NOZAG Transmission

Drive components

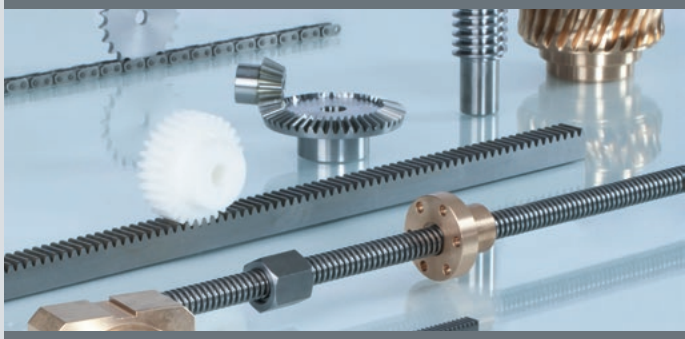
Summary – System Program

About us

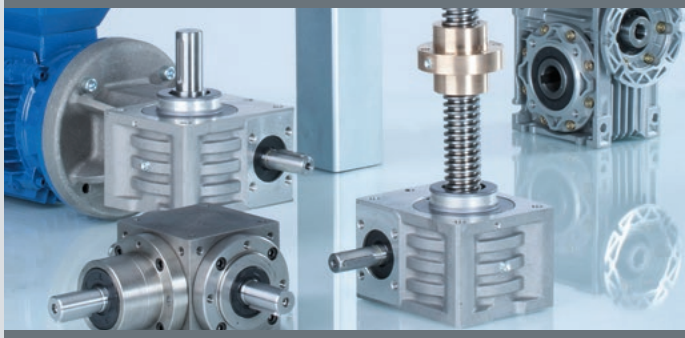
What counts is success – We help you achieve it
Today clear competitive advantages and opportunities depend on flexibility, speed, innovation and continuous improvement. We understand that time has become one of the most significant competitive factors. In clearly defined markets, we offer advanced solutions that aim at optimum customer value. With internationally recognized quality, – our entire company is certified according to ISO 9001:2008 – high stock availability and maximum reliability, we aim at being a true partner for our customers. We are aware that a lasting partnership is built on mutual trust and understanding and will be further strengthened by absolute liability. Nozag employees commit themselves every day to win the confidence of clients and suppliers. Highly, above-average skilled employees and state-of-the art facilities are the basis for that.

In-house manufacturing is supported by high-performance logistics; this going along with simple, direct and to-the-point communication with our partners. We respect and comply with all pertinent laws, especially those that protect the environment and the health and safety of our workers.

Standard Program Standard parts, further processing

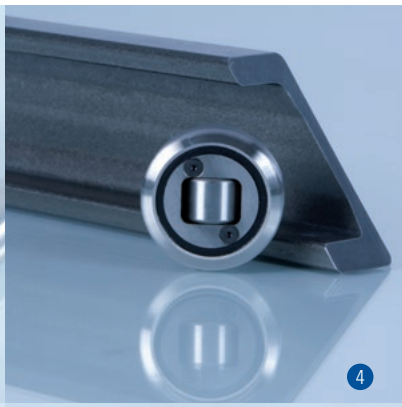


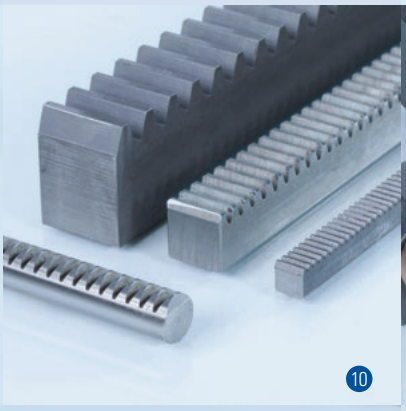
System Program Screwjack systems, standard gearboxes

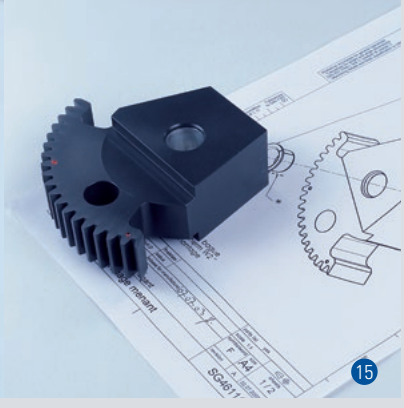


Toothed components, electromechanical and pneumatical drives

Product overview







System Program

1 Screw jacks
2 Bevel gearboxes
3 Connecting shafts
4 Linear drives
5 Gear, worm gear
6 Customer-specific construction group

Standard Program

7 Spur gears module 0.3 to 8
8 Bevel gears up to module 6
9 Worms and worm wheels
10 Standard racks
11 Trapezoid threaded screws, trapezoid threaded nuts
12 Chains and chain wheels
13 Couplings
14 Hardened precision steel shafts
15 Manufacturing according to drawing

Contents Catalog systems

Screw jack

Individual products and services

We reserve the right on printing and dimension errors, as well as technical changes and improvements.

4. Drive components

Force easily redirected and transmitted.
To deliver the required torque for the lifting system at the correct place, you will find in this chapter, the corresponding bevel gear boxes with linking elements like shafts, couplings and bearings.

Connecting shaft VW

Properties
- Radial mounting possible with split hubs
- Extreamly short assembling and disassembling times
- Spans distances of up to 4 m (13.12 ft)
- No intermediate bearing support required
- Low moment of inertia
- Damps vibration
- Plug-in design
- Free from backlash

Material
– Clamping hub: up to series 450 high strength aluminum, from series 800, steel

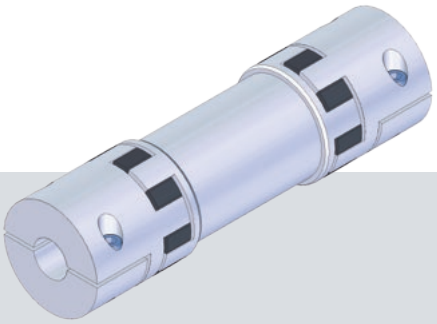
Elastomer insert
– precision molded, wear resistant and thermally stable polymer

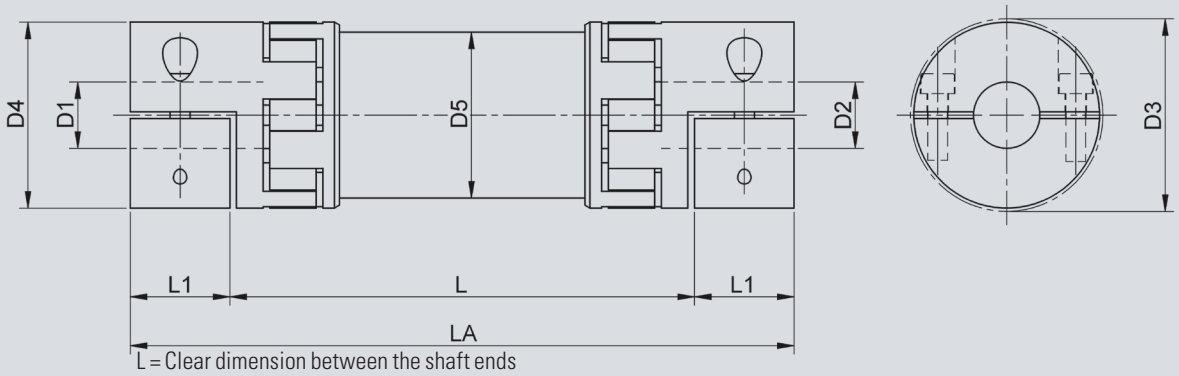
Intermediate tube
- precision aluminum tube
- steel and CFK tubes are also available

Design
- Two coupling hubs are concentrically machined with concave driving jaws
- Elastomer inserts are available in type A or B
- The two coupling elements are connected with a precise and concentrically optimized aluminum tube

Speed
- Please advise the application speed when ordering or inquiring so we can check the critical bending speeds.

Tolerance
- On the hub/shaft connection 0.01 to 0.05 mm





L = Clear dimension between the shaft ends

		VW28		VW35		VW50		VW60		VW76		VW90		VW120	
Type (Elastomer insert)		A	B	A	B	A	B	A	B	A	B	A	B	A	B
Rated torque (Nm)	TKN	12.5	16	17	21	60	75	160	200	325	405	530	660	950	1100
Max. torque* (Nm)	TKmax	25.0	32	34	42	120	150	320	400	650	810	1060	1350	1900	2150
Overall length (mm)	LA	95 up to 4000		130 up to 4000		175 up to 4000		200 up to 4000		245 up to 4000		280 up to 4000		320 up to 4000	
Outer diameter hub (mm)	D4	32		42		56		66.5		82		102		136.5	
Outer diameter tube (mm)	D5	28		35		50		60		76		90		120	
Outer diameter with screwhead (mm)	D3	32		44.5		57		68		85		105		139	
Inner diameter range from Ø to Ø H7 (mm)	D1/2	5–16		8–25		14–32		19–36		19–45		24–60		35–80	
Mounting screw (ISO 4762/12.9)		M4		M5		M6		M8		M10		M12		M16	
Tightening torque of the mounting screw (Nm)		4		8		15		35		70		120		290	
Mounting length (mm)	L1	15		17		30		35		40		50		60	
Moment of inertia per hub half (10–3 kgm²)	J_1/J_2	0.01		0.02		0.15		0.21		1.02		2.3		17	
Inertia of tube per meter (10–3 kgm²)	J3	0.075		0.183		0.66		1.18		2.48		10.6		38	
Torsion ridgidity of both couplings (Nm/rad)	$CTdyn^E$	270	825	1270	2220	3970	5950	6700	14650	11850	20200	27700	40600	41300	90000
Torsion ridgidity of 1m of tbe (Nm/rad)	CT^{ZWR}	321		1530		6632		11810		20230		65340		392800	

* Maximum transferable torque of the clamping hub depends on the bore diameters

Connecting shaft VW

Maximum transferable torque of the clamping hub depends on the bore diameters (Nm)

	Ø 8	Ø 16	Ø 19	Ø 25	Ø 30	Ø 32	Ø 35	Ø 45	Ø 50	Ø 55	Ø 60	Ø 65	Ø 70	Ø 75	Ø 80
VW28	30	40	50	65											
VW35		65	120	150	180	200									
VW50			180	240	270	300	330								
VW60			300	340	450	520	570	630							
VW76					630	720	770	900	1120	1180	1350				
VW90							1050	1125	1200	1300	1400	1450	1500	1550	1600

Description of elastomer insert

Type	Shore hardness	Colour	Material	relative Absorption	Temperature range	Property
A	98 Sh A	red	TPU	0.4 – 0.5	-30° C until +100° C	good absorption
B	64 Sh D	green	TPU	0.3 – 0.4	-30° C until +120° C	high torsion stiffness

