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MAGNUS IN - LINE HELICAL GEARBOX





Gearbox Manufacturing Facility, India

Rotomotive Powerdrives India Ltd is an Italian joint venture company operating in India since 2006. It has access to European technology and know-how from Motive srl, one of the joint venture partners and sources parts and components from Indian suppliers. We have a modern manufacturing facility in Gujarat, India. Rotomotive has the capacity to design, prototype and manufacture custom motors for various applications.

Our modern gear manufacturing facility is equipped with advanced CNC gear production and inspection systems, designed to deliver high precision, repeatability, and consistent quality with optimized production lead times. The plant features state-of-the-art gear hobbing machines for precise gear cutting, supported by cylindrical grinding and profile grinding machines that ensure superior surface finish, accurate tooth geometry, and tight dimensional tolerances.

Gear housings are machined on high-precision HMCs and VMCs, delivering excellent dimensional accuracy and robust assembly quality. Comprehensive quality assurance is ensured through coordinate measuring machines (CMMs) and lead-profile testing machines, enabling precise inspection of gear profiles, lead characteristics, and critical dimensional parameters.



Gearbox Hobbing



Gearbox Assembly



Testing Line



Gear Inspection



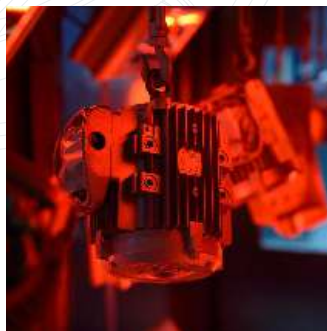
CMM for Mechanical Inspection



Shop Floor



Our Manufacturing Facility in Italy



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TECHNICAL CHARACTERISTICS



MG008 with detachable foot and flange are in aluminium construction. In MG012 to MG021, the main body comprises of a single piece Aluminium casting with optimum balance between weight, rigidity

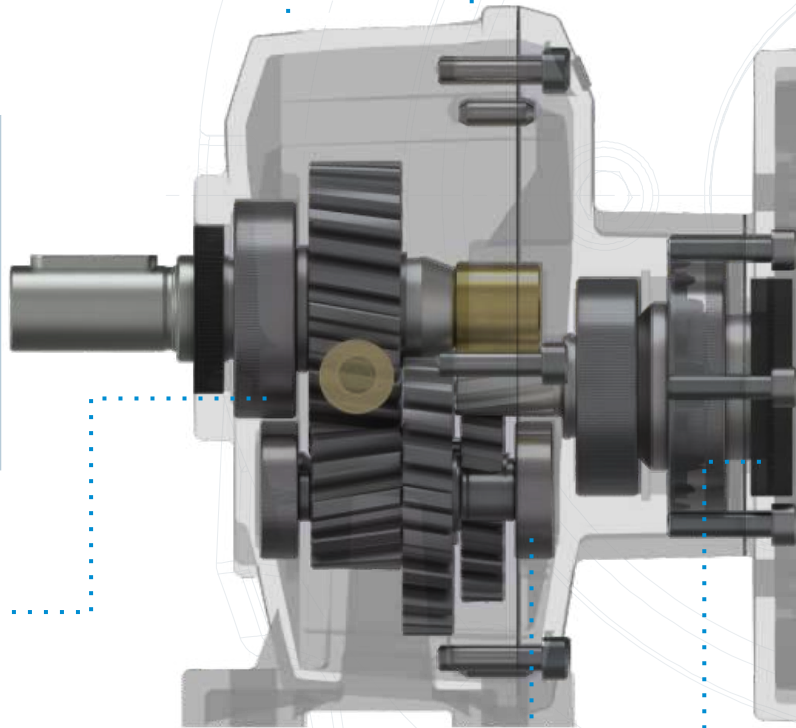


Compactly designed which is ideal for low-space mounting application

Other than foot mounting Modular design with detachable output flange and easy and quick conversion between universal and flange mounting



MG085 to MG300 taper roller bearing on output shaft provide better load carrying capacity and most suitable for mixture and agitator application



Choice of hollow input flanges permits direct mounting of any standard IEC motors

No overhang shafts or gears which results higher service factor and better load carrying capacity

The input and output stages are equipped with double-lip oil seals to provide better sealing efficiency and reliable dust protection

Which features determine the service factor offered by a helical gearbox ?

The service factor of a gearbox is its capacity to withstand operating load and overloads, a certain number of starts, the duration of operating time, mechanical shocks and vibrations. Thus, higher the service factor, greater is the possibility of trouble free operation and increased life. Without aiming to be completely exhaustive, we list here the main features that influence the service factor.



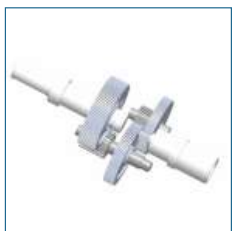
Use of high strength steels like 20MnCr5 and case hardening to 58 +2 HRC reduce the wear rate in wheels. All wheels are profile ground to Din 3962 class 6 accuracy for low noise and high efficiency.



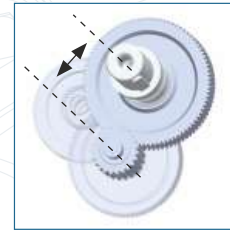
Tapered roller bearing on the output stage to withstand higher axial loads. The absence of overhang gears in the magnus gearbox further enhances its torque transmission capability



Shafts are made from 42CrMo4 steel and tempered to reach hardness of 23-35 HRC, thus increasing their capacity to withstand shearing stresses and torsion effect.



Optimal ratios (between 2 and 6) in the several stages, together with appropriate centre distances, result in higher number of teeth and size (module) of each wheel and better torque transmission fractioning through various stages. This improves the overall durability.



Amongst all parts, the last stage gears are subjected to highest mechanical stresses. Higher centre distance which in turn results in higher module considerably increases the service factor. MAGNUS excels in the area (see measures at last page)



Dual bearing support on the input shaft ensures precise alignment of the first stage gears and reduces vibrations and consequent gear wear



Oversized bearings (see MAGNUS bearing list), allow the gearbox to withstand higher operating loads



Mechanical parts locked in their position by snap rings and spacers. This ensures better absorption of axial thrust and prolongs the life of bearings

CALCULATION OF PERFORMANCE PARAMETERS

Rated output torque M_{n2} (Nm)

Torque output transmissible under uniform loading and referred to the input speed n_1 and the corresponding output speed n_2 . The output torque can be calculated with the following formula:

$$M_{n2} = \frac{P_{n1} [\text{kW}] \cdot 9550 \eta}{n_2}$$

Torque demand M_{r2} (Nm)

Torque calculated based on application requirements. It must be $< M_{n2}$ of the chosen MAGNUS unit.

Input power P_{n1} (kW)

This is the power value of the motor applied to the input shaft and corresponding to a certain input speed n_1 , a service factor $f_s = 1$ and a duty service S_1 . It is even possible to calculate the motor size necessary by using the formula:

$$P_{n1} [\text{kW}] = \frac{M_{r2} \cdot n_2}{9550 \cdot \eta}$$

Since the value calculated in this way could not really correspond to an input power actually available in the IEC standardised motors, it will be necessary to choose, among the input powers available, the one which is immediately higher, checking this in the Rotomotive catalogue of the motors.

Efficiency η (%)

An inherent factor in the selection helical gear boxes is the efficiency η , defined as the ratio between the mechanical power coming out from the output shaft, and the power in the input shaft:

$$\eta = \frac{P_{n2}}{P_{n1}}$$

The efficiency in helical gearboxes is mainly determined by the gearing and

bearing friction.

The efficiency of MAGNUS varies with the nr of stages: it's 94% when the reduction stages are 3, 96% when the stages are 2. The starting efficiency is always less than the efficiency at rated speed.

Gear ratio i

It is the relationship of the input speed n_1 and the output speed n_2

$$i = \frac{n_1}{n_2}$$

In the combined, the total ratio is the result of the product of the ratio of the two single gearboxes.

Input speed n_1 (rpm)

It is the speed the MAGNUS unit is driven at.

Output speed n_2 (rpm)

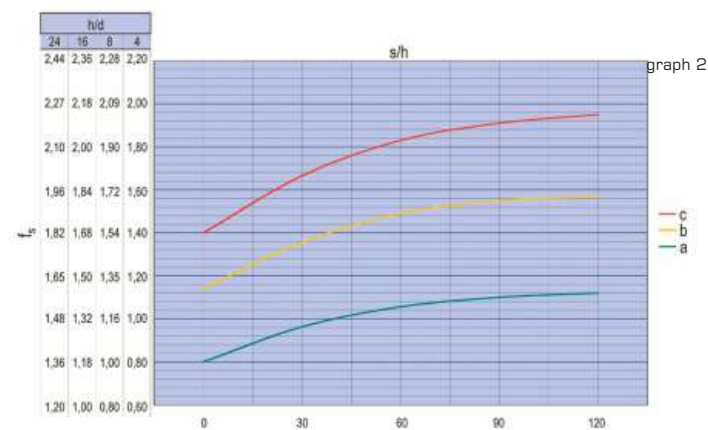
It is the rotation speed of the output shaft.

Service factor f_s

It is a numeric value describing the MAGNUS unit service duty. With unavoidable approximation, it takes into consideration:

- The daily working hours h/d
- The load classification (see table 2), and then the moment of inertia of the driven masses.
- The number of starts per hour s/h
- The presence of brake motors, for which it is necessary to multiply for 1.12 the service factor value deducted by the graph 2.
- The significance of the application in terms of safety, for example lifting of parts.

In the graph 2, the service factor f_{sr} required by a certain application can be attained, after having selected the proper "daily working hours" (h/d) column, by intersecting the number of starts per hour (s/h) and one of the a, b or c curves. The curves a, b and c are linked with the load classification described in the table 2.



tab. 2

load Classification	Application
c uneven operation, heavy loads, larger masses to be accelerated	conveyors with violent jerks; compressors ad alternate pumps with 1 or more cylinders; machinery for bricks, tiles and clay; kneaders; milling machines; lifting winches with buckets; rotting furnaces; heavy fans or mining purposes; mixers for heavy materials; machine-tools; planing kinds; alternating saws; shears; tumbling barrels; vibrators; shredders; turntables
b starting with moderate loads, uneven operating conditions, medium size masses to be accelerated	belt conveyors with varied load with transfer of bridge trucks for light duty; levelling machines; shakers and mixed for liquid with variable density and viscosity; machines for the food industry (kneading troughs, mincing machines, slicing machines, etc); sifting machines for sand gravel; textile industry machines; cranes, hoists, goodstifts; fertilizer scrapers; concrete mixers; folding machines; winches; crane mechanisms
a easy starting, smooth operation, small masses be accelerated	belt conveyors for light material; centrifugal pumps; rotary gear pumps; screw feeders for light materials; lifts; bottling machines; auxiliary controls of tool machines; fans; power generators; fillers; small mixers

If, after the selection of the right M_{r2} and n_2 in the following performance tables, you don't find a MAGNUS unit whose service factor f_s is $>$ of the requested one f_{sr} , you can choose a MAGNUS unit in which $M_{n2} > M_{r2}$.

