

**17. SPECIAL VERSIONS**

The MW pump is also available in the following special versions:

MWN, MWR, MWNR, MWF, MWN

The following information is helpful in deciding how to choose and use these versions. Unless specified otherwise, observe the previous instruction for the standard MW/S pump.

**17.1 MWN PUMP****17.1.1 Operating instructions**

The MWN pump is ideal for pumping salt water and particularly aggressive fluids. It has been designed to operate in environments with atmospheres that are not potentially explosive, and with filtered water (see 9.7).

**17.1.2 Water temperature**

The maximum permissible water temperature is 104° F (40° C). However the pump can be used with water up to a temperature of 140° F (60° C), but only for short periods.

**17.1.3 Maximum pressure and flow rate**

The rated specifications stated in our catalog are the maximum that can be obtained by the pump. Independently of the power used, the maximum pressure and RPM indicated on the specification label can never be exceeded unless upon prior formal authorization by our Customer Service Department.

**17.1.4 Maximum RPM**

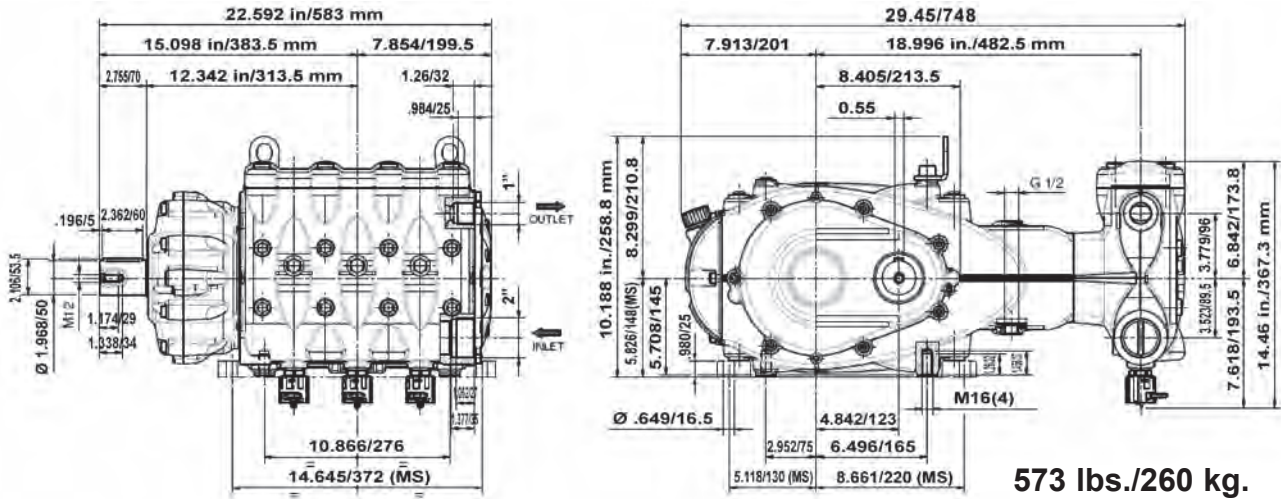
Any rotating speed other than that indicated in the performance table (see 17.1.5) must be expressly authorized by our Customer Service Department.

**17.1.5 Maximum RPM**

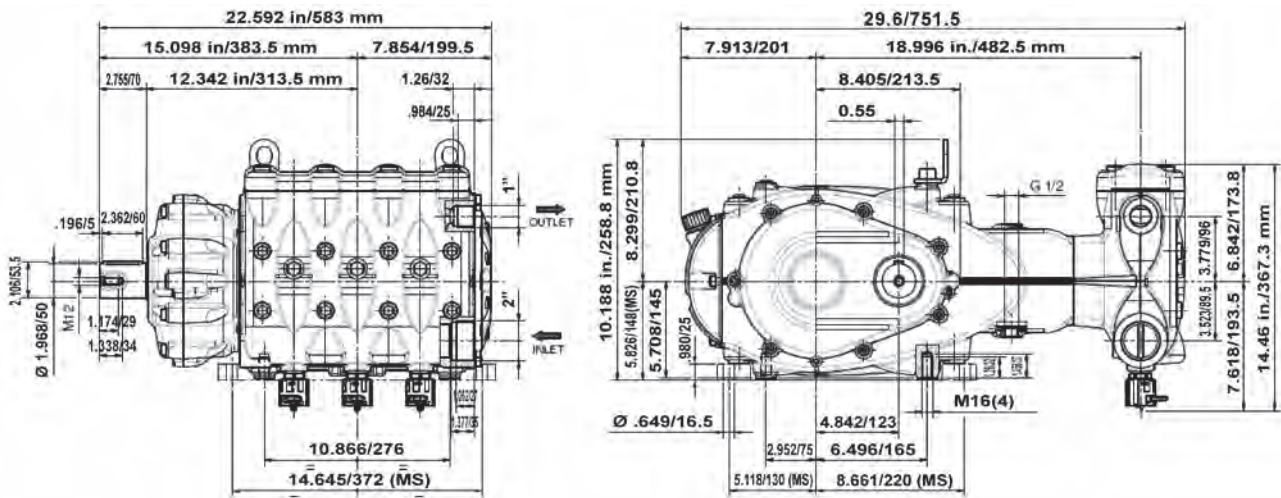
MODEL	RPM	FLOW RATE		PRESSURE		POWER	
		GPM	l/min	PSI	Bar	Hp	kW
<b>MWN32A</b>	1500/1800/ 2200/2600	36.0	136	4,350	300	100	73.5
<b>MWN36A</b>	1500/1800/ 2200/2600	45.4	172	3,500	240	100	73.5
<b>MWN40A</b>	1500/1800/ 2200/2600	56.0	212	2,750	190	116	85.3
<b>MWN45A</b>	1500/1800/ 2200/2600	71.0	269	2,250	155	100	73.5
<b>MWN50A</b>	1500/1800/ 2200/2600	87.5	332	1,800	125	100	73.5
<b>MWN55A</b>	1500/1800/ 2200/2600	106.0	401	1,450	100	100	73.5

**17.1.6 Dimensions and weight**

For dimensions and weight of MWN32A, MWN36A and MWN40A pumps, please refer to fig. 12.



For dimensions and weight of MWN45A, MWN50A and MWN55A pumps, please refer to fig. 12a.





# GENERAL PUMP

A member of the Interpump Group

# MWN32A/36A/40A SERIES

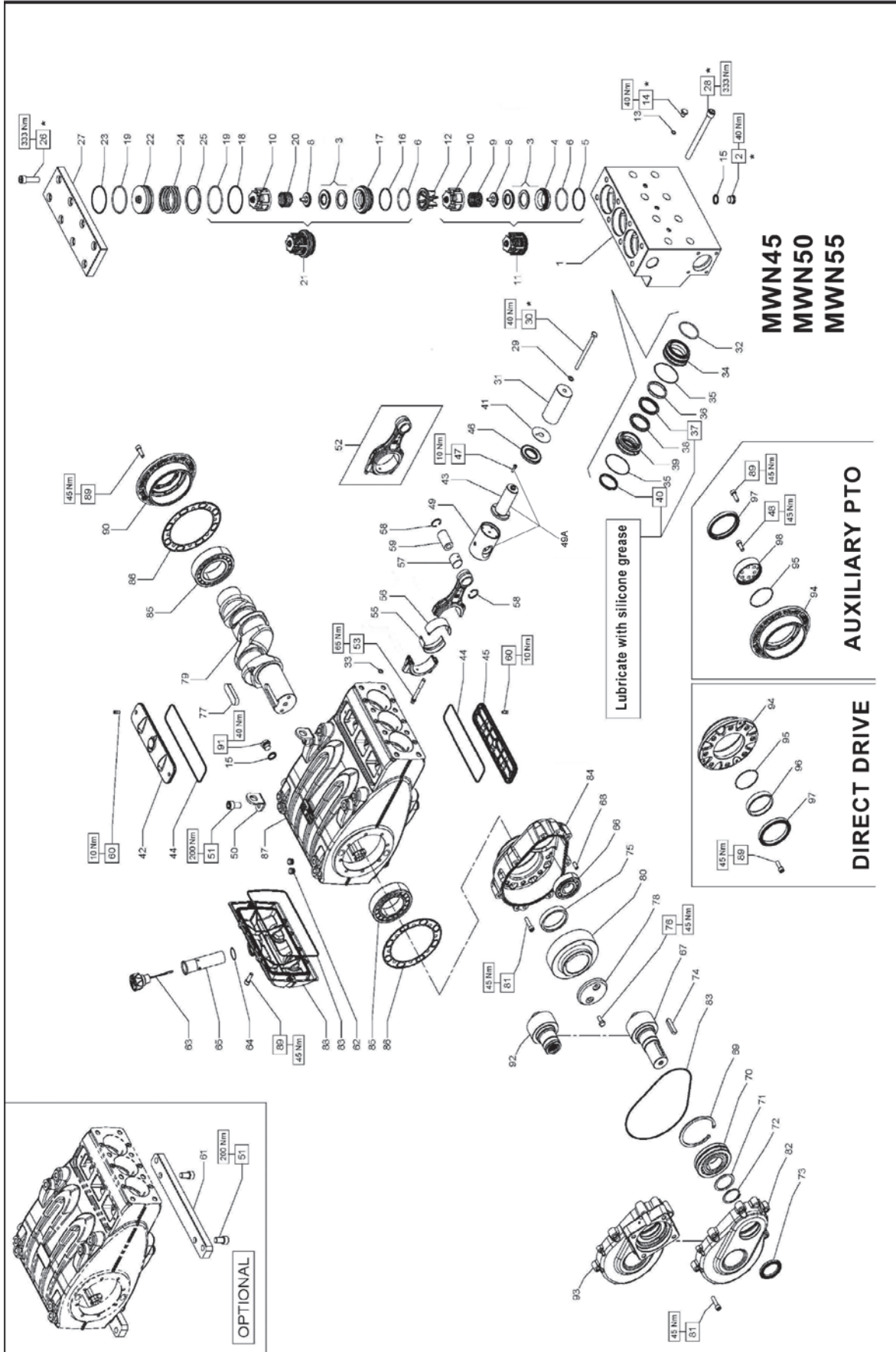
Item	Part #	Description	QTY.
1	F73120456	MANIFOLD	1
2	F98218600	PLUG, G 1/4"X14, SS	3
3	F36208801	BALL VALVE ASSY.	6
4	F36306766	INLET VALVE HOUSING	3
5	F90526000	ANTI-EXTRUSION RING, Ø51.5X56X1.5	3
6	F90389000	OR, Ø50.47X2.62	6
8	F36209051	INTERNAL VALVE GUIDE	6
9	F94760000	SPRING, Ø 28.3X30.7	3
10	F36206105	INLET/OUTLET VALVE GUIDE	6
11	F36715101	INLET VALVE UNIT	3
12	F74210651	HP VALVE GUIDE SPACER	3
13	F90358400	OR, Ø 10.82X1.78	3
14	F98204600	PLUG G 1/4"X13, SS	3
15	F73213756	VALVE HOUSING SPACER RING	3
16	F90526500	ANTI-EXTRUSION RING, Ø 51.7X56.2X1.5	3
17	F36206966	OUTLET VALVE HOUSING	3
18	F90527600	ANTI-EXTRUSION RING, Ø 67.7X72.2X1.5	3
19	F90391100	OR, Ø 66.35X2.62	6
20	F94760500	SPRING, Ø 28.5X32	3
21	F36715301	OUTLET VALVE UNIT	3
22	F78215856	HP OUTLET VALVE PLUG	3
23	F90528000	ANTI-EXTRUSION RING, Ø 67.7X72.2X1.5	3
24	F94774900	SPRING, Ø 58X45.4, SS	3
25	F78215991	OUTLET VALVE HOUSING RING	3
26	F99514700	SCREW, M16X55, UNI 5931	8
27	F73212356	VALVE COVER, SS	1
28	F99522200	SCREW, M16x180	8
29	F96710500	WASHER, Ø 10x18x0.9, SS, PTFE	3
30	F99383000	SCREW, M10x140, UNI 5737	3
	F73040009	PLUNGER, Ø 32	3
31	F73040109	PLUNGER, Ø 36	3
	F73040209	PLUNGER, Ø 40	3
32	F90408500	OR, Ø49.21X3.53	3
33	F90382500	OR, Ø10.78X2.62	6
	F73213056	PLUNGER LINER, Ø 32	3
34	F73213156	PLUNGER LINER, Ø 36	3
	F73213256	PLUNGER LINER, Ø 40	3
35	F90371000	OR, Ø 81x2	6
	F73100191	PISTON HEAD RING, Ø 32	3
	F78100291	PISTON HEAD RING, Ø 36	3
	F78100091	PISTON HEAD RING, Ø 40	3
37	F90278800	ALT. SEAL RING, Ø 32,HP	3
	F90282000	ALT. SEAL RING, Ø 36,HP	3
	F90283200	ALT. SEAL RING, Ø 40,HP	3
	F90278400	RESTOP RING, Ø 32	3
38	F90281800	RESTOP RING, Ø 36	3
	F90283800	RESTOP RING, Ø 40	3
	F73212492	SEAL SUPPORT, Ø 32	3
39	F73212592	SEAL SUPPORT, Ø 36	3
	F73212692	SEAL SUPPORT, Ø 40	3
	F90278000	ALT. SEAL RING, Ø 32, LP	3
40	F90279800	ALT. SEAL RING, Ø 36, LP	3
	F90282800	ALT. SEAL RING, Ø 40, LP	3
41	F96735500	WASHER, Ø 16X65X1	3
42	F73150022	CLOSED INSPECTION COVER	1
43	F73050336	PISTON GUIDE ROD	3
44	F90414800	OR, Ø 202.8X3.53	2
45	F73150122	OPEN INSPECTION COVER	1
46	F90168500	RAD. RING, Ø 40X72X7/8.5	3
47	99188400	SCREWN M6X20	3
	F73050443	PISTON GUIDE	3
49	F73050543	PISTON GUIDE, +0.10	3
49A	F73606201	PISTON GUIDE ASSEMBLY	3
50	F73210674	LIFTING BRACKET	2
51	F99523100	SCREW, M16X30, UNI 5931	4
52	F73030101	CONNECTING ROD ASSY.	3
53	F99378800	CONROD SCREW, M10X1.5X80	6

