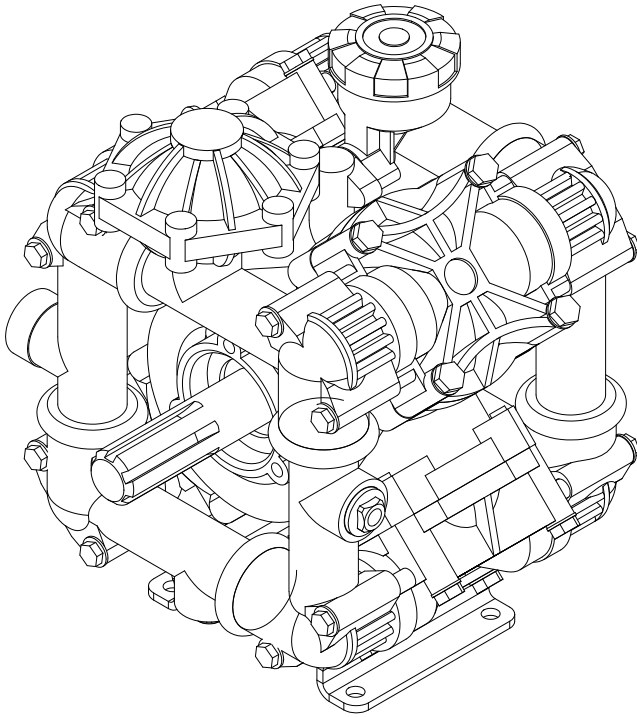


CHAPTER 2

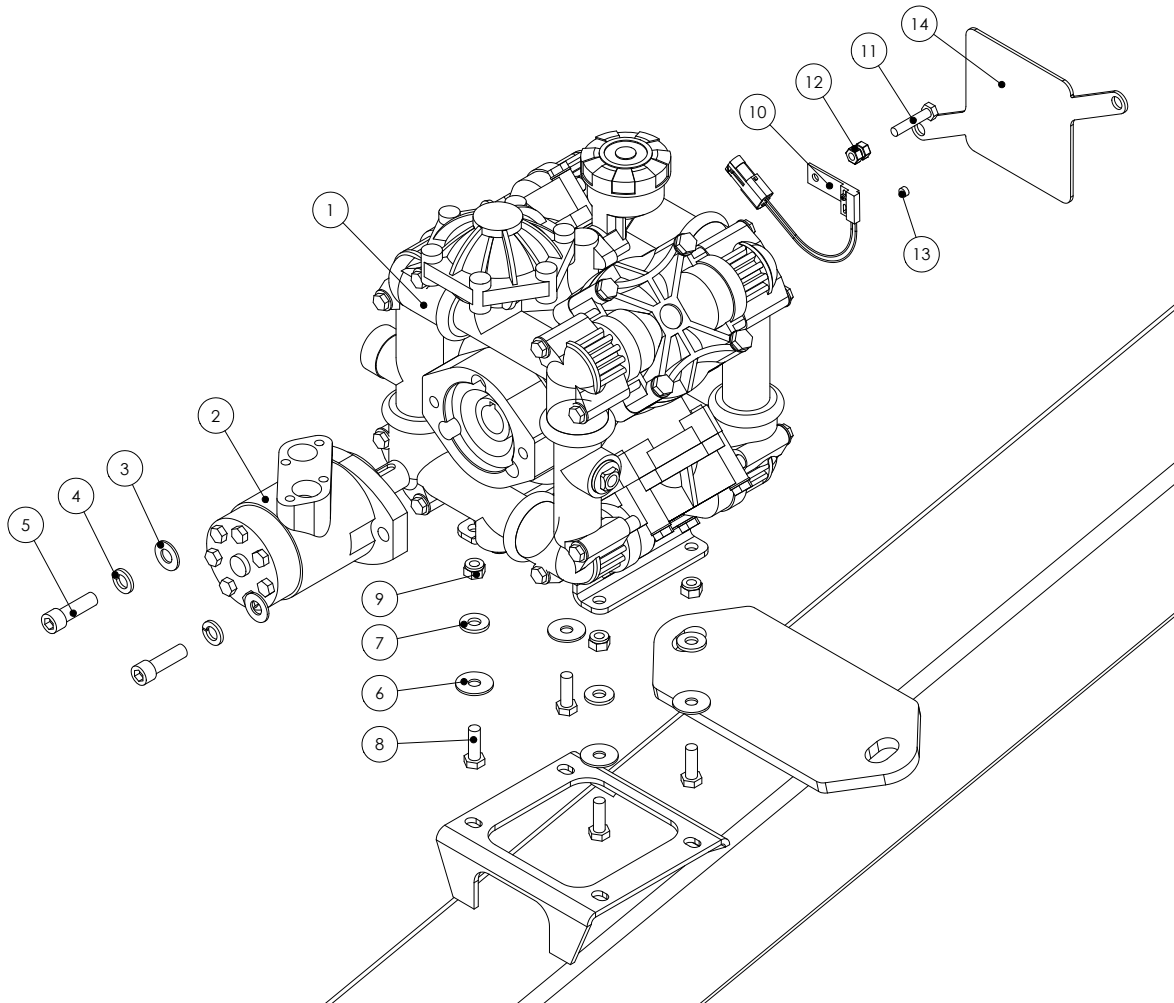
PUMPS



