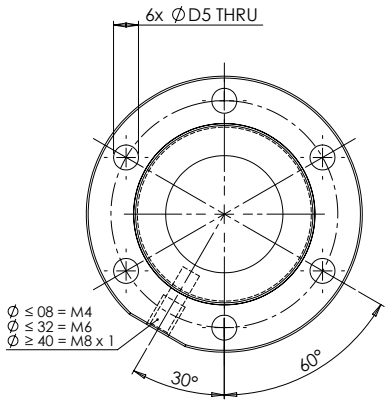
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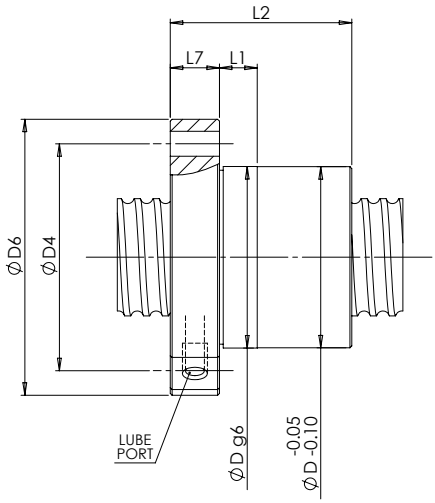


Single Ballscrew Nuts

Full Round Flange







Nom DIA	Lead	Circs	Load Ratings kN		Thread Dimensions (mm)			Nut Dimensions (mm)							Part Number
			Dyn	Stat	Ball Ø	Root Ø	Bar Ø	D	D4	D5	D6	L1	L2	L7	
12	5	3	4.5	5.8	2	9.9	11.4	24	32	4.5	40	10	28	12	513-125-361
	10	2	3.0	3.6								16	33		513-121-361
16	5	4	14.8	16.1	3	12.9	15	28	40	6.6	53	10	38	12	513-165-361
	10	3	11.5	12.3								16	45		513-161-361
20	5	4	17.2	21.5	3	16.9	19	33	45	6.6	58	10	40	12	513-205-361
	10	4	16.9	21.3								16	60		513-210-361
25	5	4	19.1	27.2	3	21.9	24	38	50	6.6	63	10	45	12	513-255-361
	10	4	18.8	27.0								16	64		513-251-361
32	5	4	25.9	40.0	3.5	28.4	31	48	60	6.6	73	10	48	13	513-325-361
	10	5	38.0	58.3	3.969	27.9						16	77		513-321-361
	20	2	16.2	21.8				56	68		80	25	64	15	513-322-361
40	5	5	34.9	64.1	3.5	36.4	39	56	68	6.6	80	10	54	15	513-405-361
	10	4	60.0	86.4	6	33.8	38	63	78	9	95	16	70		513-410-361
	10	6	86.5	132.2								16	90		513-411-361
	20	3	45.5	62.8								25	88		513-420-361
50	5	5	38.4	81.3	3.5	46.4	49	68	82	9	98	10	54	15	513-505-361
	10	6	95.6	166.5	6	43.8	48	72	90	11	110	16	90	18	513-510-361
	20	3	57.5	87.9	6.5	43.4		85	105		125	25	92	22	513-520-361
	40	2	38.5	55.8								45	109		513-540-361
63	10	6	106.6	214.3	6	56.8	61	85	105	11	125	16	90	22	513-631-361
	20	3	63.8	112.1	6.5	56.4		95	118	14	140	25	92		513-632-361
	40	2	44.3	74.3								45	109		513-634-361
80	10	6	130.1	291.7	6.5	73.3	78	105	125	14	150	16	95	22	513-810-361
	20	6	315.2	534.2	12.7	67.0	76	125	152	18	180	25	170	25	513-820-361

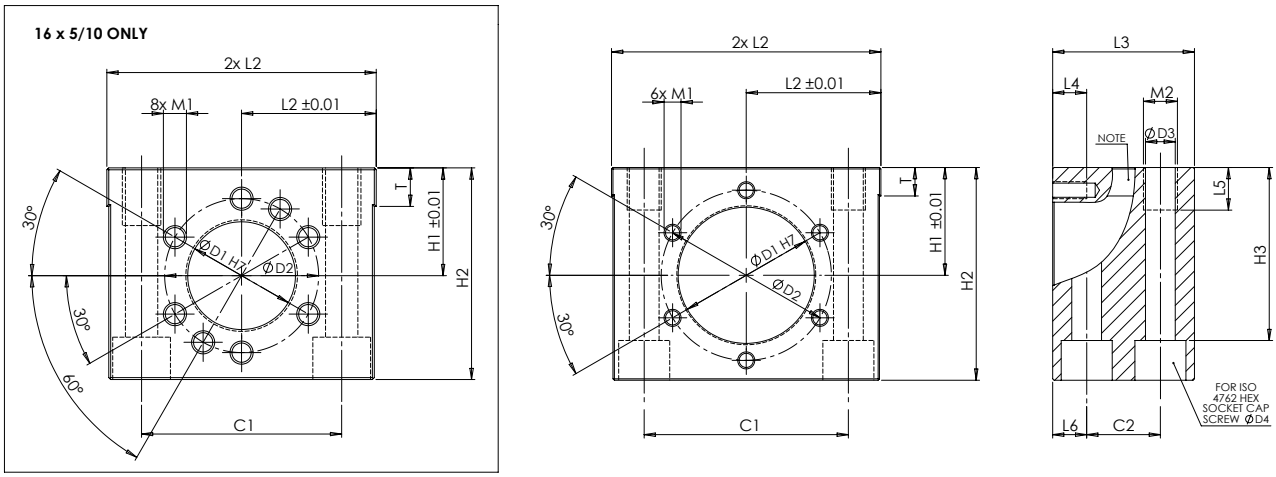
PRE-LOAD OPTIONS, LUBRICATION UNITS AND DOUBLE BALLSCREW NUTS ALSO AVAILABLE ON REQUEST – PLEASE CONTACT OUR SALES TEAM WITH YOUR REQUIREMENTS

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WMH Transmissions Limited



Ball Nut Housings

For Full Round Flange Nuts



NOTE: DATUM EDGES ARE FORMED ON BOTH SIDES OF EACH HOUSING

Nom DIA	Lead	Housing Dimensions (mm)																	Mass (kg)	Part Number
		C1	C2	D1	D2	D3	D4	H1	H2	H3	L2	L3	L4	L5	L6	M1	M2	T		
16	5	52 ±0.1	20 ±0.1	28	40	8.4	M8	28	55	44	35	40	10	15	10	M6	M10	10	0.85	510-000-020
	10																			
20	5	56 ±0.1	20 ±0.1	33	45	8.4	M8	32	62	51	37.5	40	10	15	10	M6	M10	10	1.05	510-100-020
	10																			
25	5	63 ±0.1	20 ±0.1	38	50	8.4	M8	34	65	54	42.5	40	10	15	10	M6	M10	10	1.18	510-200-020
	10																			
32	5	72 ±0.1	26 ±0.1	48	60	10.5	M10	38	75	61	47.5	50	10	15	12	M6	M12	10	1.75	510-300-020
	10																			
	20	82 ±0.1	30 ±0.1	56	68	13	M12	42	82	64	52.5	60	12	20	15	M6	M16	12	2.37	510-400-020
40	5																			
	10	93 ±0.1	35 ±0.1	63	78	15	M14	50	98	79.5	60	65	14	25	15	M8	M18	12	3.59	510-400-021
	20																			
50	5	100 ±0.15	35 ±0.15	68	82	15	M14	52	101	82.5	65	65	14	30	15	M8	M18	12	4.00	510-500-020
	10	108 ±0.15	46 ±0.15	72	90	17	M16	58	113	92	70	80	18	30	17	M10	M20	12	6.19	510-500-021
	20	121 ±0.15	46 ±0.15	85	105	17	M16	65	128	107	75	80	18	30	17	M10	M20	15	7.17	510-600-020
	40																			
63	10																			
80	10	140 ±0.2	46 ±0.15	105	125	17	M16	78	153	132	85	80	20	30	17	M12	M20	15	9.33	510-700-020

AS WELL AS OUR RANGE OF STANDARD PRODUCTS WE CAN ALSO MANUFACTURE SPECIAL COMPONENTS IN HOUSE – PLEASE CONTACT OUR SALES TEAM WITH YOUR REQUIREMENTS

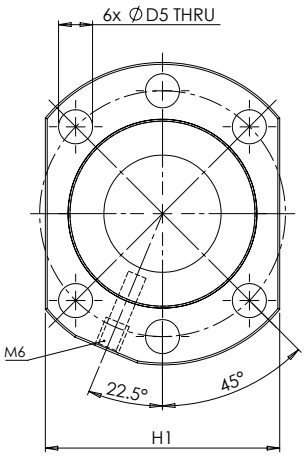
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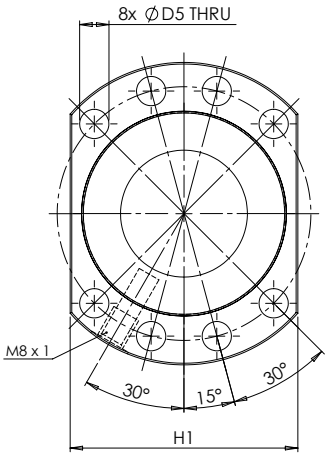
Single Ballscrew Nuts

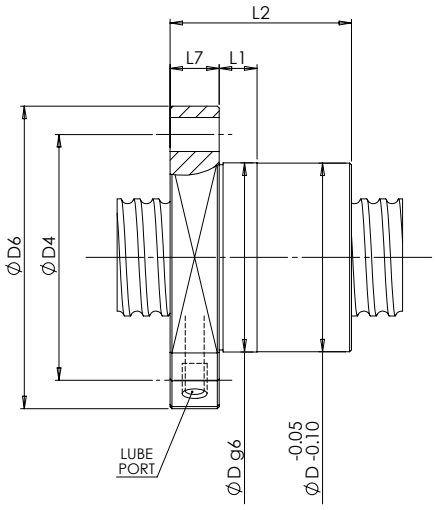
DIN 69051 Part 5 Form B

Nom. ∅ ≤ 32 mm



Nom. ∅ ≥ 40 mm





Nom DIA	Lead	Circs	Load Ratings kN		Thread Dimensions (mm)			Nut Dimensions (mm)								Part Number
			Dyn	Stat	Ball Ø	Root Ø	Bar Ø	D	D4	D5	D6	H1	L1	L2	L7	
16	5	4	14.8	16.1	3	12.9	15	28	38	5.5	48	40	10	38	12	513-165-362
	10	3	11.5	12.3									16	45		513-161-362
	16	3	11.2	12.0									20	61		513-166-362
20	5	4	17.2	21.5	3	16.9	19	36	47	6.6	58	44	10	40	12	513-205-362
	10	4	16.9	21.3									16	60		513-210-362
	20	3	16.0	18.8	3.5	16.7							25	77		513-220-362
25	5	4	19.1	27.2	3	21.9	24	40	51	6.6	62	48	10	45	12	513-255-362
	10	4	18.8	27.0									16	64		513-251-362
	25	3	17.6	23.3	3.5	21.4							30	95		513-252-362
32	5	4	25.9	40.0	3.5	28.4	31	50	65	9	80	62	10	48	13	513-325-362
	10	5	38.0	58.3	3.969	27.9							16	77		513-321-362
	20	3	23.6	33.7									25	84		513-322-362
	32	3	23.4	34.0									40	120		513-323-362
40	5	5	34.9	64.1	3.5	36.4	39	63	78	9	93	70	10	54	15	513-405-362
	10	4	60.0	86.4	6	33.8	38						16	70		513-410-362
	10	6	86.5	132.2									16	90		513-411-362
	12	4	59.9	86.2									25	75		513-412-362
	16	4	59.6	85.9									25	90		513-416-362
	20	3	45.5	62.8									25	88		513-420-362
	40	3	44.4	62.3									45	142		513-440-362
50	5	5	38.4	81.3	3.5	46.4	49	75	93	11	110	85	10	54	15	513-505-362
	10	6	95.6	166.5	6	43.8	48						16	90	18	513-510-362
	12	6	95.5	166.4									25	105		513-512-362
	16	6	95.3	166.0									25	128		513-516-362
	20	5	90.8	149.7	6.5	43.4							25	132		513-520-362
	40	3	55.8	85.9									45	149		513-540-362
63	10	6	106.6	214.3	6	56.8	61	90	108	11	125	95	16	90	22	513-631-362
	20	5	100.7	190.3	6.5	56.4		95	115	13.5	135	100	25	132		513-632-362
	40	3	64.1	114.1									45	149		513-634-362
80	10	6	130.1	291.7	6.5	73.3	78	105	125	13.5	145	110	16	95	22	513-810-362
	20	6	315.2	534.2	12.7	67.0	76	125	145	13.5	165	130	25	170	25	513-820-362

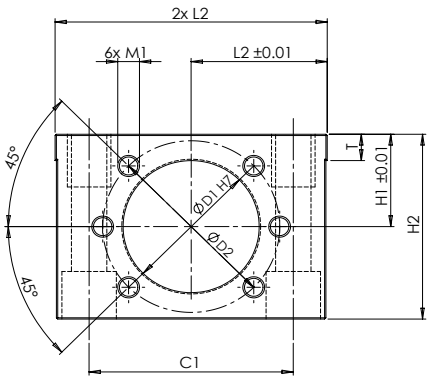
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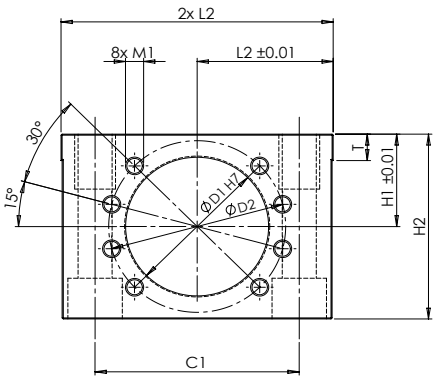
Ball Nut Housings

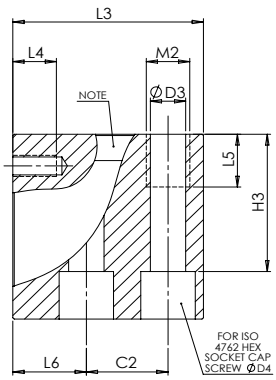
For DIN 69051-5 Nuts

Nom. ∅ ≤ 32 mm



Nom. ∅ ≥ 40 mm





NOTE: DATUM EDGES ARE FORMED ON BOTH SIDES OF EACH HOUSING

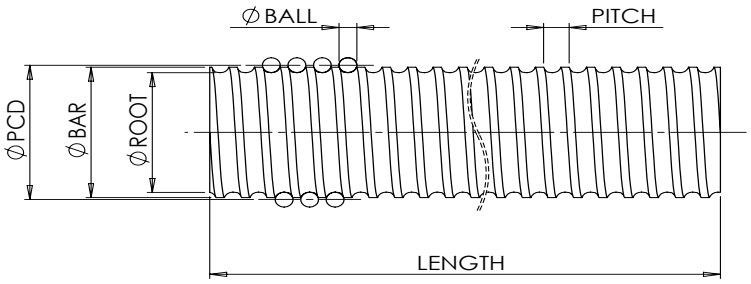
Nom DIA	Lead	Housing Dimensions (mm)																	Mass (kg)	Part Number
		C1	C2	D1	D2	D3	D4	H1	H2	H3	L2	L3	L4	L5	L6	M1	M2	T		
16	5	50 ±0.1	20 ±0.1	28	38	8.4	M8	24	48	37	35	50	10	15	20	M5	M10	10	0.91	510-000-050
	10																			
	16																			
20	5	55 ±0.1	23 ±0.1	36	47	8.4	M8	48	56	45	37.5	55	11	15	22	M6	M10	10	1.18	510-100-050
	10																			
	20																			
25	5	60 ±0.1	23 ±0.1	40	51	8.4	M8	30	60	49	40	55	11	15	22	M6	M10	10	1.33	510-200-050
	10																			
	25																			
32	5	75 ±0.1	30 ±0.1	50	65	13	M12	35	70	52	50	70	14	20	27	M8	M16	10	2.27	510-300-050
	10																			
	20																			
	32																			
40	5	90 ±0.1	35 ±0.1	63	78	15	M14	42	84	65.5	60	80	17	25	31	M8	M18	12	3.61	510-400-050
	10																			
	12																			
	20																			
	40																			
50	5	110 ±0.15	45 ±0.15	75	93	17	M16	48	96	75	70	95	17	30	34	M10	M20	12	5.63	510-500-050
	10																			
	12																			
	20																			
	40																			
63	10	120 ±0.2	46 ±0.15	90	108	17	M16	55	110	89	75	100	20	30	37	M10	M20	15	6.72	510-600-050
	20	130 ±0.2	46 ±0.15	95	115	17	M16	58	116	95	80	100	20	30	37	M12	M20	15	7.67	510-600-051
	40																			
80	10	140 ±0.2	46 ±0.15	105	125	17	M16	63	126	105	85	100	20	30	37	M12	M20	15	8.6	510-700-050
	20	160 ±0.2	46 ±0.15	125	145	17	M16	73	146	125	95	100	22	30	37	M12	M20	15	10.53	510-700-051

WMH Transmissions Limited



Ballscrew Stock Lengths

Precision Rolled



Design Parameter	Value
Material Type	Steel Cf53
DIN Standard	T5 Rolled
Pitch Error (Vp)	0.023 / 300 mm
Single Pitch Error	± 0.008mm Max
Straightness	0.300 / 300 mm
Hardness	58 – 62 HRC

Nom DIA (PCD)	Pitch	Thread Dimensions (mm)			Inertia (kgcm²/m)	Weight (kg/m)	Stocked Length	Max Length On Request	Stock Length Part Number
		Ball Ø	Root Ø	Bar Ø					
12	5	2	9.9	11.4	0.11	0.75	1500	2500	553-125-150
	10				0.11	0.74			553-121-150
16	5	3	12.9	15	0.31	1.24	1500	3500	553-165-150
	10				0.31	1.23			553-161-150
	16				0.34	1.29			553-166-150
20	5	3	16.9	19	0.84	2.03	2500	3500	553-205-150
	10				0.84	2.03			553-210-150
	20	3.5	16.7		0.81	1.99			553-220-150
25	5	3	21.9	24	2.22	3.31	2500	4500	553-255-250
	10				2.39	3.43			553-251-250
	25	3.5	21.4		2.15	3.25			553-252-250
32	5	3.5	28.4	31	6.05	5.45	2500	4500	553-325-250
	10	3.969	27.9		6.40	5.60			553-321-250
	20				6.39	5.60			553-322-250
	32				6.17	5.50			553-323-250
40	5	3.5	36.4	39	15.64	8.78	4500	5000	553-405-450
	10	6	33.8	38	13.55	8.15		6000	553-410-450
	12				13.97	8.27		5000	553-412-450
	16				12.90	7.95		5000	553-416-450
	20				13.52	8.14		6000	553-420-450
	40				13.42	8.11		6000	553-440-450
50	5	3.5	46.4	49	40.03	14.05	4500	5000	553-505-450
	10	6	43.8	48	35.71	13.25		6000	553-510-450
	12				36.58	13.41		5000	553-512-450
	16				34.37	13.00		5000	553-516-450
	20	6.5	43.4		34.50	13.01		6000	553-520-450
	40				34.34	12.98		6000	553-540-450
63	10	6	56.8	61	95.82	21.72	4500	6000	553-631-450
	20	6.5	56.4		93.29	21.42			553-632-450
	40				93.08	21.40			553-634-450
80	10	6.5	73.3	78	256.86	35.58	4500	6000	553-810-450
	20	12.7	67.0	76	211.51	32.16	-		ON REQUEST

LONGER LENGTHS AVAILABLE ON REQUEST. WMH OFFER IN-HOUSE BALLSCREW CUTTING & MACHINING SERVICES FOR END JOURNAL PREPARATION TO CUSTOMER SPECIFICATION

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Ball Bearing Support Units

BK & BF: Foot mount style fixed (BK) and simple (BF) support units



FK & FF: Flange mount style fixed (FK) and simple (FF) support units



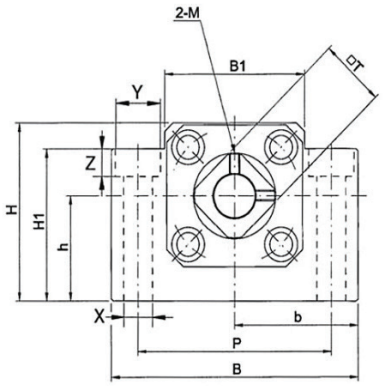
WBK: Flange mount style heavy duty fixed support units

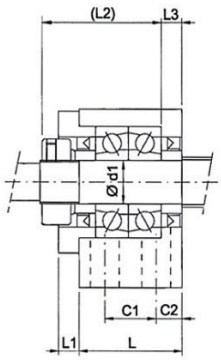




Support Units – BK

Fixed Type – Foot Mount

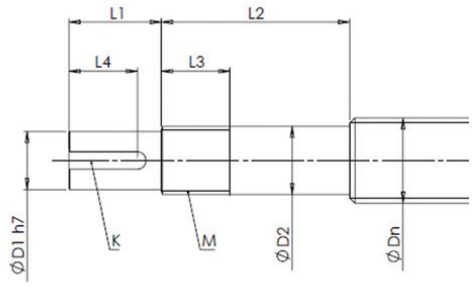




Model	Max Permissible Axial Load (kN)	Dynamic Capacity (kN)
BK10	1.9	6.4
BK12	2.1	6.9
BK15	2.4	7.3
BK17	4.1	12.9
BK20	4.2	12.9
BK25	7.0	19.3
BK30	9.8	26.8
BK35	14.4	37.3
BK40	18.0	44.0

Model	Support Unit Dimensions (mm)																	
	ØD1	L	L1	L2	L3	C1	C2	B	H	b	h	B1	H1	T	P	M	X	Y	Z
BK10	10	25	5	30	5	13	6	60	39	30	22	34	32.5	16	46	3	6.6	10.8	5
BK12	12	25	5	30	5	13	6	60	43	30	25	34	32.5	19	46	4	6.6	10.8	1.5
BK15	15	27	6	32	6	15	6	70	48	35	28	40	38	22	54	4	6.6	11	6.5
BK17	17	35	9	42	7	19	8	86	64	43	39	50	55	24	68	4	9	14	8.5
BK20	20	35	8	45	8	19	8	88	60	44	34	52	50	30	70	4	9	14	8.5
BK25	25	42	12	54	9	22	10	106	80	53	48	64	70	35	85	5	11	17	11
BK30	30	45	14	61	9	23	11	128	89	64	51	76	78	40	102	6	14	20	13
BK35	35	50	14	68	12	26	12	140	96	70	52	88	79	50	114	8	14	20	13
BK40	40	61	18	76	15	33	14	160	110	80	60	100	90	50	130	8	18	26	17.5

Model	Recommended End Machining Dimensions (mm)								
	ØDn	ØD2 g6	ØD1 h7	L2	L1	L3	L4	M	K P9
BK10	16	10	8	39	15	15	12	M10 x 1.0	2 x 1.2
BK12	16/20	12	10	39	15	15	12	M12 x 1.0	3 x 1.8
BK15	20	15	12	41	20	13	15	M15 x 1.0	4 x 2.5
BK17	25	17	15	53	27	17	20	M17 x 1.0	5 x 3.0
BK20	25/32	20	17	55	27	17	20	M20 x 1.0	5 x 3.0
BK25	32	25	20	66	36	20	30	M25 x 1.5	6 x 3.5
BK30	40	30	25	73	42	25	32	M30 x 1.5	8 x 4.0
BK35	50	35	30	83	50	28	40	M35 x 1.5	8 x 4.0
BK40	50/63	40	35	98	70	35	60	M40 x 1.5	10 x 5.0



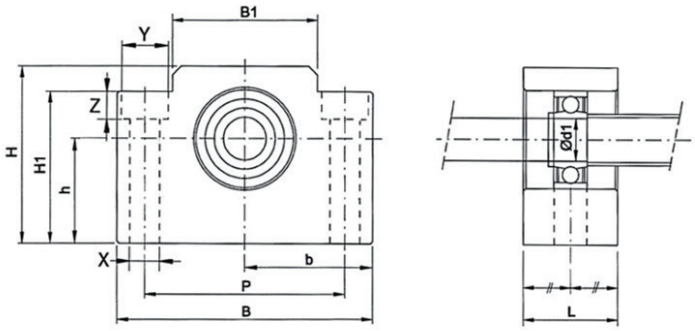
FIXED SUPPORT UNITS ARE DELIVERED COMPLETE WITH HOUSING, BEARING SET, COVER, SPACER, SEALS, LOCKNUT AND SET SCREWS. ALTERNATIVE END MACHININGS ALSO AVAILABLE

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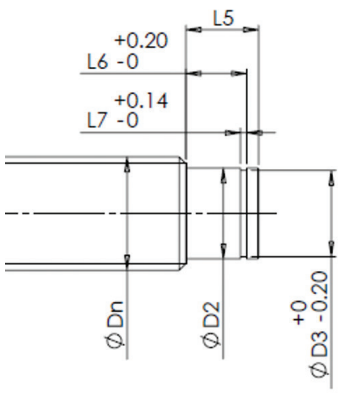
Support Units – BF

Simple Type – Foot Mount



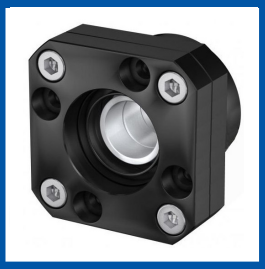
Model	Support Unit Dimensions (mm)											
	ØD1	L	B	H	b	h	B1	H1	P	X	Y	Z
BF10	8	20	60	39	30	22	34	32.5	46	6.6	10.8	5
BF12	10	20	60	43	30	25	34	32.5	46	6.6	10.8	1.5
BF15	15	20	70	48	35	28	40	38	54	6.6	11	6.5
BF17	17	23	86	64	43	39	50	55	68	9	14	8.5
BF20	20	26	88	60	44	34	52	50	70	9	14	8.5
BF25	25	30	106	80	53	48	64	70	85	11	17	11
BF30	30	32	128	89	64	51	76	78	102	14	20	13
BF35	35	32	140	96	70	52	88	79	114	14	20	13
BF40	40	37	160	110	80	60	100	90	130	18	26	17.5

Model	Recommended End Machining Dimensions (mm)					
	ØDn	ØD2 g6	ØD3	L5	L6	L7
BF10	16	8	7.6	10	7.9	0.9
BF12	16/20	10	9.6	11	9.15	1.15
BF15	20	15	14.3	13	10.15	1.15
BF17	25	17	16.2	16	13.15	1.15
BF20	25/32	20	19	16	13.35	1.35
BF25	32	25	23.9	20	16.35	1.35
BF30	40	30	28.6	21	17.75	1.75
BF35	50	35	33	22	18.75	1.75
BF40	50/63	40	38	23	19.95	1.95



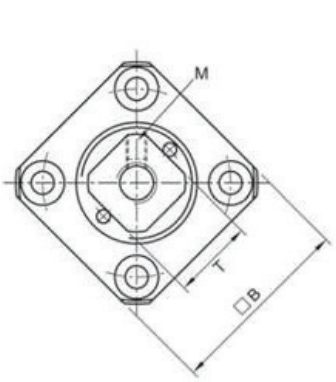
SIMPLE SUPPORT UNITS ARE DELIVERED COMPLETE WITH HOUSING, BEARING SET AND CIRCLIP. ALTERNATIVE END MACHININGS ALSO AVAILABLE

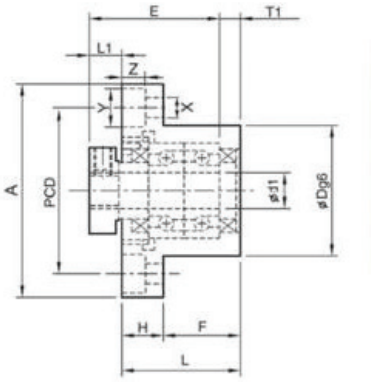
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Support Units – FK

Fixed Type – Flange Mount

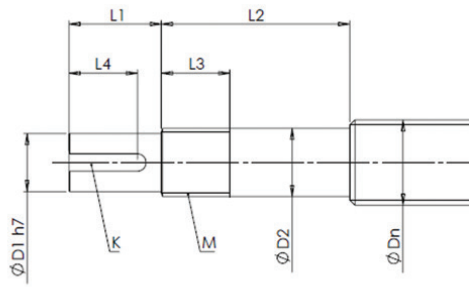




Model	Max Permissible Axial Load (kN)	Dynamic Capacity (kN)
FK06	0.7	2.4
FK08	1.0	4.0
FK10	1.9	6.4
FK12	2.1	6.9
FK15	2.4	7.3
FK17	4.1	12.9
FK20	5.8	17.2
FK25	7.0	19.3
FK30	9.8	26.8

Model	Support Unit Dimensions (mm)															
	ØD1	L	H	F	E	ØD	A	PCD	B	L1	T1	M	T	X	Y	Z
FK06	6	20	7	13	22	22	36	28	28	5.5	3.5	3	12	3.4	6.5	4
FK08	8	23	9	14	26	28	43	35	35	7	4	3	14	3.4	6.5	4
FK10	10	27	10	17	30	34	52	42	42	7	4	3	16	4.5	8	5
FK12	12	27	10	17	30	36	54	44	44	8	5	4	19	4.5	8	5
FK15	15	32	15	17	40	40	63	50	52	10	2	4	22	5.5	9.5	6
FK17	17	45	22	23	46	50	77	62	61	10	9	4	24	6.6	11	10
FK20	20	54	22	32	58	57	85	70	68	14	10	4	30	6.6	11	10
FK25	25	57	27	30	60	63	98	80	79	13	10	5	35	9	15	13
FK30	30	62	30	32	62	75	117	95	93	11	12	6	40	11	17.5	15

Model	Recommended End Machining Dimensions (mm)								
	ØDn	ØD2 g6	ØD1 h7	L2	L1	L3	L4	M	K P9
FK06	8	6	4	30	8	10	-	M6 x 0.75	-
FK08	12	8	6	35	9	13	-	M8 x 1.0	-
FK10	16	10	8	39	15	15	12	M10 x 1.0	2 x 1.2
FK12	16/20	12	10	39	15	15	12	M12 x 1.0	3 x 1.8
FK15	20	15	12	49	20	13	15	M15 x 1.0	4 x 2.5
FK17	25	17	15	59	27	18	20	M17 x 1.0	5 x 3.0
FK20	25/32	20	17	70	27	21	20	M20 x 1.0	5 x 3.0
FK25	32	25	20	78	36	30	30	M25 x 1.5	6 x 3.5
FK30	40	30	25	73	42	25	32	M30 x 1.5	8 x 4.0



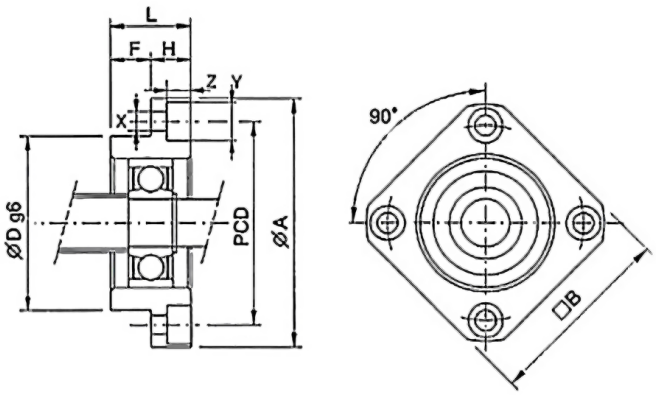
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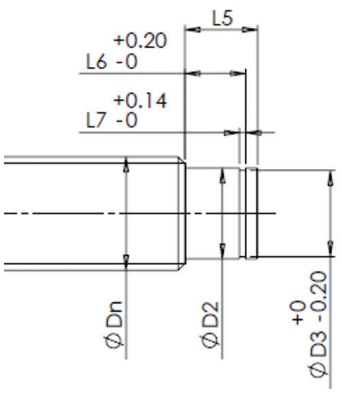
Support Units – FF

Simple Type – Flange Mount



Model	Support Unit Dimensions (mm)									
	ØD2	L	H	ØD	A	PCD	B	X	Y	Z
FF06	6	10	6	22	36	28	28	3.4	6.5	4
FF10	8	12	7	28	43	35	35	3.4	6.5	4
FF12	10	15	7	34	52	42	42	4.5	8	4
FF15	15	17	9	40	63	50	52	5.5	9.5	5.5
FF17	17	20	11	50	77	62	61	6.6	11	6.5
FF20	20	20	11	57	85	70	68	6.6	11	6.5
FF25	25	24	14	63	98	80	79	9	15	8.5
FF30	30	27	18	75	117	95	93	11	17.5	11

Model	Recommended End Machining Dimensions (mm)					
	ØDn	ØD2 g6	ØD3	L5	L6	L7
FF06	8	6	5.7	9	6.8	0.8
FF10	12	8	7.6	10	7.9	0.9
FF12	16/20	10	9.6	11	9.15	1.15
FF15	20	15	14.3	13	10.15	1.15
FF17	25	17	16.2	16	13.15	1.15
FF20	25/32	20	19.0	19	15.35	1.35
FF25	32	25	23.9	20	16.35	1.35
FF30	40	30	28.6	21	17.75	1.75



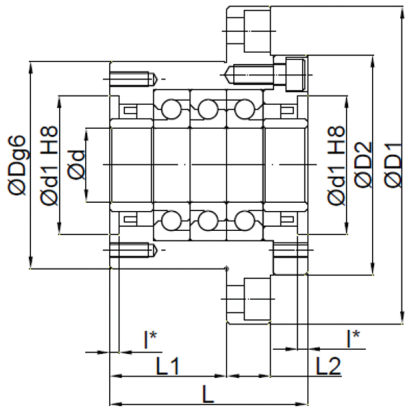
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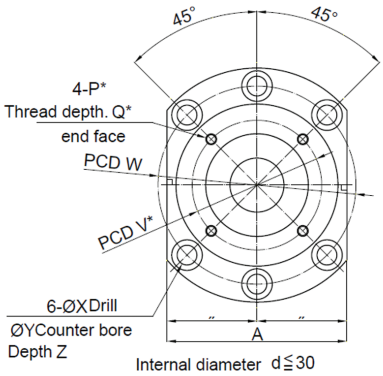
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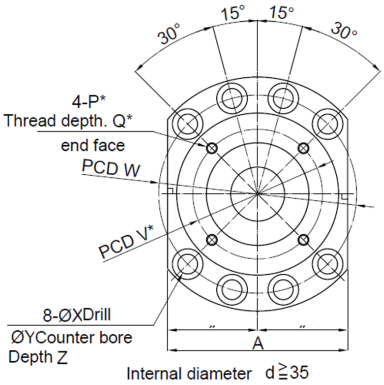


Heavy Duty Support Units

Fixed Type – Flange Mount







Model	Support Unit Dimensions (mm)																	Mass kg
	Ød	ØD	ØD1	ØD2	L	L1	L2	A	W	X	Y	Z	Ød1	I	V	P	Q	
WBK15DF	15	70	106	72	60	32	15	80	88	9	14	8.5	45	3	58	M5	10	1.9
WBK17DF	17																	
WBK20DF	20																	
WBK25DF	25	85	130	90	66	33	18	100	110	11	17.5	11	57	4	70	M6	12	3.1
WBK25DFD					81	48												3.4
WBK25DFF					96	48												3.8
WBK30DF	30	85	130	90	66	33	18	100	110	11	17.5	11	57	4	70	M6	12	3
WBK30DFD					81	48												3.3
WBK30DFF					96	48												3.8
WBK35DF	35	95	142	102	66	33	18	106	121	11	17.5	11	69	4	80	M6	12	3.4
WBK35DFD					81	48												4.3
WBK35DFF					96	48												5
WBK40DF	40	95	142	102	66	33	18	106	121	11	17.5	11	69	4	80	M6	12	3.6
WBK40DFD					81	48												4.2
WBK40DFF					96	48												5.7

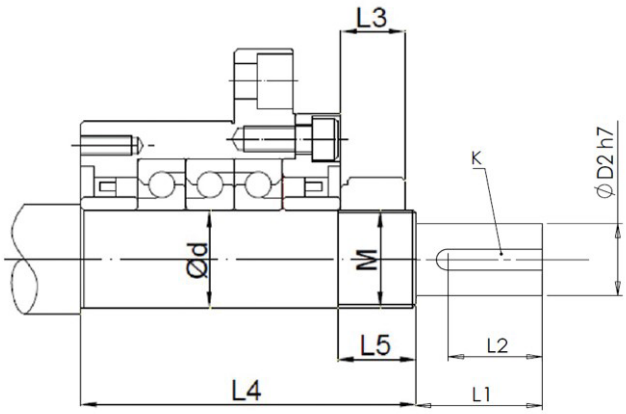
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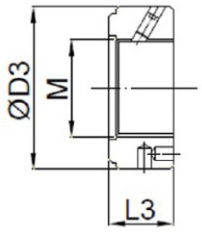


Heavy Duty Support Units

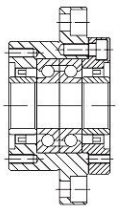
Fixed Type – Flange Mount



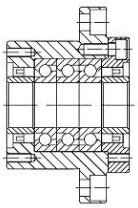
Lock Nut



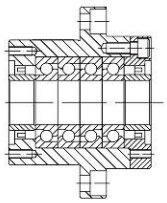
DF Type



DFD Type



DFF Type



Model	Recommended End Machining Dimensions (mm)										Dynamic Capacity kN		Static Capacity kN		Preload (kN)	Rigidity (N/µm)
	Ød g6	ØD2	ØD3	L1	L2	L3	L4	L5	M	K P9	Normal	Reverse	Normal	Reverse		
WBK15DF	15	12	30	20	15	14	81	23	M15 x 1.0	4 x 2.5	21.9		26.6		2.15	750
WBK17DF	17	15	32	27	20	16	81	23	M17 x 1.0	5 x 3.0	21.9		26.6		2.15	750
WBK20DF	20	17	38	27	20	16	81	23	M20 x 1.0	5 x 3.0	21.9		26.5		2.15	750
WBK25DF	25	20	38	36	30	18	89	26	M25 x 1.5	6 x 3.5	28.5		40.5		3.15	1000
WBK25DFD							104				46.5	28.5	81.5	40.5	4.3	1470
WBK25DFF							119				46.5		81.5		6.3	1960
WBK30DF	30	25	45	42	32	18	89	26	M30 x 1.5	8 x 4.0	29.2		43		3.35	1030
WBK30DFD							104				47.5	29.2	86	43	4.5	1520
WBK30DFF							119				47.5		86		6.7	2010
WBK35DF	35	30	52	50	40	18	92	30	M35 x 1.5	8 x 4.0	31.0		50		3.8	1180
WBK35DFD							107				50.5	31.0	100	50	5.2	1710
WBK35DFF							122				50.5		100		7.65	2350
WBK40DF	40	35	58	70	60	20	92	30	M40 x 1.5	10 x 5.0	31.5		52		3.9	1230
WBK40DFD							107				51.5	31.5	104	52	5.3	1810
WBK40DFF							122				51.5		104		7.85	2400

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Support Units Ordering

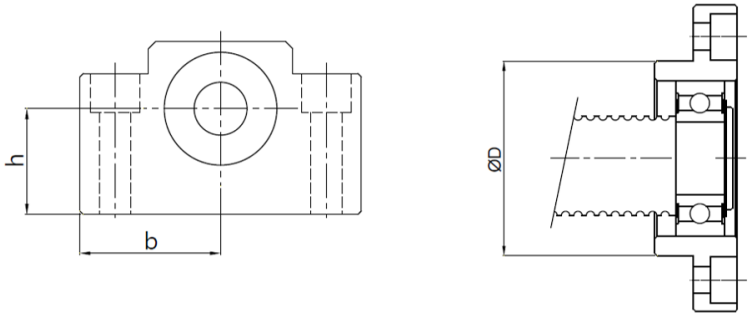
F K 25 - C7

- **F** — Mounting style
  - B = Foot mount
  - F = Flange mount
- **K** — Bearing style
  - K = Fixed
  - F = Supported
- **25** — Nominal bearing size
- **C7** — Precision option (see bellow table)

WBK 25 DFF

- **WBK** — Heavy Duty Support
- **25** — Nominal bearing size
- **DFF** — Bearing configuration

Precision Option	Recommended Ballscrew Grade	Bearing Grade	Bearing Preload	Width (b) Tolerance (mm)	Height (h) Tolerance (mm)	Body (ØD) Tolerance (mm)
C3	C3	P5	Preloaded	± 0.015	± 0.010	g6
C5	C5 & C7	P5	Preloaded	± 0.020	± 0.020	g6
C7	C7	P0	N/A	± 0.040	± 0.040	g8



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Precision Lock Nuts

YSR Series: Radial type lock nuts featuring 3-way radial locking



YSF Series: Flank type lock nuts featuring 30°, 3 point locking



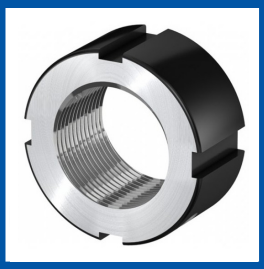
YSA Series: Axial type lock nuts featuring 90°, 3 point locking



YSK Series: Clasp type lock nuts featuring elastic axial locking



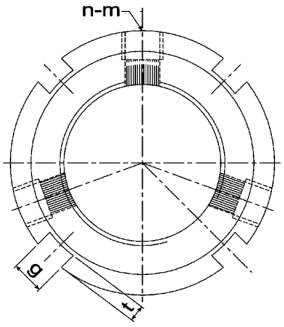
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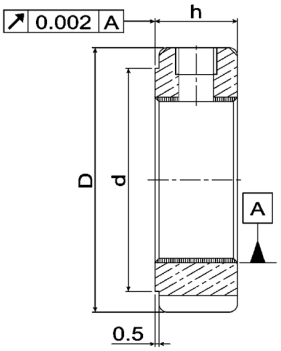


Precision Lock Nuts

YSR Series – Radial Locking





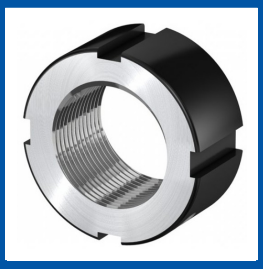


Design Parameter	Value
Material Grade	SCM440 / 42CrMo4
Hardness	28 ~ 32 HRC
Thread Standard	ISO 4H
Run Out (M6~M200	0.002 mm
Run Out (M210~M300)	0.007 mm

YSR Series: Radial type lock nuts featuring 3-way radial locking

Model	Lock Nut Dimensions (mm)					Set Screw Dimensions (mm)		
	ØD	h	g	t	Ød	n	m	Max. Nm
YSR M6 x 0.5P	16	8	3	2	11	2	M4	3.5
YSR M8 x 0.75P	16	8	3	2	11	2	M4	3.5
YSR M10 x 0.75P	18	8	3	2	13	2	M4	3.5
YSR M10 x 1.0P	18	8	3	2	13	2	M4	3.5
YSR M12 x 1.0P	20	8	3	2	16	2	M4	3.5
YSR M12 x 1.25P	20	8	3	2	16	2	M4	3.5
YSR M14 x 1.5P	25	8	3	2	21	2	M4	3.5
YSR M15 x 1.0P	25	8	3	2	21	2	M4	3.5
YSR M16 x 1.5P	28	10	4	2	23	2	M5	4.5
YSR M17 x 1.0P	28	10	4	2	23	2	M5	4.5
YSR M18 x 1.5P	30	10	4	2	25	2	M5	4.5
YSR M20 x 1.0P	32	10	4	2	27	3	M5	4.5
YSR M20 x 1.5P	32	10	4	2	27	3	M5	4.5
YSR M22 x 1.5P	35	10	4	2	30	3	M5	4.5
YSR M24 x 1.5P	38	12	5	2	33	3	M6	8
YSR M25 x 1.5P	38	12	5	2	33	3	M6	8
YSR M27 x 1.5P	42	12	5	2	37	3	M6	8
YSR M30 x 1.5P	45	12	5	2	40	3	M6	8
YSR M33 x 1.5P	52	12	5	2	45	3	M6	8
YSR M35 x 1.5P	52	12	5	2	47	3	M6	8
YSR M36 x 1.5P	55	14	6	2.5	49	3	M6	8
YSR M39 x 1.5P	58	14	6	2.5	52	3	M6	8
YSR M40 x 1.5P	58	14	6	2.5	52	3	M6	8
YSR M42 x 1.5P	62	14	6	2.5	56	3	M6	8
YSR M45 x 1.5P	65	14	6	2.5	59	3	M6	8
YSR M48 x 1.5P	68	14	6	2.5	62	3	M6	8
YSR M50 x 1.5P	70	14	6	2.5	64	3	M8	18
YSR M52 x 1.5P	73	16	7	3	66	3	M8	18
YSR M55 x 1.5P	75	16	7	3	68	3	M8	18
YSR M55 x 2.0P	75	16	7	3	68	3	M8	18
YSR M56 x 2.0P	77	16	7	3	70	3	M8	18
YSR M60 x 2.0P	80	16	7	3	73	3	M8	18
YSR M64 x 2.0P	85	16	7	3	78	3	M8	18
YSR M65 x 2.0P	85	16	7	3	78	3	M8	18
YSR M68 x 2.0P	92	18	8	3.5	84	3	M8	18
YSR M70 x 2.0P	92	18	8	3.5	84	3	M8	18

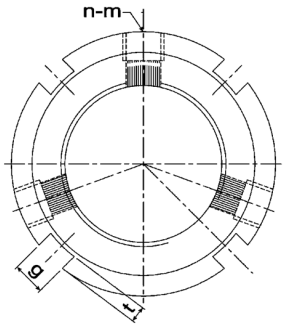
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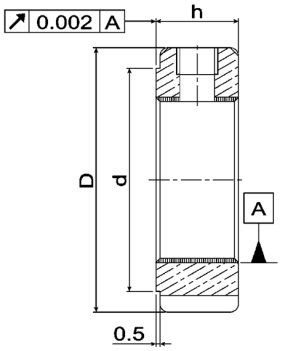


Precision Lock Nuts

YSR Series – Radial Locking





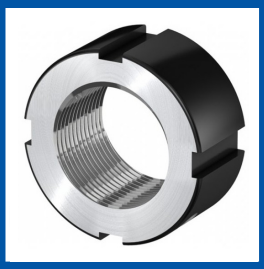


Design Parameter	Value
Material Grade	SCM440 / 42CrMo4
Hardness	28 ~ 32 HRC
Thread Standard	ISO 4H
Run Out (M6~M200	0.002 mm
Run Out (M210~M300)	0.007 mm

YSR Series: Radial type lock nuts featuring 3-way radial locking

Model	Lock Nut Dimensions (mm)					Set Screw Dimensions (mm)		
	ØD	h	g	t	Ød	n	m	Max. Nm
YSR M72 x 2P	95	18	8	3.5	86	3	M8	18
YSR M75 x 2P	98	18	8	3.5	90	3	M8	18
YSR M76 x 2P	100	18	8	3.5	92	3	M8	18
YSR M80 x 2P	105	18	8	3.5	96	3	M8	18
YSR M85 x 2P	110	18	8	3.5	102	3	M8	18
YSR M90 x 2P	120	20	10	4	108	3	M8	18
YSR M95 x 2P	125	20	10	4	113	3	M8	18
YSR M100 x 2P	130	20	10	4	118	3	M8	18
YSR M105 x 2P	140	22	12	5	125	3	M8	18
YSR M110 x 2P	145	22	12	5	132	3	M8	18
YSR M115 x 2P	150	22	12	5	137	3	M8	18
YSR M120 x 2P	155	24	12	5	142	3	M8	18
YSR M125 x 2P	160	24	12	5	147	3	M8	18
YSR M130 x 2P	165	24	12	5	152	3	M8	18
YSR M135 x 2P	175	26	14	6	160	3	M10	35
YSR M140 x 2P	180	26	14	6	165	3	M10	35
YSR M145 x 2P	190	26	14	6	175	3	M10	35
YSR M150 x 2P	195	26	14	6	180	3	M10	35
YSR M155 x 3P	200	28	16	7	180	3	M10	35
YSR M160 x 3P	210	28	16	7	190	3	M10	35
YSR M165 x 3P	210	28	16	7	190	3	M10	35
YSR M170 x 3P	220	28	16	7	200	3	M10	35
YSR M180 x 3P	230	30	18	8	205	3	M12	60
YSR M190 x 3P	240	30	18	8	215	3	M12	60
YSR M200 x 3P	250	32	18	8	225	3	M12	60
YSR M210 x 3P	260	32	18	8	240	3	M12	60
YSR M220 x 3P	270	32	18	8	250	3	M12	60
YSR M230 x 3P	280	34	20	9	258	3	M12	60
YSR M240 x 3P	290	34	20	9	268	3	M12	60
YSR M250 x 3P	300	34	20	9	278	3	M12	60
YSR M260 x 4P	310	34	22	10	288	3	M14	100
YSR M270 x 4P	320	34	22	10	298	3	M14	100
YSR M280 x 4P	330	34	22	10	308	3	M14	100
YSR M290 x 4P	340	36	24	11	315	3	M14	100
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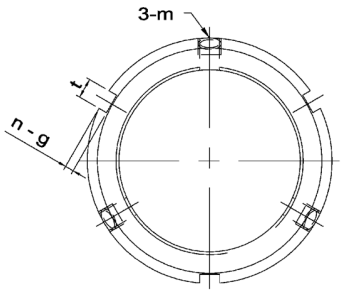
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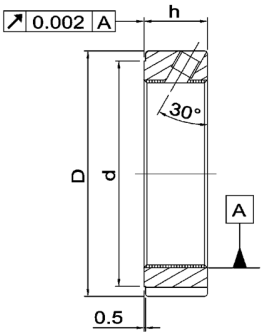


Precision Lock Nuts

YSF Series – Flank Locking





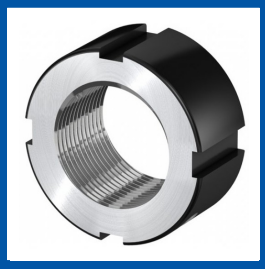


Design Parameter	Value
Material Grade	SCM440 / 42CrMo4
Hardness	28 ~ 32 HRC
Thread Standard	ISO 4H
Run Out (M14~M200	0.002 mm
Run Out (M210~M300)	0.007 mm

YSF Series: Flank type lock nuts featuring 30°, 3 point locking

Model	Lock Nut Dimensions (mm)					Set Screw Dimensions (mm)		
	ØD	h	g	t	Ød	n	m	Max. Nm
YSF M14 x 1.5P	30	14	4	2	25	3	M5	4.5
YSF M15 x 1.0P	30	14	4	2	25	3	M5	4.5
YSF M16 x 1.5P	30	14	4	2	25	3	M5	4.5
YSF M17 x 1.0P	32	16	4	2	27	3	M5	4.5
YSF M18 x 1.5P	32	16	4	2	27	3	M5	4.5
YSF M20 x 1.0P	38	16	4	2	33	3	M6	4.5
YSF M20 x 1.5P	38	16	4	2	33	3	M6	8
YSF M22 x 1.5P	38	16	4	2	33	3	M6	8
YSF M24 x 1.5P	38	18	5	2	33	3	M6	8
YSF M25 x 1.5P	38	18	5	2	33	3	M6	8
YSF M27 x 1.5P	40	18	5	2	35	3	M6	8
YSF M30 x 1.5P	45	18	5	2	40	3	M6	8
YSF M33 x 1.5P	50	18	5	2	45	3	M6	8
YSF M35 x 1.5P	52	18	5	2	47	3	M8	18
YSF M36 x 1.5P	52	18	5	2	47	3	M8	18
YSF M39 x 1.5P	58	20	6	2.5	52	3	M8	18
YSF M40 x 1.5P	58	20	6	2.5	52	3	M8	18
YSF M42 x 1.5P	62	20	6	2.5	56	3	M8	18
YSF M45 x 1.5P	65	20	6	2.5	59	3	M8	18
YSF M48 x 1.5P	70	20	6	2.5	64	3	M8	18
YSF M50 x 1.5P	70	20	6	2.5	64	3	M8	18
YSF M52 x 1.5P	73	22	7	3	68	3	M8	18
YSF M55 x 1.5P	75	22	7	3	68	3	M8	18
YSF M55 x 2.0P	75	22	7	3	68	3	M8	18
YSF M56 x 2.0P	75	22	7	3	68	3	M8	18
YSF M60 x 2.0P	80	22	7	3	73	3	M8	18
YSF M64 x 2.0P	85	22	7	3	78	3	M8	18
YSF M65 x 2.0P	85	22	7	3	78	3	M8	18
YSF M68 x 2.0P	92	24	8	3.5	84	3	M8	18
YSF M70 x 2.0P	92	24	8	3.5	84	3	M8	18
YSF M72 x 2.0P	94	24	8	3.5	86	3	M8	18
YSF M75 x 2.0P	98	24	8	3.5	90	3	M8	18
YSF M76 x 2.0P	98	24	8	3.5	90	3	M8	18

