

MG Industrial Rubber Lobe Pumps



The MG Series of Industrial Rubber Lobe Pumps are Positive Displacement Self-Priming & Reversible Rotary Lobe Pumps designed for the transfer of viscous, fibrous, abrasive and solids laden products within the following industries:

- **Industrial:** Lime milk, molasses, resins, paper & pulp, ceramics, machining of glass and marble
- **Water Treatment:** Sewage, dewatered sludge, sludge clarifier, activated sludge, digested sludge, lime milk, raw sludge, polymers & slurries
- **Petro-Chemical:** Crude oil, solvents, heavy oils, waste oils
- **Anaerobic Digestion:** Digestate, Feedstock Supply, Waste Waters & Slurries
- **Marine:** Waste Waters & Dirty Oil Transfers

The range covers 9 models with capacities up to 300 m³/hr, discharge pressures up to 5 bar, suction lifts up to 5 m and solids handling capacity up to up to 30 mm. Swan necks on the suction and discharge can be provided to aid in self-priming applications.

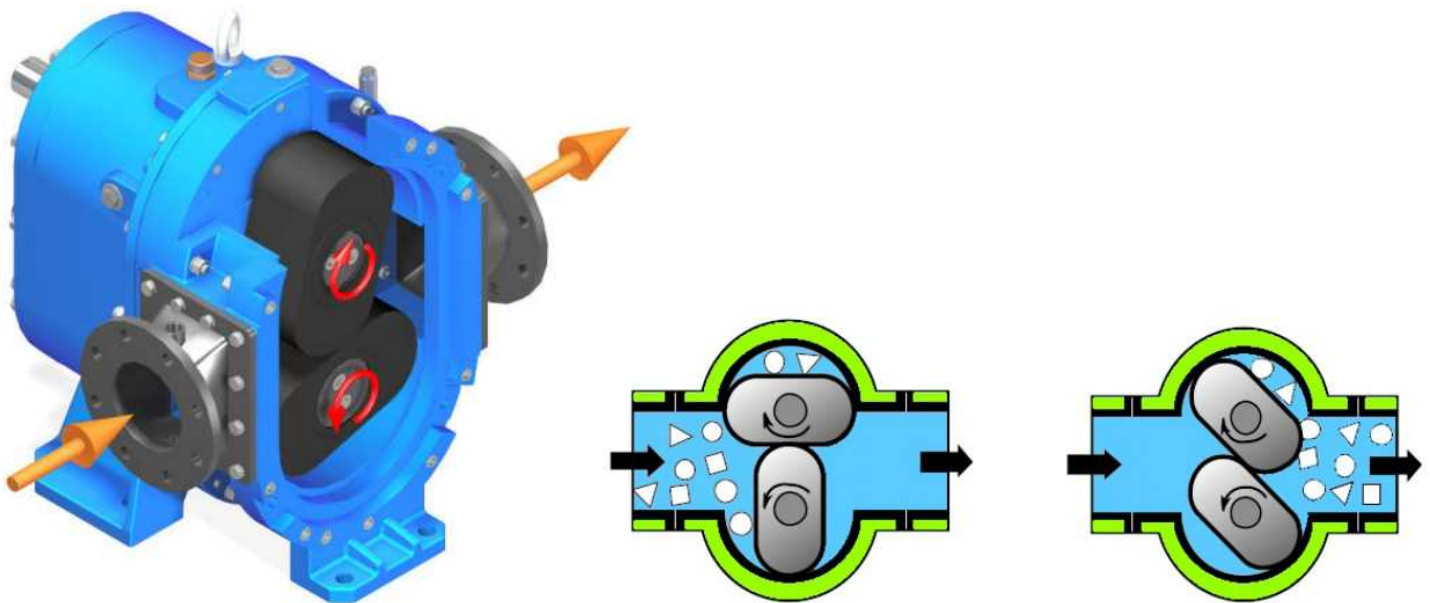
Pump bodies are constructed from GG 30 continuously cast spheroidal graphite Iron with wear plates in wear resistant steel & triple seal design as standard.

Lobes can be supplied in several different elastomer coatings including: NBR, SBR, XNBR, EPDM and FPM. Lobe replacement is facilitated by a front pull-out design.

Different drive options are available to suit a wide variety of site specific requirements such as ATEX rated motor, hydraulic drives for truck mounting and diesel / petrol drives for portable systems.

Particular care has been taken in the design of these units to improve pump life and limit maintenance intervals in arduous and challenging applications. Each pump model has been through stringent and severe laboratory testing and field tests before being launched. Each pump is then individually tested before delivery.

MG Industrial Rubber Lobe Pump Working Principle:



2 synchronised lobes revolve within the pump housing. The lobes do not come into contact with one another, this is prevented by timing gears located within the gearbox. As the lobes rotate, they create an expanding cavity at the pump suction which draws the fluid into the pump. The fluid is trapped by the lobes in pockets as they rotate which is then conveyed around the outside of the lobes, passing any solids with it along the way, and discharging out of the pump casing.

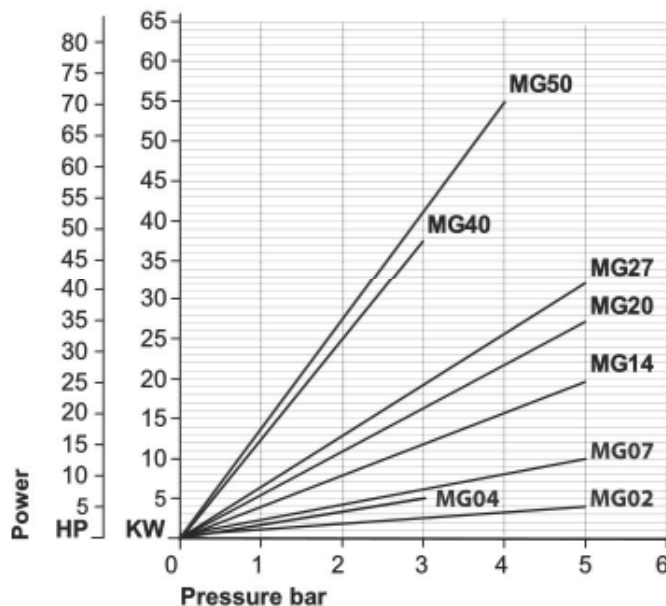
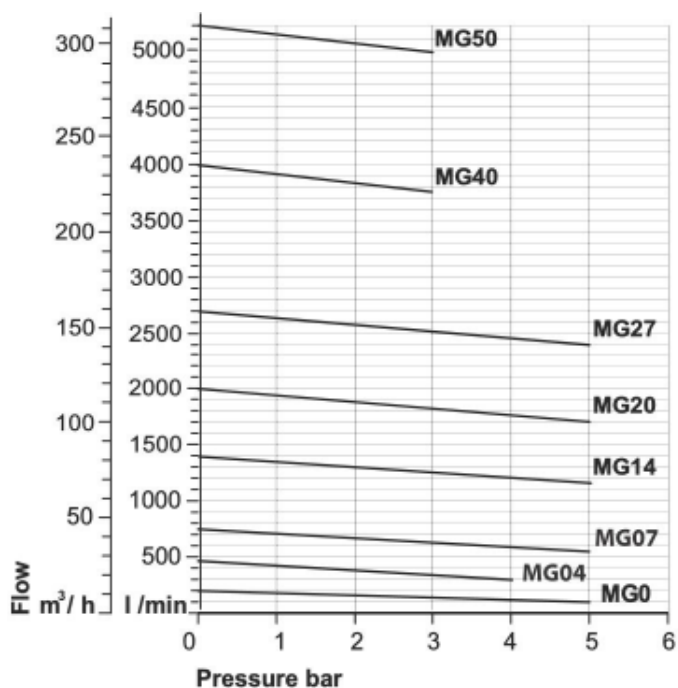
The pump shaft support is facilitated by bearings located outside of the fluid in the gear box, limiting the discharge pressure to 5 bar.

Capacity is directly related to the speed at which the pump is operated at and the flow is reversible by simply changing the direction of rotation of the drive.

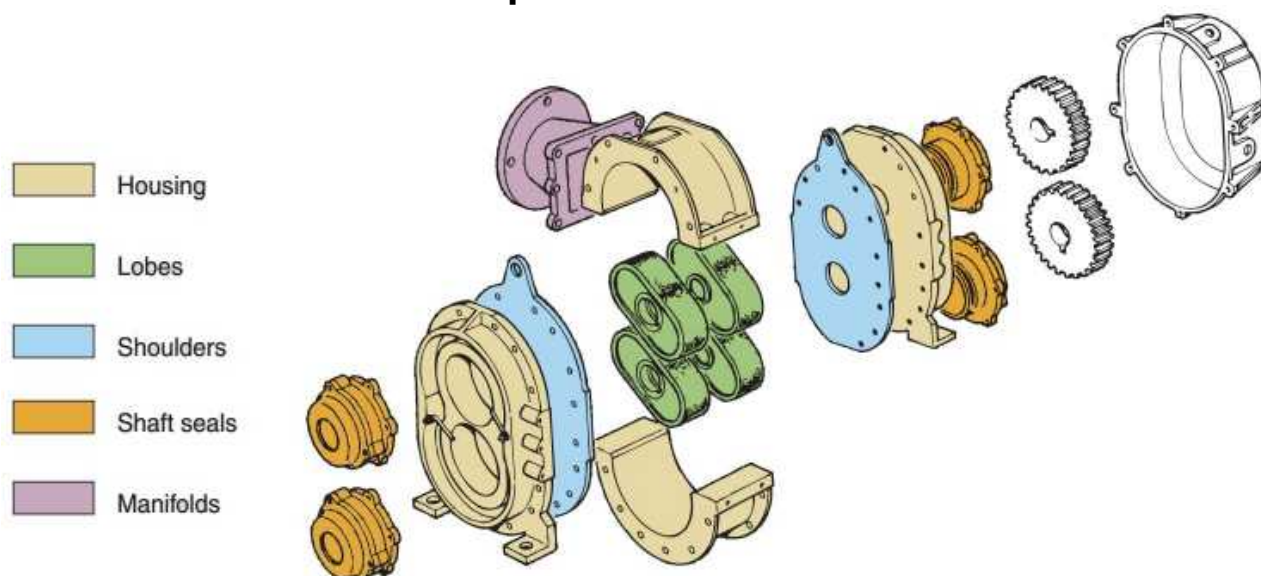
MG Industrial Rubber Lobe Pump Capacity Range:

Continuous Use	Intermittent Use				Occasional Use	
	<i>Minimum 1 hr Stop after 2 hrs use</i>				<i>Maximum 1 Hr / Day</i>	
Speed, rpm	100(*)	225	450	540	750	1000
Model	Flow Rate, m ³ /hr					
MG 02	1.4	3	6	7	10	13
MG 04	2.6	6	12	14	20	27
MG 07	7.5	17	34	40		
MG 14	14	31	65	78		
MG 20	21	47	95	114		
MG 27	30	67	134	161		
MG 35	40	90	180	216		
MG 40	42	96	192	231		
MG 50	60	130	260	310		

(*) For information only, minimum recommended speed is 180 rpm



MG Industrial Rubber Lobe Pump Construction:

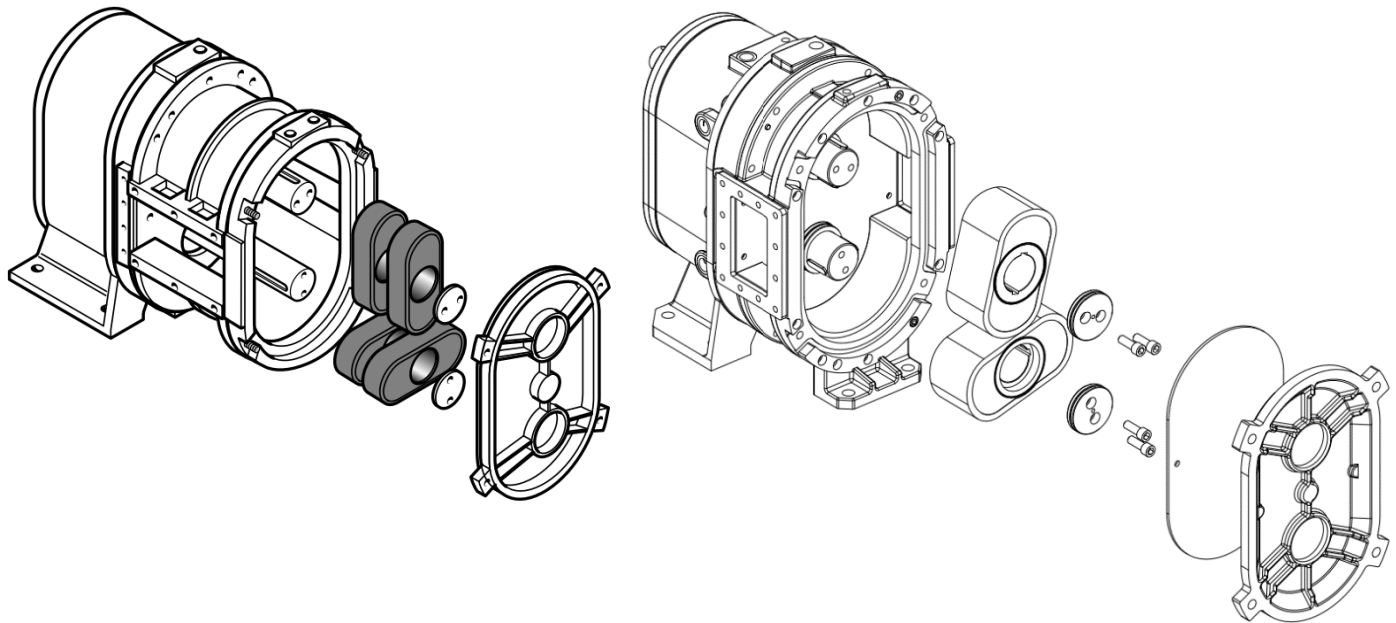


The standard construction of these tough rubber lobe pumps is as follows, special materials are available on request.

Housing	GG30 Cast Iron
Lobes	Cast Iron Coated in NBR, SBR, XNBR, EPDM and FPM
Shoulders / Wear Plates	Wear Resistant Steel (400 HB)
Shaft Seals	Double Radial Seals, Grease Lubricated & sliding on Hardened Bushes. Standard Mech Seals or Reinforced Seals (prepared to withstand higher operating pressures; equipped with a flushing system) on request
Manifolds	Galvanised Steel

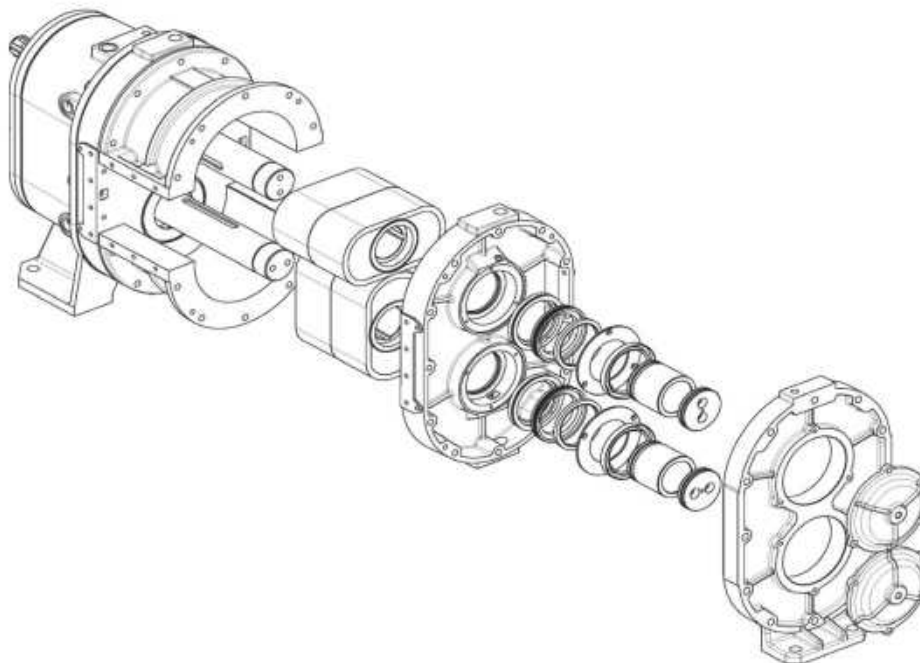
		Lobes				
		NBR	EPDM	Viton	SBR	Polyurethane
Generally Resistant to most		Hydrocarbons, Fats, Oils	Vegetable & Animal Fats, Oils, Ozone, Aromatics, Aliphatic, Hydraulic Fluids, Chemicals	Elongated Hydrocarbons, Acids	Acids, Water & Chemicals Good abrasion Resistance	Mineral Oils, Aromatic & Aliphatic Hydrocarbons
Generally Attacked by		Ozone, Ketones, Esters, Aldehydes, Nitro & Chlorinated Hydrocarbons	Mineral Oils, Solvents, Aromatic Hydrocarbons	Ketones, Low Molecular Weight Esters, Nitro Containing Compounds	Ozone, Oils, Fats, Strong Acids & Hydrocarbons	Acids, Phenols, Toluene, Aldehydes & Ketones, Chlorinated Hydrocarbons
Resistance to	Oils	Very good	Poor	Excellent	No	Very good
	Fuels	Good	Poor	Excellent	No	Very good
	Ketones	Fair	Excellent	Poor	Fair	Poor
	Hydrocarbons	Good	Poor	Excellent	No	Poor

MG Industrial Rubber Lobe Pump Lobe Maintenance:



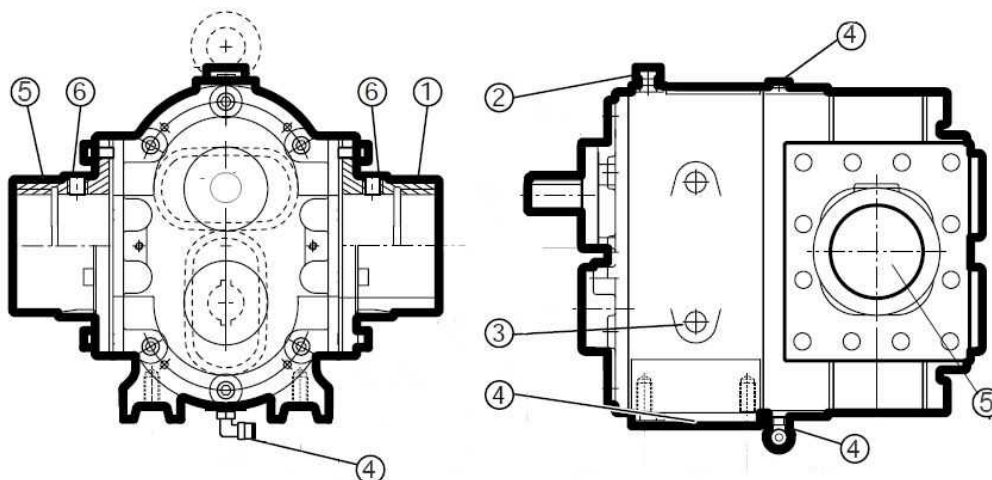
Thanks to their front pull-out design, the lobes can be easily and quickly checked and replaced by removing the front cover without interfering with the seals or transmission and leaving the pump in the pipework. This applies to all models except: MG 7, 14, 20, 27 & 40.

MG Industrial Rubber Lobe Pump Supported Shaft Design:



Models MG 35 & MG 50 are available in supported shaft design to reduce shaft deflection when pumping particularly viscous fluids.

