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MAGNUS IN - LINE HELICAL GEARBOX






Gearbox Manufacturing Facility, India

Rotmotive 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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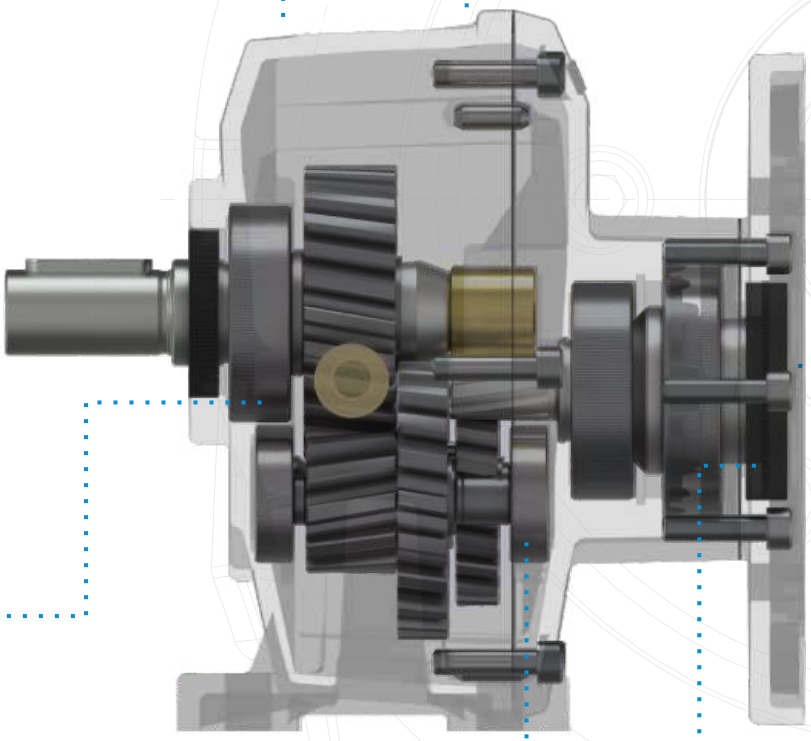
TECHNICAL CHARACTERISTICS

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 out put flange and easy and quick conversion between universal and flange mounting

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

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

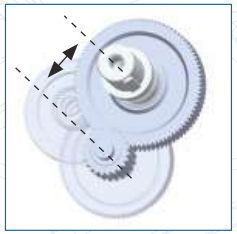
No overhang shafts or gears which results higher service factor and better load caring capacity

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.



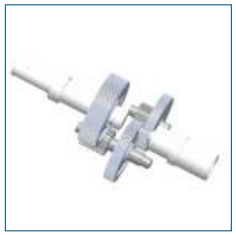
Amongst all parts, the last stage gears are subjected to highest mechanical stresses. Higher centre distance which in turn results in higher module considerably increases the service factor. MAGNUS excels in the area (see measures at last page)

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

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

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.

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



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.

Mechanical parts locked in their position by snap rings and spacers. This ensures better absorbtion 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:

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

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:

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

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

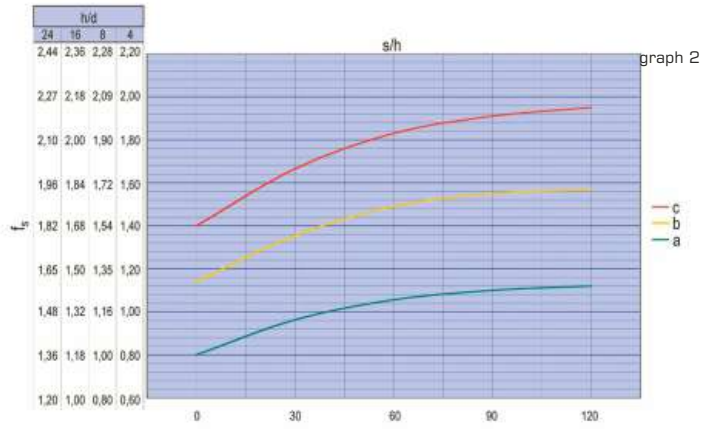
$$i = \frac{n_1}{n_2}$$

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.



graph 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:

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

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 ≥ f_{sr}.

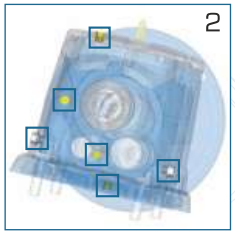
OIL DETAILS TABLE

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.

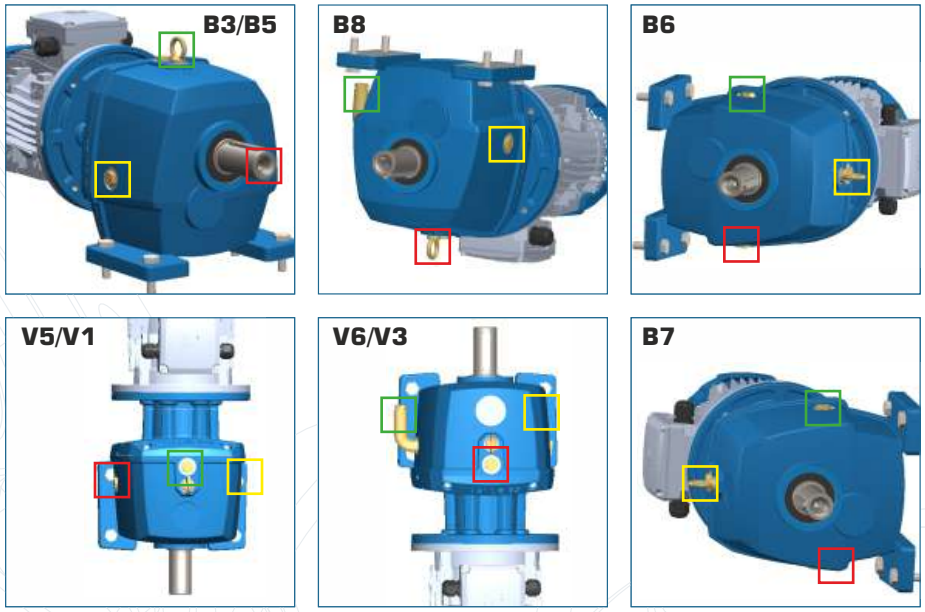
MG085 to MG300 supplied without oil and with interchangeable oil plug. After adapting the oil quantity, each magnus can be mounted in any position, thus giving big advantage in the inventory reduction and interchangeability due to following characteristics.

