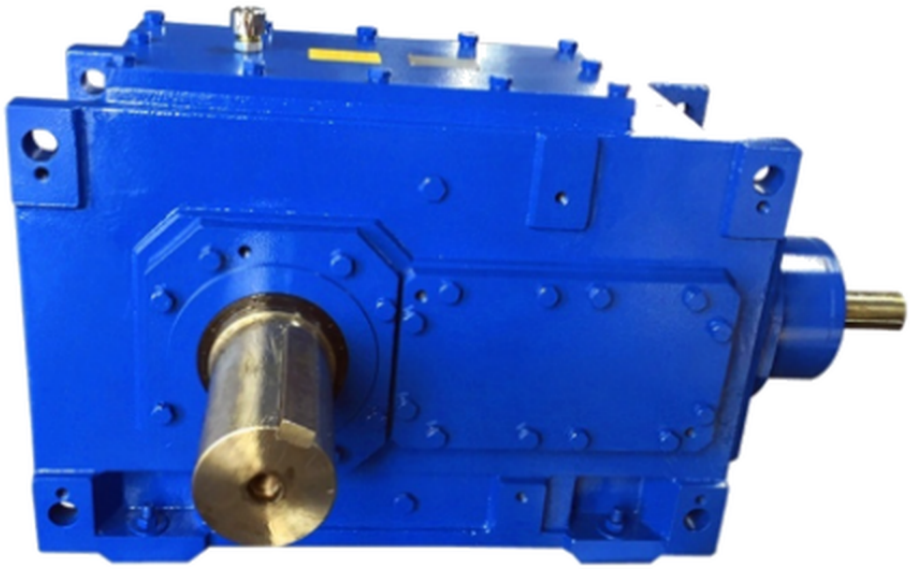
HYDRAPRO
PROFESSIONALS IN WATER TREATMENT

MTH/MTB Series

Industrial Gear Units | Product Catalogue



Parallel Shaft (MTH) and Right-Angle (MTB) Gear Units

26 type sizes (1 to 26) | Nominal output torque up to 900 kNm

MTH: 1 to 4-stage, ratios 1.25 to 450 | MTB: 2 to 4-stage, ratios 5 to 400

Solid shaft, hollow shaft with key, shrink disk or involute splines

Horizontal (with or without feet) and vertical mounting

Fan cooling, cooling coil, forced lubrication and backstop options

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MTH/MTB Series Industrial Gear Units

HYDRAPRO
PROFESSIONALS IN WATER TREATMENT

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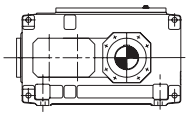
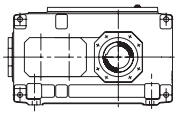
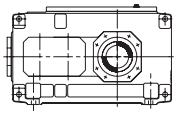
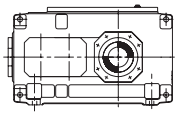
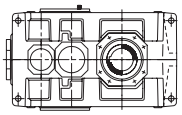
Illustrations are examples only. Dimensions and weights are guide values and subject to change without notice.

Gear Units Summary of Basic Types

Horizontal mounting

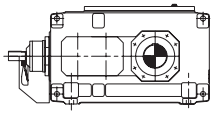
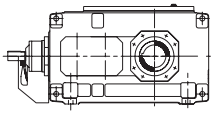
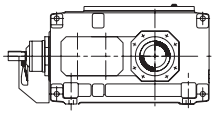
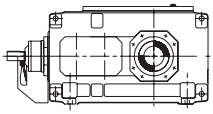
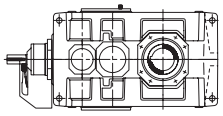
Helical gear units Types

MTH1..,MTH2..,MTH3..,MTH4..,1-4 (Stage),iN=1.25-450

				
MTH.SH	**MTH.HH**	**MTH.DH**	**MTH.KH**	**MTH.HM,MTH.DM, MTH.KM**

Bevel-helical gear units Types

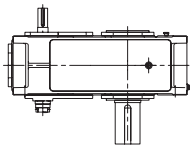
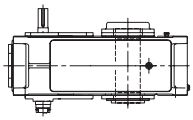
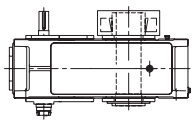
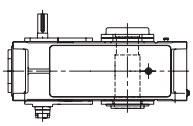
MTB2..,MTB3..,MTB4..,2-4 (Stage),iN=5-400

				
MTB.SH	**MTB.HH**	**MTB.DH**	**MTB.KH**	**MTB.HM,MTB.DM, MTB.KM**

Vertical mounting position

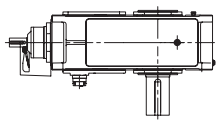
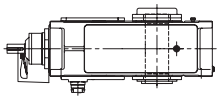
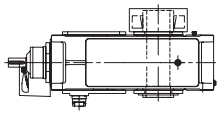
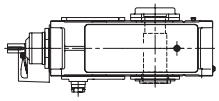
Helical gear units Types

MTH2.V,MTH3.V,MTH4.V,2-4 (Stage),iN=6.3-450

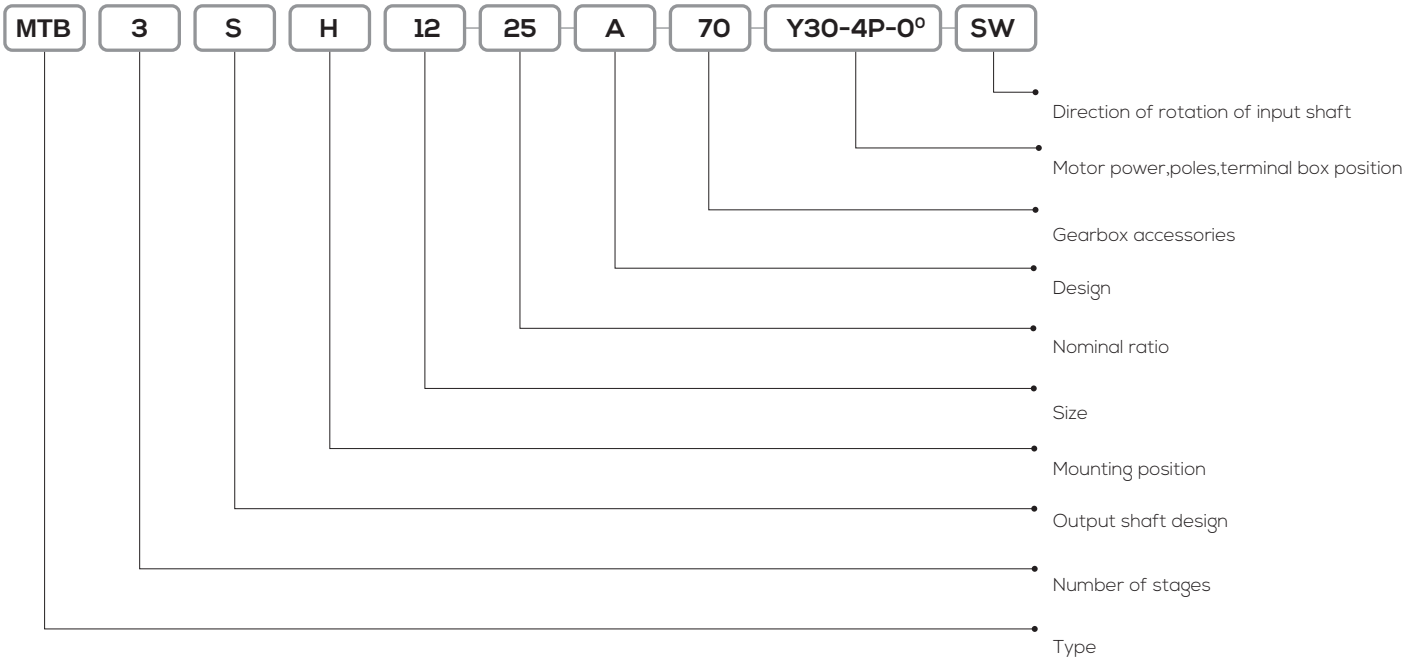
			
MTH.SV	**MTH.HV**	**MTH.DV**	**MTH.KV**

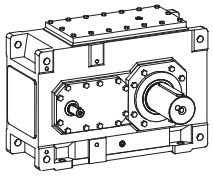
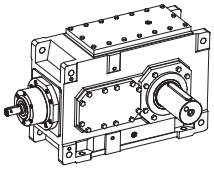
Bevel-helical gear units Types

MTB2..,MTB3..,MTB4..,2-4 (stage),iN=5-400

			
MTB.SV	**MTB.HV**	**MTB.DV**	**MTB.KV**

Designation of Types



Explanation of types	Explanationof the above example	Explanation of types	Explanationof the above example
Types MTH—— MTB—— MTH-Helical MTB-Bevel-helical	Bevel-helical	**Number of stages** 1-stage 2-stage 3-stage 4-stage	3-stage
Output shaft design: S H S Solid shaft H Hollow shaft D Hollow shaft for shrink disk K Hollow shaft with involute splines	Solid shaft output	**Mounting positions** M H Horizontal M Horizontal design without feet V Vertical	Horizontal
Size 1~26 Size 1~ 26	12 Size 12	**Nominal ratio** Nominal ratio iN(see page 13 -49)	iN=25 Nominal ratio iN=25
Design of shaft A , B, C, D A , B, C, D,etc(see page 54 -112)	Design A	**Accessories code** 70.74.75, etc(see page-131)	70 Design 70
MTB **The direction of rotation of the MTB series input shaft:** CCW viewing on input shaft:CW is Clockwise, C(W is Counter clockwise,MTH' s omitted.	Direction of rotation of input shaft is clockwise	**MTH....** 	**MTB....** 

Gear Units Characteristic

Design

MTH/MTB gear units are a completely new design. Advantages are.
- more sizes with a reduced variety of parts;
- higher operational reliability combined with increased power capacity;
- flanged output shafts to facilitate assembly of gear units in confined spaces (on request).

Mounting position

MTH/MTB gear units can be supplied for either horizontal or vertical installation.
The basic gear unit can be optimally adapted to customer requirements by fitting different add-on pieces like motor bell housings, gear unit swingbases or backstops.

Noise behavior

New concepts were applied to clearly improve the noise emission of the gear units by:
- grinding the bevel gears;
- designing noise-absorbing housings
- achieving exceptionally large contact ratios.

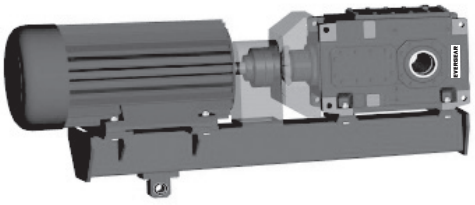
Thermal conduction

MTH/MTB gear units not only have a high efficiency but also a favorable thermal conduction:
- through enlarged housing surface areas;
- because large fans incorporating a new type of air conduction fan cowl are being used.

The selection of MTH/MTB gear units is based on a lower maximum oil temperature. By that, the operational reliability will be increased and the cost of maintenance reduced due to longer oil change intervals.

Storing

MTH/MTB gear units have been designed according to a new unit construction principle. Through this, the variety of parts could be reduced. Most of the parts are on stock,enabling MTH/MTB gear units to be delivered worldwide in a short term.



MTB3DH

MTH/MTB bevel-helical gear units type MTB3DHwith fan and gear unit swing-base.

Gear Units General Information

Attention



The following items are absolutely to be observed:

- Illustrations are examples only and are not strictly binding. Dimensions are subject to change.
- The weights are mean values and not strictly binding.
- To prevent accidents, all rotating parts should be guarded according to local and national safety regulations.
- Prior to commissioning, the operating instructions must be observed.The gear units are delivered ready for operation but without oil filling.
- Oil quantities given are guide values only.The exact quantity of oil depends on the marks on the oildipstick.
- The oil viscosity has to correspond to the data given on the name plate.
- The gear units are supplied with radial shaft seals. Other sealing variants on request.
- Directions of rotation referring to output shaft d2.

Explanation of symbols used in the dimensioned drawings:


Oil dipstick


Breather


Oil drain


Oil filler

From size 13 up jack screws in the housing feet, and leveling pads on the upper housing part.
Foundation bolts of min. property class 8.8.

Gear Units Guidelines for the Selection

1. Determination of gear unit type and size

1.1 Find the transmission ratio	$i_s = \frac{n_1}{n_2}$
1.2 Determine nominal power rating of the gear unit	$P_N \geqslant P_2 X f_1 X f_2$
It is not necessary to consult us, if:	$3.33 \times P_2 \geqslant P_N$
1.3 : Check for maximum torque, e. g. peak operating-, starting- or braking torque	$P_N \geqslant \frac{T_A \times n_1}{9550} X f_3$
Gear unit sizes and number of reduction stages are given in rating tables depending on iN and PN	
1.4 Check whether additional forces on the output shaft are permissible; see pages 50 and 51	
1.5 Check whether the actual ratio i as per tables on pages 46 -49 is acceptable	

2. Determination of oil supply

Mounting position	
Horizontal	Vertical
All parts to be lubricated are lying in the oil or are splash lubricated Forced lubrication on request	Possible oil supply variations: - Dip lubrication - Forced lubrication by means of flanged-on pump or motor pump For preferred variants and criteria for selection see pages 128- 130

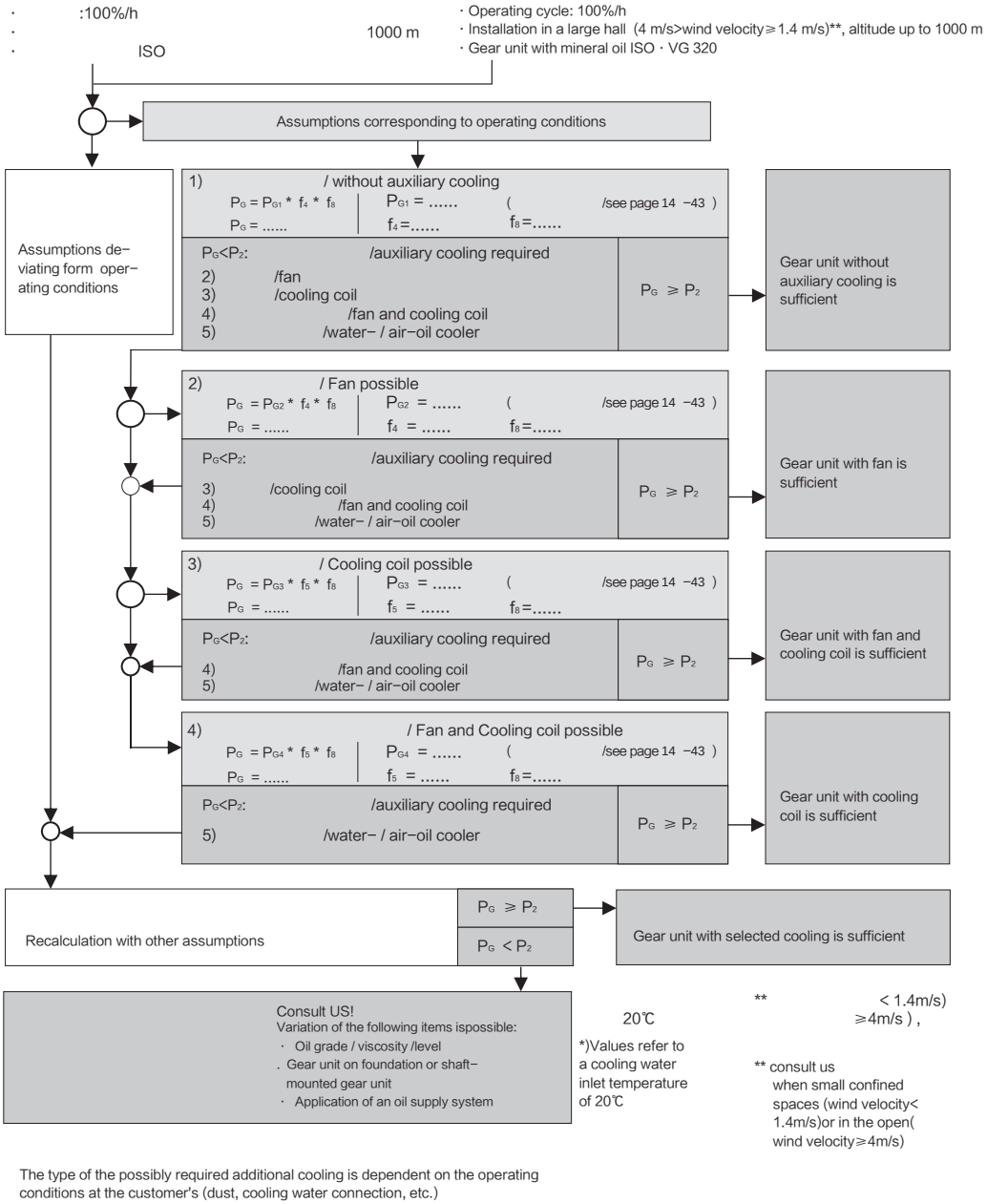
Gear Units Guidelines for the Selection

3. Determination of required thermal capacity PG Data required

- (1000/1200/1500/1800 r/min)**

- Type ·Size
- Nominal ratio
- Ambient temperature
- Input speed(1000/1200/1500/1800 r/min)
- Gear unit with dip lubrication

For the calculation below the following has been assumed:



The type of the possibly required additional cooling is dependent on the operating conditions at the customer's (dust, cooling water connection, etc.)

Gear Units Key to Symbols

E_D	ED=80% / h Operating cycle per hour in%, e.g. ED=80% / h	f_1	Factor for driven machine(table 1), pages 10
f_2	Factor for prime mover (tables 2), page 11	f_3	Peak torque factor (tables 3), page 11
f_4 f_5	Factor for ambient temperature (tables 4+tables 5), page 11	f_8	Oil supply factor for vertical gear units (tables 8), page 12
i	Actual ratio,page 46 -49	i_N	Nominal ratio
i_S	Required ratio	n_1	(r/min) Input speed(r/min)
n_2	(r/min) Output speed(r/min)	P_G	Required thermal capacity
P_{G1}	Thermal capacity for gear units without auxiliary cooling	P_{G2}	Thermal capacity for gear units with fan cooling
P_{G3}	Thermal capacity for gear units with built-in cooling coil	P_{G4}	Thermal capacity for gear units with built-in cooling coil and fan
P_N	Nominal power rating of gear unit (KW), see tables	P_2	(KW) Power rating of driven machine (KW)
t	Ambient temperature (℃)	T_A	(N.m) Max. torque occurring on input shaft, e.g. peak operating-, starting- or braking torque(N.m)
T_{2N}	Nominal output torque (kN.m), pages 44 -45	S_A	15) Safety coefficient of speed reducer(tables15)

Gear Units Guidelines for the Selection/Calculation Example

Known parameter

	PRIME MOVER
: P_1=75 kW	Electric motor: P_1=75 kW
: n_1=1500 rpm	Motor speed: n_1=1500 rpm
: T_A=720 N.m	Max. starting torque: T_A=720 N.ma

Driven machine

: P_2=63 kW	Belt conveyor: P_2=63 kW
: n_2=26 rpm	Speed: n_2=26 rpm
	Duty: 12 h/day
: 5	Starts per hour: 5
: ED=100%	Operating cycle per hour: ED=100%
: 30 ℃	Ambient temperature: 30 C
): (w≥ 4m/s)	Outdoor installation: (w≥ 4m/s)
	Altitude:sea level

Gear unit design

	Bevel-helical gear unit
	Mounting position: horizontal
2 C	Output shaft d_2: on right hand side design C
2 : ccw	Direction of rotation of output shaft d_2: ccw

Selection of gear unit type and size

1.1 :
Calculation of transmission ratio

$$i_S = \frac{n_1}{n_2} = \frac{1500}{26} = 57.7 \quad i_N = 56$$

1.2
Determination of the gear unit nominal power rating

$$P_N \geq P_2 \times f_1 \times f_2 \times S_A = 63 \times 1.5 \times 1 \times 1.25 = 118.125 \text{ kW}$$

MTB3 ,
P_N = 122 kW
Selected from power rating table: type MTB3, gear unit size 10, with P_N = 122 kW

$$3.33 \times P_2 \geq PN \qquad 3.33 \times 63 = 219.8 \text{ kW} > P_N$$

1.3
Checking the starting torque

$$P_N \geq \frac{T_A \times n_1}{9550} \times 0.5 = \frac{720 \times 1500}{9550} \times 0.5 = 56.5 \text{ kW} \quad P_N 122 \text{ kW} > 56.5 \text{ kW}$$

Determination of thermal capacity

2.1 ,
Thermal capacity for gear units without auxiliary cooling, acc. to table for type MTB3

$$P_G = P_{G1} \times f_4 \times f_8 \quad P_G = 72 \text{ kW} \times 0.88 \times 1 = 63.36 \text{ kW} \quad P_2 = 63 \text{ kW} < P_G = 63.36 \text{ kW}$$

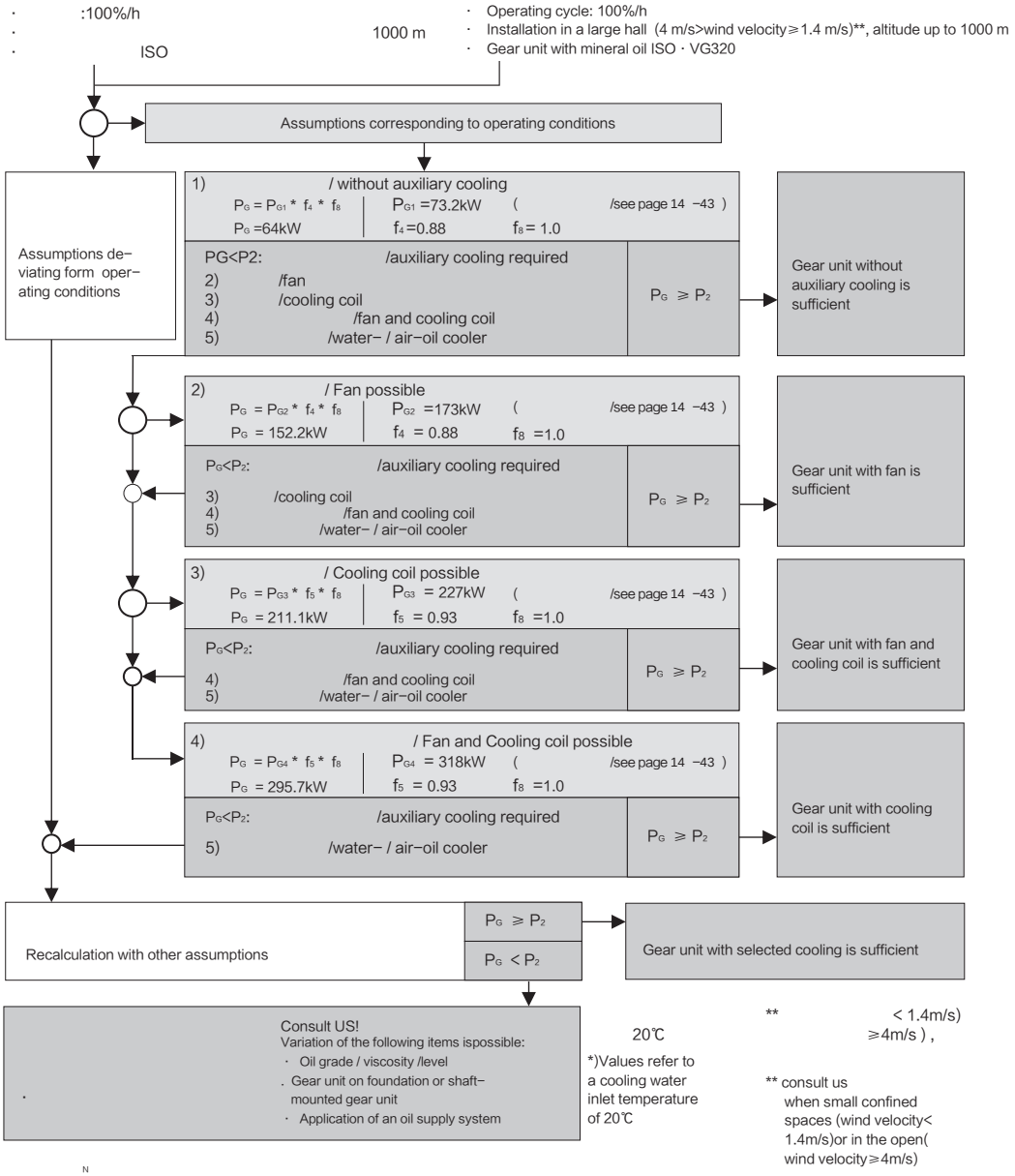
Gear Units Calculation Example Thermal Capacity

G Determination of required thermal capacity PG Data required

- : 10
- : iN = 56
- : t=30℃
- :n=1500r/min

- Type : MTB3SH · Size : 10
- Nominal ratio : iN = 56
- Ambient temperature : t=30 C
- Input speed : n=1500r/min
- Gear unit with dip lubrication

For the calculation below the following has been assumed:



For the selected gear unit MTB3SH9 with iN=56 suitable auxiliary cooling is to be provided. Depend-ent on the operating conditions at the customer's, at least a fan or a cooling coil is to be provided.

1 f_1 Table 1 Factor for driven machine f_1

	Driven machines			
		≤0.5	>0.5–10	> 10
	Waste water treatment			
	Thickeners (central drive)	–	–	1.2
	Filter presses	1.0	1.3	1.5
	Flocculation apparata	0.8	1.0	1.3
	Aerators	–	1.8	2.0
	Raking equipmen	1.0	1.2	1.3
	Combined longitudi–nal and rotary rakes	1.0	1.3	1.5
	Pre–thickeners	–	1.1	1.3
	Screw pumps	–	1.3	1.5
	Water turbines	–	–	2.0
	Pumps			
	Centrifugal pumps	1.0	1.2	1.3
	Positive–displace– ment pumps			
1	1 piston	1.3	1.4	1.8
>1	>1 piston	1.2	1.4	1.5
	Dredgers			
	Bucket conveyors	–	1.6	1.6
	Dumping devices	–	1.3	1.5
	Carterpillar travel–ling gears	1.2	1.6	1.8
	Dredgers			
	Bucket wheel excavators	–	1.7	1.7
	As pick–up	–	2.2	2.2
	For primitive material Cutter heads	–	2.2	2.2
	Slewing gears*	–	1.4	1.8
	Plate bending machines*	–	1.0	1.0
	Chemical industry			
	Extruders	–	–	1.6
	Dough mills	–	1.8	1.8
	Rubber calenders	–	1.5	1.5
	Gaoling drums	–	1.3	1.4
	Mlxers for			
	Uniform media	1.0	1.3	1.4
	Non–uniform media	1.4	1.6	1.7
	Agitators for me–dia with			
	Uniform density	1.0	1.3	1.5
	Non–uniform density	1.2	1.4	1.6
	Non–uniform gas absorption	1.4	1.6	1.8
	Toasters	1.4	1.3	1.5
	Centrifuges	1.0	1.2	1.3
	Metal working mills			
	Plate filter	1.0	1.0	1.2
	Ingot pushers	1.0	1.2	1.2
	Winding machines	–	1.6	1.6
	Cooling bed transfer frames	–	1.5	1.5
	Roller straighteners	–	1.6	1.6
	Roller tables			
	Continuous	–	1.5	1.5
	Intermittent	–	2.0	2.0
	Reversing tube mills	–	1.8	1.8
	Shears			
	Continuous*	–	1.5	1.5
	Crank type*	1.0	1.0	1.0
	Continuous casting drivers*	–	1.4	1.4

	Driven machines			
		≤0.5	>0.5–10	> 10
	Rolls			
	Reversing blooming mills	–	2.5	2.5
	Reversing stabbing mills	–	2.5	2.5
	Reversing wire mills	–	1.8	1.8
	Reversing sheet mills	–	2.0	2.0
	Reversing plate mills	–	1.8	1.8
	Roll adjustment drives	0.9	1.0	–
	Conveyors			
	Bucket conveyors	–	1.4	1.5
	Hauling winches	1.4	1.6	1.6
	Hoists	–	1.5	1.8
≤150 kW	Belt conveyors≤150 kW	1. 0	1.2	1.3
≥150 kW	Belt conveyors≥150 kW	1. 1	1.3	1.4
	Goods lifts*	–	1.2	1.5
	Passenger lifts*	–	1.5	1.8
	Apron conveyors	–	1.2	1.5
	Escalators	1.0	1.2	1.4
	Frequency converters	–	1.5	–
	Reciprocating compressors	–	1.8	1.9
	Cranes * *			
	Slewing gears* *	1.0	1.4	1.8
	Luffing gears* *	1.0	1.1	1.4
	Travelling gears* *	1.1	1.6	2.0
	Hoisting gears* *	1.0	1.1	1.4
	Derricking jib cranes* *	1.0	1.2	1.6
	Cooling towers			
	Cooling tower fans	–	–	2.0
)	Blowers (axial and radial)	–	1.4	1.5
	Cane sugar production			
	Cane knives	–	–	1.7
	Cane mills	–	–	1.7
	Beet sugar production			
	Beet cossettes macerators	–	–	1.2
	Extraction plants	–	–	1.4
	Mechanical refrigerators	–	–	1.4
	Juice boilers	–	–	1.4
	Sugar beet washing machines,	–	–	1.4
	Sugar beet cutters	–	–	1.5
	Paper machines			
	Of all kind	–	1.8	2.0
	Pulper drives (on request)	–	2	2.25
	Centrifugal compressors	–	1.4	1.5
	Cableways			
	Material ropeways	–	1.3	1.4
	To–and–fro system	–	1.6	1.8
	Aerial ropeways	–	1.3	1.4
	T–bar lifts ropeways	–	1.4	1.6
	Cement industry			
	Concrete mixers	–	1.5	1.5
	Breakers	–	1.2	1.4
	Rotary kilns	–	–	2.0
	Tube mills	–	–	2.0
	Separators	–	1.6	1.6
	Roll crushers	–	–	2.0

**) FEM 1001

Design for power rating of driven machine P2
*) Designed power corresponding to max. torque
**) Load can be exactly classified, for instance,according to FEM 1001
***) A check for thermal capacity is absolutelyessential

The listed factors are empirical values. Prerequisitefor their application is that the machinery and equip-ment mentioned correspond to generally accepted design- and load specifications. In case of devi-ations from standard conditions, please refer to us.For driven machines which are not listed in this table, please refer to us.

1) Effective daily operating period under load in hours

2 f_2 Table 2 Factor for prime mover f_2

		Electric motors, hydraulic motors,turbines	1.0
4~6	1:200	Piston engines 4~6 cylinders,cyclic variation 1 : 100 to 1 : 200	1.25
1~3	1:100	Piston engines 1~3 cylinders,cyclic variation up to 1:100	1.5

3 f_3 Table 3 Peak torque factor f_3

		Load peaks per hour			
		1~5	6~30	31 – 100	> 100
	Steady direction of load	0. 5	0. 65	0. 7	0. 85
	Alternating direc-lion of load	0. 7	0. 95	1. 10	1. 25

4 f_4 Table 4 Thermal factor f_4

( ) (Gear units without auxiliary cooling or with fan)

/Ambient	10℃	15℃	20℃	25℃	30℃	35℃	40℃	45℃	50℃
f4	1.11	1.06	1.00	0.94	0.88	0.82	0.75	0.69	0.63

5 f_5 Table 5 Thermal factor f_5

( ) (For cooling coil, or with fan and cooling coil)

/Ambient	10℃	15℃	20℃	25℃	30℃	35℃	40℃	45℃	50℃
f5	1.05	1.03	1.00	0.97	0.93	0.90	0.87	0.84	0.81

8 f_8 Table 8 Oil supply factor for vertical gear units f_8

8 $f_8 = 1.05$

Oil supply factor for vertical gear units. For horizontal gear units $f_8 = 1.0$, and in case of forced lubrication $f_8 = 1.05$

Gear unit type	Oil supply	Sizes 4 – 12			
		Without Auxiliary cooling	With Fan	With Cooling coil	With Fan and cooling coil
MTH2.V MTH3.V MTH4.V	Dip lubrication	0.95	*	0.95	*
	Forced lubrication	1.15	*	1.05	*
MTB2.V MTB3.V MTB4.V	Dip lubrication	0.95	0.95	0.95	0.95
	Forced lubrication	1.15	1.10	1.10	1.10

Gear unit type	Oil supply	Sizes 13 – 18			
		Without Auxiliary cooling	With Fan	With Cooling coil	With Fan and cooling coil
MTH2.V MTH3.V MTH4.V	Dip lubrication	*	*	*	*
	Forced lubrication	1.15	*	1.05	*
MTB2.V MTB3.V MTB4.V	Dip lubrication	*	*	*	*
	Forced lubrication	1.10	1.10	1.10	1.10

* *) On request

15 S_A Table 15 Safety coefficient S_A

Importance and safety requirement	S_A
The failure of ordinary equipment and speed reducer can only result in production halts of single machine and replacement of spare parts.	1.1–1.3
The failure of ordinary equipment and speed reducer can only result in production halts of machines, production lines or the whole factory.	1.3–1.5
Higher safety requirements, the failure of speed reducer can cause the incident of equipment and human body.	1.5–1.7

TYPES MTH1...
SIZES 1...19

Helical gear units — Nominal Power Ratings

i	n_1	n_2	Gear unit sizes																		
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	r/min		P_N (KW) Nominal power ratings P_N (KW)																		
1.25	1800	1440	119		392		1055		2005*		3242*										
	1500	1200	99		327		879		1671		2702										
	1200	960	79		262		703		1337		2161										
	1000	800	66		218		586		1114		1801										
1.4	1800	1286	112		364		968		1870*		3001*										
	1500	1071	93		303		807		1559		2501										
	1200	857	74		242		646		1247		2000										
	1000	714	62		202		538		1039		1667										
1.6	1800	1125	103		342		884		1672*		2781*										
	1500	938	86		285		737		1394		2318		3927								
	1200	750	68		228		589		1115		1854		3142								
	1000	625	57		190		491		929		1545		2618		4123						
1.8	1800	1000	95		252		806		1593*		2558*		4338*								
	1500	833	80		210		672		1328		2132		3615								
	1200	667	64		168		538		1062		1705		2892		4632*						
	1000	556	53		140		448		885		1421		2410		3860						
2	1800	900	88		236		772		1462*		2356*		4025*								
	1500	750	74		197		644		1218		1964		3354								
	1200	600	59		157		515		974		1571		2683		4285*						
	1000	500	49		131		429		812		1309		2236		3571						
2.24	1800	804	81		211		706		1303*		2102*		3699*								
	1500	670	68		176		588		1086		1752		3083								
	1200	536	54		140		470		869		1402		2466		3940*						
	1000	446	45		117		392		724		1168		2055		3283						
2.5	1800	720	76		196		634		1168*		1885*		3317*								
	1500	600	63		164		528		974		1571		2765		4524*						
	1200	480	50		131		422		779		1256		2212		3619*						
	1000	400	42		109		352		649		1047		1843		3016		4607				
2.8	1800	643	67		182		565		1003*		1595*		2961*								
	1500	536	56		152		471		836		1329		2468		4038*						
	1200	429	44		121		377		668		1063		1974		3230*						
	1000	357	37		101		314		557		886		1645		2692		4224				
3.15	1800	571	59		162		502		909		1463		2504*		4086*						
	1500	476	50		135		419		758		1220		2087		3405						
	1200	381	40		108		335		606		976		1669		2724		4620*				
	1000	317	33		90		279		505		813		1391		2270		3850				
3.55	1800	507	54		149		441		824		1323		2322*		3699*						
	1500	423	45		125		368		687		1103		1935		3083						
	1200	338	36		100		294		550		882		1548		2466		4181*				
	1000	282	30		83		245		458		735		1290		2055		3484				
4	1800	450	47		131		396		731		1177		2074*		3335*						
	1500	375	39		110		330		609		981		1728		2780						
	1200	300	31		88		264		487		785		1382		2224		3833*				
	1000	250	26		73		220		406		654		1152		1853		3194		4529		
4.5	1800	400	34		92		281		578		895		1674		2410*		4268*				
	1500	333	29		77		234		482		746		1395		2009		3557				
	1200	267	23		61		187		385		596		1116		1607		2845		4073*		
	1000	222	19		51		156		321		497		930		1339		2371		3394		
5	1800	360	29		79		238		452		772		1271		2054*		3348*		4675*		
	1500	300	24		66		198		377		644		1059		1712		2790		3896*		
	1200	240	19		53		158		301		515		847		1369		2232		3116*		4373*
	1000	200	16		44		132		251		429		706		1141		1860		2597		3644
5.6	1800	321	22		67		202		385		590		1073		1748*		2851*		3982*		
	1500	268	18		56		168		321		492		894		1457		2376		3318*		4218*
	1200	214	14		44		134		257		394		715		1165		1901		2654		3374*
	1000	179	12		37		112		214		328		596		971		1584		2212		2812

Forced lubrication required on horizontal gear units

* Gear units only on request

TYPES MTH1...
SIZES 1...19

Helical gear units

Thermal Capacities

i		Gear unit sizes																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
		n=1000 r/min																		
1.25	PG1	50.6		63.2		*		*		*										
	PG2			187		402		517		536										
	PG3			271		639		911		1288										
	PG4			377		934		1322		1783										
1.4	PG1	48.9		65.4		*		*		*										
	PG2			186		409		534		578										
	PG3			264		629		892		1277										
	PG4			366		916		1298		1760										
1.6	PG1	47.6		68.6		*		*		*		*		*						
	PG2			183		412		540		630		729		510						
	PG3			248		595		833		1230		2057		2459						
	PG4			347		870		1214		1706		2838		3313						
1.8	PG1	47.5		79.9		*		*		*		*		*						
	PG2			205		410		561		655		821		674						
	PG3			269		561		819		1187		2025		2417						
	PG4			376		827		1196		1650		2802		3264						
2	PG1	46.8		78.5		104		*		*		*		*		*		*		*
	PG2			197		397		549		651		852		757		*		*		*
	PG3			256		531		778		1130		1955		2368		2073		*		*
	PG4			358		779		1135		1573		2700		3190		3116		*		*
2.24	PG1	48.4		78		109		*		*		*		*		*		*		*
	PG2			189		382		520		645		887		851		523		*		*
	PG3			241		496		704		1063		1864		2290		2048		*		*
	PG4			338		733		1029		1485		2588		3104		3073		*		*
2.5	PG1	45.9		72.8		108		*		*		*		*		*		*		*
	PG2			175		362		494		621		884		888		621		*		*
	PG3			216		459		649		986		1753		2174		2016		*		*
	PG4			304		679		950		1381		2437		2955		2996		*		*
2.8	PG1	44.4		69.6		105		133		*		*		*		*		*		*
	PG2			164		340		511		649		865		902		707		500		*
	PG3			199		419		655		994		1625		2034		1957		2203		*
	PG4			281		620		959		1390		2265		2770		2892		3223		*
3.15	PG1	42.2		73		127		189		217		*		*		*		*		*
	PG2			161		348		601		731		1019		1128		1146		1040		*
	PG3			193		416		769		1091		1682		2075		2179		2517		*
	PG4			270		612		1140		1548		2349		2844		3174		3624		*
3.55	PG1	38.2		67.6		127		178		209		*		*		*		*		*
	PG2			147		340		553		682		949		1078		1140		1096		*
	PG3			174		398		689		988		1519		1896		2027		2387		*
	PG4			244		585		1027		1407		2128		2603		2942		3412		*
4	PG1	34.8		61.9		118		167		189		235		*		*		*		*
	PG2			134		309		498		585		891		1024		1124		1132		1032
	PG3			155		353		604		820		1372		1715		1851		2212		*
	PG4			217		521		902		1175		1927		2364		2692		3158		*
4.5	PG1	34.8		69.7		129		183		238		267		304		*		*		*
	PG2			144		316		504		667		872		1107		1289		1307		1274
	PG3			165		354		599		908		1310		1783		1908		2227		*
	PG4			230		521		889		1294		1855		2474		2760		3170		*
5	PG1	31.4		63.9		125		184		228		290		340		*		*		*
	PG2			131		301		488		608		869		1087		1317		1541		1585
	PG3			147		333		564		801		1243		1686		1820		2424		*
	PG4			205		490		841		1145		1770		2348		2642		3447		*
5.6	PG1	31.0		57.2		111		166		220		277		311		*		*		*
	PG2			116		266		435		581		823		978		1195		1416		1665
	PG3			128		288		494		745		1164		1478		1608		2157		*
	PG4			179		425		739		1071		1663		2065		2338		3069		*

PG1, PG2, PG3, PG4 See page 7 for PG1, PG2, PG3, PG4

TYPES MTH1...
SIZES 1...19

Helical gear units

Thermal Capacities

i		Gear unit sizes																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
		n=1200 r/min																		
1.25	PG1	48.1		*		*		*		*										
	PG2			201		397		480		446										
	PG3			296		666		923		1254										
	PG4			432		1050		1468		1946										
1.4	PG1	46.5		*		*		*		*										
	PG2			201		410		507		501										
	PG3			289		660		913		1260										
	PG4			420		1033		1447		1932										
1.6	PG1	45.2		57		*		*		*		*		*						
	PG2			200		424		533		584		528		*						
	PG3			273		634		869		1246		1924		2078						
	PG4			400		987		1365		1894		3045		3406						
1.8	PG1	45.1		69.1		*		*		*		*		*						
	PG2			225		429		570		633		670		*						
	PG3			298		604		866		1225		1958		2157						
	PG4			434		942		1352		1846		3049		3433						
2	PG1	44.4		68.7		*		*		*		*		*		*		*		*
	PG2			218		418		562		638		718		*		*		*		*
	PG3			284		573		826		1173		1911		2150		1659		*		*
	PG4			413		889		1286		1765		2952		3380		3133		*		*
2.24	PG1	46.4		69.9		*		*		*		*		*		*		*		*
	PG2			210		408		541		647		792		625		*		*		*
	PG3			268		539		754		1117		1860		2148		1734		*		*
	PG4			391		839		1170		1675		2855		3335		3162		*		*
2.5	PG1	44.0		66		*		*		*		*		*		*		*		*
	PG2			195		389		518		631		810		691		*		*		*
	PG3			241		500		699		1042		1768		2073		1752		*		*
	PG4			352		778		1082		1561		2700		3196		3117		*		*
2.8	PG1	42.5		63.7		*		*		*		*		*		*		*		*
	PG2			183		366		540		667		812		738		*		*		*
	PG3			222		458		708		1057		1656		1969		1745		1854		*
	PG4			325		712		1095		1576		2520		3016		3041		3308		*
3.15	PG1	40.4		70.1		113		159		*		*		*		*		*		*
	PG2			181		385		658		789		1055		1109		1024		860		*
	PG3			217		463		848		1193		1798		2159		2175		2445		*
	PG4			314		707		1314		1777		2669		3194		3501		3951		*
3.55	PG1	36.6		65		114		153		*		*		*		*		*		*
	PG2			166		376		607		738		990		1072		1040		934		*
	PG3			196		443		761		1083		1629		1983		2040		2342		*
	PG4			284		676		1184		1616		2421		2930		3257		3736		*
4	PG1	36.1		60		108		147		156		*		*		*		*		*
	PG2			151		344		549		637		942		1040		1065		1018		873
	PG3			174		394		670		903		1482		1813		1894		2213		*
	PG4			252		603		1042		1352		2200		2673		3001		3488		*
4.5	PG1	36.1		68.4		121		169		211		*		*		*		*		*
	PG2			163		355		562		737		944		1168		1303		1283		1210
	PG3			186		397		669		1009		1436		1925		2012		2315		*
	PG4			268		604		1030		1495		2131		2823		3118		3558		*
5	PG1	32.6		63.2		121		174		211		248		*		*		*		*
	PG2			149		339		547		678		953		1171		1378		1581		1592
	PG3			166		375		633		894		1374		1843		1955		2577		*
	PG4			239		569		976		1326		2041		2694		3009		3907		*
5.6	PG1	32.2		56.6		107		157		202		237		*		*		*		*
	PG2			132		299		488		647		903		1054		1251		1453		1672
	PG3			145		324		555		833		1287		1616		1728		2293		*
	PG4			208		494		857		1240		1917		2396		2662		3478		*

PG1, PG2, PG3, PG4 See page 7 for PG1, PG2, PG3, PG4

TYPES MTH1...
SIZES 1...19

Helical gear units — Thermal Capacities

i		Gear unit sizes																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
		n=1500 r/min																		
1.25	PG1	44.3		*		*		*		*										
	PG2			201		372		480		*										
	PG3			307		686		946		1276										
	PG4			472		1117		1537		1991										
1.4	PG1	42.8		*		*		*		*										
	PG2			212		392		447		375										
	PG3			299		680		937		1285										
	PG4			459		1104		1523		1992										
1.6	PG1	41.7		*		*		*		*		*		*						
	PG2			213		420		500		495		*		*						
	PG3			284		655		894		1276		1944		2060						
	PG4			438		1063		1452		1982		3039		3187						
1.8	PG1	41.5		*		*		*		*		*		*						
	PG2			241		435		554		575		*		*						
	PG3			309		625		894		1259		1990		2161						
	PG4			478		1019		1450		1953		3106		3328						
2	PG1	40.9		*		*		*		*		*		*		*		*		*
	PG2			234		427		553		590		509		*		*		*		*
	PG3			295		593		852		1207		1947		2161		1626		*		*
	PG4			455		964		1382		1873		3026		3313		2826		*		*
2.24	PG1	43.3		*		*		*		*		*		*		*		*		*
	PG2			227		422		544		620		631		*		*		*		*
	PG3			278		558		779		1151		1902		2172		1719		*		*
	PG4			431		913		1264		1790		2964		3336		2963		*		*
2.5	PG1	41.1		*		*		*		*		*		*		*		*		*
	PG2			211		405		525		614		676		*		*		*		*
	PG3			251		518		723		1075		1810		2102		1746		*		*
	PG4			388		848		1172		1674		2819		3228		2972		*		*
2.8	PG1	39.7		50		*		*		*		*		*		*		*		*
	PG2			199		384		553		658		705		*		*		*		*
	PG3			231		475		733		1091		1698		2002		1748		1836		*
	PG4			359		777		1189		1695		2647		3075		2947		3087		*
3.15	PG1	37.7		63.8		*		*		*		*		*		*		*		*
	PG2			200		415		702		828		1055		1033		816		*		*
	PG3			226		481		881		1237		1858		2221		2223		2487		*
	PG4			348		779		1442		1941		2879		3394		3634		4035		*
3.55	PG1	34.2		59.8		*		*		*		*		*		*		*		*
	PG2			183		407		649		778		998		1014		860		678		*
	PG3			204		460		791		1124		1685		2042		2087		2387		*
	PG4			314		746		1301		1768		2617		3123		3397		3839		*
4	PG1	38.1		56.2		85.1		*		*		*		*		*		*		*
	PG2			166		374		591		677		964		1012		938		821		623
	PG3			181		410		696		937		1534		1870		1943		2263		*
	PG4			280		665		1147		1483		2387		2866		3159		3625		*
4.5	PG1	38.1		66.4		106		135		*		*		*		*		*		*
	PG2			180		389		611		795		994		1193		1261		1192		1069
	PG3			194		413		696		1049		1489		1992		2075		2382		*
	PG4			298		669		1137		1646		2330		3062		3339		3779		*
5	PG1	34.4		62.5		111		151		169		*		*		*		*		*
	PG2			165		373		599		738		1020		1227		1395		1560		1526
	PG3			173		390		659		930		1427		1911		2022		2660		*
	PG4			266		631		1080		1464		2242		2942		3255		4202		*
5.6	PG1	33.9		56		98.8		136		163		*		*		*		*		*
	PG2			146		330		535		704		967		1104		1266		1433		1604
	PG3			151		337		577		866		1337		1675		1787		2367		*
	PG4			232		548		949		1370		2106		2586		2880		3741		*

PG1, PG2, PG3, PG4 See page 7 for PG1, PG2, PG3, PG4

TYPES MTH1...
SIZES 1...19

Helical gear units — Thermal Capacities

i		Gear unit sizes																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
		n=1800 r/min																		
1.25	PG1	40.5		*		*		*		*										
	PG2			201		295		*		*										
	PG3			314		650		851		1058										
	PG4			514		1164		1554		1921										
1.4	PG1	39.1		*		*		*		*										
	PG2			214		327		300		*										
	PG3			308		652		859		1096										
	PG4			502		1158		1556		1953										
1.6	PG1	38.2		*		*		*		*		*		*						
	PG2			219		379		397		*		*		*						
	PG3			294		643		848		1146		1465		*						
	PG4			482		1131		1513		2002		2784		2485						
1.8	PG1	37.9		*		*		*		*		*		*						
	PG2			252		411		480		420		*		*						
	PG3			323		623		867		1171		1625		1428						
	PG4			527		1095		1531		2012		2972		2848						
2	PG1	37.4		*		*		*		*		*		*		*		*		*
	PG2			245		409		491		454		*		*		*		*		*
	PG3			308		595		833		1135		1628		1503		*		*		*
	PG4			503		1039		1467		1943		2934		2909		1973		*		*
2.24	PG1	40.2		*		*		*		*		*		*		*		*		*
	PG2			240		414		504		519		*		*		*		*		*
	PG3			292		566		773		1105		1661		1651		*		*		*
	PG4			478		990		1352		1879		2945		3070		2319		*		*
2.5	PG1	38.2		*		*		*		*		*		*		*		*		*
	PG2			224		402		496		532		*		*		*		*		*
	PG3			264		528		722		1043		1613		1661		*		*		*
	PG4			431		922		1259		1768		2834		3033		2437		*		*
2.8	PG1	36.9		*		*		*		*		*		*		*		*		*
	PG2			212		396		531		589		*		*		*		*		*
	PG3			244		486		737		1069		1543		1639		1152		*		*
	PG4			399		848		1283		1801		2690		2947		2517		2389		*
3.15	PG1	35.0		52.3		*		*		*		*		*		*		*		*
	PG2			217		438		726		832		967		808		*		*		*
	PG3			242		505		915		1268		1835		2097		1942		2051		*
	PG4			389		862		1587		2118		3074		3528		3611		3882		*
3.55	PG1	31.8		50		*		*		*		*		*		*		*		*
	PG2			199		431		675		788		930		824		*		*		*
	PG3			218		484		824		1156		1674		1947		1853		2012		*
	PG4			352		827		1434		1933		2804		3265		3407		3739		*
4	PG1	40.1		48.7		*		*		*		*		*		*		*		*
	PG2			181		398		620		695		926		878		627		*		*
	PG3			194		433		728		970		1542		1815		1779		1987		*
	PG4			313		739		1268		1628		2575		3028		3225		3613		*
4.5	PG1	40.1		61		*		*		*		*		*		*		*		*
	PG2			198		419		653		837		1005		1142		1081		925		722
	PG3			208		439		735		1100		1530		1999		2006		2245		*
	PG4			334		746		1265		1822		2547		3300		3520		3924		*
5	PG1	36.2		59.4		92.5		*		*		*		*		*		*		*
	PG2			182		406		646		788		1059		1230		1310		1393		1281
	PG3			186		416		700		983		1486		1956		2016		2605		*
	PG4			299		706		1206		1628		2471		3208		3494		4463		*
5.6	PG1	35.6		53.2		82.3		*		*		*		*		*		*		*
	PG2			161		358		577		752		1004		1107		1189		1280		1346
	PG3			162		360		613		915		1392		1715		1781		2318		*
	PG4			261		613		1059		1523		2321		2820		3092		3973		*

PG1, PG2, PG3, PG4 See page 7 for PG1, PG2, PG3, PG4

TYPES MTH2...
SIZES 3...26

Helical gear units — Nominal Power Ratings

i	n_1	n_2	Gear unit sizes																							
			3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	r/min		P_N (KW) Nominal power ratings P_N (KW)																							
6.3	1800	286	104	189	315		569		943		1663		2578		4286*											
	1500	238	87	158	263		474		786		1386		2148		3572		4871									
	1200	190	70	126	210		379		629		1109		1718		2857		3896									
	1000	159	58	105	175		316		524		924		1432		2381		3247		4862							
7.1	1800	254	94	167	279		506		837		1474		2286		3800*	4252*										
	1500	211	78	140	233		422		698		1229		1905		3167	3543	4319									
	1200	169	62	112	186		337		558		983		1524		2533	2834	3455	4075								
	1000	141	52	93	155		281		465		819		1270		2111	2362	2879	3396	4311	4946						
8	1800	225	83	148	247	319	448	565	742	931	1307	1625	2027	2522	3370*	3769*	4594*									
	1500	188	69	123	206	266	374	471	618	776	1089	1355	1689	2102	2808	3141	3828	4515								
	1200	150	55	98	164	212	299	377	494	620	871	1084	1351	1681	2246	2513	3062	3612	4586*							
	1000	125	46	82	137	177	249	314	412	517	726	903	1126	1401	1872	2094	2552	3010	3822	4385						
9	1800	200	74	131	220	283	398	502	659	826	1161	1444	1800	2239	2992*	3348*	4079*	4811*								
	1500	167	62	110	183	236	332	419	549	689	968	1203	1500	1866	2493	2790	3399	4010								
	1200	133	49	88	146	188	265	335	439	551	774	962	1200	1493	1994	2232	2719	3208	4073	4673						
	1000	111	41	73	122	157	221	279	366	459	645	802	1000	1244	1662	1860	2266	2673	3394	3894	4765					
10	1800	180	67	119	198	254	358	452	594	745	1046	1301	1622	2016	2695*	3015*	3676*	4334*								
	1500	150	56	99	165	212	299	377	495	621	872	1085	1352	1680	2246	2513	3063	3612	4587*							
	1200	120	44	79	132	169	239	301	396	497	697	868	1081	1344	1796	2010	2450	2890	3670*	4210*						
	1000	100	37	66	110	141	199	251	330	414	581	723	901	1120	1497	1675	2042	2408	3058	3508	4293	4796				
11.2	1800	161	59	106	176	227	319	403	529	662	931	1157	1442	1795	2399*	2684*	3271*	3857*	4898*							
	1500	134	50	89	147	189	266	336	441	552	776	965	1202	1496	2000	2237	2726	3215	4082*	4683						
	1200	107	40	71	118	151	212	269	353	442	620	772	961	1196	1600	1789	2180	2572	3265*	3746*	4585*					
	1000	89	33	59	98	126	177	224	294	368	517	643	801	997	1333	1491	1817	2143	2721	3122	3821	4268				
12.5	1800	144	52	95	158	203	286	362	475	596	837	1040	1296	1613	2156*	2412*	2941*	3469*	4403*							
	1500	120	44	80	132	170	239	302	396	497	698	867	1080	1344	1797	2010	2451	2891	3669	4209*						
	1200	96	35	64	106	136	191	241	317	397	558	694	864	1075	1438	1608	1961	2312	2935	3367*	4122*	4604*				
	1000	80	29	53	88	113	159	201	264	331	465	578	720	896	1198	1340	1634	1927	2446	2806	3435	3837	4524			
14	1800	129	47	85	140	180	254	320	421	529	743	923	1150	1431	1913*	2142*	2610*	3078*	3908*	4484*						
	1500	107	39	71	117	150	212	267	351	441	620	770	959	1193	1595	1785	2175	2565	3257	3737	4572*					
	1200	86	31	56	94	120	169	214	281	353	496	616	767	954	1276	1428	1740	2052	2605	2989	3658*	4086*	4818*			
	1000	71	26	47	78	100	141	178	234	294	413	513	639	795	1063	1190	1450	1710	2171	2491	3048	3405	4015	4609		
16	1800	113	41	76	124	160	225	284	374	470	659	819	1021	1271	1697*	1899*	2315*	2731*	3467*	3978*	4869*					
	1500	94	35	63	104	134	188	237	312	392	549	683	851	1059	1415	1583	1929	2276	2889	3315	4058*	4532*				
	1200	75	28	50	83	107	150	190	250	313	439	546	680	847	1132	1266	1543	1820	2311	2652	3246*	3625*	4274*	4908*		
	1000	63	23	42	69	89	125	158	208	261	366	455	567	706	943	1055	1286	1517	1926	2210	2705	3021	3562	4090		
18	1800	100	38	67	112	142	200	254	333	418	585	729	907	1129	1510*	1688	2057	2428	3082	3535	4327*	4835*				
	1500	83	32	56	93	119	167	212	278	348	488	608	756	941	1259	1407	1715	2024	2568	2946	3606*	4029*	4749*			
	1200	67	25	44	74	95	133	169	222	278	390	486	605	752	1007	1126	1372	1619	2054	2357	2885*	3223*	3799*	4363*		
	1000	56	21	37	62	79	111	141	185	232	325	405	504	627	839	938	1143	1349	1712	1964	2404	2686	3166	3636	4574	
20	1800	90	32	59	99	128	178	227	297	373	524	650	810	1008	1348*	1508*	1838*	2167*	2752*	3157*	3865*	4316*				
	1500	75	27	50	83	107	149	189	248	311	437	542	675	840	1124	1257	1532	1806	2294	2631	3221*	3597*	4241*	4869*		
	1200	60	22	40	66	85	119	151	198	248	349	433	540	672	899	1006	1225	1445	1835	2105	2576*	2878*	3392*	3895*	4901*	
	1000	50	18	33	55	71	99	126	165	207	291	361	450	560	749	838	1021	1204	1529	1754	2147	2398	2827	3246	4084	4607
22.4	1800	80	29	52	86	115	158	203	263	335	463	585		907		1357*		1951*		2842*		3884*				
	1500	67	24	44	72	96	132	170	219	279	386	488		756		1131		1626		2369		3237*		4382*		
	1200	54	19	35	58	77	106	136	175	223	308	390		605		905		1301		1895		2590*		3505*		4976*
	1000	45	16	29	48	64	88	113	146	186	257	325		504		754		1084		1579		2158		2921		4147*
25	1800	72				103		182		297		520		806												
	1500	60				86		152		248		434		672												
	1200	48				68		121		198		347		538												
	1000	40				57		101		165		289		448												
28	1800	64				88		160		265		461														
	1500	54				74		134		221		384														
	1200	43				59		107		176		307														
	1000	36				49		89		147		256														

Forced lubrication required on horizontal gear units

* Gear units only on request

TYPES MTH2...
SIZES 3...26

Helical gear units

Thermal Capacities

i		Gear unit sizes																							
		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1000 r/min																							
6.3	PG1	44.1	54.1	66.5		90.3		116		134		*		*		*		*		*		*		*	
	PG2		106	143		221		293		450		579		563		625		*		*		*		*	
	PG3		120	190		305		475		696		1201		1434		1736		*		*		*		*	
	PG4		162	256		417		626		951		1553		1782		2240		*		*		*		*	
7.1	PG1	42.2	56.1	69		89.8		117		145		*		*	*	*	*	*	*	*	*	*	*	*	*
	PG2		109	146		214		286		454		588		591	589	683	659	*	*	*	*	*	*	*	*
	PG3		121	189		287		447		677		1163		1392	1448	1689	1737	*	*	*	*	*	*	*	*
	PG4		165	256		394		589		931		1510		1746	1810	2186	2260	*	*	*	*	*	*	*	*
8	PG1	40.8	54.4	68.3	74.5	89.1	99	118	120	152	161	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		104	142	157	208	235	279	290	449	209	591	656	613	620	733	719	*	*	*	*	*	*	*	*
	PG3		115	182	197	272	312	425	472	646	884	1110	1263	1348	1407	1649	1693	*	*	*	*	*	*	*	*
	PG4		155	245	266	376	428	562	618	895	1170	1455	1658	1696	1772	2154	2203	*	*	*	*	*	*	*	*
9	PG1	38.5	53.4	67.9	78.1	89.3	100	120	124	160	182	195	212	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		101	139	159	202	228	272	283	437	520	594	672	635	655	786	789	*	*	*	*	*	*	*	*
	PG3		109	174	197	259	294	403	442	599	861	1055	1224	1292	1366	1611	1662	*	*	*	*	*	*	*	*
	PG4		150	234	266	357	405	536	582	833	1149	1395	1611	1644	1736	2120	2191	*	*	*	*	*	*	*	*
10	PG1	39.6	51.1	65.4	77.4	88.3	100	119	125	164	193	209	234	200	198	*	*	*	*	*	*	*	*	*	*
	PG2		95.7	131	156	193	222	262	278	424	516	587	673	640	668	812	830	*	*	*	*	*	*	*	*
	PG3		102	160	189	243	280	378	422	564	821	999	1167	1224	1303	1548	1611	*	*	*	*	*	*	*	*
	PG4		139	217	255	337	386	505	556	786	1106	1326	1551	1571	1674	2053	2143	*	*	*	*	*	*	*	*
11.2	PG1	37.5	49.3	63.4	76	90.7	99	116	124	173	195	226	247	218	222	229	223	*	*	*	*	*	*	*	*
	PG2		91.7	126	151	196	214	249	270	430	495	601	665	632	669	815	847	*	*	*	*	*	*	*	*
	PG3		97	151	180	241	264	353	398	560	756	986	1113	1148	1237	1468	1553	*	*	*	*	*	*	*	*
	PG4		132	205	245	336	367	473	528	784	1020	1319	1482	1485	1594	1958	2070	*	*	*	*	*	*	*	*
12.5	PG1	36.7	47.8	63	72.3	90.2	95.6	116	122	178	194	226	252	235	235	260	250	301	289	*	*	*	*	*	*
	PG2		87.6	123	142	191	205	244	259	425	475	572	648	637	656	833	844	*	*	*	*	*	*	*	*
	PG3		93.6	149	165	236	250	342	375	549	710	906	1046	1128	1164	1430	1470	*	*	*	*	*	*	*	*
	PG4		126	201	226	327	346	455	498	766	960	1212	1401	1459	1506	1914	1965	*	*	*	*	*	*	*	*
14	PG1	34.3	45.5	60	69.8	83.8	97.7	114	119	173	202	225	266	240	252	274	281	328	333	*	*	*	*	*	*
	PG2		82.9	116	135	175	207	236	247	403	483	547	659	614	659	814	860	*	*	*	*	*	*	*	*
	PG3		87.5	138	156	211	248	322	349	509	705	840	1037	1049	1138	1339	1431	*	*	*	*	*	*	*	*
	PG4		118	186	213	294	345	432	465	711	958	1131	1392	1365	1482	1802	1921	*	*	*	*	*	*	*	*
16	PG1	31.7	41.8	56.6	68.9	79	97	108	117	166	206	212	263	252	254	280	292	341	354	336	*	*	*	*	*
	PG2		75.7	108	131	163	201	221	240	377	476	501	626	617	634	782	837	*	*	*	*	*	*	*	*
	PG3		78.8	126	154	194	242	295	339	464	688	744	947	1027	1059	1245	1341	*	*	*	*	*	*	*	*
	PG4		107	171	208	269	336	397	449	650	932	1007	1276	1341	1381	1680	1810	*	*	*	*	*	*	*	*
18	PG1	30.9	40.1	54.4	65.7	76.1	89.7	103	114	156	200	219	259	248	268	292	299	362	368	367	352	*	*	*	*
	PG2		72.1	103	124	157	184	208	231	352	450	506	598	583	638	768	805	*	*	*	*	*	*	*	*
	PG3		74.1	119	142	185	217	276	319	432	635	747	881	947	1037	1189	1243	*	*	*	*	*	*	*	*
	PG4		100	162	194	257	301	371	425	609	864	1009	1189	1244	1359	1606	1689	*	*	*	*	*	*	*	*
20	PG1	28.8	39.3	51.1	61.7	71.3	85.2	100	109	152	189	208	239	242	258	293	304	361	378	373	372	*	*	*	*
	PG2		70.2	96.8	115	145	172	200	217	339	419	473	543	554	599	751	787	*	*	*	*	*	*	*	*
	PG3		71.7	111	131	169	199	264	293	408	577	681	780	871	957	1140	1181	*	*	*	*	*	*	*	*
	PG4		97.4	150	179	236	276	355	392	575	786	923	1056	1142	1257	1546	1602	*	*	*	*	*	*	*	*
22.4	PG1	28.7	36.4	47.5	59	68.7	81.1	92.3	102	142	175		241		248		300		369		362		*		*
	PG2		64.9	89.4	111	139	165	185	203	314	390		544		566		764		*		*		*		*
	PG3		65.3	101	124	161	190	238	273	371	540		780		877		1133		*		*		*		*
	PG4		88.9	137	169	224	263	320	366	524	736		1057		1153		1537		*		*		*		*
25	PG1				55.3		75.8		99.4		170		227												
	PG2				103		152		196		374		506												
	PG3				114		174		262		506		713												
	PG4				156		242		350		692		965												
28	PG1				51.5		73.3		92.5		160														
	PG2				95.8		146		182		347														
	PG3				104		166		236		459														
	PG4				142		230		318		630														

PG1, PG2, PG3, PG4 See page 7 for PG1, PG2, PG3, PG4

TYPES MTH2...
SIZES 3...26

Helical gear units — Thermal Capacities

i		Gear unit sizes																							
		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1200 r/min																							
6.3	PG1	42.6	49.2	54.6		67.4		*		*		*		*		*		*		*		*		*	
	PG2		112	146		220		279		382		415		*		*		*		*		*		*	
	PG3		126	196		311		475		665		1088		1192		1360		*		*		*		*	
	PG4		176	276		445		658		966		1515		1628		1954		*		*		*		*	
7.1	PG1	42.0	51.8	58.4		70.3		*		*		*		*	*	*	*	*	*	*	*	*	*	*	*
	PG2		116	151		215		278		400		452		344	*	*	*	*	*	*	*	*	*	*	*
	PG3		127	196		294		451		656		1075		1196	1220	1380	1383	*	*	*	*	*	*	*	*
	PG4		180	276		422		624		956		1497		1636	1670	1971	1997	*	*	*	*	*	*	*	*
8	PG1	40.6	50.9	59.5	63.6	72.9	77.3	88	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		111	149	162	212	236	276	283	410	443	484	526	407	386	*	*	*	*	*	*	*	*	*	*
	PG3		121	189	204	281	319	432	477	635	853	1048	1183	1196	1228	1403	1409	*	*	*	*	*	*	*	*
	PG4		170	266	288	404	458	599	654	929	1197	1465	1660	1629	1681	2003	2015	*	*	*	*	*	*	*	*
9	PG1	38.3	51.1	61.6	69.8	77.5	84.3	97.8	97.3	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		109	147	167	210	234	277	285	419	482	529	589	495	490	522	523	*	*	*	*	*	*	*	*
	PG3		116	182	206	269	305	415	453	601	852	1026	1184	1199	1253	1450	1473	*	*	*	*	*	*	*	*
	PG4		164	255	289	386	437	576	622	878	1197	1436	1651	1635	1710	2059	2103	*	*	*	*	*	*	*	*
10	PG1	40.3	49.5	60.9	71.3	79.5	88.1	102	104	121	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		103	140	166	204	232	272	285	420	498	549	624	545	554	645	635	*	*	*	*	*	*	*	*
	PG3		108	169	198	255	292	392	436	573	825	991	1153	1172	1235	1446	1487	*	*	*	*	*	*	*	*
	PG4		153	237	278	367	419	546	599	836	1167	1386	1616	1598	1691	2051	2121	*	*	*	*	*	*	*	*
11.2	PG1	38.1	48.2	60.1	71.4	83.7	89.7	103	108	138	144	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		100	135	161	208	226	262	281	435	491	582	638	569	591	698	705	*	*	*	*	*	*	*	*
	PG3		103	159	190	254	277	369	414	575	769	993	1116	1122	1200	1408	1474	*	*	*	*	*	*	*	*
	PG4		145	225	268	366	400	514	572	841	1086	1393	1561	1535	1638	1994	2092	*	*	*	*	*	*	*	*
12.5	PG1	37.3	47.1	60.4	68.9	84.6	88.4	105	109	149	154	167	*	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		95.8	133	153	204	218	258	273	436	480	567	638	596	604	748	742	*	*	*	*	*	*	*	*
	PG3		99.8	158	175	249	263	358	393	568	728	921	1061	1118	1147	1396	1423	*	*	*	*	*	*	*	*
	PG4		139	220	248	357	378	496	542	825	1029	1289	1487	1524	1566	1976	2017	*	*	*	*	*	*	*	*
14	PG1	34.9	45.1	58.2	67.3	79.8	92	106	109	151	169	179	207	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		90.9	126	147	189	222	252	262	420	496	553	663	593	629	761	792	*	*	*	*	*	*	*	*
	PG3		93.4	147	166	223	262	339	367	529	729	862	1062	1055	1138	1328	1410	*	*	*	*	*	*	*	*
	PG4		130	204	234	322	377	472	507	770	1032	1211	1489	1440	1557	1883	1998	*	*	*	*	*	*	*	*
16	PG1	32.3	41.7	55.4	67.1	76.1	92.6	102	109	148	179	176	216	185	*	*	*	*	*	*	*	*	*	*	*
	PG2		83.1	118	143	177	216	237	256	397	496	514	640	610	620	754	797	*	*	*	*	*	*	*	*
	PG3		84.3	135	164	206	256	312	357	485	716	769	977	1043	1071	1251	1341	*	*	*	*	*	*	*	*
	PG4		118	189	229	295	368	435	491	706	1009	1085	1372	1426	1463	1772	1901	*	*	*	*	*	*	*	*
18	PG1	32.1	40.2	53.7	64.5	74.2	86.8	99	109	144	180	191	223	197	207	217	*	*	*	*	*	*	*	*	*
	PG2		79.3	113	136	170	200	225	249	375	474	528	621	590	640	762	790	*	*	*	*	*	*	*	*
	PG3		79.3	127	152	196	231	292	337	455	664	778	915	973	1061	1210	1260	*	*	*	*	*	*	*	*
	PG4		111	179	214	283	331	407	465	664	938	1093	1286	1333	1453	1710	1792	*	*	*	*	*	*	*	*
20	PG1	30.0	39.5	50.6	60.9	69.9	82.9	97.1	104	142	172	183	211	200	208	228	230	264	*	*	*	*	*	*	*
	PG2		77.4	106	126	158	187	217	235	362	444	497	569	567	608	755	785	*	*	*	*	*	*	*	*
	PG3		76.7	118	140	180	212	280	311	430	606	712	814	899	985	1168	1204	*	*	*	*	*	*	*	*
	PG4		107	166	197	260	304	390	430	628	856	1002	1145	1228	1349	1654	1708	*	*	*	*	*	*	*	*
22.4	PG1	29.8	36.5	47.1	58.3	67.5	79.1	89.4	98.6	133	160		214		202		230		267		*		*		*
	PG2		71.5	98	121	152	179	201	220	336	414		571		577		765		*		*		*		*
	PG3		69.9	107	133	172	202	252	290	392	567		815		904		1157		*		*		*		*
	PG4		98.3	151	187	247	290	352	401	573	802		1147		1238		1640		*		*		*		*
25	PG1				54.7		74.1		95.8		156		202												
	PG2				133		166		213		398		532												
	PG3				122		185		278		532		745												
	PG4				172		266		384		754		1048												
28	PG1				51.2		72		89.9		149														
	PG2				105		160		198		371														
	PG3				111		177		251		484														
	PG4				157		253		350		688														

PG1, PG2, PG3, PG4 See page 7 for PG1, PG2, PG3, PG4

TYPES MTH2...
SIZES 3...26

Helical gear units — Thermal Capacities

i		Gear unit sizes																							
		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1500 r/min																							
6.3	PG1	40.4	48.5	48.8		*		*		*		*		*		*		*		*		*		*	
	PG2		132	172		256		322		428		442		*		*		*		*		*		*	
	PG3		146	226		357		542		746		1197		1267		1410		*		*		*		*	
	PG4		210	327		525		774		1124		1739		1824		2151		*		*		*		*	
7.1	PG1	41.7	51.6	53.9		*		*		*		*		*	*	*	*	*	*	*	*	*	*	*	*
	PG2		137	177		252		323		453		493		338	*	*	*	*	*	*	*	*	*	*	*
	PG3		148	226		338		516		740		1193		1289	1305	1458	1443	*	*	*	*	*	*	*	*
	PG4		214	327		499		735		1117		1728		1851	1880	2199	2209	*	*	*	*	*	*	*	*
8	PG1	40.3	51.4	56.4	59.2	64.9	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		132	175	191	249	276	322	328	469	501	537	580	422	390	*	*	*	*	*	*	*	*	*	*
	PG3		140	219	236	323	367	496	545	720	961	1171	1319	1306	1332	1507	1500	*	*	*	*	*	*	*	*
	PG4		202	316	341	479	542	707	772	1088	1397	1700	1923	1860	1910	2261	2260	*	*	*	*	*	*	*	*
9	PG1	38.1	52.4	60.5	67.8	73.2	77.2	86.3	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		129	174	198	248	275	324	333	484	553	600	666	541	530	584	542	*	*	*	*	*	*	*	*
	PG3		135	211	238	311	352	477	521	686	968	1159	1335	1332	1386	1593	1608	*	*	*	*	*	*	*	*
	PG4		196	303	344	458	518	682	736	1033	1405	1679	1927	1889	1970	2360	2400	*	*	*	*	*	*	*	*
10	PG1	41.4	51.4	61.1	70.9	77.7	84.2	96	95.3	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		123	165	196	241	273	320	335	489	577	631	715	612	617	710	691	*	*	*	*	*	*	*	*
	PG3		126	196	230	295	338	453	503	657	943	1128	1309	1316	1383	1611	1649	*	*	*	*	*	*	*	*
	PG4		182	282	331	436	498	648	710	987	1375	1628	1896	1861	1964	2374	2447	*	*	*	*	*	*	*	*
11.2	PG1	39.1	50.4	61.2	72.2	83.4	88	99.9	103	119	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		118	160	191	246	267	309	331	509	572	674	738	648	669	784	787	*	*	*	*	*	*	*	*
	PG3		120	185	221	294	321	427	479	662	882	1135	1274	1269	1354	1582	1651	*	*	*	*	*	*	*	*
	PG4		174	268	319	436	475	610	679	995	1283	1642	1838	1796	1913	2323	2431	*	*	*	*	*	*	*	*
12.5	PG1	38.3	49.5	62.1	70.5	85.6	88.3	104	106	135	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		113	157	181	242	258	305	322	512	562	660	742	685	691	851	840	*	*	*	*	*	*	*	*
	PG3		116	183	204	289	305	415	454	655	837	1056	1215	1272	1302	1579	1605	*	*	*	*	*	*	*	*
	PG4		166	263	295	425	450	589	644	978	1218	1523	1755	1790	1836	2311	2355	*	*	*	*	*	*	*	*
14	PG1	35.9	47.6	60.4	69.5	81.7	93.2	106	108	142	153	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		108	150	174	224	263	298	310	494	583	647	774	686	726	875	906	*	*	*	*	*	*	*	*
	PG3		108	171	193	259	304	393	425	611	841	991	1220	1205	1298	1511	1600	*	*	*	*	*	*	*	*
	PG4		155	243	279	384	449	562	603	914	1223	1434	1761	1697	1832	2211	2342	*	*	*	*	*	*	*	*
16	PG1	33.1	44.1	57.8	69.8	78.6	94.9	104	110	144	169	160	193	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		98.9	140	169	210	257	281	303	469	583	603	751	710	721	873	919	*	*	*	*	*	*	*	*
	PG3		98.1	157	191	239	297	362	414	561	827	887	1125	1196	1226	1429	1528	*	*	*	*	*	*	*	*
	PG4		141	225	273	352	438	518	584	839	1197	1286	1626	1684	1726	2088	2236	*	*	*	*	*	*	*	*
18	PG1	34.0	42.7	56.4	67.6	77.3	89.8	101	111	143	175	181	209	170	*	*	*	*	*	*	*	*	*	*	*
	PG2		94.4	134	162	202	237	266	296	443	560	621	731	690	748	888	919	*	*	*	*	*	*	*	*
	PG3		92.4	148	177	229	268	339	392	527	769	899	1057	1119	1219	1387	1442	*	*	*	*	*	*	*	*
	PG4		132	213	255	338	395	486	555	790	1115	1297	1526	1578	1718	2020	2114	*	*	*	*	*	*	*	*
20	PG1	31.7	42	53.3	64	73.1	86.3	100	107	142	170	179	202	179	182	*	*	*	*	*	*	*	*	*	*
	PG2		92.1	126	150	188	222	257	278	428	525	586	670	665	712	882	915	*	*	*	*	*	*	*	*
	PG3		89.4	138	162	209	247	326	362	499	702	823	941	1036	1133	1342	1382	*	*	*	*	*	*	*	*
	PG4		128	198	235	310	363	465	512	747	1019	1191	1360	1455	1597	1956	2019	*	*	*	*	*	*	*	*
22.4	PG1	31.5	38.9	49.7	61.3	70.7	82.4	92.6	101	133	159		206		179		*		*		*		*		*
	PG2		85.2	116	144	181	213	239	261	397	489		673		676		893		*		*		*		*
	PG3		81.5	125	155	200	235	293	337	454	657		942		1041		1329		*		*		*		*
	PG4		117	181	223	295	346	420	478	682	954		1362		1467		1939		*		*		*		*
25	PG1				57.6		77.2		98.9		155		195												
	PG2				134		197		252		470		627												
	PG3				142		216		323		617		862												
	PG4				206		318		458		898		1245												
28	PG1				54.1		75.5		93.4		150														
	PG2				125		190		235		439														
	PG3				130		206		292		562														
	PG4				187		302		417		819														