Item	Part #	Description	QTY.
	F90928300	CONROD HEAD SEMI-BUSHING, LOWER	3
55	F90928400	CONROD HEAD SEMI-BUSHING, LOWER, +0.25	3
	F90928500	CONROD HEAD SEMI-BUSHING, LOWER, +0.55	3
	F90928000	CONROD HEAD SEMI-BUSHING, UPPER	3
56	F90928100	CONROD HEAD SEMI-BUSHING, UPPER, +0.25	3
	F90928200	CONROD HEAD SEMI-BUSHING, UPPER, +0.55	3
57	F90915800	CONROD FOOT BUSHING	3
58	F90069000	STOP RING, Ø 32, UNI 7437	6
59	F97744000	SPINDLE	6
60	F99183800	SCREW, M6X14, UNI 5931	6
61	F73200064	FOOT	2
62	F98206000	HOLE PLUG, Ø 15, TTN18	6
63	F98233500	OIL FILLING PLUG, G1" WITH ROD	1
64	F90361600	OR, 34.65X1.78	1
65	F73210295	TUBE FOR OIL FILLING PLUG, G1"	1
66	F91854000	CYL. ROLLER BEARING	1
	F10076735	PINION, Z24 R1.875, HELICOL	1
	F10076835	PINION, Z21 R2.238, HELICOL	1
	F10076935	PINION, Z18 R2.7225, HELICOL	1
	F10082255	PINION, Z19 R3.211, HELICOL	1
68	F97623000	TMP. CY. PIN, Ø 10X24, UNI 6364	2
69	F90101000	STOP RING, Ø 120, UNI 7437	1
70	F91859900	ADJUST. ROLLER BEARINGS	1
71	F73210455	BEARING SUPPORT RING	1
72	F90081000	STOP RING, Ø 55, UNI 7435	1
73	F90172400	RAD. RING, Ø 55Xx75X8, VITON	1
74	F91500500	TAB, 14X9X60, UNI 6604	1
75	F73210589	RING GEAR SUPPORT RING	1
76	F99366700	SCREW, M10X25, UNI 5739	2
77	F91511000	TAB, 22X14X80, UNI 6604	1
78	F74213255	RING GEAR STOP	1
79	F73020035	CRANKSHAFT C. 70	1
	F10077035	RING GEAR, Z45 R1.875, HELICAL	1
	F10077135	RING GEAR, Z45 R1.875, HELICAL	1
	F10077235	RING GEAR, Z49 R2.722, HELICAL	1
	F10082355	RING GEAR, Z61 R3.211, HELICAL	1
81	F99371100	SCREW, M10X40, UNI 5931	15
82	F73210113	REDUCTION GEAR COVER	1
83	F90415000	OR, 253.6X3.53	2
84	F73210013	REDUCTION GEAR BOX	1
85	F91881000	CYL. ROLLER BEARING	2
86	F73210384	SIDE SEAL	2
87	F73010013	PUMP CASING	1
88	F73160022	CASING COVER	1
89	F99368500	SCREW, M10X30, UNI 5931	14
90	F73150222	BEARING COVER	1
91	F98218100	PLUG, G1/2"X13, NICKEL	2
92	F93197100	SEAL WASHER, G 1/2", SS	5
<b>WITH HYDRAULIC MOTOR</b>			
	F10079455	PINION, Z18 R.2.722	1
93	F10077355	PINION, Z24 R.1.875	1
	F10077455	PINION, Z21 R.2.238	1
94	F73215513	HYDRAULIC GEAR COVER	1
<b>DIRECT DRIVE</b>			
89	F99368500	SCREW, M10X30, UNI 5931	14
95	F73150322	BEARING COVER, OPEN	1
96	F90391450	O-RING, Ø 75.87X2.62	1
97	F73215654	RING	1
98	F90195000	RING, RAD. Ø 90X110X12	1
<b>AUXILIARY PTO</b>			
48	F99367100	SCREW, M10X25	6
89	F99368500	SCREW, M10X30, UNI 5931	8
95	F73150322	BEARING COVER, OPEN	1
96	F90391450	O-RING, Ø 75.87X2.62	1
98	F90195000	RING, RAD. Ø 90X110X12	1
99	F73215754	PTO OUTLET	1

## REPAIR KITS

KIT NUMBER	F2136 (MWN32A) Plunger Packing Kit	F2137 (MWN36A) Plunger Packing Kit	F2138 (MWN40A) Plunger Packing Kit	F2055 Valve Kit	F2144 (MWN32A) Complete Seals Kit	F2145 (MWN36A) Complete Seals Kit	F2146 (MWN40A) Complete Seals Kit	F2150 Conn,Rod Kit	F2151 Conn. Rod Kit	F2153 Conn. Rod Kit
Positions Included	32, 33, 35, 37, 38, 40	32, 33, 35, 37, 38, 40	32, 33, 35, 37, 38, 40	11, 12, 21, 23	5, 6, 13, 16, 18, 19, 23, 32, 33, 35, 37, 38, 40, 44, 46, 64, 73, 83, 86	5, 6, 13, 16, 18, 19, 23, 32, 33, 35, 37, 38, 40, 44, 46, 64, 73, 83, 86	5, 6, 13, 16, 18, 19, 23, 32, 33, 35, 37, 38, 40, 44, 46, 64, 73, 83, 86	55, 56	55, 56	55, 56