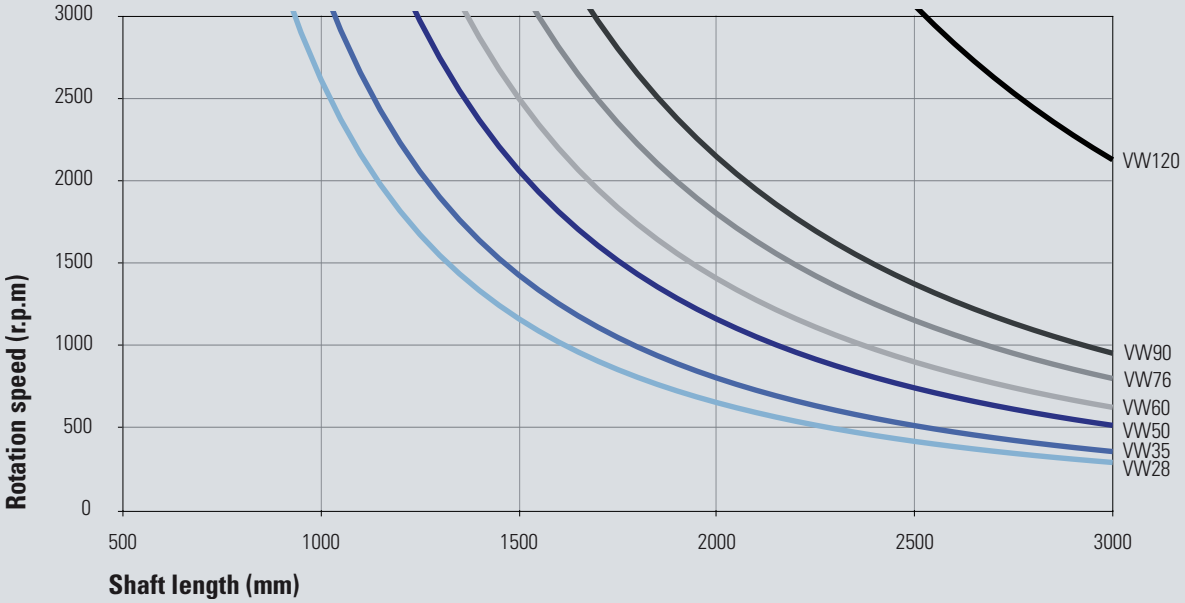
Ordering example

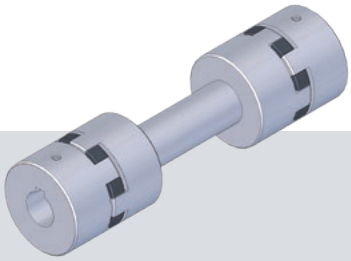
Type
Installation length
Type Elastomer insert
Bore Ø D1 H7
Bore Ø D2 H7

VW60 – LA972–A – 19/24

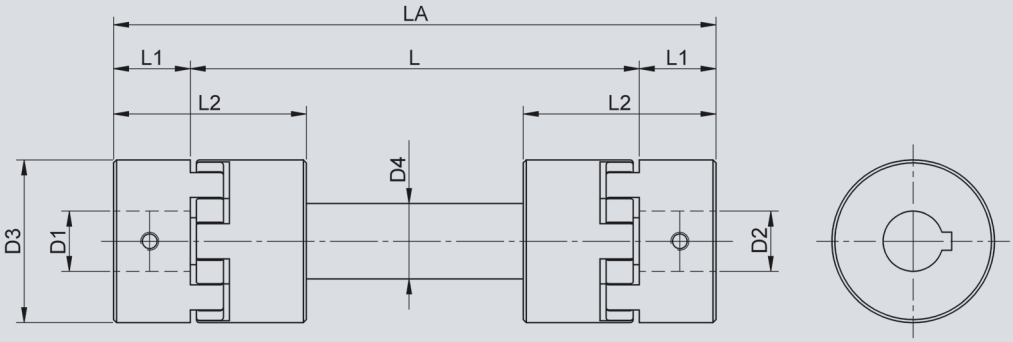
For us to be able to check your information, please specify the type of arrangement and the spindle distance.

RPM-dependent length determination





Connecting shaft LJ



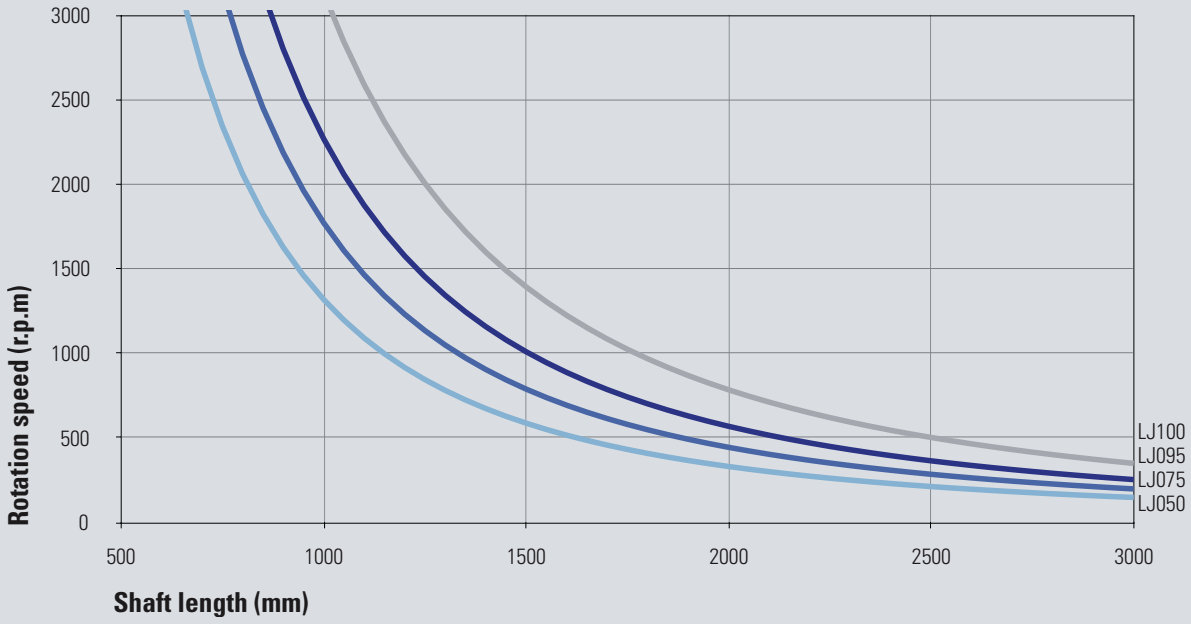
L = Clear dimension between the shaft ends

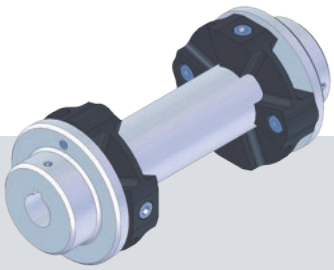
The connecting shafts LJ are an inexpensive alternative to the drive shafts, but with limited rotational speeds.

On request availible with clamping hub coupling KNK.

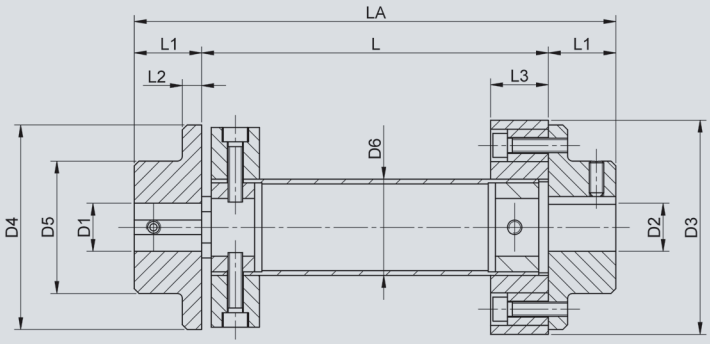
	Torque (Nm)	D1/D2 min./max.	D3	D4	L1	L2
LJ050-…	2.9	6.4 – 15	28	15	15.0	44
LJ075-…	10.1	6.4 – 22	45	20	20.5	54
LJ095-…	21.7	11.1 – 28	54	25	25.5	64
LJ100-…	46.7	11.1 – 34	65	35	35.0	89

RPM-dependent length determination





Connecting shaft GX



L = Clear dimension between the shaft ends

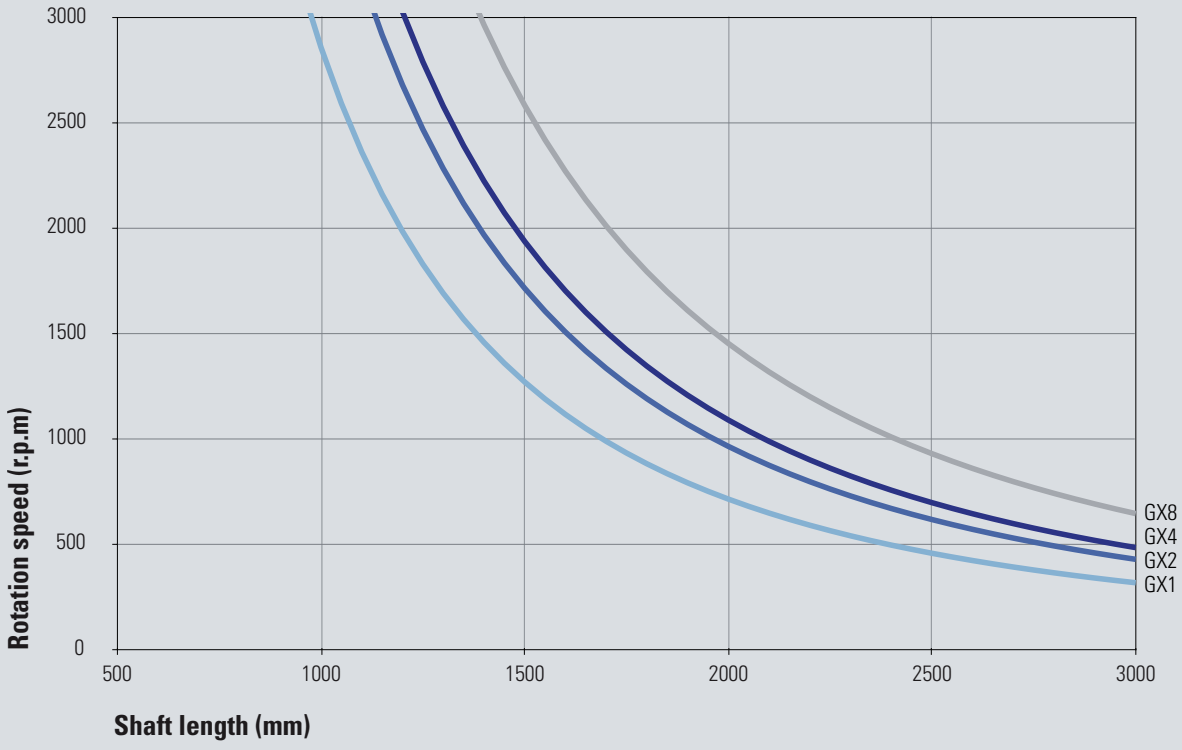
Elastic drive shafts serve for joining several screw jacks to one another, or screw jack and drive. They dampen noise, torsional vibrations and impacts, and balance out axial, radial and angular displacements. Elastic drive shafts are maintenance-free, the middle part can be radially (laterally) dismantled without axial displacement of the connected assemblies. Except with very long connections, generally, pedestal bearings are not required.

Features

- particularly torsion-proof
- temperature and oil resistant
- for long lengths and high rotational speeds
- shaft angle max. 1°

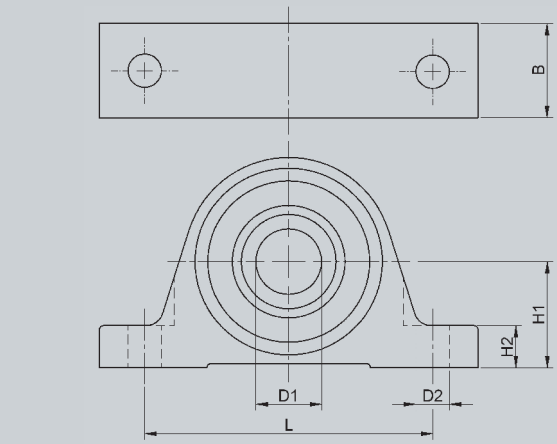
	Torque [Nm]	D1/D2 min./max.		D3	D4	D5	D6	L1	L2	L3	L min.	Tk/Pitch
GX1	10	8	25	58	56	36	30	24	7	24	87	44/2
GX2	30	12	38	88	86	55	40	28	8	24	88	68/2
GX4	60	16	45	100	100	65	45	30	8	26	99	80/3
GX8	120	20	55	125	120	80	60	42	10	32	120	100/3

RPM-dependent length determination

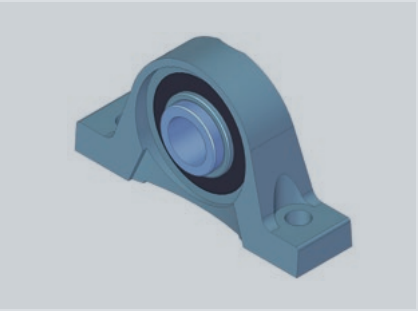


Pedestal bearings for connecting shafts (STL)

If the connecting shafts or the drive shafts, as the case may be, exceed a certain length and/or rotational speed, pedestal bearings should be used.