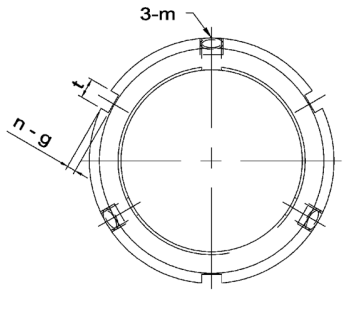
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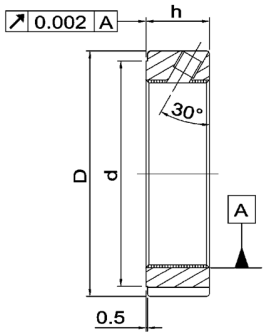


Precision Lock Nuts

YSF Series – Flank Locking





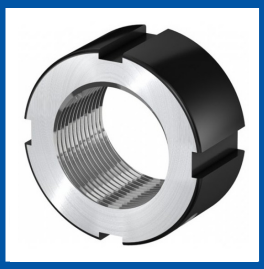


Design Parameter	Value
Material Grade	SCM440 / 42CrMo4
Hardness	28 ~ 32 HRC
Thread Standard	ISO 4H
Run Out (M14~M200	0.002 mm
Run Out (M210~M300)	0.007 mm

YSF Series: Flank type lock nuts featuring 30°, 3 point locking

Model	Lock Nut Dimensions (mm)					Set Screw Dimensions (mm)		
	ØD	h	g	t	Ød	n	m	Max. Nm
YSF M80 x 2.0P	105	24	8	3.5	96	3	M8	18
YSF M85 x 2.0P	110	24	8	3.5	102	6	M8	18
YSF M90 x 2.0P	120	26	10	4	108	6	M8	18
YSF M95 x 2.0P	125	26	10	4	113	6	M8	18
YSF M100 x 2.0P	130	26	10	4	118	6	M8	18
YSF M105 x 2.0P	140	28	10	4	125	6	M10	35
YSF M110 x 2.0P	145	28	10	4	132	6	M10	35
YSF M115 x 2.0P	150	28	10	4	137	6	M10	35
YSF M120 x 2.0P	155	30	12	5	142	6	M10	35
YSF M125 x 2.0P	160	30	12	5	147	6	M10	35
YSF M130 x 2.0P	165	30	12	5	152	6	M10	35
YSF M135 x 2.0P	175	32	12	5	160	6	M10	35
YSF M140 x 2.0P	180	32	12	5	165	6	M10	35
YSF M145 x 2.0P	190	32	12	5	175	6	M10	35
YSF M150 x 2.0P	195	32	12	5	180	6	M10	35
YSF M155 x 3.0P	200	34	14	6	180	6	M10	35
YSF M160 x 3.0P	210	34	14	6	190	6	M10	35
YSF M165 x 3.0P	210	34	14	6	190	6	M10	35
YSF M170 x 3.0P	220	34	14	6	200	6	M10	35
YSF M180 x 3.0P	230	36	16	7	205	6	M12	60
YSF M190 x 3.0P	240	36	16	7	215	6	M12	60
YSF M200 x 3.0P	250	38	16	7	225	6	M12	60
YSF M210 x 3.0P	260	38	16	7	245	6	M12	60
YSF M220 x 3.0P	270	38	16	7	255	6	M12	60
YSF M230 x 3.0P	280	40	16	9	258	6	M12	60
YSF M240 x 3.0P	290	40	16	9	268	6	M12	60
YSF M250 x 3.0P	300	40	16	9	278	6	M12	60
YSF M260 x 4.0P	310	40	20	10	288	6	M14	100
YSF M270 x 4.0P	320	40	20	10	298	6	M14	100
YSF M280 x 4.0P	330	40	20	10	308	6	M14	100
YSF M290 x 4.0P	340	42	22	11	315	6	M14	100
YSF M300 x 4.0P	350	42	22	11	325	6	M14	100

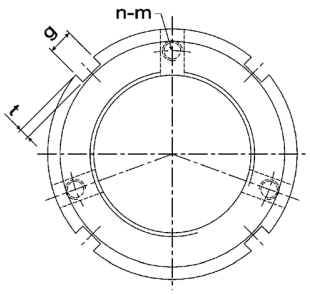
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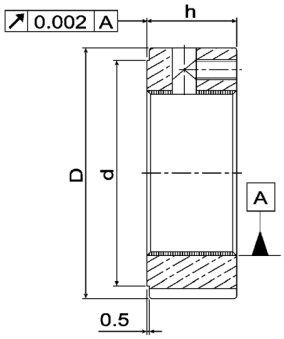


Precision Lock Nuts

YSA Series – Axial Locking





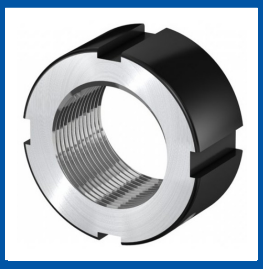


Design Parameter	Value
Material Grade	SCM440 / 42CrMo4
Hardness	28 ~ 32 HRC
Thread Standard	ISO 4H
Run Out (M14~M200	0.002 mm
Run Out (M210~M300)	0.007 mm

YSA Series: Axial type lock nuts featuring 90°, 3 point locking

Model	Lock Nut Dimensions (mm)					Set Screw Dimensions (mm)		
	ØD	h	g	t	Ød	n	m	Max. Nm
YSA M14 x 1.5P	30	14	4	2	25	2	M4	3.5
YSA M15 x 1.0P	30	14	4	2	25	2	M4	3.5
YSA M16 x 1.5P	30	14	4	2	25	2	M4	3.5
YSA M17 x 1.0P	32	16	4	2	27	2	M4	3.5
YSA M18 x 1.5P	32	16	4	2	27	3	M4	3.5
YSA M20 x 1.0P	38	16	4	2	33	3	M4	3.5
YSA M20 x 1.5P	38	16	4	2	33	3	M4	3.5
YSA M22 x 1.5P	38	16	4	2	33	3	M4	3.5
YSA M24 x 1.5P	38	18	5	2	33	3	M4	3.5
YSA M25 x 1.5P	38	18	5	2	33	3	M4	3.5
YSA M27 x 1.5P	40	18	5	2	35	3	M4	3.5
YSA M30 x 1.5P	45	18	5	2	40	3	M4	3.5
YSA M33 x 1.5P	50	18	5	2	45	3	M4	3.5
YSA M35 x 1.5P	52	18	5	2	47	3	M6	8
YSA M36 x 1.5P	52	18	5	2	47	3	M6	8
YSA M39 x 1.5P	58	20	6	2.5	52	3	M6	8
YSA M40 x 1.5P	58	20	6	2.5	52	3	M6	8
YSA M42 x 1.5P	62	20	6	2.5	56	3	M6	8
YSA M45 x 1.5P	65	20	6	2.5	59	3	M6	8
YSA M48 x 1.5P	70	20	6	2.5	64	3	M6	8
YSA M50 x 1.5P	70	20	6	2.5	64	3	M6	8
YSA M52 x 1.5P	73	22	7	3	68	3	M6	8
YSA M55 x 1.5P	75	22	7	3	68	3	M6	8
YSA M55 x 2.0P	75	22	7	3	68	3	M6	8
YSA M56 x 2.0P	75	22	7	3	68	3	M6	8
YSA M60 x 2.0P	80	22	7	3	73	3	M6	8
YSA M64 x 2.0P	85	22	7	3	78	3	M6	8
YSA M65 x 2.0P	85	22	7	3	78	3	M6	8
YSA M68 x 2.0P	92	24	8	3.5	84	3	M8	18
YSA M70 x 2.0P	92	24	8	3.5	84	3	M8	18
YSA M72 x 2.0P	94	24	8	3.5	86	3	M8	18
YSA M75 x 2.0P	98	24	8	3.5	90	3	M8	18
YSA M76 x 2.0P	98	24	8	3.5	90	3	M8	18

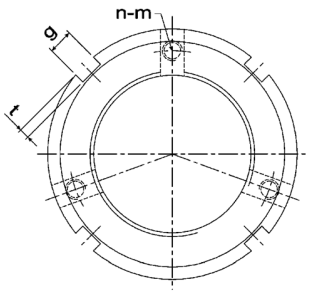
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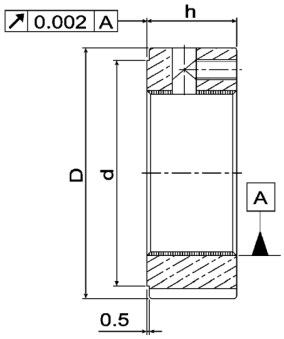


Precision Lock Nuts

YSA Series – Axial Locking





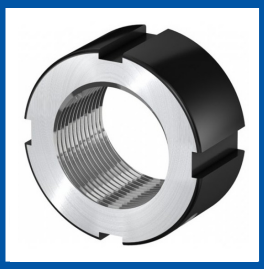


Design Parameter	Value
Material Grade	SCM440 / 42CrMo4
Hardness	28 ~ 32 HRC
Thread Standard	ISO 4H
Run Out (M14~M200	0.002 mm
Run Out (M210~M300)	0.007 mm

YSA Series: Axial type lock nuts featuring 90°, 3 point locking

Model	Lock Nut Dimensions (mm)					Set Screw Dimensions (mm)		
	ØD	h	g	t	Ød	n	m	Max. Nm
YSA M80 x 2.0P	105	24	8	3.5	96	3	M8	18
YSA M85 x 2.0P	110	24	8	3.5	102	3	M8	18
YSA M90 x 2.0P	120	26	10	4	108	3	M8	18
YSA M95 x 2.0P	125	26	10	4	113	3	M8	18
YSA M100 x 2.0P	130	26	10	4	118	3	M8	18
YSA M105 x 2.0P	140	28	12	5	125	3	M8	18
YSA M110 x 2.0P	145	28	12	5	132	3	M8	18
YSA M115 x 2.0P	150	28	12	5	137	3	M8	18
YSA M120 x 2.0P	155	30	12	5	142	3	M8	18
YSA M125 x 2.0P	160	30	12	5	147	3	M8	18
YSA M130 x 2.0P	165	30	12	5	152	3	M8	18
YSA M135 x 2.0P	175	32	14	6	160	3	M10	35
YSA M140 x 2.0P	180	32	14	6	165	3	M10	35
YSA M145 x 2.0P	190	32	14	6	175	3	M10	35
YSA M150 x 2.0P	195	32	14	6	180	3	M10	35
YSA M155 x 3.0P	200	34	16	7	180	3	M10	35
YSA M160 x 3.0P	210	34	16	7	190	3	M10	35
YSA M165 x 3.0P	210	34	16	7	190	3	M10	35
YSA M170 x 3.0P	220	34	16	7	200	3	M10	35
YSA M180 x 3.0P	230	36	18	8	205	3	M12	60
YSA M190 x 3.0P	240	36	18	8	215	3	M12	60
YSA M200 x 3.0P	250	38	18	8	225	3	M12	60
YSA M210 x 3.0P	260	38	18	8	240	3	M12	60
YSA M220 x 3.0P	270	38	18	8	250	3	M12	60
YSA M230 x 3.0P	280	40	20	9	258	3	M12	60
YSA M240 x 3.0P	290	40	20	9	268	3	M12	60
YSA M250 x 3.0P	300	40	20	9	278	3	M12	60
YSA M260 x 4.0P	310	40	22	10	288	3	M14	100
YSA M270 x 4.0P	320	40	22	10	298	3	M14	100
YSA M280 x 4.0P	330	40	22	10	308	3	M14	100
YSA M290 x 4.0P	340	42	24	11	315	3	M14	100
YSA M300 x 4.0P	350	42	24	11	325	3	M14	100

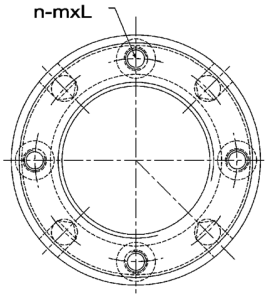
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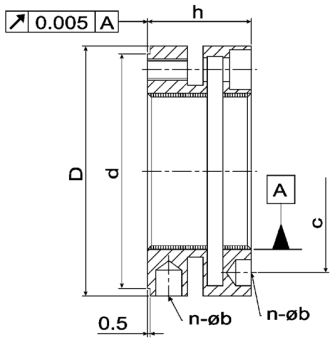


Precision Lock Nuts

YSK Series – Clasp Locking





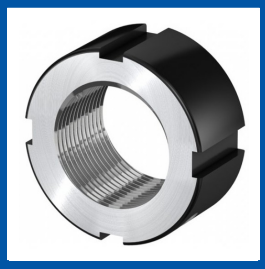


Design Parameter	Value
Material Grade	SCM440 / 42CrMo4
Hardness	28 ~ 32 HRC
Thread Standard	ISO 4H
Run Out (M16~M200	0.005 mm
Run Out (M210~M300)	0.007 mm

YSK Series: Clasp type lock nuts featuring elastic axial locking

Model	Lock Nut Dimensions (mm)					Set Screw Dimensions (mm)		
	ØD	h	b	c	Ød	n	m	Max. Nm
YSK M16 x 1.5P	34	18	4	24	29	4	M4 x 12	3.5
YSK M17 x 1.0P	37	18	4	26	32	4	M4 x 12	3.5
YSK M18 x 1.5P	38	18	4	28	33	4	M4 x 12	3.5
YSK M20 x 1.0P	40	18	4	30	35	4	M4 x 12	3.5
YSK M20 x 1.5P	40	18	4	30	35	4	M4 x 12	3.5
YSK M22 x 1.5P	42	18	4	32	37	4	M4 x 12	3.5
YSK M24 x 1.5P	44	18	4	34	39	4	M4 x 12	3.5
YSK M25 x 1.5P	45	20	5	35	40	4	M4 x 14	3.5
YSK M26 x 1.5P	45	20	5	35	40	4	M4 x 14	3.5
YSK M28 x 1.5P	46	20	5	37	43	4	M4 x 14	3.5
YSK M30 x 1.5P	48	20	5	39	45	4	M4 x 14	3.5
YSK M32 x 1.5P	50	22	5	41	47	4	M4 x 16	3.5
YSK M35 x 1.5P	53	22	5	44	50	4	M4 x 16	3.5
YSK M38 x 1.5P	56	22	5	47	53	4	M4 x 16	3.5
YSK M40 x 1.5P	58	22	5	49	55	4	M4 x 16	3.5
YSK M42 x 1.5P	60	22	5	51	55	4	M4 x 16	3.5
YSK M45 x 1.5P	68	22	6	57	63	6	M4 x 18	3.5
YSK M48 x 1.5P	69	25	6	58	65	6	M4 x 18	3.5
YSK M50 x 1.5P	70	25	6	60	66	6	M4 x 18	3.5
YSK M52 x 1.5P	72	25	6	62	68	6	M4 x 18	3.5
YSK M55 x 1.5P	75	25	6	65	71	6	M4 x 18	3.5
YSK M55 x 2.0P	75	25	6	65	71	6	M4 x 18	3.5
YSK M58 x 1.5P	82	26	6	70	77	6	M5 x 20	4.5
YSK M60 x 1.5P	84	26	6	72	79	6	M5 x 20	4.5
YSK M60 x 2.0P	84	26	6	72	79	6	M5 x 20	4.5
YSK M62 x 1.5P	86	28	6	75	82	6	M5 x 20	4.5
YSK M65 x 1.5P	88	28	6	77	84	6	M5 x 20	4.5
YSK M65 x 2.0P	88	28	6	77	84	6	M5 x 20	4.5
YSK M68 x 1.5P	93	28	7	80	87	6	M5 x 20	4.5
YSK M70 x 1.5P	95	28	7	82	89	6	M5 x 20	4.5
YSK M70 x 2.0P	95	28	7	82	89	6	M5 x 20	4.5

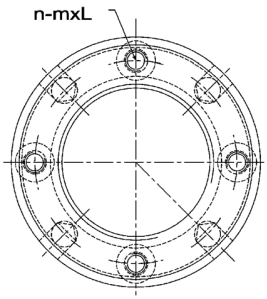
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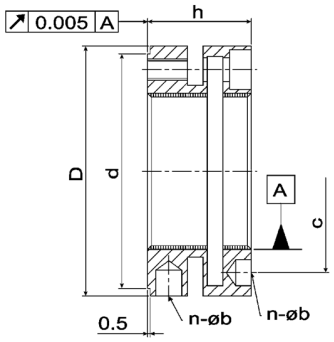


Precision Lock Nuts

YSK Series – Clasp Locking



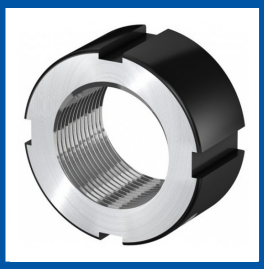




Design Parameter	Value
Material Grade	SCM440 / 42CrMo4
Hardness	28 ~ 32 HRC
Thread Standard	ISO 4H
Run Out (M16~M200	0.005 mm
Run Out (M210~M300)	0.007 mm

YSK Series: Clasp type lock nuts featuring elastic axial locking

Model	Lock Nut Dimensions (mm)					Set Screw Dimensions (mm)		
	ØD	h	b	c	Ød	n	m	Max. Nm
YSK M72 x 1.5P	97	28	7	84	91	6	M5 x 20	4.5
YSK M75 x 1.5P	100	28	7	87	94	6	M5 x 20	4.5
YSK M75 x 2.0P	100	28	7	87	94	6	M5 x 20	4.5
YSK M80 x 2.0P	110	32	8	95	103	6	M6 x 22	8.0
YSK M85 x 2.0P	115	32	8	100	108	6	M6 x 22	8.0
YSK M90 x 2.0P	120	32	8	105	113	6	M6 x 22	8.0
YSK M95 x 2.0P	125	32	8	110	118	6	M6 x 22	8.0
YSK M100 x 2.0P	130	32	8	115	123	6	M6 x 22	8.0
YSK M105 x 2.0P	135	32	8	120	128	6	M6 x 22	8.0
YSK M110 x 2.0P	140	32	8	154	133	6	M6 x 22	8.0
YSK M115 x 2.0P	145	34	8	130	137	6	M6 x 22	8.0
YSK M120 x 2.0P	155	36	8	136	146	6	M6 x 25	8.0
YSK M125 x 2.0P	160	36	8	140	150	6	M6 x 25	8.0
YSK M130 x 2.0P	165	36	8	148	155	6	M6 x 25	8.0
YSK M140 x 2.0P	180	38	10	160	168	8	M6 x 25	8.0
YSK M150 x 2.0P	190	38	10	170	178	8	M6 x 25	8.0
YSK M160 x 3.0P	205	40	10	178	190	8	M8 x 30	18
YSK M170 x 3.0P	215	40	10	193	200	8	M8 x 30	18
YSK M180 x 3.0P	230	40	10	205	213	8	M8 x 30	18
YSK M190 x 3.0P	240	40	10	215	223	8	M8 x 30	18
YSK M200 x 3.0P	245	40	10	223	230	8	M8 x 30	18
YSK M210 x 3.0P	255	42	10	232	240	8	M8 x 30	18
YSK M220 x 3.0P	260	42	10	240	250	8	M8 x 30	18
YSK M230 x 3.0P	270	42	10	250	260	8	M8 x 30	18
YSK M240 x 3.0P	280	42	10	260	270	8	M8 x 30	18
YSK M250 x 3.0P	290	42	10	270	280	8	M8 x 30	18
YSK M260 x 4.0P	300	43	12	280	290	8	M10 x 30	35
YSK M270 x 4.0P	310	43	12	290	300	8	M10 x 30	35
YSK M280 x 4.0P	320	43	12	300	310	8	M10 x 30	35
YSK M290 x 4.0P	330	43	12	310	320	8	M10 x 30	35
YSK M300 x 4.0P	340	43	12	320	330	8	M10 x 30	35



Precision Lock Nuts

Axial Load Rating Comparison

Size	Axial Static Load (kN)	Loosening Torque (Nm)			
		YSR	YSF	YSA	YSK
M8	30	17.6	-	-	-
M10	35	18.1	-	-	-
M12	40	19.1	-	-	-
M15	60	20.6	-	-	-
M17	80	21.6	27.5	24.5	90.0
M20	90	24.0	28.9	26.0	99.0
M25	130	26.5	30.4	27.5	101.0
M30	160	28.4	32.4	29.4	102.0
M35	190	34.3	39.2	37.3	109.8
M40	210	36.3	46.1	42.2	110.8
M45	240	56.9	61.8	58.8	127.5
M50	300	63.7	70.6	65.7	137.3
M55	340	68.6	88.2	73.5	166.7
M60	380	96.1	98.0	81.4	205.9
M65	460	112.7	127.5	88.2	254.9
M70	490	137.3	147.1	96.1	313.7
M75	520	145.1	152.0	102.9	382.4
M80	620	149.0	156.9	112.7	460.8
M85	650	168.6	176.5	127.5	549.0
M90	680	178.4	186.3	137.3	656.9
M95	710	193.1	201.0	152.0	745.1
M100	740	210.8	220.6	171.6	833.3
M105	770	215.7	236.3	186.3	957.2
M110	800	230.4	252.0	205.9	1127.5
M115	830	250.0	268.1	220.6	1242.3
M120	860	264.7	279.4	235.3	1323.5
M125	890	274.5	289.2	250.0	1389.4
M130	920	294.1	313.7	264.7	1421.5
M135	950	328.4	352.9	303.9	1576.0
M140	980	372.5	392.2	323.5	1610.3
M145	1010	402.0	436.3	352.9	1680.4
M150	1040	421.6	480.4	392.2	1710.0
M155	1070	460.8	519.6	421.6	1850.2
M160	1100	509.8	563.7	460.8	1931.1
M165	1130	529.4	598.0	495.1	1989.2
M170	1160	558.8	647.1	519.6	2052.0
M180	1220	558.2	686.3	558.8	2214.1
M190	1280	627.5	735.3	598.0	2596.4
M200	1340	666.7	794.1	637.3	2731.2

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Couplings & Cardan Shafts



AS WELL AS OUR RANGE OF STANDARD PRODUCTS WE CAN ALSO MANUFACTURE SPECIAL COMPONENTS IN HOUSE – PLEASE CONTACT OUR SALES TEAM WITH YOUR REQUIREMENTS

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Flexible Couplings

Dimensions

JAW TYPE



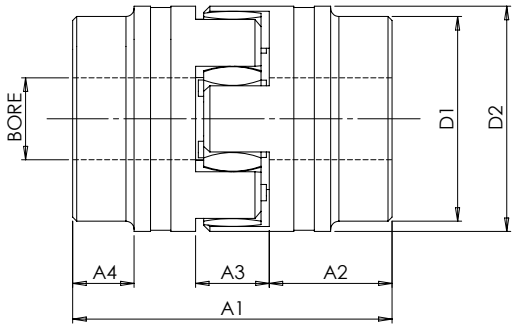
CLAMP TYPE



Spider Option	Shore Hardness
Lilac (Red*)	95 / 98 sh-A **
Orange (Yellow*)	92 sh-A
Green (White*)	64 sh-D

* Colours in brackets are for backlash free elements

** Lilac / Red 98 sh-A elements supplied as standard. From size 65 onwards 95 sh-A rated



Size	Nominal * Torque (Nm)	Max rpm *	A1 **	A2 **	A3	A4 **	D1 **	D2	Hub Form	Max Bore
14	12	15900	35	11	13	-	30	30	1a	16 (16)
19	17	11900	66	25	16	-	40	40	1a	25 (24)
24	60	8650	78	30	18	-	55	55	1a	35 (28)
28	160	7350	90	35	20	-	65	65	1a	40 (38)
38	325	5950	114	45	24	27 (-)	70 (80)	80	1 (1a)	48 (45)
42	450	5000	126	50	26	28	85	95	1	55 (50)
48	525	4550	140	56	28	32	95	105	1	62 (55)
55	685	3950	160	65	30	37	110	120	1	74 (68)
65	940	3500	185	75	35	47	115	135	1	80 (70)
75	1920	2950	210	85	40	53	135	160	1	95 (80)
90	3600	2380	245	100	45	62	160	200	1	110 (90)

* Applies to standard 95 / 98 Shore-A elements only
Please contact us for different shore options.

** Longer hubs (type 1b) available on request

NOTE: Standard elements -50°C / +120°C. Backlash free elements -30°C / +90°C

NOTE: Values in brackets are for backlash free couplings

Size	Standard Jaw Type		Standard Clamp Type		Backlash Free Jaw Type		Backlash Free Clamp Type	
14	290-002-030	Steel	292-002-030	Steel	290-003-030	Aluminium	292-003-030	Aluminium
19	290-002-041	Steel	292-002-041	Steel	290-003-041	Aluminium	292-003-041	Aluminium
24	290-002-056	Steel	292-002-056	Steel	290-003-056	Aluminium	292-003-056	Aluminium
28	290-002-067	Steel	292-002-067	Steel	290-003-067	Aluminium	292-003-067	Aluminium
38	290-002-080	Steel	292-002-080	Steel	290-003-077	Aluminium	292-003-077	Aluminium
42	290-002-095	Steel	292-002-095	Steel	290-003-095	Steel	292-003-095	Steel
48	290-002-105	Steel	292-002-105	Steel	290-003-105	Steel	292-003-105	Steel
55	290-002-120	Steel	292-002-120	Steel	290-003-120	Steel	292-003-120	Steel
65	290-002-135	Steel	292-002-135	Steel	290-003-135	Steel	292-003-135	Steel
75	290-002-160	Steel	292-002-160	Steel	290-003-160	Steel	292-003-160	Steel
90	290-002-200	Steel	292-002-200	Steel	290-003-200	Steel	292-003-200	Steel

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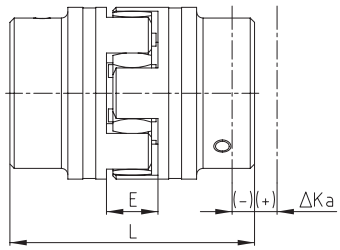
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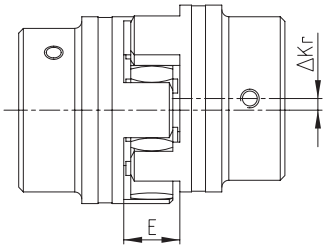
Flexible Couplings

Performance

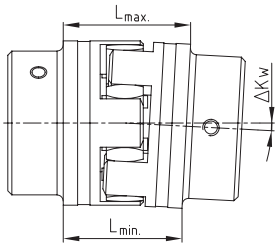
AXIAL DISPLACEMENT ΔKa



RADIAL DISPLACEMENT ΔKr



ANGULAR DISPLACEMENT ΔKw



SHORE-A ELEMENTS (92 / 95 / 98)

Size	ΔKa (mm)	ΔKr (mm)	ΔKw (°)	ΔKw (mm)
14	-0.5 / +1.0	0.17	1.2	0.67
19	-0.5 / +1.2	0.20	1.2	0.82
24	-0.5 / +1.4	0.22	0.9	0.85
28	-0.7 / +1.5	0.25	0.9	1.05
38	-0.7 / +1.8	0.28	1.0	1.35
42	-1.0 / +2.0	0.32	1.0	1.70
48	-1.0 / +2.1	0.36	1.1	2.00
55	-1.0 / +2.2	0.38	1.1	2.30
65	-1.0 / +2.6	0.42	1.2	2.70
75	-1.5 / +3.0	0.48	1.2	3.30
90	-1.5 / +3.4	0.50	1.2	4.30

SHORE-D ELEMENTS (64)

Size	ΔKa (mm)	ΔKr (mm)	ΔKw (°)	ΔKw (mm)
14	-0.5 / +1.0	0.11	1.1	0.57
19	-0.5 / +1.2	0.13	1.1	0.76
24	-0.5 / +1.4	0.15	0.8	0.76
28	-0.7 / +1.5	0.18	0.8	0.90
38	-0.7 / +1.8	0.21	0.9	1.25
42	-1.0 / +2.0	0.23	0.9	1.40
48	-1.0 / +2.1	0.25	1.0	1.80
55	-1.0 / +2.2	0.27	1.0	2.00
65	-1.0 / +2.6	0.30	1.1	2.50
75	-1.5 / +3.0	0.34	1.1	3.00
90	-1.5 / +3.4	0.36	1.1	3.80

The above figures of displacement are standard values taking into account the load of the coupling up to the rated nominal torque and an operating speed of 1500 rpm along with a +30°C ambient temperature.

The displacement figures only apply to singular couplings. If they appear in series, such as in a cardan connecting shaft, they must be limited in proportion. Please refer to data table for cardan shaft applications.

Care should be taken to maintain the distance dimension E accurately in order to allow for axial clearance of the coupling during operation as the spider elements deform under load and expand into the available space.

Size	Transmittable Friction Torques (Nm) vs Bore Diameter For Clamp Type Hubs Without Keyway																									
	10	11	14	15	16	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55	60	65	70	75	80
14	5	5	6	6	6																						
19	27	27	29	30	31	32	32	34	30	32																	
24	34	35	36	38	38	39	40	41	42	43	45	46															
28			80	81	81	84	85	87	89	91	92	97	99	102	105	109											
38				92	94	97	98	99	102	104	105	109	112	113	118	122	123	126	130								
42								232	238	244	246	255	260	266	274	283	288	294	301	309	315						
48											393	405	413	421	434	445	454	462	473	486	494	514					
55														473	486	498	507	514	526	539	547	567	587	608			
65															507	518	526	535	547	559	567	587	608	627	648		
75																		1102	1124	1148	1163	1201	1239	1278	1316	1354	1393
90																		1944	1980	2016	2040	2100	2160	2220	2280	2340	2400

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Cardan Shafts

Dimensions & Performance

JAW TYPE



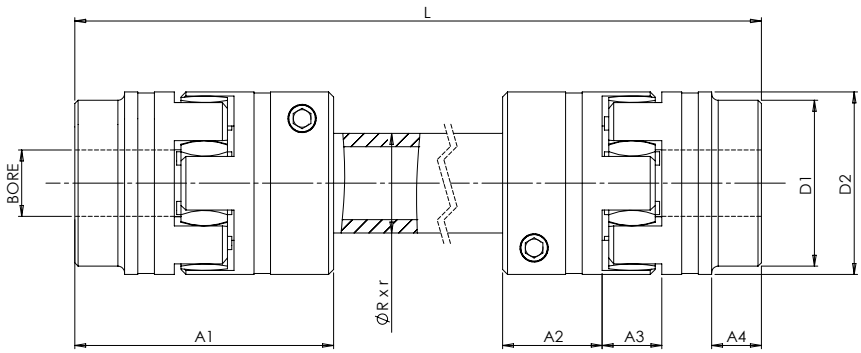
CLAMP TYPE



Spider Option	Shore Hardness
Lilac (Red*)	95 / 98 sh-A **
Orange (Yellow*)	92 sh-A
Green (White*)	64 sh-D

* Colours in brackets are for backlash free elements

** Lilac / Red 98 sh-A elements supplied as standard. From size 65 onwards 95 sh-A rated



Size	Ø R	Ø r	A1 *	A2 *	A3	A4 *	D1 *	D2	Hub Form	Max Bore
14	14	2	35	11	13	-	30	30	1a	16 (16)
19	20	3	66	25	16	-	40	40	1a	25 (24)
24	30	4	78	30	18	-	55	55	1a	35 (28)
28	35	4	90	35	20	-	65	65	1a	40 (38)
38	40	4	114	45	24	27 (-)	70 (80)	80	1 (1a)	48 (45)
42	45	4	126	50	26	28	85	95	1	55 (50)
48	50	4	140	56	28	32	95	105	1	62 (55)
55	ON REQUEST									
65										
75										
90										

* Applies to standard 95 / 98 Shore-A elements only
Please contact us for different shore options.

** Longer hubs (type 1b) available on request

NOTE: Standard elements -50°C / +120°C. Backlash free elements -30°C / +90°C

NOTE: Values in brackets are for backlash free couplings

Size	Nominal * Torque (Nm)	Axial Displacement (mm)	Angular Displacement	Un-bored Hub Inertia (kgm²)	1m Tube Inertia (kgm²)	Un-bored Hub Weight (kg)	1m Tube Weight (kg)	Suitable Pillow Block
14	6	1.0	0.9°	0.066x10-4	0.218x10-4	0.05	0.30	-
19	24	1.2	0.9°	0.414x10-4	0.932x10-4	0.15	0.65	SN 505
24	30	1.4	0.9°	4.415x10-4	4.414x10-4	0.75	1.00	SN 507
28	70	1.5	0.9°	10.025x10-4	7.431x10-4	1.35	1.55	SN 508
38	130	1.8	1.0°	10.075x10-4	11.590x10-4	1.50	1.80	SN 509
42	150	2.0	1.0°	23.930x10-4	17.070x10-4	2.50	2.05	SN 510
48	245	2.1	1.1°	37.340x10-4	24.060x10-4	3.25	2.30	SN 511
55	ON REQUEST							
65								
75								
90								

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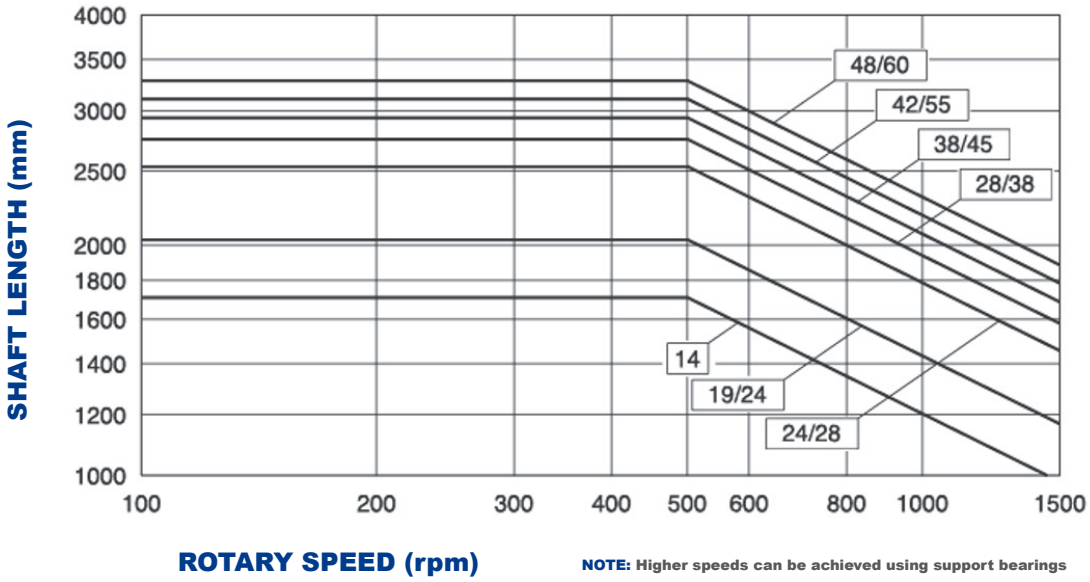
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Cardan Shafts

Speeds & Ordering Codes

SPEED-LENGTH GRAPH FOR STANDARD CARDAN SHAFTS WITH 95/98 SH-A ELEMENTS AND UNSUPPORTED HOLLOW TUBE



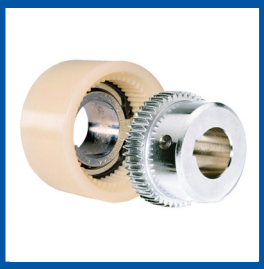
NOTE: Higher speeds can be achieved using support bearings

29 0 - 00 2 - 041 - 1000 - 16/20

- **Bore sizes ***
- **Total length (mm)** (omit if coupling)
- **Coupling size code**
- **Backlash option**
  - 2 = Standard coupling
  - 3 = Backlash free coupling
  - 6 = Standard cardan shaft
  - 7 = Backlash free cardan shaft
- **Material option**
  - 00 = Standard
  - 60 = Stainless steel
- **Hub style**
  - 0 = Jaw type
  - 2 = Clamp type
- **Connecting Products**

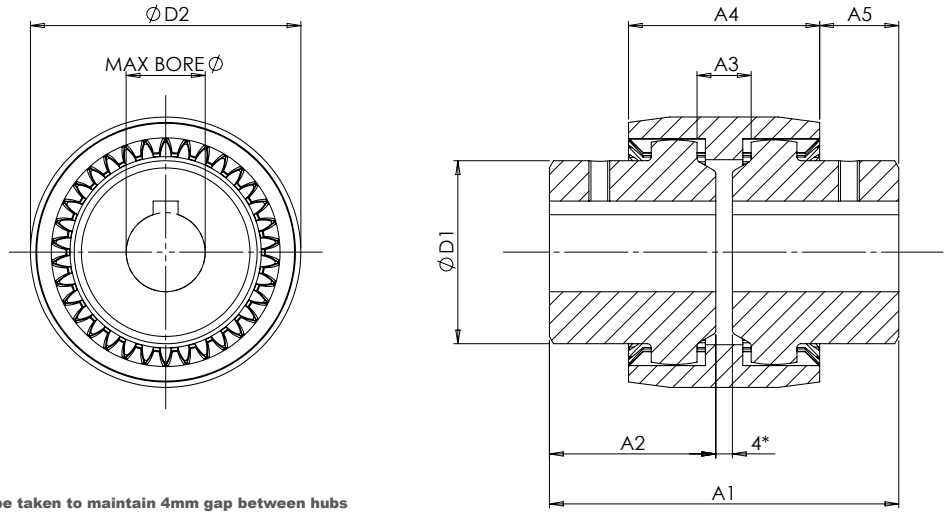
* Jaw type hubs that have been bored are machined with a keyway as standard unless otherwise stated. Clamp type hubs will be bored only unless otherwise stated.

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Sleeve Style Couplings

Dimensions & Performance



NOTE: Care should be taken to maintain 4mm gap between hubs

Size	Torque Nom. (Nm)	Max rpm	A1	A2	A3	A4	A5	D1	D2	Mass (kg)	Inertia* (kgcm²)	Max. Bore Ø	Part Number
M-14	10	14000	50	23	10	37	6.5	25	40	0.10	0.26	15	290-001-040
M-19	16	11800	54	25	10	37	8.5	32	47	0.23	0.47	20	290-001-046
M-24	20	10600	56	26	14	41	7.5	36	53	0.32	0.93	24	290-001-052
M-28	45	8500	84	40	13	46	19	44	65	0.74	3.09	28	290-001-066
M-32	60	7500	84	40	13	48	18	50	75	0.95	5.48	32	290-001-076
M-38	80	6700	84	40	13	48	18	58	83	1.23	8.68	38	290-001-083
M-42	100	6000	88	42	13	50	19	65	92	1.50	14.28	42	290-001-092
M-48	140	5600	104	50	13	50	27	68	95	1.81	18.34	48	290-001-095
M-65	380	4000	114	55	16	68	23	96	1323	4.35	84.80	65	290-001-132

* Applies to couplings with maximum bores only

NOTE: Sleeve couplings are stocked un-bored less M-65 which is pilot bored Ø21mm

Size	Max. Axial Displacement ΔKa (mm)	Max. Radial Displacement (mm)		Max. Angular Displacement (°)	
		ΔKr @ 1500 rpm	ΔKr @ 3000 rpm	ΔKw @ 1500 rpm	ΔKw @ 3000 rpm
M-14	+/- 1.0	+/- 0.30	+/- 0.20	+/- 0.10	+/- 0.07
M-19	+/- 1.0	+/- 0.30	+/- 0.20	+/- 0.10	+/- 0.07
M-24	+/- 1.0	+/- 0.35	+/- 0.23	+/- 0.09	+/- 0.06
M-28	+/- 1.0	+/- 0.35	+/- 0.23	+/- 0.09	+/- 0.06
M-32	+/- 1.0	+/- 0.35	+/- 0.23	+/- 0.09	+/- 0.06
M-38	+/- 1.0	+/- 0.40	+/- 0.25	+/- 0.09	+/- 0.06
M-42	+/- 1.0	+/- 0.40	+/- 0.25	+/- 0.09	+/- 0.06
M-48	+/- 1.0	+/- 0.40	+/- 0.25	+/- 0.09	+/- 0.06
M-65	+/- 1.0	+/- 0.45	+/- 0.28	+/- 0.07	+/- 0.05

COUPLING HUBS ARE STOCKED UN-BORED BUT CAN BE BORED & KEYED IN-HOUSE
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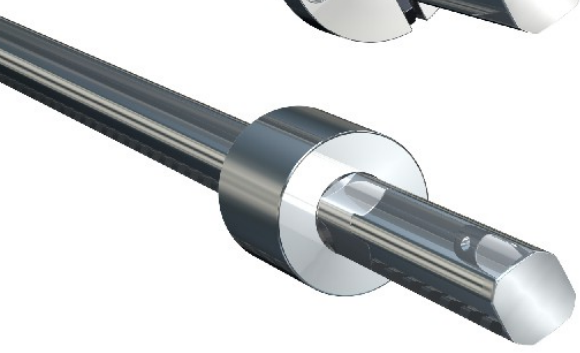
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Spline, Polygon & Lock Bushes





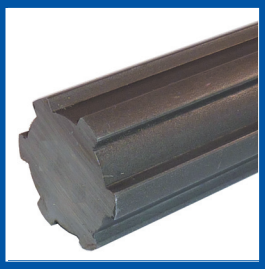






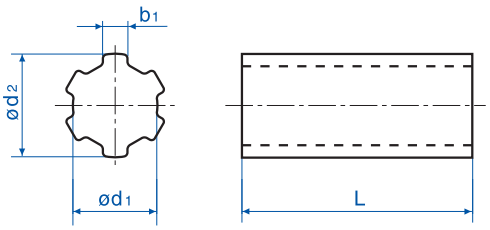
AS WELL AS OUR RANGE OF STANDARD PRODUCTS WE CAN ALSO MANUFACTURE SPECIAL COMPONENTS IN HOUSE – PLEASE CONTACT OUR SALES TEAM WITH YOUR REQUIREMENTS

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Splined Shafts & Sleeves

Steel



Design Parameter	Value
Material	C40 Steel (1.0511)
Standard	DIN 5463

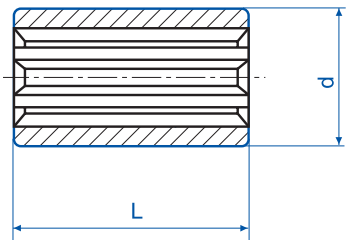
NOTE: Splined shafts are stocked in lengths of 3000mm

Ø d1 -0.00 -0.08	Ø d2 -0.07 -0.27	b1 -0.00 -0.08	No. Spline	Mass kg / m	Part Number					
					L = 250	L = 500	L = 1000	L = 2000	L = 3000 *	L = 4500
11	14	3	6	0.95	294-111-025	294-111-050	294-111-100	294-111-200	294-111-300	294-111-450
13	16	3.5	6	1.29	294-113-025	294-113-050	294-113-100	294-113-200	294-113-300	294-113-450
16	20	4	6	1.29	294-116-025	294-116-050	294-116-100	294-116-200	294-116-300	294-116-450
18	22	5	6	2.45	294-118-025	294-118-050	294-118-100	294-118-200	294-118-300	294-118-450
21	25	5	6	3.24	294-121-025	294-121-050	294-121-100	294-121-200	294-121-300	294-121-450
23	28	6	6	3.96	294-123-025	294-123-050	294-123-100	294-123-200	294-123-300	294-123-450
26	32	6	6	5.01	294-126-025	294-126-050	294-126-100	294-126-200	294-126-300	294-126-450
28	34	7	6	5.82	294-128-025	294-128-050	294-128-100	294-128-200	294-128-300	294-128-450
29.7	34.93	8.64	6	6.72	294-129-025	294-129-050	294-129-100	294-129-200	294-129-300	294-129-450
32	38	6	8	7.43	294-132-025	294-132-050	294-132-100	294-132-200	294-132-300	294-132-450
36	42	7	8	9.30	294-136-025	294-136-050	294-136-100	294-136-200	294-136-300	294-136-450
42	48	8	8	12.34	294-142-025	294-142-050	294-142-100	294-142-200	294-142-300	294-142-450
46	54	9	8	15.30	294-146-025	294-146-050	294-146-100	294-146-200	294-146-300	294-146-450

Plain Round Splined Sleeves - Steel

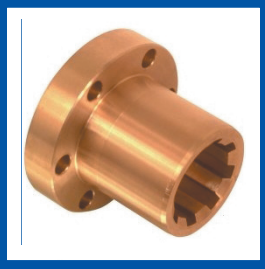
Ø d1	Ø d2	No. Spline	Ø D	L	Mass (kg)	Part Number
11	14	6	30	40	0.18	294-011-004
13	16	6	35	40	0.24	294-013-004
16	20	6	40	40	0.30	294-016-004
18	22	6	42	40	0.31	294-018-004
21	25	6	45	40	0.36	294-021-004
21	25	6	38	60	0.32	294-021-006
23	28	6	50	60	0.60	294-023-006
26	32	6	60	60	1.00	294-026-006
28	34	6	70	60	1.40	294-028-006
29.7	34.93	6	75	60	1.65	294-029-006
29.7	34.93	6	50.8	80	1.65	294-029-008
32	38	8	75	60	1.50	294-032-006
36	42	8	80	60	1.75	294-036-006
42	48	8	90	60	2.20	294-042-006
46	54	8	90	60	2.05	294-046-006

Design Parameter	Value
Material	Steel (1.0727)
Standard	DIN 5463



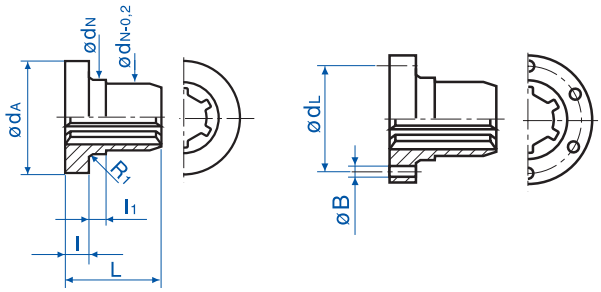
SPLINE SHAFT STOCKED IN 3000mm LENGTHS WITH LONGER AND / OR CUSTOMISED LENGTHS AVAILABLE ON REQUEST – PLEASE CONTACT OUR SALES TEAM WITH YOUR REQUIREMENTS

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Flanged Splined Sleeves

Bronze



Design Parameter	Value
Material	Bronze SAE 660
Standard	DIN 5463

NOTE: Bronze sleeves have 6 holes but steel sleeves have 4

Without Mounting Holes										With Mounting Holes			
Ø d1	Ø d2	No. Spline	Ø dA	Ø dN (h7)	L	l	l1	Mass (kg)	Part Number	Ø dL	Ø B (x6)	Mass (kg)	Part Number
11	14	6	43	24	35	10	6	0.19	294-611-603	32	4.3	0.18	294-611-703
13	16	6	43	24	35	10	8	0.17	294-613-603	32	4.3	0.16	294-613-703
16	20	6	48	28	45	12	8	0.26	294-616-604	38	5.3	0.24	294-616-704
18	22	6	55	32	45	12	10	0.35	294-618-604	45	6.4	0.32	294-618-704
21	25	6	55	32	45	12	10	0.32	294-621-604	45	6.4	0.30	294-621-704
23	28	6	62	38	50	14	10	0.50	294-623-605	50	6.4	0.47	294-623-705
26	32	6	62	38	50	14	10	0.44	294-626-605	50	6.4	0.42	294-626-705
28	34	6	75	48	60	15	11	0.84	294-628-606	62	8.4	0.80	294-628-706
29.7	34.93	6	75	48	60	15	11	0.80	294-629-606	62	8.4	0.78	294-629-706
32	38	8	75	48	60	15	11	0.70	294-632-606	62	8.4	0.68	294-632-706
36	42	8	95	63	80	16	12	1.82	294-636-608	78	8.4	1.75	294-636-708
42	48	8	95	63	80	16	12	1.50	294-642-608	78	8.4	1.48	294-642-708
46	54	8	110	72	80	18	12	2.20	294-646-610	90	10.5	2.10	294-646-710

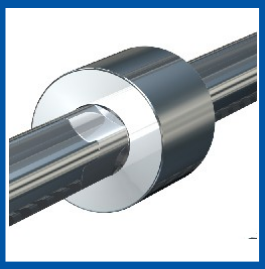
Steel

SEE DRAWING ABOVE

Design Parameter	Value
Material	C45 (1.0503)
Standard	DIN 5463

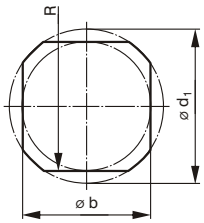
Without Mounting Holes										With Mounting Holes			
Ø d1	Ø d2	No. Spline	Ø dA	Ø dN (h7)	L	l	l1	Mass (kg)	Part Number	Ø dL	Ø B (x4)	Mass (kg)	Part Number
11	14	6	41	22	30	8	22	0.19	294-011-603	30	4.3	0.18	294-011-703
13	16	6	43	24	30	8	22	0.17	294-013-603	32	4.3	0.16	294-013-703
16	20	6	52	28	40	9	31	0.21	294-016-604	38	5.3	0.20	294-016-704
18	22	6	60	32	50	9	41	0.31	294-018-604	46	5.3	0.29	294-018-704
21	25	6	62	34	50	10	40	0.36	294-021-604	48	6.4	0.33	294-021-704
23	28	6	68	40	60	10	50	0.53	294-023-605	54	6.4	0.50	294-023-705
26	32	6	70	42	60	10	50	0.50	294-026-605	56	6.4	0.48	294-026-705
28	34	6	78	48	70	12	58	0.80	294-028-606	63	8.4	0.78	294-028-706
29.7	34.93	6	80	50	70	12	58	0.85	294-029-606	65	8.4	0.82	294-029-706
32	38	8	80	50	70	12	58	0.80	294-032-606	65	8.4	0.78	294-032-706
36	42	8	93	58	80	14	66	1.32	294-036-608	73	8.4	1.30	294-036-708
42	48	8	95	60	80	16	64	1.30	294-042-608	75	10.5	1.25	294-042-708
46	54	8	99	65	80	16	64	1.40	294-046-610	80	10.5	1.30	294-046-710

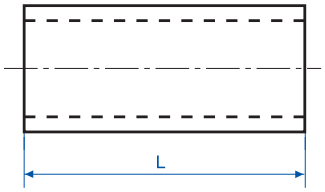
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Polygon Shafts & Sleeves

Steel – Cold Drawn





Design Parameter	Value
Material	C45 (1.0503)
Standard	DIN 32712

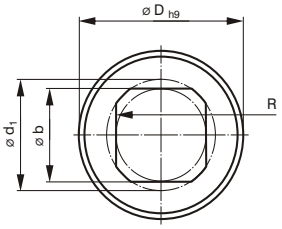
NOTE: Polygon shafts are stocked in lengths of 3000mm