PG1, PG2, PG3, PG4 See page 7 for PG1, PG2, PG3, PG4

TYPES MTH2...
SIZES 3...26

Helical gear units

Thermal Capacities

i		Gear unit sizes																							
		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1800 r/min																							
6.3	PG1	38.2	40.6	*		*		*		*		*		*		*		*		*		*		*	
	PG2		144	181		263		319		366		*		*		*		*		*		*		*	
	PG3		157	239		373		558		732		1102		1027		1020		*		*		*		*	
	PG4		236	361		574		832		1154		1678		1562		1661		*		*		*		*	
7.1	PG1	41.4	44.6	*		*		*		*		*		*	*	*	*	*	*	*	*	*	*	*	*
	PG2		150	189		262		325		408		357		*	*	*	*	*	*	*	*	*	*	*	*
	PG3		159	241		355		536		738		1127		1102	1081	1147	1080	*	*	*	*	*	*	*	*
	PG4		240	363		548		797		1163		1710		1666	1644	1832	1759	*	*	*	*	*	*	*	*
8	PG1	40.0	45.7	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		145	188	204	262	287	330	332	441	444	436	453	*	*	*	*	*	*	*	*	*	*	*	*
	PG3		152	234	251	342	386	519	567	728	954	1134	1266	1169	1165	1269	1219	*	*	*	*	*	*	*	*
	PG4		228	352	379	529	595	772	837	1149	1449	1722	1931	1749	1757	2006	1941	*	*	*	*	*	*	*	*
9	PG1	37.9	48.3	50.5	54.7	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		143	189	214	266	293	341	347	481	530	547	595	402	363	*	*	*	*	*	*	*	*	*	*
	PG3		146	227	256	332	374	505	548	707	985	1160	1327	1265	1296	1455	1438	*	*	*	*	*	*	*	*
	PG4		221	340	384	510	574	753	809	1113	1494	1755	2003	1877	1930	2262	2254	*	*	*	*	*	*	*	*
10	PG1	42.5	48.5	53.7	61	63.7	65.2	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		136	181	214	261	294	342	355	501	577	611	683	526	510	547	495	*	*	*	*	*	*	*	*
	PG3		137	211	248	317	361	483	534	687	975	1152	1331	1294	1345	1541	1555	*	*	*	*	*	*	*	*
	PG4		207	318	372	489	555	720	787	1077	1485	1736	2013	1913	1999	2378	2418	*	*	*	*	*	*	*	*
11.2	PG1	40.1	48.3	55.6	64.6	72.1	73.2	79.4	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		132	177	210	269	290	333	355	533	587	675	733	600	604	679	655	*	*	*	*	*	*	*	*
	PG3		130	200	239	317	345	457	512	698	923	1175	1314	1276	1350	1558	1609	*	*	*	*	*	*	*	*
	PG4		197	303	359	490	533	682	756	1095	1401	1775	1980	1886	1994	2393	2478	*	*	*	*	*	*	*	*
12.5	PG1	39.3	47.9	57.7	64.6	76.5	76.6	87.5	86.5	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		127	174	200	266	282	332	348	543	587	677	756	662	656	786	754	*	*	*	*	*	*	*	*
	PG3		126	199	221	313	329	447	487	695	883	1105	1267	1298	1321	1585	1598	*	*	*	*	*	*	*	*
	PG4		189	297	333	480	506	661	720	1083	1340	1662	1910	1908	1945	2426	2451	*	*	*	*	*	*	*	*
14	PG1	36.9	46.5	57	65	75	83.7	93.7	92.7	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		120	166	193	247	289	326	338	530	618	676	805	686	717	846	861	*	*	*	*	*	*	*	*
	PG3		118	186	209	281	329	424	458	653	892	1045	1284	1246	1336	1543	1623	*	*	*	*	*	*	*	*
	PG4		177	276	316	434	507	632	677	1018	1355	1578	1933	1832	1969	2358	2482	*	*	*	*	*	*	*	*
16	PG1	33.9	43.5	55.4	66.4	73.6	87.3	94.2	98	116	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		110	155	188	232	283	309	333	507	625	639	792	727	731	872	905	*	*	*	*	*	*	*	*
	PG3		107	171	207	260	322	392	448	602	882	941	1192	1249	1275	1477	1571	*	*	*	*	*	*	*	*
	PG4		160	256	310	399	496	584	658	939	1333	1424	1797	1836	1875	2253	2401	*	*	*	*	*	*	*	*
18	PG1	35.9	42.3	54.7	65.2	73.7	84.5	94.5	102	122	142	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		105	150	180	225	263	295	326	483	606	667	782	722	777	912	934	*	*	*	*	*	*	*	*
	PG3		101	161	192	249	292	368	424	567	825	960	1127	1180	1282	1451	1503	*	*	*	*	*	*	*	*
	PG4		151	242	290	383	447	550	627	887	1249	1446	1698	1736	1885	2206	2299	*	*	*	*	*	*	*	*
20	PG1	33.4	41.8	52.1	62.2	70.2	82	94.4	99.9	125	144	142	157	*	*	*	*	*	*	*	*	*	*	*	*
	PG2		103	140	168	210	246	285	308	469	571	633	722	702	748	918	944	*	*	*	*	*	*	*	*
	PG3		97.8	150	177	228	268	354	392	539	755	882	1007	1098	1197	1412	1449	*	*	*	*	*	*	*	*
	PG4		146	225	268	352	411	527	580	842	1143	1331	1519	1609	1761	2148	2209	*	*	*	*	*	*	*	*
22.4	PG1	33.2	38.7	48.6	59.6	68	78.5	87.3	94.7	118	135		162		*		*		*		*		*		*
	PG2		95.6	130	161	202	237	265	289	436	533		726		712		924		*		*		*		*
	PG3		89.1	136	169	218	256	319	366	491	708		1009		1101		1395		*		*		*		*
	PG4		133	205	253	335	392	476	541	768	1071		1522		1619		2125		*		*		*		*
25	PG1				56.1		73.8		92.5		133		156												
	PG2				150		219		280		513		678												
	PG3				154		235		351		665		924												
	PG4				234		360		519		1009		1392												
28	PG1				53		72.8		88.5		133														
	PG2				139		212		261		482														
	PG3				142		224		318		606														
	PG4				213		344		473		923														

PG1, PG2, PG3, PG4 See page 7 for PG1, PG2, PG3, PG4

TYPES MTH3...
SIZES 5...26

Helical gear units — Nominal Power Ratings

i	n_1	n_2	Gear unit sizes																					
			5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	r/min		P_N (KW)										Nominal power ratings P_N (KW)											
22.4	1800	80									747		1298		1696		2545*		3562*		4750*			
	1500	67									623		1082		1413		2121		2969		3959			
	1200	54									498		865		1130		1697		2375		3167		4524	
	1000	45									415		721		942		1414		1979		2639		3770	
25	1800	72	83		155		256		452		664		1154	1305	1508	1809	2263*	2601*	3166*	3544*	4223*	4826*		
	1500	60	69		129		213		377		554		962	1088	1257	1508	1886	2168	2639	2954	3519	4022		
	1200	48	55		103		170		301		443		769	870	1006	1206	1508	1734	2111	2363	2815	3217	4021	4524
	1000	40	46		86		142		251		369		641	725	838	1005	1257	1445	1759	1969	2346	2681	3351	3770
28	1800	64	74		139		230		407		598	740	1039	1174	1357	1629	2036*	2342*	2849*	3190*	3800*	4343*		
	1500	54	62		116		192		339		498	617	866	978	1131	1358	1697	1952	2375	2658	3167	3620	4524	
	1200	43	49		92		154		271		398	493	692	782	905	1086	1357	1561	1900	2126	2533	2896	3619	4072
	1000	36	41		77		128		226		332	411	577	652	754	905	1131	1301	1583	1772	2111	2413	3016	3393
31.5	1800	57	67	88	124	153	205	259	362	452	531	657	923	1044	1206	1447	1809*	2081*	2533*	2835*	3377*	3861*	4826*	
	1500	48	56	74	104	128	171	216	302	377	443	548	770	870	1005	1206	1508	1734	2111	2363	2814	3218	4022	4524
	1200	38	44	59	83	102	137	173	241	301	354	438	616	696	804	965	1206	1387	1688	1890	2251	2574	3217	3619
	1000	32	37	49	69	85	114	144	201	251	295	365	513	580	670	804	1005	1156	1407	1575	1876	2145	2681	3016
35.5	1800	51	58	77	108	135	180	227	317	396	464	576	808	913	1055	1267	1584*	1822*	2216*	2480*	2956*	3377*	4223*	4750*
	1500	42	48	65	90	113	150	189	264	330	387	480	674	761	879	1056	1320	1518	1847	2067	2463	2814	3519	3959
	1200	34	38	52	72	90	120	151	211	264	310	384	539	608	703	845	1056	1214	1477	1654	1970	2251	2815	3167
	1000	28	32	43	60	75	100	126	176	220	258	320	449	507	586	704	880	1012	1231	1378	1642	1876	2346	2639
40	1800	45	52	68	97	121	160	203	283	353	414	513	722	815	943	1130	1413*	1625*	1978*	2214*	2639*	3015*	3769*	4241*
	1500	38	44	57	81	101	134	170	236	294	345	428	602	680	786	942	1178	1355	1649	1845	2199	2513	3141	3534
	1200	30	35	46	65	80	107	136	188	235	276	342	481	544	629	754	942	1084	1319	1476	1759	2010	2513	2827
	1000	25	29	38	54	67	89	113	157	196	230	285	401	453	524	628	785	903	1099	1230	1466	1675	2094	2356
45	1800	40	45	59	85	106	140	178	248	311	365	452	634	718	830	995	1244*	1431*	1742*	1949*	2322*	2653*	3317*	3731*
	1500	33	38	50	71	89	117	149	207	260	305	377	528	599	692	830	1037	1193	1452	1625	1935	2211	2765	3110
	1200	27	30	40	56	71	94	119	166	208	244	301	422	479	553	664	829	954	1162	1300	1548	1769	2212	2488
	1000	22	25	33	47	59	78	99	138	173	203	251	352	399	461	553	691	795	968	1083	1290	1474	1843	2073
50	1800	36	41	54	77	95	128	162	227	283	331	410	576	652	754	905	1130	1301*	1584*	1771*	2111*	2412*	3015*	3393*
	1500	30	35	45	65	80	107	135	189	236	276	342	480	543	629	755	942	1085	1320	1476	1760	2010	2513	2828
	1200	24	28	36	52	64	85	108	151	188	221	274	384	434	503	604	754	868	1056	1181	1408	1608	2010	2262
	1000	20	23	30	43	53	71	90	126	157	184	228	320	362	419	503	628	723	880	984	1173	1340	1675	1885
56	1800	32	38	49	68	86	115	146	202	254	297	367	517	583	675	810	1012	1165	1417*	1586*	1890*	2160*	2698*	3037*
	1500	27	32	41	57	72	96	122	168	212	248	306	431	486	563	675	843	971	1181	1322	1575	1800	2249	2531
	1200	21	25	32	46	58	77	97	134	169	198	245	344	389	450	540	674	776	944	1057	1260	1440	1799	2024
	1000	18	21	27	38	48	64	81	112	141	165	204	287	324	375	450	562	647	787	881	1050	1200	1499	1687
63	1800	29	32	43	61	76	103	130	180	225	265	326	459	518	599	720	898	1033	1258*	1409*	1678*	1919*	2398*	2696*
	1500	24	27	36	51	63	86	108	150	188	221	272	383	432	500	600	749	861	1049	1175	1398	1599	1998	2247
	1200	19	22	29	41	50	68	86	120	150	176	217	306	346	400	480	599	689	839	940	1118	1279	1598	1798
	1000	16	18	24	34	42	57	72	100	125	147	181	255	288	333	400	499	574	699	783	932	1066	1332	1498
71	1800	25	29	38	54	68	90	113	160	200	234	290	407	459	531	637	797	916	1116*	1249*	1489*	1701*	2126*	2392*
	1500	21	24	32	45	57	75	95	134	167	195	242	339	383	443	531	665	764	930	1041	1241	1418	1772	1994
	1200	17	19	25	36	46	60	76	107	133	156	193	271	306	354	425	532	611	744	833	992	1134	1417	1595
	1000	14	16	21	30	38	50	63	89	111	130	161	226	255	295	354	443	509	620	694	827	945	1181	1329
80	1800	23	25	34	49	59	81	101	142	176	207	257	360	407	472	565	707	814	990*	1107*	1319*	1508*	1885*	2120*
	1500	19	21	29	41	50	68	84	119	147	173	215	300	339	393	471	590	678	825	923	1100	1257	1571	1767
	1200	15	17	23	32	40	54	67	95	118	138	172	240	271	314	377	472	542	660	738	880	1006	1256	1414
	1000	13	14	19	27	33	45	56	79	98	115	143	200	226	262	314	393	452	550	615	733	838	1047	1178
90	1800	20	23	31	41	54	70	90	126	157	184	229	320	362	418	502	607	722	859*	983*	1172*	1339*	1674	1883*
	1500	17	20	26	35	45	59	75	105	131	153	191	267	302	348	419	506	602	716	819	977	1116	1395	1569
	1200	13	16	20	28	36	47	60	84	104	122	152	214	241	278	335	404	481	572	655	781	893	1116	1255
	1000	11	13	17	23	30	39	50	70	87	102	127	178	201	232	279	337	401	477	546	651	744	930	1046
100	1800	18		27		49		81		142		205		326		427		632		877*		1206*		1696*
	1500	15		23		41		68		119		171		272		356		527		731		1005		1413
	1200	12		18		32		54		95		137		217		284		421		584		804		1130
	1000	10		15		27		45		79		114		181		237		351		487		670		942
112	1800	16		23		41		70		126		184												
	1500	13		20		35		59		105		153												
	1200	11		16		28		47		84		122												
	1000	9		13		23		39		70		102												

Forced lubrication required on horizontal gear units

* Gear units only on request

MTH/MTB

TYPES MTH3...
SIZES 5...26

Helical gear units

Thermal Capacities

i		Gear unit sizes																					
		5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1000 r/min																					
22.4	PG1									196		258		270		325		350		*		*	
	PG2									303		432		440		*		*		*		*	
	PG3									561		903		903		*		*		*		*	
	PG4									650		1043		1029		*		*		*		*	
25	PG1	49.9		73.5		99.3		145		191		253	265	263	276	323	333	363	343	*	*	*	*
	PG2	73.4		110		152		230		294		420	443	427	451	*	*	*	*	*	*	*	*
	PG3	105		169		247		419		533		850	913	851	906	*	*	*	*	*	*	*	*
	PG4	125		201		293		492		617		986	1055	972	1033	*	*	*	*	*	*	*	*
28	PG1	48		74.2		99		142		186	214	254	264	265	274	326	338	380	370	*	*	*	*
	PG2	70.7		112		150		222		286	327	417	434	425	441	*	*	*	*	*	*	*	*
	PG3	99.7		167		239		392		500	586	820	860	819	854	*	*	*	*	*	*	*	*
	PG4	118		200		284		464		583	680	957	999	942	981	*	*	*	*	*	*	*	*
31.5	PG1	46.7	54	71.4	79.1	96.9	100	138	164	184	211	252	265	263	276	327	341	394	389	*	*	*	*
	PG2	68.5	78.6	107	118	146	151	215	255	279	319	411	432	418	440	*	*	*	*	*	*	*	*
	PG3	95.6	109	158	173	230	286	374	431	480	556	763	829	785	826	*	*	*	*	*	*	*	*
	PG4	114	130	190	206	273	333	443	509	560	647	917	969	906	952	*	*	*	*	*	*	*	*
35.5	PG1	45.2	51.9	69.4	79.7	93.9	99.8	134	159	180	206	244	264	255	274	325	342	404	404	*	*	*	*
	PG2	66.2	75.6	104	119	142	149	208	246	271	311	395	425	401	433	*	*	*	*	*	*	*	*
	PG3	91.3	103	151	171	219	278	354	403	456	523	725	792	725	789	*	*	*	*	*	*	*	*
	PG4	109	123	183	205	262	324	422	480	534	612	854	934	844	916	*	*	*	*	*	*	*	*
40	PG1	42.7	50.4	66	76.6	88.9	96.5	129	155	174	201	237	253	247	264	317	336	401	407	*	*	*	*
	PG2	62.3	73.3	98.9	113	134	145	199	238	261	302	380	406	387	412	*	*	*	*	*	*	*	*
	PG3	84.8	98.8	141	161	204	265	333	384	431	499	683	734	685	730	*	*	*	*	*	*	*	*
	PG4	101	117	170	194	244	310	397	457	506	586	809	867	799	853	*	*	*	*	*	*	*	*
45	PG1	40.8	48.7	63.6	74.3	85.6	94	128	149	167	194	237	245	246	254	316	326	393	402	*	*	*	*
	PG2	59.6	70.7	95	110	128	141	199	229	250	291	378	390	383	397	*	*	*	*	*	*	*	*
	PG3	80.1	94.4	134	155	193	254	326	364	405	475	669	693	670	689	*	*	*	*	*	*	*	*
	PG4	96	113	162	186	232	298	389	434	475	557	793	817	782	804	*	*	*	*	*	*	*	*
50	PG1	39.6	46.1	60.1	70.9	84.2	89.4	127	145	166	190	241	249	248	259	320	332	410	410	*	*	*	*
	PG2	57.5	66.7	89.6	104	126	133	195	222	245	283	378	393	381	399	*	*	*	*	*	*	*	*
	PG3	77.3	87.7	126	145	189	236	319	344	394	448	662	678	655	671	*	*	*	*	*	*	*	*
	PG4	92.8	105	152	174	225	277	281	411	465	529	785	805	771	793	*	*	*	*	*	*	*	*
56	PG1	37.6	44.3	57.5	68.4	80.4	86.2	118	145	161	183	232	250	240	258	311	332	401	421	*	*	*	*
	PG2	54.5	63.9	85.2	100	120	128	181	221	238	271	361	390	367	394	*	*	*	*	*	*	*	*
	PG3	72.6	83	118	138	176	223	289	337	373	421	617	669	614	660	*	*	*	*	*	*	*	*
	PG4	86.7	99.7	143	166	212	262	345	403	441	499	735	795	723	777	*	*	*	*	*	*	*	*
63	PG1	35.5	42.7	53.7	64.7	76.2	84.6	113	143	154	180	222	242	230	250	295	324	393	413	*	*	*	*
	PG2	51.2	61.4	79.4	95.1	112	124	171	216	226	265	343	375	349	378	*	*	*	*	*	*	*	*
	PG3	67.3	80.1	109	129	163	218	268	330	347	410	570	622	567	616	*	*	*	*	*	*	*	*
	PG4	80.6	96.2	130	156	197	257	321	395	411	486	681	746	672	730	*	*	*	*	*	*	*	*
71	PG1	35.1	40.5	52.1	61.6	74.6	80.5	110	133	150	174	216	229	221	237	292	303	373	397	*	*	*	*
	PG2	50.6	58.1	76.7	90.4	110	119	166	200	219	255	333	353	334	357	*	*	*	*	*	*	*	*
	PG3	66.5	75.1	104	120	160	204	258	298	331	389	548	577	542	571	*	*	*	*	*	*	*	*
	PG4	79.7	89.9	126	145	191	239	309	357	393	461	655	690	644	676	*	*	*	*	*	*	*	*
80	PG1	33.3	38.2	50.9	57.6	70.6	76.1	104	125	145	165	208	222	213	228	277	299	358	377	*	*	*	*
	PG2	47.9	54.5	74.9	84.1	104	111	156	188	213	241	320	342	321	343	*	*	*	*	*	*	*	*
	PG3	61.8	69.7	100	111	148	189	238	277	319	361	517	555	512	546	*	*	*	*	*	*	*	*
	PG4	74.2	83.6	121	134	179	222	286	332	378	429	620	663	608	648	*	*	*	*	*	*	*	*
90	PG1	32.9	37.8	48.1	55.7	67.1	74.3	100	123	136	160	196	215	201	219	263	283	349	361	*	*	*	*
	PG2	47.3	54.1	70.7	81.1	98.8	108	151	183	199	233	301	328	302	329	*	*	*	*	*	*	*	*
	PG3	60.1	69.1	93.1	107	138	185	228	267	293	345	479	524	474	516	*	*	*	*	*	*	*	*
	PG4	72.3	82.8	112	129	166	217	275	321	348	409	573	628	564	614	*	*	*	*	*	*	*	*
100	PG1		35.9		54.6		70.7		116		156		203		208		272		356		*		*
	PG2		51.2		79.5		103		173		227		310		310		*		*		*		*
	PG3		64.2		103		172		247		332		484		478		*		*		*		*
	PG4		77.2		125		202		297		394		581		569		*		*		*		*
112	PG1		35.5		51.7		67.2		112		146												
	PG2		50.7		75.2		98.3		168		213												
	PG3		62.5		95.8		159		237		306												
	PG4		75.2		116		188		286		364												

PG1, PG2, PG3, PG4 See page 7 for PG1, PG2, PG3, PG4

TYPES MTH3...
SIZES 5...26

Helical gear units

Thermal Capacities

i		Gear unit sizes																					
		5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1200 r/min																					
22.4	PG1									173		209		206		232		*		*		*	
	PG2									295		393		382		*		*		*		*	
	PG3									580		913		901		*		*		*		*	
	PG4									681		1059		1023		*		*		*		*	
25	PG1	49.8		72.6		96.6		136		170		207	212	203	207	234	235	*	*	*	*	*	*
	PG2	79.1		118		160		235		288		385	399	375	386	*	*	*	*	*	*	*	*
	PG3	113		180		262		439		552		862	921	852	900	*	*	*	*	*	*	*	*
	PG4	138		221		319		527		647		1004	1066	970	1021	*	*	*	*	*	*	*	*
28	PG1	48.1		73.7		97.1		134		170	193	216	221	215	217	252	255	*	*	*	*	*	*
	PG2	76.5		120		159		229		285	324	394	404	387	394	*	*	*	*	*	*	*	*
	PG3	106		179		255		413		521	609	839	875	828	859	*	*	*	*	*	*	*	*
	PG4	131		221		311		500		617	718	987	1024	956	987	*	*	*	*	*	*	*	*
31.5	PG1	47.1	54.2	71.3	78.6	95.8	98.4	132	156	171	194	222	230	223	230	267	274	276	*	*	*	*	*
	PG2	74.4	85.3	115	127	157	161	225	263	283	322	399	415	394	408	*	*	*	*	*	*	*	*
	PG3	102	117	169	185	245	305	396	454	503	581	808	852	802	840	*	*	*	*	*	*	*	*
	PG4	126	144	210	227	300	365	481	549	598	690	959	1008	935	975	*	*	*	*	*	*	*	*
35.5	PG1	45.7	52.5	69.7	79.8	93.6	99	130	153	171	194	222	237	226	239	279	290	311	292	*	*	*	*
	PG2	72.2	82.4	113	128	153	160	220	257	280	320	393	420	391	417	*	*	*	*	*	*	*	*
	PG3	98.3	110	163	183	234	297	376	427	481	550	755	822	749	812	*	*	*	*	*	*	*	*
	PG4	121	137	202	227	289	356	460	521	576	658	905	984	884	954	*	*	*	*	*	*	*	*
40	PG1	43.3	51.1	66.5	76.9	88.9	96.2	126	150	167	192	219	231	223	235	279	293	322	310	*	*	*	*
	PG2	68.1	80	107	123	145	156	212	251	272	313	383	406	383	404	*	*	*	*	*	*	*	*
	PG3	91.3	106	151	173	219	284	355	407	455	527	714	765	712	756	*	*	*	*	*	*	*	*
	PG4	112	131	189	215	270	342	434	497	547	633	862	921	843	895	*	*	*	*	*	*	*	*
45	PG1	41.5	49.4	64.2	74.7	85.9	93.9	126	145	161	186	220	226	224	229	281	287	321	313	*	*	*	*
	PG2	65.2	77.3	103	120	139	152	212	242	261	303	384	393	382	392	*	*	*	*	*	*	*	*
	PG3	86.3	101	144	166	207	272	347	387	429	502	701	724	698	715	*	*	*	*	*	*	*	*
	PG4	106	125	180	206	256	329	427	474	516	603	847	871	828	848	*	*	*	*	*	*	*	*
50	PG1	40.4	47	61.2	71.9	85.2	90.3	127	144	164	187	232	239	236	245	300	309	365	356	*	*	*	*
	PG2	63.2	73.2	98.2	114	137	145	210	238	262	301	395	410	394	410	*	*	*	*	*	*	*	*
	PG3	83.5	94.6	136	156	203	254	342	368	421	477	701	717	691	707	*	*	*	*	*	*	*	*
	PG4	103	117	169	193	250	307	421	452	510	580	852	872	832	853	*	*	*	*	*	*	*	*
56	PG1	38.5	45.3	58.7	69.7	81.8	87.7	119	146	161	183	228	245	234	250	300	319	374	386	*	*	*	*
	PG2	60.1	70.4	93.7	110	131	140	197	240	257	292	384	414	387	414	*	*	*	*	*	*	*	*
	PG3	78.5	89.7	128	148	190	241	311	361	400	451	658	713	652	700	*	*	*	*	*	*	*	*
	PG4	96.9	111	160	185	236	292	383	446	486	550	805	869	789	846	*	*	*	*	*	*	*	*
63	PG1	36.4	43.9	55.1	66.4	78	86.5	115	145	156	182	222	242	229	249	293	320	382	398	*	*	*	*
	PG2	56.6	67.9	87.6	105	124	137	188	236	247	289	371	405	375	406	*	*	*	*	*	*	*	*
	PG3	72.8	86.6	118	139	176	235	289	356	374	441	611	667	607	659	*	*	*	*	*	*	*	*
	PG4	90.2	107	146	174	220	286	357	439	456	540	753	824	741	804	*	*	*	*	*	*	*	*
71	PG1	36.1	41.6	53.5	63.2	76.4	82.4	112	135	152	177	217	230	222	236	290	301	365	385	*	*	*	*
	PG2	56	64.3	84.8	99.8	122	131	182	219	239	279	361	382	361	385	*	*	*	*	*	*	*	*
	PG3	72	81.2	113	130	173	220	279	321	357	419	589	620	581	611	*	*	*	*	*	*	*	*
	PG4	89.2	100	141	163	214	267	345	398	436	512	725	764	712	746	*	*	*	*	*	*	*	*
80	PG1	34.3	39.2	52.3	59.1	72.4	78	106	128	148	167	210	224	214	228	277	299	352	368	*	*	*	*
	PG2	53	60.3	82.8	92.9	114	123	172	207	233	264	348	371	348	371	*	*	*	*	*	*	*	*
	PG3	66.9	75.5	109	120	160	204	257	298	344	389	556	596	550	586	*	*	*	*	*	*	*	*
	PG4	83	93.6	136	150	200	248	319	370	420	478	688	735	673	716	*	*	*	*	*	*	*	*
90	PG1	33.9	38.9	49.5	57.2	68.8	76.2	103	125	138	163	199	217	203	220	264	284	345	355	*	*	*	*
	PG2	52.4	59.8	78.3	89.7	109	119	166	201	218	256	328	358	329	357	*	*	*	*	*	*	*	*
	PG3	65.1	74.8	100	115	149	200	247	288	316	372	515	563	509	555	*	*	*	*	*	*	*	*
	PG4	81	92.7	126	145	186	242	307	358	388	455	637	697	625	680	*	*	*	*	*	*	*	*
100	PG1		37		56.3		72.7		119		160		207		212		276		358		*		*
	PG2		56.8		88.1		114		191		251		340		340		*		*		*		*
	PG3		69.5		112		186		267		359		523		515		*		*		*		*
	PG4		86.5		140		226		332		441		648		634		*		*		*		*
112	PG1		36.6		53.3		69.2		116		150												
	PG2		56.2		83.4		108		185		235												
	PG3		67.8		103		172		257		330												
	PG4		84.3		130		211		320		407												

PG1, PG2, PG3, PG4 See page 7 for PG1, PG2, PG3, PG4

TYPES MTH3...
SIZES 5...26

Helical gear units

Thermal Capacities

i		Gear unit sizes																					
		5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1500 r/min																					
22.4	PG1									169		193		180		*		*		*		*	
	PG2									346		463		450		*		*		*		*	
	PG3									668		1050		1035		*		*		*		*	
	PG4									811		1267		1228		*		*		*		*	
25	PG1	52.5		76.1		100		138		167		192	193	180	*	*	*	*	*	*	*	*	*
	PG2	92.4		138		187		275		338		453	470	442	455	*	*	*	*	*	*	*	*
	PG3	130		208		302		507		636		992	1059	979	1035	*	*	*	*	*	*	*	*
	PG4	163		261		378		626		771		1201	1277	1164	1227	*	*	*	*	*	*	*	*
28	PG1	50.9		77.5		101		137		169	191	206	207	198	196	222	*	*	*	*	*	*	*
	PG2	89.4		140		186		268		334	380	463	475	455	464	*	*	*	*	*	*	*	*
	PG3	123		207		294		477		600	701	966	1008	953	988	*	*	*	*	*	*	*	*
	PG4	155		261		368		593		734	854	1179	1224	1145	1182	*	*	*	*	*	*	*	*
31.5	PG1	49.9	57.4	75.3	82.8	100	102	137	159	173	196	217	222	212	216	246	249	*	*	*	*	*	*
	PG2	86.9	99.6	135	148	183	188	263	308	332	377	468	487	463	480	*	*	*	*	*	*	*	*
	PG3	118	135	195	214	283	352	457	523	580	670	930	981	924	967	*	*	*	*	*	*	*	*
	PG4	149	170	248	268	355	432	570	650	710	819	1143	1202	1116	1165	*	*	*	*	*	*	*	*
35.5	PG1	48.6	55.7	73.9	84.4	98.7	104	135	158	175	198	222	235	221	232	268	276	273	*	*	*	*	*
	PG2	84.3	96.2	132	150	178	186	257	300	328	374	461	493	459	489	*	*	*	*	*	*	*	*
	PG3	113	127	188	211	271	343	434	492	555	634	870	948	863	935	*	*	*	*	*	*	*	*
	PG4	143	161	239	268	342	421	544	617	683	781	1075	1171	1052	1137	*	*	*	*	*	*	*	*
40	PG1	46.1	54.3	70.6	81.4	93.9	101	132	156	172	197	221	232	221	231	272	283	293	269	*	*	*	*
	PG2	79.5	93.4	125	144	170	182	248	293	318	366	449	476	449	474	*	*	*	*	*	*	*	*
	PG3	105	122	175	200	252	327	410	470	525	608	823	882	820	871	*	*	*	*	*	*	*	*
	PG4	133	154	223	254	319	404	514	589	649	750	1024	1094	1003	1066	*	*	*	*	*	*	*	*
45	PG1	44.2	52.5	68.2	79.2	90.8	99.1	132	151	166	192	223	227	224	227	276	280	297	278	*	*	*	*
	PG2	76.1	90.2	120	140	162	177	247	283	306	355	450	460	448	460	*	*	*	*	*	*	*	*
	PG3	99.7	117	167	192	239	314	401	447	495	579	809	835	804	823	*	*	*	*	*	*	*	*
	PG4	126	148	212	243	303	388	505	561	611	714	1006	1034	985	1009	*	*	*	*	*	*	*	*
50	PG1	43.2	50.1	65.2	76.6	90.6	95.9	134	151	171	195	240	246	242	250	304	313	360	344	*	*	*	*
	PG2	73.8	85.5	114	133	160	169	246	278	306	352	462	479	462	480	*	*	*	*	*	*	*	*
	PG3	96.4	109	157	181	235	293	395	425	485	551	809	827	797	815	*	*	*	*	*	*	*	*
	PG4	122	138	200	228	295	362	497	534	603	686	1009	1033	987	1012	*	*	*	*	*	*	*	*
56	PG1	41.2	48.5	62.7	74.4	87.3	93.4	127	154	170	192	239	256	243	260	310	329	379	387	*	*	*	*
	PG2	70.1	82.2	109	129	153	164	230	280	300	341	449	484	453	485	*	*	*	*	*	*	*	*
	PG3	90.6	103	148	172	219	278	359	417	461	521	759	822	752	808	*	*	*	*	*	*	*	*
	PG4	114	131	188	218	278	344	452	527	574	650	952	1028	934	1001	*	*	*	*	*	*	*	*
63	PG1	39.1	47	59	71	83.5	92.5	122	154	166	194	235	255	241	262	307	336	397	411	*	*	*	*
	PG2	66.1	79.2	102	122	145	160	219	276	288	338	434	473	439	474	*	*	*	*	*	*	*	*
	PG3	84.1	100	136	161	204	272	334	411	432	510	706	770	700	760	*	*	*	*	*	*	*	*
	PG4	106	126	172	205	259	338	421	518	538	637	889	973	876	950	*	*	*	*	*	*	*	*
71	PG1	38.7	44.6	57.3	67.7	81.8	88.2	120	144	162	188	230	243	243	249	306	316	381	400	*	*	*	*
	PG2	65.3	75	98.9	116	142	153	213	256	279	325	422	447	422	450	*	*	*	*	*	*	*	*
	PG3	83.1	93.8	130	151	200	255	322	371	412	484	680	715	671	706	*	*	*	*	*	*	*	*
	PG4	105	118	166	192	252	315	407	469	515	605	857	902	841	881	*	*	*	*	*	*	*	*
80	PG1	36.8	42.1	56	63.3	77.6	83.5	113	136	158	178	223	237	227	241	292	315	369	384	*	*	*	*
	PG2	61.9	70.3	96.6	108	134	143	201	241	272	308	406	434	406	433	*	*	*	*	*	*	*	*
	PG3	77.3	87.2	125	139	185	236	297	345	398	449	642	688	635	676	*	*	*	*	*	*	*	*
	PG4	97.9	110	160	177	236	293	377	437	496	564	812	868	795	846	*	*	*	*	*	*	*	*
90	PG1	36.3	41.8	53.1	61.4	73.8	81.6	110	134	148	173	211	231	215	233	280	300	363	372	*	*	*	*
	PG2	61.1	69.8	91.3	104	127	140	194	235	255	298	383	418	384	417	*	*	*	*	*	*	*	*
	PG3	75.1	86.4	116	133	172	231	285	333	365	430	595	651	588	640	*	*	*	*	*	*	*	*
	PG4	95.5	109	148	171	219	286	362	422	458	537	752	823	738	803	*	*	*	*	*	*	*	*
100	PG1		39.7		60.4		78		128		171		221		226		294		379		*		*
	PG2		66.2		102		133		223		293		397		397		*		*		*		*
	PG3		80.3		129		215		308		415		604		595		*		*		*		*
	PG4		101		165		266		392		520		764		748		*		*		*		*
112	PG1		39.3		57.2		74.3		124		161												
	PG2		65.6		97.3		127		216		274												
	PG3		78.3		119		199		296		382												
	PG4		99.4		153		248		377		479												

PG1, PG2, PG3, PG4 See page 7 for PG1, PG2, PG3, PG4

TYPES MTH3...
SIZES 5...26

Helical gear units — Thermal Capacities

i		Gear unit sizes																					
		5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1800 r/min																					
22.4	PG1									141		*		*		*		*		*		*	
	PG2									352		446		416		*		*		*		*	
	PG3									713		1103		1076		*		*		*		*	
	PG4									881		1350		1290		*		*		*		*	
25	PG1	52.9		75.6		97.7		126		140		*	*	*	*	*	*	*	*	*	*	*	*
	PG2	101		150		201		289		345		439	448	411	414	*	*	*	*	*	*	*	*
	PG3	143		227		329		547		679		1043	1110	1020	1072	*	*	*	*	*	*	*	*
	PG4	183		292		421		689		839		1282	1356	1226	1285	*	*	*	*	*	*	*	*
28	PG1	51.6		77.6		99.8		129		148	165	*	*	*	*	*	*	*	*	*	*	*	*
	PG2	97.9		153		202		285		346	392	460	466	439	439	*	*	*	*	*	*	*	*
	PG3	135		226		321		516		644	751	1023	1064	1001	1033	*	*	*	*	*	*	*	*
	PG4	174		292		411		655		803	932	1269	1312	1219	1252	*	*	*	*	*	*	*	*
31.5	PG1	50.9	58.3	76	82.9	100	98.4	131	149	157	176	179	178	*	*	*	*	*	*	*	*	*	*
	PG2	95.5	109	147	162	199	161	281	327	348	394	475	490	459	470	*	*	*	*	*	*	*	*
	PG3	130	148	214	234	309	305	496	566	625	721	992	1043	978	1020	*	*	*	*	*	*	*	*
	PG4	168	191	279	301	397	365	632	719	781	900	1240	1300	1200	1248	*	*	*	*	*	*	*	*
35.5	PG1	49.8	56.9	75.1	85.3	99.2	99	132	152	164	184	194	201	184	187	208	*	*	*	*	*	*	*
	PG2	92.9	105	145	164	195	160	277	322	348	396	477	507	467	493	*	*	*	*	*	*	*	*
	PG3	124	140	206	232	296	297	472	535	601	686	933	1015	920	995	*	*	*	*	*	*	*	*
	PG4	161	182	268	301	383	356	606	685	755	862	1176	1278	1144	1231	*	*	*	*	*	*	*	*
40	PG1	47.3	55.7	72	82.7	94.9	96.2	130	151	164	186	199	205	190	194	223	227	*	*	*	*	*	*
	PG2	87.7	102	138	158	186	156	268	315	339	390	469	495	462	484	*	*	*	*	*	*	*	*
	PG3	116	135	192	219	277	284	447	511	570	659	887	947	878	930	*	*	*	*	*	*	*	*
	PG4	149	173	250	285	357	342	573	655	719	831	1124	1199	1095	1160	*	*	*	*	*	*	*	*
45	PG1	45.5	53.9	69.7	80.6	92	93.9	131	147	159	183	203	204	196	194	231	230	*	*	*	*	*	*
	PG2	84	99.5	132	154	178	152	268	305	327	379	472	481	464	473	*	*	*	*	*	*	*	*
	PG3	109	129	183	211	262	272	438	487	537	628	872	898	863	882	*	*	*	*	*	*	*	*
	PG4	141	166	239	273	340	329	563	624	678	792	1107	1135	1077	1101	*	*	*	*	*	*	*	*
50	PG1	44.7	51.9	67.3	78.7	92.9	90.3	135	152	170	193	231	234	228	233	280	285	303	274	*	*	*	*
	PG2	81.7	94.6	126	147	177	145	269	303	332	381	495	512	491	508	*	*	*	*	*	*	*	*
	PG3	106	120	172	199	258	254	433	465	530	601	879	897	864	881	*	*	*	*	*	*	*	*
	PG4	137	155	225	257	332	307	558	598	673	766	1120	1146	1092	1117	*	*	*	*	*	*	*	*
56	PG1	42.9	50.4	65	77	90.1	87.7	129	157	171	194	236	252	237	252	298	315	347	343	*	*	*	*
	PG2	77.7	91.1	121	143	169	140	253	307	329	373	487	523	488	521	*	*	*	*	*	*	*	*
	PG3	99.9	114	163	189	241	241	395	458	505	570	829	897	820	879	*	*	*	*	*	*	*	*
	PG4	129	148	212	246	314	292	508	592	644	728	1063	1147	1040	1114	*	*	*	*	*	*	*	*
63	PG1	40.8	49	61.5	73.9	86.8	86.5	126	159	170	198	238	258	243	262	307	334	386	394	*	*	*	*
	PG2	73.4	88	113	135	160	137	242	304	317	372	475	517	479	517	*	*	*	*	*	*	*	*
	PG3	92.7	110	150	178	225	235	368	452	474	560	774	844	767	832	*	*	*	*	*	*	*	*
	PG4	120	143	194	232	293	286	475	584	606	716	998	1091	981	1064	*	*	*	*	*	*	*	*
71	PG1	40.4	46.6	59.8	70.5	85.1	82.4	124	149	166	193	234	247	237	251	307	317	374	387	*	*	*	*
	PG2	72.6	83.3	109	129	158	131	235	283	308	359	463	490	462	492	*	*	*	*	*	*	*	*
	PG3	91.7	103	144	166	220	220	355	408	453	532	746	785	735	773	*	*	*	*	*	*	*	*
	PG4	118	134	188	217	285	267	458	529	580	681	962	1012	943	987	*	*	*	*	*	*	*	*
80	PG1	38.4	44	58.5	66	80.8	78	118	141	162	183	228	242	230	244	295	317	365	376	*	*	*	*
	PG2	68.8	78.2	107	120	148	123	222	267	300	340	447	476	446	475	*	*	*	*	*	*	*	*
	PG3	85.3	96.2	138	153	204	204	327	380	437	494	705	756	696	742	*	*	*	*	*	*	*	*
	PG4	110	124	181	200	266	248	425	492	559	635	912	975	892	949	*	*	*	*	*	*	*	*
90	PG1	38	43.6	55.4	64	76.9	76.2	114	139	152	179	217	236	219	237	284	304	362	368	*	*	*	*
	PG2	67.9	77.6	101	116	141	119	215	260	282	330	422	460	422	458	*	*	*	*	*	*	*	*
	PG3	82.9	95.3	128	147	190	200	314	367	401	473	654	715	645	703	*	*	*	*	*	*	*	*
	PG4	107	123	168	193	247	242	409	476	516	605	846	925	829	902	*	*	*	*	*	*	*	*
100	PG1		41.6		63.2		72.7		133		178		229		233		303		385		*		*
	PG2		73.7		114		114		247		325		440		439		*		*		*		*
	PG3		88.6		142		186		340		457		665		655		*		*		*		*
	PG4		115		186		226		442		587		862		843		*		*		*		*
112	PG1		41.2		59.9		69.2		130		168												
	PG2		73		108		108		240		305												
	PG3		86.4		132		172		327		421												
	PG4		112		173		211		426		542												

PG1, PG2, PG3, PG4 See page 7 for PG1, PG2, PG3, PG4

TYPES MTH4...
SIZES 7...26

Helical gear units — Nominal Power Ratings

i	n_1	n_2	Gear unit sizes																			
			7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	r/min		P_N (KW) Nominal power ratings P_N (KW)																			
100	1800	18	38		65		113		166		288		376		565		792		1055		1508	
	1500	15	32		54		95		138		240		314		471		660		879		1257	
	1200	12	25		43		76		110		192		251		377		528		703		1006	
	1000	10	21		36		63		92		160		209		314		440		586		838	
112	1800	16.1	34		58		101		148		257	290	335	403	504	580	704	788	940	1073	1343	1510
	1500	13.4	29		48		84		123		215	242	279	336	420	483	587	657	783	894	1119	1259
	1200	10.7	23		38		67		98		172	193	223	269	336	386	469	526	626	715	895	1007
	1000	8.9	19		32		56		82		143	161	186	224	280	322	391	438	522	596	746	839
125	1800	14.4	31	38	50	65	90	113	133	164	230	261	302	362	452	520	634	709	844	965	1206	1357
	1500	12	26	32	42	54	75	95	111	137	192	218	252	302	377	434	528	591	704	804	1005	1131
	1200	9.6	20	25	34	43	60	76	89	109	154	174	202	241	301	347	422	473	563	643	804	905
	1000	8	17	21	28	36	50	63	74	91	128	145	168	201	251	289	352	394	469	536	670	754
140	1800	12.9	27	34	45	58	81	101	117	146	205	232	268	320	401	461	562	628	749	857	1071	1204
	1500	10.7	23	29	38	48	68	84	98	122	171	194	224	267	335	384	468	524	624	714	893	1004
	1200	8.6	18	23	30	38	54	67	78	97	137	155	179	214	268	307	374	419	499	571	714	803
	1000	7.1	15	19	25	32	45	56	65	81	114	129	149	178	223	256	312	349	416	476	595	669
160	1800	11.3	25	31	40	50	72	88	104	130	182	205	238	284	356	410	499	558	664	760	950	1069
	1500	9.4	21	26	33	42	60	74	87	108	152	171	198	237	297	342	416	465	554	633	792	891
	1200	7.5	17	20	26	34	48	59	70	86	121	137	158	190	238	274	332	372	443	506	634	713
	1000	6.3	14	17	22	28	40	49	58	72	101	114	132	158	198	228	277	310	369	422	528	594
180	1800	10	22	27	36	45	63	79	94	115	162	182	211	254	317	364	443	497	590	675	844	950
	1500	8.3	18	23	30	38	53	66	78	96	135	152	176	212	264	303	369	414	492	563	704	792
	1200	6.7	14	18	24	30	42	53	62	77	108	121	140	169	211	242	295	331	394	450	563	634
	1000	5.6	12	15	20	25	35	44	52	64	90	101	117	141	176	202	246	276	328	375	469	528
200	1800	9	20	23	32	41	56	70	83	103	144	164	189	227	283	326	396	443	527	603	754	848
	1500	7.5	17	20	27	35	47	59	69	86	120	137	158	189	236	272	330	369	440	503	629	707
	1200	6	13	16	22	28	37	47	55	68	96	109	126	151	188	217	264	295	352	402	503	565
	1000	5	11	13	18	23	31	39	46	57	80	91	105	126	157	181	220	246	293	335	419	471
224	1800	8	18	22	29	36	50	63	74	92	130	148	169	203	254	293	356	398	475	544	679	763
	1500	6.7	15	18	24	30	42	53	62	77	108	123	141	170	212	245	297	332	396	453	566	636
	1200	5.4	12	14	19	24	34	42	49	61	86	98	113	136	169	196	238	265	317	362	452	509
	1000	4.5	10	12	16	20	28	35	41	51	72	82	94	113	141	163	198	221	264	302	377	424
250	1800	7.2	15.5	20	25	32	45	56	67	83	115	130	151	182	227	261	317	355	423	482	603	679
	1500	6	12.9	17	21	27	38	47	56	69	96	108	126	152	189	218	264	296	353	402	503	566
	1200	4.8	10.3	13	17	22	30	37	44	55	77	86	101	121	151	174	211	236	282	322	402	452
	1000	4	8.6	11	14	18	25	31	37	46	64	72	84	101	126	145	176	197	235	268	335	377
280	1800	6.4	13.9	17.3	23	29	41	50	59	74	104	117	135	162	203	234	284	319	380	434	544	610
	1500	5.4	11.6	14.4	20	24	35	42	50	62	87	98	113	135	170	195	237	266	317	362	453	509
	1200	4.3	9.2	11.5	16	19	28	34	40	49	70	78	90	108	136	156	190	212	253	289	362	407
	1000	3.6	7.7	9.6	13	16	23	28	33	41	58	65	75	90	113	130	158	177	211	241	302	339
315	1800	5.7	12.6	15.3	20	25	36	45	52	67	92	104	121	144	182	209	254	283	338	385	482	544
	1500	4.8	10.5	12.8	17	21	30	38	44	56	77	87	101	120	152	174	212	236	282	321	402	453
	1200	3.8	8.4	10.2	13	17	24	30	35	44	61	70	80	96	121	139	169	188	226	257	322	362
	1000	3.2	7	8.5	11	14	20	25	29	37	51	58	67	80	101	116	141	157	188	214	268	302
355	1800	5.1	10.3	13.5	17	23	31	40	47	58	74	92	101	126	153	182	216	248	295	338	423	475
	1500	4.2	8.6	11.3	15	20	26	33	39	48	62	77	84	105	128	152	180	207	246	282	353	396
	1200	3.4	6.8	9	12	16	20	26	31	38	49	61	67	84	102	121	144	166	197	226	282	317
	1000	2.8	5.7	7.5	10	13	17	22	26	32	41	51	56	70	85	101	120	138	164	188	235	264
400	1800	4.5		12.1		20		36		52		74		104		158		220		302		425
	1500	3.8		10.1		17		30		44		62		87		132		183		252		354
	1200	3		8		13		24		35		49		70		106		146		202		283
	1000	2.5		6.7		11		20		29		41		58		88		122		168		236
450	1800	4		10.3		17		31		45												
	1500	3.3		8.6		14		26		38												
	1200	2.7		6.8		12		20		30												
	1000	2.2		5.7		10		17		25												

Forced lubrication required on horizontal gear units

* Gear units only on request

TYPES MTH4...
SIZES 7...26

Helical gear units — Thermal Capacities

i		Gear unit sizes																			
		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1000 r/min																			
100	PG1	43.6		60.8		90.1		120		161		180		253		346		*		*	
112	PG1	42		58.2		89.4		117		154	166	173	185	243	260	340	350	*	*	*	*
125	PG1	40.8	46.8	56.4	61.1	85.8	99.7	114	128	149	160	167	177	235	249	330	344	*	*	*	*
140	PG1	38.7	44.9	54.6	58.5	83	98.9	110	125	144	153	161	171	227	241	313	334	*	*	*	*
160	PG1	37.2	43.6	51.6	56.7	79	95.3	104	121	138	148	154	165	218	232	301	317	*	*	*	*
180	PG1	35.8	41.4	49.4	54.9	76.2	91.8	100	118	136	142	151	158	208	224	297	304	*	*	*	*
200	PG1	34.4	39.9	47.8	51.8	72	87.6	98.2	111	132	139	146	156	201	214	280	300	*	*	*	*
224	PG1	32.4	38.2	45.9	49.6	69	84.4	93.7	107	123	136	136	151	193	206	268	283	*	*	*	*
250	PG1	31	37	43.8	48.2	65.6	79.7	89.1	104	117	126	130	141	183	198	253	270	*	*	*	*
280	PG1	30.1	34.7	42.5	46.2	63.1	76.7	86.3	99.1	113	120	126	133	176	188	243	255	*	*	*	*
315	PG1	29.4	33.3	40.5	44.1	61.6	72.7	82.8	95.5	108	116	121	130	172	181	233	245	*	*	*	*
355	PG1	28.1	32.3	39.8	42.8	58.6	69.9	78.9	91.9	106	111	118	124	164	177	222	236	*	*	*	*
400	PG1		31.6		40.8		68.3		88.3		109		121		168		225		*		*
450	PG1		30.1		40.1		64.9		84.2												

i		Gear unit sizes																			
		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1200 r/min																			
100	PG1	45.4		63.1		92.4		121		160		178		246		325		*		*	
112	PG1	43.9		60.6		92.4		120		156	167	173	185	241	257	329	335	*	*	*	*
125	PG1	42.7	49	58.8	63.7	89	103	117	132	152	162	169	179	237	250	325	335	*	*	*	*
140	PG1	40.6	47.1	57.1	61.1	86.5	102	114	129	148	158	164	175	231	245	314	332	*	*	*	*
160	PG1	39.1	45.7	54.1	59.4	82.5	99.4	108	126	143	153	159	170	224	238	305	319	*	*	*	*
180	PG1	37.7	43.6	52	57.7	80	96.2	105	123	142	148	157	165	216	232	306	313	*	*	*	*
200	PG1	36.3	42	50.3	54.5	75.7	92.1	103	117	139	146	153	163	211	224	292	313	*	*	*	*
224	PG1	34.2	40.3	48.4	52.4	72.8	89	98.8	113	130	144	144	159	204	217	283	299	*	*	*	*
250	PG1	32.7	39	46.2	50.8	69.2	84	94	110	123	133	137	148	193	209	267	285	*	*	*	*
280	PG1	31.7	36.6	44.9	48.7	66.6	80.9	91.1	104	120	126	133	141	186	198	257	269	*	*	*	*
315	PG1	31.1	35.1	42.8	46.5	64.9	76.7	87.3	100	114	122	127	137	182	191	246	259	*	*	*	*
355	PG1	29.6	34	42	45.2	61.8	73.8	83.3	96.9	112	118	124	131	173	187	235	249	*	*	*	*
400	PG1		33.4		43.1		72		93.2		115		128		177		238		*		*
450	PG1		31.7		42.3		68.5		88.8												

PG1: PG1: Without auxiliary cooling

MTH/MTB

TYPES MTH4...
SIZES 7...26

Helical gear units — Thermal Capacities

i		Gear unit sizes																			
		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1500 r/min																			
100	PG1	48.7		67.6		99.1		130		172		190		264		348		*		*	
112	PG1	47.1		65.1		99.1		129		167	179	186	198	259	276	352	358	*	*	*	*
125	PG1	45.8	52.5	63.1	68.3	95.5	110	126	142	163	174	181	192	254	268	348	359	*	*	*	*
140	PG1	43.5	50.5	61.3	65.6	92.8	110	123	139	158	169	176	188	248	263	336	356	*	*	*	*
160	PG1	41.9	49.1	58	63.7	88.5	106	116	135	153	164	171	182	240	255	327	342	*	*	*	*
180	PG1	40.4	46.7	55.8	61.9	85.8	103	113	132	152	159	169	177	232	249	329	335	*	*	*	*
200	PG1	38.9	45.1	54	58.5	81.3	98.9	110	126	149	157	164	175	226	240	314	335	*	*	*	*
224	PG1	36.7	43.2	52	56.2	78.1	95.5	106	121	140	154	154	170	219	233	303	321	*	*	*	*
250	PG1	35.1	41.9	49.6	54.5	74.2	90.2	100	118	132	143	147	159	208	224	287	305	*	*	*	*
280	PG1	34	39.3	48.2	52.3	71.4	86.8	97.7	112	128	135	143	151	199	213	276	289	*	*	*	*
315	PG1	33.3	37.6	45.9	49.9	69.7	82.2	93.7	108	122	131	136	147	195	204	264	278	*	*	*	*
355	PG1	31.8	36.5	45.1	48.5	66.3	79.2	89.4	104	120	126	133	141	186	200	252	267	*	*	*	*
400	PG1		35.8		46.2		77.3		100		123		138		190		255		*		*
450	PG1		34		45.4		73.5		95.3												

i		Gear unit sizes																			
		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1800 r/min																			
100	PG1	51.1		70.7		102		134		174		191		263		335		*		*	
112	PG1	49.5		68.2		103		133		171	183	189	201	262	279	349	351	*	*	*	*
125	PG1	48.1	55.2	66.3	71.7	99.8	115	131	147	168	179	186	197	259	273	350	358	*	*	*	*
140	PG1	45.9	53.2	64.5	69	97.3	115	128	145	165	175	183	194	255	271	343	361	*	*	*	*
160	PG1	44.2	51.7	61.1	67.1	93	111	122	142	160	171	178	190	249	265	336	350	*	*	*	*
180	PG1	42.7	49.4	58.9	65.3	90.4	108	119	139	160	167	177	185	243	261	342	348	*	*	*	*
200	PG1	41.2	47.7	57.1	61.9	85.8	104	116	133	157	165	173	184	238	253	329	352	*	*	*	*
224	PG1	38.9	45.7	55	59.5	82.7	101	112	128	148	163	163	180	232	247	321	340	*	*	*	*
250	PG1	37.1	44.3	52.5	57.7	78.5	95.4	106	125	140	151	155	168	220	237	304	323	*	*	*	*
280	PG1	36	41.6	51	55.3	75.6	91.8	103	118	136	143	151	160	211	225	292	306	*	*	*	*
315	PG1	35.3	39.8	48.6	52.8	73.7	87	99.1	114	129	139	144	155	207	216	280	294	*	*	*	*
355	PG1	33.6	38.6	47.7	51.3	70.1	83.8	94.6	110	127	134	141	149	197	212	267	283	*	*	*	*
400	PG1		37.9		48.9		81.8		105		130		146		201		270		*		*
450	PG1		36		48		77.8		100												

PG1: PG1: Without auxiliary cooling

TYPES MTB2...
SIZES 1...26

Bevel-helical Gear Units — Nominal Power Ratings

i	n_1	n_2	Gear unit sizes																									
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	r/min		P_N (KW) Nominal power ratings P_N (KW)																									
5	1800	360	43	76	117	218	355		671		1055		1622*		2488*		4599*											
	1500	300	36	63	98	182	296		560		879		1352		2073		3833*											
	1200	240	29	50	78	145	236		448		703		1081		1658		3066*											
	1000	200	24	42	65	121	197		373		586		901		1382		2555											
5.6	1800	321	40	67	104	196	317		601		945		1517*		2261*		4117*	4545*										
	1500	268	33	56	87	164	264		501		788		1265		1884		3431*	3788*										
	1200	214	26	44	70	131	211		401		630		1012		1507		2744*	3030*	4378*									
	1000	179	22	37	58	109	176		334		525		843		1256		2287	2525	3648*									
6.3	1800	286	34	59	94	175	283	360	533	668	839	1067	1409*	1649*	2128*	2457*	3895*	4226*										
	1500	238	29	50	78	146	236	300	444	557	699	890	1175	1374	1773	2048	3246*	3522*	4860*									
	1200	190	23	40	62	116	188	240	355	445	559	712	940	1099	1418	1638	2597*	2818*	3888*									
	1000	159	19	33	52	97	157	200	296	371	466	593	783	916	1182	1365	2164	2348	3240*									
7.1	1800	254	31	54	83	155	250	319	473	592	743	947	1301*	1516*	1940*	2232*	3508*	3854*										
	1500	211	26	45	69	129	209	266	395	494	620	789	1085	1263	1617	1860	2924*	3212*	4319*									
	1200	169	20	36	55	103	167	212	316	395	496	631	868	1010	1294	1488	2339*	2569*	3455*	4074*								
	1000	141	17	30	46	86	139	177	263	329	413	526	723	842	1078	1240	1949	2141	2879	3395*								
8	1800	225	27	47	74	137	221	283	419	526	659	839	1190*	1390*	1814*	2074*	3110*	3487*	4594*									
	1500	188	23	39	62	114	185	236	350	438	549	699	992	1158	1512	1728	2592*	2906*	3828*	4515*								
	1200	150	18	31	49	91	148	188	280	350	439	559	793	926	1210	1382	2074*	2324*	3062*	3612*								
	1000	125	15	26	41	76	123	157	233	292	366	466	661	772	1008	1152	1728	1937	2552	3010								
9	1800	200	23	41	65	121	196	250	373	466	585	745	1057*	1276*	1633*	1904*	2761*	3096*	4079*	4811*								
	1500	167	20	35	54	101	164	209	311	389	488	621	881	1064	1361	1587	2301	2580	3399*	4010*								
	1200	133	16	28	43	80	131	167	248	311	390	497	704	851	1088	1270	1841	2064	2719*	3208*								
	1000	111	13	23	36	67	109	139	207	259	325	414	587	709	907	1058	1534	1720	2266	2673								
10	1800	180	22	38	58	110	176	227	335	421	527	671	952*	1168*	1471*	1791*	2488*	2790*	3676*	4334*								
	1500	150	18	32	48	92	147	189	279	351	440	560	794	974	1226	1493	2073	2325	3063*	3612*								
	1200	120	14	25	38	73	118	151	223	281	352	448	635	779	980	1194	1658	1860	2450*	2890*								
	1000	100	12	21	32	61	98	126	186	234	293	373	529	649	817	995	1382	1550	2042	2408								
11.2	1800	161	20	34	52	97	158	202	299	374	470	598	848*	1040*	1309*	1636*	2214*	2482*	3271*	3857*								
	1500	134	17	29	44	81	132	168	249	312	392	498	707	867	1091	1364	1845	2069	2726*	3215*								
	1200	107	13	23	35	65	106	134	199	250	313	398	565	694	872	1091	1476	1655	2180*	2572*								
	1000	89	11	19	29	54	88	112	166	208	261	332	471	578	727	909	1230	1379	1817	2143								
12.5	1800	144	18	31	47			182		337		536		934*		1471*		2232*		3469*								
	1500	120	15	26	39			152		281		447		779		1226		1860		2891*								
	1200	96	12	20	31			121		224		358		623		980		1488		2312*								
	1000	80	10	17	26			101		187		298		519		817		1240		1927								
14	1800	129	15	27	41			160		299		477		830*		1305*												
	1500	107	13	23	35			134		249		398		692		1088												
	1200	86	10.2	18	28			107		199		318		553		870												
	1000	71	8.5	15	23			89		166		265		461		725												
16	1800	113	13	23	36																							
	1500	94	11	20	30																							
	1200	75	8.8	16	24																							
	1000	63	7.3	13	20																							
18	1800	100	10.8	20	32																							
	1500	83	9	17	27																							
	1200	67	7.2	13	22																							
	1000	56	6	11	18																							

Forced lubrication required on horizontal gear units

* Gear units only on request

MTH/MTB

TYPES MTB2...
SIZES 1...26

Bevel-helical Gear Units — Thermal Capacities

i		Gear unit sizes																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1000 r/min																									
5	PG1	28.9	37.8	49.5	48.3	58.6		77.4		87.1		*		*		*											
	PG2	42.2	56.1	81.1	113	155		246		297		487		684		788											
	PG3				137	206		319		398		677		1344		1821											
	PG4				194	291		468		578		984		1838		2383											
5.6	PG1	27.7	36.5	47.8	47.7	59.8		78.3		90.2		120		*		*		*									
	PG2	39.9	53.8	78.1	109	153		232		282		481		688		804		859									
	PG3				132	199		293		367		643		1289		1763		2055									
	PG4				187	282		432		535		943		1789		2333		2689									
6.3	PG1	26.5	32.9	43.3	47	58.7	69.3	75.8	89.9	89.4	98.3	122	142	*	*	*	*	*									
	PG2	38.5	48.5	70.4	105	145	170	216	261	265	300	441	556	637	771	779	838	850									
	PG3				126	185	264	266	388	333	460	566	976	1132	1411	1627	1782	1909									
	PG4				179	263	359	393	548	489	643	934	1340	1574	1954	2168	2366	2530									
7.1	PG1	25.4	32.7	42.7	45	57.2	69	74.3	88.9	89.1	99.3	132	158	151	176	*	*	*	*								
	PG2	39.2	48.2	69.5	99	137	166	203	246	250	284	436	546	637	768	756	815	838	897								
	PG3				116	171	257	244	357	306	422	545	931	1097	1352	1508	1645	1787	1919								
	PG4				164	243	349	362	506	451	594	808	1278	1541	1895	2028	2204	2386	2558								
8	PG1	23.6	30.3	39.8	42.8	54.8	67.2	72.1	86.1	87.4	97.7	129	155	154	181	*	*	*	*								
	PG2	34.6	44.6	64.6	92.9	128	157	192	229	237	267	400	498	588	705	705	784	793	874								
	PG3				107	157	237	226	323	283	383	482	817	978	1185	1356	1531	1621	1793								
	PG4				152	225	324	336	459	419	541	719	1129	1375	1663	1830	2059	2174	2402								
9	PG1	20.7	28.3	38.0	41	52.7	64.5	70.2	82.7	85.8	95.3	129	162	159	193	169	176	*	*								
	PG2	29.5	41.7	61.2	87.8	121	148	182	215	226	251	383	490	565	699	684	730	774	823								
	PG3				98.8	144	218	212	297	267	352	454	791	914	1152	1283	1368	1542	1624								
	PG4				141	206	299	316	424	396	500	679	1094	1296	1625	1741	1853	2078	2188								
10	PG1	19.9	25.7	34.5	34.6	49.3	61.1	66.4	79.2	81.9	91.7	125	153	157	188	172	182	175	*								
	PG2	25.5	34.6	51.5	72.8	111	138	169	202	212	237	359	447	535	642	643	704	737	799								
	PG3				78.9	129	200	192	274	244	325	417	700	846	1018	1170	1296	1431	1546								
	PG4				112	185	276	288	392	363	462	626	972	1200	1444	1596	1760	1935	2085								
11.2	PG1	19.1	25.0	33.8	33.5	44.4	58.4	59.8	76.1	74.5	89	114	150	145	185	162	181	169	187								
	PG2	24.5	33.7	49.7	70.3	99.5	131	150	192	187	226	318	426	476	613	581	662	669	760								
	PG3				75.4	113	183	168	257	212	307	361	659	734	952	1030	1182	1267	1439								
	PG4				107	162	252	252	368	316	438	543	918	1046	1356	1411	1616	1720	1940								
12.5	PG1	18.4	26.4	33.5			54.5		72.2		85.1		145		183		175		186								
	PG2	23.7	35.5	50.0			119		179		212		400		579		598		691								
	PG3						163		234		280		604		882		1039		1276								
	PG4						225		337		401		845		1255		1430		1730								
14	PG1	17.4	23.0	29.9			49		65.2		77		131		168												
	PG2	23.3	30.8	44.0			106		159		189		353		514												
	PG3						142		205		243		522		763												
	PG4						196		293		348		733		1092												
16	PG1	16.7	21.6	28.0																							
	PG2	21.9	28.7	41.1																							
	PG3																										
	PG4																										
18	PG1	15.3	19.6	25.4																							
	PG2	20.2	26.3	37.2																							
	PG3																										
	PG4																										

PG1, PG2, PG3, PG4 See page 7 for PG1, PG2, PG3, PG4

TYPES MTB2...
SIZES 1...26

Bevel-helical Gear Units — Thermal Capacities

i		Gear unit sizes																										
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1200 r/min																										
5	PG1	27.9	36.5	47.8	47.2	53.4		66		*		*		*		*											
	PG2	47.1	62.6	90.5	132	178		276		325		500		645		640											
	PG3				153	228		353		441		744		1467		1968											
	PG4				228	338		538		657		1085		1953		2390											
5.6	PG1	26.7	35.3	46.2	47.5	56.5		70.8		75.8		*		*		*		*									
	PG2	44.5	60.0	87.1	128	177		265		316		512		689		724		718									
	PG3				147	222		326		406		709		1414		1918		2224									
	PG4				221	330		501		614		1058		1950		2434		2726									
6.3	PG1	25.6	31.8	41.8	47.3	56.6	65.1	70.5	81.4	78.6	83.8	*	*	*	*	*	*	*									
	PG2	42.9	54.1	78.6	125	169	197	249	298	301	337	480	591	657	789	740	778	762									
	PG3				141	206	293	295	431	370	510	625	1076	1245	1551	1778	1944	2076									
	PG4				212	308	419	458	636	566	740	944	1500	1740	2150	2311	2499	2633									
7.1	PG1	25.3	32.5	42.5	45.8	56.4	67.5	71.4	83.8	82.4	89.8	108	*	*	*	*	*	*	*								
	PG2	43.8	53.8	77.5	117	161	194	237	285	288	325	485	598	683	817	762	809	811	849								
	PG3				129	190	286	272	397	340	468	604	1029	1211	1491	1655	1803	1954	2096								
	PG4				194	286	410	424	590	525	689	925	1451	1733	2124	2218	2394	2563	2723								
8	PG1	23.5	30.2	39.6	43.9	54.8	66.7	70.6	83	83	91.2	112	127	*	*	*	*	*	*								
	PG2	38.6	49.7	72.0	110	151	185	225	267	274	308	451	555	643	767	735	807	800	868								
	PG3				119	175	264	252	359	315	426	535	904	1081	1309	1493	1683	1780	1965								
	PG4				181	265	382	395	539	490	631	830	1293	1562	1884	2032	2273	2378	2608								
9	PG1	20.6	28.2	37.8	42.3	53.2	64.8	69.7	81.1	83.2	91.1	116	140	130	*	*	*	*	*								
	PG2	32.9	46.5	68.3	105	144	176	214	253	264	292	437	554	630	775	732	773	807	847								
	PG3				110	161	243	236	331	297	392	505	877	1013	1275	1415	1508	1697	1786								
	PG4				167	244	353	373	498	465	585	788	1261	1484	1857	1956	2073	2308	2414								
10	PG1	20.3	26.1	35.1	35.8	50.1	61.8	66.5	78.5	80.3	88.9	115	137	134	157	*	*	*	*								
	PG2	28.4	38.6	57.4	87.1	132	164	199	238	249	277	413	508	601	719	698	759	783	839								
	PG3				88.1	144	224	214	305	272	362	463	777	938	1129	1293	1431	1577	1703								
	PG4				134	219	326	340	462	426	542	729	1126	1381	1658	1806	1984	2167	2322								
11.2	PG1	19.5	25.4	34.4	34.8	45.3	59.3	60.2	75.9	73.6	87	106	136	127	160	*	*	*	*								
	PG2	27.3	37.6	55.4	84.3	118	155	177	227	220	265	367	488	539	691	637	720	720	809								
	PG3				84.2	126	204	187	286	236	341	401	733	814	1056	1139	1306	1399	1587								
	PG4				128	192	298	298	434	372	514	633	1066	1208	1563	1605	1831	1938	2175								
12.5	PG1	18.7	26.9	34.1			55.7		72.7		84.3		135		164		*		*								
	PG2	26.5	39.6	55.8			142		212		250		462		659		661		750								
	PG3						182		261		312		672		979		1150		1409								
	PG4						267		398		472		985		1454		1632		1957								
14	PG1	17.7	23.4	30.5			50.3		66.1		76.9		125		154												
	PG2	26.0	34.4	49.1			127		189		233		409		589												
	PG3						159		228		271		580		848												
	PG4						232		347		411		856		1270												
16	PG1	17.0	22.0	28.5																							
	PG2	24.5	32.0	45.9																							
	PG3																										
	PG4																										
18	PG1	15.9	20.4	26.4																							
	PG2	22.5	29.3	41.5																							
	PG3																										
	PG4																										

PG1, PG2, PG3, PG4 See page 7 for PG1, PG2, PG3, PG4

TYPES MTB2...
SIZES 1...26

Bevel-helical Gear Units — Thermal Capacities

i		Gear unit sizes																									
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1500 r/min																									
5	PG1	26.5	34.6	45.3	35.3	*		*		*		*		*		*											
	PG2	54.4	72.3	104.5	139	184		283		328		478		574		486											
	PG3				159	238		368		459		774		1524		2040											
	PG4				249	366		581		705		1144		2019		2386											
5.6	PG1	25.3	33.4	43.7	38.6	*		*		*		*		*		*		*									
	PG2	51.4	69.3	100.6	135	185		274		322		504		646		618		565									
	PG3				154	231		340		424		738		1470		1992		2307									
	PG4				241	359		543		662		1126		2044		2489		2739									
6.3	PG1	24.3	30.1	39.6	40	*	*	*	*	*	*	*	*	*	*	*	*	*									
	PG2	49.6	62.4	90.8	132	178	206	259	308	310	345	479	581	633	753	664	684	646									
	PG3				147	215	306	308	449	385	531	651	1120	1295	1613	1847	2019	2155									
	PG4				231	336	456	497	690	612	799	1010	1596	1839	2267	2393	2574	2689									
7.1	PG1	25.1	32.3	42.2	40.6	44	50.6	*	*	*	*	*	*	*	*	*	*	*	*								
	PG2	50.6	62.2	89.6	125	169	204	248	298	299	336	493	601	676	804	720	754	740	760								
	PG3				135	199	298	284	414	354	488	629	1072	1261	1552	1722	1875	2031	2177								
	PG4				213	313	447	462	642	570	747	996	1556	1848	2261	2331	2505	2666	2817								
8	PG1	23.3	30.0	39.3	39.9	45.1	53.4	53	*	*	*	*	*	*	*	*	*	*	*								
	PG2	44.6	57.4	83.2	117	160	195	236	280	287	321	463	564	646	768	713	775	756	808								
	PG3				124	182	276	263	375	328	444	557	942	1126	1364	1553	1751	1851	2043								
	PG4				198	290	417	430	586	533	686	896	1392	1674	2016	2152	2400	2499	2729								
9	PG1	20.5	28.0	37.5	39.3	45.7	54.4	55.8	61.6	59.6	*	*	*	*	*	*	*	*	*								
	PG2	38.0	53.7	78.9	111	153	186	226	266	277	306	452	568	640	785	724	759	782	812								
	PG3				115	168	253	246	346	310	409	526	915	1055	1329	1474	1570	1766	1858								
	PG4				183	267	386	407	543	507	637	853	1363	1598	1996	2085	2204	2444	2549								
10	PG1	20.8	26.8	36.0	33.7	44	53.3	55.1	62.3	60.8	63.9	*	*	*	*	*	*	*	*								
	PG2	32.8	44.6	66.3	92.8	140	174	211	251	261	291	429	525	616	734	698	753	770	818								
	PG3				91.9	150	233	224	318	284	377	483	810	978	1176	1347	1490	1642	1772								
	PG4				147	240	356	372	505	465	591	791	1218	1490	1787	1933	2118	2306	2464								
11.2	PG1	20.0	26.1	35.3	33	40.4	52.1	51	61.9	57.7	65.2	*	*	*	*	*	*	*	*								
	PG2	31.6	43.4	64.0	89.8	125	165	188	240	232	279	382	506	555	709	641	721	714	797								
	PG3				87.9	131	213	195	298	246	356	418	764	849	1101	1186	1360	1457	1652								
	PG4				140	210	327	326	474	406	561	688	1156	1306	1688	1722	1960	2068	2315								
12.5	PG1	19.2	27.6	35.0			50.1		61.7		66.9		*		*		*		*								
	PG2	30.6	45.7	64.4			151		224		264		481		681		669		749								
	PG3						189		272		326		701		1021		1198		1468								
	PG4						292		435		515		1070		1574		1754		2093								
14	PG1	18.2	24.0	31.3			46		57.4		63.1		*		*												
	PG2	30.0	39.7	56.7			135		200		236		428		611												
	PG3						166		238		283		605		884												
	PG4						255		380		449		931		1377												
16	PG1	17.4	22.5	29.3																							
	PG2	28.3	37.0	53.0																							
	PG3																										
	PG4																										
18	PG1	16.9	21.5	28.0																							
	PG2	26.0	33.8	48.0																							
	PG3																										
	PG4																										