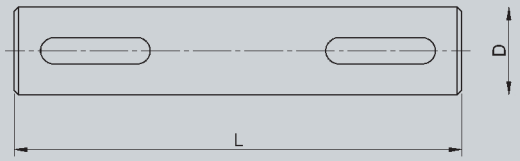
Symbol diagram

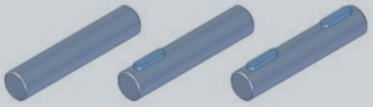


	B	D1	D2	H1	H2	L
STL075	38	20	13	36.5	15.0	105
STL095	48	25	17	42.9	17.0	121
STL100	54	35	17	49.2	18.0	137
STLG1	48	30	17	47.6	18.0	127
STLG2	54	40	17	54.0	20.0	146
STLG4	60	45	20	57.2	21.0	159
STL15	25	15 H6	9	22.2	3.2	68
STL20*	32	20 H6	9	25.4	3.2	76
STL25*	32	25 H6	11	28.6	4.0	86
STL35*	42	35 H6	11	39.7	4.6	106

* clamping sleeve on demand. (dimensional variation)

Shaft extension

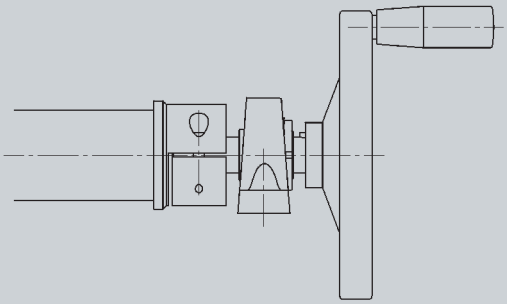


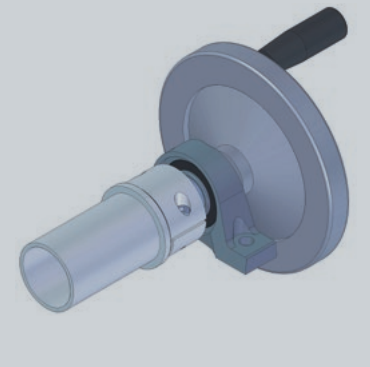


	D	L
WZ15/80	15	80
WZ20/80	20	80
WZ25/100	25	100
WZ35/120	35	120

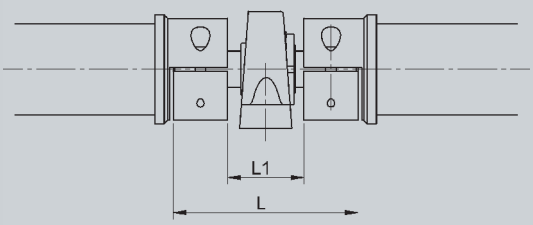
Respectively in the options **0K** (no key), **1K** (key on one side), **2K** (key on both sides)

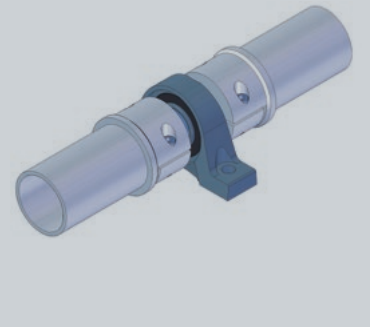
Pedestal bearing with connecting shaft and hand-wheel

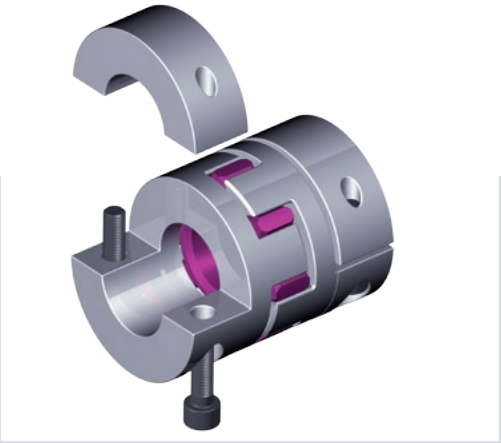




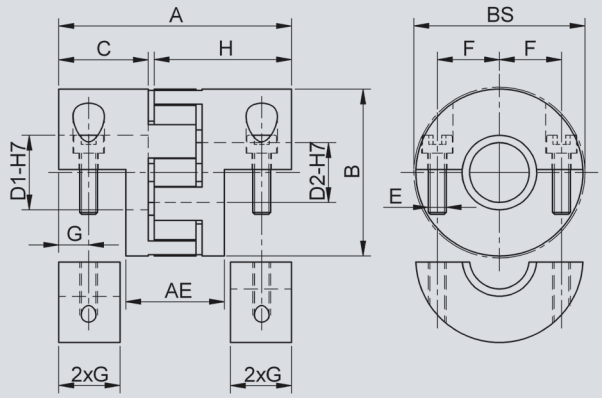
Pedestal bearing with connecting shaft







Friction coupling KNK



Properties clamp coupling KNK

- radial mounting possible
- high concentricity
- damps vibrations
- electrical insulating
- easy mounting /
- free from backlash
- plug-in design

Design

Both clamping hubs are fully separable due to split hubs and 2 × ISO 4762 screws per hub. The constructional imbalance of the clamping hubs are counterbalanced due to balancing holes on the innerside.

Material

Clamping hub: up to series 450 high strength aluminum, from series 800, steel, Elastomer insert: precision molded, wear resistant, and thermally stable polymer.

Dimensions, performance list

Elastomer insert	Rated torque Nm / TKN			Max. torque* Nm / TKmax		
	A	B	C	A	B	C
KNK010	12.6	16	4	25	32	6
KNK020	17	21	6	34	42	12
KNK060	60	75	20	120	150	35
KNK150	160	200	42	320	400	85
KNK300	325	405	84	650	810	170
KNK450	530	660	95	1060	1350	190
KNK800	950	1100	240	1900	2150	400

* Maximum transferable torque of the clamping hub depends on the bore diameters

ordering example

		Type Elastomer insert		Bore Ø D1 H7	Bore Ø D2 H7
KNK060	–	A	–	19	/ 24

Maximum transferable torque of the clamping hub depends on the bore diameters

	Ø6	Ø8	Ø16	Ø19	Ø25	Ø30	Ø32	Ø35	Ø45	Ø50	Ø55	Ø60	Ø65	Ø70	Ø75	Ø80
KNK010	6	12	32													
KNK020		30	40	50	65											
KNK060			65	120	150	180	200									
KNK150				180	240	270	300	330								
KNK300				300	340	450	520	570	630							
KNK450						630	720	770	900	1120	1180	1350				
KNK800								1050	1125	1200	1300	1400	1450	1500	1550	1600

Higher torque through additional keyway possible

Friction coupling KNK

Dimensions

Type Elastomer insert			KNK010	KNK020	KNK060	KNK150	KNK300	KNK450	KNK800
Overall length	mm	A	53	66	78	90	114	126	162
Insertion length	mm	AE	20	28	33	37	49	51	65
Outer diameter	mm	B	33	42	56	66.5	82	102	136.5
Outer diameter with screwhead	mm	BS	32	44.5	57	68	85	105	139
Mounting length	mm	C	20	25	30	35	45	50	65
Inner diameter range from Ø to Ø H7	mm	$D_{1/2}$	6 – 16	8 – 25	12 – 32	19 – 36	20 – 45	28 – 60	35 – 80
Inner diameter max.(elastomer)	mm	D_E	14.2	19.2	26.2	29.2	36.2	46.2	60.5
Mounting screw (ISO 4762/12.9)		E	M4	M5	M6	M8	M10	M12	M16
Tightening torque of the Mounting screw	Nm	E	4	8	15	35	70	120	290
Distance between centers	mm	F	10.5	15.5	21	24	29	38	50.5
Distance	mm	G	7.5	8.5	10	12	15	17.5	23
Hub length	mm	H	31	39	46	52.5	66	73	93.5
Moment of inertia per Hub	10^{-3} kgm²	J_1/J_2	0.005	0.02	0.06	0.1	0.4	1	9.5
Coupling weight	kg		0.08	0.15	0.35	0.6	1.1	1.7	10

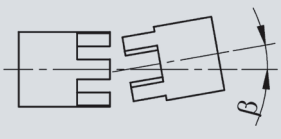
Elastomer insert for friction coupling

Type	Shore hardness	Couleur	Matière	Relative Absorption	Temperature range	Property
A	98 Sh A	rot	TPU	0.4 – 05.5	-30° C – +100° C	high damping
B	64 Sh D	grün	TPU	0.3 – 04.5	-30° C – +120° C	high torsion stiffness
C	80 Sh A	gelb	TPU	0.3 – 0.4	-30° C – +100° C	very high damping

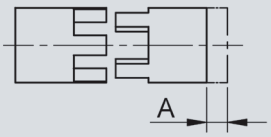
Technical specifications

	Type	Torsion stiffness static	Dynamic Torsional stiffness	Angle displacement (degree) ß	Axial displacement A	Radial displacement R
	A	260	541	1		0.1
GS010	B	600	1650	0.8	±1	0.08
	C	90	224	1.2		0.22
	A	1140	2540	1		0.1
GS020	B	2500	4440	0.8	±2	0.08
	C	520	876	1.2		0.15
	A	3290	7940	1		0.12
GS060	B	9750	11900	0.8	±2	0.1
	C	1400	1350	1.2		0.15
	A	4970	13400	1		0.15
GS150	B	10600	29300	0.8	±2	0.12
	C	1130	3590	1.2		0.2
	A	12400	23700	1		0.18
GS300	B	18000	40400	0.8	±2	0.14
	C	1280	6090	1.2		0.25
	A	15100	55400	1		0.2
GS450	B	27000	81200	0.8	±2	0.18
	C	4120	11600	1.2		0.25
	A	41300	82600	1		0.25
GS800	B	66080	180150	0.8	±2	0.2
	C	10320	28600	1.2		0.3

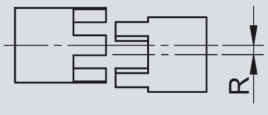
Angle displacaement

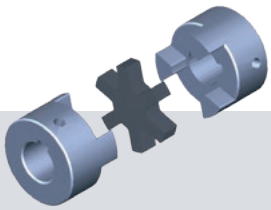


Axial displacement



Radial displacement

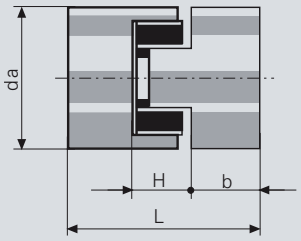




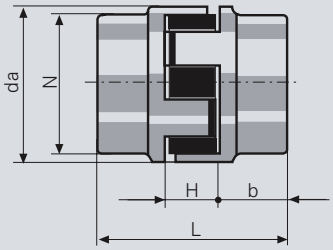
Flexible couplings

Design
These elastique and maintenance free claw couplings are suitable for a problemless usage in general mechanical engineering. They are attractive due to their compact design and comparativly high torque transfer. The couplings are made of two sintered flanges and an elastic insert.