ZZ shielded pre-lubricated bearings on input and output shaft



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 MG012	2 3		**FT** = Foot mounting **UV**= Universal mounting					
MG021 MG030 MG060 MG085 MG120 MG150 MG300			**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	

QUICK SELECTION GUIDE

Service factor Fs = 1.5 @ input speed n1 = 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									MG300							
	180			MG030													
	170																
	160		MG021														
	150				MG060	MG060											
	140						MG150	MG150	MG150								
	130	MG012															
	120			MG021				MG120									
	110						MG085										
	100		MG012		MG030			MG085		MG120	MG300						
	90						MG060										
	80				MG021	MG030			MG085			MG300					
	70							MG060		MG120							
	60	MG008	MG008	MG012			MG030			MG085	MG150		MG300				
	50					MG021			MG060								
	40			MG008	MG012		MG021	MG030		MG060	MG120	MG150		MG300			
	30				MG008	MG012			MG030		MG085	MG120	MG150		MG300		
	20						MG012	MG021	MG021	MG030	MG060	MG085	MG120	MG150	MG150	MG300	MG300
	10							MG012	MG012		MG030		MG085	MG120	MG120		

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	
	50	50.4	57	30	41	61		29	39	59	MG 012	MG 021	19		MG 021
	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

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		53			65	97	MG 021	
	20	19.9	145					49	71	97		72					71	97			48			72	107		MG 030
	25	24.8	116					60	89	MG 021		58					89	MG 021		MG 030	39			89	MG 021	MG 030	
	30	30.3	95					74	108		MG 030	47					108		MG 030		32			109			MG 060
	35	33.8	85					82	MG 021	MG 030		43				81	MG 021	MG 021		MG 060	28		82	MG 021	MG 030	MG 060	
3	40	41.5	69					101			MG 060	35				100			MG 060		23		101				MG 085
	45	44.5	65				80	108		MG 030		32				107		MG 030		MG 085	22	78	108	MG 030	MG 060		
	50	49.1	59				88	MG 021	MG 030			29			80	MG 021	MG 030		MG 085	MG 120	20	86	MG 021			MG 085	MG 120
	60	59.2	49				106			MG 060		24			96			MG 060			16	104		MG 060			
	75	72.8	40			88	MG 021		MG 060		MG 085	20		85			MG 060		MG 120	MG 150	13	MG 021				MG 120	MG 150
	80	80.2	36			96		MG 030				18		94		MG 021					12		MG 030		MG 085		
	90	88.7	32			107				MG 085	MG 120	16		104	MG 021		MG 030		MG 085		11			MG 060			
	100	98.7	29		80	MG 021	MG 030		MG 085			15		115		MG 030		MG 085			10						MG 150
	110	110.9	26		90			MG 060		MG 120		13	87				MG 060		MG 120	MG 150	9		MG 060		MG 085		
	120	122.2	24		99				MG 085			12	95			MG 060		MG 085			8	MG 030				MG 120	
	135	135.1	21	79	110		MG 060			MG 120		11	105	MG 021	MG 030		MG 085		MG 120	-	7						
	150	150.4	19	88	MG 021			MG 085	MG 120		MG 150	10	MG 021			MG 060		MG 150			6				MG 085		-
	160	157.7	18	92								9		-	MG 030		MG 085				6					MG 150	
	180	175.6	16	103		MG 030	MG 060	MG 085	MG 120	MG 150		8			MG 060			MG 150			5	MG 060		MG 085			
	200	197.0	15	115								7									5						

Output Shaft :- Ø20 & Ø25 — **Output Flange :- Ø160(71B5)**

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 008	MG 012	MG 012	MG 012	MG 012	465	MG 008	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
	3.6	3.9	744									372									248						
	5	4.8	600									300								MG 012	200						
	7.5	7.4	388									194									129						
	10	10.1	284									142									95						
	12	12.3	234									117								117	78						129
	15	14.7	195									98								141	65						155
	18	18.0	160								126	80							126	172	53					129	189
	20	20.0	144								140	72							140	191	48					143	MG 030
3	25	25.0	115							122	179	58						122	179	MG 030	38				134	183	
	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			131	195		
	40	40.1	72						143	196		36				MG 012	143	196			24		MG 012	145	MG 030	MG 060	
	45	44.5	65						159	MG 030	MG 060	32					159	MG 030	MG 060	MG 060	22			160			
	50	49.6	58					121	177			29			MG 012	119	177				19	MG 012	121	179			MG 085
	60	59.0	49				MG 012	144	MG 030			24				142	MG 030				16		144	MG 030	MG 060		
	70	72.0	40				129	175				20		MG 012	117	173		MG 060		MG 085	13	126	175			MG 085	MG 120
	80	80.3	36				144	196				18			130	193					12	141	196				
	90	89.5	32				160	MG 030	MG 060	MG 060	MG 085	16			145	MG 030	MG 060		MG 085	MG 120	11	157	MG 030	MG 060	MG 060		MG 120
	100	98.6	29		MG 012		176					15			160						10	173					
	110	109.3	26			119	195					13	MG 012	128	178						9	192					MG 150
	120	121.9	24			131	MG 030					12		143	198						8		MG 030		MG 085		
	140	141.2	20	MG 012		147				MG 085	MG 120	10		165				MG 060		MG 150	7	MG 030		MG 060		MG 120	-
	160	156.5	18		127	170		MG 060				9	122	183	MG 030				MG 085		6		MG 060		MG 085		
	180	174.5	17		142	188	MG 030		MG 085	MG 120	MG 150	8	136	-			MG 085	MG 150	MG 150	-	6			MG 085	MG 150	MG 150	
	200	196.1	15		159		MG 060					7	153		MG 060						5						