In fact, in order to satisfy f_{sr} , you can choose another MAGNUS unit whose output torque is $> M_{c2}$ output torque, where:

$$M_{c2} = M_{r2} \cdot f_{sr}$$

Note: This rule is valid only if the new MAGNUS unit that has been selected in this way has a service factor $f_s > 1$ in the performance tables.

From another point of view, the value of f_s in the performance tables refers to a case

in which the effective torque requested by the application M_{r2} matches perfectly with the one appearing on the catalogue M_{n2} . Whenever the torque indicated in the performance table is higher than the requested one, the offered service factor of the performance table can be increased according to the formula:

$$f_{s \text{ real}} = \frac{f_s \text{ on the table} \cdot M_{n2} \text{ on the table}}{M_{r2}}$$

The value of f_s calculated in this way must be $\geq f_{sr}$.

OIL DETAILS TABLE

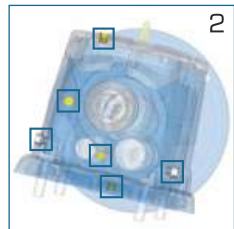
SIZE	Oil Qty (Liter)						ISO	Temp.	Oil Type
	B3	B6	B7	B8	V5	V6			
MG008	0.5						VG 220	+80°C	Mobil SHC 630 Shell Tivela S220 Klubersynth GH6-220
MG012	0.6								
MG021	0.8								
MG030	1.5								
MG060	1.5								
MG085	2.4	2.2	2.2	1.8	2.7	3.6			
MG120	1.8	1.8	1.8	2.8	5.0	4.5			
MG150	2.9	2.8	2.8	3.8	6.0	5.5			
MG300	5.5	6.0	6.0	6.5	9.0	8.0			

MG008 to MG060 supplied with long life synthetic lubrication and they do not require any maintenance.

MG085 to MG300 supplied without oil and with interchangeable oil plug. After adapting the oil quantity, each magnus can be mounted in any position, thus giving big advantage in the inventory reduction and interchangeability due to following characteristics.

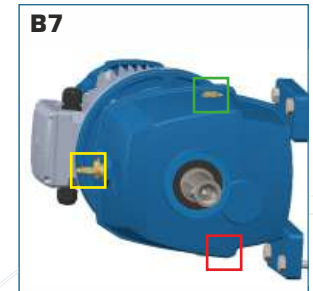
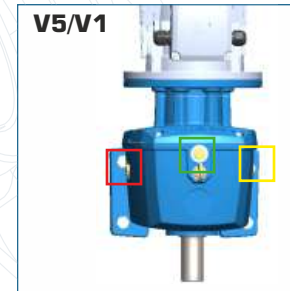
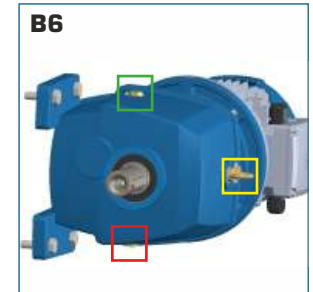
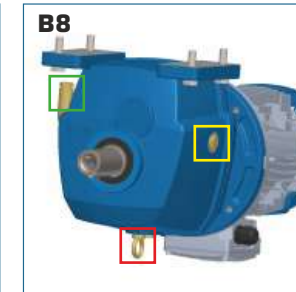
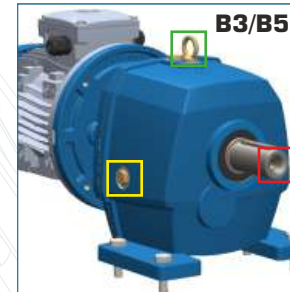


1
ZZ shielded pre-lubricated bearings on input and output shaft



2
Interchangeable plugs are provided for models MG085 to MG300. breather plug and level plug must be positioned according to the mounting position, and the oil quantity must be adjusted as per the given oil details table before commissioning gearbox

MOUNTING POSITIONS



B5, V1 & V3 positions are for flange mounted



breather plug



level plug



filler plug

MG008 to MG060 is supplied ONLY with a solid plug and with long life synthetic lubrication can be used for evacuating or topping up the grease.

CODING SCHEME FOR MAGNUS GEARBOX

Compulsory parameters							Optional	
Magnus Size	Stages	Ratio	Foot or flange	IFL size	O-P shaft size	Mounting position	OPT-1	OPT-2
MG021	2	010	FT	715	A	B3	W	V
MG008	2		FT = Foot mounting UV = Universal mounting 14 = OFL size Ø140 16 = OFL size Ø160 20 = OFL size Ø200 25 = OFL size Ø250 30 = OFL size Ø300 35 = OFL size Ø350 45 = OFL size Ø450	565 - IEC input flange - 63-B5 635 - IEC input flange - 63-B5 715 = IEC input flange - 71-B5 805 = IEC input flange - 80-B5 905 = IEC input flange - 90-B5 125 = IEC input flange - 100/112 B5 135 = IEC input flange - 132 B5 165 = IEC input flange - 160-B5 185 = IEC input flange - 180-B5	A = First shaft diameter B = Second shaft diameter (eg .MG021 has 25 and 30 so A=25 & B= 30	OS - With oil (MG008 to MG060) ON - Without oil B3 B8 B6 V5 V6 B7	(MG085 to MG300)	W = With Spring loaded breather plug V = With Viton Seals
MG012	3							
MG021								
MG030								
MG060								
MG085								
MG120								
MG150								
MG300								

QUICK SELECTION GUIDE

Service factor $F_s = 1.5$ @ input speed $n_1 = 1440$ rpm

Input		63	63	71	71	80	80	90	90	100	112	132	132	160	160	180	180
Input shaft		Ø11mm		Ø14mm		Ø19mm		Ø24mm		Ø28mm		Ø38mm		Ø42mm		Ø48mm	
kW		0.12	0.18	0.25	0.37	0.55	0.75	1.10	1.50	2.20	3.70	5.50	7.50	11.00	15.00	18.50	22.00
Ratio (i)	Hp	0.18	0.25	0.35	0.50	0.75	1.00	1.50	2.00	3.00	5.00	7.50	10.00	15.00	20.00	25.00	30.00
	200	MG021															
	190																
	180																
	170																
	160																
	150		MG021							MG300							
	140																
	130																
	120																
	110																
	100	MG012															
	90																
	80																
	70																
	60																
	50		MG008														
	40																
	30																
	20																
	10																
	10																
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	40																
	50																
	60																
	70																
	80																
	90																
	100																
	110																
	120																
	130																
	140																
	150																
	160																
	170																
	180																
	190																
	200																

PERFORMANCE TABLE MG008

MG008														Peak Torque = 50 Nm		
Polarity			2-pole					4-pole					6-pole			
Frame Size			-	63	63	71	71	-	63	63	71	71	-	71	71	
Power (kW)				0.18	0.25	0.37	0.55		0.12	0.18	0.25	0.37		0.18	0.25	
Input Speed (rpm)			2880					1440					960			
Stage	Ratio	Real Ratio	Output Speed	Torque (Nm)				Output Speed	Torque (Nm)				Output Speed	Torque (Nm)		
2	5	5.1	565	3	4	6	9	282	4	6	8	12	188	9	12	
	6	6.0	479	3	5	7	11	240	5	7	10	14	160	10	14	
	11	11.8	244	7	9	14	21	122	9	14	19	28	81	20	28	
	12	12.4	232	7	10	15	22	116	9	14	20	29	77	21	30	
	15	14.9	194	9	12	18	26	97	11	17	24	35	65	26	36	
	20	19.7	146	11	16	23	35	73	15	23	31	47	49	34	47	
3	25	26.6	108	16	22	32	48	54	21	31	43	64	36	47	65	
	30	29.5	98	17	24	35	53	49	23	34	48	71	33	52	72	
	35	34.4	84	20	28	41	61	42	27	40	56	MG 012	28	60	MG 012	
	40	40.2	72	24	33	48	72	36	31	47	65		24	71		
	45	45.7	63	27	37	55	MG 012	32	36	53	74	21	MG 012	MG 021		
	50	50.4	57	30	41	61		29	39	59	MG 012	MG 021			19	
	55	56.1	51	33	46	68		26	44	66					17	
	60	60.1	48	35	49	72		24	47	70	16					
Output Shaft :- Ø16 & Ø20										Output Flange :- Ø140 (63B5)						