Item	Part #	Description	QTY.
1	F73120556	MANIFOLD	1
2	F99218600	PLUG, G 1/4"X14, SS	3
3	F36208701	BALL VALVE ASSY.	6
4	F36206666	INLET VALVE HOUSING	3
5	F90527000	ANTI-EXTRUSION RING, Ø 61.2X67X2	3
6	F90410500	OR Ø 59.62 X 3.53 (4237)	6
8	F36208951	INTERNAL VALVE GUIDE	6
9	F94769800	SPRING, Ø 41.5X37.9	3
10	F36206005	INLET/OUTLET VALVE GUIDE	6
11	F36715001	INLET VALVE UNIT	3
12	F74210551	HP VALVE GUIDE SPACER	3
13	F90358400	OR, Ø 10.82X1.78	3
14	F90204600	PLUG, G 1/4"X13, SS	3
15	F93197100	SEAL WASHER, G 1/2", SS	5
16	F90527300	ANTI-EXTRUSION RING, Ø 61.4X67.2X1.5	3
17	F36206866	OUTLET VALVE HOUSING	3
18	F90529000	ANTI-EXTRUSION RING, Ø 61.4X67.2X1.5	3
19	F90413400	OR, Ø 75.8X3.53	6
20	F94770000	SPRING, Ø 41.5X41.1	3
21	F36715201	OUTLET VALVE UNIT	3
22	F73213656	OUTLET VALVE PLUG, LP	3
23	F90529300	ANTI-EXTRUSION RING, Ø 77.4X83.2X1.5	3
24	F94800100	SPRING, Ø 75X49.6, SS	3
25	F73213891	OUTLET VALVE HOUSING RING	3
26	F99514700	SCREW, M16X55M UNI 5931	8
27	F73212356	VALVE COVER, SS	1
28	F99522200	SCREW, M16X180, UNI 5931	8
29	F96710500	WASHER, Ø 10X18X0.9, SS, PTFE	3
30	F99383000	SCREW, M10X140, UNI 5737	3
31	F73040309	PLUNGER, Ø 45	3
	F73040409	PLUNGER, Ø 50	3
	F73040509	PLUNGER, Ø 55	3
32	F90411500	O-RING, Ø 63.5X3.53	3
33	F90382500	O-RING, Ø 10.785X2.62	6
34	F73213356	PLUNGER LINER, Ø 45	3
	F73213456	PLUNGER LINER, Ø 50	3
	F73213556	PLUNGER LINER, Ø 55	3
35	F90371000	OR, Ø 81X2	6
36	F78100391	PISTON HEAD RING, Ø 45	3
	F73100291	PISTON HEAD RING, Ø 50	3
	F73100391	PISTON HEAD RING, Ø 55	3
37	F90285000	ALT. SEAL RING, HP, Ø 45	3
	F90286300	ALT. SEAL RING, HP, Ø 50	3
	F90287300	ALT. SEAL RING, HP, Ø 55	3
38	F90284800	RESTOP RING, Ø 45	3
	F90286500	RESTOP RING, Ø 50	3
	F90287500	RESTOP RING, Ø 55	3
39	F73212792	SEAL SUPPORT, Ø 45	3
	F73712892	SEAL SUPPORT, Ø 50	3
	F73212992	SEAL SUPPORT, Ø 55	3
40	F90284600	ALT. SEAL RING, LP, Ø 45	3
	F90286000	ALT. SEAL RING, LP, Ø 50	3
	F90287000	ALT. SEAL RING, LP, Ø 55	3
41	F96735500	WASHER, Ø16X65X1	3
42	F73150022	CLOSED INSPECTION COVER	1
43	F73050336	PISTON GUIDE ROD	3
44	F90414800	OR, Ø 202.8X3.53	2
45	F73150156	OPEN INSPECTION COVER	1
46	F90168500	RAD. RING, Ø 40X72X7/8.5	3
47	F99188400	SCREW, M6X20	3
49	F73050443	PISTON GUIDE	3
	F73050543	PISTON GUIDE, +0.10	3
49A	F73606201	PISTON GUIDE ASSEMBLY	3
50	F73210674	LIFTING BRACKET	2
51	F99513100	SCREW, M16x30, UNI 5931	4
52	F73030101	CONNECTING ROD ASSY.	3
53	F99378800	CONROD SCREW, M10X1.5X80	6

Item	Part #	Description	QTY.
55	F90928000	CONROD HEAD SEMI-BUSHING, LOWER	3
	F90928400	CONROD HEAD SEMI-BUSHING, LOWER, +0.25	3
	F90928500	CONROD HEAD SEMI-BUSHING, LOWER, +0.50	3
56	F90928300	CONROD HEAD SEMI-BUSHING, UPPER	3
	F90928100	CONROD HEAD SEMI-BUSHING, UPPER, +0.25	3
	F90928200	CONROD HEAD SEMI-BUSHING, UPPER, +0.50	3
57	F90915800	CONROD FOOT BUSHING	3
58	F90069000	STOP RING, Ø 32, UNI 7437	6
59	F97744000	SPINDLE	6
60	F99183800	SCREW, M6x14, UNI 5931	6
61	F73200064	FOOT	2
62	F98206000	HOLE PLUG, Ø 15, TTN18	6
63	F98233500	OIL FILLING PLUG, G1" WITH ROD	1
64	F90361600	OR, Ø 34.65X1.78	1
65	F73210295	TUBE FOR OIL FILLING PLUG, G1"	1
66	F91854000	CYL. ROLLER BEARING	1
67	F10076735	PINION, Z24 R1.875, HELICOL	1
	F10076835	PINION, Z21 R2.238, HELICOL	1
	F10076935	PINION, Z18 R2.722, HELICOL	1
	F10082255	PINION, Z19 R3.211, HELICOL	1
	F97623000	TMP. CYL. PIN. Ø 10X24, UNI 6364	2
69	F90101000	STOP RING, Ø 120, UNI 7437	1
70	F91859900	ADJUST ROLLER BEARING	1
71	F73210455	BEARING SUPPORT RING	1
72	F90081000	STOP RING, Ø 55, UNI 7435	1
73	F90172400	RAD. RING, Ø 55X75X8, VITON	1
74	F91500500	TAB, 14X9X60, UNI 6604	1
75	F73210589	RING GEAR SUPPORT RING	1
76	F99366700	SCREW, M10X25, UNI 5739	2
77	F91511000	TAB, 22X14X80, UNI 6604	1
78	F74213255	RING GEAR STOP	1
79	F73020035	CRANKSHAFT C. 70	1
80	F10077035	RING GEAR, Z45 R1.875, HELICAL	1
	F10077135	RING GEAR, Z47 R2.238, HELICAL	1
	F10077235	RING GEAR, Z49 R2.722, HELICAL	1
	F10082355	RING GEAR, Z61 R3.211, HELICAL	1
	F99371100	SCREW, M10X40, UNI 5931	15
82	F73210100	REDUCTION GEAR COVER	1
83	F90415000	OR, Ø 253.6.X3.53	2
84	F73210013	REDUCTION GEAR BOX	1
85	F91881000	CYL ROLLER BEARING	2
86	F73210384	SIDE SEAL	2
87	F73010013	PUMP CASING	1
88	F73160022	CASING COVER	1
89	F99368500	SCREW, M10X30, UNI 5931	14
90	F73150222	BEARING COVER	1
91	F98218100	PLUG, G1/2"X13, SS	2
<b>WITH HYDRAULIC MOTOR</b>			
92	F10079455	PINION, Z18 R.2.722	1
	F10077355	PINION, Z24 R.1.875	1
	F10077455	PINION, Z21 R.2.238	1
94	F73215513	HYDRAULIC GEAR COVER	1
<b>DIRECT DRIVE</b>			
89	F99368500	SCREW, M10X30, UNI 5931	14
94	F73150322	BEARING COVER, OPEN	1
95	F90391450	O-RING, Ø 75.87X2.62	1
96	F73215654	RING	1
97	F90195000	RING, RAD. Ø 90X110X12	1
<b>AUXILIARY DRIVE</b>			
49	F99367100	SCREW, M10X25	6
89	F99368500	SCREW, M10X30, UNI 5931	8
94	F73150322	BEARING COVER, OPEN	1
95	F90391450	O-RING, Ø 75.87X2.62	1
97	F90195000	RING, RAD. Ø 90X110X12	1
98	F73215754	PTO OUTLET	1

**REPAIR KITS**

KIT NUMBER	F2139 (MWN45A) Plunger Packing Kit	F2140 (MWN50A) Plunger Packing Kit	F2141 (MWN55A) Plunger Packing Kit	F2048 Valve Kit	F2159 (MWN45A) Complete Seals Kit	F2160 (MWN50A) Complete Seals Kit	F2161 (MWN55A) Complete Seals Kit	F2150 Conn. Rod Kit	F2151 Conn. Rod Kit	F2153 Conn. Rod Kit
Positions Included	32, 33, 35, 37, 38, 40	32, 33, 35, 37, 38, 40,	32, 33, 35, 37, 38, 40	11, 12, 23	5, 6, 13, 16, 18, 19, 23, 32, 33, 35, 37, 38, 40, 44, 46, 64, 73, 83, 86	5, 6, 13, 16, 18, 19, 23, 32, 33, 35, 37, 38, 40, 44, 46, 64, 73, 83, 86	5, 6, 13, 16, 18, 19, 23, 32, 33, 35, 37, 38, 40, 44, 46, 64, 73, 83, 86	55, 56	55, 56	55, 56

**17.2 MWR PUMP****17.2.1 Operating instructions**

The MWR pump has been designed to operate in environments with atmospheres that are not potentially explosive and for using water rich in particulate, therefore it is considered ideal for systems with fluid recirculation.

The durability of the plunger seals is directly in relation to the percentage of the presence of solids in the fluid as regards both their size and their density. For a long seal life we recommend a particulate grain size of no more than 200 micron and 20% max. in volume. For more information and a general system layout see paragraph 9.7.

**17.2.2 Water temperature**

The maximum permissible water temperature is 104° F (40° C). However the pump can be used with water up to a temperature of 140° F (60° C), but only for short periods.

**17.2.3 Maximum pressure and flow rate**

The rated specifications stated in our catalog are the maximum that can be obtained by the pump. Independently of the power used, the maximum pressure and RPM indicated on the specification label can never be exceeded unless upon prior formal authorization by our Customer Service Department.

**17.2.4 Maximum RPM**

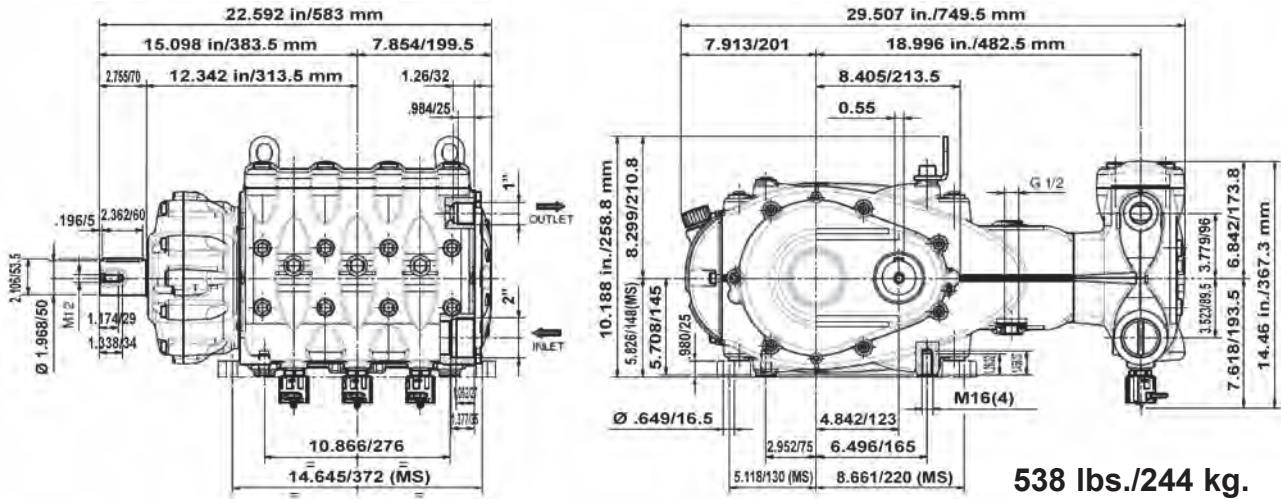
Any rotating speed other than that indicated in the performance table (see 17.2.5) must be expressly authorized by our Customer Service Department.