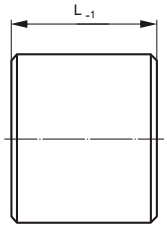
Ø b -0.01 -0.06	Ø d1 -0.06 -0.12	R	e	Mass kg / m	Part Number					
					L = 250	L = 500	L = 1000	L = 2000	L = 3000 *	L = 4500
11	14	31.1	1.6	0.97	297-111-025	297-111-050	297-111-100	297-111-200	297-111-300	297-111-450
17	20	56.5	3	2.11	297-117-025	297-117-050	297-117-100	297-117-200	297-117-300	297-117-450
21	25	90.5	5	3.25	297-121-025	297-121-050	297-121-100	297-121-200	297-121-300	297-121-450
25	30	92.5	5	4.66	297-125-025	297-125-050	297-125-100	297-125-200	297-125-300	297-125-450
30	35	95.0	5	6.50	297-130-025	297-130-050	297-130-100	297-130-200	297-130-300	297-130-450
35	40	113.5	6	8.66	297-135-025	297-135-050	297-135-100	297-135-200	297-135-300	297-135-450
40	45	116.0	6	11.13	297-140-025	297-140-050	297-140-100	297-140-200	297-140-300	297-140-450
43	50	117.5	6	13.32	297-143-025	297-143-050	297-143-100	297-143-200	297-143-300	297-143-450
53	60	122.5	6	19.67	297-153-025	297-153-050	297-153-100	297-153-200	297-153-300	297-153-450
60	70	126.0	6	26.00	297-160-025	297-160-050	297-160-100	297-160-200	297-160-300	297-160-450

Plain Round Polygon Sleeves – Steel & Bronze

Ø b H7	Ø d1 H11	R	Ø D h9	L -0.1	Mass Kg	Part Number	
						Steel	Bronze
11	14	31.1	35	28	0.19	297-011-100	297-011-600
17	20	56.5	45	40	0.41	297-017-100	297-017-600
21	25	90.5	55	50	0.76	297-021-100	297-021-600
25	30	92.5	65	60	1.27	297-025-100	297-025-600
30	35	95.0	75	65	1.80	297-030-100	297-030-600
35	40	113.5	80	70	2.09	297-035-100	297-035-600
40	45	116.0	85	80	2.56	297-040-100	297-040-600
43	50	117.5	90	85	3.02	297-043-100	297-043-600
53	60	122.5	100	95	3.80	297-053-100	297-053-600
60	70	126.0	110	110	5.10	297-060-100	297-060-600

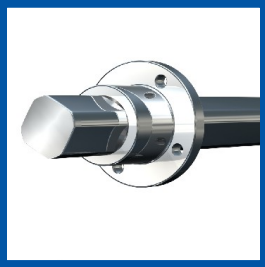
Design Parameter	Value
Material (Steel)	C45 (1.0503)
Material (Bronze)	Bz12
Standard	DIN 32712





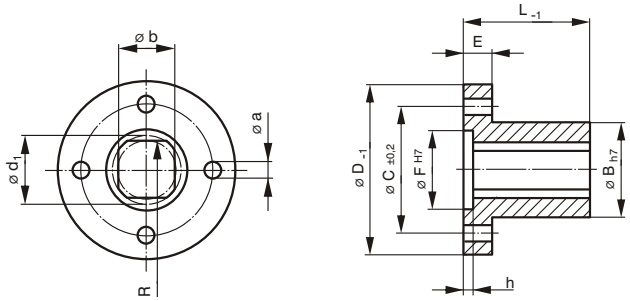
POLYGON SHAFT STOCKED IN 3000mm LENGTHS WITH LONGER AND / OR CUSTOMISED LENGTHS AVAILABLE ON REQUEST – PLEASE CONTACT OUR SALES TEAM WITH YOUR REQUIREMENTS

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Flanged Polygon Sleeves

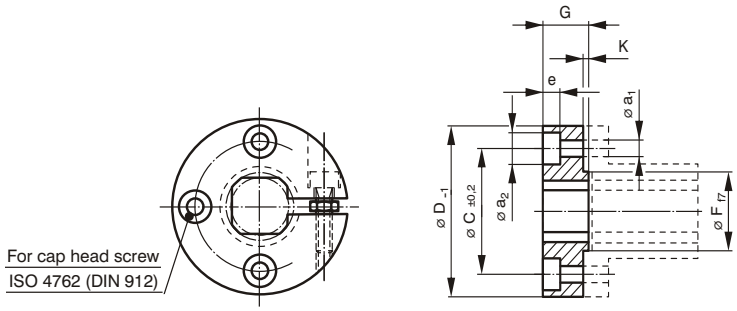
Steel & Bronze



Design Parameter	Value
Material (Steel)	C45 (1.0503)
Material (Bronze)	Bz12
Standard	DIN 32712

Ø b (H7)	Ø d1 (H11)	Ø B (h7)	Ø C (±0.2)	Ø D (-0.1)	E	Ø F (H7)	L (-0.1)	Ø a	h	Mass (kg)	Part Number	
											Steel	Bronze
11	14	22	30	42	8	20	28	5.3	3	0.12	297-011-171	297-011-671
17	20	30	40	54	9	25	40	5.3	3	0.24	297-017-171	297-017-671
21	25	38	50	65	10	30	50	6.4	3.5	0.44	297-021-171	297-021-671
25	30	45	60	79	12	40	60	8.4	4	0.77	297-025-171	297-025-671
30	35	50	65	84	12	45	65	8.4	4	0.89	297-030-171	297-030-671
35	40	55	70	90	15	50	70	8.4	4	1.10	297-035-171	297-035-671
40	45	60	75	95	15	55	80	8.4	4	1.27	297-040-171	297-040-671
43	50	70	85	108	16	60	85	10.5	4	2.00	297-043-171	297-043-671
53	60	80	96	118	16	70	98	10.5	4	2.32	297-053-171	297-053-671
60	70	90	106	130	18	80	110	10.5	4	3.36	297-060-171	297-060-671

Polygon Clamping Rings – Steel & Bronze



Design Parameter	Value
Material (Steel)	C45 (1.0503)
Material (Bronze)	Bz12

Ø b	Ø d1	Ø C (±0.2)	Ø D (-0.1)	Ø F (f7)	G	K	Ø a1	Ø a2	e	Mass (kg)	Part Number	
											Steel	Bronze
11	14	30	42	20	14	2	5.3	10	6	0.12	297-011-175	297-011-675
17	20	40	54	25	16	2	5.3	10	6	0.23	297-017-175	297-017-675
21	25	50	65	30	18	3	6.4	11	7	0.34	297-021-175	297-021-675
25	30	60	79	40	23	3	8.4	15	9	0.63	297-025-175	297-025-675
30	35	65	84	45	23	3	8.4	15	9	0.78	297-030-175	297-030-675
35	40	70	90	50	25	3	8.4	15	9	0.89	297-035-175	297-035-675
40	45	75	95	55	27	3	8.4	15	9	1.03	297-040-175	297-040-675
43	50	85	108	60	27	3	10.5	18	11	1.44	297-043-175	297-043-675
53	60	96	118	70	29	3	10.5	18	11	1.60	297-053-175	297-053-675
60	70	106	130	80	29	3	10.5	18	11	1.97	297-060-175	297-060-675

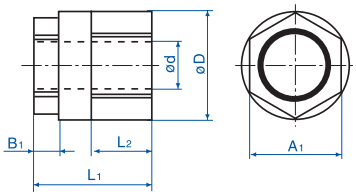
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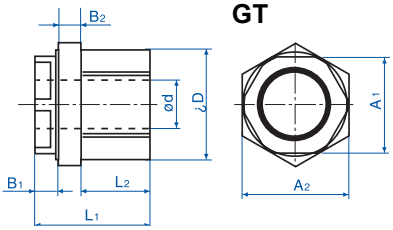
Trantorques

Keyless Locking Devices

MINI



GT



Design Parameter	Value
Ød & ØD Limit MINI	± 0.04 mm
Ød & ØD Limit GT	± 0.08 mm
Concentricity	0.06 mm
Hub Pressure	Pn (N/mm²)
Installation Torque	Ma (Nm)
Temperature Range	- 34°C / + 200°C

TYPE	Ø d	Ø D	L1	L2	A1	A2 (inch)	B1	B2	Torque (Nm)	Thrust (kN)	Pn (N/mm²)	Ma (Nm)	Mass (kg)	Part Number
TRANTORQUE MINI SERIES	5	16	19	10	13	-	3	-	18	7	11.2	14	0.02	299-005-000
	6	16	19	10	13	-	3	-	21	7	11.2	14	0.02	299-006-000
	7	20	22	11	16	-	3	-	40	11	12.3	28	0.03	299-007-000
	8	20	22	11	16	-	3	-	46	11	12.3	28	0.03	299-008-000
	9	20	22	11	16	-	3	-	51	11	12.3	28	0.03	299-009-000
	10	23	23	13	19	-	5	-	75	15	12.3	44	0.05	299-010-000
	11	23	23	13	19	-	5	-	82	15	12.3	44	0.05	299-011-000
	12	23	23	13	19	-	5	-	90	15	12.3	44	0.05	299-012-000
	14	26	26	16	22	-	5	-	135	19	11.3	66	0.06	299-014-000
	15	26	26	16	22	-	5	-	145	19	11.3	66	0.06	299-015-000
	16	26	26	16	22	-	5	-	155	19	11.3	66	0.06	299-016-000
	17	32	34.9	19.1	27	-	6.4	-	170	9	5.5	80	0.06	299-017-000
TRANTORQUE GT STANDARD SERIES	18	38	38.1	19.1	32	1 1/2	8	8.9	252	28	99	136	0.20	299-018-001
	19	38	38.1	19.1	32	1 1/2	8	8.9	266	28	99	136	0.20	299-019-001
	20	45	47.6	22.2	38	1 3/4	11.1	9.5	292	29	68	170	0.40	299-020-001
	22	45	47.6	22.2	38	1 3/4	11.1	9.5	322	29	68	170	0.40	299-022-001
	24	45	47.6	22.2	38	1 3/4	11.1	9.5	351	29	68	170	0.30	299-024-001
	25	45	47.6	22.2	38	1 3/4	11.1	9.5	366	29	68	170	0.30	299-025-001
	28	51	57.2	25.4	46	2	12.7	14.3	466	33	61	225	0.50	299-028-001
	30	51	57.2	25.4	46	2	12.7	14.3	499	33	61	225	0.50	299-030-001
	32	51	57.2	25.4	46	2	12.7	14.3	532	33	61	225	0.50	299-032-001
	34	60.5	69.9	38.1	50	2 3/8	14.3	12.7	569	33	36	260	0.90	299-034-001
	35	60.5	69.9	38.1	50	2 3/8	14.3	12.7	585	33	36	260	0.90	299-035-001
	36	60.5	69.9	38.1	50	2 3/8	14.3	12.7	602	33	36	260	0.90	299-036-001
	38	60.5	69.9	38.1	50	2 3/8	14.3	12.7	636	33	36	260	0.80	299-038-001
	40	67	79.4	42.9	60	2 5/8	14.3	17.4	728	36	31	316	1.20	299-040-001
	42	67	79.4	42.9	60	2 5/8	14.3	17.4	765	36	31	316	1.10	299-042-001
	45	73	90.5	50.8	65	2 7/8	15.9	19.1	1296	58	39	554	1.60	299-045-001
	48	73	90.5	50.8	65	2 7/8	15.9	19.1	1383	58	39	554	1.60	299-048-001
	50	73	90.5	50.8	65	2 7/8	15.9	19.1	1440	58	39	554	1.50	299-050-001
	55	80	95.3	54.0	70	3 1/8	15.9	20.7	1549	56	33	600	1.80	299-055-001
	60	86	98.4	57.2	75	3 3/8	17.5	19.1	1641	55	28	635	2.00	299-060-001
	65	92	103.2	60.3	82	3 5/8	17.5	20.7	1759	54	25	680	2.00	299-065-001
	70	92	103.2	60.3	82	3 5/8	17.5	20.7	1894	54	25	680	2.00	299-070-001
	75	100	108.0	63.5	90	3 7/8	19.1	20.7	2079	55	22	750	3.00	299-075-001

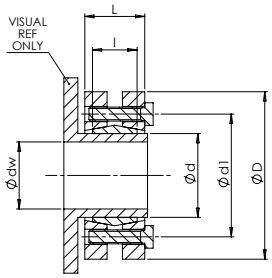
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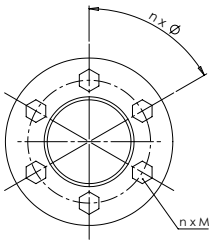
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Shrink Discs - Steel

For Precision Hardened Gears With Hubs





Design Parameter	Value
Shaft Surface Finish	Rt Max. 16 µm
Hub/Shaft Tolerances: Ø30 – Ø50 Ø50 – Ø80 Ø80 – Ø100	Hub / Shaft: H6 / h6 H6 / g6 H7 / g6
Installation Torque	Ma (Nm)

NOTE: Smaller & Larger sizes also available on request

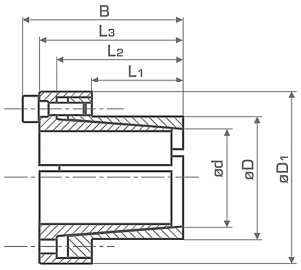
Ø dw	Ø d	Ø d1	Ø D	l	L	n	Ø °	M	Ma (Nm)	Mass (kg)	Torque (Nm)	Thrust (kN)	Part Number
24	30	44	60	16	21.5	7	51.43	M5	4	0.3	300	29	298-101-130
25											340	31	298-101-230
26											380	33	298-101-330
28	36	52	72	18	23.5	5	72	M6	12	0.4	440	50	298-101-136
30											570	58	298-101-236
31											630	58	298-101-336
32	44	61	80	20	25.5	7	51.43	M6	12	0.6	620	64	298-101-144
35											780	74	298-101-244
36											860	77	298-101-344
38	50	70	90	22	27.5	8	45	M6	12	0.8	940	79	298-101-150
40											1160	86	298-101-250
42											1380	92	298-101-350
42	55	75	100	23	30.5	8	45	M6	12	1.1	1160	79	298-101-155
45											1520	88	298-101-255
48											1880	97	298-101-355
48	62	86	110	23	30.5	10	36	M6	12	1.3	1850	100	298-101-162
50											2200	111	298-101-262
52											2400	117	298-101-362
50	68	86	115	23	30.5	10	36	M6	12	1.4	2000	97	298-101-168
55											2500	106	298-101-268
60											3150	120	298-101-368
55	75	100	138	25	32.5	7	51.43	M8	30	1.7	2500	119	298-101-175
60											3200	137	298-101-275
65											3950	155	298-101-375
60	80	100	145	25	32.5	7	51.43	M8	30	1.9	3200	124	298-101-180
65											3900	140	298-101-280
70											4600	158	298-101-380
65	85	114	155	30	39	10	36	M8	30	3.5	4800	175	298-101-185
70											6100	197	298-101-285
75											7400	216	298-101-385
65	90	114	155	30	39	10	36	M8	30	3.3	4750	170	298-101-190
70											6000	190	298-101-290
75											7250	210	298-101-390
70	100	124	170	34	44	12	30	M8	30	4.7	6900	195	298-101-100
75											7500	220	298-101-200
80											9000	240	298-101-300
75	110	136	185	39	50	9	40	M10	59	5.9	7200	229	298-101-110
80											9000	252	298-101-210
85											10800	262	298-101-310

WMH Transmissions Limited



Locking Assemblies

Self-Centering



Design Parameter	Value
Shaft Surface Finish	Rt Max. 16 µm
Hub / Shaft Tolerance	H8 / h8
Installation Torque	Ma (Nm)
Shaft Pressure	Pw (N/mm²)
Hub Pressure	Pn (N/mm²)

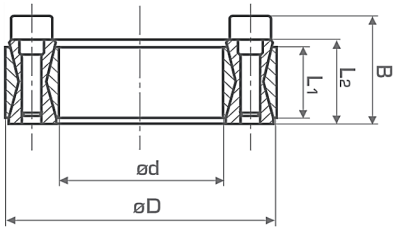
Ø d	Ø D	Ø D1	B	L1	L2	L3	n	M	Torque (Nm)	Thrust (kN)	Pw (N/mm²)	Pn (N/mm²)	Ma (Nm)	Mass (kg)	Part Number
6	14	25	24	10	18.5	21	3 x	M3	12	4	185	80	2	0.04	298-001-006
7	15	27	29	12	22	25	3 x	M4	25	7	235	110	5	0.06	298-001-007
8	15	27	29	12	22	25	3 x	M4	29	7	205	110	5	0.05	298-001-008
9	16	28	30	14	23	26	4 x	M4	44	10	205	115	5	0.06	298-001-009
10	16	28	30	14	23	26	4 x	M4	49	10	185	115	5	0.06	298-001-010
11	18	32	30	14	23	26	4 x	M4	53	10	170	105	5	0.07	298-001-011
12	18	32	30	14	23	26	4 x	M4	58	10	160	105	5	0.07	298-001-012
13	23	38	30	14	23	26	4 x	M4	63	10	140	80	5	0.11	298-001-013
14	23	38	30	14	23	26	4 x	M4	68	10	130	80	5	0.10	298-001-014
15	24	45	42	16	29	36	3 x	M6	127	17	185	115	17	0.22	298-001-015
16	24	45	42	16	29	36	3 x	M6	136	17	175	115	17	0.22	298-001-016
17	26	47	44	18	31	38	4 x	M6	180	22	190	125	17	0.25	298-001-017
18	26	47	44	18	31	38	4 x	M6	200	22	180	125	17	0.24	298-001-018
19	27	49	44	18	31	38	4 x	M6	210	22	170	120	17	0.26	298-001-019
20	28	50	44	18	31	38	4 x	M6	220	22	160	115	17	0.27	298-001-020
22	32	54	51	25	38	45	4 x	M6	250	22	115	80	17	0.34	298-001-022
24	34	56	51	25	38	45	4 x	M6	270	22	105	75	17	0.36	298-001-024
25	34	56	51	25	38	45	4 x	M6	280	22	100	75	17	0.35	298-001-025
28	39	61	51	25	38	45	6 x	M6	465	33	135	97	17	0.48	298-001-028
30	41	62	51	25	38	45	6 x	M6	510	33	127	90	17	0.48	298-001-030
32	43	65	51	25	38	45	6 x	M6	540	33	120	90	17	0.47	298-001-032
35	47	69	58	32	45	52	8 x	M6	790	45	105	80	17	0.58	298-001-035
38	50	72	58	32	45	52	8 x	M6	860	45	100	75	17	0.61	298-001-038
40	53	75	58	32	45	52	8 x	M6	900	45	95	70	17	0.68	298-001-040
42	55	78	58	32	45	52	8 x	M6	950	45	90	70	17	0.76	298-001-042
45	59	86	78	45	62	70	8 x	M8	1890	84	110	85	41	1.20	298-001-045
48	62	87	78	45	62	70	8 x	M8	2010	84	105	80	41	1.20	298-001-048
50	65	92	78	45	62	70	8 x	M8	2100	84	100	75	41	1.40	298-001-050
55	71	98	88	55	72	80	9 x	M8	2600	94	85	65	41	1.60	298-001-055
60	77	104	88	55	72	80	9 x	M8	2840	94	75	60	41	1.80	298-001-060
65	84	111	88	55	72	80	9 x	M8	3070	94	70	55	41	2.10	298-001-065
70	90	119	106	65	86	96	9 x	M10	5250	150	90	70	83	3.00	298-001-070
75	95	126	106	65	86	96	9 x	M10	5600	150	80	65	83	3.00	298-001-075
80	100	131	106	65	86	96	12 x	M10	8020	200	100	80	83	3.50	298-001-080
85	106	137	106	65	86	96	12 x	M10	8500	200	95	75	83	3.60	298-001-085
90	112	144	106	65	86	96	12 x	M10	9000	200	90	75	83	3.90	298-001-090
95	120	149	106	65	86	96	14 x	M10	11000	230	100	80	83	4.40	298-001-095
100	125	154	106	65	86	96	18 x	M10	15000	300	120	95	83	4.60	298-001-100
110	140	180	140	90	114	128	12 x	M12	16000	290	80	65	145	8.70	298-001-110
120	155	198	140	90	114	128	12 x	M12	17500	290	70	55	145	10.60	298-001-120
130	165	208	140	90	114	128	16 x	M12	25000	384	90	70	145	11.30	298-001-130

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Locking Assemblies

None Self-Centering



Design Parameter	Value
Shaft Surface Finish	Rt Max. 16 µm
Hub / Shaft Tolerance	H11 / h11
Installation Torque	Ma (Nm)
Shaft Pressure	Pw (N/mm²)
Hub Pressure	Pn (N/mm²)

Ø d	Ø D	B	L1	L2	n	M	Torque (Nm)	Thrust (kN)	Pw (N/mm²)	Pn (N/mm²)	Ma (Nm)	Mass (kg)	Part Number
20	47	27.5	17	20	8 x	M6	280	29	225	95	15	0.2	298-002-020
22	47	27.5	17	20	8 x	M6	310	29	210	95	15	0.2	298-002-022
24	50	27.5	17	20	8 x	M6	370	32	210	100	15	0.3	298-002-024
25	50	27.5	17	20	8 x	M6	400	32	200	100	15	0.3	298-002-025
28	55	27.5	17	20	10 x	M6	500	36	200	100	15	0.3	298-002-028
30	55	27.5	17	20	10 x	M6	530	36	185	100	15	0.3	298-002-030
32	60	27.5	17	20	12 x	M6	680	42	205	110	15	0.3	298-002-032
35	60	27.5	17	20	12 x	M6	750	43	190	110	15	0.3	298-002-035
38	65	27.5	17	20	14 x	M6	930	49	200	115	15	0.4	298-002-038
40	65	27.5	17	20	14 x	M6	980	49	190	115	15	0.3	298-002-040
42	75	33.5	20	24	12 x	M8	1580	75	235	130	37	0.6	298-002-042
45	75	33.5	20	24	12 x	M8	1700	76	220	130	37	0.6	298-002-045
48	80	33.5	20	24	12 x	M8	1790	74	210	120	37	0.6	298-002-048
50	80	33.5	20	24	12 x	M8	1870	75	200	120	37	0.6	298-002-050
55	85	33.5	20	24	14 x	M8	2390	88	210	135	37	0.6	298-002-055
60	90	33.5	20	24	14 x	M8	2610	88	190	125	37	0.7	298-002-060
65	95	33.5	20	24	16 x	M8	3210	98	200	135	37	0.7	298-002-065
70	110	39.5	24	28	14 x	M10	4600	132	210	130	70	1.3	298-002-070
75	115	39.5	24	28	14 x	M10	4900	131	195	125	70	1.3	298-002-075
80	120	39.5	24	28	14 x	M10	5200	131	180	120	70	1.4	298-002-080
85	125	39.5	24	28	16 x	M10	6300	148	195	130	70	1.4	298-002-085
90	130	39.5	24	28	16 x	M10	6600	147	180	125	70	1.5	298-002-090
95	135	39.5	24	28	18 x	M10	7900	167	185	135	70	1.6	298-002-095
100	145	47	26	33	14 x	M12	9750	195	165	135	127	2.2	298-002-100
110	155	47	26	33	14 x	M12	10650	194	165	125	127	2.5	298-002-110
120	165	47	26	33	16 x	M12	13300	221	170	135	127	2.6	298-002-120
130	180	52	34	38	20 x	M12	17850	276	170	115	127	3.8	298-002-130
140	190	52	34	38	22 x	M12	21200	302	165	125	127	3.9	298-002-140
150	200	52	34	38	24 x	M12	24500	329	170	125	127	4.0	298-002-150
160	210	52	34	38	26 x	M12	28400	355	170	130	127	4.3	298-002-160
170	225	60	38	44	22 x	M14	33600	396	165	120	195	5.8	298-002-170
180	235	60	38	44	24 x	M14	38700	431	170	130	195	6.0	298-002-180
190	250	68	46	52	26 x	M14	44700	502	155	120	195	8.5	298-002-190
200	260	68	46	52	30 x	M14	53500	538	155	120	195	8.6	298-002-200

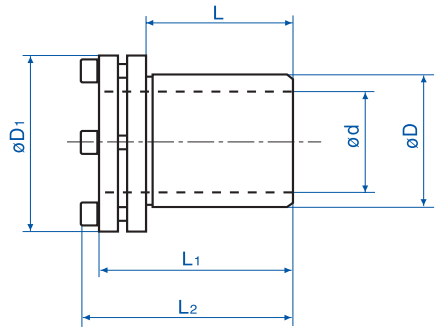
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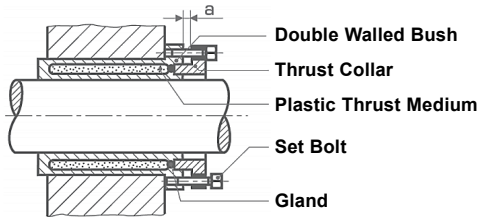
Clamping Bushes

ETP Type



Design Parameter	Value
Bore Tolerance	H7
Shaft Tolerance	h8 up to k6
Installation Torque	Ma (Nm)
Temperature Range	- 25°C / + 85°C

Ø d	Ø D	Ø D1	L	L1	L2	Torque (Nm)	Thrust (kN)	Ma (Nm)	Mass (kg)	Part Number
20	28	45	22	37	42	125	12.5	8	0.19	298-000-020
22	32	49	22	37	42	135	12.3	8	0.20	298-000-022
24	34	49	25	40	45	200	16.7	8	0.21	298-000-024
25	34	49	27	43	48	250	20.0	8	0.21	298-000-025
28	39	55	29	45	50	300	21.4	8	0.27	298-000-028
30	41	57	32	47.5	52	420	28.0	8	0.29	298-000-030
32	43	60	34	52	57	420	26.3	8	0.39	298-000-032
35	47	63	37	55	60	650	37.1	8	0.43	298-000-035
38	50	65	41	59	64	750	39.5	8	0.47	298-000-038
40	53	70	43	63	68	940	47.0	13	0.55	298-000-040
42	55	70	45	65	70	940	44.8	13	0.55	298-000-042
45	59	77	49	69	75	1290	57.3	13	0.70	298-000-045
48	62	80	52	73	79	1570	65.4	13	0.80	298-000-048
50	65	83	53	76	82	1900	76.0	13	0.90	298-000-050
55	71	88	58	82	88	2500	90.9	13	1.10	298-000-055
60	77	95	64	90	96	3400	113.0	13	1.40	298-000-060
65	84	102	68	96	102	3500	108.0	13	1.80	298-000-065
70	90	113	72	99	107	5200	149.0	32	2.10	298-000-070

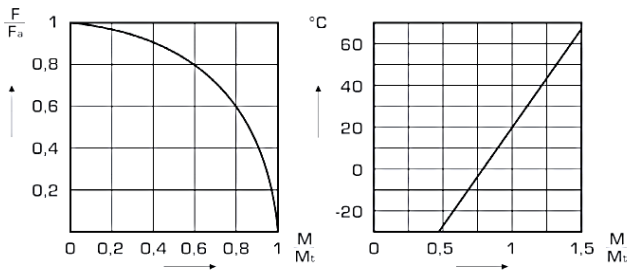


If the clamping bush has to transmit both torque and thrust forces simultaneously then a factor must be applied to the torque capacity of the bush as determined by the left hand graph.

The ambient temperature also has an influence on the torque transmission capacity of the clamping bush so, again, a factor must be applied as determined by the right hand graph.

Before mounting, both the shaft and bore should be lightly oiled (not greased). Tighten the set bolts alternately 180° at a time in increments up to the specified tightening torque to ensure even loading and maximum torque transmission. The bolts should be loosened in the reverse order.

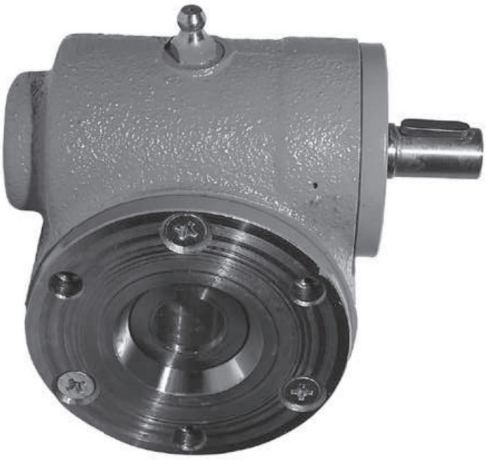
The depth of the bore should match the length of the clamping surface but it is acceptable to have up to 5mm overhang as shown (left). Ensure that there is a gap "a" between the two flanges of the bush once torqued down.



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Worms & Worm Wheels







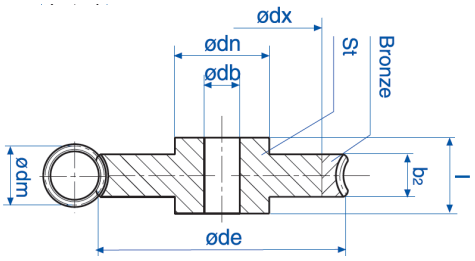
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Worms & Worm Wheels

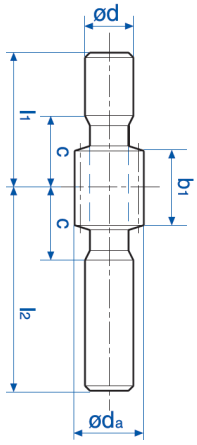
50mm Centre Distance



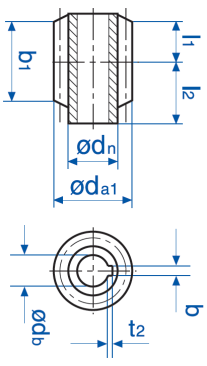
Design Parameter	Value
Material (Steel)	Cast Iron EN-GJL-250
Material (Bronze)	CuSn12 (TEETH ONLY)
Gearing Direction	Right Hand
Standard	DIN 3975 / 3976

175 = Solid Cast Iron Wheel
176 = Steel Hub Bronze Teeth

Worm Wheels			Teeth	Ø de	Ø dn	Ø db	Ø dx	b2	l	Mass (kg)		Part Number	
Ratio	Mod	Starts								Steel	Bronze	Steel	Bronze
7.25 : 1	2.5	4	29	82	50	20	52	20	26	0.66	0.76	175-325-429	176-325-429
9.5 : 1	2	4	38	84	50	20	59	18	26	0.69	0.79	175-320-438	176-320-438
12 : 1	1.6	4	48	82	50	20	59	16	26	0.64	0.73	175-316-448	176-316-448
14.5 : 1	2.5	2	29	82	50	20	52	20	26	0.66	0.76	175-325-229	176-325-229
19 : 1	2	2	38	84	50	20	59	18	26	0.69	0.79	175-320-238	176-320-238
24 : 1	1.6	2	48	82	50	20	59	16	26	0.64	0.73	175-316-248	176-316-248
29 : 1	2.5	1	29	82	50	20	52	20	26	0.66	0.76	175-325-129	176-325-129
38 : 1	2	1	38	84	50	20	59	18	26	0.69	0.79	175-320-138	176-320-138
48 : 1	1.6	1	48	82	50	20	59	16	26	0.64	0.75	175-316-148	176-316-148
62 : 1	1.25	1	62	82	50	15	61	16	22	0.68	0.78	175-312-162	176-312-162
82 : 1	1	1	82	85	50	15	66	14	22	0.64	0.73	175-310-182	176-310-182



Solid Worms			Ø dm	Ø da	Ø d	C	l1	l2	b1	Mass (kg)	Part Number 16MnCr5 (1.7131)	
Ratio	Mod	Starts									Soft / Milled	Hard / Ground
7.25 : 1	2.5	4	26.5	31.5	22	33	65	115	34	0.57	172-325-426	171-325-426
9.5 : 1	2	4	22.4	26.4	22	30	65	115	32	0.52	172-320-422	171-320-422
12 : 1	1.6	4	23.0	26.2	22	30	65	115	28	0.53	172-316-423	171-316-423
14.5 : 1	2.5	2	26.5	31.5	22	30	65	115	34	0.58	172-325-226	171-325-226
19 : 1	2	2	22.4	26.4	22	30	65	115	32	0.52	172-320-222	171-320-222
24 : 1	1.6	2	23.0	26.2	22	30	65	115	28	0.53	172-316-223	171-316-223
29 : 1	2.5	1	26.5	31.5	22	30	65	115	34	0.58	172-325-126	171-325-126
38 : 1	2	1	22.4	26.4	22	30	65	115	32	0.52	172-320-122	171-320-122
48 : 1	1.6	1	23.0	26.2	22	30	65	115	28	0.53	172-316-123	171-316-123
62 : 1	1.25	1	22.4	24.9	22	25	65	115	25	0.53	172-312-122	171-312-122
82 : 1	1	1	18.0	20.0	20.5	25	65	115	22	0.43	172-310-118	171-310-118



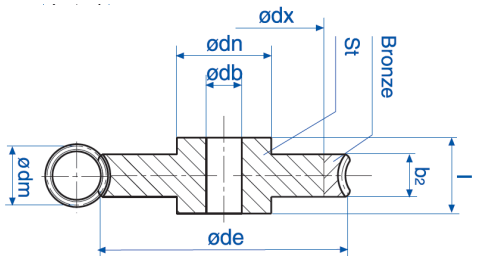
Bored Worms			Ø dm	Ø da	Ø dn	Ø db	b	t2	l1	l2	b1	Mass (kg)	Part Number C45 (1.0503)
Ratio	Mod	Starts											
7.25 : 1	2.5	4	26.5	31.5	20	12	4	1.8	19.5	27.5	34	0.14	173-325-426
9.5 : 1	2	4	22.4	26.4	17	10	3	1.4	18.5	24.5	32	0.09	173-320-422
12 : 1	1.6	4	23.0	26.2	18.5	12	4	1.8	16.0	24.0	28	0.08	173-316-423
14.5 : 1	2.5	2	26.5	31.5	20	12	4	1.8	19.5	27.5	34	0.14	173-325-226
19 : 1	2	2	22.4	26.4	17	10	3	1.4	18.5	24.5	32	0.09	173-320-222
24 : 1	1.6	2	23.0	26.2	18.5	12	4	1.8	16.0	24.0	28	0.08	173-316-223
29 : 1	2.5	1	26.5	31.5	20	12	4	1.8	19.5	27.5	34	0.14	173-325-126
38 : 1	2	1	22.4	26.4	17	10	3	1.4	18.5	24.5	32	0.09	173-320-122
48 : 1	1.6	1	23.0	26.2	18.6	12	4	1.8	16.5	23.5	28	0.08	173-316-123
62 : 1	1.25	1	22.4	24.9	19	12	4	1.8	14.5	22.5	25	0.07	173-312-122
82 : 1	1	1	18.0	20.0	15	10	3	1.4	13.0	18.0	22	0.37	173-310-118

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Worms & Worm Wheels

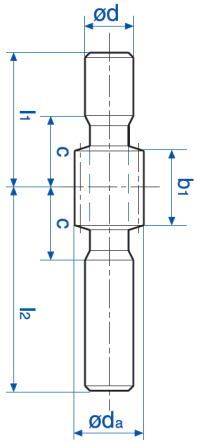
63mm Centre Distance



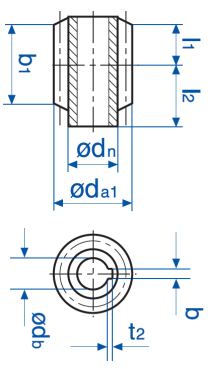
Design Parameter	Value
Material (Steel)	Cast Iron EN-GJL-250
Material (Bronze)	CuSn12 (TEETH ONLY)
Gearing Direction	Right Hand
Standard	DIN 3975 / 3976

175 = Solid Cast Iron Wheel
176 = Steel Hub Bronze Teeth

Worm Wheels			Teeth	Ø de	Ø dn	Ø db	Ø dx	b2	l	Mass (kg)		Part Number	
Ratio	Mod	Starts								Steel	Bronze	Steel	Bronze
7.25 : 1	3.15	4	29	102	60	25	68	26	32	1.31	1.50	175-431-429	176-431-429
9.75 : 1	2.5	4	39	107	60	25	78	22	32	1.36	1.57	175-425-439	176-425-439
12.25 : 1	2	4	49	104	60	25	80	20	32	1.25	1.44	175-420-449	176-420-449
14.5 : 1	3.15	2	29	102	60	25	68	26	32	1.31	1.50	175-431-229	176-431-229
19.5 : 1	2.5	2	39	107	60	25	78	22	32	1.36	1.57	175-425-239	176-425-239
24.5 : 1	2	2	49	104	60	25	80	20	32	1.25	1.44	175-420-249	176-420-249
29 : 1	3.15	1	29	102	60	25	68	26	32	1.31	1.50	175-431-129	176-431-129
38 : 1	2.5	1	39	107	60	25	78	22	32	1.36	1.57	175-425-139	176-425-139
49 : 1	2	1	49	104	60	25	80	20	32	1.25	1.44	175-420-149	176-420-149
61 : 1	1.6	1	61	104	60	20	81	20	32	1.29	1.48	175-416-161	176-416-161
83 : 1	1.25	1	83	107.4	60	20	87	16	26	1.15	1.32	175-412-183	176-412-183



Solid Worms			Ø dm	Ø da	Ø d	C	l1	l2	b1	Mass (kg)	Part Number 16MnCr5 (1.7131)	
Ratio	Mod	Starts									Soft / Milled	Hard / Ground
7.25 : 1	3.15	4	33.5	39.8	27	40	75	135	40	1.03	172-431-433	171-431-433
9.75 : 1	2.5	4	26.5	31.5	27	40	75	135	40	0.89	172-425-426	171-425-426
12.25 : 1	2	4	28.0	32.0	27	35	75	135	32	0.93	172-420-428	171-420-428
14.5 : 1	3.15	2	33.5	39.8	27	35	75	135	40	1.04	172-431-233	171-431-233
19.5 : 1	2.5	2	26.5	31.5	27	35	75	135	40	0.90	172-425-226	171-425-226
24.5 : 1	2	2	28.0	32.0	27	35	75	135	32	0.93	172-420-228	171-420-228
29 : 1	3.15	1	33.5	39.8	27	35	75	135	40	1.04	172-431-133	171-431-133
38 : 1	2.5	1	26.5	31.5	27	35	75	135	40	0.90	172-425-126	171-425-126
49 : 1	2	1	28.0	32.0	27	35	75	135	32	0.93	172-420-128	171-420-128
61 : 1	1.6	1	28.0	31.2	27	30	75	135	30	0.94	172-416-128	171-416-128
83 : 1	1.25	1	22.4	24.9	25.5	25	75	135	25	0.79	172-412-122	171-412-122



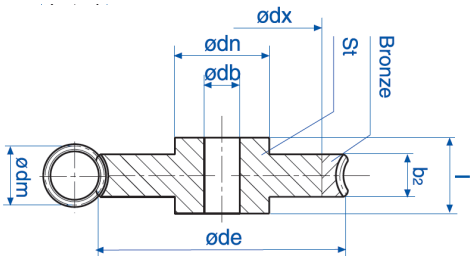
Bored Worms			Ø dm	Ø da	Ø dn	Ø db	b	t2	l1	l2	b1	Mass (kg)	Part Number C45 (1.0503)
Ratio	Mod	Starts											
7.25 : 1	3.15	4	33.5	39.8	25	16	5	2.3	23.0	33.0	40	0.25	173-431-433
9.75 : 1	2.5	4	26.5	31.5	20	12	4	1.8	22.5	30.5	40	0.16	173-425-426
12.25 : 1	2	4	28.0	32.0	22.5	14	5	2.3	18.5	28.5	32	0.14	173-420-428
14.5 : 1	3.15	2	33.5	39.8	25	16	5	2.3	23.0	33.0	40	0.25	173-431-233
19.5 : 1	2.5	2	26.5	31.5	20	12	4	1.8	22.5	30.5	40	0.16	173-425-226
24.5 : 1	2	2	28.0	32.0	22.5	14	5	2.3	18.5	28.5	32	0.14	173-420-228
29 : 1	3.15	1	33.5	39.8	25	16	5	2.3	23.0	33.0	40	0.25	173-431-133
38 : 1	2.5	1	26.5	31.5	20	12	4	1.8	22.5	30.5	40	0.16	173-425-126
49 : 1	2	1	28.0	32.0	22.5	14	5	2.3	18.5	28.5	32	0.14	173-420-128
61 : 1	1.6	1	28.0	31.2	23.5	16	5	2.3	17.0	27.0	30	0.12	173-416-128
83 : 1	1.25	1	22.4	24.9	19	12	4	1.8	14.5	22.5	25	0.07	173-412-122

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Worms & Worm Wheels

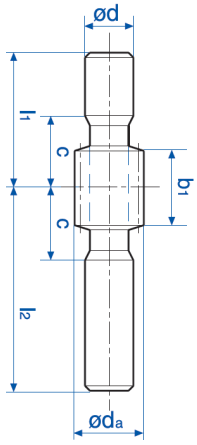
80mm Centre Distance



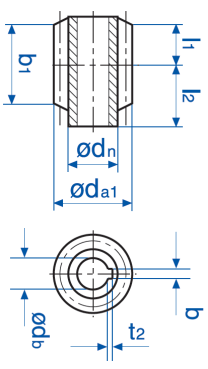
Design Parameter	Value
Material (Steel)	Cast Iron EN-GJL-250
Material (Bronze)	CuSn12 (TEETH ONLY)
Gearing Direction	Right Hand
Standard	DIN 3975 / 3976

175 = Solid Cast Iron Wheel
176 = Steel Hub Bronze Teeth

Worm Wheels			Teeth	Ø de	Ø dn	Ø db	Ø dx	b2	l	Mass (kg)		Part Number	
Ratio	Mod	Starts								Steel	Bronze	Steel	Bronze
7.5 : 1	4	4	30	132	70	30	94	32	40	2.70	3.10	175-540-430	176-540-430
10 : 1	3.15	4	40	136	70	30	103	28	40	2.61	2.99	175-531-440	176-531-440
12.5 : 1	2.5	4	50	134	70	30	105	26	40	2.55	2.93	175-525-450	176-525-450
15 : 1	4	2	30	132	70	30	94	32	40	2.70	3.10	175-540-230	176-540-230
20 : 1	3.15	2	40	136	70	30	103	28	40	2.61	2.99	175-531-240	176-531-240
25 : 1	2.5	2	50	134	70	30	105	26	40	2.55	2.93	175-525-250	176-525-250
30 : 1	4	1	30	132	70	30	94	32	40	2.70	3.10	175-540-130	176-540-130
40 : 1	3.15	1	40	136	70	30	103	28	40	2.61	2.99	175-531-140	176-531-140
50 : 1	2.5	1	50	134	70	30	105	26	40	2.55	2.93	175-525-150	176-525-150
62 : 1	2	1	62	131	70	30	106	24	40	2.35	2.70	175-520-162	176-520-162
82 : 1	1.6	1	82	137	70	30	114	18	40	2.16	2.48	175-516-182	176-516-182



Solid Worms			Ø dm	Ø da	Ø d	C	l1	l2	b1	Mass (kg)	Part Number 16MnCr5 (1.7131)	
Ratio	Mod	Starts									Soft / Milled	Hard / Ground
7.5 : 1	4	4	40.0	48.0	32	50	90	170	50	1.81	172-540-440	171-540-440
10 : 1	3.15	4	33.5	39.8	32	46	90	170	46	1.61	172-531-433	171-531-433
12.5 : 1	2.5	4	33.5	38.5	32	42	90	170	46	1.63	172-525-433	171-525-433
15 : 1	4	2	40.0	48.0	32	42	90	170	50	1.82	172-540-240	171-540-240
20 : 1	3.15	2	33.5	39.8	32	42	90	170	46	1.61	172-531-233	171-531-233
25 : 1	2.5	2	33.5	38.5	32	42	90	170	46	1.63	172-525-233	171-525-233
30 : 1	4	1	40.0	48.0	32	42	90	170	50	1.82	172-540-140	171-540-140
40 : 1	3.15	1	33.5	39.8	32	42	90	170	46	1.61	172-531-133	171-531-133
50 : 1	2.5	1	33.5	38.5	32	42	90	170	46	1.63	172-525-133	171-525-133
62 : 1	2	1	35.5	39.5	32	35	90	170	38	1.67	172-520-135	171-520-135
82 : 1	1.6	1	28.0	31.2	30.5	35	90	170	38	1.42	172-516-128	171-516-126



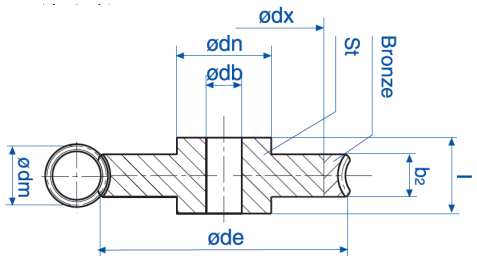
Bored Worms			Ø dm	Ø da	Ø dn	Ø db	b	t2	l1	l2	b1	Mass (kg)	Part Number C45 (1.0503)
Ratio	Mod	Starts											
7.5 : 1	4	4	40.0	48.0	30	20	6	2.8	29	39	50	0.43	173-540-440
10 : 1	3.15	4	33.5	39.8	25	16	5	2.3	26	36	46	0.28	173-531-433
12.5 : 1	2.5	4	33.5	38.5	27	18	6	2.8	25.5	37.5	46	0.27	173-525-433
15 : 1	4	2	40.0	48.0	30	20	6	2.8	29	39	50	0.43	173-540-240
20 : 1	3.15	2	33.5	39.8	25	16	5	2.3	26	36	46	0.28	173-531-233
25 : 1	2.5	2	33.5	38.5	27	18	6	2.8	25.5	37.5	46	0.27	173-525-233
30 : 1	4	1	40.0	48.0	30	20	6	2.8	29	39	50	0.43	173-540-140
40 : 1	3.15	1	33.5	39.8	25	16	5	2.3	26	36	46	0.28	173-531-133
50 : 1	2.5	1	33.5	38.5	27	18	6	2.8	25.5	37.5	46	0.27	173-525-133
62 : 1	2	1	35.5	39.5	30	20	6	2.8	21.5	33.5	38	0.25	173-520-135
82 : 1	1.6	1	28.0	31.2	23.5	16	5	2.3	20	30	36	0.14	173-516-128

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Worms & Worm Wheels

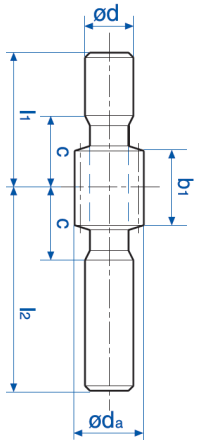
100mm Centre Distance



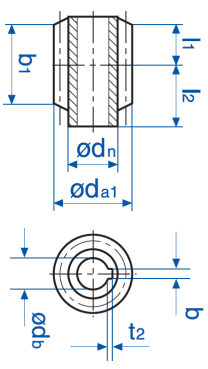
Design Parameter	Value
Material (Steel)	Cast Iron EN-GJL-250
Material (Bronze)	CuSn12 (TEETH ONLY)
Gearing Direction	Right Hand
Standard	DIN 3975 / 3976

175 = Solid Cast Iron Wheel
176 = Steel Hub Bronze Teeth

Worm Wheels			Teeth	Ø de	Ø dn	Ø db	Ø dx	b2	l	Mass (kg)		Part Number	
Ratio	Mod	Starts								Steel	Bronze	Steel	Bronze
7.5 : 1	5	4	30	165	85	40	120	40	50	5.20	5.98	175-650-430	176-650-430
10 : 1	4	4	40	172	85	40	134	34	50	5.29	6.06	175-640-440	176-640-440
12.5 : 1	3.15	4	50	167	85	40	134	32	50	4.93	5.65	175-631-450	176-631-450
15 : 1	5	2	30	165	85	40	120	40	50	5.20	5.98	175-650-230	176-650-230
20 : 1	4	2	40	172	85	40	134	34	50	5.29	6.06	175-640-240	176-640-240
25 : 1	3.15	2	50	167	85	40	134	32	50	4.93	5.65	175-631-250	176-631-250
30 : 1	5	1	30	165	85	40	120	40	50	5.20	5.98	175-650-130	176-650-130
40 : 1	4	1	40	172	85	40	134	34	50	5.29	6.06	175-640-140	176-640-140
50 : 1	3.15	1	50	167	85	40	134	32	50	4.93	5.65	175-631-150	176-631-150
63 : 1	2.5	1	63	165	85	40	137	28	50	4.50	5.16	175-625-163	176-625-163
82 : 1	2	1	82	170.5	85	40	146	24	50	4.41	5.07	175-620-182	176-620-182



Solid Worms			Ø dm	Ø da	Ø d	C	l1	l2	b1	Mass (kg)	Part Number 16MnCr5 (1.7131)	
Ratio	Mod	Starts									Soft / Milled	Hard / Ground
7.5 : 1	5	4	50.0	60.0	37	50	130	220	60	3.39	172-650-450	171-650-450
10 : 1	4	4	40.0	48.0	37	54	130	220	54	2.94	172-640-440	171-640-440
12.5 : 1	3.15	4	42.5	48.8	37	45	130	220	50	3.07	172-631-442	171-631-442
15 : 1	5	2	50.0	60.0	37	50	130	220	60	3.39	172-650-250	171-650-250
20 : 1	4	2	40.0	48.0	37	45	130	220	54	2.98	172-640-240	171-640-240
25 : 1	3.15	2	42.5	48.8	37	45	130	220	50	3.07	172-631-242	171-631-242
30 : 1	5	1	50.0	60.0	37	50	130	220	60	3.39	172-650-150	171-650-150
40 : 1	4	1	40.0	48.0	37	45	130	220	54	2.98	172-640-140	171-640-140
50 : 1	3.15	1	42.5	48.8	37	45	130	220	50	3.07	172-631-142	171-631-142
63 : 1	2.5	1	42.5	47.5	37	40	130	220	45	3.07	172-625-142	171-625-142
82 : 1	2	1	35.5	39.5	37	40	130	220	42	2.88	172-620-135	171-620-135



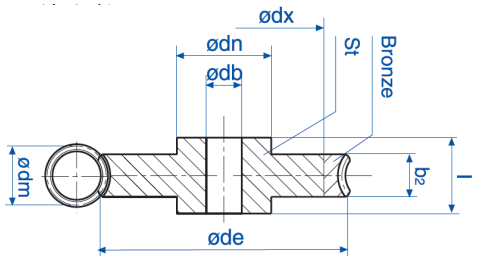
Bored Worms			Ø dm	Ø da	Ø dn	Ø db	b	t2	l1	l2	b1	Mass (kg)	Part Number C45 (1.0503)
Ratio	Mod	Starts											
7.5 : 1	5	4	50.0	60.0	37.5	26	8	3.3	35	50	60	0.78	173-650-450
10 : 1	4	4	40.0	48.0	30.0	20	6	28.	31	42	54	0.45	173-640-440
12.5 : 1	3.15	4	42.5	48.8	34.5	24	8	3.3	28	44	50	0.45	173-631-442
15 : 1	5	2	50.0	60.0	37.5	26	8	3.3	35	50	60	0.78	173-650-250
20 : 1	4	2	40.0	48.0	30.0	20	6	2.8	31	42	54	0.45	173-640-240
25 : 1	3.15	2	42.5	48.8	34.5	24	8	3.3	28	44	50	0.45	173-631-242
30 : 1	5	1	50.0	60.0	37.5	26	8	3.3	35	50	60	0.78	173-650-150
40 : 1	4	1	40.0	48.0	30.0	20	6	2.8	31	42	54	0.45	173-640-140
50 : 1	3.15	1	42.5	48.8	34.5	24	8	3.3	28	44	50	0.45	173-631-142
63 : 1	2.5	1	42.5	47.5	35.5	26	8	3.3	25	41	45	0.39	173-625-142
82 : 1	2	1	35.5	39.5	30.0	20	6	2.8	23.5	35.5	42	0.27	173-620-135