Output Shaft :- Ø25 & Ø30

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

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	MG 012	36	476	MG 008	MG 008	MG 012	MG 012	MG 012	MG 021	42	71	317	MG 008	MG 008	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						MG 021	175	MG 060	78						MG 021	179	263
	15	15.4	187							185	94							220		62							225	MG 060
	20	19.4	149						MG 021	233	74					MG 021		277		50					MG 021	208	283	
3	25	25.2	114					MG 021		MG 060	57				MG 021		245		MG 085	38				MG 021		270	MG 060	
	30	29.7	97						212		48					212	290	MG 060		32					217		MG 085
	35	35.8	81				MG 021		256		40		MG 012		MG 021	256			MG 120	27		MG 012		MG 021	261	MG 060	
	40	39.5	73						282		36					282	MG 060			24					289		MG 120
	45	44.9	64					219			32				219			MG 085		21				241		MG 085	
	50	50.2	57		MG 012			245		MG 085	29	MG 012			245				MG 150	19				269			
	55	56.5	51					275			26				275					17					MG 060	MG 085	MG 150
	60	60.3	48			MG 021	215		MG 060		24		MG 021	215		MG 060	MG 085	MG 120		16	MG 012			217			
	70	69.5	41	MG 012	MG 021		248			MG 120	21			248					MG 300	14		MG 021		251		MG 120	MG 300
	75	76.6	38				274				19	MG 021		274						13				276			
	80	79.0	36				282				18			282	MG 060					12				285	MG 060		
	90	88.3	33			215			MG 085		16		212			MG 085	MG 120	MG 150		11		215				MG 085	MG 120	MG 150
	100	99.4	29			242				MG 150	14		239							10		242						
	120	121.1	24	MG 021	216						12									8	212							
	135	135.2	21		242						11	220								7	237							
	140	139.8	21		250			MG 085	MG 120	MG 300	10	227				MG 085	MG 120	MG 300	-	7	245				MG 085	MG 120	MG 150	-
	150	152.2	19		272	MG 060	MG 060				9	247	MG 060	MG 060	MG 060					6	267	MG 060	MG 060	MG 060				MG 300	
	160	159.0	18		284						9	258					MG 150			6	279						-	
	180	177.6	16	214	MG 060		MG 085	MG 120	MG 150		8	289		MG 085	MG 150	MG 150	-			5	MG 060		MG 085	MG 150	MG 150			
	200	199.9	14	240							7	MG 060								5					-			

Output Shaft :- Ø30 & Ø35 **Output Flange :- Ø200(80/90B5) & Ø250(100/112B5)**

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	Ouptput speed	Torque (Nm)							Ouptput speed	Torque (Nm)								Ouptput 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 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								301	75								318
	15	15.1	190								95								356	63								358
	17	17.0	169								85								401	56								401
	19	19.1	151								75								450	50								508
	24	24.2	119								60								570	40								085
	29	29.4	98							346	49							412		33								
	33	32.7	88							385	44							458		29								
	36	36.3	79							428	40							508		26								
3	41	41.1	70						294	495	35						294	401		23						301	441	
	46	46.1	62						330	554	31						330	449		21						337	494	
	54	54.0	53						386	085	27						386	526		18						395	579	
	66	65.9	44					321	471		22					321	471			15					353	482		150
	74	73.6	39					359	526	120	20					359	526			13					395	538		
	83	82.5	35					402	085		17					402	085			12					442	085		
	99	99.4	29					484		150	14					484		150		10					533			
	120	120.4	24						120		12						085		300	8						120	150	300
	135	134.8	21							300	11									7								
	151	150.9	19								10									6								

Output Shaft :- Ø35 & Ø40 **Output Flange :- Ø200(80/90B5) & Ø250(100/112B5)**

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				MG 021		310	423	81			MG 021			MG 060	620	MG 120	54			MG 021				625	
	20	20.0	144						350	477	72				MG 030			700		48				MG 030			706	
	22	22.1	130						387	527	65							774		43							781	
	25	24.6	117			MG 021			430	586	59		MG 021					MG 120	MG 150	39		MG 021					MG 120	MG 150
	27	27.5	105					MG 060	481	655	52						647			35							
3	31	31.1	93				MG 030		556	758	46		MG 021	MG 030		MG 060	748			31			MG 030		MG 060	667		MG 300
	34	34.4	84		MG 021				615		42							MG 150		28	MG 021					738	MG 150	
	38	38.2	75						683	MG 120	38						MG 120			25		MG 030		MG 060		819		
	43	42.7	67			MG 030			763		34	MG 021	MG 030		MG 060	611				22					624	MG 120	MG 300	
	46	45.7	63				MG 060		817		32			MG 060		653				21			MG 060		668			
	51	50.5	57	MG. 021				607		MG 150	29					722	MG 150			19					738			
	56	56.1	51					675	MG 120		26					802		MG 300		17				602	820	MG 150		-
	63	62.7	46		MG 030	MG 060		754			23	MG 030	MG 060		611	MG 120				15	MG 030	MG 060		672	MG 120			
	77	76.8	38					MG 120	MG 150		19				749					13				824				
	85	84.9	34	MG 030	MG 060		607			MG 300	17	MG 060	MG 060	607	MG 120	MG 150	MG 300	-	-	11	MG 060	MG 060	621	MG 120	MG 150	MG 300	-	
	94	94.3	31				674				15			674						10			689					
	106	105.5	27				754	MG 150			14			754		MG 300				9			771					