Type 035-150 Made of sintered steel



Type 190 of aluminium



	Torque with			Speed min-1						Material	weight	D min	D max
	SOX/Snap	Urethan	Hytrel	Bronze		da	N	L	b	H		kg		
035	0.4	–	–	–	10000	16	–	21	7.0	7	steel	0.05	3.2	9
050	2.9	4.5	5.6	5.6	10000	28	–	44	16.0	12	steel	0.14	6.4	15
070	4.8	7.3	12.8	12.8	8000	35	–	51	19.0	13	steel	0.27	6.4	19
075	10.1	15.3	25.4	25.4	6500	45	–	54	20.5	13	steel	0.45	6.4	22
095	21.7	32.9	62.8	62.8	5800	54	–	64	25.4	13	steel	0.81	11.1	28
100	46.7	70.7	127.0	127.0	5000	65	–	89	35.0	19	steel	1.58	11.1	34
110	88.7	134.0	254.0	254.0	4500	84	–	108	43.0	22	steel	3.00	15.9	41
150	139.0	210.0	415.0	415.0	4000	95	–	114	44.5	25	steel	4.10	15.9	47
190	195.0	293.0	529.0	529.0	3500	114	102	133	54.0	25	alu	3.10	0.0	53

The torque and maximum displacement are limited by the chosen flexible transmission element.
(Without further specification, a SOX star will be delivered)

Material of the transmission element		SOX / Buna-N	Hytrel	Bronze	Urethan
Item name		GS	Hy	Bz	UR
Temperature range		-40 – +100° C	-50 – +120° C	-20 – +340° C	-40 – +71° C
Allowable angular displacement		1°	0.5°	0.5°	1°
Allowable lateral displacement		0.40 mm	0.40 mm	0.25 mm	0.40 mm
Allowable axial displacement	035 – 070	0.75 mm	0.75 mm	0.75 mm	0.75 mm
	075 – 190	1.50 mm	1.50 mm	1.50 mm	1.50 mm

Coupling half

With standard bores

Table of Coupling half off stock with finished bores, keyway and set screw

Bore	undrilled	undrilled	undrilled	undrilled	undrilled	undrilled	undrilled	undrilled	undrilled
		6.3	6.3	6.3	11.1	11.1	15.9	15.9	19
ø – H7	035	050	070	075	095	100	110	150	190
D min.	035-0	050-0	070-0	075-0	095-0	100-0	110-0	150-0	190-0
8		-8*							
9		-9							
10		-10	-10*	-10*					
11		-11	-11	-11					
12		-12	-12						
14		-14	-14	-14	-14*				
15		-15	-15	-15		15*			
16			-16	-16					
19			-19	-19	-19		19*		
20				-20	-20				
24					-24	-24			
25					-25	-25			
28					-28	-28	-28		
30						-30	-30		
32						-32	-32		
35							-35		
38							-38		
40							-40		
42							-42		

* without keyway

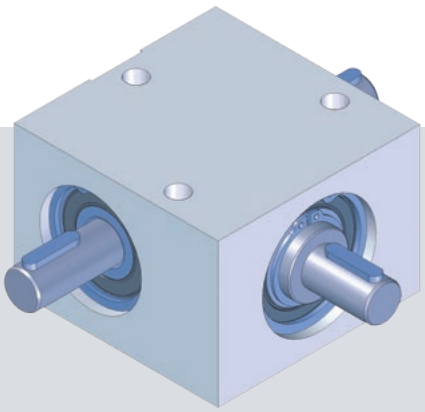
Order example for a 075 coupling with a 14 mm and 20 mm bore

1 Coupling half	075-14
1 Coupling half	075-20
1 SOX Star	075GS

Finished bores according to VSM-H7, Keyways according to VSM 15161-H9 / DIN 6885

Shaft diameter D	bigger than	6 8	8 10	10 12	12 17	17 22	22 30	30 38	38 44	44 50	50 58	58 65	65 75	75 85
Width of keyway H9		2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0
Depth of keyway		1.0	1.4	1.8	2.3	2.8	3.3	3.3	3.3	3.8	4.3	4.4	4.9	5.4

other bores on demand



The light-construction bevel gearboxes LMA are suitable for the most varied applications in general mechanical engineering and jigmaking.

Bevel gearbox LMA
- for general mechanical engineering
- lightweight series
- max. 1000 min^{-1}
- Lubrication: Semi-fluid grease (lifelong lubrication)

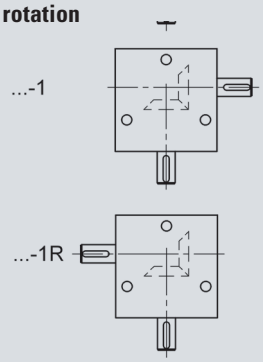
	LMA12		LMA24		LMA60		LMA120		LMA240	
n	P	M	P	M	P	M	P	M	P	M
1000	0.083	0.79	0.204	1.95	0.513	4.90	1.026	9.80	2.084	19.90
800	0.067	0.80	0.164	1.96	0.438	5.23	0.842	10.05	1.795	21.43
600	0.050	0.80	0.124	1.98	0.362	5.76	0.723	11.51	1.422	22.63
400	0.034	0.81	0.084	2.00	0.276	6.59	0.552	13.17	0.964	23.02
200	0.017	0.83	0.043	2.03	0.144	6.89	0.297	14.18	0.496	23.69
100	0.009	0.84	0.022	2.07	0.073	6.98	0.150	14.34	0.255	24.39
80	0.007	0.85	0.017	2.08	0.059	7.01	0.120	14.38	0.206	24.62
60	0.005	0.85	0.013	2.10	0.044	7.05	0.091	14.45	0.157	24.91
40	0.004	0.89	0.009	2.25	0.032	7.57	0.064	15.36	0.112	26.74
20	0.002	1.08	0.007	3.13	0.022	10.51	0.043	20.39	0.075	35.96
10	0.001	1.30	0.005	4.34	0.015	14.60	0.028	27.08	0.047	45.00

Basics:
n = drive rpm (min^{-1})
P = drive power (kW)
M = driving torque (Nm)

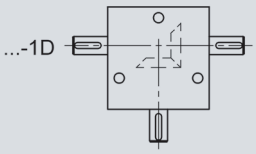
Life:
6000 h impact-free operation

Housing material
- Aluminium

Shaft according to direction of rotation

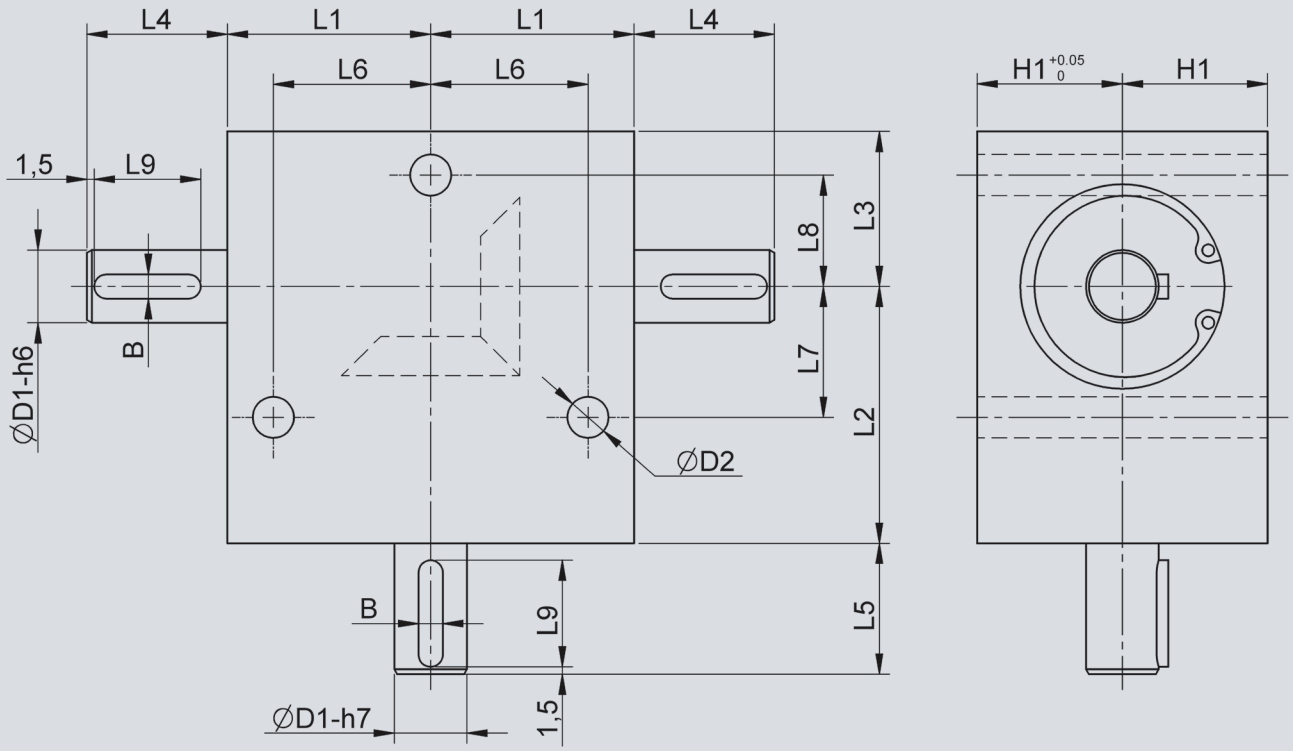


through shaft

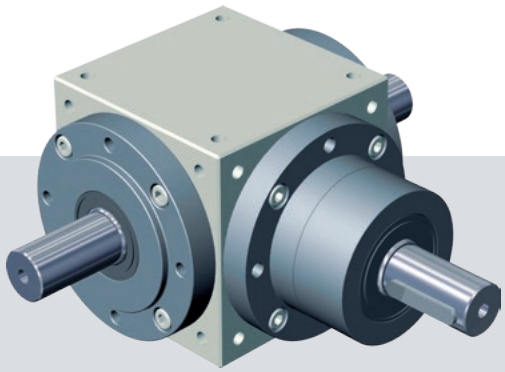


Ordering example

Type	Size	Ratio i	Continuous shaft
LMA	60	– 1	D



	i	B	D1	D2	H1	L1	L2	L3	L4	L5	L6	L7	L8	L9
LMA12–1	1:1	–	6	5.5	16	20	25.0	17.5	20	17	16.0	17	–	–
LMA12–1R	1:1	–	6	5.5	16	20	25.0	17.5	20	17	16.0	17	–	–
LMA12–1D	1:1	–	6	5.5	16	20	25.0	17.5	20	17	16.0	17	–	–
LMA24–1	1:1	2	8	7.0	21	29	37.0	22.0	17	16	23.0	20	–	12
LMA24–1R	1:1	2	8	7.0	21	29	37.0	22.0	17	16	23.0	20	–	12
LMA24–1D	1:1	2	8	7.0	21	29	37.0	22.0	17	16	23.0	20	–	12
LMA60–1	1:1	3	10	8.5	25	35	43.5	27.5	21	19	27.5	23	–	14
LMA60–1R	1:1	3	10	8.5	25	35	43.5	27.5	21	19	27.5	23	–	14
LMA60–1D	1:1	3	10	8.5	25	35	43.5	27.5	21	19	27.5	23	–	14
LMA120–1	1:1	5	15	8.5	30	42	53.0	32.0	29	27	32.5	27	23	22
LMA120–1R	1:1	5	15	8.5	30	42	53.0	32.0	29	27	32.5	27	23	22
LMA120–1D	1:1	5	15	8.5	30	42	53.0	32.0	29	27	32.5	27	23	22
LMA240–1	1:1	5	17	10.5	35	50	64.0	37.5	31	29	40.0	32	28	22
LMA240–1R	1:1	5	17	10.5	35	50	64.0	37.5	31	29	40.0	32	28	22
LMA240–1D	1:1	5	17	10.5	35	50	64.0	37.5	31	29	40.0	32	28	22



The RM gearboxes are made for higher demands, RM gearboxes have ratios up to 1:5 and transmit torques from 19 up to 430 Nm. Thanks to their consistent modular design, they allow a wide range of assembly and combination possibilities, for example in association with screw jacks of Nozag.