PG1, PG2, PG3, PG4 See page 7 for PG1, PG2, PG3, PG4

TYPES MTB2...
SIZES 1...26

Bevel-helical Gear Units Thermal Capacities

i		Gear unit sizes																										
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1800 r/min																										
5	PG1	25.1	32.7	42.8	*	*		*		*		*		*		*												
	PG2	61.7	82.0	118.5	149	190		283		313		392		350		*												
	PG3				170	250		383		470		765		1446		1814												
	PG4				276	401		630		753		1174		1966		2104												
5.6	PG1	23.9	31.5	41.2	*	*		*		*		*		*		*		*										
	PG2	58.3	78.6	114.1	147	194		282		321		453		493		*		*										
	PG3				164	244		356		439		744		1435		1851		2075										
	PG4				268	395		593		716		1182		2066		2355		2464										
6.3	PG1	23.0	28.4	37.4	31	*	*	*	*	*	*	*	*	*	*	*	*	*										
	PG2	56.3	70.7	103.0	144	189	218	270	318	315	346	450	519	528	612	419	*	*										
	PG3				157	228	324	324	471	402	551	663	1127	1285	1592	1758	1902	1997										
	PG4				258	371	504	546	754	666	865	1073	1673	1894	2322	2342	2482	2533										
7.1	PG1	24.9	32.1	41.9	34	*	*	*	*	*	*	*	*	*	*	*	*	*	*									
	PG2	57.4	70.6	101.7	136	182	219	263	313	311	346	485	572	616	721	563	560	503	473									
	PG3				145	212	317	301	437	372	512	650	1097	1275	1564	1687	1823	1951	2070									
	PG4				238	347	495	511	707	625	817	1073	1659	1946	2371	2367	2519	2639	2751									
8	PG1	23.1	29.8	39.0	35	*	*	*	*	*	*	*	*	*	*	*	*	*	*									
	PG2	50.6	65.1	94.4	129	173	211	253	298	302	336	467	556	616	723	609	641	592	600									
	PG3				133	195	294	279	397	347	468	580	973	1152	1391	1549	1734	1815	1986									
	PG4				222	323	464	477	649	588	754	973	1500	1785	2143	2230	2467	2539	2743									
9	PG1	20.4	27.8	37.2	35	36	*	*	*	*	*	*	*	*	*	*	*	*	*									
	PG2	43.1	60.9	89.5	123	166	202	244	285	295	324	465	574	630	766	658	674	669	671									
	PG3				123	180	271	263	368	329	433	551	952	1090	1369	1489	1578	1761	1839									
	PG4				206	298	430	453	603	561	703	933	1480	1721	2144	2195	2306	2533	2619									
10	PG1	21.3	27.5	36.9	31	36	43	*	*	*	*	*	*	*	*	*	*	*	*									
	PG2	37.2	50.6	75.2	102	154	190	229	271	280	310	447	537	617	729	655	694	688	712									
	PG3				99	161	250	239	339	302	400	508	847	1015	1219	1373	1511	1653	1773									
	PG4				164	268	398	414	561	516	654	868	1329	1614	1932	2052	2237	2416	2564									
11.2	PG1	20.5	26.8	36.2	30	34	43	40	*	*	*	*	*	*	*	*	*	*	*									
	PG2	35.9	49.2	72.6	99	137	180	204	259	250	299	401	522	562	713	614	679	656	715									
	PG3				94	141	229	209	319	262	379	441	801	885	1145	1215	1387	1476	1664									
	PG4				157	235	265	363	528	451	622	757	1265	1420	1831	1839	2083	2183	2428									
12.5	PG1	19.7	28.3	35.9			43		48		*		*		*		*		*									
	PG2	34.7	51.8	73.0			166		244		284		503		697		650		701									
	PG3						203		291		347		738		1068		1233		1494									
	PG4						327		485		573		1176		1718		1882		2221									
14	PG1	18.7	24.6	32.1			40		47		*		*		*													
	PG2	34.0	45.0	64.3			149		218		255		451		633													
	PG3						178		255		302		640		929													
	PG4						285		424		500		1027		1509													
16	PG1	17.8	23.0	30.1																								
	PG2	32.1	42.0	60.1																								
	PG3																											
	PG4																											
18	PG1	17.9	22.6	29.6																								
	PG2	29.5	38.3	54.5																								
	PG3																											
	PG4																											

PG1, PG2, PG3, PG4

See page 7 for PG1, PG2, PG3, PG4

TYPES MTB3...
SIZES 3...26

Bevel-helical Gear Units — Nominal Power Ratings

i	n_1	n_2	Gear unit sizes																							
			3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	1/min		P_N (KW) Nominal power ratings P_N (KW)																							
12.5	1800	144		83	142		256		423		761		1175		1991*		2941*		3769*							
	1500	120		69	119		213		353		635		980		1659		2451		3141*		4272*					
	1200	96		55	95		170		282		508		784		1327		1961		2513*		3418*					
	1000	80		46	79		142		235		423		653		1106		1634		2094		2848					
14	1800	129		81	131		243		394		709		1071		1834*	1980*	2610*	3078*	3506*	3947*	4817*					
	1500	107		68	110		203		329		591		893		1529	1650	2175	2565	2922*	3290*	4014*	4515*				
	1200	86		54	88		162		263		473		714		1223	1320	1740	2052	2338*	2632*	3211*	3612*				
	1000	71		45	73		135		219		394		595		1019	1100	1450	1710	1948	2193	2676	3010				
16	1800	113		74	121	142	227	256	369	423	664	736	986	1157	1687*	1829*	2374*	2731*	3265*	3658*	4513*	5011*				
	1500	94		62	101	119	189	213	308	353	554	614	822	965	1406	1524	1979	2276	2721*	3048*	3761*	4176*				
	1200	75		49	80	95	151	170	246	282	443	491	658	772	1124	1219	1583	1820	2177*	2438*	3008*	3341*				
	1000	63		41	67	79	126	142	205	235	369	409	548	643	937	1016	1319	1517	1814	2032	2507	2784				
18	1800	100		68	112	133	209	243	344	396	612	686	896	1055	1562*	1688*	2111*	2533*	3040*	3377*	4223*	4622*				
	1500	83		57	93	111	174	203	287	330	510	572	747	879	1302	1407	1760	2111	2534*	2814*	3519*	3852*				
	1200	67		46	74	89	139	162	229	264	408	457	598	703	1042	1126	1408	1688	2027*	2251*	2815*	3082*				
	1000	56		38	62	74	116	135	191	220	340	381	498	586	868	938	1173	1407	1689	1876	2346	2568				
20	1800	90	34	63	104	124	193	225	320	371	565	641	830	970	1442*	1573*	1885*	2263*	2828*	3128*	3958*	4288*				
	1500	75	29	53	87	104	161	188	267	309	471	534	692	809	1202	1311	1571	1886	2357*	2607*	3299*	3573*	4398*			
	1200	60	23	42	70	83	128	150	214	247	377	427	553	647	961	1049	1256	1508	1885	2086*	2639	2858*	3518			
	1000	50	19	35	58	69	107	125	178	206	314	356	461	539	801	874	1047	1257	1571	1738	2199	2382	2932		4188*	
22.4	1800	80	31	56	94	117	175	211	288	347	509	610	747	898	1298*	1467*	1696*	2036*	2545*	2927*	3562*	3987*	4750*			
	1500	67	26	47	78	98	146	176	240	290	425	509	623	749	1082	1223	1413	1697	2121	2439*	2969*	3323*	3959*	4490*		
	1200	54	20	37	62	78	116	140	192	232	340	407	498	599	865	978	1130	1357	1697	1951	2375*	2658	3167*	3618	4523*	
	1000	45	17	31	52	65	97	117	160	193	283	339	415	499	721	815	942	1131	1414	1626	1979	2215	2639	3015	3769*	4240*
25	1800	72	27	50	83	110	155	193	256	324	452	565	664	823	1154*	1305*	1508*	1809*	2263*	2601*	3166*	3544*	4223*	4826*		
	1500	60	23	42	69	92	129	161	213	270	377	471	554	686	962	1088	1257	1508	1886	2168	2639*	2954*	3519*	4022*		
	1200	48	18	34	55	73	103	128	170	216	301	377	443	548	769	870	1006	1206	1508	1734	2111*	2363*	2815*	3217*	4020*	4523*
	1000	40	15	28	46	61	86	107	142	180	251	314	369	457	641	725	838	1005	1257	1445	1759	1969	2346	2681	3350*	3769*
28	1800	64	25	45	74	99	139	173	230	292	407	509	598	740	1039*	1174*	1357*	1629*	2036*	2342*	2849*	3190*	3800*	4343*		
	1500	54	21	38	62	83	116	144	192	243	339	425	498	617	866	978	1131	1358	1697	1952	2375	2658*	3167*	3620*	4524*	
	1200	43	17	30	49	66	92	115	154	194	271	340	398	493	692	782	905	1086	1357	1561	1900	2126*	2533*	2896*	3619*	4052*
	1000	36	14	25	41	55	77	96	128	162	226	283	332	411	577	652	754	905	1131	1301	1583	1772	2111	2413	3016	3392*
31.5	1800	57	22	40	67	88	124	153	205	259	362	452	531	657	923*	1044*	1206*	1447*	1809*	2081*	2533*	2835*	3377*	3861*	4826*	
	1500	48	18	33	56	74	104	128	171	216	302	377	443	548	770	870	1005	1206	1508	1734	2111	2363	2814*	3218*	4022*	4524*
	1200	38	15	26	44	59	83	102	137	173	241	301	354	438	616	696	804	965	1206	1387	1688	1890	2251*	2574*	3217*	3581*
	1000	32	12	22	37	49	69	85	114	144	201	251	295	365	513	580	670	804	1005	1156	1407	1575	1876	2145	2681	3016
35.5	1800	51	20	34	58	77	108	135	180	227	317	396	464	576	808*	913*	1055*	1267*	1584*	1822*	2216*	2480*	2956*	3377*	4223*	4750*
	1500	42	17	29	48	65	90	113	150	189	264	330	387	480	674	761	879	1056	1320	1518	1847	2067	2463	2814*	3519*	3959*
	1200	34	13	23	38	52	72	90	120	151	211	264	310	384	539	608	703	845	1056	1214	1477	1654	1970	2251*	2815*	3167*
	1000	28	11	19	32	43	60	75	100	126	176	220	258	320	449	507	586	704	880	1012	1231	1378	1642	1876	2346	2639
40	1800	45	16	31	52	68	97	121	160	203	283	353	414	513	722*	815*	943*	1130*	1413*	1625*	1978*	2214*	2639*	3015*	3769*	4241*
	1500	38	14	26	44	57	81	101	134	170	236	294	345	428	602	680	786	942	1178	1355	1649	1845	2199	2513	3141*	3534*
	1200	30	11	20	35	46	65	80	107	136	188	235	276	342	481	544	629	754	942	1084	1319	1476	1759	2010	2513*	2827*
	1000	25	9	17	29	38	54	67	89	113	157	196	230	285	401	453	524	628	785	903	1099	1230	1466	1675	2094	2356
45	1800	40	15	27	45	59	85	106	140	178	248	311	365	452	634*	718*	830*	995*	1244*	1431*	1742*	1949*	2322*	2653*	3317*	3731*
	1500	33	12	23	38	50	71	89	117	149	207	260	305	377	528	599	692	830	1037	1193	1452	1625	1935	2211	2765	3110*
	1200	27	10	18	30	40	56	71	94	119	166	208	244	301	422	479	553	664	829	954	1162	1300	1548	1769	2212	2488*
	1000	22	8.3	15	25	33	47	59	78	99	138	173	203	251	352	399	461	553	691	795	968	1083	1290	1474	1843	2073
50	1800	36	14	25	41	54	77	95	128	162	227	283	331	410	576	652*	754*	905*	1130*	1301*	1584*	1771*	2111*	2412*	3015*	3393*
	1500	30	12	21	35	45	65	80	107	135	189	236	276	342	480	543	629	755	942	1085	1320	1476	1760	2010	2513	2828
	1200	24	10	17	28	36	52	64	85	108	151	188	221	274	384	434	503	604	754	868	1056	1181	1408	1608	2010	2262
	1000	20	8	14	23	30	43	53	71	90	126	157	184	228	320	362	419	503	628	723	880	984	1173	1340	1675	1885
56	1800	32	12	22	38	49	68	86	115	146	202	254	297	367	517	583	675*	810*	1012*	1165*	1417*	1586*	1890	2160*	2698*	3037*
	1500	27	10.1	18	32	41	57	72	96	122	168	212	248	306	431	486	563	675	843	971	1181	1322	1575	1800	2249	2531
	1200	21	8	14	25	32	46	58	77	97	134	169	198	245	344	389	450	540	674	776	944	1057	1260*	1440	1799	2024
	1000	18	6.7	12	21	27	38	48	64	81	112	141	165	204	287	324	375	450	562	647	787	881	1050	1200	1499	1687
63	1800	29	10.8	20	32	43	59	76	103	130	180	225	265	326	459	518	599*	720*	898*	1033*	1258*	1409*	1678*	1919*	2398*	2696*
	1500	24	9	17	27	36	50	63	86	108	150	188	221	272	383	432	500	600	749	861	1049	1175	1398	1599	1998	2247
	1200	19	7.2	13	22	29	40	50	68	86	120	150	176	217	306	346	400	480	599	689	839	940	1118	1279	1598	1798
	1000	16	6	11	18	24	33	42	57	72	100	125	147	181	255	288	333	400	499	574	699	783	932	1066	1332	1498
71	1800	25	9.5	17.5	29	38	54	68	90	113	160	200	234	290	407	459	531*	637*	797*	916*	1116*	1249*	1489*	1701*	2126*	2392*
	1500	21	8	14.6	24	32	45	57	75	95	134	167	195	242	339	383	443	531	665	764	930	1041	1241	1418	1772	1994
	1200	17	6.4	11.6	19	25	36	46	60	76	107	133	156	193	271	306	354	425	532	611	744	833	992	1134	1417	1595
	1000	14	5.3	9.7	16	21	30	38	50	63	89	111	130	161	226	255	295	354	443	509	620	694	827	945	1181	1329
80	1800	23				32		59		101		176		257		407		565*		814*		1107*		1508*		2120*
	1500	19				27		50		84		147		215		339		471		678		923		1257		1767
	1200	15				22		40		67		118		172		271		377		542		738		1006		1414
	1000	13				18		33		56		98		143		226		314		452		615		838		1178
90	1800	20				29		52		90		157		229												
	1500	17				24		44		75		131		191												
	1200	13				19		35		60		104		152												
	1000	11				16		29		50		87		127												

Forced lubrication required on horizontal gear units

* Gear units only on request

MTH/MTB

TYPES MTB3...
SIZES 3...26

Bevel-helical Gear Units — Thermal Capacities

i		Gear unit sizes																							
		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1000 r/min																							
12.5	PG1		38.1	50.8		79.7		103		140		172		221		235		*		*					
	PG2		66.3	93.9		150		204		321		419		583		742		*		*					
	PG3		76.8	124		218		323		456		714		1117		1339		*		*					
	PG4		100	161		280		413		613		923		1410		1745		*		*					
14	PG1		37.1	49.4		77.4		101		139		177		220	233	235	259	*	*	*	*				
	PG2		64.4	90.9		144		198		315		424		562	604	716	798	*	*	*	*				
	PG3		74.5	119		210		313		447		719		1066	1129	1286	1410	*	*	*	*				
	PG4		97.2	155		270		399		600		932		1349	1433	1677	1838	*	*	*	*				
16	PG1		35.2	47.9	55.4	74	86.2	99.4	110	133	155	165	191	221	227	241	245	*	*	*	*				
	PG2		61.3	87.5	100	137	158	193	214	300	347	388	448	553	579	713	732	*	*	*	*				
	PG3		70.8	115	128	200	223	304	343	425	557	654	740	1043	1079	1265	1292	*	*	*	*				
	PG4		92.2	149	165	257	285	388	434	569	724	846	959	1322	1366	1654	1682	*	*	*	*				
18	PG1		34.3	46.5	53.7	71.7	83.2	96.5	102	132	156	167	195	216	230	237	263	*	*	*	*				
	PG2		59.5	84.8	97.1	133	153	187	197	293	347	392	452	531	573	686	763	*	*	*	*				
	PG3		68.5	111	122	192	217	293	315	416	558	658	745	1001	1063	1210	1332	*	*	*	*				
	PG4		89.5	144	159	247	277	375	399	558	726	853	965	1265	1344	1584	1738	*	*	*	*				
20	PG1	29.7	32.4	44.6	51.9	68.9	79.4	92.8	105	126	147	159	180	212	223	234	246	271	*	270	*		*		*
	PG2	41.1	56.1	81.3	93.5	127	145	179	203	280	323	367	413	513	548	662	700	814	*	899	*		*		*
	PG3		64.8	107	118	184	204	280	323	396	516	615	677	961	1010	1164	1214	*	*	*	*		*		*
	PG4		84.3	138	154	236	261	360	410	531	672	798	877	1215	1280	1523	1589	*	*	*	*		*		*
22.4	PG1	29.5	31.6	44	50.4	66.8	77.4	90.7	97.5	122	148	154	185	210	219	236	243	276	286	279	270	*	*	*	*
	PG2	41.1	54.6	80	90.7	123	141	175	186	266	324	349	417	498	528	646	675	795	833	881	907	*	*	*	*
	PG3		63	105	115	178	198	272	295	367	515	574	683	910	966	1114	1164	*	*	*	*	*	*	*	*
	PG4		82.2	137	149	226	253	348	375	495	671	746	885	1155	1227	1461	1525	*	*	*	*	*	*	*	*
25	PG1	27.6	30.1	41.8	48.6	65	74.7	87.3	94.3	117	144	149	176	204	222	234	250	281	297	292	291	*	*	*	*
	PG2	38.5	51.7	75.5	86.9	119	134	166	178	250	309	329	390	466	513	607	661	763	816	846	893	*	*	*	*
	PG3		59.4	99.4	110	169	189	253	284	337	489	527	638	823	919	1013	1116	*	*	*	*	*	*	*	*
	PG4		77.4	128	142	217	243	324	359	454	640	687	827	1047	1168	1333	1467	*	*	*	*	*	*	*	*
28	PG1	26.9	29	40.6	48	62.1	72.7	83.9	92.7	113	140	144	172	205	216	239	248	285	302	301	306	*	*	*	*
	PG2	37.2	49.4	72.7	85.5	112	130	157	174	238	295	312	373	453	480	596	621	731	782	811	857	*	*	*	*
	PG3		56	94	109	156	183	235	274	313	456	489	593	789	832	980	1015	*	*	*	*	*	*	*	*
	PG4		73.1	121	141	201	234	302	349	424	596	640	772	1007	1060	1292	1336	*	*	*	*	*	*	*	*
31.5	PG1	25.3	27.5	38.6	45.5	59.2	70.3	80.6	89.1	108	133	139	165	196	215	232	250	279	302	299	312	*	*	*	*
	PG2	35.1	46.8	68.7	80.6	106	125	149	165	225	276	296	350	423	468	557	608	688	749	759	821	*	*	*	*
	PG3		52.5	87.6	102	146	174	220	254	291	417	453	543	715	797	896	982	*	*	*	*	*	*	*	*
	PG4		68.6	113	133	188	222	282	324	395	548	595	710	917	1020	1184	1296	*	*	*	*	*	*	*	*
35.5	PG1	24.0	25.9	36.4	44	56.4	67	76.9	85.3	105	128	135	159	192	205	228	241	278	293	297	306	*	*	*	*
	PG2	33.0	43.8	64.3	77.5	100	119	141	156	215	262	284	332	407	435	538	569	666	703	731	767	*	*	*	*
	PG3		48.3	80.2	96.8	135	162	201	237	276	389	431	506	680	725	853	897	*	*	*	*	*	*	*	*
	PG4		63.1	104	126	174	207	260	302	373	509	566	662	873	929	1129	1188	*	*	*	*	*	*	*	*
40	PG1	21.1	22.6	31.7	41.8	49.4	64.1	72.1	81.6	99.6	122	128	152	183	199	220	236	267	289	287	302	*	*	*	*
	PG2	29.0	38.1	55.5	73.3	87.1	112	131	149	201	246	267	315	383	419	508	548	627	679	686	738	*	*	*	*
	PG3		40.7	66.7	90.4	112	151	182	222	253	360	397	471	627	687	793	853	*	*	*	*	*	*	*	*
	PG4		53.2	87	117	144	193	235	283	344	473	523	617	808	884	1053	1132	*	*	*	*	*	*	*	*
45	PG1	20.8	22.1	30.9	39.3	48	60.9	66.4	77.7	91.6	117	119	147	171	190	206	228	253	278	270	291	*	*	*	*
	PG2	28.4	37.2	54	68.5	84.1	106	120	140	184	236	244	301	352	395	470	520	582	638	634	692	*	*	*	*
	PG3		39.5	64.3	82.9	108	139	164	203	227	340	356	446	564	634	719	798	*	*	*	*	*	*	*	*
	PG4		51.8	84	107	139	179	211	260	311	449	467	586	728	818	955	1057	*	*	*	*	*	*	*	*
50	PG1	20.4	22.4	30.8	34.4	47.6	53.6	65.5	73.1	92.4	112	122	141	178	179	219	216	256	267	302	283	*	*	*	*
	PG2	28.0	37.4	53.3	59.4	82.5	92.5	117	131	181	221	244	283	356	363	478	481	561	595	668	641	*	*	*	*
	PG3		39.5	62.6	69.2	104	116	156	184	222	312	352	412	567	571	727	725	*	*	*	*	*	*	*	*
	PG4		51.6	81.9	90.3	134	149	203	236	301	411	466	543	728	738	962	963	*	*	*	*	*	*	*	*
56	PG1	18.2	20.7	28.5	33.6	44.3	52.1	60.7	67.7	84.5	103	113	131	165	186	205	228	251	268	294	312	*	*	*	*
	PG2	24.8	34.4	49.3	57.8	76.7	89.6	108	120	164	203	223	258	325	365	438	488	540	571	630	675	*	*	*	*
	PG3		35.6	56.4	66.7	94.7	111	140	166	197	279	315	366	507	573	654	729	*	*	*	*	*	*	*	*
	PG4		46.8	74.1	87.2	122	143	182	213	268	370	416	486	652	738	867	966	*	*	*	*	*	*	*	*
63	PG1	18.0	19.9	27.4	33.4	42.8	51.5	58.7	66.5	81.7	103	109	133	159	171	198	211	245	260	287	298	*	*	*	*
	PG2	24.1	33.1	47.3	57.1	74.1	88.1	104	117	158	198	214	259	309	333	419	447	520	549	608	633	*	*	*	*
	PG3		33.7	53.3	65	89.8	108	132	159	185	271	296	365	475	510	615	657	*	*	*	*	*	*	*	*
	PG4		44.3	70.1	85.1	116	140	173	203	253	358	393	481	612	659	820	869	*	*	*	*	*	*	*	*
71	PG1	16.7	18.4	26.1	30.8	40.8	47.8	55	61.7	75.7	94.8	103	122	151	164	187	204	232	252	272	291	*	*	*	*
	PG2	22.2	30.7	44.9	52.6	70.5	81.7	97.8	108	146	180	201	236	292	318	393	426	487	529	569	612	*	*	*	*
	PG3		30.6	49.3	58.8	83.1	98.3	119	143	166	240	268	327	437	481	569	620	*	*	*	*	*	*	*	*
	PG4		40.4	65.2	77.1	108	127	157	183	228	319	356	431	567	621	757	824	*	*	*	*	*	*	*	*
80	PG1				29.5		46.2		59.6		90.7		117		157		193		239		276		*		*
	PG2				50.6		79		105		173		227		301		400		495		574		*		*
	PG3				55.4		93.2		134		224		307		442		570		*		*		*		*
	PG4				72.8		121		174		300		407		573		761		*		*		*		*
90	PG1				28.2		44		55.9		84.5		110												
	PG2				48.1		75.1		98.4		161		212												
	PG3				51.4		86.3		121		201		277												
	PG4				67.9		112		159		271		369												

PG1, PG2, PG3, PG4 See page 7 for PG1, PG2, PG3, PG4

TYPES MTB3...
SIZES 3...26

Bevel-helical Gear Units — Thermal Capacities

i		Gear unit sizes																							
		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1200 r/min																							
12.5	PG1		39.7	52.1		80.7		103		132		152		173		*		*		*					
	PG2		75.6	106		169		230		356		457		620		777		*		*					
	PG3		85.5	138		243		359		508		795		1243		1491		*		*					
	PG4		115	184		321		472		697		1042		1577		1939		*		*					
14	PG1		38.8	51		79		101		134		161		181	186	*	*	*	*	*	*				
	PG2		73.5	103		163		223		350		465		603	645	758	838	*	*	*	*				
	PG3		82.9	133		234		349		497		801		1187	1257	1432	1570	*	*	*	*				
	PG4		111	178		309		457		683		1054		1513	1605	1871	2046	*	*	*	*				
16	PG1		37	49.5	57	75.7	87.5	100	110	129	147	151	174	185	186	189	*	*	*	*	*				
	PG2		70	99.5	113	156	178	218	240	334	384	426	492	597	621	758	774	*	*	*	*				
	PG3		78.8	128	142	223	248	338	382	473	620	728	824	1161	1201	1408	1438	*	*	*	*				
	PG4		105	171	190	294	326	444	496	648	823	958	1085	1486	1532	1849	1876	*	*	*	*				
18	PG1		36	48.1	55.5	73.6	84.8	97.7	102	129	149	155	180	185	193	191	205	*	*	*	*				
	PG2		67.9	96.5	110	151	173	211	222	328	386	432	498	575	617	734	811	*	*	*	*				
	PG3		76.3	123	136	214	241	326	351	463	621	732	829	1115	1183	1347	1483	*	*	*	*				
	PG4		102	166	183	284	317	429	457	635	825	967	1093	1424	1510	1775	1942	*	*	*	*				
20	PG1	30.5	34	46.4	53.7	70.9	81.2	94.3	106	124	141	149	168	185	191	194	198	211	*	*	*	*		*	
	PG2	44.4	64.1	92.6	106	145	165	202	228	314	360	406	456	557	593	711	749	865	*	920	*	*		*	
	PG3		72.2	119	132	205	227	312	359	441	574	685	754	1070	1124	1296	1352	*	*	*	*	*		*	
	PG4		96.9	159	176	270	300	412	469	605	764	905	995	1370	1440	1710	1780	*	*	*	*	*		*	
22.4	PG1	30.3	33.3	45.8	52.3	68.9	79.4	92.5	98.9	120	144	147	174	187	192	201	202	222	226	*	*	*	*	*	*
	PG2	44.4	62.4	91.1	103	140	160	198	210	298	361	387	462	544	574	698	725	850	888	910	920	*	*	*	*
	PG3		70.2	117	128	198	220	303	329	409	573	639	761	1013	1076	1240	1296	*	*	*	*	*	*	*	*
	PG4		94.5	158	171	260	290	399	429	565	764	847	1005	1304	1383	1644	1712	*	*	*	*	*	*	*	*
25	PG1	28.3	31.8	43.7	50.6	67.4	77.1	89.7	96.4	117	142	144	170	189	202	208	219	241	250	*	*	*	*	*	*
	PG2	41.5	59.1	86.2	99	135	153	188	202	281	346	367	435	513	563	662	718	826	880	889	926	*	*	*	*
	PG3		66.1	110	122	188	211	282	316	375	545	587	710	916	1023	1128	1242	*	*	*	*	*	*	*	*
	PG4		89	147	163	249	279	371	411	519	730	783	941	1186	1322	1505	1654	*	*	*	*	*	*	*	*
28	PG1	27.6	30.7	42.6	50.3	64.8	75.5	86.8	95.6	114	140	143	170	195	204	222	227	257	269	244	*	*	*	*	*
	PG2	40.2	56.6	83	97.5	127	148	179	197	269	332	350	417	503	531	656	682	800	854	868	906	*	*	*	*
	PG3		62.4	104	121	174	204	261	305	349	508	545	660	879	926	1091	1130	*	*	*	*	*	*	*	*
	PG4		84.2	139	162	231	268	346	400	486	682	731	881	1145	1204	1465	1513	*	*	*	*	*	*	*	*
31.5	PG1	26.0	29.1	40.6	47.8	62	73.4	83.9	92.4	111	135	140	165	191	208	221	236	260	279	257	256	*	*	*	*
	PG2	37.9	53.7	78.5	92.1	121	143	170	188	254	312	333	393	473	521	619	673	760	824	822	881	*	*	*	*
	PG3		58.5	97.5	114	162	194	245	283	324	464	505	605	796	887	998	1093	*	*	*	*	*	*	*	*
	PG4		78.9	130	153	216	255	324	372	453	627	680	811	1044	1161	1345	1471	*	*	*	*	*	*	*	*
35.5	PG1	25.1	27.5	38.4	46.3	59.2	70.2	80.3	88.8	108	131	137	160	189	201	221	232	265	277	265	263	*	*	*	*
	PG2	35.6	50.2	73.6	88.6	114	136	161	178	244	296	321	375	457	487	599	633	739	779	798	830	*	*	*	*
	PG3		53.8	89.3	107	151	180	224	264	307	433	480	564	757	807	949	999	*	*	*	*	*	*	*	*
	PG4		72.7	120	144	200	238	298	347	428	584	648	758	996	1059	1286	1351	*	*	*	*	*	*	*	*
40	PG1	22.1	24	33.5	44.1	52	67.3	75.4	85.2	102	125	130	155	182	197	215	230	258	277	262	266	*	*	*	*
	PG2	31.3	43.7	63.5	83.8	99.6	128	150	170	229	279	302	355	430	470	568	611	698	754	753	804	*	*	*	*
	PG3		45.3	74.3	100	125	168	202	247	282	401	442	525	698	765	883	949	*	*	*	*	*	*	*	*
	PG4		61.3	100	135	166	222	270	325	395	542	599	706	923	1009	1200	1289	*	*	*	*	*	*	*	*
45	PG1	21.8	23.5	32.7	41.5	50.6	64	69.6	81.3	95	121	122	150	171	189	204	224	247	270	251	263	*	*	*	*
	PG2	30.6	42.6	61.8	78.4	96.1	121	137	160	210	268	276	341	397	444	526	581	650	712	698	758	*	*	*	*
	PG3		44	71.6	92.3	120	155	182	226	253	378	396	496	628	706	801	888	*	*	*	*	*	*	*	*
	PG4		59.7	96.7	124	159	205	243	299	357	515	535	671	832	934	1090	1205	*	*	*	*	*	*	*	*
50	PG1	21.3	23.8	32.7	36.4	50.3	56.6	69.1	77	96.6	116	126	146	182	182	221	218	257	266	293	269	*	*	*	*
	PG2	30.2	42.9	61.1	68	94.5	105	133	150	207	251	278	321	402	411	539	542	631	669	744	712	*	*	*	*
	PG3		44	69.7	77	116	129	174	205	247	348	392	459	631	636	809	807	*	*	*	*	*	*	*	*
	PG4		59.4	94.3	103	154	172	234	272	346	472	535	623	834	845	1101	1101	*	*	*	*	*	*	*	*
56	PG1	19.0	22	30.2	35.7	47	55.2	64.3	71.5	88.9	108	118	136	171	191	210	233	256	272	293	307	*	*	*	*
	PG2	26.8	39.4	56.5	66.3	87.9	102	124	137	188	232	254	294	369	415	497	553	611	645	708	755	*	*	*	*
	PG3		39.6	62.8	74.3	105	123	156	185	219	311	351	408	565	638	728	811	*	*	*	*	*	*	*	*
	PG4		53.9	85.4	100	141	165	210	245	308	426	478	558	748	846	994	1107	*	*	*	*	*	*	*	*
63	PG1	19.0	21.2	29.1	35.5	45.5	54.6	62.2	70.4	86.1	108	114	139	165	177	204	217	251	266	289	297	*	*	*	*
	PG2	26.0	38	54.3	65.5	84.9	100	119	134	180	227	244	296	352	378	475	507	589	622	686	712	*	*	*	*
	PG3		37.5	59.3	72.4	100	120	147	177	206	302	330	407	529	568	685	731	*	*	*	*	*	*	*	*
	PG4		51	80.8	98	134	161	199	234	291	411	452	553	703	757	941	997	*	*	*	*	*	*	*	*
71	PG1	17.7	19.6	27.7	32.8	43.3	50.8	58.3	65.3	79.9	99.8	108	128	158	170	194	210	239	259	275	292	*	*	*	*
	PG2	23.9	35.3	51.6	60.3	80.9	93.6	112	124	167	206	229	269	333	362	446	484	553	600	643	689	*	*	*	*
	PG3		34.1	54.9	65.4	92.5	109	133	159	185	267	298	364	487	535	633	690	*	*	*	*	*	*	*	*
	PG4		46.6	75.1	88.8	125	146	181	211	262	367	410	495	651	713	869	945	*	*	*	*	*	*	*	*
80	PG1				31.4		49.1		63.1		95.5		123		163		200		247		278		*		*
	PG2				58.1		90.5		120		198		259		343		454		563		647		*		*
	PG3				61.7		103		149		250		342		492		634		*		*		*		*
	PG4				83.9		139		200		345		468		658		873		*		*		*		*
90	PG1				30		46.8		59.3		89.2		115												
	PG2				55.2		86.1		112		184		242												
	PG3				57.2		96.1		135		224		309												
	PG4				78.2		129		183		311		425												

PG1, PG2, PG3, PG4 See page 7 for PG1, PG2, PG3, PG4

TYPES MTB3...
SIZES 3...26

Bevel-helical Gear Units — Thermal Capacities

i		Gear unit sizes																							
		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1500 r/min																							
12.5	PG1		39.4	50.4		76.7		95.4		112		*		*		*		*		*					
	PG2		84.8	118		186		250		377		468		602		728		*		*					
	PG3		94.7	151		265		390		542		831		1261		1484		*		*					
	PG4		131	209		362		529		768		1126		1652		1991		*		*					
14	PG1		38.6	49.6		75.7		95.2		117		127		*	*	*	*	*	*	*	*				
	PG2		82.6	114		180		244		374		482		598	631	728	792	*	*	*	*				
	PG3		91.9	146		257		380		533		843		1217	1280	1443	1569	*	*	*	*				
	PG4		127	202		350		514		756		1147		1603	1688	1947	2110	*	*	*	*				
16	PG1		36.8	48.3	55.4	72.9	83.3	94.3	103	114	125	122	138	*	*	*	*	*	*	*	*				
	PG2		78.96	110	126	172	196	239	262	358	407	445	511	597	615	737	741	*	*	*	*				
	PG3		87.4	141	157	244	272	369	415	508	662	769	868	1196	1230	1429	1447	*	*	*	*				
	PG4		121	195	216	334	369	500	558	719	907	1047	1181	1583	1621	1937	1949	*	*	*	*				
18	PG1		35.9	47.2	54.1	71.1	81.1	92.5	96.3	115	129	128	146	*	*	*	*	*	*	*	*				
	PG2		76.4	107	122	167	191	232	243	353	411	454	520	581	617	722	787	*	*	*	*				
	PG3		84.7	136	150	235	265	357	383	499	665	777	877	1155	1219	1375	1503	*	*	*	*				
	PG4		117	189	208	322	359	485	514	707	913	1060	1195	1525	1608	1872	2033	*	*	*	*				
20	PG1	31.6	34	45.6	52.6	68.8	78	89.8	100	112	124	126	140	*	*	*	*	*	*	*	*		*		*
	PG2	49.3	72.1	103	118	161	182	223	251	339	385	428	480	568	599	708	736	839	*	813	*		*		*
	PG3		80.1	131	145	225	249	342	392	476	616	729	800	1114	1165	1332	1379	*	*	*	*		*		*
	PG4		111	181	201	307	340	466	529	676	848	996	1092	1475	1542	1815	1876	*	*	*	*		*		*
22.4	PG1	31.4	33.3	45.1	51.4	67.2	76.7	88.6	93.9	110	128	126	148	*	*	*	*	*	*	*	*	*	*	*	*
	PG2	49.3	70.3	101	115	155	177	218	231	324	388	412	489	559	586	702	722	836	864	824	793	*	*	*	*
	PG3		77.9	130	142	218	242	332	360	443	617	683	811	1061	1121	1282	1332	*	*	*	*	*	*	*	*
	PG4		108	180	195	296	330	452	485	632	850	936	1107	1412	1490	1756	1818	*	*	*	*	*	*	*	*
25	PG1	29.4	31.9	43.3	50.1	66.2	75.2	86.9	92.8	109	130	128	150	153	160	*	*	*	*	*	*	*	*	*	*
	PG2	46.0	66.7	96.6	110	151	170	209	223	307	375	395	466	537	585	681	732	833	881	841	844	*	*	*	*
	PG3		73.6	122	135	208	232	310	347	408	590	632	762	970	1078	1181	1294	*	*	*	*	*	*	*	*
	PG4		102	168	186	284	317	422	466	584	817	870	1045	1297	1440	1629	1780	*	*	*	*	*	*	*	*
28	PG1	28.7	30.9	42.5	50	64.1	74.4	85	93.1	109	131	131	155	168	172	183	182	200	*	*	*	*	*	*	*
	PG2	44.6	63.9	93.3	109	143	165	199	220	296	363	380	452	535	562	689	711	828	878	855	869	*	*	*	*
	PG3		69.4	116	134	193	225	288	336	382	554	590	715	939	987	1157	1193	*	*	*	*	*	*	*	*
	PG4		96.7	159	185	264	306	395	455	549	767	819	985	1265	1326	1605	1650	*	*	*	*	*	*	*	*
31.5	PG1	27.0	29.4	40.7	47.8	61.7	72.7	82.7	90.7	106	129	131	154	170	183	190	199	216	227	*	*	*	*	*	*
	PG2	42.0	60.7	88.5	103	136	160	190	210	282	344	365	430	508	558	658	712	799	863	831	871	*	*	*	*
	PG3		65.2	108	126	180	215	271	312	356	508	550	658	857	952	1067	1165	*	*	*	*	*	*	*	*
	PG4		90.8	149	175	247	292	370	424	514	709	766	912	1162	1288	1487	1620	*	*	*	*	*	*	*	*
35.5	PG1	26.7	27.8	38.6	46.4	59.1	69.8	79.6	87.7	105	125	130	151	173	181	196	203	228	235	*	*	*	*	*	*
	PG2	39.6	56.8	83	99.8	129	152	181	199	271	328	353	412	495	526	644	677	786	825	821	839	*	*	*	*
	PG3		59.9	99.3	119	167	200	248	292	338	475	524	615	819	871	1021	1071	*	*	*	*	*	*	*	*
	PG4		83.7	138	166	229	272	341	396	487	661	732	855	1114	1181	1429	1498	*	*	*	*	*	*	*	*
40	PG1	23.5	24.3	33.7	44.3	52	67.1	75	84.4	100	121	125	147	168	180	194	204	226	240	208	*	*	*	*	*
	PG2	34.7	49.4	71.6	94.6	112	144	168	191	255	310	334	392	469	510	614	657	747	805	783	822	*	*	*	*
	PG3		50.5	82.7	111	138	187	224	274	310	440	484	574	758	829	954	1022	*	*	*	*	*	*	*	*
	PG4		70.6	115	155	191	254	309	372	449	616	678	798	1035	1129	1339	1434	*	*	*	*	*	*	*	*
45	PG1	23.2	23.8	32.9	41.8	50.8	64	69.4	80.8	93.2	118	117	144	160	176	187	203	221	240	207	206	*	*	*	*
	PG2	34.0	48.3	69.8	88.5	108	137	154	180	234	298	306	377	434	484	572	629	700	765	733	785	*	*	*	*
	PG3		49	79.7	102	133	172	202	251	280	417	435	544	684	768	868	960	*	*	*	*	*	*	*	*
	PG4		68.7	111	142	183	236	279	342	407	585	607	760	936	1049	1221	1346	*	*	*	*	*	*	*	*
50	PG1	22.7	24.2	33	36.8	50.7	56.9	69.3	77	95.8	115	124	142	174	174	210	204	240	247	260	232	*	*	*	*
	PG2	33.6	48.7	69.2	76.9	106	119	151	169	232	281	310	358	445	453	593	594	690	730	799	757	*	*	*	*
	PG3		49.1	77.7	85.8	129	144	194	228	274	384	433	506	692	696	884	880	*	*	*	*	*	*	*	*
	PG4		68.5	108	119	177	197	269	312	396	539	610	709	944	956	1242	1240	*	*	*	*	*	*	*	*
56	PG1	20.3	22.4	30.7	36.2	47.5	55.7	64.8	72	88.9	108	117	135	167	186	203	225	245	260	271	279	*	*	*	*
	PG2	29.7	44.8	64	75.1	99.5	116	140	155	211	260	285	330	411	461	552	612	675	712	772	818	*	*	*	*
	PG3		44.2	70.1	82.9	117	138	174	206	243	345	389	451	622	702	800	891	*	*	*	*	*	*	*	*
	PG4		62.1	98.3	115	162	190	241	281	354	488	547	637	852	962	1128	1255	*	*	*	*	*	*	*	*
63	PG1	20.6	21.6	29.5	36	46.1	55.2	62.8	71	86.3	108	114	138	162	173	199	211	243	256	272	275	*	*	*	*
	PG2	28.8	43.2	61.6	74.2	96.2	114	135	151	203	255	275	332	393	422	529	563	654	689	752	776	*	*	*	*
	PG3		41.9	66.2	80.8	111	134	164	197	229	335	366	451	585	627	755	805	*	*	*	*	*	*	*	*
	PG4		58.9	93	112	154	185	229	269	334	471	517	633	802	862	1071	1133	*	*	*	*	*	*	*	*
71	PG1	19.1	20	28.2	33.3	43.9	51.4	59	65.9	80.2	99.9	107	127	155	167	190	205	232	251	261	273	*	*	*	*
	PG2	26.5	40	58.5	68.4	91.7	106	126	140	189	232	258	302	372	404	498	539	615	666	707	754	*	*	*	*
	PG3		38	61.3	73	103	122	148	177	206	297	331	404	538	591	698	760	*	*	*	*	*	*	*	*
	PG4		53.7	86.5	102	143	168	209	243	301	421	469	567	743	813	990	1075	*	*	*	*	*	*	*	*
80	PG1				31.9		49.7		63.8		95.8		123		161		196		240		262		*		*
	PG2				65.9		102		136		224		291		384		507		626		710		*		*
	PG3				68.8		115		167		278		379		544		700		*		*		*		*
	PG4				96.7		160		231		396		536		751		994		*		*		*		*
90	PG1				30.5		47.4		60		89.6		115												
	PG2				62.7		97.6		127		208		273												
	PG3				63.8		107		151		249		343												
	PG4				90.1		149		210		357		487												

PG1, PG2, PG3, PG4 See page 7 for PG1, PG2, PG3, PG4

TYPES MTB3...
SIZES 3...26

Bevel-helical Gear Units — Thermal Capacities

i		Gear unit sizes																							
		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1800 r/min																							
12.5	PG1		39	48		70.4		82.9		*		*		*		*		*		*					
	PG2		93.5	128		201		267		388		461		548		622		*		*					
	PG3		103	165		288		420		574		863		1271		1465		*		*					
	PG4		148	234		403		585		835		1199		1704		2009		*		*					
14	PG1		38.4	47.7		70.6		84.9		*		*		*	*	*	*	*	*	*	*				
	PG2		91.2	125		196		262		390		483		561	581	650	687	*	*	*	*				
	PG3		100	160		279		410		568		882		1240	1296	1445	1556	*	*	*	*				
	PG4		143	226		390		570		826		1231		1674	1750	1996	2141	*	*	*	*				
16	PG1		36.8	46.7	53.1	68.5	76.8	85.1	90.8	89.8	*	*	*	*	*	*	*	*	*	*	*				
	PG2		86.9	121	138	187	212	258	281	375	419	450	513	568	575	671	658	*	*	*	*				
	PG3		95.9	154	171	266	295	399	448	542	701	807	909	1226	1252	1440	1446	*	*	*	*				
	PG4		136	218	241	372	410	555	618	787	986	1128	1268	1662	1691	2000	1994	*	*	*	*				
18	PG1		35.9	45.9	52.2	67.4	75.5	84.4	86.1	93.1	*	*	*	*	*	*	*	*	*	*	*				
	PG2		84.5	118	134	182	207	250	261	371	426	462	527	560	586	669	714	*	*	*	*				
	PG3		93	149	164	256	287	386	414	534	706	819	921	1190	1248	1395	1513	*	*	*	*				
	PG4		132	212	233	360	400	539	570	776	995	1146	1289	1610	1687	1946	2096	*	*	*	*				
20	PG1	32.7	34.1	44.5	51	65.7	73.3	82.9	90.8	93.3	96	*	*	*	*	*	*	*	*	*	*		*		*
	PG2	54.2	79.9	113	129	175	198	241	270	358	401	440	489	555	577	668	681	761	*	622	*		*		*
	PG3		88	143	159	246	271	371	425	511	657	771	844	1154	1199	1360	1399	*	*	*	*		*		*
	PG4		125	203	225	344	379	519	588	743	926	1081	1182	1566	1628	1900	1949	*	*	*	*		*		*
22.4	PG1	32.5	33.6	44.3	50.1	64.6	72.7	82.7	86.2	93.7	102	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	PG2	54.2	77.9	112	126	170	193	237	250	343	407	426	503	554	573	673	681	774	789	661	576	*	*	*	*
	PG3		85.7	142	155	238	263	361	390	476	659	725	858	1104	1161	1318	1360	*	*	*	*	*	*	*	*
	PG4		122	202	219	331	368	504	539	697	932	1019	1203	1507	1582	1851	1902	*	*	*	*	*	*	*	*
25	PG1	30.5	32.3	43	49.4	64.6	72.5	82.8	87.2	97.2	110	102	116	*	*	*	*	*	*	*	*	*	*	*	*
	PG2	50.5	74.1	106	122	165	186	228	243	329	398	414	486	544	587	674	714	803	840	732	688	*	*	*	*
	PG3		80.9	134	148	227	254	337	377	440	634	675	813	1020	1128	1229	1339	*	*	*	*	*	*	*	*
	PG4		115	189	209	319	355	471	520	647	901	954	1143	1399	1546	1738	1890	*	*	*	*	*	*	*	*
28	PG1	29.8	31.4	42.6	49.9	63.4	72.9	82.5	89.4	100	117	112	130	*	*	*	*	*	*	*	*	*	*	*	*
	PG2	49.0	71.1	103	121	157	182	218	240	320	390	404	479	554	577	700	716	826	869	794	773	*	*	*	*
	PG3		76.5	127	147	211	246	315	367	414	598	635	767	998	1044	1218	1251	*	*	*	*	*	*	*	*
	PG4		109	179	209	296	344	442	509	611	851	903	1085	1378	1440	1734	1776	*	*	*	*	*	*	*	*
31.5	PG1	28.0	30.1	41	48	61.6	72	81.3	88.4	100	118	116	135	137	142	*	*	*	*	*	*	*	*	*	*
	PG2	46.1	67.6	98.1	114	150	177	209	230	306	371	391	460	534	582	681	731	814	874	802	815	*	*	*	*
	PG3		71.8	119	139	198	236	297	341	387	551	594	710	916	1015	1133	1233	*	*	*	*	*	*	*	*
	PG4		102	169	197	278	328	415	476	573	788	849	1009	1274	1409	1619	1759	*	*	*	*	*	*	*	*
35.5	PG1	28.3	28.5	39.1	46.9	59.4	69.7	78.9	86.3	100	118	119	137	146	149	155	155	*	*	*	*	*	*	*	*
	PG2	43.6	63.3	92.1	110	142	168	199	219	296	356	381	443	525	555	674	705	813	849	913	810	*	*	*	*
	PG3		66.1	109	131	184	219	272	320	369	516	568	666	880	933	1091	1141	*	*	*	*	*	*	*	*
	PG4		94.6	155	187	258	306	384	445	544	738	814	949	1228	1299	1566	1636	*	*	*	*	*	*	*	*
40	PG1	24.9	25	34.2	44.9	52.4	67.2	74.7	83.6	97	115	116	136	146	153	160	164	175	*	*	*	*	*	*	*
	PG2	38.1	55.1	79.6	105	124	160	186	211	279	337	362	424	500	541	647	690	779	836	786	808	*	*	*	*
	PG3		55.7	91	123	152	205	246	300	339	480	526	623	816	891	1022	1092	*	*	*	*	*	*	*	*
	PG4		79.8	129	175	215	286	348	418	503	688	755	888	1144	1245	1472	1572	*	*	*	*	*	*	*	*
45	PG1	24.6	24.5	33.5	42.5	51.3	64.4	69.5	80.4	90.8	113	110	134	142	154	159	169	179	190	*	*	*	*	*	*
	PG2	37.4	53.9	77.7	98.4	120	151	170	199	257	326	333	409	465	517	607	665	737	801	746	785	*	*	*	*
	PG3		54.1	87.8	113	147	190	222	275	306	454	473	592	739	828	933	1029	*	*	*	*	*	*	*	*
	PG4		77.7	125	161	206	265	314	384	457	655	677	847	1037	1160	1346	1481	*	*	*	*	*	*	*	*
50	PG1	24.1	24.9	33.9	37.7	51.7	57.8	70.2	77.7	95.2	113	120	138	163	161	191	184	212	216	206	*	*	*	*	*
	PG2	37.0	54.4	77.1	85.7	118	132	167	188	256	310	340	392	483	491	640	639	739	780	837	783	*	*	*	*
	PG3		54.2	85.7	94.6	142	158	213	250	300	421	473	552	752	755	958	951	*	*	*	*	*	*	*	*
	PG4		77.5	122	135	200	223	303	352	445	606	684	794	1053	1064	1380	1376	*	*	*	*	*	*	*	*
56	PG1	21.6	23.1	31.6	37.2	48.7	57	66.1	73.2	89.4	108	116	133	161	179	193	211	229	240	236	234	*	*	*	*
	PG2	32.6	50	71.4	83.7	110	129	156	173	234	288	314	363	450	504	601	665	731	771	823	866	*	*	*	*
	PG3		48.9	77.4	91.4	129	152	192	227	267	379	426	494	680	766	871	969	*	*	*	*	*	*	*	*
	PG4		70.3	111	130	183	215	272	318	398	549	614	716	954	1076	1260	1401	*	*	*	*	*	*	*	*
63	PG1	22.2	22.3	30.4	37.1	47.3	56.6	64.2	72.5	87.3	108	114	137	158	168	192	202	231	242	244	240	*	*	*	*
	PG2	31.6	48.3	68.7	82.9	107	127	150	168	226	283	303	367	431	463	579	615	712	750	808	828	*	*	*	*
	PG3		46.3	73.1	89.2	123	147	181	217	252	368	401	494	639	685	824	877	*	*	*	*	*	*	*	*
	PG4		66.7	105	127	174	210	259	304	377	531	582	712	899	966	1198	1267	*	*	*	*	*	*	*	*
71	PG1	20.5	20.7	29.1	34.3	45.2	52.7	60.4	67.4	81.3	100	107	127	153	163	184	198	222	239	238	243	*	*	*	*
	PG2	29.1	44.8	65.3	76.3	102	118	141	156	210	257	285	334	409	444	546	590	671	726	763	808	*	*	*	*
	PG3		42	67.7	80.6	113	134	163	195	226	327	363	443	589	647	763	830	*	*	*	*	*	*	*	*
	PG4		60.8	97.9	115	162	190	236	275	340	474	528	638	834	912	1109	1204	*	*	*	*	*	*	*	*
80	PG1				32.9		51.1		65.3		96.9		123		158		190		231		237		*		*
	PG2				73.6		114		151		248		323		423		556		684		764		*		*
	PG3				76		127		184		305		417		595		765		*		*		*		*
	PG4				109		182		261		447		604		843		1114		*		*		*		*
90	PG1				31.5		48.8		61.5		90.9		116												
	PG2				70		108		142		231		302												
	PG3				70.5		118		166		274		377												
	PG4				102		168		238		403		549												

PG1, PG2, PG3, PG4 See page 7 for PG1, PG2, PG3, PG4

TYPES MTB4...
SIZES 5...26

Bevel-helical Gear Units

Nominal Power Ratings

i	n1	n2	Gear unit sizes																					
			5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
			P_N (KW)								Nominal power ratings P_N (KW)													
80	1800	22.5	25		49		81		142		207		360		472		707*		990*		1319*		1885*	
	1500	18.8	21		41		68		119		173		300		393		590		825		1100		1571	
	1200	15	17		32		54		95		138		240		314		472		660		880		1256	
	1000	12.5	14		27		45		79		115		200		262		393		550		733		1047	
90	1800	20	23		43		72		126		184		320	362	418	502	628*	722*	878*	983*	1172*	1339*	1674*	1883*
	1500	16.7	20		36		60		105		153		267	302	348	419	524	602	732	819	977	1116	1395	1569
	1200	13.3	16		29		48		84		122		214	241	278	335	419	481	586	655	781	893	1116	1255
	1000	11.1	13		24		40		70		102		178	201	232	279	349	401	488	546	651	744	930	1046
100	1800	18	22	27	38	49	65	81	113	142	166	205	288	326	376	452	565*	650*	792*	886*	1055*	1206*	1508*	1696*
	1500	15	18	23	32	41	54	68	95	119	138	171	240	272	314	377	471	542	660	738	879	1005	1257	1413
	1200	12	14	18	25	32	43	54	76	95	110	137	192	217	251	301	377	433	528	590	703	804	1006	1130
	1000	10	12	15	21	27	36	45	63	79	92	114	160	181	209	251	314	361	440	492	586	670	838	942
112	1800	16.1	18.5	24.3	34	43	58	72	101	126	148	184	257	290	335	403	504*	580*	704*	788*	940*	1073*	1343*	1510*
	1500	13.4	15.5	20.3	29	36	48	60	84	105	123	153	215	242	279	336	420	483	587	657	783	894	1119	1259
	1200	10.7	12.4	16.2	23	29	38	48	67	84	98	122	172	193	223	269	336	386	469	526	626	715	895	1007
	1000	8.9	10.3	13.5	19	24	32	40	56	70	82	102	143	161	186	224	280	322	391	438	522	596	746	839
125	1800	14.4	17	22	31	38	50	65	90	113	133	164	230	261	302	362	452*	520*	634*	709*	844*	965*	1206*	1357*
	1500	12	14	18	26	32	42	54	75	95	111	137	192	218	252	302	377	434	528	591	704	804	1005	1131
	1200	9.6	11	14	20	25	34	43	60	76	89	109	154	174	202	241	301	347	422	473	563	643	804	905
	1000	8	9.2	12	17	21	28	36	50	63	74	91	128	145	168	201	251	289	352	394	469	536	670	754
140	1800	12.9	14.8	20	27	34	45	58	81	101	117	146	205	232	268	320	401*	461*	562*	628*	749*	857*	1071*	1204*
	1500	10.7	12.3	17	23	29	38	48	68	84	98	122	171	194	224	267	335	384	468	524	624	714	893	1004
	1200	8.6	9.8	13	18	23	30	38	54	67	78	97	137	155	179	214	268	307	374	419	499	571	714	803
	1000	7.1	8.2	11	15	19	25	32	45	56	65	81	114	129	149	178	223	256	312	349	416	476	595	669
160	1800	11.3	13	17.3	25	31	40	50	72	88	104	130	182	205	238	284	356*	410*	499*	558*	664*	760*	950*	1069*
	1500	9.4	11	14.4	21	26	33	42	60	74	87	108	152	171	198	237	297	342	416	465	554	633	792	891
	1200	7.5	8.8	11.5	17	20	26	34	48	59	70	86	121	137	158	190	238	274	332	372	443	506	634	713
	1000	6.3	7.3	9.6	14	17	22	28	40	49	58	72	101	114	132	158	198	228	277	310	369	422	528	594
180	1800	10	12	15	21.6	27	36	45	63	79	94	115	162	182	211	254	317*	364*	443*	497*	590*	675*	844*	950*
	1500	8.3	9.8	13	18	23	30	38	53	66	78	96	135	152	176	212	264	303	369	414	492	563	704	792
	1200	6.7	7.8	10.2	14.4	18	24	30	42	53	62	77	108	121	140	169	211	242	295	331	394	450	563	634
	1000	5.6	6.5	8.5	12.0	15	20	25	35	44	52	64	90	101	117	141	176	202	246	276	328	375	469	528
200	1800	9	10.4	14	20	24	32	41	56	70	83	103	144	164	189	227	283*	326*	396*	443*	527*	603*	754*	848*
	1500	7.5	8.7	11.4	16.5	20	27	35	47	59	69	86	120	137	158	189	236	272	330	369	440	503	629	707
	1200	6	7	9.1	13.2	16	22	28	37	47	55	68	96	109	126	151	188	217	264	295	352	402	503	565
	1000	5	5.8	7.6	11.0	13.4	18	23	31	39	46	57	80	91	105	126	157	181	220	246	293	335	419	471
224	1800	8	9.4	12.2	17.5	22	29	36	50	63	74	92	130	148	169	203	254*	293*	356*	398*	475*	544*	679*	763*
	1500	6.7	7.8	10.2	14.6	18	24	30	42	53	62	77	108	123	141	170	212	245	297	332	396	453	566	636
	1200	5.4	6.2	8.2	11.6	14	19	24	34	42	49	61	86	98	113	136	169	196	238	265	317	362	452	509
	1000	4.5	5.2	6.8	9.7	12	16	20	28	35	41	51	72	82	94	113	141	163	198	221	264	302	377	424
250	1800	7.2	8.3	11	15	20	25	32	45	56	67	83	115	130	151	182	227*	261*	317*	355*	423*	482*	603*	679*
	1500	6	6.9	9.2	12.9	16.5	21	27	38	47	56	69	96	108	126	152	189	218	264	296	353	402	503	566
	1200	4.8	5.5	7.3	10.3	13.2	17	22	30	37	44	55	77	86	101	121	151	174	211	236	282	322	402	452
	1000	4	4.6	6.1	8.6	11	14	18	25	31	37	46	64	72	84	101	126	145	176	197	235	268	335	377
280	1800	6.4	7.4	9.9	13.9	17.3	23	29	41	50	59	74	104	117	135	162	203*	234*	284*	319*	380*	434*	544*	610*
	1500	5.4	6.2	8.3	11.6	14.4	20	24	35	42	50	62	87	98	113	135	170	195	237	266	317	362	453	509
	1200	4.3	4.9	6.6	9.2	11.5	16	19	28	34	40	49	70	78	90	108	136	156	190	212	253	289	362	407
	1000	3.6	4.1	5.5	7.7	9.6	13	16	23	28	33	41	58	65	75	90	113	130	158	177	211	241	302	339
315	1800	5.7	6.7	8.8	12.4	15.3	20	25	36	45	52	67	92	104	121	144	182*	209*	254*	283*	338*	385*	482*	544*
	1500	4.8	5.6	7.4	10.4	12.8	17	21	30	38	44	56	77	87	101	120	152	174	212	236	282	321	402	453
	1200	3.8	4.4	5.9	8.3	10.2	13	17	24	30	35	44	61	70	80	96	121	139	169	188	226	257	322	362
	1000	3.2	3.7	4.9	6.9	8.5	11	14	20	25	29	37	51	58	67	80	101	116	141	157	188	214	268	302
355	1800	5.1		7.7		13.5		23		40		58		92		126		182*		248*		338*		475*
	1500	4.2		6.5		11.3		20		33		48		77		105		152		207		282		396
	1200	3.4		5.2		9		16		26		38		61		84		121		166		226		317
	1000	2.8		4.3		7.5		13		22		32		51		70		101		138		188		264
400	1800	4.5		6.8		12.1		20		36		52												
	1500	3.8		5.7		10.1		17		30		44												
	1200	3		4.6		8		14		24		35												
	1000	2.5		3.8		6.7		11.3		20		29												

Forced lubrication required on horizontal gear units.

MTH/MTB

TYPES MTB4...
SIZES 5...26

Bevel-helical Gear Units — Thermal Capacities

i		Gear unit sizes																					
		5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1000 r/min																					
80	PG1	28.6		42.4		60		90.6		121		162		183		250		351		*		*	
90	PG1	27.9		41		58.6		87.9		118		155	167	175	188	240	256	339	355	*	*	*	*
100	PG1	26.6	30.6	38.8	45.3	55.6	60.4	84.4	101	112	130	146	160	164	180	227	246	319	344	*	*	*	*
112	PG1	25.6	29.9	37.4	44	53.5	59	80.4	97.6	107	126	139	151	157	169	216	232	309	322	*	*	*	*
125	PG1	24.5	28.6	35.7	41.6	51	56	77	93.2	102	119	132	144	149	161	205	221	291	313	*	*	*	*
140	PG1	23.4	27.5	33.9	40.1	48.1	53.9	72.8	88.8	94.6	114	128	137	144	154	198	211	281	294	*	*	*	*
160	PG1	21.5	26.3	30.9	38.2	44	51.3	66.4	85.1	92.4	110	121	132	136	148	187	203	265	284	*	*	*	*
180	PG1	21.1	24.1	30.1	36.4	42.9	48.7	64.6	80.6	87.2	103	114	124	128	139	175	191	248	269	*	*	*	*
200	PG1	20.4	23.1	29.9	33.2	42	44.6	63.2	73.6	85.2	98.5	112	117	126	132	174	179	240	251	*	*	*	*
224	PG1	19	22.7	27.8	32.4	39.3	43.4	59.4	71.8	79.9	93.2	105	116	117	130	163	179	224	243	*	*	*	*
250	PG1	18.5	21.8	26.9	32.1	37.9	42.5	57.5	70.1	77.3	90.6	102	108	114	122	158	168	217	227	*	*	*	*
280	PG1	17.6	20.4	25.2	30	36.1	39.8	55	65.8	73	85.2	95	104	107	117	148	161	207	220	*	*	*	*
315	PG1	16.5	19.8	23.6	28.8	33.9	38.4	51.3	63.7	69.6	82.4	89.7	98.5	101	110	140	153	193	210	*	*	*	*
355	PG1		19		27.1		36.6		60.8		77.8		92.4		104		144		196		*		*
400	PG1		17.7		25.4		34.5		56.7		74.1												

i		Gear unit sizes																					
		5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1200 r/min																					
80	PG1	30.5		45.1		63.5		94.9		125		165		183		248		334		*		*	
90	PG1	29.9		43.7		62.2		92.3		123		159	170	176	189	240	255	327	336	*	*	*	*
100	PG1	28.5	32.7	41.4	48.2	59.1	64.1	88.9	106	117	135	150	163	167	182	228	247	311	330	*	*	*	*
112	PG1	27.5	32	39.9	46.9	56.9	62.7	84.9	102	112	132	144	155	161	173	219	235	306	314	*	*	*	*
125	PG1	26.3	30.6	38.2	44.4	54.4	59.7	81.5	98.4	108	125	138	149	154	166	210	226	291	309	*	*	*	*
140	PG1	25.1	29.5	36.3	42.9	51.4	57.5	77.3	94.1	103	120	134	143	149	159	204	217	284	294	*	*	*	*
160	PG1	23.1	28.2	33.2	41	47	54.9	70.7	90.4	97.8	116	127	138	142	155	194	210	271	288	*	*	*	*
180	PG1	22.7	27	32.4	39	46	52.2	69	85.9	92.8	110	120	131	135	146	183	200	256	276	*	*	*	*
200	PG1	21.9	24.9	32.1	35.7	45.1	47.8	67.7	78.7	91	105	119	125	134	140	183	189	251	261	*	*	*	*
224	PG1	20.4	24.4	30	34.9	42.3	46.7	63.8	77	85.6	99.8	112	123	125	138	174	190	237	256	*	*	*	*
250	PG1	20	23.5	29	34.6	40.8	45.8	61.9	75.4	83.1	97.4	109	116	122	131	169	180	232	243	*	*	*	*
280	PG1	19	22	27.2	32.3	39	43	59.3	71	78.8	92	102	113	115	127	160	174	224	237	*	*	*	*
315	PG1	17.8	21.4	25.5	31.1	36.6	41.5	55.4	68.7	75.2	89	96.9	106	109	119	152	165	209	227	*	*	*	*
355	PG1		20.5		29.2		39.6		65.6		84		99.7		113		155		211		*		*
400	PG1		19.1		27.4		37.3		61.2		80												

PG1: PG1: Without auxiliary cooling

TYPES MTB4...
SIZES 5...26

Bevel-helical Gear Units Thermal Capacities

i		Gear unit sizes																					
		5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1500 r/min																					
80	PG1	31.7		46.9		66.1		98.6		130		171		189		256		343		*		*	
90	PG1	31.1		45.5		64.7		95.9		128		164	175	183	195	248	264	337	345	*	*	*	*
100	PG1	29.6	34	43.1	50.2	61.5	66.7	92.4	110	121	140	156	169	173	188	236	255	321	339	*	*	*	*
112	PG1	28.6	33.3	41.5	48.8	59.2	65.3	88.3	106	116	137	149	161	167	179	227	243	315	323	*	*	*	*
125	PG1	27.4	31.8	39.7	46.2	56.6	62.1	84.8	102	112	130	143	155	159	172	218	234	300	318	*	*	*	*
140	PG1	26.1	30.7	37.8	44.6	53.5	59.9	80.4	97.8	107	125	139	148	155	165	211	225	294	304	*	*	*	*
160	PG1	24.1	28.4	34.5	42.7	49	57.2	73.6	94.1	101	121	132	143	147	160	202	218	281	298	*	*	*	*
180	PG1	23.6	28.1	33.7	40.7	47.9	54.3	71.8	89.3	96.5	114	125	136	140	152	190	208	266	286	*	*	*	*
200	PG1	22.8	25.9	33.5	37.2	47	49.8	70.5	81.9	94.7	109	124	130	139	146	191	196	260	271	*	*	*	*
224	PG1	21.3	25.4	31.2	36.4	44	48.6	66.5	80.2	89.1	104	117	128	130	144	181	198	246	266	*	*	*	*
250	PG1	20.8	24.5	30.2	36	42.5	47.8	64.5	78.6	86.6	101	114	120	127	136	176	187	241	252	*	*	*	*
280	PG1	19.8	22.9	28.4	33.7	40.6	44.8	61.8	74	82.1	95.9	106	117	120	132	167	182	233	247	*	*	*	*
315	PG1	18.6	22.3	26.6	32.4	38.2	43.2	57.8	71.6	78.4	92.7	100	110	113	124	158	172	217	236	*	*	*	*
355	PG1		21.3		30.4		41.2		68.4		87.6		103		117		162		220		*		*
400	PG1		19.9		28.6		38.9		63.8		83.4												

i		Gear unit sizes																					
		5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		n=1800 r/min																					
80	PG1	33		48.6		68.1		100		130		168		184		245		312		*		*	
90	PG1	32.3		47.2		66.8		97.9		129		163	173	178	190	239	253	311	311	*	*	*	*
100	PG1	30.9	35.4	44.8	52	63.6	68.8	94.7	112	123	142	155	168	170	185	230	247	301	312	*	*	*	*
112	PG1	29.8	34.7	43.2	50.6	61.4	67.5	90.7	109	118	139	150	161	165	177	223	238	300	302	*	*	*	*
125	PG1	28.5	33.2	41.4	48	58.8	64.3	87.3	105	114	133	144	155	160	171	216	231	290	303	*	*	*	*
140	PG1	27.3	32	39.4	46.5	55.6	62.2	83.1	100	109	128	141	150	156	166	212	224	288	294	*	*	*	*
160	PG1	25.2	30.7	36.1	44.5	51	59.5	76.2	97.2	104	124	135	146	150	162	204	220	278	292	*	*	*	*
180	PG1	24.7	29.4	35.2	42.5	50	56.6	74.6	92.6	99.8	118	129	140	143	155	194	211	266	285	*	*	*	*
200	PG1	23.9	27.1	35	38.9	49.1	52	73.4	85.2	98.3	113	128	134	143	150	196	201	264	274	*	*	*	*
224	PG1	22.3	26.7	32.7	38.1	46.1	50.9	69.5	83.7	92.9	108	121	133	135	149	187	205	253	273	*	*	*	*
250	PG1	21.8	25.7	31.7	37.8	44.6	50.1	67.6	82.3	90.6	106	119	126	133	142	184	195	251	262	*	*	*	*
280	PG1	20.9	24.1	29.8	35.4	42.7	47.1	65	77.7	86.3	100	112	123	126	139	175	191	245	260	*	*	*	*
315	PG1	19.5	23.5	27.9	34.1	40.1	45.4	60.7	75.2	82.3	97.4	106	116	119	131	166	180	228	248	*	*	*	*
355	PG1		22.4		32		43.3		71.8		92		109		123		170		231		*		*
400	PG1		21		30		40.8		67		87.6												

PG1: PG1: Without auxiliary cooling

TYPES MTH1...,MTH2...,MTH3...,MTH4...

SIZES 1...26

Helical gear units

Nominal Output Torques

i_N	Gear unit sizes																								
	1	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	T_{2N}(KNm)													Nominal Output Torques T_{2N}(KNm)											
1.25	0.79	2.6		7		13.3		21.5																	
1.4	0.83	2.7		7.2		13.9		22.3																	
1.6	0.87	2.9		7.5		14.2		23.6		40		63													
1.8	0.91	2.4		7.7		15.2		24.4		41.4		66.3													
2.0	0.93	2.5		8.2		15.5		25		42.7		68.2		121											
2.24	0.96	2.5		8.4		15.5		25		44		70.3		122											
2.5	1	2.6		8.4		15.5		25		44		72		110											
2.8	1	2.7		8.4		14.9		23.7		44		72		113		171									
3.15	1	2.7		8.4		15.2		24.5		41.9		68.4		116		173									
3.55	1	2.8		8.3		15.5		24.9		43.7		69.6		118		173									
4.0	1	2.8		8.4		15.5		25		44		70.8		122		173		245							
4.5	0.82	2.2		6.7		13.8		21.4		40		57.6		102		146		216							
5.0	0.78	2.1		6.3		12		20.5		33.7		54.5		88.8		124		174							
5.6	0.62	2		6		11.4		17.5		31.8		51.8		84.5		118		150							
6.3		3.5	6.3	10.5		19		31.5		55.5		86		143		195		292							
7.1		3.5	6.3	10.5		19		31.5		55.5		86		143	160	195	230	292	335	410					
8.0		3.5	6.3	10.5	13.5	19	24	31.5	39.5	55.5	69	86	107	143	160	195	230	292	335	410	458				
9.0		3.5	6.3	10.5	13.5	19	24	31.5	39.5	55.5	69	86	107	143	160	195	230	292	335	410	458	540			
10		3.5	6.3	10.5	13.5	19	24	31.5	39.5	55.5	69	86	107	143	160	195	230	292	335	410	458	540	620		
11.2		3.5	6.3	10.5	13.5	19	24	31.5	39.5	55.5	69	86	107	143	160	195	230	292	335	410	458	540	620	780	
12.5		3.5	6.3	10.5	13.5	19	24	31.5	39.5	55.5	69	86	107	143	160	195	230	292	335	410	458	540	620	780	880
14		3.5	6.3	10.5	13.5	19	24	31.5	39.5	55.5	69	86	107	143	160	195	230	292	335	410	458	540	620	780	880
16		3.5	6.3	10.5	13.5	19	24	31.5	39.5	55.5	69	86	107	143	160	195	230	292	335	410	458	540	620	780	880
18		3.5	6.3	10.5	13.5	19	24	31.5	39.5	55.5	69	86	107	143	160	195	230	292	335	410	458	540	620	780	880
20		3.5	6.3	10.5	13.5	19	24	31.5	39.5	55.5	69	86	107	143	160	195	230	292	335	410	458	540	620	780	880
22.4		3.5	6.2	10.2	13.5	18.6	24	31	39.5	54.5	69	88	107	153	160	200	230	300	335	420	458	560	620	800	880
25				11	13.5	20.5	24	34	39.5	60	69	88	107	153	173	200	240	300	345	420	470	560	640	800	900
28				11	13	20.5	23.5	34	38.9	60	67.8	88	109	153	173	200	240	300	345	420	470	560	640	800	900
31.5				11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
35.5				11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
40				11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
45				11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
50				11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
56				11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
63				11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
71				11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
80				11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
90				11	14.5	20	25.5	33.5	43	60	75	88	109	153	173	200	240	290	345	410	470	560	640	800	900
100					14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	226	300	335	420	465	560	640	800	900
112					14.1	20.5	25.2	34	42	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
125						20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
140						20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
160						20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
180						20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
200						20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
224						20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
250						20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
280						20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
315						20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
355						19.6	25.5	33	43	59	75	88	109	140	173	192	240	290	345	410	470	560	640	800	900
400							25.5		43		75		109		158		223		335		465		640		900
450							24.8		41.6		74		109												

MTH1
MTH2
MTH3
MTH4

Bevel-helical Gear Units

Nominal Output Torques

TYPES MTB2...MTB3...MTB4...

SIZES 1...26

i_N	Gear unit sizes																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	T_{2N}(KNm) Nominal Output Torques T_{2N}(KNm)																									
5.0	1.15	2	3.1	5.8	9.4		17.8		28		43		66		122											
5.6	1.15	2	3.1	5.8	9.4		17.8		28		45		67		122	135	195									
6.3	1.15	2	3.1	5.8	9.4	12	17.8	22.3	28	35.6	47	55	71	82	130	141	195									
7.1	1.15	2	3.1	5.8	9.4	12	17.8	22.3	28	35.6	49	57	73	84	132	145	195	230								
8.0	1.15	2	3.1	5.8	9.4	12	17.8	22.3	28	35.6	50.5	59	77	88	132	148	195	230								
9.0	1.15	2	3.1	5.8	9.4	12	17.8	22.3	28	35.6	50.5	61	78	91	132	148	195	230								
10	1.15	2	3.1	5.8	9.4	12	17.8	22.3	28	35.6	50.5	62	78	95	132	148	195	230								
11.2	1.15	2	3.1	5.8	9.4	12	17.8	22.3	28	35.6	50.5	62	78	97.5	132	148	195	230								
12.5	1.15	2	3.1	5.5	9.4	12	17.0	22.3	28	35.6	50.5	62	78	97.5	132	148	195	230	250		340					
14	1.15	2	3.1	6	9.8	12	18.2	22.3	29.5	35.6	53	62	80	97.5	137	148	195	230	262	295	360	405				
16	1.1	1.95	3.1	6.2	10.2	12	19.1	21.5	31	35.6	56	62	83	97.5	142	154	200	230	275	308	380	422				
18	1.03	1.8	3	6.4	10.6	12.6	19.8	23.1	32.5	37.5	58	65	85	100	148	160	200	240	288	320	400	438				
20			3.6	6.6	11	13.2	20.5	23.9	34	39.3	60	68	88	103	153	167	200	240	300	332	420	455	560		800	
22.4			3.6	6.6	11	13.8	20.5	24.8	34	41	60	72	88	106	153	173	200	240	300	345	420	470	560	640	800	900
25			3.6	6.6	11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
28			3.6	6.6	11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
31.5			3.6	6.6	11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
35.5			3.6	6.6	11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
40			3.6	6.6	11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
45			3.6	6.6	11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
50			3.6	6.6	11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
56			3.6	6.6	11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
63			3.6	6.6	11	14.5	20	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
71			3.6	6.6	11	14.5	20	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
80					11	14	20.5	25.2	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
90					11	14	20.5	25.2	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
100					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
112					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
125					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
140					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
160					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
180					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
200					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
224					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
250					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
280					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
315					11	14.5	20.5	25.5	34	43	60	75	88	109	153	173	200	240	300	345	420	470	560	640	800	900
355						14.5		25.5		43		75		109		173		240		345		470		640		900
400						14.5		25.5		43		75		109												

MTB2
MTB3
MTB4

Helical gear units

Actual Ratios

TYPES MTH1...,MTH2...,MTH3...,MTH4...