WMH Transmissions Limited



Worms & Worm Wheels

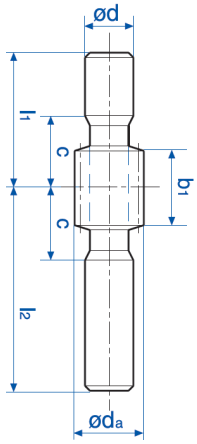
125mm Centre Distance



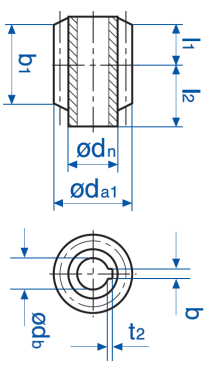
Design Parameter	Value
Material (Steel)	Cast Iron EN-GJL-250
Material (Bronze)	CuSn12 (TEETH ONLY)
Gearing Direction	Right Hand
Standard	DIN 3975 / 3976

175 = Solid Cast Iron Wheel
176 = Steel Hub Bronze Teeth

Worm Wheels			Teeth	Ø de	Ø dn	Ø db	Ø dx	b2	l	Mass (kg)		Part Number	
Ratio	Mod	Starts								Steel	Bronze	Steel	Bronze
7.25 : 1	6.3	4	29	206	100	50	148	50	60	9.87	11.33	175-763-429	176-763-429
10 : 1	5	4	40	215	100	50	170	40	60	9.61	11.05	175-750-440	176-750-440
12.5 : 1	4	4	50	212	100	50	174	34	60	8.93	10.25	175-740-450	176-740-450
14.5 : 1	6.3	2	29	206	100	50	145	50	60	9.87	11.33	175-763-229	176-763-229
20 : 1	5	2	40	215	100	50	170	40	60	9.61	11.05	175-750-240	176-750-240
25 : 1	4	2	50	212	100	50	174	34	60	8.93	10.25	175-740-250	176-740-250
29 : 1	6.3	1	29	206	100	50	148	50	60	9.87	11.33	175-763-129	176-763-129
40 : 1	5	1	40	215	100	50	170	40	60	9.61	11.05	175-750-140	176-750-140
50 : 1	4	1	50	212	100	50	174	34	60	8.93	10.25	175-740-150	176-740-150
62 : 1	3.15	1	62	206.5	100	50	174	34	60	8.32	9.55	175-731-162	176-731-162
83 : 1	2.5	1	83	215	100	50	186	28	60	7.95	9.19	175-725-183	176-725-183



Solid Worms			Ø dm	Ø da	Ø d	C	l1	l2	b1	Mass (kg)	Part Number 16MnCr5 (1.7131)	
Ratio	Mod	Starts									Soft / Milled	Hard / Ground
7.25 : 1	6.3	4	63	75.6	47.5	63	150	250	86	6.52	172-763-463	171-763-463
10 : 1	5	4	50	60	50	68	150	250	69	5.89	172-750-450	171-750-450
12.5 : 1	4	4	50	58	50	56	150	250	60	6.02	172-740-450	171-740-450
14.5 : 1	6.3	2	63	75.6	50	68	150	250	86	6.91	172-763-263	171-763-263
20 : 1	5	2	50	60	50	56	150	250	69	5.99	172-750-250	171-750-250
25 : 1	4	2	50	58	50	56	150	250	60	6.02	172-740-250	171-740-250
29 : 1	6.3	1	63	75.6	50	62	150	250	86	6.89	172-763-163	171-763-163
40 : 1	5	1	50	60	50	56	150	250	69	5.99	172-750-150	171-750-150
50 : 1	4	1	50	58	50	56	150	250	60	6.02	172-740-150	171-740-150
62 : 1	3.15	1	53	59.3	50	50	150	250	60	6.19	172-731-153	171-731-153
83 : 1	2.5	1	42.5	47.5	47	50	150	250	50	5.18	172-725-142	171-725-142



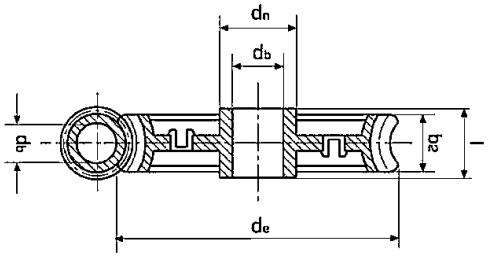
Bored Worms			Ø dm	Ø da	Ø dn	Ø db	b	t2	l1	l2	b1	Mass (kg)	Part Number C45 (1.0503)
Ratio	Mod	Starts											
7.25 : 1	6.3	4	63	75.6	47	32	10	3.3	49	68	86	1.78	173-763-463
10 : 1	5	4	50	60	37	26	8	3.3	39.5	54.5	69	0.88	173-750-450
12.5 : 1	4	4	50	58	40	30	8	3.3	34	50	60	0.68	173-740-450
14.5 : 1	6.3	2	63	75.6	47	32	10	3.3	49	68	86	1.78	173-763-263
20 : 1	5	2	50	60	37	26	8	3.3	39.5	54.5	69	0.88	173-750-250
25 : 1	4	2	50	58	40	30	8	3.3	34	50	60	0.68	173-740-250
29 : 1	6.3	1	63	75.6	47	32	10	3.3	49	68	86	1.78	173-763-163
40 : 1	5	1	50	60	37	26	8	3.3	39.5	54.5	69	0.88	173-750-150
50 : 1	4	1	50	58	40	30	8	3.3	34	50	60	0.68	173-740-150
62 : 1	3.15	1	53	59.3	45	32	10	3.3	33	53	60	0.81	173-731-153
83 : 1	2.5	1	42.5	47.5	36	26	8	3.3	27.5	43.5	50	0.42	173-725-142

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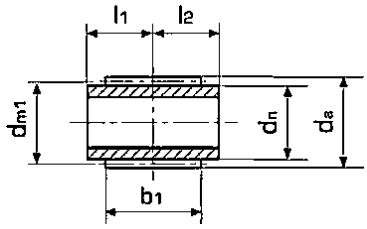
Worms & Worm Wheels

Moulded Wheels – Cast Worms



Design Parameter	Value
Wheel Material	PA66 Ultramid A4H
Gearing Direction	Right Hand

Worm Wheels			Teeth	Centre Distance	Ø de	Ø dn	Ø db	b2	l	Part Number
Ratio	Mod	Starts								
40 : 1	1	1	40	30	45	19	10	16	28	178-010-140
40 : 1	2	1	40	56	87	29	17	25	36	178-020-140



Design Parameter	Value
Worm Material	Cast DG-ZnAl4Cu1
Gearing Direction	Right Hand

Bored Worms			Ø dm1	Ø da	Ø dn	Ø db	l1	l2	b1	Part Number
Ratio	Mod	Starts								
40 : 1	1	1	20	22	17	10	17	17	17	173-010-120
40 : 1	2	1	32	35	26	14	27	27	34	173-020-132

Design Parameter	Value
Worm Input Power	P (kW)
Wheel Output Torque	T (Nm)

Moulded Worm Wheel & Cast Worm Performance		Worm Input Speed (rpm)													
		125		250		500		750		1000		1500		3000	
Ratio	Module	P	T	P	T	P	T	P	T	P	T	P	T	P	T
40 : 1	1	0.01	13	0.03	13	0.05	13	0.08	13	0.10	13	0.15	13	0.25	13
40 : 1	2	0.08	84	0.15	84	0.30	84	0.43	84	0.57	84	0.75	84	1.33	84

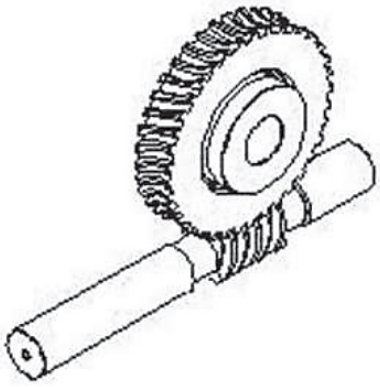
THE PERFORMANCE FIGURES STATED IN THE ABOVE TABLES ARE BASED ON A UNIFORM SMOOTH OPERATION & GREASE LUBRICATION WITH A 1.0 APPLICATION & SAFETY FACTOR

WMH Transmissions Limited



Worms & Worm Wheels

Performance Data



Design Parameter	Value
Worm Type	Hard & Ground (171)
Wheel Type	Bronze Teeth (176)
Gearing Direction	Right Hand
Standard	DIN 3975 / 3976
Gearing Efficiency	E (%)
Starting Torque	Ts (Nm)
Worm Input Power	P (kW)
Wheel Output Torque	T (Nm)

50mm Centres			Worm Input Speed (rpm)													
			125		250		500		750		1000		1500		3000	
Ratio	E %	Ts	P	T	P	T	P	T	P	T	P	T	P	T	P	T
7.25 : 1	0.95	249	0.25	128	0.45	115	0.70	88	0.90	75	1.20	75	1.50	62	2.50	50
9.5 : 1	0.94	190	0.19	126	0.32	105	0.55	90	0.70	75	0.80	64	1.40	75	1.90	48
12 : 1	0.92	136	0.10	83	0.27	109	0.49	99	0.65	86	0.79	79	1.20	79	1.90	60
14.5 : 1	0.91	257	0.16	154	0.30	144	0.50	119	0.68	108	0.80	94	0.98	75	2.00	75
19 : 1	0.90	195	0.11	135	0.24	148	0.40	122	0.56	112	0.64	96	0.85	83	1.50	70
24 : 1	0.87	138	0.06	86	0.16	117	0.30	109	0.41	97	0.49	87	0.65	75	0.94	48
29 : 1	0.84	259	0.10	171	0.19	163	0.32	135	0.45	127	0.55	115	0.70	94	1.10	68
38 : 1	0.82	197	0.07	151	0.14	151	0.24	127	0.34	118	0.43	112	0.55	92	0.86	64
48 : 1	0.77	139	0.04	96	0.09	110	0.19	116	0.27	107	0.34	101	0.46	88	0.70	57
62 : 1	0.70	109	0.02	42	0.05	65	0.13	88	0.19	83	0.24	78	0.36	76	0.64	60
82 : 1	0.67	81	0.02	47	0.03	44	0.08	56	0.12	59	0.18	66	0.23	78	0.43	40

63mm Centres			Worm Input Speed (rpm)													
			125		250		500		750		1000		1500		3000	
Ratio	E %	Ts	P	T	P	T	P	T	P	T	P	T	P	T	P	T
7.25 : 1	0.95	514	0.55	283	0.85	218	1.70	218	2.10	179	2.80	179	3.20	135	5.00	103
9.75 : 1	0.94	371	0.40	274	0.65	223	1.10	187	1.60	182	2.10	179	2.50	140	3.50	95
12.25 : 1	0.93	270	0.28	235	0.45	188	0.75	155	1.20	167	1.50	155	2.00	137	3.20	106
14.5 : 1	0.91	529	0.30	291	0.55	267	0.85	204	1.50	243	1.80	141	2.20	175	3.00	114
19.5 : 1	0.90	382	0.25	322	0.40	257	0.68	217	0.88	187	1.50	241	1.80	189	2.20	108
24.5 : 1	0.87	275	0.15	229	0.28	214	0.50	190	0.65	163	0.83	155	1.00	121	1.80	104
29 : 1	0.84	533	0.20	348	0.40	351	0.60	259	0.81	234	0.92	197	1.50	214	1.80	117
39 : 1	0.83	385	0.15	331	0.28	321	0.49	279	0.63	238	0.75	209	1.20	223	1.40	116
49 : 1	0.78	276	0.10	262	0.18	236	0.37	241	0.49	213	0.56	178	0.75	154	1.30	124
61 : 1	0.72	221	0.06	172	0.14	205	0.27	196	0.40	195	0.55	201	0.68	158	1.20	129
83 : 1	0.68	146	0.02	74	0.07	111	0.12	98	0.19	101	0.25	100	0.32	77	0.53	48

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Worms & Worm Wheels

Performance Data

80mm Centres			Worm Input Speed (rpm)													
			125		250		500		750		1000		1500		3000	
Ratio	E %	Ts	P	T	P	T	P	T	P	T	P	T	P	T	P	T
7.5 : 1	0.95	1038	0.90	481	1.80	485	2.50	336	3.30	295	4.40	294	5.50	244	9.50	207
10 : 1	0.95	757	0.73	519	1.30	462	2.00	353	2.60	306	3.30	291	4.30	251	7.60	218
12.5 : 1	0.94	566	0.55	480	0.98	428	1.80	391	2.30	334	2.50	270	3.50	250	5.30	185
15 : 1	0.92	1071	0.52	533	0.90	462	1.60	411	2.00	340	2.30	291	3.20	268	5.40	220
20 : 1	0.91	779	0.41	551	0.78	526	1.30	434	1.60	357	2.00	333	2.80	308	4.30	228
25 : 1	0.89	576	0.29	470	0.55	447	0.88	353	1.30	350	1.50	300	2.10	277	3.20	200
30 : 1	0.86	1080	0.37	694	0.67	631	1.20	568	1.60	502	1.90	444	2.30	352	4.00	294
40 : 1	0.84	785	0.27	655	0.50	610	0.95	572	1.40	570	1.80	549	2.00	398	2.90	271
50 : 1	0.80	579	0.20	570	0.35	500	0.65	459	0.85	400	1.10	386	1.60	373	2.70	297
62 : 1	0.73	421	0.13	410	0.26	409	0.52	408	0.76	406	0.98	390	1.30	337	2.00	235
82 : 1	0.72	268	0.07	256	0.14	259	0.28	261	0.40	257	0.55	263	0.77	238	1.50	216

100mm Centres			Worm Input Speed (rpm)													
			125		250		500		750		1000		1500		3000	
Ratio	E %	Ts	P	T	P	T	P	T	P	T	P	T	P	T	P	T
7.5 : 1	0.96	2027	1.80	976	3.20	868	5.30	720	6.50	587	8.20	555	10.00	449	16.30	358
10 : 1	0.96	1470	1.40	1006	2.50	900	4.20	756	5.30	635	6.40	574	8.50	506	13.50	395
12.5 : 1	0.94	1093	0.96	846	1.70	750	3.00	663	3.80	558	4.80	527	6.20	451	9.50	337
15 : 1	0.93	2092	1.20	1250	2.10	1095	3.40	889	4.50	782	5.60	729	7.40	638	10.40	433
20 : 1	0.92	1517	0.90	1237	1.50	1014	2.60	897	3.40	779	4.20	720	5.50	624	8.20	452
25 : 1	0.90	1113	0.62	1025	1.00	828	1.87	777	2.40	661	3.00	618	3.90	530	6.20	405
30 : 1	0.87	2110	0.73	1402	1.40	1351	2.10	1017	2.80	901	3.50	842	4.70	748	6.30	471
40 : 1	0.86	1530	0.50	1254	0.90	1135	1.55	981	2.00	839	2.30	718	3.10	638	4.60	449
50 : 1	0.82	1118	0.37	1085	0.72	1063	1.20	891	1.57	771	1.98	726	2.60	626	3.80	425
63 : 1	0.76	777	0.23	773	0.43	729	0.90	775	1.33	762	1.65	704	2.00	555	3.20	409
82 : 1	0.73	556	0.13	529	0.25	513	0.52	524	0.76	521	1.00	511	1.50	506	2.40	371

125mm Centres			Worm Input Speed (rpm)													
			125		250		500		750		1000		1500		3000	
Ratio	E %	Ts	P	T	P	T	P	T	P	T	P	T	P	T	P	T
7.25 : 1	0.96	3979	3.50	1851	6.00	1585	10.50	1391	13.00	1147	16.30	1077	20.40	893	25.50	542
10 : 1	0.96	2702	2.75	1994	5.20	1887	8.60	1563	11.00	1331	13.60	1233	17.20	1036	19.00	557
12.5 : 1	0.95	1865	1.85	1655	3.20	1432	6.20	1391	7.60	1134	9.40	1050	12.40	920	15.00	539
14.5 : 1	0.93	4107	2.40	2452	4.20	2144	7.20	1848	10.00	1710	11.50	1471	14.50	1229	15.00	604
20 : 1	0.93	2789	1.70	2369	3.10	2164	5.10	1786	7.10	1656	8.30	1449	11.00	1274	12.00	666
25 : 1	0.91	1904	1.00	1695	1.90	1614	3.40	1450	4.60	1305	5.60	1188	7.50	1054	9.00	600
29 : 1	0.88	4143	1.50	2860	2.70	2573	4.40	2116	5.80	1856	6.70	1602	8.60	1357	9.60	697
40 : 1	0.87	2813	0.95	2445	1.80	2326	3.10	2017	4.10	1774	5.00	1618	6.60	1413	7.00	801
50 : 1	0.84	1915	0.61	1868	1.20	1847	2.20	1708	3.00	1549	3.50	1347	4.60	1167	6.00	703
62 : 1	0.79	1487	0.42	1467	0.83	1457	1.60	1424	2.30	1362	3.00	1330	4.00	1166	5.80	769
83 : 1	0.76	1024	0.23	1013	0.46	1020	0.90	1008	1.30	966	1.70	943	2.60	955	4.60	793

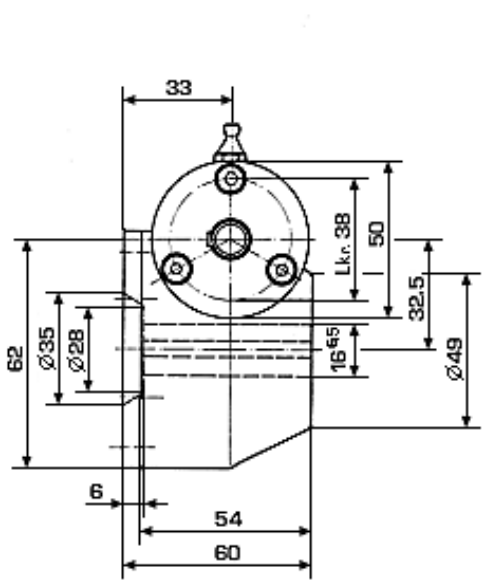
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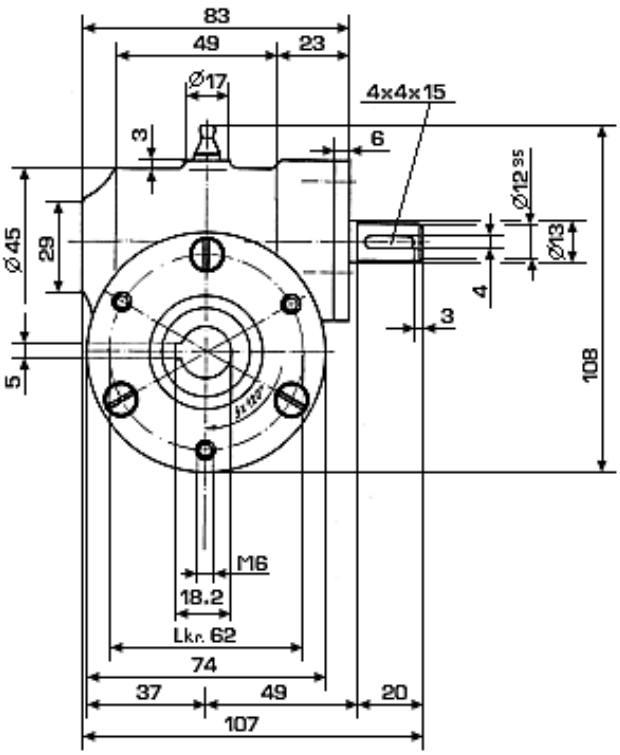
WMH Transmissions Limited



Worm Gear Reducers

For Low Speed Manual Operations





Case	Worm	Wheel	Ratio	Torque	Lubrication	Weight	Part Number
Cast Iron	Steel	Bronze	30 : 1	20 Nm	Grease	1.5 kg	570-203-030

THE ABOVE WORM GEAR REDUCERS ARE RECOMMENDED FOR SIMPLE, LOW SPEED, LOW DUTY, MANUAL OPERATIONS ONLY AND CAN BE GREASED VIA THE GREASE NIPPLE IN THE CASING

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Sprockets, Platewheels & Chain



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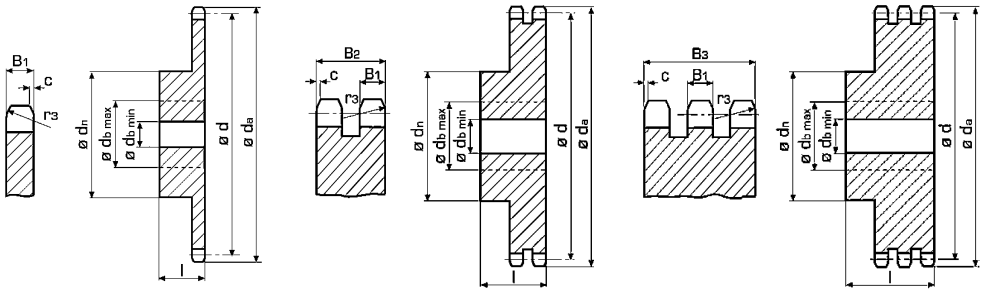
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Sprockets – 3/8” Pitch (06B)

Steel – DIN 8192

Parameter	Value
Chain Pitch	3 / 8 “
Inner Width	7 / 32 “
Roller Dia.	1 / 4 “
Dim r3	10 mm
Dim C	1.0 mm
Dim B1	5.3 mm
Dim B2	15.4 mm
Dim B3	25.6 mm
Min Strength	500 N/mm²



Teeth	Ø da	Ø d	Ødn	Ødb max	Simplex				Duplex				Triplex			
					Ødb min	l	Mass kg	Part Number	Ødb min	l	Mass kg	Part Number	Ødb min	l	Mass kg	Part Number
8	28	24.89	12	8	6	13	0.02	201-101-008	-	-	-	-	-	-	-	-
9	31	27.85	15	10	8	13	0.03	201-101-009	-	-	-	-	-	-	-	-
10	34	30.82	18	12	8	13	0.03	201-101-010	8	22	0.07	201-102-010	-	-	-	-
11	37	33.81	21	14	8	16	0.05	201-101-011	10	25	0.08	201-102-011	-	-	-	-
12	40	36.80	25	16	8	16	0.07	201-101-012	10	25	0.11	201-102-012	-	-	-	-
13	43	39.80	28	18	8	16	0.09	201-101-013	10	25	0.14	201-102-013	10	35	0.22	201-103-013
14	46	42.80	31	20	8	16	0.11	201-101-014	10	25	0.17	201-102-014	-	-	-	-
15	49	45.81	34	22	8	16	0.13	201-101-015	10	25	0.20	201-102-015	10	35	0.28	201-103-015
16	52	48.82	37	23	10	16	0.15	201-101-016	12	25	0.24	201-102-016	-	-	-	-
17	55	51.84	40	25	10	16	0.18	201-101-017	12	25	0.28	201-102-017	12	35	0.39	201-103-017
18	58.5	54.85	45	28	10	16	0.20	201-101-018	12	25	0.32	201-102-018	-	-	-	-
19	61	57.87	45	28	10	16	0.23	201-101-019	12	25	0.35	201-102-019	12	35	0.56	201-103-019
20	65	60.89	45	28	10	16	0.25	201-101-020	12	25	0.41	201-102-020	-	-	-	-
21	67	63.91	50	30	12	20	0.26	201-101-021	16	25	0.50	201-102-021	16	40	0.70	201-103-021
22	71	66.93	55	35	12	20	0.28	201-101-022	16	25	0.58	201-102-022	-	-	-	-
23	73	69.95	55	35	12	20	0.33	201-101-023	16	25	0.64	201-102-023	16	40	0.85	201-103-023
24	77	72.97	55	35	12	20	0.34	201-101-024	16	25	0.68	201-102-024	-	-	-	-
25	79	76.00	60	40	12	20	0.36	201-101-025	16	25	0.74	201-102-025	16	40	1.00	201-103-025
26	83	79.02	60	40	16	20	0.38	201-101-026	-	-	-	-	-	-	-	-
27	86	82.05	60	40	16	20	0.40	201-101-027	-	-	-	-	-	-	-	-
28	89	85.07	60	40	16	20	0.42	201-101-028	-	-	-	-	-	-	-	-
29	92.5	88.10	60	40	16	20	0.44	201-101-029	-	-	-	-	-	-	-	-
30	95.5	91.12	60	40	16	20	0.46	201-101-030	16	30	1.32	201-102-030	-	-	-	-
31	98.5	94.15	65	43	16	20	0.62	201-101-031	-	-	-	-	-	-	-	-
32	101.5	97.18	65	43	16	20	0.63	201-101-032	-	-	-	-	-	-	-	-
33	104.5	100.20	65	43	16	20	0.65	201-101-033	-	-	-	-	-	-	-	-
34	107.5	103.23	65	43	16	20	0.67	201-101-034	-	-	-	-	-	-	-	-
35	110.5	106.26	65	43	16	20	0.69	201-101-035	-	-	-	-	-	-	-	-
36	113.5	109.29	70	48	16	20	0.78	201-101-036	-	-	-	-	-	-	-	-
37	116.5	112.32	70	48	16	20	0.80	201-101-037	-	-	-	-	-	-	-	-
38	119	115.34	70	48	16	20	0.82	201-101-038	-	-	-	-	-	-	-	-
39	122.5	118.37	70	48	16	20	0.83	201-101-039	-	-	-	-	-	-	-	-
40	125.5	121.40	70	48	16	20	0.85	201-101-040	-	-	-	-	-	-	-	-

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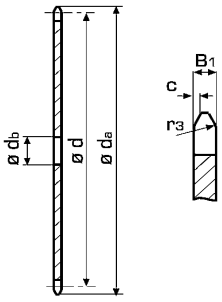


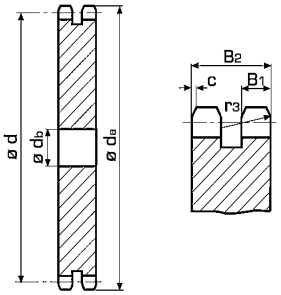
Platewheels - 3/8” Pitch (06B)

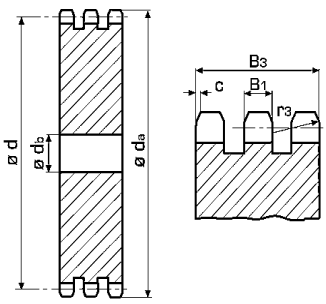
Steel – DIN 8192

Teeth	Ø da	Ø d	Simplex			Duplex			Triplex		
			Ødb	Mass kg	Part Number	Ødb	Mass kg	Part Number	Ødb	Mass kg	Part Number
10	34	30.82	8	0.02	200-101-010	-	-	-	-	-	-
11	37	33.81	8	0.03	200-101-011	-	-	-	-	-	-
12	40	36.80	8	0.04	200-101-012	-	-	-	-	-	-
13	43	39.80	8	0.04	200-101-013	10	0.10	200-102-013	-	-	-
14	46	42.80	8	0.05	200-101-014	10	0.12	200-102-014	-	-	-
15	49	45.81	8	0.06	200-101-015	10	0.14	200-102-015	-	-	-
16	52	48.82	10	0.06	200-101-016	12	0.16	200-102-016	-	-	-
17	55	51.84	10	0.07	200-101-017	12	0.18	200-102-017	12	0.31	200-103-017
18	58.5	54.85	10	0.08	200-101-018	12	0.20	200-102-018	12	0.34	200-103-018
19	61	57.87	10	0.09	200-101-019	12	0.24	200-102-019	12	0.39	200-103-019
20	65	60.89	10	0.10	200-101-020	12	0.27	200-102-020	12	0.44	200-103-020
21	67	63.91	12	0.11	200-101-021	12	0.30	200-102-021	16	0.50	200-103-021
22	71	66.93	12	0.12	200-101-022	12	0.33	200-102-022	16	0.55	200-103-022
23	73	69.95	12	0.14	200-101-023	12	0.36	200-102-023	16	0.61	200-103-023
24	77	72.97	12	0.15	200-101-024	12	0.40	200-102-024	16	0.67	200-103-024
25	79	76.00	12	0.16	200-101-025	12	0.43	200-102-025	16	0.73	200-103-025
26	83	79.02	16	0.18	200-101-026	16	0.48	200-102-026	-	-	-
27	86	82.05	16	0.19	200-101-027	16	0.52	200-102-027	16	0.89	200-103-027
28	89	85.07	16	0.20	200-101-028	16	0.57	200-102-028	16	0.97	200-103-028
29	92.5	88.10	16	0.22	200-101-029	-	-	-	-	-	-
30	95.5	91.12	16	0.24	200-101-030	16	0.68	200-102-030	16	1.14	200-103-030
31	98.5	94.15	16	0.26	200-101-031	-	-	-	-	-	-
32	101.5	97.18	16	0.27	200-101-032	16	0.80	200-102-032	-	-	-
33	104.5	100.20	16	0.28	200-101-033	-	-	-	-	-	-
34	107.5	103.23	16	0.29	200-101-034	-	-	-	-	-	-
35	110.5	106.26	16	0.32	200-101-035	16	0.97	200-102-035	16	1.56	200-103-035
36	113.5	109.29	16	0.35	200-101-036	16	1.03	200-102-036	-	-	-
37	116.5	112.32	16	0.37	200-101-037	-	-	-	-	-	-
38	119	115.34	16	0.39	200-101-038	16	1.10	200-102-038	20	1.80	200-103-038
39	122.5	118.37	16	0.40	200-101-039	-	-	-	-	-	-
40	125.5	121.40	16	0.41	200-101-040	16	1.20	200-102-040	-	-	-
41	128.5	124.43	16	0.46	200-101-041	-	-	-	-	-	-
42	131.5	127.46	16	0.49	200-101-042	-	-	-	-	-	-
43	134.5	130.49	16	0.51	200-101-043	-	-	-	-	-	-
44	137.5	133.52	16	0.53	200-101-044	-	-	-	-	-	-
45	141	136.55	16	0.55	200-101-045	20	1.56	200-102-045	20	2.62	200-103-045
46	144	139.58	20	0.57	200-101-046	-	-	-	-	-	-
47	147	142.61	20	0.59	200-101-047	-	-	-	-	-	-
48	150	145.64	20	0.62	200-101-048	20	1.82	200-102-048	-	-	-
49	153	148.67	20	0.64	200-101-049	-	-	-	-	-	-
50	156	151.69	20	0.67	200-101-050	-	-	-	-	-	-
52	162	157.75	20	0.74	200-101-052	-	-	-	-	-	-
54	168	163.82	20	0.80	200-101-054	20	2.33	200-102-054	-	-	-
57	177	172.91	20	0.90	200-101-057	20	2.60	200-102-057	25	4.39	200-103-057
60	186	181.99	20	0.98	200-101-060	-	-	-	-	-	-
62	192.5	188.06	20	1.05	200-101-062	-	-	-	-	-	-
65	201.5	197.15	20	1.15	200-101-065	-	-	-	-	-	-
70	216.5	212.30	25	1.34	200-101-070	-	-	-	-	-	-
72	222.5	218.37	25	1.43	200-101-072	-	-	-	-	-	-
76	234	230.49	25	1.60	200-101-076	25	4.68	200-102-076	-	-	-
80	247	242.61	25	1.75	200-101-080	25	5.25	200-102-080	-	-	-
90	277	272.93	25	2.25	200-101-090	-	-	-	-	-	-
95	292	288.08	25	2.50	200-101-095	25	7.45	200-102-095	-	-	-

Parameter	Value
Chain Pitch	3 / 8 “
Inner Width	7 / 32 “
Roller Dia.	1 / 4 “
Dim r3	10 mm
Dim C	1.0 mm
Dim B1	5.3 mm
Dim B2	15.4 mm
Dim B3	25.6 mm
Min Strength	500 N/mm²







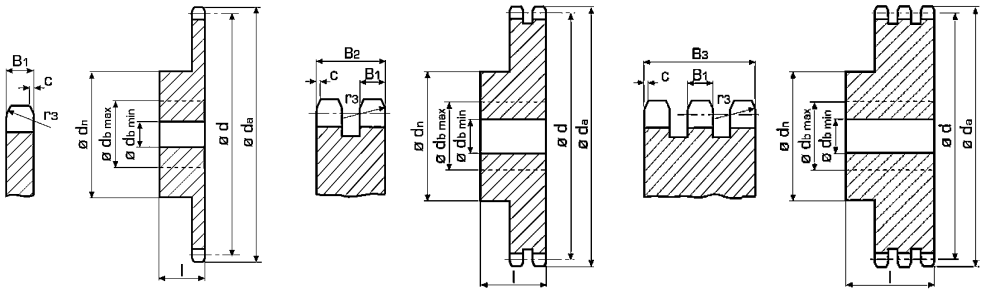
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Sprockets – 1/2” Pitch (08B)

Steel – DIN 8192

Parameter	Value
Chain Pitch	1 / 2 “
Inner Width	5 / 16 “
Roller Dia.	0.335 “
Dim r3	13 mm
Dim C	1.3 mm
Dim B1	7.2 mm
Dim B2	21.0 mm
Dim B3	34.9 mm
Min Strength	500 N/mm²



Teeth	Ø da	Ø d	Ødn	Ødb max	Simplex				Duplex				Triplex			
					Ødb min	l	Mass kg	Part Number	Ødb min	l	Mass kg	Part Number	Ødb min	l	Mass kg	Part Number
8	38	33.19	16	10	8	18	0.05	201-201-008	-	-	-	-	-	-	-	-
9	42	37.13	20	13	8	18	0.07	201-201-009	-	-	-	-	-	-	-	-
10	46	41.10	24	16	8	18	0.09	201-201-010	10	32	0.16	201-202-010	-	-	-	-
11	50	45.08	28	18	10	20	0.12	201-201-011	12	35	0.21	201-202-011	-	-	-	-
12	54	49.07	32	21	10	20	0.16	201-201-012	12	35	0.28	201-202-012	-	-	-	-
13	58	53.07	36	23	10	20	0.20	201-201-013	12	35	0.35	201-202-013	16	45	0.47	201-203-013
14	62	57.07	41	26	10	20	0.24	201-201-014	12	35	0.42	201-202-014	-	-	-	-
15	66	61.08	45	28	10	20	0.29	201-201-015	12	35	0.50	201-202-015	16	45	0.80	201-203-015
16	70	65.10	49	30	12	20	0.41	201-201-016	12	35	0.58	201-202-016	-	-	-	-
17	74	69.12	50	30	12	20	0.47	201-201-017	12	35	0.68	201-202-017	16	45	0.97	201-203-017
18	78	73.14	55	35	12	20	0.52	201-201-018	16	35	0.76	201-202-018	-	-	-	-
19	82	77.16	60	40	12	20	0.59	201-201-019	16	35	0.87	201-202-019	16	45	1.25	201-203-019
20	86	81.18	60	40	12	25	0.64	201-201-020	16	35	1.00	201-202-020	-	-	-	-
21	90.5	85.21	60	40	14	25	0.71	201-201-021	16	35	1.20	201-202-021	16	45	1.65	201-203-021
22	94.5	89.24	60	40	14	25	0.74	201-201-022	16	35	1.27	201-202-022	-	-	-	-
23	98.5	93.27	60	40	14	25	0.77	201-201-023	16	35	1.36	201-202-023	16	45	1.92	201-203-023
24	102.5	97.30	60	40	14	25	0.80	201-201-024	16	35	1.48	201-202-024	-	-	-	-
25	107	101.33	60	40	14	25	0.84	201-201-025	16	35	1.55	201-202-025	16	50	2.23	201-203-025
26	111	105.36	70	46	16	30	1.08	201-201-026	-	-	-	-	-	-	-	-
27	115	109.40	70	46	16	30	1.12	201-201-027	-	-	-	-	-	-	-	-
28	119	113.43	70	46	16	30	1.16	201-201-028	-	-	-	-	-	-	-	-
29	123	117.46	70	46	16	30	1.20	201-201-029	-	-	-	-	-	-	-	-
30	127	121.50	70	46	16	30	1.25	201-201-030	16	40	2.14	201-202-030	-	-	-	-
31	131	125.53	70	46	16	30	1.28	201-201-031	-	-	-	-	-	-	-	-
32	135	129.57	70	46	16	30	1.31	201-201-032	-	-	-	-	-	-	-	-
33	139	133.61	70	46	16	30	1.35	201-201-033	-	-	-	-	-	-	-	-
34	143	137.64	70	46	16	30	1.40	201-201-034	-	-	-	-	-	-	-	-
35	147	141.68	70	46	16	30	1.45	201-201-035	-	-	-	-	-	-	-	-
36	151	145.72	80	50	20	30	1.81	201-201-036	-	-	-	-	-	-	-	-
37	155	149.75	80	50	20	30	1.87	201-201-037	-	-	-	-	-	-	-	-
38	159	153.79	80	50	20	30	1.92	201-201-038	-	-	-	-	-	-	-	-
39	163.5	157.83	80	50	20	30	1.96	201-201-039	-	-	-	-	-	-	-	-
40	167.5	161.87	80	50	20	30	2.01	201-201-040	-	-	-	-	-	-	-	-

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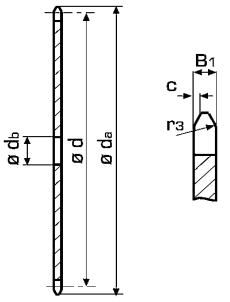


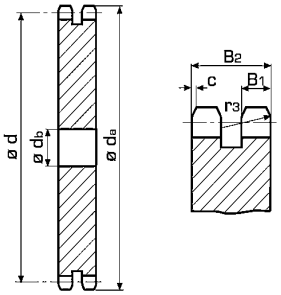
Platewheels - 1/2” Pitch (08B)

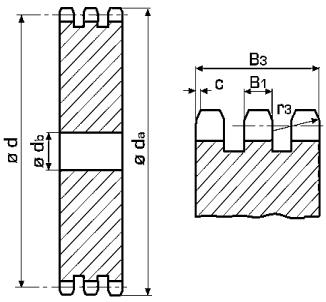
Steel – DIN 8192

Teeth	Ø da	Ø d	Simplex			Duplex			Triplex		
			Ødb	Mass kg	Part Number	Ødb	Mass kg	Part Number	Ødb	Mass kg	Part Number
10	46	41.10	8	0.06	200-201-010	-	-	-	-	-	-
11	50	45.08	10	0.07	200-201-011	-	-	-	-	-	-
12	54	49.07	10	0.08	200-201-012	-	-	-	-	-	-
13	58	53.07	10	0.10	200-201-013	10	0.25	200-202-013	-	-	-
14	62	57.07	10	0.11	200-201-014	10	0.30	200-202-014	-	-	-
15	66	61.08	10	0.13	200-201-015	10	0.35	200-202-015	-	-	-
16	70	65.10	10	0.16	200-201-016	12	0.39	200-202-016	-	-	-
17	74	69.12	10	0.18	200-201-017	12	0.46	200-202-017	16	0.80	200-203-017
18	78	73.14	10	0.20	200-201-018	12	0.52	200-202-018	16	0.90	200-203-018
19	82	77.16	10	0.23	200-201-019	12	0.59	200-202-019	16	0.98	200-203-019
20	86	81.18	10	0.25	200-201-020	12	0.67	200-202-020	16	1.06	200-203-020
21	90.5	85.21	12	0.28	200-201-021	16	0.73	200-202-021	16	1.20	200-203-021
22	94.5	89.24	12	0.30	200-201-022	16	0.81	200-202-022	16	1.30	200-203-022
23	98.5	93.27	12	0.33	200-201-023	16	0.90	200-202-023	16	1.47	200-203-023
24	102.5	97.30	12	0.37	200-201-024	16	0.99	200-202-024	16	1.60	200-203-024
25	107	101.33	12	0.40	200-201-025	16	1.08	200-202-025	16	1.87	200-203-025
26	111	105.36	16	0.43	200-201-026	16	1.17	200-202-026	-	-	-
27	115	109.40	16	0.47	200-201-027	16	1.28	200-202-027	16	2.22	200-203-027
28	119	113.43	16	0.50	200-201-028	16	1.39	200-202-028	16	2.39	200-203-028
29	123	117.46	16	0.55	200-201-029	-	-	-	-	-	-
30	127	121.50	16	0.58	200-201-030	16	1.62	200-202-030	16	2.73	200-203-030
31	131	125.53	16	0.62	200-201-031	-	-	-	-	-	-
32	135	129.57	16	0.66	200-201-032	16	1.87	200-202-032	-	-	-
33	139	133.61	16	0.70	200-201-033	-	-	-	-	-	-
34	143	137.64	16	0.75	200-201-034	-	-	-	-	-	-
35	147	141.68	16	0.79	200-201-035	16	2.26	200-202-035	20	3.70	200-203-035
36	151	145.72	16	0.84	200-201-036	20	2.38	200-202-036	-	-	-
37	155	149.75	16	0.90	200-201-037	-	-	-	-	-	-
38	159	153.79	16	0.94	200-201-038	20	2.66	200-202-038	20	4.45	200-203-038
39	163.5	157.83	16	0.99	200-201-039	-	-	-	-	-	-
40	167.5	161.87	16	1.04	200-201-040	20	2.96	200-202-040	-	-	-
41	171.5	165.91	20	1.10	200-201-041	-	-	-	-	-	-
42	175.5	169.94	20	1.15	200-201-042	-	-	-	-	-	-
43	179.5	173.98	20	1.20	200-201-043	-	-	-	-	-	-
44	183.5	178.02	20	1.25	200-201-044	-	-	-	-	-	-
45	187.5	182.06	20	1.30	200-201-045	20	3.80	200-202-045	25	6.30	200-203-045
46	191.5	186.10	20	1.36	200-201-046	-	-	-	-	-	-
47	195.5	190.14	20	1.40	200-201-047	-	-	-	-	-	-
48	199.5	194.18	20	1.50	200-201-048	20	4.35	200-202-048	-	-	-
49	203.5	198.22	20	1.55	200-201-049	-	-	-	-	-	-
50	207.5	202.26	20	1.66	200-201-050	-	-	-	-	-	-
52	216	210.34	20	1.80	200-201-052	-	-	-	-	-	-
54	224	218.42	20	1.88	200-201-054	25	5.54	200-202-054	-	-	-
57	236	230.54	20	2.10	200-201-057	25	6.26	200-202-057	25	10.37	200-203-057
60	248	242.66	20	2.36	200-201-060	-	-	-	-	-	-
62	256	250.74	25	2.54	200-201-062	-	-	-	-	-	-
65	268.5	262.87	25	2.75	200-201-065	-	-	-	-	-	-
70	288.5	283.07	25	3.22	200-201-070	-	-	-	-	-	-
72	296.5	291.15	25	3.40	200-201-072	-	-	-	-	-	-
76	313	307.32	25	3.86	200-201-076	25	11.32	200-202-076	-	-	-
80	329	323.49	25	4.26	200-201-080	25	12.78	200-202-080	-	-	-
90	369.5	363.90	25	5.43	200-201-090	-	-	-	-	-	-
95	389.5	384.11	25	6.07	200-201-095	25	18.08	200-202-095	-	-	-
100	410	404.32	25	6.72	200-201-100	-	-	-	-	-	-
114	466	460.91	25	8.85	200-201-114	-	-	-	-	-	-
125	511	505.37	25	10.50	200-201-125	-	-	-	-	-	-

Parameter	Value
Chain Pitch	1 / 2 “
Inner Width	5 / 16 “
Roller Dia.	0.335 “
Dim r3	13 mm
Dim C	1.3 mm
Dim B1	7.2 mm
Dim B2	21.0 mm
Dim B3	34.9 mm
Min Strength	500 N/mm²







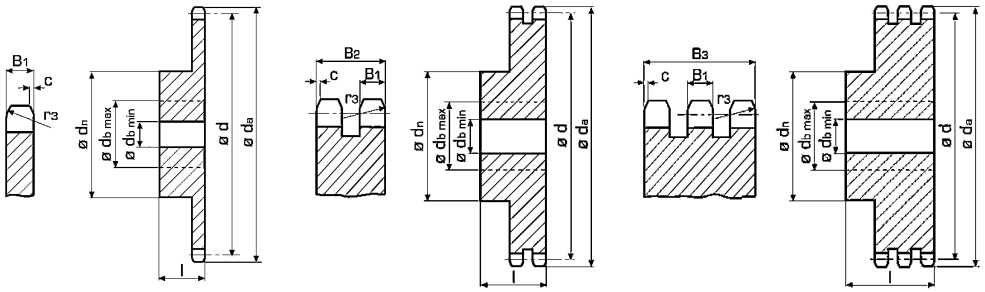
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Sprockets – 5/8” Pitch (10B)

Steel – DIN 8192

Parameter	Value
Chain Pitch	5 / 8 “
Inner Width	3 / 8 “
Roller Dia.	2 / 5 “
Dim r3	16 mm
Dim C	1.6 mm
Dim B1	9.1 mm
Dim B2	25.5 mm
Dim B3	42.1 mm
Min Strength	500 N/mm²



Teeth	Ø da	Ø d	Ødn	Ødb max	Simplex				Duplex				Triplex			
					Ødb min	l	Mass kg	Part Number	Ødb min	l	Mass kg	Part Number	Ødb min	l	Mass kg	Part Number
8	47	41.48	20	12	10	22	0.09	201-301-008	-	-	-	-	-	-	-	-
9	53	46.42	25	15	10	22	0.13	201-301-009	-	-	-	-	-	-	-	-
10	58	51.37	30	18	10	22	0.18	201-301-010	12	40	0.34	201-302-010	-	-	-	-
11	62	56.35	35	22	12	25	0.26	201-301-011	16	40	0.40	201-302-011	-	-	-	-
12	67	61.34	40	25	12	25	0.32	201-301-012	16	40	0.51	201-302-012	-	-	-	-
13	73	66.33	45	28	12	25	0.40	201-301-013	16	40	0.65	201-302-013	16	55	0.92	201-303-013
14	78	71.34	51	32	12	25	0.49	201-301-014	16	40	0.79	201-302-014	-	-	-	-
15	83	76.35	57	35	12	25	0.58	201-301-015	16	40	0.94	201-302-015	16	55	1.31	201-303-015
16	88.5	81.37	60	40	14	30	0.74	201-301-016	16	45	1.18	201-302-016	-	-	-	-
17	92	86.39	60	40	14	30	0.82	201-301-017	16	45	1.37	201-302-017	16	60	1.90	201-303-017
18	98.5	91.42	70	50	14	30	1.00	201-301-018	16	45	1.60	201-302-018	-	-	-	-
19	103	96.45	70	50	14	30	1.14	201-301-019	16	45	1.82	201-302-019	16	60	2.40	201-303-019
20	109	101.48	70	50	16	30	1.25	201-301-020	16	45	2.00	201-302-020	-	-	-	-
21	113	106.51	70	50	16	30	1.35	201-301-021	16	45	2.17	201-302-021	16	60	3.00	201-303-021
22	119	111.55	70	50	16	30	1.40	201-301-022	16	45	2.32	201-302-022	-	-	-	-
23	123	116.59	70	50	16	30	1.46	201-301-023	16	45	2.48	201-302-023	16	60	3.55	201-303-023
24	129	121.62	70	50	16	30	1.52	201-301-024	16	45	2.66	201-302-024	-	-	-	-
25	133	126.66	70	50	16	30	1.58	201-301-025	16	45	2.85	201-302-025	16	60	4.15	201-303-025
26	139	131.70	80	55	20	35	1.94	201-301-026	-	-	-	-	-	-	-	-
27	144	136.74	80	55	20	35	2.01	201-301-027	-	-	-	-	-	-	-	-
28	149	141.79	80	55	20	35	2.11	201-301-028	-	-	-	-	-	-	-	-
29	154	146.83	80	55	20	35	2.19	201-301-029	-	-	-	-	-	-	-	-
30	159	151.87	85	58	20	35	2.23	201-301-030	20	45	3.85	201-302-030	-	-	-	-
31	164.5	156.92	85	58	20	35	2.31	201-301-031	-	-	-	-	-	-	-	-
32	169.5	161.96	85	58	20	35	2.40	201-301-032	-	-	-	-	-	-	-	-
33	174.5	167.01	85	58	20	35	2.49	201-301-033	-	-	-	-	-	-	-	-
34	179.5	172.05	85	58	20	35	2.58	201-301-034	-	-	-	-	-	-	-	-
35	184.5	177.10	85	58	20	35	2.67	201-301-035	-	-	-	-	-	-	-	-
36	189.5	182.15	90	63	20	35	2.90	201-301-036	-	-	-	-	-	-	-	-
37	194.5	187.19	90	63	20	35	3.00	201-301-037	-	-	-	-	-	-	-	-
38	199	192.24	90	63	20	35	3.08	201-301-038	-	-	-	-	-	-	-	-
39	204.5	197.29	90	63	20	35	3.22	201-301-039	-	-	-	-	-	-	-	-
40	209.5	202.33	90	63	20	35	3.37	201-301-040	-	-	-	-	-	-	-	-

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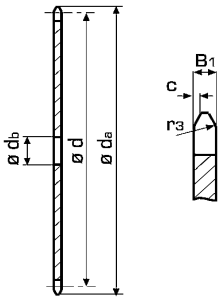


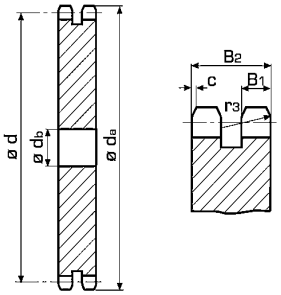
Platewheels - 5/8” Pitch (10B)