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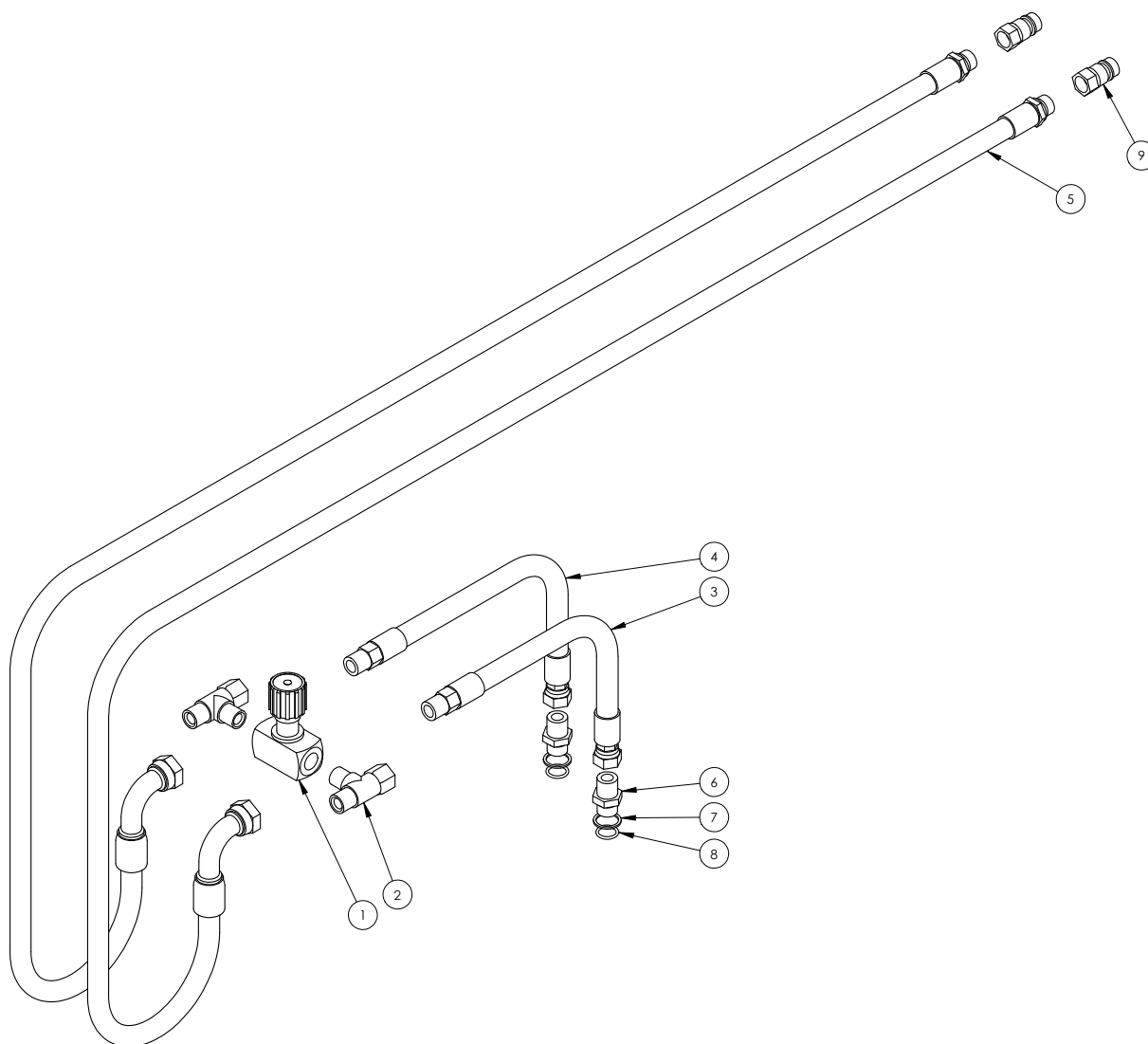
Rev 00 15/3/10