**17.2.5 Technical Characteristics**

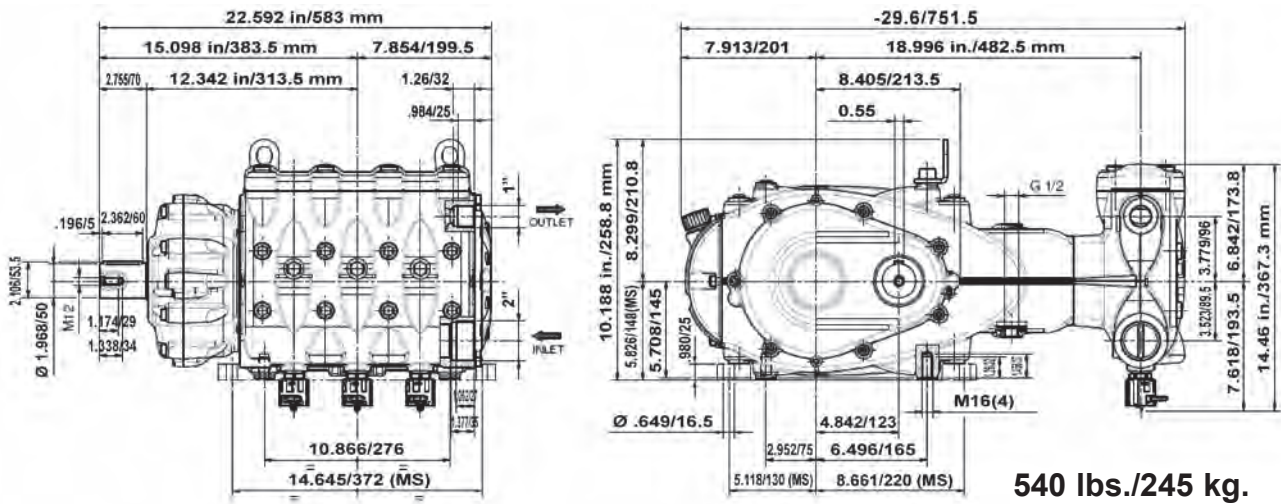
MODEL	RPM	FLOW RATE		PRESSURE		POWER	
		GPM	l/min	PSI	Bar	Hp	kW
MWR40A	800	55.7	211	3,045	210	115	84.6
	1500	55.7	211	3,045	210	115	84.6
	1800	56	212	3,045	210	116	85.3
	2200	56.3	213	3,045	210	116	85.3
MWR45A	800	70.6	267	2,247	155	100	73.5
	1500	70.6	267	2,247	155	100	73.5
	1800	71	269	2,247	155	100	73.5
	2200	71.3	270	2,247	155	100	73.5
MWR50A	800	87.2	330	1,812	125	100	73.5
	1500	87.2	330	1,812	125	100	73.5
	1800	87.6	332	1,812	125	100	73.5
	2200	88	333	1,812	125	100	73.5
MWR55A	800	105.4	399	1,450	100	100	73.5
	1500	105.4	399	1,450	100	100	73.5
	1800	106	401	1,450	100	100	73.5
	2200	106.5	403	1,450	100	100	73.5

**17.2.6 Dimensions and weight**

For dimensions and weight of MW40A, please refer to fig. 13.

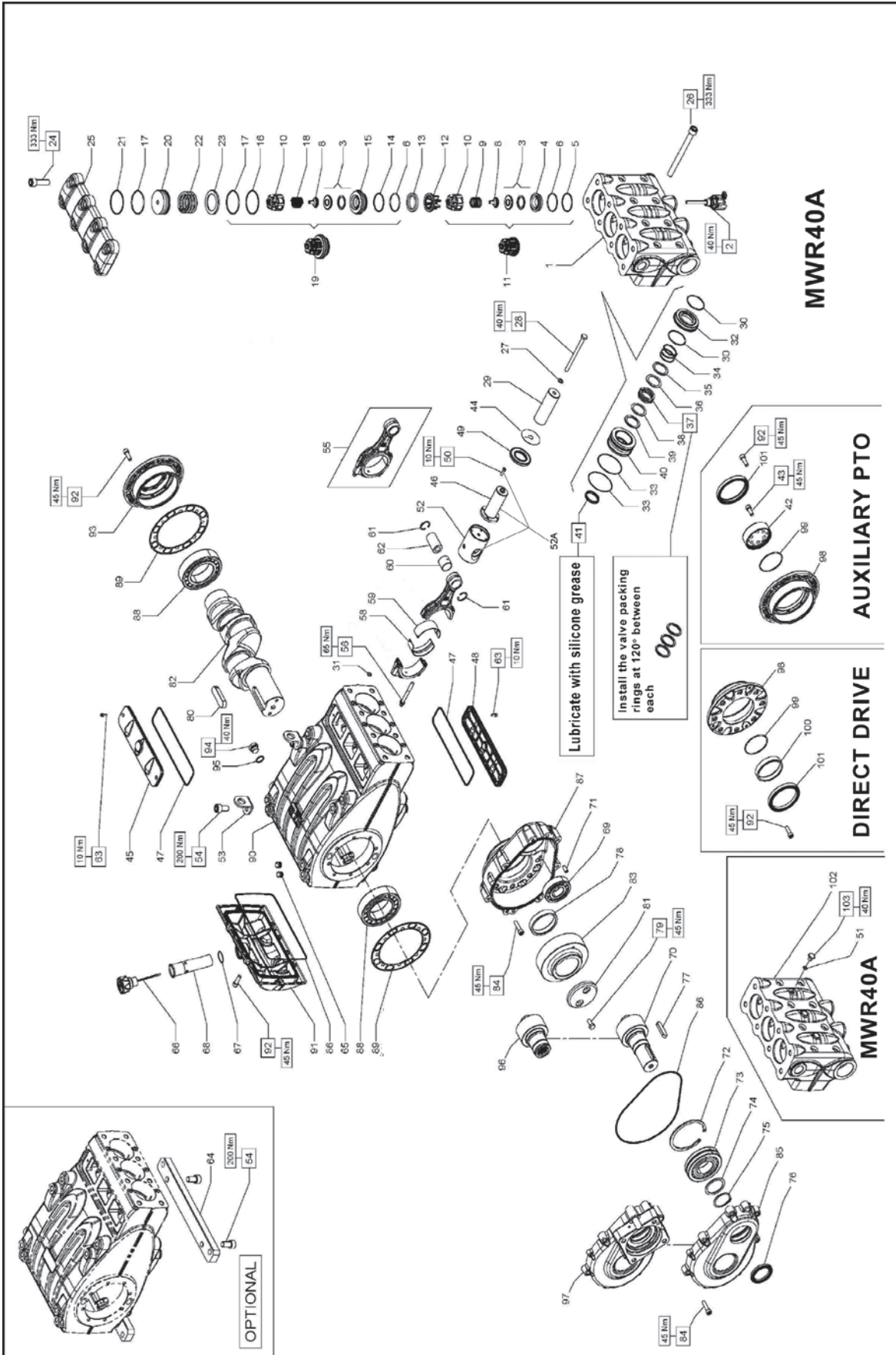


For dimensions and weight of MWR45A, MWR50A and MWR55A pumps, please refer to fig. 13a.