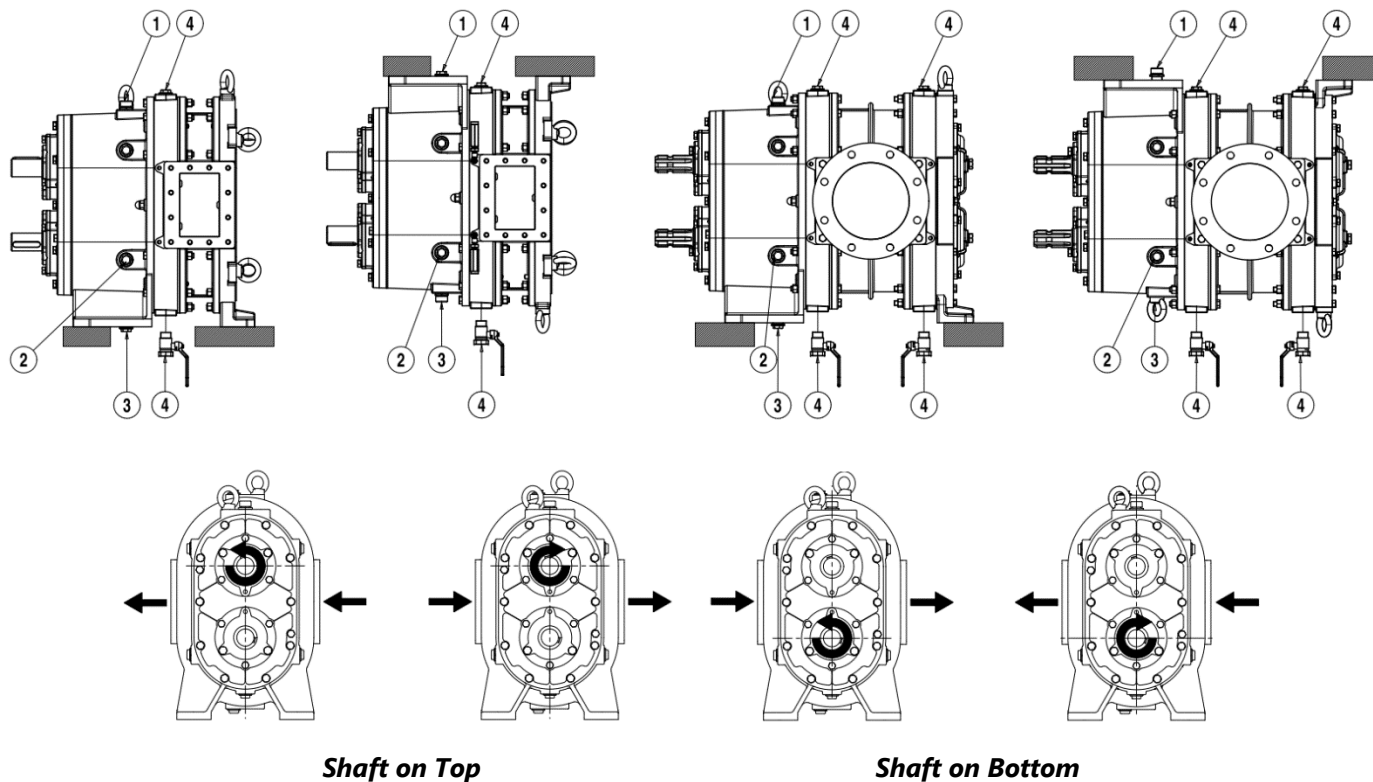
MG 02 & MG 04 Mounting Position & Leakage Checking System:



No	Description
1	Oil Filling Plug
2	Oil Level
3	Oil Drain
4	<p>Leakage Check Point ($\frac{3}{4}$") – The valve must be located underneath the pump. Allows for consistent checking of leakages from the seals. This can be fitted with a pressure gauge to visually monitor the condition of the seals.</p>
5	Inlet / Outlet Connections
6	Suction & Discharge Pressure Gauge Port

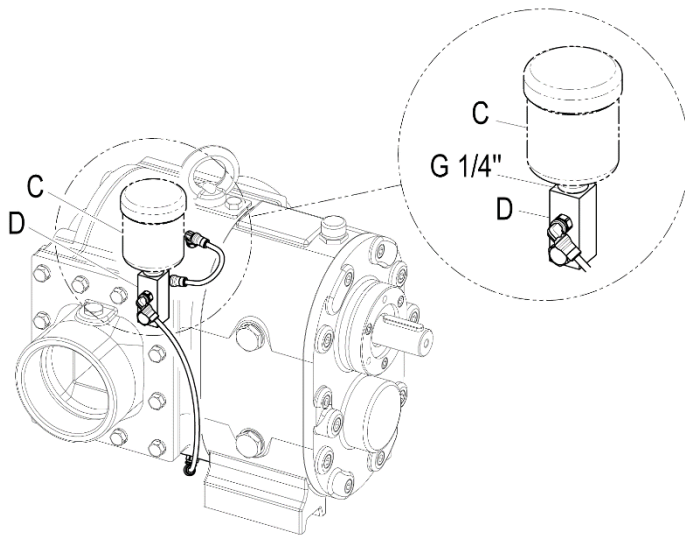
MG 17, 35 & 50 Mounting Position & Leakage Checking System:

Supported Shaft Design



No	Description
1	Oil Filling Plug
2	Oil Level
3	Oil Drain
4	<p>Leakage Check Point ($\frac{3}{4}$") – The valve must be located underneath the pump. Allows for consistent checking of leakages from the seals. This can be fitted with a pressure gauge to visually monitor the condition of the seals.</p>

MG Industrial Rubber Lobe Pump Central Lubrication System, MG 02 & MG 04:

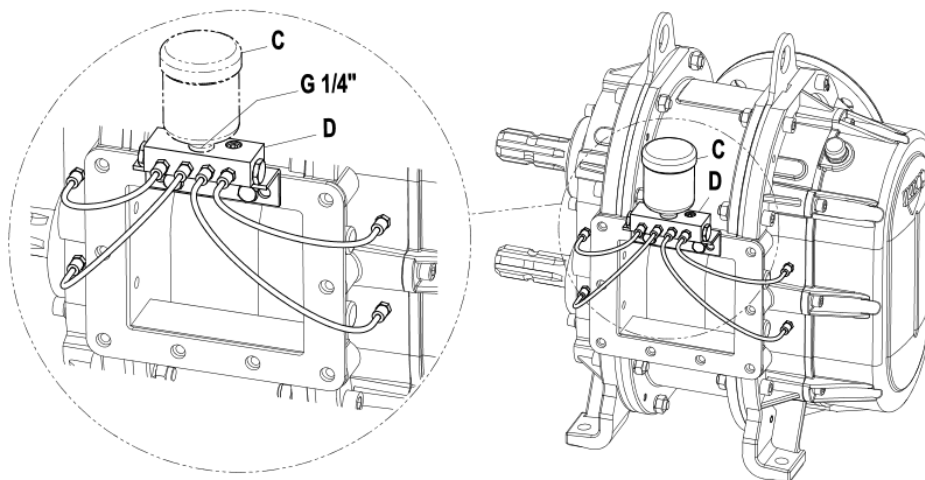


Upon request, MG 02 & MG 04 models can be supplied with central lubrication systems for their seals. The system comprises a control valve (D) and grease filling cartridge (C). The grease is distributed from the cartridge & valve through flexible piping. It is commonly used for particularly stick or abrasive fluids which can damage the seals faces. Tapflo supply the control valve and piping system, grease filling cartridge needs to be supplied by the customer. The connection for the cartridge is 1/4" ISO G (F).

MG Industrial Rubber Lobe Pump Sealing Systems, MG 7 - 40:

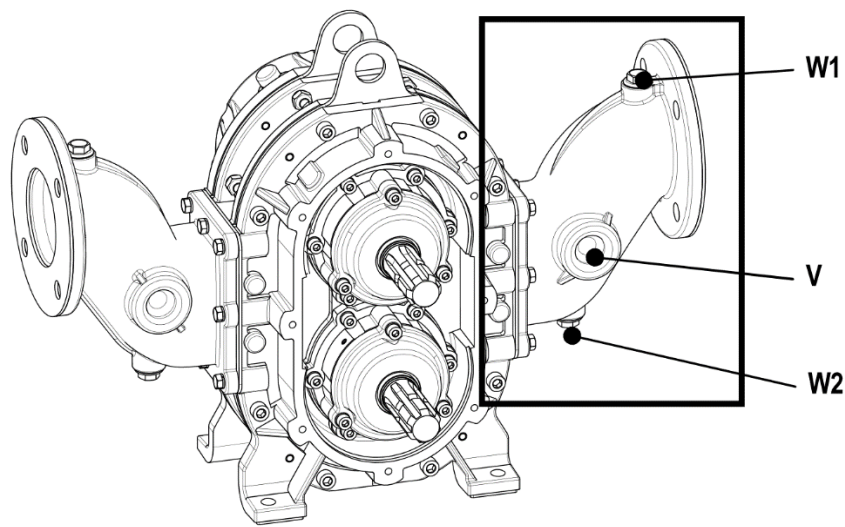
Models MG 7 – 40 can be delivered with 3 different sealing systems.

1. **Standard Triple Seal Version** – 3 seals are fitted between the working chamber and the bearings. The seals are the same for all models from MG 07 – 40 meaning reduced stocking of seal types & quantities when operating more than one model / size on site.
2. **Lubricated Triple Seal Version** – Same as the above however fitted with a Central Lubrication System



3. **Hardened Triple Seal Version** – For applications with particularly abrasive fluids, hardened seals are available & with ceramic coating.

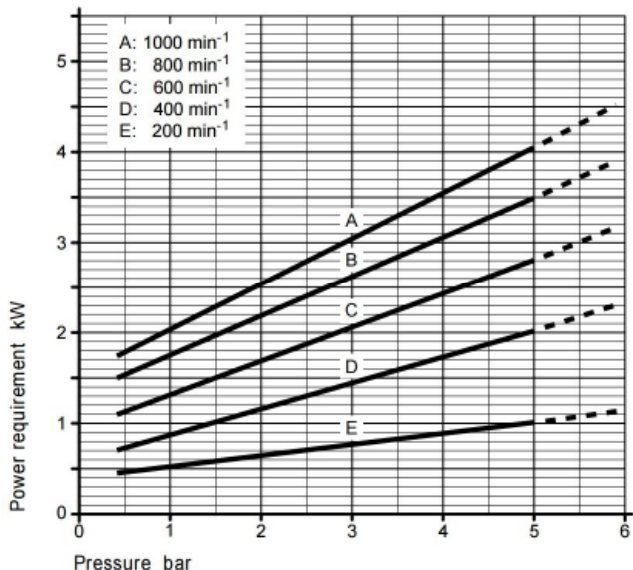
MG Industrial Rubber Lobe Pump Syphon Manifolds, MG 7, 14 & 27:



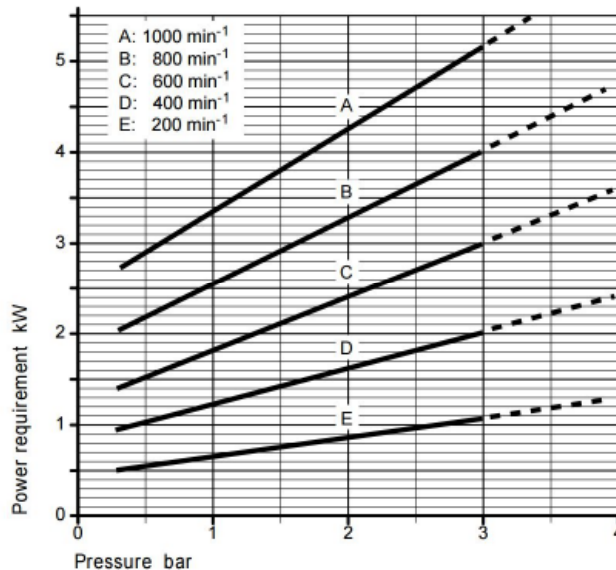
Upon request, models MG 7, 14 & 27 can be fitted with Syphon Manifolds. The shape of these manifolds allows for fluid to remain in the pump housing when the pump is stopped. This subsequently allows for better self-priming ability on start up. The manifolds can be washed or emptied by means of a threaded drain port (W2). Suction and Discharge Pressures can be monitored by means of attaching a Pressure Gauge or Switch to port W1. Additionally, the manifolds are equipped with two sockets (V) that can be used to bore threaded holes for installation of a bypass in between suction and discharge.

MG Industrial Rubber Lobe Pump Performance Data, MG 02 & MG 04:

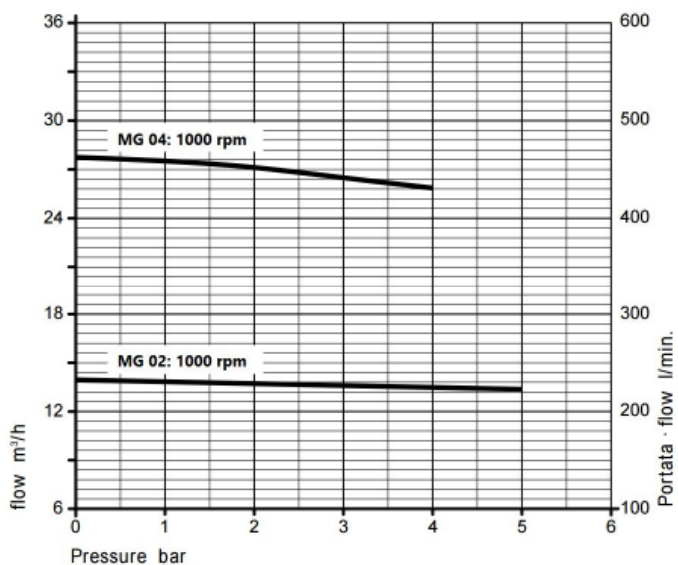
MG 02 – Power vs Pressure



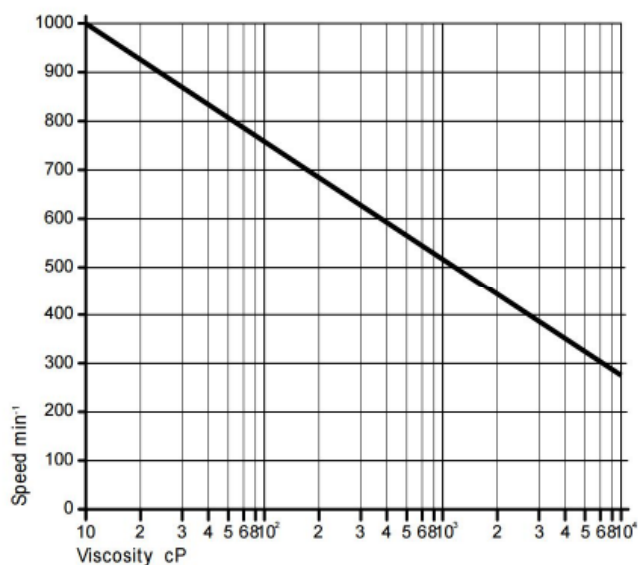
MG 04 – Power vs Pressure



Flow vs Pressure



Viscosity vs Suggested Speed

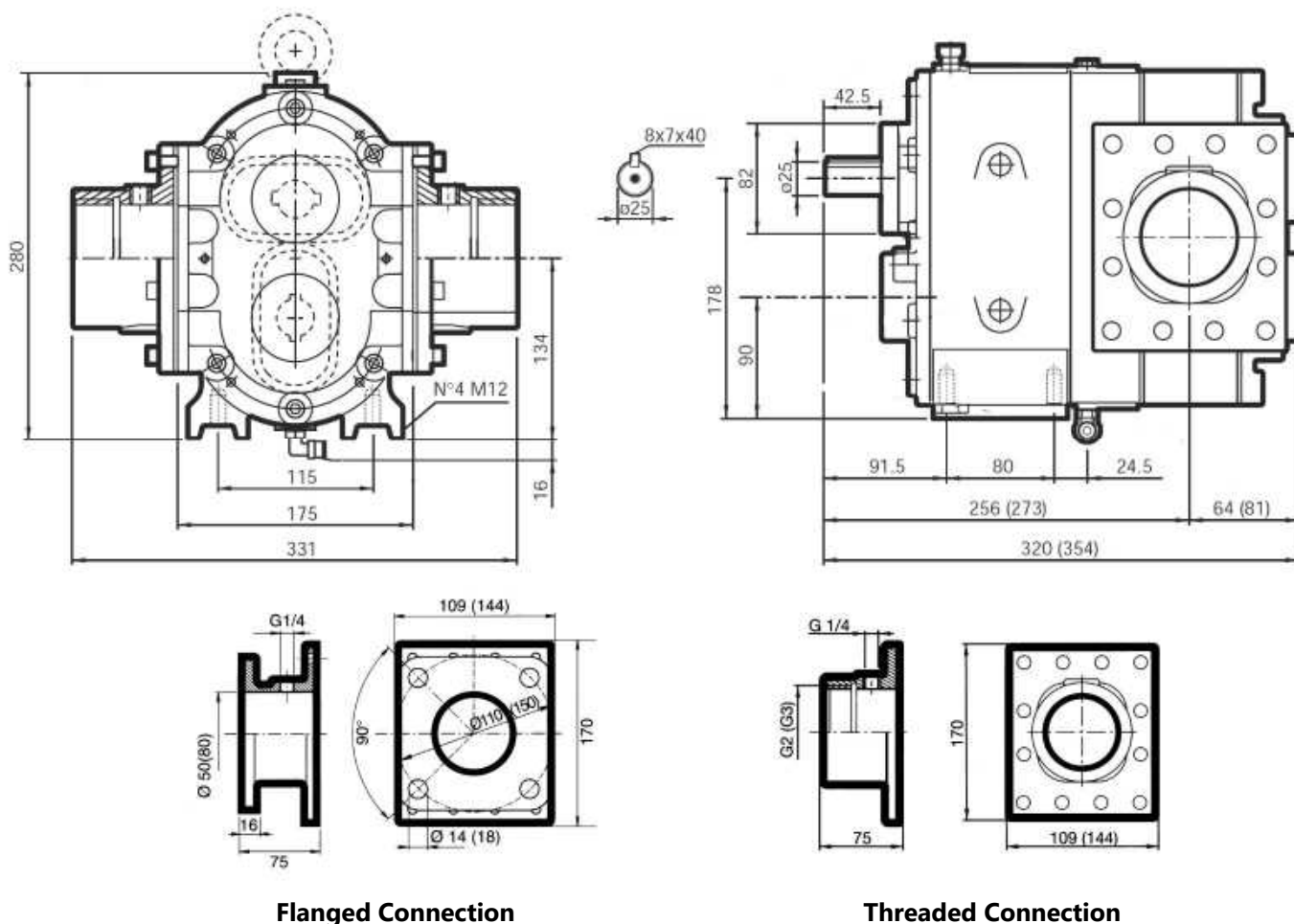


Model	Displacement, l/100 rev	Max Diff. Pressure, Bar	Min Speed, rpm	Max Speed, rpm	Max Flow, l/min	Max Req. Power, kW	Weight, Kg
MG 02	23	5	180	1000	230	4.0	50
MG 04	46	3	180	1000	460	5.1	60

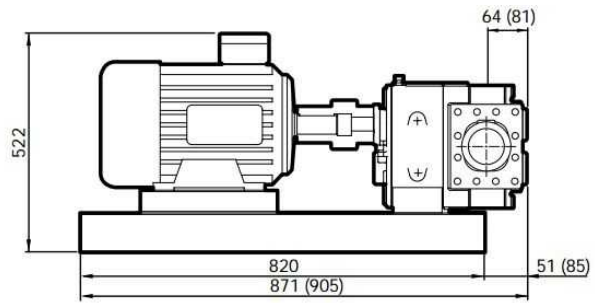
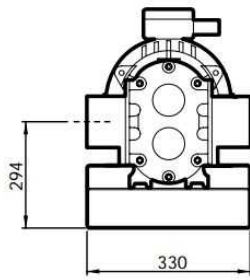
Drive Type		Poles	Power, kW	Speed, rpm	Flow Rate, l/min		Pressure, Bar		Weight, Kg	
					MG 02	MG 04	MG 02	MG 04	MG 02	MG 04
1	Direct	6	5.5	960	220	440	5	3	135	145
2	Pulley	4							115	125
3	Pulley								120	130
4	Speed Variator		4.0	200-1000	45-230	90-460	4	1.5	150	160
5	Petrol		2.7	1000	230	460	2	1.0	105	115
6	Petrol		5.2	1000	230	460	5	3	115	125
7	Diesel		4.6	1000	230	460	5	2	130	140

Drive Type		Disp. cc/rev	Oil Flow, l/min	Oil Pressure, Bar	Flow Rate, l/min		Pressure, Bar		Weight, Kg	
					MG 02	MG 04	MG 02	MG 04	MG 02	MG 04
8	Hydraulic	27	27	155	230	460	5	3	70	80

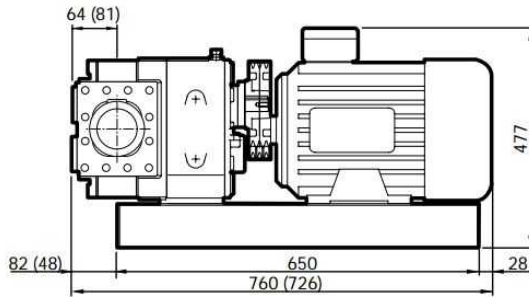
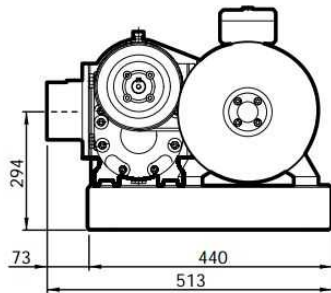
MG Industrial Rubber Lobe Pump Dimensional Data, MG 02 & 04: *Dimensions in mm, dimensions in brackets refer to MG 04*



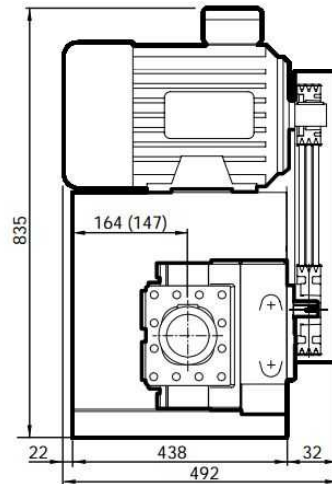
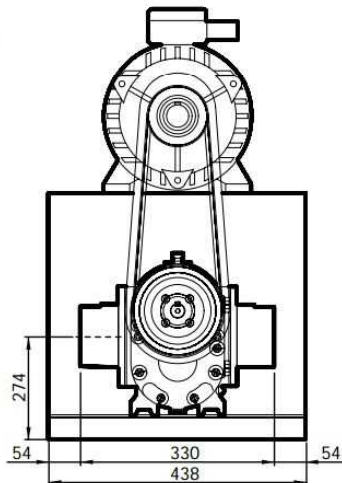
1 Direct