HYDRAULIC DRIVE PUMPS



Item	Part No	Description	Quantity	Item	Part No	Description	Quantity
1	RO160MI	160l/min Pump (Hydraulic Drive)	1	8	GA5065455	M10 x 30mm Bolt	4
2	GA5047515	Hydraulic Motor 80cc	1	9	GA5000141	M10 Nyloc Nut	4
3	GA5000577	12mm Washer	2	10	1170171293	RPM Sensor	1
4	GA5000575	12mm Spring Washer	2	11	GA5048655	M8 x 40mm Bolt	1
5	GA5006141	M12 x 40mm Cap Screw	2	12	GA5011499	M8 Plain Nut	2
6	GA5002627	3/8" x 27mm x 3mm Washer	4	13	GA5016169	Super Magnet	1
7	GA5000139	10mm Washer	4	14	PUMPCOVER	Pump Cover for 160L Pump	1

HYDRAULIC HOSE KIT

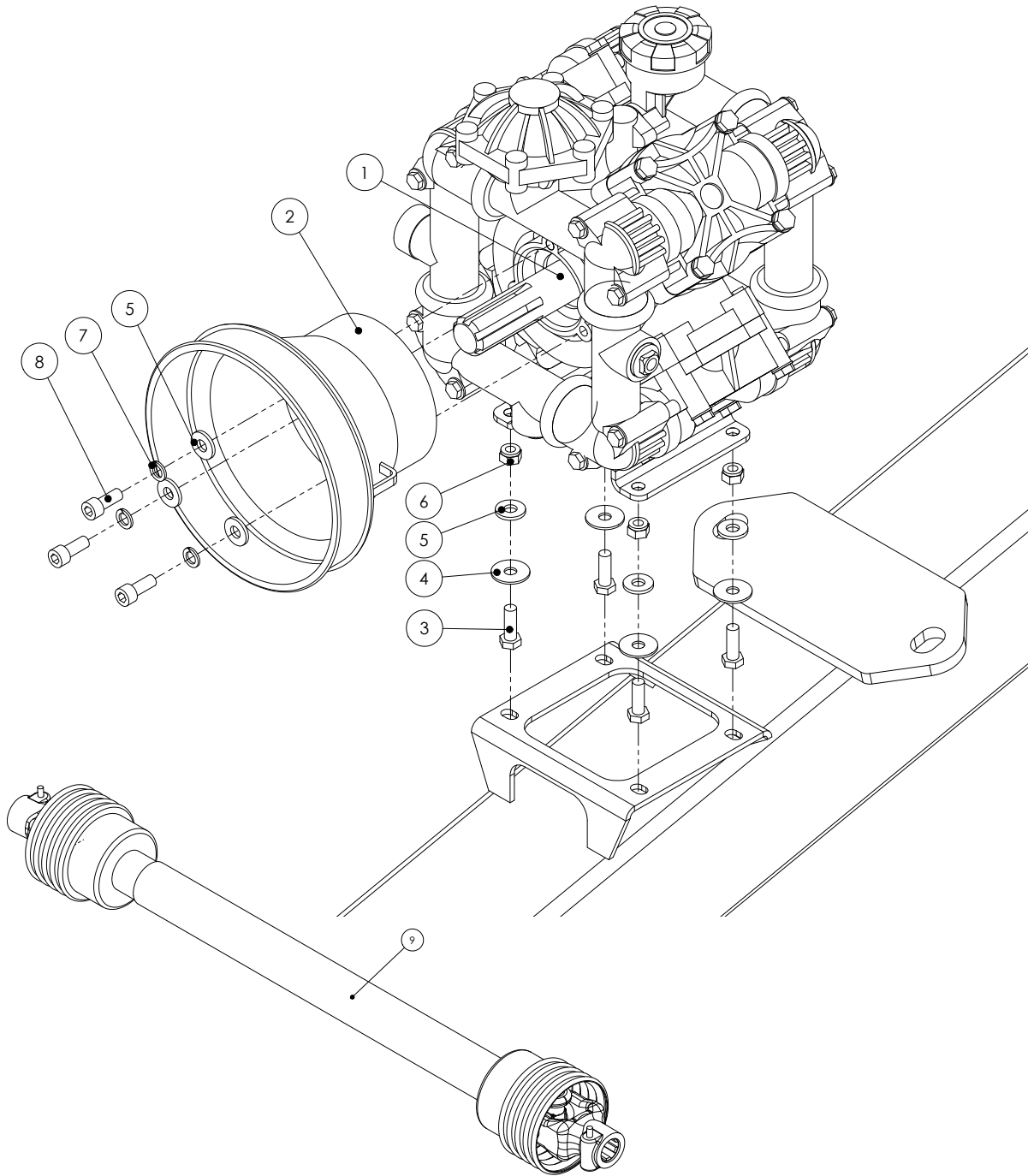


Assembly Part No: GA5067186

Item	Part No	Description	Quantity
1	GA5018221	1/2" Needle Valve	1
2	S83-080808	1/2" Hydraulic Tee	2
3	GA4922110	300mm Long Hydraulic Hose	1
4	GA4922115	340mm Long Hydraulic Hose	1
5	GA4922105	Hydraulic Hose to Tractor	2

Item	Part No	Description	Quantity
6	S75-08	1/2" Hydraulic Nipple	2
7	36B-08	1/2" Retaining Ring	2
8	RO-BP08	1/2" Hydraulic O-Ring	2
9	R81-08M	1/2" Quick Release Fitting	2