## 17.2.7. EXPLODED VIEW AND PARTS LIST

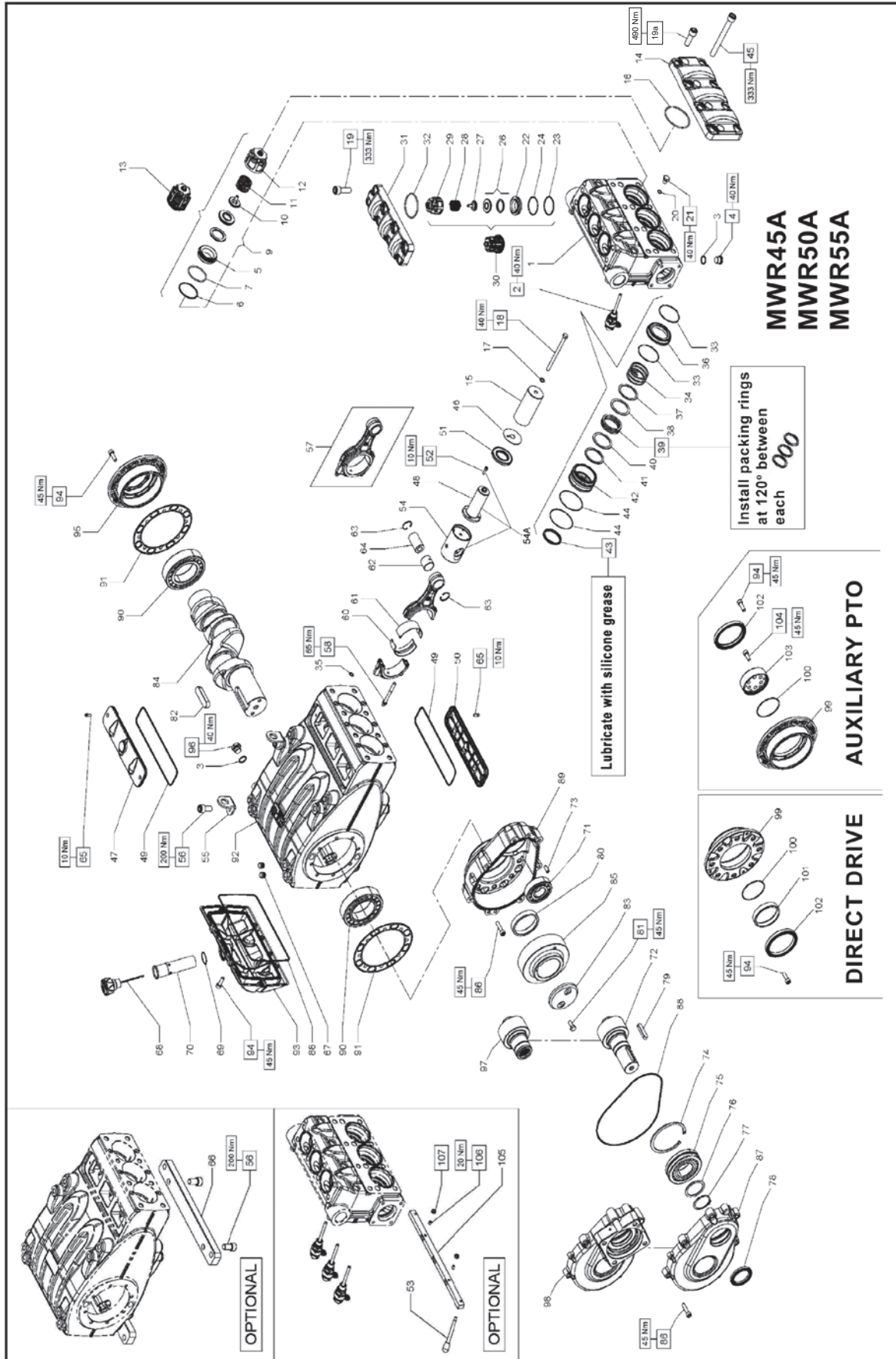


Item	Part #	Description	QTY.
1	F	MANIFOLD-NPT	1
2	F10744401	VALVE OPENING DEVICE	3
3	F36208801	BALL VALVE ASSEMBLY	6
4	F36306766	INLET VALVE HOUSING	3
5	F90526000	ANTIEXTRUSION RING Ø51.5x56x1.5	3
6	F90389000	OR, Ø50.47X2.62	3
8	F36209051	INTERNAL VALVE GUIDE	3
9	F94760000	SPRING Ø 28.3X30.7	3
10	F36206105	INLET/OUTLET VALVE GUIDE	3
11	F36715101	INLET VALVE UNIT	3
12	F74210651	HP VALVE GUIDE SPACER	3
13	F73212270	VALVE HOUSING SPACER RING	3
14	F90526500	ANTIEXTRUSION RING Ø 51.7X56.2X1.5	3
15	F36206966	OUTLET VALVE HOUSING	3
16	F90527600	ANTIEXTRUSION RING Ø 67.7X72.2X1.5	3
17	F90391100	OR, Ø 66.35X2.62	6
18	F94760500	SPRING Ø 28.5X32	3
19	F36715301	OUTLET VALVE UNIT	3
20	F74211070	HP OUTLET VALVE PLUG	3
21	F90528000	ANTIEXTRUSION RING Ø 67.7X72.2X1.5	3
22	F94775000	SPRING Ø 58X45.4	3
23	F74210866	OUTLET VALVE HOUSING RING	3
24	F99514700	SCREW, M16x180	8
25	F73210715	VALVE COVER	1
26	F99522200	SCREW, M16x180	8
27	F96710500	WASHER Ø 10X18X0.9, SS, PTFE	3
28	F99383000	SCREW, M10X140	3
29	F73040209	PLUNGER Ø 40	3
30	F90389800	OR, Ø 56.82x2.62	6
31	F90382500	OR, Ø 10.78x2.62	6
32	F73100456	HEAD PACKING RING, Ø 40	3
33	F90371000	OR, Ø 81x2	6
34	F94772000	SPRING Ø 47x30-INOX	3
35	F73213956	SPRING RING, Ø40	3
36	F73214382	SCRAPER, Ø 40	3
37	F90565000	PACKING, Ø 40x53x15	3
38	F90521000	ANTI-EXT. RING, Ø 40x53x2	3
39	F73214760	SUPPORT RING, Ø 40	3
40	F73215156	PACKING SUPPORT, Ø40	3
41	F90282800	ALT. SEAL RING,LP, Ø 55	3
44	F96735500	WASHER, Ø 16x65x1	3
45	F73150022	CLOSED INSPECTION COVER	1
46	F73050336	PISTON GUIDE ROD	3
47	F90414800	OR, Ø 202.8X3.53	2
48	F73150122	OPEN INSPECTION COVER	1
49	F90168500	RAD. RING, Ø 40X72X7/8.5	3
50	F99188400	SCREW, M6x20	3
51	F90358400	O-RING, Ø10.82x1.78	3
52	F73050443	PLUNGER GUIDE	3
52	F73050543	PLUNGER GUIDE, +0.10	3
52A	F73606201	PISTON GUIDE ASSEMBLY	3
53	F73210674	LIFTING BRACKET	2
54	F99513000	SCREW, M16x30, UNI 5931	4
55	F73030101	CONNECTING ROD ASSY.	3
56	F99378800	CONROD SCREW, M10X1.5X80	6
	F90928300	CONROD HEAD SEMI-BUSHING, LOWER	3
58	F90928400	CONROD HEAD SEMI-BUSHING, LOWER, +0.25	3
	F90928500	CONROD HEAD SEMI-BUSHING, LOWER, +0.50	3
	F90928000	CONROD HEAD SEMI-BUSHING, UPPER	3
59	F90928100	CONROD HEAD SEMI-BUSHING, UPPER, +0.25	3
	F90928200	CONROD HEAD SEMI-BUSHING, UPPER, +0.50	3
61	F90069000	STOP RING, Ø 32, UNI 7437	6
62	F97744000	SPINDLE	6
63	F99183700	SCREW, M6x14 UNI 5931	6
64	F73200064	PUMP FEET	2

Item	Part #	Description	QTY.
65	F98206000	HOLE PLUG, Ø 15, TTN18	6
66	F98233500	OIL FILLING PLUG, G1" WITH ROD	1
67	F90361600	OR, Ø 34.65X1.78	1
68	F73210295	TUBE FOR OIL FILLING PLUG, G1"	1
69	F91854000	CYL. ROLLER BEARING	1
	F10076735	PINION, HELICAL, Z24 R.1.875	1
70	F10076835	PINION, HELICAL, Z21 R.2.238	1
	F10076935	PINION, HELICAL, Z18 R.2.722	1
	F10082255	PINION, Z19 R3.211, HELICOL	1
71	F97623000	TMP. CYL. PIN. Ø 10X24, UNI 6364	2
72	F90101000	STOP RING, Ø 120, UNI 7437	1
73	F91859900	ADJUST ROLLER BEARING	1
74	F73210455	BEARING SUPPORT RING	1
75	F90081000	STOP RING, Ø 55, UNI 7435	1
76	F90172400	RAD. RING, Ø 55X75X8, VITON	1
77	F91500500	TAB, 14X9X60, UNI 6604	1
78	F73210589	RING GEAR SUPPORT RING	1
79	F99366700	SCREW, M10X25, UNI 5739	2
80	F91511000	TAB, 22X14X80, UNI 6604	1
81	F74213255	RING GEAR STOP	1
82	F73020035	CRANKSHAFT C. 70	1
	F10077035	RING GEAR, Z45 R1.875, HELICOL	1
	F10077135	RING GEAR, Z47 R2.238, HELICOL	1
	F10077235	RING GEAR, Z49 R2.722, HELICOL	1
	F10082355	RING GEAR, Z61 R3.211, HELICOL	1
84	F99371000	SCREW, M10X40, UNI 5931	15
85	F73210113	REDUCTION GEAR COVER	1
86	F90415000	OR, Ø 253.6.X3.53	2
87	F73210013	REDUCTION GEAR BOX	1
88	F91881000	CYL ROLLER BEARING	2
89	F73210384	SIDE SEAL	2
90	F73010013	PUMP CASING	1
91	F73160022	CASING COVER	1
92	F99368600	SCREW, M10X30, UNI 5931	14
93	F73150222	BEARING COVER	1
94	F98218700	PLUG, G 1/2" x 13, NICKEL	2
95	F96751400	ALUMINUM WASHER, Ø 21.5X27X1.5	2
102	F73120915	MANIFOLD	1
103	F98284600	PLUG	
<b>WITH HYDRAULIC MOTOR</b>			
	F10079455	PINION, HELICAL, Z18 R 2.722	1
96	F10077355	PINION, HELICAL, Z24 R1.875	1
	F10077455	PINION, HELICAL, Z21 R2.238	1
97	F73215513	GEAR BOX COVER	1
<b>DIRECT DRIVE</b>			
92	F99368600	SCREW, M10X30, UNI 5931	8
98	F73150322	OPEN BEARING COVER	1
99	F90391450	OR, Ø75.87X2.62	1
100	F73215654	RING FOR DIRECT DRIVE	1
101	F90195000	RING, RAD, Ø 90X110X12, VITON	1
<b>WITH AUXILIARY P.T.O.</b>			
42	F73215754	P.T.O. OUTLET	1
43	F99367100	SCREW, M10X25, UNI 5931	6
92	F99368600	SCREW, M10X30, UNI 5931	8
98	F73150322	OPEN BEARING COVER	1
99	F90391450	OR, Ø75.87X2.62	1
101	F90195000	RING, RAD, Ø 90X110X12	1

**REPAIR KITS**

KIT NUMBER	F2162 Plunger Packing Kit	F2055 Valve Kit	F2166 Complete Seals Kit	F2150 Conn,Rod Kit	F2151 Conn. Rod Kit	F2153 Conn. Rod Kit	F2152 Rail Kit
Positions Included	30, 31, 33, 36, 37, 38, 41	11, 12, 19, 21	5, 6, 14, 16, 17, 21, 30, 31, 33, 36, 37, 38, 41, 47, 49, 67, 76, 86, 89	58, 59	58, 59	58, 59	64