Output Shaft :- Ø40 & Ø45 — **Output Flange :- Ø250(100/112B5) & Ø300(132B5)**

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		MG 021					1085	
	18	18.2	158		MG 021				637	869	1071	79	MG 021	MG 021		MG 060		869	MG 150		53	MG 021			MG 060		955	MG 150	MG 300
	20	19.7	146						690	941	1161	73						941			49		MG 030				1035		
	23	22.2	130						777	1060	MG 150	65						1060		MG 300	43						MG 150		
3	20	21.0	137						749	1021		69						1021			46						1123		
	25	28.0	103	MG 021		MG 060			1000	MG 150	MG 300	51			MG 060	MG 085	1000	MG 150	MG 300		34	MG 030	MG 060	MG 060	MG 085	1009	MG 300	MG 300	-
	30	28.2	102						1007			51					1007				34					1016			
	35	33.5	86		MG 030				MG 150			43	MG 030				MG 150				29					MG 150			
	40	36.7	79					893				39				881					26								
	45	44.4	65	MG 030	MG 060			1082	MG 300	MG 300		32	MG 060	MG 060	MG 085	1067	MG 300	MG 300	-	-	22	MG 060		MG 085	952	MG 300		-	
	50	51.1	56			MG 085	912	MG 150			-	28				MG 150					19				1095				
	55	56.5	51				1009					25			839						17		MG 085	826	MG 150		-		
	60	58.7	49				1048					25									16			858					
	70	66.1	44		MG 060		MG 150					22		MG 085	945						15			966					
	80	80.0	36			962						18			1144						12	MG 085	858	MG 150					
	90	85.6	34		MG 085	1029	MG 300	MG 300	-	-		17	MG 085	834	MG 150	MG 300	-	-	-		11		918		MG 300	-	-		
	100	92.7	31			1115						16		904							10		994						
	110	103.2	28			MG 150						14		1011	MG 300						9		1112	MG 300					
	120	112.3	26									13		1095							9		MG 150						

Output Shaft :- Ø45 & Ø55

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

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	MG 120	316	MG 012	MG 012	MG 012	MG 012	MG 030	MG 085	MG 085	MG 120	1202	MG 120	211	MG 012	MG 012	MG 012	MG 012	MG 030	MG 085	MG 085	MG 120	1198	MG 120
	5	5.0	571											286									1348		190									1323	
	6	5.7	502											251											167										
	6.5	6.4	454											227											151										
	7	7.3	395											198				MG 012							132				MG 012						
	8	8.1	357											179											119										
	9	9.0	319											159											106										
	10	10.2	283											141											94										
	11	11.4	253											126											84										1198
	13	12.6	229											114									1202		76										1323
	14	14.1	204											102									1348		68										
	16	16.1	179											89											60										
	18	18.1	160											80									1264		53										
	20	20.4	142				MG 021						1198	71								MG 120	1425		47										
	23	22.8	126										1343	63											42								1198		
	26	25.8	111									1234		56								1234			37								1357		
3	30	29.5	98									1438		49								1438			33										
	34	33.9	85								1212			42											28										
	37	37.5	77		MG 021						1339			38	MG 021										26										
	42	42.0	69				MG 030			MG 120				34		MG 3030									23		MG 030								
	55	55.5	52						MG 120	1352				26											17										
	61	61.0	47	MG 021					1227					24											16										
	69	68.6	42		MG 030				1374					21	MG 030										14	MG 030									
	77	76.9	37					MG 120						19											12										
	88	87.8	33	MG 030			MG 085							16						1256					11						1284				
	97	96.6	30											15						1381					10						1412				
	109	108.9	26					1309						13	MG 060										9				MG 120						
	122	122.0	24	MG 060		MG 085	MG 120	MG 300						12		MG 085	MG 120		1189	MG 300					8										
	138	138.2	21											10					1348						7										