PTO DRIVE PUMPS



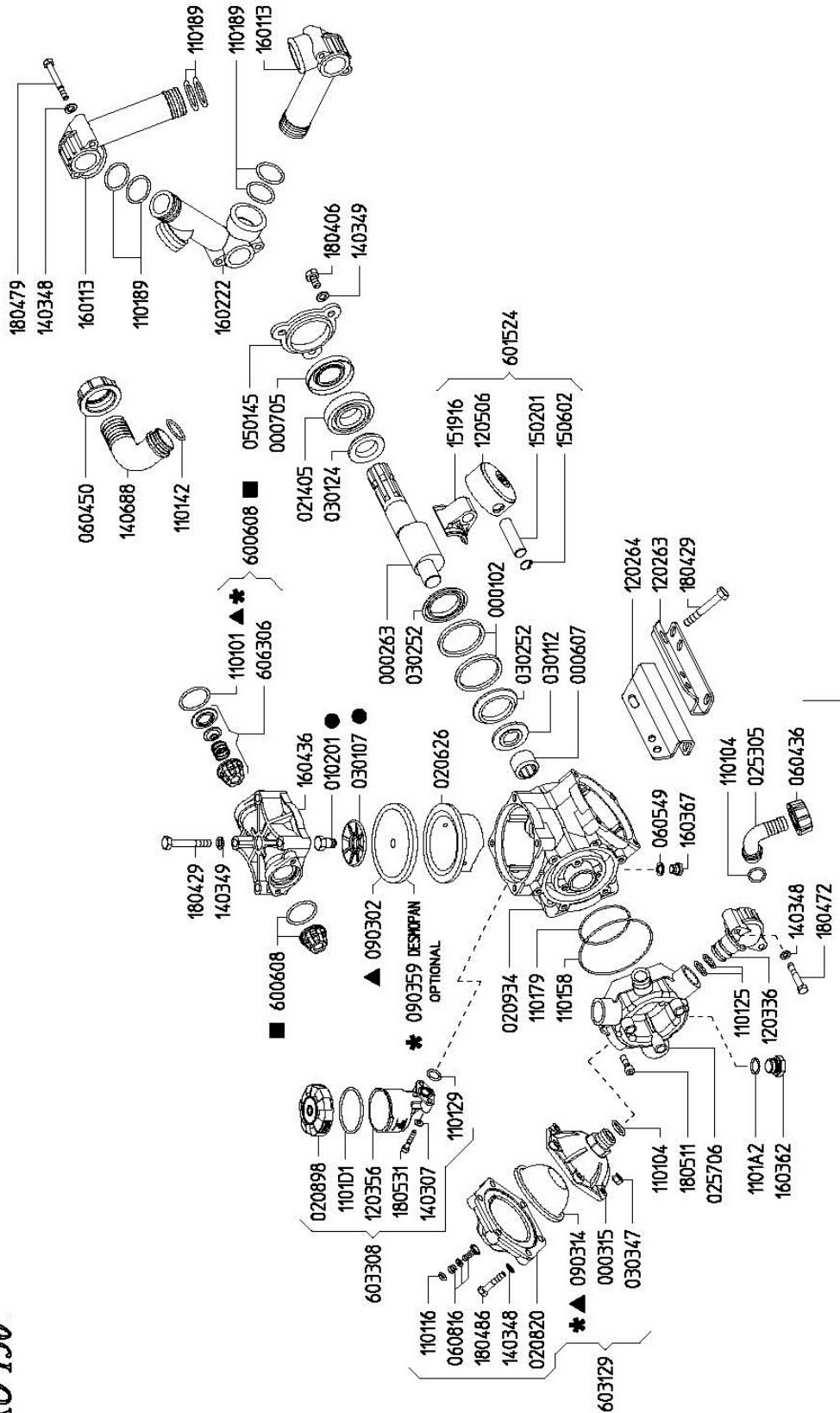
Item	Part No	Description	Quantity
1	RO1601C	Pump 160L, (Shaft Drive)	1
	RO1301C	Pump 130L, (Shaft Drive)	1
2	7650-7202121902	PTO Shaft Cover (160L/min)	1
	7650-7202121913	PTO Shaft Cover (130L/min)	1
3	GA5065455	M10 x 30mm Bolt	4
4	GA5002627	3/8" x 27mm x 3mm Washer	4

Item	Part No	Description	Quantity
5	GA5000139	10mm Washer	7
6	GA5000141	M10 Nyloc Nut	4
7	GA5000137	10mm Spring Washer	3
8	GA5006127	M10 x 25mm Cap Screw	3
9	GA5060830	PTO Shaft*	1