SIZES 1...13

	i Actual ratios i												
iN	Gear unit sizes												
	1	2	3	4	5	6	7	8	9	10	11	12	13
1.25	1.250		1.243		1.256		1.263		1.270				
1.4	1.415		1.371		1.378		1.389		1.400				
1.6	1.605		1.594		1.588		1.606		1.625		1.636		1.588
1.8	1.829		1.829		1.839		1.774		1.800		1.806		1.839
2.0	2.000		2.000		2.034		1.966		2.000		2.000		2.034
2.24	2.194		2.194		2.259		2.308		2.231		2.222		2.259
2.5	2.536		2.536		2.520		2.583		2.500		2.480		2.520
2.8	2.808		2.808		2.826		2.800		2.741		2.783		2.826
3.15	3.125		3.125		3.190		3.130		3.208		3.080		3.208
3.55	3.500		3.500		3.591		3.524		3.591		3.478		3.591
4.0	3.950		3.950		4.050		4.000		4.050		3.905		4.050
4.5	4.476		4.435		4.619		4.400		4.381		4.421		4.619
5.0	5.053		4.952		4.900		4.905		4.947		5.150		4.900
5.6	5.571		5.579		5.556		5.526		5.684		5.474		5.556
6.3			6.232	6.319	6.286		6.088		6.260		6.246		6.410
7.1			7.099	6.857	7.213		7.048		7.247		6.900		7.100
8.0			7.765	7.778	7.889	7.792	7.799	7.676	8.018	7.848	7.644	7.941	7.889
9.0			8.516	8.485	8.652	8.940	8.660	8.887	8.904	9.085	8.974	8.772	8.799
10			9.845	9.722	10.002	9.778	9.660	9.833	9.932	10.053	10.046	9.718	9.861
11.2			10.900	10.694	11.075	10.724	10.648	10.920	11.138	11.163	10.889	11.410	10.811
12.5			12.132	12.444	12.326	12.397	11.807	12.180	12.574	12.452	12.174	12.773	12.655
14			13.588	13.865	13.806	13.726	13.939	13.426	14.152	13.964	13.704	13.844	14.164
16			15.335	15.556	15.581	15.278	15.717	14.887	15.962	15.765	15.556	15.478	15.975
18			17.378	17.602	17.493	17.111	17.598	17.576	18.204	17.743	17.111	17.423	17.280
20			19.616	19.444	19.534	19.311	19.742	19.817	19.312	20.012	19.074	19.778	19.515
22.4			21.630	22.037	22.006	21.681	20.982	22.189	21.895	22.824	21.491	21.756	22.020
25					25.011	24.212	25.540	24.892	25.439	24.212	24.706	24.251	25.372
28					28.490	27.275	27.711	26.456	29.187	27.451	28.602	27.325	29.373
31.5					31.161	30.999	31.433	32.202	31.924	31.894	31.648	31.412	32.501
35.5					34.177	35.312	34.291	34.940	35.013	36.593	35.144	36.366	36.092
40					39.508	38.622	39.292	39.633	40.474	40.024	39.200	40.238	40.257
45					43.745	42.360	43.221	43.236	44.816	43.897	43.210	44.683	45.147
50					48.689	48.967	50.293	49.542	49.881	50.744	47.911	49.840	50.968
56					54.532	54.220	56.033	54.496	55.866	56.187	56.566	54.938	57.365
63					61.543	60.347	62.867	63.413	63.049	62.537	63.778	60.916	64.699
71					69.742	67.589	71.139	70.651	70.787	70.041	71.414	71.919	73.789
80					78.723	76.279	78.583	79.267	79.049	79.046	80.111	81.089	78.278
90					86.806	86.440	89.061	89.696	89.050	88.748	85.146	90.798	88.750
100						97.572	101.554	99.083	101.210	99.106	103.639	101.856	103.114
112						107.590	115.256	112.294	115.290	111.645	112.450	108.257	118.306
125							125.733	128.046	126.098	126.890	127.556	131.769	129.398
140							143.985	145.322	138.301	144.542	139.152	142.973	141.920
160							158.251	158.533	159.874	158.093	159.444	162.178	164.058
180							174.630	181.546	177.022	173.392	175.389	176.921	181.654
200							193.629	199.533	197.028	200.439	204.089	202.722	202.184
224							228.606	220.185	220.671	221.938	227.382	222.994	226.446
250							257.753	244.141	249.043	247.020	255.111	259.484	255.560
280							288.615	288.242	282.219	276.663	288.678	289.100	286.925
315							305.352	324.993	318.563	312.234	318.889	324.356	320.413
355							344.112	363.906	351.273	353.827	361.407	367.034	360.951
400								385.010		399.393		405.444	
450								433.881		440.402		459.504	

MTH/MTB

Helical gear units

Actual Ratios

TYPES MTH1...,MTH2...,MTH3...,MTH4...

SIZES 14...26

i Actual ratios i													
Gear unit sizes													i_N
14	15	16	17	18	19	20	21	22	23	24	25	26	
													1.25
													1.4
													1.6
													1.8
	2.000		2.000		1.967								2.0
	2.231		2.250		2.296								2.24
	2.481		2.481		2.560								2.5
	2.760		2.760		2.870								2.8
	3.087		3.087		3.238								3.15
	3.476		3.476		3.450								3.55
	3.947		3.947		3.944								4.0
	4.579		4.526		4.400								4.5
	5.100		4.900		4.950								5.0
	5.778		5.556		5.700								5.6
	6.449		6.154		6.410		6.500		6.306		6.280		6.3
	7.120	7.316	7.125	7.147	7.100	7.312	7.200	7.265	7.038	7.059	6.915	7.232	7.1
7.944	7.882	8.076	7.884	8.274	7.889	8.100	8.000	8.047	7.882	7.878	7.635	7.963	8.0
8.800	8.758	8.941	8.755	9.155	8.799	9.000	8.923	8.941	8.868	8.824	8.915	8.792	9.0
9.778	9.774	9.935	9.765	10.167	9.788	10.038	9.926	9.973	9.780	9.926	9.939	10.266	10
10.906	10.967	11.087	10.951	11.340	10.887	11.167	11.040	11.094	10.878	10.948	11.141	11.445	11.2
12.222	12.139	12.440	12.432	12.717	12.176	12.420	12.348	12.339	12.166	12.176	12.571	12.829	12.5
13.399	13.708	13.769	13.915	14.438	13.712	13.891	13.905	13.801	13.700	13.619	13.394	14.476	14
15.685	15.389	15.550	15.694	16.159	15.570	15.643	15.789	15.541	15.557	15.336	15.314	15.424	16
17.556	17.424	17.457	17.899	18.225	18.061	17.763	18.316	17.647	17.839	17.415	17.082	17.634	18
19.800	20.297	19.765	18.988	20.786	20.117	20.605	20.400	20.471	19.312	19.969	19.218	19.671	20
21.418	21.374	23.024	20.930	22.050	21.782	22.950	22.368	22.800	22.039	21.618	21.108	22.129	22.4
24.187	24.716	24.245	24.202	24.306	25.283	24.850	25.837	25.000	25.457	24.671	24.322	24.306	25
27.292	27.304	28.036	26.736	28.106	28.006	28.844	28.523	28.877	28.103	28.497	28.157	28.007	28
31.447	30.248	30.971	29.619	31.048	31.117	31.950	31.579	31.879	31.115	31.459	31.156	32.424	31.5
36.406	35.514	34.311	34.776	34.397	34.708	35.500	35.088	35.294	34.572	34.830	34.598	35.876	35.5
40.283	39.756	40.284	38.929	40.385	38.897	39.596	39.158	39.216	38.582	38.700	38.591	39.840	40
44.733	43.090	45.096	42.194	45.208	42.642	44.375	43.936	43.765	43.290	43.189	43.278	44.438	45
49.896	48.175	48.878	47.174	49.000	49.917	48.648	48.632	49.105	47.916	48.459	49.132	49.835	50
55.957	54.229	54.647	53.102	54.783	55.870	56.948	54.920	54.353	54.112	53.638	54.990	56.576	56
63.171	61.557	61.514	60.278	61.667	63.013	63.739	61.654	61.381	60.747	60.573	62.021	63.322	63
71.100	67.713	69.826	66.306	70.000	68.162	71.888	69.806	68.908	68.780	68.001	70.735	71.418	71
80.190	75.481	76.809	73.912	77.000	76.974	77.762	81.316	78.019	80.120	76.992	75.037	81.452	80
91.457	85.046	85.620	83.279	85.833	88.439	87.816	86.427	90.882	85.156	89.687	85.076	86.407	90
97.020	97.768	96.471	95.735	96.711	100.079	100.895	99.020	96.594	97.564	95.323	100.783	97.967	100
110.00	113.186	110.901	110.833	111.176	115.862	114.174	109.386	110.670	107.778	109.214	111.637	119.054	112
127.803	125.238	128.390	122.634	128.710	128.198	132.180	121.182	122.255	119.400	120.647	124.041	128.552	125
146.633	139.074	142.060	136.183	142.414	142.362	146.254	142.279	135.439	140.186	133.657	138.354	142.835	140
160.380	155.125	157.756	151.900	158.148	158.792	162.413	159.273	159.017	156.931	156.925	155.051	159.316	160
175.901	170.993	175.962	167.438	176.400	178.079	181.156	172.632	178.011	170.093	175.669	169.982	178.544	180
203.339	189.597	193.962	185.656	194.444	201.040	203.160	193.004	192.941	190.166	190.402	198.983	195.737	200
225.149	223.845	215.065	219.192	215.600	226.272	229.355	217.257	215.711	214.062	212.872	222.710	229.132	224
250.594	252.385	253.914	247.139	254.545	255.201	258.141	246.617	242.817	242.990	239.622	251.183	256.454	250
280.665	282.605	286.288	276.730	287.000	291.058	291.144	271.278	275.630	267.289	272.004	271.709	289.241	280
316.751	317.021	320.566	310.431	321.364	308.761	332.052	302.399	303.193	297.952	299.204	306.839	312.877	315
355.625	336.946	359.606	329.942	360.500	350.069	352.249	340.720	337.975	335.710	333.528	352.538	353.329	355
397.131		382.207		383.158		399.375		380.805		375.794		405.953	400
447.376													450

MTH1
MTH2
MTH3
MTH4

Bevel-helical gear units

Actual Ratios

TYPES MTB2...,MTB3...,MTB4...
SIZES 1...13

	i Actual ratios i												
i_N	Gear unit sizes												
	1	2	3	4	5	6	7	8	9	10	11	12	13
5.0	4.980	5.043	4.895	4.936	5.006		4.865		5.002		4.897		4.967
5.6	5.566	5.636	5.471	5.480	5.488		5.333		5.483		5.534		5.613
6.3	6.455	6.526	6.334	6.296	6.386	6.205	6.206	6.135	6.381	6.271	6.296	6.226	6.386
7.1	7.068	7.158	6.947	6.959	7.058	6.802	6.860	6.725	7.053	6.875	7.037	7.036	7.138
8.0	7.668	7.765	7.536	7.549	7.657	7.915	7.880	7.825	8.101	8.000	7.994	8.005	8.108
9.0	8.829	8.941	8.678	8.693	8.817	8.749	8.569	8.649	8.810	8.842	8.693	8.947	8.817
10	10.027	10.154	9.855	9.872	10.108	9.490	9.823	9.935	10.099	10.157	9.965	10.164	10.108
11.2	10.938	11.077	10.751	10.769	10.923	10.928	10.615	10.804	10.914	11.045	10.769	11.052	10.923
12.5	12.458	12.615	12.244	12.034	12.703	12.528	12.433	12.385	12.554	12.662	12.334	12.670	12.482
14	14.005	14.182	13.765	13.484	13.964	13.538	13.515	13.385	14.137	13.683	13.821	13.692	13.721
16	15.441	15.636	15.176	15.601	15.835	15.826	16.275	15.773	15.952	15.693	15.522	15.888	16.354
18	17.595	17.818	17.294	17.482	17.407	17.307	17.692	17.041	17.963	17.724	17.393	17.572	17.978
20			19.336	19.614	19.645	19.729	19.948	20.648	20.259	19.940	19.744	19.995	20.276
22.4			21.609	21.919	21.954	21.575	22.146	22.308	22.208	22.520	21.643	22.114	22.226
25			25.021	25.380	25.421	24.349	25.446	25.152	25.843	25.400	25.185	25.103	25.864
28			27.442	27.836	27.881	27.211	28.125	27.923	28.563	27.842	27.836	27.517	28.587
31.5			29.769	30.196	30.245	31.508	30.509	32.084	30.985	32.400	31.975	32.021	32.838
35.5			34.279	34.771	34.827	34.557	35.131	35.461	35.679	35.811	34.771	35.392	35.709
40			38.928	39.487	39.551	37.486	39.896	38.468	40.902	38.846	39.861	40.654	40.936
45			42.467	43.077	43.146	43.166	43.523	44.296	44.202	44.732	43.077	44.209	44.238
50			48.365	49.060	49.139	49.021	49.568	50.304	50.341	51.280	49.060	50.681	50.383
56			54.371	55.152	55.240	53.477	55.723	54.877	56.592	55.417	55.152	54.769	56.639
63			59.947	60.808	60.906	60.904	61.438	62.499	62.396	63.114	60.808	62.376	62.448
71			68.312	69.293	69.404	68.467	70.011	70.259	71.102	70.951	69.293	70.121	71.161
80					77.598	75.489	79.267	77.465	79.497	78.228	80.949	77.313	82.118
90					86.720	86.022	88.585	88.274	88.842	89.143	89.869	88.101	90.016
100					100.413	96.178	102.572	99.945	102.869	99.667	103.259	102.921	104.750
112					110.130	107.484	112.498	111.694	112.824	111.384	114.129	114.262	115.777
125					119.466	124.455	122.035	129.330	122.389	128.971	123.804	131.287	125.592
140					137.567	136.499	140.525	141.846	140.933	141.452	142.562	145.106	144.621
160					156.225	148.071	159.585	153.871	160.047	153.443	161.897	157.408	165.791
180					170.427	170.506	174.092	177.184	174.597	176.692	176.615	181.258	179.166
200					194.098	193.631	198.272	201.215	198.847	200.656	201.145	205.841	204.050
224					218.199	211.234	222.891	219.508	223.537	218.898	226.121	224.554	229.386
250					240.578	240.572	245.752	249.995	246.464	249.300	249.313	255.742	252.913
280					274.147	270.443	280.042	281.036	280.855	280.256	284.101	287.497	288.204
315					302.121	298.181	308.618	309.861	309.513	309.000	313.091	316.984	317.612
355						339.788		353.097		352.116		361.214	
400						374.460		389.127		388.046		398.073	
450													

MTB2
MTB3
MTB4

Bevel-helical gear units

Actual Ratios

TYPES MTB2...,MTB3...,MTB4...

SIZES 14...26

i Actual ratios i													
Gear unit sizes													i_N
14	15	16	17	18	19	20	21	22	23	24	25	26	
	4.963												5.0
	5.609	5.630	5.514										5.6
6.156	6.340	6.362	6.234										6.3
6.957	7.132	7.192	7.012	7.239									7.1
7.915	8.101	8.090	7.965	8.143									8.0
8.847	8.810	9.190	8.662	9.250									9.0
10.049	10.099	9.993	9.930	10.059									10
10.928	10.914	11.456	10.731	11.531									11.2
12.528	12.172	12.380	12.770	12.462	12.062		12.256						12.5
13.538	13.810	13.832	13.790	14.654	13.709	13.698	13.902	13.719					14
15.552	15.215	15.665	16.226	16.014	15.192	15.640	15.436	15.538					16
17.007	17.262	17.290	17.522	18.620	17.267	17.252	17.510	17.279					18
20.376	19.379	19.581	19.762	20.348	19.607	19.698	19.883	19.570	19.591		19.284		20
22.282	21.900	21.982	22.333	22.950	22.158	22.368	22.470	22.222	22.139	21.930	21.793	22.206	22.4
25.131	24.916	24.842	25.409	25.936	25.048	25.278	25.400	25.113	25.027	24.783	24.635	25.095	25
27.548	27.847	28.263	28.398	29.507	28.175	28.576	28.571	28.389	28.151	28.015	27.711	28.368	28
32.057	31.634	31.588	32.259	32.979	32.005	32.143	32.456	31.933	31.979	31.513	31.478	31.909	31.5
35.432	34.400	35.883	35.080	37.463	34.804	36.513	35.294	36.275	34.775	35.797	34.231	36.248	35.5
40.700	39.435	39.021	40.215	40.738	39.899	39.706	40.461	39.446	39.866	38.927	39.241	39.417	40
44.259	42.617	44.732	43.460	46.702	43.117	45.518	43.725	45.221	43.082	44.626	42.407	45.187	45
50.737	48.536	48.341	49.496	50.469	49.106	49.190	49.798	48.869	49.065	48.226	48.297	48.833	50
54.831	54.562	55.055	55.641	57.479	55.203	56.022	55.981	55.656	55.158	54.924	54.294	55.615	56
62.446	60.158	61.892	61.348	64.616	60.865	62.978	61.722	62.567	60.815	61.744	59.863	62.520	63
70.200	68.553	68.239	69.909	71.243	69.358	69.438	70.335	68.984	69.301	68.076	68.216	68.933	71
77.400	78.131	77.761	76.506	81.184	79.977	79.127	77.639	78.610	76.497	77.575	78.100	78.551	80
88.200	85.645	88.626	83.865	88.846	87.670	91.242	87.739	86.772	86.448	85.631	88.260	89.933	90
101.780	99.664	97.150	97.593	97.391	102.020	100.017	99.821	98.061	98.353	96.770	100.414	101.633	100
111.569	110.155	113.052	107.865	113.333	112.759	116.389	111.565	111.565	109.924	110.097	112.228	115.629	112
129.831	126.535	124.952	123.904	125.263	129.526	128.641	126.733	124.690	124.870	123.049	127.487	129.232	125
143.498	137.599	143.532	134.739	143.889	140.851	147.769	137.815	141.643	135.788	139.780	138.634	146.803	140
155.663	157.741	156.082	154.462	156.471	161.470	160.690	157.989	154.029	155.665	152.002	158.928	159.639	160
179.284	170.467	178.930	166.923	179.375	174.496	184.212	170.735	176.576	168.224	174.252	171.749	183.008	180
205.487	194.143	193.365	190.107	193.846	198.732	199.073	194.448	190.821	191.588	188.310	195.603	197.772	200
222.065	218.249	220.222	213.712	220.769	223.408	226.722	218.592	217.324	215.377	214.464	219.891	225.240	224
252.907	240.634	247.566	235.631	248.182	246.322	254.874	241.012	244.309	237.467	241.094	242.444	253.208	250
284.310	274.210	272.957	268.510	273.636	280.692	281.015	274.641	269.366	270.602	265.822	276.274	279.178	280
313.470	302.191	311.045	295.909	311.818	309.334	320.226	302.666	306.952	298.215	302.913	304.465	318.133	315
357.210		342.784		343.636		352.902		338.273		333.823		350.596	355
393.660													400
													450

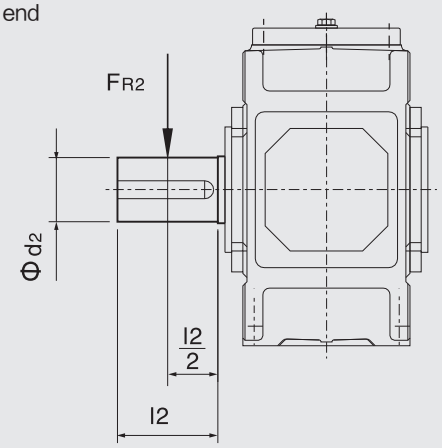
MTB2
MTB3
MTB4

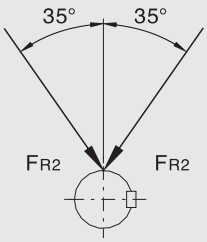
1)

Gear Units Permissible Additional Radial Forces on Output Shaft d2 1)

TYPES MTH1SH.,MTH2S., MTH3S., MTH4S., MTB2S., MTB3S., MTB4S

Application of force outside the centre of the shaft end





Permissible direction of force

MTH/MTB

3)

Permissible additional radial forces FR2 in kN with application of force on center of shaft end

Type	Design	1), 4) Gearunitsize1), 4)																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
MTH1SH	A/B	2)	–	2)	–	2)	–	2)	–	2)	–	2)	–	2)	–	2)		2)	
MTH2S.	A/B/G/H	–	–	8	10	22	22	30	30	30	45	64	64	150	150	140	205	205	205
	C/D	–	–	8	10	13	13	30	18	10	28	35	35	112	112	85	135	135	135
MTH3S.	A/B/G/H	–	–	–	–	29	29	40	40	40	60	85	85	190	190	185	265	265	265
	C/D	–	–	–	–	18	18	26	26	18	40	50	50	150	150	120	185	185	190
MTH4S.	A/B	–	–	–	–	–	–	26	26	18	40	50	50	150	150	120	185	185	190
	C/D	–	–	–	–	–	–	40	40	40	60	85	85	190	190	185	265	265	265
MTB2S.	A/C	7	10	10	13	27	27	37	37	38	55	78	78	160	160	150	210	210	210
	B/D	4	7	9	12	15	15	17	17	10	30	38	38	110	110	75	145	100	100
MTB3S.	A/C	–	–	9	14	29	29	40	40	40	60	85	85	190	190	185	265	265	265
	B/D	–	–	7	9	18	18	26	26	18	40	50	50	150	150	120	185	185	190
MTB4S.	A/C	–	–	–	–	29	29	40	40	40	60	85	85	190	190	185	265	265	265
	B/D	–	–	–	–	18	18	26	26	18	40	50	50	150	150	120	185	185	190

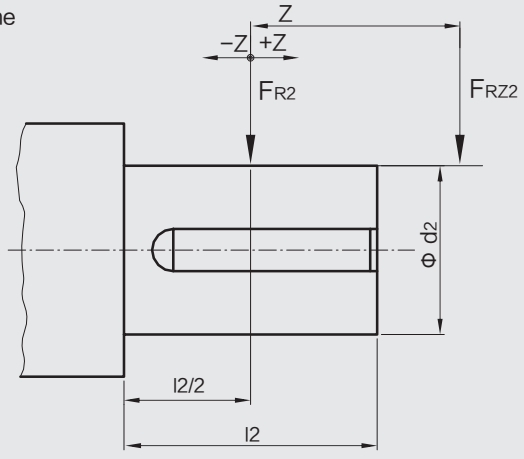
1)
2)
3)
4)

1) Values in tables are minimum values.If the angle of application of force and the direction of rotation are given,signif-icantly higher additional forces can mostly beallowed.Please consult us.
2)On request.
3)For application of force outside the center of the shaft end, see page 51 .
4)Use foundation bolts of min.Property class8.8.Foundation must be dry and grease-free.Permissible additional radial forces on input shaft d1on request.

Gear Units — Permissible Additional Radial Forces on Output Shaft d2

TYPES MTH1SH.,MTH2S.,MTH3S.,MTH4S.,MTB2S., MTB3S., MTB4S

Application of force outside the centre of the shaft end



F_{RZ2}
F_{RZ2} Permissible external radial force

F_{R2}
F_{R2} Permissible additional radial force acc. to table page 50

K
K Factor of application of force acc.to table

$F_{RZ2} = F_{R2} \times K$

K Factor of application of force K															
Size	Z(mm) Distance Z in mm														
	−200	−150	−100	−75	−50	−25	0	25	50	75	100	150	200	250	300
1						1. 11	1.00	0.81	0. 68	0. 58	0.51				
2						1. 11	1.00	0. 83	0. 71	0. 63	0. 56				
3					1. 21	1.09	1.00	0. 85	0. 74	0. 65	0. 58	0. 48			
4					1.17	1.08	1.00	0. 86	0. 76	0. 68	0.62	0. 52	0. 44		
5 + 6				1.22	1. 14	1.06	1.00	0. 88	0. 79	0. 72	0. 66	0. 56	0. 49	0. 43	
7 + 8				1. 19	1. 12	1.06	1.00	0.89	0.81	0. 74	0. 68	0. 58	0.51	0. 46	0. 41
9 + 10			1. 22	1. 15	1. 10	1.05	1.00	0. 90	0. 82	0. 76	0. 70	0. 61	0. 54	0. 48	0.44
11+12			1. 18	1. 13	1.08	1.04	1.00	0.91	0. 84	0. 78	0. 73	0. 64	0. 57	0.51	0.47
13+14		1.24	1. 15	1. 11	1. 07	1.03	1.00	0. 92	0. 86	0. 80	0. 75	0.67	0. 60	0. 55	0. 50
15+16		1.20	1. 12	1.09	1.06	1.03	1.00	0. 93	0.87	0. 82	0. 77	0. 69	0. 63	0. 58	0. 53
17+18	1.25	1. 17	1. 11	1.08	1.05	1.03	1.00	0. 94	0. 88	0. 84	0. 79	0. 72	0. 66	0. 60	0. 56

Horizontal gear units

Design

TYPES MTH2...MTH4, MTB2...MTB4

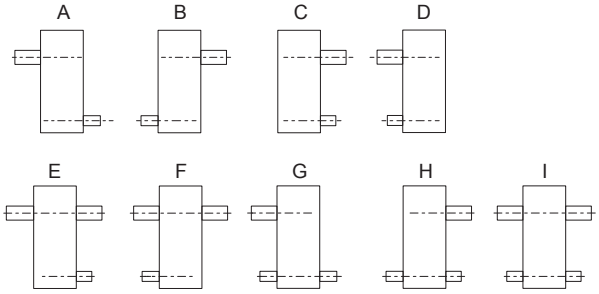
SIZES 1...26

Helical gear units

View orientaion: placed horizontally from looking down

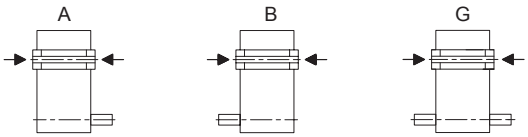
Solid shaft

MTH.SH



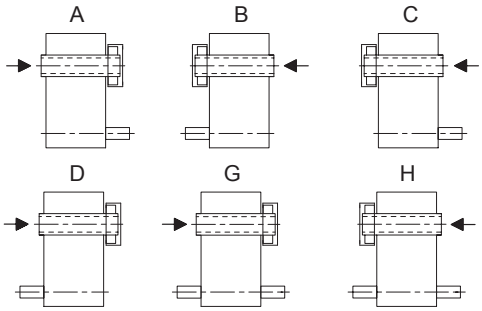
Hollow shaft *)

MTH.HH, MTH.HM



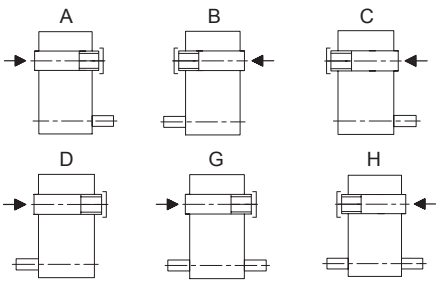
Hollow shaft for shrink disk *)

MTH.DH, MTH.DM



Hollow shaft with involute spline *)

MTH.KH, MTH.KM

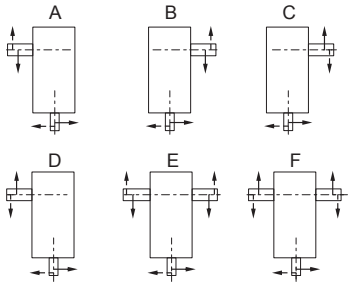


Bevel-helical gear units

View orientaion: placed horizontally from looking down

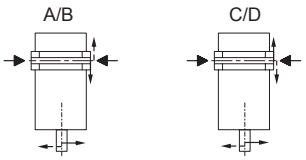
Solid shaft

MTB.SH



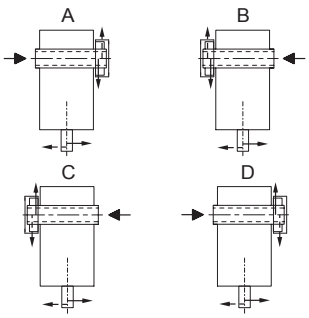
Hollow shaft *)

MTB.HH, MTB.HM



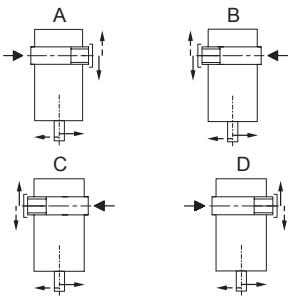
Hollow shaft for shrink disk *)

MTB.DH, MTB.DM



Hollow shaft with involute spline *)

MTB.KH, MTB.KM



The arrow indicates the direction of the driven machine shaft

Vertical gear units

Design

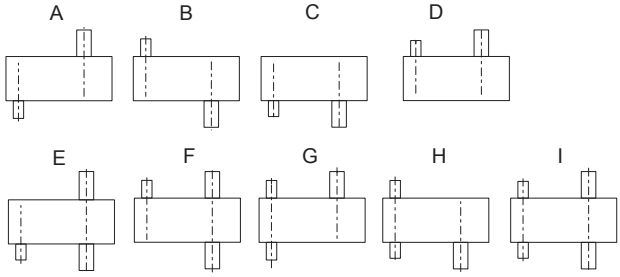
TYPES MTH2...MTH4, MTB2...MTB4

SIZES 1...26

Helical gear units

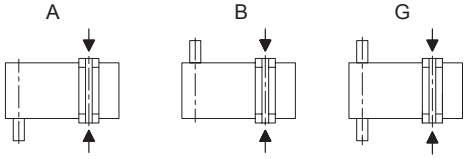
Solid shaft

MTH.SV



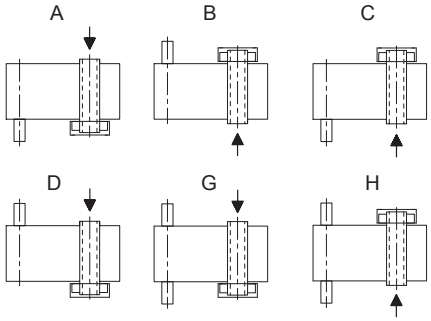
Hollow shaft *)

MTH.HV



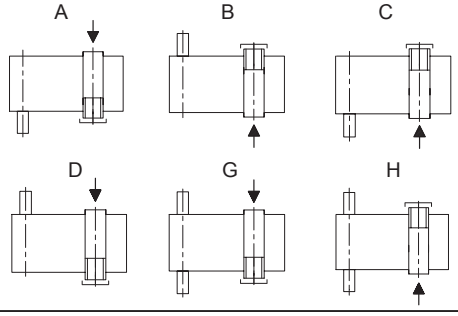
Hollow shaft for shrink disk *)

MTH.DV



Hollow shaft with involute spline *)

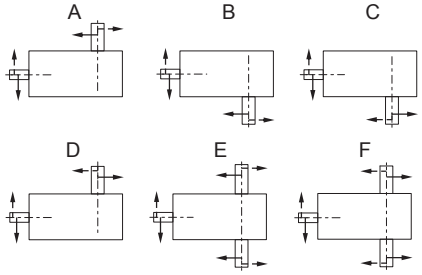
MTH.KV



Bevel-helical gear units

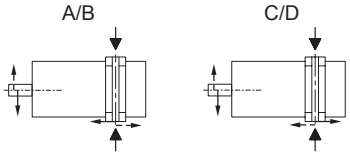
Solid shaft

MTB.SV



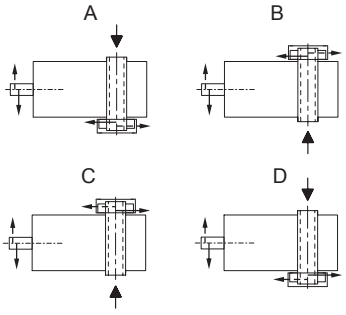
Hollow shaft *)

MTB.HV



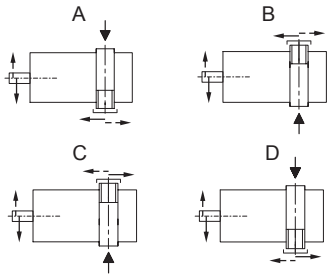
Hollow shaft for shrink disk *)

MTB.DV



Hollow shaft with involute spline *)

MTB.KV

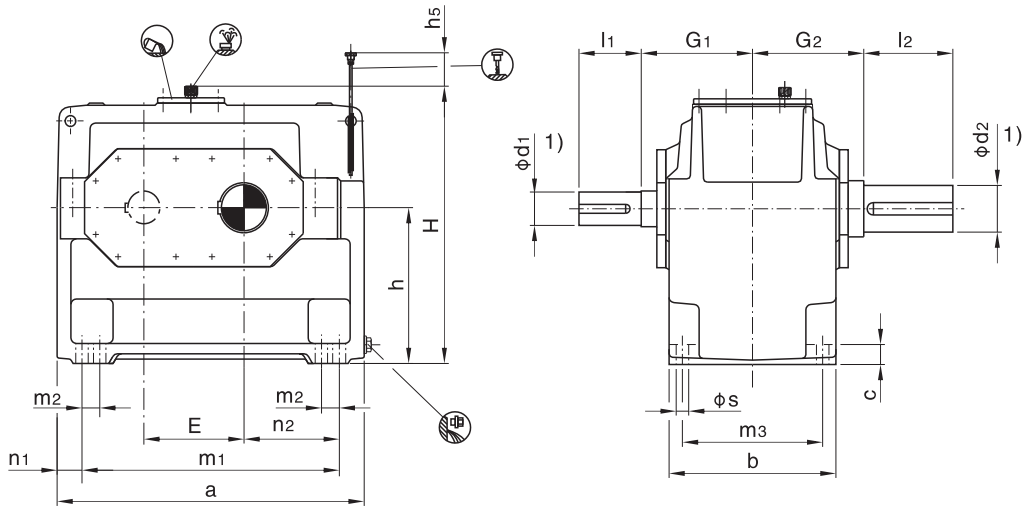


→ The arrow indicates the direction of the driven machine shaft

TYPES MTH1SH...
SIZES 1...19

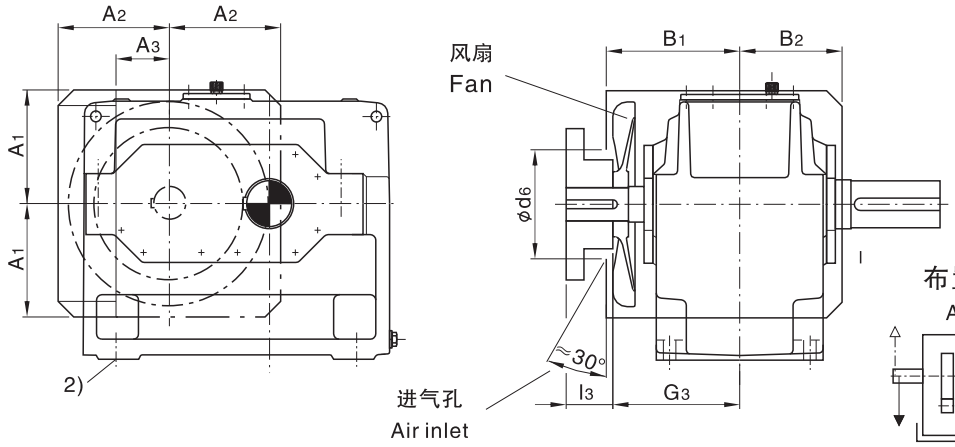
Helical gear units Single Stage Horizontal

MTH1SH

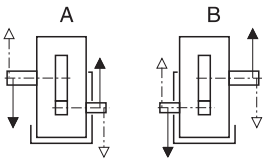


MTH1SH

Sizes 3...11 With fan



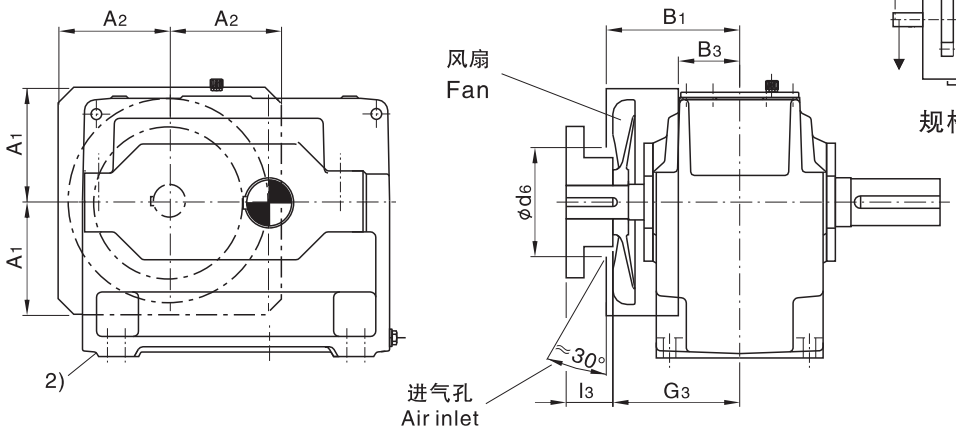
布置形式 Design

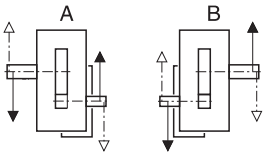


规格 Size 1...11 3)

MTH1SH

Sizes 13...19 With fan





规格 Size 13...19

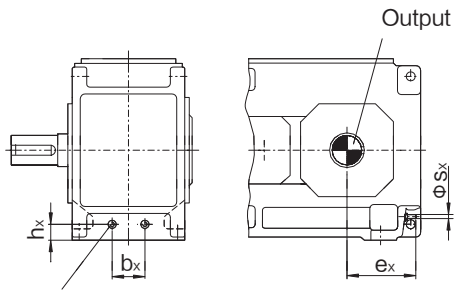
1)k6≤Φ50 m6> Φ50 For parallel key GB/T1095−1979 and for center hole,see page 114−115.
2) Remove air guide cover before fitting the foundation bolts.
3) Sizes1 without fan.

mm Note: Dimensions in mm

Size		Input											Fan						
		i_N=1.25- 2.8 i_N=1.6- 2.8* i_N=2- 2.8**			i_N=3.15- 4			i_N=4.5- 5.6										
		$d1^{1)}$	l_1	l_3	$d1^{1)}$	l_1	l_3	$d1^{1)}$	l_1	l_3	G_1	G_3	A_1	A_2	A_3	B_1	B_2	B_3	d_6
1		40	70	–	30	50	–	24	40	–	110	–	–	–	–	–	–	–	–
3		60	125	105	45	100	80	32	80	60	170	190	150	145	80	205	130	–	130
5		85	160	130	60	135	105	50	110	80	210	240	225	215	115	255	185	–	190
7		100	200	165	75	140	105	60	140	105	250	285	255	250	120	300	230	–	245
9		110	200	165	90	165	130	75	140	105	280	315	300	265	140	330	265	–	280
11	*	130	240	205	110	205	170	90	170	135	325	360	360	330	190	375	320	–	350
13	*	150	245	200	130	245	200	100	210	165	365	410	415	350	–	430	–	150	350
15	**	180	290	240	150	250	200	125	250	200	360	410	500	430	–	430	–	120	450
17	**	200	330	280	170	290	240	140	250	200	400	450	550	430	–	470	–	150	445
19	**	220	340	290	190	340	290	160	300	250	440	490	630	475	–	510	–	190	445

Size	Gear units													Output		
	a	b	c	E	h	h_5	H	m_1	m_2	m_3	n_1	n_2	s	$d2^{1)}$	G_2	l_2
1	295	150	18	90	140	55	275	220	–	120	37	80	12	45	110	80
3	420	200	28	130	200	85	375	310	–	160	55	110	19	60	170	125
5	580	285	35	185	290	100	525	440	–	240	70	160	24	85	210	160
7	690	375	45	225	350	75	625	540	–	315	75	195	28	105	250	200
9	805	425	50	265	420	50	735	625	–	350	90	225	35	125	270	210
11	960	515	60	320	500	40	875	770	–	440	95	280	35	150	320	240
13	1100	580	70	370	580	40	1020	870	–	490	115	315	42	180	360	310
15	1295	545	80	442	600	10	1115	1025	–	450	135	370	48	220	360	350
17	1410	615	80	490	670	–	1235	1170	130	530	120	425	42	240	400	400
19	1590	690	90	555	760	–	1395	1290	150	590	150	465	48	270	440	450

Size	Oil (L)	Weight (kg)
1	2.5	55
3	7	128
5	22	302
7	42	547
9	68	862
11	120	1515
13	175	2395
15	190	3200
17	270	4250
19	390	5800



Water connection for cooling coil

Size	Cooling coil				
	b_x	e_x	h_x	s_x	x) L/min
1	30	150	45	G1/4	4
3	48	205	74	G1/2	4
5	88	270	90	G1/2	4
7	124	310	135	G1/2	4
9	116	365	110	G1/2	8
11	146	425	130	G1/2	8
13	152	480	150	G1/2	8
15	172	560	130	G1/2	8
17	200	600	145	G1/2	8
19	On request				

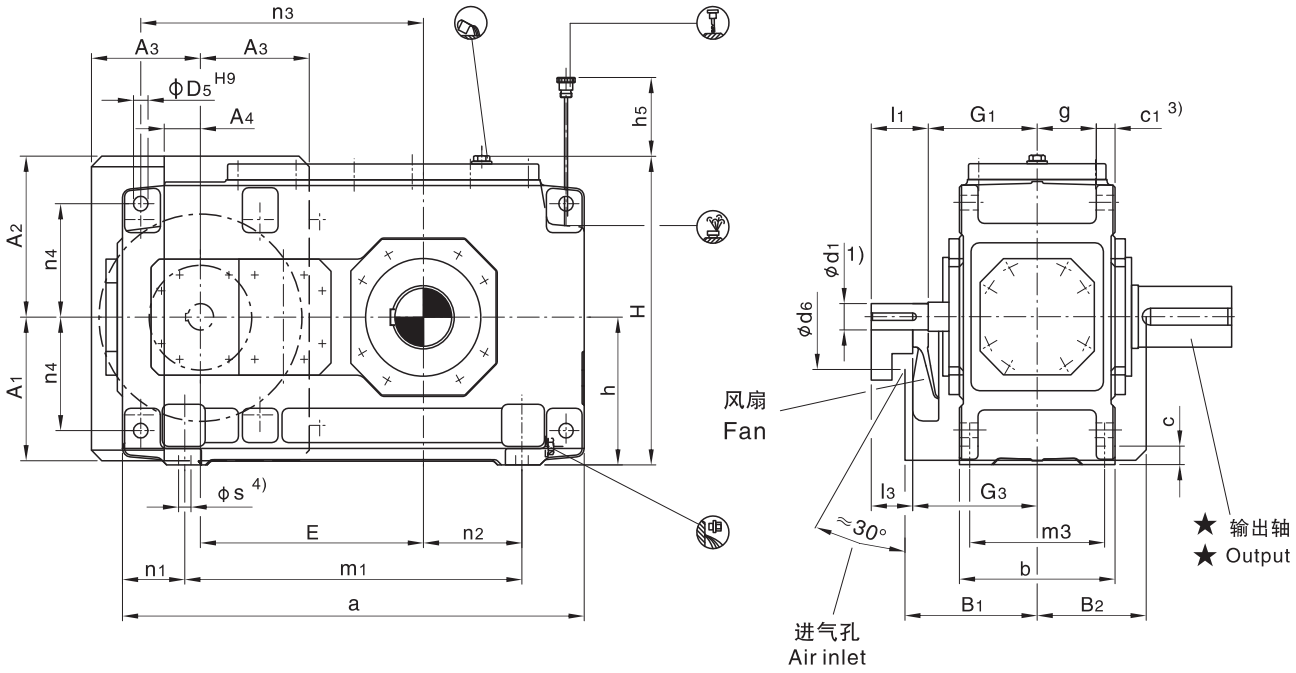
1)
Cooling coil suitable for fresh, sea or brackish water
2)x) Cooling water quantity required.

MTH/MTB

TYPES MTH2.H...
SIZES 3...12

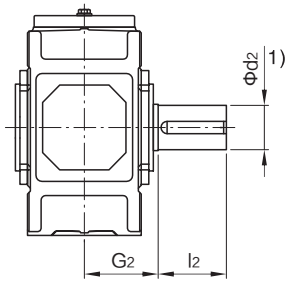
Helical gear units Two Stage Horizontal

MTH2SH
MTH2HH
MTH2DH
MTH2KH

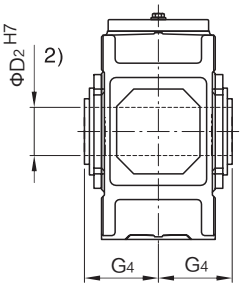


★ Output

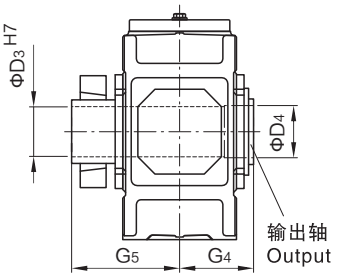
MTH2SH
Solid shaft



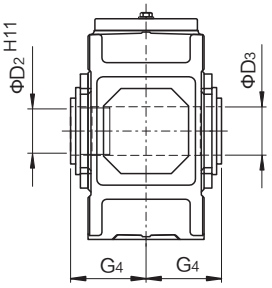
MTH2HH
Hollow shaft



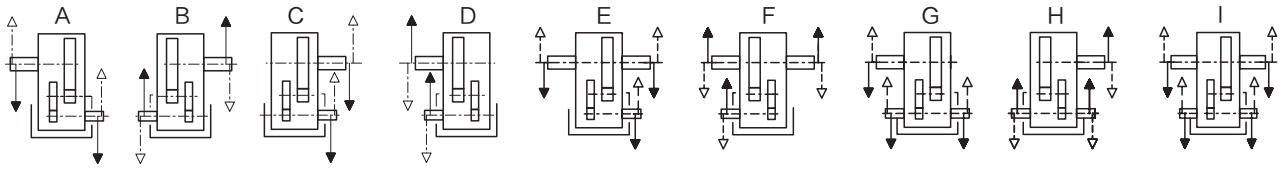
MTH2DH
Hollow shaft for shrink disk



MTH2KH
Hollow shaft with involute splines



Design



1)k6≤Φ50 m6> Φ50
2) Remove air guide cover before fitting the foundation bolts.
3) Torque support on driven machine side.

For parallel key GB/T1095−1979 and for center hole,see page 114−115.

mm Note: Dimensions in mm

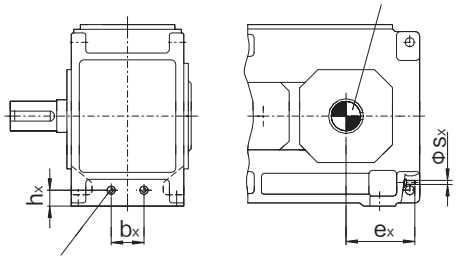
Size		Input								Design G, H, I only for		Fan						
		i_N=6.3- 11.2			i_N=12.5- 22.4					i_N=								
		i_N=8- 14			i_N=16- 28													
		$d1^{1)}$	l_1	l_3	$d1^{1)}$	l_1	l_3	G_1	G_3			A_1	A_2	A_3	A_4	B_1	B_2	d_6
3		35	70	–	28	50	–	135	–	–	–	–	–	–	–	–	–	–
4		45	100	80	32	80	60	170	190	6.3–18	–	195	225	150	30	205	158	136
5	+6	50	100	80	38	80	60	195	215	6.3–18	8–22.4	225	260	175	55	230	177.5	150
7	+8	60	135	105	50	110	80	210	240	6.3–16	8–20	272	305	210	70	255	210	200
9	+10	75	140	110	60	140	110	240	270	6.3–16	8–20	312	355	240	100	285	245	200
11	+12	90	165	130	70	140	105	275	310	6.3–18	8–22.4	372	420	285	135	325	285	210

Size	Gear units									
	b	c	C_1	D_5	g	h	m_3	n_1	n_4	s
3	190	22	24 ± 1	18	71	175	160	80	132.5	15
4	215	28	30 ± 1	24	77.5	200	180	105	150	19
5+6	255	28	30 ± 1	24	97.5	230	220	105	180	19
7+8	300	35	36 ± 1	28	114	280	260	120	215	24
9+10	370	40	45 ± 1.5	36	140	320	320	145	245	28
11+12	430	50	54 ± 1.5	40	161	380	370	165	300	35

Size	Gear units							Output								
								MTH2SH			MTH2HH		MTH2DH				MTH2KH
	a	E	h_5	H	m_1	n_2	n_3	$d2^{1)}$	G_2	l_2	$D2^{2)}$	G_4	D_3	D_4	G_4	G_5	
3	450	220	110	360	290	65	285	65	125	140	65	125	70	70	125	180	
4	565	270	110	415	355	85	345	80	140	170	80	140	85	85	140	205	
5	640	315	150	482	430	100	405	100	165	210	95	165	100	100	165	240	
6	720	350	150	482	510	145	440	110	165	210	105	165	110	110	165	240	
7	785	385	190	572	545	130	500	120	195	210	115	195	120	120	195	280	
8	890	430	190	582	650	190	545	130	195	250	125	195	130	130	195	285	
9	925	450	205	662	635	155	585	140	235	250	135	235	140	145	235	330	
10	1025	500	215	662	735	205	635	160	235	300	150	235	150	155	235	350	
11	1105	545	250	782	775	180	710	170	270	300	165	270	165	170	270	400	
12	1260	615	250	790	930	265	780	180	270	300	180	270	180	185	270	405	

See page 120 –123

Size	Oil (L)	Weight (kg)
3	6	115
4	10	190
5	15	300
6	16	355
7	27	505
8	30	590
9	42	830
10	45	960
11	71	1335
12	76	1615



Water connection for cooling coil

Size	Cooling coil				
	b_x	e_x	h_x	s_x	x) L/min
3	34	130	55	G1/2	4
4	34	155	60	G1/2	4
5	68	170	64	G1/2	4
6	70	215	68	G1/2	4
7	100	210	83	G1/2	4
8	100	270	83	G1/2	4
9	140	245	110	G1/2	8
10	100	295	95	G1/2	8
11	110	275	95	G1/2	8
12	200	360	109	G1/2	8

1) Cooling coil suitable for fresh, sea or brackish water

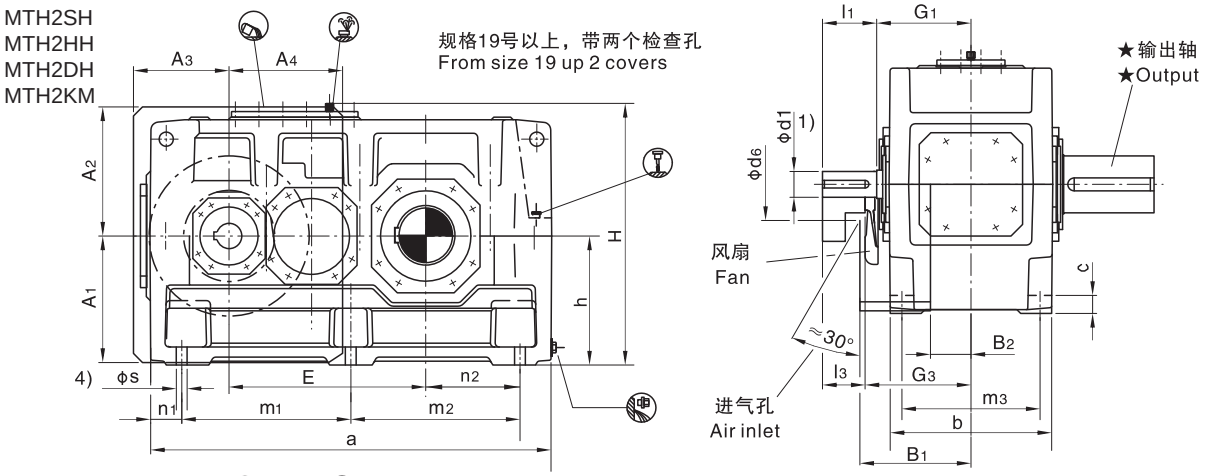
2)x) Cooling water quantity required.

TYPES MTH2.H...,MTH2.M...

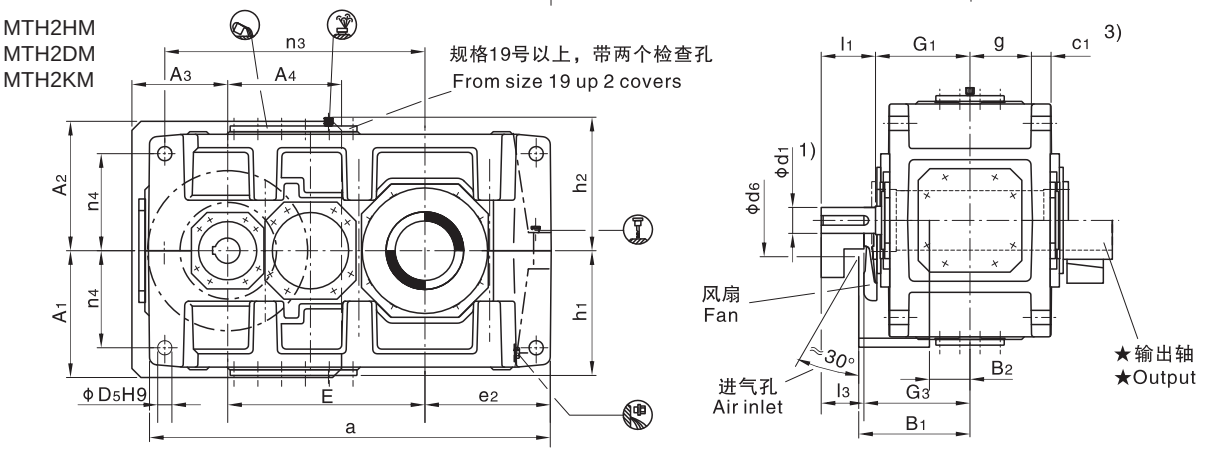
SIZES 13...22

Helical gear units — Two Stage — Horizontal

MTH2SH
MTH2HH
MTH2DH
MTH2KM

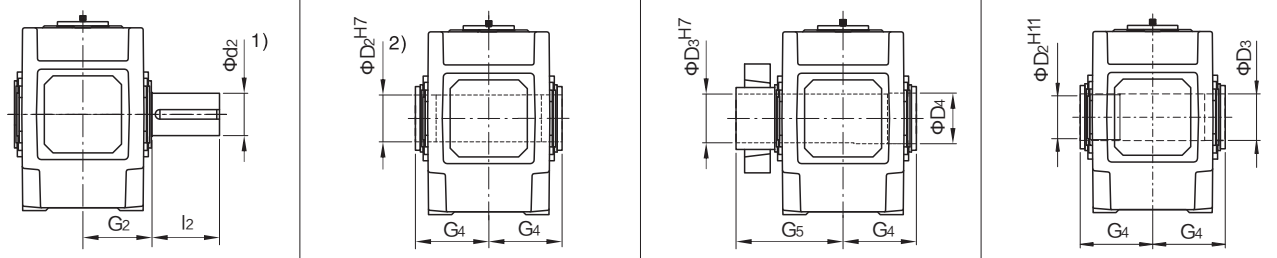


MTH2HM
MTH2DM
MTH2KM

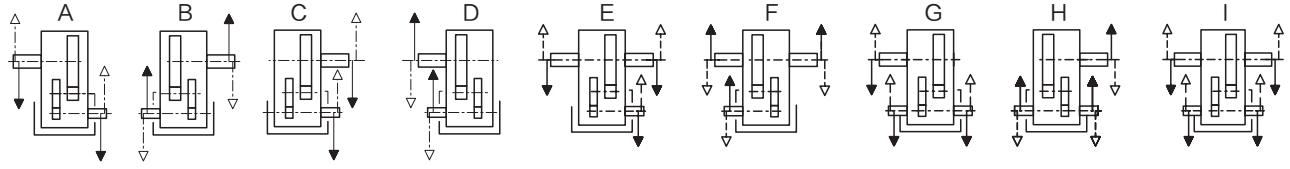


Output

MTH2SH	MTH2HH,MTH2HM	MTH2DH,MTH2DM	MTH2KH,MTH2KM
Solid shaft	Hollow shaft	Hollow shaft for shrink disk	Hollow shaft with involute splines



Design



1)k6≤Φ50 m6> Φ50 For parallel key GB/T1095−1979 and for center hole,see page 114−115.
2) Remove air guide cover before fitting the foundation bolts.
3) Torque support on driven machine side.

mm Note: Dimensions in mm

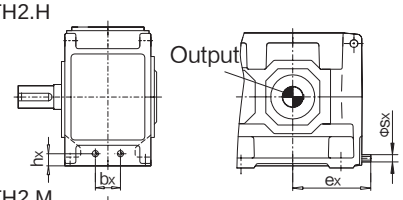
Size		Input i_N=6.3- 11.2 / i_N=7.1- 12.5 / i_N=8- 14			Input i_N=12.5- 20 / i_N=14- 22.5 / i_N=16- 25					Design G, H, I only for i_N=		Fan						
		d_1[1)]	l_1	l_3	d_1[1)]	l_1	l_3	G_1	G_3			A_1	A_2	A_3	A_4	B_1	B_2	d_6
13	+14	100	205	170	85	170	135	330	365	6.3–16	8–20	430	460	330	365	385	135	250
15	+16	120	210	165	100	210	165	365	410	6.3–16	7.1–18	490	500	370	440	430	155	280
17	+18	125	245	200	110	210	165	420	465	6.3–16	7.1–18	540	565	435	505	485	140	280
19	+20	150	245	200	120	210	165	475	520	On request		600	600	500	450	540	190	310
21	+22	170	290	240	140	250	200	495	545			680	680	500	610	565	200	450

Size	Gear units													
	b	c	c_1	D_5	g	h	h_1	h_2	m_3	n_1	n_4	s	H	m_1
13+14	550	60	61 ± 2	48	211.5	440	450	460	475	100	340	35	900	545
15+16	625	70	72 ± 2	55	238	500	490	500	535	120	375	42	1000	655
17+18	690	80	81 ± 2	55	259	550	555	560	600	135	425	42	1110	735
19+20	790	90	91 ± 2	65	299	620	615	620	690	155	475	48	1240	850
21+22	830	100	100 ± 2	75	310	700	685	690	720	170	520	56	1390	900

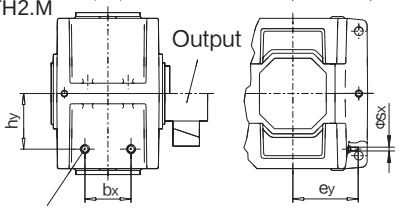
Size	Gear units						Output MTH2SH			MTH2HH MTH2HM		MTH2DH MTH2DM				MTH2KH MTH2KM
	a	e_2	E	m_2	n_2	n_3	d_2[1)]	G_2	l_2	D_2[2)]	G_4	D_3	D_4	G_4	G_5	
13	1290	405	635	545	305	835	200	335	350	190	335	190	195	335	480	See page 120 –123
14	1430	475	705	685	375	905	210	335	350	210	335	210	215	335	480	
15	1550	485	762	655	365	1005	230	380	410	230	380	230	235	380	550	
16	1640	530	808	745	410	1050	240	380	410	240	380	240	245	380	550	
17	1740	525	860	735	390	1145	250	415	410	250	415	250	260	415	600	
18	1860	585	920	855	450	1205	270	415	470	275	415	280	285	415	600	
19	2010	590	997	850	435	1345	290	465	470	–	–	285	295	465	670	
20	2130	650	1057	970	495	1405	300	465	500	–	–	310	315	465	670	
21	2140	655	1067	900	485	1400	320	490	500	–	–	330	335	490	715	
22	2250	710	1122	1010	540	1455	340	490	550	–	–	340	345	490	725	

Size	Oil (L)		Weight (kg)	
	MTH2.H	MTH2.M	MTH2.H	MTH2.M
13	135	110	2000	1880
14	140	115	2570	2430
15	210	160	3430	3240
16	215	165	3655	3465
17	290	230	4650	4420
18	300	240	5125	4870
19	320	300	6600	6300
20	340	320	7500	7200
21	320	350	8900	8400
22	340	370	9600	9200

MTH2.H



MTH2.M



Water connection for cooling coil

Size	Cooling coil b_x	e_x	e_y	h_x	h_y	s_x	x) L/min
13	252	455	335	116	300	G1/2	8
14	252	525	405	116	300	G1/2	8
15	290	535	395	119	335	G1/2	8
16	290	580	440	119	335	G1/2	8
17	340	575	425	134	380	G1/2	8
18	340	635	485	134	380	G1/2	8
19	On request						
20							
21							
22							

1) Cooling coil suitable for fresh, sea or brackish water

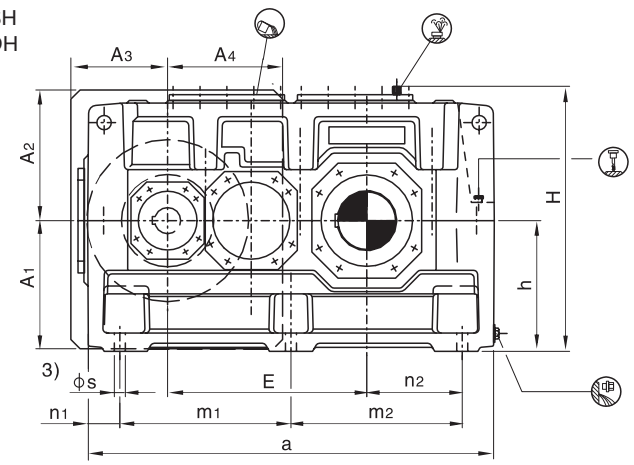
2)x) Cooling water quantity required.

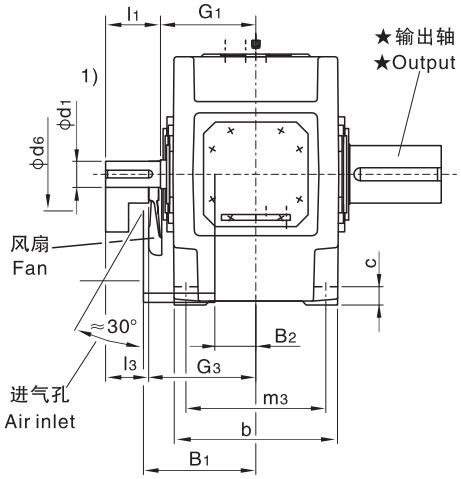
TYPES MTH2.H...,MTH2.M...

SIZES 23...26

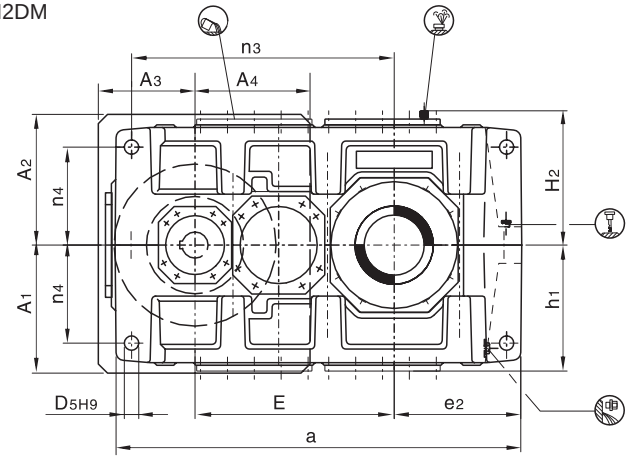
Helical gear units Two Stage Horizontal

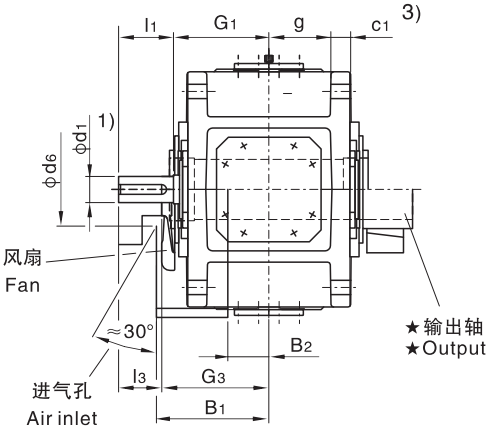
MTH2SH
MTH2DH





MTH2DM

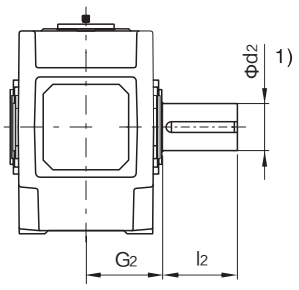




Output

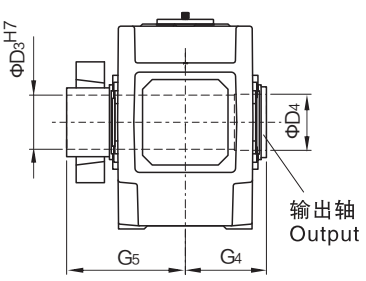
MTH2SH

Solid shaft

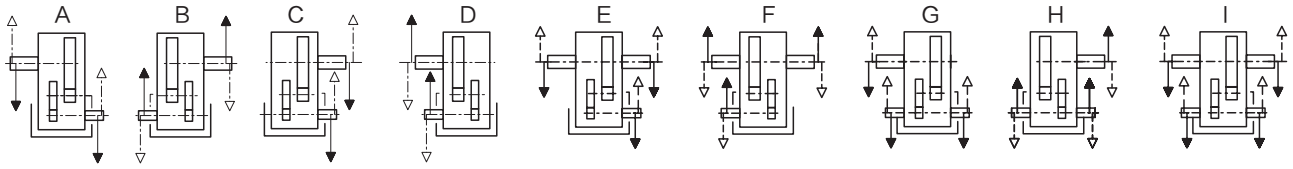


MTH2DH,MTH2DM

Hollow shaft for shrink disk



Design



1)k6≤Φ50 m6> Φ50
2) Remove air guide cover before fitting the foundation bolts.
3) Torque support on driven machine side.

For parallel key GB/T1095−1979 and for center hole,see page 114−115.

mm Note: Dimensions in mm

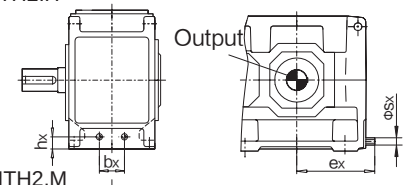
Size	Input								Design G, H, I only for i_N=	Fan						
	i_N=6.3- 11.2			i_N=12.5- 20												
	i_N=7.1- 12.5			i_N=14- 22.5												
	d_1[1)]	l_1	l_3	d_1[1)]	l_1	l_3	G_1	G_3		A_1	A_2	A_3	A_4	B_1	B_2	d_6
23 +24	190	330	280	150	250	200	560	610	On request	770	770	550	550	630	220	450
25 +26	200	340	290	170	300	250	600	650		845	865	550	550	670	240	450

Size	Gear units													
	b	c	c_1	D_5	g	h	h_1	h_2	m_3	n_1	n_4	s	H	m_1
23+24	930	115	120 ± 2	80	342	780	770	770	810	180	580	56	1550	1010
25+26	1045	130	120 ± 2	90	400	860	860	860	910	200	660	66	1720	1090

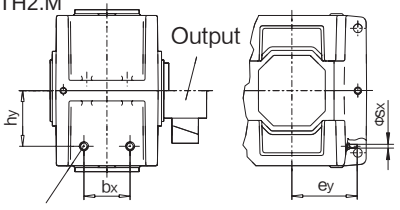
Size	Gear units						Output						
							MTH2SH			MTH2DH MTH2DM			
	a	e_2	E	m_2	n_2	n_3	d_2[1)]	G_2	l_2	D_3	D_4	G_4	G_5
23	2380	730	1185	1010	550	1560	360	540	590	360	365	540	785
24	2510	795	1250	1140	615	1625	380	540	590	380	385	540	805
25	2580	790	1325	1090	590	1685	400	605	650	400	405	605	875
26	2760	880	1415	1270	680	1775	420	605	650	430	435	605	900

Size	Oil (L)		Weight (kg)	
	MTH2.H	MTH2.DM	MTH2.H	MTH2.DM
23	430	470	11600	11000
24	450	500	13000	12300
25	600	660	15500	14700
26	640	700	17200	16200

MTH2.H



MTH2.M



Water connection for cooling coil

Size	Cooling coil						
	b_x	e_x	e_y	h_x	h_y	s_x	x) L/min
23	On request						
24							
25							
26							

1) Cooling coil suitable for fresh, sea or brackish water

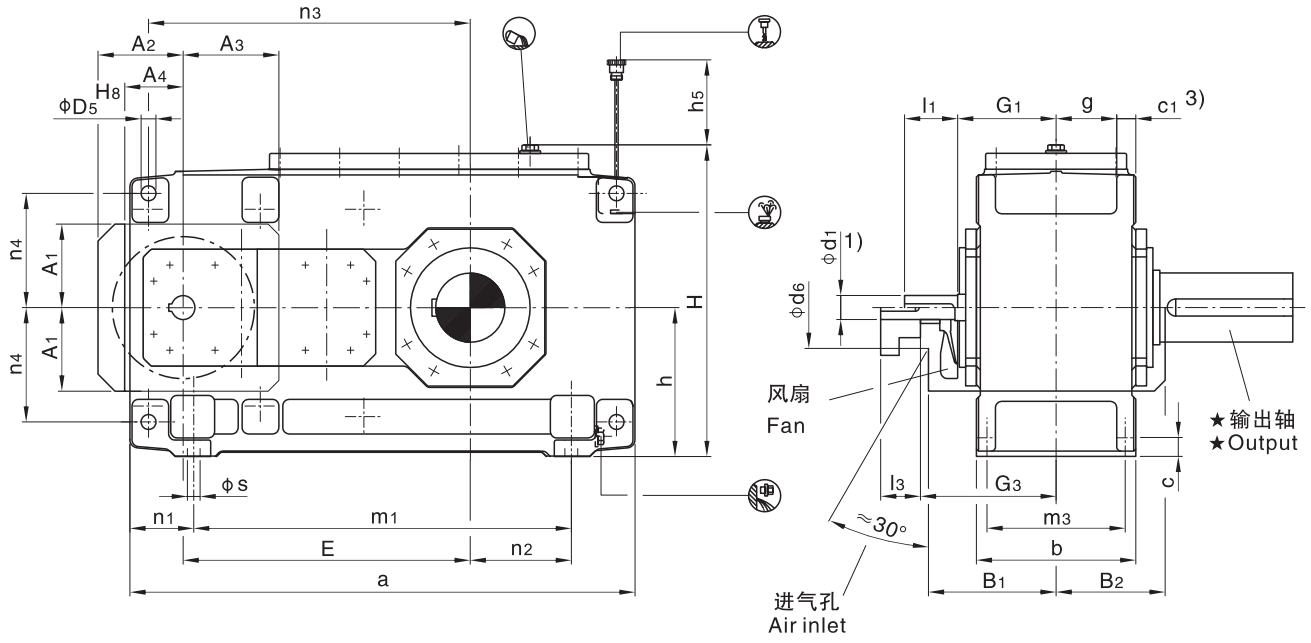
2)x) Cooling water quantity required.

MTH/MTB

Helical gear units Three Stage Horizontal

TYPES MTH3.H...
SIZES 5...12

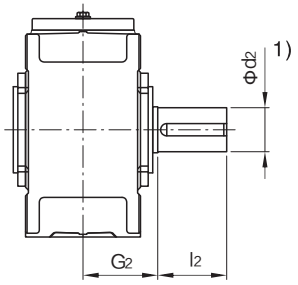
MTH3SH
MTH3HH
MTH3DH
MTH3KH



★ Output

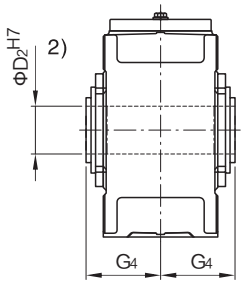
MTH3SH

Solid shaft



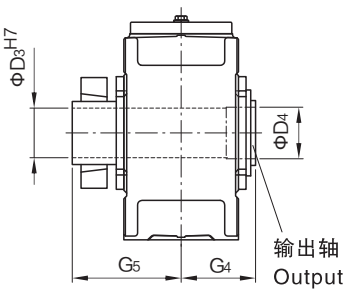
MTH3HH

Hollow shaft



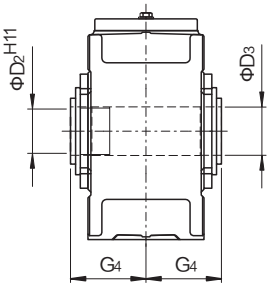
MTH3DH

Hollow shaft for shrink disk

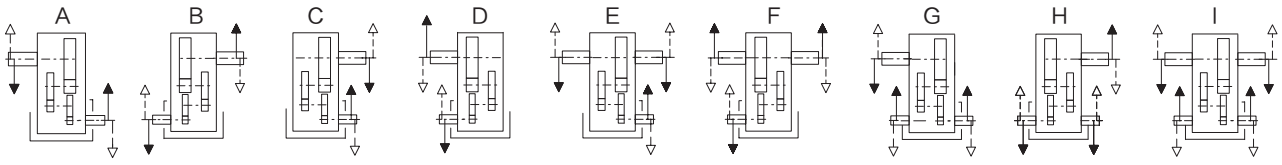


MTH3KH

Hollow shaft with involute splines



Design



1)k6≤Φ50 m6> Φ50 For parallel key GB/T1095−1979 and for center hole,see page 114−115.
2) Remove air guide cover before fitting the foundation bolts.
3) Torque support on driven machine side.