MG008



MG008



MG120



MG120



MG012



MG021



MG030



MG060



MG085



MG150



MG300

PERFORMANCE TABLE MG012

MG012																									Peak Torque = 120 Nm							
Polarity			2-pole								4-pole								6-pole													
Frame Size			-	63	63	71	71	80	80	90	90	-	63	63	71	71	80	80	90	90	-	71	71	80	80	90	90					
Power (kW)			-	0.18	0.25	0.37	0.55	0.75	1.1	1.5	2.2	-	0.12	0.18	0.25	0.37	0.55	0.75	1.1	1.5	-	0.18	0.25	0.37	0.55	0.75	1.1					
Input Speed (rpm)			2880								1440								960													
Stage	Ratio	Real Ratio	Output Speed	Torque (Nm)								Output Speed	Torque (Nm)								Output Speed	Torque (Nm)										
2	3	3.2	911	MG 008	MG 008	MG 008	MG 008	8	11	15	23	456	MG 008	MG 008	MG 008	MG 008	11	15	23	31	304	MG 008	MG 008	11	17	23	34					
	3.6	3.9	744					9	14	19	28	372					14	19	28	38	248			14	21	28	42					
	5	4.9	591					12	17	24	35	295					17	24	35	48	197			18	26	36	52					
	6	6.1	469					15	22	30	44	235					22	30	44	60	156			22	33	45	66					
	7.5	7.5	383					18	27	37	54	192					27	37	54	73	128			27	40	55	81					
	10	10.0	288					24	36	49	71	144					36	49	71	97	96			36	54	73	107					
	12	12.6	229					31	45	61	90	114					45	61	90	MG 021	76			45	68	92	MG 021					
	15	15.0	193					36	53	73	107	96					53	73	107		64			54	80	109						
	18	18.0	160					44	64	88	MG 021	80					64	88	MG 021	MG 021	53			65	97	MG 021	MG 021					
	20	19.9	145					49	71	97		72					71	97			48			72	107							
	25	24.8	116					60	89	MG 021	MG 021	58					89	MG 021	MG 021	MG 030	39			89	MG 021	MG 021	MG 030					
	30	30.3	95					74	108			47					108				32			109								
	35	33.8	85					82	MG 021	MG 021	MG 030	43					81	MG 021	MG 021	MG 030	28			82	MG 021	MG 021	MG 030					
	3	40	41.5					69				101					35				100			23				101				
45		44.5	65					80	108	MG 021	MG 030	32					107	MG 021	MG 021	MG 030	22	78	108	MG 021	MG 030	MG 060	MG 060					
50		49.1	59					88	MG 021			29					80				20	86										
60		59.2	49					106	MG 021	MG 030	MG 060	24					96	MG 021	MG 021	MG 030	16	104	MG 021	MG 030	MG 060	MG 060	MG 085					
75		72.8	40					88				20					85				13											
80		80.2	36					96	MG 021	MG 030	MG 060	18					94	MG 021	MG 021	MG 030	12											
90		88.7	32					107				16					104				11											
100		98.7	29					80	MG 021	MG 030	MG 060	15					115	MG 021	MG 021	MG 030	10											
110		110.9	26					90				13					87				9											
120		122.2	24					99	MG 021	MG 030	MG 060	12					95	MG 021	MG 021	MG 030	8											
135		135.1	21					79				11					105				7											
150		150.4	19					88	MG 021	MG 030	MG 060	10					MG 030	MG 030	MG 060	6												
160		157.7	18					92				9								6												
180		175.6	16					103	MG 021	MG 030	MG 060	8								5												
200	197.0	15	115					7				5																				

Output Shaft :- Ø20 & Ø25

Output Flange :- Ø160(71B5)

Output Shaft :- Ø20 & Ø25

Output Flange :- Ø160(71B5)

PERFORMANCE TABLE MG21

MG021																									Peak Torque = 210 Nm									
Polarity			2-pole								4-pole								6-pole															
Frame Size			-	63	63	71	71	80	80	90	90	-	63	63	71	71	80	80	90	90	-	71	71	80	80	90	90							
Power (kW)				0.18	0.25	0.37	0.55	0.75	1.1	1.5	2.2		0.12	0.18	0.25	0.37	0.55	0.75	1.1	1.5		0.18	0.25	0.37	0.55	0.75	1.1							
Input Speed (rpm)			2880								1440								960															
Stage	Ratio	Real Ratio	Output Speed	Torque (Nm)							Output Speed	Torque (Nm)							Output Speed	Torque (Nm)														
2	3	3.1	929	MG 008	MG 008	MG 008	MG 012	MG 012	MG 012	465	MG 008	MG 008	MG 008	MG 012	MG 012	MG 012	MG 012	310	MG 008	MG 008	MG 012	MG 012	MG 012	MG 012	MG 012	MG 012								
	3.6	3.9	744							372								248																
	5	4.8	600							300								200																
	7.5	7.4	388							194								129																
	10	10.1	284							142								95																
	12	12.3	234							117								78																
	15	14.7	195							98								65																
	18	18.0	160							80								53																
	20	20.0	144							72								48																
3	25	25.0	115			122	179	58	122	179			MG 030	38	134	183	MG 030																	
	30	30.4	95			148	MG 030	47	148	MG 030			32	163	MG 030	MG 060																		
	36	36.4	79			130	177	40	130	177			26	195	MG 030																			
	40	40.1	72			143	196	36	143	196			24	145	MG 030		MG 060																	
	45	44.5	65			159	MG 030	32	159	MG 030			22	160		MG 030		MG 060																
	50	49.6	58			121	177	29	121	177			19	179					MG 030	MG 060														
	60	59.0	49			144	MG 030	24	144	MG 030			16	144	MG 030		MG 060																	
	70	72.0	40			129	175	20	129	175			13	175		MG 030		MG 060																
	80	80.3	36			144	196	18	144	196			12	196					MG 030	MG 060														
	90	89.5	32			160	MG 030	16	160	MG 030			11	157	MG 030		MG 060																	
	100	98.6	29	119	176	15	119	176	10	173	MG 030	MG 060																						
	110	109.3	26	131	195	13	131	195	9	192			MG 030	MG 060																				
	120	121.9	24	147	MG 030	12	147	MG 030	8	150					MG 030	MG 060																		
	140	141.2	20	170	MG 030	10	170	MG 030	7	150	MG 030	MG 060																						
	160	156.5	18	127	188	9	127	188	6	150			MG 030	MG 060																				
	180	174.5	17	142	MG 030	8	142	MG 030	6	150					MG 030	MG 060																		
	200	196.1	15	159	MG 030	7	159	MG 030	5	150	MG 030	MG 060																						
Output Shaft :- Ø25 & Ø30																									Output Flange :- Ø160(71B5) & Ø200(80/90B5)									

Output Shaft :- Ø25 & Ø30

Output Flange :- Ø160(71B5) & Ø200(80/90B5)

PERFORMANCE TABLE MG030

MG030																				Peak Torque = 300 Nm																																																																																																																																																																																																																																																																																																																												
Polarity			2-pole							4-pole								6-pole																																																																																																																																																																																																																																																																																																																														
Frame Size			-	71	71	80	80	90	90	100	-	71	71	80	80	90	90	100	112	-	71	71	80	80	90	90	100	112																																																																																																																																																																																																																																																																																																																				
Power (kW)			-	0.37	0.55	0.75	1.1	1.5	2.2	3.7	-	0.25	0.37	0.55	0.75	1.1	1.5	2.2	3.7	-	0.18	0.25	0.37	0.55	0.75	1.1	1.5	2.2																																																																																																																																																																																																																																																																																																																				
Input Speed (rpm)			2880							1440								960																																																																																																																																																																																																																																																																																																																														
Stage	Ratio	Real Ratio	Output Speed	Torque (Nm)						Output Speed	Torque (Nm)						Output Speed	Torque (Nm)																																																																																																																																																																																																																																																																																																																														
2	3	3.0	952	MG 008	MG 008	MG 012	MG 012	MG 012	36	476	MG 008	MG 008	MG 012	MG 012	MG 012	MG 012	42	71	317	MG 008	MG 008	MG 012	MG 012	MG 012	MG 012	MG 012	MG 012	43	64																																																																																																																																																																																																																																																																																																																			
	3.6	3.5	818						42	409							50	85	273									51	75																																																																																																																																																																																																																																																																																																																			
	4	4.1	705						49	352							58	98	235									60	88																																																																																																																																																																																																																																																																																																																			
	5	5.1	565						61	282							73	123	188									75	109																																																																																																																																																																																																																																																																																																																			
	7.5	7.5	385						90	193							107	180	128									109	160																																																																																																																																																																																																																																																																																																																			
	10	10.8	268						129	134							154	259	89									157	231																																																																																																																																																																																																																																																																																																																			
	12	12.3	235						147	118							175	MG 060	78									MG 021	179	263																																																																																																																																																																																																																																																																																																																		
	15	15.4	187						185	94							220		62										225																																																																																																																																																																																																																																																																																																																			
	20	19.4	149						233	74							277		50										208	283	MG 060																																																																																																																																																																																																																																																																																																																	
3	25	25.2	114	MG 012	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 012	MG 012	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 012	MG 012	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG 021	MG

Output Shaft :- Ø30 & Ø35

Output Flange :- Ø200(80/90B5) & Ø250(100/112B5)

PERFORMANCE TABLE MG060

MG060																	Peak Torque = 600 Nm											
Polarity			2-pole							4-pole								6-pole										
Frame Size			-	71	71	80	80	90	90	100	-	71	71	80	80	90	90	100	112	-	71	71	80	80	90	90	100	112
Power (kW)				0.37	0.55	0.75	1.1	1.5	2.2	3.7		0.25	0.37	0.55	0.75	1.1	1.5	2.2	3.7		0.18	0.25	0.37	0.55	0.75	1.1	1.5	2.2
Input Speed (rpm)			2880							1440								960										
Stage	Ratio	Real Ratio	Ouputput speed	Torque (Nm)							Ouputput speed	Torque (Nm)							Ouputput speed	Torque (Nm)								
2	5	5.1	564	MG 008	MG 008	MG 012	MG 012	MG 012	MG 012	MG 030	282	MG 008	MG 008	MG 012	MG 012	MG 012	MG 030	MG 030	188	MG 008	MG 008	MG 012	MG 012	MG 012	MG 012	MG 030	MG 030	
	6	6.3	458								229								153									
	7	7.0	410								205								137									
	7.5	7.5	386								193								129									
	8	7.9	364								182								121									
	9	9.1	318								159								106									
	10	10.1	284								142								95									
	11	11.4	252								126								84									
	13	12.8	225								113								75									
	15	15.1	190								95								63									
	17	17.0	169								85								56									
	19	19.1	151								75								50									
	24	24.2	119								60								40									
	29	29.4	98								49								33									
	33	32.7	88								44								29									
	36	36.3	79								40								26									
3	41	41.1	70	35	23																							
	46	46.1	62	31	21																							
	54	54.0	53	27	18																							
	66	65.9	44	22	15																							
	74	73.6	39	20	13																							
	83	82.5	35	17	12																							
	99	99.4	29	14	10																							
	120	120.4	24	12	8																							
	135	134.8	21	11	7																							
	151	150.9	19	10	6																							
Output Shaft :- Ø35 & Ø40																	Output Flange :- Ø200(80/90B5) & Ø250(100/112B5)											