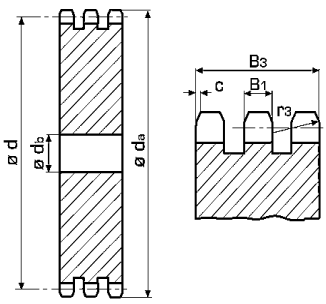
Steel – DIN 8192

Teeth	Ø da	Ø d	Simplex			Duplex			Triplex		
			Ødb	Mass kg	Part Number	Ødb	Mass kg	Part Number	Ødb	Mass kg	Part Number
10	58	51.37	10	0.11	200-301-010	-	-	-	-	-	-
11	62	56.35	10	0.14	200-301-011	-	-	-	-	-	-
12	67	61.34	10	0.17	200-301-012	-	-	-	-	-	-
13	73	66.33	10	0.20	200-301-013	12	0.51	200-302-013	-	-	-
14	78	71.34	10	0.23	200-301-014	12	0.60	200-302-014	-	-	-
15	83	76.35	10	0.27	200-301-015	12	0.70	200-302-015	-	-	-
16	88.5	81.37	12	0.31	200-301-016	12	0.80	200-302-016	-	-	-
17	92	86.39	12	0.35	200-301-017	12	0.91	200-302-017	16	1.44	200-303-017
18	98.5	91.42	12	0.39	200-301-018	12	1.03	200-302-018	16	1.65	200-303-018
19	103	96.45	12	0.44	200-301-019	12	1.17	200-302-019	16	1.87	200-303-019
20	109	101.48	12	0.49	200-301-020	12	1.32	200-302-020	16	2.10	200-303-020
21	113	106.51	12	0.55	200-301-021	16	1.45	200-302-021	16	2.38	200-303-021
22	119	111.55	12	0.61	200-301-022	16	1.58	200-302-022	16	2.65	200-303-022
23	123	116.59	12	0.67	200-301-023	16	1.74	200-302-023	16	2.93	200-303-023
24	129	121.62	12	0.73	200-301-024	16	1.91	200-302-024	16	3.20	200-303-024
25	133	126.66	12	0.79	200-301-025	16	2.10	200-302-025	16	3.50	200-303-025
26	139	131.70	16	0.84	200-301-026	16	2.30	200-302-026	-	-	-
27	144	136.74	16	0.91	200-301-027	16	2.50	200-302-027	20	4.10	200-303-027
28	149	141.79	16	1.00	200-301-028	16	2.69	200-302-028	20	4.42	200-303-028
29	154	146.83	16	1.07	200-301-029	-	-	-	-	-	-
30	159	151.87	16	1.14	200-301-030	20	3.13	200-302-030	20	5.10	200-303-030
31	164.5	156.92	16	1.22	200-301-031	-	-	-	-	-	-
32	169.5	161.96	16	1.30	200-301-032	20	3.60	200-302-032	-	-	-
33	174.5	167.01	16	1.39	200-301-033	-	-	-	-	-	-
34	179.5	172.05	16	1.48	200-301-034	-	-	-	-	-	-
35	184.5	177.10	16	1.55	200-301-035	20	4.31	200-302-035	20	7.10	200-303-035
36	189.5	182.15	20	1.63	200-301-036	20	4.60	200-302-036	-	-	-
37	194.5	187.19	20	1.73	200-301-037	-	-	-	-	-	-
38	199	192.24	20	1.83	200-301-038	20	5.23	200-302-038	25	8.60	200-303-038
39	204.5	197.29	20	1.93	200-301-039	-	-	-	-	-	-
40	209.5	202.33	20	2.04	200-301-040	20	5.80	200-302-040	-	-	-
41	214.5	207.38	20	2.15	200-301-041	-	-	-	-	-	-
42	220	212.43	20	2.28	200-301-042	-	-	-	-	-	-
43	225	217.48	20	2.38	200-301-043	-	-	-	-	-	-
44	230	222.53	20	2.49	200-301-044	-	-	-	-	-	-
45	235	227.58	20	2.58	200-301-045	20	7.32	200-302-045	25	12.12	200-303-045
46	240	232.63	20	2.70	200-301-046	-	-	-	-	-	-
47	245	237.68	20	2.82	200-301-047	-	-	-	-	-	-
48	250	242.73	20	2.94	200-301-048	25	8.31	200-302-048	-	-	-
49	255	247.78	20	3.06	200-301-049	-	-	-	-	-	-
50	260	252.82	20	3.18	200-301-050	-	-	-	-	-	-
52	270.5	262.92	20	3.50	200-301-052	-	-	-	-	-	-
54	280.5	273.03	20	3.79	200-301-054	25	10.70	200-302-054	-	-	-
57	295	288.18	25	4.24	200-301-057	25	11.90	200-302-057	25	19.78	200-303-057
60	310.5	303.33	25	4.70	200-301-060	-	-	-	-	-	-
62	321	313.43	25	5.04	200-301-062	-	-	-	-	-	-
65	336	328.58	25	5.50	200-301-065	-	-	-	-	-	-
70	361	353.84	25	6.30	200-301-070	-	-	-	-	-	-
72	371.5	363.94	25	6.68	200-301-072	-	-	-	-	-	-
76	391	384.15	25	7.46	200-301-076	30	21.70	200-302-076	-	-	-
80	411.5	404.36	25	8.28	200-301-080	30	24.20	200-302-080	-	-	-
90	462	454.88	30	10.75	200-301-090	-	-	-	-	-	-
95	487	480.14	30	11.77	200-301-095	30	34.40	200-302-095	-	-	-

Parameter	Value
Chain Pitch	5 / 8 “
Inner Width	3 / 8 “
Roller Dia.	2 / 5 “
Dim r3	16 mm
Dim C	1.6 mm
Dim B1	9.1 mm
Dim B2	25.5 mm
Dim B3	42.1 mm
Min Strength	500 N/mm²







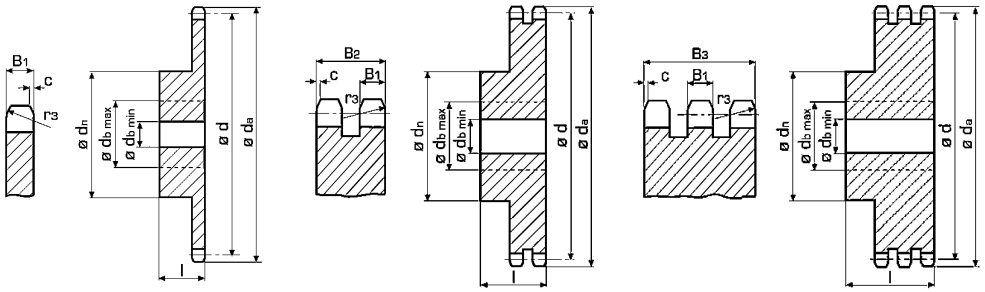
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Sprockets – 3/4” Pitch (12B)

Steel – DIN 8192

Parameter	Value
Chain Pitch	3 / 4 “
Inner Width	7 / 16 “
Roller Dia.	0.475 “
Dim r3	19 mm
Dim C	2.0 mm
Dim B1	11.1 mm
Dim B2	30.3 mm
Dim B3	49.8 mm
Min Strength	500 N/mm²



Teeth	Ø da	Ø d	Ødn	Ødb max	Simplex				Duplex				Triplex			
					Ødb min	l	Mass kg	Part Number	Ødb min	l	Mass kg	Part Number	Ødb min	l	Mass kg	Part Number
8	57	49.78	25	16	16	25	0.15	201-401-008	-	-	-	-	-	-	-	-
9	63	55.70	32	20	16	25	0.23	201-401-009	-	-	-	-	-	-	-	-
10	69	61.65	38	23	16	25	0.31	201-401-010	16	45	0.63	201-402-010	-	-	-	-
11	75	67.62	45	28	16	30	0.46	201-401-011	20	50	0.73	201-402-011	-	-	-	-
12	81	73.60	52	32	16	30	0.58	201-401-012	20	50	0.95	201-402-012	-	-	-	-
13	87	79.60	58	36	16	30	0.72	201-401-013	20	50	1.17	201-402-013	20	65	1.70	201-403-013
14	93.5	85.61	64	40	16	30	0.86	201-401-014	20	50	1.44	201-402-014	-	-	-	-
15	100	91.63	70	44	16	30	1.03	201-401-015	20	50	1.71	201-402-015	20	65	2.43	201-403-015
16	106	97.65	75	48	16	35	1.31	201-401-016	20	50	1.99	201-402-016	-	-	-	-
17	111	103.67	80	55	16	35	1.50	201-401-017	20	50	2.30	201-402-017	20	65	3.78	201-403-017
18	118.5	109.70	80	55	16	35	1.55	201-401-018	20	50	2.45	201-402-018	-	-	-	-
19	123	115.74	80	55	16	35	1.91	201-401-019	20	50	2.95	201-402-019	25	65	4.10	201-403-019
20	130.5	121.78	80	55	16	35	2.00	201-401-020	20	50	3.20	201-402-020	-	-	-	-
21	135	127.82	80	55	20	35	2.35	201-401-021	20	50	3.35	201-402-021	25	65	4.90	201-403-021
22	142.5	133.86	80	55	20	40	2.45	201-401-022	20	50	3.70	201-402-022	-	-	-	-
23	148	139.90	80	55	20	40	2.55	201-401-023	20	50	3.90	201-402-023	25	65	5.90	201-403-023
24	154	145.95	80	55	20	40	2.65	201-401-024	20	50	4.30	201-402-024	-	-	-	-
25	160	151.99	80	55	20	40	2.76	201-401-025	20	50	4.60	201-402-025	25	65	6.90	201-403-025
26	166.5	158.04	90	58	25	40	2.87	201-401-026	-	-	-	-	-	-	-	-
27	172.5	164.09	90	58	25	40	3.01	201-401-027	-	-	-	-	-	-	-	-
28	179	170.14	90	58	25	40	3.12	201-401-028	-	-	-	-	-	-	-	-
29	185	176.19	95	60	25	40	3.26	201-401-029	-	-	-	-	-	-	-	-
30	191	182.25	95	60	25	40	3.53	201-401-030	25	50	6.40	201-402-030	-	-	-	-
31	197	188.30	100	64	25	40	3.90	201-401-031	-	-	-	-	-	-	-	-
32	203	194.35	100	64	25	40	4.10	201-401-032	-	-	-	-	-	-	-	-
33	209	200.41	100	64	25	40	4.20	201-401-033	-	-	-	-	-	-	-	-
34	215	206.46	100	64	25	40	4.30	201-401-034	-	-	-	-	-	-	-	-
35	221	212.52	100	64	25	40	4.40	201-401-035	-	-	-	-	-	-	-	-
36	227	218.57	110	70	25	40	4.90	201-401-036	-	-	-	-	-	-	-	-
37	233.5	224.63	110	70	25	40	5.10	201-401-037	-	-	-	-	-	-	-	-
38	239	230.69	110	70	25	40	5.30	201-401-038	-	-	-	-	-	-	-	-
39	245.5	236.74	110	70	25	40	5.50	201-401-039	-	-	-	-	-	-	-	-
40	251.5	242.80	110	70	25	40	5.60	201-401-040	-	-	-	-	-	-	-	-

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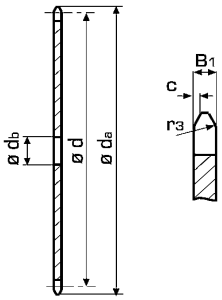


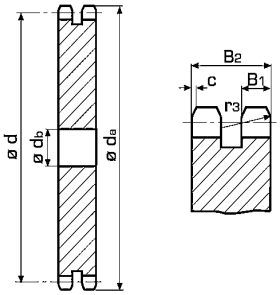
Platewheels - 3/4” Pitch (12B)

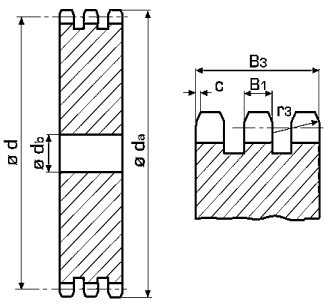
Steel – DIN 8192

Teeth	Ø da	Ø d	Simplex			Duplex			Triplex		
			Ødb	Mass kg	Part Number	Ødb	Mass kg	Part Number	Ødb	Mass kg	Part Number
10	69	61.65	10	0.20	200-401-010	-	-	-	-	-	-
11	75	67.62	12	0.24	200-401-011	-	-	-	-	-	-
12	81	73.60	12	0.29	200-401-012	-	-	-	-	-	-
13	87	79.60	12	0.35	200-401-013	12	0.85	200-402-013	-	-	-
14	93.5	85.61	12	0.41	200-401-014	12	1.06	200-402-014	-	-	-
15	100	91.63	12	0.47	200-401-015	12	1.18	200-402-015	-	-	-
16	106	97.65	12	0.54	200-401-016	16	1.37	200-402-016	-	-	-
17	111	103.67	12	0.62	200-401-017	16	1.57	200-402-017	16	2.65	200-403-017
18	118.5	109.70	12	0.70	200-401-018	16	1.78	200-402-018	16	2.90	200-403-018
19	123	115.74	12	0.78	200-401-019	16	2.00	200-402-019	16	3.35	200-403-019
20	130.5	121.78	12	0.87	200-401-020	16	2.22	200-402-020	16	3.80	200-403-020
21	135	127.82	16	0.95	200-401-021	16	2.49	200-402-021	20	4.25	200-403-021
22	142.5	133.86	16	1.05	200-401-022	16	2.77	200-402-022	20	4.70	200-403-022
23	148	139.90	16	1.15	200-401-023	16	3.05	200-402-023	20	5.16	200-403-023
24	154.5	145.95	16	1.26	200-401-024	16	3.33	200-402-024	20	5.63	200-403-024
25	160	151.99	16	1.37	200-401-025	16	3.67	200-402-025	20	6.10	200-403-025
26	166.5	158.04	16	1.50	200-401-026	20	4.05	200-402-026	-	-	-
27	172.5	164.09	16	1.64	200-401-027	20	4.40	200-402-027	20	7.10	200-403-027
28	179	170.14	16	1.78	200-401-028	20	4.90	200-402-028	20	7.60	200-403-028
29	185	176.19	16	1.88	200-401-029	-	-	-	-	-	-
30	191	182.25	16	1.99	200-401-030	20	5.40	200-402-030	20	8.70	200-403-030
31	197	188.30	20	2.12	200-401-031	-	-	-	-	-	-
32	203	194.35	20	2.26	200-401-032	20	6.22	200-402-032	-	-	-
33	209	200.41	20	2.40	200-401-033	-	-	-	-	-	-
34	215	206.46	20	2.56	200-401-034	-	-	-	-	-	-
35	221	212.52	20	2.70	200-401-035	20	7.46	200-402-035	25	12.12	200-403-035
36	227	218.57	20	2.84	200-401-036	25	7.49	200-402-036	-	-	-
37	233.5	224.63	20	3.02	200-401-037	-	-	-	-	-	-
38	239	230.69	20	3.21	200-401-038	25	8.90	200-402-038	25	14.60	200-403-038
39	245.5	236.74	20	3.39	200-401-039	-	-	-	-	-	-
40	251.5	242.80	20	3.58	200-401-040	25	9.90	200-402-040	-	-	-
41	257.5	248.86	25	3.75	200-401-041	-	-	-	-	-	-
42	263.5	254.92	25	3.93	200-401-042	-	-	-	-	-	-
43	269.5	260.98	25	4.21	200-401-043	-	-	-	-	-	-
44	275.5	267.03	25	4.40	200-401-044	-	-	-	-	-	-
45	282	273.09	25	4.60	200-401-045	25	12.50	200-402-045	25	20.60	200-403-045
46	288	279.15	25	4.93	200-401-046	-	-	-	-	-	-
47	294	285.21	25	5.03	200-401-047	-	-	-	-	-	-
48	300	291.27	25	5.13	200-401-048	25	14.30	200-402-048	-	-	-
49	306	297.33	25	5.35	200-401-049	-	-	-	-	-	-
50	312	303.39	25	5.64	200-401-050	-	-	-	-	-	-
52	324	315.51	25	6.00	200-401-052	-	-	-	-	-	-
54	336.5	327.63	25	6.62	200-401-054	25	18.40	200-402-054	-	-	-
57	354	345.81	25	7.56	200-401-057	25	20.46	200-402-057	30	34.00	200-403-057
60	372.5	363.99	25	8.20	200-401-060	-	-	-	-	-	-
62	385	376.12	25	8.60	200-401-062	-	-	-	-	-	-
65	403	394.30	25	9.60	200-401-065	-	-	-	-	-	-
70	433.5	424.61	30	11.25	200-401-070	-	-	-	-	-	-
72	445.5	436.73	30	11.90	200-401-072	-	-	-	-	-	-
76	470	460.98	30	13.08	200-401-076	30	37.10	200-402-076	-	-	-
80	494	485.23	30	14.32	200-401-080	30	41.20	200-402-080	-	-	-
90	554.5	545.85	30	18.42	200-401-090	-	-	-	-	-	-
95	585	576.17	30	20.12	200-401-095	30	58.50	200-402-095	-	-	-

Parameter	Value
Chain Pitch	3 / 4 “
Inner Width	7 / 16 “
Roller Dia.	0.475 “
Dim r3	19 mm
Dim C	2.0 mm
Dim B1	11.1 mm
Dim B2	30.3 mm
Dim B3	49.8 mm
Min Strength	500 N/mm²







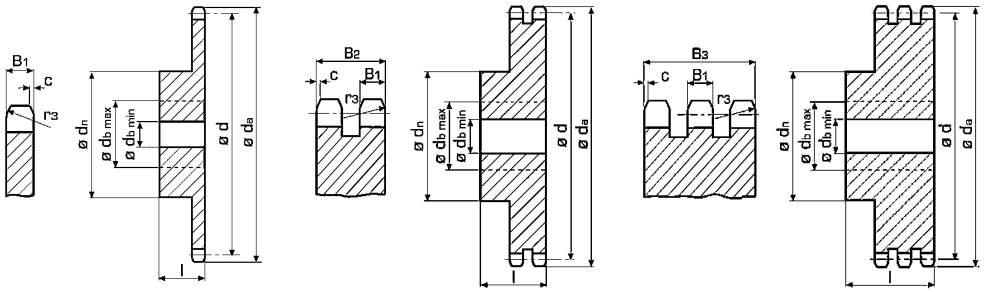
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Sprockets – 1” Pitch (16B)

Steel – DIN 8192

Parameter	Value
Chain Pitch	1 “
Inner Width	0.67 “
Roller Dia.	5 / 8 “
Dim r3	26 mm
Dim C	2.5 mm
Dim B1	16.2 mm
Dim B2	47.7 mm
Dim B3	79.6 mm
Min Strength	500 N/mm²



Teeth	Ø da	Ø d	Ødn	Ødb max	Simplex				Duplex				Triplex			
					Ødb min	l	Mass kg	Part Number	Ødb min	l	Mass kg	Part Number	Ødb min	l	Mass kg	Part Number
8	76	66.37	36	22	16	35	0.46	201-501-008	-	-	-	-	-	-	-	-
9	84	74.26	45	28	16	35	0.65	201-501-009	-	-	-	-	-	-	-	-
10	92	82.20	53	34	16	35	0.85	201-501-010	20	65	1.53	201-502-010	-	-	-	-
11	100	90.16	61	38	20	40	1.15	201-501-011	20	70	2.00	201-502-011	-	-	-	-
12	108	98.14	70	44	20	40	1.42	201-501-012	20	70	2.73	201-502-012	-	-	-	-
13	117	106.14	78	48	20	40	1.77	201-501-013	20	70	3.15	201-502-013	25	100	4.25	201-503-013
14	125	114.15	86	53	20	40	2.12	201-501-014	20	70	3.85	201-502-014	-	-	-	-
15	133.5	122.17	94	58	20	40	2.50	201-501-015	20	70	4.45	201-502-015	25	100	6.30	201-503-015
16	141.5	130.20	100	64	20	40	3.20	201-501-016	25	70	4.90	201-502-016	-	-	-	-
17	148	138.23	110	70	20	40	3.60	201-501-017	25	70	5.75	201-502-017	30	100	8.25	201-503-017
18	157.5	146.27	110	70	20	40	4.00	201-501-018	25	70	6.40	201-502-018	-	-	-	-
19	164	154.32	110	70	20	40	4.20	201-501-019	25	70	7.10	201-502-019	30	100	10.30	201-503-019
20	173.5	162.37	110	70	20	45	4.40	201-501-020	25	70	7.50	201-502-020	-	-	-	-
21	181	170.42	110	70	25	45	5.20	201-501-021	25	70	8.46	201-502-021	30	100	12.65	201-503-021
22	190	178.48	110	70	25	50	5.45	201-501-022	30	70	9.60	201-502-022	-	-	-	-
23	197	186.54	110	70	25	50	5.75	201-501-023	30	70	10.05	201-502-023	30	100	15.15	201-503-023
24	206	194.60	110	70	25	50	6.00	201-501-024	30	70	10.86	201-502-024	-	-	-	-
25	213	202.66	110	70	25	50	6.30	201-501-025	30	70	11.65	201-502-025	30	100	17.95	201-503-025
26	222	210.72	120	76	25	50	6.65	201-501-026	-	-	-	-	-	-	-	-
27	230	218.79	120	76	25	50	7.10	201-501-027	-	-	-	-	-	-	-	-
28	238	226.86	120	76	25	50	7.45	201-501-028	-	-	-	-	-	-	-	-
29	246.5	234.93	120	76	25	50	7.80	201-501-029	-	-	-	-	-	-	-	-
30	254.5	243.00	120	76	25	50	8.17	201-501-030	30	70	16.90	201-502-030	-	-	-	-

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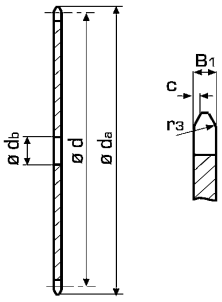


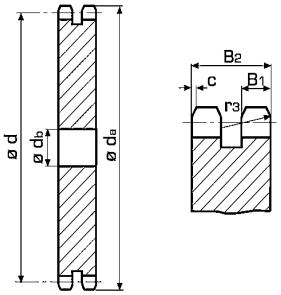
Platewheels – 1” Pitch (16B)

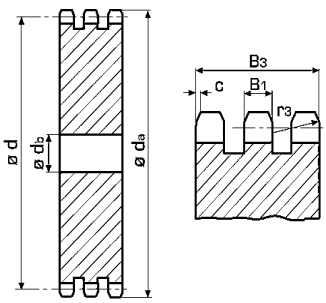
Steel – DIN 8192

Teeth	Ø da	Ø d	Simplex			Duplex			Triplex		
			Ødb	Mass kg	Part Number	Ødb	Mass kg	Part Number	Ødb	Mass kg	Part Number
10	92	82.20	12	0.53	200-501-010	-	-	-	-	-	-
11	100	90.16	16	0.65	200-501-011	-	-	-	-	-	-
12	108	98.14	16	0.78	200-501-012	-	-	-	-	-	-
13	117	106.14	16	0.91	200-501-013	16	2.30	200-502-013	20	4.40	200-503-013
14	125	114.15	16	1.06	200-501-014	16	2.80	200-502-014	-	-	-
15	133.5	122.17	16	1.23	200-501-015	16	3.30	200-502-015	20	6.30	200-503-015
16	141.5	130.20	16	1.40	200-501-016	16	3.90	200-502-016	-	-	-
17	148	138.23	16	1.60	200-501-017	16	4.40	200-502-017	20	7.40	200-503-017
18	157.5	146.27	16	1.80	200-501-018	16	5.00	200-502-018	20	8.40	200-503-018
19	164	154.32	16	2.00	200-501-019	16	5.60	200-502-019	20	9.30	200-503-019
20	173.5	162.37	16	2.25	200-501-020	16	6.20	200-502-020	20	10.15	200-503-020
21	181	170.42	16	2.50	200-501-021	20	6.90	200-502-021	20	11.60	200-503-021
22	190	178.48	16	2.75	200-501-022	20	7.70	200-502-022	20	13.00	200-503-022
23	197	186.54	16	3.02	200-501-023	20	8.40	200-502-023	20	14.30	200-503-023
24	206	194.60	16	3.30	200-501-024	20	9.20	200-502-024	20	15.60	200-503-024
25	213	202.66	16	3.59	200-501-025	20	10.10	200-502-025	20	16.90	200-503-025
26	222	210.72	20	3.90	200-501-026	20	11.00	200-502-026	-	-	-
27	230	218.79	20	4.17	200-501-027	20	12.00	200-502-027	25	20.10	200-503-027
28	238	226.86	20	4.46	200-501-028	20	12.90	200-502-028	25	21.70	200-503-028
29	246.5	234.93	20	4.82	200-501-029	-	-	-	-	-	-
30	254.5	243.00	20	5.20	200-501-030	20	14.90	200-502-030	25	25.10	200-503-030
31	262.5	251.07	20	5.60	200-501-031	-	-	-	-	-	-
32	270.5	259.14	20	6.00	200-501-032	25	17.10	200-502-032	-	-	-
33	278.5	267.21	20	6.40	200-501-033	-	-	-	-	-	-
34	286.5	275.28	20	6.80	200-501-034	-	-	-	-	-	-
35	294.5	283.36	20	7.10	200-501-035	25	20.60	200-502-035	25	34.50	200-503-035
36	303	291.43	25	7.50	200-501-036	25	21.90	200-502-036	-	-	-
37	311	299.51	25	7.90	200-501-037	-	-	-	-	-	-
38	319	307.58	25	8.30	200-501-038	25	24.60	200-502-038	25	41.20	200-503-038
39	327	315.66	25	8.85	200-501-039	-	-	-	-	-	-
40	335	323.74	25	9.45	200-501-040	25	27.50	200-502-040	-	-	-
41	343	331.81	25	9.90	200-501-041	-	-	-	-	-	-
42	351.5	339.89	25	10.35	200-501-042	-	-	-	-	-	-
43	359.5	347.97	25	10.87	200-501-043	-	-	-	-	-	-
44	367.5	356.05	25	11.35	200-501-044	-	-	-	-	-	-
45	375.5	364.12	25	11.82	200-501-045	25	35.00	200-502-045	40	57.20	200-503-045
46	383.5	372.20	25	12.40	200-501-046	-	-	-	-	-	-
47	391.5	380.28	25	13.00	200-501-047	-	-	-	-	-	-
48	399.5	388.36	25	13.58	200-501-048	40	39.50	200-502-048	-	-	-
49	408	396.44	25	14.10	200-501-049	-	-	-	-	-	-
50	416	404.52	25	14.70	200-501-050	-	-	-	-	-	-
52	432	420.68	40	15.80	200-501-052	-	-	-	-	-	-
54	448	436.84	40	16.70	200-501-054	40	52.60	200-502-054	-	-	-
57	472.5	461.08	40	18.90	200-501-057	40	57.00	200-502-057	40	96.10	200-503-057
60	496.5	485.33	40	21.10	200-501-060	-	-	-	-	-	-
62	513	501.49	40	22.40	200-501-062	-	-	-	-	-	-
65	537	525.73	40	24.70	200-501-065	-	-	-	-	-	-
70	577.5	566.15	40	28.50	200-501-070	-	-	-	-	-	-
72	593.5	582.31	40	30.20	200-501-072	-	-	-	-	-	-
76	626	614.64	40	33.60	200-501-076	40	103.0	200-502-076	-	-	-
80	658.5	646.97	40	38.00	200-501-080	40	115.0	200-502-080	-	-	-
90	739	727.80	40	48.30	200-501-090	-	-	-	-	-	-
95	779.5	768.22	40	54.00	200-501-095	40	163.0	200-502-095	-	-	-

Parameter	Value
Chain Pitch	1 “
Inner Width	0.67 “
Roller Dia.	5 / 8 “
Dim r3	26 mm
Dim C	2.5 mm
Dim B1	16.2 mm
Dim B2	47.7 mm
Dim B3	79.6 mm
Min Strength	500 N/mm²







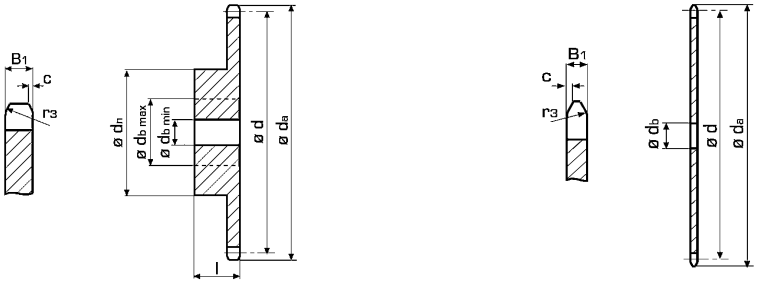
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Sprockets & Platewheels
1 1/4” Pitch (20B)

Steel – DIN 8192

Parameter	Value
Chain Pitch	1 & 1 / 4 “
Inner Width	3 / 4 “
Roller Dia.	3 / 4 “
Dim r3	32 mm
Dim C	3.5 mm
Dim B1	18.6 mm
Min Strength	500 N/mm²



Teeth	Ø da	Ø d	Simplex Sprockets						Simplex Platewheels		
			Ødn	Ødb min	Ødb max	l	Mass kg	Part Number	Ødb min	Mass kg	Part Number
10	116	102.75	67	20	39	40	1.50	201-601-010	-	-	-
11	126	112.70	77	20	46	45	2.80	201-601-011	-	-	-
12	136	122.67	87	20	54	45	3.00	201-601-012	-	-	-
13	147.5	132.67	98	20	61	45	3.24	201-601-013	16	1.72	200-601-013
14	158	142.68	108	20	68	45	3.76	201-601-014	16	2.00	200-601-014
15	168	152.71	118	20	75	45	4.55	201-601-015	16	2.32	200-601-015
16	178	162.75	120	25	75	50	5.25	201-601-016	20	2.65	200-601-016
17	186	172.79	120	25	75	50	6.00	201-601-017	20	2.97	200-601-017
18	198.5	182.84	120	25	75	50	6.35	201-601-018	20	3.50	200-601-018
19	207	192.90	120	25	75	50	6.90	201-601-019	20	3.73	200-601-019
20	219	202.96	120	25	75	50	7.30	201-601-020	20	4.10	200-601-020
21	227	213.03	120	25	75	55	9.10	201-601-021	20	4.60	200-601-021
22	239	223.10	120	25	75	55	9.55	201-601-022	20	5.00	200-601-022
23	247	233.17	120	25	75	55	10.00	201-601-023	20	5.60	200-601-023
24	259.5	243.25	120	25	75	55	10.50	201-601-024	20	6.10	200-601-024
25	268	253.32	120	25	75	55	11.00	201-601-025	20	6.65	200-601-025
27	289.5	273.49	-	-	-	-	-	-	25	7.80	200-601-027
30	320	303.75	-	-	-	-	-	-	25	9.65	200-601-030
32	340	323.92	-	-	-	-	-	-	25	11.10	200-601-032
35	370.5	354.20	-	-	-	-	-	-	25	13.18	200-601-035
38	399	384.48	-	-	-	-	-	-	25	15.46	200-601-038
40	421.5	404.67	-	-	-	-	-	-	25	17.20	200-601-040
45	472	455.15	-	-	-	-	-	-	40	21.70	200-601-045
48	502	485.45	-	-	-	-	-	-	40	25.00	200-601-048
57	592	576.35	-	-	-	-	-	-	40	34.50	200-601-057
65	673.5	657.17	-	-	-	-	-	-	40	44.80	200-601-065
76	784	768.30	-	-	-	-	-	-	40	62.90	200-601-076

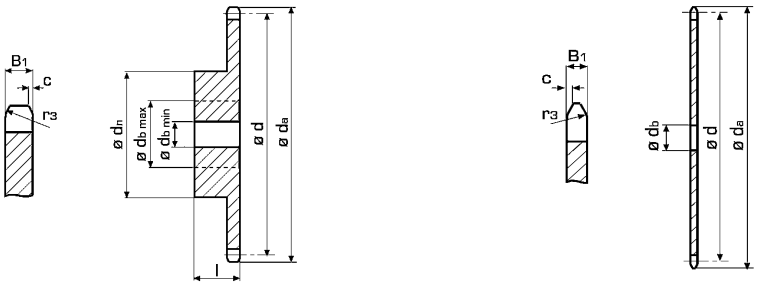
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Sprockets & Platewheels
1 1/2” Pitch (24B)

Steel – DIN 8192

Parameter	Value
Chain Pitch	1 & 1 / 2 “
Inner Width	1 “
Roller Dia.	1 “
Dim r3	38 mm
Dim C	4.0 mm
Dim B1	24.1 mm
Min Strength	500 N/mm²



Teeth	Ø da	Ø d	Simplex Sprockets						Simplex Platewheels		
			Ødn	Ødb min	Ødb max	l	Mass kg	Part Number	Ødb min	Mass kg	Part Number
10	137	123.29	80	20	46	45	2.66	201-701-010	-	-	-
11	149	135.23	92	25	54	50	3.48	201-701-011	-	-	-
12	161	147.21	104	25	62	50	4.30	201-701-012	-	-	-
13	174	159.20	116	25	70	50	5.10	201-701-013	20	3.10	200-701-013
14	186.5	171.22	128	25	80	50	6.30	201-701-014	20	3.60	200-701-014
15	198.5	183.25	130	25	80	50	7.20	201-701-015	20	4.10	200-701-015
16	210.5	195.29	130	25	80	55	8.78	201-701-016	25	4.70	200-701-016
17	222	207.35	130	25	80	55	9.45	201-701-017	25	5.30	200-701-017
18	235	219.41	130	25	80	55	10.40	201-701-018	25	6.00	200-701-018
19	246	231.48	130	25	80	55	11.10	201-701-019	25	6.70	200-701-019
20	259	243.55	130	25	80	55	11.80	201-701-020	25	7.50	200-701-020
21	271	255.63	130	25	80	60	13.32	201-701-021	25	8.30	200-701-021
22	283.5	267.72	130	30	80	60	14.30	201-701-022	25	9.20	200-701-022
23	295	279.80	130	30	80	60	15.10	201-701-023	25	10.00	200-701-023
24	308	291.90	130	30	80	60	16.00	201-701-024	25	11.10	200-701-024
25	319	303.99	130	30	80	65	16.95	201-701-025	25	11.80	200-701-025
27	344	328.19	-	-	-	-	-	-	25	14.20	200-701-027
30	380.5	364.49	-	-	-	-	-	-	25	17.00	200-701-030
32	405	388.71	-	-	-	-	-	-	40	20.30	200-701-032
35	441	425.04	-	-	-	-	-	-	40	24.50	200-701-035
38	478	461.37	-	-	-	-	-	-	40	27.60	200-701-038
40	502	485.60	-	-	-	-	-	-	40	31.60	200-701-040
45	562.5	546.19	-	-	-	-	-	-	40	39.10	200-701-045
48	599	582.54	-	-	-	-	-	-	40	45.00	200-701-048
57	708	691.62	-	-	-	-	-	-	40	64.50	200-701-057
65	805	788.60	-	-	-	-	-	-	40	84.50	200-701-065
76	940	921.96	-	-	-	-	-	-	40	116.10	200-701-076

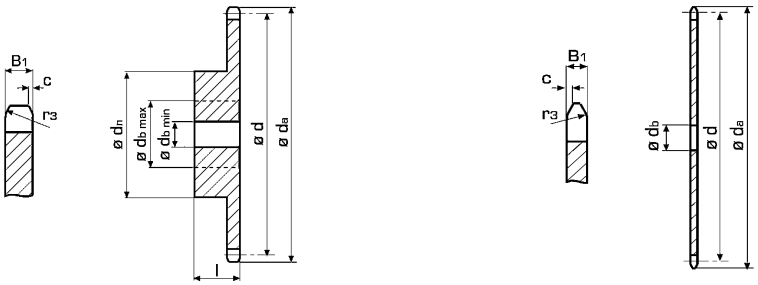
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Sprockets & Platewheels
1 3/4” (28B) & 2” Pitch (32B)

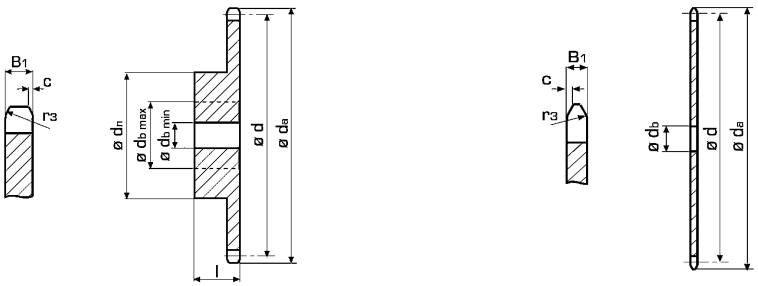
Steel – DIN 8192

Parameter	Value
Chain Pitch	1 & 3 / 4 “
Inner Width	1 & 1 / 4 “
Roller Dia.	1.10 “
Dim r3	44 mm
Dim C	5.0 mm
Dim B1	29.4 mm
Min Strength	500 N/mm²



Teeth	Ø da	Ø d	Simplex Sprockets						Simplex Platewheels		
			Ødn	Ødb min	Ødb max	l	Mass kg	Part Number	Ødb min	Mass kg	Part Number
13	206	185.74	134	30	85	70	9.55	201-751-013	-	-	-
15	234	213.79	150	30	90	70	12.60	201-751-015	-	-	-
17	262	241.91	160	35	100	70	15.32	201-751-017	-	-	-
19	291	270.06	170	35	110	70	18.60	201-751-019	-	-	-
21	319	298.24	170	40	110	70	21.10	201-751-021	-	-	-
25	376	354.65	-	-	-	-	-	-	30	20.10	200-751-025
30	446.5	425.24	-	-	-	-	-	-	40	29.20	200-751-030
38	560	538.27	-	-	-	-	-	-	40	47.40	200-751-038
45	659	637.22	-	-	-	-	-	-	40	67.00	200-751-045
57	830	806.89	-	-	-	-	-	-	50	108.80	200-751-057

Parameter	Value
Chain Pitch	2 “
Inner Width	1 & 1 / 4 “
Roller Dia.	1.15 “
Dim r3	51 mm
Dim C	6.0 mm
Dim B1	29.4 mm
Min Strength	500 N/mm²



Teeth	Ø da	Ø d	Simplex Sprockets						Simplex Platewheels		
			Ødn	Ødb min	Ødb max	l	Mass kg	Part Number	Ødb min	Mass kg	Part Number
13	237	212.27	155	40	95	70	12.72	201-801-013	-	-	-
15	270	244.33	160	40	100	70	15.48	201-801-015	-	-	-
17	301	276.46	170	40	110	70	19.00	201-801-017	-	-	-
19	334	308.46	190	40	128	70	24.00	201-801-019	-	-	-
21	367	340.84	190	45	128	70	28.20	201-801-021	-	-	-
25	433	405.32	-	-	-	-	-	-	40	26.30	200-801-025
30	513	485.99	-	-	-	-	-	-	40	38.40	200-801-030
38	642	615.17	-	-	-	-	-	-	40	62.30	200-801-038
45	753	728.25	-	-	-	-	-	-	50	88.60	200-801-045
57	947	922.16	-	-	-	-	-	-	50	142.00	200-801-057

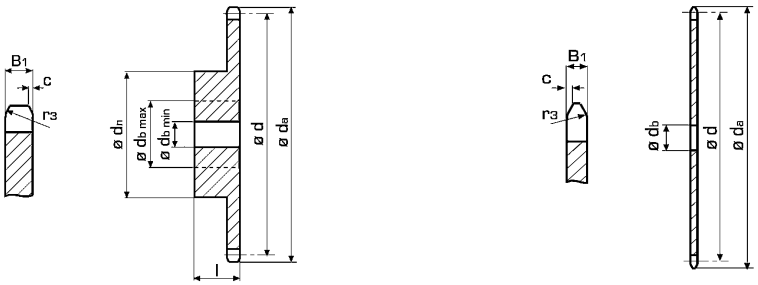
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Sprockets & Platewheels
6mm Pitch (04)

Steel – DIN 8192

Parameter	Value
Chain Pitch	6 mm
Inner Width	2.8 mm
Roller Dia.	4 mm
Dim r3	6 mm
Dim C	0.6 mm
Dim B1	2.6 mm
Min Strength	500 N/mm²



Teeth	Ø da	Ø d	Simplex Sprockets						Simplex Platewheels		
			Ødn	Ødb min	Ødb max	l	Mass kg	Part Number	Ødb min	Mass kg	Part Number
8	17.5	15.68	8	5	6	10	0.01	201-061-008	-	-	-
9	19.5	17.54	9	5	7	10	0.01	201-061-009	-	-	-
10	21.5	19.42	11	6	8	10	0.01	201-061-010	6	0.01	200-061-010
11	23.5	21.29	13	6	9	10	0.01	201-061-011	6	0.01	200-061-011
12	25.5	23.18	15	6	10	10	0.02	201-061-012	6	0.01	200-061-023
13	27.5	25.07	17	8	11	10	0.02	201-061-013	8	0.01	200-061-013
14	29	26.96	19	8	12	10	0.02	201-061-014	8	0.01	200-061-014
15	31	28.86	20	8	12	10	0.03	201-061-015	8	0.01	200-061-015
16	33	30.75	20	8	12	13	0.04	201-061-016	8	0.01	200-061-016
17	34	32.65	20	8	12	13	0.05	201-061-017	8	0.01	200-061-017
18	37	34.55	20	8	12	13	0.06	201-061-018	8	0.02	200-061-018
19	38	36.45	20	8	12	13	0.07	201-061-019	8	0.02	200-061-019
20	40.5	38.35	25	8	16	13	0.08	201-061-020	8	0.02	200-061-020
21	42	40.26	25	10	16	13	0.08	201-061-021	10	0.02	200-061-021
22	44.5	42.16	25	10	16	13	0.09	201-061-022	10	0.02	200-061-022
23	46	44.06	25	10	16	13	0.09	201-061-023	10	0.03	200-061-023
24	48.5	45.97	25	10	16	13	0.11	201-061-024	10	0.03	200-061-024
25	50	47.87	25	10	16	15	0.11	201-061-025	10	0.03	200-061-025
26	52	49.78	35	10	22	15	0.12	201-061-026	10	0.03	200-061-026
27	54	51.68	35	10	22	15	0.13	201-061-027	10	0.04	200-061-027
28	56	53.59	35	10	22	15	0.14	201-061-028	10	0.04	200-061-028
29	58	55.49	35	10	22	15	0.14	201-061-029	10	0.04	200-061-029
30	60	57.40	35	10	22	15	0.14	201-061-030	10	0.05	200-061-030
31	61.5	59.31	35	10	22	15	0.15	201-061-031	10	0.05	200-061-031
32	63.5	61.21	35	10	22	15	0.16	201-061-032	10	0.05	200-061-032
33	65.5	63.11	35	10	22	15	0.16	201-061-033	10	0.05	200-061-033
34	67.5	65.03	35	10	22	15	0.17	201-061-034	10	0.06	200-061-034
35	69.5	66.93	35	10	22	15	0.17	201-061-035	10	0.06	200-061-035
36	71	68.84	40	12	25	15	0.20	201-061-036	12	0.06	200-061-036
37	73	70.75	40	12	25	15	0.20	201-061-037	12	0.07	200-061-037
38	75	72.66	40	12	25	15	0.21	201-061-038	12	0.07	200-061-038
39	77	74.57	40	12	25	15	0.21	201-061-039	12	0.08	200-061-039
40	79	76.47	40	12	25	15	0.22	201-061-040	12	0.08	200-061-040

SIMPLEX METRIC PLATEWHEELS WITH UP TO 95 TEETH ALSO AVAILABLE ON REQUEST

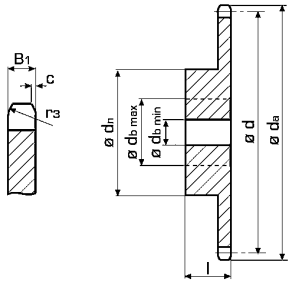
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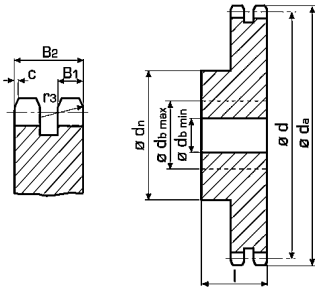


Sprockets – 8mm Pitch (05B)

Steel – DIN 8192

Parameter	Value
Chain Pitch	8 mm
Inner Width	3 mm
Roller Dia.	5 mm
Dim r3	8 mm
Dim C	0.8 mm
Dim B1	2.8 mm
Dim B2	8.3 mm
Min Strength	500 N/mm²





Teeth	Ø da	Ø d	Ødb max	Simplex Sprockets					Duplex Sprockets				
				Ødb min	Ødn	l	Mass kg	Part Number	Ødb min	Ødn	l	Mass kg	Part Number
8	24	20.91	7	6	10	12	0.01	201-081-008	-	-	-	-	-
9	26.5	23.39	8	6	12	12	0.01	201-081-009	-	-	-	-	-
10	29	25.89	10	8	15	12	0.02	201-081-010	8	16	18	0.03	201-082-010
11	31.5	28.40	11	8	17	13	0.03	201-081-011	8	18	18	0.04	201-082-011
12	34	30.91	12	8	20	13	0.03	201-081-012	8	21	18	0.05	201-082-012
13	36.5	33.43	14	8	23	13	0.04	201-081-013	8	24	18	0.07	201-082-013
14	39	35.95	16	8	25	13	0.05	201-081-014	8	26	18	0.09	201-082-014
15	41.5	38.48	19	8	28	13	0.07	201-081-015	8	29	18	0.09	201-082-015
16	44	41.01	20	8	30	14	0.08	201-081-016	10	30	20	0.11	201-082-016
17	46	43.54	20	8	30	14	0.09	201-081-017	10	30	20	0.14	201-082-017
18	49.5	46.07	20	8	30	14	0.09	201-081-018	10	30	20	0.15	201-082-018
19	51	48.60	20	8	30	14	0.12	201-081-019	10	30	20	0.18	201-082-019
20	54.5	51.14	22	10	35	14	0.12	201-081-020	10	30	20	0.20	201-082-020
21	57	53.68	22	10	35	14	0.13	201-081-021	10	35	20	0.20	201-082-021
22	60	56.21	22	10	35	14	0.14	201-081-022	12	35	20	0.22	201-082-022
23	62	58.75	22	10	35	14	0.15	201-081-023	12	35	20	0.24	201-082-023
24	65	61.29	25	10	40	14	0.17	201-081-024	12	35	20	0.26	201-082-024
25	67	63.83	25	10	40	14	0.18	201-081-025	12	35	20	0.28	201-082-025
26	70	66.37	25	12	40	16	0.18	201-081-026	-	-	-	-	-
27	72.5	68.91	25	12	40	16	0.19	201-081-027	-	-	-	-	-
28	75	71.45	25	12	40	16	0.20	201-081-028	-	-	-	-	-
29	77.5	73.99	25	12	40	16	0.21	201-081-029	-	-	-	-	-
30	80	76.53	25	12	40	16	0.21	201-081-030	12	35	20	0.38	201-082-030
31	83	79.08	28	12	45	16	0.25	201-081-031	-	-	-	-	-
32	85.5	81.62	28	12	45	16	0.26	201-081-032	-	-	-	-	-
33	88	84.16	28	12	45	16	0.26	201-081-033	-	-	-	-	-
34	90.5	86.70	28	12	45	16	0.27	201-081-034	-	-	-	-	-
35	93	89.25	28	12	45	16	0.28	201-081-035	-	-	-	-	-
36	95.5	91.79	28	12	45	16	0.29	201-081-036	-	-	-	-	-
37	98	94.33	28	12	45	16	0.29	201-081-037	-	-	-	-	-
38	100	96.88	30	12	50	16	0.30	201-081-038	-	-	-	-	-
39	103	99.42	30	12	50	16	0.31	201-081-039	-	-	-	-	-
40	105.5	101.96	30	12	50	16	0.32	201-081-040	-	-	-	-	-

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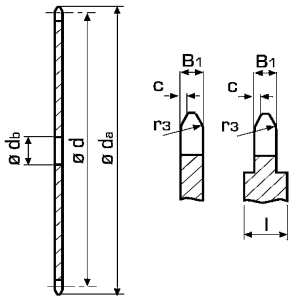


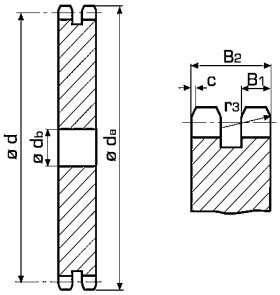
Platewheels - 8mm Pitch (05B)

Steel – DIN 8192

Teeth	Ø da	Ø d	Simplex Sprockets				Duplex Sprockets		
			Ødb	l	Mass kg	Part Number	Ødb	Mass kg	Part Number
10	29	25.89	8	-	0.01	200-081-010	-	-	-
11	31.5	28.40	8	-	0.01	200-081-011	-	-	-
12	34	30.91	8	-	0.01	200-081-012	-	-	-
13	36.5	33.43	8	-	0.02	200-081-013	8	0.04	200-082-013
14	39	35.95	8	-	0.02	200-081-014	-	-	-
15	41.5	38.48	8	-	0.02	200-081-015	8	0.05	200-082-015
16	44	41.01	8	-	0.02	200-081-016	10	0.07	200-082-016
17	46	43.54	8	-	0.03	200-081-017	10	0.08	200-082-017
18	49.5	46.07	8	-	0.03	200-081-018	-	-	-
19	51	48.60	8	-	0.03	200-081-019	-	-	-
20	54.5	51.14	8	-	0.04	200-081-020	10	0.12	200-082-020
21	57	53.68	10	-	0.04	200-081-021	10	0.13	200-082-021
22	60	56.21	10	-	0.05	200-081-022	-	-	-
23	62	58.75	10	-	0.05	200-081-023	10	0.15	200-082-023
24	65	61.29	10	-	0.06	200-081-024	-	-	-
25	67	63.83	10	-	0.06	200-081-025	10	0.17	200-082-025
26	70	66.37	12	-	0.06	200-081-026	12	0.19	200-082-026
27	72.5	68.91	12	-	0.07	200-081-027	12	0.20	200-082-027
28	75	71.45	12	-	0.08	200-081-028	12	0.22	200-082-028
29	77.5	73.99	12	-	0.08	200-081-029	-	-	-
30	80	76.53	12	-	0.09	200-081-030	12	0.25	200-082-030
31	83	79.08	12	-	0.09	200-081-031	-	-	-
32	85.5	81.62	12	-	0.10	200-081-032	12	0.29	200-082-032
33	88	84.16	12	-	0.11	200-081-033	-	-	-
34	90.5	86.70	12	-	0.11	200-081-034	-	-	-
35	93	89.25	12	-	0.12	200-081-035	12	0.35	200-082-035
36	95.5	91.79	12	-	0.13	200-081-036	12	0.37	200-082-036
37	98	94.33	12	-	0.14	200-081-037	-	-	-
38	100	96.88	12	-	0.14	200-081-038	12	0.42	200-082-038
39	103	99.42	12	-	0.15	200-081-039	-	-	-
40	105.5	101.96	12	-	0.16	200-081-040	12	0.46	200-082-040
41	108	104.51	12	4	0.22	200-082-041	-	-	-
42	111	107.05	12	4	0.24	200-082-042	-	-	-
43	113.5	109.60	12	4	0.26	200-082-043	-	-	-
44	116	112.14	12	4	0.27	200-082-044	-	-	-
45	118.5	114.68	12	4	0.28	200-082-045	16	0.60	200-082-045
46	121	117.23	12	4	0.29	200-082-046	-	-	-
47	123.5	119.77	12	4	0.30	200-082-047	-	-	-
48	126	122.32	12	4	0.31	200-082-048	16	0.69	200-082-048
49	128.5	124.86	12	4	0.33	200-082-049	-	-	-
50	131	127.41	12	4	0.35	200-082-050	-	-	-
52	136	132.50	16	4	0.38	200-082-052	-	-	-
54	141.5	137.59	16	4	0.40	200-082-054	16	0.89	200-082-054
57	149	145.22	16	4	0.46	200-082-057	16	1.00	200-082-057
60	156.5	152.86	16	4	0.53	200-082-060	-	-	-
62	161.5	157.95	16	4	0.57	200-082-062	-	-	-
65	169.5	165.59	16	4	0.60	200-082-065	-	-	-
70	182	178.31	16	4	0.70	200-082-070	-	-	-
72	187	183.40	16	4	0.71	200-082-072	-	-	-
76	197	193.59	16	4	0.74	200-082-076	20	1.80	200-082-076
80	207.5	203.77	18	4	0.90	200-082-080	20	2.00	200-082-080
90	233	229.23	18	4	1.20	200-082-090	-	-	-
95	245	241.96	18	4	1.35	200-082-095	20	2.86	200-082-095

Parameter	Value
Chain Pitch	8 mm
Inner Width	3 mm
Roller Dia.	5 mm
Dim r3	8 mm
Dim C	0.8 mm
Dim B1	2.8 mm
Dim B2	8.3 mm
Min Strength	500 N/mm²

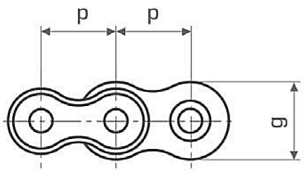


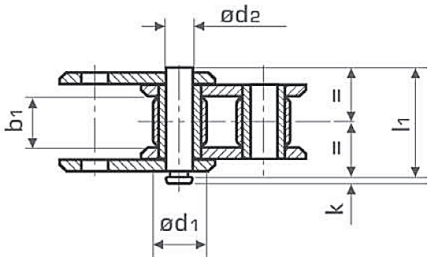




Roller Chain - Simplex

Steel – DIN 8187





Simplex Chain		d1	d2	l1 max	k max	g max	Break Force kN min	Mass kg/m	Chain Part Number	Conn. Link Part Number	Cranked Link Part Numbers	
ISO Size	P x b1										Single	Double
04-1	6 x 2.8 (mm)	4.00	1.85	7.4	2.9	5.00	3	0.1	300-061-000	300-061-001	-	300-061-071
05B-1	8 x 3.0 (mm)	5.00	2.31	8.6	3.1	7.11	5	0.2	300-081-000	300-081-001	-	300-081-071
06B-1	3/8 x 7/32 “	6.35	3.28	13.5	3.3	8.26	9	0.4	300-101-000	300-101-001	300-101-041	300-101-071
08B-1	1/2 x 5/16 “	8.51	4.45	17.0	3.9	11.81	18	0.7	300-201-000	300-201-001	300-201-041	300-201-071
10B-1	5/8 x 3/8 “	10.16	5.08	19.6	4.1	14.73	22.4	1.0	300-301-000	300-301-001	300-301-041	300-301-071
12B-1	3/4 x 7/16 “	12.07	5.72	22.7	4.6	16.13	29	1.3	300-401-000	300-401-001	300-401-041	300-401-071
16B-1	1 x 0.67 “	15.88	8.28	36.1	5.4	21.08	60	2.7	300-501-000	300-501-001	300-501-041	300-501-071
20B-1	1 1/4 x 3/4 “	19.05	10.19	43.2	6.1	26.42	95	3.6	300-601-000	300-601-001	300-601-041	-
24B-1	1 1/2 x 1 “	25.40	14.63	53.4	6.6	33.40	160	6.7	300-701-000	300-701-001	300-701-041	-
28B-1	1 3/4 x 1 1/4 “	27.94	15.90	65.1	7.4	37.08	200	8.3	300-751-000	300-751-001	300-751-041	-
32B-1	2 x 1 1/4 “	29.21	17.81	67.4	7.9	42.29	250	10.5	300-801-000	300-801-001	300-801-041	-