Quality features
- Quiet operation
- Maintenance-free, with minimum backlash
- High torques
- High operating period i.e. continuous operation
- High precision components
- Suited for high performance

Production characteristics
- GLEASON spiral toothed, hardened and lapped
- radial sealing generally with dust lip
- Lubrication: oil or low-viscosity grease
- Housing made of cast iron, low distortion and torsion proof
- Standard ratios 1:1 up to 1:5, others on demand
- Motor flange available for IEC-standard motors

	n1	i = 1 : 1		i = 1,5 : 1		i = 2 : 1		i = 3 : 1		i = 4 : 1		i = 5 : 1	
		P1 *	M2	P1 *	M2	P1*	M2	P1*	M2	P1 *	M2	P1 *	M2
RM12	2800	3.08	10.1			1.61	10.6	0.59	5.8				
	2000	2.30	10.6			1.19	10.9	0.46	6.3				
	1500	1.88	11.5			0.94	11.5	0.38	6.9				
	1000	1.36	12.5			0.68	12.5	0.27	7.5				
	800	1.17	13.4			0.59	13.4	0.23	8.1				
	600	0.94	14.4			0.47	14.4	0.19	8.6				
	400	0.67	15.4			0.34	15.4	0.13	8.9				
	100	0.18	16.8			0.09	16.7	0.03	9.4				
	50	0.10	18.2			0.05	18.2	0.02	9.8				
	10	0.02	19.2			0.01	19.2	0.01	10.1				
RM 19	2800	16.27	53.3	7.36	36.1	6.51	42.6	2.40	23.6	2.07	27.1	1.32	21.6
	2000	11.94	54.7	5.38	37.0	4.73	43.4	1.75	24.0	1.5	27.5	0.96	21.9
	1500	9.17	56.1	4.12	37.7	3.60	44.0	1.34	24.5	1.13	27.6	0.72	22.1
	1000	6.26	57.4	2.81	38.6	2.46	45.1	0.91	24.9	0.77	28.3	0.49	22.5
	800	5.07	58.1	2.27	39.0	1.99	45.7	0.73	25.1	0.62	28.5	0.39	22.6
	600	3.85	58.8	1.73	39.6	1.51	46.1	0.55	25.4	0.47	28.8	0.30	22.8
	400	2.62	60.0	1.16	40.0	1.02	46.7	0.37	25.8	0.32	29.0	0.20	22.9
	100	0.69	62.9	0.30	41.5	0.27	48.8	0.10	26.4	0.08	29.7	0.05	23.4
	50	0.35	63.7	0.15	42.0	0.13	49.3	0.05	26.6	0.04	29.9	0.03	23.6
	10	0.07	64.6	0.03	42.5	0.03	49.7	0.01	26.8	0.01	30.2	0.01	23.8
RM 24	2800	17.88	58.6	12.17	59.8	8.15	53.4	3.52	34.6	3.90	51.1	2.67	43.7
	2000	13.38	61.3	8.88	61.1	5.99	54.9	2.58	35.4	2.84	52.0	2.01	46.1
	1500	10.37	63.4	6.79	62.2	4.55	55.7	1.96	36.0	2.16	52.8	1.53	46.8
	1000	7.19	66.0	4.65	63.9	3.09	56.6	1.33	36.6	1.47	53.8	1.04	47.5
	800	5.86	67.2	3.75	64.5	2.50	57.2	1.08	37.2	1.18	54.1	0.84	48.0
	600	4.51	68.9	2.86	65.7	1.89	57.8	0.82	37.4	0.90	54.7	0.65	49.4
	400	3.08	70.6	1.94	66.7	1.28	58.6	0.55	38.0	0.60	55.3	0.44	49.9
	100	0.82	75.3	0.50	69.1	0.32	58.9	0.14	38.9	0.15	56.1	0.11	51.4
	50	0.42	77.0	0.25	70.0	0.16	59.1	0.07	39.0	0.08	57.0	0.06	51.8
	10	0.09	79.5	0.05	71.1	0.03	59.5	0.01	39.2	0.02	57.6	0.01	52.8

* If the bevel gearboxes are used only for one direction of rotation, the performance respectively the torque can be increased by 30%.

Gearbox range of performance

	n1	i = 1 : 1		i = 1,5 : 1		i = 2 : 1		i = 3 : 1		i = 4 : 1		i = 5 : 1	
		P1 *	M2	P1 *	M2	P1*	M2	P1*	M2	P1 *	M2	P1 *	M2
RM 32	2800	40.80	133.4	23.50	115.2	15.50	101.8	7.33	72.0	5.42	71.0	3.52	57.6
	2000	30.40	139.2	17.60	121.0	11.50	105.6	5.76	79.2	4.14	75.8	2.64	60.5
	1500	23.60	144.0	13.70	125.3	8.80	107.5	4.40	80.6	3.14	76.8	2.01	61.4
	1000	16.30	149.8	9.40	129.6	6.00	109.4	2.98	82.1	2.12	77.8	1.36	62.4
	800	13.30	152.6	7.80	133.9	4.90	111.4	2.43	83.5	1.72	78.7	1.11	63.4
	600	10.20	156.5	6.00	136.8	3.70	113.3	1.85	85.5	1.30	79.7	0.85	64.8
	400	7.00	160.3	4.10	141.1	2.5	115.2	1.26	86.4	0.88	80.6	0.57	65.8
	100	1.90	170.9	1.00	144.0	0.60	119.0	0.32	89.3	0.23	84.5	0.15	67.2
	50	0.90	174.7	0.50	146.9	0.30	122.9	0.16	90.7	0.12	96.4	0.07	68.2
	10	0.20	180.5	0.10	149.8	0.10	124.8	0.03	92.2	0.02	88.3	0.02	69.1
RM 38	2800	87.2	285.6	57.7	273.5	29.90	196	15.10	148.0	12.30	161.0	9.90	162.0
	2000	64.1	294.0	41.0	282.0	22.00	201	11.00	152.0	9.00	164.0	7.20	165.5
	1500	49.4	302.0	31.4	288.0	16.90	206	8.40	154.0	6.80	167.0	5.50	168.5
	1000	33.8	310.0	21.4	293.8	11.60	212	5.76	158.0	4.60	170.0	3.70	171.0
	800	27.6	316.5	17.4	300.0	9.40	215	4.66	160.0	3.70	171.0	3.00	173.0
	600	21.1	323.0	13.3	305.0	7.10	218	3.55	162.5	2.80	173.5	2.30	175.0
	400	14.5	331.0	9.0	311.0	4.80	222	2.40	165.0	1.90	176.5	1.50	176.5
	100	3.8	349.0	2.4	325.5	1.50	231	0.62	170.5	0.50	182.0	0.40	182.0
	50	1.9	355.5	1.2	332.5	0.60	234	0.31	172.0	0.25	183.5	0.20	184.0
	10	0.4	367.0	0.2	340.0	0.13	239	0.06	175.0	0.05	186.0	0.04	186.0
RM 42	2800	102.6	334.0	62.5	307.0	35.20	230	17.80	175.0	13.70	180.0	9.90	162.0
	2000	75.4	346.0	46.0	317.0	25.80	237	13.00	178.0	10.00	183.0	7.20	166.0
	1500	58.1	355.0	35.3	324.0	19.80	243	9.90	181.0	7.60	187.0	5.50	178.5
	1000	39.8	365.0	24.3	334.0	13.60	249	6.80	186.0	5.20	191.0	3.70	171.0
	800	32.5	372.0	19.7	339.0	11.00	253	5.50	188.0	4.20	193.0	3.00	173.0
	600	24.9	380.0	15.0	344.0	8.40	257	4.20	191.0	3.20	195.0	2.30	175.0
	400	17.0	390.0	10.3	353.0	5.70	261	2.80	194.0	2.20	198.0	1.50	177.0
	100	4.5	411.0	2.7	370.0	1.50	272	0.70	201.0	0.60	204.0	0.40	182.0
	50	2.3	420.0	1.4	376.0	0.70	278	0.37	203.0	0.25	206.0	0.20	184.0
	10	0.5	432.0	0.3	383.0	0.15	281	0.07	206.0	0.05	209.0	0.04	186.0
RM 55	1500	125.0	763.0	88.7	813.0	44.40	543	20.20	370.0	19.50	478.0	15.00	458.0
	1000	86.0	787.0	60.7	835.0	30.60	561	13.90	382.0	13.30	489.0	10.20	467.0
	800	70.0	800.0	49.4	850.0	23.80	568	11.30	386.0	10.80	495.0	8.20	472.0
	600	53.0	810.0	37.7	864.0	18.80	576	8.50	391.0	8.20	501.0	6.30	478.0
	400	36.6	840.0	26.0	893.0	12.90	591	5.80	398.0	5.60	509.0	4.20	484.0
	100	9.7	896.0	6.9	950.0	3.40	618	41.50	416.0	1.40	529.0	1.10	503.0
	50	5.0	912.0	3.5	972.0	1.70	632	0.80	421.0	0.70	534.0	0.60	508.0
	10	1.0	941.0	0.7	1000.0	0.35	643	0.16	428.0	0.15	543.0	0.10	515.0

* If the bevel gearboxes are used only for one direction of rotation, the performance respectively the torque can be increased by 30%.

Basics
Life: 20000 h
Impact-free operation (F = 1)
Operating time 8 h/day
Direction of rotation: clockwise an anticlockwise
Ambient temperature ca. 20 ° C

For different operating characteristics, please consult the correction factor on page 107

Abbreviations
n1 = drive rpm (min^{-1})
n2 = drive rpm (min^{-1}) (smaller rpm)
P1 = drive power (kW)
M2 = driving torque (Nm)
i = ratio (n^1/n^2)

Note: For continuous operation see page 108

Correction factors

for different operating characteristics

Operation time (correction factor H)

hrs/day	24	18	12	8	4	2	1
H	1.25	1.18	1.1	1.0	0.9	0.8	0.7

Required Life span (correction factor L)

h	60000	40000	20000	15000	10000	5000	3000
L	1.3	1.15	1	0.95	0.9	0.85	0.8

Load factor (correction factor F)

Load	Start ups / hour					
	non uniform	1	5	20	60	120
uniform	1	1	1.4	1.8	2.2	2.7
light shocks	1	1.4	1.8	2.2	2.7	3.2
large shocks	1	1.4	1.8	2.2	2.7	3.2

The corrected torque (Mk) can be determined when the appropriate factors are defined.

$$Mk = M \times (H \times L \times F)$$

at which:

M = theoretically calculated, respectively required torque
Mk = corrected torque basis for the choice of gearbox in the table

Correction factors

Temperature influence (for continuous operation)

In the following table the allowed input power (Pt) is apparent, in which continuous operation (ED 100%) and an ambient temperature of 20°C is not exceeded. A breather is recommended!