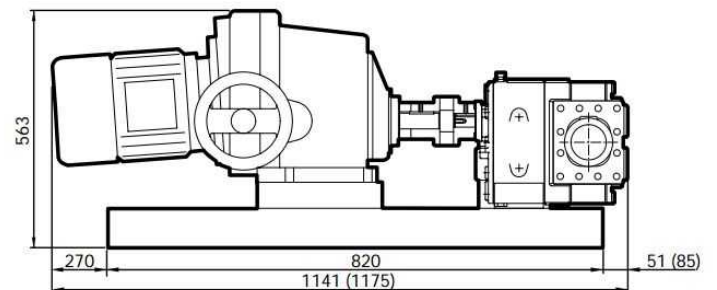
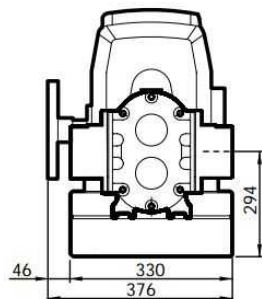
2 Pulley/side



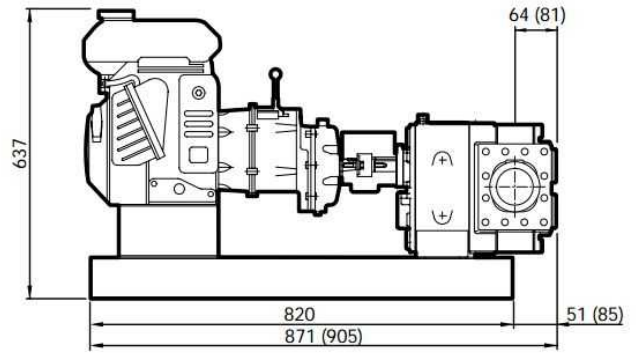
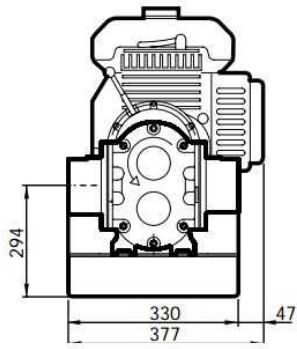
3 Pulley/overhead



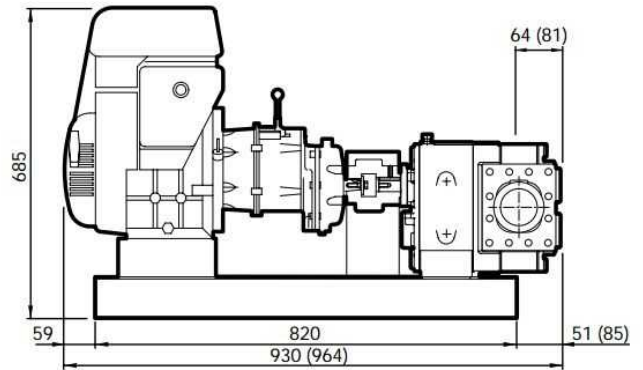
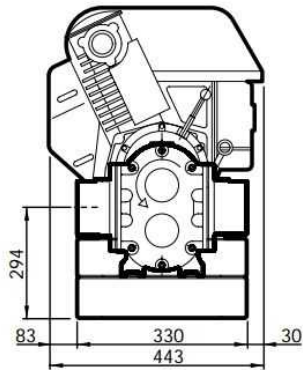
4 Speed variator



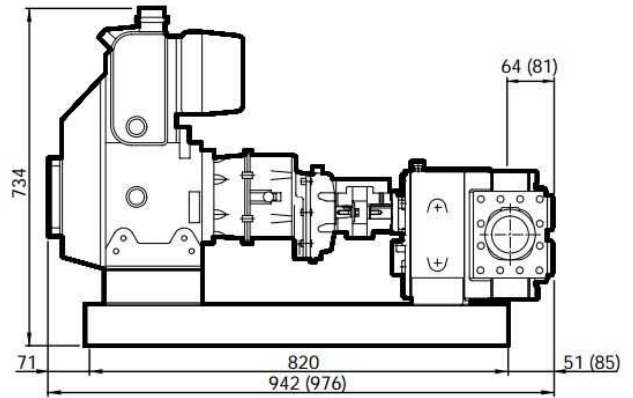
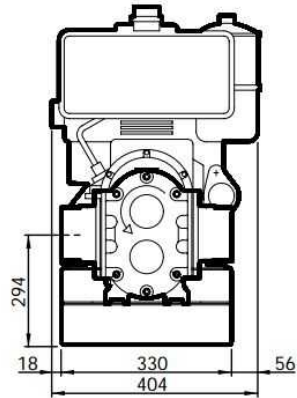
5 Petrol



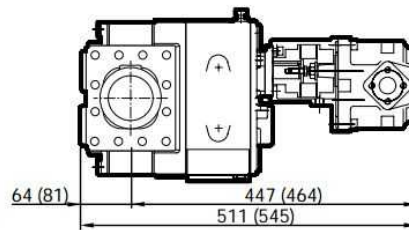
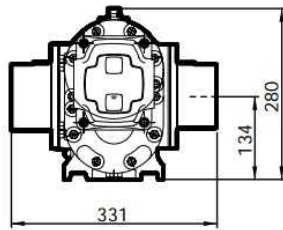
Petrol



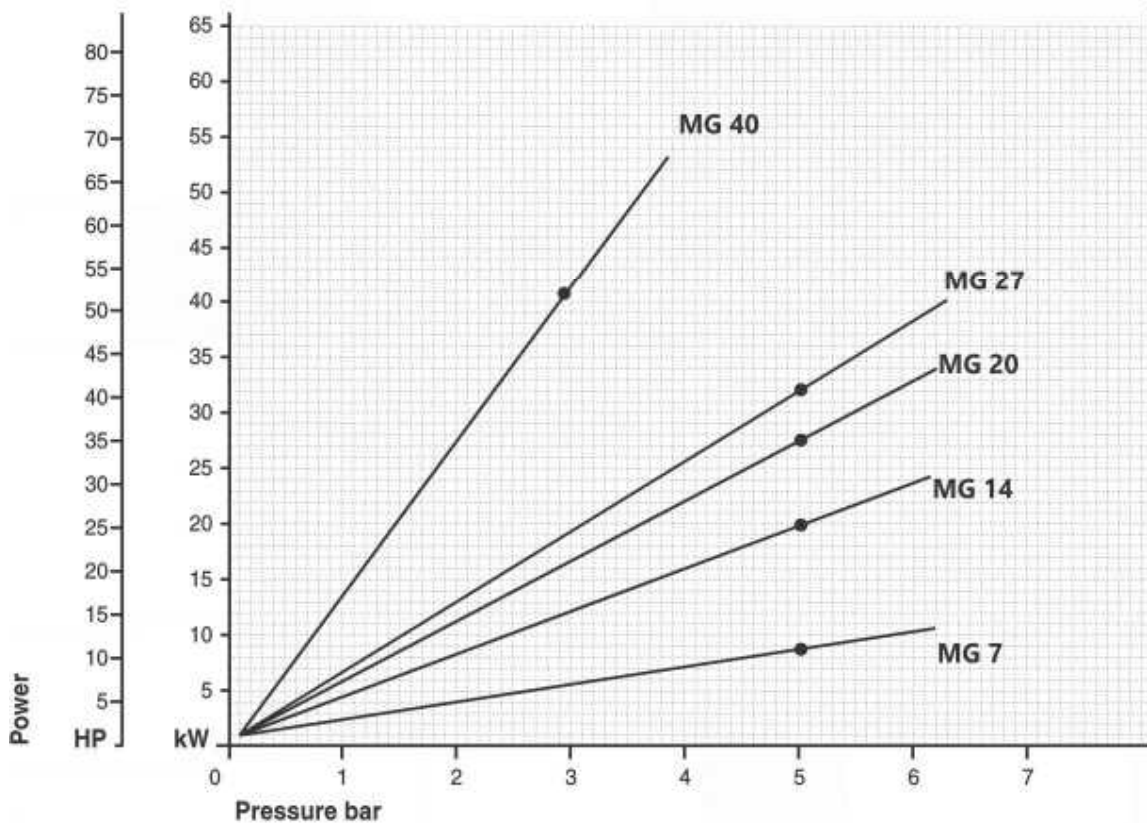
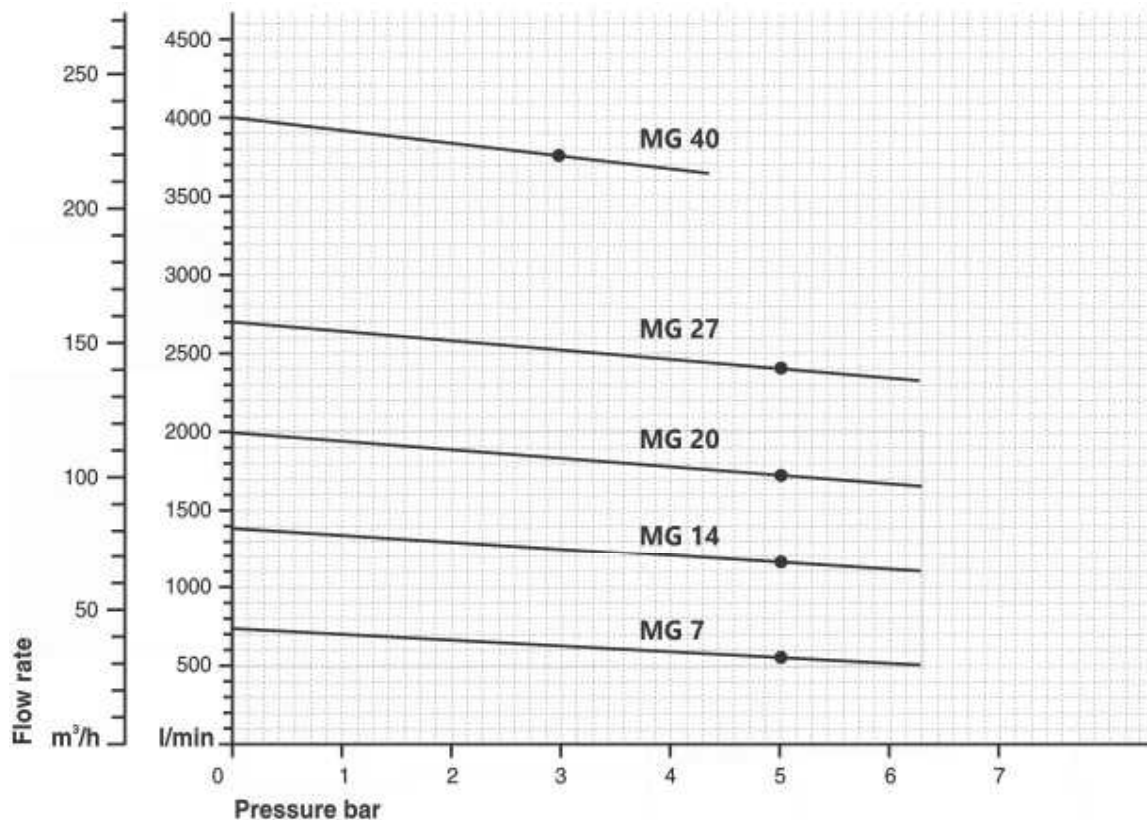
Diesel



8 Hydraulic



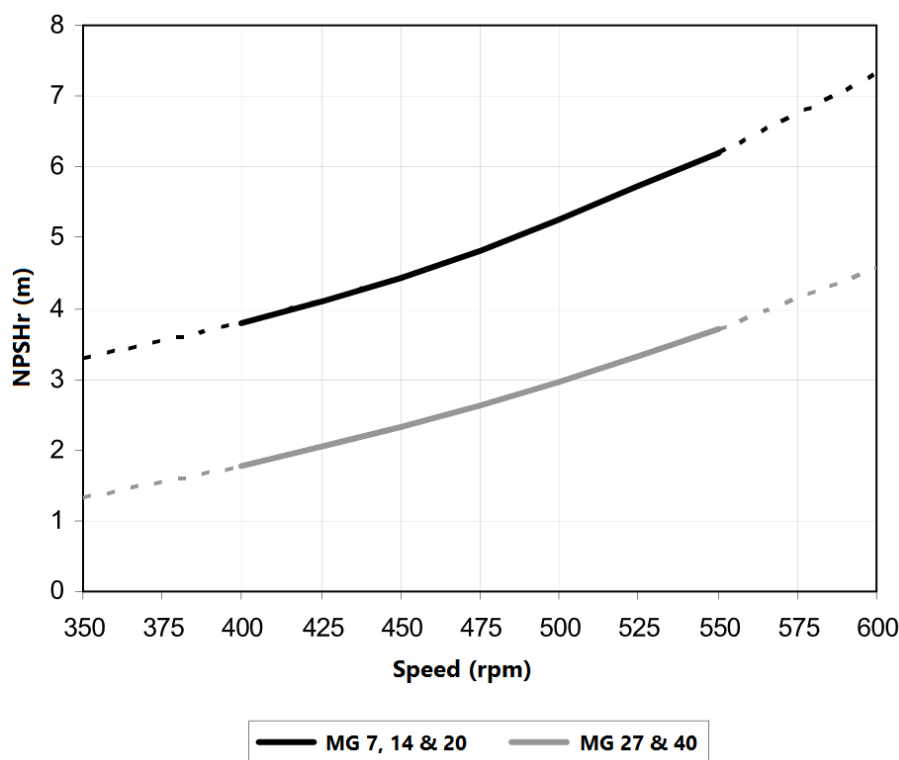
MG Industrial Rubber Lobe Pump Performance Data, MG 7, 14, 20, 27 & 40:



Performance data based on 540 rpm with water @ 20°C

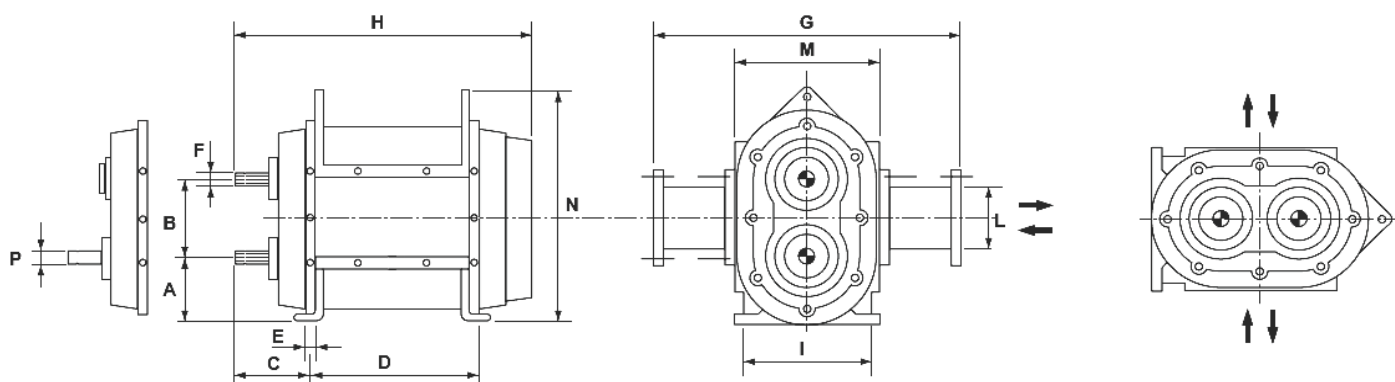
MG Industrial Rubber Lobe Pump Viscosity Changes vs Suction Pressure, MG 7, 14, 20, 27 & 40:

Changes in viscosity can have a direct impact on the suction pressure to the pump. As temperatures drop the fluids viscosity will increase and therefore result in increases pressure drops on the suction pipework and over pressure in the discharge line. To prevent anomalies during operation and risk of cavitation, it is recommended to maintain an adequate suction pressure. Before start-up it is always recommended to ensure that the system's NPSHa is higher than the pump's NPSHr value. For reference, below is a chart detailing the NPSHr values of the models MG 7, 14, 20, 27 & 40.



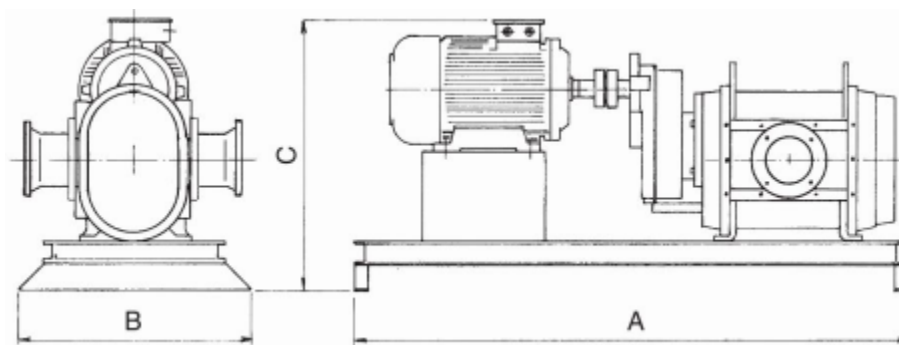
Data reported is based on water @ 20°C. Should a viscous product be pumped then we suggest reducing the pressure losses across the lines by reducing the operating speed, ensuring the pipework is adequately sized and wherever possible install the pump below the fluid level with the shortest suction pipework lengths & number of bends.

MG Industrial Rubber Lobe Pump Dimensional Data, MG 7, 14, 20, 27 & 40:



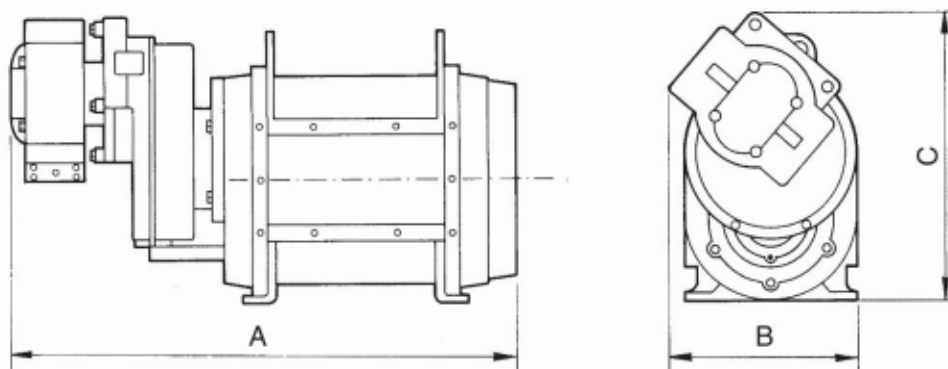
Model	Dimensions, mm													Weight
	A	B	C	D	E	F	G	H	I	L	M	N	P	Kg
MG 7	135	140	135	158	14	ASA E 1 3/8" DIN 9611A	495	410	230	DN 80	274	463	35g6	97
MG 14				223			505	470		DN 100				105
MG 20				289			575	534		DN 150				119
MG 27				366			610	613		-				146
MG 40				497			855	747		DN 175				170

Electrically Driven:



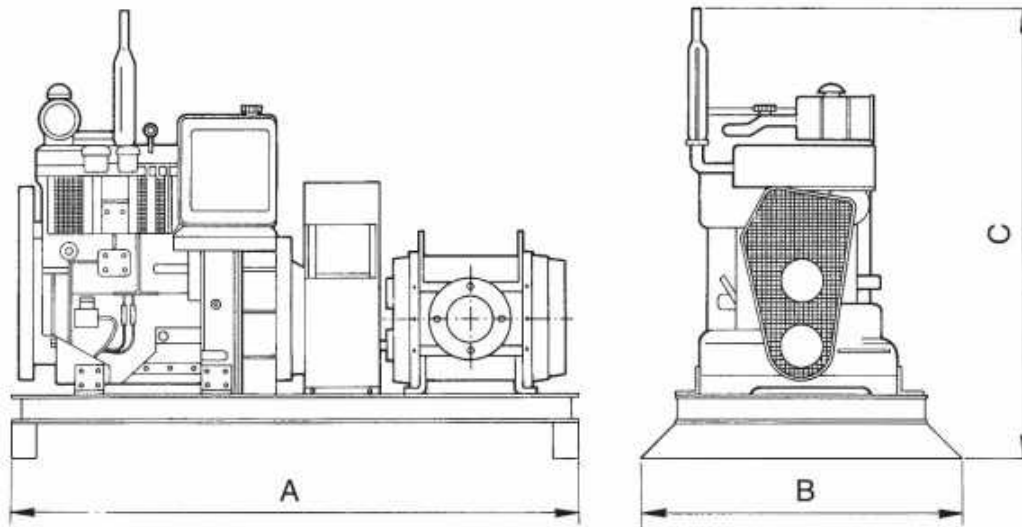
Detail	Model			
	MG 7	MG 14	MG 20	MG 27
A	1500	1500	1500	1500
B	740	740	740	740
C	780	820	820	850
Weight, Kg	270	310	345	410
Flow Rate, l/min @ 460 rpm (3 Bar)	550	1100	1600	2000
Required Power, kW	5	10	15	17
Motor Power, kW	5.5	11	18.5	18.5
Protection Class	IP 55	IP 55	IP 55	IP 55
Voltage / Frequency	380 / 50	380 / 50	380 / 50	380 / 50