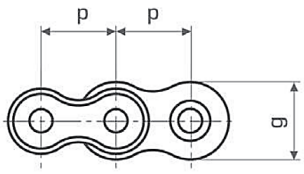
PLEASE SPECIFY CHAIN LENGTH AND CONNECTING LINK ARRANGEMENT WHEN ORDERING
STAINLESS STEEL CHAINS, TENSIONERS AND BREAKERS ALSO AVAILABLE ON REQUEST

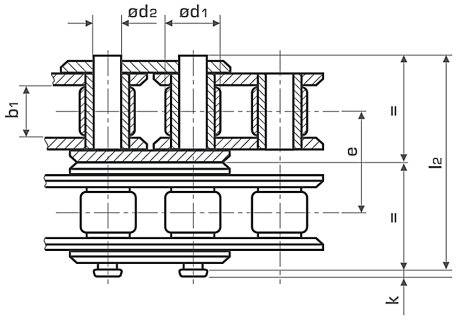
TEL: 01827 288122
sales@wmh-trans.co.uk
FAX: 01827 253390
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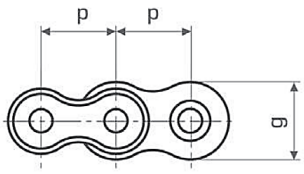
Roller Chain - Duplex / Triplex

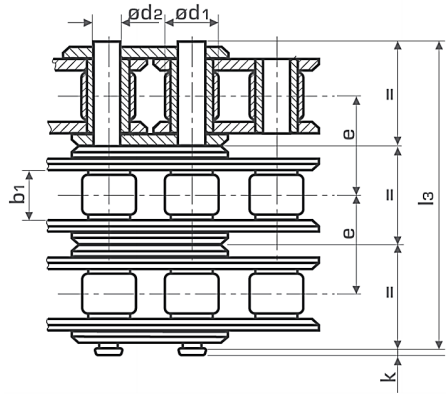
Steel – DIN 8187





Duplex Chain		d1	d2	e	l2 max	k max	g max	Break Force kN min	Mass kg/m	Chain Part Number	Conn. Link Part Number	Cranked Link Part Numbers	
ISO Size	P x b1											Single	Double
05B-2	8 x 3.0 (mm)	5.00	2.31	5.64	14.3	3.1	7.11	7.5	0.4	300-082-000	300-082-001	-	300-082-071
06B-2	3/8 x 7/32 “	6.35	3.28	10.24	23.8	3.3	8.26	16	0.8	300-102-000	300-102-001	300-102-041	300-102-071
08B-2	1/2 x 5/16 “	8.51	4.45	13.92	31.0	3.9	11.81	32	1.4	300-202-000	300-202-001	300-202-041	300-202-071
10B-2	5/8 x 3/8 “	10.16	5.08	16.59	36.2	4.1	14.73	40	1.9	300-302-000	300-302-001	300-302-041	300-302-071
12B-2	3/4 x 7/16 “	12.07	5.72	19.46	42.2	4.6	16.13	53	2.5	300-402-000	300-402-001	300-402-041	300-402-071
16B-2	1 x 0.67 “	15.88	8.28	31.88	68.0	5.4	21.08	106	5.4	300-502-000	300-502-001	300-502-041	300-502-071
20B-2	1 1/4 x 3/4 “	19.05	10.19	36.45	79.7	6.1	26.42	170	7.2	300-602-000	300-602-001	300-602-041	-
24B-2	1 1/2 x 1 “	25.40	14.63	48.36	101.8	6.6	33.40	280	13.5	300-702-000	300-702-001	300-702-041	-
28B-2	1 3/4 x 1 1/4 “	27.94	15.90	59.56	124.7	7.4	37.08	360	16.6	300-752-000	300-752-001	300-752-041	-
32B-2	2 x 1 1/4 “	29.21	17.81	58.55	126.0	7.9	42.29	450	21.0	300-802-000	300-802-001	300-802-041	-





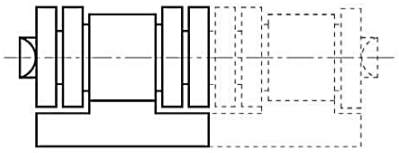
Triplex Chain		d1	d2	e	l3 max	k max	g max	Break Force kN min	Mass kg/m	Chain Part Number	Conn. Link Part Number	Cranked Link Part Numbers	
ISO Size	P x b1											Single	Double
06B-3	3/8 x 7/32 “	6.35	3.28	10.24	34.0	3.3	8.26	23.6	1.2	300-103-000	300-103-001	300-103-041	300-103-071
08B-3	1/2 x 5/16 “	8.51	4.45	13.92	44.9	3.9	11.81	47.5	2.0	300-203-000	300-203-001	300-203-041	300-203-071
10B-3	5/8 x 3/8 “	10.16	5.08	16.59	52.8	4.1	14.73	60	2.8	300-303-000	300-303-001	300-303-041	300-303-071
12B-3	3/4 x 7/16 “	12.07	5.72	19.46	61.7	4.6	16.13	80	3.8	300-403-000	300-403-001	300-403-041	300-403-071
16B-3	1 x 0.67 “	15.88	8.28	31.88	99.9	5.4	21.08	160	8.0	300-503-000	300-503-001	300-503-041	300-503-071
20B-3	1 1/4 x 3/4 “	19.05	10.19	36.45	116.1	6.1	26.42	250	11.0	300-603-000	300-603-001	300-603-041	-
24B-3	1 1/2 x 1 “	25.40	14.63	48.36	150.2	6.6	33.40	425	21.0	300-703-000	300-703-001	300-703-041	-
28B-3	1 3/4 x 1 1/4 “	27.94	15.90	59.56	184.3	7.4	37.08	530	25.0	300-753-000	300-753-001	300-753-041	-
32B-3	2 x 1 1/4 “	29.21	17.81	58.55	184.5	7.9	42.29	670	32.0	300-803-000	300-803-001	300-803-041	-

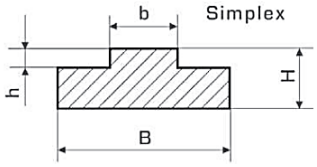
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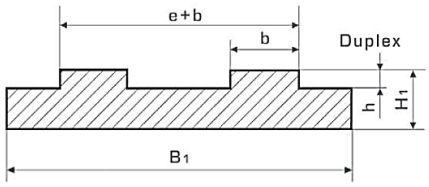


Chain Guides

Polyethylene

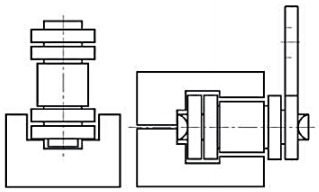


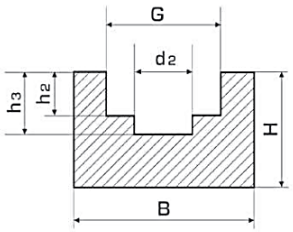


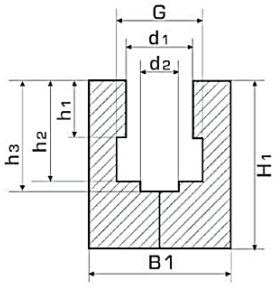


ISO Size	Chain Size	Guide Length	b	h	H	Simplex T-Profile			Duplex T-Profile			
						B	Mass kg / m	Part Number	B1	e+2b	Mass kg / m	Part Number
06B	3/8 x 7/32	2000	5.5	1.5	10	15	0.13	384-101-010	25	15.7	0.25	384-102-010
08B	1/2 x 5/16	2000	7.5	2.2	10	20	0.17	384-201-010	35	21.4	0.36	384-202-010
					15		0.26	384-201-015			0.53	384-202-015
					20		0.35	384-201-020			0.69	384-202-020
					30		0.54	384-201-030			1.01	384-202-030
10B	5/8 x 3/8	2000	9.3	2.6	10	20	0.16	384-301-010	40	25.9	0.43	384-302-010
					15		0.26	384-301-015			-	-
					20		0.35	384-301-020			-	-
					30		0.54	384-301-030			-	-
12B	3/4 x 7/16	2000	11.3	2.4	10	25	0.21	384-401-010	45	30.8	0.48	384-402-010
					15		0.33	384-401-015			-	-
					20		0.44	384-401-020			-	-
					30		0.68	384-401-030			-	-
16B	1 x 0.67	2000	16.5	4.3	15	40	0.47	384-501-015	48	48.8	0.82	384-502-015
				3.5	20		0.66	384-501-020			-	-
				3.5	30		1.04	384-501-030			-	-
20B	1 1/4 x 3/4	2000	19.0	4.2	15	45	0.53	384-601-015	55.5	55.5	0.93	384-602-015
24B	1 1/2 x 1	2000	24.7	5.5	15 (20)	60	0.67	384-701-015	73.1	73.1	1.62	384-702-020

NOTE: Dimension in brackets applies to 24B Duplex T-Profile Only

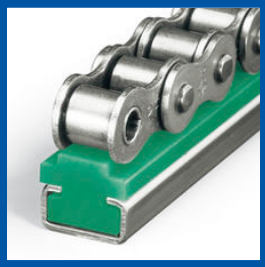






ISO Size	Chain Size	Guide Length	Simplex U-Profile								Simplex Cage Profile								
			B	H	h2	h3	d2	G	Mass kg/m	Part Number	B1	H1	h1	h2	h3	d1	d2	Mass kg/m	Part Number
06B	3/8 x 7/32	2000	20	15	2.8	4.2	3.7	9.2	0.26	385-101-015	20	25	5.6	8.7	9.9	6.6	4	0.44	386-101-025
08B	1/2 x 5/16	2000	25	15	3.5	4.8	4.9	12.7	0.31	385-201-015	24	30	7.6	11.5	12.7	8.7	5	0.56	386-201-030
10B	5/8 x 3/8	2000	25	15	3.6	5.1	5.5	15.2	0.30	385-301-015	30	35	9.5	13.5	14.8	10.4	6	0.83	386-301-035
12B	3/4 x 7/16	2000	25	20	3.9	5.7	6.2	16.7	0.40	385-401-020	40	35	11.5	15.9	17.5	12.3	7	1.11	386-401-035
16B	1 x 0.67	2000	35	25	8.4	9.9	8.9	24.4	0.62	385-501-025	40	45	16	24.8	25.9	16.1	9	1.23	386-501-045
20B	1 1/4 x 3/4	2000	-	-	-	-	-	-	-	-	50	50	19	28.9	30.8	19.3	11	1.73	386-601-050
24B	1 1/2 x 1	2000	-	-	-	-	-	-	-	-	60	60	24.5	37.5	39.4	25.7	16	2.33	386-701-060

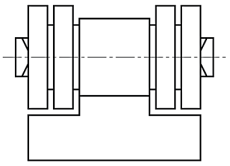
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sales@wmh-trans.co.uk
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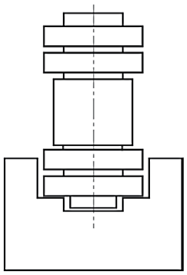


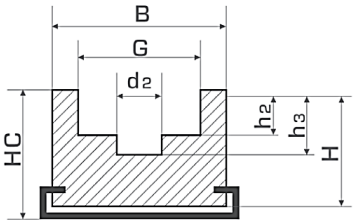
Chain Guides – Steel Profile

Polyethylene

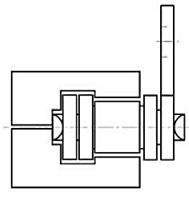
ISO Size	Chain Size	Guide Length	Simplex T-Profile						
			B	H	HC	b	h	Mass kg/m	Part Number
08B	1/2 x 5/16	2000	17	15	17	7.5	2.2	0.13	384-201-215 / 200
10B	5/8 x 3/8	2000	17	15	17	9.3	2.6	0.14	384-301-215 / 200
12B	3/4 x 7/16	2000	20	15	17	11.3	2.4	0.18	384-401-215 / 200
12B	3/4 x 7/16	2000	23.5	15	18	11.3	2.4	0.29	384-401-315 / 300
16B	1 x 0.67	2000	24	15	18	16.5	3.5	0.29	384-501-315 / 300
20B	1 1/4 x 3/4	2000	28	15	18	19.0	4.3	0.35	384-601-315 / 300
24B	1 1/2 x 1	2000	33	25	30	24.7	5.5	0.64	384-701-525 / 500

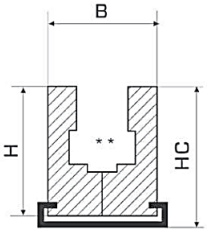


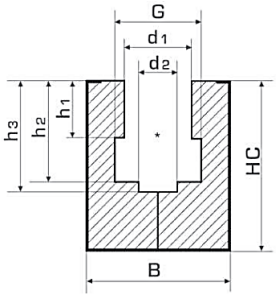




ISO Size	Chain Size	Guide Length	Simplex U-Profile								
			B	H	HC	h2	h3	d2	G	Mass kg/m	Part Number
12B	3/4 x 7/16	2000	23	12	18	3.9	5.7	6.2	16.7	0.20	385-401-312 / 300
16B	1 x 0.67	2000	32.5	20	30	8.4	9.9	8.9	24.4	0.77	385-501-520 / 500







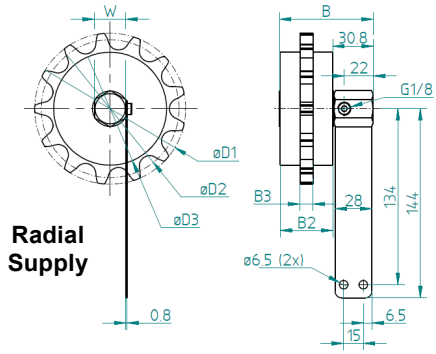
ISO Size	Chain Size	Guide Length	Simplex Cage Profile										
			h1	h2	h3	d1	d2	G	B	H	HC	Type	Part Number
06B	3/8 x 7/32	2000	5.6	8.7	9.9	6.6	4	9.3	20	17.5	21	**	386-101-217 / 200
									30	-	24	*	386-101-624 / 600
08B	1/2 x 5/16	2000	7.6	11.5	12.7	8.7	5	12.8	24	27.5	32	**	386-201-330 / 300
									30	-	24	*	386-201-624 / 600
10B	5/8 x 3/8	2000	9.3	13.5	14.8	10.4	6	15.4	24	27.5	32	**	386-301-330 / 300
									30	-	24	*	386-301-624 / 600
12B	3/4 x 7/16	2000	11.5	15.9	17.5	12.3	7	16.9	38	34	43	**	386-401-537 / 500
									30	-	24	*	386-401-624 / 600
16B	1 x 0.67	2000	16.5	25.7	27.0	16.1	9	24.4	38	40	50	**	386-501-537 / 500

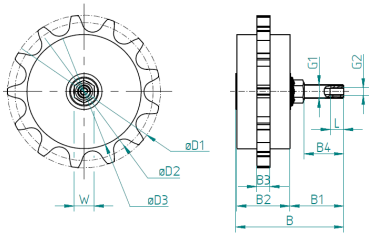
WMH Transmissions Limited



Lubrication Sprockets

For Simplex Roller Chain





Design Parameter	Value
Tooth Form	DIN 8187
Material	PU Foam

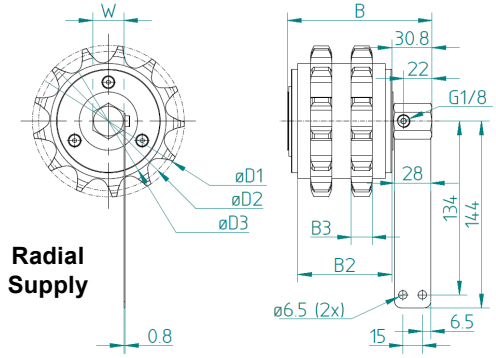
Lubrication sprockets are supplied complete with suitable bushing and sleeve bearing

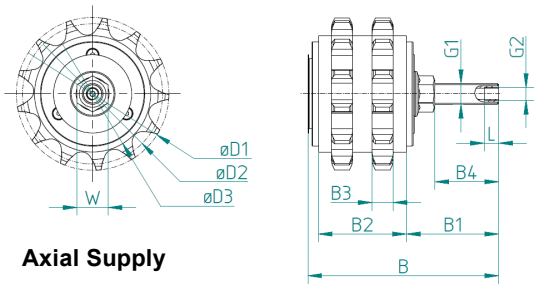
Radial type supplied ready mounted on spring steel sheet

Custom lubrication sprockets for larger chain available on request

Size	Tooth Number	D1	D2	D3	B2	B3	B	B1	B4	G1	G2	L	W	Order Code	
														Radial	Axial
08B-1	12	53	49.1	39	30	6	61.4	-	-	-	-	-	24	136-201-112	-
							71.2	39.8	29.8	M10	M6	10	15	-	136-201-012
10B-1	10	55	51.4	39	30	6	61.4	-	-	-	-	-	24	136-301-110	-
							71.2	39.8	29.8	M10	M6	10	15	-	136-301-010
12B-1	8	58	49.8	39	30	6	61.4	-	-	-	-	-	24	136-401-108	-
							71.2	39.8	29.8	M10	M6	10	15	-	136-401-008
16B-1	8	75	66.4	48	40	10	71.4	-	-	-	-	-	24	136-501-108	-
							83.4	39.8	29.8	M10	M6	10	15	-	136-501-008

For Duplex Roller Chain



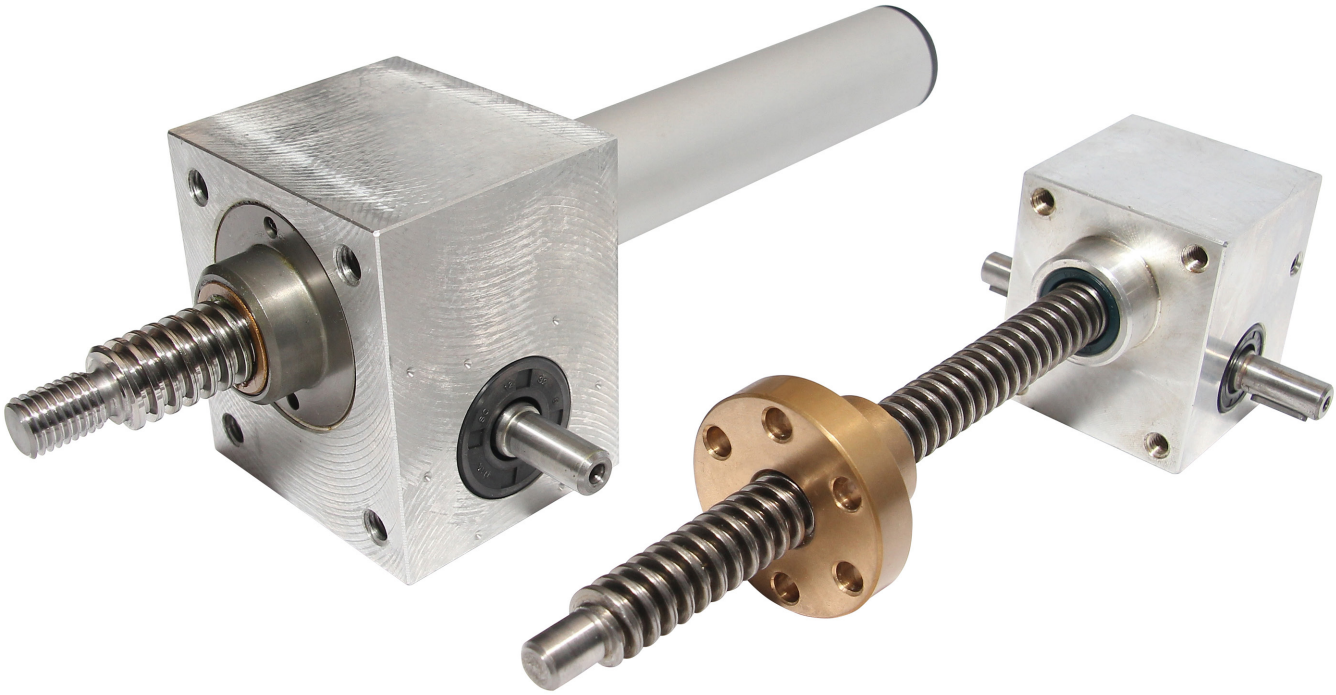


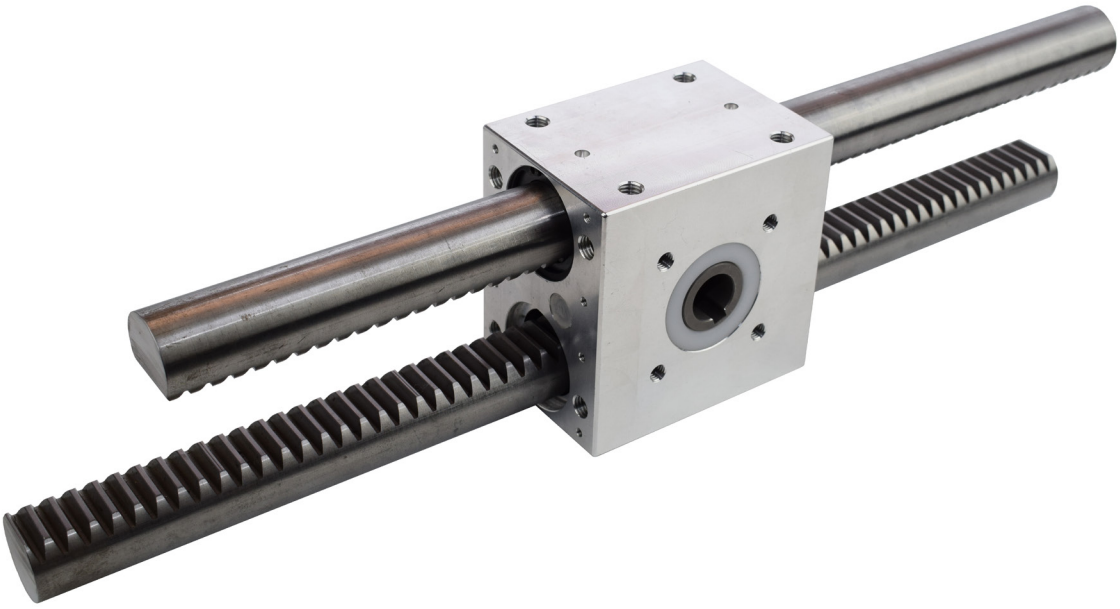
Size	Tooth Number	D1	D2	D3	B2	B3	B	B1	B4	G1	G2	L	W	Order Code	
														Radial	Axial
08B-2	12	53	49.1	39	40	6	71.4	-	-	-	-	-	24	136-202-112	-
							81.2	39.8	29.8	M10	M6	10	15	-	136-202-012
10B-2	10	55	51.4	39	40	6	76.4	-	-	-	-	-	24	136-302-110	-
							81.2	39.8	29.8	M10	M6	10	15	-	136-302-010
12B-2	8	58	49.8	39	45	6	81.4	-	-	-	-	-	24	136-402-108	-
							86.2	39.8	29.8	M10	M6	10	15	-	136-402-008
16B-2	8	75	66.4	48	80	10	111.4	-	-	-	-	-	24	136-502-108	-
							146.3	64.9	48.9	M16	G1/8	10	15	-	136-502-008

WMH RECOMMENED THE USE OF CONTINUOUS GREASE OR OIL LUBRICATION
PLEASE REFER TO PAGE XX FOR OUR RANGE OF LUBRICANTS, PUMPS & ACCESSORIES

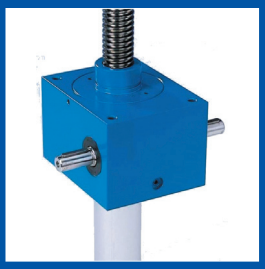
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sales@wmh-trans.co.uk
FAX: 01827 253390
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WMH Transmissions Limited

Screw Jacks & Rack Jacks





AS WELL AS OUR RANGE OF STANDARD PRODUCTS WE CAN ALSO MANUFACTURE SPECIAL COMPONENTS IN HOUSE – PLEASE CONTACT OUR SALES TEAM WITH YOUR REQUIREMENTS



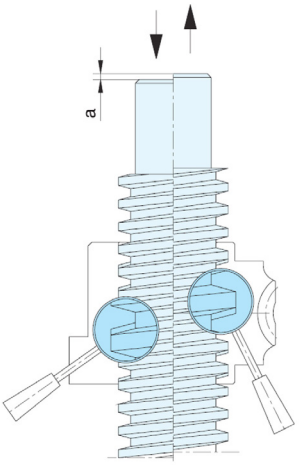
Screw Jacks – Cubic Type

Operating Temperature

Screw jacks with standard lubrication have a rated working temperature range of -10 °C to +40 °C but special lubricants are available to increase this range to -30 °C to + 80 °C

Axial Play – "a"

Axial Play has no influence on positioning accuracy when loading of the jack is in one direction only (i.e. in constant compression or in constant tension) as the load is always thrust upon one flank of the screw thread only.

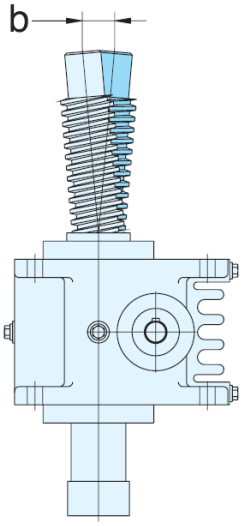


Tooth Play – "backlash"

Tooth profile play or "backlash" is a result of clearance between drive and driven teeth of the worm and wheel within the jack body. This clearance is necessary to allow for thermal expansion and correct lubrication of the mating parts to prevent binding and premature wear or failure. When new, this backlash is around 0.10 – 0.30mm and varies on the size of the components but will increase over the service life of the jack.

Radial Play – "b"

Radial play occurs only in the case of type 1 (travelling screw) jacks as a result of clearance between the outer diameter of the screw thread and the guide ring within the jack body. This clearance is typically around 0.2mm and results in radial play "b" proportional to the stroke length.



The use of whirled as opposed to rolled screw threads will help to reduce this clearance but it can never be fully removed as to allow for proper lubrication and thermal expansion.

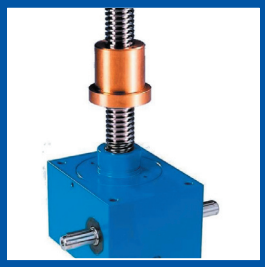
Although screw jacks have been designed to account for a small amount of radial play, they are not designed to withstand any loads that do not act parallel to the axis of the screw – this applies to both type 1 (travelling screw) and type 2 (travelling nut) screw jacks.

WMH recommends the use of external guidance in all applications to remove any possible side loads from the screw jack which would otherwise lead to premature wear and failure – please contact our sales team for information on the range of linear guidance systems available from our stock.

Screw Thread Accuracy

Screw jacks using trapezoidal rolled leadscrews have a lead error of around 0.10mm over 300mm of thread but the use of optional whirled screw threads can reduce this down to around 0.05mm. It is possible to attain even lower pitch error via use of ballscrews as opposed to leadscrews and can yield an accuracy of 0.023mm and lower over 300mm – please contact of sales team for information on what options we offer.

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Screw Jacks – Cubic Type

Size	Fr Max. (N)	@ Ta Max. (Nm)
M0	70	1.5
M1	100	3.4
M2	200	7.1
M3	300	18
M4	500	38
M5	800	93
M6	1300	240
M7	2100	340
M8	3100	570

WMH screw jacks have rated radial forces that can be applied to the input shaft of each jack. These have been calculated for Ø ~ 30° or 330° as these are the worst case scenario for the bearings based on lifting force and rotation direction.

Although most applications use flexible couplings or cardan shafts to connect the screw jacks to drive motors, it is possible to mount and provide power via spur gears, sprockets and / or pulleys directly mounted to the input shafts of the screw jacks.

In this scenario, it is even more crucial to pay close attention to the rated radial load capacities of each screw jack being used.

A formula for calculating max power, torque and speed is provided below:

Permitted radial force (Fr) on application of force in L/2

Minimum diameter (D) for spur gear or pulleys:

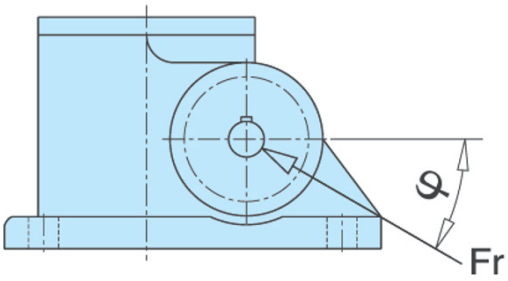
$$Dmin = \frac{19100 \times P}{Fr\ Max. \times n} = \frac{2 \times Ta}{Fr\ Max.}\ (m)$$

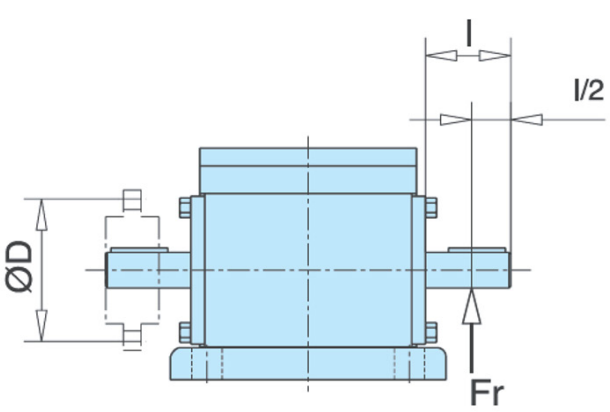
P = Power rating (kW)

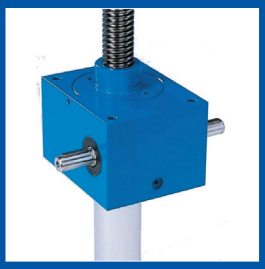
Fr Max. = Maximum radial force (N) (see table, left)

N = rotating speed of input shaft (rpm)

Ta = Driving torque (Nm)







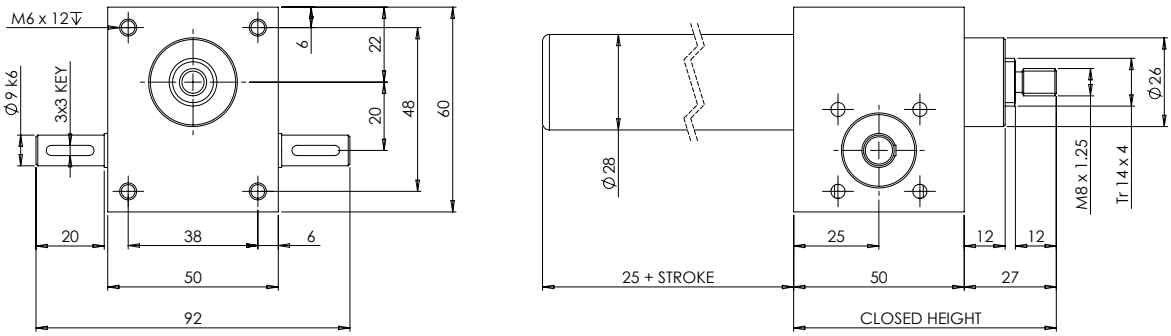
M0 – 250 kg Capacity

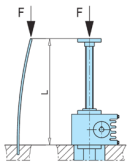
Type 1 – Travelling Screw

Model	562-004-010	562-016-010
Ratio	4 : 1	16 : 1
Screw Size (Tr)	14 x 4	14 x 4
Travel per Input rev (mm)	1	0.25
Max. Travel Speed (mm/s)	25	6.25
Max. Input Speed (rpm)	1500	1500
Max. Input Torque (Nm)	1.5	1.5
Max. Capacity (kg)	250	250
Efficiency (%)	34	24
Material of Body	Aluminium	Aluminium
Body Weight (kg)	0.6	0.6
Max. Radial Load on Input (N)*	70	70
Standard Stroke (mm)**	100	100

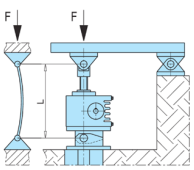
* Applied at centre of input shaft (L/2). For more information, see page 177

** For longer than standard stroke, see compressive load chart below

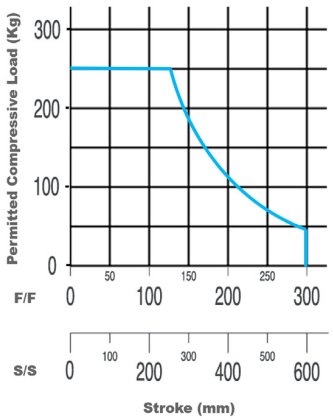


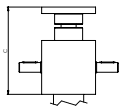


Fixed / Free
(F/F)

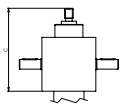


Supported / Supported
(S/S)

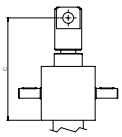




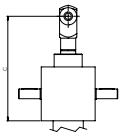
Head Type II
Top Plate



Head Type III
Threaded



Head Type IV
Clevis



Head Type GK
Fork

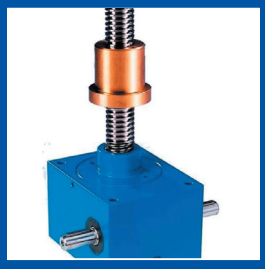
Closed Height
(standard protrusion)

Head Type	Dim C (mm)
II	81
III	77
IV	95
GK	97

NOTE: If head type is unspecified, threaded type III will be supplied without accessory as default

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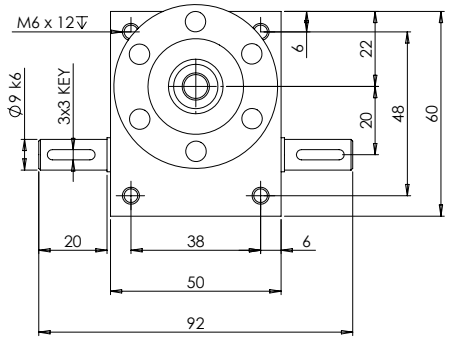
M0 – 250 kg Capacity

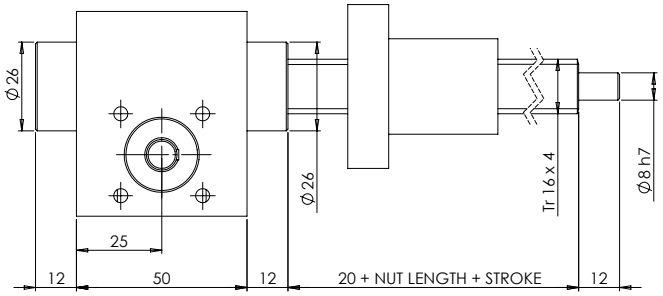
Type 2 – Travelling Nut

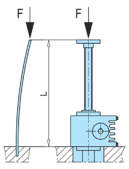
Model	563-004-010	563-016-010
Ratio	4 : 1	16 : 1
Screw Size (Tr)	16 x 4	16 x 4
Travel per Input rev (mm)	1	0.25
Max. Travel Speed (mm/s)	25	6.25
Max. Input Speed (rpm)	1500	1500
Max. Input Torque (Nm)	1.5	1.5
Max. Capacity (kg)	250	250
Efficiency (%)	34	24
Material of Body	Aluminium	Aluminium
Body Weight (kg)	0.6	0.6
Max. Radial Load on Input (N)*	70	70
Standard Stroke (mm)**	100	100

* Applied at centre of input shaft (L/2). For more information, see page 177

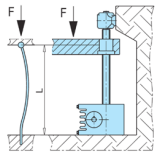
** For longer than standard stroke, see compressive load chart below



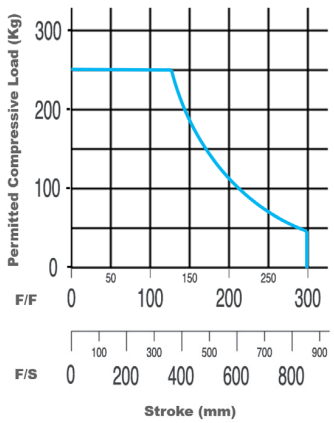


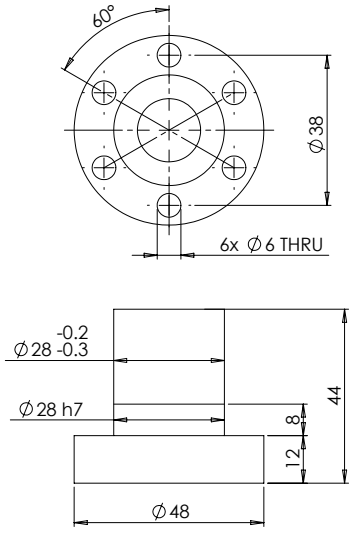


Fixed / Free (F/F)

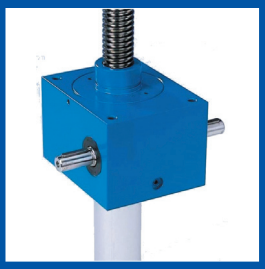


Fixed / Supported (F/S)





NOTE: For support bearings and end machining options available, please see page 199



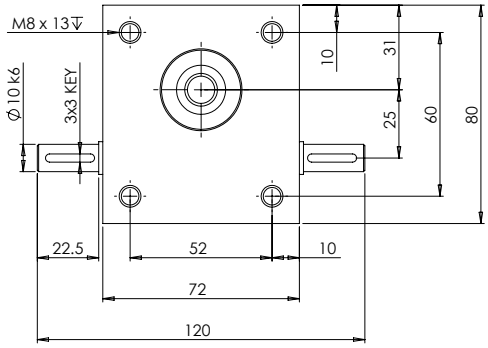
M1 – 500 kg Capacity

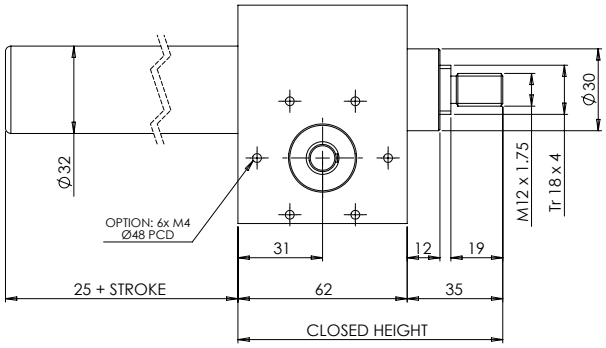
Type 1 – Travelling Screw

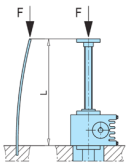
Model	562-104-012	562-116-012
Ratio	4 : 1	16 : 1
Screw Size (Tr)	18 x 4	18 x 4
Travel per Input rev (mm)	1	0.25
Max. Travel Speed (mm/s)	25	6.25
Max. Input Speed (rpm)	1500	1500
Max. Input Torque (Nm)	3.4	3.4
Max. Capacity (kg)	500	500
Efficiency (%)	30	23
Material of Body	Aluminium	Aluminium
Body Weight (kg)	1.2	1.2
Max. Radial Load on Input (N)*	100	100
Standard Stroke (mm)**	120	120

* Applied at centre of input shaft (L/2). For more information, see page 177

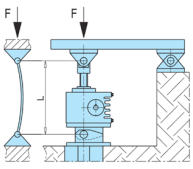
** For longer than standard stroke, see compressive load chart below



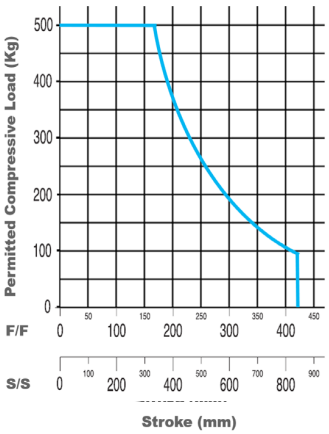


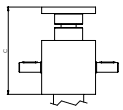


Fixed / Free
(F/F)

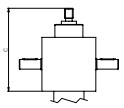


Supported / Supported
(S/S)

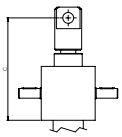




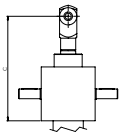
Head Type II
Top Plate



Head Type III
Threaded



Head Type IV
Clevis



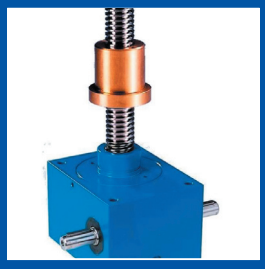
Head Type GK
Fork

Closed Height
(standard protrusion)

Head Type	Dim C (mm)
II	98
III	97
IV	118
GK	126

NOTE: If head type is unspecified, threaded type III will be supplied without accessory as default

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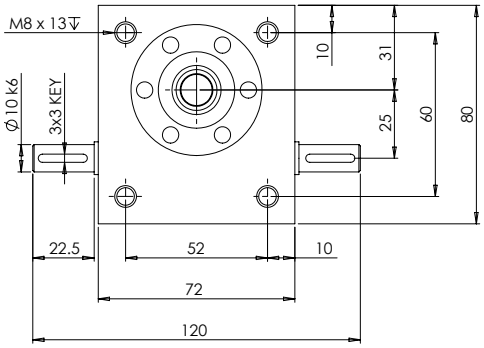
M1 – 500 kg Capacity

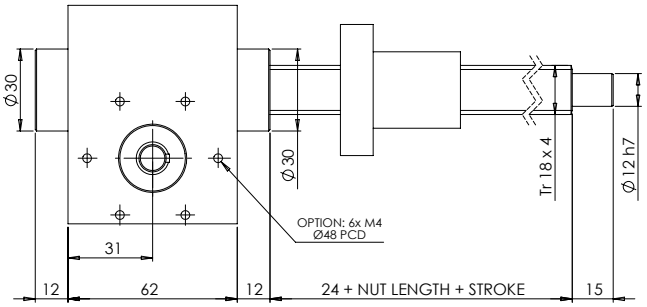
Type 2 – Travelling Nut

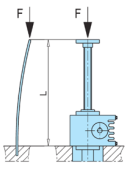
Model	563-104-012	563-116-012
Ratio	4 : 1	16 : 1
Screw Size (Tr)	18 x 4	18 x 4
Travel per Input rev (mm)	1	0.25
Max. Travel Speed (mm/s)	25	6.25
Max. Input Speed (rpm)	1500	1500
Max. Input Torque (Nm)	3.4	3.4
Max. Capacity (kg)	500	500
Efficiency (%)	30	23
Material of Body	Aluminium	Aluminium
Body Weight (kg)	1.2	1.2
Max. Radial Load on Input (N)*	100	100
Standard Stroke (mm)**	120	120

* Applied at centre of input shaft (L/2). For more information, see page 177

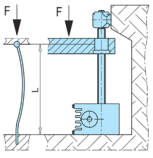
** For longer than standard stroke, see compressive load chart below



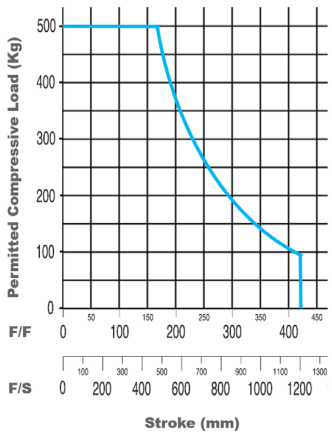


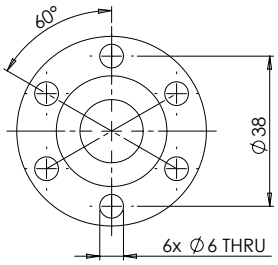


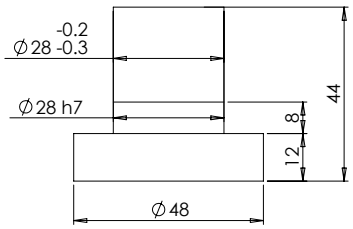
Fixed / Free
(F/F)



Fixed / Supported
(F/S)

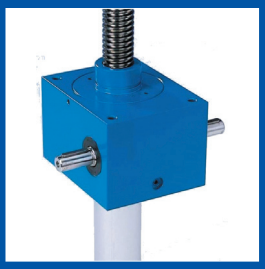






NOTE: For support bearings and end machining options available, please see page 199

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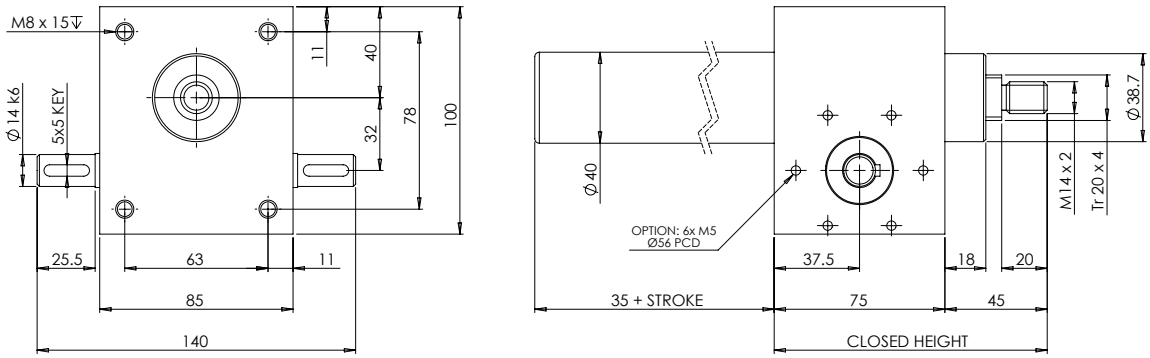
M2 – 1000 kg Capacity

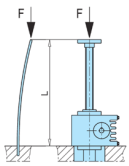
Type 1 – Travelling Screw

Model	562-204-015	562-216-015
Ratio	4 : 1	16 : 1
Screw Size (Tr)	20 x 4	20 x 4
Travel per Input rev (mm)	1	0.25
Max. Travel Speed (mm/s)	25	6.25
Max. Input Speed (rpm)	1500	1500
Max. Input Torque (Nm)	7.1	7.1
Max. Capacity (kg)	1000	1000
Efficiency (%)	28	21
Material of Body	Aluminium	Aluminium
Body Weight (kg)	2.1	2.1
Max. Radial Load on Input (N)*	200	200
Standard Stroke (mm)**	150	150

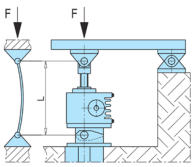
* Applied at centre of input shaft (L/2). For more information, see page 177

** For longer than standard stroke, see compressive load chart below

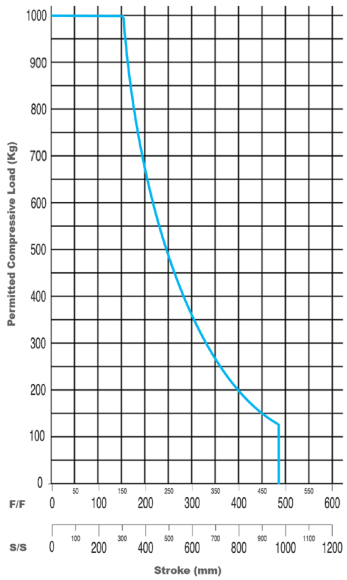


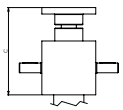


Fixed / Free (F/F)

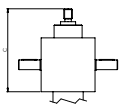


Supported / Supported (S/S)

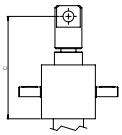




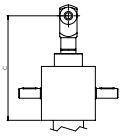
Head Type II Top Plate



Head Type III Threaded



Head Type IV Clevis



Head Type GK Fork

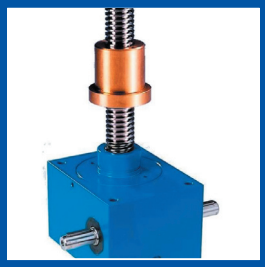
Closed Height (standard protrusion)

Head Type	Dim C (mm)
II	121
III	120
IV	145
GK	156

NOTE: If head type is unspecified, threaded type III will be supplied without accessory as default

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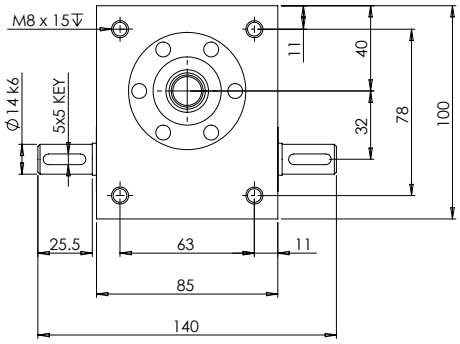
M2 – 1000 kg Capacity

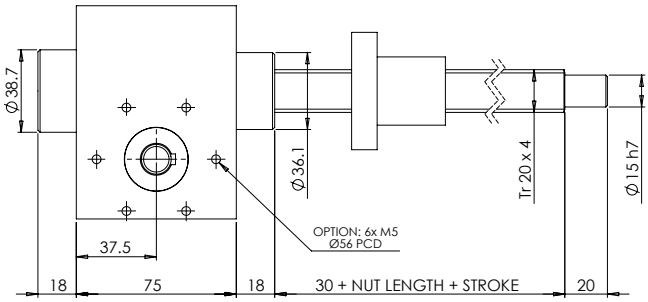
Type 2 – Travelling Nut

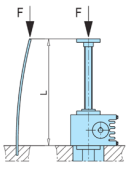
Model	563-204-015	563-216-015
Ratio	4 : 1	16 : 1
Screw Size (Tr)	20 x 4	20 x 4
Travel per Input rev (mm)	1	0.25
Max. Travel Speed (mm/s)	25	6.25
Max. Input Speed (rpm)	1500	1500
Max. Input Torque (Nm)	7.1	7.1
Max. Capacity (kg)	1000	1000
Efficiency (%)	28	21
Material of Body	Aluminium	Aluminium
Body Weight (kg)	2.1	2.1
Max. Radial Load on Input (N)*	200	200
Standard Stroke (mm)**	150	150

* Applied at centre of input shaft (L/2). For more information, see page 177

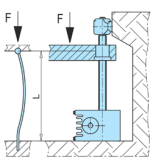
** For longer than standard stroke, see compressive load chart below



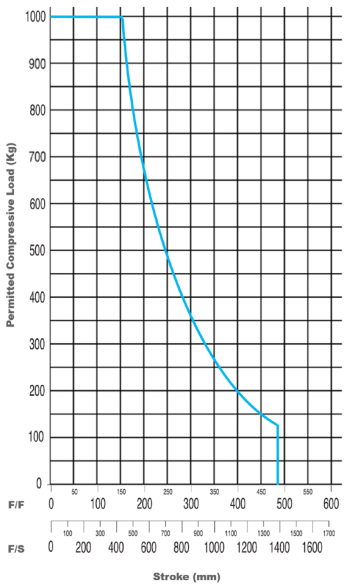


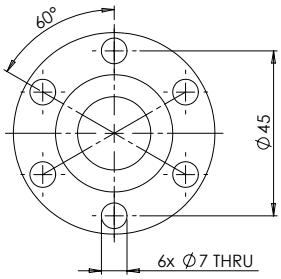


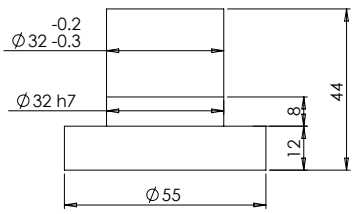
Fixed / Free
(F/F)