*Wide angle PTO Shaft available as an option GA5013511

I30I/min PUMP BREAKDOWN

RO 130



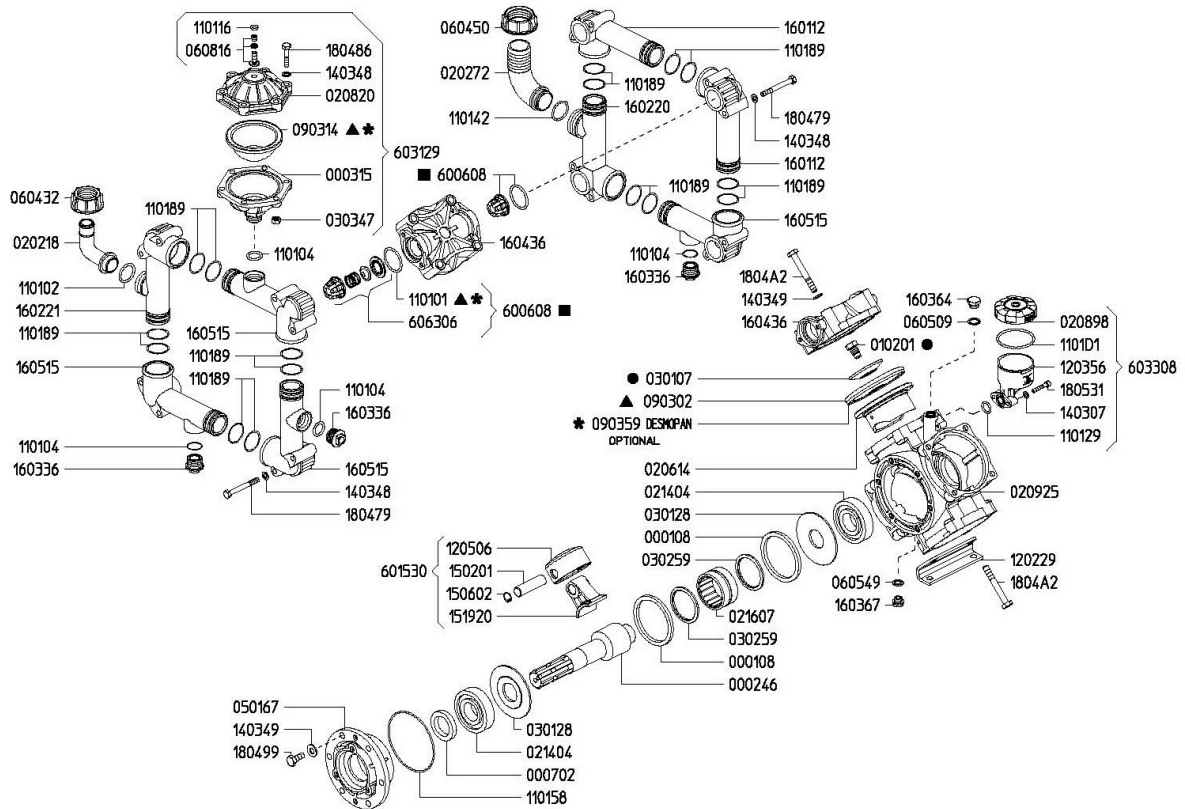
I 30l/min PUMP BREAKDOWN

Part No	Description	Part No	Description
000102	Retainer Ring "RO 70...130/Zeta"	110158	O-Ring D.110,0x2,5 (RIF . 115110)
000263	Shaft "RO 130" (9,2) IC	110179	O-Ring D.75,88x2,62 (RIF . 3300)
000315	Pressure Accumulator "RO"	1101A2	O-Ring D.17,86x2,62 (RIF . 123)
000607	Bushing HK25-26 D.25x32x26	1101D1	O-Ring D.58,42x2,62 (RIF . 3231)
000705	Oil Seal D.35x72x10	120263	Right Base Plate "Kappa 75"
010201	Diaphragm Bolt "RO/Kappa 120"	120264	Left Base Plate "Kappa 75"
020626	Sleeve D.75 "RO 130"	120336	Inlet-Outlet Elbow "RO 70/110/130"
020820	Accumulator Cover "RO"	120356	Oil Reservoir
020898	Oil Reservoir Cover	120506	Aluminium Plunger D.75 "RO/Kappa 120"
020934	Crankcase "RO 110/130"	140307	Washer D.6,4x12x1,6
021405	Ball Bearing 6207 D.35x72x17	140348	Washer D.8,4x16x1,6
025305	Hose Barb D.20	140349	Washer D.10,5x18x1,6
025706	Outlet Manifold "RO 110/130"	140688	Hose Barb D.38
030107	Diaphragm Disc "RO/Kappa 120/150"	150201	Pin D.18x64
030112	Right Bearing Disc "Zeta 85/100"	150602	Snap Ring D.18
030124	Left Bearing Disc "Zeta 85/100"	151916	Connecting Rod "RO 110/130"