	RM 12	RM 19	RM 24	RM 32	RM 38	RM 42	RM 55
Input power Pt (kW)	1.5	3.0	6.0	10.0	15.0	20.0	35.0
n_1	2800	2800	2800	2800	2000	2000	1500

For different ambient temperatures and/or operating times, the following correction factors can be used:

Ambient temperature (correction factor T)

Temperature (°C)	– 10	0	10	20	30	40	50
T	1.3	1.25	1.15	1	0.9	0.8	0.7

Operation time (correction factor ED)

%-operating period	100	80	60	40	20
ED	1	1.2	1.4	1.6	1.8

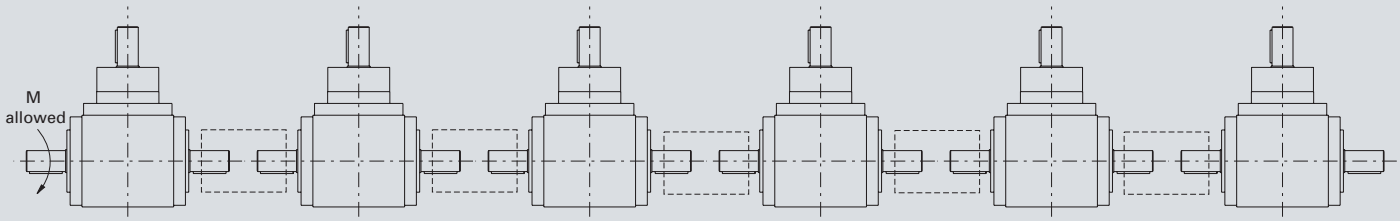
The allowed resulting input power (Pr) can now be calculated as follows:

$$Pr = Pt \times (T \times ED)$$

In case the total actual input power is higher than Pr, the gearbox has to be provided with an external cooling system. In this case, please contact Nozag engineering for advice.

Table values – Gear choice

Bevel gearboxes mounted in series



In this case, the trough torque is to be observed.

	RM 19	RM 24	RM 32	RM 38	RM 42	RM 55
M allowed (Nm)	60	120	300	500	700	1600

Note:
The allowed torque is only for the shaft and is not applicable to the bevel gearing (Toothing). Also the admissable keyed joint contact pressure (Coupling / Shaft) has to be checked.

For higher torque, bevel gearboxes with larger shaft diameter can be used (Version AP see page 116).

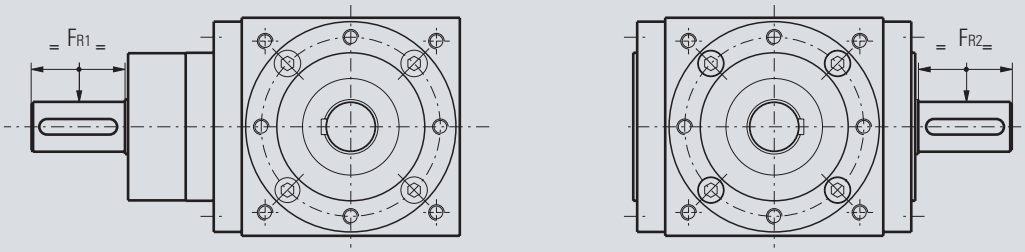
	RM 19 AP	RM 24 AP	RM 32 AP	RM 38 AP	RM 42 AP	RM 55 AP
M allowed (Nm)	120	300	500	700	1000	3000

Gearbox weight

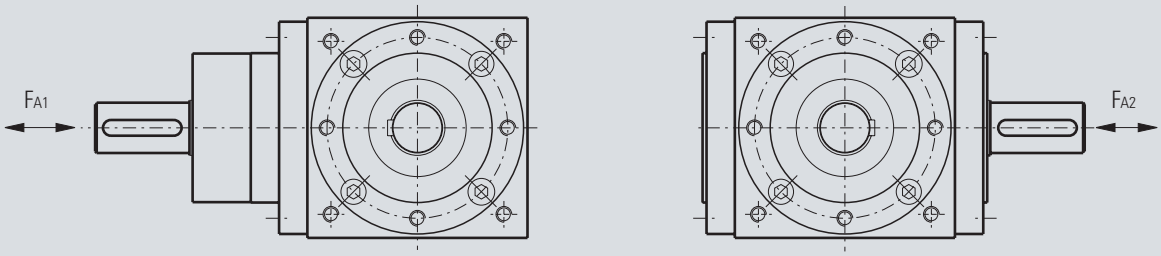
	RM 12	RM 19	RM 24	RM 32	RM 38	RM 42	RM 55
Weight (kg)	2.5	6	12	22	37	57	87

Table values – Gear choice

Permitted shaft loads

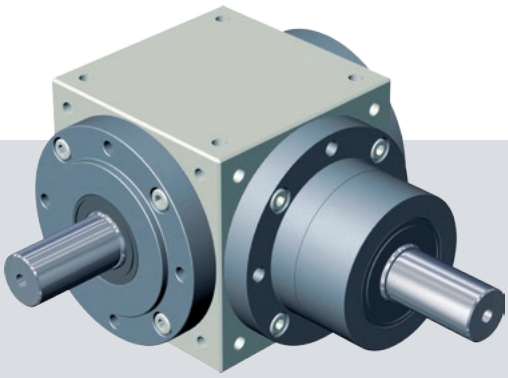


Force	Ratio	RM 12	RM 19	RM 24	RM 32	RM 38	RM 42	RM 55
F_{R1} (N)	1 : 1 2 : 1 3 : 1	550	850	1400	2000	4000	6000	10000
	4 : 1 5 : 1	–	600	850	1400	2000	4000	6000
F_{R2} (N)	All ratios	900	1500	2200	3500	7000	10000	15000



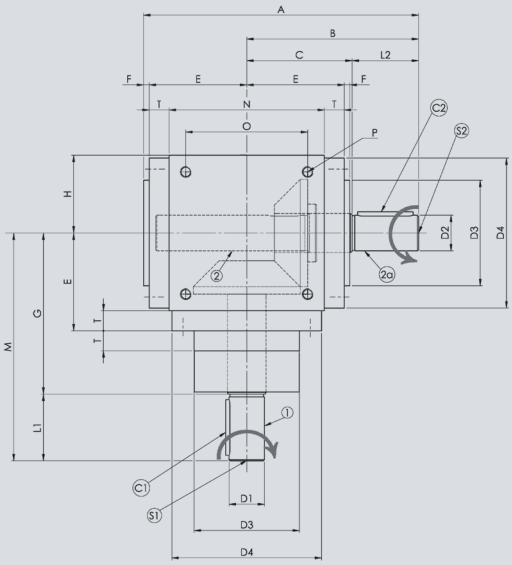
Force	Ratio	RM 12	RM 19	RM 24	RM 32	RM 38	RM 42	RM 55
F_{A1} (N)	1 : 1 2 : 1 3 : 1	300	450	700	1100	1700	2700	5000
	4 : 1 5 : 1	–	400	450	700	1100	1700	2700
F_{A2} (N)	All ratios	500	700	1300	1700	3400	4800	6800

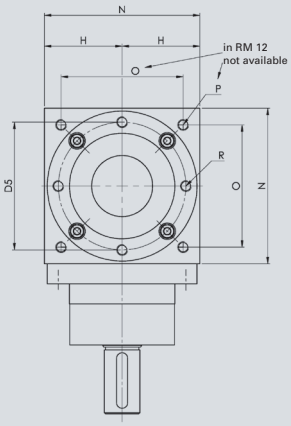
Gearboxes with hollow shaft (Type H) and larger pass through shafts (Version AP see page 116) on demand!



RM, shaft on one side

Entry sense of rotation contrary to output sense of rotation





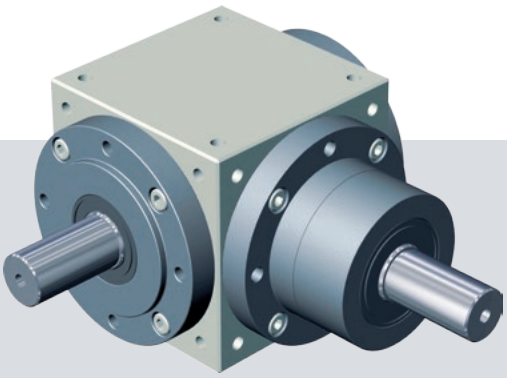
Ordering example

Type Size Ratio i = 1:1

RM 24 – 1

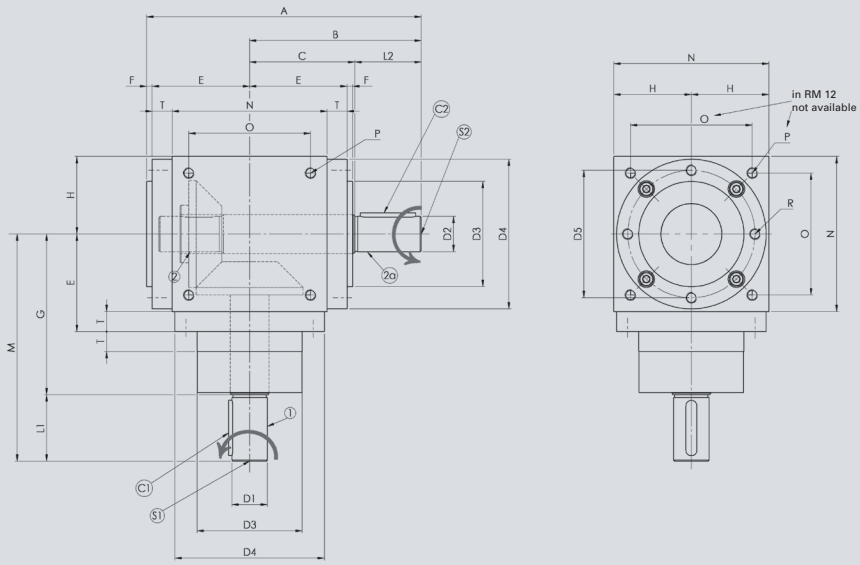
	:1	A	B	C	D1 j6	D2 j6	D3 h7	D4 h7	D5	E	F	G	H	L1	L2
RM 12	1, 2, 3	116	72	46	12	12	44	65	54	42	2	74	32,5	26	26
RM 19	1, 2, 3,	168	105	65	19	19	60	86	72	59	4	100	45,0	40	40
	4, 5				14									30	
RM 24	1, 2, 3,	208	130	80	24	24	70	105	88	73	5	115	55,0	50	50
	4, 5				19									40	
RM 32	1, 2, 3,	248	155	95	32	32	95	135	115	88	5	145	70,0	60	60
	4, 5				24									50	
RM 38	1, 2, 3,	288	180	110	38	38	120	165	145	103	5	170	85,0	70	70
	4, 5				28									60	
RM 42	1, 2, 3,	328	205	125	42	42	135	190	165	118	5	195	100	80	80
	4, 5				32									60	
RM 55	1, 2, 3,	408	260	150	55	55	170	230	205	143	5	245	120	110	110
	4, 5				42									80	

	:1	M	N	O	P	R	S1	S2	C1	C2	T
RM 12	1, 2, 3	100	65	45	M 6	M 6	M4 x 8	M 4 x 8	20 x 4 x 4	20 x 4 x 4	9,5
RM 19	1, 2, 3,	140	90	70	M 6	M 6	M 6 x 12	M 6 x 12	35 x 6 x 6	35 x 6 x 6	14
	4, 5	130					M 5 x 10		25 x 5 x 5	35 x 6 x 6	
RM 24	1, 2, 3,	165	110	88	M 8	M 8	M 8 x 16	M 8 x 16	40 x 8 x 7	40 x 8 x 7	18
	4, 5	155					M 6 x 12		35 x 6 x 6		
RM 32	1, 2, 3,	205	140	110	M 10	M 10	M 10 x 20	M 10 x 20	50 x 10 x 8	50 x 10 x 8	18
	4, 5	195					M 8 x 16		40 x 8 x 7		
RM 38	1, 2, 3,	240	170	136	M 12	M 12	M 12 x 24	M 12 x 24	60 x 10 x 8	60 x 10 x 8	18
	4, 5	230					M 10 x 20		50 x 8 x 7	60 x 10 x 8	
RM 42	1, 2, 3,	275	200	155	M 12	M 12	M 12 x 24	M 12 x 24	70 x 12 x 8	70 x 12 x 8	18
	4, 5	255					M 10 x 20		50 x 10 x 8		
RM 55	1, 2, 3,	355	240	190	M 14	M 14	M 14 x 28	M 14 x 28	100 x 16 x 10	100 x 16 x 10	23
	4, 5	325					M 12 x 24		70 x 12 x 8		