Fixed / Supported
(F/S)

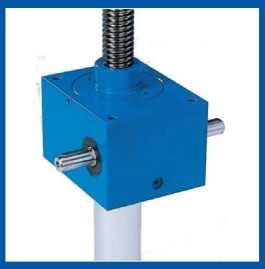






NOTE: For support bearings and end machining options available, please see page 199

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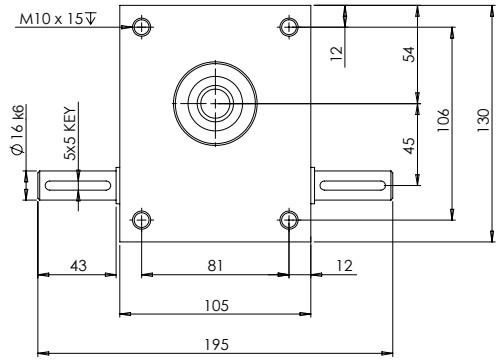
M3 – 2500 kg Capacity

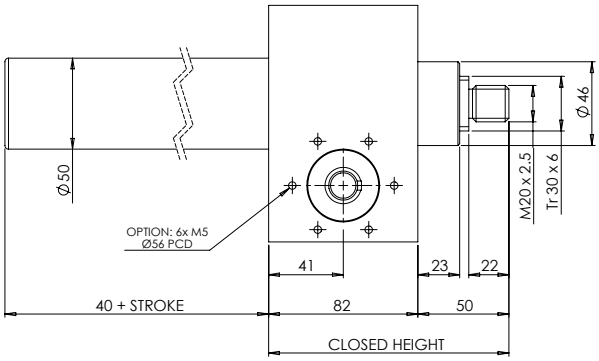
Type 1 – Travelling Screw

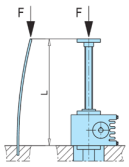
Model	562-306-020	562-324-020
Ratio	6 : 1	24 : 1
Screw Size (Tr)	30 x 6	30 x 6
Travel per Input rev (mm)	1	0.25
Max. Travel Speed (mm/s)	25	6.25
Max. Input Speed (rpm)	1500	1500
Max. Input Torque (Nm)	18	18
Max. Capacity (kg)	2500	2500
Efficiency (%)	27	19
Material of Body	Cast Iron	Cast Iron
Body Weight (kg)	6.0	6.0
Max. Radial Load on Input (N)*	300	300
Standard Stroke (mm)**	200	200

* Applied at centre of input shaft (L/2). For more information, see page 177

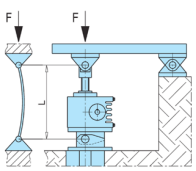
** For longer than standard stroke, see compressive load chart below



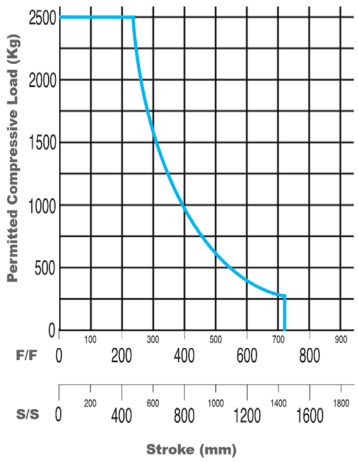


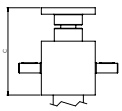


Fixed / Free (F/F)

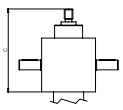


Supported / Supported (S/S)

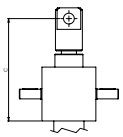




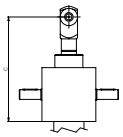
Head Type II Top Plate



Head Type III Threaded



Head Type IV Clevis



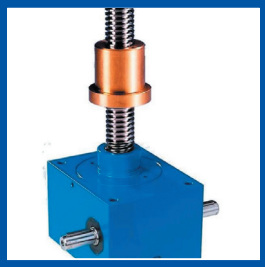
Head Type GK Fork

Head Type	Dim C (mm)
II	133
III	132
IV	163
GK	190

NOTE: If head type is unspecified, threaded type III will be supplied without accessory as default

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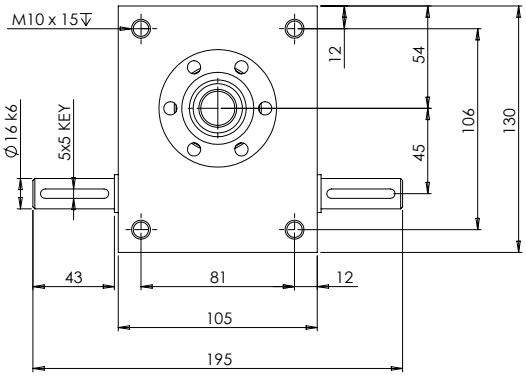
M3 – 2500 kg Capacity

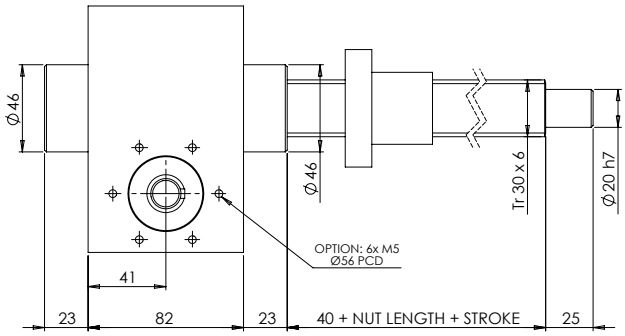
Type 2 – Travelling Nut

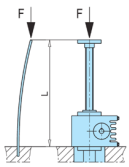
Model	563-306-020	563-324-020
Ratio	6 : 1	24 : 1
Screw Size (Tr)	30 x 6	30 x 6
Travel per Input rev (mm)	1	0.25
Max. Travel Speed (mm/s)	25	6.25
Max. Input Speed (rpm)	1500	1500
Max. Input Torque (Nm)	18	18
Max. Capacity (kg)	2500	2500
Efficiency (%)	27	19
Material of Body	Cast Iron	Cast Iron
Body Weight (kg)	6.0	6.0
Max. Radial Load on Input (N)*	300	300
Standard Stroke (mm)**	200	200

* Applied at centre of input shaft (L/2). For more information, see page 177

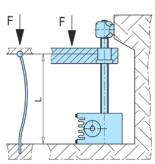
** For longer than standard stroke, see compressive load chart below



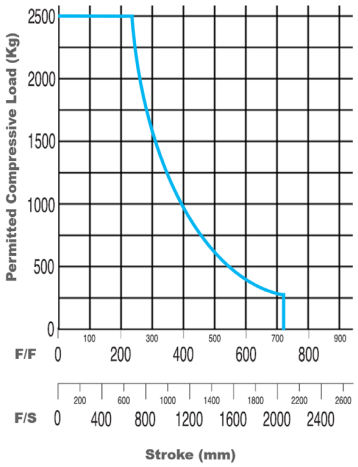


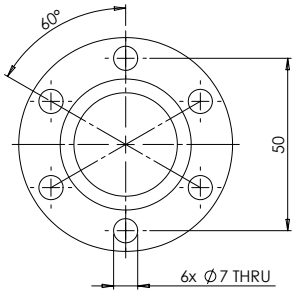


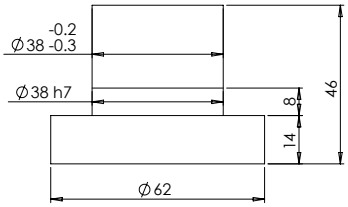
Fixed / Free
(F/F)



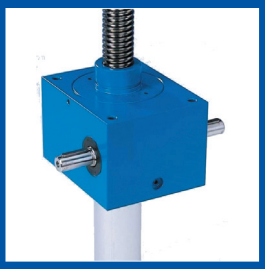
Fixed / Supported
(F/S)







NOTE: For support bearings and end machining options available, please see page 199



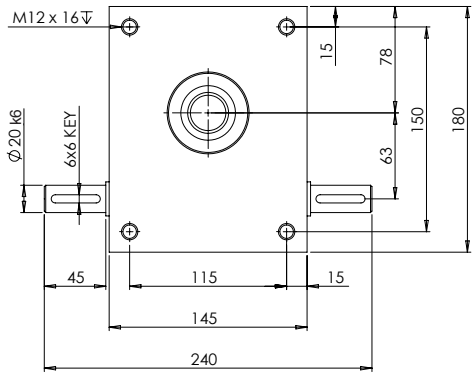
M4 – 5000 kg Capacity

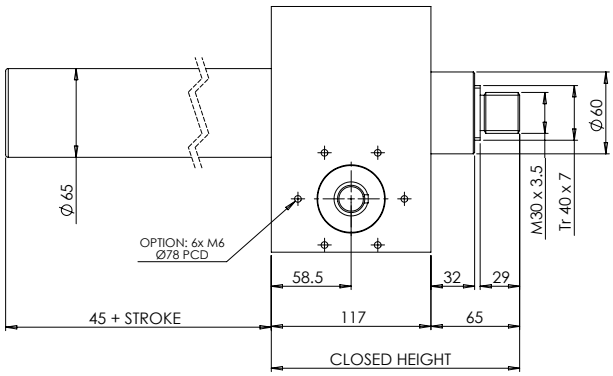
Type 1 – Travelling Screw

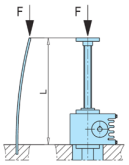
Model	562-407-025	562-428-025
Ratio	7 : 1	28 : 1
Screw Size (Tr)	40 x 7	40 x 7
Travel per Input rev (mm)	1	0.25
Max. Travel Speed (mm/s)	25	6.25
Max. Input Speed (rpm)	1500	1500
Max. Input Torque (Nm)	38	38
Max. Capacity (kg)	5000	5000
Efficiency (%)	25	18
Material of Body	Cast Iron	Cast Iron
Body Weight (kg)	17.0	17.0
Max. Radial Load on Input (N)*	500	500
Standard Stroke (mm)**	250	250

* Applied at centre of input shaft (L/2). For more information, see page 177

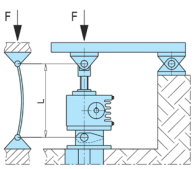
** For longer than standard stroke, see compressive load chart below



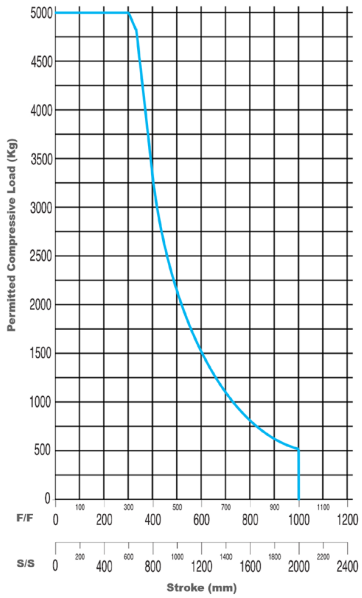


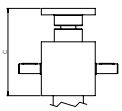


Fixed / Free
(F/F)

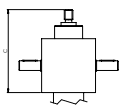


Supported / Supported
(S/S)

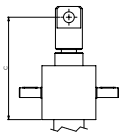




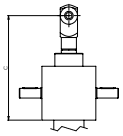
Head Type II
Top Plate



Head Type III
Threaded



Head Type IV



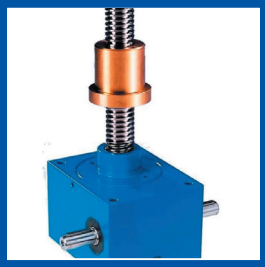
Head Type GK

Closed Height
(standard protrusion)

Head Type	Dim C (mm)
II	183
III	182
IV	223
GK	273

NOTE: If head type is unspecified, threaded type III will be supplied without accessory as default

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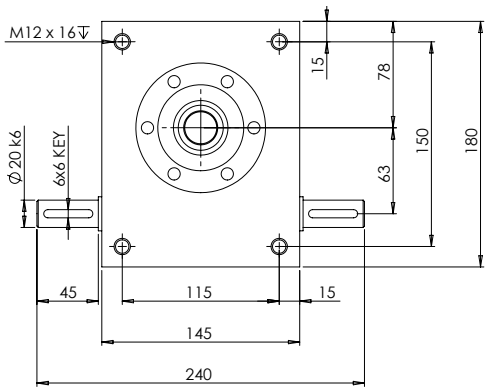
M4 – 5000 kg Capacity

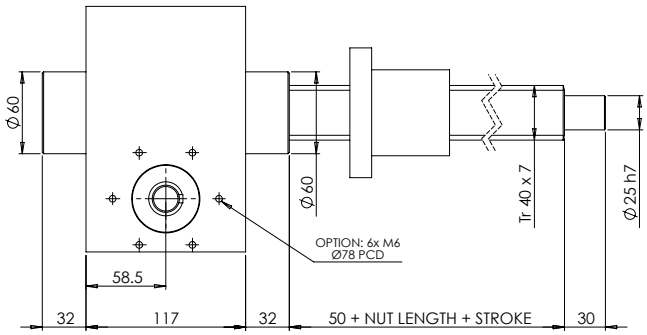
Type 2 – Travelling Nut

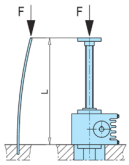
Model.	563-407-025	563-428-025
Ratio	7 : 1	28 : 1
Screw Size (Tr)	40 x 7	40 x 7
Travel per Input rev (mm)	1	0.25
Max. Travel Speed (mm/s)	25	6.25
Max. Input Speed (rpm)	1500	1500
Max. Input Torque (Nm)	38	38
Max. Capacity (kg)	5000	5000
Efficiency (%)	25	18
Material of Body	Cast Iron	Cast Iron
Body Weight (kg)	17.0	17.0
Max. Radial Load on Input (N)*	500	500
Standard Stroke (mm)**	250	250

* Applied at centre of input shaft (L/2). For more information, see page 177

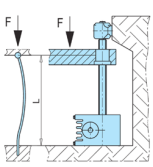
** For longer than standard stroke, see compressive load chart below



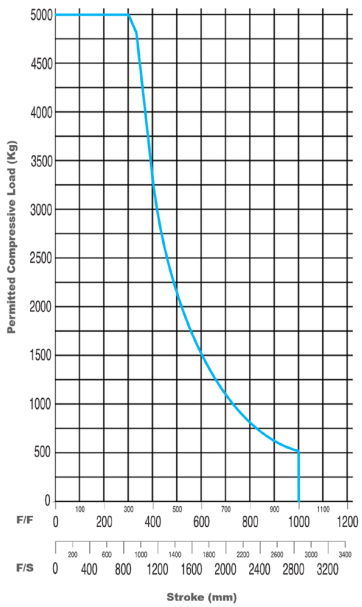


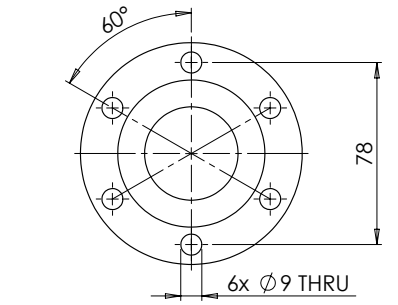


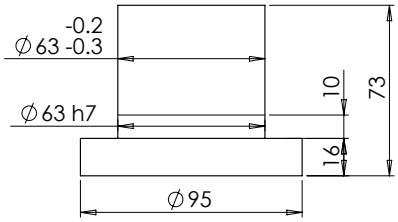
Fixed / Free
(F/F)



Fixed / Supported
(F/S)

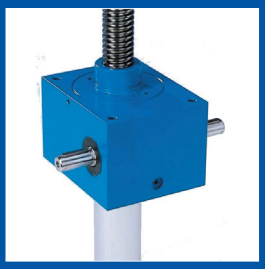






NOTE: For support bearings and end machining options available, please see page 199

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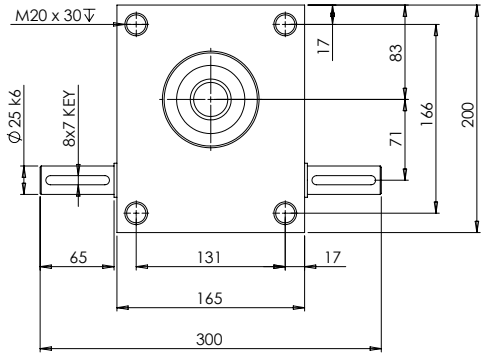
M5 – 15000 kg Capacity

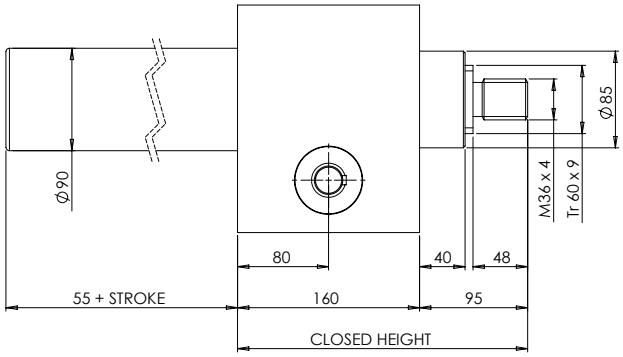
Type 1 – Travelling Screw

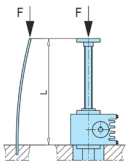
Model	562-509-040	562-536-040
Ratio	9 : 1	36 : 1
Screw Size (Tr)	60 x 9	60 x 9
Travel per Input rev (mm)	1	0.25
Max. Travel Speed (mm/s)	25	6.25
Max. Input Speed (rpm)	1500	1500
Max. Input Torque (Nm)	93	93
Max. Capacity (kg)	15000	15000
Efficiency (%)	19	14
Material of Body	Cast Iron	Cast Iron
Body Weight (kg)	32.0	32.0
Max. Radial Load on Input (N)*	800	800
Standard Stroke (mm)**	400	400

* Applied at centre of input shaft (L/2). For more information, see page 177

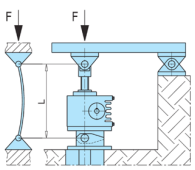
** For longer than standard stroke, see compressive load chart below



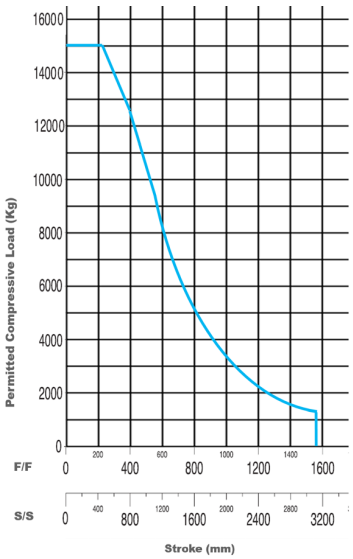


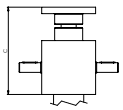


Fixed / Free (F/F)

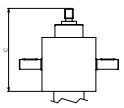


Supported / Supported (S/S)

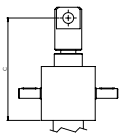




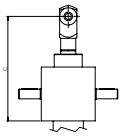
Head Type II Top Plate



Head Type III Threaded



Head Type IV Clevis



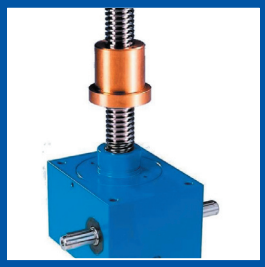
Head Type GK Fork

Closed Height (standard protrusion)

Head Type	Dim C (mm)
II	257
III	255
IV	304
GK	351

NOTE: If head type is unspecified, threaded type III will be supplied without accessory as default

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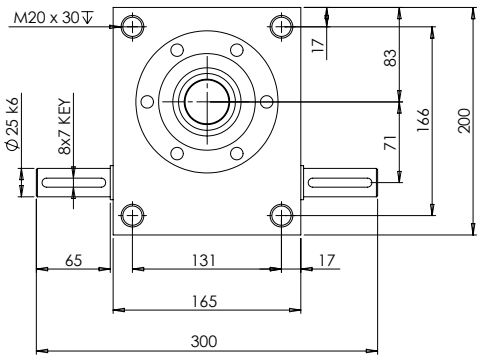
M5 – 15000 kg Capacity

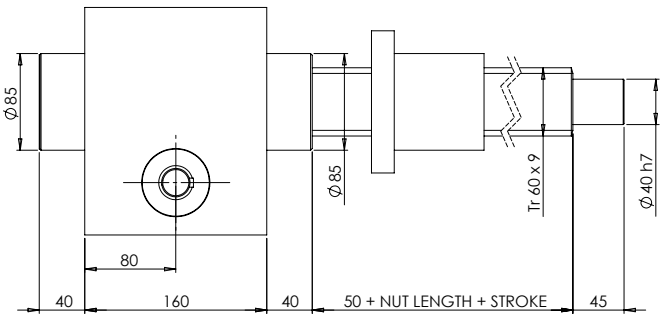
Type 2 – Travelling Nut

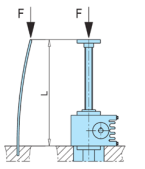
Model	563-509-040	563-536-040
Ratio	9 : 1	36 : 1
Screw Size (Tr)	60 x 9	60 x 9
Travel per Input rev (mm)	1	0.25
Max. Travel Speed (mm/s)	25	6.25
Max. Input Speed (rpm)	1500	1500
Max. Input Torque (Nm)	93	93
Max. Capacity (kg)	15000	15000
Efficiency (%)	19	14
Material of Body	Cast Iron	Cast Iron
Body Weight (kg)	32.0	32.0
Max. Radial Load on Input (N)*	800	800
Standard Stroke (mm)**	400	400

* Applied at centre of input shaft (L/2). For more information, see page 177

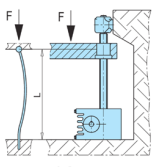
** For longer than standard stroke, see compressive load chart below



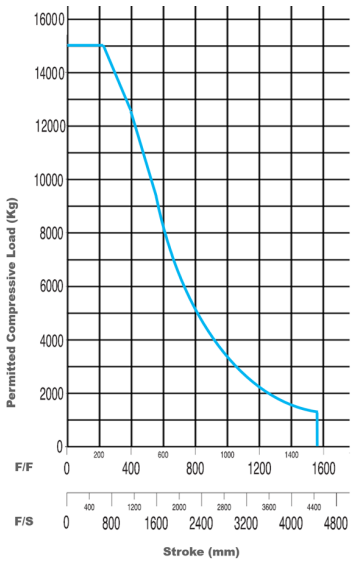


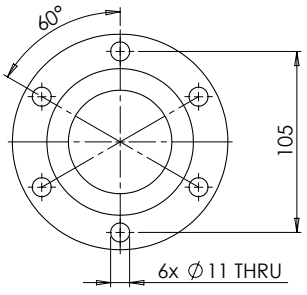


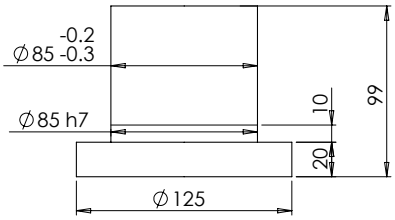
Fixed / Free
(F/F)



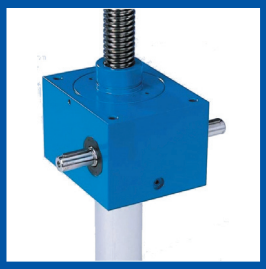
Fixed / Supported
(F/S)







NOTE: For support bearings and end machining options available, please see page 199



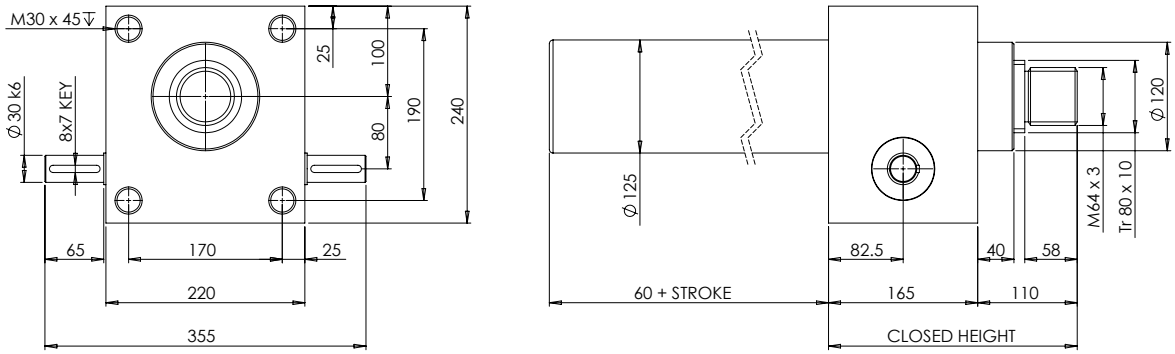
M6 – 25000 kg Capacity

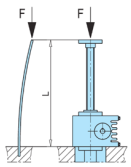
Type 1 – Travelling Screw

Model	562-610-060	562-640-060
Ratio	10 : 1	40 : 1
Screw Size (Tr)	80 x 10	80 x 10
Travel per Input rev (mm)	1	0.25
Max. Travel Speed (mm/s)	25	6.25
Max. Input Speed (rpm)	1500	1500
Max. Input Torque (Nm)	240	240
Max. Capacity (kg)	25000	25000
Efficiency (%)	19	14
Material of Body	Cast Iron	Cast Iron
Body Weight (kg)	57.0	57.0
Max. Radial Load on Input (N)*	1300	1300
Standard Stroke (mm)**	600	600

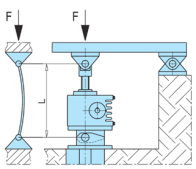
* Applied at centre of input shaft (L/2). For more information, see page 177

** For longer than standard stroke, see compressive load chart below

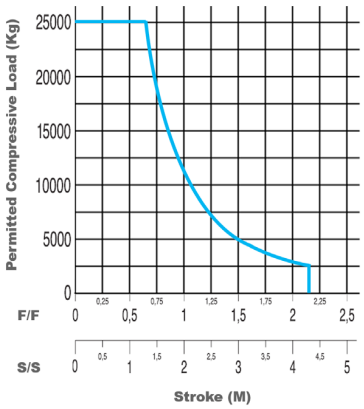


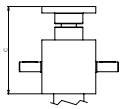


Fixed / Free
(F/F)

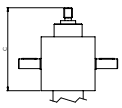


Supported / Supported
(S/S)

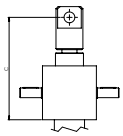




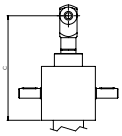
Head Type II
Top Plate



Head Type III
Threaded



Head Type IV
Clevis



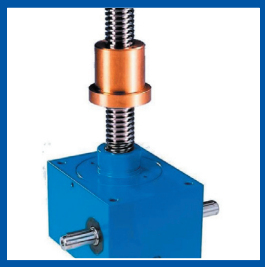
Head Type GK
Fork

Closed Height
(standard protrusion)

Head Type	Dim C (mm)
II	277
III	275
IV	322
GK	N/A

NOTE: If head type is unspecified, threaded type III will be supplied without accessory as default

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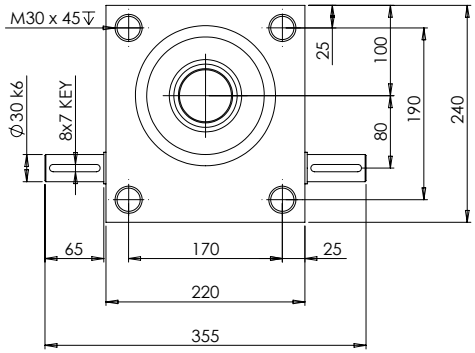
M6 – 25000 kg Capacity

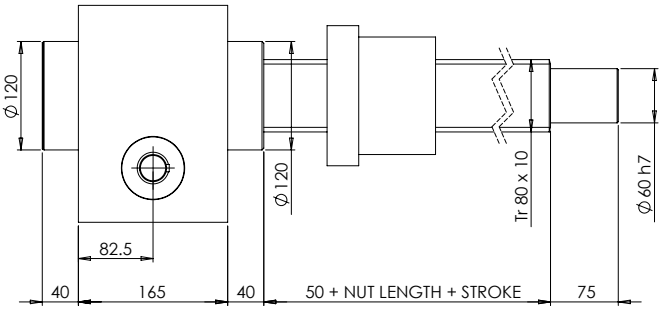
Type 2 – Travelling Nut

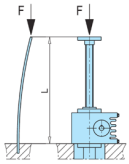
Model	563-610-060	563-640-060
Ratio	10 : 1	40 : 1
Screw Size (Tr)	80 x 10	80 x 10
Travel per Input rev (mm)	1	0.25
Max. Travel Speed (mm/s)	25	6.25
Max. Input Speed (rpm)	1500	1500
Max. Input Torque (Nm)	240	240
Max. Capacity (kg)	25000	25000
Efficiency (%)	19	14
Material of Body	Cast Iron	Cast Iron
Body Weight (kg)	57.0	57.0
Max. Radial Load on Input (N)*	1300	1300
Standard Stroke (mm)**	600	600

* Applied at centre of input shaft (L/2). For more information, see page 177

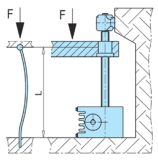
** For longer than standard stroke, see compressive load chart below



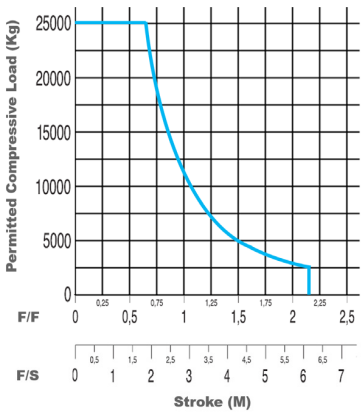


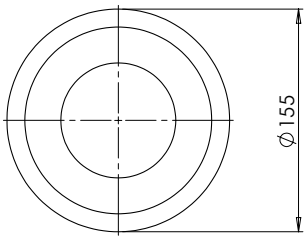


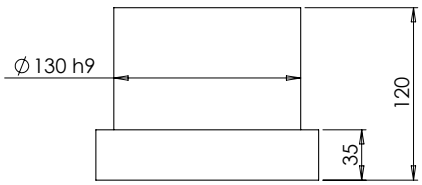
Fixed / Free (F/F)



Fixed / Supported (F/S)

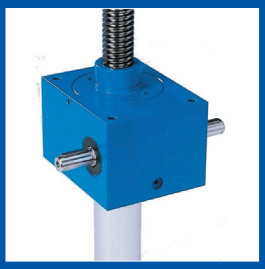






NOTE: For support bearings and end machining options available, please see page 199

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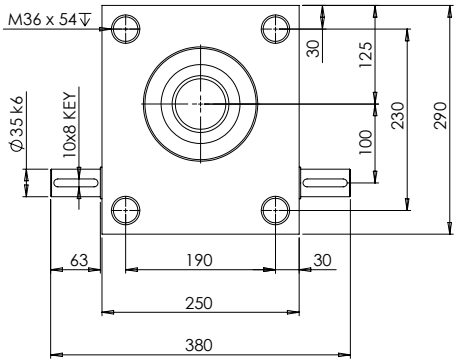
M7 – 35000 kg Capacity

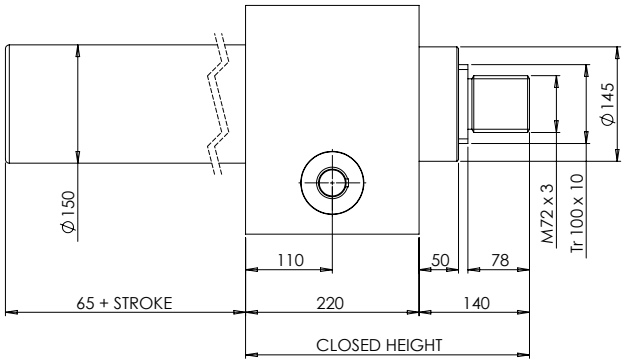
Type 1 – Travelling Screw

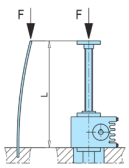
Model	562-710-080	562-740-080
Ratio	10 : 1	40 : 1
Screw Size (Tr)	100 x 10	100 x 10
Travel per Input rev (mm)	1	0.25
Max. Travel Speed (mm/s)	25	6.25
Max. Input Speed (rpm)	1500	1500
Max. Input Torque (Nm)	340	340
Max. Capacity (kg)	35000	35000
Efficiency (%)	15	11
Material of Body	Cast Iron	Cast Iron
Body Weight (kg)	85.0	85.0
Max. Radial Load on Input (N)*	2100	2100
Standard Stroke (mm)**	800	800

* Applied at centre of input shaft (L/2). For more information, see page 177

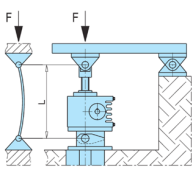
** For longer than standard stroke, see compressive load chart below



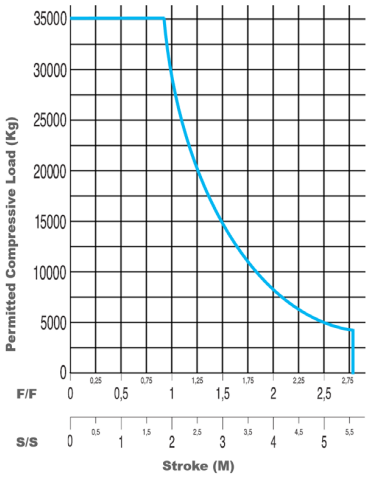


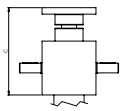


Fixed / Free
(F/F)

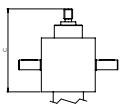


Supported / Supported
(S/S)

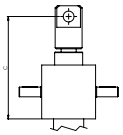




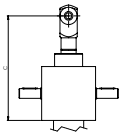
Head Type II
Top Plate



Head Type III
Threaded



Head Type IV
Clevis



Head Type GK
Fork

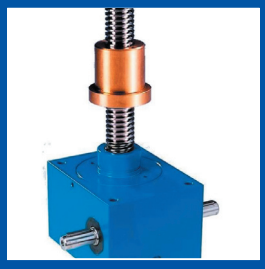
Closed Height
(standard protrusion)

Head Type	Dim C (mm)
II	362
III	360
IV	417
GK	N/A

NOTE: If head type is unspecified, threaded type III will be supplied without accessory as default

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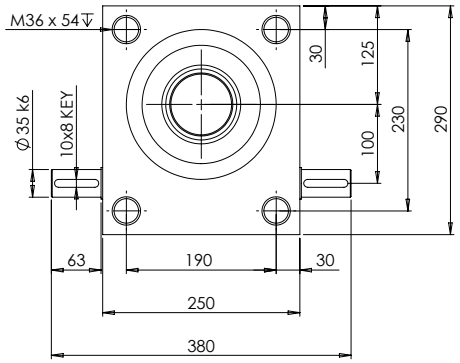
M7 – 35000 kg Capacity

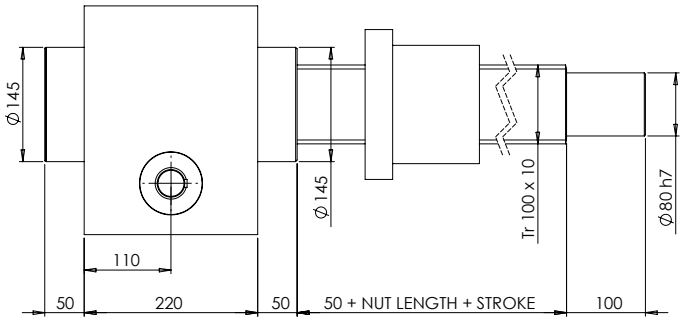
Type 2 – Travelling Nut

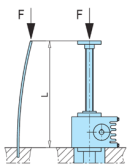
Model	563-710-080	563-740-080
Ratio	10 : 1	40 : 1
Screw Size (Tr)	100 x 10	100 x 10
Travel per Input rev (mm)	1	0.25
Max. Travel Speed (mm/s)	25	6.25
Max. Input Speed (rpm)	1500	1500
Max. Input Torque (Nm)	340	340
Max. Capacity (kg)	35000	35000
Efficiency (%)	15	11
Material of Body	Cast Iron	Cast Iron
Body Weight (kg)	85.0	85.0
Max. Radial Load on Input (N)*	2100	2100
Standard Stroke (mm)**	800	800

* Applied at centre of input shaft (L/2). For more information, see page 177

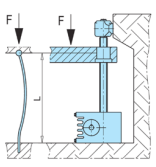
** For longer than standard stroke, see compressive load chart below



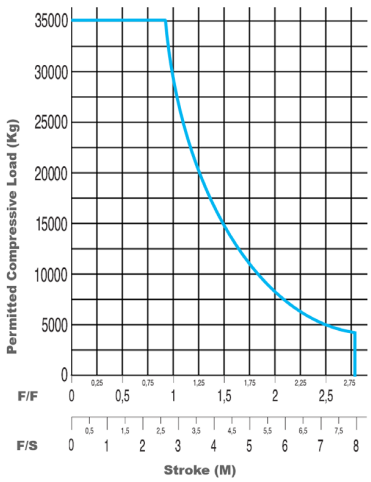


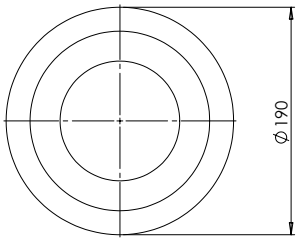


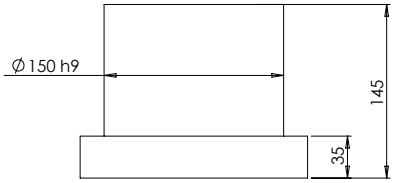
Fixed / Free
(F/F)



Fixed / Supported
(F/S)

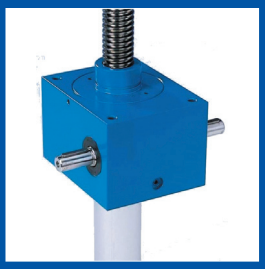






NOTE: For support bearings and end machining options available, please see page 199

WMH Transmissions Limited



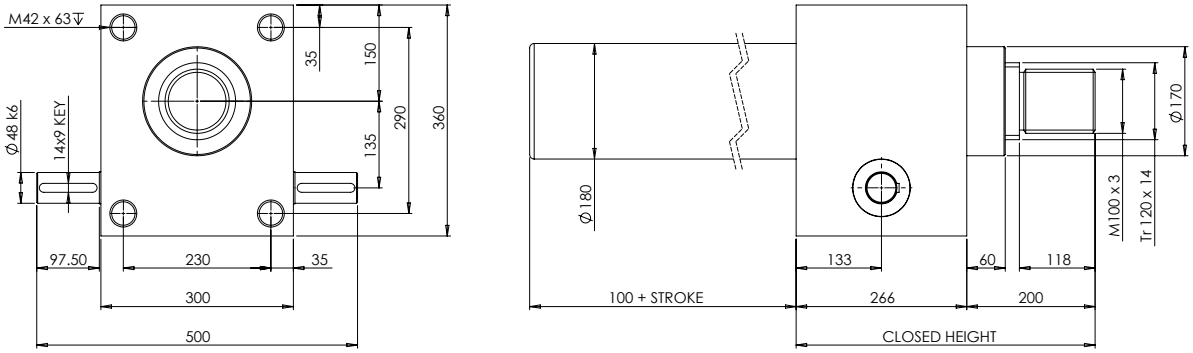
M8 – 50000 kg Capacity

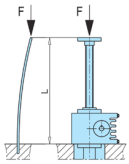
Type 1 – Travelling Screw

Model	562-814-100	562-856-100
Ratio	14 : 1	56 : 1
Screw Size (Tr)	120 x 14	120 x 14
Travel per Input rev (mm)	1	0.25
Max. Travel Speed (mm/s)	25	6.25
Max. Input Speed (rpm)	1500	1500
Max. Input Torque (Nm)	570	570
Max. Capacity (kg)	50000	50000
Efficiency (%)	15	11
Material of Body	Cast Iron	Cast Iron
Body Weight (kg)	160.0	160.0
Max. Radial Load on Input (N)*	3100	3100
Standard Stroke (mm)**	1000	1000

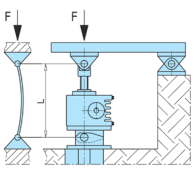
* Applied at centre of input shaft (L/2). For more information, see page 177

** For longer than standard stroke, see compressive load chart below

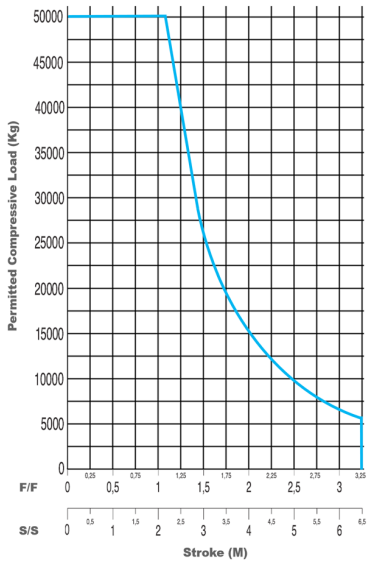


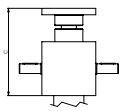


Fixed / Free (F/F)

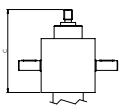


Supported / Supported (S/S)

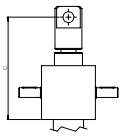




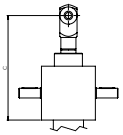
Head Type II Top Plate



Head Type III Threaded



Head Type IV Clevis



Head Type GK Fork

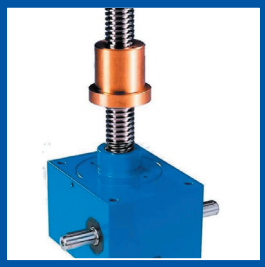
Closed Height (standard protrusion)

Head Type	Dim C (mm)
II	468
III	466
IV	548
GK	N/A

NOTE: If head type is unspecified, threaded type III will be supplied without accessory as default

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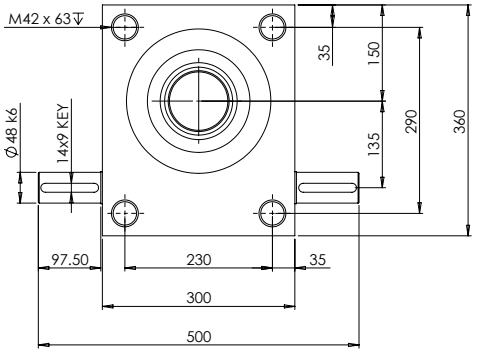
M8 – 50000 kg Capacity

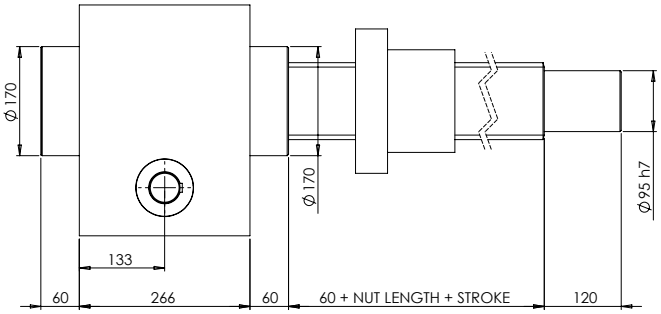
Type 2 – Travelling Nut

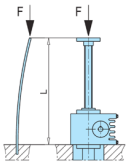
Model	563-814-100	563-856-100
Ratio	14 : 1	56 : 1
Screw Size (Tr)	120 x 14	120 x 14
Travel per Input rev (mm)	1	0.25
Max. Travel Speed (mm/s)	25	6.25
Max. Input Speed (rpm)	1500	1500
Max. Input Torque (Nm)	570	570
Max. Capacity (kg)	50000	50000
Efficiency (%)	15	11
Material of Body	Cast Iron	Cast Iron
Body Weight (kg)	160.0	160.0
Max. Radial Load on Input (N)*	3100	3100
Standard Stroke (mm)**	1000	1000

* Applied at centre of input shaft (L/2). For more information, see page 177

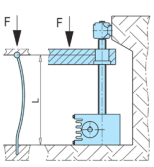
** For longer than standard stroke, see compressive load chart below



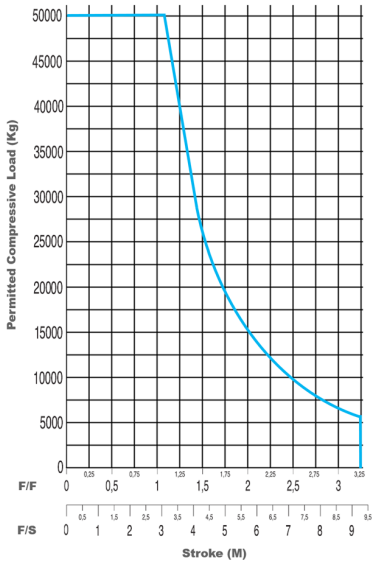


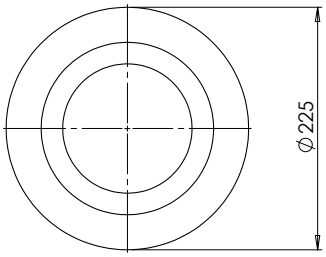


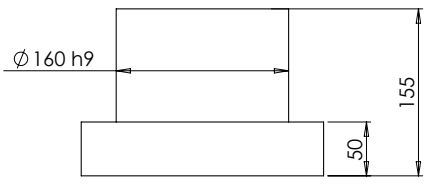
Fixed / Free
(F/F)



Fixed / Supported
(F/S)

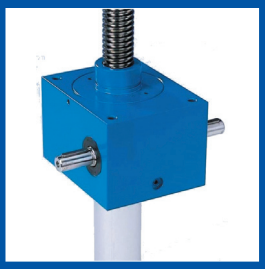






NOTE: For support bearings and end machining options available, please see page 199

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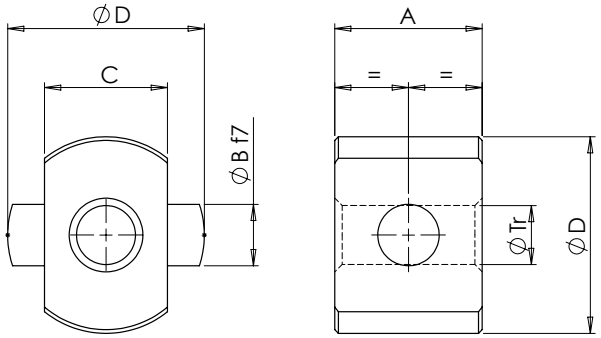


Trunnion Nuts & Plates

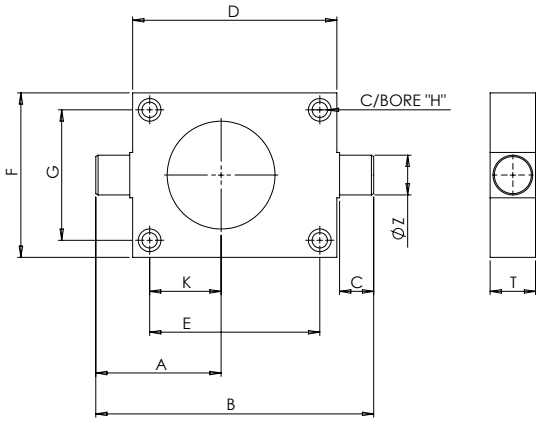
WMH screw jacks can be used in applications requiring swivelling and tipping movements via the use of trunnion plates in combination with clevis heads and bronze trunnion nuts in place of the standard flanged type nuts.

Any bending moments subject to the jack assembly should be minimised as much as possible by means of low-friction articulation points.

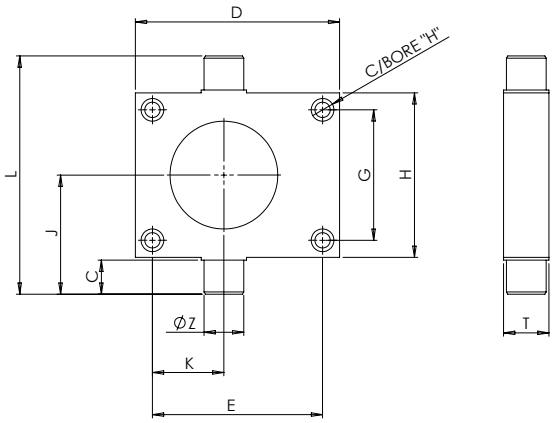
Size	A	B	C	D	Tr
M0	ON REQUEST				
M1	45	14	35	50	18x4
M2	50	18	40	60	20x4
M3	60	25	50	80	30x6
M4	70	35	62	95	40x7
M5	90	50	80	130	60x9
M6	145	75	120	190	80x10
M7	ON REQUEST				
M8					



STANDARD



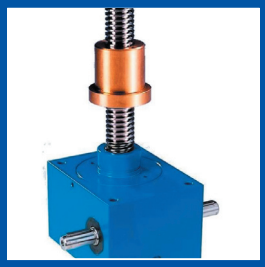
TRANSVERSE



Size	A	B	C	D	E	F	G	H	J	K	L	T	Z	Part Number
M0	34.5	85	10	60	48	50	35	M6	37.5	16	75	15	10	562-000-004*
M1	48.5	115	15	80	60	72	52	M8	53.5	21	107	20	15	562-100-004*
M2	62.5	145	20	100	78	85	63	M8	65.0	29	130	25	20	562-200-004*
M3	76.5	175	20	130	106	105	81	M10	75	42	150	30	25	562-300-004*
M4	110.5	245	30	180	150	145	115	M12	105	63	210	40	35	562-400-004*
M5	120.5	275	35	200	166	165	131	M20	120	66	240	50	45	562-500-004*
M6	ON REQUEST													562-600-004*
M7														562-700-004*
M8														562-800-004*

***PLEASE SPECIFY STANDARD OR TRANSVERSE TYPE TRUNNION PLATE ELSE A STANDARD TYPE PLATE WILL BE SUPPLIED IF NOT SPECIFIED WHEN ORDERING**

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sales@wmh-trans.co.uk
FAX: 01827 253390
www.wmh-trans.co.uk
WMH Transmissions Limited



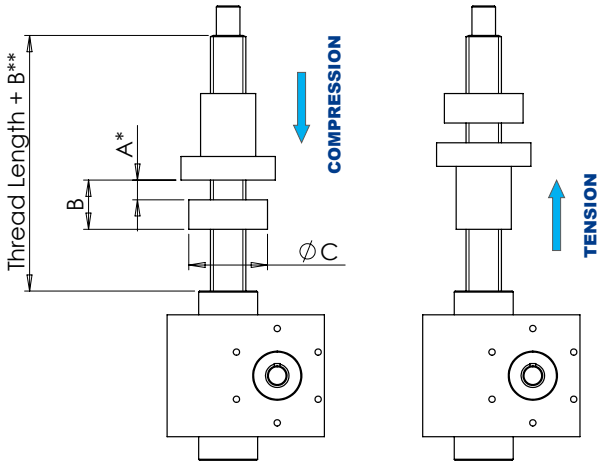
Safety Nuts

Type 2 – Travelling Nut

WMH travelling nut (type 2) screw jacks can be fitted with an optional safety nut to prevent loads falling if the main nut has worn excessively or brakes.

The safety nut can also be used to precisely monitor wear of the main nut as the clearance between the two reduces with wear over time. It is important that the safety nut is installed behind the main nut in the direction of the load as illustrated to ensure correct operation.

WMH safety nuts are available in short (standard) or long formats.