Output Shaft :- Ø50 & Ø55

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

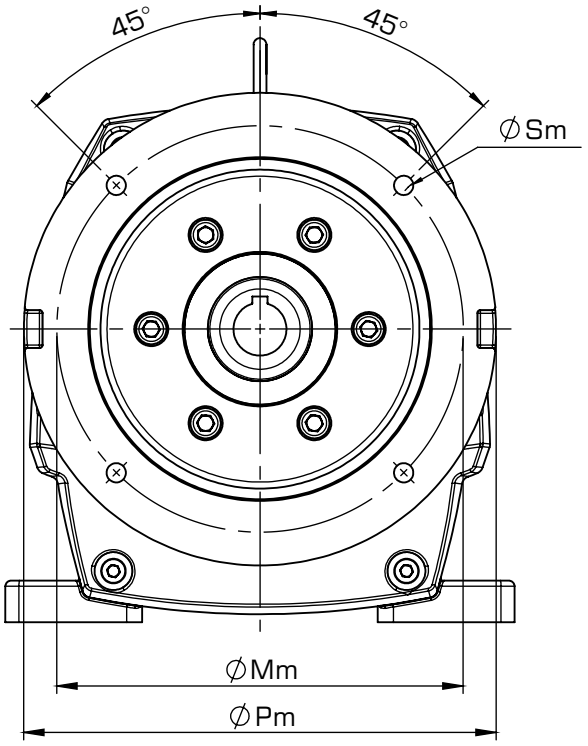
MG300 — Peak Torque = 3000 Nm

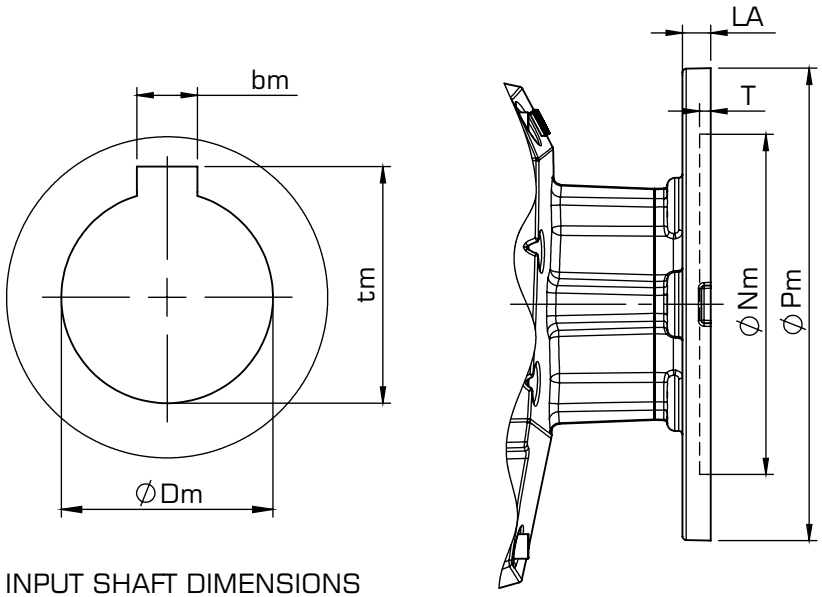
Polarity			2-pole								4-pole									6-pole							
Frame Size			-	100	132	132	160	160	160	180	-	100	112	132	132	160	160	180	180	-	100	112	132	132	160	160	180
Power (kW)			-	3.7	5.5	7.5	11	15	18.5	22	-	2.2	3.7	5.5	7.5	11	15	18.5	22	-	1.5	2.2	3.7	5.5	7.5	11	15
Input Speed (rpm)				2880								1440									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 085	MG 120	MG 120	MG 120	304	332	MG 030	MG 030	MG 085	MG 085	MG 120	MG 120	511	608	221	MG 030	MG 030	MG 085	MG 085	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						MG 120	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						MG 150	1633
	13	12.6	229							882	114						MG 150	1484	1765	76							1805
	14	14.0	206							980	103							1649	1961	69						1471	2006
	16	15.7	184							1096	92						1495	1843	2192	61						1644	2242
	19	18.6	155							1299	78					MG 120	MG 150	1772	2185	2598	52				MG 120	MG 150	1949	2657
	21	20.5	140						MG 150	1436	70							1958	2415	2871	47					1468	2154	
	23	22.8	126							1595	63						1595	2175	2683	42				MG 150		1632	2393	
	25	25.5	113	MG 060				MG 150	1500	1784	57	MG 060	MG 085	MG 120	MG 120	MG 150	1784	2432		38	MG 060		MG 120			1824	2676	
3	30	30.2	95					1472	1816	2159	48					1472	2159			32		MG 085			1619	2208		
	33	33.4	86				MG 150	1628	2008	2388	43			MG 150	1628	2388				29			MG 150		1791	2442		
	37	37.1	78			MG 120		1808	2230	2652	39		MG 120		1808	2652				26					1989	2713		
	42	41.5	69				1483	2023	2495		35	MG 085		1483	2023					23	MG 085	MG120	1497	2225				
	56	55.6	52	MG 085	MG 120	MG 150	1987	2710			26		MG 150	1987	2710					17		MG 150	2006					
	62	61.5	47			1499	2198				23	MG 120	1479	2198						16	MG 120		2218					
	68	68.3	42		MG 150	1665	2441				21		1642	2441						14		1465	2464					
	76	76.4	38	MG 120		1862	2731				19		1837	2731						13		1639	2756					
	88	88.1	33		1575	2147					16	MG 150	2119							11	MG 150	1890						
	97	97.4	30	MG 150	1741	2374					15		2342							10		2089						
	108	108.2	27		1934	2637					13	1547	2602							9	1582	2321						
	121	121.0	24		2163						12	1730	2910							8	1769	2595						
	137	136.6	21	1642	2441						11	1953								7	1998							
	151	151.0	19	1816	2699						10	2159								6	2208							
	168	167.7	17	2016							9	2398								6	2452							
	188	187.5	15	2254							8	2681								5	2742							

Output Shaft :- Ø60 & Ø65 **Output Flange :- Ø350(160/180B5) & Ø450(225B5)**

MAGNUS INPUT FLANGE DIMENSIONS

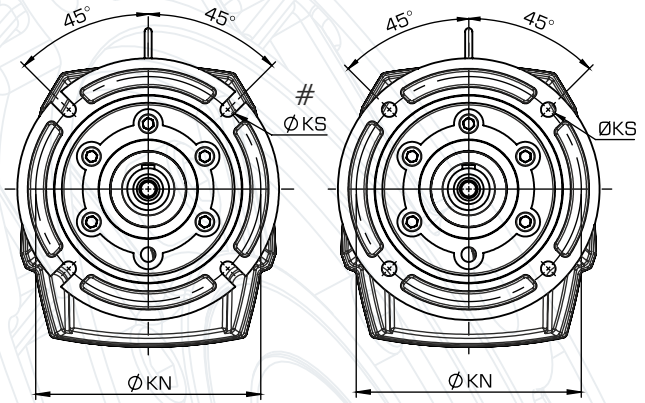
Magnus	Motor Size	Pm	Nm	Mm	Sm	LA	T	Dm (F7)	tm	bm (E9)	L1 (Foot Mount)		L2/L3 (Flange/Universal Mount)	
											D1	D2	D1	D2
MG 008	63B5	140	95	115	Ø10	10	3.5	11	12.8	4	190	190	190	190
	71B5	160	110	130	Ø9	9	4.5	14	16.3	5	197	197	197	197
MG 012	63B5	140	95	115	Ø9	13	4	11	12.8	4	202	212	222	232
	71B5	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				