# GENERAL PUMP

A member of the Interpump Group

# MWR45-50-55 SERIES

Item	Part #	Description	QTY.
1	F73120315	MANIFOLD - NPT	1
2	F10744501	VALVE OPENING DEVICE	3
3	F96751400	WASHER, Ø 21.5X27X1.5	5
4	F98218500	STEEL PLUG, 1/2"	3
5	F36206666	INLET VALVE HOUSING	3
6	F90527000	ANTI-EXTRUSION RING, Ø 61.2X67X2	3
7	F90410500	OR, Ø 59.62X3.53	3
9	F36208701	BALL VALVE ASSY.	3
10	F36208951	INTERNAL VALVE GUIDE	3
11	F94769800	SPRING, Ø41.5X37.9	3
12	F36206005	INLET VALVE GUIDE	3
13	F36715001	INLET VALVE UNIT	3
14	F73225615	INLET VALVE COVER	1
	F73040309	PLUNGER, Ø 45X117	3
15	F73040409	PLUNGER Ø 50X117	3
	F73040509	PLUNGER Ø 55X117	3
16	F90414200	OR, Ø 85.32X3.53	3
17	F96710500	WASHER, Ø 10X18X0.9,SS, PTFE	3
18	F99383000	SCREW, M10X140	3
19	F99514200	SCREW, M16X45	8
19a	F99525000	SCREW, M18	8
20	F90358400	OR, Ø 10.82X1.78	3
21	F98204600	PLUG, G 1/4"X13, SS	3
22	F36206766	OUTLET VALVE HOUSING	3
23	F90526000	ANTI-EXTRUSION RING, Ø 51.5X56X1.5	3
24	F90389000	OR, Ø 50.47X2.62	3
26	F36208801	BALL VALVE ASSY.	3
27	F36209051	INTERNAL VALVE GUIDE	3
28	F94760500	SPRING, Ø 28.5X32	3
29	F36206105	OUTLET VALVE GUIDE	3
30	F36207701	OUTLET VALVE UNIT	3
31	F73210915	OUTLET VALVE COVER	1
32	F90412000	OR, Ø 68.26X3.53	3
	F90390300	OR, Ø 60X2.262 (MWR45A)	3
	F90391330	OR, Ø 69.52X2.62	3
34	F94777000	SPRING, Ø 61X35, INOX (MWR55)	3
	F94773500	SPRING, Ø 54X38.5	3
35	F90382500	OR, Ø 10.78X2.62	6
	F73100556	HEAD PACKING RING, Ø 45	3
36	F73100656	HEAD PACKING RING, Ø 50	3
	F73100756	HEAD PACKING RING, Ø 55	3
	F73214056	SPRING RING, Ø 45	3
37	F73214156	SPRING RING, Ø 50	3
	F73214256	SPRING RING, Ø 55	3
	F73214482	SCRAPER, Ø 45	3
38	F73214582	SCRAPER, Ø 50	3
	F73214682	SCRAPER, Ø 55	3
	F90567500	PACKING, Ø 45X58X15	3
39	F90569500	PACKING, Ø 50X63X15	3
	F90572000	PACKING, Ø 55X68X15	3
	F90523500	ANTI-EXT. RING, Ø 45X58X2	3
40	F90524300	ANTI-EXT. RING, Ø 50X63X2	3
	F90526600	ANTI-EXT. RING, Ø 55X68X2	3
	F73214860	SUPPORT RING, Ø 45	3
41	F73214960	SUPPORT RING, Ø 50	3
	F73215060	SUPPORT RING, Ø 55	3
	F73215256	PACKING SUPPORT, Ø 45	3
42	F73215356	PACKING SUPPORT, Ø 50	3
	F73215456	PACKING SUPPORT, Ø 55	3
	F90284600	WASHER, Ø 45X53X5.5 L.P.	3
43	F90286000	WASHER, Ø 50X58X5.5 L.P.	3
	F90287000	WASHER, Ø 55X63X5.5 L.P.	3
44	F90371000	OR, Ø 81X2	6
45	F99521200	SCREW, M16X150	8
46	F96735500	WASHER, Ø 16X65X1	3
47	F73150022	CLOSED INSPECTION COVER	1
48	F73050336	PLUNGER GUIDE ROD	3
49	F90414800	OR, Ø202.8X3.53	2
50	F73150122	OPEN INSPECTION COVER	1
51	F90168500	RAD. RING, Ø40X72X7/8.5	3
52	F99188400	SCREW, M6x20	3
53	F94540000	SCREW, M8x107	3

Item	Part #	Description	QTY.
54	F73050443	PLUNGER GUIDE	3
	F73050543	PLUNGER GUIDE +0.10	3
54A	F73606201	PISTON GUIDE ASSEMBLY	3
55	F73210674	LIFTING BRACKET	2
56	F99513000	SCREW, M16x30, UNI 5931	4
57	F73030101	CONNECTING ROD ASSY.	3
58	F99378800	CONNECTING ROD SCREW, M10X1.5X80	6
	F90928000	CONROD HEAD SEMI-BUSHING, LOWER	3
60	F90928400	CONROD HEAD SEMI-BUSHING, LOWER, +0.25	3
	F90928500	CONROD HEAD SEMI-BUSHING, LOWER, +0.50	3
	F90928300	CONROD HEAD SEMI-BUSHING, UPPER	3
61	F90928100	CONROD HEAD SEMI-BUSHING, UPPER, +0.25	3
	F90928200	CONROD HEAD SEMI-BUSHING, UPPER, +0.50	3
62	F90915800	CONROD HEAD FOOT	3
63	F90069000	STOP RING, Ø 32 UNI 7437	6
64	F97744000	SPINDLE	3
65	F99183700	SCREW, M6X14, UNI 5931	4
66	F73200064	FOOT	2
67	F98206000	HOLE PLUG, Ø 15	6
68	F98233500	OIL FILLING PLUG, G1", WITH ROD	1
69	F90361600	OR, 34.65X1.78	1
70	F73210295	TUBE FOR OIL FILLING PLUG, G1 "	1
71	F91854000	CY. ROLLER BEARING	1
	F10076735	PINION, Z24 R1.875, HELICOL	1
	F10076835	PINION, Z21 R2.238, HELICOL	1
72	F10076935	PINION, Z18 R2.722, HELICOL	1
	F10082255	PINION, Z19 R3.211, HELICOL	1
73	F97623000	TMP. CYL. PIN, Ø 10X24	2
74	F90101000	STOP RING, Ø 120	1
75	F91859900	ADJUST. ROLLER BEARING	1
76	F73210455	BEARING SUPPORT RING	1
77	F90081000	STOP RING, Ø 55	1
78	F90172400	RAD. RING, Ø 55X75X8, VITON	1
79	F91500500	TAB, 14X9X60, UNI 6604	1
80	F73210589	RING GEAR SUPPORT RING	1
81	F99366700	SCREW, M10X25, UNI 5739	2
82	F91511000	TAB, 22X14X80 UNI 6604	1
83	F74213255	RING GEAR STOP	1
84	F73020035	CRANKSHAFT C. 70	1
	F10077035	RING GEAR, Z45 R1.875, HELICAL	1
	F10077135	RING GEAR, Z47 R2.238, HELICAL	1
	F10077235	RING GEAR, Z49 R2.722, HELICAL	1
	F10082355	RING GEAR, Z61 R3.211, HELICAL	1
86	F99371000	SCREW, M10X40, UNI 5931	15
87	F73210113	REDUCTION GEAR COVER	1
88	F90415000	OR, Ø 253.6X3.53	2
89	F73210013	REDUCTION GEAR BOX	1
90	F91881000	CY. ROLLER BEARING	2
91	F73210384	SIDE SEAL	2
92	F73010013	PUMP CASING	1
93	F73160022	CASING COVER	1
94	F99368600	SCREW, M10X30, UNI 5931	14
95	F73150222	BEARING COVER	1
96	F98218700	PLUG, G1/2"X10, NICKEL	2
105	F73215864	VALVE UNION BRACKET	1
106	F99301800	SCREW, M8X10	2
107	F92221800	NUT, M8X1.25X5X13	2
		<b>WITH HYDRAULIC PACK</b>	
		PINION, Z18, R 2.722, HELICOL	
97	F10077355	PINION, Z24, R1.875, HELICOL	1
	F10077455	PINION, Z21, R2.238, HELICOL	1
98	F73215513	GEAR BOX COVER	1
		<b>DIRECT DRIVE</b>	
94	F99368600	SCREW, M1-X30	8
99	F73150322	OPEN BEARING COVER	1
100	F90391450	OR, Ø 78.87X2.62	1
101	F73215654	RING FOR DIRECT DRIVE	1
102	F90195000	RING, RAD, Ø 90X110X12, VITON	1
		<b>WITH AUXILIARY P.T.O.</b>	
94	F99368600	SCREW, M10X30, UNI 5931	8
99	F73150322	OPEN BEARING COVER	1
100	F90391450	OR, Ø 78.87X2.62	1
102	F90195000	RING, RAD, Ø 90X110X12, VITON	1
103	F73215754	P.T.O. OUTLET	1
104	F99367100	SCREW, M10X25 UNI	6

## REPAIR KITS

KIT NUMBER	F2163 (MWR45A) Plunger Pack.	F2164 (MWR50A) Plunger Pack.	F2165 (MWR55A) Plunger Pack.	F2142 Inlet Valve	F2062 Outlet Valve	F2167 (MWR45A) Complete Seals Kit	F2168 (MWR50A) Complete Seals	F2169 (MWR55A) Complete Seals	F2150 Conn. Rod	F2151 Conn. Rod	F2153 Conn. Rod	F2152 Mounting Feet	F2482 Manifold Conv. Kit
Positions Included	33, 35, 38, 39, 40, 43, 44	33, 35, 38, 39, 40, 43, 44	33, 35, 38, 39, 40, 43, 44	13	30	6, 7, 16, 20, 23, 24, 32, 33, 35, 38, 39, 40, 43, 44, 49, 51, 69, 88, 91	6, 7, 16, 20, 23, 24, 32, 33, 35, 38, 39, 40, 43, 44, 49, 51, 69, 88, 91	6, 7, 16, 20, 23, 24, 32, 33, 35, 38, 39, 40, 43, 44, 49, 51, 69, 88, 91	60, 61	60, 61	60, 61	56, 66	1, 14, 19



**17.3 MWNR PUMP****17.3.1 Operating instructions**

The MWNR pump has been designed to operate in environments with atmospheres that are not potentially explosive and for using salt water rich in particulate, therefore it is considered ideal for systems with fluid recirculation.

The durability of the plunger seals is directly in relation to the percentage of the presence of solids in the fluid as regards both their size and their density. For a long seal life we recommend a particulate grain size of no more than 200 micron and 20% max. in volume. For more information and a general system layout see paragraph 9.7.

**17.3.2 Water temperature**

The maximum permissible water temperature is 104° F (40° C). However the pump can be used with water up to a temperature of 140° F (60° C), but only for short periods.

**17.3.3 Maximum pressure and flow rate**

The rated specifications stated in our catalog are the maximum that can be obtained by the pump. Independently of the power used, the maximum pressure and RPM indicated on the specification label can never be exceeded unless upon prior formal authorization by our Customer Service Department.

**17.3.4 Maximum RPM**

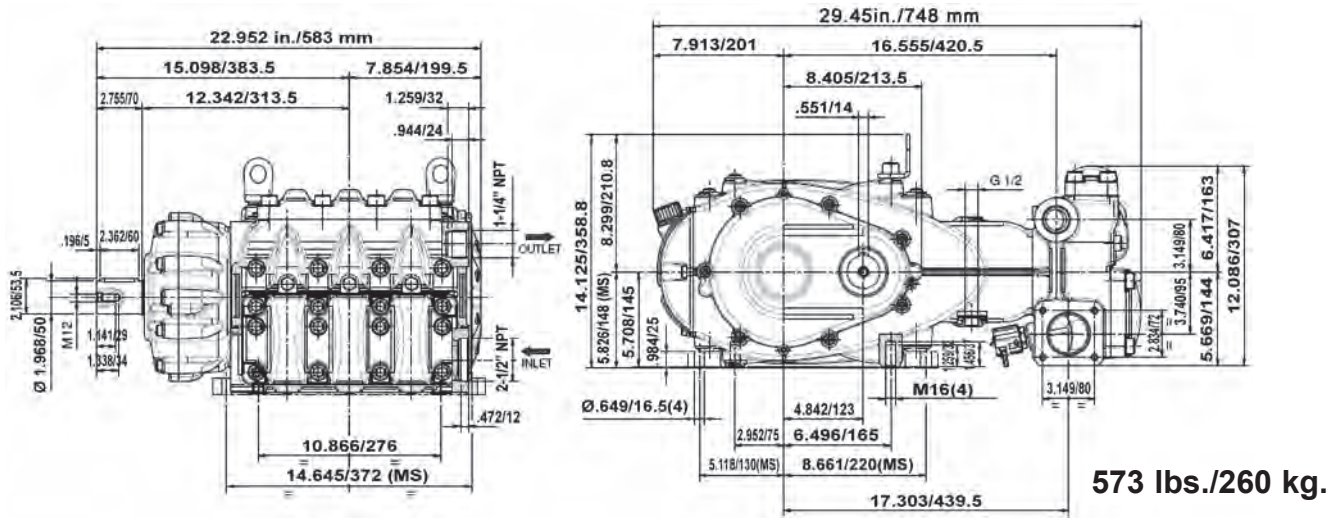
Any rotating speed other than that indicated in the performance table (see 17.3.5) must be expressly authorized by our Customer Service Department.