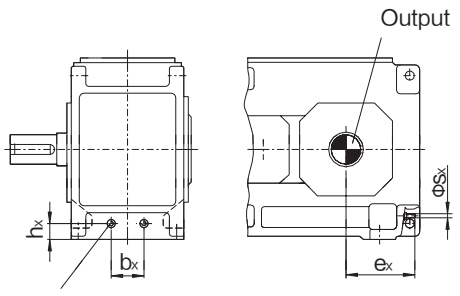
mm Note: Dimensions in mm

Size		Input i_N=25- 45 / i_N=31.5- 56			i_N=50- 63 / i_N=63- 80			i_N=71- 90 / i_N=90- 112					Design G, H, I only for i_N=		Fan						
		d_1[1]	l_1	l_3	d_1[1]	l_1	l_3	d_1[1]	l_1	l_3	G_1	G_3			A_1	A_2	A_3	A_4	B_1	B_2	d_6
5	+6	40	70	70	30	50	50	24	40	40	160	220	25–90	31.5–112	137	135	140	80	215	175	60
7	+8	45	80	80	35	60	60	28	50	50	185	250	25–90	31.5–112	157	160	180	100	245	205	75
9	+10	60	125	105	45	100	80	32	80	60	230	300	25–90	31.5–112	182	190	205	120	295	240	90
11	+12	70	120	120	50	80	80	42	70	70	255	330	25–90	31.5–112	218	220	255	150	325	280	100

Size	Gear units									
	b	c	c_1	D_5	g	h	m_3	n_1	n_4	s
5+6	255	28	30 ± 1	24	97.5	230	220	105	180	19
7+8	300	35	36 ± 1	28	114	280	260	120	215	24
9+10	370	40	45 ± 1.5	36	140	320	320	145	245	28
11+12	430	50	54 ± 1.5	40	161	380	370	165	300	35

Size	Gear units							Output									
								MTH3SH			MTH3HH		MTH3DH				MTH3KH
	a	E	h_5	H	m_1	n_2	n_3	d_2[1]	G_2	l_2	D_2[2]	G_4	D_3	D_4	G_4	G_5	
5	690	405	130	482	480	100	455	100	165	210	95	165	100	100	165	240	
6	770	440	130	482	560	145	490	110	165	210	105	165	110	110	165	240	
7	845	495	170	572	605	130	560	120	195	210	115	195	120	120	195	280	
8	950	540	160	582	710	190	605	130	195	250	125	195	130	130	195	285	
9	1000	580	185	662	710	155	660	140	235	250	135	235	140	145	235	330	See page 120 –123
10	1100	630	185	662	810	205	710	160	235	300	150	235	150	155	235	350	
11	1200	705	180	782	870	180	805	170	270	300	165	270	165	170	270	400	
12	1355	775	170	790	1025	265	875	180	270	300	180	270	180	185	270	405	

Size	Oil (L)	Weight (kg)
5	15	320
6	17	365
7	28	540
8	30	625
9	45	875
10	46	1020
11	85	1400
12	90	1675



Water connection for cooling coil

Size	Cooling coil b_x	e_x	h_x	s_x	x) L/min
5	70	175	60	G1/2	4
6	70	220	69	G1/2	4
7	80	210	83	G1/2	4
8	80	270	83	G1/2	4
9	150	245	107	G1/2	4
10	90	295	95	G1/2	4
11	200	275	115	G1/2	8
12	200	360	115	G1/2	8

1) Cooling coil suitable for fresh, sea or brackish water

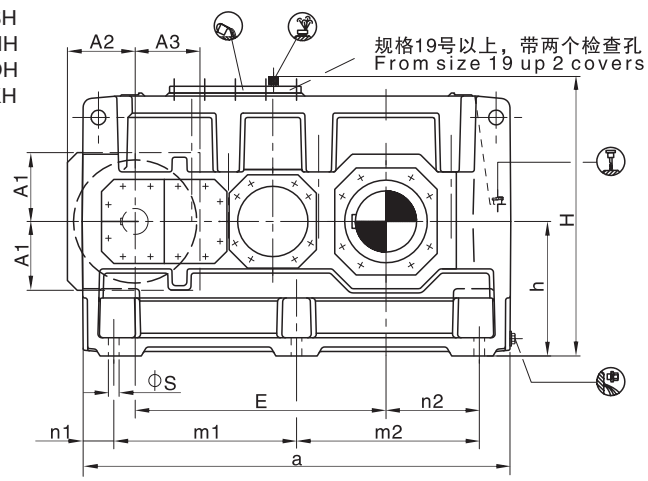
2)x) Cooling water quantity required.

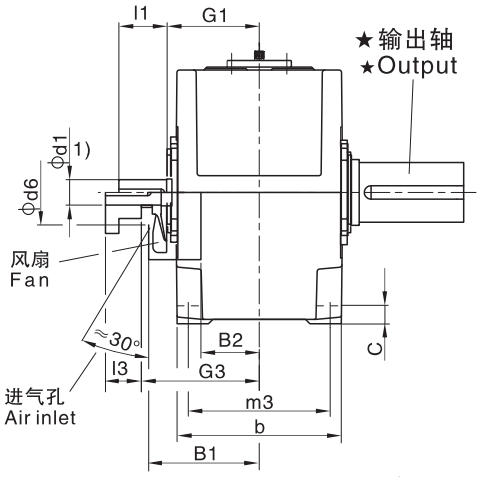
TYPES MTH3.H...,MTH3.M...

SIZES 13...22

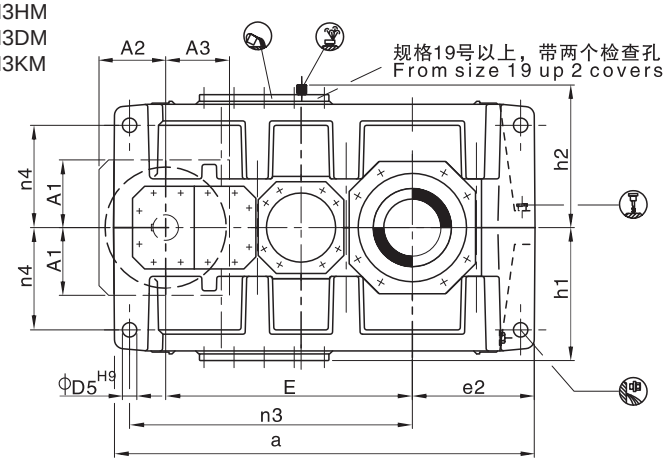
Helical gear units — Three Stage — Horizontal

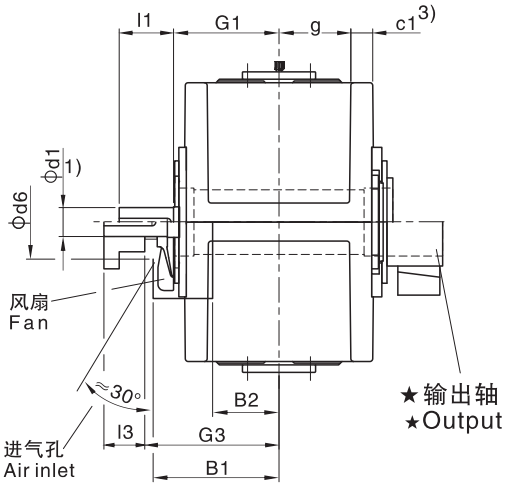
MTH3SH
MTH3HH
MTH3DH
MTH3KH





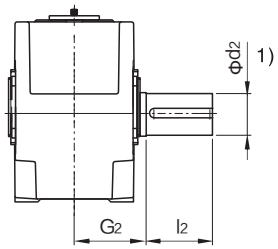
MTH3HM
MTH3DM
MTH3KM

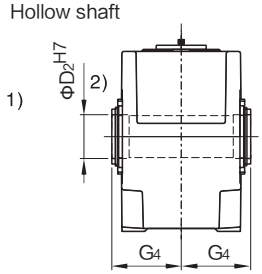


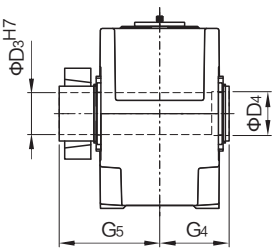


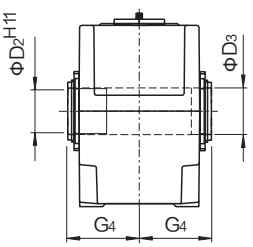
Output

MTH3SH	MTH3HH,MTH3HM	MTH3DH,MTH3DM	MTH3KH, MTH3KM
Solid shaft	Hollow shaft	Hollow shaft for shrink disk	Hollow shaft with involute splines

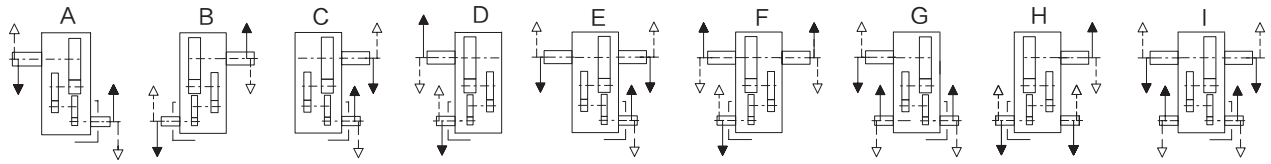








Design



1)k6≤Φ50 m6> Φ50 For parallel key GB/T1095−1979 and for center hole,see page 114−115.
2) Remove air guide cover before fitting the foundation bolts.
3) Torque support on driven machine side.

mm Note: Dimensions in mm

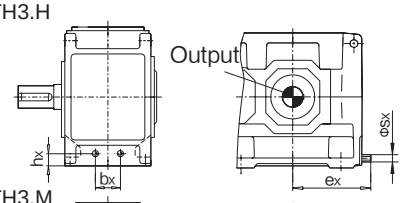
Size		Input											Design G, H, I only for i_N=		Fan					
		i_N=22.4- 45			i_N=50- 63			i_N=71- 90												
		i_N=25- 50			i_N=56- 71			i_N=80- 100												
		i_N=28- 56			i_N=63- 80			i_N=90- 112												
		d_1[1)]	l_1	l_3	d_1[1)]	l_1	l_3	d_1[1)]	l_1	l_3	G_1	G_3			A_1	A_2	A_3	B_1	B_2	d_6
13	+14	85	160	130	60	135	105	50	110	80	310	385	22.4–90	28–112	225	225	212	380	195	120
15	+16	100	200	165	75	140	105	60	140	105	350	420	22.4–90	25–100	270	265	252	415	205	150
17	+18	100	200	165	75	140	105	60	140	105	380	450	22.4–90	25–100	270	265	252	445	235	150
19	+20	110	200		90	165		75	140		430		On request							
21	+22	130	240		110	205		90	170		470									

Size	Gear units													
	b	c	c_1	D_5	g	h	h_1	h_2	m_3	n_1	n_4	s	H	m_1
13+14	550	60	61 ±2	48	211.5	440	450	460	475	100	340	35	900	597.5
15+16	625	70	72 ±2	55	238	500	490	500	535	120	375	42	1000	720
17+18	690	80	81 ±2	55	259	550	555	560	600	135	425	42	1110	750
19+20	790	90	91 ±2	65	299	620	615	620	690	155	475	48	1240	860
21+22	830	100	100±2	75	310	700	685	690	720	170	520	56	1390	1000

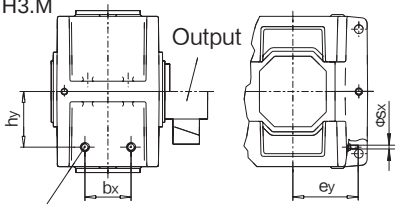
Size	Gear units						Output									
							MTH3SH			MTH3HH MTH3HM		MTH3DH MTH3DM				MTH3KH MTH3KM
	a	e_2	E	m_2	n_2	n_3	d_2[1)]	G_2	l_2	D_2[2)]	G_4	D_3	D_4	G_4	G_5	
13	1395	405	820	597.5	305	940	200	335	350	190	335	190	195	335	480	
14	1535	475	890	737.5	375	1010	210	335	350	210	335	210	215	335	480	
15	1680	485	987	720	365	1135	230	380	410	230	380	230	235	380	550	
16	1770	530	1033	810	410	1180	240	380	410	240	380	240	245	380	550	
17	1770	525	1035	750	390	1175	250	415	410	250	415	250	260	415	600	
18	1890	585	1095	870	450	1235	270	415	470	275	415	280	285	415	600	See page 120–123
19	2030	590	1190	860	435	1365	290	465	470	–	–	285	295	465	670	
20	2150	650	1250	980	495	1425	300	465	500	–	–	310	315	465	670	
21	2340	655	1387	1000	485	1615	320	490	500	–	–	330	335	490	715	
22	2450	710	1442	1100	540	1670	340	490	550	–	–	340	345	490	725	

Size	Oil (L)		Weight (kg)	
	MTH3.H	MTH3.M	MTH3.H	MTH3.M
13	160	125	2295	2155
14	165	130	2625	2490
15	235	190	3475	3260
16	245	195	3875	3625
17	305	240	4560	4250
18	315	250	5030	4740
19	420	390	6700	6200
20	450	415	8100	7600
21	470	515	9100	8500
22	490	540	9800	9300

MTH3.H



MTH3.M



Water connection for cooling coil

Size	Cooling coil						
	b_x	e_x	e_y	h_x	h_y	s_x	x) L/min
13	252	460	335	116	300	G1/2	8
14	252	530	405	116	300	G1/2	8
15	290	540	395	119	335	G1/2	8
16	290	585	440	119	335	G1/2	8
17	300	580	425	134	380	G1/2	8
18	300	640	485	134	380	G1/2	8
19	On request						
20							
21							
22							

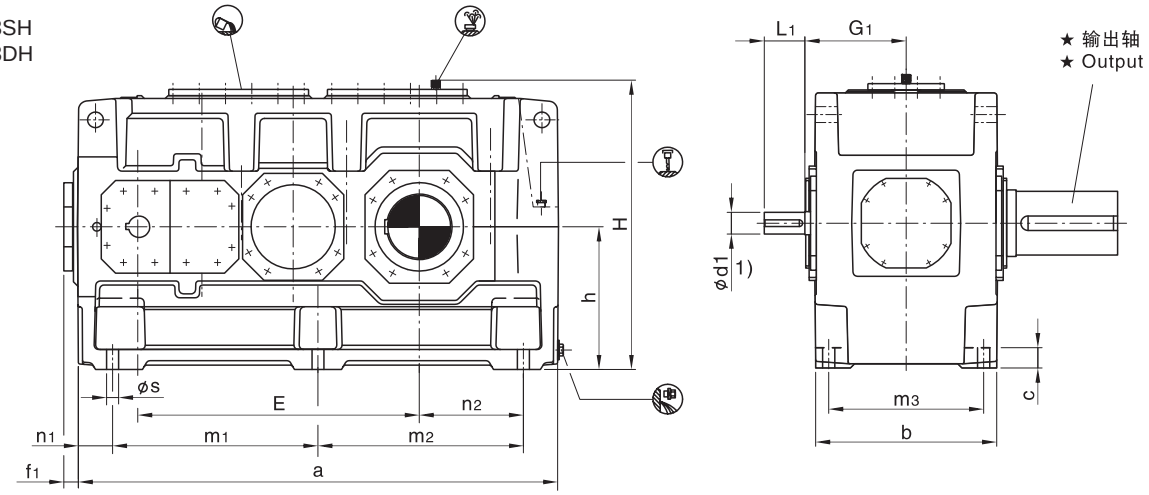
1)
Cooling coil suitable for fresh, sea or brackish water

2)x) Cooling water quantity required.

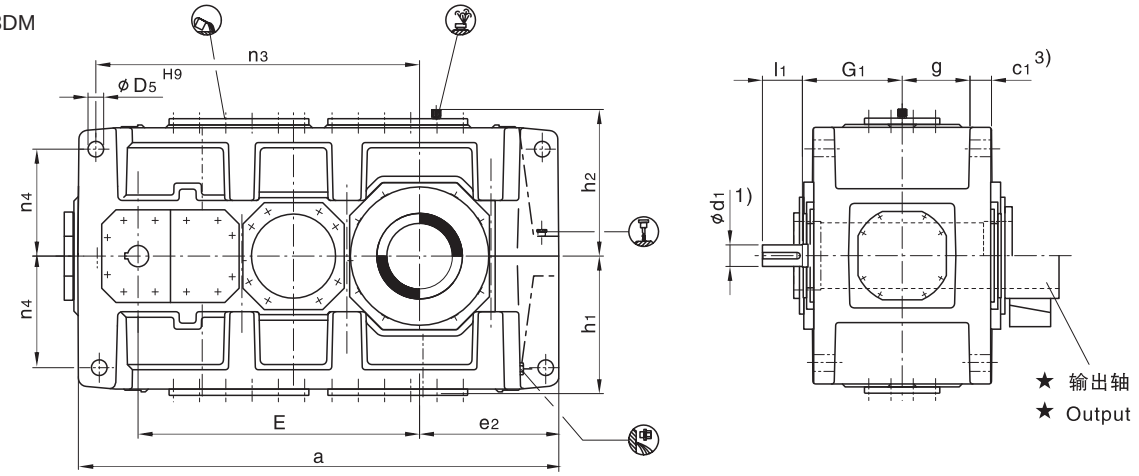
TYPES MTH3.H...,MTH3.M...
SIZES 23...26

Helical gear units — Three Stage — Horizontal

MTH3SH
MTH3DH



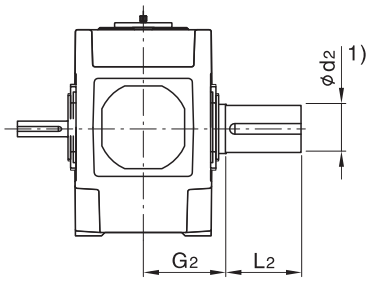
MTH3DM



Output

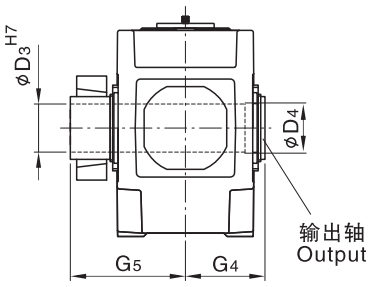
MTH3SH

Solid shaft

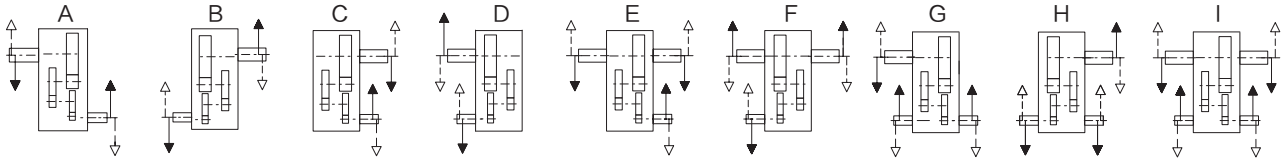


MTH3DH,MTH3DM

Hollow shaft for shrink disk



Design



1)k6≤Φ50 m6> Φ50 For parallel key GB/T1095−1979 and for center hole,see page 114−115.
2) Remove air guide cover before fitting the foundation bolts.

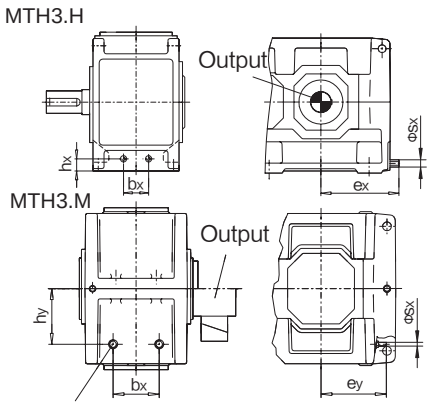
mm Note: Dimensions in mm

Size		Input							Design G, H, I only for i_N=
		i_N=22.4- 45		i_N=50- 63		i_N=71- 90			
		i_N=25- 50		i_N=56- 71		i_N=80- 100			
		d_1 1)	l_1	d_1 1)	l_1	d_1 1)	l_1	G_1	
23	+24	130	240	110	205	90	170	510	On request
25	+26	150	245	130	245	100	210	570	

Size	Gear units														
	b	c	c_1	D_5	g	h	h_1	h_2	m_3	n_1	n_4	s	H	m_1	f_1
23+24	930	115	120 ± 2	80	342	780	770	790	810	180	580	56	1570	1085	35
25+26	1045	130	120 ± 2	90	400	860	860	860	910	200	660	66	1720	1215	65

Size	Gear units						Output						
							MTH3SH			MTH3DH MTH3DM			
	a	e_2	E	m_2	n_2	n_3	d_2 1)	G_2	l_2	D_3	D_4	G_4	G_5
23	2530	730	1505	1085	550	1725	360	540	590	360	365	540	785
24	2660	795	1570	1215	615	1790	380	540	590	380	385	540	805
25	2830	790	1659	1215	590	1965	400	605	650	400	405	605	875
26	3010	880	1785	1395	680	2055	420	605	650	430	435	605	900

Size	Oil (L)		Weight (kg)	
	MTH3.H	MTH3.DM	MTH3.H	MTH3.DM
23	620	690	11500	10600
24	650	725	13400	12500
25	880	970	16100	15200
26	935	1030	17600	16500



Water connection for cooling coil

Size	Cooling coil						
	b_x	e_x	e_y	h_x	h_y	s_x	x) L/min
23	On request						
24							
25							
26							

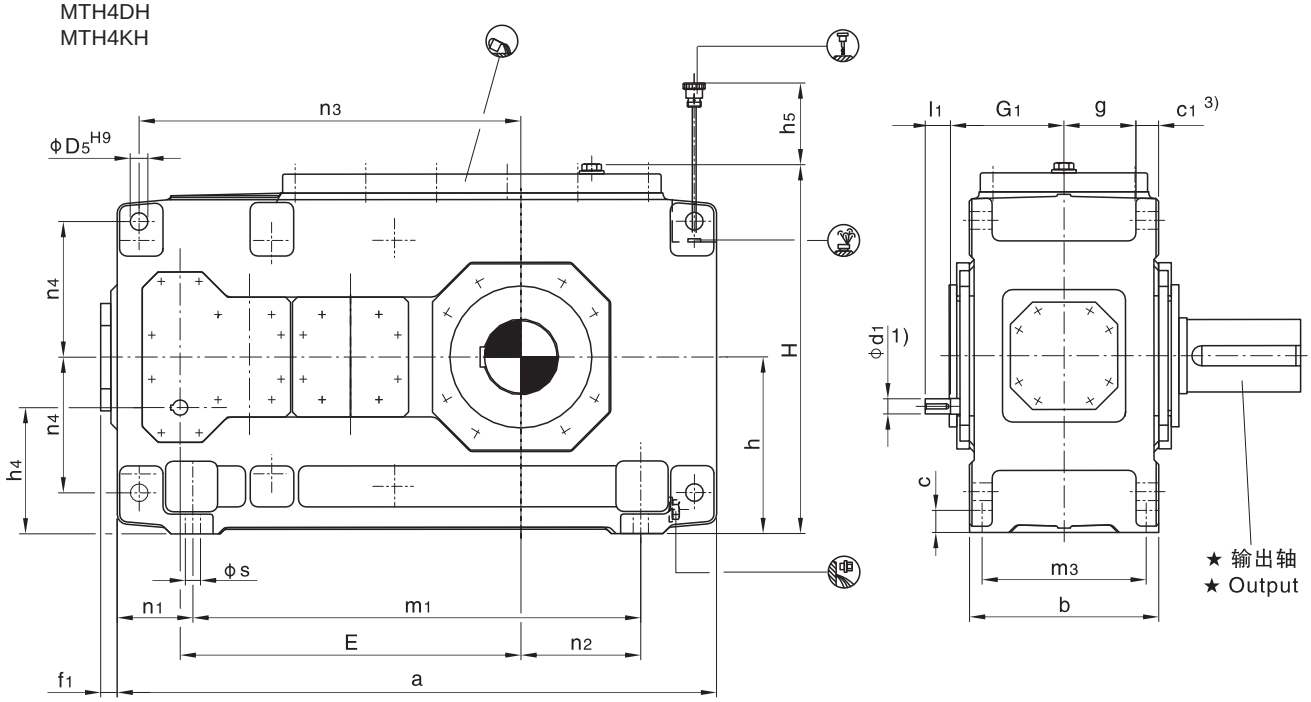
1) Cooling coil suitable for fresh, sea or brackish water
2)x) Cooling water quantity required.

MTH/MTB

TYPES MTH4.H...
SIZES 7...12

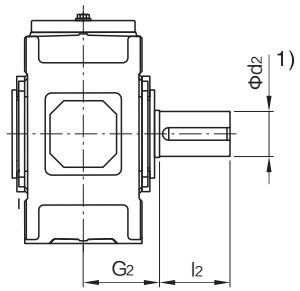
Helical gear units — Four Stage — Horizontal

MTH4SH
MTH4HH
MTH4DH
MTH4KH

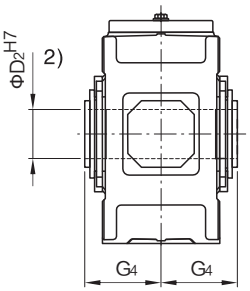


★ Output

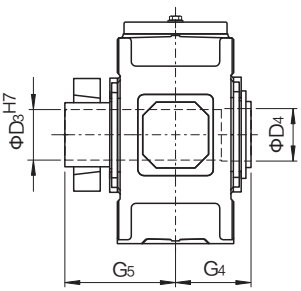
MTH4SH
Solid shaft



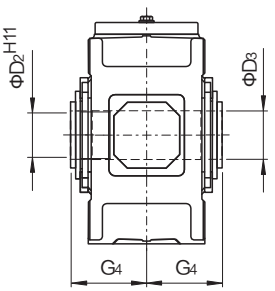
MTH4HH
Hollow shaft



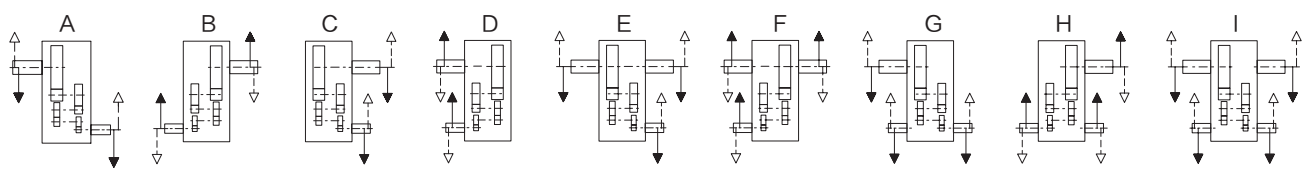
MTH4DH
Hollow shaft for shrink disk



MTH4KH
Hollow shaft with involute splines



Design



1)k6≤Φ50 m6> Φ50
2) Remove air guide cover before fitting the foundation bolts.
3) Torque support on driven machine side.

For parallel key GB/T1095−1979 and for center hole,see page 114−115.

mm Note: Dimensions in mm

Size		Input					Design G, H, I only for i_N=	
		i_N=100- 180		i_N=200- 355				
		i_N=125- 224		i_N=250- 450				
		d_1[1)]	l_1	d_1[1)]	l_1	G_1		
7	+8	30	50	24	40	180	100–224	125–280
9	+10	35	70	28	50	215	100–250	125–315
11	+12	45	100	32	80	250	100–250	125–315

Size	Gear units												
	b	c	c_1	D_5	g	h	h_4	m_3	n_1	n_4	s	f_1	h_5
7+8	300	35	36 ± 1	28	114	280	200	260	120	215	24	37	140
9+10	370	40	45 ± 1.5	36	140	320	230	320	145	245	28	43	150
11+12	430	50	54 ± 1.5	40	161	380	270	370	165	300	35	47	165

Size	Gear units						Output									
							MTH4SH			MTH4HH		MTH4DH				MTH4KH
	a	E	H	m_1	n_2	n_3	d_2[1)]	G_2	l_2	D_2[2)]	G_4	D_3	D_4	G_4	G_5	
7	845	495	572	605	130	560	120	195	210	115	195	120	120	195	280	See page 120–123
8	950	540	582	710	190	605	130	195	250	125	195	130	130	195	285	
9	1000	580	662	710	155	660	140	235	250	135	235	140	145	235	330	
10	1100	630	662	810	205	710	160	235	300	150	235	150	155	235	350	
11	1200	705	782	870	180	805	170	270	300	165	270	165	170	270	400	
12	1355	775	790	1025	265	875	180	270	300	180	270	180	185	270	405	

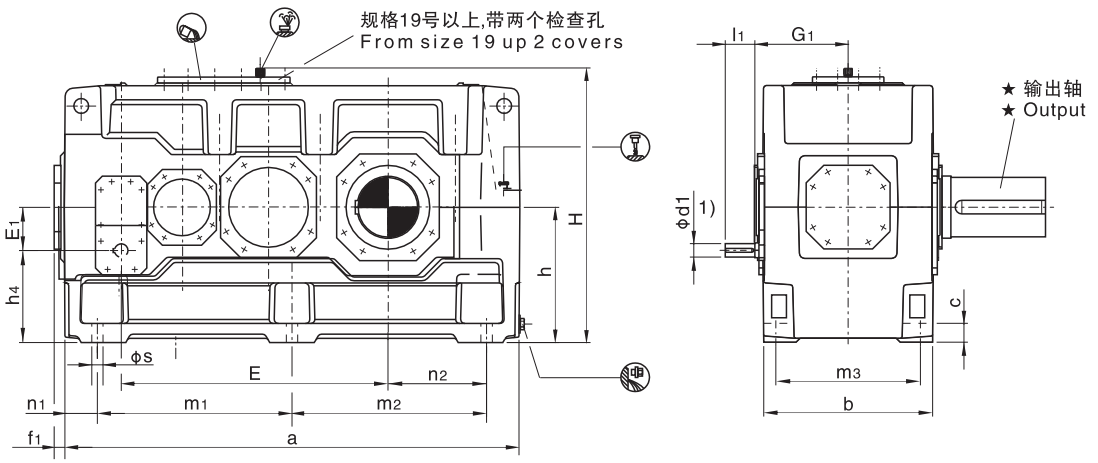
Size	Oil (L)	Weight (kg)
7	25	550
8	27	645
9	48	875
10	50	1010
11	80	1460
12	87	1725

TYPES MTH4.H...,MTH4.M...

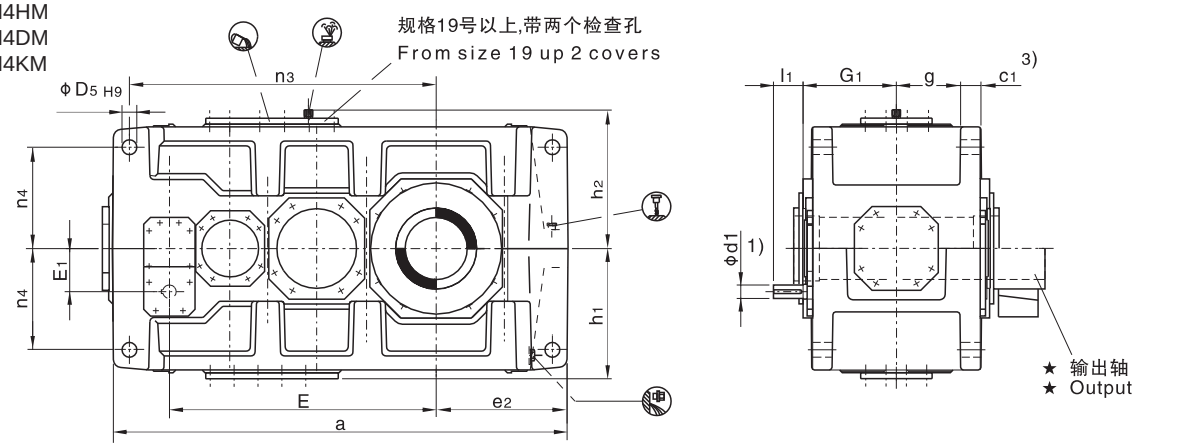
SIZES 13...22

Helical gear units — Four Stage — Horizontal

MTH4SH
MTH4HH
MTH4DH
MTH4KH

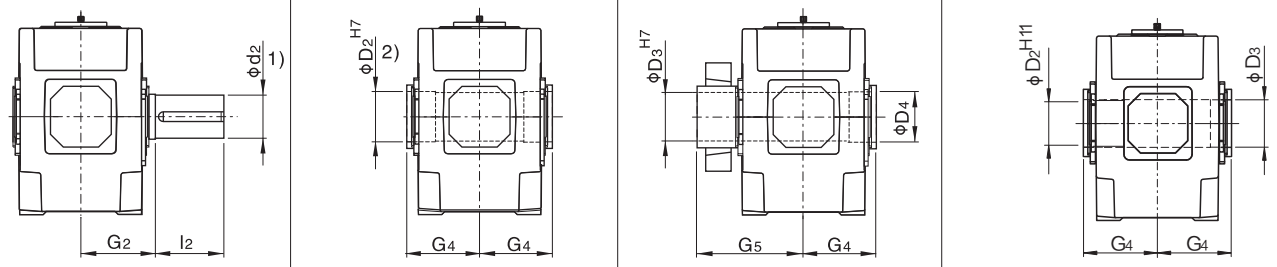


MTH4HM
MTH4DM
MTH4KM

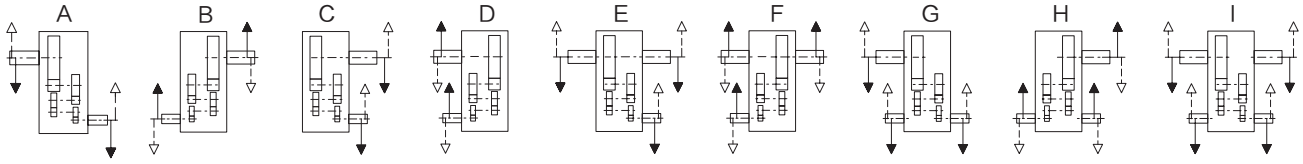


Output

MTH4SH	MTH4HH MTH4HM	MTH4DH MTH4DM	MTH4KH MTH4KM
Solid shaft	Hollow shaft	Hollow shaft for shrink disk	Hollow shaft with involute splines



Design



1)k6≤Φ50 m6> Φ50 For parallel key GB/T1095−1979 and for center hole,see page 114−115.
2) Remove air guide cover before fitting the foundation bolts.
3) Torque support on driven machine side.

mm Note: Dimensions in mm

Size		Input					Design G, H, I only for i_N=	
		i_N=100- 180		i_N=200- 355				
		i_N=112- 200		i_N=224- 400				
		i_N=125- 224		i_N=250- 450				
		d_1[1]	l_1	d_1[1]	l_1	G_1		
13	+14	50	100	38	80	305	100–250	125–315
15	+16	60	135	50	110	345	100–250	112–280
17	+18	60	105	50	80	380	–	–
19	+20	75	105	60	105	440	–	–
21	+22	90	165	70	140	460	–	–

Size	Gear units																
	b	c	c_1	D_5	g	h	h_1	h_2	h_4	m_3	n_1	n_4	s	H	m_1	E_1	f_1
13+14	550	60	61 ± 2	48	214	440	450	460	310	475	100	340	35	900	597.5	130	47
15+16	625	70	72 ± 2	55	238	500	490	500	340	535	120	375	42	1000	720	160	56
17+18	690	80	81 ± 2	55	259	550	555	560	390	600	135	425	42	1110	750	160	53
19+20	790	90	91 ± 2	65	299	620	615	620	435	690	155	475	48	1240	860	185	53
21+22	830	100	100 ± 2	75	310	700	685	690	475	720	170	520	56	1390	1000	225	62

Size	Gear units						Output									
							MTH4SH			MTH4HH MTH4HM		MTH4DH MTH4DM				MTH4KH MTH4KM
	a	e_2	E	m_2	n_2	n_3	d_2[1]	G_2	l_2	D_2[2]	G_4	D_3	D_4	G_4	G_5	
13	1395	405	820	597.5	305	940	200	335	350	190	335	190	195	335	480	See page 120–123
14	1535	475	890	737.5	375	1010	210	335	350	210	335	210	215	335	480	
15	1680	485	987	720	365	1135	230	380	410	230	380	230	235	380	550	
16	1770	530	1033	810	410	1180	240	380	410	240	380	240	245	380	550	
17	1770	525	1035	750	390	1175	250	415	410	250	415	250	260	415	600	
18	1890	585	1095	870	450	1235	270	415	470	275	415	280	285	415	600	
19	2030	590	1190	860	435	1365	290	465	470	–	–	285	295	465	670	
20	2150	650	1250	980	495	1425	300	465	500	–	–	310	315	465	670	
21	2340	655	1387	1000	485	1615	320	490	500	–	–	330	335	490	715	
22	2450	710	1442	1110	540	1670	340	490	550	–	–	340	345	490	725	

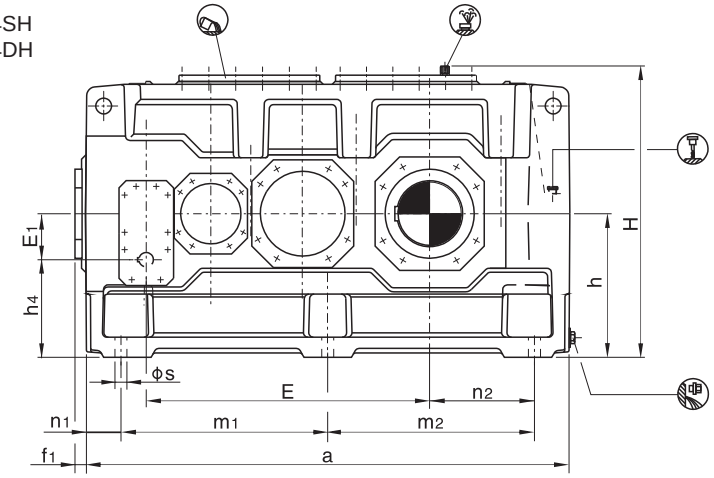
Size	Oil (L)		Weight (kg)	
	MTH4.H	MTH4.M	MTH4.H	MTH4.M
13	130	120	2390	2270
14	140	125	2730	2600
15	230	170	3635	3440
16	235	175	3965	3740
17	290	225	4680	4445
18	305	230	5185	4915
19	360	310	6800	6300
20	380	330	8200	7700
21	395	430	9200	8600
22	420	450	9900	9400

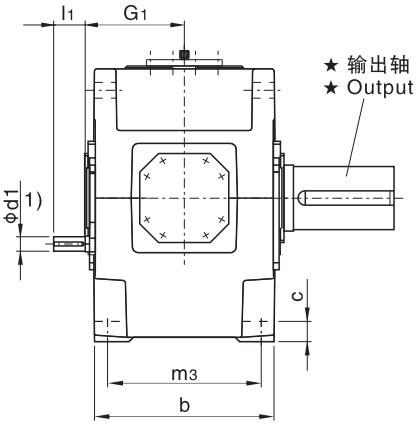
TYPES MTH4.H...,MTH4.M...

SIZES 23...26

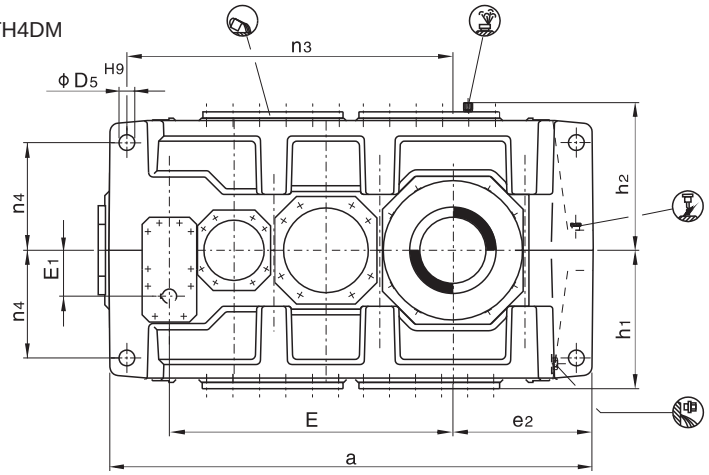
Helical gear units Four Stage Horizontal

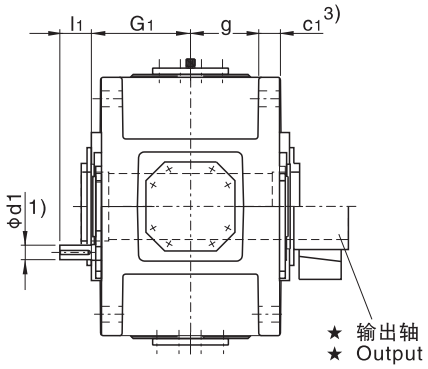
MTH4SH
MTH4DH





MTH4DM

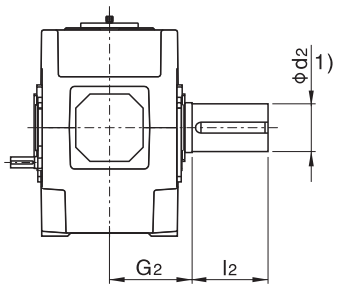




Output

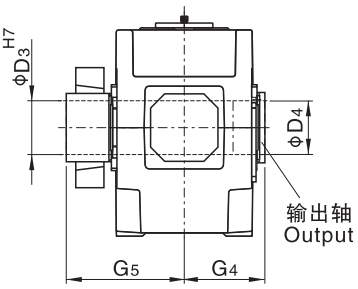
MTH4SH

Solid shaft

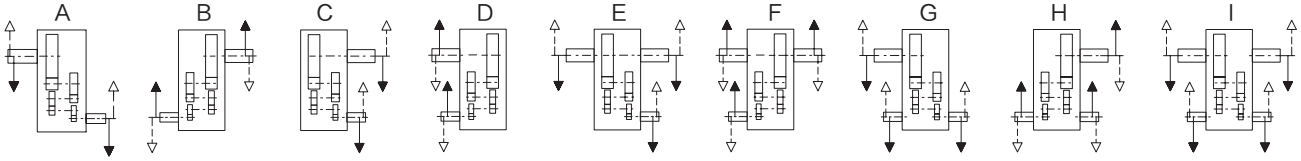


MTH4DH MTH4DM

Hollow shaft for shrink disk



Design



1)k6≤Φ50 m6> Φ50 For parallel key GB/T1095−1979 and for center hole,see page 114−115.
2) Remove air guide cover before fitting the foundation bolts.
3) Torque support on driven machine side.

mm Note: Dimensions in mm

Size	Input				
	i_N=100- 180 i_N=112- 200		i_N=200- 355 i_N=224- 400		
	d_1[1)]	l_1	d_1[1)]	l_1	G_1
23 +24	90	130	70	105	505
25 +26	100	205	85	170	565

Size	Gear units																
	b	c	c_1	D_5	g	h	h_1	h_2	h_4	m_3	n_1	n_4	s	H	m_1	f_1	E_1
23+24	930	115	120 ± 2	80	342	780	770	790	555	810	180	580	56	1570	1085	35	225
25+26	1045	130	120 ± 2	90	400	860	860	860	595	910	200	660	66	1720	1215	65	265

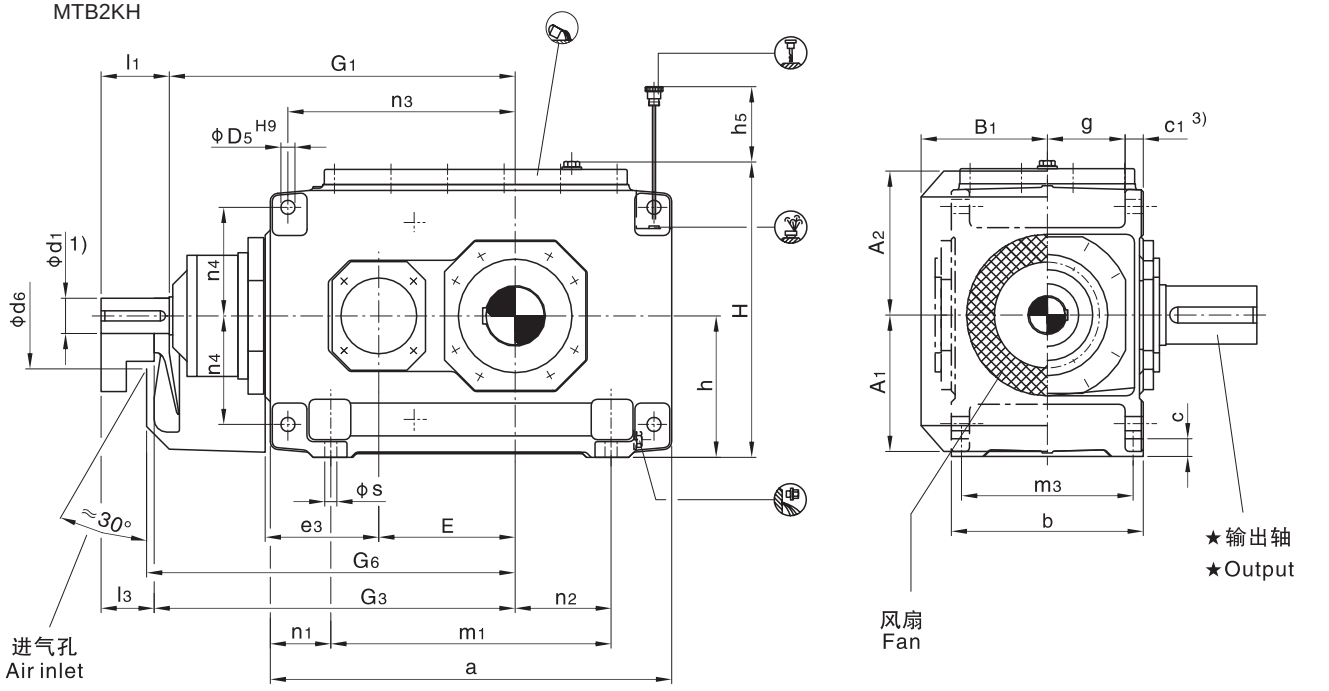
Size	Gear units						Output						
							MTH4SH			MTH4DH MTH4DM			
	a	e_2	E	m_2	n_2	n_3	d_2[1)]	G_2	l_2	D_3	D_4	G_4	G_5
23	2530	730	1505	1085	550	1725	360	540	590	360	365	540	785
24	2660	795	1570	1215	615	1790	380	540	590	380	385	540	805
25	2830	790	1659	1215	590	1965	400	605	650	400	405	605	875
26	3010	880	1785	1395	680	2055	420	605	650	430	435	605	900

Size	Oil (L)		Weight (kg)	
	MTH4.H	MTH4.DM	MTH4.H	MTH4.DM
23	520	500	11600	10700
24	550	600	13500	12600
25	735	800	16100	15200
26	780	850	17600	16500

Bevel-helical gear units Two Stage Horizontal

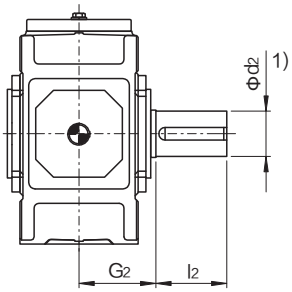
TYPES MTB2.H...
SIZES 1...12

MTB2SH
MTB2HH
MTB2DH
MTB2KH

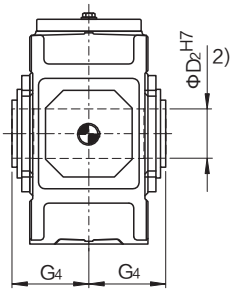


★ Output

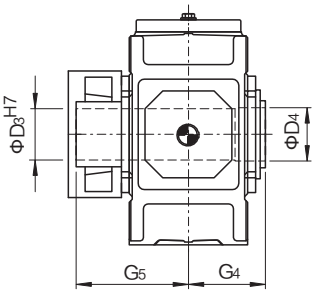
MTB2SH
Solid shaft



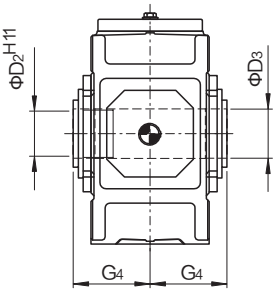
MTB2HH
Hollow shaft



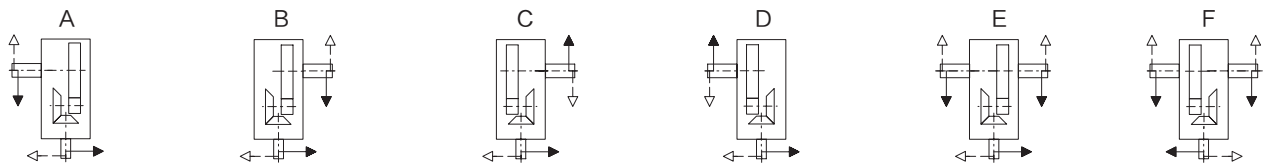
MTB2DH
Hollow shaft for shrink disk



MTB2KH
Hollow shaft with involute splines



Design



1)k6≤Φ50 m6> Φ50 For parallel key GB/T1095−1979 and for center hole,see page 114−115.
2) Remove air guide cover before fitting the foundation bolts.
3) Torque support on driven machine side.

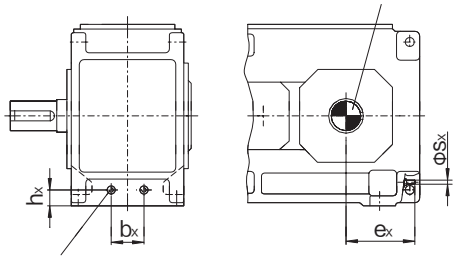
mm Note: Dimensions in mm

Size	Input										Fan			
	i_N=5- 11.2 / i_N=6.3- 14			i_N=12.5- 18										
	d_1[1]	l_1	l_3	d_1[1]	l_1	l_3	G_1	G_3	G_1	G_3	A_1	A_2	B_1	d_6
1	28	55	40	20	50	35	300	315			125	130	128	110
2	30	70	50	25	60	40	340	360			140	140	143	110
3	35	80	60	28	60	40	390	410			170	170	163	120
4	45	100	80				465	485	–	–	195	200	188	150
5 +6	55	110	80				535	565	570	600	220	235	215	160
7 +8	70	135	105				640	670	685	715	270	285	250	210
9 +10	80	165	130				755	790	805	840	310	325	270	195
11 +12	90	165	130				925	960	995	1030	370	385	328	210

Size	Gear units											
	b	c	c_1	D_5	e_3	g	h	H	m_3	n_1	n_4	s
1	180	18	16 ± 1	12	90	74	130	275	155	60	105	12
2	205	18	20 ± 1	14	110	82.5	145	305	180	65	115	12
3	225	22	24 ± 1	18	130	88.5	175	360	195	80	132.5	15
4	270	28	30 ± 1	24	160	105	200	415	235	105	150	19
5+6	320	28	30 ± 1	24	185	130	230	482	285	105	180	19
7+8	380	35	36 ± 1	28	225	154	280	582	340	120	215	24
9+10	440	40	45 ± 1.5	36	265	172	320	662	390	145	245	28
11+12	530	50	54 ± 1.5	40	320	211	380	790	470	165	300	35

Size	Gear units							Output									
								MTB2SH			MTB2HH		MTB2DH				MTB2KH
	a	E	h_5	G_6	m_1	n_2	n_3	d_2[1]	G_2	l_2	D_2[2]	G_4	D_3	D_4	G_4	G_5	
1	305	90	80	325	185	70	160	45	120	80	–	–	–	–	–	–	See page 120–123
2	355	110	80	370	225	75	195	55	135	110	55	135	60	60	135	180	
3	405	130	90	420	245	70	235	65	145	140	65	145	70	70	145	200	
4	505	160	80	495	295	85	285	80	170	170	80	170	85	85	170	235	
5	565	185	150	575	355	100	330	100	200	210	95	200	100	100	200	275	
6	645	220	150	610	435	145	365	110	200	210	105	200	110	110	200	275	
7	690	225	180	685	450	130	405	120	235	210	115	235	120	120	235	320	
8	795	270	190	730	555	190	450	130	235	250	125	235	130	130	235	325	
9	820	265	205	805	530	155	480	140	270	250	135	270	140	145	270	365	
10	920	315	215	855	630	205	530	160	270	300	150	270	150	155	270	385	
11	975	320	240	980	645	180	580	170	320	300	165	320	165	170	320	450	
12	1130	390	250	1050	800	265	650	180	320	300	180	320	180	185	320	455	

Size	Oil (L)	Weight (kg)
1	2	65
2	4	90
3	6	140
4	10	235
5	16	360
6	19	410
7	31	615
8	34	700
9	48	1000
10	50	1155
11	80	1640
12	95	1910



Water connection for cooling coil

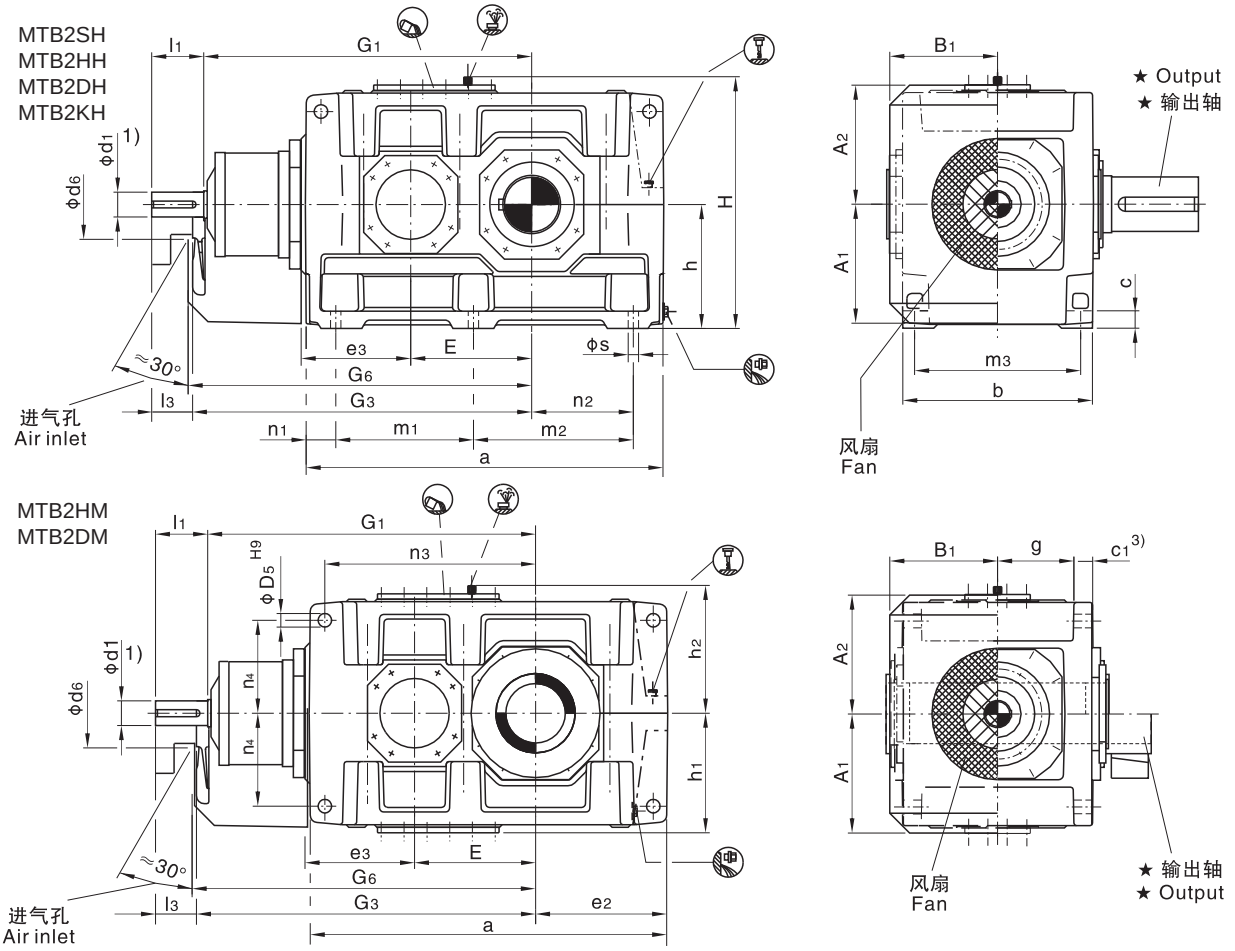
1) Cooling coil suitable for fresh, sea or brackish water.
2)x) Cooling water quantity required.

Size	Cooling coil				
	b_x	e_x	h_x	s_x	x) L/min
1	64	125	40	G1/4	4
2	78	130	40	G1/4	4
3	58	140	52	G1/2	4
4	74	160	54	G1/2	4
5	130	175	62	G1/2	8
6	120	220	68	G1/2	8
7	140	210	80	G1/2	8
8	140	270	80	G1/2	8
9	232	245	110	G1/2	8
10	150	295	90	G1/2	8
11	312	275	115	G1/2	8
12	300	360	115	G1/2	8

TYPES MTB2.H...,MTB2.M...

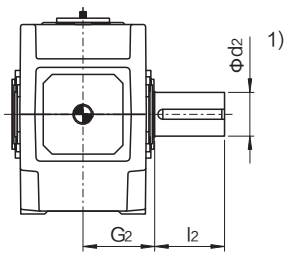
SIZES 13...18

Bevel-helical gear units Two Stage Horizontal

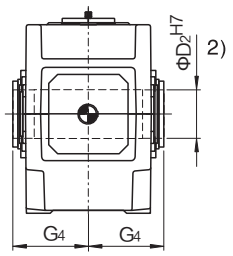


Output

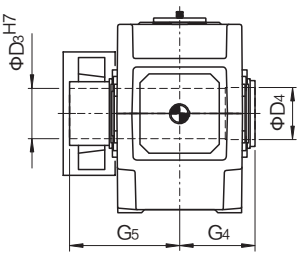
MTB2SH
Solid shaft



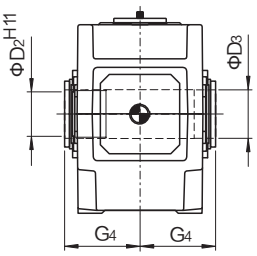
MTB2HHMTB2HM
Hollow shaft



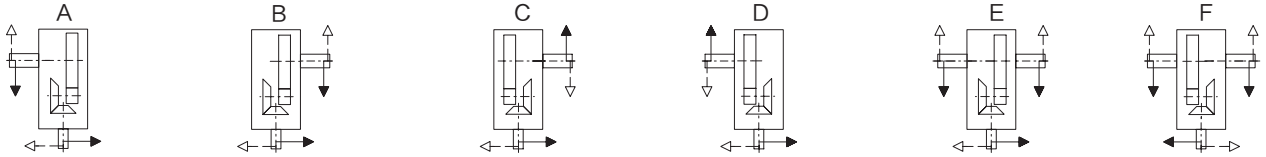
MTB2DHMTB2DM
Hollow shaft for shrink disk



MTB2KH MTB2KM
Hollow shaft with involute splines



Design



1)k6≤Φ50 m6> Φ50
2)
3)

For parallel key GB/T1095−1979 and for center hole,see page 114−115.
Remove air guide cover before fitting the foundation bolts.
Torque support on driven machine side.

mm Note: Dimensions in mm

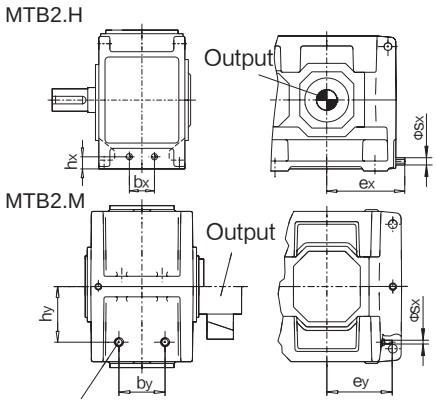
Size	Input										Fan			
	i_N=5- 11.2 i_N=6.3- 14 i_N=7.1- 12.5			i_N=5.6- 11.2 i_N=5.6- 12.5										
	d_1[1]	l_1	l_3	d_1[1]	l_1	l_3	G_1	G_3	G_1	G_3	A_1	A_2	B_1	d_6
13 +14	110	205	165				1070	1110	1140	1180	430	450	375	245
15	130	245	200				1277	1322	–	–	490	495	435	280
16				130	245	200	–	–	1323	1368	490	495	435	280
17				150	245	200	1435	1480	–	–	540	555	505	380
18	150	245	200				1495	1540	–	–	540	555	505	380

Size	Gear units														
	b	c	c_1	D_5	g	h	h_1	h_2	m_3	n_1	n_4	s	H	m_1	e_3
13+14	655	60	61 ± 2	48	264	440	450	460	580	100	340	35	900	465	380
15+16	765	70	72 ± 2	55	308	500	490	500	670	120	375	42	1000	555	450
17+18	885	80	81 ± 2	65	356	550	555	560	780	135	420	48	1110	610	510

Size	Gear units							Output									
								MTB2SH			MTB2HH MTB2HM		MTB2DH MTB2DM				MTB2KH MTB2KM
	a	e_2	E	G_6	m_2	n_2	n_3	d_2[1]	G_2	l_2	D_2[2]	G_4	D_3	D_4	G_4	G_5	
13	1130	405	370	1130	465	305	675	200	390	350	–	–	–	–	–	–	
14	1270	475	440	1200	605	375	745	210	390	350	210	390	210	215	390	535	
15	1350	485	442	1340	555	365	805	230	460	410	–	–	–	–	–	–	
16	1440	530	488	1385	645	410	850	240	460	410	240	450	240	245	450	620	
17	1490	525	490	1500	610	390	895	250	540	410	–	–	–	–	–	–	
18	1610	585	550	1560	730	450	955	270	540	470	275	510	280	285	510	700	

See page 120–123

Size	Oil (L)		Weight (kg)	
	MTB2.H	MTB2.M	MTB2.H	MTB2.M
13	140	120	2450	2350
14	155	130	2825	2725
15	220	180	3990	3795
16	230	190	4345	4160
17	320	260	5620	5320
18	335	275	6150	5860



Size	Cooling coil							
	b_x	b_y	e_x	e_y	h_x	h_y	s_x	x) L/min
13	324	324	460	335	116	300	G1/2	8
14	324	324	530	405	116	300	G1/2	8
15	396	396	540	395	119	335	G1/2	8
16	396	396	585	440	119	335	G1/2	8
17	468	324	580	425	134	380	G1/2	8
18	468	324	640	485	134	380	G1/2	8

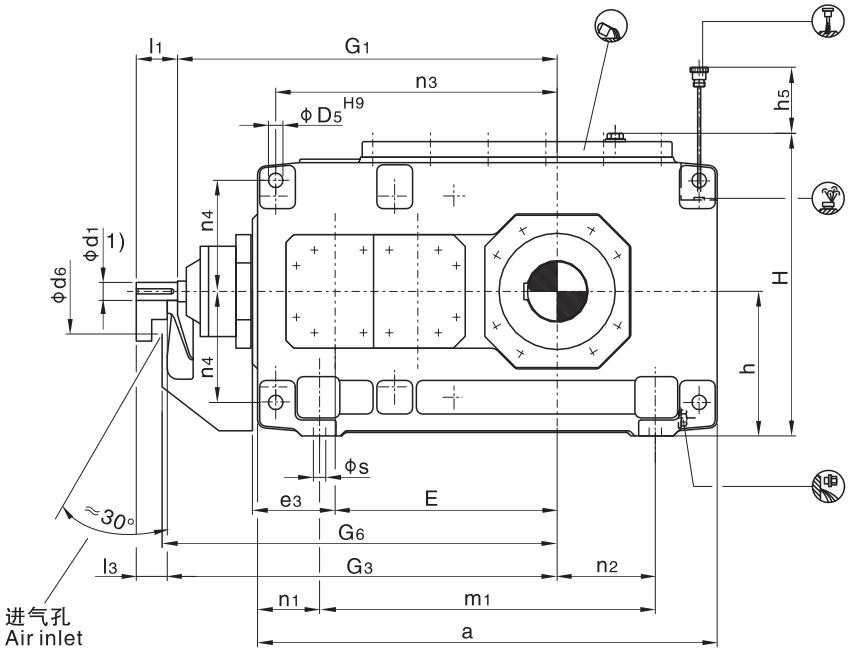
Water connection for cooling coil

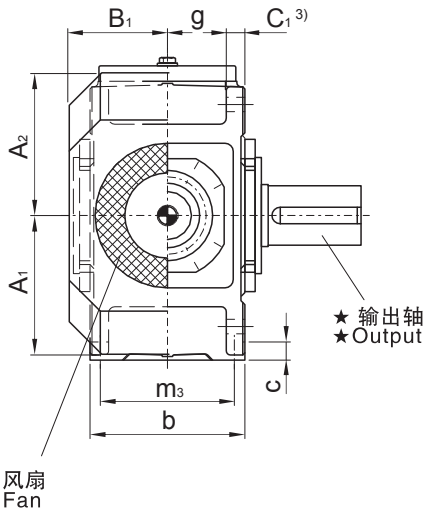
1)
Cooling coil suitable for fresh, sea or brackish water.
2)x) Cooling water quantity required.

TYPES MTB3.H...
SIZES 3...12

Bevel-helical gear units Three Stage Horizontal

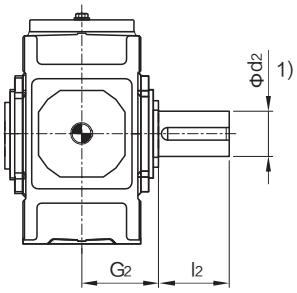
MTB3SH
MTB3HH
MTB3DH
MTB3KH



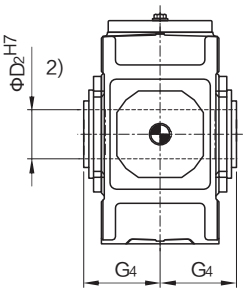


★ Output

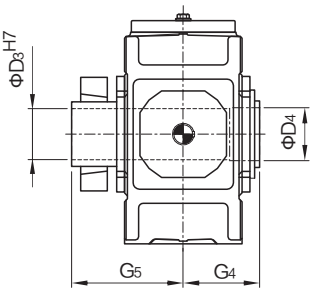
MTB3SH
Solid shaft



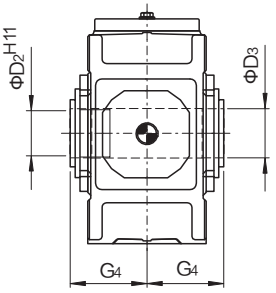
MTB3HH
Hollow shaft



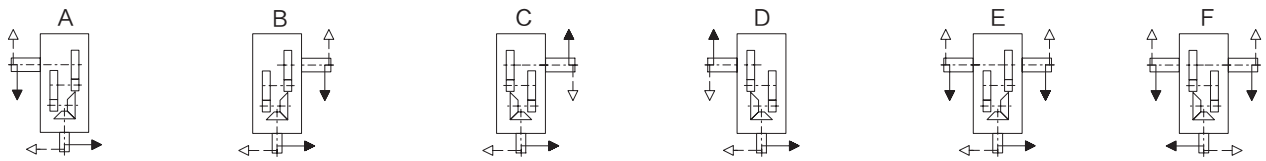
MTB3DH
Hollow shaft for shrink disk



MTB3KH
Hollow shaft with involute splines



Design



1)k6≤Φ50 m6> Φ50
2) Remove air guide cover before fitting the foundation bolts.
3) Torque support on driven machine side.

For parallel key GB/T1095−1979 and for center hole,see page 114−115.

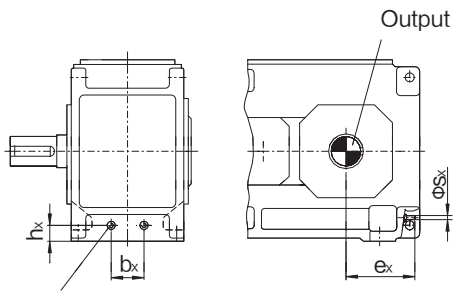
mm Note: Dimensions in mm

Size	Input									Fan							
	i_N=12.5- 45			i_N=20- 45			i_N=50- 71										
	i_N=16- 56						i_N=63- 90										
	d_1[1]	l_1	l_3	d_1[1]	l_1	l_3	d_1[1]	l_1	l_3	G_1	G_3	G_1	G_3	A_1	A_2	B_1	d_6
3				28	55	40	20	50	35	430	445			170	170	128	90
4	30	70	50				25	60	40	500	520			195	200	143	110
5 +6	35	80	60				28	60	40	575	595	610	630	220	235	168	130
7 +8	45	100	80				35	80	60	690	710	735	755	275	275	193	165
9 +10	55	110	80				40	100	70	800	830	850	880	315	325	231	175
11 +12	70	135	105				50	110	80	960	990	1030	1060	370	385	263	190

Size	Gear units										
	b	c	c_1	D_5	g	h	m_3	n_1	n_4	s	e_3
3	190	22	24 ± 1	18	71	175	160	80	132.5	15	90
4	215	28	30 ± 1	24	77.5	200	180	105	150	19	110
5+6	255	28	30 ± 1	24	97.5	230	220	105	180	19	130
7+8	300	35	36 ± 1	28	114	280	260	120	215	24	160
9+10	370	40	45 ± 1.5	36	140	320	320	145	245	28	185
11+12	430	50	54 ± 1.5	40	161	380	370	165	300	35	225

Size	Gear units								Output								
									MTB3SH			MTB3HH		MTB3DH			MTB3KH
	a	E	G_6	h_5	H	m_1	n_2	n_3	d_2[1]	G_2	l_2	D_2[2]	G_4	D_3	D_4	G_4	G_5	
3	450	220	455	100	360	290	65	285	65	125	140	65	125	70	70	125	180	
4	565	270	530	100	415	355	85	345	80	140	170	80	140	85	85	140	205	
5	640	315	610	130	482	430	100	405	100	165	210	95	165	100	100	165	240	
6	720	350	640	130	482	510	145	440	110	165	210	105	165	110	110	165	240	
7	785	385	720	170	572	545	130	500	120	195	210	115	195	120	120	195	280	
8	890	430	765	160	582	650	190	545	130	195	250	125	195	130	130	195	285	See page 120–123
9	925	450	845	175	662	635	155	585	140	235	250	135	235	140	145	235	330	
10	1025	500	895	175	662	735	205	635	160	235	300	150	235	150	155	235	350	
11	1105	545	1010	220	795	775	180	710	170	270	300	165	270	165	170	270	400	
12	1260	615	1080	210	795	930	265	780	180	270	300	180	270	180	185	270	405	

Size	Oil (L)	Weight (kg)
3	6	130
4	9	210
5	14	325
6	15	380
7	25	550
8	28	635
9	40	890
10	42	1020
11	66	1455
12	72	1730



Water connection for cooling coil

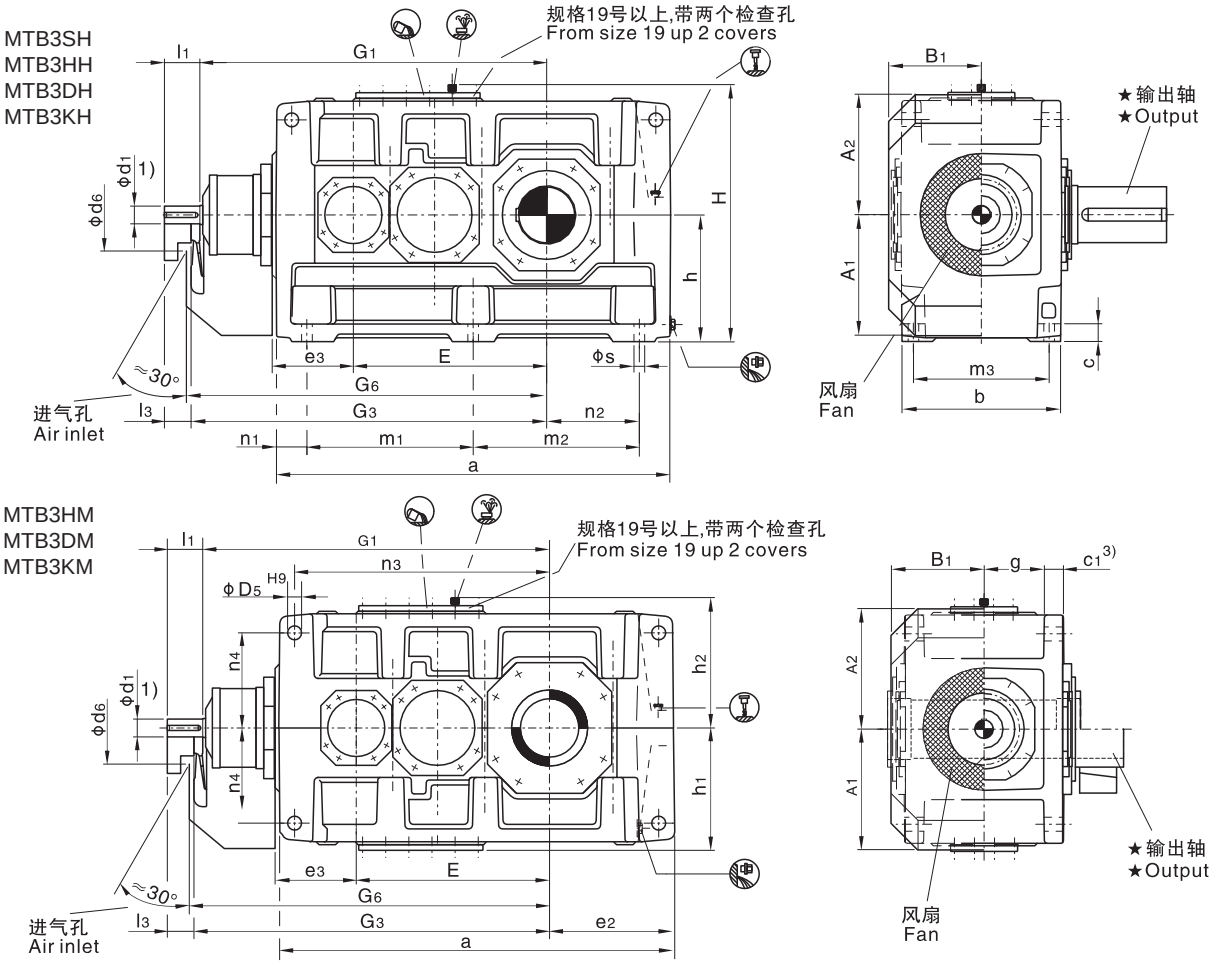
Size	Cooling coil				
	b_x	e_x	h_x	s_x	x) L/min
3	34	130	55	G1/2	4
4	34	155	60	G1/2	4
5	68	170	64	G1/2	4
6	70	215	68	G1/2	4
7	100	210	83	G1/2	4
8	100	270	83	G1/2	4
9	140	245	110	G1/2	8
10	100	295	95	G1/2	8
11	110	275	95	G1/2	8
12	200	360	109	G1/2	8

1) Cooling coil suitable for fresh, sea or brackish water.
2)x) Cooling water quantity required.

TYPES MTB3.H...,MTB3.M...