Size	A *	B **	C	Part Number
~ SHORT TYPE ~				
SHE 1.1	5	25	45	561-100-002
SHE 3.1	10	35	50	561-200-002
SHE 5.1	10	40	70	561-300-002
SHE 15.1	10	60	90	561-400-002
SHE 20.1	10	60	90	561-500-002
SHE 25.0	15	80	130	561-600-002
SHE 35.0	15	80	150	561-700-002
SHE 50.1	15	80	160	561-800-002
SHE 75.0	ON REQUEST			561-900-002
SHE 100.1	15	95	200	561-A00-002
~ LONG TYPE ~				
SHE 1.1	5	45	45	561-100-003
SHE 3.1	10	55	50	561-200-003
SHE 5.1	10	70	70	561-300-003
SHE 15.1	10	85	90	561-400-003
SHE 20.1	10	110	90	561-500-003
SHE 25.0	15	135	130	561-600-003
SHE 35.0	15	160	150	561-700-003
SHE 50.1	15	170	160	561-800-003
SHE 75.0	ON REQUEST			561-900-003
SHE 100.1	15	215	200	561-A00-003

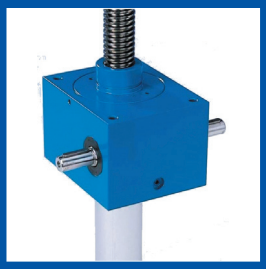
* As new, will decrease with wear over time and be replaced when approaching zero

** Length B should be considered when calculating total thread length

WMH worm gear screw jacks are designed according to current regulations for use on theatre stages (VBG 16.4.5), lifting platforms (VBG 14) or jacking systems that might affect personal safety.

WMH worm gear screw jacks include such items as anti-drop systems (self locking screw threads and / or mechanical safety brakes as part of the drive system). The function of the synchronising device is guaranteed, when required, by additional components.

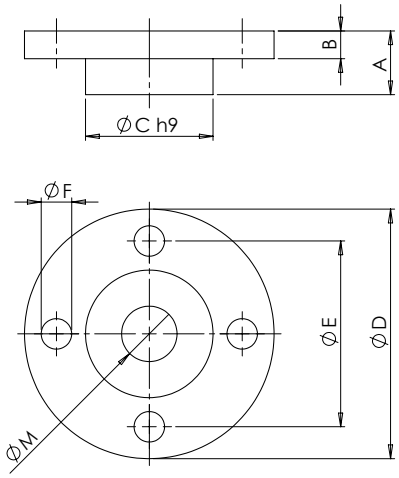
PLEASE SPECIFY SAFETY NUT FORM WHEN ORDERING AS SHORT TYPE IS SUPPLIED AS STANDARD
LONG TYPE RECOMMENDED FOR VBG 16.4.5 or VBG 14 SPECIFIC APPLICATIONS



Head Accessories

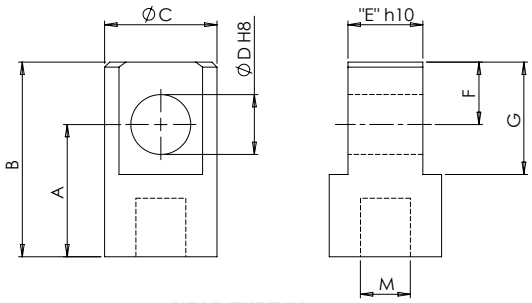
Type 1 – Travelling Screw

Size	A	B	C	D	E	F	M	Part Number
M0	16	6	26	50	40	7	M8 x 1.25	562-000-001
M1	20	7	30	65	48	9	M12 x 1.75	562-100-001
M2	21	8	40	80	60	11	M14 x 2	562-200-001
M3	23	10	46	90	67	11	M20 x 2.5	562-300-001
M4	30	15	60	110	85	13	M30 x 3.5	562-400-001
M5	50	20	85	150	117	17	M36 x 4	562-500-001
M6	60	30	120	220	170	25	M64 x 3	562-600-001
M7	80	40	145	260	205	32	M72 x 3	562-700-001
M8	120	40	170	310	240	38	M100 x 3	562-800-001



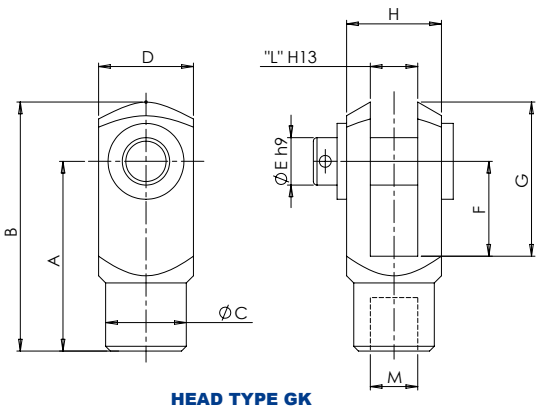
HEAD TYPE II

Size	A	B	C	D	E	F	G	M	Part Number
M0	30	40	25	10	12	10	20	M8 x 1.25	562-000-008
M1	40	55	30	14	15	15	30	M12 x 1.75	562-100-008
M2	45	63	40	16	20	18	36	M14 x 2	562-200-008
M3	53	78	45	24	30	25	45	M20 x 2.5	562-300-008
M4	70	105	60	32	35	35	65	M30 x 3.5	562-400-008
M5	97	147	85	40	40	50	83	M36 x 4	562-500-008
M6	105	175	120	60	80	70	130	M64 x 3	562-600-008
M7	135	220	160	80	110	85	170	M72 x 3	562-700-008
M8	200	330	170	90	120	130	230	M100 x 3	562-800-008



HEAD TYPE IV

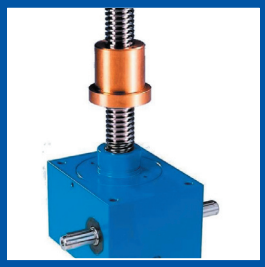
Size	A	B	C	D	E	F	G	H	L	M	Part Number
M0	32	42	14	16	8	16	26	16	8	M8 x 1.25	562-000-002
M1	48	62	20	24	12	24	37	24	12	M12 x 1.75	562-100-002
M2	56	72	24	27	14	28	44	27	14	M14 x 2	562-200-002
M3	80	105	34	40	20	40	65	40	20	M20 x 2.5	562-300-002
M4	120	160	52	60	30	60	100	60	30	M30 x 3.5	562-400-002
M5	144	188	60	70	35	72	116	70	36	M36 x 4	562-500-002
M6	NOT AVAILABLE										
M7											
M8											



HEAD TYPE GK

THREADED HEAD TYPE III IS SUPPLIED AS STANDARD ON ALL TYPE 1 JACKS AND PLAIN JOURNAL
TYPE I IS SUPPLIED AS STANDARD ON ALL TYPE 2 JACKS UNLESS OTHERWISE ADVISED

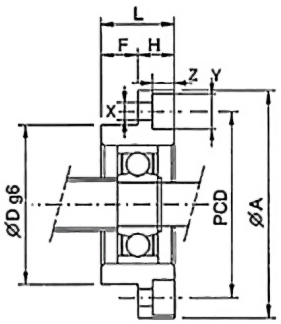
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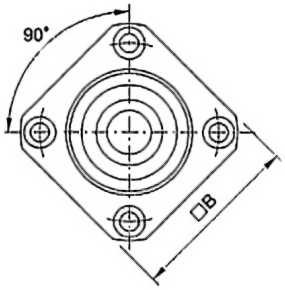
Head Accessories

Type 2 – Travelling Nut

Type	Jack Size	Radial Load Capacity	
		Dyn KgF	Stat KgF
FF06	-	80	224
FF10	M0	130	330
FF12	M1	190	450
FF15	M2	280	560
FF17	-	480	950
FF20	M3	670	1300
FF25	-	795	1425
FF30	M4	1150	1990



BEARING DIMENSIONS



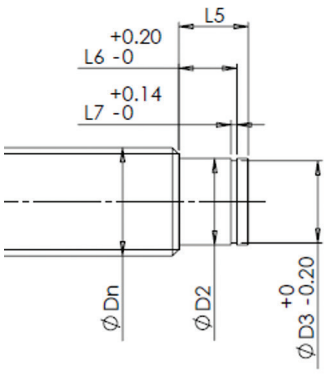
Type	Jack Size	ØD2	L	H	F	ØD	ØA	PCD	B	X	Y	Z
FF06	-	6	10	6	4	22	36	28	28	3.4	6.5	4.0
FF10	M0	8	12	7	5	28	43	35	35	3.4	6.5	4.0
FF12	M1	10	15	7	8	34	52	42	42	4.5	8.0	4.0
FF15	M2	15	17	9	8	40	63	50	52	5.5	9.5	5.5
FF17	-	17	20	11	9	50	77	62	61	6.6	11.0	6.5
FF20	M3	20	20	11	9	57	85	70	68	6.6	11.0	6.5
FF25	-	25	24	14	10	63	98	80	79	9.0	15.0	8.5
FF30	M4	30	27	18	9	75	117	95	93	11.0	17.5	11.0

WMH FF series support bearings can be used to allow type 2 travelling nut type screw jacks to have greater compressive load capacities at longer strokes compared to being unsupported. The bearings help keep the screw thread supported and prevent any lateral deviation from the centre line of the screw thread and can help reduce buckling and whip.

WMH can also tailor the screw end machining to suit any bearing pack arrangement so please contact us with your specific requirements or design queries.

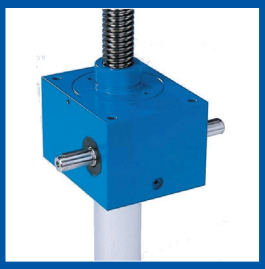
Type	Jack Size	ØD2		L5	ØD3	L6	L7
FF06	-	6	-0.004 -0.012	9	5.7	6.80	0.80
FF10	M0	8	-0.005 -0.012	10	7.6	7.90	0.90
FF12	M1	10	-0.005 -0.014	11	9.6	9.15	1.15
FF15	M2	15	-0.005 -0.014	13	14.3	10.15	1.15
FF17	-	17	-0.005 -0.014	16	16.2	13.15	1.15
FF20	M3	20	-0.005 -0.014	19	19.0	15.35	1.35
FF25	-	25	-0.005 -0.014	20	23.9	16.35	1.35
FF30	M4	30	-0.005 -0.015	21	28.6	17.75	1.75

MACHINING DETAILS



AS WELL AS OUR RANGE OF STANDARD PRODUCTS WE CAN ALSO OFFER IN HOUSING MACHINING AND CUSTOM MODIFICATIONS ON REQUEST – PLEASE CONTACT OUR SALES TEAM

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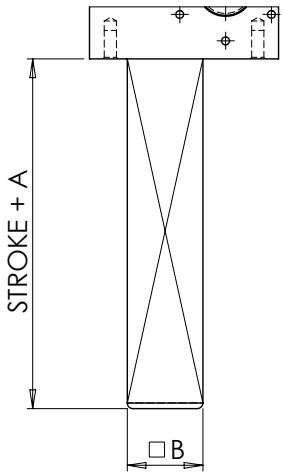
Anti-turn – Bellows – Feet

WMH travelling screw jacks as standard are not fitted with any device to prevent screw rotation.

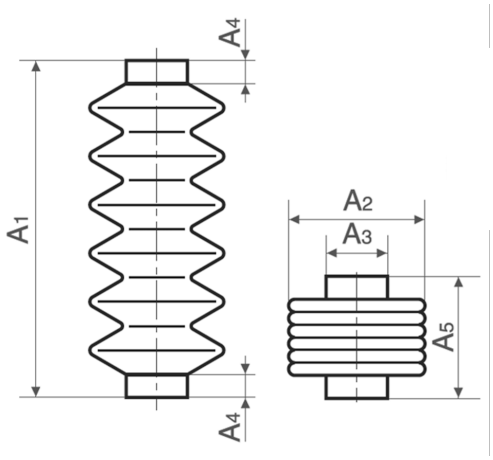
In many applications, it is critical that the screw thread does not rotate to any degree. Anti-rotation can be achieved by replacing the standard round protective tube with a square profile instead.

A square nut is then fitted to the end of the screw which slides within the square profile but cannot rotate due to its shape and thus prevents the screw from rotating during operation.

Size	A	B
M0	NOT AVAILABLE	
M1	60	35
M2	70	40
M3	80	50
M4	100	70
M5	115	90
M6	120	125
M7	125	150
M8	155	180

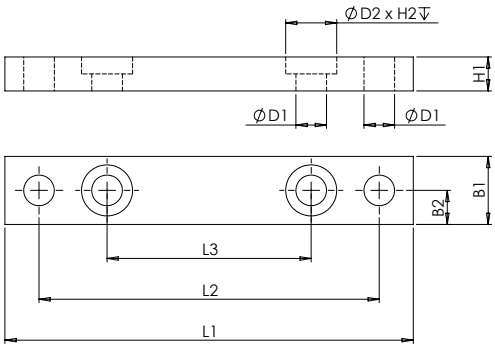


Size	A1	A2	A3	A4	A5	Part Number
M0	DEPENDENT ON STROKE	66	29	12	DEPENDENT ON STROKE	562-000-005 / STROKE*
M1		66	29	12		562-100-005 / STROKE*
M2		80	39	12		562-200-005 / STROKE*
M3		90	46	12		562-300-005 / STROKE*
M4		110	60	12		562-400-005 / STROKE*
M5		150	85	12		562-500-005 / STROKE*
M6		170	90	12		562-600-005 / STROKE*
M7		220	120	12		562-700-005 / STROKE*
M8		250	145	12		562-800-005 / STROKE*



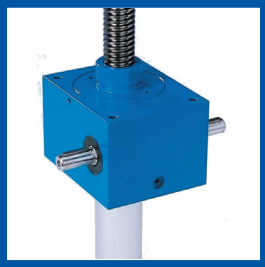
* Please advise stroke when ordering as dimensions shown above are likely to change.

Size	L1	L2	L3	B1	B2	D1	D2	H1	H2	Part Number
M0	90	75	48	12	6	6.6	11	10	5	562-000-003
M1	120	100	60	20	10	9.0	15	10	5	562-100-003
M2	140	120	78	20	11	9.0	15	10	6	562-200-003
M3	170	150	106	25	12	11.0	18	12	7	562-300-003
M4	230	204	150	30	15	13.5	20	16	8	562-400-003
M5	270	236	166	40	17	22.0	33	25	14	562-500-003
M6	ON REQUEST									562-600-003
M7										562-700-003
M8										562-800-003



PLEASE NOTE ANTI-TURN DEVICES ARE ONLY AVAILABLE ON TYPE 1 TRAVELLING SCREW JACKS
SPECIAL BELLOW DESIGNS AND CONFIGURATIONS ARE AVAILABLE ON REQUEST

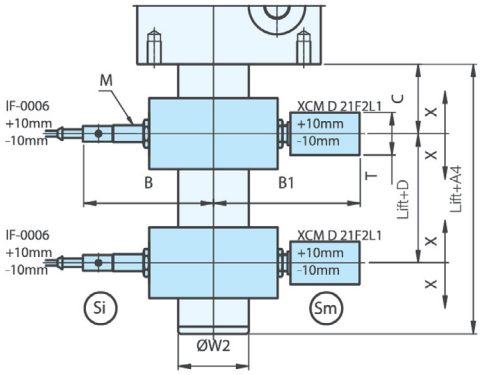
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Limit Switches

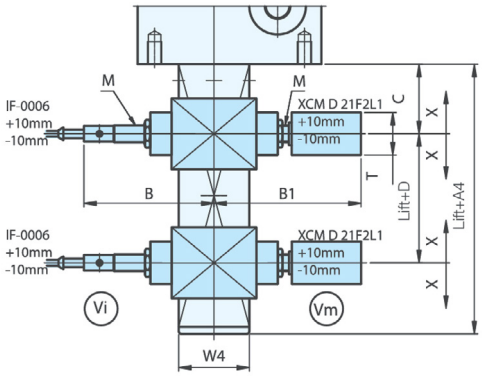
Type 1 – Travelling Screw

WMH cubic travelling screw type 1 jacks can be fitted with either mechanical (Sm) or inductive (Si) type limit switches to precisely control maximum stroke travel.



Size	A4	B	B1	C Sm/Si	D Sm/Si	T	M	W2	X
M0	105	84	95	44 / 38	12 / 24	50	M12 x 1	28	+ / - 10
M1	105	86	97	44 / 38	12 / 24	50	M12 x 1	32	+ / - 10
M2	110	90	100	44 / 38	16 / 28	50	M12 x 1	40	+ / - 10
M3	115	94	104	49 / 43	16 / 28	50	M12 x 1	50	+ / - 10
M4	135	101	111	58 / 52	20 / 32	50	M12 x 1	65	+ / - 10
M5	140	114	123	66 / 60	20 / 32	50	M12 x 1	90	+ / - 10
M6	135	ON REQUEST		66 / 60	25 / 37	50	M12 x 1	125	+ / - 10
M7	170			76 / 70	30 / 42	50	M12 x 1	150	+ / - 10
M8	160			86 / 80	30 / 42	50	M12 x 1	180	+ / - 10

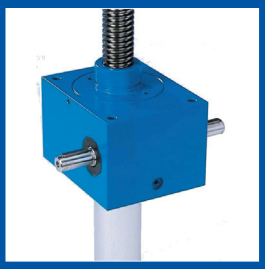
WMH jacks fitted with an anti-turn square tube can be also be fitted with either mechanical (Vm) or inductive (Vi) type limit switches to precisely control maximum stroke travel.



Size	A4	B	B1	C Vm/Vi	D Vm/Vi	T	M	W4	X
M0	NOT AVAILABLE								
M1	105	86	96	44 / 38	12 / 24	50	M12 x 1	35x35	+ / - 10
M2	110	88	100	44 / 38	16 / 28	50	M12 x 1	40x40	+ / - 10
M3	115	93	105	49 / 43	16 / 28	50	M12 x 1	50x50	+ / - 10
M4	135	101	110	58 / 52	20 / 32	50	M12 x 1	70x70	+ / - 10
M5	145	113	125	66 / 60	20 / 32	50	M12 x 1	90x90	+ / - 10
M6	135	ON REQUEST		66 / 60	25 / 37	50	M12 x 1	125x125	+ / - 10
M7	170			76 / 70	30 / 42	50	M12 x 1	150x150	+ / - 10
M8	160			86 / 80	30 / 42	50	M12 x 1	180x180	+ / - 10

PLEASE SPECIFY WHICH TYPE OF LIMIT SWITCH IS REQUIRED (MECHANICAL OR INDUCTIVE) AND IF ANTI-TURN TUBES ARE TO BE FITTED WHEN ORDERING AS THERE IS NO SET DEFAULT

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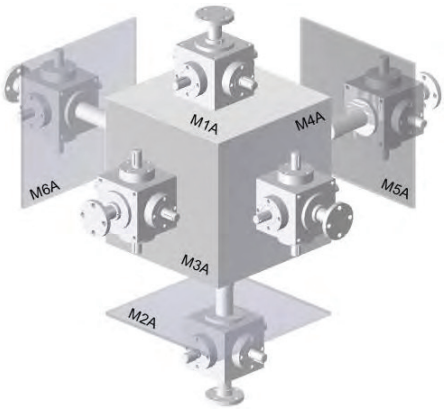


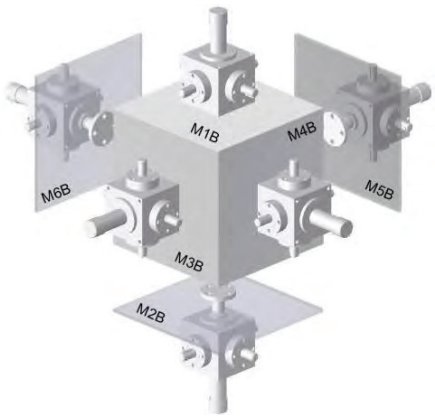
Screw Jack Order Codes

WMH Cubic screw jacks can be supplied singular, with additional accessories, pre-assembled, part of a larger assembly or modified specially to customer request.

These order codes are for standard jacks only, if you require additional accessories or modifications such as input shaft removal, special material specifications or ballscrew assemblies in place of standard leadscrews then please contact our sales team for a competitive quote.

Please ensure to specify mounting position when ordering (referring to the layout images below) so that we can check lubrication requirements of your application.





56 3 - 2 04 - 015

Stroke (cm)

E.G. 015 = 150mm Stroke

Jack ratio

Jack size

0 = M0
1 = M1
2 = M2
3 = M3
4 = M4
5 = M5
6 = M6
7 = M7
8 = M8

Travel type

2 = Type 1 Travelling Screw
3 = Type 2 Travelling Nut

WMH Cubic Screw Jacks

AS WELL AS OUR RANGE OF STANDARD PRODUCTS WE CAN ALSO OFFER IN HOUSING MACHINING AND CUSTOM MODIFICATIONS ON REQUEST – PLEASE CONTACT OUR SALES TEAM

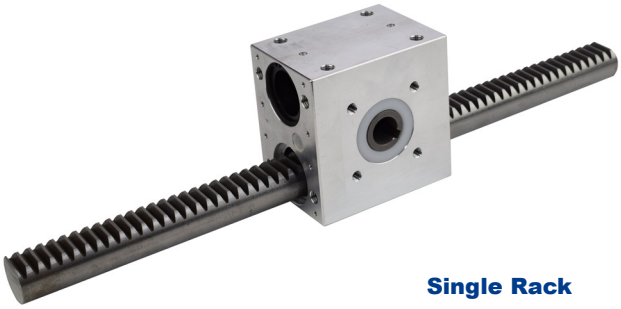
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Rack Jacks – Round Racks

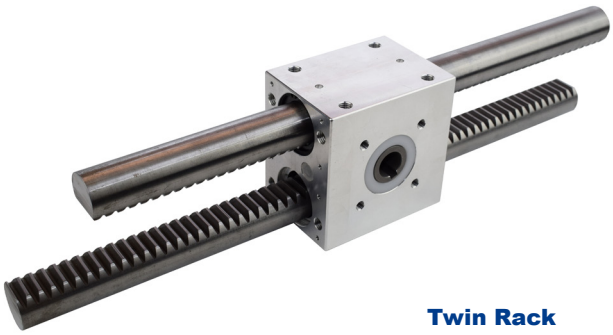
The unique range of WMH rack jacks transforms rotational motion into linear motion and vice versa providing rapid, synchronous positioning in any direction.

A simple mechanical principle and robust compact housings ensures a durable, repeatable and reliable operation:

- **Simple and economical lifting devices**
- **Robust design for long service life and continuous use**
- **High bending stiffness due to the large diameter and wide toothing of the rack**
- **Robust sliding guide for the rack**
- **Simple structure, high repeatability**
- **Lifting speeds up to 600 mm/s with precise positioning in the lifting direction**
- **Complete range consisting of 3 sizes with up to 800 kg lifting capacity**
- **All sizes with same design principle and functionality**
- **Numerous mounting options including flange connections**
- **4 pinion shaft interfaces for each size**



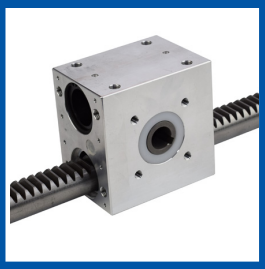
Single Rack



Twin Rack

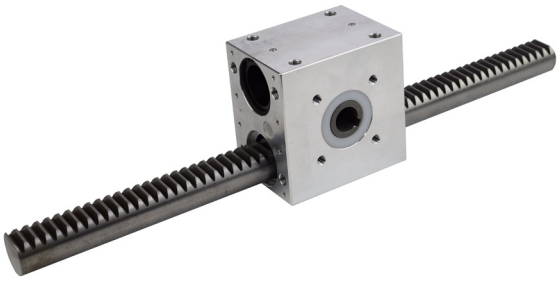
AS WELL AS OUR RANGE OF STANDARD PRODUCTS WE CAN ALSO MANUFACTURE SPECIAL COMPONENTS IN HOUSE – PLEASE CONTACT OUR SALES TEAM WITH YOUR REQUIREMENTS

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R1 – 80 kg Capacity

Single Travelling Rack

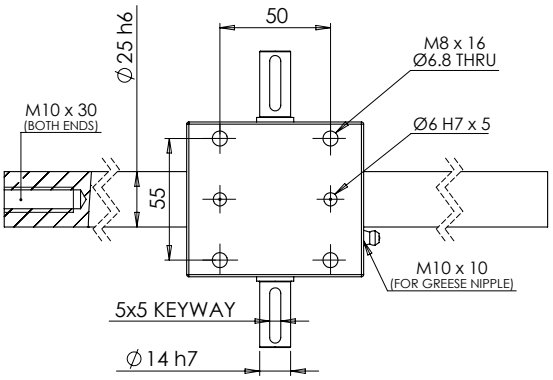


Model	541-131-923
Travel per Input rev (mm)	62.8318
Max. Travel Speed (mm/s)	600
Max. Acceleration (m/s²)	30
Max. Input Speed (rpm)	573
Max. Input Torque (Nm)	8
Max. Capacity (kg)	80
Material of Body	Aluminium
Material of Rack*	ETG100
Rack Weight (kg/m)	3.5
Module	1
Tooth Quality	8 h27
Pinion No of Teeth	20
Standard Rack No of Teeth**	923
Theor. Rack Length (mm)**	2900

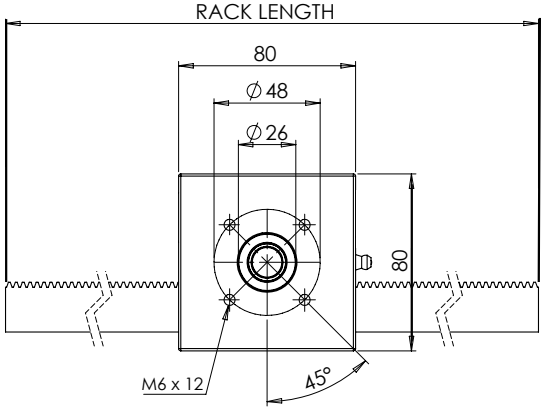
NOTE: Example jack shown below with 1 rack and shaft option 3

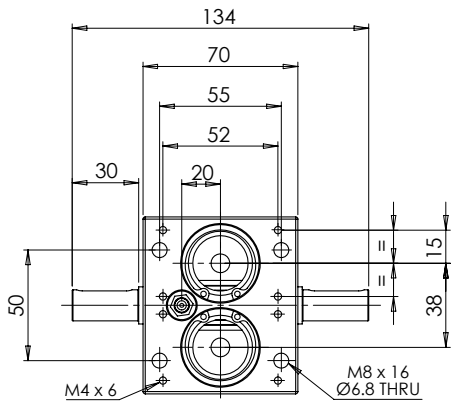
* ETG100 alloy steel has 960-1100 N/mm² tensile strength

** Maximum available rack length / number of teeth (Shorter lengths available upon request)



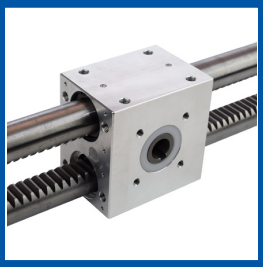
Shaft Option	Description
1	DIN ISO 14 Spline bore input 6 x 11 x 14
2	Input shaft one side only
3	Input shaft both sides
4	Hollow bore & key input Ø10mm h7 3x3 P9 keyway





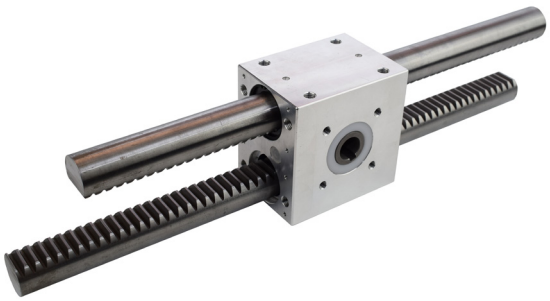
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WMH Transmissions Limited



R1 – 80 kg Capacity

Twin Travelling Rack



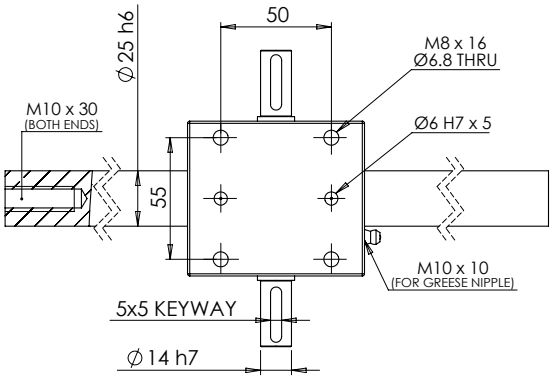
NOTE: Racks move in opposite directions when the input gear is rotated

NOTE: Example jack shown below with 2 racks and shaft option 3

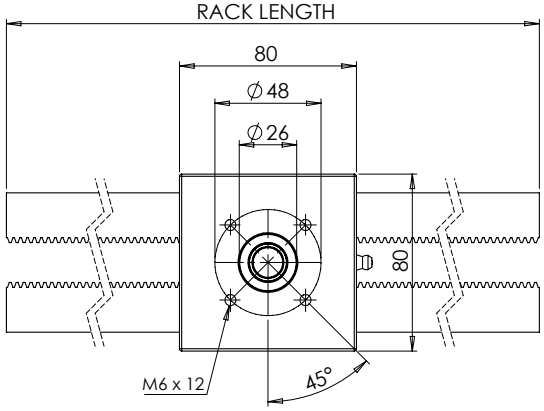
Model	541-132-923
Travel per Input rev (mm)	62.8318
Max. Travel Speed (mm/s)	600
Max. Acceleration (m/s²)	30
Max. Input Speed (rpm)	573
Max. Input Torque (Nm)	8
Max. Capacity (kg)	80
Material of Body	Aluminium
Material of Rack*	ETG100
Rack Weight (kg/m)	3.5
Module	1
Tooth Quality	8 h27
Pinion No of Teeth	20
Standard Rack No of Teeth**	923
Theor. Rack Length (mm)**	2900

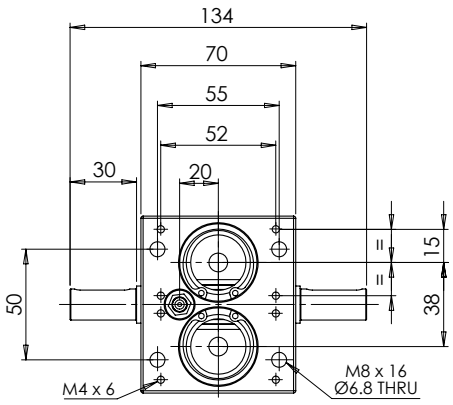
* ETG100 alloy steel has 960-1100 N/mm² tensile strength

** Maximum available rack length / number of teeth (Shorter lengths available upon request)

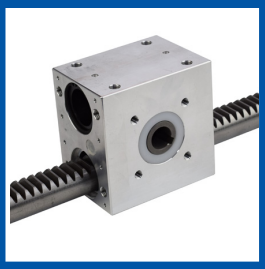


Shaft Option	Description
1	DIN ISO 14 Spline bore input 6 x 11 x 14
2	Input shaft one side only
3	Input shaft both sides
4	Hollow bore & key input Ø10mm h7 3x3 P9 keyway



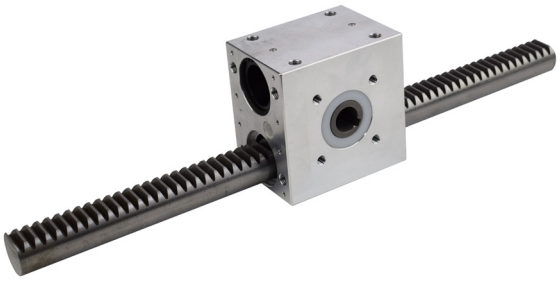


WMH Transmissions Limited



R2 – 200 kg Capacity

Single Travelling Rack

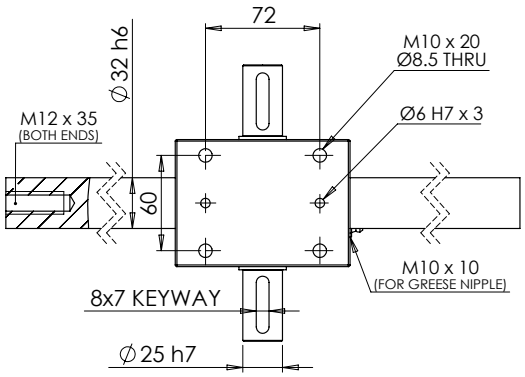


Model	541-231-369
Travel per Input rev (mm)	125.6637
Max. Travel Speed (mm/s)	600
Max. Acceleration (m/s²)	30
Max. Input Speed (rpm)	286
Max. Input Torque (Nm)	40
Max. Capacity (kg)	200
Material of Body	Aluminium
Material of Rack*	ETG100
Rack Weight (kg/m)	5.5
Module	2.5
Tooth Quality	8 h27
Pinion No of Teeth	16
Standard Rack No of Teeth**	369
Theor. Rack Length (mm)**	2900

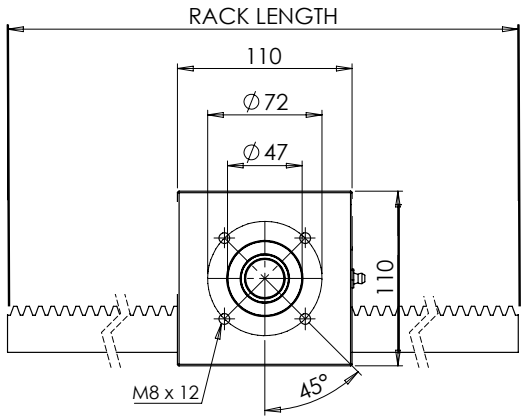
NOTE: Example jack shown below with 1 rack and shaft option 3

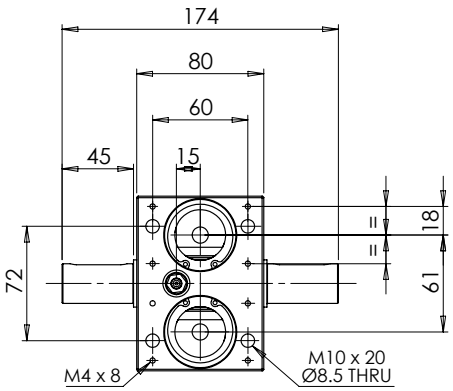
* ETG100 alloy steel has 960-1100 N/mm² tensile strength

** Maximum available rack length / number of teeth (Shorter lengths available upon request)

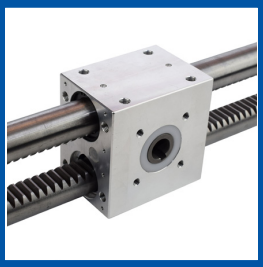


Shaft Option	Description
1	DIN ISO 14 Spline bore input 6 x 16 x 20
2	Input shaft one side only
3	Input shaft both sides
4	Hollow bore & key input Ø20mm h7 6x6 P9 keyway



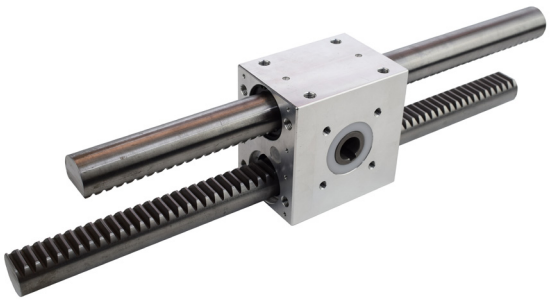


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R2 – 200 kg Capacity

Twin Travelling Rack



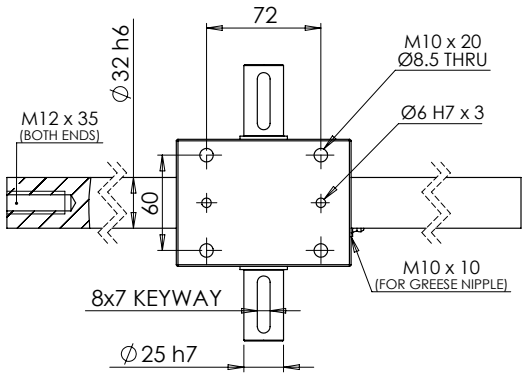
NOTE: Racks move in opposite directions when the input gear is rotated

NOTE: Example jack shown below with 2 racks and shaft option 3

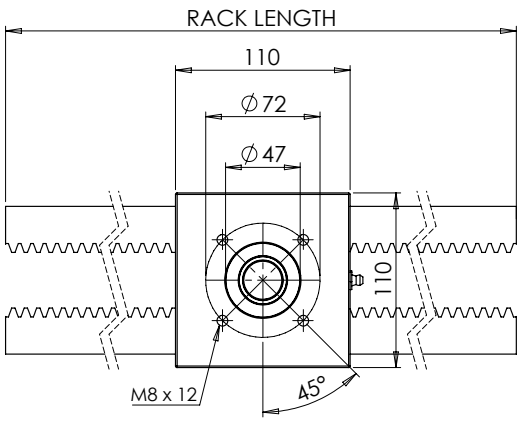
Model	541-232-369
Travel per Input rev (mm)	125.6637
Max. Travel Speed (mm/s)	600
Max. Acceleration (m/s²)	30
Max. Input Speed (rpm)	286
Max. Input Torque (Nm)	40
Max. Capacity (kg)	200
Material of Body	Aluminium
Material of Rack*	ETG100
Rack Weight (kg/m)	5.5
Module	2.5
Tooth Quality	8 h27
Pinion No of Teeth	16
Standard Rack No of Teeth**	369
Theor. Rack Length (mm)**	2900

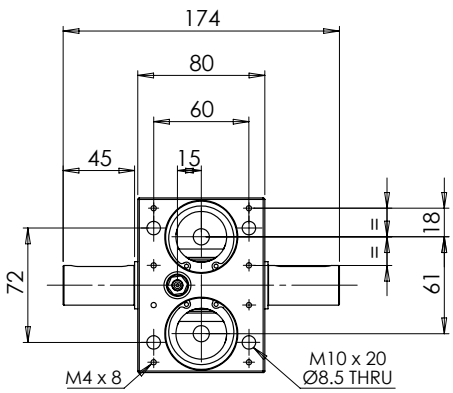
* ETG100 alloy steel has 960-1100 N/mm² tensile strength

** Maximum available rack length / number of teeth (Shorter lengths available upon request)

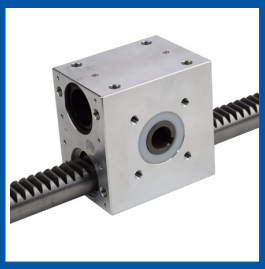


Shaft Option	Description
1	DIN ISO 14 Spline bore input 6 x 16 x 20
2	Input shaft one side only
3	Input shaft both sides
4	Hollow bore & key input Ø20mm h7 6x6 P9 keyway



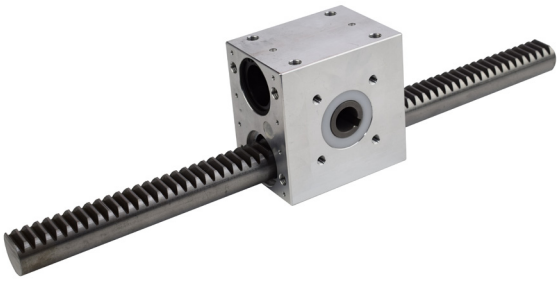


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R3 – 800 kg Capacity

Single Travelling Rack

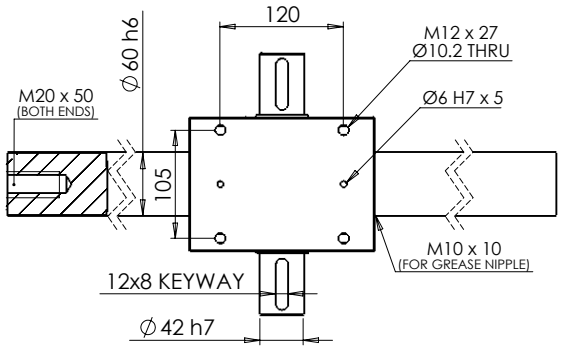


Model	541-331-369
Travel per Input rev (mm)	188.4955
Max. Travel Speed (mm/s)	600
Max. Acceleration (m/s²)	30
Max. Input Speed (rpm)	191
Max. Input Torque (Nm)	240
Max. Capacity (kg)	800
Material of Body	Aluminium
Material of Rack*	ETG100
Rack Weight (kg/m)	19.1
Module	2.5
Tooth Quality	8 h27
Pinion No of Teeth	24
Standard Rack No of Teeth**	369
Theor. Rack Length (mm)**	2900

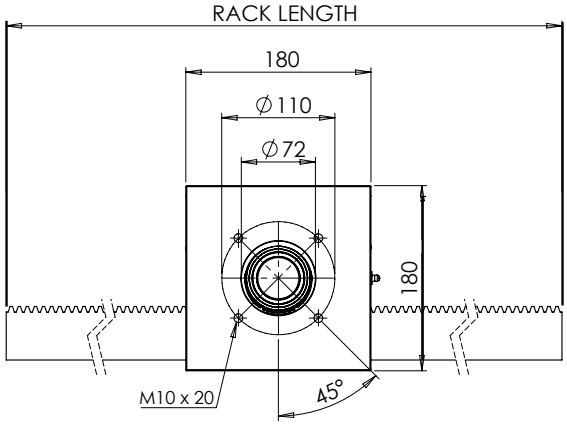
NOTE: Example jack shown below with 1 rack and shaft option 3

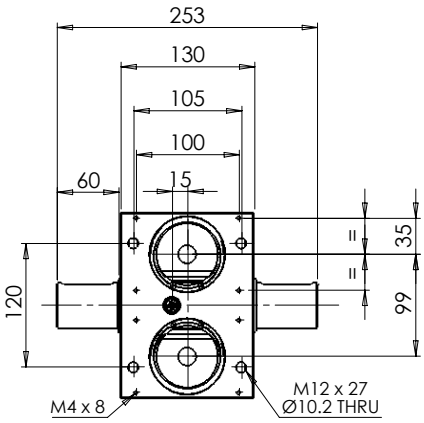
* ETG100 alloy steel has 960-1100 N/mm² tensile strength

** Maximum available rack length / number of teeth (Shorter lengths available upon request)



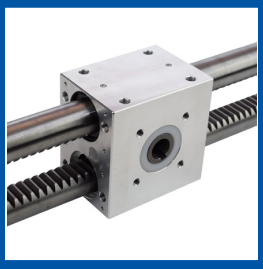
Shaft Option	Description
1	DIN ISO 14 Spline bore input 8 x 32 x 38
2	Input shaft one side only
3	Input shaft both sides
4	Hollow bore & key input Ø35mm h7 10x8 P9 keyway





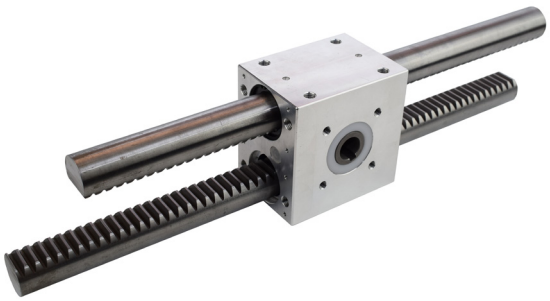
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WMH Transmissions Limited



R3 – 800 kg Capacity

Twin Travelling Rack



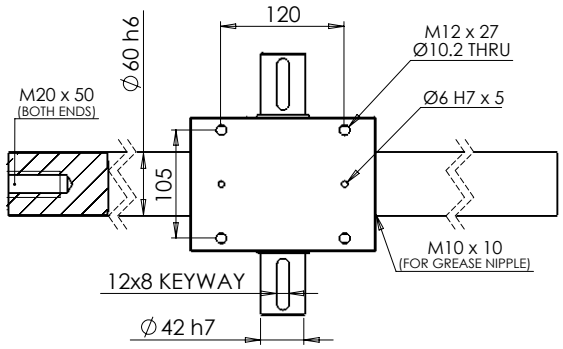
NOTE: Racks move in opposite directions when the input gear is rotated

NOTE: Example jack shown below with 2 racks and shaft option 3

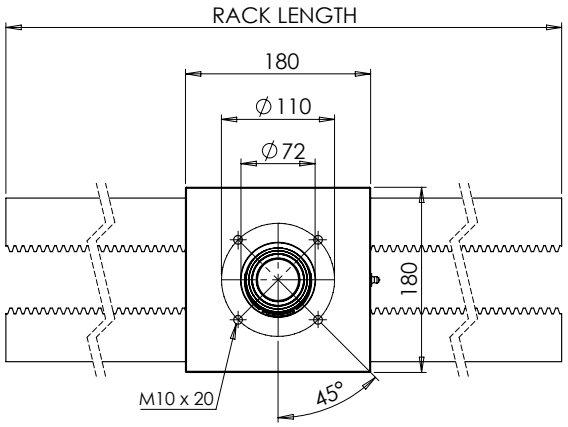
Model	541-332-369
Travel per Input rev (mm)	188.4955
Max. Travel Speed (mm/s)	600
Max. Acceleration (m/s²)	30
Max. Input Speed (rpm)	191
Max. Input Torque (Nm)	240
Max. Capacity (kg)	800
Material of Body	Aluminium
Material of Rack*	ETG100
Rack Weight (kg/m)	19.1
Module	2.5
Tooth Quality	8 h27
Pinion No of Teeth	24
Standard Rack No of Teeth**	369
Theor. Rack Length (mm)**	2900

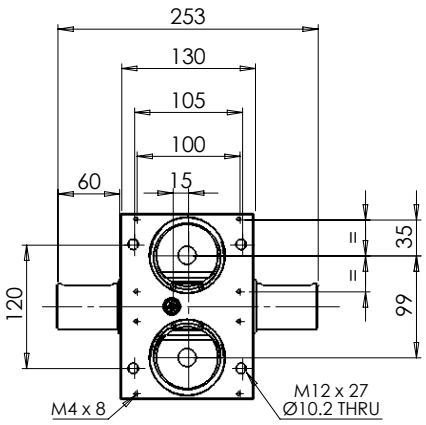
* ETG100 alloy steel has 960-1100 N/mm² tensile strength

** Maximum available rack length / number of teeth (Shorter lengths available upon request)

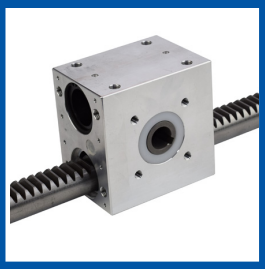


Shaft Option	Description
1	DIN ISO 14 Spline bore input 8 x 32 x 38
2	Input shaft one side only
3	Input shaft both sides
4	Hollow bore & key input Ø35mm h7 10x8 P9 keyway





WMH Transmissions Limited



Rack Jack Order Codes

541 - 2 3 2 - 369

- **541** — WMH Rack Jack Series
- **2** — Jack size
  - 1 = 80 kg
  - 2 = 200 kg
  - 3 = 800 kg
- **3** — Input shaft option
  - 1 = DIN spline
  - 2 = Single input
  - 3 = Double input
  - 4 = Hollow bore
- **2** — Number of racks
- **369** — Rack Length (number of teeth)

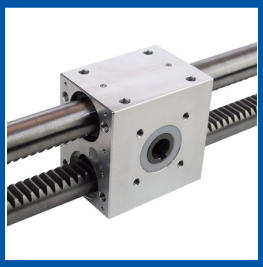
WMH Rack jacks can be supplied singular, with additional accessories, part of a larger assembly or modified specially to customer request.

These order codes are for standard jacks only, if you require additional accessories or modifications such as special input shafts, motor flanges or specific rack end machining then please contact our sales team for a competitive quotation.

PLEASE SEE PAGE 36 FOR ORDER CODES FOR RACK JACK SPECIFIC ROUND RACKS

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FAX: 01827 253390
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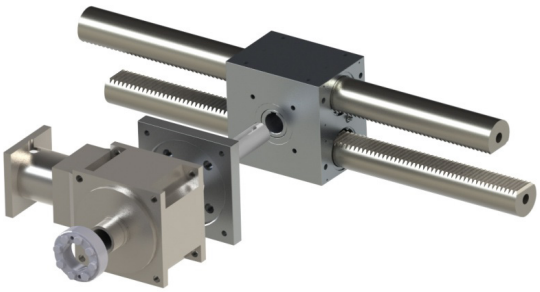
Rack Jacks – New Features

Special Manufacture



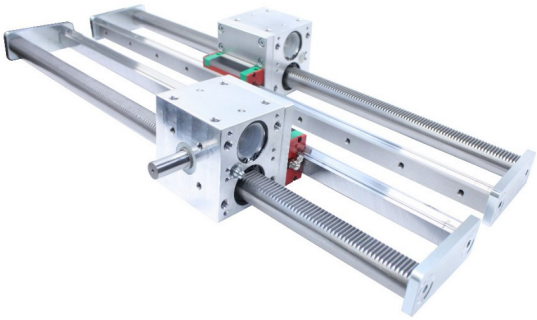
Rack Jack Bellows

- Prevents Dirt Ingress -
- Cleaner Operation -
- Positive Pressure Use -



Adapter Flanges

- Direct Mounting -
- Compact Design -
- High Rigidity Design -



Complete Modules

- With Linear Guideways -
- Absorbs Side Loads -
- Compact Design -

Size 4

- 2500 kg Capacity -
- 1250 Nm Max Torque -
- 600 mm/s Max Speed -
- 5 Mod Ø80mm Rack -
- C45 Hardened Racks -

Size 5

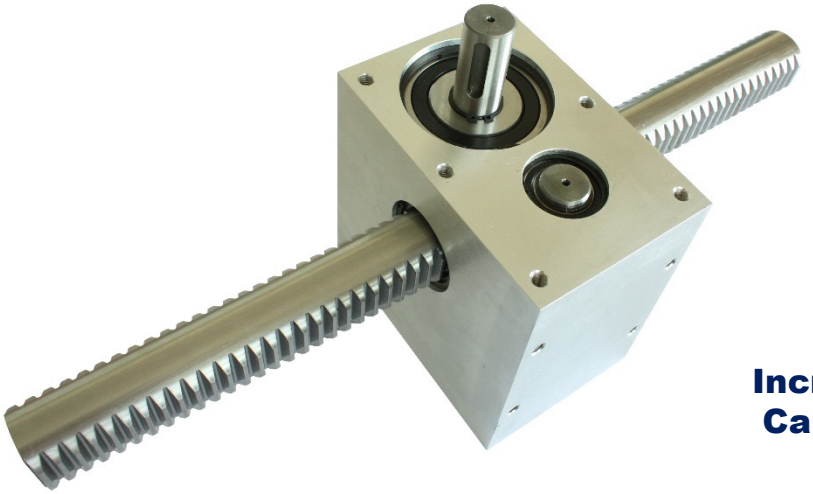
- 7000 kg Capacity -
- 5600 Nm Max Torque -
- 600 mm/s Max Speed -
- 8 Mod Ø120mm Rack -
- C45 Hardened Racks -

Size 6

- 16000 kg Capacity -
- 18200 Nm Max Torque -
- 600 mm/s Max Speed -
- 12 Mod Ø150mm Rack -
- C45 Hardened Racks -

NEW 6 sizes

up to 160 Kn Capacity



Increased Capacity

NEW Rack Jack

with Double Sided Rack

WMH CAN MANUFACTURE CUSTOMISED RACK JACKS TO YOUR SPECIFICATION
PLEASE FORWARD YOUR REQUIREMENTS TO OUR SALES TEAM FOR A QUOTATION

WMH Transmissions Limited

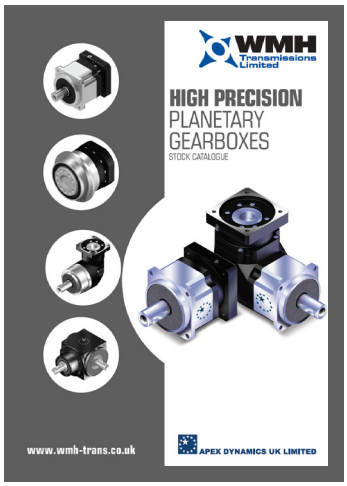
" Part of your drive "

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PLEASE SEE OUR OTHER PRODUCT RANGES

















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