**17.3.5 Specifications**

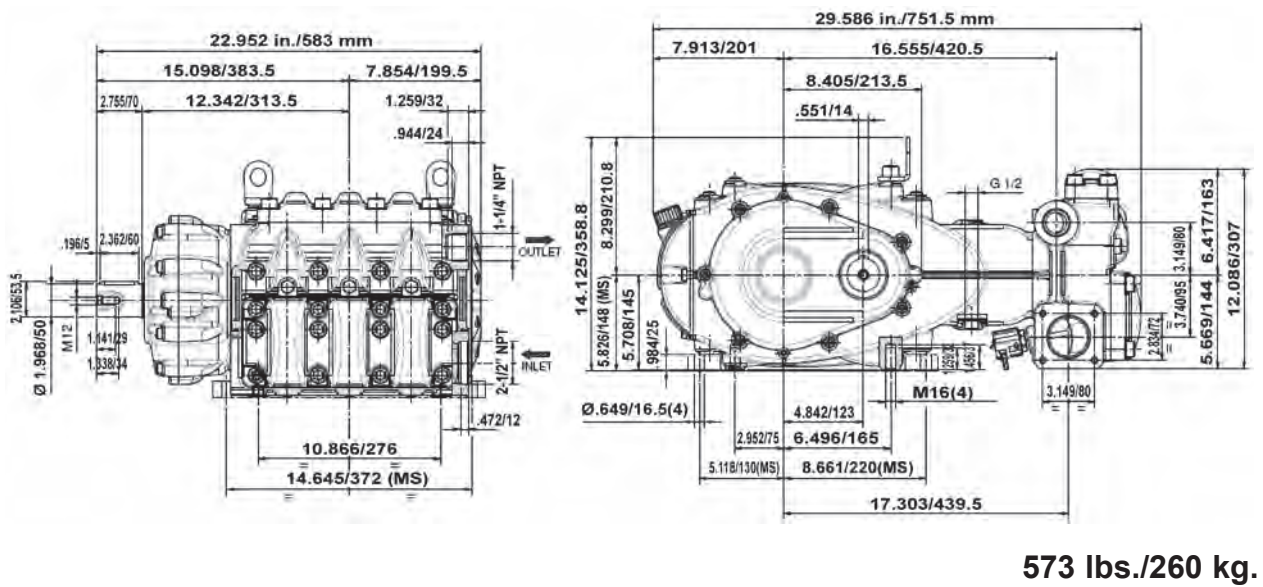
MODEL	RPM	FLOW RATE		PRESSURE		POWER	
		GPM	l/min	PSI	Bar	Hp	kW
MWNR40A	800	55.7	211	3,045	210	115	84.6
	1500	55.7	211	3,045	210	115	84.6
	1800	56	212	3,045	210	116	85.3
	2200	56.3	213	3,045	210	116	85.3
MWNR45A	800	70.6	267	2,247	155	100	73.5
	1500	70.6	267	2,247	155	100	73.5
	1800	71	269	2,247	155	100	73.5
	2200	71.3	270	2,247	155	100	73.5
MWNR50A	800	87.2	330	1,812	125	100	73.5
	1500	87.2	330	1,812	125	100	73.5
	1800	87.6	332	1,812	125	100	73.5
	2200	88	333	1,812	125	100	73.5
MWNR55A	800	105.4	399	1,450	100	100	73.5
	1500	105.4	399	1,450	100	100	73.5
	1800	106	401	1,450	100	100	73.5
	2200	106.5	403	1,450	100	100	73.5

**17.3.6 Dimensions and weight**

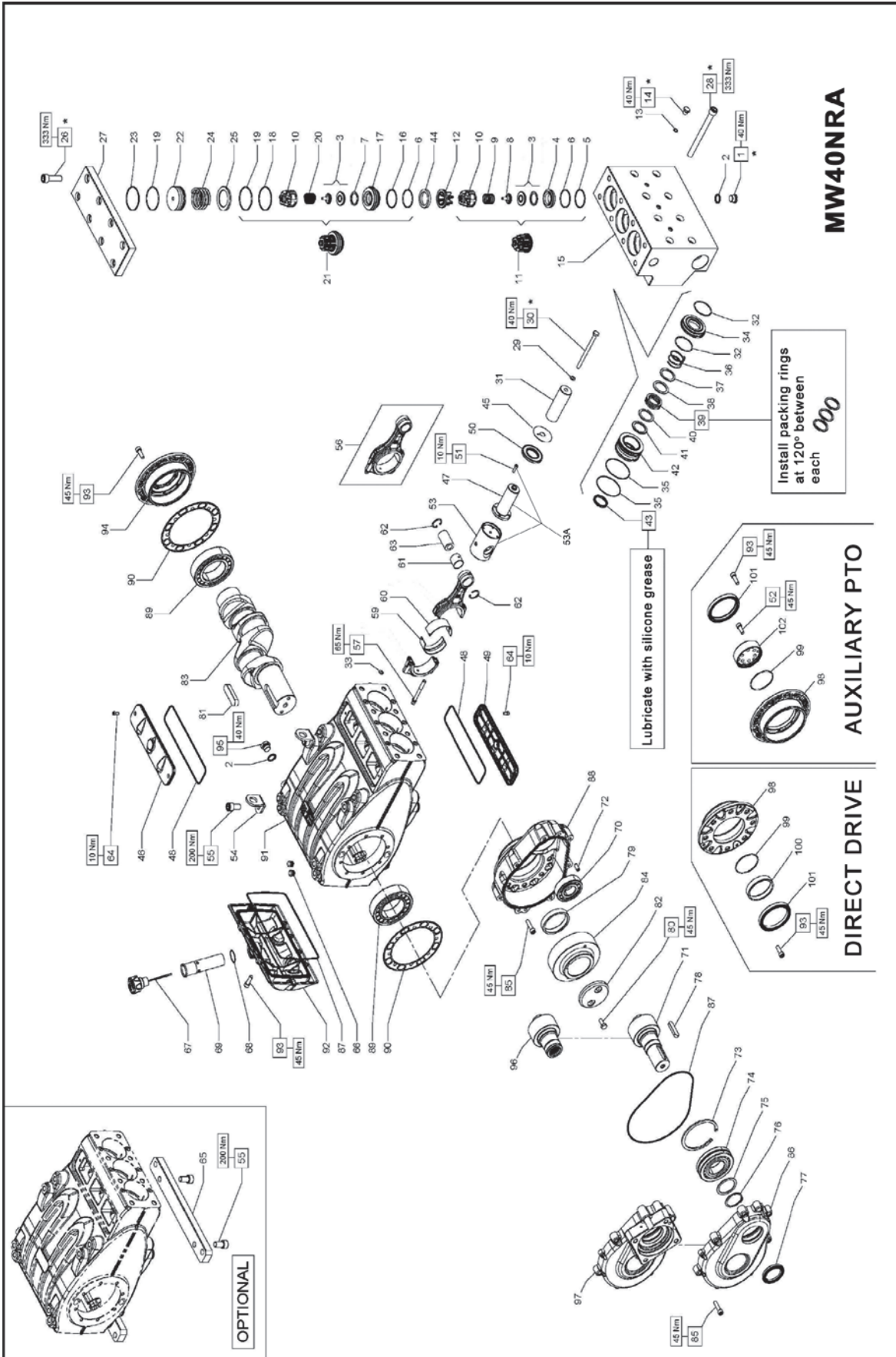
For dimensions and weight of MWNRNR40A, please refer to fig. 14.



For dimensions and weight of MWNR45A, MWNR50A and MWNR55A pumps, please refer to fig. 14a.