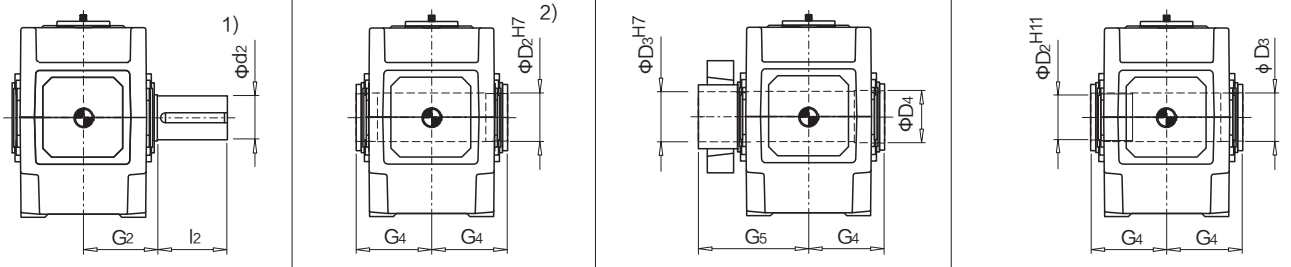
SIZES 13...22

Bevel-helical gear units Three Stage Horizontal

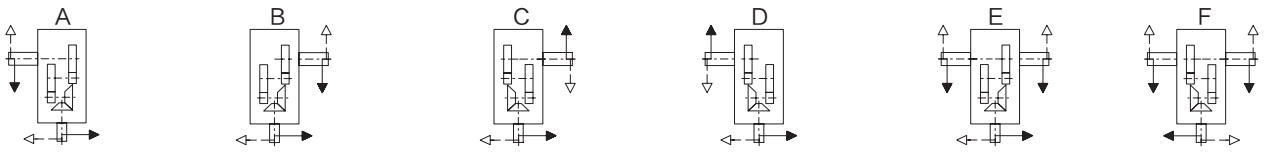


Output

MTB3SH	MTB3HH MTB3HM	MTB3DH MTB3DM	MTB3KH MTB3KM
Solid shaft	Hollow shaft	Hollow shaft for shrink disk	Hollow shaft with involute splines



Design



1)k6≤Φ50 m6> Φ50
2)
3)

For parallel key GB/T1095−1979 and for center hole,see page 114−115.
Remove air guide cover before fitting the foundation bolts.
Torque support on driven machine side.

mm Note: Dimensions in mm

Size		Input										Fan			
		i_N=12.5- 45			i_N=50- 71										
		i_N=14- 50			i_N=56- 80										
		i_N=16- 56			i_N=63- 90										
		d_1[1)]	l_1	l_3	d_1[1)]	l_1	l_3	G_1	G_3	G_1	G_3	A_1	A_2	B_1	d_6
13	+14	80	165	130	60	140	105	1125	1160	1195	1230	425	435	325	210
15	+16	90	165	130	70	140	105	1367	1402	1413	1448	485	520	365	210
17	+18	110	205	165	80	170	130	1560	1600	1620	1660	535	570	395	230
19	+20	130	245	200	100	210	165	1832	1877	1892	1937	610	630	448	245
21	+22	130	245	200	100	210	165	1902	1947	1957	2002	690	690	473	280

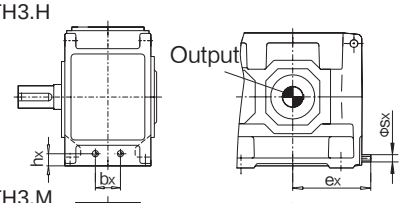
Size	Gear units													
	b	c	c_1	D_5	g	h	h_1	h_2	m_3	n_1	n_4	s	H	m_1	e_3
13+14	550	60	61 ± 2	48	211.5	440	450	460	475	100	340	35	900	545	265
15+16	625	70	72 ± 2	55	238	500	490	500	535	120	375	42	1000	655	320
17+18	690	80	81 ± 2	55	259	550	555	560	600	135	425	42	1110	735	370
19+20	790	90	91 ± 2	65	299	620	615	620	690	155	475	48	1240	850	430
21+22	830	100	100 ± 2	75	310	700	685	690	720	170	520	56	1390	900	450

Size	Gear units							Output									
								MTB3SH			MTB3HH MTB3HM		MTB3DH MTB3DM				MTB3KH MTB3KM
	a	e_2	E	G_6	m_2	n_2	n_3	d_2[1)]	G_2	l_2	D_2[2)]	G_4	D_3	D_4	G_4	G_5	
13	1290	405	635	1180	545	305	835	200	335	350	190	335	190	195	335	480	
14	1430	475	705	1250	685	375	905	210	335	350	210	335	210	215	335	480	
15	1550	485	762	1420	655	365	1005	230	380	410	230	380	230	235	380	550	
16	1640	530	808	1470	745	410	1050	240	380	410	240	380	240	245	380	550	
17	1740	525	860	1620	735	390	1145	250	415	410	250	415	250	260	415	600	
18	1860	585	920	1680	855	450	1205	270	415	470	275	415	280	285	415	600	
19	2010	590	997	1900	850	435	1345	290	465	470	–	–	285	295	465	670	
20	2130	650	1057	1960	970	495	1405	300	465	500	–	–	310	315	465	670	
21	2140	655	1067	1970	900	485	1400	320	490	500	–	–	330	335	490	715	
22	2250	710	1122	2025	1010	540	1455	340	490	550	–	–	340	345	490	725	

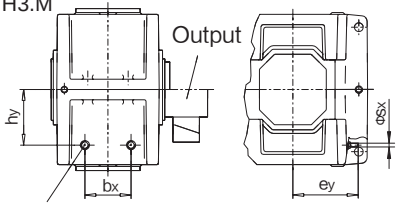
See page 120 – 123

Size	Oil (L)		Weight (kg)	
	MTB3.H	MTB3.M	MTB3.H	MTB3.M
13	130	110	2380	2260
14	140	115	2750	2615
15	210	160	3730	3540
16	220	165	3955	3765
17	290	230	4990	4760
18	300	235	5495	5240
19	380	360	7000	6500
20	440	420	8100	7600
21	370	420	9200	8600
22	430	490	9900	9400

MTH3.H



MTH3.M



Water connection for cooling coil

Size	Cooling coil						
	b_x	e_x	e_y	h_x	h_y	s_x	x) L/min
13	252	455	335	116	300	G1/2	8
14	252	525	405	116	300	G1/2	8
15	290	535	395	119	335	G1/2	8
16	290	580	440	119	335	G1/2	8
17	340	575	425	134	380	G1/2	8
18	340	635	485	134	380	G1/2	8
19	On request						
20							
21							
22							

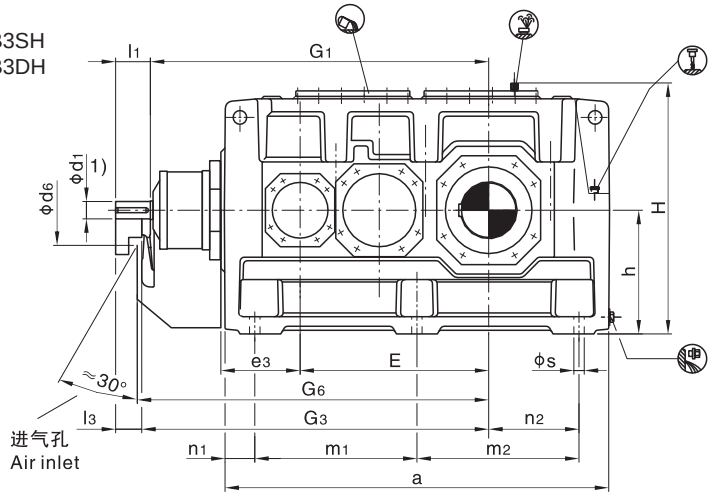
1)
Cooling coil suitable for fresh, sea or brackish water.
2)x) Cooling water quantity required.

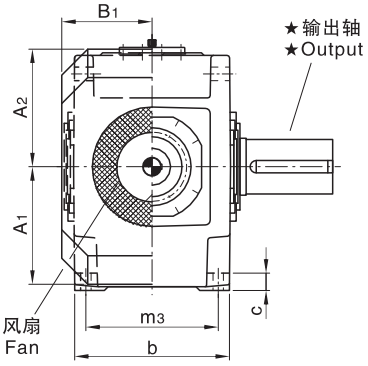
TYPES MTB3.H...,MTB3.M...

SIZES 23...26

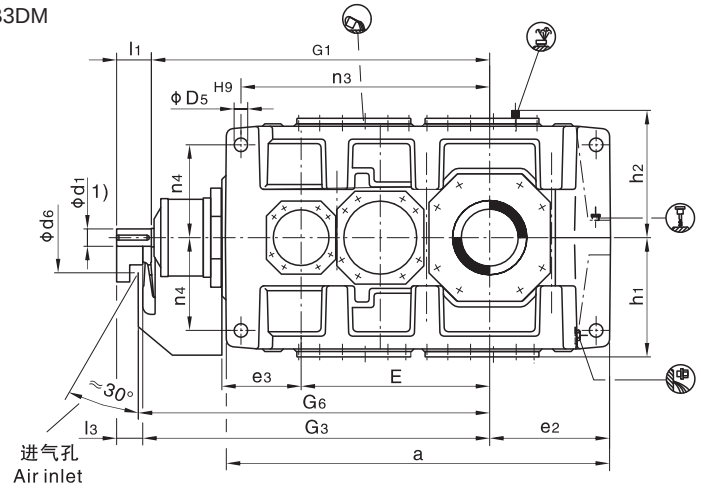
Bevel-helical gear units Three Stage Horizontal

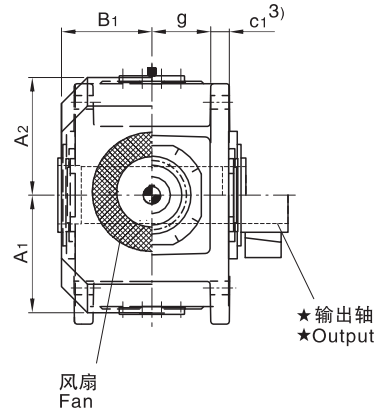
MTB3SH
MTB3DH





MTB3DM

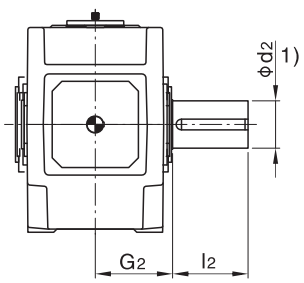




★ Output

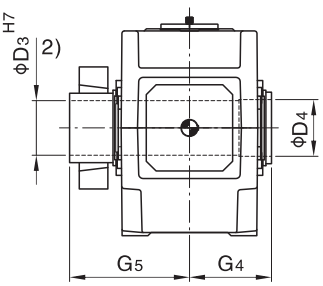
MTB3SH

Solid shaft

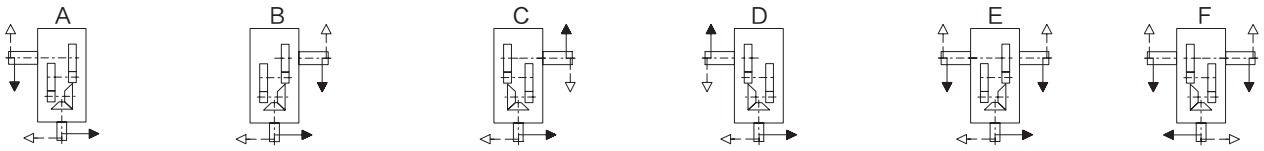


MTB3DH MTB3DM

Hollow shaft for shrink disk



Design



1)k6≤Φ50 m6> Φ50 For parallel key GB/T1095−1979 and for center hole,see page 114−115.
2) Remove air guide cover before fitting the foundation bolts.
3) Torque support on driven machine side.

mm Note: Dimensions in mm

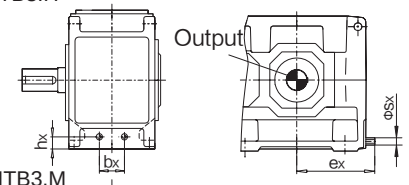
Size	Input										Fan			
	i_N=20- 45			i_N=50- 71										
	i_N=22.4- 50			i_N=56- 80										
	d_1[1)]	l_1	l_3	d_1[1)]	l_1	l_3	G_1	G_3	G_1	G_3	A_1	A_2	B_1	d_6
23 +24	150	245	200	110	210	165	2130	2175	2195	2240	770	770	528	350
25 +26	150	245	200	110	210	165	2270	2315	2360	2405	845	865	585	380

Size	Gear units														
	b	c	c_1	D_5	g	h	h_1	h_2	m_3	n_1	n_4	s	H	m_1	e_3
23+24	930	115	120 ±2	80	342	780	770	790	810	180	580	56	1570	1010	490
25+26	1045	130	120 ±2	90	400	860	865	860	910	200	660	66	1720	1090	490

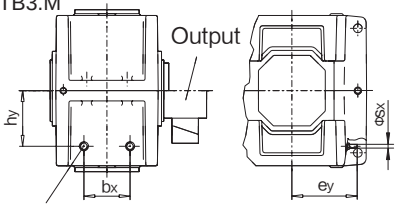
Size	Gear units							Output						
								MTB3SH			MTB3DH MTB3DM			
	a	e_2	E	G_6	m_2	n_2	n_3	d_2[1)]	G_2	l_2	D_3	D_4	G_4	G_5
23	2380	730	1185	2200	1010	550	1560	360	540	590	360	365	540	785
24	2510	795	1250	2265	1140	615	1625	380	540	590	380	385	540	805
25	2580	790	1325	2315	1090	590	1685	400	605	650	400	405	605	875
26	2760	880	1415	2430	1270	680	1775	420	605	650	430	435	605	900

Size	Oil (L)		Weight (kg)	
	MTB3.H	MTB3.M	MTB3.H	MTB3.M
23	520	560	11500	10600
24	600	650	13400	12500
25	720	790	16000	15100
26	840	920	17500	16400

MTB3.H



MTB3.M



Water connection for cooling coil

Size	Cooling coil						
	b_x	e_x	e_y	h_x	h_y	s_x	x) L/min
23	On request						
24							
25							
26							

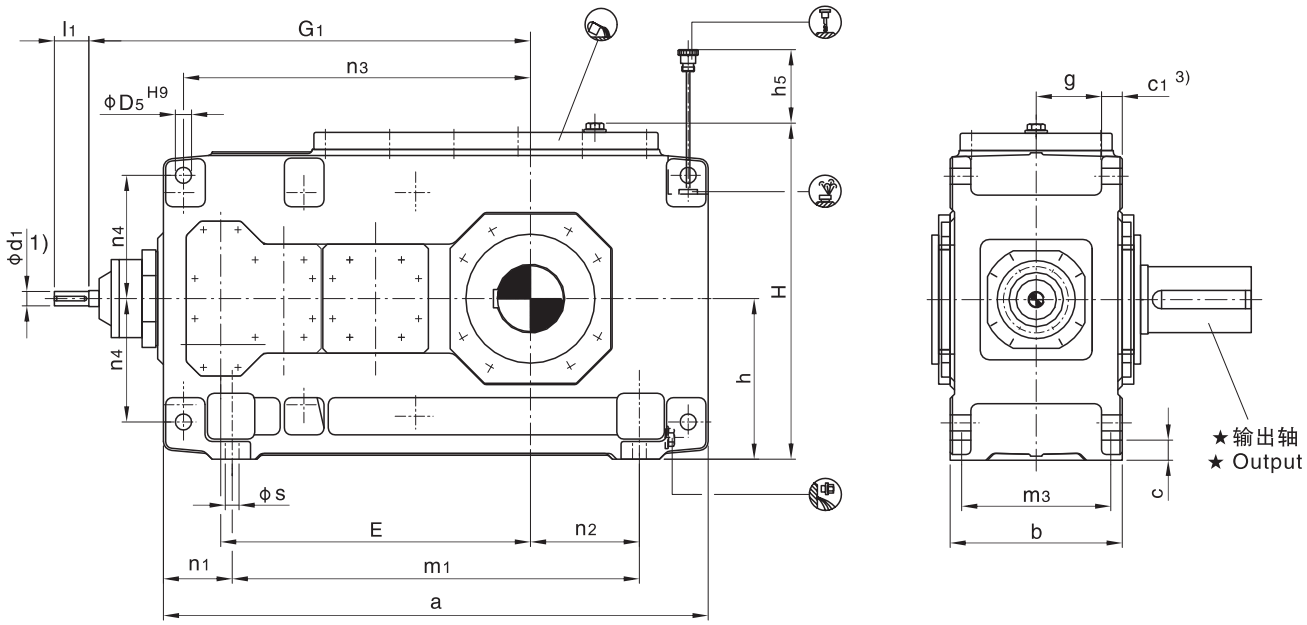
1) Cooling coil suitable for fresh, sea or brackish water.
2)x) Cooling water quantity required.

MTH/MTB

TYPES MTB4.H...
SIZES 5...12

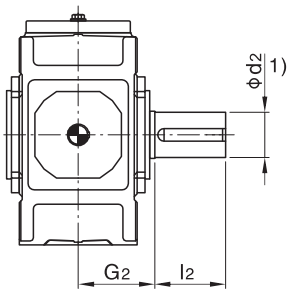
Bevel-helical gear units | Four Stage | Horizontal

MTB4SH
MTB4HH
MTB4DH
MTB4KH

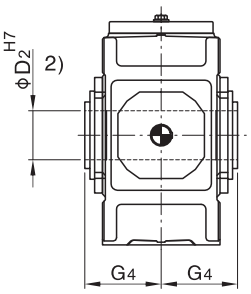


★ Output

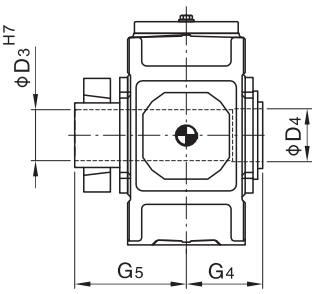
MTB4SH
Solid shaft



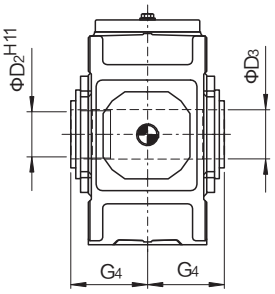
MTB4HH
Hollow shaft



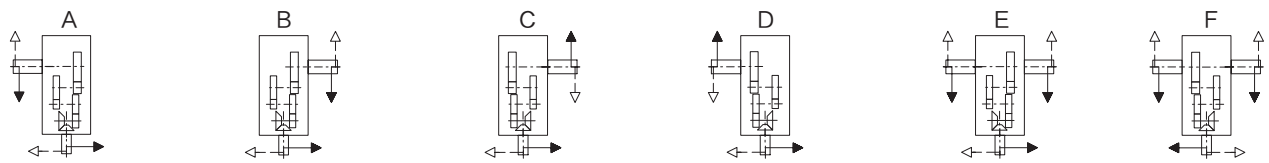
MTB3DH
Hollow shaft for shrink disk



MTB3KH
Hollow shaft with involute splines



Design



1)k6≤Φ50 m6> Φ50 For parallel key GB/T1095−1979 and for center hole,see page 114−115.
2) Remove air guide cover before fitting the foundation bolts.
3) Torque support on driven machine side.

mm Note: Dimensions in mm

Size		Input					
		i_N=80- 180		i_N=200- 315			
		i_N=100- 224		i_N=250- 400			
		d_1[1)]	l_1	d_1[1)]	l_1	G_1	G_1
5	+6	28	55	20	50	615	650
7	+8	30	70	25	60	725	770
9	+10	35	80	28	60	840	890
11	+12	45	100	35	80	1010	1080

Size	Gear units									
	b	c	c_1	D_5	g	h	m_3	n_1	n_4	s
5+6	255	28	30 ± 1	24	97.5	230	220	105	180	19
7+8	300	35	36 ± 1	28	114	280	260	120	215	24
9+10	370	40	45 ± 1.5	36	140	320	320	145	245	28
11+12	430	50	54 ± 1.5	40	161	380	370	165	300	35

Size	Gear units							Output									
								MTB4SH			MTB4HH		MTB4DH				MTB4KH
	a	E	H	h_5	m_1	n_2	n_3	d_2[1)]	G_2	l_2	D_2[2)]	G_4	D_3	D_4	G_4	G_5	
5	690	405	482	100	480	100	455	100	165	210	95	165	100	100	165	240	
6	770	440	482	100	560	145	490	110	165	210	105	165	110	110	165	240	
7	845	495	572	140	605	130	560	120	195	210	115	195	120	120	195	280	
8	950	540	582	130	710	190	605	130	195	250	125	195	130	130	195	285	
9	1000	580	662	135	710	155	660	140	235	250	135	235	140	145	235	330	
10	1100	630	662	135	810	205	710	160	235	300	150	235	150	155	235	350	
11	1200	705	782	170	870	180	805	170	270	300	165	270	165	170	270	400	
12	1355	775	790	160	1025	265	875	180	270	300	180	270	180	185	270	405	

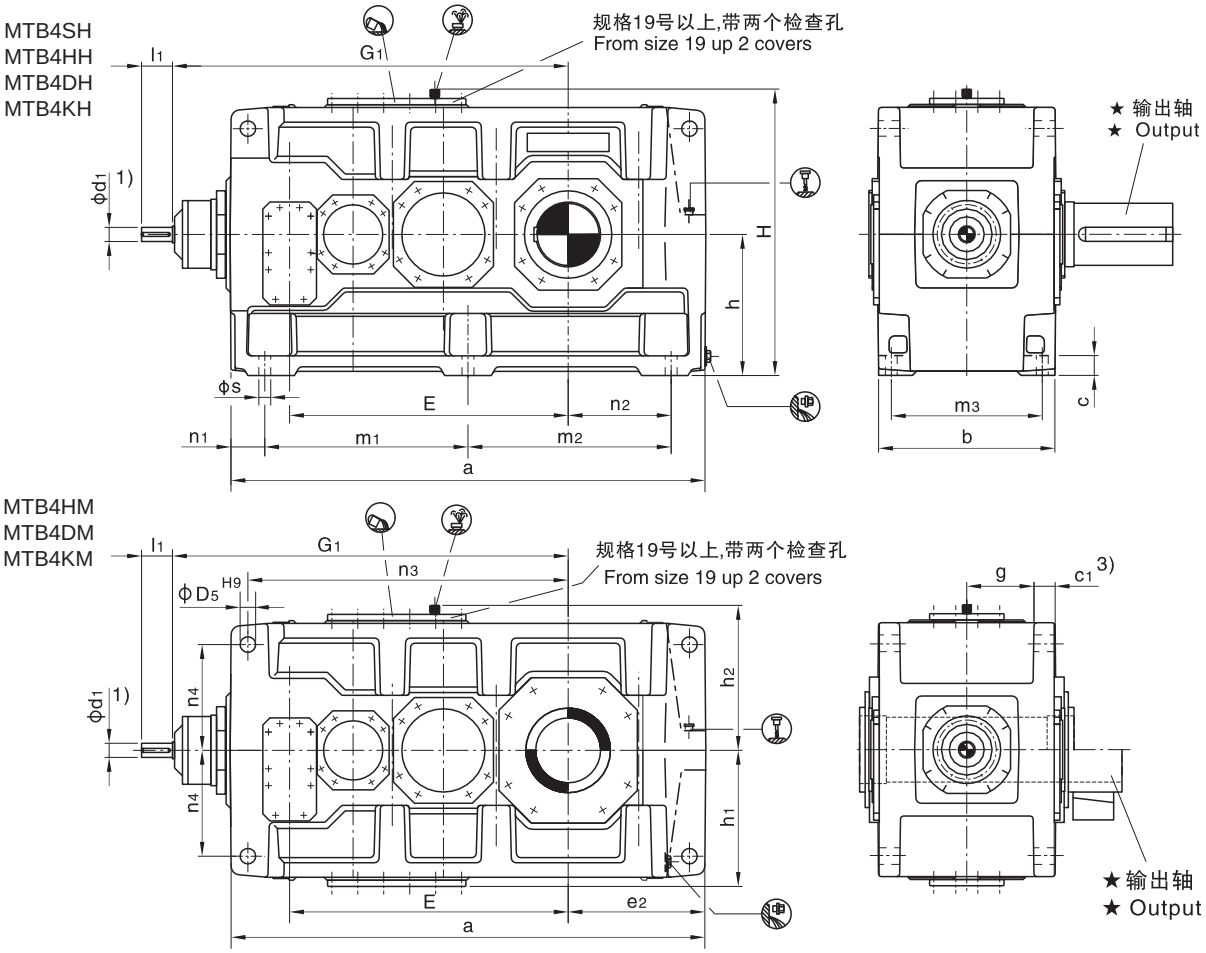
See page 120–123

Size	Oil (L)	Weight (kg)
5	16	335
6	18	385
7	30	555
8	33	655
9	48	890
10	50	1025
11	80	1485
12	90	1750

TYPES MTB4.H...,MTB4.M...

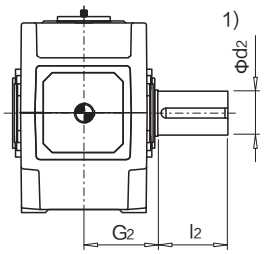
SIZES 13...22

Bevel-helical gear units Four Stage Horizontal

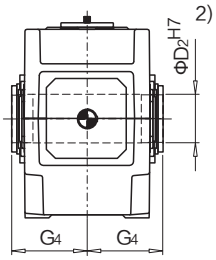


Output

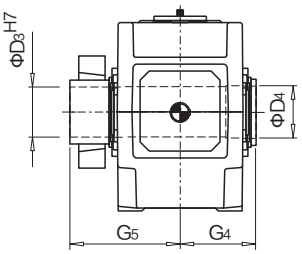
MTB4SH
Solid shaft



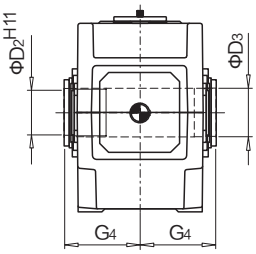
MTB4HH MTB4HM
Hollow shaft



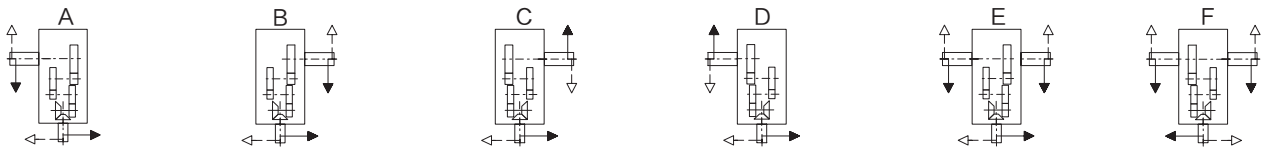
MTB4DHMTB4DM
Hollow shaft for shrink disk



MTB4KH MTB4KM
Hollow shaft with involute splines



Design



1)k6≤Φ50 m6> Φ50
2)
3)

For parallel key GB/T1095−1979 and for center hole,see page 114−115.
Remove air guide cover before fitting the foundation bolts.
Torque support on driven machine side.

mm Note: Dimensions in mm

Size		Input					
		i_N=80- 180		i_N=200- 315			
		i_N=90- 200		i_N=224- 355			
		i_N=100- 224		i_N=250- 400			
		d_1[1)]	l_1	d_1[1)]	l_1	G_1	G_1
13	+14	55	110	40	100	1170	1240
15	+16	70	135	50	110	1402	1448
17	+18	70	135	50	110	1450	1510
19	+20	80	165	60	140	1680	1740
21	+22	90	165	70	140	1992	2047

Size	Gear units													
	b	c	c_1	D_5	g	h	h_1	h_2	H	m_1	m_3	n_1	n_4	s
13+14	550	60	61 ± 2	48	211.5	440	450	460	900	597.5	475	100	340	35
15+16	625	70	72 ± 2	55	238	500	490	500	1000	720	535	120	375	42
17+18	690	80	81 ± 2	55	259	550	555	560	1110	750	600	135	425	42
19+20	790	90	91 ± 2	65	299	620	615	620	1240	860	690	155	475	48
21+22	830	100	100 ± 2	75	310	700	685	690	1390	1000	720	170	520	56

Size	Gear units						Output									
							MTB4SH			MTB4HH MTB4HM		MTB4DH MTB4DM				MTB4KH MTB4KM
	a	e_2	E	m_2	n_2	n_3	d_2[1)]	G_2	l_2	D_2[2)]	G_4	D_3	D_4	G_4	G_5	
13	1395	405	820	597.5	305	940	200	335	350	190	335	190	195	335	480	See page 120 –123
14	1535	475	890	737.5	375	1010	210	335	350	210	335	210	215	335	480	
15	1680	485	987	720	365	1135	230	380	410	230	380	230	235	380	550	
16	1770	530	1033	810	410	1180	240	380	410	240	380	240	245	380	550	
17	1770	525	1035	750	390	1175	250	415	410	250	415	250	260	415	600	
18	1890	585	1095	870	450	1235	270	415	470	275	415	280	285	415	600	
19	2030	590	1190	860	435	1365	290	465	470	–	–	285	295	465	670	
20	2150	650	1250	980	495	1425	300	465	500	–	–	310	315	465	670	
21	2340	655	1387	1000	485	1615	320	490	500	–	–	330	335	490	715	
22	2450	710	1442	1110	540	1670	340	490	550	–	–	340	345	490	725	

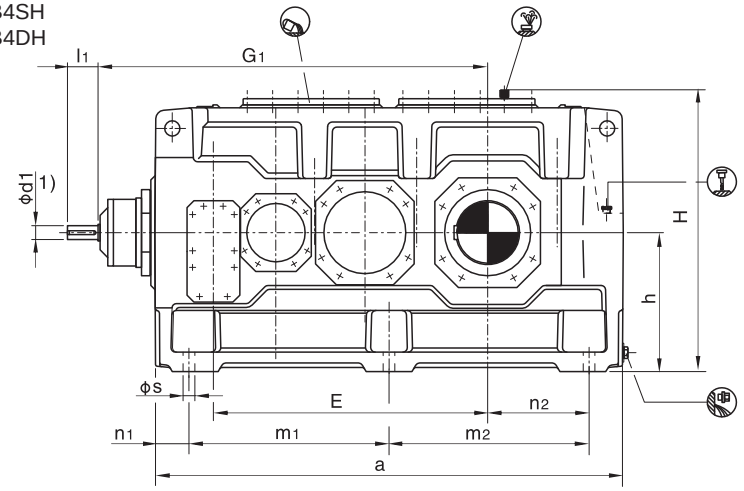
Size	Oil (L)		Weight (kg)	
	MTB4.H	MTB4.M	MTB4.H	MTB4.M
13	145	120	2395	2280
14	150	125	2735	2605
15	230	170	3630	3435
16	235	175	3985	3765
17	295	230	4695	4460
18	305	235	5200	4930
19	480	440	6800	6300
20	550	510	8200	7700
21	540	590	9200	8600
22	620	680	9900	9400

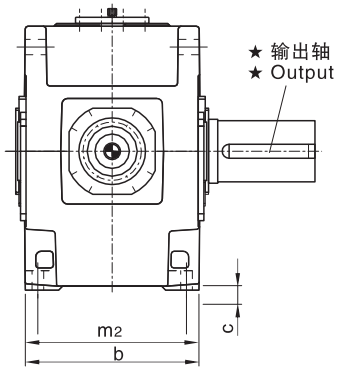
TYPES MTB4.H...,MTB4.M...

SIZES 23...26

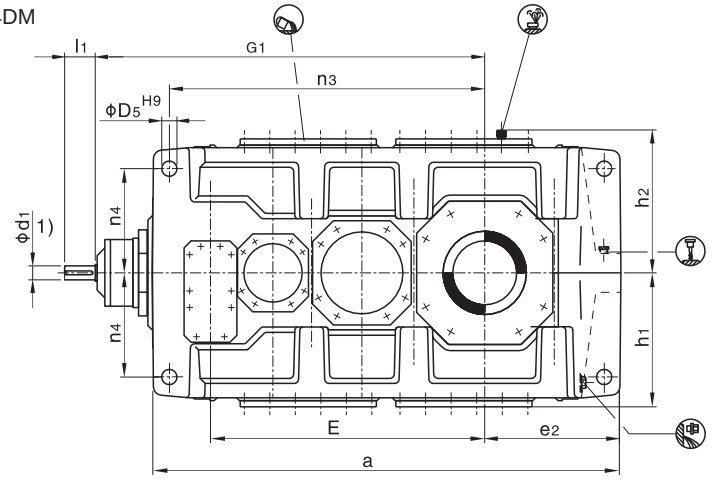
Bevel-helical gear units Four Stage Horizontal

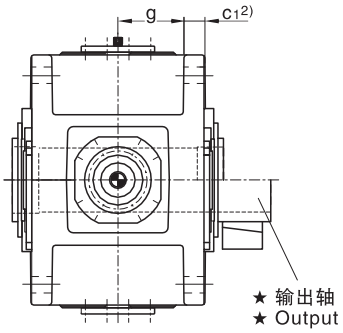
MTB4SH
MTB4DH





MTB4DM

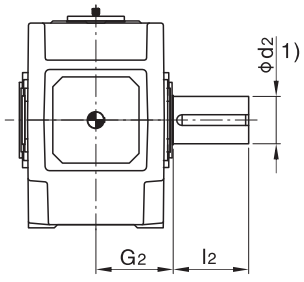




★ Output

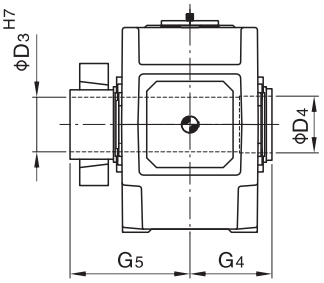
MTB4SH

Solid shaft

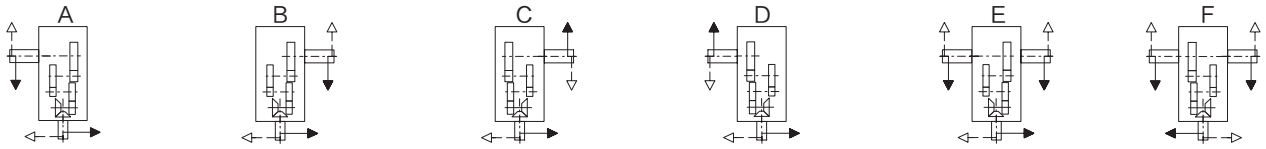


MTB4DH MTB4DM

Hollow shaft for shrink disk



Design



1)k6≤Φ50 m6> Φ50 For parallel key GB/T1095−1979 and for center hole,see page 114−115.
2) Remove air guide cover before fitting the foundation bolts.
3) Torque support on driven machine side.

mm Note: Dimensions in mm

Size		Input					
		i_N=80- 180		i_N=200- 315			
		i_N=90- 200		i_N=224- 355			
		d_1[1)]	l_1	d_1[1)]	l_1	G_1	G_1
23	+24	90	165	70	140	2110	2175
25	+26	110	205	80	170	2395	2485

Size	Gear units													
	b	c	c_1	D_5	g	h	h_1	h_2	m_3	n_1	n_4	s	H	m_1
23+24	930	115	120 ± 2	80	342	780	770	790	810	180	580	56	1570	1085
25+26	1045	130	120 ± 2	80	400	860	860	860	910	200	660	66	1720	1215

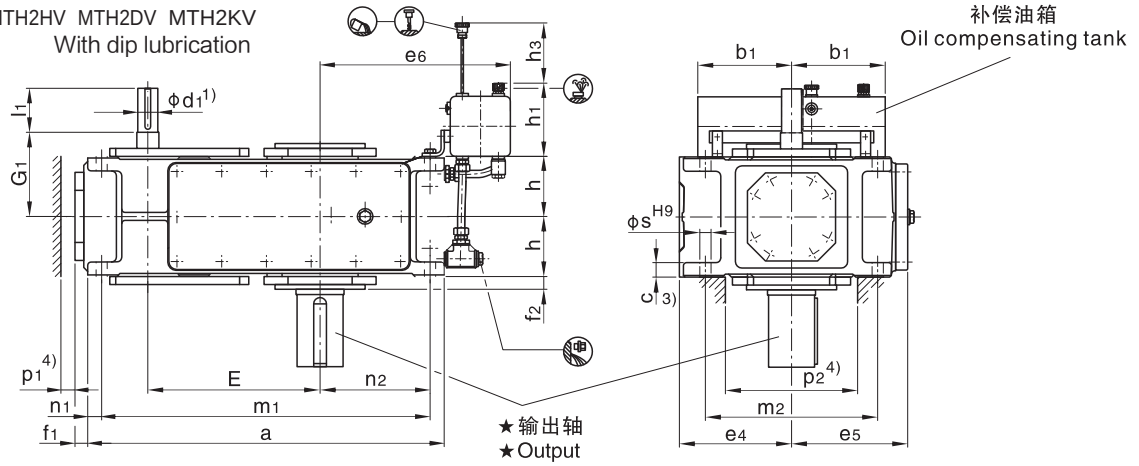
Size	Gear units						Output						
							MTB4SH			MTB4DH MTB4DM			
	a	e_2	E	m_2	n_2	n_3	d_2[1)]	G_2	l_2	D_3	D_4	G_4	G_5
23	2530	730	1505	1085	550	1725	360	540	590	360	365	540	785
24	2660	795	1570	1215	615	1790	380	540	590	360	365	540	805
25	2830	790	1695	1215	590	1965	400	605	650	400	405	605	875
26	3010	880	1785	1395	680	2055	420	605	650	430	435	605	900

Size	Oil (L)		Weight (kg)	
	MTB4.H	MTB4.M	MTB4.H	MTB4.M
23	710	790	11600	10700
24	810	910	13500	12600
25	1000	1110	16100	15200
26	1100	1200	17600	16500

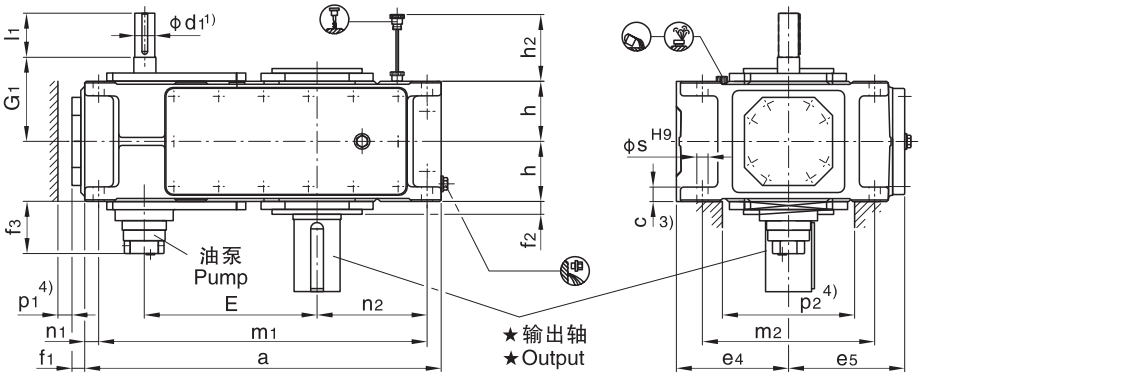
TYPES MTH2.V...
SIZES 3...12

Helical gear units Two Stage Vertical

MTH2SV MTH2HV MTH2DV MTH2KV
With dip lubrication



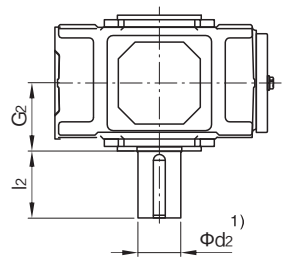
MTH2SV MTH2HV MTH2DV MTH2KV
With forced lubrication



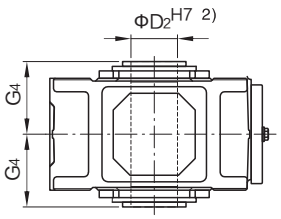
Oil supply(dip or forced lubrication), see page 128

★ Output

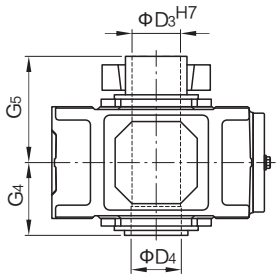
MTH2SV
Solid shaft



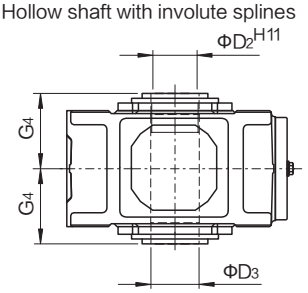
MTH2HV
Hollow shaft



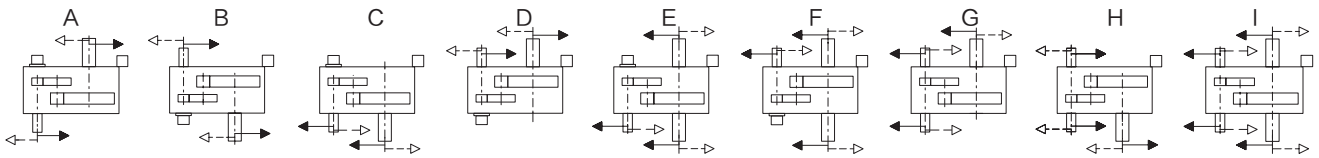
MTH2DV
Hollow shaft for shrink disk



MTH2KV
Hollow shaft with involute splines



Design (□ □)



1)k6≤Φ50 m6> Φ50
2) Torque support on driven machine side.
3) Space for pump,pipes and cover;for exact dimensions,pleaxe refer to us.

For parallel key GB/T1095−1979 and for center hole,see page 114−115.

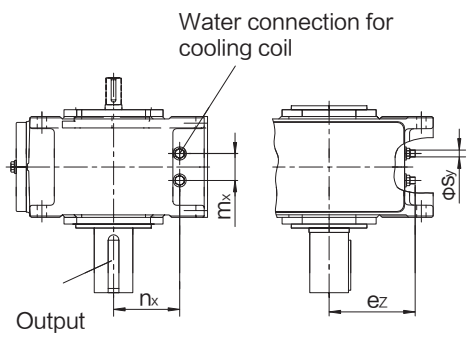
mm Note: Dimensions in mm

Size		Input					Design G, H, I only for i_N=	
		i_N=6.3- 11.2		i_N=12.5- 22.4				
		i_N=8- 14		i_N=16- 28				
		d_1[1]	l_1	d_1[1]	l_1	G_1		
3		35	70	28	50	135	–	–
4		45	100	32	80	170	6.3–18	–
5	+6	50	100	38	80	195	6.3–18	8–22.4
7	+8	60	135	50	110	210	6.3–16	8–20
9	+10	75	140	60	140	240	6.3–16	8–20
11	+12	90	165	70	140	275	6.3–18	8–22.4

Size	Gear units													
	b_1	c	e_4	f_1	f_3	h	h_1	h_2	h_3	m_2	n_1	p_1[4]	p_2[4]	s
3	150	24 ± 1	175	28	–	95	165	–	180	265	20	35	210	18
4	150	30 ± 1	200	28	–	107.5	165	–	180	300	30	35	220	24
5+6	240	30 ± 1	230	38	150	127.5	205	190	240	360	30	35	270	24
7+8	240	36 ± 1	280	42	145	150	205	165	250	430	35	35	330	28
9+10	330	45 ± 1.5	320	42	135	185	275	205	330	490	40	40	370	36
11+12	330	54 ± 1.5	380	48	145	215	275	240	340	600	50	50	440	40

Size	Gear units							Output									
								MTH2SV			MTH2HV		MTH2DV				MTH2KV
	a	E	e_5	e_6	m_1	n_2	f_2	d_2[1]	G_2	l_2	D_2[2]	G_4	D_3	D_4	G_4	G_5	
3	450	220	185	290	410	125	20	65	125	140	65	125	70	70	125	180	
4	565	270	215	320	505	160	25	80	140	170	80	140	85	85	140	205	
5	640	315	252	385	580	175	33	100	165	210	95	165	100	100	165	240	
6	720	350	252	425	660	220	33	110	165	210	105	165	110	110	165	240	
7	785	385	292	425	715	215	38	120	195	210	115	195	120	120	195	280	
8	890	430	302	485	820	275	41	130	195	250	125	195	130	130	195	285	See page 120–123
9	925	450	342	560	845	260	41	140	235	250	135	235	140	145	235	330	
10	1025	500	342	610	945	310	35	160	235	300	150	235	150	155	235	350	
11	1105	545	402	595	1005	295	35	170	270	300	165	270	165	170	270	400	
12	1260	615	410	680	1160	380	35	180	270	300	180	270	180	185	270	405	

Size	Oil		Weight (kg)
	Dip lubrication (L)	Forced lubrication (L)	
3	14	–	115
4	25	–	190
5	23	10	300
6	27	11	355
7	58	22	505
8	62	25	590
9	100	42	830
10	110	46	960
11	160	60	1335
12	180	70	1615



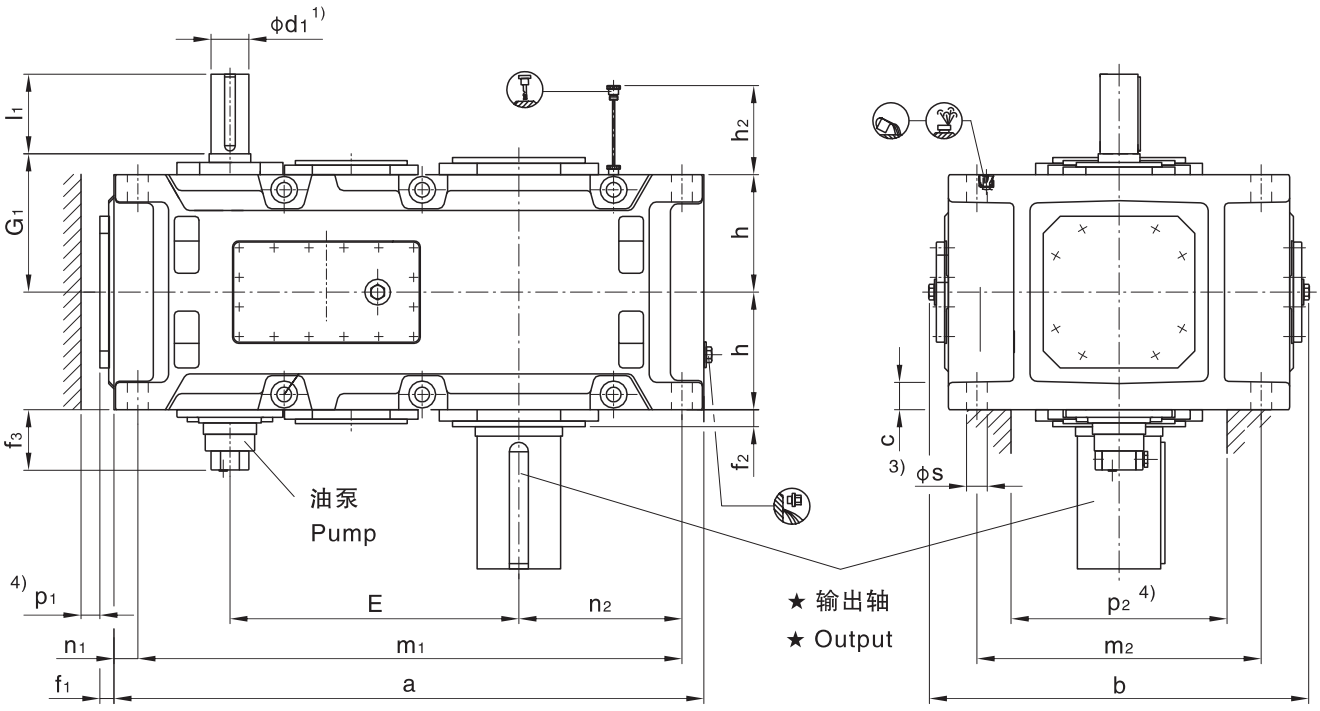
Size	Cooling coil				
	m_x	n_x	e_z	s_y	x) L/min
3	34	120	130	G1/2	4
4	34	140	155	G1/2	4
5	68	166	170	G1/2	4
6	70	162	215	G1/2	4
7	100	197	210	G1/2	4
8	100	197	270	G1/2	4
9	140	210	245	G1/2	8
10	100	225	295	G1/2	8
11	110	285	275	G1/2	8
12	200	271	360	G1/2	8

1)
Cooling coil suitable for fresh, sea or brackish water.
2)x) Cooling water quantity required.

Helical gear units Two Stage Vertical

TYPES MTH2.V...
SIZES 13...22

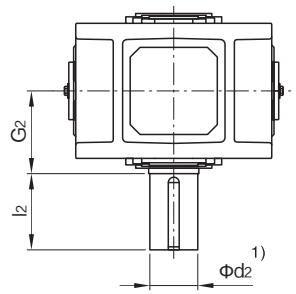
MTH2SV MTH2HV MTH2DV MTH2KV
With forced lubrication



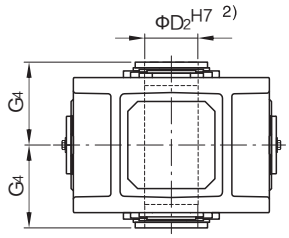
Oil supply(forced lubrication), see pages 128

★ Output

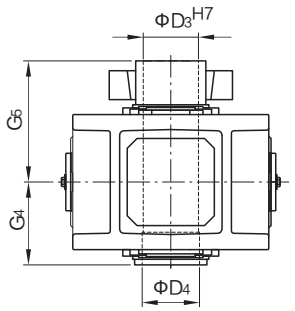
MTH2SV
Solid shaft



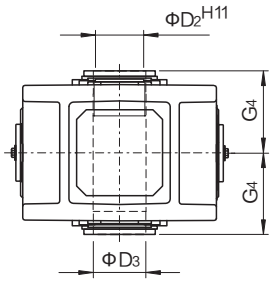
MTH2HV
Hollow shaft



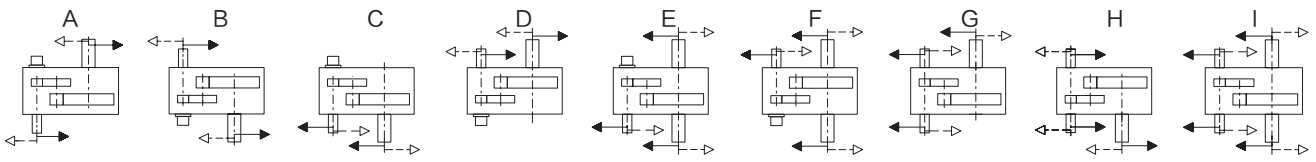
MTH2DV
Hollow shaft for shrink disk



MTH2KV
Hollow shaft with involute splines



Design (⊔)



1)k6≤Φ50 m6> Φ50 For parallel key GB/T1095−1979 and for center hole,see page 114−115.
2) Torque support on driven machine side.
3) Space for pump,pipes and cover;for exact dimensions,pleaxe refer to us.

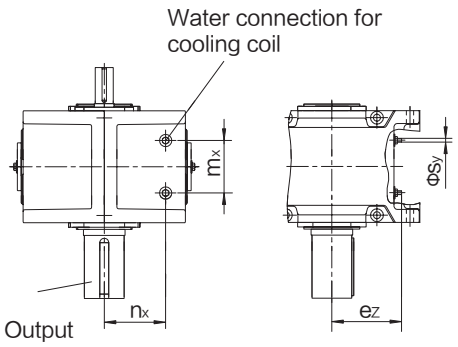
mm Note: Dimensions in mm

Size		Input					Design G, H, I only for i_N=	
		i_N=6.3- 11.2		i_N=12.5- 20				
		i_N=7.1- 12.5		i_N=14- 22.5				
		i_N=8- 14		i_N=16- 25				
		d_1[1]	l_1	d_1[1]	l_1	G_1		
13	+14	100	205	85	170	330	6.3–16	8–20
15	+16	120	210	100	210	365	6.3–16	7.1–18
17	+18	125	245	110	210	420	6.3–16	7.1–18
19	+20	On request						
21	+22							

Size	Gear units										
	b	c	f_1	f_2	p_1[4]	p_2[4]	h	h_2	m_2	n_1	s
13+14	900	61 ± 2	53	38	50	500	272.5	300	680	50	48
15+16	980	72 ± 2	63	38	50	570	310	340	750	60	55
17+18	1110	81 ± 2	60	38	70	630	340	374	850	70	55
19+20	On request										
21+22											

Size	Gear units					Output									
						MTH2SV			MTH2HV		MTH2DV				MTH2KV
	a	E	f_3	m_1	n_2	d_2[1]	G_2	l_2	D_2[2]	G_4	D_3	D_4	G_4	G_5	
13	1290	635	130	1195	360	200	335	350	190	335	190	195	335	480	See page 120–123
14	1430	705	130	1335	430	210	335	350	210	335	210	215	335	480	
15	1550	762	130	1435	430	230	380	410	230	380	230	235	380	550	
16	1640	808	130	1525	475	240	380	410	240	380	240	245	380	550	
17	1740	860	170	1610	465	250	415	410	250	415	250	260	415	600	
18	1860	920	170	1730	525	270	415	470	275	415	280	285	415	600	
19	On request														
20															
21															
22															

Size	Oil (L)	Weight (kg)
13	80	1880
14	90	2430
15	140	3240
16	150	3465
17	175	4420
18	185	4870
19	On request	
20		
21		
22		



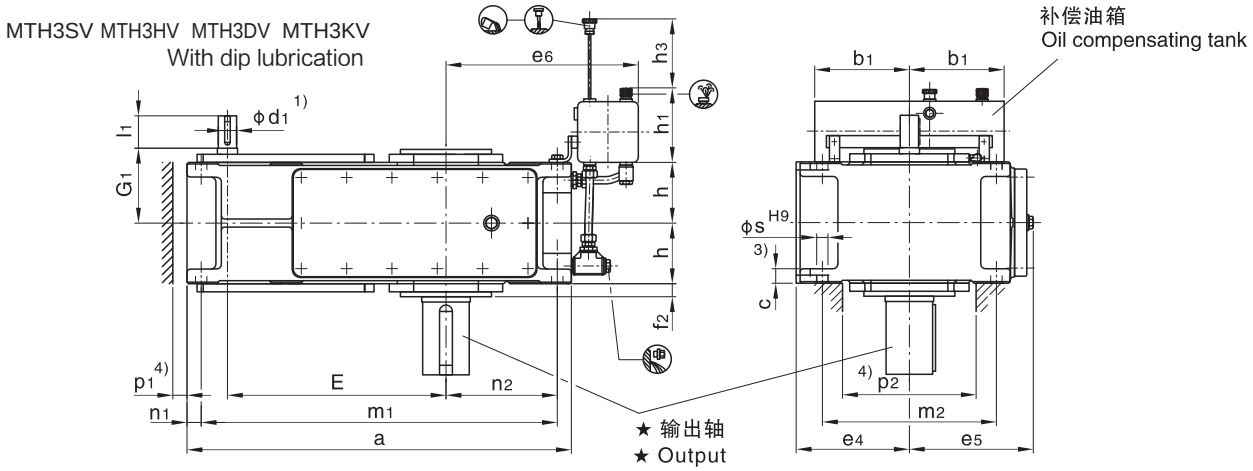
Size	Cooling coil					
	m_x	n_x	e_z	s_y	x) L/min	
13	252	300	335	G1/2	8	
14	252	300	405	G1/2	8	
15	290	335	395	G1/2	8	
16	290	335	440	G1/2	8	
17	340	380	425	G1/2	8	
18	340	380	485	G1/2	8	
19	On request					
20						
21						
22						

1) Cooling coil suitable for fresh, sea or brackish water.
2)x) Cooling water quantity required.

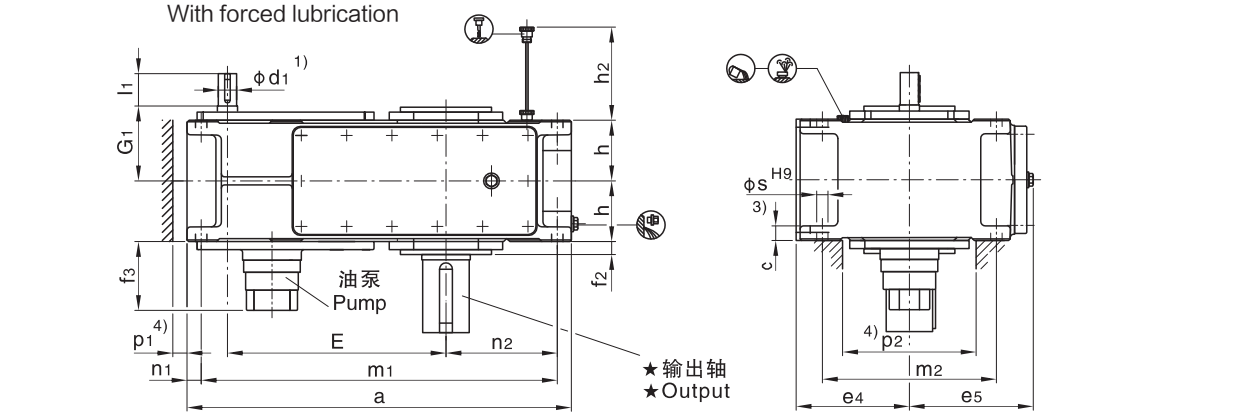
TYPES MTH3.V...
SIZES 5...12

Helical gear units — Three Stage — Vertical

MTH3SV MTH3HV MTH3DV MTH3KV
With dip lubrication



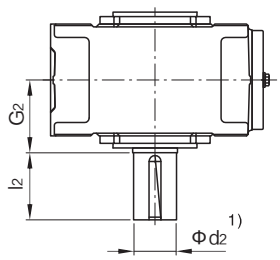
MTH3SV MTH3HV MTH3DV MTH3KV
With forced lubrication



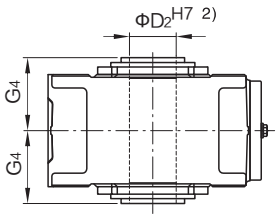
Oil supply(dip or forced lubrication), see pages 128

★ Output

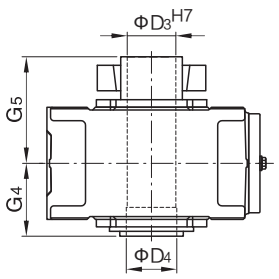
MTH3SV
Solid shaft



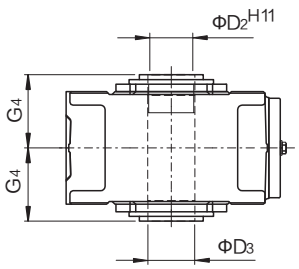
MTH3HV
Hollow shaft



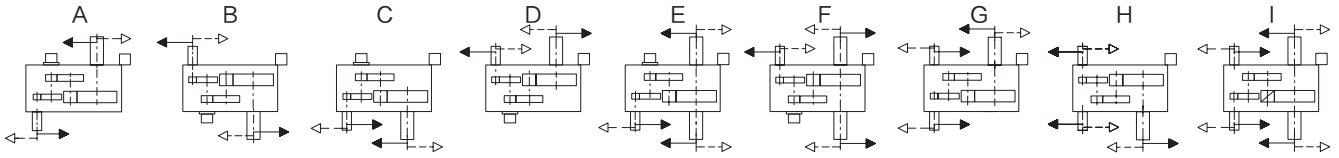
MTH3DV
Hollow shaft for shrink disk



MTH3KV
Hollow shaft with involute splines



Design (□ □)



1)k6≤Φ50 m6> Φ50 For parallel key GB/T1095−1979 and for center hole,see page 114−115.
2) Torque support on driven machine side.
3) Space for pump,pipes and cover;for exact dimensions,pleaxe refer to us.

mm Note: Dimensions in mm

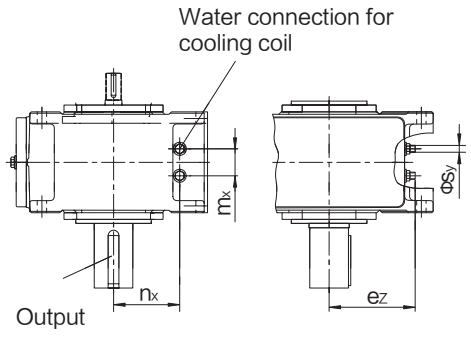
Size		Input							Design G, H, I only for	
		i_N=25- 45		i_N=50- 63		i_N=71- 90				
		i_N=31.5- 56		i_N=63- 80		i_N=90- 112				
		d_1[1]	l_1	d_1[1]	l_1	d_1[1]	l_1	G_1	i_N=	
5	+6	40	70	30	50	24	40	160	25–90	31.5–112
7	+8	45	80	35	60	28	50	185	25–90	31.5–112
9	+10	60	125	45	100	32	80	230	25–90	31.5–112
11	+12	70	120	50	80	42	70	255	25–90	31.5–112

Size	Gear units												
	b_1	c	e_4	f_3	h	h_1	h_2	h_3	m_2	n_1	p_1[4]	p_2[4]	s
5+6	240	30 ± 1	230	190	127.5	205	190	240	360	30	35	270	24
7+8	240	36 ± 1	280	185	150	205	165	250	430	35	35	330	28
9+10	330	45 ± 1.5	320	170	185	275	205	330	490	40	40	370	36
11+12	330	54 ± 1.5	380	170	215	275	240	340	600	50	50	440	40

Size	Gear units							Output									
								MTH3SV			MTH3HV		MTH3DV				MTH3KV
	a	e_5	e_6	E	f_2	m_1	n_2	d_2[1]	G_2	l_2	D_2[2]	G_4	D_3	D_4	G_4	G_5	
5	690	252	385	405	33	630	175	100	165	210	95	165	100	100	165	240	
6	770	252	425	440	33	710	220	110	165	210	105	165	110	110	165	240	
7	845	292	425	495	38	775	215	120	195	210	115	195	120	120	195	280	
8	950	312	485	540	41	880	275	130	195	250	125	195	130	130	195	285	
9	1000	342	560	580	41	920	260	140	235	250	135	235	140	145	235	330	
10	1100	342	610	630	35	1020	310	160	235	300	150	235	150	155	235	350	
11	1200	402	595	705	35	1100	295	170	270	300	165	270	165	170	270	400	
12	1355	410	680	775	35	1255	380	180	270	300	180	270	180	185	270	405	

See page 120–123

Size	Oil		Weight (kg)
	Dip lubrication (L)	Forced lubrication (L)	
5	35	13	320
6	37	15	365
7	60	25	540
8	72	30	625
9	100	40	875
10	110	45	1020
11	170	66	1400
12	190	75	1675



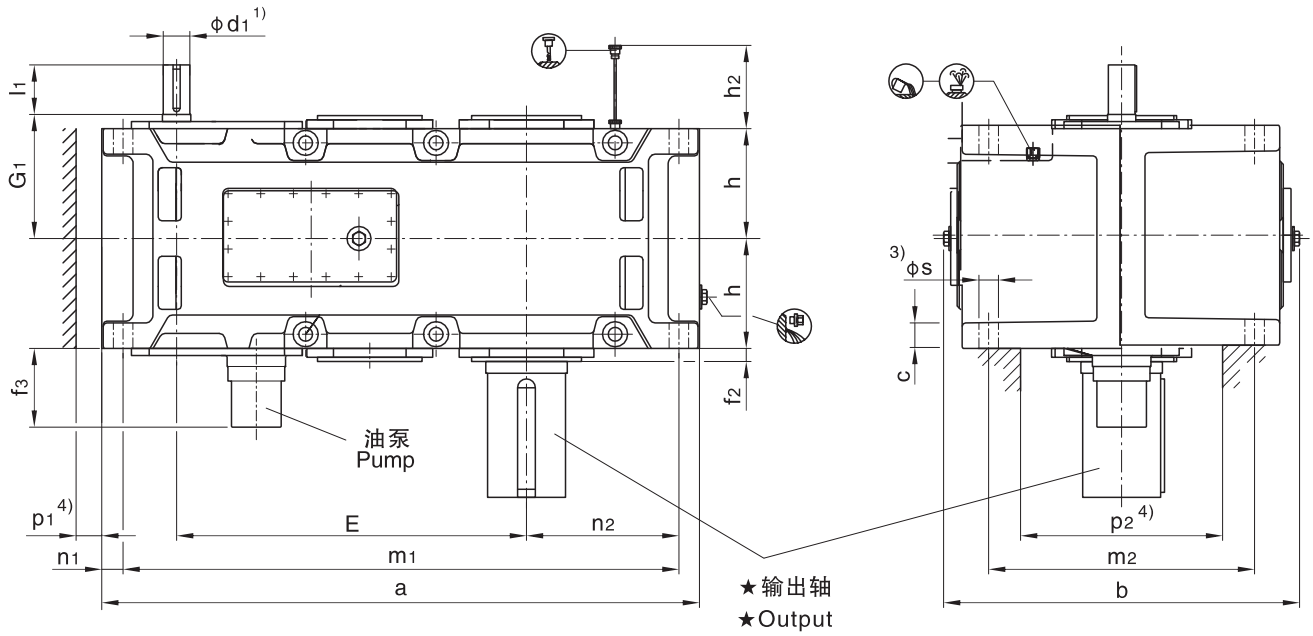
Size	Cooling coil				
	m_x	n_x	e_Z	s_y	x) L/min
5	70	170	175	G1/2	4
6	70	161	220	G1/2	4
7	80	197	210	G1/2	4
8	80	197	270	G1/2	4
9	150	213	245	G1/2	4
10	90	225	295	G1/2	4
11	200	265	275	G1/2	8
12	200	265	360	G1/2	8

1) Cooling coil suitable for fresh, sea or brackish water.
2)x) Cooling water quantity required.

Helical gear units **Three Stage** **Vertical**

TYPES MTH3.V...
SIZES 13...22

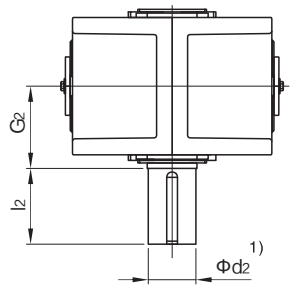
MTH3SV MTH3HV MTH3DV MTH3KV
With forced lubrication



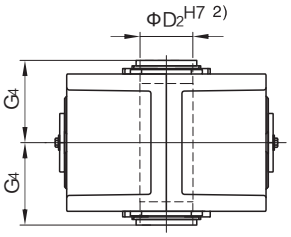
Oil supply(forced lubrication), see pages 128

★ Output

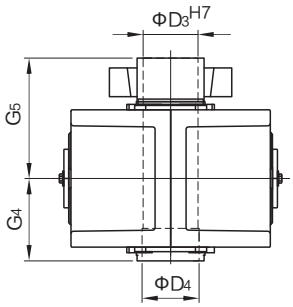
MTH3SV
Solid shaft



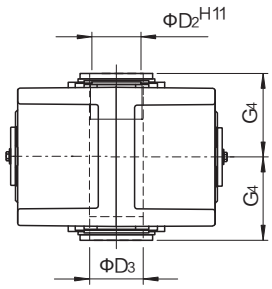
MTH3HV
Hollow shaft



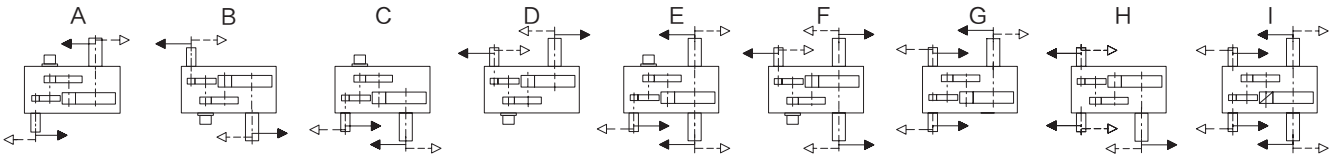
MTH3DV
Hollow shaft for shrink disk



MTH3KV
Hollow shaft with involute splines



Design ( )



1)k6≤Φ50 m6> Φ50 For parallel key GB/T1095−1979 and for center hole,see page 114−115.
2) Torque support on driven machine side.
3) Space for pump,pipes and cover;for exact dimensions,pleaxe refer to us.

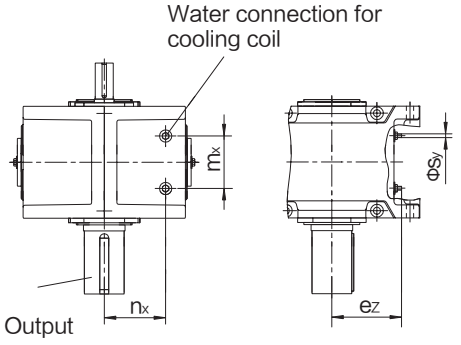
mm Note: Dimensions in mm

Size		Input							Design G, H, I only for i_N=	
		i_N=22.4- 45		i_N=50- 63		i_N=71- 90				
		i_N=25- 50		i_N=56- 71		i_N=80- 100				
		i_N=28- 56		i_N=63- 80		i_N=90- 112				
		d_1[1]	l_1	d_1[1]	l_1	d_1[1]	l_1	G_1		
13	+14	85	160	60	135	50	110	310	22.4–90	28–112
15	+16	100	200	75	140	60	140	350	22.4–90	25–100
17	+18	100	200	75	140	60	140	380	22.4–90	25–100
19	+20	On request								
21	+22									

Size	Gear units										
	b	c	f_2	f_3	h	h_2	m_2	n_1	p_1[4]	p_2[4]	s
13+14	900	61 ± 2	38	170	272.5	300	680	50	50	500	48
15+16	980	72 ± 2	38	170	310	340	750	60	50	570	55
17+18	1110	81 ± 2	38	210	340	374	850	70	70	630	55
19+20	On request										
21+22											

Size	Gear units				Output									MTH3KV
					MTH3SV			MTH3HV		MTH3DV				
	a	E	m_1	n_2	d_2[1]	G_2	l_2	D_2[2]	G_4	D_3	D_4	G_4	G_5	
13	1395	820	1300	360	200	335	350	190	335	190	195	335	480	See page 120–123
14	1535	890	1440	430	210	335	350	210	335	210	215	335	480	
15	1680	987	1565	430	230	380	410	230	380	230	235	380	550	
16	1770	1033	1655	475	240	380	410	240	380	240	245	380	550	
17	1770	1035	1640	465	250	415	410	250	415	250	260	415	600	
18	1890	1095	1760	525	270	415	470	275	415	280	285	415	600	
19	On request													
20														
21														
22														

Size	Oil (L)	Weight (kg)
13	115	2155
14	126	2490
15	180	3260
16	190	3625
17	190	4250
18	200	4740
19	On request	
20		
21		
22		



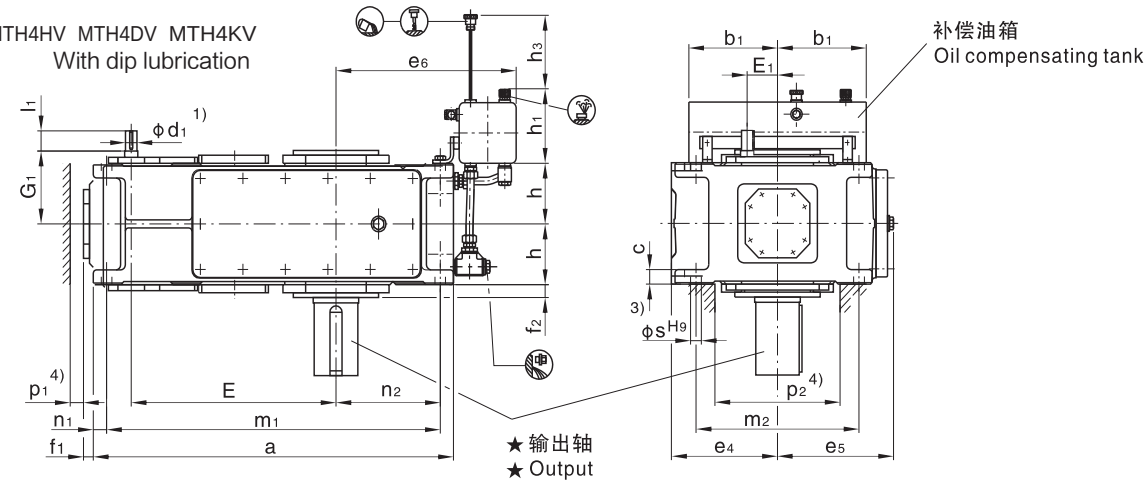
Size	Cooling coil				
	m_x	n_x	e_z	s_y	x) L/min
13	252	300	335	G1/2	8
14	252	300	405	G1/2	8
15	290	340	395	G1/2	8
16	290	340	440	G1/2	8
17	300	380	425	G1/2	8
18	300	380	485	G1/2	8
19	On request				
20					
21					
22					

1) Cooling coil suitable for fresh, sea or brackish water.
2)x) Cooling water quantity required.

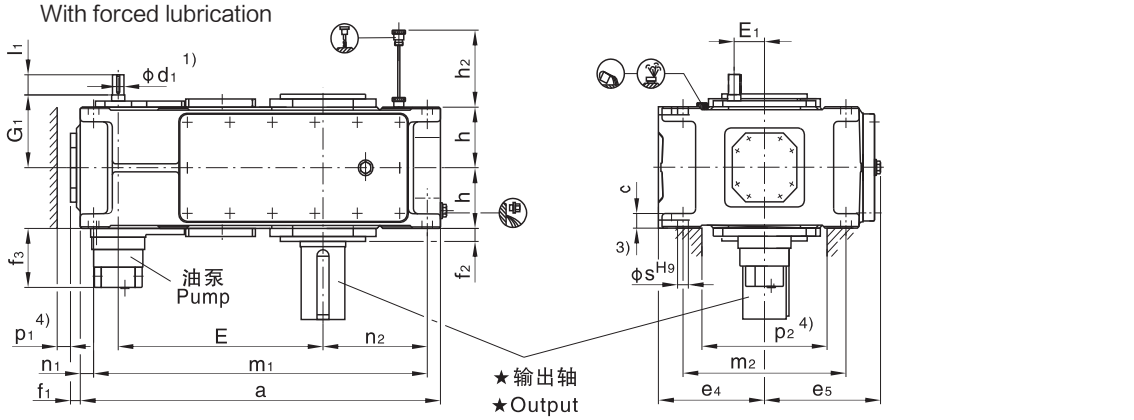
TYPES MTH4.V...
SIZES 7...12

Helical gear units Four Stage Vertical

MTH4SV MTH4HV MTH4DV MTH4KV
With dip lubrication



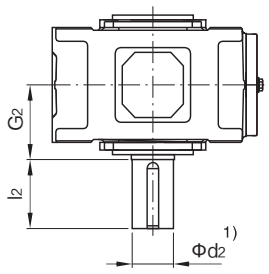
MTH4SV MTH4HV MTH4DV MTH4KV
With forced lubrication



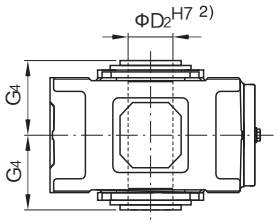
Oil supply(dip or forced lubrication), see pages 128

★ Output

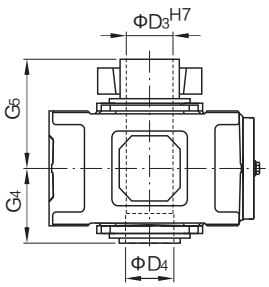
MTH4SV
Solid shaft



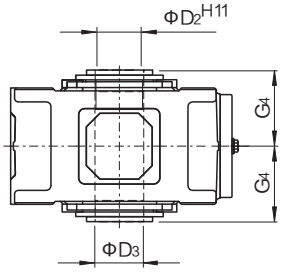
MTH4HV
Hollow shaft



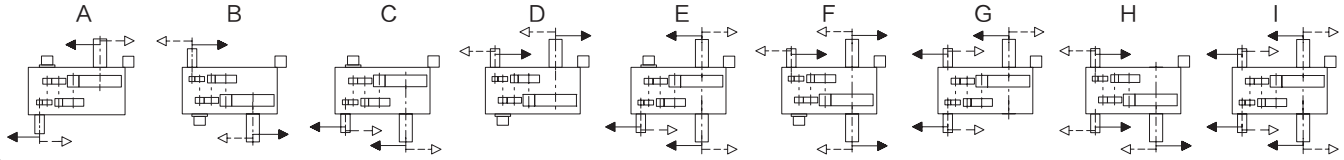
MTH4DV
Hollow shaft for shrink disk



MTH4KV
Hollow shaft with involute splines



Design (□ □)



1)k6≤Φ50 m6> Φ50
2) Torque support on driven machine side.
3) Space for pump,pipes and cover;for exact dimensions,pleaxe refer to us.