PERFORMANCE TABLE MG085

MG085																				Peak Torque = 850 Nm																										
Polarity			2-pole							4-pole							6-pole																													
Frame Size			-	80	80	90	90	100	132	132	-	80	80	90	90	100	112	132	132	-	80	80	90	90	100	112	132	132																		
Power (kW)			-	0.75	1.1	1.5	2.2	3.7	5.5	7.5	-	0.55	0.75	1.1	1.5	2.2	3.7	5.5	7.5	-	0.37	0.55	0.75	1.1	1.5	2.2	3.7	5.5																		
Speed (rpm)			2880							1440							960																													
Stage	Ratio	Real Ratio	Output Speed	Torque (Nm)						Output Speed	Torque (Nm)						Output Speed	Torque (Nm)																												
2	4	4.4	652	MG 012	MG 012	MG 012	MG 012	MG 030	77	106	326	MG 012	MG 012	MG 012	MG 012	MG 030	MG 030	155	211	217	MG 012	MG 012	MG 012	MG 012	MG 030	MG 030	156	232																		
	5	4.9	589						86	117	294							171	233	196							173	257																		
	5.5	5.4	530						95	130	265							190	259	177							192	285																		
	6	6.1	474						106	145	237							213	290	158							214	319																		
	8	8.1	354						143	194	177							285	389	118							288	428																		
	9	9.0	320						158	215	160							315	430	107							318	473																		
	10	10.0	288						175	239	144							350	478	96							353	525																		
	11	11.2	258						196	267	129							391	534	86							395	587																		
	13	12.9	223						226	308	112							451	615	74							455	677																		
	14	14.3	202						249	340	101							499	680	67							504	748																		
	16	15.8	182						277	378	91							554	756	61							559	MG 120																		
	18	17.7	163						310	423	81							620	MG 120	54							625																			
	20	20.0	144						350	477	72							700	MG 120	48							706																			
	22	22.1	130						387	527	65							774	MG 120	43							781																			
	25	24.6	117						430	586	59							MG 120		39							MG 150																			
	27	27.5	105						481	655	52							647	MG 120	35							MG 150																			
3	31	31.1	93	MG 021	MG 021	MG 030	MG 060	556	758	46	MG 021	MG 021	MG 030	MG 060	MG 060	647	MG 120	MG 300	MG 021	MG 021	MG 030	MG 060	MG 060	667	MG 300																					
	34	34.4	84					615	MG 120	42						MG 120								28		738	MG 150	MG 120	738	MG 150																
	38	38.2	75					683		38						MG 120								25		819	MG 150																			
	43	42.7	67					763	34	MG 120						22	MG 120							MG 300		22	MG 120	MG 300	819	MG 150																
	46	45.7	63					817	32	MG 120						21	MG 120							MG 300		21	MG 120	MG 300	668	MG 120																
	51	50.5	57					607	MG 120	29						MG 150								19		MG 150	MG 300	19	MG 150	MG 300	738	MG 120														
	56	56.1	51					675		26						MG 150								17		MG 150	MG 300	17	MG 150	MG 300	602	820														
	63	62.7	46					754	MG 150	23						MG 150	23							MG 150		MG 300	23	MG 150	MG 300	754	MG 150	MG 300														
	77	76.8	38					MG 150		19							MG 150							19			MG 150	MG 300		19	MG 150		MG 300	824	MG 120											
	85	84.9	34					607	MG 120	17						MG 120	17							MG 120		MG 300	17	MG 120	MG 300	607	MG 120	MG 300														
	94	94.3	31					674		15							MG 120							15			MG 120	MG 300		15	MG 120		MG 300	674	MG 120											
	106	105.5	27					754	MG 150	14						MG 150	14							MG 150		MG 300	14	MG 150	MG 300	754	MG 150	MG 300	754	MG 150	MG 300	754	MG 150	MG 300	754	MG 150	MG 300	754	MG 150	MG 300		
	Output Shaft :- Ø40 & Ø45																							Output Flange :- Ø250(100/112B5) & Ø300(132B5)																						

Output Shaft :- Ø40 & Ø45

Output Flange :- Ø250(100/112B5) & Ø300(132B5)

PERFORMANCE TABLE MG120

MG120

Peak Torque = 1200 Nm

Polarity			2-pole								4-pole								6-pole											
Frame Size			-	90	90	100	132	132	160	160	160	-	90	90	100	112	132	132	160	160	-	90	90	100	112	132	132	160	160	
Power (kW)			-	1.5	2.2	3.7	5.5	7.5	11	15	18.5	-	1.1	1.5	2.2	3.7	5.5	7.5	11	15	-	0.75	1.1	1.5	2.2	3.7	5.5	7.5	11	
Input Speed (rpm)			2880								1440								960											
Stage	Ratio	Real Ratio	Output Speed	Torque (Nm)								Output Speed	Torque (Nm)								Output Speed	Torque (Nm)								
2	4	4.1	708	MG 012	MG 012	MG 030	MG 085	MG 085	143	194	240	354	MG 012	MG 012	MG 030	MG 030	MG 085	MG 085	285	389	236	MG 012	MG 012	MG 030	MG 030	MG 085	MG 085	292	428	
	5	5.0	573						176	240	296	286							352	480	191							360	528	
	8	8.1	358						282	384	474	179							564	769	119							577	846	
	10	10.4	276						365	498	614	138							730	996	92							747	1096	
	15	15.2	190						531	723	892	95							1061	MG 150	63							1085	MG 300	
	18	18.2	158						637	869	1071	79							869	MG 150	53							955		MG 150
	20	19.7	146						690	941	1161	73							941	MG 150	49							1035		
	23	22.2	130						777	1060	MG 150	65							1060	MG 300	43							MG 150		
3	20	21.0	137	MG 021	MG 021	MG 060	MG 085	MG 085	749	1021	MG 150	69	MG 021	MG 030	MG 060	MG 085	MG 085	1021	46	MG 021	MG 030	MG 060	MG 060	MG 085	MG 150	MG 300	MG 300	-		
	25	28.0	103						1000	MG 150	51	1000						MG 150	34										1009	
	30	28.2	102						1007	MG 150	51	1007						MG 150	34										1016	
	35	33.5	86	MG 030	MG 060	MG 150	MG 300	MG 300	43	MG 030	MG 060	MG 085	MG 150	MG 300	MG 300	29	MG 030	MG 060	MG 085	MG 150	MG 300	MG 300	-							
	40	36.7	79						39							881								MG 150	26					
	45	44.4	65	MG 030	MG 060	MG 085	MG 150	MG 300	MG 300	32	MG 060	MG 060	MG 085	MG 150	MG 300	MG 300	22	MG 060	MG 060	MG 085	MG 150	MG 300	MG 300	-						
	50	51.1	56							1082							28								1067	19	952			
	55	56.5	51							912							MG 150								25	839	17	1095		
	60	58.7	49							1009							MG 150								25	945	16	826		
	70	66.1	44							1048							MG 150								22	1144	15	858		
	80	80.0	36							962							18								881	12	966			
	90	85.6	34							1029							MG 300								17	834	11	918		
	100	92.7	31	1115	MG 300	16	904	10	994																					
	110	103.2	28	MG 150	14	1011	9	1112																						
	120	112.3	26	13	1095	13	1095	9	MG 150																					

Output Shaft :- Ø45 & Ø55

Output Flange :- Ø300(132B5) & Ø350(160/180B5)

PERFORMANCE TABLE MG150

MG150																							Peak Torque = 1500 Nm												
Polarity			2-pole										4-pole										6-pole												
Frame Size			-	80	80	90	90	100	132	132	160	160	160	-	80	80	90	90	100	112	132	132	160	160	-	80	80	90	90	100	112	132	132	160	160
Power (kW)			-	0.75	1.1	1.5	2.2	3.7	5.5	7.5	11	15	18.5	-	0.55	0.75	1.1	1.5	2.2	3.7	5.5	7.5	11	15	-	0.4	0.6	0.8	1.1	1.5	2.2	3.7	5.5	7.5	11
Input Speed (rpm)			2880										1440										960												
Stage	Ratio	Real Ratio	Output Speed	Torque (Nm)										Output Speed	Torque (Nm)										Output Speed	Torque (Nm)									
2	4.5	4.6	632	MG 012	MG 012	MG 012	MG 012	MG 030	MG 085	MG 085	MG 120	MG 120	316	MG 012	MG 012	MG 012	MG 030	MG 030	MG 085	MG 085	MG 120	MG 120	211	MG 012	MG 012	MG 012	MG 012	MG 030	MG 030	MG 085	MG 085	MG 120	MG 120		
	5	5.0	571										286										190												
	6	5.7	502										251										167												
	6.5	6.4	454										227										151												
	7	7.3	395										198										132												
	8	8.1	357										179										119												
	9	9.0	319										159										106												
	10	10.2	283										141										94												
	11	11.4	253										126										84												
	13	12.6	229										114										76												
	14	14.1	204										102										68												
	16	16.1	179										89										60												
	18	18.1	160										80										53												
	20	20.4	142										71										47												
	23	22.8	126										63										42												
	3	26	25.8										111										56											37	
30		29.5	98										49										33												
34		33.9	85										42										28												
37		37.5	77										38										26												
42		42.0	69										34										23												
55		55.5	52										26										17												
61		61.0	47										24										16												
69		68.6	42										21										14												
77		76.9	37										19										12												
88		87.8	33										16										11												
97		96.6	30										15										10												
109		108.9	26										13										9												
122		122.0	24										12										8												
138		138.2	21										10										7												
Output Shaft :- Ø50 & Ø55																							Output Flange :- Ø300(132B5) & Ø350(160/180B5)												

Output Shaft :- Ø50 & Ø55

Output Flange :- Ø300(132B5) & Ø350(160/180B5)