Hydraulically Driven:



Detail	Model			
	MG 7	MG 14	MG 20	MG 27
A	645	710	775	865
B	270	270	270	270
C	500	500	500	500
Weight, Kg	132	142	160	187
Displacement, cm³/rev	34	44	61	72
Oil Pressure, Bar	120	140	140	140
Speed, rpm	2050	2050	2050	2050
Motor Connections	¾"	1"	1¼"	1¼"
Flow Rate, l/min @ 540 rpm (5 Bar)	650	1300	1800	2500

Diesel Driven:



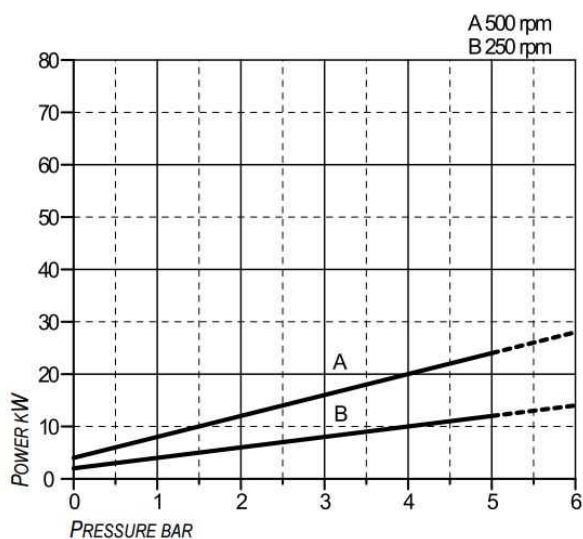
Detail	Model			
	MG 7	MG 14	MG 20	MG 27
A	1430	1550	1700	1700
B	750	750	845	845
C	930	930	1960**	1960**
Weight, Kg	390	430	660	700
No. of Cylinders	2	2	2	2
Power, kW	14	18	23	23
Displacement, cm³	1120	1332	2078	2078
Max Discharge Pressure	5*	5*	4.5*	5*
Flow Rate, l/min @ 520 rpm	650	1300	1800	2400

* 3 Bar available on request

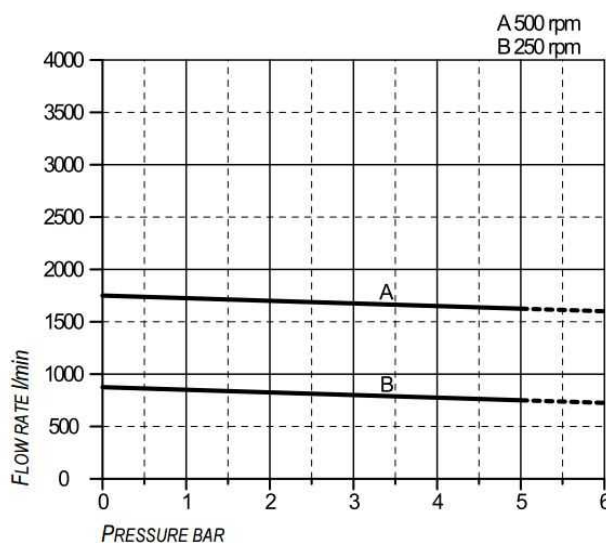
** Horizontal Exhaust available on request, C = 1150

MG Industrial Rubber Lobe Pump Performance Data, MG 17, 35 & 50:

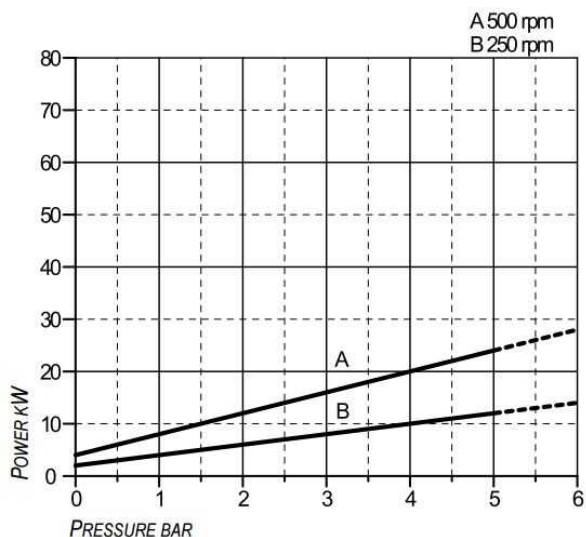
MG 17 - Power vs Pressure



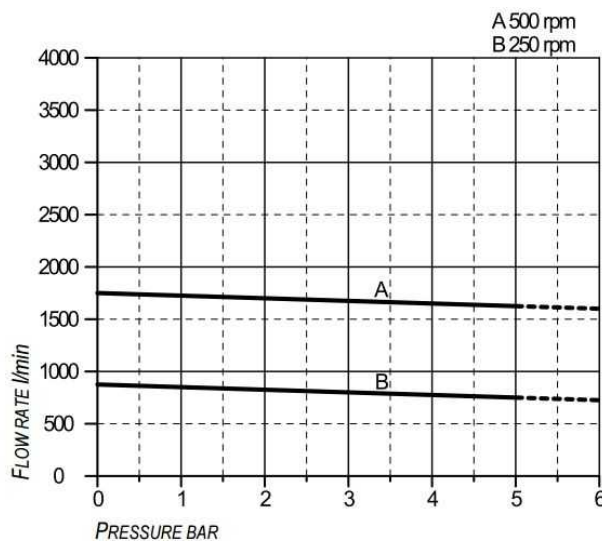
MG 17 - Flow vs Pressure



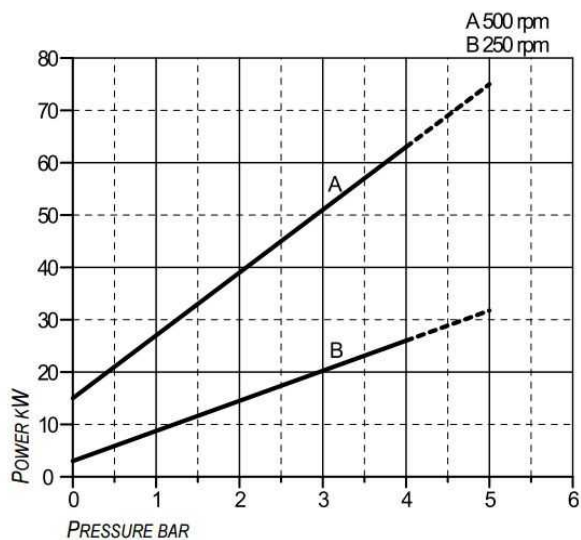
MG 35 - Power vs Pressure



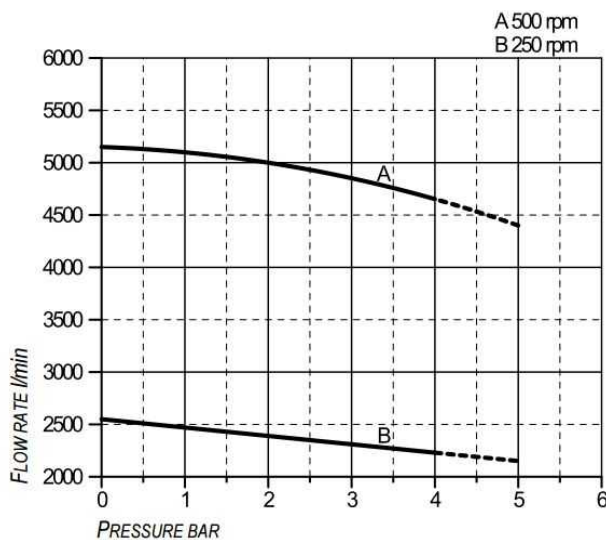
MG 35 - Flow vs Pressure



MG 50 - Power vs Pressure

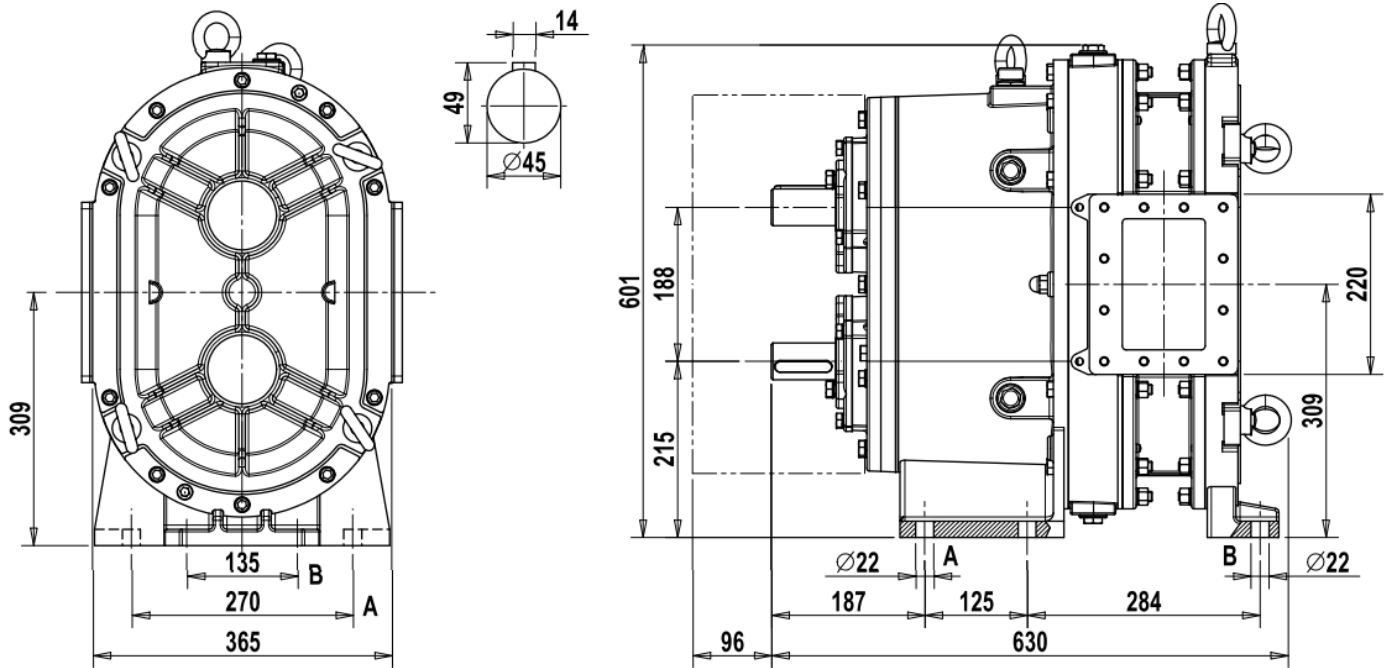


MG 50 - Flow vs Pressure

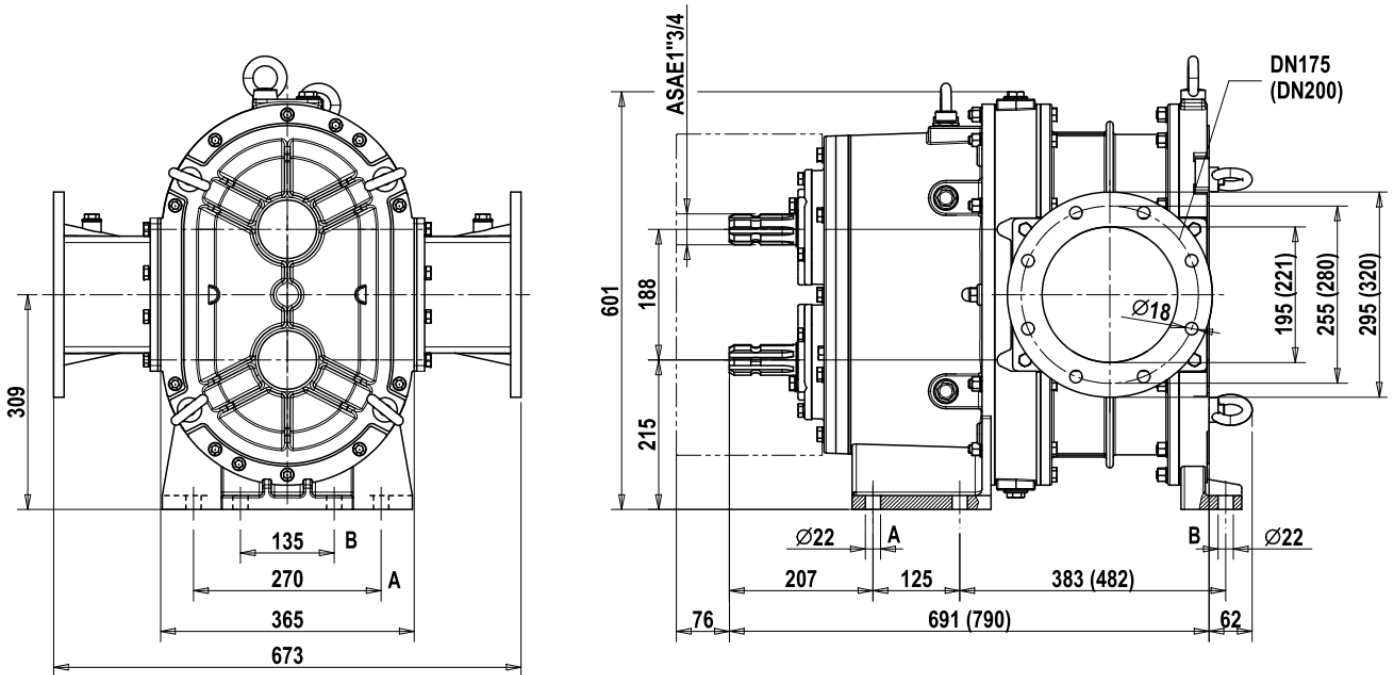


MG Industrial Rubber Lobe Pump Dimensional Data, MG 17, 35 & 50:

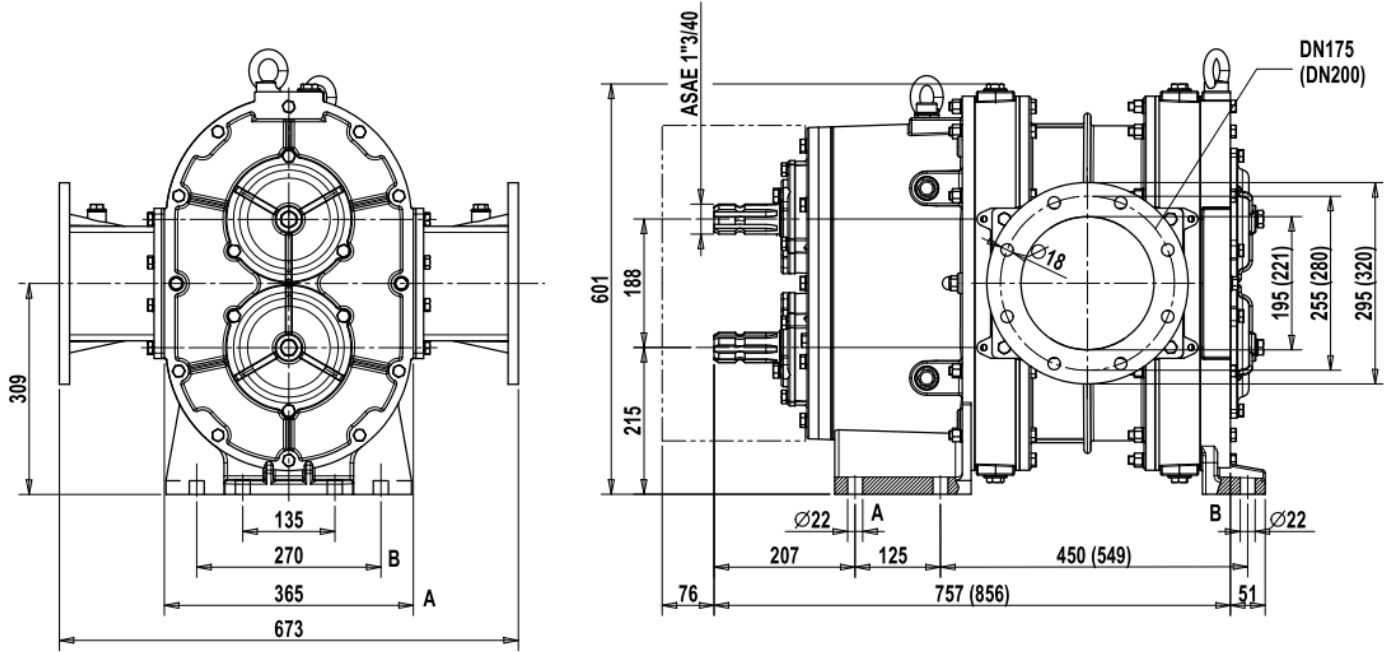
MG 17



MG 35 & 50

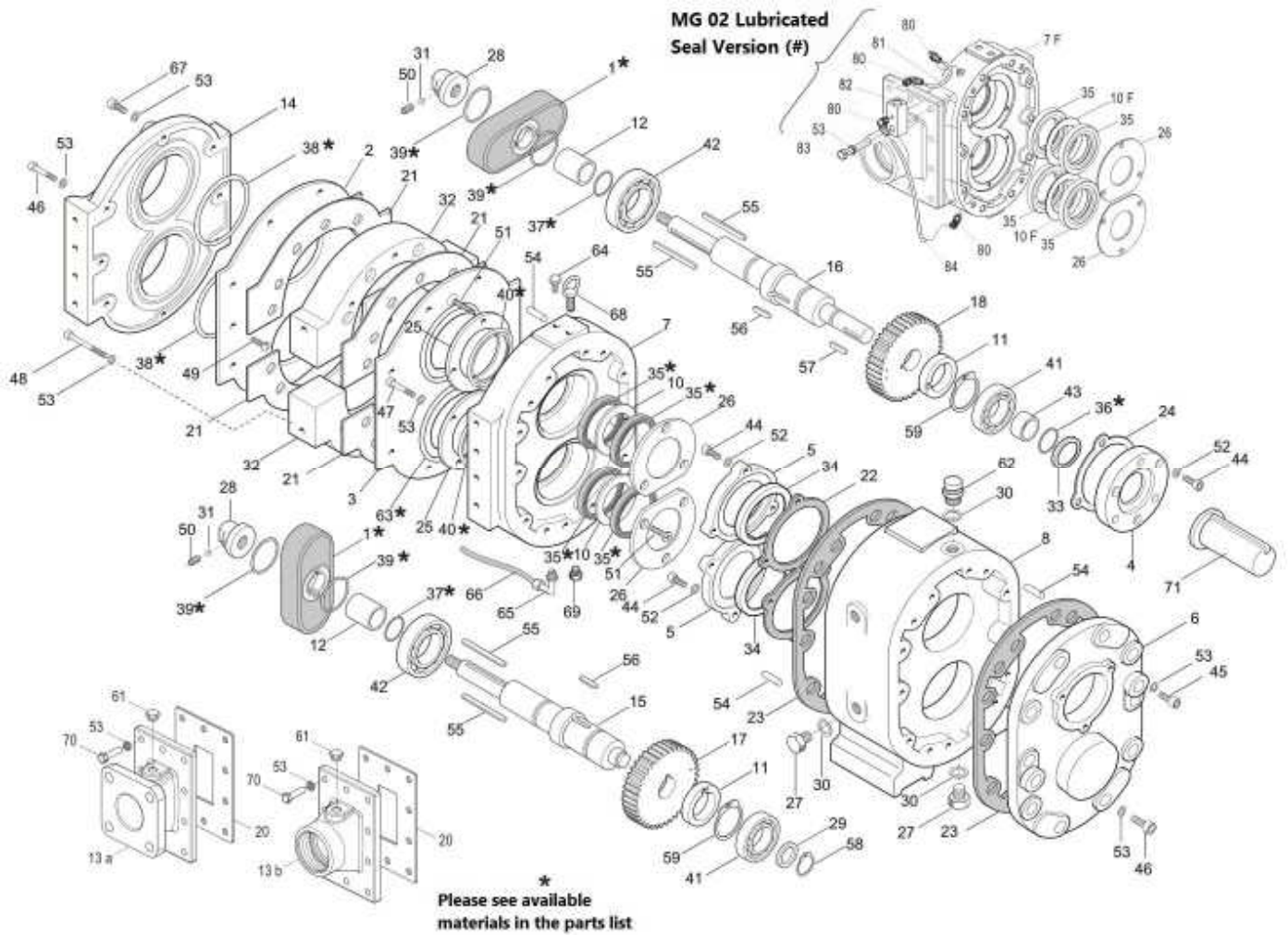


MG 35 & 50 – Supported Shafts



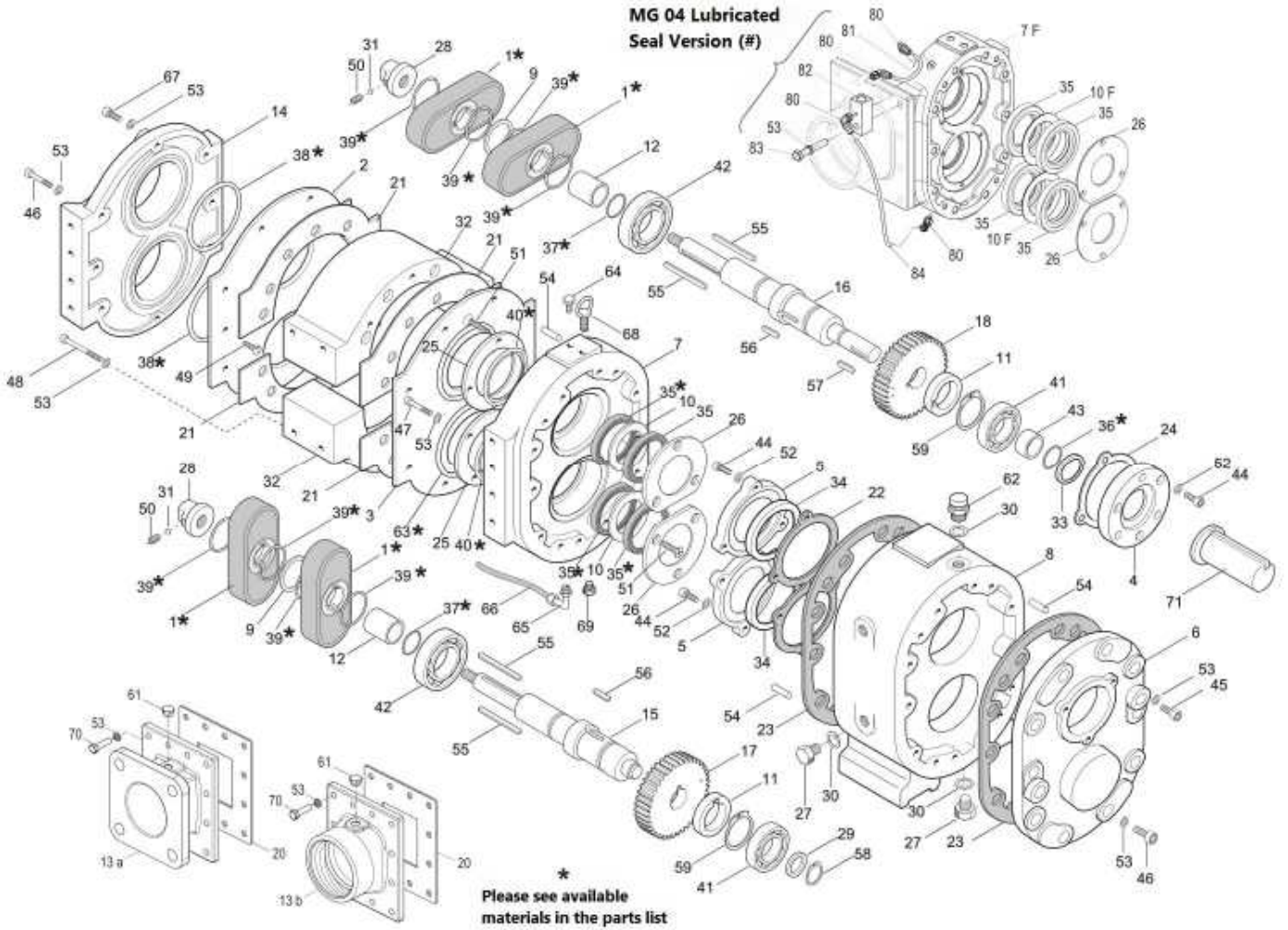
MG Industrial Rubber Lobe Pump Spare Parts, MG 02 & 04:

MG 02



Pos	Code	Description	Qty	Pos	Code	Description	Qty
1	1503602600	Lobe MG2-MG4 5/3 bar NBR	2	38	4022200242	O-Ring 3256 NBR	2
	1503602700	Lobe MG2-MG4 5/3 bar VITON	2		4022200305	O-Ring 3256 VITON	2
	1503602800	Lobe MG2-MG4 5/3 bar EPDM	2	39	4022200291	O-Ring 2150 NBR	4
	1503603200	Lobe MG2-MG4 5/3 bar Polyurethane	2		4022200303	O-Ring 2150 VITON	4
2	1610017000	Lid wearplate MG2-MG4	1	40	4022203205	Gasket45x56x4,2 NBR	2
3	1610017100	Seal flange wearplate MG2-MG4	1		4023110018	Gasket 45x56x4,2 VITON	2
4	1610017200	Front shaft flange MG2-MG4 5/3 bar	1	41	4023117210	Bearing NJ 205 EC	2
5	1610507200	Seal flange MG2-MG4	2	42	4023130002	Bearing 2207 E	2
6	1610507300	Endplate MG2-MG4	1	43	4026121305	Bushing 25x30x17	1
7	1612502600	Seal housing MG2-MG4	1	44	4026121401	Screw 8.8 M6x16	9
7 F(#)	1612503600	Seal housing MG2-MG4 w/lubric.	1	45	4026121401	Screw 8.8 M8x12	2
8	1612502700	Transmission housing MG2-MG4	1	46	4026121409	Screw 8.8 M8x40	4
10	1624014900	Seal spacer MG2-MG4 5/3 bar	2	47	4026120411	Screw 8.8 M8x55	2
10 F(#)	1624019900	Seal spacer MG2-MG4 w/lubric.	2	48	4026120416	Screw 8.8 M8x100	8
11	1624015000	Gear spacer MG2-MG4 5/3 bar	2	49	4026121905	Screw 10.9 M6x16	2
12	1624015100	Bushing 45x35x57,5 MG2-MG4 5/3 bar	2	50	4026135602	Dowel M8x8	2
13a	1627503300	MG2 manifold with flange DN50	2	51	4026155301	Screw M4x8	12
13b	1627503500	Threader MG2 manifold female G2"	2	52	4026350503	Grower washer 6	9
14	1640500600	Front lid MG2-MG4 5/3 bar	1	53	4026350505	Grower washer 8	48
15	1650011600	Lobe shaft MG2 5 bar	1	54	4026401208	Pin 6x24	12
16	1650011600	Drive shaft MG2 5 bar	1	55	4026500804	Key 8x7x28	4
17	1650011800	Gear MG2-MG4 5/3 bar	1	56	4026500906	Key 10x8x36	2
18	1651004900	Gear MG2-MG4 5/3 bar	1	57	4026500807	Key 8x7x40	1
19	1680606300	Manifold gasket DN50	2	58	4026510018	Seeger ring E 20 UNI 7435	1
20	1680607400	Manifold gasket MG2 5 bar	2	59	4026510212	Seeger ring E 35x2,5 UNI 7436	2
21	1680706200	Pump housing gasketMG2-MG4 5/3 bar	4	60	4026713004	Manifold counterflange UNI 2276 DN50	2
22	1680706300	Seal gasket MG2-MG4 5/3 bar	1	61	4026905002	Plug G1/4"	2
23	1680706400	Transm. housing gasket MG2-MG4 5/3 bar	2	62	4026910001	Vent plug G3/8"	1
24	1680706500	Shaft flange gasket MG2-MG4 5/3 bar	1	63	4022200292	O-Ring 2325 NBR	2
25	1681006400	Front keep plate MG2-MG4 5/3 bar	2		4022200304	O-Ring 2325 VITON	2
26	1681200000	Rear keep plate MG2-MG4 5/3 bar	2	64	4026905001	Plug G1/8"	1
27	1684000000	Plug G3/8"	5	65	4027421206	Connection 90° G1/8"x6	1
28	1684002200	Lobe bolt	2	66	4021102005	Rilsan pipeline 4x6	0.2 m
29	1685003900	Washer MG2-MG4 5/3 bar	1	67	4026120406	Screw M8x30	12
30	1685100200	Flat washer 17x22x1,5	6	68	4026190100	Eyebolt M10	1
31	1685200000	Brass washer MG2-MG4 5/3 bar	2	69	4026107206	Screw M10x16	1
32	1687502300	Pump housing MG2	1	70	4026107111	Screw M8x30	20
33	4022200003	Shaft seal 30x40x7	1	71	4029602609	Shaft protection Ø25	1
34	4022200044	Seal 45x65x8	2				
35	4022200104	Lip seal 45x72x10 NBR	4	80(#)	4027421220	Connection 90° ø4-M5	4
	4022200108	Lip seal 45x72x10 VITON	4	81(#)	4021102002	Tube ø4	0.1 m
36	4022200214	O-Ring 2087 NBR	1	82(#)	1608100700	Distributor MG2-4	1
	4022200301	O-Ring 2087 VITON	1	83(#)	4026107115	Screw TE 8.8 M8x50	1
37	4022200215	O-Ring 2125 NBR	2	84(#)	4021102002	Tube ø4	0.2 m
	4022200302	O-Ring 2125 VITON	2				
Gasket Kits				(*) Specific NBR or Viton (#) Lubricated Seal Version Parts			
N/A	1892001900	Gasket kit for lobes replacement NBR	N/A				
N/A	1892002000	Gasket kit for lobes replacement VITON	N/A				
N/A	1892001700	Complete gasket kit NBR	N/A				
N/A	1892001800	Complete gasket kit VITON	N/A				

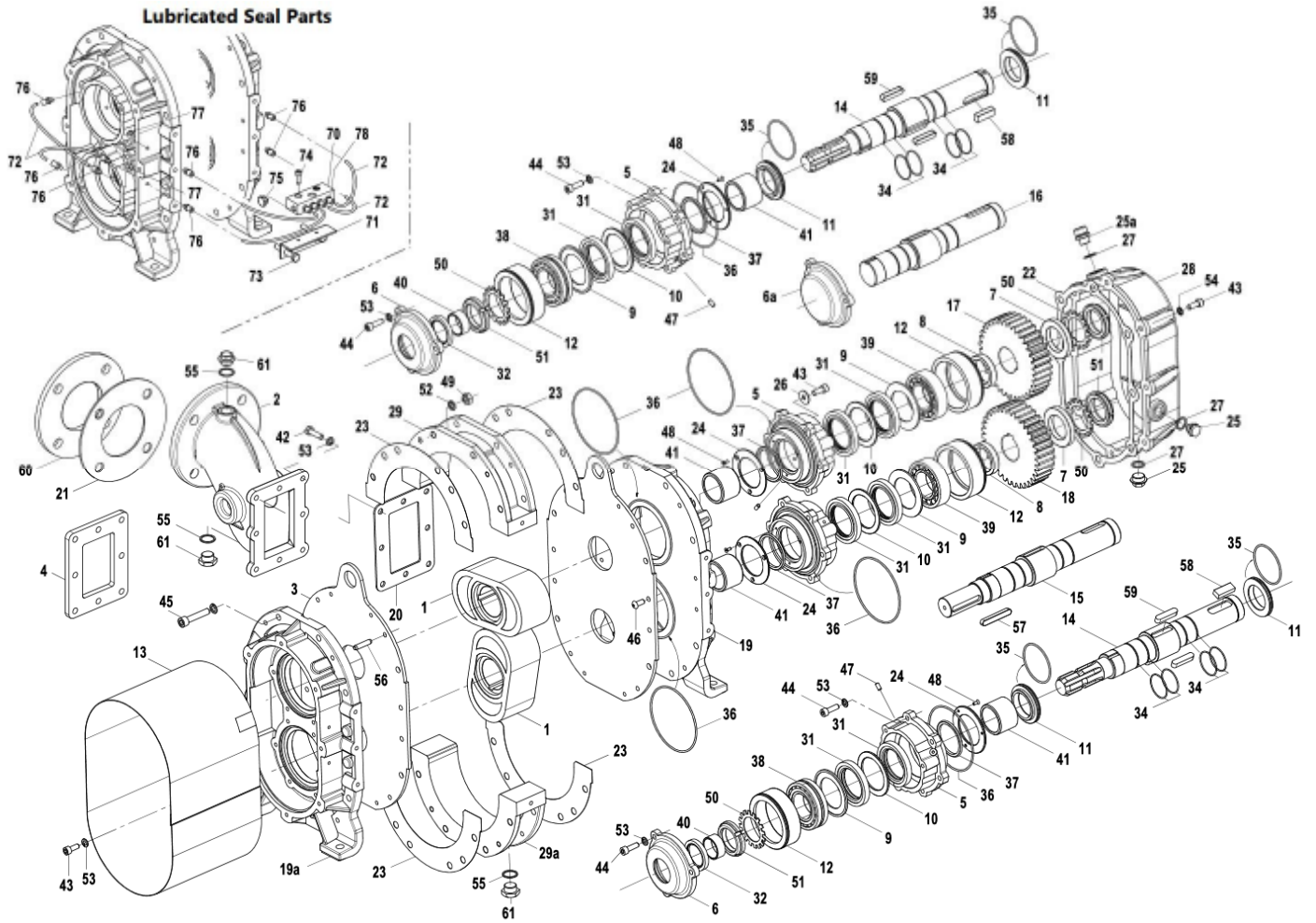
MG 04



Pos	Code	Description	Qty	Pos	Code	Description	Qty
1	1503602600	Lobe MG2-MG4 5/3 bar NBR	2	38	4022200242	O-Ring 3256 NBR	2
	1503602700	Lobe MG2-MG4 5/3 bar VITON	2		4022200305	O-Ring 3256 VITON	2
	1503602800	Lobe MG2-MG4 5/3 bar EPDM	2	39	4022200291	O-Ring 2150 NBR	4
	1503603200	Lobe MG2-MG4 5/3 bar Polyurethane	2		4022200303	O-Ring 2150 VITON	4
2	1610017000	Lid wearplate MG2-MG4	1	40	4022203205	Gasket45x56x4,2 NBR	2
3	1610017100	Seal flange wearplate MG2-MG4	1		4023110018	Gasket 45x56x4,2 VITON	2
4	1610017200	Front shaft flange MG2-MG4 5/3 bar	1	41	4023117210	Bearing NJ 205 EC	2
5	1610507200	Seal flange MG2-MG4	2	42	4023130002	Bearing 2207 E	2
6	1610507300	Endplate MG2-MG4	1	43	4026121305	Bushing 25x30x17	1
7	1612502600	Seal housing MG2-MG4	1	44	4026121401	Screw 8.8 M6x16	9
7 F(#)	1612503600	Seal housing MG2-MG4 w/lubric.	1	45	4026121401	Screw 8.8 M8x12	2
8	1612502700	Transmission housing MG2-MG4	1	46	4026121409	Screw 8.8 M8x40	4
9	1624014700	Lobe spacer MG4					
10	1624014900	Seal spacer MG2-MG4 5/3 bar	2	47	4026120411	Screw 8.8 M8x55	2
10 F(#)	1624019900	Seal spacer MG2-MG4 w/lubric.	2	48	4026120416	Screw 8.8 M8x100	8
11	1624015000	Gear spacer MG2-MG4 5/3 bar	2	49	4026121905	Screw 10.9 M6x16	2
12	1624015100	Bushing 45x35x57,5 MG2-MG4 5/3 bar	2	50	4026135602	Dowel M8x8	2
13a	1627503400	MG4 manifold with flange DN80	2	51	4026155301	Screw M4x8	12
13b	1627503600	Threader MG4 manifold female G3"	2	52	4026350503	Grower washer 6	9
14	1640500600	Front lid MG2-MG4 5/3 bar	1	53	4026350505	Grower washer 8	48
15	1650011700	Lobe shaft MG4 3 bar	1	54	4026401208	Pin 6x24	12
16	1650011900	Drive shaft MG4 3 bar	1	55	4026500804	Key 8x7x28	4
17	1650011800	Gear MG2-MG4 5/3 bar	1	56	4026500906	Key 10x8x36	2
18	1651004900	Gear MG2-MG4 5/3 bar	1	57	4026500807	Key 8x7x40	1
19	1680608200	Manifold gasket DN80	2	58	4026510018	Seeger ring E 20 UNI 7435	1
20	1680607400	Manifold gasket MG2 5 bar	2	59	4026510212	Seeger ring E 35x2,5 UNI 7436	2
21	1680706200	Pump housing gasketMG2-MG4 5/3 bar	4	60	4026713004	Manifold counterflange UNI 2276 DN50	2
22	1680706300	Seal gasket MG2-MG4 5/3 bar	1	61	4026905002	Plug G1/4"	2
23	1680706400	Transm. housing gasket MG2-MG4 5/3 bar	2	62	4026910001	Vent plug G3/8"	1
24	1680706500	Shaft flange gasket MG2-MG4 5/3 bar	1	63	4022200292	O-Ring 2325 NBR	2
25	1681006400	Front keep plate MG2-MG4 5/3 bar	2		4022200304	O-Ring 2325 VITON	2
26	1681200000	Rear keep plate MG2-MG4 5/3 bar	2	64	4026905001	Plug G1/8"	1
27	1684000000	Plug G3/8"	5	65	4027421206	Connection 90° G1/8"x6	1
28	1684002200	Lobe bolt	2	66	4021102005	Rilsan pipeline 4x6	0.2 m
29	1685003900	Washer MG2-MG4 5/3 bar	1	67	4026120406	Screw M8x30	12
30	1685100200	Flat washer 17x22x1,5	6	68	4026190100	Eyebolt M10	1
31	1685200000	Brass washer MG2-MG4 5/3 bar	2	69	4026107206	Screw M10x16	1
32	1687502300	Pump housing MG2	1	70	4026107111	Screw M8x30	20
33	4022200003	Shaft seal 30x40x7	1	71	4029602609	Shaft protection Ø25	1
34	4022200044	Seal 45x65x8	2				
35	4022200104	Lip seal 45x72x10 NBR	4	80(#)	4027421220	Connection 90° ø4-M5	4
	4022200108	Lip seal 45x72x10 VITON	4	81(#)	4021102002	Tube ø4	0.1 m
36	4022200214	O-Ring 2087 NBR	1	82(#)	1608100700	Distributor MG2-4	1
	4022200301	O-Ring 2087 VITON	1	83(#)	4026107115	Screw TE 8.8 M8x50	1
37	4022200215	O-Ring 2125 NBR	2	84(#)	4021102002	Tube ø4	0.2 m
	4022200302	O-Ring 2125 VITON	2				
Gasket Kits				(*) Specific NBR or Viton (#) Lubricated Seal Version Parts			
N/A	1892001900	Gasket kit for lobes replacement NBR	N/A				
N/A	1892002000	Gasket kit for lobes replacement VITON	N/A				
N/A	1892001700	Complete gasket kit NBR	N/A				
N/A	1892001800	Complete gasket kit VITON	N/A				