030252	Rod Spacer "Zeta/RO 110/130"	160113	Suction Hose "RO 110/130"
030347	Hexagonal Nut M8x8 UNI5587	160222	Suction Hose G1"1/2M "RO110/130"
050145	Flange "RO 110/130"	160362	Plug G1/2
060436	Plastic Nut G1"	160367	AVP Plug G`/4
060450	Plastic Nut G1"1/2	160436	Head "RO 110...250" Red
060549	Gasket D.13x19x1,5	180406	Hex Screw M10x20 UNI5739 DACROMET
060816	Air Valve Assy	180429	Hex Screw M10x70 UNI5737 DACROMET
090302	Piston Diaphragm "RO 70...250" D.116	180472	Hex Screw M8x50 UNI5737 DACROMET
090314	Accumulator Diaphragm "Kappa/RO"	180479	Hex Screw M8x70 UNI5737 DACROMET
090359	Piston Diaphragm "Kappa 120/150" D.115,4	180486	Hex Screw M8x40 UNI5737 DACROMET
110101	O-Ring D.39,69x3,53 (RIF . 144)	180511	Allen Screw M8x25 UNI5931 DACROMET
110104	O-Ring D.20,63x2,62 (RIF . 128)	180531	Allen Screw M6x30 UNI5931 DACROMET
110116	O-Ring D.6,00x3 (RIF . 1263)	600608	Valve Assy "RO/Omega/Beta"
110125	O-Ring D.20,22x3,53 (RIF . 4081)	601524	Rod Assy "RO 110/130" D.75
110129	O-Ring D.16,20x3 (RIF . 222162)	603129	Press.Accumulator Assy "RO"
110142	O-Ring D.32,00x3 (RIF . 3832)	603308	Oil Reservoir Assy "RO"
110143	O-Ring D.71,12x2,62 (RIF . 3281)	606306	Valve Assy "RO 70...250" W/T O-Ring

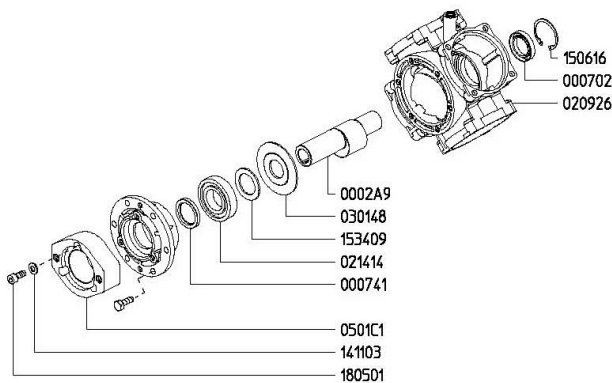
Please note that on pump parts minimum order quantities may apply.