For parallel key GB/T1095−1979 and for center hole,see page 114−115.

mm Note: Dimensions in mm

Size		Input					Design G, H, I only for i_N=	
		i_N=100- 180		i_N=200- 355				
		i_N=125- 224		i_N=250- 450				
		d_1[1]	l_1	d_1[1]	l_1	G_1		
7	+8	30	50	24	40	180	100–224	125–280
9	+10	35	70	28	50	215	100–250	125–315
11	+12	45	100	32	80	250	100–250	125–315

Size	Gear units														
	b_1	c	e_4	E_1	f_1	f_3	h	h_1	h_2	h_3	m_2	n_1	p_1[4]	p_2[4]	s
7+8	240	36±1	280	80	37	160	150	205	165	250	430	35	35	330	28
9+10	330	45±1.5	320	90	43	170	185	275	205	330	490	40	40	370	36
11+12	330	54±1.5	380	110	47	170	215	275	240	340	600	50	50	440	40

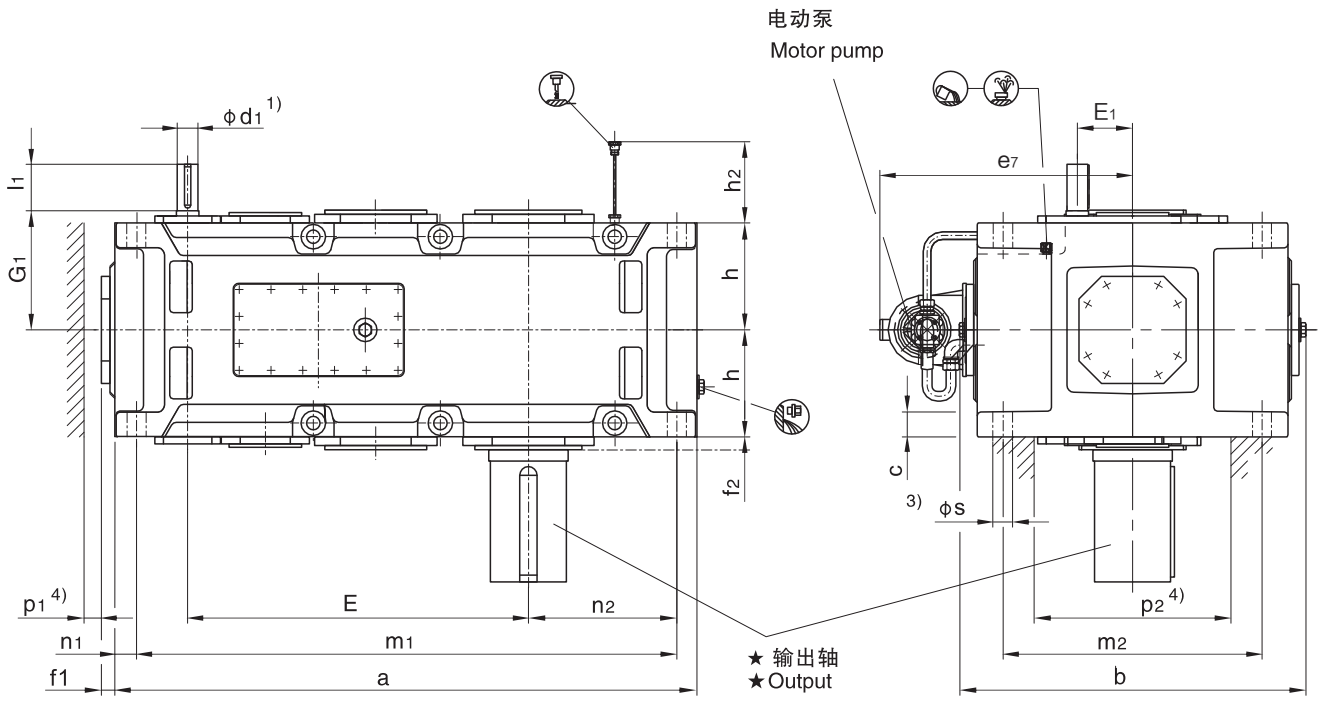
Size	Gear units							Output									
								MTH4SV			MTH4HV		MTH4DV				MTH4KV
	a	e_5	e_6	E	f_2	m_1	n_2	d_2[1]	G_2	l_2	D_2[2]	G_4	D_3	D_4	G_4	G_5	
7	845	292	425	495	38	775	215	120	195	210	115	195	120	120	195	280	See page 120–123
8	950	302	485	540	41	880	275	130	195	250	125	195	130	130	195	285	
9	1000	342	560	580	41	920	260	140	235	250	135	235	140	145	235	330	
10	1100	342	610	630	35	1020	310	160	235	300	150	235	150	155	235	350	
11	1200	402	595	705	35	1100	295	170	270	300	165	270	165	170	270	400	
12	1355	410	680	775	35	1255	380	180	270	300	180	270	180	185	270	405	

Size	Oil		Weight (kg)
	Dip lubrication (L)	Forced lubrication (L)	
7	50	20	550
8	60	25	645
9	95	38	875
10	110	45	1010
11	165	65	1460
12	180	75	1725

Helical gear units **Four Stage** **Vertical**

TYPES MTH4.V...
SIZES 13...22

MTH4SV MTH4HV MTH4DV MTH4KV
With forced lubrication

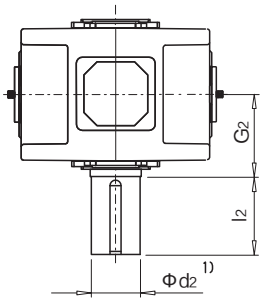


Oil supply(forced lubrication), see pages 128

★ Output

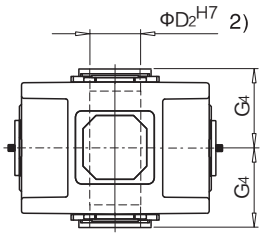
MTH4SV

Solid shaft



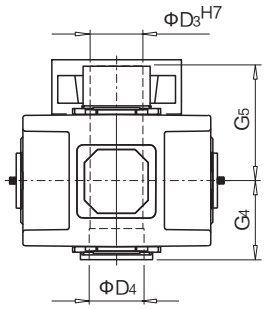
MTH4HV

Hollow shaft



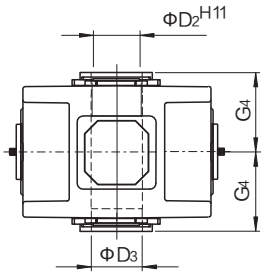
MTH4DV

Hollow shaft for shrink disk

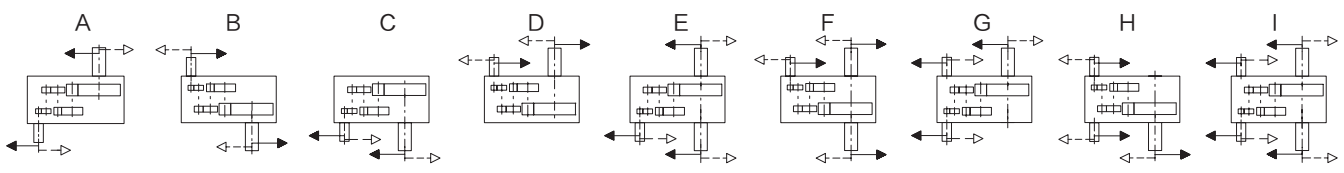


MTH4KV

Hollow shaft with involute splines



Design



1)k6≤Φ50 m6> Φ50 For parallel key GB/T1095−1979 and for center hole,see page 114−115.
2) Torque support on driven machine side.
3) Space for pump,pipes and cover;for exact dimensions,pleaxe refer to us.

mm Note: Dimensions in mm

Size		Input					Design G, H, I only for i_N=	
		i_N=100- 180		i_N=200- 355				
		i_N=112- 200		i_N=224- 400				
		i_N=125- 224		i_N=250- 450				
		d_1[1]	l_1	d_1[1]	l_1	G_1		
13	+14	50	100	38	80	305	100–250	125–315
15	+16	60	135	50	110	345	100–250	112–280
17	+18	60	105	50	80	380	–	–
19	+20	On request						
21	+22							

Size	Gear units											
	b	c	E_1	h	h_2	m_2	n_1	p_1[4]	p_2[4]	s	f_1	f_2
13+14	900	61 ± 2	130	272.5	300	680	50	50	500	48	47	38
15+16	980	72 ± 2	160	310	340	750	60	50	570	55	56	38
17+18	1110	81 ± 2	160	340	374	850	70	70	630	55	53	38
19+20	On request											
21+22												

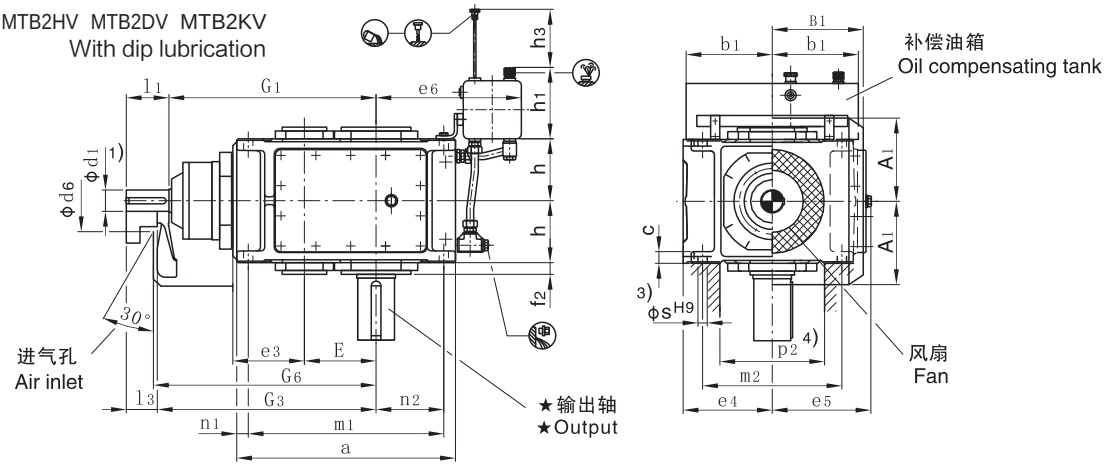
Size	Gear units					Output									
						MTH4SV			MTH4HV		MTH4DV				MTH4KV
	a	e_7	E	m_1	n_2	d_2[1]	G_2	l_2	D_2[2]	G_4	D_3	D_4	G_4	G_5	
13	1395	695	820	1300	360	200	335	350	190	335	190	195	335	480	See page 120–123
14	1535	695	890	1440	430	210	335	350	210	335	210	215	335	480	
15	1680	735	987	1565	430	230	380	410	230	380	230	235	380	550	
16	1770	735	1033	1655	475	240	380	410	240	380	240	245	380	550	
17	1770	795	1035	1640	465	250	415	410	250	415	250	260	415	600	
18	1890	795	1095	1760	525	270	415	470	275	415	280	285	415	600	
19	On request														
20															
21															
22															

Size	Oil (L)	Weight (kg)
13	95	2270
14	105	2600
15	150	3440
16	160	3740
17	190	4445
18	200	4915
19	On request	
20		
21		
22		

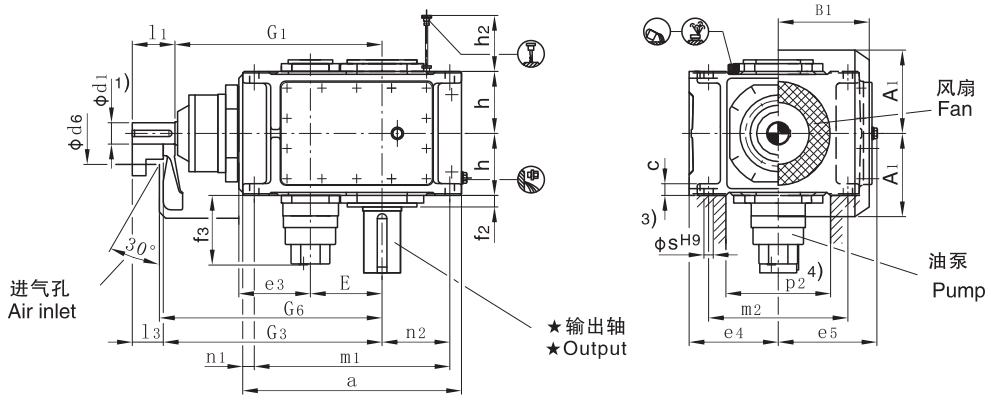
TYPES MTB2.V...
SIZES 1...12

Bevel-helical gear units Two Stage Vertical

MTB2SV MTB2HV MTB2DV MTB2KV
With dip lubrication



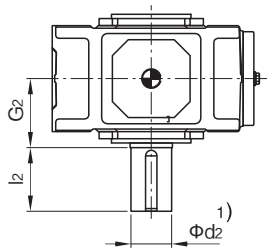
MTB2SV MTB2HV MTB2DV MTB2KV
With forced lubrication



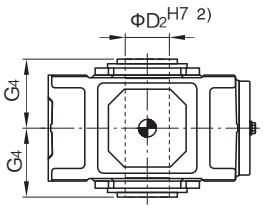
Oil supply(dip or forced lubrication), see pages 128

★ Output

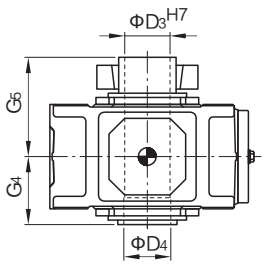
MTB2SV
Solid shaft



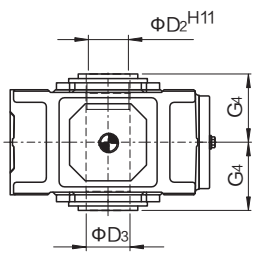
MTB2HV
Hollow shaft



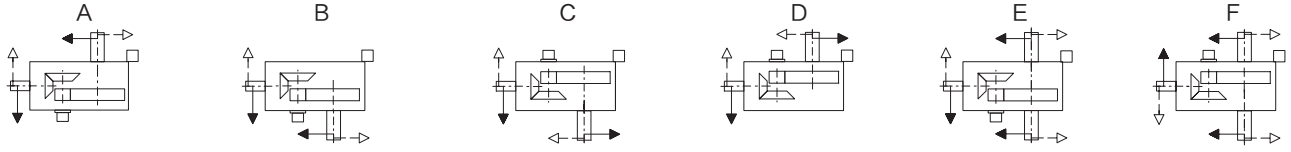
MTB2DV
Hollow shaft for shrink disk



MTB2KV
Hollow shaft with involute splines



Design (□ □)



1)k6≤Φ50 m6> Φ50
2) Torque support on driven machine side.
3) Space for pump,pipes and cover;for exact dimensions,pleaxe refer to us.

For parallel key GB/T1095−1979 and for center hole,see page 114−115.

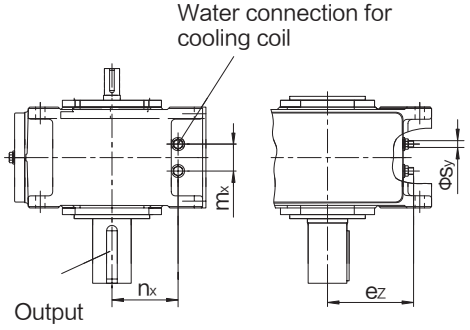
mm Note: Dimensions in mm

Size	Input										Fan		
	i_N=5- 11.2 / i_N=6.3- 14			i_N=12.5- 18									
	d_1[1]	l_1	l_3	d_1[1]	l_1	l_3	G_1	G_3	G_1	G_3	A_1	B_1	d_6
1	28	55	40	20	50	35	300	315			128	130	100
2	30	70	50	25	60	40	340	360			143	145	110
3	35	80	60	28	60	40	390	410			163	170	120
4	45	100	80				465	485	–	–	188	200	150
5 +6	55	110	80				535	565	570	600	215	235	160
7 +8	70	135	105				640	670	685	715	250	285	210
9 +10	80	165	130				755	790	805	840	270	325	195
11 +12	90	165	130				925	960	995	1030	328	385	210

Size	Gear units													
	b_1	c	e_3	e_4	e_5	f_2	h	h_1	h_2	h_3	m_2	n_1	p_2[4]	s
1	150	16 ± 1	90	130	145	22	90	165	–	170	210	15	150	12
2	150	20 ± 1	110	145	160	22	102.5	165	–	170	230	20	170	14
3	150	24 ± 1	130	175	185	20	112.5	165	–	180	265	20	200	18
4	150	30 ± 1	160	200	215	25	135	165	–	180	300	30	220	24
5+6	240	30 ± 1	185	230	252	33	160	205	245	240	360	30	270	24
7+8	240	36 ± 1	225	280	302	41	190	205	220	250	430	35	330	28
9+10	330	45 ± 1.5	265	320	342	41	220	275	250	330	490	40	370	36
11+12	330	54 ± 1.5	320	380	410	35	265	275	300	340	600	50	440	40

Size	Gear units							Output									
								MTB2SV			MTB2HV		MTB2DV				MTB2KV
	a	e_6	E	f_3	G_6	m_1	n_2	d_2[1]	G_2	l_2	D_2[2]	G_4	D_3	D_4	G_4	G_5	
1	305	280	90	–	325	275	115	45	120	80	–	–	–	–	–	–	See page 120–123
2	355	285	110	–	370	315	120	55	135	110	55	135	60	60	135	180	
3	405	290	130	–	420	365	130	65	145	140	65	145	70	70	145	200	
4	505	320	160	–	495	445	160	80	170	170	80	170	85	85	170	235	
5	565	385	185	190	575	505	175	100	200	210	95	200	100	100	200	275	
6	645	425	220	190	610	585	220	110	200	210	105	200	110	110	200	275	
7	690	425	225	200	685	620	215	120	235	210	115	235	120	120	235	320	
8	795	485	270	200	730	725	275	130	235	250	125	235	130	130	235	325	
9	820	560	265	200	805	740	260	140	270	250	135	270	140	145	270	365	
10	920	610	315	200	855	840	310	160	270	300	150	270	150	155	270	385	
11	975	595	320	200	980	875	295	170	320	300	165	320	165	170	320	450	
12	1130	680	390	200	1050	1030	380	180	320	300	180	320	180	185	320	455	

Size	Oil		Weight (kg)
	Dip lubrication (L)	Forced lubrication (L)	
1	7	–	65
2	11	–	90
3	16	–	140
4	28	–	235
5	41	20	360
6	50	23	410
7	75	35	615
8	90	38	700
9	115	53	1000
10	135	60	1155
11	190	86	1640
12	215	95	1910



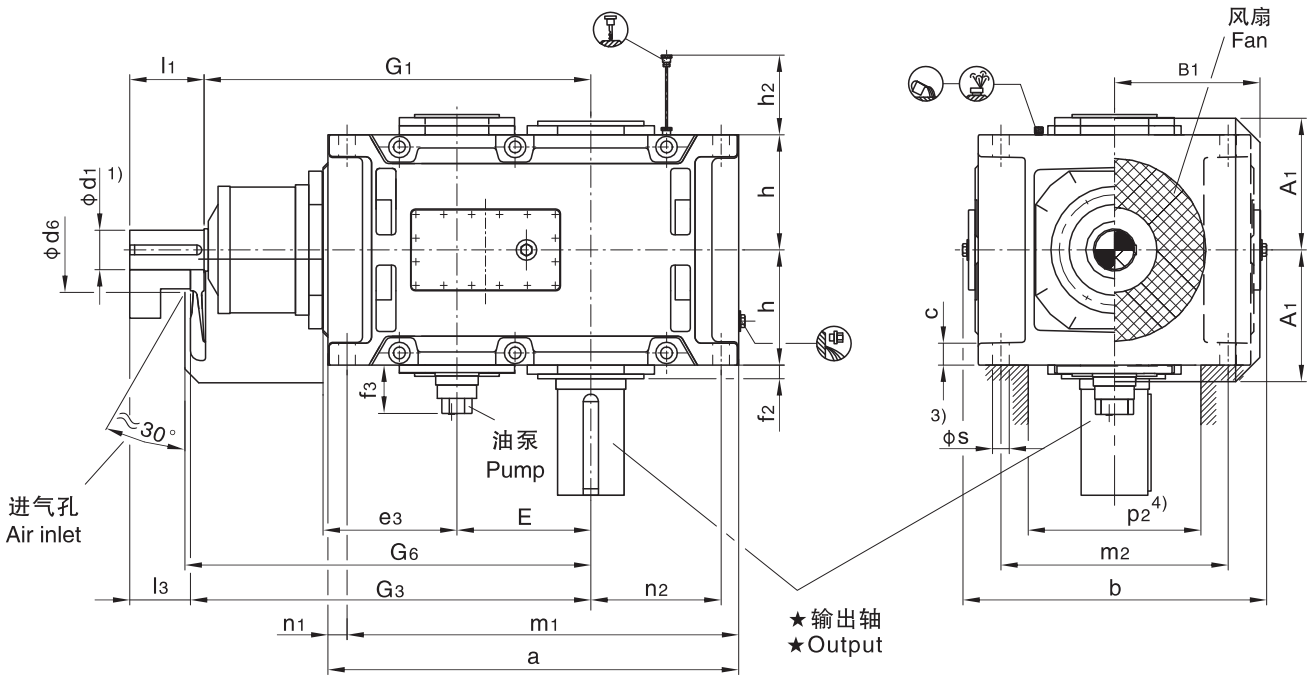
1) Cooling coil suitable for fresh, sea or brackish water.
2)x) Cooling water quantity required.

Size	Cooling coil				
	m_x	n_x	e_z	s_y	x) L/min
1	64	90	125	G1/4	4
2	78	105	130	G1/4	4
3	58	123	140	G1/2	4
4	74	146	160	G1/2	4
5	130	168	175	G1/2	8
6	120	162	220	G1/2	4
7	140	200	210	G1/2	8
8	140	200	270	G1/2	4
9	232	210	245	G1/2	8
10	150	230	295	G1/2	8
11	312	265	275	G1/2	8
12	300	265	360	G1/2	8

Bevel-helical gear units Two Stage Vertical

TYPES MTB2.V...
SIZES 13...18

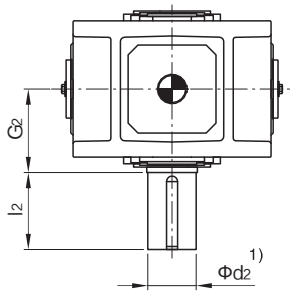
MTB2SV MTB2HV MTB2DV MTB2KV
With forced lubrication



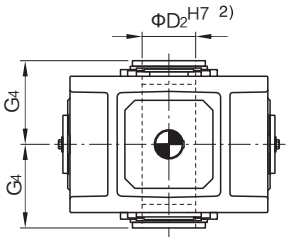
Oil supply(forced lubrication), see pages 128

★ Output

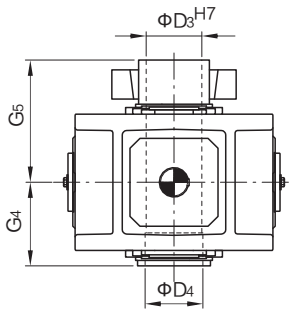
MTB2SV
Solid shaft



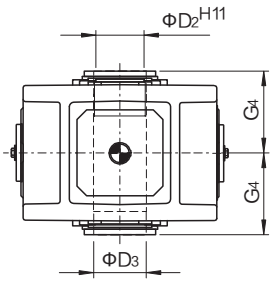
MTB2HV
Hollow shaft



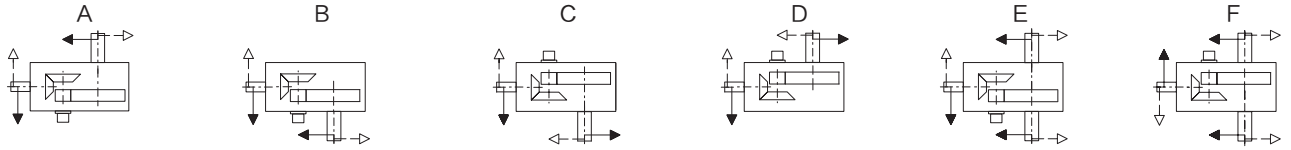
MTB2DV
Hollow shaft for shrink disk



MTB2KV
Hollow shaft with involute splines



Design (□)



1)k6≤Φ50 m6> Φ50 For parallel key GB/T1095−1979 and for center hole,see page 114−115.
2) Torque support on driven machine side.
3) Space for pump,pipes and cover;for exact dimensions,pleaxe refer to us.

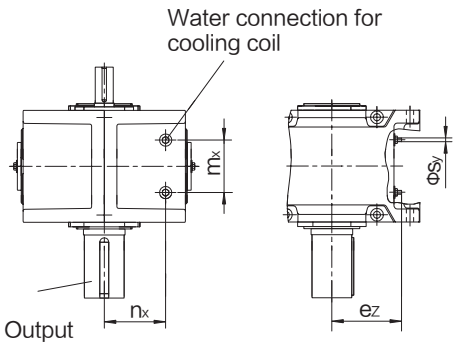
mm Note: Dimensions in mm

Size	Input										Fan		
	i_N=5- 11.2			i_N=5.6- 11.2									
	i_N=6.3- 14			i_N=5.6- 12.5									
	i_N=7.1- 12.5												
	d_1[1]	l_1	l_3	d_1[1]	l_1	l_3	G_1	G_3	G_1	G_3	A_1	B_1	d_6
13 +14	110	205	165				1070	1110	1140	1180	375	450	245
15	130	245	200				1277	1322	–	–	435	495	280
16				130	245	200	–	–	1323	1368	435	495	280
17				150	245	200	1435	1480	–	–	505	555	380
18	150	245	200				1495	1540	–	–	505	555	380

Size	Gear units								
	b	c	e_3	h	h_2	m_2	n_1	p_2[4]	s
13+14	900	61 ± 2	380	325	350	680	50	500	48
15+16	980	72 ± 2	450	380	430	750	60	570	55
17+18	1110	81 ± 2	510	437.5	480	840	70	630	65

Size	Gear units						Output									
							MTB2SV			MTB2HV		MTB2DV				MTB2KV
	a	E	f_2	f_3	m_1	n_2	d_2[1]	G_2	l_2	D_2[2]	G_4	D_3	D_4	G_4	G_5	
13	1130	370	38	200	1035	360	200	390	350	–	–	–	–	–	–	See page 120–123
14	1270	440	45	200	1175	430	210	390	350	210	390	210	215	390	535	
15	1350	442	48	200	1235	430	230	460	410	–	–	–	–	–	–	
16	1440	488	51	200	1325	475	240	460	410	240	450	240	245	450	620	
17	1490	490	62	200	1360	465	250	540	410	–	–	–	–	–	–	
18	1610	550	62	200	1480	525	270	540	470	275	510	280	285	510	700	

Size	Oil (L)	Weight (kg)
13	100	2350
14	110	2725
15	145	3795
16	160	4160
17	210	5320
18	220	5860



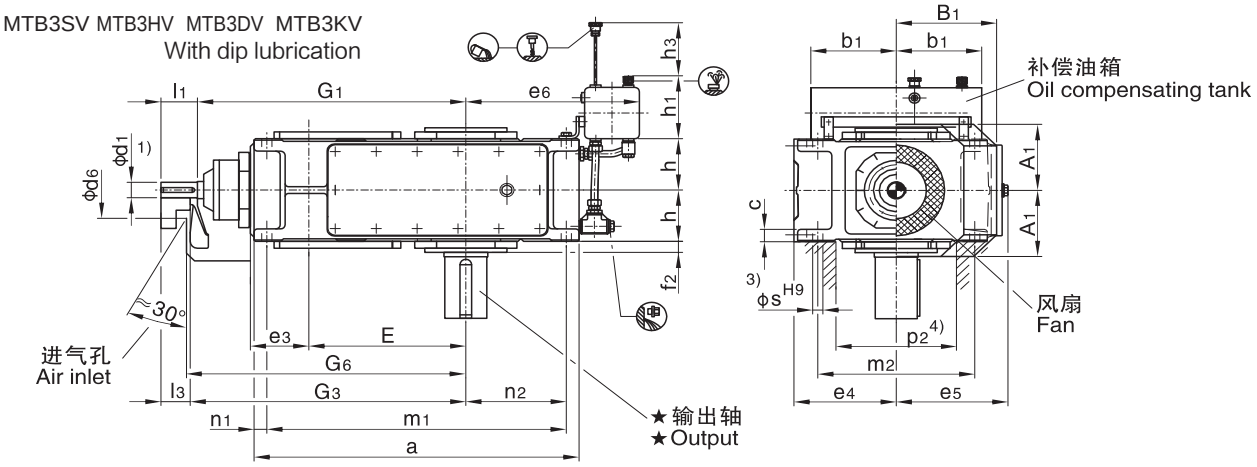
Size	Cooling coil				
	m_x	n_x	e_z	s_y	x) L/min
13	324	300	335	G1/2	8
14	324	300	405	G1/2	8
15	396	345	390	G1/2	8
16	396	345	435	G1/2	8
17	324	395	425	G1/2	8
18	324	395	485	G1/2	8

1) Cooling coil suitable for fresh, sea or brackish water.
2)x) Cooling water quantity required.

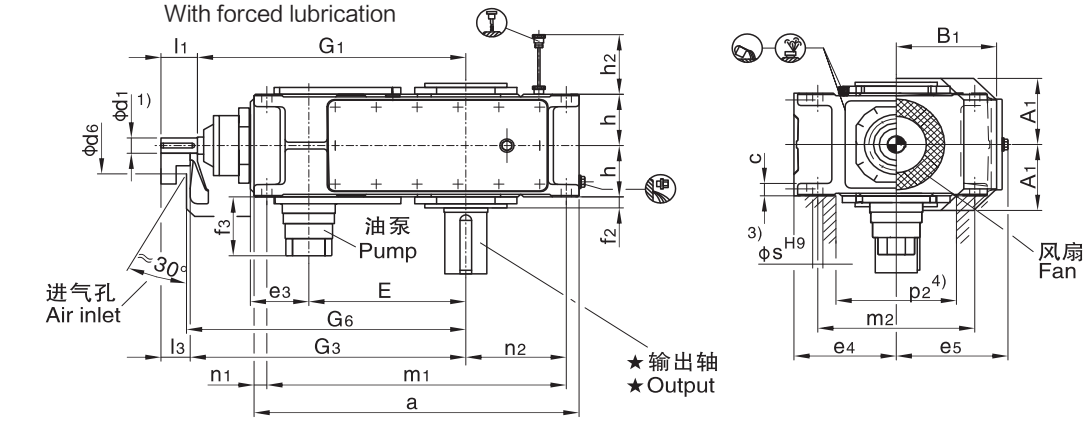
TYPES MTB3.V...
SIZES 3...12

Bevel-helical gear units — Three Stage — Vertical

MTB3SV MTB3HV MTB3DV MTB3KV
With dip lubrication



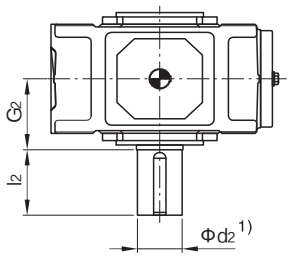
MTB3SV MTB3HV MTB3DV MTB3KV
With forced lubrication



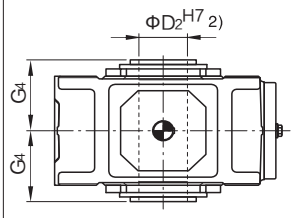
Oil supply(dip or forced lubrication), see pages 128

★ Output

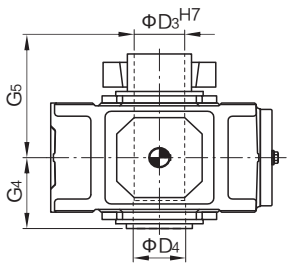
MTB3SV — Solid shaft



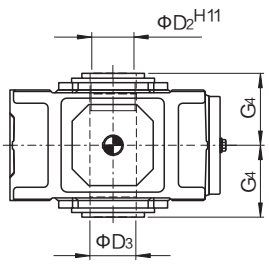
MTB3HV — Hollow shaft



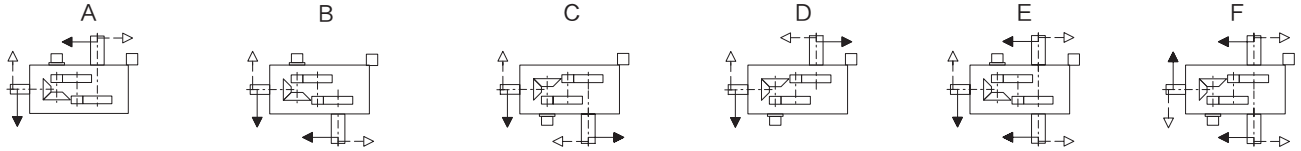
MTB3DV — Hollow shaft for shrink disk



MTB3KV — Hollow shaft with involute splines



Design (□ □)



1)k6≤Φ50 m6> Φ50 For parallel key GB/T1095−1979 and for center hole,see page 114−115.
2) Torque support on driven machine side.
3) Space for pump,pipes and cover;for exact dimensions,pleaxe refer to us.

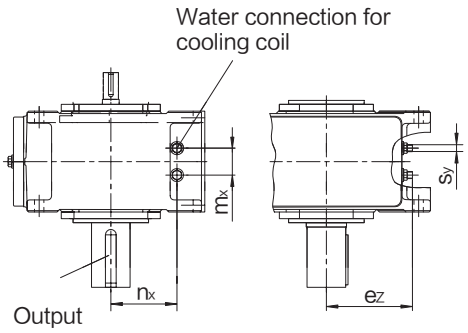
mm Note: Dimensions in mm

Size	Input									Fan						
	i_N=12.5- 45			i_N=20- 45			i_N=50- 71									
	i_N=16- 56						i_N=63- 90									
	d_1[1]	l_1	l_3	d_1[1]	l_1	l_3	d_1[1]	l_1	l_3	G_1	G_3	G_1	G_3	A_1	B_1	d_6
3				28	55	40	20	50	35	430	445			128	170	90
4	30	70	50				25	60	40	500	520			143	200	110
5 +6	35	80	60				28	60	40	575	595	610	630	168	235	130
7 +8	45	100	80				35	80	60	690	710	735	755	193	275	165
9 +10	55	110	80				40	100	70	800	830	850	880	231	325	175
11 +12	70	135	105				50	110	80	960	990	1030	1060	263	385	190

Size	Gear units												
	b_1	c	e_3	e_4	h	h_1	h_2	h_3	m_2	n_1	p_2[4]	s	f_3
3	150	24 ± 1	90	175	95	165	–	180	265	20	210	18	–
4	150	30 ± 1	110	200	107.5	165	–	180	300	30	220	24	–
5 + 6	240	30 ± 1	130	230	127.5	205	180	240	360	30	270	24	190
7 + 8	240	36 ± 1	160	280	150	205	165	250	430	35	330	28	190
9 + 10	330	45 ± 1.5	185	320	185	275	205	330	490	40	370	36	180
11+12	330	54 ± 1.5	225	380	215	275	240	340	600	50	440	40	180

Size	Gear units								Output									
									MTB3SV			MTB3HV		MTB3DV				MTB3KV
	a	e_5	e_6	E	f_2	G_6	m_1	n_2	d_2[1]	G_2	l_2	D_2[2]	G_4	D_3	D_4	G_4	G_5	
3	450	185	290	220	20	455	410	125	65	125	140	65	125	70	70	125	180	See page 120–123
4	565	215	320	270	25	530	505	160	80	140	170	80	140	85	85	140	205	
5	640	252	385	315	33	605	580	175	100	165	210	95	165	100	100	165	240	
6	720	252	425	350	33	640	660	220	110	165	210	105	165	110	110	165	240	
7	785	292	425	385	38	720	715	215	120	195	210	115	195	120	120	195	280	
8	890	302	485	430	41	765	820	275	130	195	250	125	195	130	130	195	285	
9	925	342	560	450	41	845	845	260	140	235	250	135	235	140	145	235	330	
10	1025	342	610	500	35	895	945	310	160	235	300	150	235	150	155	235	350	
11	1105	402	595	545	35	1010	1005	295	170	270	300	165	270	165	170	270	400	
12	1260	410	680	615	35	1080	1160	380	180	270	300	180	270	180	185	270	405	

Size	Oil		Weight (kg)
	Dip lubrication (L)	Forced lubrication (L)	
3	15	–	130
4	28	–	210
5	32	12	325
6	35	13	380
7	52	22	550
8	67	28	635
9	115	48	890
10	125	52	1020
11	180	75	1455
12	200	85	1730



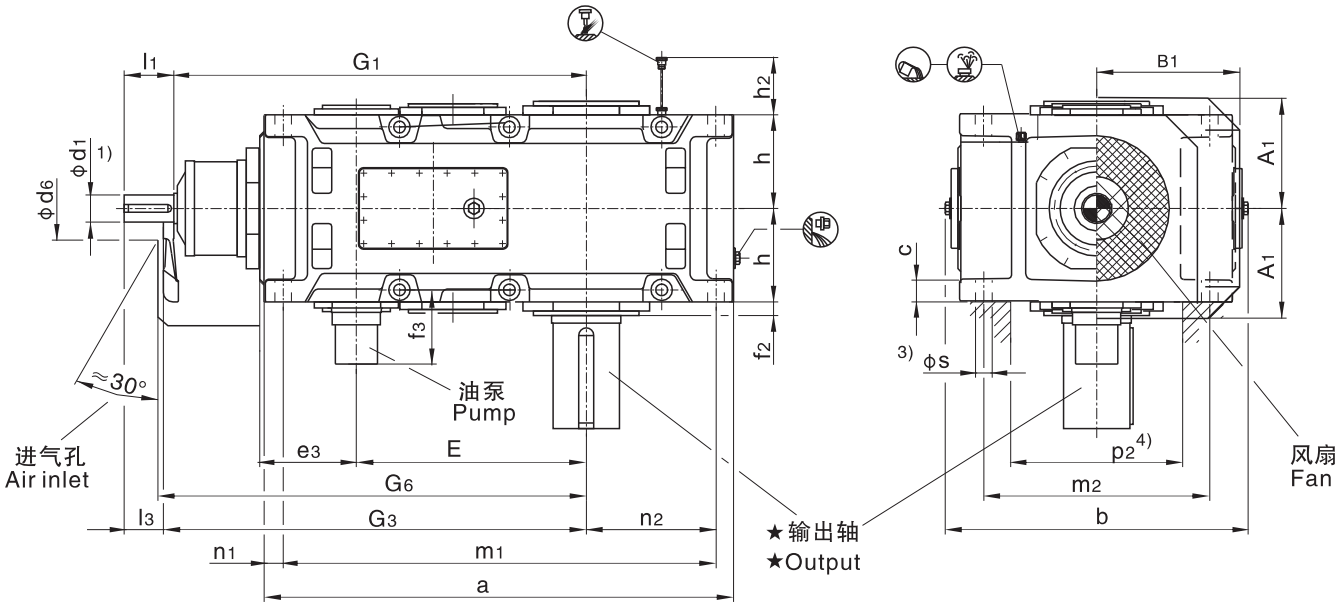
Size	Cooling coil				
	m_x	n_x	e_Z	s_y	x) L/min
3	34	120	130	G1/2	4
4	34	140	155	G1/2	4
5	68	166	170	G1/2	4
6	70	162	215	G1/2	4
7	100	197	210	G1/2	4
8	100	197	270	G1/2	4
9	140	210	245	G1/2	8
10	100	225	295	G1/2	8
11	110	285	275	G1/2	8
12	200	271	360	G1/2	8

1)
Cooling coil suitable for fresh, sea or brackish water.
2)x) Cooling water quantity required.

TYPES MTB3.V...
SIZES 13...22

Bevel-helical gear units Three Stage Vertical

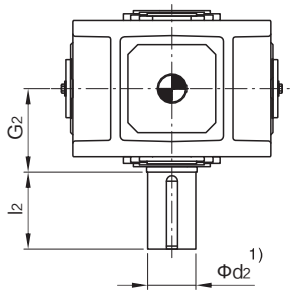
MTB3SV MTB3HV MTB3DV MTB3KV
With forced lubrication



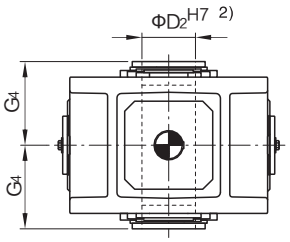
Oil supply(forced lubrication), see pages 128

★ Output

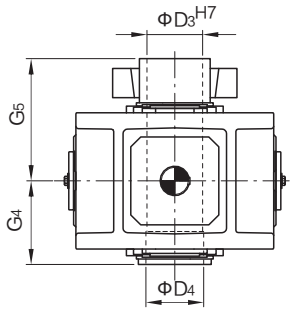
MTB3SV
Solid shaft



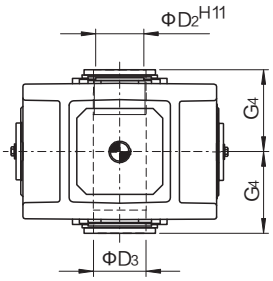
MTB3HV
Hollow shaft



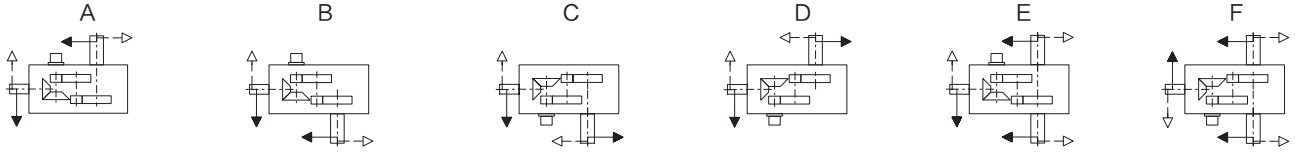
MTB3DV
Hollow shaft for shrink disk



MTB3KV
Hollow shaft with involute splines



Design



1)k6≤Φ50 m6> Φ50 For parallel key GB/T1095−1979 and for center hole,see page 114−115.
2) Torque support on driven machine side.
3) Space for pump,pipes and cover;for exact dimensions,pleaxe refer to us.

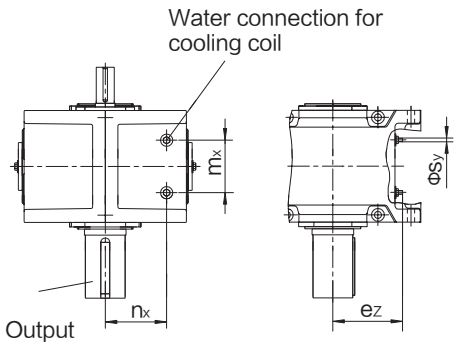
mm Note: Dimensions in mm

Size		Input										Fan		
		i_N=12.5- 45			i_N=50- 71									
		i_N=14- 50			i_N=56- 80									
		i_N=16- 56			i_N=63- 90									
		d_1[1)]	l_1	l_3	d_1[1)]	l_1	l_3	G_1	G_3	G_1	G_3	A_1	B_1	d_6
13	+14	80	165	130	60	140	105	1125	1160	1195	1230	325	435	210
15	+16	90	165	130	70	140	105	1367	1402	1413	1448	365	520	210
17	+18	110	205	165	80	170	130	1560	1600	1620	1660	395	570	230
19	+20	On request												
21	+22													

Size	Gear units										
	b	c	e_3	f_2	f_3	h	h_2	m_2	n_1	p_2[4)]	s
13+14	900	61 ±2	265	38	170	272.5	300	680	50	500	48
15+16	980	72 ±2	320	38	170	310	340	750	60	570	55
17+18	1110	81 ±2	370	38	170	340	380	850	70	630	55
19+20	On request										
21+22											

Size	Gear units					Output									MTB3KV
						MTB3SV			MTB3HV		MTB3DV				
	a	E	G_6	m_1	n_2	d_2[1)]	G_2	l_2	D_2[2)]	G_4	D_3	D_4	G_4	G_5	
13	1290	635	1180	1195	360	200	335	350	190	335	190	195	335	480	See page 120–123
14	1430	705	1250	1335	430	210	335	350	210	335	210	215	335	480	
15	1550	762	1420	1435	430	230	380	410	230	380	230	235	380	550	
16	1640	808	1470	1525	475	240	380	410	240	380	240	245	380	550	
17	1740	860	1620	1610	465	250	415	410	250	415	250	260	415	600	
18	1860	920	1680	1730	525	270	415	470	275	415	280	285	415	600	
19	On request														
20															
21															
22															

Size	Oil (L)	Weight (kg)
13	95	2260
14	110	2615
15	165	3540
16	190	3765
17	210	4760
18	240	5240
19	On request	
20		
21		
22		



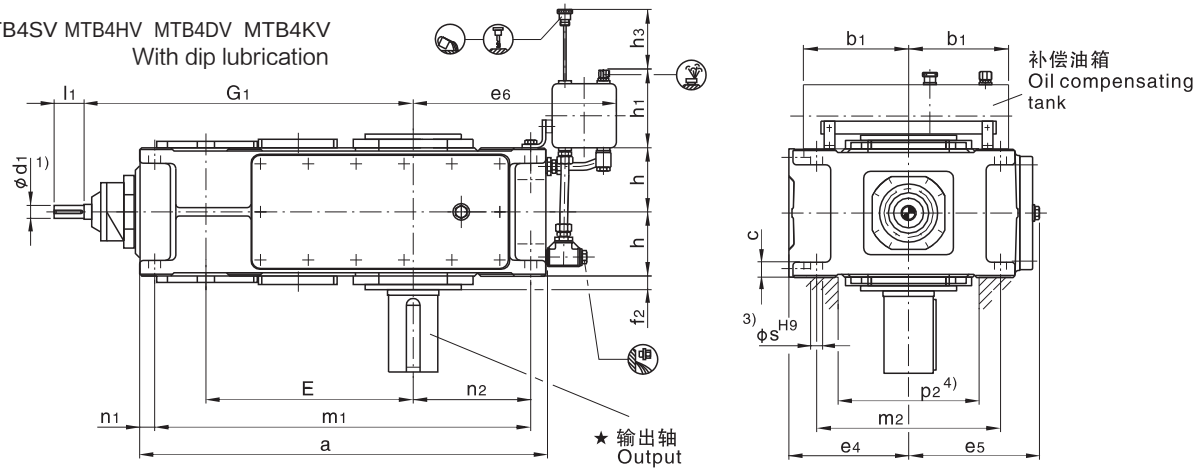
Size	Cooling coil				
	m_x	n_x	e_z	s_y	x) L/min
13	252	300	335	G1/2	8
14	252	300	405	G1/2	8
15	290	335	395	G1/2	8
16	290	335	440	G1/2	8
17	340	380	425	G1/2	8
18	340	380	485	G1/2	8
19	On request				
20					
21					
22					

1) Cooling coil suitable for fresh, sea or brackish water.
2)x) Cooling water quantity required.

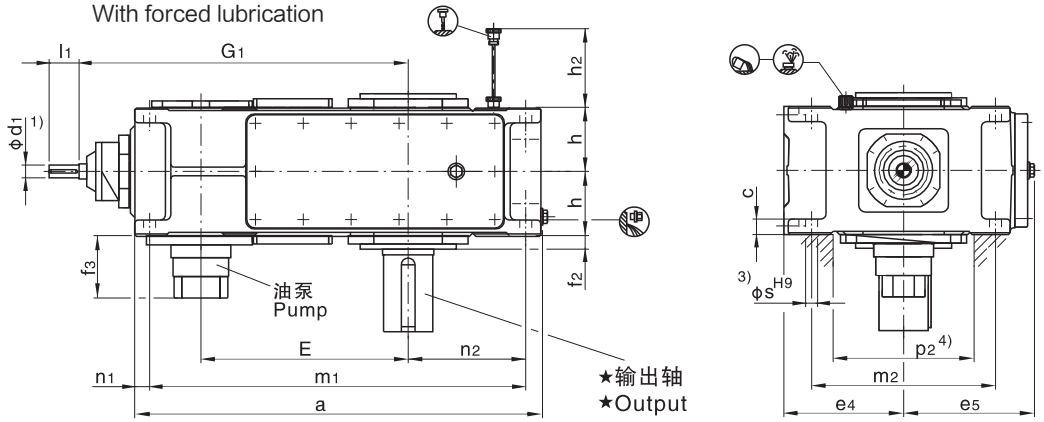
TYPES MTB4.V...
SIZES 5...12

Bevel-helical gear units Four Stage Vertical

MTB4SV MTB4HV MTB4DV MTB4KV
With dip lubrication



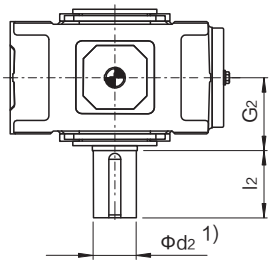
MTB4SV MTB4HV MTB4DV MTB4KV
With forced lubrication



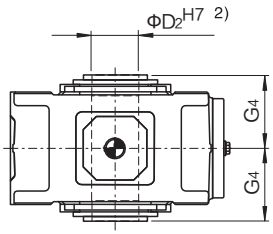
Oil supply(dip or forced lubrication), see pages 128

★ Output

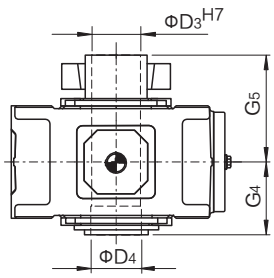
MTB4SV
Solid shaft



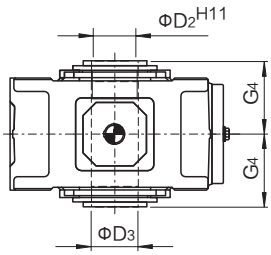
MTB4HV
Hollow shaft



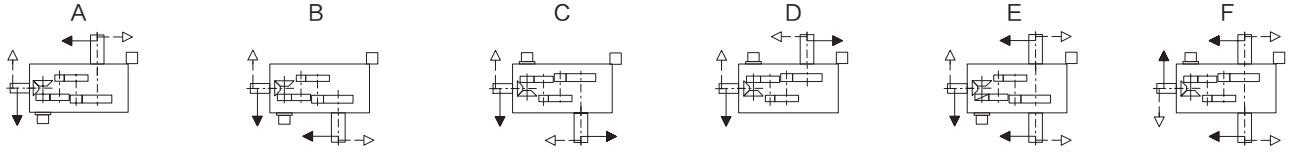
MTB4DV
Hollow shaft for shrink disk



MTB4KV
Hollow shaft with involute splines



Design (□ □)



1)k6≤Φ50 m6> Φ50 For parallel key GB/T1095−1979 and for center hole,see page 114−115.
2) Torque support on driven machine side.
3) Space for pump,pipes and cover;for exact dimensions,pleaxe refer to us.

mm Note: Dimensions in mm

Size		Input					
		i_N=80- 180		i_N=200- 315			
		i_N=100- 224		i_N=250- 400			
		d_1 [1]	l_1	d_1 [1]	l_1	G_1	G_1
5	+6	28	55	20	50	615	650
7	+8	30	70	25	60	725	770
9	+10	35	80	28	60	840	890
11	+12	45	100	35	80	1010	1080

Size	Gear units											
	b_1	c	e_4	h	h_1	h_2	h_3	m_2	n_1	p_2 [4]	s	f_3
5+6	240	30 ± 1	230	127.5	205	190	240	360	30	270	24	200
7+8	240	36 ± 1	280	150	205	165	250	430	35	330	28	120
9+10	330	45 ± 1.5	320	185	275	205	330	490	40	370	36	120
11+12	330	55 ± 1.5	380	215	275	240	340	600	50	440	40	130

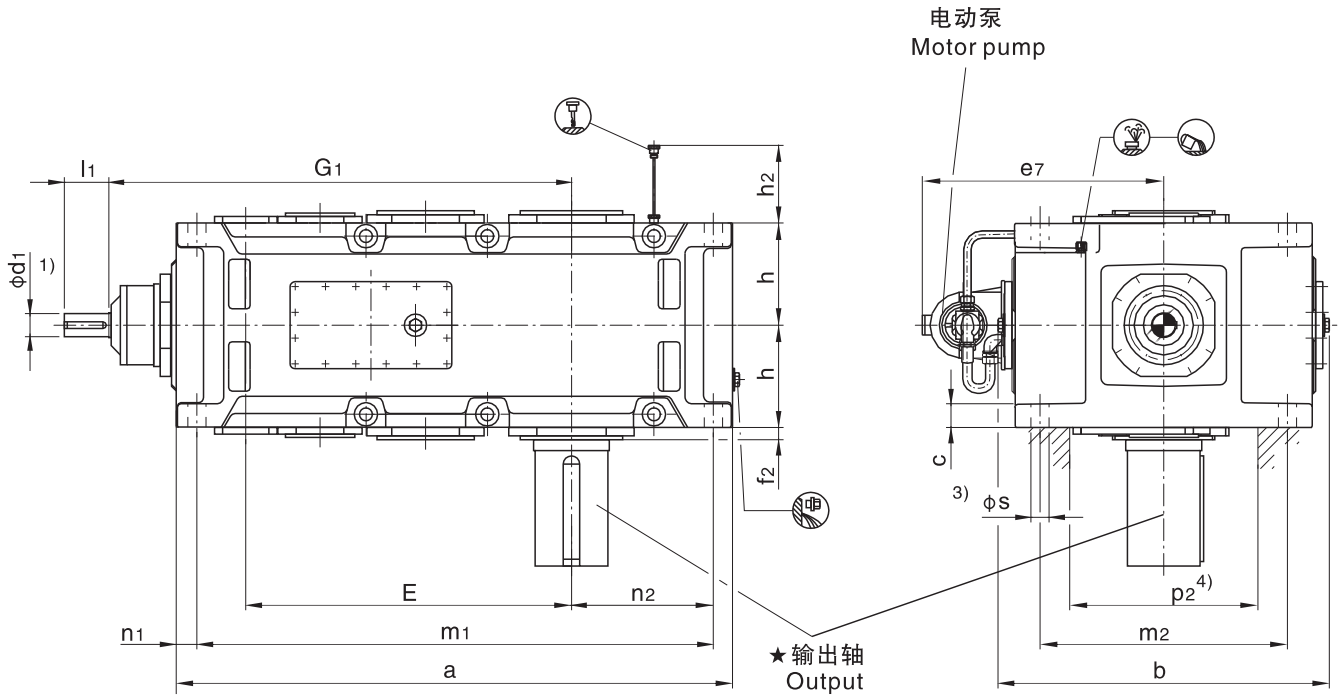
Size	Gear units							Output									
								MTB4SV			MTB4HV		MTB4DV				MTB4KV
	a	e_5	e_6	E	f_2	m_1	n_2	d_2 [1]	G_2	l_2	D_2 [2]	G_4	D_3	D_4	G_4	G_5	
5	690	252	385	405	28	630	175	100	165	210	95	165	100	100	165	240	See page 120–123
6	770	252	425	440	28	710	220	110	165	210	105	165	110	110	165	240	
7	845	292	425	495	30	775	215	120	195	210	115	195	120	120	195	280	
8	950	302	485	540	32	880	275	130	195	250	125	195	130	130	195	285	
9	1000	342	560	580	32	920	260	140	235	250	135	235	140	145	235	330	
10	1100	342	610	630	32	1020	310	160	235	300	150	235	150	155	235	350	
11	1200	402	595	705	35	1100	295	170	270	300	165	270	165	170	270	400	
12	1355	410	680	775	35	1255	380	180	270	300	180	270	180	185	270	405	

Size	Oil		Weight (kg)
	Dip lubrication (L)	Forced lubrication (L)	
5	36	15	335
6	40	16	385
7	60	30	555
8	70	35	655
9	110	60	890
10	130	67	1025
11	180	75	1485
12	195	85	1750

TYPES MTB4.V...
SIZES 13...22

Bevel-helical gear units Four Stage Vertical

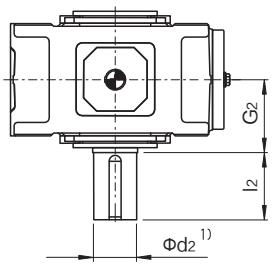
MTB4SV MTB4HV MTB4DV MTB4KV
With forced lubrication



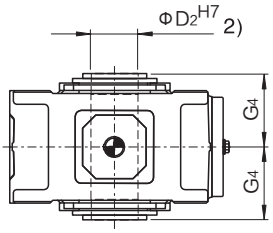
Oil supply(forced lubrication), see pages 128

★ Output

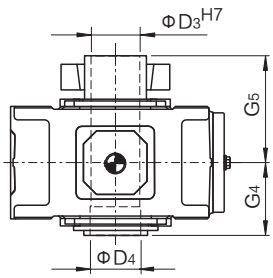
MTB4SV
Solid shaft



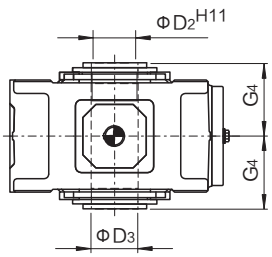
MTB4HV
Hollow shaft



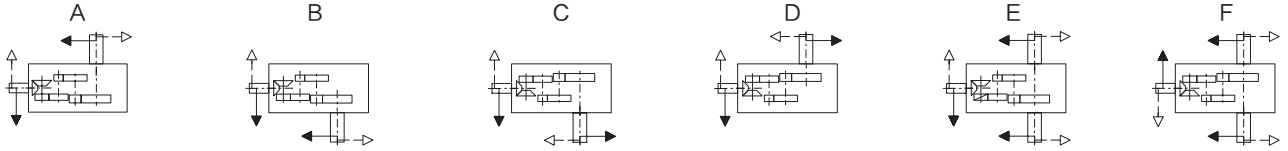
MTB4DV
Hollow shaft for shrink disk



MTB4KV
Hollow shaft with involute splines



Design



1)k6≤Φ50 m6> Φ50 For parallel key GB/T1095−1979 and for center hole,see page 114−115.
2) Torque support on driven machine side.
3) Space for pump,pipes and cover;for exact dimensions,pleaxe refer to us.

mm Note: Dimensions in mm

Size		Input					
		i_N=80- 180		i_N=200- 315			
		i_N=90- 200		i_N=224- 355			
		i_N=100- 224		i_N=250- 400			
		d_1[1]	l_1	d_1[1]	l_1	G_1	G_1
13	+14	55	110	40	100	1170	1240
15	+16	70	135	50	110	1402	1448
17	+18	70	135	50	110	1450	1510
19	+20	On request					
21	+22						

Size	Gear units								
	b	c	h	h_2	m_2	n_1	p_2[4]	s	f_2
13+14	900	61 ± 2	272.5	300	680	50	500	48	38
15+16	980	72 ± 2	310	340	750	60	570	55	38
17+18	1110	81 ± 2	340	374	850	70	630	55	38
19+20	On request								
21+22									

Size	Gear units					Output									
						MTB4SV			MTB4HV		MTB4DV				MTB4KV
	a	e_7	E	m_1	n_2	d_2[1]	G_2	l_2	D_2[2]	G_4	D_3	D_4	G_4	G_5	
13	1395	695	820	1300	360	200	335	350	190	335	190	195	335	480	See page 120 – 123
14	1535	695	890	1440	430	210	335	350	210	335	210	215	335	480	
15	1680	735	987	1565	430	230	380	410	230	380	230	235	380	550	
16	1770	735	1033	1655	475	240	380	410	240	380	240	245	380	550	
17	1770	795	1035	1640	465	250	415	410	250	415	250	260	415	600	
18	1890	795	1095	1760	525	270	415	470	275	415	280	285	415	600	
19	On request														
20															
21															
22															

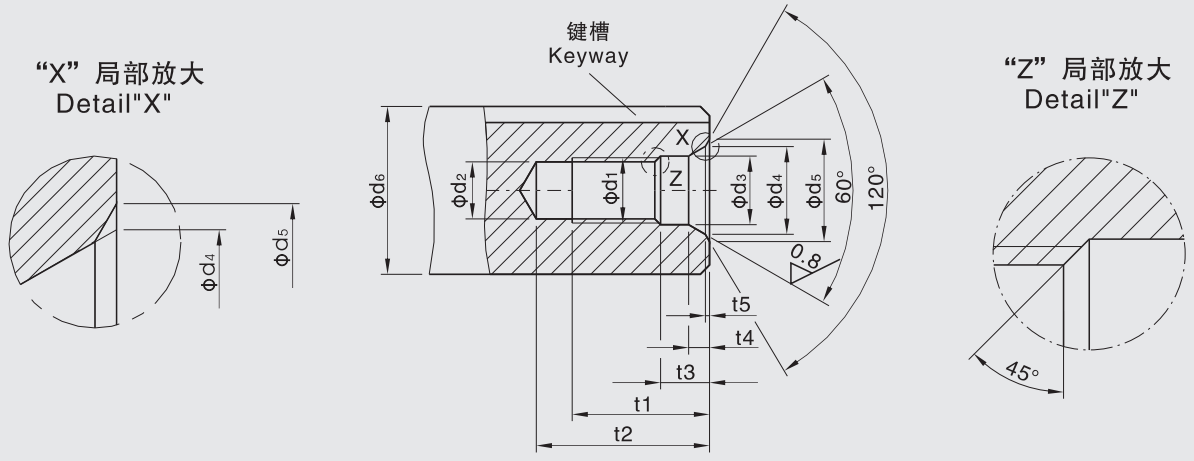
Size	Oil (L)	Weight (kg)
13	130	2280
14	150	2605
15	200	3435
16	235	3765
17	215	4460
18	250	4930
19	On request	
20		
21		
22		

Gear units

C
Centre Holes,Form C in Shaft Ends GB145-1985

C Form C

Tapped hole,with straight running face and counterbore



Recommended diameters d_6 [1]		C From C											
above	to	C C–Centering	d_1	d_2	d_3	d_4	d_5	t_1 +2	t_2 min.	t_2 max.	t_3 +1	t_4 ≈	t_5 ≈
mm													
16	21	C 6	M6	5	6.4	9.6	10.5	16	20	22	5	2.8	0.4
21	24	C 8	M8	6.8	8.4	12.2	13.2	19	25	28	6	3.3	0.4
24	30	C 10	M10	8.5	10.5	14.9	16.3	22	30	34	7.5	3.8	0.6
30	38	C 12	M12	10.2	13	18.1	19.8	28	37	42	9.5	4.4	0.7
38	50	C 16	M16	14	17	23	25.3	36	45	50	12	5.2	1.0
50	85	C 20	M20	17.5	21	28.4	31.3	42	53	59	15	6.4	1.3
85	130	C 24	M24	21	25	34.2	38	50	63	68	18	8	1.6
130*	225*	C 30	M30*	26.5	31	44	48	60	77	83	17	11	1.9
225*	320*	C 36	M36*	32	37	55	60	74	93	99	22	15	2.3
320*	500*	C 42	M42*	37.5	43	65	71	84	105	111	26	19	2.7

1) Diameter of the finished work piece.
*) Dimensions not acc. to GB145–1985.

ISO

Gear units

Selection of ISO fits

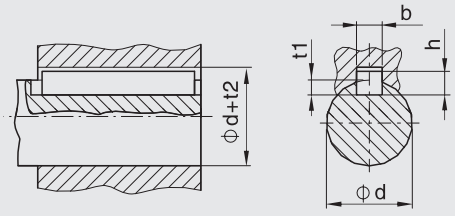
Parallel keys and keyways

Centre holes in shaft end										
Φd Diameter	⩾16- 21	> 21- 24	> 24- 30	> 30- 38	> 38- 50	> 50- 85	> 85- 130	> 130- 225	> 225- 320	> 320- 500
Screw	M6 × 12	M8 × 16	M10 × 20	M12 × 25	M16 × 35	M20 × 40	M24 × 50	M30 × 60	M36 × 70	M42 × 80

Parallel keys

Drive type fastening without taper action

Parallel key and keyway acc. to GB/T1095−1979



1) ISO JS9
ISO P9

1) The tolerance zone for the hub keyway width b for parallel keys is ISO JS9, or ISO P9 for heavy−duty operating conditions.

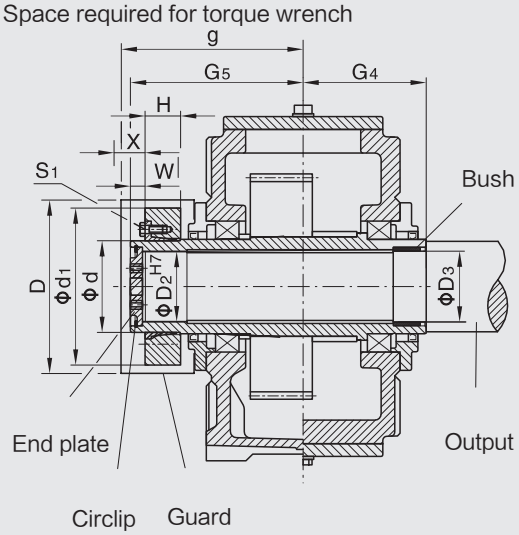
Diameter Φd Above mm	Diameter Φd To mm	1) Width 1) b 1) mm	Height h mm	Depth of key−way in shaft t_1 mm	Depth of key−way in hub $d+t_2$ GB/T1095−1979 mm
17	22	6	6	3.5	d+2.8
22	30	8	7	4	d+3.3
30	38	10	8	5	d+3.3
38	44	12	8	5	d+3.3
44	50	14	9	5.5	d+3.8
50	58	16	10	6	d+4.3
58	65	18	11	7	d+4.4
65	75	20	12	7.5	d+4.9
75	85	22	14	9	d+5.4
85	95	25	14	9	d+5.4
95	110	28	16	10	d+6.4
110	130	32	18	11	d+7.4
130	150	36	20	12	d+8.4
150	170	40	22	13	d+9.4
170	200	45	25	15	d+10.4
200	230	50	28	17	d+11.4
230	260	56	32	20	d+12.4
260	290	63	32	20	d+12.4
290	330	70	36	22	d+14.4
330	380	80	40	25	d+15.4
380	440	90	45	28	d+17.4

TYPES MTH2,MTH3,MTH4,MTB3,MTB4

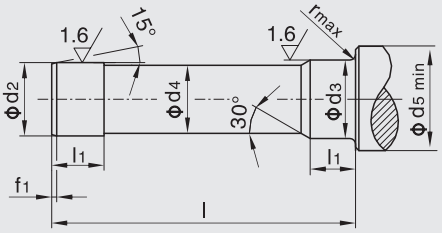
SIZES 3...26

Gear units — Hollow Shaft For Shrink Disk

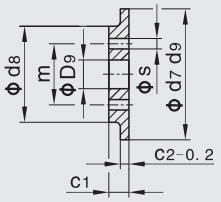
X=
X= Space required for torque wrench



Driven machine shaft for shrink disk connection.
Driven machine shaft must be free of oil or grease.



Driven machine shaft with center hole form C acc. to GB145−1985



End plate

Gear unit size	MTH2D,MTH3D,MTH4D,MTB3D,MTB4D Types MTH2D,MTH3D,MTH4D,MTB3D,MTB4D																										
	2) Driven machine shaft								End plate								Ring Circlip	Hollow shaft				1) Shrink disk					Screw
	d_2	d_3	d_4	d_5	f_1	l	l_1	r	c_1	c_2	d_7	d_8	D_9	m	s	Qty.	GB89/ 3.2−86	D_2	D_3	G_4	G_5	Type	d	d_1	H	W	s_1
	mm																mm										
3	70g6	70g6	69.5	80	4	286	38	2	17	7	75	55	22	40	M8	2	75x2.5	70	70	125	180	90−32	90	155	38	20	M10
4	85g6	85h6	84.5	95	4	326	48	2	17	7	90	70	22	50	M8	2	90x3	85	85	140	205	110−32	110	185	49	20	M12
5	100g6	100h6	99.5	114	5	383	53	2	20	8	105	80	26	55	M10	2	105x4	100	100	165	240	125−32	125	215	53	20	M12
6	110g6	110h6	109.5	124	5	383	58	3	20	8	115	85	26	60	M10	2	115x4	110	110	165	240	140−32	140	230	58	20	M14
7	120g6	120h6	119.5	134	5	453	68	3	20	8	125	90	26	65	M12	2	125x4	120	120	195	280	155−32	155	263	62	23	M14
8	130g6	130h6	129.5	145	6	458	73	3	20	8	135	100	26	70	M12	2	135x4	130	130	195	285	165−32	165	290	68	23	M16
9	140g6	145m6	139.5	160	6	539	82	4	23	10	150	110	33	80	M12	2	150x4	140	145	235	330	175−32	175	300	68	28	M16
10	150g6	155m6	149.5	170	6	559	92	4	23	10	160	120	33	90	M12	2	160x4	150	155	235	350	200−32	200	340	85	28	M16
11	165f6	170m6	164.5	185	7	644	112	4	23	10	175	130	33	90	M12	2	175x4	165	170	270	400	220−32	220	370	103	30	M20
12	180f6	185m6	179.5	200	7	649	122	4	23	10	190	140	33	100	M16	2	190x4	180	185	270	405	240−32	240	405	107	30	M20
13	190f6	195m6	189.5	213	7	789	137	5	23	10	200	150	33	110	M16	2	200x4	190	195	335	480	260−32	260	430	119	30	M20
14	210f6	215m6	209.5	233	8	784	147	5	28	14	220	170	33	130	M16	2	220x5	210	215	335	480	280−32	280	460	132	30	M20
15	230f6	235m6	229.5	253	8	899	157	5	28	14	240	180	39	140	M16	2	240x5	230	235	380	550	300−32	300	485	140	35	M24
16	240f6	245m6	239.5	263	8	899	157	5	28	14	250	190	39	150	M20	2	250x5	240	245	380	550	320−32	320	520	140	35	M24
17	250f6	260m6	249.5	278	8	982	177	5	30	14	265	200	39	150	M20	2	265x5	250	260	415	600	340−32	340	570	155	35	M24
18	280f6	285m6	279.5	306	9	982	177	5	30	14	290	210	39	160	M20	2	290x5	280	285	415	600	360−32	360	590	162	35	M24
19	285f6	295m6	284.5	316	9	1100	187	5	32	15	300	220	39	170	M24	2	300x5	285	295	465	670	380−32	380	640	166	40	M27
20	310f6	315m6	309.5	336	9	1100	187	5	32	15	320	230	39	180	M24	2	320x6	310	315	465	670	390−32	390	650	166	40	M27
21	330f6	335m6	329	358	9	1160	205	5	40	20	340	250	45	190	M24	2	340x6	330	335	490	715	420−32	420	670	186	45	M27
22	340f6	345m6	339	368	9	1170	215	5	40	20	350	260	45	200	M24	2	350x6	340	345	490	725	440−32	440	720	194	45	M27
23	On request																										
24																											
25																											
26																											

1) Shrink disk does not belong to our scope of suppiy. Please order separately, if required.

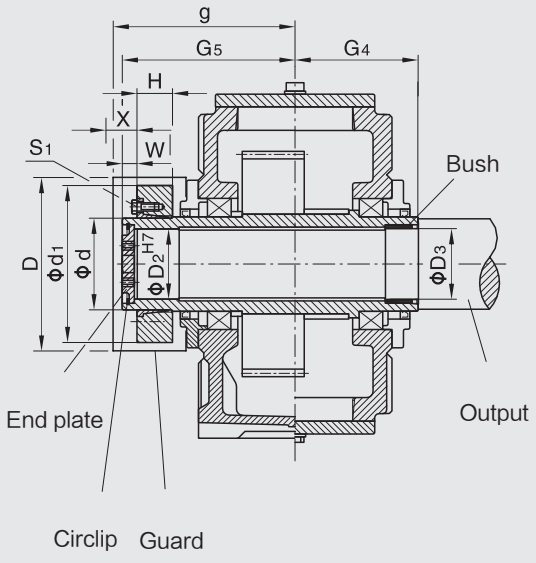
2) Material of driver machine shaft:40Cr or higher strength. Shrink disk on machine side on request. Shrink disk is supplied as loose item. Dimensions of machine shaft on request.

TYPES MTB2D.
SIZES 2...18

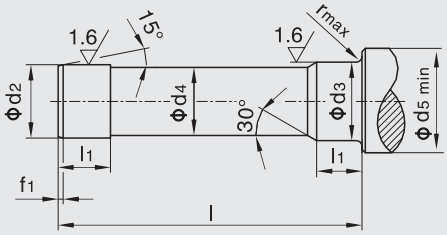
Gear units

Hollow Shaft For Shrink Disk

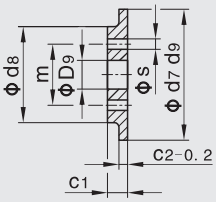
X=
X= Space required for torque wrench



Driven machine shaft for shrink disk connection.
Driven machine shaft must be free of oil or grease.



Driven machine shaft with center hole form C acc. to GB145−1985



End plate

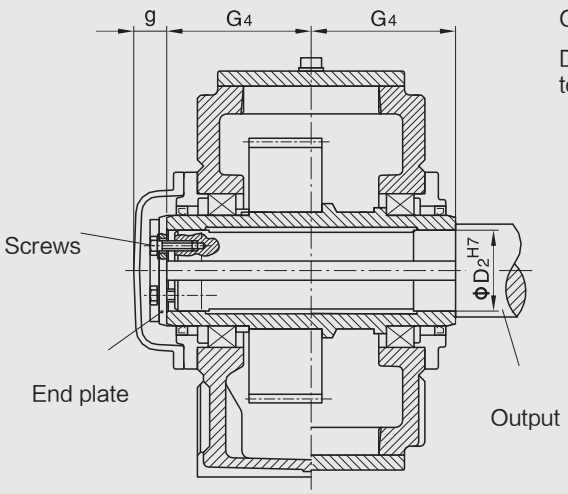
Gear unit size	2) Driven machine shaft								End plate								Ring Circlip	Hollow shaft				1) Shrink disk					Screw	Guard	
	d_2	d_3	d_4	d_5	f_1	l	l_1	r	c_1	c_2	d_7	d_8	D_9	m	s	Qty.	GB89/ 3.2−86	D_2	D_3	G_4	G_5	Type	d	d_1	H	W	s_1	D	g
	mm																mm												
2	60g6	60g6	59.5	70	3	300	36	2	13	6	65	47	22	35	M6	2	65x2.5	60	60	135	180	80−32	80	141	31	16	M10	180	200
3	70g6	70g6	69.5	80	4	326	38	2	17	7	75	55	22	40	M8	2	75x2.5	70	70	145	200	90−32	90	155	38	20	M10	200	220
4	85g6	85h6	84.5	95	4	386	48	2	17	7	90	70	22	50	M8	2	90x2.5	85	85	170	235	110−32	110	185	49	20	M12	235	250
5	100g6	100h6	99.5	114	5	453	53	2	20	8	105	80	26	55	M10	2	105x3	100	100	200	275	125−32	125	215	53	20	M12	275	285
6	110g6	110h6	109.5	124	5	453	58	3	20	8	115	85	26	60	M10	2	115x3	110	110	200	275	140−32	140	230	58	20	M14	285	285
7	120g6	120h6	119.5	134	5	533	68	3	20	8	125	90	26	65	M12	2	125x3	120	120	235	320	155−32	155	263	62	23	M14	330	335
8	130g6	130h6	129.5	145	6	538	73	3	20	8	135	100	26	70	M12	2	135x3	130	130	235	325	165−32	165	290	68	23	M16	340	340
9	140g6	145m6	139.5	160	6	609	82	4	23	10	150	110	33	80	M12	2	150x3	140	145	270	365	175−32	175	300	68	28	M16	360	380
10	150g6	155m6	149.5	170	6	629	92	4	23	10	160	120	33	90	M12	2	160x3	150	155	270	385	200−32	200	340	85	28	M16	395	400
11	165f6	170m6	164.5	185	7	744	112	4	23	10	175	130	33	90	M12	2	175x3	165	170	320	450	220−32	220	370	103	30	M20	435	470
12	180f6	185m6	179.5	200	7	749	122	4	23	10	190	140	33	100	M16	2	190x3	180	185	320	455	240−32	240	405	107	30	M20	450	470
14	210f6	215m6	209.5	233	8	894	147	5	28	14	220	170	33	130	M16	2	220x5	210	215	390	535	280−32	280	460	132	30	M20	525	555
16	240f6	245m6	239.5	263	8	1039	157	5	28	14	250	190	39	150	M20	2	250x5	240	245	450	620	320−32	320	520	140	35	M24	595	645
18	280f6	285m6	279.5	306	9	1177	177	5	30	14	290	210	39	160	M20	2	290x5	280	285	510	700	360−32	360	590	162	35	M24	635	725

1) Shrink disk does not belong to our scope of suppiy. Please order separately, if required.
2) Material of driver machine shaft:40Cr or higher strength. Shrink disk on machine side on request. Shrink disk is supplied as loose item. Dimensions of machine shaft on request.