MG 07

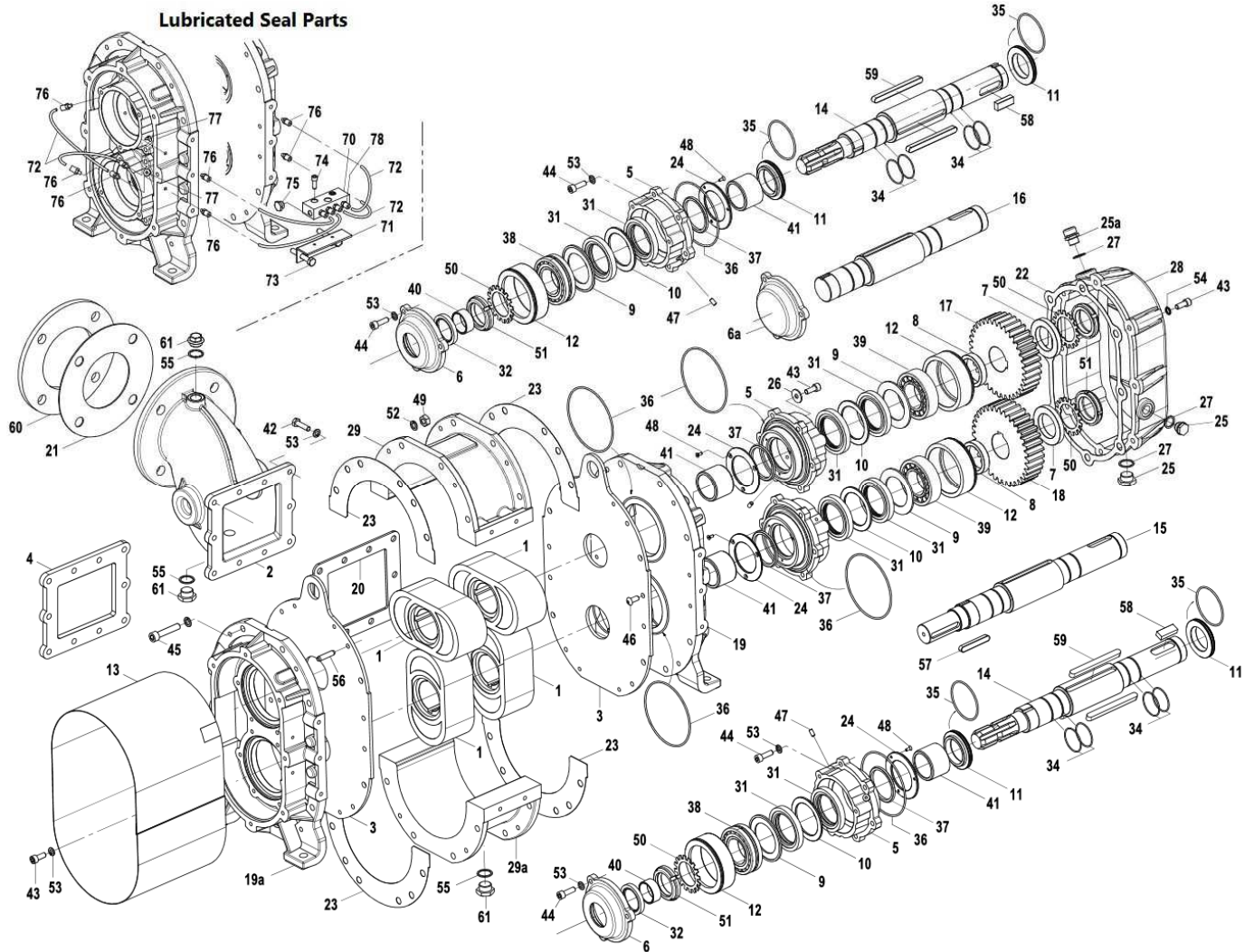
Lubricated Seal Parts



Pos	Code	Description	Qty	Pos	Code	Description	Qty
1	1503601800	MG Lobe NBR	2	37	4022203206	Ring, Teflon 55X66X4,2	4
	1503601900	MG Lobe VITON	2	38	4023105010	Gear 22209 E/C3	2
	1503602400	MG Lobe EPDM	2	39	4023110049	Gear NU 2209 ECP	2
	1503603100	MG Lobe Polyurethane	2	40	4023130009	Bushing 35X40X17 IR	2
2	1627507400	Collector MG 7 DN80 PN6	2	41	4023130036	Bushing 55X45X40 INA V	4
	1627507700	Collector MG 7 DN80 PN6 By-Pass	2		1624012500	Bushing MG Ceramised	4
3	1610009300	Wearproof Plate	2	42	4026102807	Screw TE 8,8 M8X25	14
	1610014600	Wearproof Plate Ceramised	2	43	4026121405	Screw TCEI 8,8 M8X20	18
4	1610011400	Inlet / Outlet Flange	2	44	4026121407	Screw TCEI 8,8 M8X25	30
5	1610509400	Bearing Flange	4	45	4026121813	Screw TCEI 8,8 M8X50	16
6	1610507000	Front Flange	2	46	4026121504	Screw TBEI 10,9 M8X18	8
6a	1510500100	Front Flange, TT Blind	1	47	4026136205	Set Screw 12.9	4
7	1624009900	Gear Placer	2	48	4026155302	Screw SS 304 TSPEI M4X10	12
8	1624012700	Spacer	2	49	4026308006	Nut M10	16
9	1624012800	Spacer Bearing	4	50	4026306309	Safety Ring	4
10	1624020000	Seal Placer TT	4	51	4026306509	Self Locking Ring M45X1,5	4
11	1626000700	Bushing TT	4	52	4026350708	Grower Washer M10	16
12	1626000800	Bearing Bush	4	53	4026350706	Spring Washer Ø8.4 Zinc	48
13	1642005700	Protection	1	54	4026351505	Spring Washer M8	8
14	1650008200	Axle MG 7 D.55	2	55	4026359003	Flat Washer 21.5X26X1,5	5
15	1650008300	Electric Motor Axle	1	56	4026410013	Elastic Pin SIROL 8X36	8
16	1650008400	Blind Axle	1	57	4026500911	Key for Electric Motor	1
17	1651002500	Upper Gear	1	58	4026501500	Key 14X9X36	2
18	1651003400	Lower Gear	1	59	4026503500	Key 10X9X45 6604	4
19	1662500300	Housing (SX) TTL	1	60	4026713006	Collector Flange DN80 PN6	2
19a	1662501000	Housing (DX) TTL	1	61	4026904001	Plug G1/2"	5
20	1680606200	MG 14 Inlet Gaskets	2				
21	1680606300	Manifold Flange Gasket	2				
22	1680703500	Oil Tank Gasket	1				
23	1680705000	Housing Gasket	4	70	1608100900	Oil Distributor TT	1
24	1681005800	Wear Plate Seal Gasket	4	71	1612034100	Distributor Plate Holder	1
25	1684000000	Vent G3/8"	2	72	4021102002	Piping Ø4	0,8m
25a	4026910001	Vent Plug G3/8"	1	73	4026102808	Screw TE 8,8 M8X30	2
26	1685005100	Washer MG 7 - 40	6	74	4026121306	Screw TCEI M6X18	2
27	1685100200	Aluminium Washer	3	75	4026905001	Plug G1/8"	2
28	1687100600	Oil Tank	1	76	4027420517	Straight Fitting Ø4 M5	12
29	1687503700	Pump Housing MG 7	1	77	4026135304	Sscrew S.T. M5X8	4
	1687505200	Pump Housing MG 7 Ceramised	1	78	4027421220	Fitting 90° Ø4 M5	4
29a	1687510400	Pump Housing with Hole MG 7	1				
	1687510700	Pump Housing with Hole MG 7 Ceramised	1				
31	4022200106	Seal Ring Domsel AB NBR	8	Gasket Kits			
	4022200107	Seal Ring Domsel AB Viton	8	N/A	1892001200	Gasket Kit MG 7 -40 TT/TTL NBR	
32	4022200027	Seal Ring 55X40X8	2	N/A	1892001300	Gasket Kit MG 7 - 40 TT/TTL VITON	
34	4022200212	O-Ring 2162	8				
35	4022200242	O-Ring 3256	4				
36	4022200286	O-Ring 3450	8				

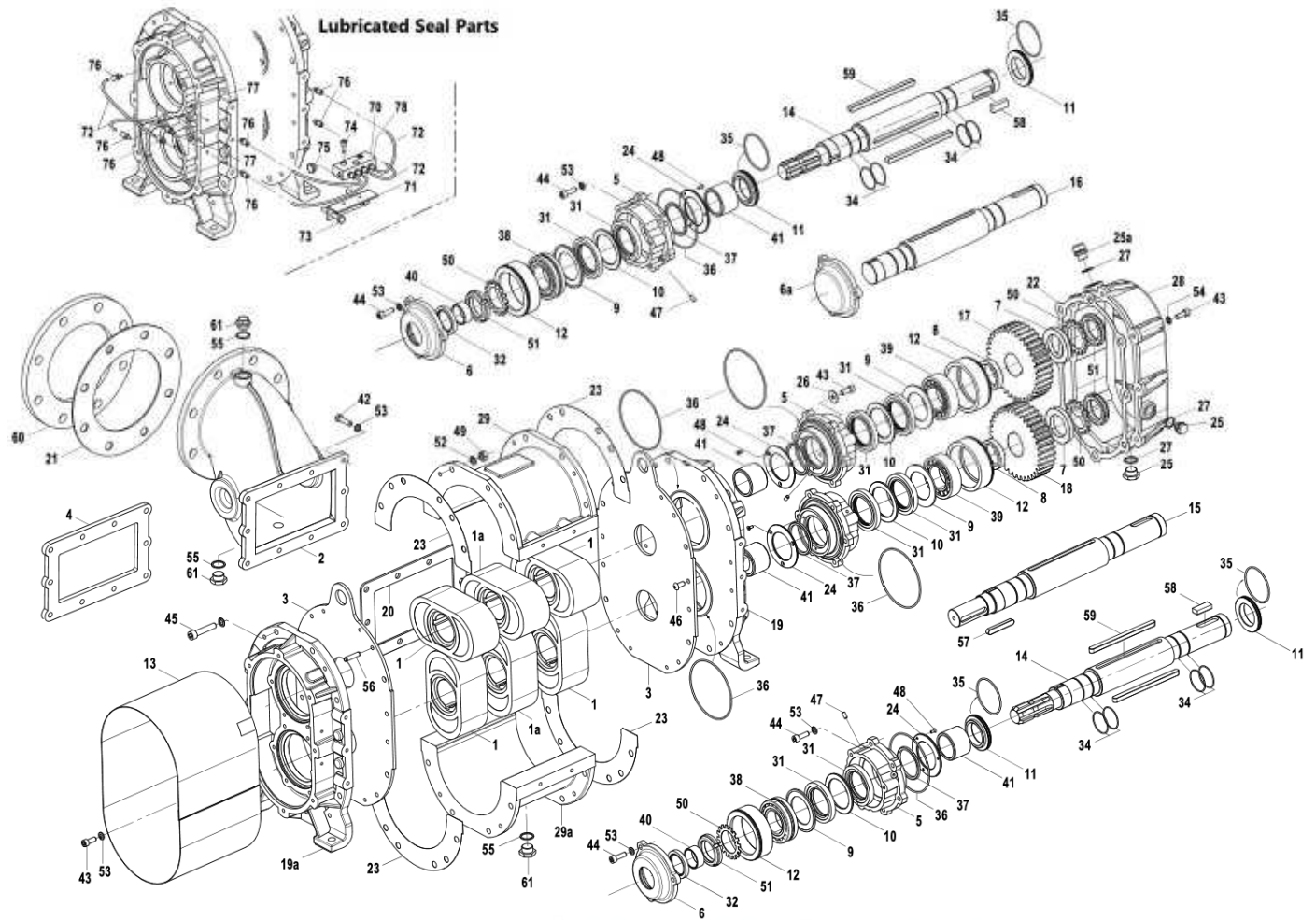
MG 14

Lubricated Seal Parts



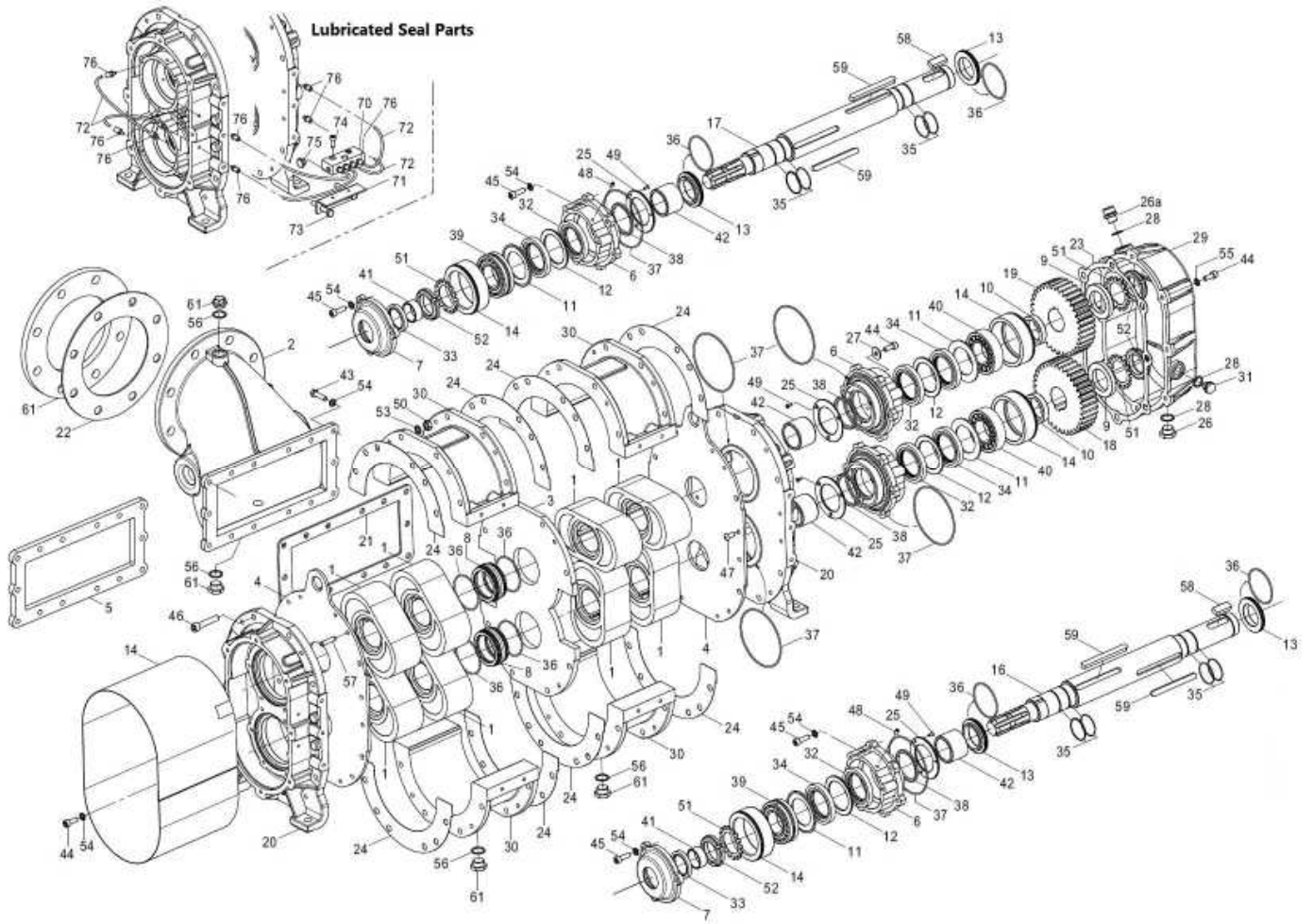
Pos	Code	Description	Qty	Pos	Code	Description	Qty
1	1503601400	MG Lobe NBR	4	37	4022203206	Ring, Teflon 55X66X4.2	4
	1503601600	MG Lobe VITON	4	38	4023105010	Gear 22209 E/C3	2
	1503600700	MG Lobe EPDM	4	39	4023110049	Gear NU 2209 ECP	2
	1503603000	MG Lobe Polyurethane	4	40	4023130009	Bushing 35X40X17 IR	2
2	1627508600	Collector DN100 PN6	2	41	4023130036	Bushing 55X45X40 INA V	4
	1627508400	Collector DN100 PN10	2		1624012500	Bushing MG Ceramised	4
	1627508700	Collector DN100 PN6 By-Pass	2	42	4026102807	Screw TE 8,8 M8X25	14
	1627508500	Collector DN100 PN10 By-Pass	2	43	4026121405	Screw TCEI 8,8 M8X20	18
3	1610009300	Wearproof Plate	2	44	4026121407	Screw TCEI 8,8 M8X25	30
	1610014600	Wearproof Plate Ceramised	2	45	4026121813	Screw TCEI 8,8 M8X50	16
4	1610011300	Inlet / Outlet Flange	2	46	4026121504	Screw TBEI 10,9 M8X18	8
5	1610509400	Bearing Flange	4	47	4026136205	Set Screw 12.9	4
6	1610507000	Front Flange	2	48	4026155302	Screw SS 304 TSPEI M4X10	12
6a	1510500100	Front Flange, TT Blind	1	49	4026308006	Nut M10	16
7	1624009900	Gear Placer	2	50	4026306309	Safety Ring	4
8	1624012700	Spacer	2	51	4026306509	Self Locking Ring M45X1,5	4
9	1624012800	Spacer Bearing	4	52	4026350708	Grower Washer M10	16
10	1624020000	Seal Placer TT	4	53	4026350706	Spring Washer Ø8.4 Zinc	48
11	1626000700	Bushing TT	4	54	4026351505	Spring Washer M8	8
12	1626000800	Bearing Bush	4	55	4026359003	Flat Washer 21.5X26X1,5	5
13	1642005700	Protection	1	56	4026410013	Elastic Pin SIROL 8X36	8
14	1650007400	Axle MG 14 D.55	2	57	4026500911	Key for Electric Motor	1
15	1650007400	Electric Motor Axle	1	58	4026501500	Key 14X9X36	2
16	1650007600	Blind Axle	1	59	4026503505	Key 10X9X110 6604	4
17	1651002500	Treated Gear	1	60	4026713007	Manifold Flange MG 14 DN100	2
18	1651003400	Gear	1		4026713409	Flange DN100 PN6	2
19	1662500300	Housing (SX) TTL	1	61	4026904001	Drain Plug G1/2"	5
19a	1662501000	Housing (DX) TTL	1				
20	1680605500	Manifold Flange Gasket	2				
21	1680604700	MG 14 Inlet Gaskets	2				
	16807X7WA0	Manifold Gasket DN100	2				
22	1680703500	Oil Tank Gasket	1	70	1608100900	Oil Distributor TT	1
23	1680705000	Housing Gasket	4	71	1612034100	Distributor Plate Holder	1
24	1681005800	Wear Plate Seal Gasket	4	72	4021102002	Piping Ø4	0,8m
25	1684000000	Vent G3/8"	2	73	4026102808	Screw TE 8,8 M8X30	2
25a	4026910001	Vent Plug G3/8"	1	74	4026121306	Screw TCEI M6X18	2
26	1685005100	Washer MG 7 - 40	6	75	4026905001	Plug G1/8"	2
27	1685100200	Aluminium Washer	3	76	4027420517	Straight Fitting Ø4 M5	12
28	1687100600	Oil Tank	1	77	4026135304	Sscrew S.T. M5X8	4
29	1687503200	Pump Housing MG 14	1	78	4027421220	Fitting 90° Ø4 M5	4
	1687504900	Pump Housing MG 14 Ceramised	1				
29a	1687510500	Pump Housing with Hole MG 14	1				
	1687510800	Pump Housing with Hole MG 14 Ceramised	1				
31	4022200106	Seal Ring Domsel AB NBR	8	N/A	1892001200	Gasket Kit MG 7 - 40 TT/TTL NBR	
	4022200107	Seal Ring Domsel AB Viton	8	N/A	1892001300	Gasket Kit MG 7 - 40 TT/TTL VITON	
32	4022200027	Seal Ring 55X40X8	2				
34	4022200212	O-Ring 2162	8				
35	4022200242	O-Ring 3256	4				
36	4022200286	O-Ring 3450	8				