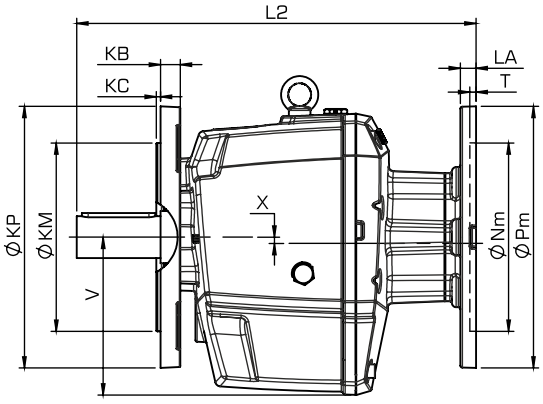
INPUT SHAFT DIMENSIONS

DIMENSIONS

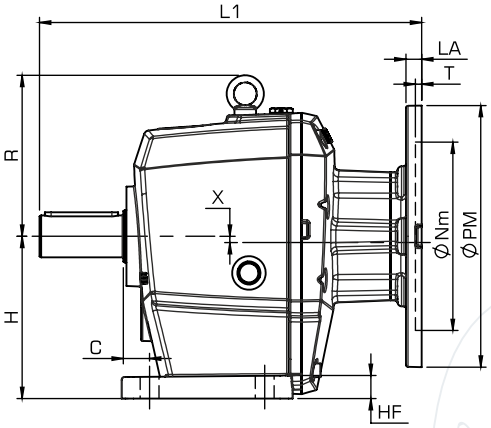


OUTPUT FLANE WITH SLOT

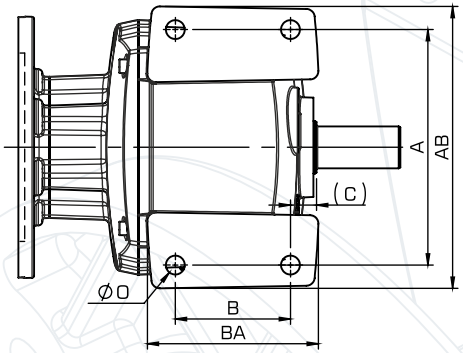
OUTPUT FLANE WITH HOLE



FLANGE MOUNTING



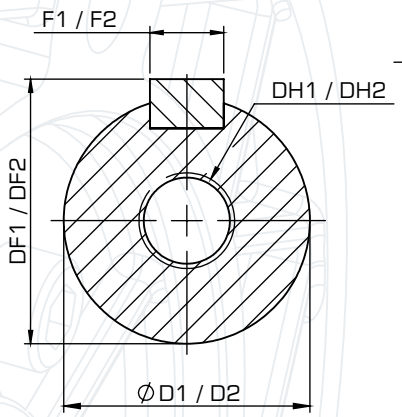
FOOT MOUNTING

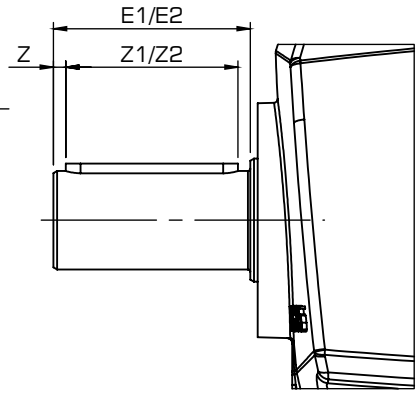


FOOT MOUNTING

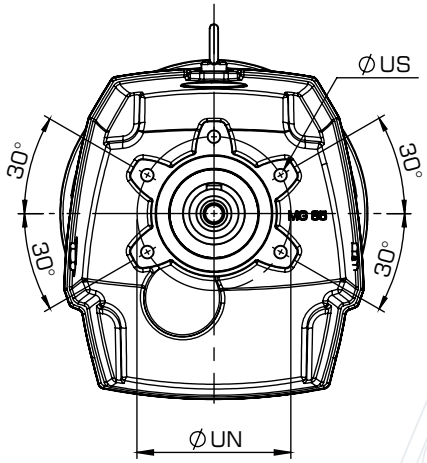
Magnus Size	Flange Mounting								Foot Mounting									
	OFL Size	KP	KM	KN	KS	KC	KB	V	H	R	C	AB	A	BA	B	O	HF	X
MG008	63B5 #	140	95	115	10	3	9	79	90	57	18	137	110	102	75	9	11	17.5
MG012	71B5 #	160	110	130	9	3.5	10	98	100	72	18	156	130	94	60	11	14	18.5
MG021	71B5 #	160	110	130	9	3.5	10	109	110	81	18	189	160	109	70	11	16	23
	80/90B5	200	130	165	Ø11	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	Ø14	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	Ø14	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	Ø14	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	Ø18	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	Ø18	5	21											
MG300	160/180B5	350	250	300	Ø18	5	21	204	210	198	25	350	300	227	165	22	30	0
	225B5	450	350	400	Ø18	5	25											