PERFORMANCE TABLE MG300

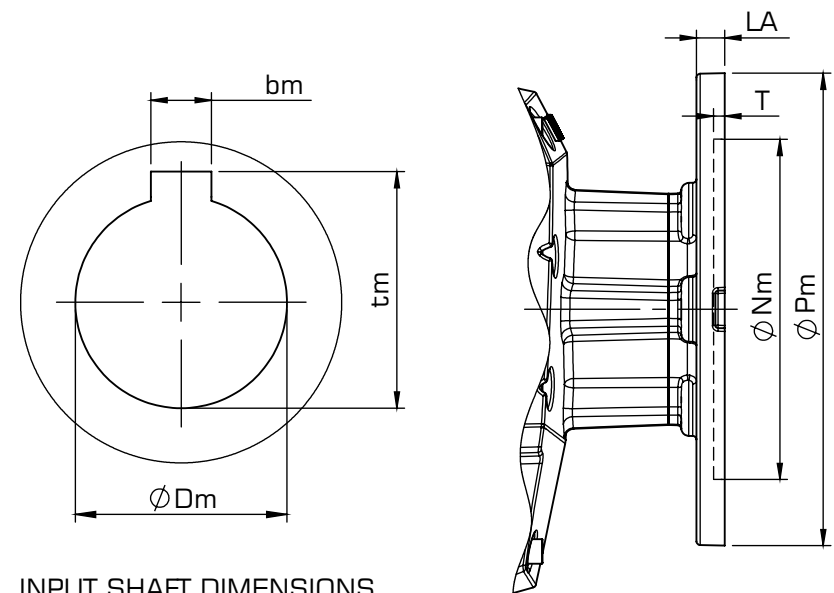
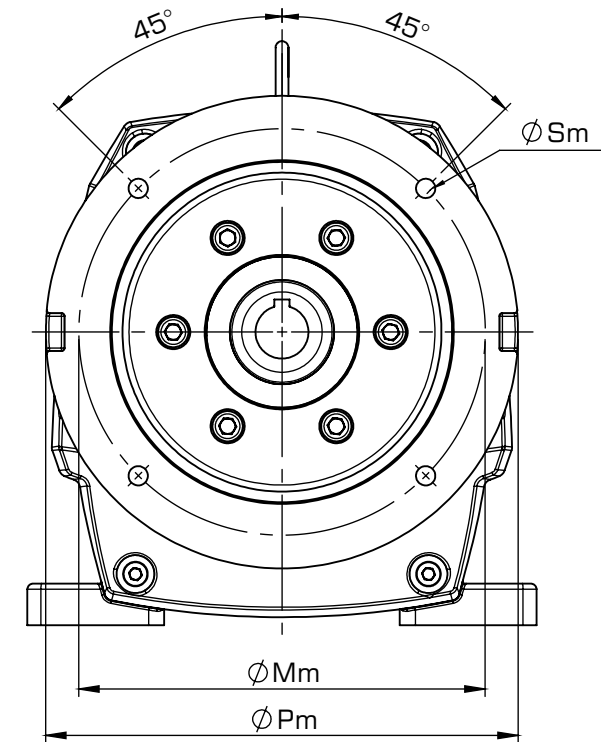
MG300																						Peak Torque = 3000 Nm																										
Polarity				2-pole								4-pole								6-pole																												
Frame Size				-	100	132	132	160	160	160	180	-	100	112	132	132	160	160	180	180	-	100	112	132	132	160	160	180																				
Power (kW)				-	3.7	5.5	7.5	11	15	18.5	22	-	2.2	3.7	5.5	7.5	11	15	18.5	22	-	1.5	2.2	3.7	5.5	7.5	11	15																				
Input Speed (rpm)				2880								1440								960																												
Stage	Ratio	Real Ratio	Output Speed	Torque (Nm)								Output Speed	Torque (Nm)								Output Speed	Torque (Nm)																										
2	4	4.3	664	MG 030	MG 085	MG 120	MG 120	MG 120	304	332	MG 030	MG 030	MG 085	MG 120	MG 120	MG 120	511	608	221	MG 030	MG 030	MG 085	MG 085	MG 120	MG 120	MG 120	MG 120	622																				
	5	4.8	600						336	300							565	672	200									688																				
	5.5	5.3	540						373	270							628	747	180									764																				
	6	6.0	483						417	242							702	835	161									854																				
	7	7.4	391						516	195							868	1032	130									1056																				
	8	8.1	354						570	177							959	1140	118									1166																				
	9	9.1	318						634	159							1066	1268	106									1296																				
	10	10.1	285						709	142							1192	1417	95									1450																				
	11	11.4	253						798	126							1343	1597	84									1633																				
	13	12.6	229						882	114							1484	1765	76									1805																				
	14	14.0	206						980	103							1649	1961	69									2006																				
	16	15.7	184						1096	92							1495	1843	2192									61	2242																			
	19	18.6	155						1299	78							1772	2185	2598									52	2657																			
	21	20.5	140						1436	70							1958	2415	2871									47																				
	23	22.8	126						1595	63							1595	2175	2683										42																			
	25	25.5	113							1500							1784	57												38																		
	3	30	30.2						95	MG 060							MG 085	MG 120	MG 150									MG 150	1472	1816	2159	48	MG 060	MG 085	MG 120	MG 150	MG 150			32	MG 060	MG 085	MG 120	MG 150	MG 150	1619	2208	
		33	33.4						86																				1628	2008	2388	43							29	1791						2442		
37		37.1	78	1808	2230	2652	39		26		1989	2713																																				
42		41.5	69	1483	2023	2495	35		23																																							
56		55.6	52	1987	2710		26		17																																							
62		61.5	47	1499	2198		23		16																																							
68		68.3	42	1665	2441		21		14																																							
76		76.4	38	1862	2731		19		13																																							
88		88.1	33	1575	2147		16		11																																							
97		97.4	30	1741	2374		15		10																																							
108		108.2	27	1934	2637		13		9																																							
121		121.0	24	2163			12		8																																							
137		136.6	21	1642	2441		11		7																																							
151		151.0	19	1816	2699		10		6																																							
168		167.7	17	2016			9		6																																							
188		187.5	15	2254			8		5																																							
Output Shaft :- Ø60 & Ø65															Output Flange :- Ø350(160/180B5) & Ø450(225B5)																																	

Output Shaft :- Ø60 & Ø65

Output Flange :- Ø350(160/180B5) & Ø450(225B5)

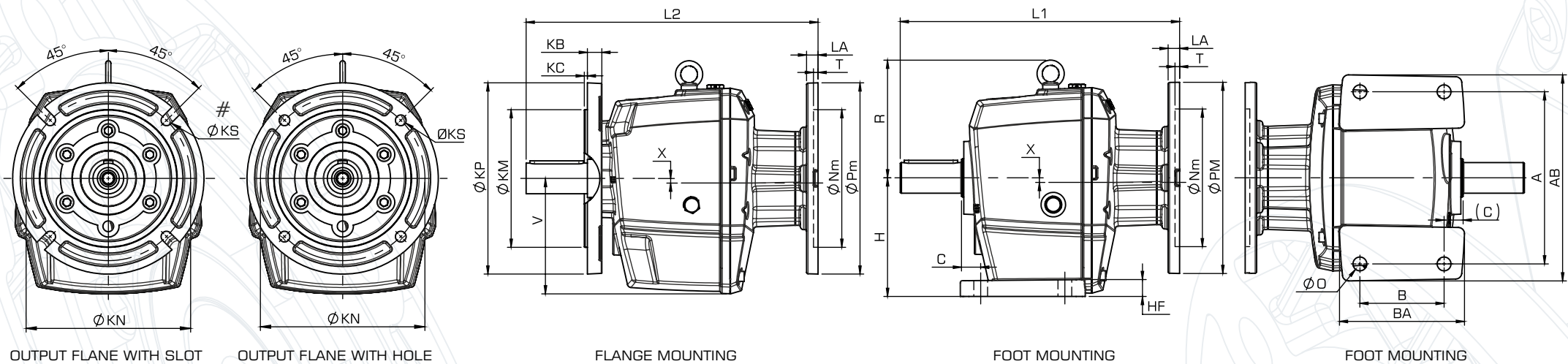
MAGNUS INPUT FLANGE DIMENSIONS

Magnus	Motor Size	Pm	Nm	Mm	Sm	LA	T	Dm (F7)	tm	bm (E9)	L1 (Foot Mount)		L2/L3 (Flange/Universal Mount)	
											D1	D2	D1	D2
MG 008	63B5	140	95	115	Ø10	10	3.5	11	12.8	4	190	190	190	190
	71B5	160	110	130	Ø9	9	4.5	14	16.3	5	197	197	197	197
MG 012	63B5	140	95	115	Ø9	13	4	11	12.8	4	202	212	222	232
	71B5	160	110	130	Ø9	13	4	14	16.3	5	202	212	222	232
	80B5	200	130	165	Ø11	13	4	19	21.8	6	220	230	240	250
	90B5							24	27.3	8				
MG 021	63B5	140	95	115	Ø9	13	4	11	12.8	4	233	243	246	256
	71B5	160	110	130	Ø9	13	4	14	16.3	5	233	243	246	256
	80B5	200	130	165	Ø11	13	4	19	21.8	6	251	261	264	274
	90B5							24	27.3	8				
MG 030	71B5	160	110	130	Ø9	12	4	14	16.3	5	275	285	285	295
	80B5	200	130	165	Ø11	14	5	19	21.8	6	286	296	296	306
	90B5							24	27.3	8				
	100B5/112B5	250	180	215	Ø13.5	14	5	28	31.3	8	296	306	306	316
MG 060	71B5	160	110	130	Ø9	12	4	14	16.3	5	292	302	304	314
	80B5	200	130	165	Ø11	13	5	19	21.8	6	303	313	315	325
	90B5							24	27.3	8				
	100B5/112B5	250	180	215	Ø13.5	13	5	28	31.3	8	313	323	325	335
MG 085	80B5	200	130	165	M10	12	5	19	21.8	6	356	366	372	382
	90B5							24	27.3	8				
	100B5/112B5	250	180	215	M12	15	6	28	31.3	8	365	375	382	392
	132B5	300	230	265	M12	16	6	38	41.3	10	365	375	382	392
MG 120	90B5	200	130	165	M10	15	5	24	27.3	8	463	483	463	483
	100B5/112B5	250	180	215	M12	15	5	28	31.3	8	463	483	463	483
	132B5	300	230	265	M12	20	6	38	41.3	10	482	502	482	502
	160B5	350	250	300	M16	20	6	42	45.3	12	482	502	482	502
	180B5							48	51.8	14				
MG 150	80B5	200	130	165	M10	15	5	19	21.8	6	431	441	431	441
	90B5							24	27.3	8				
	100B5/112B5	250	180	215	M12	20	6	28	31.3	8	439	449	439	449
	132B5	300	230	265	M12	20	6	38	41.3	10	439	449	439	449
	160B5	350	250	300	M16	20	6	42	45.3	12	460	470	460	470
	180B5							48	51.8	14				
MG 300	100B5/112B5	250	180	215	M12	20	6	28	31.3	8	495	505	495	505
	132B5	300	230	265	M12	20	6	38	41.3	10	495	505	495	505
	160B5	350	250	300	M16	20	6	42	45.3	12	510	520	510	520
	180B5							48	51.8	14				