TYPES MTH2,MTH3,MTH4,MTB3,MTB4

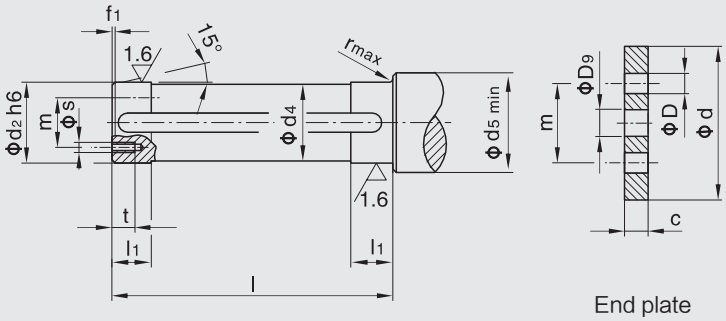
SIZES 3...18

Gear units Hollow Shaft For Parallel Key Connections



C

Driven machine shaft for key connection, keyway acc. to GB/T1095−1979 and centre hole C acc. to GB145−1985.



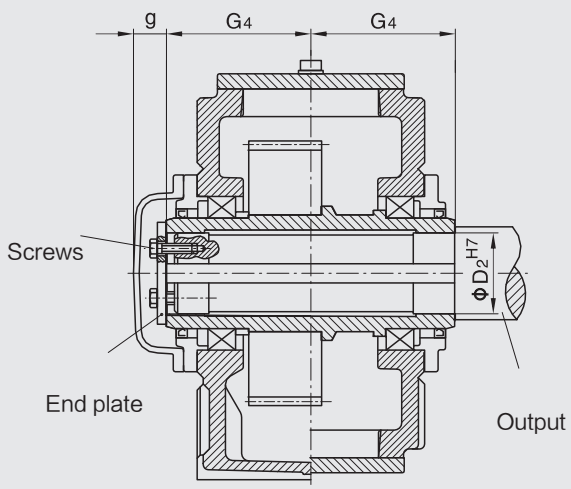
Gear unit size	MTH2,MTH3,MTH4,MTB3,MTB4 Types MTH2,MTH3,MTH4,MTB3,MTB4																			
	1) Driven machine shaft									End plate					Screw		Hollow shaft			
	d_2	d_4	d_5	f_1	l	l_1	r	s	t	c	D	D_9	d	m	Size	Qty.	D_2	G_4	g
	mm																mm			
3	65	64.5	73	4	248	30	1.2	M10	18	8	11	18	78	45	M10x25	2	65	125	35
4	80	79.5	88	4	278	35	1.2	M10	18	10	11	22	100	60	M10x25	2	80	140	35
5	95	94.5	105	5	328	40	1.6	M10	18	10	11	26	120	70	M10x25	2	95	165	40
6	105	104.5	116	5	328	45	1.6	M10	18	10	11	26	120	70	M10x25	2	105	165	40
7	115	114.5	126	5	388	50	1.6	M12	20	12	13.5	26	140	80	M12x30	2	115	195	40
8	125	124.5	136	6	388	55	2.5	M12	20	12	13.5	26	150	85	M12x30	2	125	195	40
9	135	134.5	147	6	467	60	2.5	M12	20	12	13.5	33	160	90	M12x30	2	135	235	45
10	150	149.5	162	6	467	65	2.5	M12	20	12	13.5	33	185	110	M12x30	2	150	235	45
11	165	164.5	177	7	537	70	2.5	M16	28	15	17.5	33	195	120	M16x40	2	165	270	45
12	180	179.5	192	7	537	75	2.5	M16	28	15	17.5	33	220	130	M16x40	2	180	270	45
13	190	189.5	206	7	667	80	3	M16	28	18	17.5	33	230	140	M16x40	2	190	335	45
14	210	209.5	226	8	667	85	3	M16	28	18	17.5	33	250	160	M16x40	2	210	335	45
15	230	229.5	248	8	756	100	3	M20	38	25	22	39	270	180	M20x55	4	230	380	60
16	240	239.5	258	8	756	100	3	M20	38	25	22	39	280	180	M20x55	4	240	380	60
17	250	249.5	270	8	826	110	4	M20	38	25	22	39	300	190	M20x55	4	250	415	60
18	275	274.5	295	9	826	120	4	M20	38	25	22	39	330	210	M20x55	4	275	415	60

1)
Material of driven machine shaft: 40Cr or higher strength. Parallel key does not belong to our scope of supply.
Please order separately, if required.

TYPES MTB2H.
SIZES 2...18

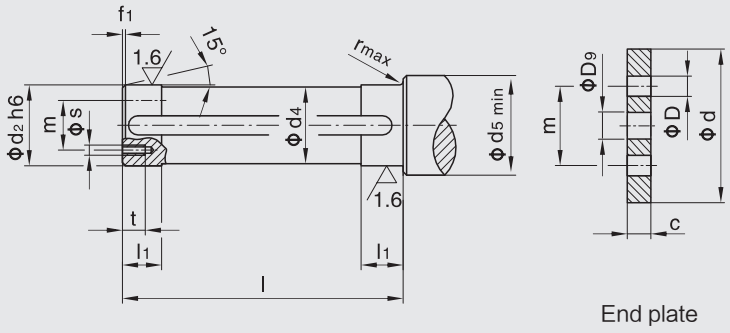
Gear units

Hollow Shaft For Parallel Key Connections



C

Driven machine shaft for key connection, keyway acc. to GB/T1095−1979 and centre hole C acc. to GB145−1985.



MTB2H. Types MTB2H.

Gear unit size	1) Driven machine shaft									End plate					Screw		Hollow shaft		
	d_2	d_4	d_5	f_1	l	l_1	r	s	t	c	D	D_9	d	m	Size	Qty.	D_2	G_4	g
	mm																mm		
2	55	54.5	63	3	268	30	1.2	M8	15	8	9	18	70	40	M8x20	2	55	135	35
3	65	64.5	73	4	288	30	1.2	M10	18	8	11	18	78	45	M10x25	2	65	145	35
4	80	79.5	88	4	338	35	1.2	M10	18	10	11	22	100	60	M10x25	2	80	170	35
5	95	94.5	105	5	398	40	1.6	M10	18	10	11	26	120	70	M10x25	2	95	200	40
6	105	104.5	116	5	398	45	1.6	M10	18	10	11	26	120	70	M10x25	2	105	200	40
7	115	114.5	126	5	468	50	1.6	M12	20	12	13.5	26	140	80	M12x30	2	115	235	40
8	125	124.5	136	6	468	55	2.5	M12	20	12	13.5	26	150	85	M12x30	2	125	235	40
9	135	134.5	147	6	537	60	2.5	M12	20	12	13.5	33	160	90	M12x30	2	135	270	45
10	150	149.5	162	6	537	65	2.5	M12	20	12	13.5	33	185	110	M12x30	2	150	270	45
11	165	164.5	177	7	637	70	2.5	M16	28	15	17.5	33	195	120	M16x40	2	165	320	45
12	180	179.5	192	7	637	75	2.5	M16	28	15	17.5	33	220	130	M16x40	2	180	320	45
14	210	209.5	226	8	777	85	3	M16	28	18	17.5	33	250	160	M16x40	2	210	390	45
16	240	239.5	258	8	896	100	3	M20	38	25	22	39	280	180	M20x55	4	240	450	60
18	275	274.5	295	9	1016	120	4	M20	38	25	22	39	330	210	M20x55	4	275	510	60

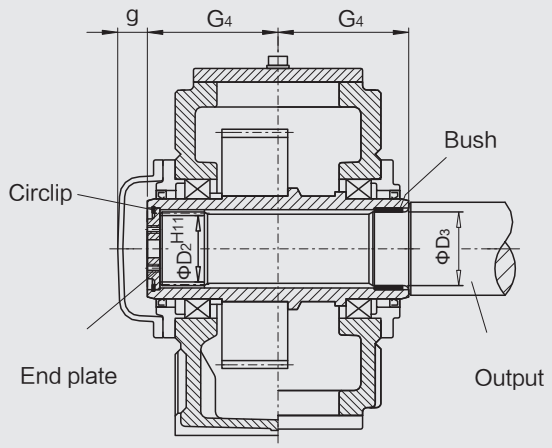
1)
Material of driven machine shaft: 40Cr or higher strength. Parallel key does not belong to our scope of supply.
Please order separately, if required.

(DIN5480)

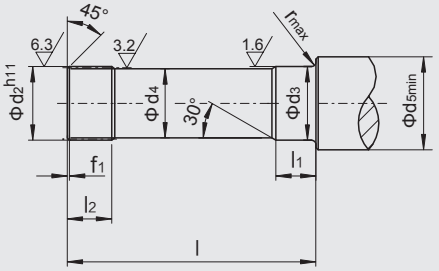
Gear units Hollow Shaft For Spline (DIN5480)

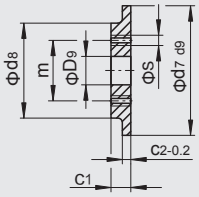
TYPES MTH2,MTH3,MTH4,MTB3,MTB4

SIZES 5...26



Driven machine shaft for connection via involute splines, to be greased on assembly.





End plate

size	Involute splines DIN5480	driven machine shaft									end plate								circlip	hollow shaft				bolt
		d2	d3	d4	d5	f1	l	l1	l2	r	c1	c2	d7	d8	D9	m	s	Qty		D2	D3	G4	g	
5	W95*3*30*30*8f	94.4	100h6	93	114	3	308	53	90	2	20	8	105	80	26	55	M10	2	105*3	89	100	165	40	M24
6	W95*3*30*30*8f	94.4	110h6	93	124	3	308	58	90	3	20	8	105	80	26	55	M10	2	105*3	89	110	165	40	M24
7	W120*3*30*38*8f	119.4	120h6	118	134	3	368	68	105	3	20	8	125	90	26	65	M12	2	125*3	114	120	195	40	M24
8	W120*3*30*38*8f	119.4	130h6	118	145	3	368	73	105	3	20	8	125	90	26	65	M12	2	125*3	114	130	195	40	M24
9	W140*3*30*45*8f	139.4	145m6	138	160	3	444	82	125	4	23	10	150	110	33	80	M12	2	150*3	134	145	235	45	M30
10	W140*3*30*45*8f	139.4	155m6	138	170	3	444	92	125	4	23	10	150	110	33	80	M12	2	150*3	134	155	235	45	M30
11	W170*5*30*32*8f	169	170m6	168	185	5	514	112	150	4	23	10	175	130	33	90	M12	2	175*3	160	170	270	45	M30
12	W170*5*30*32*8f	169	185m6	168	200	5	514	122	150	4	23	10	175	130	33	90	M12	2	175*3	160	185	270	45	M30
13	W190*5*30*36*8f	189	195m6	188	213	5	644	137	180	5	23	10	200	150	33	110	M16	2	200*3	180	195	335	45	M30
14	W190*5*30*36*8f	189	215m6	188	233	5	644	147	180	5	23	10	200	150	33	110	M16	2	200*3	180	215	335	45	M30
15	W220*5*30*42*8f	219	235m6	218	253	5	728	157	200	5	28	14	240	180	39	140	M16	2	240*4	200	235	380	60	M36
16	W220*5*30*42*8f	219	245m6	218	263	5	728	157	200	5	28	14	240	180	39	140	M16	2	240*4	200	245	380	60	M36
17	W250*5*30*48*8f	249	260m6	248	278	5	796	177	215	5	30	14	265	200	39	150	M20	2	265*4	240	260	415	60	M36
18	W250*5*30*48*8f	249	285m6	248	306	5	796	177	215	5	30	14	265	200	39	150	M20	2	265*4	240	285	415	60	M36
19–26	On request																							

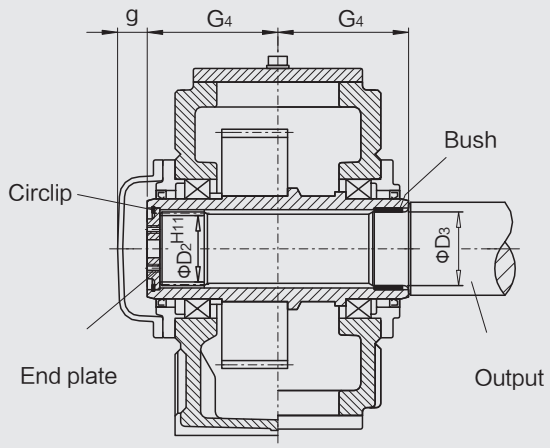
1)
Material of driven machine shaft: 40Cr or higher strength. Parallel key does not belong to our scope of supply.
Please order separately, if required.

(DIN5480)

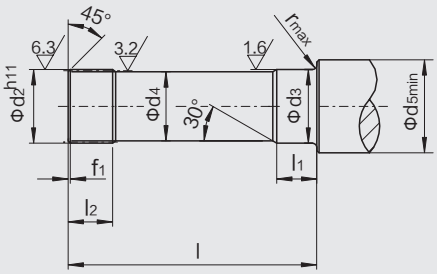
Gear units

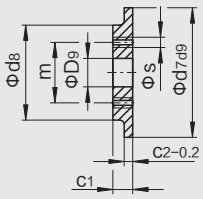
Hollow Shaft For Spline (DIN5480)

TYPES MTB2
SIZES 5...18



Driven machine shaft for connection via involute splines, to be greased on assembly.





End plate

MTB2K Type MTB2K

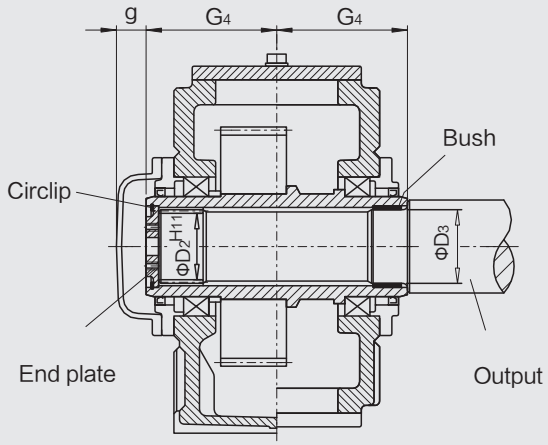
size	Involute splines DIN5480	driven machine shaft									end plate								circlip	hollow shaft				bolt
		d2	d3	d4	d5	f1	l	l1	l2	r	c1	c2	d7	d8	D9	m	s	Qty		D2	D3	G4	g	
5	W95*3*30*30*8f	94.4	100h6	93	114	3	378	53	90	2	20	8	105	80	26	55	M10	2	105*3	89	100	200	40	M24
6	W95*3*30*30*8f	94.4	110h6	93	124	3	378	58	90	3	20	8	105	80	26	55	M10	2	105*3	89	110	200	40	M24
7	W120*3*30*38*8f	119.4	120h6	118	134	3	448	68	105	3	20	8	125	90	26	65	M12	2	125*3	114	120	235	40	M24
8	W120*3*30*38*8f	119.4	130h6	118	145	3	448	73	105	3	20	8	125	90	26	65	M12	2	125*3	114	130	235	40	M24
9	W140*3*30*45*8f	139.4	145m6	138	160	3	514	82	125	4	23	10	150	110	33	80	M12	2	150*3	134	145	270	45	M30
10	W140*3*30*45*8f	139.4	155m6	138	170	3	514	92	125	4	23	10	150	110	33	80	M12	2	150*4	134	155	270	45	M30
11	W170*5*30*32*8f	169	170m6	168	185	5	614	112	150	4	23	10	175	130	33	90	M12	2	175*3	160	170	320	45	M30
12	W170*5*30*32*8f	169	185m6	168	200	5	614	122	150	4	23	10	175	130	33	90	M12	2	175*3	160	185	320	45	M30
14	W190*5*30*36*8f	189	215m6	188	233	5	745	147	180	5	23	10	200	150	33	110	M16	2	200*3	180	215	390	45	M30
16	W220*5*30*42*8f	219	245m6	218	263	5	868	157	200	5	28	14	240	180	39	140	M16	2	240*4	210	245	450	60	M36
18	W250*5*30*48*8f	249	285m6	248	306	5	986	177	215	5	30	14	265	200	39	150	M20	2	265*4	240	285	510	60	M36

1)
Material of driven machine shaft: 40Cr or higher strength. Parallel key does not belong to our scope of supply.
Please order separately, if required.

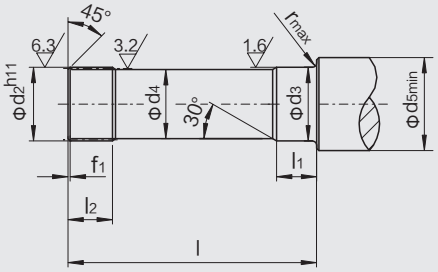
TYPES MTH2,MTH3,MTH4,MTB3,MTB4

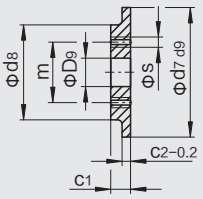
SIZES 5...18

Gear units Hollow Shaft For Spline (GB/T3478.1)



Driven machine shaft for connection via involute splines, to be greased on assembly.





End plate

MTH2K,MTH3K,MTH4K,MTB3K,MTB4K Types MTH2K,MTH3K,MTH4K,MTB3K,MTB4K

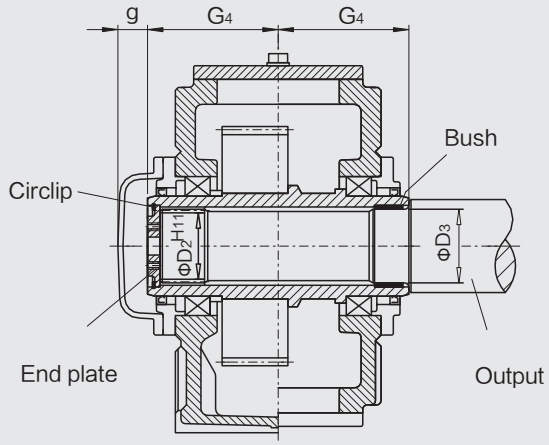
size	Involute splines GB/T3478.1−1995	driven machine shaft									end plate								circlip	hollow shaft				bolt
		d2	d3	d4	d5	f1	l	l1	l2	r	c1	c2	d7	d8	D9	m	s	Qty		D2	D3	G4	g	
5	30Z*3m*30p*6h	93	100h6	90	114	3	308	53	90	2	20	8	105	80	26	55	M10	2	105*3	87	100	165	40	M24
6	30Z*3m*30p*6h	93	110h6	90	124	3	308	58	90	3	20	8	105	80	26	55	M10	2	115*3	87	110	165	40	M24
7	38Z*3m*30p*6h	117	120h6	114	134	3	368	68	105	3	20	8	125	90	26	65	M12	2	125*3	111	120	195	40	M24
8	38Z*3m*30p*6h	117	130h6	114	145	3	368	73	105	3	20	8	125	90	26	65	M12	2	135*3	111	130	195	40	M24
9	45Z*3m*30p*6h	135	145m6	135	160	3	444	82	125	4	23	10	150	110	33	80	M12	2	150*3	132	145	235	45	M30
10	45Z*3m*30p*6h	165	155m6	135	170	3	444	92	125	4	23	10	150	110	33	80	M12	2	160*3	132	155	235	45	M30
11	32Z*5m*30p*6h	165	170m6	160	185	5	514	112	150	4	23	10	175	130	33	90	M12	2	175*3	155	170	270	45	M30
12	32Z*5m*30p*6h	165	185m6	160	200	5	514	122	150	4	23	10	175	140	33	90	M16	2	190*3	155	185	270	45	M30
13	36Z*5m*30p*6h	185	195m6	180	213	5	644	137	180	5	23	10	200	150	33	110	M16	2	200*3	175	195	335	45	M30
14	36Z*5m*30p*6h	185	215m6	180	233	5	644	147	180	5	28	14	200	150	33	110	M16	2	220*4	175	215	335	45	M30
15	42Z*5m*30p*6h	215	235m6	210	253	5	728	157	200	5	28	14	240	180	39	140	M16	2	240*4	205	235	380	60	M36
16	42Z*5m*30p*6h	215	245m6	210	263	5	728	157	200	5	28	14	240	180	39	140	M20	2	250*4	205	245	380	60	M36
17	48Z*5m*30p*6h	245	260m6	240	278	5	796	177	215	5	30	14	265	200	39	150	M20	2	265*4	235	260	415	60	M36
18	48Z*5m*30p*6h	245	285m6	240	306	5	796	177	215	5	30	14	265	200	39	150	M20	2	290*4	235	285	415	60	M36

1)
Material of driven machine shaft: 40Cr or higher strength. Parallel key does not belong to our scope of supply.
Please order separately, if required.

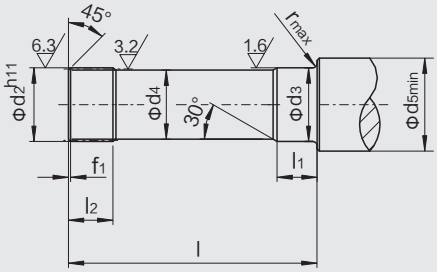
TYPES MTB2
SIZES 5...18

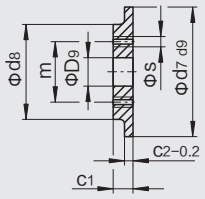
Gear units

Hollow Shaft For Spline (GB/T3478.1)



Driven machine shaft for connection via involute splines, to be greased on assembly.





End plate

MTB2K Type MTB2K

size	Involute splines GB/T3478.1−1995	driven machine shaft									end plate								circlip	hollow shaft				bolt
		d2	d3	d4	d5	f1	l	l1	l2	r	c1	c2	d7	d8	D9	m	s	Qty		D2	D3	G4	g	
5	30Z*3m*30p*6h	93	100h6	90	114	3	378	53	90	2	20	8	105	80	26	55	M10	2	105*3	87	100	200	40	M24
6	30Z*3m*30p*6h	93	110h6	90	124	3	378	58	90	3	20	8	105	80	26	55	M10	2	115*3	87	110	200	40	M24
7	38Z*3m*30p*6h	117	120h6	114	134	3	448	68	105	3	20	8	125	90	26	65	M12	2	125*3	111	120	235	40	M24
8	38Z*3m*30p*6h	117	130h6	114	145	3	448	73	105	3	20	8	125	90	26	65	M12	2	135*3	111	130	235	40	M24
9	45Z*3m*30p*6h	135	145m6	135	160	3	514	82	125	4	23	10	150	110	33	80	M12	2	150*3	132	145	270	45	M30
10	45Z*3m*30p*6h	165	155m6	135	170	3	514	92	125	4	23	10	150	110	33	80	M12	2	160*3	132	155	270	45	M30
11	32Z*5m*30p*6h	165	170m6	160	185	3	614	112	150	4	23	10	175	130	33	90	M12	2	175*3	155	170	320	45	M30
12	32Z*5m*30p*6h	165	185m6	160	200	3	614	122	150	4	23	10	175	130	33	90	M16	2	190*3	155	185	320	45	M30
14	36Z*5m*30p*6h	185	215m6	180	233	3	754	147	180	5	28	14	220	170	33	130	M16	2	220*4	175	215	390	45	M30
16	42Z*5m*30p*6h	215	245m6	210	263	3	868	157	200	5	28	14	250	190	39	150	M20	2	250*4	205	245	450	60	M30
18	48Z*5m*30p*6h	245	285m6	240	306	3	986	177	215	5	30	14	290	210	39	160	M20	2	290*4	235	285	510	60	M30

1)
Material of driven machine shaft: 40Cr or higher strength. Parallel key does not belong to our scope of supply.
Please order separately, if required.

TYPES MTH1...,MTH2...,MTH3...,MTH4...
SIZES 1...13

Helical gear units

Mass Moments of Inertia J_1

2 kgm²) 2 :$J_2=i_N^2 \times J_1$.
1 kgm²) 1
1 J_L.

The mass moment of inertia J_2 in kgm² refers to the output shaft d_2 of a gear unit and is calculated with the following formula:$J_2=i_N^2 \times J_1$.
The mass moment of inertia J_1 in kgm² refers to the input shaft d_1 of a gear unit without fan.
For shaft d with fan, J_L has to be added.

kgm²)							Mass moment of inertia J_1 in kgm² refering to shaft d_1						
i_N	Gear unit sizes												
	1	2	3	4	5	6	7	8	9	10	11	12	13
1.25	0.0048		0.0285		0.1570		0.4228		0.9271				
1.4	0.0042		0.0259		0.1432		0.3849		0.8413				
1.6	0.0037		0.0244		0.1249		0.3345		0.7272		1.7511		3.7389
1.8	0.0033		0.0197		0.1088		0.3045		0.6590		1.5889		3.2189
2.0	0.0030		0.0182		0.0991		0.2769		0.5960		1.4383		2.9044
2.24	0.0028		0.0167		0.0901		0.2390		0.5376		1.2975		2.6113
2.5	0.0023		0.0148		0.0816		0.2159		0.4830		1.1653		2.3370
2.8	0.0021		0.0134		0.0738		0.2010		0.4432		1.0408		2.0794
3.15	0.0015		0.0092		0.0500		0.1402		0.3105		0.8423		1.6719
3.55	0.0013		0.0081		0.0437		0.1225		0.2728		0.7361		1.4732
4.0	0.0012		0.0070		0.0380		0.1058		0.2373		0.6465		1.2855
4.5	0.00087		0.0052		0.0297		0.0861		0.1996		0.4956		0.9652
5.0	0.00074		0.0045		0.0276		0.0748		0.1707		0.4062		0.8932
5.6	0.00065		0.0038		0.0233		0.0640		0.1410		0.3747		0.7557
JL			0.060		0.045		0.100		0.100		0.290		0.290
6.3			0.0055	0.0149	0.0329		0.0907		0.1995		0.5118		1.0873
7.1			0.0046	0.0134	0.0275		0.0746		0.1640		0.4473		0.9480
8.0			0.0041	0.0114	0.0245	0.0393	0.0655	0.1092	0.1438	0.2364	0.3906	0.6361	0.8255
9.0			0.0037	0.0102	0.0218	0.0323	0.0574	0.0884	0.1260	0.1916	0.3178	0.5491	0.7172
10			0.0030	0.0086	0.0182	0.0285	0.0500	0.0767	0.1097	0.1664	0.2760	0.4736	0.6211
11.2			0.0026	0.0076	0.0159	0.0252	0.0441	0.0665	0.0940	0.1443	0.2486	0.3780	0.5540
12.5			0.0020	0.0053	0.0116	0.0207	0.0334	0.0574	0.0712	0.1244	0.1899	0.3241	0.4217
14			0.0017	0.0045	0.0100	0.0179	0.0266	0.0501	0.0604	0.1057	0.1615	0.2895	0.3642
16			0.0014	0.0038	0.0084	0.0133	0.0224	0.0383	0.0508	0.0804	0.1348	0.2226	0.3117
18			0.0012	0.0032	0.0071	0.0113	0.0189	0.0302	0.0416	0.0676	0.1162	0.1872	0.2761
20			0.00099	0.0028	0.0060	0.0094	0.0160	0.0252	0.0382	0.0565	0.0992	0.1549	0.2330
22.4			0.00086	0.0023	0.0050	0.0079	0.0147	0.0211	0.0320	0.0460	0.0833	0.1328	
25						0.0067		0.0178		0.0421		0.1125	
28						0.0056		0.0163		0.0351		0.0938	
JL				0.006	0.010	0.010	0.045	0.045	0.045	0.045	0.100	0.100	0.290
22.4													0.2807
25					0.0065		0.0162		0.0391		0.1026		0.2287
28					0.0054		0.0144		0.0325		0.0833		0.1866
31.5					0.0048	0.0069	0.0121	0.0173	0.0289	0.0414	0.0724	0.1105	0.1629
35.5					0.0042	0.0057	0.0107	0.0153	0.0256	0.0342	0.0629	0.0892	0.1421
40					0.0034	0.0050	0.0089	0.0128	0.0215	0.0303	0.0545	0.0773	0.1237
45					0.0030	0.0044	0.0078	0.0113	0.0189	0.0268	0.0481	0.0668	0.1075
50					0.0023	0.0036	0.0057	0.0093	0.0136	0.0223	0.0359	0.0577	0.0762
56					0.0019	0.0031	0.0049	0.0082	0.0117	0.0196	0.0283	0.0507	0.0644
63					0.0016	0.0024	0.0041	0.0060	0.0099	0.0142	0.0238	0.0380	0.0544
71					0.0012	0.0020	0.0032	0.0051	0.0074	0.0121	0.0190	0.0298	0.0420
80					0.0010	0.0017	0.0028	0.0043	0.0062	0.0102	0.0160	0.0250	0.0385
90					0.00087	0.0013	0.0023	0.0034	0.0052	0.0077	0.0145	0.0199	0.0318
100						0.0011		0.0029		0.0065		0.0167	
112						0.00090		0.0024		0.0054		0.0152	
JL					0.006	0.006	0.010	0.010	0.020	0.020	0.045	0.045	0.045
100							0.0033		0.0067		0.0175		0.0396
112							0.0027		0.0055		0.0156		0.0325
125							0.0024	0.0033	0.0049	0.0068	0.0131	0.0179	0.0287
140							0.0020	0.0028	0.0043	0.0056	0.0116	0.0160	0.0253
160							0.0018	0.0025	0.0035	0.0050	0.0097	0.0134	0.0208
180							0.0015	0.0021	0.0030	0.0044	0.0085	0.0119	0.0180
200							0.0012	0.0018	0.0023	0.0035	0.0059	0.0099	0.0134
224							0.00097	0.0016	0.0019	0.0031	0.0051	0.0086	0.0113
250							0.00081	0.0013	0.0016	0.0023	0.0043	0.0061	0.0095
280							0.00065	0.00098	0.0013	0.0020	0.0035	0.0052	0.0079
315							0.00060	0.00082	0.0011	0.0016	0.0030	0.0043	0.0067
355							0.00050	0.00066	0.00096	0.0014	0.0025	0.0036	0.0056
400								0.00060		0.0011		0.0031	
450								0.00050		0.00097		0.0026	

MTH MTH MTH

Helical gear units

J_1
Mass Moments of Inertia J_1

TYPES MTH1...,MTH2...,MTH3...,MTH4...

SIZES 14...26

2 kgm²) 2 :$J_2=i_N^2 \times J_1$.

1 kgm²) 1

1 J_L.

The mass moment of inertia J_2 in kgm² refers to the output shaft d_2 of a gear unit and is calculated with the following formula:$J_2=i_N^2 \times J_1$.

The mass moment of inertia J_1 in kgm₂ refers to the input shaft d_1 of a gear unit without fan.

For shaft d with fan, J_L has to be added.

kgm²)					Mass moment of inertia J_1 in kgm² refering to shaft d_1									
Gear unit sizes														i_N
14	15	16	17	18	19	20	21	22	23	24	25	26		
														1.25
														1.4
														1.6
														1.8
	6.8655		11.6548		21.8584									2.0
	6.1491		10.3549		18.6492									2.24
	5.5216		9.3831		16.6673									2.5
	4.9573		8.4273		14.7965									2.8
	3.9096		6.7095		11.9834									3.15
	3.4057		5.8542		11.1368									3.55
	2.9306		5.0470		9.5179									4.0
	2.3019		4.0029		7.8709									4.5
	1.9601		3.5545		6.6571									5.0
	1.6568		3.0066		5.5019									5.6
	0.690		0.690		0.690									JL
	2.6799		5.2845		10.5289									6.3
	2.3538	2.8931	4.3679	5.7591	9.2492	11.3721	12.2959							7.1
1.2839	2.0651	2.5287	3.8397	4.7220	8.1117	9.9364	10.7071	13.2150						8.0
1.1082	1.8080	2.2077	3.3666	4.1290	7.0946	8.6683	9.3069	11.4516						9.0
0.9553	1.5782	1.9236	2.9408	3.6012	6.2359	7.5421	8.1419	9.9054	13.82					10
0.8216	1.3718	1.6710	2.5560	3.1293	5.4896	6.5975	7.1415	8.6256	12.15	14.70				11.2
0.7041	1.1198	1.4455	2.0404	2.7059	4.4208	5.7819	5.6707	7.5325	9.45	12.87				12.5
0.6231	0.9578	1.1799	1.7645	2.1567	3.7953	4.6544	4.8559	5.9832	8.09	10.02	15.28			14
0.4721	0.8265	1.0050	1.5114	1.8573	3.2226	3.9795	4.1218	5.1024	6.86	8.54	12.83	16.31		16
0.4044	0.6730	0.8639	1.2153	1.5843	2.5603	3.3655	3.2191	4.3129	5.49	7.20	10.74	13.62		18
0.3434	0.5438	0.7022	1.1227	1.2714	2.2165	2.6665	2.7632	3.3611	4.90	5.75	8.99	11.37		20
0.3032		0.5653		1.1726		2.3021		2.8777		5.12		9.49		22.4
0.2542														25
														28
0.290	0.290	0.290	0.690	0.690	0.690	0.690	0.690	0.690	0.690	0.690	0.690	0.690		JL
	0.7409		0.8137		1.6434		3.7138		5.010		10.05			22.4
	0.6011	0.7603	0.6552	0.8546	1.3216	1.7165	3.0172	3.8090	3.991	5.183	8.05	10.46		25
0.2974	0.5232	0.6156	0.5669	0.6857	1.1429	1.3759	2.6255	3.0886	3.426	4.121	6.43	8.36		28
0.2413	0.4553	0.5351	0.4909	0.5920	0.9874	1.1871	2.2815	2.6841	2.937	3.533	5.53	6.66		31.5
0.1960	0.3689	0.4650	0.3943	0.5113	0.8515	1.0232	1.9780	2.3293	2.511	3.024	4.74	5.72		35.5
0.1705	0.3198	0.3759	0.3398	0.4091	0.7323	0.8803	1.7091	2.0167	2.139	2.581	4.04	4.89		40
0.1483	0.2896	0.3254	0.3064	0.3516	0.6501	0.7552	1.4696	1.7402	1.813	2.195	3.44	4.17		45
0.1287	0.2106	0.2944	0.2241	0.3165	0.4647	0.6692	1.1988	1.4943	1.477	1.858	2.73	3.53		50
0.1114	0.1782	0.2145	0.1886	0.2322	0.3961	0.4786	1.0146	1.2189	1.234	1.514	2.32	2.80		56
0.0793	0.1491	0.1812	0.1569	0.1949	0.3344	0.4073	0.8665	1.0304	1.042	1.263	1.95	2.38		63
0.0669	0.1216	0.1515	0.1289	0.1619	0.2818	0.3431	0.6700	0.8790	0.803	1.065	1.48	2.00		71
0.0564	0.1034	0.1235	0.1093	0.1330	0.2352	0.2893	0.5346	0.6798	0.633	0.821	1.35	1.51		80
0.0435	0.0865	0.1050	0.0911	0.1126	0.1898	0.2410	0.4883	0.5418	0.575	0.646	1.11	1.38		90
0.0398		0.0877		0.0937		0.1943		0.4946		0.587		1.13		100
0.0329														112
0.045	0.100	0.100	0.100	0.100										JL
	0.1080		0.1130		0.2401		0.6098		0.679		1.344			100
	0.0875	0.1089	0.0916	0.1149	0.1936	0.2436	0.5276	0.6147	0.582	0.688	1.158	1.363		112
0.0403	0.0760	0.0881	0.0796	0.0930	0.1681	0.1962	0.4561	0.5316	0.501	0.590	0.995	1.172		125
0.0331	0.0660	0.0766	0.0691	0.0808	0.1457	0.1702	0.3653	0.4594	0.398	0.507	0.854	1.007		140
0.0292	0.0570	0.0664	0.0598	0.0701	0.1254	0.1474	0.3140	0.3677	0.340	0.403	0.730	0.863		160
0.0258	0.0498	0.0573	0.0524	0.0606	0.1065	0.1268	0.2809	0.3158	0.303	0.344	0.644	0.737		180
0.0211	0.0380	0.0501	0.0393	0.0530	0.0811	0.1076	0.2157	0.2825	0.233	0.306	0.488	0.651		200
0.0183	0.0299	0.0382	0.0310	0.0398	0.0681	0.0820	0.1819	0.2170	0.196	0.236	0.417	0.492		224
0.0136	0.0250	0.0301	0.0259	0.0314	0.0569	0.0688	0.1506	0.1829	0.162	0.198	0.353	0.421		250
0.0115	0.0210	0.0251	0.0218	0.0262	0.0463	0.0574	0.1297	0.1514	0.138	0.163	0.311	0.356		280
0.0096	0.0177	0.0211	0.0184	0.0221	0.0424	0.0467	0.1097	0.1299	0.117	0.139	0.261	0.314		315
0.0080	0.0162	0.0177	0.0169	0.0186	0.0363	0.0427	0.0916	0.1103	0.097	0.118	0.212	0.263		355
0.0068		0.0162		0.0170		0.0366		0.0920		0.098		0.213		400
0.0056														450

MTH1
MTH2
MTH3
MTH4

TYPES MTB2...,MTB3...,MTB4...
SIZES 1...13

Bevel-helical gear units

Mass Moments of Inertia J_1

2 kgm²)
1 kgm²)
1 JL.
2 :$J_2=i_N^2 \times J_1$.
1

The mass moment of inertia J_2 in kgm² refers to the output shaft d_2 of a gear unit and is calculated with the following formula:$J_2=i_N^2 \times J_1$.
The mass moment of inertia J_1 in kgm² refers to the input shaft d_1 of a gear unit without fan.
For shaft d with fan, JL has to be added.

1 kgm²) 1 Mass moment of inertia J_1 in kgm² refering to shaft d_1

i_N	Gear unit sizes												
	1	2	3	4	5	6	7	8	9	10	11	12	13
5.0	0.0021	0.0049	0.0314	0.0314	0.0707		0.1988		0.4403		1.2743		2.7700
5.6	0.0019	0.0043	0.0096	0.0262	0.0604		0.1691		0.3744		1.0697		2.3418
6.3	0.0016	0.0035	0.0076	0.0228	0.0495	0.0805	0.1365	0.2276	0.2988	0.4986	0.8428	1.4755	1.8526
7.1	0.0014	0.0033	0.0071	0.0197	0.0420	0.0687	0.1207	0.1931	0.2543	0.4229	0.7257	1.2273	1.6222
8.0	0.0012	0.0027	0.0057	0.0152	0.0321	0.0555	0.0875	0.1542	0.1874	0.3346	0.5250	0.9645	1.1744
9.0	0.0010	0.0023	0.0052	0.0129	0.0295	0.0470	0.0786	0.1352	0.1709	0.2837	0.4753	0.8231	1.0617
10	0.00084	0.0018	0.0039	0.0104	0.0250	0.0363	0.0681	0.0985	0.1456	0.2097	0.4072	0.6005	0.9214
11.2	0.00079	0.0017	0.0037	0.0093	0.0214	0.0327	0.0590	0.0879	0.1241	0.1897	0.3493	0.5392	0.7959
12.5	0.00054	0.0012	0.0028			0.0274		0.0752		0.1599		0.4557	
14	0.00043	0.0098	0.0023			0.0235		0.0650		0.1363		0.3909	
16	0.00040	0.0082	0.0019										
18	0.00031	0.0063	0.0015										
JL	0.005	0.006	0.010	0.020		0.045	0.100	0.100	0.100	0.100	0.290	0.290	0.690
12.5				0.0073	0.0159		0.0445		0.0995		0.2740		0.6152
14				0.0071	0.0156		0.0436		0.0967		0.2671		0.6026
16				0.0060	0.0136	0.0174	0.0368	0.0487	0.0842	0.1084	0.2344	0.3029	0.5141
18				0.0059	0.0133	0.0168	0.0363	0.0474	0.0825	0.1040	0.2300	0.2925	0.5068
20			0.0023	0.0055	0.0124	0.0145	0.0339	0.0393	0.0770	0.0897	0.2146	0.2527	0.4742
22.4			0.0021	0.0047	0.0105	0.0141	0.0282	0.0385	0.0657	0.0870	0.1822	0.2461	0.4026
25			0.0017	0.0039	0.0083	0.0130	0.0243	0.0356	0.0534	0.0805	0.1462	0.2270	0.3196
28			0.0015	0.0036	0.0077	0.0111	0.0209	0.0296	0.0452	0.0687	0.1286	0.1926	0.2714
31.5			0.0013	0.0029	0.0062	0.0087	0.0162	0.0253	0.0348	0.0555	0.0936	0.1539	0.2004
35.5			0.0011	0.0024	0.0055	0.0080	0.0137	0.0218	0.0315	0.0470	0.0837	0.1349	0.1819
40			0.0089	0.0019	0.0041	0.0065	0.0110	0.0169	0.0265	0.0363	0.0720	0.0983	0.1539
45			0.0083	0.0018	0.0039	0.0057	0.0098	0.0142	0.0227	0.0326	0.0626	0.0877	0.1312
50			0.0057	0.0013	0.0030	0.0043	0.0081	0.0114	0.0178	0.0274	0.0469	0.0751	0.1028
56			0.0046	0.0011	0.0025	0.0040	0.0068	0.0102	0.0146	0.0235	0.0384	0.0649	0.0853
63			0.00042	0.0087	0.0021	0.0031	0.0059	0.0084	0.0124	0.0184	0.0326	0.0489	0.0725
71			0.00033	0.0067	0.0016	0.0026	0.0047	0.0070	0.0100	0.0150	0.0262	0.0400	0.0585
80						0.0021		0.0061		0.0128		0.0339	
90						0.0016		0.0048		0.0102		0.0272	
JL			0.005	0.006	0.010	0.010	0.020	0.020	0.045	0.045	0.100	0.100	0.290
80					0.0024		0.0057		0.0129		0.0350		0.0795
90					0.0021		0.0049		0.0110		0.0291		0.0678
100					0.0018	0.0024	0.0040	0.0058	0.0089	0.0131	0.0250	0.0358	0.0549
112					0.0016	0.0022	0.0037	0.0049	0.0079	0.0111	0.0215	0.0297	0.0465
125					0.0013	0.0018	0.0030	0.0040	0.0064	0.0087	0.0167	0.0254	0.0359
140					0.0011	0.0016	0.0025	0.0038	0.0057	0.0081	0.0141	0.0219	0.0323
160					0.00091	0.0013	0.0020	0.0031	0.0043	0.0065	0.0113	0.0170	0.0271
180					0.00085	0.0011	0.0018	0.0025	0.0040	0.0058	0.0101	0.0143	0.0233
200					0.00058	0.00092	0.0013	0.0020	0.0031	0.0043	0.0083	0.0114	0.0182
224					0.00047	0.00086	0.0011	0.0018	0.0025	0.0041	0.0070	0.0102	0.0149
250					0.00043	0.00059	0.00089	0.0014	0.0021	0.0031	0.0060	0.0084	0.0127
280					0.00033	0.00047	0.00069	0.0011	0.0016	0.0026	0.0048	0.0071	0.0102
315					0.00028	0.00043	0.00058	0.00091	0.0014	0.0021	0.0040	0.0061	0.0081
355						0.00034		0.00069		0.0016		0.0048	
400						0.00028		0.00059		0.0014		0.0041	

MTB2
MTB3
MTB4

Bevel-helical gear units

J_1
Mass Moments of Inertia J_1

TYPES MTB2...,MTB3...,MTB4...

SIZES 14...26

$_2$ kgm²)
$_1$ kgm²)
$_1$ J_L.

$_2$ $_1$:$J_2=i_N^2 \times J_1$.

The mass moment of inertia J_2 in kgm² refers to the output shaft d_2 of a gear unit and is calculated with the following formula:$J_2=i_N^2 \times J_1$.
The mass moment of inertia J_1 in kgm² refers to the input shaft d_1 of a gear unit without fan.
For shaft d with fan, J_L has to be added.

$_1$ kgm²) $_1$ Mass moment of inertia J_1 in kgm² refering to shaft d_1

Gear unit sizes													iN
14	15	16	17	18	19	20	21	22	23	24	25	26	
	6.1753												5.0
	5.3415	6.6007	10.3549										5.6
2.5972	4.4466	5.6746	8.5744										6.3
3.0962	3.7296	4.7073	7.1324	9.0369									7.1
2.0500	2.7508	3.9356	5.0109	7.4979									8.0
1.7802	2.5048	2.9105	4.5186	5.2942									9.0
1.2968	2.1468	2.6398	3.8518	4.7581									10
1.1653	1.7964	2.2495	3.3164	4.0340									11.2
1.0001		1.8843		3.4725									12.5
0.8634													14
													16
													18
0.690	0.690	0.690	0.690	0.690									JI
	1.6952		3.4843		7.8896		8.3877						12.5
	1.6558	1.7505	3.4451	0.5988	7.7305	8.0659	8.2186	8.6052					14
0.6638	1.4797	1.7023	3.0661	3.5397	6.9989	7.8400	7.4408	8.3643					16
0.6456	1.4545	1.5152	3.0418	3.1370	6.8398	6.9560	7.2717	7.4142					18
0.5424	1.3716	1.4843	2.8806	3.1004	6.3626	6.8399	6.7643	7.2972	12.93				20
0.5318	1.1459	1.3952	2.4284	2.9267	5.4882	6.4527	5.8027	6.8842	10.90	13.15	13.51		22.4
0.4938	0.9016	1.1644	1.9196	2.4645	4.5614	5.5587	4.8075	5.8965	8.99	11.07	11.03		25
0.4189	0.7728	0.9159	1.6758	1.9474	3.8203	4.6166	4.0148	4.8809	7.45	9.12	9.06	11.34	28
0.3317	0.5615	0.7842	1.2159	1.6981	2.8212	3.8639	2.9719	4.0729	5.24	7.55	6.49	9.30	31.5
0.2812	0.5062	0.5703	1.0968	1.2332	2.5642	2.8550	2.6917	3.0169	4.70	5.32	5.76	6.68	35.5
0.2079	0.4306	0.5137	0.9481	1.1114	2.1920	2.5928	2.2890	2.7297	3.98	4.77	4.78	5.92	40
0.1882	0.3694	0.4363	0.8188	0.9592	1.8351	2.2138	1.9182	2.3180	3.42	4.03	4.11	4.90	45
0.1587	0.2765	0.3743	0.5713	0.8283	1.4000	1.8537	1.4641	1.9429	2.58	3.46	3.11	4.21	50
0.1353	0.2284	0.2802	0.4692	0.5787	1.1439	1.4144	1.1946	1.4832	2.16	2.61	2.58	3.19	56
0.1060	0.1956	0.2314	0.4054	0.4750	1.0429	1.1553	1.0845	1.2097	1.98	2.19	2.33	2.65	63
0.0878	0.1587	0.1981	0.3333	0.4101	0.8730	1.0522	0.9051	1.0970	1.62	2.01	1.89	2.38	71
0.0745		0.1605		0.3369		0.8802		0.9147		1.64		1.93	80
0.0601													90
0.290	0.290	0.290	0.690	0.690	0.690	0.690	0.690	0.690	0.690	0.690	0.690	0.690	JI
	0.2219		0.2276		0.4955		1.4120		1.519		3.158		80
	0.1883	0.2234	0.1931	0.2307	0.4203	0.5009	1.1776	1.4199	1.261	1.533	2.645	3.188	90
0.0807	0.1507	0.1896	0.1542	0.1956	0.3327	0.4248	0.9261	1.1838	0.991	1.272	2.087	2.669	100
0.0688	0.1323	0.1516	0.1352	0.1561	0.2821	0.3360	0.7924	0.9309	0.844	0.999	1.810	2.106	112
0.0556	0.0964	0.1330	0.0985	0.1367	0.2085	0.2848	0.5767	0.7962	0.617	0.851	1.320	1.825	125
0.0471	0.0861	0.0969	0.0879	0.0997	0.1887	0.2106	0.5190	0.5796	0.553	0.622	1.185	1.331	140
0.0364	0.0738	0.0866	0.0752	0.0889	0.1591	0.1905	0.4404	0.5215	0.466	0.557	1.015	1.194	160
0.0327	0.0638	0.0742	0.0650	0.0760	0.1357	0.1605	0.3778	0.4423	0.400	0.470	0.876	1.022	180
0.0274	0.0481	0.0641	0.0490	0.0657	0.1063	0.1368	0.2829	0.3794	0.300	0.403	0.598	0.882	200
0.0235	0.0393	0.0483	0.0400	0.0495	0.0880	0.1071	0.2335	0.2842	0.247	0.302	0.504	0.620	224
0.0184	0.0333	0.0395	0.0339	0.0404	0.0747	0.0887	0.1998	0.2345	0.211	0.249	0.438	0.508	250
0.0151	0.0267	0.0335	0.0272	0.0343	0.0603	0.0753	0.1619	0.2007	0.170	0.212	0.355	0.441	280
0.0128	0.0217	0.0269	0.0221	0.0275	0.0493	0.0607	0.1289	0.1625	0.136	0.172	0.286	0.358	315
0.0103		0.0218		0.0223		0.0497		0.1294		0.137		0.288	355
0.0082													400

MTB2
MTB3
MTB4

TYPES MTH2...MTH4...,MTB2...MTB4...

Gear units Oil Supply for Vertical

SIZES 4...18

Oil supply variants

1.

Oil supply variants for vertical gear untis can be derived from table 1.

1 Table 1

1) Types	Size	Dip lubrication	Forced lubrication, flanged on pump	Forced lubrication, motor pump
MTH2.V	4 5...12 13...18	X X -	- X X	- - -
MTH3.V	5...12 13...18	X -	X X	X X
MTH4.V	7...12 13...18	X -	X -	X X
MTB2.V	4 5...12 13...18	X X -	- X X	- X X
MTB3.V	4 5...12 13...18	X X -	- X X	- X X
MTB4.V	5...12 13...18	X -	X -	X X

X= X=Possible variants

Preferred order:

up to size 6: dip lubrication: from size 7 up: forced lubrication

Notes on the individual oil supply variants

Dip lubrication:

in case of dip lubrication, all parts to be lubricated are lying in the oil.
an oil compensating tank has been fitted for oil ex−pansion.

Forced lubrication:

in case of fored lubrication, all parts which are not lying in oil are splash lubricated by means of a flanged−on pump or by a separate motor pump. criteria for selection, see page 129 −130

TYPES MTH2,MTH3,MTH4,MTB2,MTB3,MTB4

SIZES 5...14

Gear units Forced Lubrication for flanged on pump Vertical

4Table4

40℃ ISO-VG mm2 / s (cst) Viscosity ISO-VG at 40℃ in mm2 / s (cst)	Permissible temperature limit in℃ for forced feed lubrication			
	Mineraloil		Syntheticoil	
	min	max	min	max
VG220	10	80	0	90
VG320	15	90	5	100
VG460	20	95	10	105

1800cst 25cst

Forced lubrication:
In case of forced lubrication,the operating Viscosity 1800cst must not be exceeded during starting.
Aminimum operating viscosity of 25cst must been sured. If the temperatures are below the values as listed in table4, dip Lubrication has to be provided or the oil must Beheated.

5 Table 5

Assignment of flanged-on pumps to gear units

Types	Size	Flanged-on pump size	Types	Size	Flanged-on pump size
MTH2.V	5- 8	SNBY5/1.6	MTH2.V	5- 8	SNBY5/1.6
	9- 14	SNBY16/1.6		9- 14	SNBY16/1.6
MTH3.V	5- 8	SNBY5/1.6	MTH3.V	5- 9	SNBY5/1.6
	9- 14	SNBY16/1.6		10- 14	SNBY16/1.6
MTH4.V	7- 8	SNBY5/1.6	MTH4.V	5- 8	SNBY5/1.6
	9- 12	SNBY16/1.6		9- 11	SNBY16/1.6

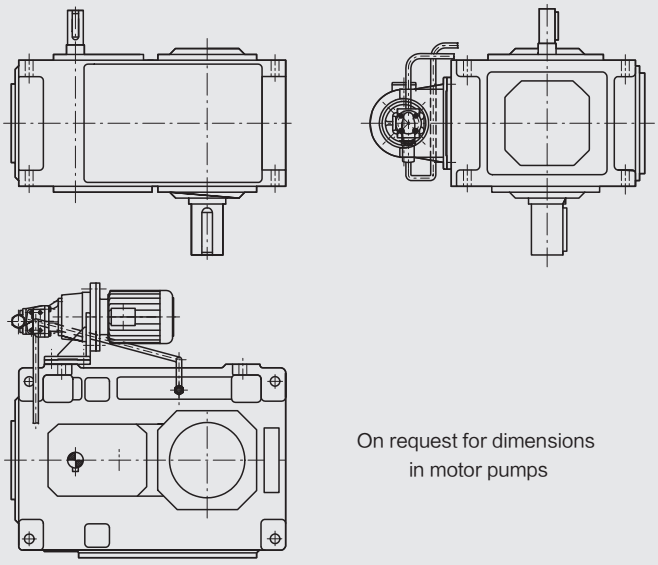
1) A,B,C,D,E,F
DesignA,B,C,D,E,F

TYPES MTH2,MTH3,MTH4,MTB2,MTB3,MTB4

SIZES 5...14

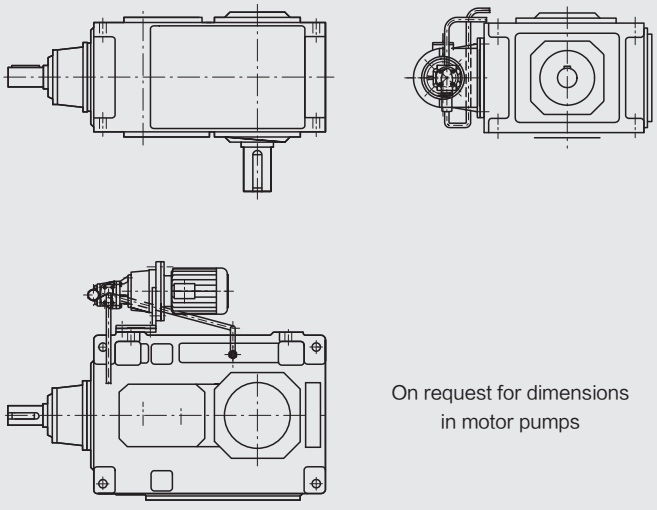
Gear units Forced Lubrication for motor pump Vertical

MTH2.V,MTH3.V,MTH4.V



On request for dimensions in motor pumps

MTB2.V,MTB3.V, MTB4.V



On request for dimensions in motor pumps

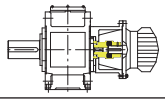
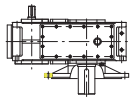
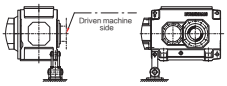
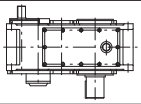
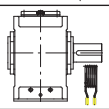
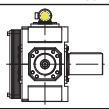
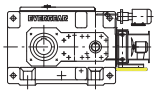
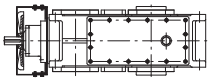
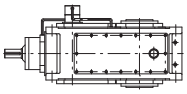
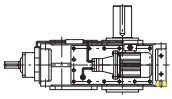
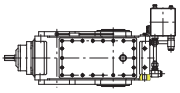
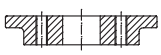
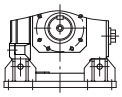
6 Table 6

Assignment of motor pumps to gear units

Types	Size	Flanged-on pump size	Types	Size	Flanged-on pump size
MTH2.V	5- 8	CB-B6JZ0.37kw	MTB2.V	5- 8	CB-B6JZ0.37kw
	9- 14	CB-B16JZ0.75kw		9- 14	CB-B16JZ0.75kw
MTH3.V	5- 8	CB-B6JZ0.37kw	MTB3.V	5- 9	CB-B6JZ0.37kw
	9- 14	CB-B16JZ0.75kw		10- 14	CB-B16JZ0.75kw
MTH4.V	7- 8	CB-B6JZ0.37kw	MTB4.V	5- 8	CB-B6JZ0.37kw
	9- 12	CB-B16JZ0.75kw		9- 11	CB-B16JZ0.75kw

1) A,B,C,D,E,F
DesignA,B,C,D,E,F

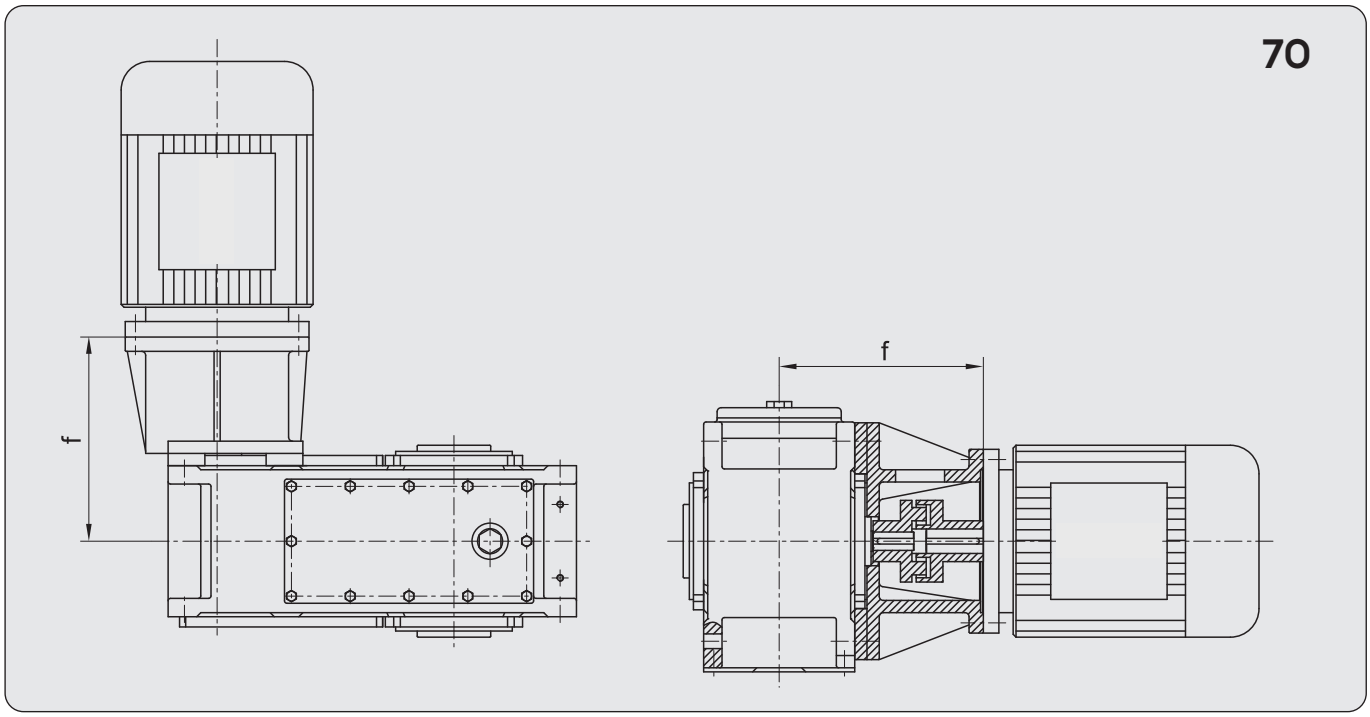
Add-on piece

code	Add-on piece	Page	Representation
70	Motor bell housing	See page 131 –132	
74	Mounting flange	See page 134	
75	Mounting flange	See page 135	
78	Back stop	—·—·—	
79	The built –in cooling coil	—·—·—	
80	External water–cooled oil cooler	—·—·—	
81	External air–cooled oil cooler	—·—·—	
84	cooling fan	See page 54 –82	
85	forced lubrication of mechanical oil pump	—·—·—	
86	forced lubrication of oil pump motor set	See page 130	
87	Dip lubrication of oil compensating tank	See page 90 –110	
88	Output end plate	See page 116 –123	
89	PT00 PT100 temperature sensor	—·—·—	
90	Output guard	—·—·—	
96	Vertical mounting base	on request	

TYPES MTH2...,MTH3...,MTH4...

Gear units

Flange to motor



MTH2..					
Motor Power	Size				
	4	5/6	7/8	9	10
	f mm				
11–15kW	403				
18.5–22kW	403	428			
30kW	405	430	490		
37–45kW	442	467	527	567	572
55kW		467	527	567	572
75–90kW			527	567	572

MTH4..						
Motor Power	Size					
	7/8	9		10		11/12
	f mm					
		i_N Ratio i_N				
		⩾200	⩽180	⩾200	⩽180	
2.2–4kW	318					
5.5–7.5kW	341	379		384		
11–15kW	383	421	430	426	435	493
18.5–22kW		421	430	426	435	493
30kW			432		437	495
37–45kW			469		474	532
55kW						532

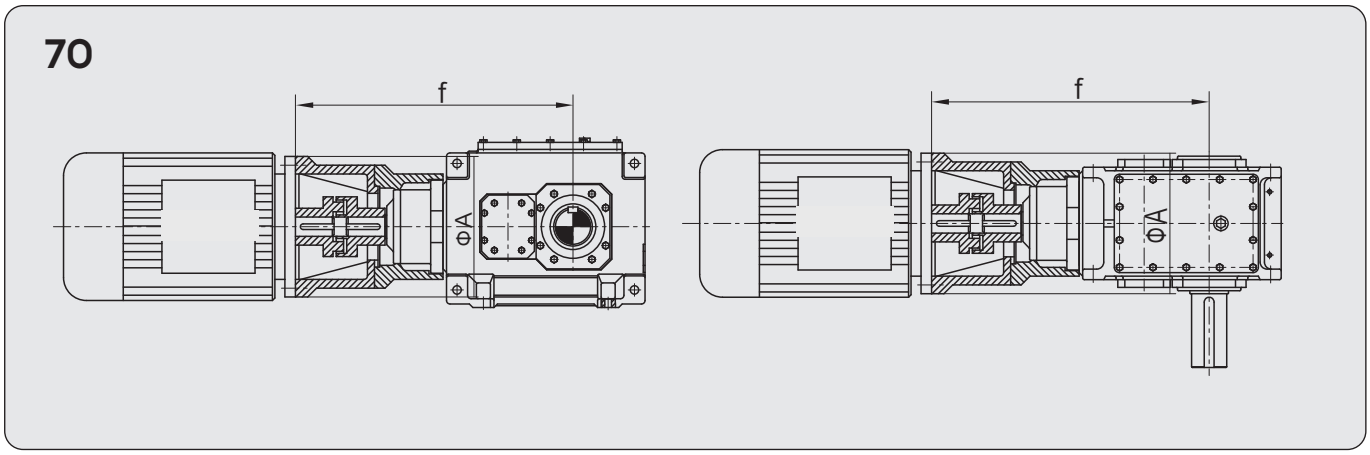
MTH3..											
Motor Power	Size										
	5/6		7/8		9		10		11/12		
	f mm										
	i_N Ratio i_N										
	⩾50	⩽45	⩾50	⩽45	=50–63 ⩾71	⩽45	⩾63	⩽56	⩾71	=50–63	⩽45
11–15kW	316		388		463	508	468	513			
18.5–22kW	357	376	388	413	463	508	468	513			
30kW	357	376	390	415	465	510	470	515			
37–45kW	359	378	427	452	502	547	507	552	507	532	577
55kW		415	427	452	502	547	507	552	507	532	577
75–90kW		415			502	547	507	552	507	532	577

Note: Data in the above table calculated based on 4 pole motor. Fitting dimensions for standard motors on request

TYPES MTB2...,MTB3...,MTB4...

Gear units

Flange to motor



MTB2..								
Motor Power	Size							
	4		5		6	7		8
	f	A	f	A	f	f	A	f
	mm							
11–15kW	708	350						
18.5–22kW	708	350						
30kW	710	410	790	400	825			
37–45kW			827	450	862	957	450	1002
55kW						957	550	1002
75–90kW						957	550	1002

MTB3..														
Motor Power	Size													
	4		5		6	7		8	9		10	11		12
	f	A	f	A	f	f	A	f	f	A	f	f	A	f
	mm													
2.2–4kW	648	250												
5.5–7.5kW	671	300	756	350	791									
11–15kW	713	350	788	350	823	933	400	978						
18.5–22kW	713	350	788	350	823	933	400	978	1053	420	1103			
30kW	715	400	780	400	825	935	400	980	1055	420	1105	1240	400	1310
37–45kW			827	450	862	972	450	1017	1092	450	1142	1277	450	1347
55kW						972	550	1017	1092	550	1142	1277	550	1347
75–90kW						972	550	1017	1092	550	1142	1277	550	1347

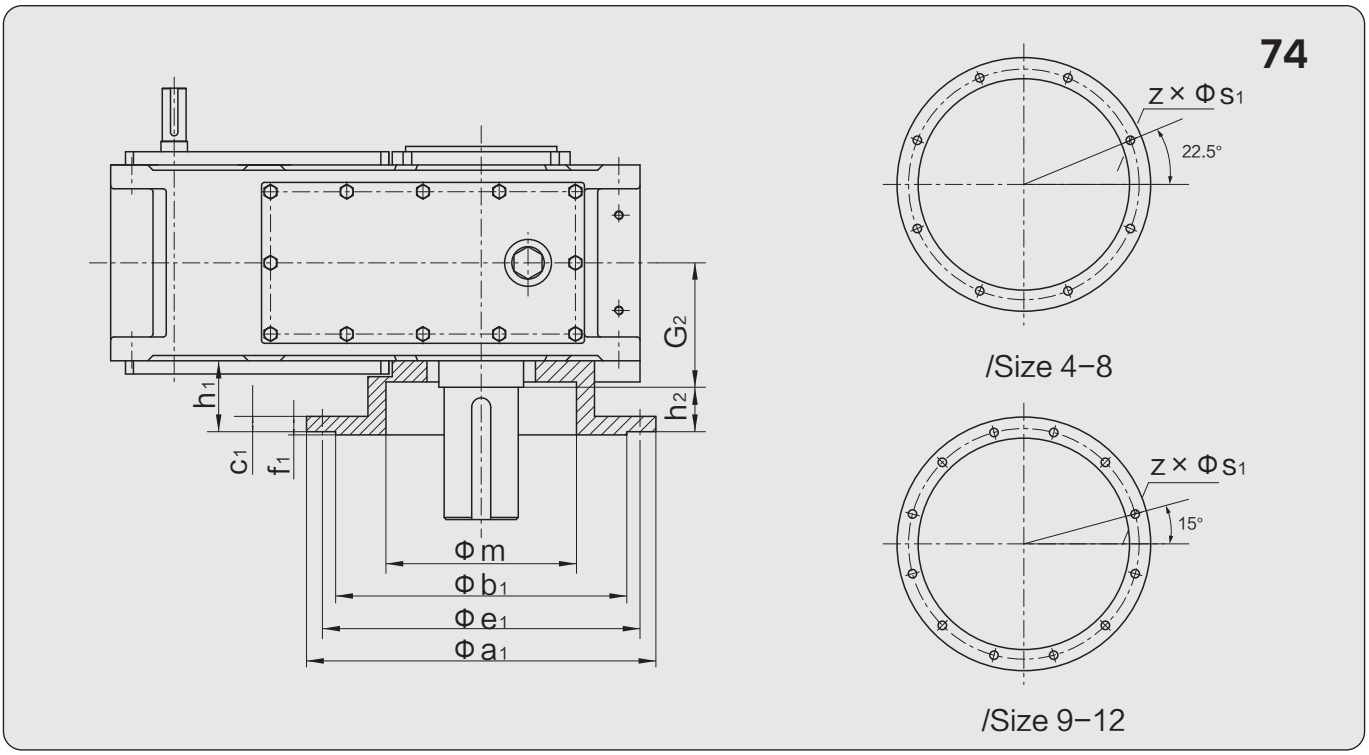
MTB4..																							
Motor Power	Size																						
	5		6		7		8		9		10		11		12		13		14		15		16		17		18
	f	A	f	f	A	f	f	A	f	f	A	f	f	A	f	f	A	f	f	A	f	f	A	f	f	A	f
	mm																										
2.2–4kW	753	250	788	873	250	918		350																			
5.5–7.5kW	776	300	811	896	300	941	1021	350	1071																		
11–15kW	818	350	853	938	350	983	1053	350	1103	1253	400	1323															
18.5–22kW	818	350	853	938	350	983	1053	400	1103	1253	400	1362	1423	420	1493												
30kW				940	400	985	1055	450	1105	1255	400	1362	1423	420	1493	1682	400	1728	1730	400	1790						
37–45kW							1092		1142	1292	450	1362	1462	450	1532	1719	450	1765	1767	450	1827						
55kW										1292	550	1325	1462	550	1532	1719	550	1765	1767	550	1827						
75–90kW										1292	550	1323	1462	550	1532	1719	550	1765	1767	550	1827						

Note: Data in the above table calculated based on 4 pole motor. Fitting dimensions for standard motors on request .

TYPES MTH2,MTH3,MTH4,MTB3,MTB4

Gear units

Mounting flange



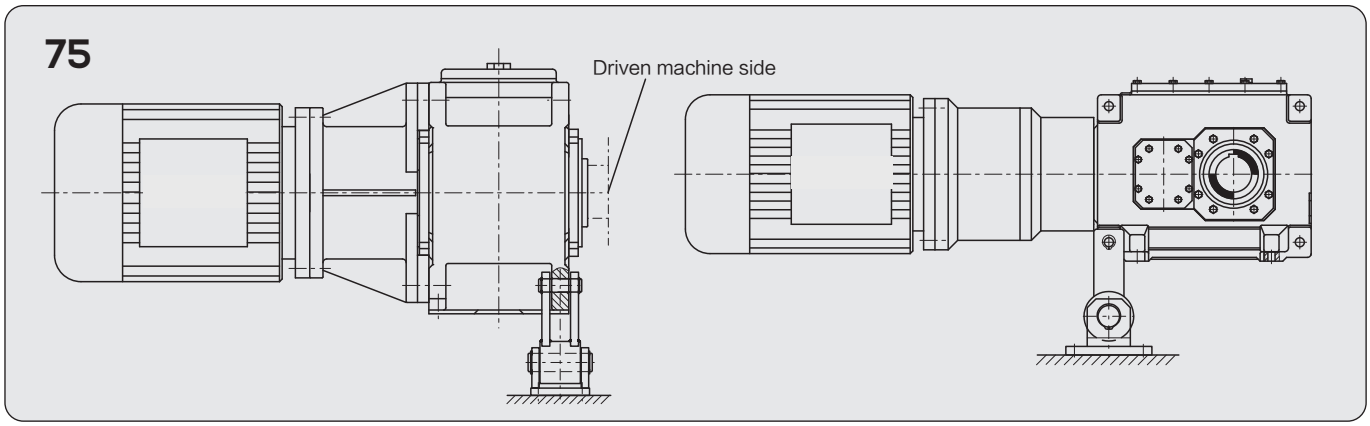
Size	a1	b1	c1	e1	f1	h1	h2	mmax	z × s1	Add.weight	G2	
	mm									kg	MTH2/3/4,MTB3/4	MTB2
4	450	350f7	24.5	400	5	82.5	50	153	8*17.5	40	140	170
5	550	450f7	25	500	5	90	52.5	190	8*17.5	60	165	200
6	550	450f7	25	500	5	90	52.5	245	8*17.5	65	165	200
7	660	550f7	25	600	5	135	90	250	8*22	90	195	235
8	660	550f7	30	600	5	135	90	255	8*22	100	195	235
9	660	550f7	29	600	6	134	84	290	12*22	150	235	270
10	660	550f7	34	600	6	134	89	320	12*26	160	235	270
11	800	680f7	44	740	6	184	129	340	12*26	210	270	320
12	800	680f7	44	740	6	184	129	360	12*26	220	270	320

Possible types, size, designs

Size	MTH2.H	MTH2.V	MTH3.H\MTH4.H MTB2.H\MTB3.H\MTB4.H	MTH3.V\MTH4.V MTB2.V\MTB3.V\MTB4.V
4	A+B	B	A+B+C+D	B+C
5				
6				
7				
8				
9				
10	A+B+C+D	B+C		
11	A+B	B		
12	A+B+C+D	B+C		

TYPES MTH2,MTH3,MTH4,MTH2,MTH3,MTH4

Gear units Vibration reducing torque supports

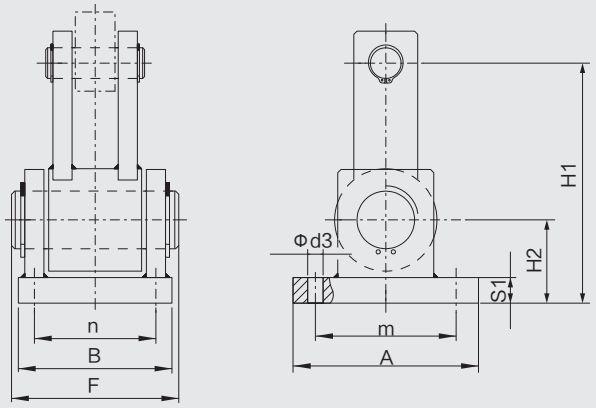


The maximum transmissible torque is limited by the torque support: Tmax=f_{DMST} * T_{2Nenn}

1 Table 1

Type	f_{DMST} Peak torque factor f_{DMST} for torque support															
	Gear unit size															
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19–26
MTH2.	1.3	1.9	1.6	2.0	1.7	1.5	1.3	2.0	2.0	–	–	–	–	–	–	On request
MTH3.	–	2.0	1.7	2.0	2.0	1.6	1.4	2.0	2.0	2.0	1.9	1.5	1.4	1.2	1.2	
MTH4.	–	–	–	2.0	2.0	1.7	1.4	2.0	2.0	2.0	2.0	1.7	1.5	1.3	1.2	
MTB2.	1.2	1.2	1.2	1.3	1.2	1.2	1.2	1.9	1.8	1.4	1.3	–	–	–	–	
MTB3.	1.2	1.6	1.4	1.8	1.6	1.2	1.2	2.0	2.0	1.8	1.7	1.4	1.3	1.2	1.2	
MTB4.	–	2.0	1.7	2.0	2.0	1.7	1.4	1.2	1.2	2.0	2.0	1.6	1.5	1.3	1.2	

Note: The values in the table 1 are minimum values. Dependent on direction of rotation and motortype, higher peak torques may possibly be allowed. Please consult us!



- Torque support on driven machine side.(Helical gear unit in C, D, G, H, I design on request only.)
- For gear units without motor bell housing only coupings not transmitting shear forces are allowed.
- Torque support in combination with fan on request only.

2 Table 2

Gear unit size	A	B	Φd3	H1	H2	m	n	S1	F	Weight
	mm									kg
4	160	110	19	200	65	120	70	15	116	6.8
5+6	200	160	19	250	90	160	120	20	170	16
7+8	320	200	19	400	140	260	130	25	195	37
9+10										42
11+12	400	300	24	500	175	320	240	30	320	155
13+14										159
15+16										163
17+18										167
19–26	On request									