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

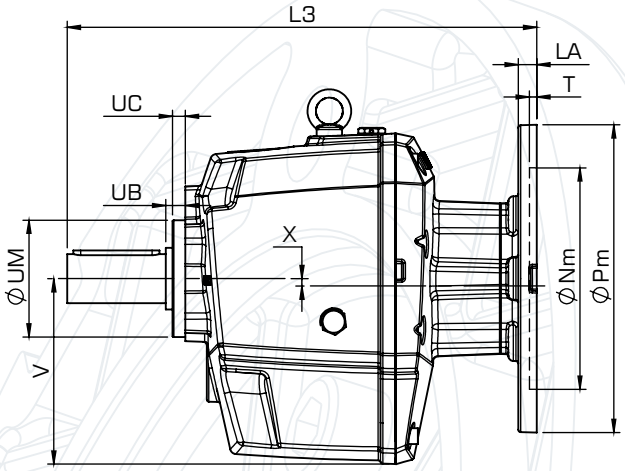




OUTPUT SHAFT DETAILS (FOR ALL MOUNTINGS)



UNIVERSAL MOUNTING



UNIVERSAL MOUNTING

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

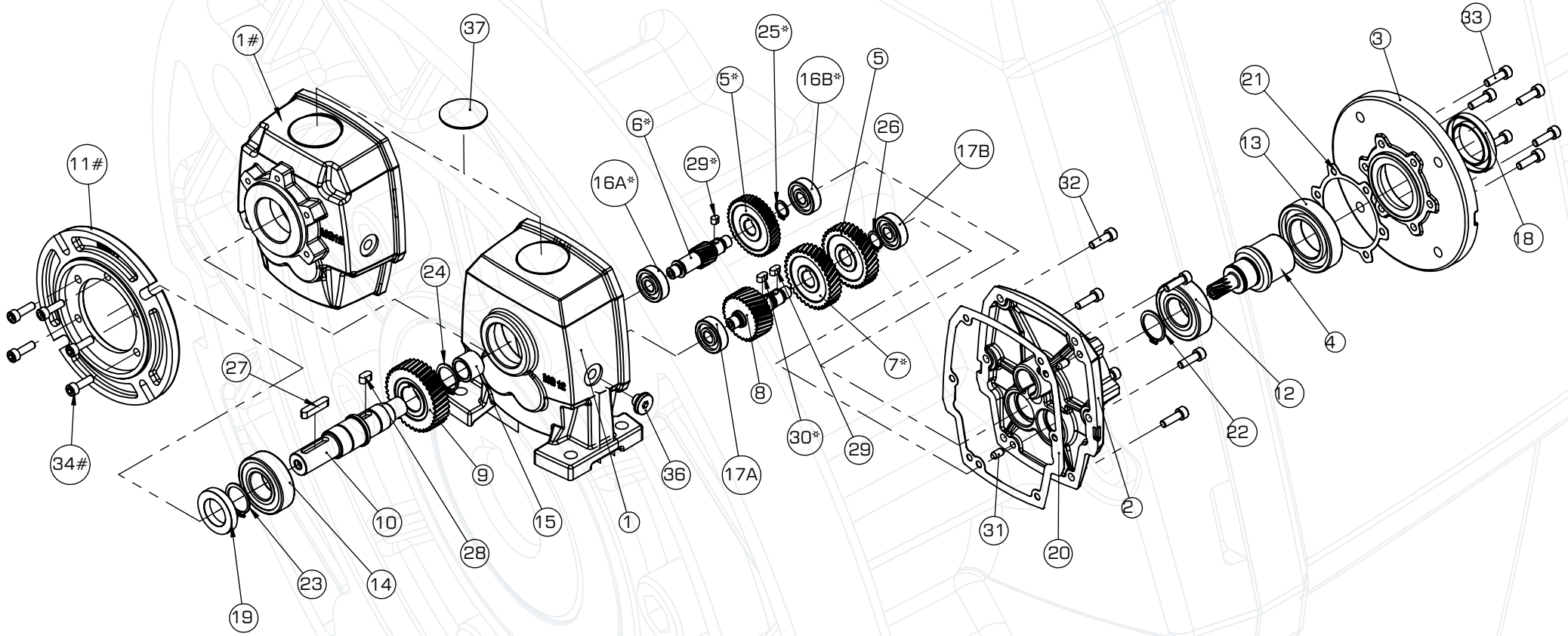
Magnus Size	Universal Mounting						
	UB	UC	UM (f8)	UN	US	V	R
MG008	6.5	3.5	46	55	M4x9	79	57
MG012	9.5	5.5	68	80	M6x10	98	72
MG021	9.5	6	68	80	M6x12	109	81
MG030	13	7.5	90	110	M10x16	125	95
MG060	13	8	90	110	M10x15	128	95
MG085	16	10.5	95	125	M12x20	151	154
MG120*	16	11.5	132	155	M12x2	160	160
MG150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