RM, shaft on one side

Entry sense of rotation same as output sense of rotation



Ordering example

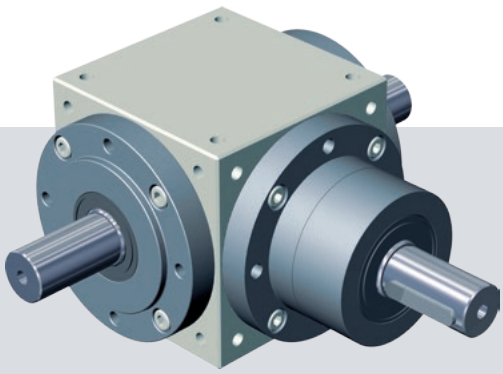
Type
Size
Ratio i = 1:1
Direction of rotation

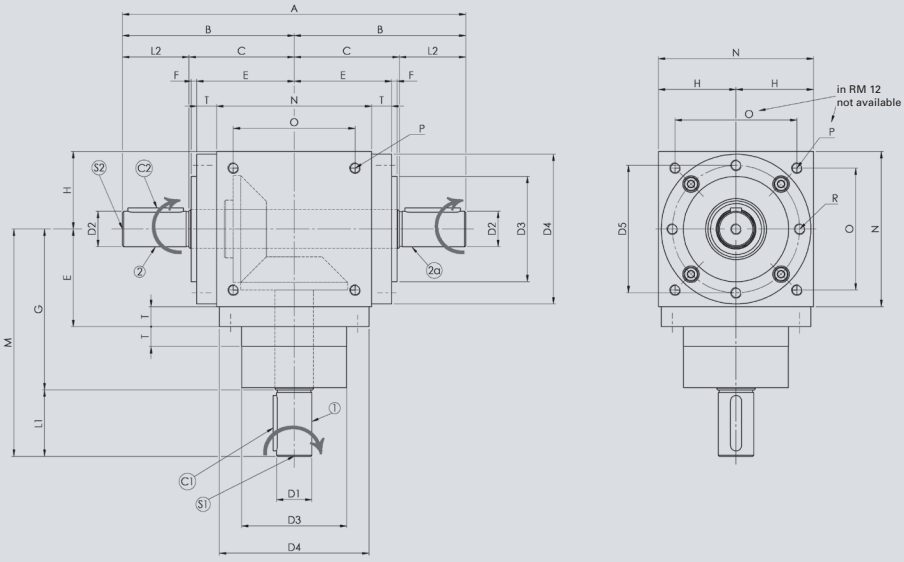
RM 19 – 1 R

	:1	A	B	C	D1 j6	D2 j6	D3 h7	D4 h7	D5	E	F	G	H	L1	L2
RM 12	1, 2, 3	116	72	46	12	12	44	65	54	42	2	74	32,5	26	26
RM 19	1, 2, 3,	168	105	65	19	19	60	86	72	59	4	100	45,0	40	40
	4, 5				14									30	
RM 24	1, 2, 3,	208	130	80	24	24	70	105	88	73	5	115	55,0	50	50
	4, 5				19									40	
RM 32	1, 2, 3,	248	155	95	32	32	95	135	115	88	5	145	70,0	60	60
	4, 5				24									50	
RM 38	1, 2, 3,	288	180	110	38	38	120	165	145	103	5	170	85,0	70	70
	4, 5				28									60	
RM 42	1, 2, 3,	328	205	125	42	42	135	190	165	118	5	195	100	80	80
	4, 5				32									60	
RM 55	1, 2, 3,	408	260	150	55	55	170	230	205	143	5	245	120	110	110
	4, 5				42									80	

	:1	M	N	O	P	R	S1	S2	C1	C2	T	G	H	L1	L2
RM 12	1, 2, 3	100	65	45	M 6	M 6	M4 x 8	M 4 x 8	20 x 4 x 4	20 x 4 x 4	9,5	74	32,5	26	26
RM 19	1, 2, 3,	140	90	70	M 6	M 6	M 6 x 12	M 6 x 12	35 x 6 x 6	35 x 6 x 6	14	100	45,0	40	40
	4, 5	130					M 5 x 10		25 x 5 x 5	35 x 6 x 6				30	
RM 24	1, 2, 3,	165	110	88	M 8	M 8	M 8 x 16	M 8 x 16	40 x 8 x 7	40 x 8 x 7	18	115	55,0	50	50
	4, 5	155					M 6 x 12		35 x 6 x 6					40	
RM 32	1, 2, 3,	205	140	110	M 10	M 10	M 10 x 20	M 10 x 20	50 x 10 x 8	50 x 10 x 8	18	145	70,0	60	60
	4, 5	195					M 8 x 16		40 x 8 x 7					50	
RM 38	1, 2, 3,	240	170	136	M 12	M 12	M 12 x 24	M 12 x 24	60 x 10 x 8	60 x 10 x 8	18	170	85,0	70	70
	4, 5	230					M 10 x 20		50 x 8 x 7	60 x 10 x 8				60	
RM 42	1, 2, 3,	275	200	155	M 12	M 12	M 12 x 24	M 12 x 24	70 x 12 x 8	70 x 12 x 8	18	195	100	80	80
	4, 5	255					M 10 x 20		50 x 10 x 8					60	
RM 55	1, 2, 3,	355	240	190	M 14	M 14	M 14 x 28	M 14 x 28	100 x 16 x 10	100 x 16 x 10	23	245	120	110	110
	4, 5	325					M 12 x 24		70 x 12 x 8					80	

RM, through shaft



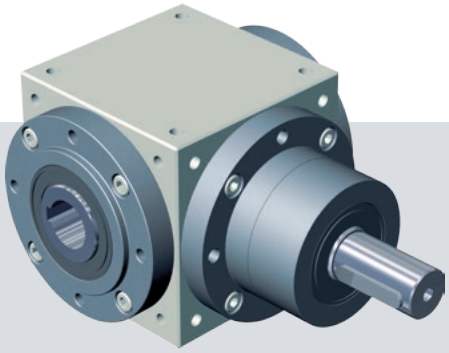


Ordering example

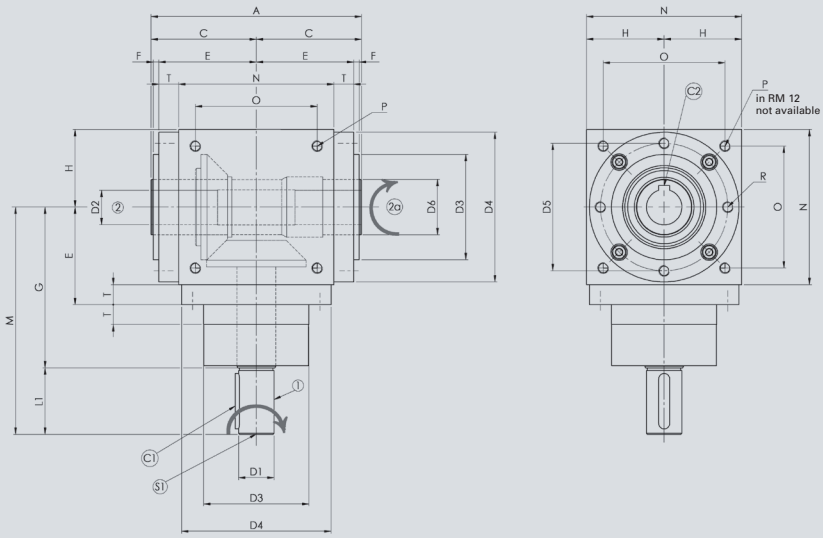
Type	Size	Ratio i = 2:1	through shaft
RM	12 –	2	D

	:1	A	B	C	D1 j6	D2 J6	D3 h7	D4 h7	D5	E	F	G	H	L1	L2
RM 12	1, 2, 3	144	72	46	12	12	44	65	54	42	2	74	32,5	26	26
RM 19	1, 2, 3,	210	105	65	19	19	60	86	72	59	4	100	45,0	40	40
	4, 5				14									30	
RM 24	1, 2, 3,	260	130	80	24	24	70	105	88	73	5	115	55,0	50	50
	4, 5				19									40	
RM 32	1, 2, 3,	310	155	95	32	32	95	135	115	88	5	145	70,0	60	60
	4, 5				24									50	
RM 38	1, 2, 3,	360	180	110	38	38	120	165	145	103	5	170	85,0	70	70
	4, 5				28									60	
RM 42	1, 2, 3,	410	205	125	42	42	135	190	165	118	5	195	100	80	80
	4, 5				32									60	
RM 55	1, 2, 3,	520	260	150	55	55	170	230	205	143	5	245	120	110	110
	4, 5				42									80	

	:1	M	N	O	P	R	S1	S2	C1	C2	T	G	H	L1	L2
RM 12	1, 2, 3	100	65	45	M 6	M 6	M 4 x 8	M 4 x 8	20 x 4 x 4	20 x 4 x 4	9,5	74	32,5	26	26
RM 19	1, 2, 3,	140	90	70	M 6	M 6	M 6 x 12	M 6 x 12	35 x 6 x 6	35 x 6 x 6	14	100	45,0	40	40
	4, 5	130					M 5 x 10		25 x 5 x 5	35 x 6 x 6				30	
RM 24	1, 2, 3,	165	110	88	M 8	M 8	M 8 x 16	M 8 x 16	40 x 8 x 7	40 x 8 x 7	18	115	55,0	50	50
	4, 5	155					M 6 x 12		35 x 6 x 6					40	
RM 32	1, 2, 3,	205	140	110	M 10	M 10	M 10 x 20	M 10 x 20	50 x 10 x 8	50 x 10 x 8	18	145	70,0	60	60
	4, 5	195					M 8 x 16		40 x 8 x 7					50	
RM 38	1, 2, 3,	240	170	136	M 12	M 12	M 12 x 24	M 12 x 24	60 x 10 x 8	60 x 10 x 8	18	170	85,0	70	70
	4, 5	230					M 10 x 20		50 x 8 x 7	60 x 10 x 8				60	
RM 42	1, 2, 3,	275	200	155	M 12	M 12	M 12 x 24	M 12 x 24	70 x 12 x 8	70 x 12 x 8	18	195	100	80	80
	4, 5	255					M 10 x 20		50 x 10 x 8					60	
RM 55	1, 2, 3,	355	240	190	M 14	M 14	M 14 x 28	M 14 x 28	100 x 16 x 10	100 x 16 x 10	23	245	120	110	110
	4, 5	325					M 12 x 24		70 x 12 x 8					80	



RM, hollow shaft



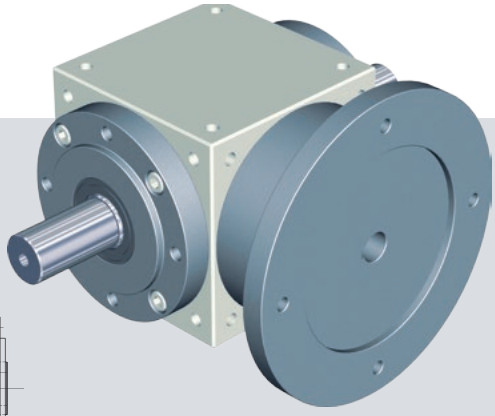
Ordering example

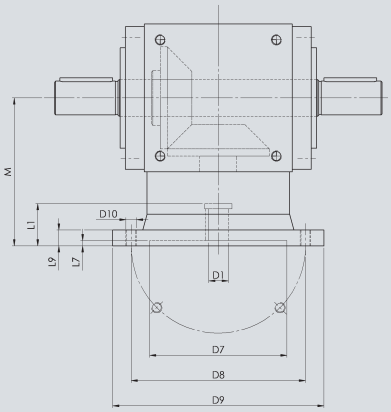
Type	Size	Ratio i = 2:1	Hollow shaft
RM	19	– 2	H