INPUT SHAFT DIMENSIONS

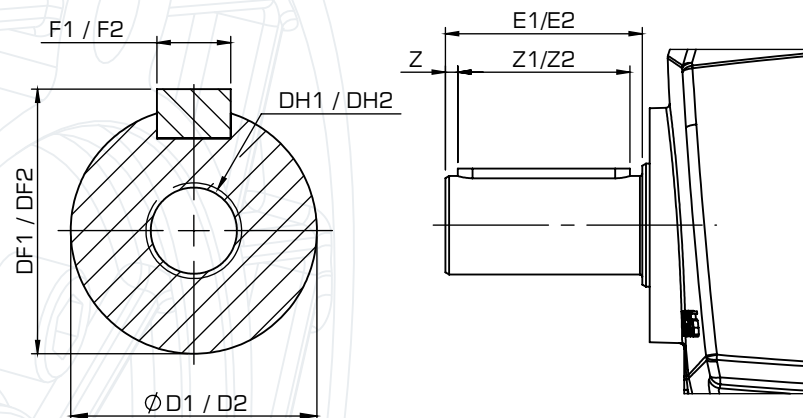
DIMENSIONS



Magnus Size	Flange Mounting								Foot Mounting									
	OFL Size	KP	KM	KN	KS	KC	KB	V	H	R	C	AB	A	BA	B	O	HF	X
MG008	63B5 #	140	95	115	10	3	9	79	90	57	18	137	110	102	75	9	11	17.5
MG012	71B5 #	160	110	130	9	3.5	10	98	100	72	18	156	130	94	60	11	14	18.5
MG021	71B5 #	160	110	130	9	3.5	10	109	110	81	18	189	160	109	70	11	16	23
	80/90B5	200	130	165	$\varnothing 11$	3.5	12											
MG030	80/90B5 #	200	130	165	11	3.5	12	125	130	95	20	215	180	142	105	14	18	30.4
	100/112B5	250	180	215	$\varnothing 14$	4	16											
MG060	80/90B5 #	200	130	165	11	3.5	12	128	130	95	20	215	180	142	105	14	18	0
	100/112B5	250	180	215	$\varnothing 14$	4	16											
MG085	100/112B5#	250	180	215	14	4	19	151	155	154	25	269	225	163	110	18	22	0
	132B5	300	230	265	$\varnothing 14$	4	21											
MG120	132B5 #	300	230	265	14	4	21	160	160	160	40	270	190	285	235	18	33	16
	160/180B5	350	250	300	$\varnothing 18$	5	21											
MG150	132B5 #	300	230	265	14	4	21	172	175	168	25	300	250	200	145	18	25	0
	160/180B5	350	250	300	$\varnothing 18$	5	21											
MG300	160/180B5	350	250	300	$\varnothing 18$	5	21	204	210	198	25	350	300	227	165	22	30	0
	225B5	450	350	400	$\varnothing 18$	5	25											

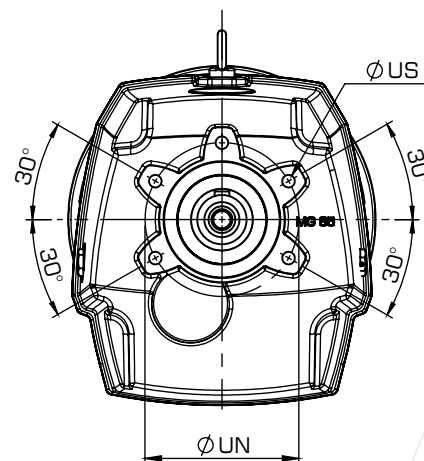
MG120 is supplied as foot version or foot cum flange version; a flange-only mounting version is not available

DIMENSIONS

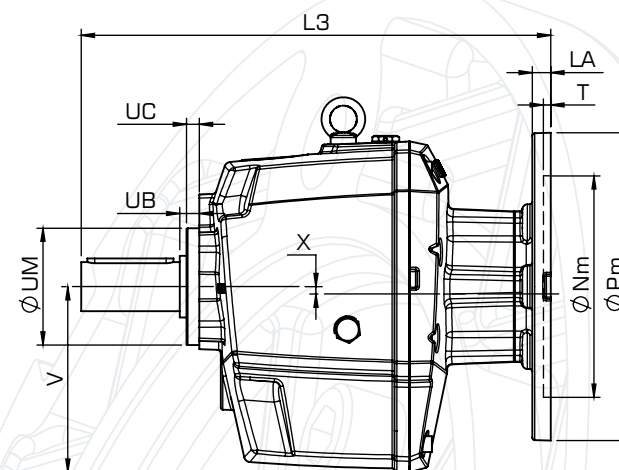


OUTPUT SHAFT DETAILS (FOR ALL MOUNTINGS)

Magnus Size	Output Shaft Dimensions						
	D1/D2 (h6)	E1/E2	Z1/Z2	Z	DF1/DF2	F1/F2 (h9)	DH1/DH2
MG008	16 / 20	40 / 40	30/30	5	18 / 22.5	5 / 6	M5x12 / M5x12
MG012	20 / 25	40 / 50	30/40	5	22.5 / 28	6 / 8	M5x12 / M10x20
MG021	25 / 30	50 / 60	40 / 50	5	28 / 33	8 / 8	M10x20
MG030	30 / 35	60 / 70	50 / 60	5	33 / 38	8 / 10	M10x20 / M12x24
MG060	35 / 40	70 / 80	60 / 70	5	38 / 43	10 / 12	M12x24 / M16x32
MG085	40 / 45	80 / 100	70 / 90	5	43 / 48.5	12 / 14	M16x32
MG120	45 / 55	90 / 110	80 / 90	5 / 10	48.5 / 59	14 / 16	M16x32 / M20x40
MG150	50 / 55	100 / 110	80 / 90	10	53.5 / 59	14 / 16	M16x32 / M20x40
MG300	60 / 65	120 / 130	100 / 110	10	64 / 69	18 / 18	M20x40



UNIVERSAL MOUNTING



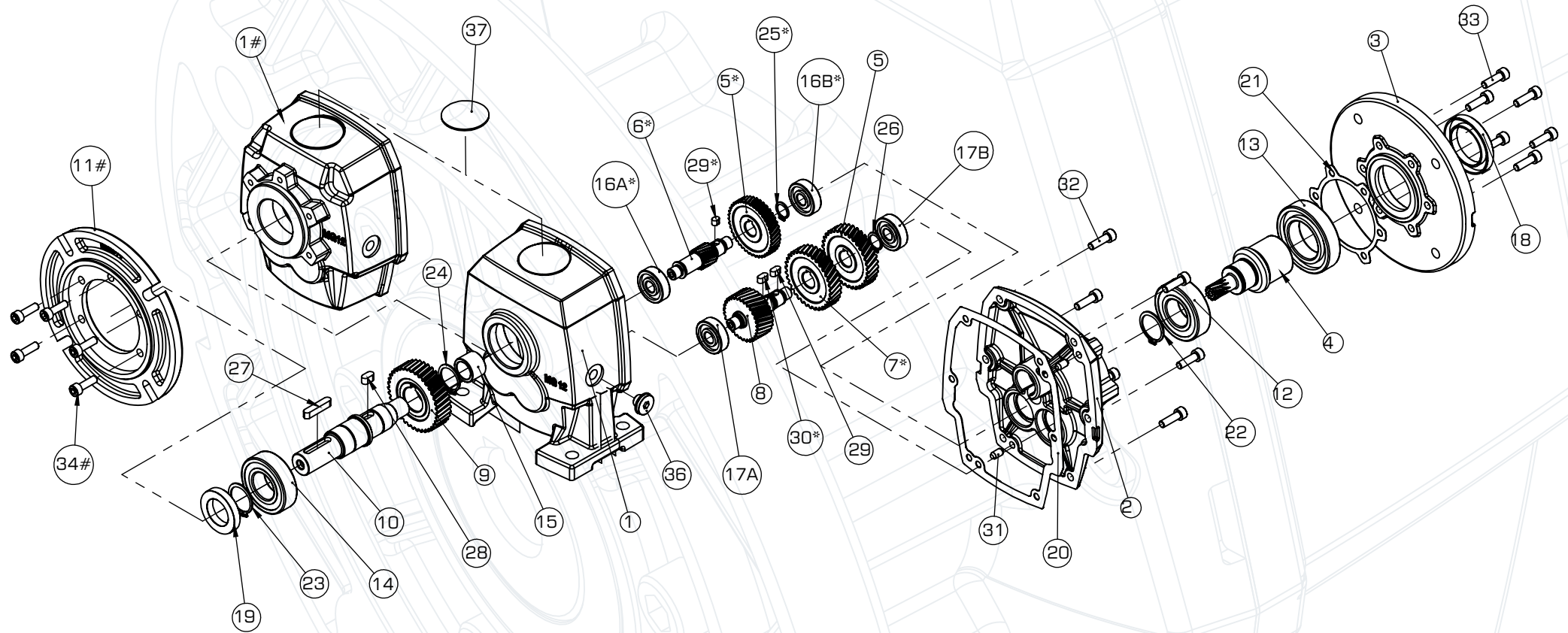
UNIVERSAL MOUNTING

Magnus Size	Universal Mounting						
	UB	UC	UM (f8)	UN	US	V	R
MG008	6.5	3.5	46	55	M4x9	79	57
MG012	9.5	5.5	68	80	M6x10	98	72
MG021	9.5	6	68	80	M6x12	109	81
MG030	13	7.5	90	110	M10x16	125	95
MG060	13	8	90	110	M10x15	128	95
MG085	16	10.5	95	125	M12x20	151	154
MG120*	16	11.5	132	155	M12x2	160	160
MG150	16	11	132	155	M12x20	172	168
MG300	18	10.5	154	180	M12x25	204	198