I 60L/MIN PUMP BREAKDOWN

RO 160 1C



RO 160 MI-1"



160L/MIN PUMP PARTS LIST

Part No	Description	Part No	Description
000108	Retainer Ring "RO 160"	110129	O-Ring D.16,20x3 (RIF . 222162)
000246	Shaft "RO 160" (9) IC	110142	O-Ring D.32,00x3 (RIF . 3832)
0002A9	Shaft "RO 160/250" (9) MI D.1"	110158	O-Ring D.110x2,5 (RIF . 115110)
000315	Pressure Accumulator	110189	O-Ring D.36,10x3,53 (RIF . 4143)
000702	Oil Seal D.35x55x10	1101D1	O-Ring D.58,42x2,62 (RIF . 3231)
000741	Oil Seal D.40x55x7	120229	Base Plate "RO 160/180"
010201	Diaphragm Bolt "RO/Kappa"	120356	Oil Reservoir
020218	Hose Barb D.25	120506	Aluminium Plunger D.75 "RO/Kappa 120"
020272	Hose Barb D.40	140307	Washer D.6,4x12x1,6
020614	Sleeve D.75 "RO 110/160/250"	140348	Washer D.8,4x16x1,6
020820	Accumulator Cover "RO"	140349	Washer D.10,5x18x1,6
020898	Oil Reservoir Cover	141103	Schnorr Washer D.10
020925	Crankcase "RO 160"	150201	Pin D.18x64
020926	Crankcase "RO 160/180" TS	150602	Snap Ring D.18
021404	Ball Bearing 6307 D.35x80x21	150616	Snap Ring D.55
021414	Ball Bearing D.40x80x18 6208	151920	Connecting Rod "Omega 135/RO 160"
021607	Roller Bearing NK55-35 D.55x68x35	153409	Disc "RO 160/250" MI
030107	Diaphragm Disc "RO/Kappa 120/150"	160112	Inlet-Outlet Hose "RO 160/180"
030128	Rod Disc "RO 160/180/210/250"	160220	Suction Hose G1"1/2 M "RO 160/180"
030148	Rod Disc "RO 160/250" OMR80	160221	Outlet Hose G1"1/4 M "RO 160/180"
030259	Rod Spacer "RO 160/250"	160336	Plug G3/4
030347	Hexagonal Nut M8x8 UNI5587	160364	Brass Plug G3/8
050167	Bushing Flange "Omega 135/RO 160/250"	160367	AVP Plug G1/4
0501C1	Flange "RO 160/250" MI	160436	Head "RO 110...250" RED
060432	Plastic Nut G1"1/4	160515	Inlet-Outlet Hose G3/4 F "RO 160/180"
060450	Plastic Nut G1"1/2	180479	Hex Screw M8x70 UNI5737 DACROMET
060509	Gasket D.17x22x1,5	180486	Hex Screw M8x40 UNI5737 DACROMET
060549	Gasket D.13x19x1,5	180499	Hex Screw M10x25 UNI5739 DACROMET
060816	Air Valve Assembly	1804A2	Hex Screw M10x75 UNI5737 DACROMET
090302	Piston Diaphragm "RO70...250" D.116	180501	Allen Screw M10x25 UNI5931
090314	Accumulator Diaphragm "Kappa/RO"	180531	Allen Screw M6x30 UNI5931 DACROMET
090359	Piston Diaphragm "Kappa 120/150" D.115,4	600608	Valve Assy "RO/Omega/Beta"
110101	O-Ring D.39,69x3,53 (RIF . 144)	601530	Rod Assy "RO 160/180" D.75
110102	O-Ring D.29,75x3,53 (RIF . 4118)	603129	Press.Accumulator Assy "RO"
110104	O-Ring D.20,63x2,62 (RIF . 128)	603308	Oil Reservoir Assy "RO"
110116	O-Ring D.6,00x3 (RIF . 1263)	606306	Valve Assy "RO 70...250" W/T O-Ring

Please note that on pump parts minimum order quantities may apply.