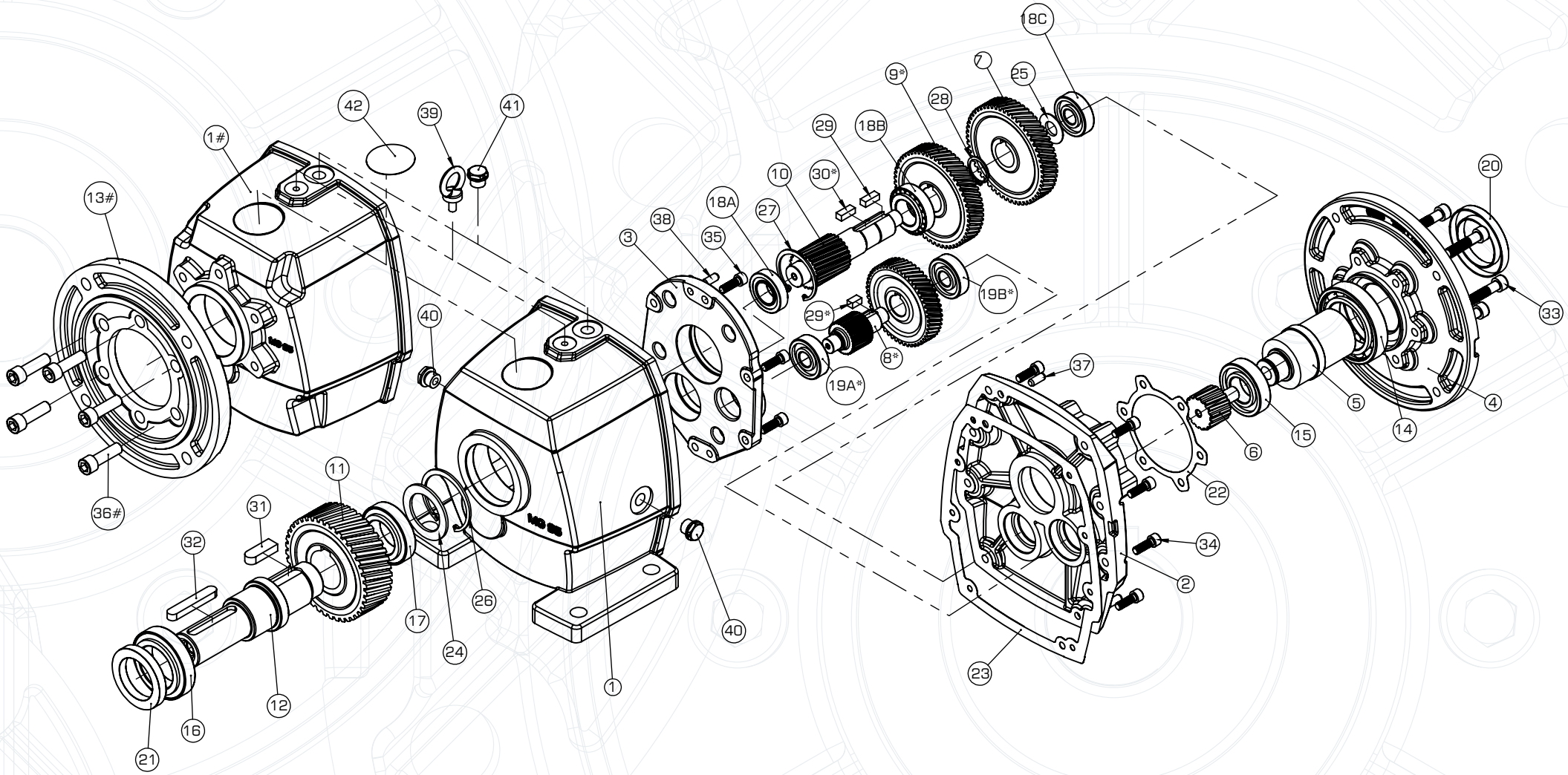


LIST OF COMPONENTS MG008 to MG030

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

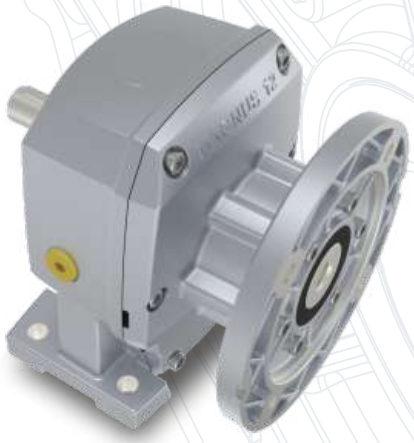
Magnifying Glass To Check Gear

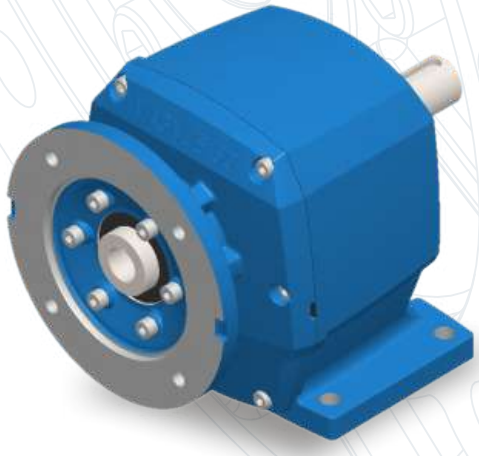
All information and data presented in this catalogue have been checked with greatest care. We however do not assume responsible for any unintended errors and ommissions. Our designs are being continuously improved, so please reconfirm specifications and dimensions prior to ordering.

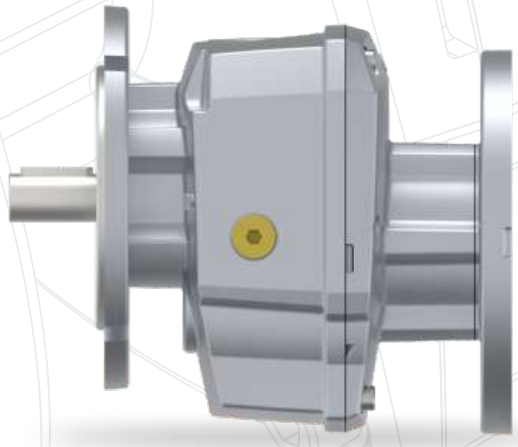
Our modern manufacturing plant has advanced machinery for automatic winding, trickle and vacuum pressure impregnation, precise balancing, conveyorized assembly, enclosed painting lines, automatic testing facilities with all components bar coded for traceability, consistent quality and low production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







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