* Available with foot

Weights In Kg																			
Input	MAGNUS	MG008		MG012		MG021		MG030		MG060		MG085		MG120		MG150		MG300	
	Stage	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3
63B5		3.2	3.4	4.8	5.1	6.8	7.4	-	-	-	-	-	-	-	-	-	-	-	-
71B5		4.1	4.3	4.9	5.2	6.9	7.5	15.5	16.4	20.8	21.3	37.5	39.2	-	-	-	-	-	-
80B5 90B5		-	-	5.3	5.6	7.2	7.8	15.9	16.8	21.2	21.7	39.0	40.7	-	-	57.5	60.4	-	-
100B5 112B5		-	-	-	-	-	-	16.1	17.0	21.5	22.0	40.0	41.7	-	-	59.8	62.7	88.3	85.3
132B5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	61.0	63.9	89.5	86.5
160B5 180B5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	64.2	67.1	92.9	89.9
63B5		3.5	3.7	4.7	5.0	6.9	7.5	-	-	-	-	-	-	-	-	-	-	-	-
71B5		4.4	4.6	4.8	5.1	7.0	7.6	16.6	17.5	22.3	22.8	-	-	-	-	-	-	-	-
80B5 90B5		-	-	5.1	5.4	7.3	7.9	17.0	17.9	22.7	23.2	40.5	42.2	-	-	61.4	64.3	-	-
100B5 112B5		-	-	-	-	-	-	17.2	18.1	23.0	23.5	42.0	43.7	62.7	65.0	63.7	66.6	93.8	90.8
132B5		-	-	-	-	-	-	-	-	-	-	43.0	44.7	66.2	68.5	64.9	67.8	95.0	92.0
160B5 180B5		-	-	-	-	-	-	-	-	-	-	-	-	69.2	71.5	68.1	71.0	98.4	95.4
Ø140		UNV+0.3		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ø160		-	-	UNV+0.9		UNV+0.9		-	-	-	-	-	-	-	-	-	-	-	-
Ø200		-	-	-	-	UNV+1.7		UNV+1.8		UNV+1.8		-	-	-	-	-	-	-	-
Ø250		-	-	-	-	-	-	UNV+3.8		UNV+3.8		UNV+4.1		-	-	-	-	-	-
Ø300		-	-	-	-	-	-	-	-	-	-	UNV+7.2		FSW+5.8		UNV+5.8		-	-
Ø350		-	-	-	-	-	-	-	-	-	-	-	-	FSW+9.8		UNV+9.8		UNV+8.9	
Ø450		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	UNV+19.9	
*MG085 to MG300 weight without oil & MG008 to MG060 weight with oil																			

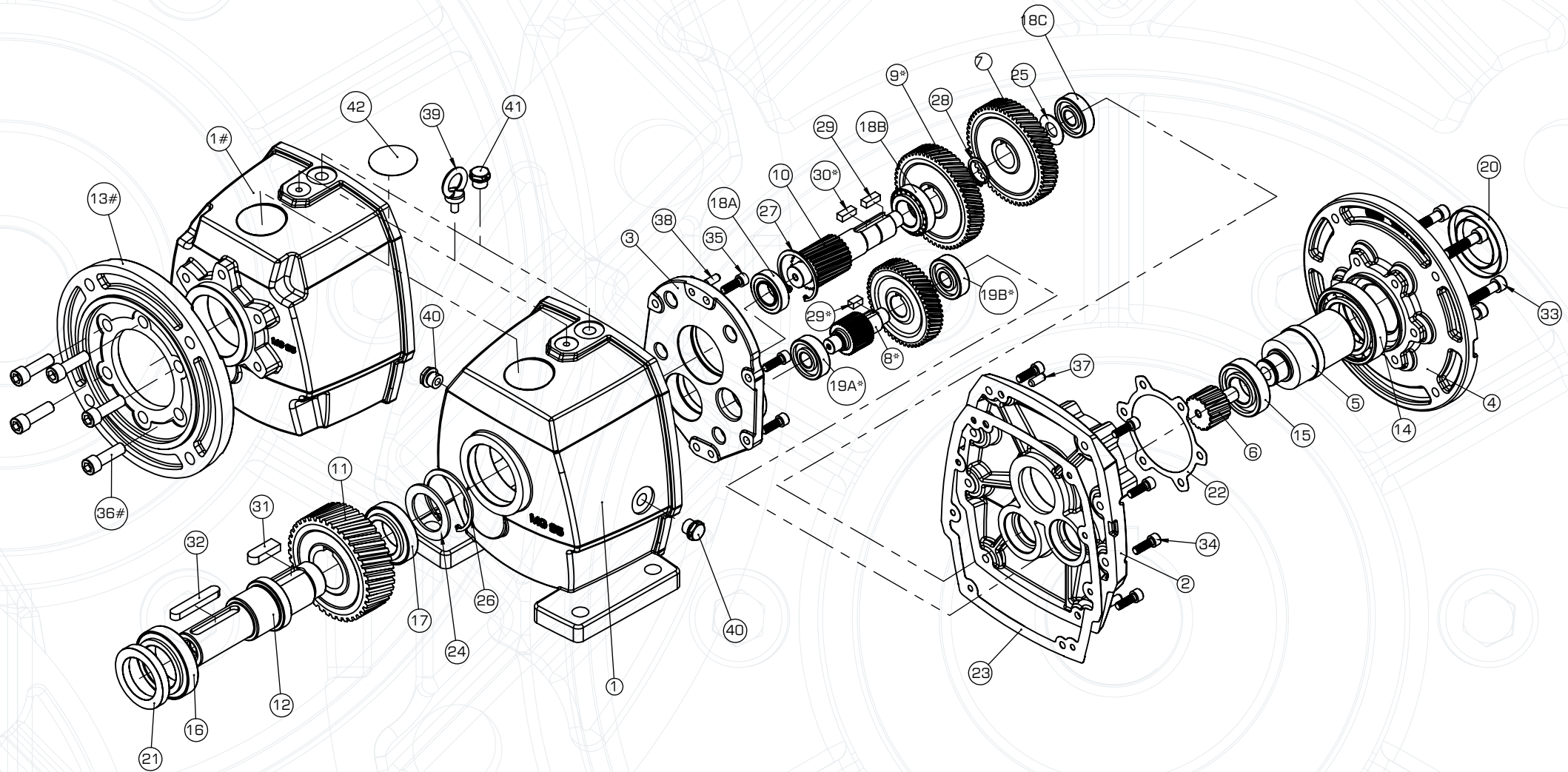
MG008 to MG030 - EXPLODED VIEW



LIST OF COMPONENTS MG008 to MG030

Item No.	Short Code	MG008		MG012		MG021		MG030	
		Description	QTY	Description	QTY	Description	QTY	Description	QTY
1	HO	Housing	1	Housing	1	Housing	1	Housing	1
2	IC	Input cover	1	Input cover	1	Input cover	1	Input cover	1
3	FL	Input flange	1	Input flange	1	Input flange	1	Input flange	1
4	P1	Input shaft (with integral pinion)	1	Input shaft (with integral pinion)	1	Input shaft (with integral pinion)	1	Input shaft (with integral pinion)	1
5	G1	Gear-1	1	Gear-1	1	Gear-1	1	Gear-1	1
6*	P2	Pinion – 2	1	Pinion – 2	1	Pinion - 2	1	Pinion - 2	1
7*	G2	Gear – 2	1	Gear – 2	1	Gear – 2	1	Gear – 2	1
8	P3	Pinion – 3	1	Pinion – 3	1	Pinion – 3	1	Pinion – 3	1
9	G3	Gear – 3	1	Gear – 3	1	Gear – 3	1	Gear – 3	1
10	SH	Output shaft	1	Output shaft	1	Output shaft	1	Output shaft	1
11#	FL	Output flange	1	Output flange	1	Output flange	1	Output flange	1
12	BG	Bearing, 6203ZZ	1	Bearing, 6205ZZ	1	Bearing, 6205ZZ	1	Bearing, 6206ZZ	1
13	BG	Bearing, 6005ZZ	1	Bearing, 6007ZZ	1	Bearing, 6007ZZ	1	Bearing, 6009ZZ	1
14	BG	Bearing, 6005ZZ	1	Bearing, 6205ZZ	1	Bearing, 6206ZZ	1	Bearing, 6207ZZ	1
15	BG	Bearing, NA4900	1	Brass bush (ID14xOD22)	1	Brass bush (ID18xOD26)	1	Bearing, 6203ZZ	1
16A*	BG	Bearing, 6200	1	Bearing, 6200	1	Bearing, 6202	1	Bearing, 6203	1
16B*	BG	Bearing, 6200	1	Bearing, 6200	1	Bearing, 6202	1	Bearing, 6203	1
17A	BG	Bearing, 6200	1	Bearing, 6200	1	Bearing, 6202	1	Bearing, 6203	1
17B	BG	Bearing, 6200	1	Bearing, 6200	1	Bearing, 6202	1	Bearing, 6203	1
18	SL	Oil seal 17x25x4	1	Oil seal - 35x52x10	1	Oil seal - 35x52x10	1	Oil seal - 45x65x10	1
19	SL	Oil seal - 25x40x7	1	Oil seal -25x40x8	1	Oil seal - 30x45x8	1	Oil seal - 35x55x10	1
20	GK	Gasket HOU+ICV	1	Gasket HOU+ICV	1	Gasket HOU+ICV	1	Gasket HOU+ICV	1
21	GK	-	1	Gasket ICV+IFL	1	Gasket ICV+IFL	1	Gasket ICV+IFL	1
22	CL	External Circlip A25	1	External Circlip A25	1	External Circlip A25	1	External Circlip A30	1
23	CL	-	1	External Circlip A25	1	External Circlip A30	1	External Circlip A35	1
24	CL	Internal Circlip B52	1	External Circlip A25	1	External Circlip A30	1	External Circlip A30	1
25*	CL	External Circlip A13	1	External Circlip A12	1	External Circlip A17	1	External Circlip A19	1
26	CL	External Circlip A13 & A14	1	External Circlip A17	1	External Circlip A17	1	External Circlip A19	1
27	KE	Key,output shaft	1	Key,output shaft	1	Key, output shaft	1	Key, output shaft	1
28	KE	Key for G3	1	Key for G3	1	Key for G3	1	Key for G3	1
29	KE	Key for G1	1	Key for G1	1	Key for G1	1	Key for G1	1
30*	KE	Key for G2	1	Key for G2	1	Key for G2	1	Key for G2	1
31	SD	Dowel Pin D5x10L	2	Dowel Pin D6x18L	2	Dowel Pin D6x18L	2	Dowel Pin D8x20L	2
32	HB	Allen bolt - M5x16	6	Allen bolt – M6x20	6	Allen bolt – M8x20	6	Allen bolt – M8x25	6
33	HB	Allen bolt - M6x25	4	Allen bolt – M6x20	6	Allen bolt – M6x35	6	Allen bolt – M8x40	6
34#	HB	Allen bolt - M4x12	5	Allen bolt – M6x15	5	Allen bolt – M6x30	5	Allen bolt – M10x25	5
35	OP	Oil Plug (Filler plug – 1/4")	-	Oil Plug (M10)	1	Oil Plug (M10)	1	Oil Plug (M10)	1
36	NP	Name Plate	1	Breathe Plug (M10)	1	Breathe Plug (M10)	1	Breathe Plug (M10)	1
* In 3-stage only, # In flange mounting only									