MG 20



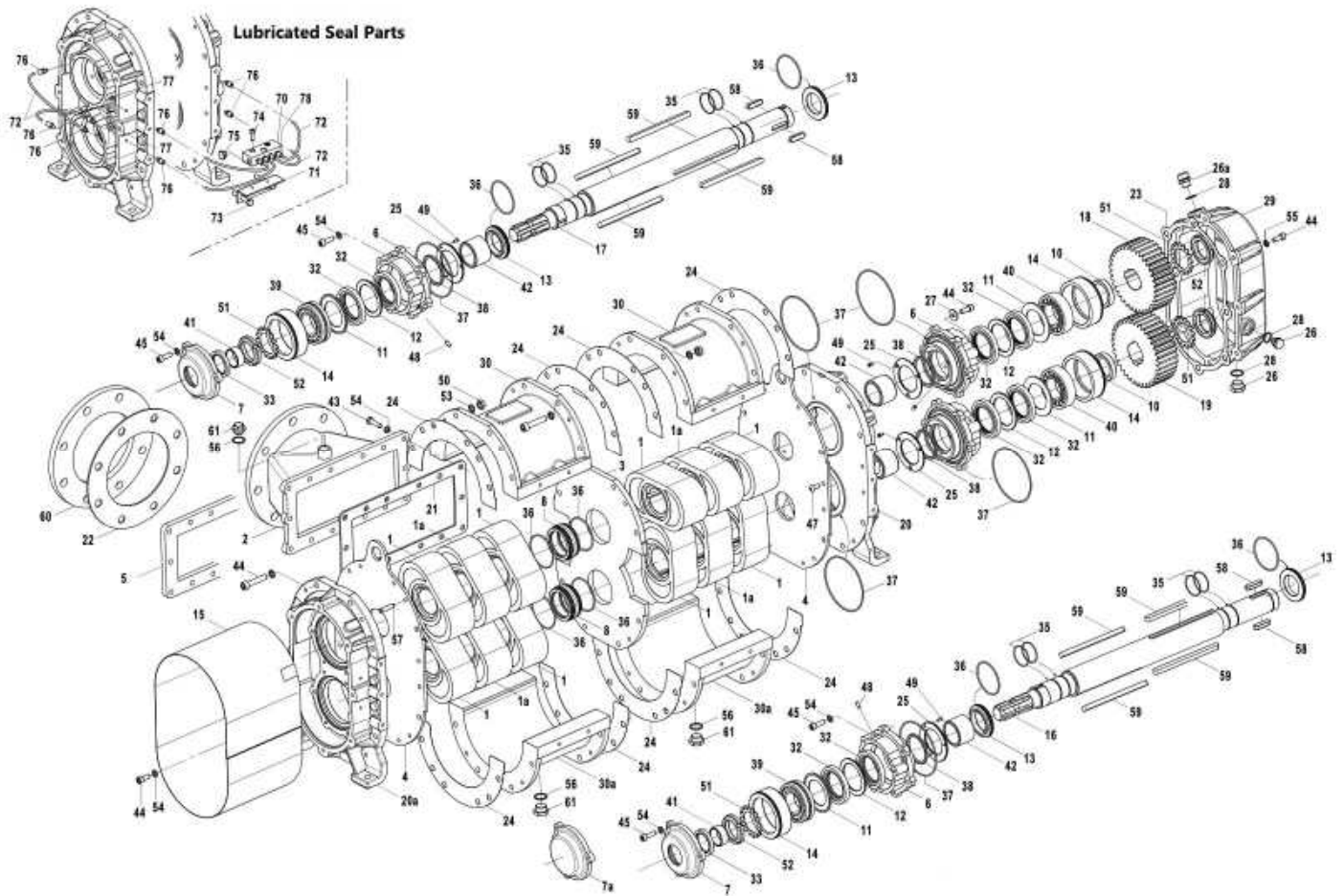
Pos	Code	Description	Qty	Pos	Code	Description	Qty
1	1503601400	MG Lobe NBR	4	32	4022200027	Seal Ring 55X40X8	2
	1503601600	MG Lobe VITON	4	34	4022200212	O-Ring 2162	8
	1503600700	MG Lobe EPDM	4	35	4022200242	O-Ring 3256	4
	1503603000	MG Lobe Polyurethane	4	36	4022200286	O-Ring 3450	8
1a	1503601500	MG Back Lobe NBR	2	37	4022203206	Ring, Teflon 55X66X4.2	4
	1503601700	MG Back Lobe VITON	2	38	4023105010	Gear 22209 E/C3	2
	1503602100	MG Back Lobe EPDM	2	39	4023110049	Gear NU 2209 ECP	2
	1503602900	MG Back Lobe Polyurethane	2	40	4023130009	Bushing 35X40X17 IR	2
2	1627507500	Collector DN150 PN6	2	41	4023130036	Bushing 55X45X40 INA V	4
	1627507800	Collector DN150 PN6 By-Pass	2		1624012500	Bushing MG Ceramised	4
3	1610009300	Wearproof Plate	2	42	4026102807	Screw TE 8,8 M8X25	18
	1610014600	Wearproof Plate Ceramised	2	43	4026121405	Screw TCEI 8,8 M8X20	18
4	1610011100	Inlet / Outlet Flange	2	44	4026121407	Screw TCEI 8,8 M8X25	30
5	1610509400	Bearing Flange	4	45	4026121813	Screw TCEI 8,8 M8X50	16
6	1610507000	Front Flange	2	46	4026121504	Screw TBEI 10,9 M8X18	8
6a	1510500100	Front Flange, TT Blind	1	47	4026136205	Set Screw 12.9	4
7	1624009900	Gear Placer	2	48	4026155302	Screw SS 304 TSPEI M4X10	12
8	1624012700	Spacer	2	49	4026308006	Nut M10	16
9	1624012800	Spacer Bearing	4	50	4026306309	Safety Ring	4
10	1624020000	Seal Placer TT	4	51	4026306509	Self Locking Ring M45X1,5	4
11	1626000700	Bushing TT	4	52	4026350708	Grower Washer M10	16
12	1626000800	Bearing Bush	4	53	4026350706	Spring Washer Ø8.4 Zinc	52
13	1642005700	Protection	1	54	4026351505	Spring Washer M8	8
14	1650007700	Axle MG 20 D.55	2	55	4026359003	Flat Washer 21.5X26X1,5	5
15	1650007800	Electric Motor Axle	1	56	4026410013	Elastic Pin SIROL 8X36	8
16	1650007900	Blind Axle	1	57	4026500911	Key for Electric Motor	1
17	1651002500	Treated Gear	1	58	4026501500	Key 14X9X36	2
18	1651003400	Gear	1	59	4026503509	Key 10X9X160 6604	4
19	1662500300	Housing (SX) TTL	1	60	4026713009	Manifold Flange MG 20 DN150	2
19a	1662501000	Housing (DX) TTL	1	61	4026904001	Drain Plug G1/2"	5
20	1680605600	MG 20 Inlet Gaskets	2				
21	1680606100	Manifold Gaskets	2	70	1608100900	Oil Distributor TT	1
22	1680703500	Oil Tank Gasket	1	71	1612034100	Distributor Plate Holder	1
23	1680705000	Housing Gasket	4	72	4021102002	Piping Ø4	0,8m
24	1681005800	Wear Plate Seal Gasket	4	73	4026102808	Screw TE 8,8 M8X30	2
25	1684000000	Vent G3/8"	2	74	4026121306	Screw TCEI M6X18	2
25a	4026910001	Vent Plug G3/8"	1	75	4026905001	Plug G1/8"	2
26	1685005100	Washer MG 7 - 40	6	76	4027420517	Straight Fitting Ø4 M5	12
27	1685100200	Aluminium Washer	3	77	4026135304	Screw S.T. M5X8	4
28	1687100600	Oil Tank	1	78	4027421220	Fitting 90° Ø4 M5	4
29	1687503300	Pump Housing MG 20	1				
	1687505000	Pump Housing MG 20 Ceramised	1				
29a	1687510600	Pump Housing with Hole MG 20	1	Gasket Kits			
	1687510900	Pump Housing with Hole MG 20 Ceramised	1	N/A	1892001200	Gasket Kit MG 7 - 40 TT/TTL NBR	
31	4022200106	Seal Ring Domsel AB NBR	8	N/A	1892001300	Gasket Kit MG 7 - 40 TT/TTL VITON	
	4022200107	Seal Ring Domsel AB Viton	8				

MG 27



Pos	Code	Description	Qty	Pos	Code	Description	Qty
1	1503601400	MG Lobe NBR	8	33	4022200027	Seal Ring 55X40X8	2
	1503601600	MG Lobe VITON	8	35	4022200212	O-Ring 2162	8
	1503600700	MG Lobe EPDM	8	36	4022200242	O-Ring 3256	8
	1503603000	MG Lobe Polyurethane	8	37	4022200286	O-Ring 3450	8
2	1627507600	Collector MG 27 DN150 PN6	2	38	4022203206	Ring, Teflon 55X66X4.2	4
	1627507900	Collector MG 27 DN150 PN6 By-Pass	2	39	4023105010	Gear 22209 E/C3	2
3	1610009200	Central Wearproof Plate	1	40	4023110049	Gear NU 2209 ECP	2
	1610014700	Central Wearproof Plate Ceramised	1	41	4023130009	Bushing 35X40X17 IR	2
4	1610009300	Wearproof Plate	2	42	4023130036	Bushing 55X45X40 INA V	4
	1610014600	Wearproof Plate Ceramised	2		1624012500	Bushing MG Ceramised	4
5	1610011200	Inlet / Outlet Flange	2	43	4026102808	Screw TE 8,8 M8X30	28
6	1610509400	Bearing Flange	4	44	4026121405	Screw TCEI 8,8 M8X20	18
7	1610507000	Front Flange	2	45	4026121407	Screw TCEI 8,8 M8X25	30
7a	1510500100	Front Flange, TT Blind	1	46	4026121813	Screw TCEI 8,8 M8X50	24
8	1624009800	Lobes Spacer	2	47	4026121504	Screw TBEI 10,9 M8X18	8
9	1624009900	Gear Placer	2	48	4026136205	Set Screw 12.9	4
10	1624012700	Spacer	2	49	4026155302	Screw SS 304 TSPEI M4X10	12
11	1624012800	Spacer Bearing	4	50	4026308006	Nut M10	24
12	1624020000	Seal Placer TT	4	51	4026306309	Safety Ring	4
13	1626000700	Bushing TT	4	52	4026306509	Self Locking Ring M45X1,5	4
14	1626000800	Bearing Bush	4	53	4026350708	Grower Washer M10	16
15	1642005700	Protection	1	54	4026350706	Spring Washer Ø8.4 Zinc	60
16	1650008000	Lower Axle MG 27 D.55	1	55	4026351505	Spring Washer M8	8
17	1650008100	Upper Axle MG 27 D.55	1	56	4026359003	Flat Washer 21.5X26X1,5	6
18	1651002500	Treated Gear	1	57	4026410013	Elastic Pin SIROL 8X36	12
19	1651003400	Gear	1	58	4026501500	Key 14X9X36	2
20	1662500300	Housing (SX) TTL	1	59	4026503505	Key 10X9X110 6604	8
20a	1662501000	Housing (DX) TTL	1	60	4026713009	Manifold Flange MG 20 DN150	2
21	1680605700	MG 27 Inlet Gaskets	2	61	4026904001	Drain Plug G1/2"	6
22	1680606100	Manifold Flange Gasket	2				
23	1680703500	Oil Tank Gasket	1				
24	1680705000	Housing Gasket	8	70	1608100900	Oil Distributor TT	1
25	1681005800	Plate Seal	4	71	1612034100	Distributor Plate Holder	1
26	1684000000	Vent G3/8"	2	72	4021102002	Piping Ø4	0,8m
26a	4026910001	Vent Plug G3/8"	1	73	4026102808	Screw TE 8,8 M8X30	2
27	1685005100	Washer MG 7 - 40	6	74	4026121306	Screw TCEI M6X18	2
28	1685100200	Aluminium Washer	3	75	4026905001	Plug G1/8"	2
29	1687100600	Oil Tank	1	76	4027420517	Straight Fitting Ø4 M5	12
30	1687504900	Pump Housing MG 27	2	77	4026135304	Sscrew S.T. M5X8	4
	1687504900	Pump Housing MG 27 Ceramised	2	78	4027421220	Fitting 90° Ø4 M5	4
30a	1687510500	Pump Housing with Hole MG 27	2				
	1687510800	Pump Housing with Hole MG 27 Ceramised	2				
32	4022200106	Seal Ring Domsel AB NBR	8	N/A	1892001200	Gasket Kit MG 7 - 40 TT/TTL NBR	
	4022200107	Seal Ring Domsel AB Viton	8	N/A	1892001300	Gasket Kit MG 7 - 40 TT/TTL VITON	

MG 40

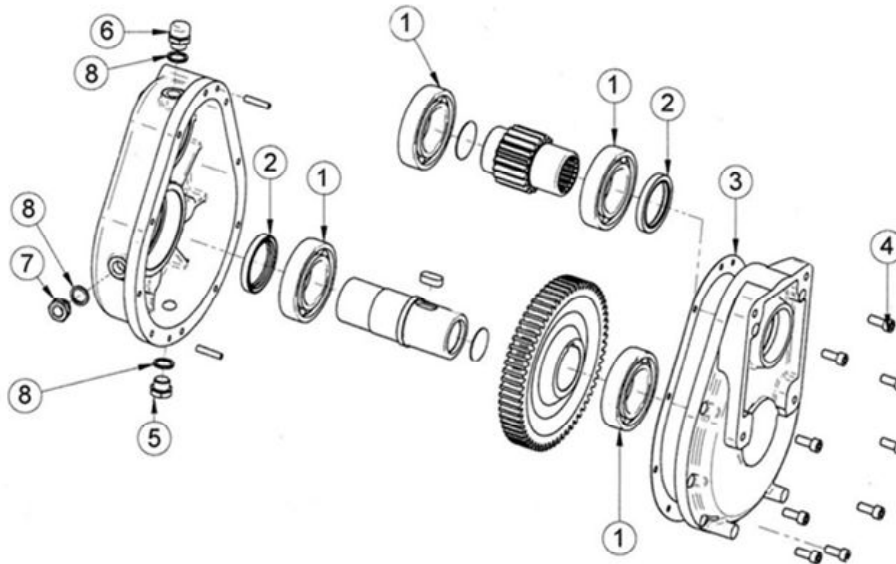


Pos	Code	Description	Qty	Pos	Code	Description	Qty
1	1503601400	MG Lobe NBR	8	33	4022200027	Seal Ring 55X40X8	2
	1503601600	MG Lobe VITON	8	35	4022200212	O-Ring 2162	8
	1503600700	MG Lobe EPDM	8	36	4022200242	O-Ring 3256	8
	1503603000	MG Lobe Polyurethane	8	37	4022200286	O-Ring 3450	8
1a	1503601500	MG Back Lobe NBR	4	38	4022203206	Ring, Teflon 55X66X4.2	4
	1503601700	MG Back Lobe VITON	4	39	4023105010	Gear 22209 E/C3	2
	1503602100	MG Back Lobe EPDM	4	40	4023110049	Gear NU 2209 ECP	2
	1503602900	MG Back Lobe Polyurethane	4	41	4023130009	Bushing 35X40X17 IR	2
2	1526002300	Connection MG 40	2	42	4023130036	Bushing 55X45X40 INA V	4
3	1610009200	Central Wearproof Plate	1		1624012500	Bushing MG Ceramised	4
	1610014700	Central Wearproof Plate Ceramised	1	43	4026102807	Screw TE 8,8 M8X25	28
4	1610009300	Wearproof Plate	2	44	4026121405	Screw TCEI 8,8 M8X20	18
	1610014600	Wearproof Plate Ceramised	2	45	4026121407	Screw TCEI 8,8 M8X25	30
5	1610013100	Inlet / Outlet Flange	2	46	4026121813	Screw TCEI 8,8 M8X50	24
6	1610509400	Bearing Flange	4	47	4026121504	Screw TBEI 10,9 M8X18	8
7	1610507000	Front Flange	2	48	4026136205	Set Screw 12.9	4
7a	1510500100	Front Flange, TT Blind	1	49	4026155302	Screw SS 304 TSPEI M4X10	12
8	1624009800	Lobes Spacer	2	50	4026308006	Nut M10	24
10	1624012700	Spacer	2	51	4026306309	Safety Ring	4
11	1624012800	Spacer Bearing	4	52	4026306509	Self Locking Ring M45X1,5	4
12	1624020000	Seal Placer TT	4	53	4026350708	Grower Washer M10	24
13	1626000700	Bushing TT	4	54	4026350706	Spring Washer Ø8.4 Zinc	62
14	1626000800	Bearing Bush	4	55	4026351505	Spring Washer M8	8
15	1642005700	Protection	1	56	4026359003	Flat Washer 21.5X26X1,5	4
16	1650008600	Lower Axle MG 40 D.55	1	57	4026410013	Elastic Pin SIROL 8X36	12
17	1650008500	Upper Axle MG 40 D.55	1	58	4026501500	Key 14X9X36	4
18	1651001900	Gear	1	59	4026503505	Key 10X9X110 6604	8
19	1651001800	Gear	1	60	4026713010	Manifold Flange MG 40 DN175	2
20	1662500300	Housing (SX) TTL	1	61	4026904001	Drain Plug G1/2"	6
20a	1662501000	Housing (DX) TTL	1				
21	1680606500	MG 40 Inlet Gaskets	2				
22	1680606500	Manifold Flange Gaskets	2	70	1608100900	Oil Distributor TT	1
23	1680703500	Oil Tank Gasket	1	71	1612034100	Distributor Plate Holder	1
24	1680705000	Housing Gasket	8	72	4021102002	Piping Ø4	0,8m
25	1681005800	Wear Plate Seal Gasket	4	73	4026102808	Screw TE 8,8 M8X30	2
26	1684000000	Vent G3/8"	2	74	4026121306	Screw TCEI M6X18	2
26a	4026910001	Vent Plug G3/8"	1	75	4026905001	Plug G1/8"	2
27	1685005100	Washer MG 7 - 40	6	76	4027420517	Straight Fitting Ø4 M5	12
28	1685100200	Aluminium Washer	3	77	4026135304	Screw S.T. M5X8	4
29	1687100600	Oil Tank	1	78	4027421220	Fitting 90° Ø4 M5	4
30	1687503300	Pump Housing MG 40	2				
	1687505000	Pump Housing MG 40 Ceramised	2				
30a	1687510600	Pump Housing with Hole MG 40	2				
	1687510900	Pump Housing with Hole MG 40 Ceramised	2	Gasket Kits			
32	4022200106	Seal Ring Domsel AB NBR	8	N/A	1892001200	Gasket Kit MG 7 - 40 TT/TTL NBR	
	4022200107	Seal Ring Domsel AB Viton	8	N/A	1892001300	Gasket Kit MG 7 - 40 TT/TTL VITON	

MG 07, 14, 20, 27, 40 Reduction Gear

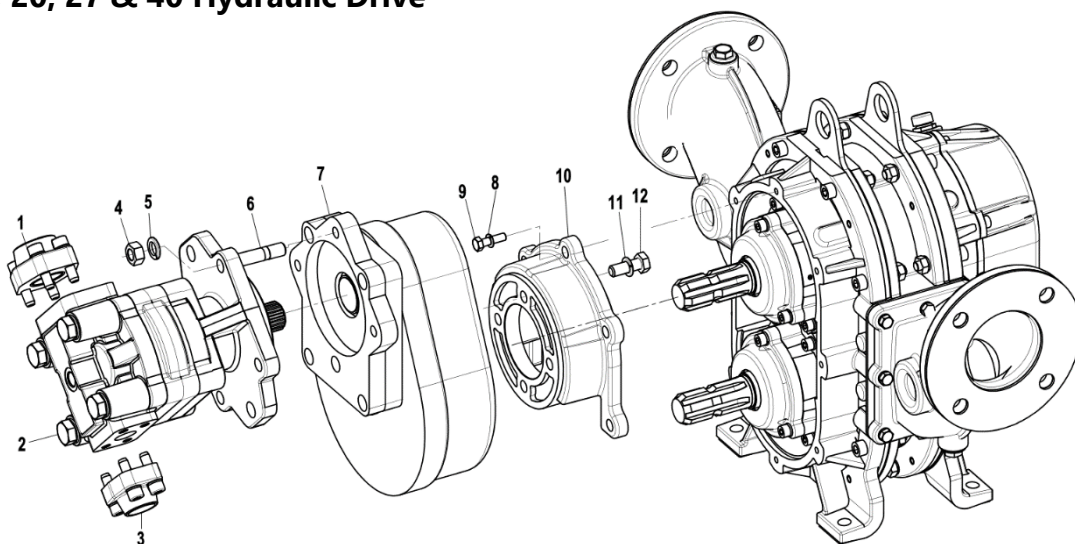
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FR 3.5 R.1:3.2 (Code 40258 004 00)



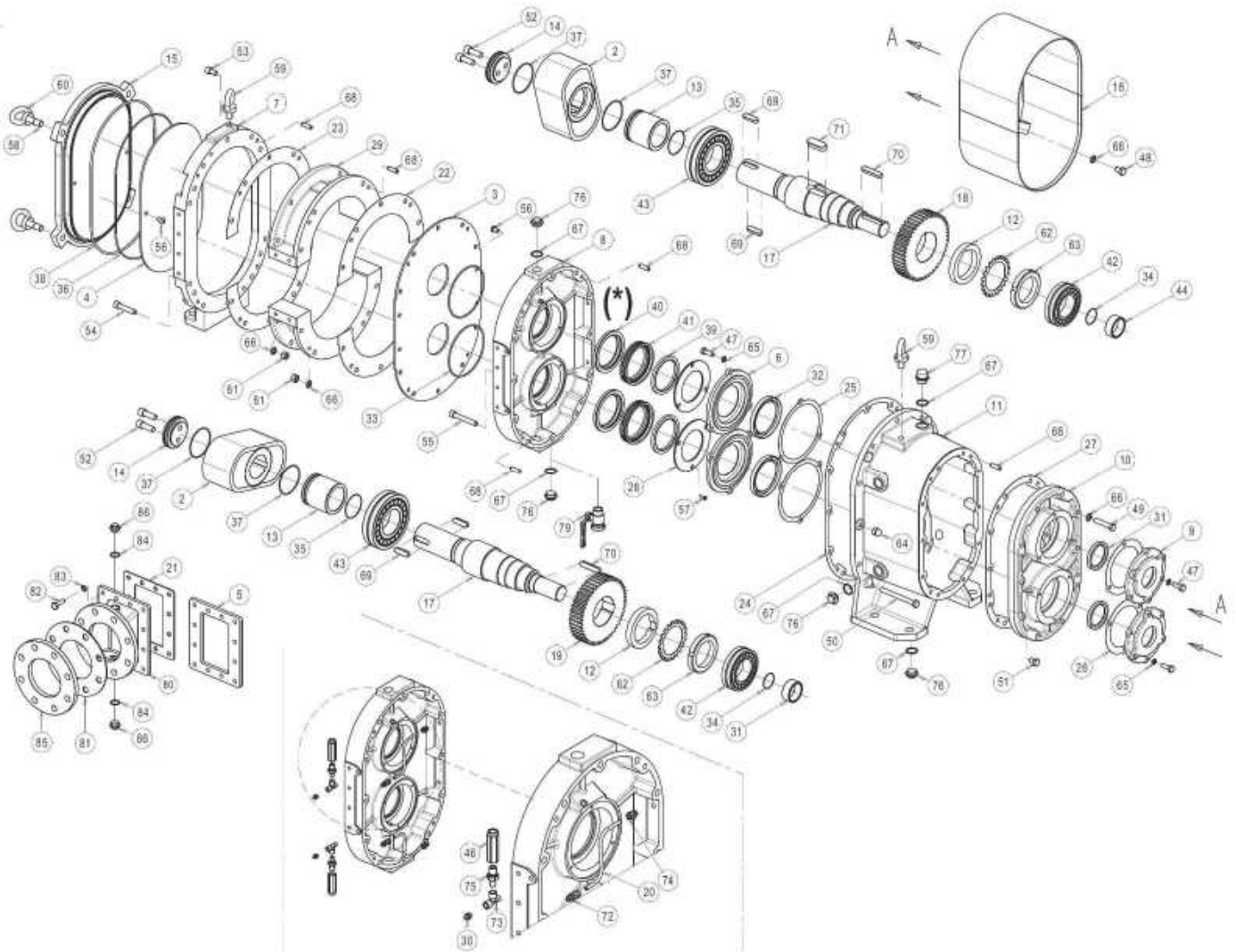
Pos	Code	Description	Qty
1	4023100155	Bearing 6210	4
2	4022200105	Seal Ring 50x65x8 BABSL	2
3	40222RPB00	Gasket	1
4	4026121405	Screw TCEI 8.8 M8x20 Zinc	9
5	1684000000	Drainage Plug 3/8"	1
6	4026910001	Plug 3/8"	1
7	4022104501	Level Plug 3/8"	1
8	1685100200	Washer AI 17x22x1.5	3