	:1	A	C	D1 J6	D2 j6	D3 h7	D4 h7	D5	D6	E	G	H	L1	L1	L2
RM 12	1	92	46	12	12	44	65	54	-	42	74	32,5	26	26	26
RM 19	1, 2, 3,	130	65	19	19	60	86	72	30	59	100	45,0	40	40	40
	4, 5			14									30	30	
RM 24	1, 2, 3,	160	80	24	24	70	105	88	35	73	115	55,0	50	50	50
	4, 5			19									40	40	
RM 32	1, 2, 3,	190	95	32	32	95	135	115	50	88	145	70,0	60	60	60
	4, 5			24									50	50	
RM 38	1, 2, 3,	220	110	38	38	120	165	145	60	103	170	85,0	70	70	70
	4, 5			28									60	60	
RM 42	1, 2, 3,	250	125	42	42	135	190	165	60	118	195	100	80	80	80
	4, 5			32									60	60	
RM 55	1, 2, 3,	300	150	55	55	170	230	205	75	143	245	120	110	110	110
	4, 5			42									80	80	

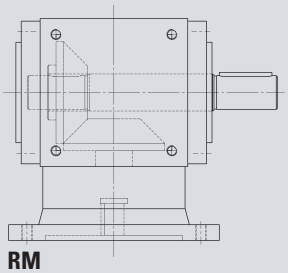
	:1	M	N	O	P	R	S1	S2	C1	C2	T	G	H	L1	L2
RM 12	1, 2, 3	100	65	45	M 6	M 6	M 4 x 8	M 4 x 8	20 x 4 x 4	20 x 4 x 4	9,5	74	32,5	26	26
RM 19	1, 2, 3,	140	90	70	M 6	M 6	M 6 x 12	M 6 x 12	35 x 6 x 6	35 x 6 x 6	14	100	45,0	40	40
	4, 5	130					M 5 x 10		25 x 5 x 5	35 x 6 x 6				30	
RM 24	1, 2, 3,	165	110	88	M 8	M 8	M 8 x 16	M 8 x 16	40 x 8 x 7	40 x 8 x 7	18	115	55,0	50	50
	4, 5	155					M 6 x 12		35 x 6 x 6					40	
RM 32	1, 2, 3,	205	140	110	M 10	M 10	M 10 x 20	M 10 x 20	50 x 10 x 8	50 x 10 x 8	18	145	70,0	60	60
	4, 5	195					M 8 x 16		40 x 8 x 7					50	
RM 38	1, 2, 3,	240	170	136	M 12	M 12	M 12 x 24	M 12 x 24	60 x 10 x 8	60 x 10 x 8	18	170	85,0	70	70
	4, 5	230					M 10 x 20		50 x 8 x 7	60 x 10 x 8				60	
RM 42	1, 2, 3,	275	200	155	M 12	M 12	M 12 x 24	M 12 x 24	70 x 12 x 8	70 x 12 x 8	18	195	100	80	80
	4, 5	255					M 10 x 20		50 x 10 x 8					60	
RM 55	1, 2, 3,	355	240	190	M 14	M 14	M 14 x 28	M 14 x 28	100 x 16 x 10	100 x 16 x 10	23	245	120	110	110
	4, 5	325					M 12 x 24		70 x 12 x 8					80	

RM, motor flange

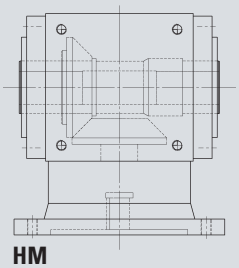




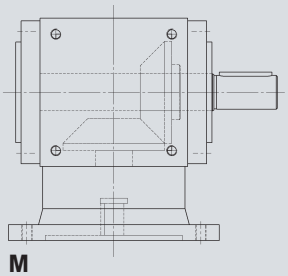
DM



RM



HM

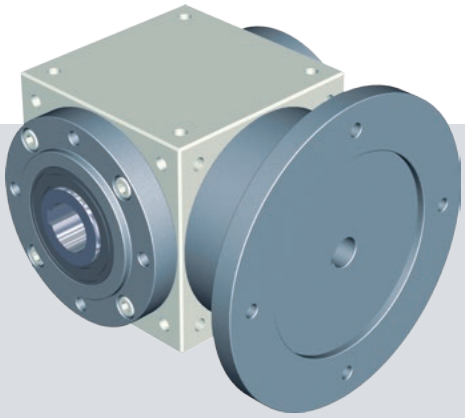


M

Ordering example

Type	Size	Ratio i = 1:1	Hollow shaft	Motor flange	IEC - Standard motor
RM	32	– 1	H	M	090

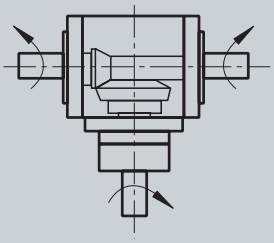
	:1	IEC-motor flange design B5	D1	D7	D8	D9	D10	L1	L7	L9	M
RM 12	1, 2, 3	63	11	95	115	140	Ø 9	26	4	10	90
	1, 2, 3	71–B14	14	70	85	105	Ø 9	35	4	10	90
RM 19	1, 2, 3,	63	11	95	115	140	M 8	23	4	12	90
	4, 5	71	14	110	130	160	M 8	30	4	12	90
RM 24	1, 2, 3	71	14	110	130	160	M 8	30	4	12	120
	1, 2, 3	80	19	130	165	200	M 10	40	5	12	120
	1, 2, 3	90	24	130	165	200	M 10	50	5	12	120
	4, 5	71	14	110	130	160	M 8	30	4	12	120
	4, 5	80	19	130	165	200	M 10	40	5	12	120
RM 32	1, 2, 3	80	19	130	165	200	M 10	40	5	15	140
	1, 2, 3	90	24	130	165	200	M 10	50	5	15	140
	1, 2, 3	112	28	180	215	250	M 12	60	5	15	140
	4, 5	80	19	130	165	200	M 10	40	5	15	140
	4, 5	90	24	130	165	200	M 10	50	5	15	140
RM 38	1, 2, 3	90	24	130	165	200	M 10	50	5	15	155
	1, 2, 3	112	28	180	215	250	M 12	60	5	15	155
	1, 2, 3	132	38	230	265	300	M 12	80	5	15	155
	4, 5	90	24	130	165	200	M 10	50	5	15	155
	4, 5	112	28	180	215	250	M 12	60	5	15	155
RM 42	1, 2	112	28	180	215	250	M 12	60	5	20	200
	1, 2	132	38	230	265	300	M 12	80	5	20	200
	1, 2	160	42	250	300	350	M 16	110	6	20	200
	3	112	28	180	215	250	M 12	60	5	20	200
	3	132	38	230	265	300	M 12	80	5	20	200
	4, 5	112	28	180	215	250	M 12	60	5	20	200
RM 55	1, 2, 3	112	28	180	215	250	M 12	60	5	20	220
	1, 2, 3	132	38	230	265	300	M 12	80	5	20	220
	1, 2, 3	160	42	250	300	350	M 16	110	6	20	220
	4, 5	112	28	180	215	250	M 12	60	5	20	220
	4, 5	132	38	230	265	300	M 12	80	5	20	220



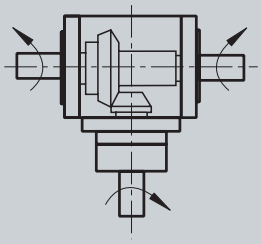
RM Special design

Gearbox setup (Geometry) modelled on the standard program

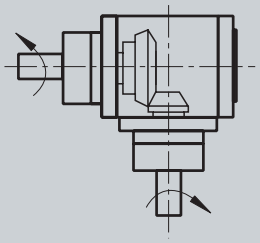
Torque:	10 ... 2077 Nm
Power:	max 125 kW
Shaft diameter:	12 ... 55 mm (types IO, DO and IC: 32 ... 55 mm) All types available with mounting flange for IEC Standard motors.



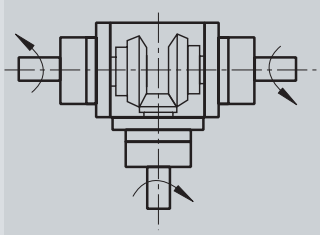
Design AX
1:1,5, 1:2



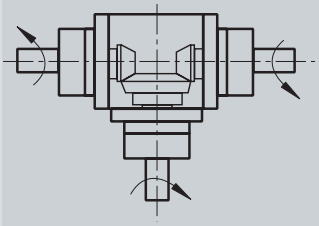
Design AP
1:1, 2:1, 3:1, 4:1, 5:1
larger shaft



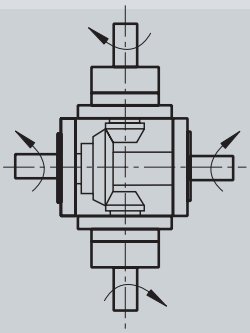
Design C
1:1, 2:1, 3:1, 4:1, 5:1



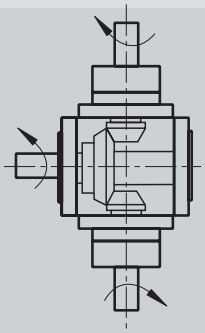
Design DR
1:1, 2:1, 3:1, 4:1, 5:1



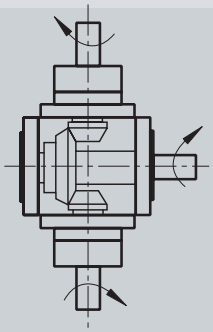
Design DX
1:1, 1:2, 1:3, 1:4, 1:5



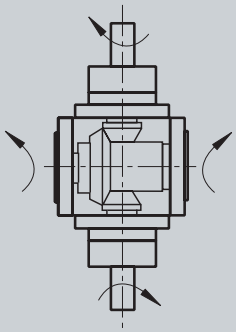
Design B
1:1, 2:1, 3:1, 4:1, 5:1



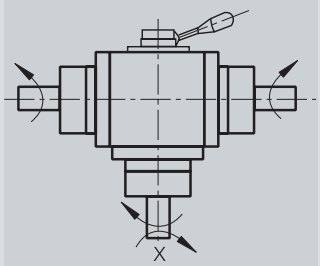
Design BD
1:1, 2:1, 3:1, 4:1, 5:1



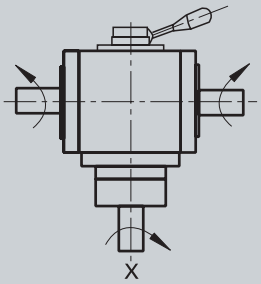
Design BS
1:1, 2:1, 3:1, 4:1, 5:1



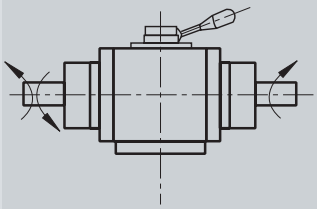
Design BH
1:1, 2:1, 3:1, 4:1, 5:1
Hollow shaft



Design IO
1:1, 2:1
Reversible, shaft «X»
changes sense of rotation



Design DO
1:1, 2:1, 3:1
Shiftable, shaft «X» can be
uncoupled



Design IC
1:1
Reversible, on request
with 90° – output shaft

freicom.

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