MG060 to MG300 - EXPLODED VIEW



LIST OF COMPONENTS MG060 to MG300

Item No.	Short Code	MG060		MG085		MG120		MG150		MG300	
		Description	QTY	Description	QTY	Description	QTY	Description	QTY	Description	QTY
1	HO	Housing	1	Housing	1	Housing	1	Housing	1	Housing	1
2	IC	Input cover	1	Input cover	1	Input cover	1	Input cover	1	Input cover	1
3	FL	Center Support	1	Center Support	1	(Monoblock housing)	0	Center Support	1	Center Support	1
4	FL	Input flange	1	Input flange	1	Input flange	1	Input flange	1	Input flange	1
5	SH	Input shaft	1	Input shaft	1	Input shaft	1	Input shaft	1	Input shaft	1
6	P1	Pinion – 1	1	Pinion – 1	1	Pinion – 1 + Circlip	1	Pinion – 1	1	Pinion – 1	1
7	G1	Gear-1	1	Gear-1	1	Gear-1	1	Gear-1	1	Gear-1	1
8*	P2	Pinion – 2	1	Pinion – 2	1	Pinion – 2	1	Pinion – 2	1	Pinion – 2	1
9*	G2	Gear – 2	1	Gear – 2	1	Gear – 2	1	Gear – 2	1	Gear – 2	1
10	P3	Pinion – 3	1	Pinion – 3	1	Pinion – 3	1	Pinion – 3	1	Pinion – 3	1
11	G3	Gear – 3	1	Gear – 3	1	Gear – 3	1	Gear – 3	1	Gear – 3	1
12	SH	Output shaft	1	Output shaft	1	Output shaft	1	Output shaft	1	Output shaft	1
13#	FL	Output flange	1	Output flange	1	Output flange	1	Output flange	1	Output flange	1
14	BG	Bearing, 6009ZZ	1	Bearing, 6011ZZ	1	Bearing, 6212ZZ	1	Bearing, 6013ZZ	1	Bearing, 6014ZZ	1
15	BG	Bearing, 6206ZZ	1	Bearing, 6206ZZ	1	Bearing, 6211ZZ	1	Bearing, 6207ZZ	1	Bearing, 6207ZZ	1
16	BG	Bearing, 32008	1	Bearing, 32010	1	Bearing, 6310ZZ	1	Bearing, 32012	1	Bearing, 33013	1
17	BG	Bearing, 32006	1	Bearing, 32008	1	Bearing, 6209ZZ	1	Bearing, 32010	1	Bearing, 33109	1
18A	BG	Bearing, 30204	1	Bearing, 32005	1	7305(2-stg) / 6305ZZ(3-stg)	1	Bearing, 32006	1	Bearing, 32207	1
18B	BG	Bearing, 30205	1	Bearing, 32006	1	7305(2-stg) / 6305(3-stg)	1	Bearing, 32007	1	Bearing, 30209	1
18C	BG	Bearing, 6202	1	Bearing, 6303	1	-	-	Bearing, 6304	1	Bearing, 6305	1
19A*	BG	Bearing, 6202	1	Bearing, 6303	1	Bearing, 6205	1	Bearing, 6304	1	Bearing, 3205	1
19B*	BG	Bearing, 6202	1	Bearing, 6303	1	Bearing, 6205ZZ	1	Bearing, 6304	1	Bearing, 6305	1
20	SL	Oil seal - 45x65x9	1	Oil seal - 55x80x10	1	Oil seal - 60x90x10	1	Oil seal - 65x90x12	1	Oil seal - 70x90x10	1
21	SL	Oil seal - 40x55x8	1	Oil seal - 50x72x8	1	Oil seal - 60x110x13	1	Oil seal - 60x85x10	1	Oil seal - 65x90x12	1
22	GK	Gasket ICV+IFL	1	Gasket ICV+IFL	1	Gasket ICV+IFL	1	Gasket ICV+IFL	1	Gasket ICV+IFL	1
23	GK	Gasket HOU+ICV	1	Gasket HOU+ICV	1	Gasket HOU+ICV	1	Gasket HOU+ICV	1	Gasket HOU+ICV	1
24	SP	External Circlip A40	1	Spacer	1	Spacer	2	Spacer	1	Spacer	1
25	SP	Spacer	1	Spacer	1	Spacer	1	Spacer	1	Spacer	1
26	CL	Internal Circlip B55	1	Internal Circlip B68	1	External Circlip A45	1	Internal Circlip B80	1	Internal Circlip B80	1
27	CL	Internal Circlip B52	1	Internal Circlip B55	1	Internal Circlip B52	1	Internal Circlip B62	1	Internal Circlip B85	1
28	CL	External Circlip A24	2 / 1	External Circlip A28	1	Internal Circlip B52	1	External Circlip A34	2 / 1	External Circlip A42	1
29	KE	Key for G1	1	Key for G1	1	Key for G1	1	Key for G1	1	Key for G1	1
30*	KE	Key for G2	1	Key for G2	1	Key for G2	1	Key for G2	1	Key for G2	1
31	KE	Key for G3	1	Key for G3	1	Key for G3	1	Key for G3	1	Key for G3	1
32	KE	Key, Ouput shaft	1	Key, Ouput shaft	1	Key, Ouput shaft	1	Key, Ouput shaft	1	Key, Ouput shaft	1
33	HB	Allen bolt - M8	6	Allen bolt - M10	6	Allen bolt - M10 / M14	4	Allen bolt - M10	6	Allen bolt - M12	6
34	HB	Allen bolt - M8x35	6	Allen bolt - M8x25	8	Allen bolt - M10x25	6	Allen bolt - M10x35	8	Allen bolt - M12x35	8
35	HB	Allen bolt - M8x35	6	Allen bolt - M8x30	6	Allen bolt - M10x20	1	Allen bolt - M8x35	6	Allen bolt - M10x40	6
36#	HB	Allen bolt - M10x25	5	Allen bolt - M12x30	5	Allen bolt - M14x35	6	Allen bolt - M12x30	5	Allen bolt - M12x35	5
37	SD	Dowel Pin D8x20L	2	Dowel Pin D8x20L	2	Allen bolt - M6x14(TCV)	7	Dowel Pin D10x20L	2	Dowel Pin D10x25L	2
38	SD	Dowel Pin D8x20L	2	Dowel Pin D8x20L	2	-	-	Dowel Pin D8x20L	2	Dowel Pin D10x25L	2
39	EB	-	-	Eye Bolt - M8	1	Eye Bolt - M10	1	Eye Bolt - M8	1	Eye Bolt - M10	1
40	OP	Oil Plug	-	Oil Plug	-	Oil Plug	-	Oil Plug	-	Oil Plug	-
41	OP	Oil Plug	-	Oil Plug	-	Oil Plug	-	Oil Plug	-	Oil Plug	-
42	NP	Name Plate	1	Name Plate	1	Name Plate	1	Name Plate	1	Name Plate	1

* In 3-stage only, # In flange mounting only



Co-ordinate Measuring Machine



KARDEX for Gear Storage



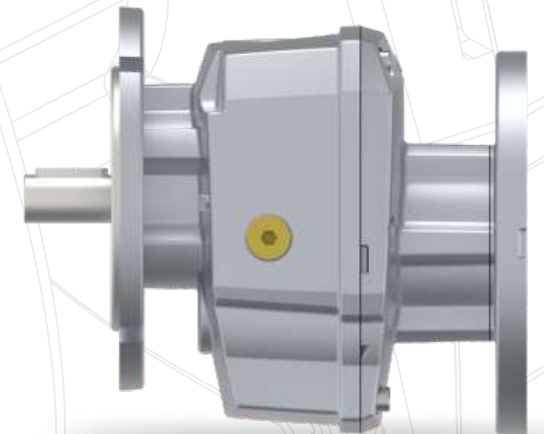
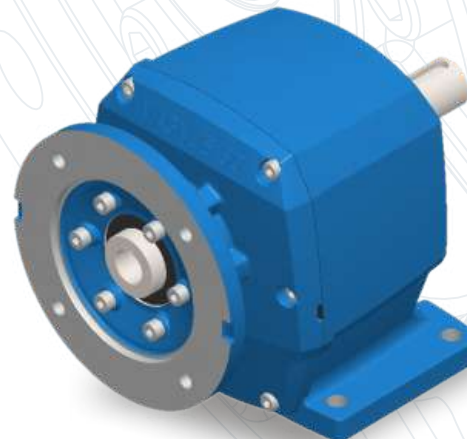
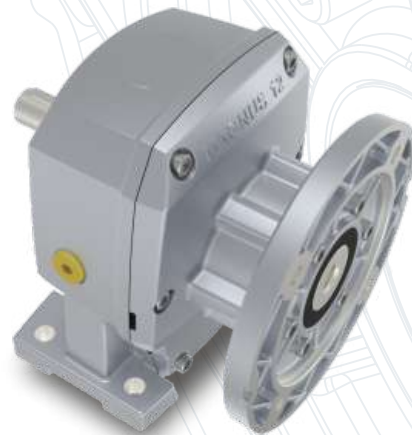
Magnifying Glass To Check Gear

Our modern manufacturing plant has advanced machinery for automatic winding, trickle and vacuum pressure impregnation, precise balancing, conveyORIZED assembly, enclosed painting lines, automatic testing facilities with all components bar coded for traceability, consistent quality and low production time.

We also have an advanced testing facility for type testing motors and gearboxes which enables us to plot accurate speed torque curves and carry out temperature rise tests and other type tests as per IEC 60034/IS:325 & IS:12615



Motor manufacturing facility, India



All information and data presented in this catalogue have been checked with greatest care. We however do not assume responsible for any unintended errors and omissions. Our designs are being continuously improved, so please reconfirm specifications and dimensions prior to ordering.