MG 07, 14, 20, 27 & 40 Hydraulic Drive



Hydraulic Transmission MG 07 – 5 Bar, Code: 18030 140 00							
Pos	Code	Description	Qty	Pos	Code	Description	Qty
1	4026711003	Motor Flange	1	7	4025800302	Gearbox	1
2	4024107005	Motor HDR	1	8	4026350706	Spring Washer M8 Zinc	5
3	4026711002	Motor Flange	1	9	4026102808	Screw TE 8.8 M8X30	5
4	4026308008	Nut M14	4	10	1612501600	HDR Box	1
5	4026350710	Grower Washer M14	4	11	4026350709	Grower Washer M12	4
6	4026171304	Screw M14X30	4	12	4026103003	Screw M12X25	4
Hydraulic Transmission MG 14 – 5 Bar, Code: 18030 141 00							
Pos	Code	Description	Qty	Pos	Code	Description	Qty
1	4026711003	Motor Flange	1	7	4025800302	Gearbox	1
2	4024107008	Motor HDR	1	8	4026350706	Spring Washer M8 Zinc	5
3	4026711002	Motor Flange	1	9	4026102808	Screw TE 8.8 M8X30	5
4	4026308008	Nut M14	4	10	1612501600	HDR Box	1
5	4026350710	Grower Washer M14	4	11	4026350709	Grower Washer M12	4
6	4026171304	Screw M14X30	4	12	4026103003	Screw M12X25	4
Hydraulic Transmission MG 20 – 5 Bar, Code: 18030 142 00							
Pos	Code	Description	Qty	Pos	Code	Description	Qty
1	4026711004	Motor Flange	1	7	4025800302	Gearbox	1
2	4024107009	Motor HDR	1	8	4026350706	Spring Washer M8 Zinc	5
3	4026711003	Motor Flange	1	9	4026102808	Screw TE 8.8 M8X30	5
4	4026308008	Nut M14	4	10	1612501600	HDR Box	1
5	4026350710	Grower Washer M14	4	11	4026350709	Grower Washer M12	4
6	4026171304	Screw M14X30	4	12	4026103003	Screw M12X25	4
Hydraulic Transmission MG 27 – 5 Bar, Code: 18030 143 00							
Pos	Code	Description	Qty	Pos	Code	Description	Qty
1	-		1	7	4025800302	Gearbox	1
2	4024107001	Motor HDR	1	8	4026350706	Spring Washer M8 Zinc	5
3	-		1	9	4026102808	Screw TE 8.8 M8X30	5
4	4026308008	Nut M14	4	10	1612501600	HDR Box	1
5	4026350710	Grower Washer M14	4	11	4026350709	Grower Washer M12	4
6	4026171304	Screw M14X30	4	12	4026103003	Screw M12X25	4
Hydraulic Transmission MG 40 – 5 Bar, Code: 18030 144 00							
Pos	Code	Description	Qty	Pos	Code	Description	Qty
1	-		1	7	4025800302	Gearbox	1
2	4024107001	Motor HDR	1	8	4026350706	Spring Washer M8 Zinc	5
3	-		1	9	4026102808	Screw TE 8.8 M8X30	5
4	4026308008	Nut M14	4	10	1612501600	HDR Box	1
5	4026350710	Grower Washer M14	4	11	4026350709	Grower Washer M12	4
6	4026171304	Screw M14X30	4	12	4026103003	Screw M12X25	4

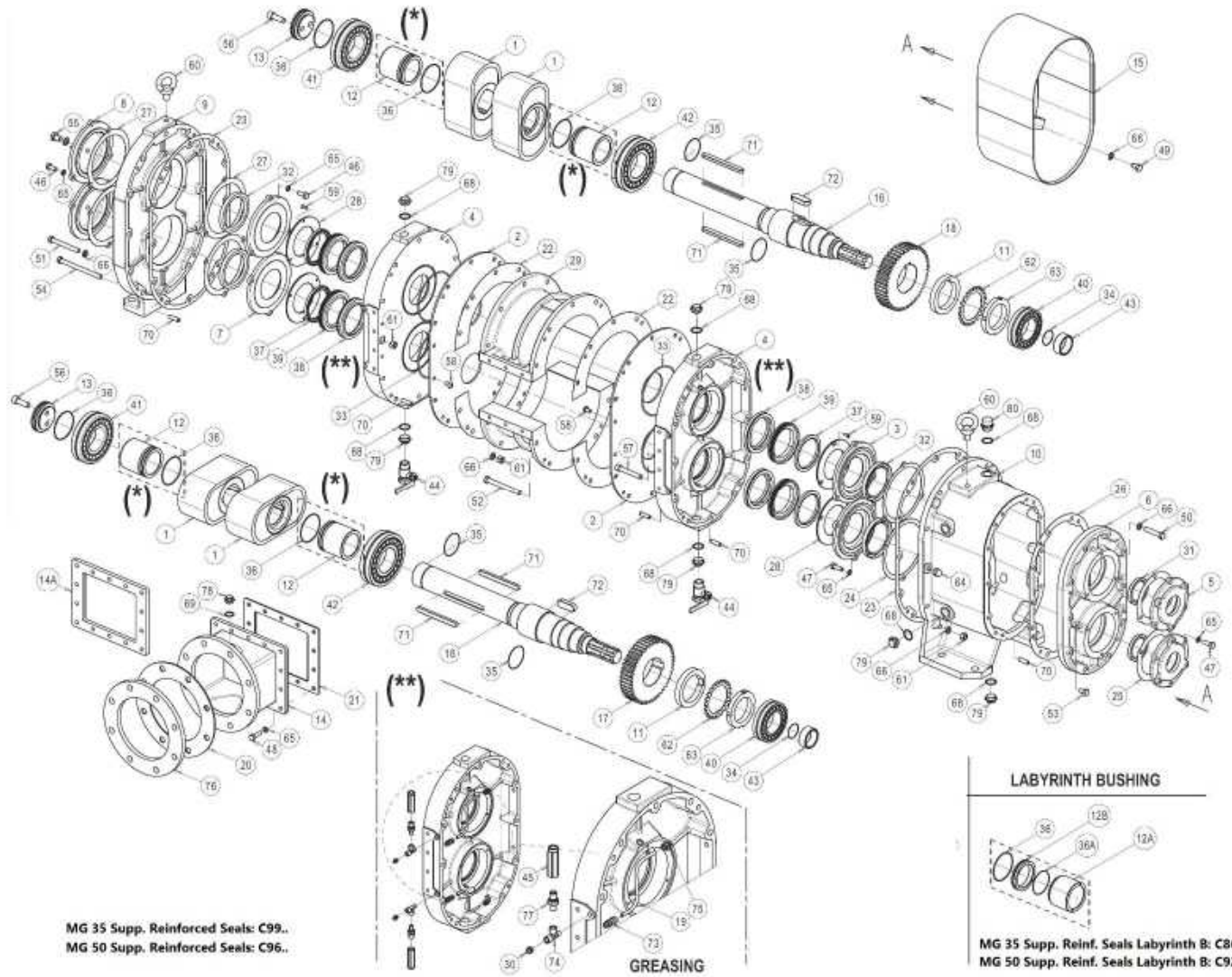
MG 17



Greasing System

Pos	Code	Description	Qty	Pos	Code	Description	Qty
1	147120CDA0	Lobes Extractor	1	45	4024409903	Leak Checking Port - Shutter ¾ (NOT PROVIDED)	1
2	1503603400	MG 17 Lobe NBR	2	46	402445CB00	Valve HDR G¼ - 8 Bar	2
3	1610016600	Seal Flange Wearplate	1	47	4026102908	Screw TE 8.8 M10x30	12
4	1610016700	Front Lid Wear Plate	1	48	4026103000	Screw TE 8.8 M12x20	4
5	16100Z39A0	Manifold Counterflange MG 17	2	49	4026103011	Screw TE 8.8 M12x60	10
6	1610507100	Internal Gearbox Flange	2	50	4026103016	Screw TE 8.8 M12x120	10
7	1610507400	Lid Flange	1	51	4026103030	Screw TE 8.8 M12x16	2
8	1610507500	Seal Housing (DX)	1	52	4026120711	Screw TCEI 8.8 M14x40	4
		Seal Housing (SX)	1	53	4026120711	Screw TCEI 8.8 M12x20	2
9	1610507600	External Gearbox Flange	2	54	4026121715	Screw TCEI 8.8 M12x60	10
10	1610507700	Gearbox Lid Flange	1	55	4026121719	Screw TCEI 8.8 M12x80	2
11	1612502900	Gearbox Housing	1	56	4026122005	Screw TBEI 10.9 M10x15	6
12	1624014600	Gear Spacer	2	57	4026155205	Screw TSPEI 8.8 M6x16 Inox	6
13	1626000900	Seals Bushing	2	58	4026171404	Stud Screw M16x40	4
14	1626001000	Lobes Locking Bushing	2	59	4026190102	Eyebolt M16	2
15	1640500700	Front Lid	1	60	4026191103	Eyebolt M16	4
16	1642003700	Shaft Protection	1	61	4026301603	Nut M12	20
17	1650021000	Drive Shaft MG 17	2	62	4026306317	Star Washer MB 17 for locking collar KM M85x2	2
18	1651004600	Gear	1	63	4026306417	Locking Collar KM M85x2	2
19	1651004700	Gear	1	64	4026322004	Nut M12	2
20	1663103Q80	Grease Tube	2	65	4026350708	Grower Washer M10	12
21	16806Z32A0	Manifold Gasket MG 17	2	66	4026350709	Grower Washer M12	30
22	1680706600	Pump Housing Gasket, Seals Side	2	67	4026359000	Flat Washer 32x26x1.5	8
23	1680706700	Pump Housing Gasket, Lid Side	2	68	4026401806	Pin 10x35	16
24	1680706800	Seals Housing Gasket	2	69	4026501603	Key 14x9x50	4
25	1680706900	Internal Gearbox Flange Gasket	1	70	4026501606	Key 14x9x70	2
26	1680707000	External Gearbox Flange Gasket	2	71	4026501701	Key 22x14x63	2
27	1680707100	Gearbox Lid Flange Gasket	2	72	4026702004	Universal Fitting 6-1/8"	2
28	1681006300	Seals Keep Plate	1	73	4026702511	Tee G1/8" FFM	2
29	1687508300	Pump Housing MG 17	2	74	4026706003	Universal Fitting 90° 6-1/8"	2
30	4022100010	Grease Nipples M10x1	2	75	4026740115	Reduction Nipple ¼" - 1/8"	2
31	4022200064	Seal 60x80x10	2	76	4026904002	Plug G¾"	7
32	4022200091	Seal 90x120x12	2	77	4026910003	Vent Plug G¾"	1
33	4022200230	O-Ring 4575	2	80	15260YYA0	Manifold Connection DN 100	2
34	4022200277	O-Ring 2175	2	81	16807X7WA0	Manifold Gasket DN 100	2
35	4022200281	O-Ring 2262	2	82	4026102909	Screw TE 8.8 M10x35	2
36	4022200290	O-Ring 41400	1	83	4026350708	Grower Washer M10	2
37	402220294	O-Ring 3325	4	84	4026359003	Flat Washer 21.5x26x1.5	4
38	4022200295	O-Ring ø380.37x5.34	1	85	4026713409	Flange DN 100	2
39	4022200430	Seal 90x110x7.5	2	86	4026904001	Plug G½"	4
40	4022200435	Seal 90x120x14	2				
41	4022200440	Seal 90x120x21	2	N/A	18920BYQB0	Complete Gasket Kit MG 17	1
42	4023105015	Bearing 22213E	2				
43	4023105018	Bearing 21315E	2				
44	4023130044	Busing 50x60x25	2				

MG 35 & 50



Pos	Code	Description	Qty	Pos	Code	Description	Qty
1	1503602500	MG 35 Lobe NBR	4	38	4022200435	Seal 90X120X14	4
1	1503602500	MG 50 Lobe NBR	6	39	4022200440	Seal 90X120X21	4
1	15036XPSA0	MG 35 Lobe SBR	4	40	4023105015	Bearing 22213 E	2
1	15036XPSA0	MG 50 Lobe SBR	6	41	4023105016	Bearing 21314 CC	2
2	1610051500	Wearplate Flange MG 35-50	2	42	4023105018	Bearing 21315 E	2
4	1610507500	Seal Housing MG 35-50	2	43	4023130044	Bushing 50X60X25	2
5	1610507600	External Gearbox Flange MG 35-50	2	45	402445CB00	Valve HDR G¼" - 8 Bar	4
6	1610507700	Gearbox Lid Flange MG 35-50	1	46	4026102907	Screw TE 8.8 M10x25	12
7	1610513100	External Flange MG 35-50	2	47	4026102908	Screw TE 8.8 M10x30	12
8	1610513200	External Flange MG 35-50	2	48	4026102909	Screw TE 8.8 M10x35	28
9	1610513300	Flange Closure MG 35-50	1	49	4026103000	Screw TE 8.8 M12x20	4
10	1612502900	Gearbox Housing MG 35-50	1	50	4026103011	Screw TE 8.8 M12x60	10
11	1624014600	Gear Spacer MG 35-50	2	51	4026103014	Screw TE 8.8 M12x100	2
12A	1626001803	Seals Bushing 90X70X71	4	52	4026103016	Screw TE 8.8 M12x120	10
12B	1626001900	Lobe Bushing 89.5X70X17	4	53	4026103030	Screw TE 8.8 M12x16	2
13	1626001000	Lobes Locking Bushing MG 35-50	2	54	4026103031	Screw TE 8.8 M12x150	10
14	1627503700	Manifold Connection DN175 (MG 35)	2	55	4026103106	Screw TE 8.8 M14x20	2
	1627503800	Manifold Connection DN200 (MG 50)	2	56	4026120711	Screw TCEI 8.8 M14x40	4
14A	1610020200	Manifold Counter Flange MG 35	2	57	4026121719	Screw TCEI 8.8 M12x80	2
	1610020300	Manifold Counter Flange MG 50	2	58	4026122005	Screw TBEI 10.9 M10x15	8
15	1642003700	Shaft Protection	1	59	4026155205	Stainless Steel Screw 8.8 M6x16	1
16	1650021200	Drive Shaft MG 35	2	60	4026190102	Eye Bolt M16	2
	1650020600	Drive Shaft MG 50	2	61	4026301603	Nut M12	2
17	1651004600	Gear MG 35-50	1	62	4026306317	Star Washer MB 17 for Locking Collar KM M85x2	2
18	1651004700	Gear MG 35-50	1	63	4026306417	Locking Collare KM M85x2	2
19	1663103QB0	Grease Tube	64	64	4026322004	Nut M12	2
20	1680607700	Manifold Gasket MG 35	2	65	4026350708	Grower Washer M10	5
	1680607900	Manifold Gasket MG 50	2	66	4026350709	Grower Washer M12	36
21	1680607800	Manifold Gasket MG 35	2	67	4026350710	Grower Washer M14	2
	1680608000	Manifold Gasket MG 50	2	68	4026359000	Flat Washer 32X26X1.5	1
22	1680706600	Pump Housing Gasket MG 35-50	4	69	4026359003	Flat Washer 21.5X26X1.5	2
23	1680706800	Seals Housing Gasket MG 35-50	2	70	4026401806	Pin 10X35	2
24	1680706900	Internal Gearbox Flange Gasket MG 35-50	2	71	4026501612	Key 14X9X150 (MG 35)	4
25	1680707000	External Gearbox Flange Gasket MG 35-50	2	72	4026501618	Key 14X9X250 (MG 50)	4
26	1680707100	Gearbox Lid Flange Gasket MG 35-50	1		4026501701	Key 22X14X63	2
27	1680709500	External Flange Gasket MG 35-50	4	73	4026702004	Universal Fitting 6-1/8"	4
28	1681006300	Seals Keep Plate MG 35-50	4	74	4026702511	Tee G1/8" F.F.M	4
29	1687508400	Pump Housing MG 35	2	75	4026706003	Universal Fitting 90° 6-1/8"	4
	1687508100	Pump Housing MG 50	2	76	4026713010	Flange DN175 (MG 35)	2
30	4022100010	Grease Nipples M10x1	4	77	4026713011	Flange DN200 (MG 50)	2
31	4022200064	Seal 60X80X10	2		4026740115	Reduction Nipple ¼" - 1/8"	4
32	4022200091	Seal 90X120X12	4	78	4026904001	Plug G½"	2
33	4022200230	O-Ring 4575	4	79	4026904002	Plug G¾"	9
34	4022200277	O-Ring 2175	2	80	4026910003	Vent Plug G¾"	1
35	4022200281	O-Ring 2262	4	81	147120CDA0	Lobes Extractor MG 35-50	1
36	4022200294	O-Ring 3325	6	N/A	1892005ZA0	Complete Gasket Kit, Reinforced Seals MG35-50	1
36A	4022200283	O-Ring 2275	4				
37	4022200430	Seal 90X110X7.5	4				

Trouble-Shooting:

Symptom	Possible Cause	Possible Solution
The pump doesn't delivery any flow	Suction Lift is too high	Reduce suction depth
	Excess wear to the Lobes	Replace Lobes
	Clogged Suction Filter	Clean the Filter
	Suction line & components therein are incorrectly sized	Increase pipe and component \varnothing
	System Pressure is too high	Reduce system pressure, check NPSHa
Unstable Delivery & Vibrations from the Pump	Air Infiltration in the suction line	Check the connections in the suction line
	Clogged Suction Filter	Clean the Filter
	Operating Speed is too high	Check the Operating Speed and make sure they are consistent with the prescribed values
	Discharge Pressure is too high	Reduce the pressure losses by reducing the speed
	The suction pipe \varnothing is too small	Make sure the suction pipe \varnothing is at the prescribed size
	Viscosity or Density of the pumped media is too high	Reduce the Operating Speed or heat the fluid to reduce the viscosity
	Pump is cavitating	Reduce pressure losses in the suction side. Reduce suction lift and lengths. Reduce Operating Speed. Increase pipe \varnothing . Reduce fluid temperature
Pump is overheating	Discharge Pressure is too high	Reduce pressure losses by reducing the speed. Check if there are any blockages in the discharge line and that all valves are open.
	Operating Speed is too high	Check the Operating Speed and make sure they are consistent with the prescribed values
	Low Level in Oil Tank	Replace Rear Seals and replenish Oil Level.
	Low Suction Pressure / Cavitation	Reduce pressure losses; reduce capacity by lowering rotation speed. Restore NPSHa to adequate level.
	Grease Leaking from the small front flange	Replace the Front Seal Ring
By-Pass Intervention	Exceedingly high Discharge Pressure	Reduce pressure losses. Reduce capacity by lowering Operating Speed. Verify possible clogging along the discharge line/outlet side line and/or in the valves at closing stage. Accurately clean overpressure valve before starting up again.

Inspection & Maintenance Schedule:

Check periodically the oil level in the gearbox. Make sure to change the oil after the first 100 work hours; the quantity of oil in the gearbox is about 1 litres. Then change the oil once a year.

If the pump works at temperatures below 0° Centigrade, at the end of the operations the water must be spilled out completely, in order to avoid the damages caused by the formation of ice.

Before a long period of inactivity the lobes must be greased and then turned by hand to obtain a uniform distribution of the grease all around the body.

While running the apparatus, watch out if unusual noises and/or anomalous vibrations commence: should there be any, stop the pump.

In case of overheating, unusual noises or alteration of the paint, examine the rotating parts, the support of the front bearing and the seal rings.

Control the machine in such a way as to ensure that there are no losses/leaks before it is started up. Substitute the seal rings when you first notice an oil leak.

The following table summarises the main checks and their frequency:

State of Pump	Check	Frequency
In operation	Discharge Pressure	F
	Rotation Regime	D
	Suction Pressure	F
At standstill	Oil Level in Tank	M
	Inner Lubrication	D
	Verification of Transmission Conditions	M
	Verification of Wear to Lobes	W
	Cleaning Suction Filter	D
	State of the Safety Valve	M
	Front Seal Slips	W

F	Frequently
D	Daily
W	Weekly
M	Monthly