## 17.3.7. EXPLODED VIEW AND PARTS LIST



# GENERAL PUMP

A member of the Interpump Group

# MWNR40A SERIES

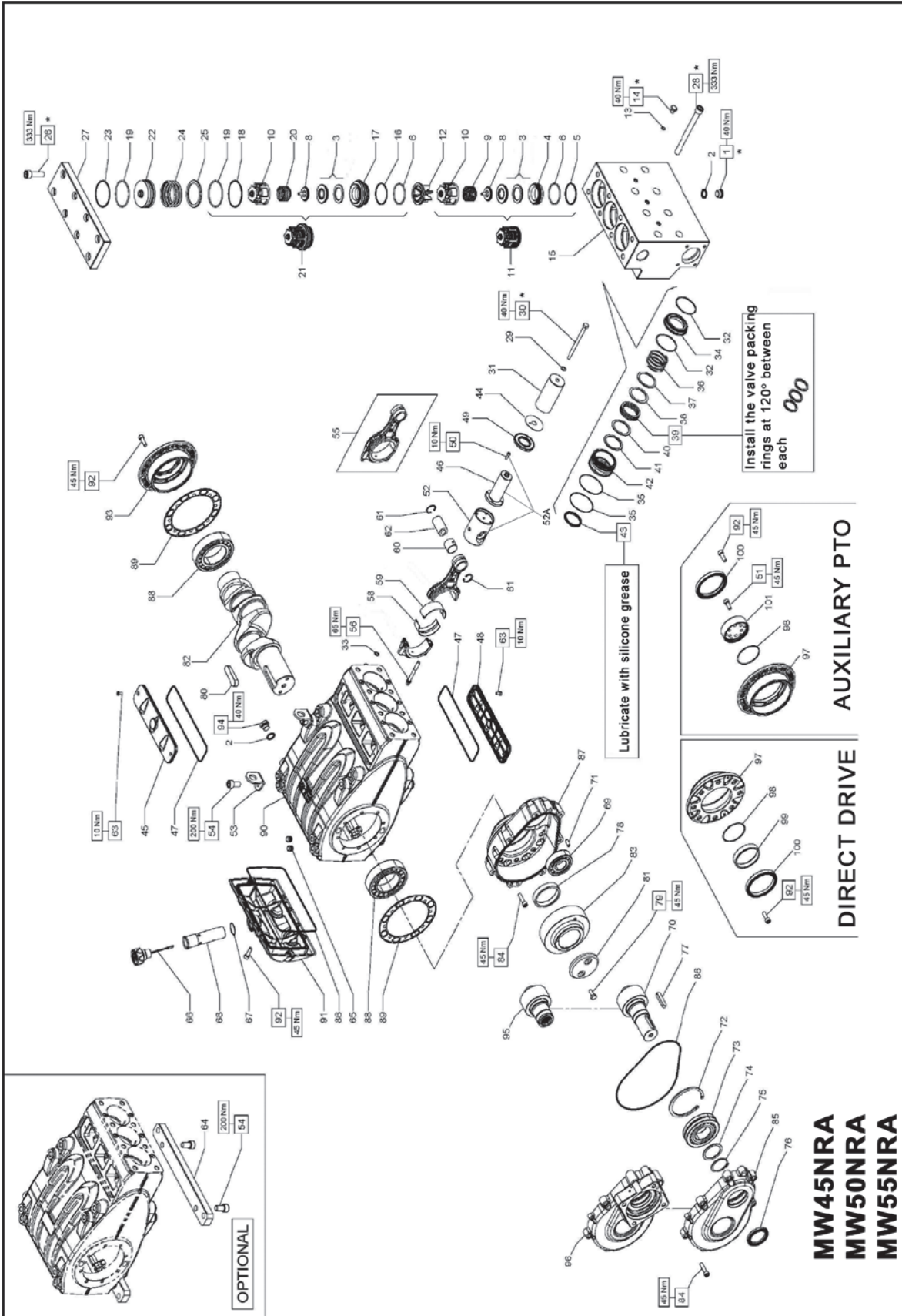
Item	Part #	Description	QTY.
1	F98218600	Plug, 1/2"x14	3
2	F93197100	WASHER WITH SEAL	5
3	F36208801	BALL VALVE ASSY.	6
4	F36206766	INLET VALVE SEAT	3
5	F90526000	ANTI-EXTRUSION RING, Ø 51.5X56X1.5	3
6	F90389000	O-RING, Ø 50.47X2.62	6
8	F36209051	INTERNAL VALVE GUIDE	3
9	F94760000	SPRING, Ø 28.3X30.7	3
10	F36206105	VALVE GUIDE	6
11	F36715101	INLET VALVE UNIT	3
12	F74210651	VALVE GUIDE SPACER	3
13	90358400	O-RING, Ø10.82X1.78	3
14	F98204600	PLUG, G 1/4"x13, SS	3
15	F73120456	MANIFOLD	1
16	F90526500	ANTI-EXTRUSION RING, Ø 51.7X56.2X1.5	3
17	F36206966	VALVE SEAT HOUSING	3
18	F90527600	ANTI-EXTRUSION RING, Ø 67.7X72X1.5	3
19	F90391100	OR, Ø 66.35X2.62	6
20	F90760500	SPRING, Ø 28.5X32	3
21	F36715301	OUTLET VALVE UNIT	3
22	F78215856	PLUG, OUTLET VALVE	3
23	F90528000	ANTI-EXTRUSION RING, Ø 67.7X72.2X1.5	3
24	F94774900	SPRING, Ø 58X45.4	3
25	F78215991	OUTLET NALVE SEAT RING	3
26	F99514700	SCREW, M16X55	8
27	F73212356	VALVE COVER	1
28	F99522200	SCREW, M6X180	8
29	F96710500	WASHER, Ø 10X18X0.9,SS, PTFE	3
30	F99383000	SCREW, M10X140	3
31	F73040209	PLUNGER, Ø 45X117, 40	3
32	F90389800	OR, Ø 56.82X2.62	6
33	F90382500	OR, Ø 10.78X2.62	6
34	F73100856	HEAD PACKING RING, Ø 40	3
35	F90371000	OR, Ø 81X2	6
36	F94772000	SPRING, Ø 47X30	3
37	F73216156	SPRING RING, Ø 40	3
38	F73214382	SCRAPER, Ø 40	3
39	F90565000	PACKING, Ø 44	3
40	F90521000	ANTI-EXT. RING, Ø 40X53X2	3
41	F73216556	SUPPORT RING, Ø 40	3
42	73216956	PACKING SUPPORT, Ø 40	3
43	F90282800	WASHER, Ø 40X48X5.5 L.P.	3
44	F73213756	VALVE SEAT SPACER RING	3
45	F96735500	WASHER, Ø 16X65X1	3
46	F73150022	CLOSED INSPECTION COVER	1
47	F73050336	PLUNGER GUIDE ROD	3
48	F90414800	OR, Ø 202.8X3.53	2
49	F73150122	OPEN INSPECTION COVER	1
50	F90168500	RAD. RING, Ø40X72X7/8.5	3
51	F99188400	SCREW, M6X20	
53	F73050443	PLUNGER GUIDE	3
	F73050543	PLUNGER GUIDE +0.10	3
53A	F73606201	PISTON GUIDE ASSEMBLY	3
54	F73210674	LIFTING BRACKET	2
55	F99513100	SCREW, M16X30, UNI 5931	4
56	F73030101	CONNECTING ROD ASSY.	3
57	F99378800	CONNECTING ROD SCREW, M10X1.5X80	6
	F90928300	CONROD HEAD SEMI-BUSHING, LOWER	3
59	F90928400	CONROD HEAD SEMI-BUSHING, LOWER, +0.25	3
	F90928500	CONROD HEAD SEMI-BUSHING, LOWER, +0.50	3

Item	Part #	Description	QTY.
	F90928000	CONROD HEAD SEMI-BUSHING, UPPER	3
60	F90928100	CONROD HEAD SEMI-BUSHING, UPPER, +0.25	3
	F90928200	CONROD HEAD SEMI-BUSHING, UPPER, +0.50	3
61	F90915800	CONROD HEAD FOOT	3
62	F90069000	STOP RING, Ø 32 UNI 7437	6
63	F97744000	SPINDLE	3
64	F99183800	SCREW, M6X14, UNI 5931	4
65	F73200064	FOOT	2
66	F98206000	HOLE PLUG, Ø 15	6
67	F98233500	OIL FILLING PLUG, G1", WITH ROD	1
68	F90361600	OR, 34.65X1.78	1
69	F73210295	TUBE FOR OIL FILLING PLUG, G1 "	1
70	F91854000	CY. ROLLER BEARING	1
	F10076735	PINION, Z24 R1.875, HELICOL	1
	F10076835	PINION, Z21 R2.238, HELICOL	1
	F10076935	PINION, Z18 R2.722, HELICOL	1
	F10082255	PINION, Z19 R3.211, HELICOL	1
72	F97623000	TMP. CYL. PIN, Ø 10X24	2
73	F90101000	STOP RING, Ø 120	1
74	F91859900	ADJUST. ROLLER BEARING	1
75	F73210455	BEARING SUPPORT RING	1
76	F90081000	STOP RING, Ø 55	1
77	F90172400	RAD. RING, Ø 55X75X8, VITON	1
78	F91500500	TAB, 14X9X60, UNI 6604	1
79	F73210589	RING GEAR SUPPORT RING	1
80	F99366700	SCREW, M10X25, UNI 5739	2
81	F91511000	KEY, 22X14X80 UNI 6604	1
82	F74213255	RING GEAR STOP	1
83	F73020035	CRANKSHAFT C. 70	1
	F10077035	RING GEAR, Z45 R1.875, HELICOL	1
	F10077135	RING GEAR, Z47 R2.238, HELICOL	1
	F10077235	RING GEAR, Z49 R2.722, HELICOL	1
	F10082355	RING GEAR, Z61 R3.211, HELICOL	1
85	F99371000	SCREW, M10X40, UNI 5931	15
86	F73210113	REDUCTION GEAR COVER	1
87	F90415000	OR, Ø 253.6X3.53	2
88	F73210013	REDUCTION GEAR BOX	1
89	F91881000	CY. ROLLER BEARING	2
90	F73210384	SIDE SEAL	2
91	F73010013	PUMP CASING	1
92	F73160022	CASING COVER	1
93	F99368500	SCREW, M10X30, UNI 5931	14
94	F73150222	BEARING COVER	1
95	F98218100	PLUG, G1/2"X10, NICKEL	2
<b>WITH HYDRAULIC MOTOR</b>			
	F10079455	PINION, Z18, R 2.722, HELICOL	
96	F10077355	PINION, Z24, R1.875, HELICOL	1
	F10077455	PINION, Z21, R2.238, HELICOL	1
97	F73215513	GEAR BOX COVER	1
<b>DIRECT DRIVE</b>			
93	F99368600	SCREW, M1-X30	8
98	F73150322	OPEN BEARING COVER	1
99	F90391450	OR, Ø 78.87X2.62	1
100	F73215654	RING FOR DIRECT DRIVE	1
101	F90195000	RING, RAD, Ø 90X110X12, VITON	1
<b>WITH AUXILIARY P.T.O.</b>			
52	F99367100	SCREW, M10X25, UNI 5931	6
93	F99368500	SCREW, M10X30	8
98	F73150322	OPEN BEARING COVER	1
99	F90391450	OR, Ø 78.87X2.62	1
101	F90195000	RING, RAD, Ø 90X110X12, VITON	1
102	F73215754	P.T.O. OUTLET	1

## REPAIR KITS

KIT NUMBER	F2162 Plunger Pack.	F2055 Valves kit	F2166 Complete Seals Kit	F2150 Conn. Rod	F2151 Conn. Rod +0.25	F2153 Conn. Rod +0.50	F2152 Mounting Feet
Positions Included	32, 33, 35, 38, 39, 40, 43	11, 12, 19, 21, 23,	5, 6, 13, 16, 18, 19, 23, 32, 33, 35, 38, 39, 40, 43, 48, 50, 68, 77, 87, 90,	59, 60	59, 60	59, 60	55, 65





# GENERAL PUMP

A member of the Interpump Group

# MWNR45-50-55-A SERIES

Item	Part #	Description	QTY.
1	F98218600	Plug, 1/2"x14	3
2	F93197100	WASHER WITH SEAL	5
3	F36208701	BALL VALVE ASSY.	6
4	F36206666	INLET VALVE SEAT	3
5	F90527000	ANTI-EXTRUSION RING, Ø 51.5X56X1.5	3
6	F90410500	O-RING, Ø 50.47X2.62	6
8	F36208951	INTERNAL VALVE GUIDE	3
9	F94768900	SPRING, Ø 28.3X30.7	3
10	F36206005	VALVE GUIDE	6
11	F36715001	INLET VALVE UNIT	3
12	F74210551	VALVE GUIDE SPACER	3
13	F90358400	O-RING, Ø10.82X1.78	3
14	F98204600	PLUG, G 1/4"X13, SS	3
15	F73120556	MANIFOLD	1
16	F90527300	ANTI-EXTRUSION RING, Ø 61.4X67.2X1.5	3
17	F36206866	VALVE SEAT HOUSING	3
18	F90529000	ANTI-EXTRUSION RING, Ø 77.2X83X1.5	3
19	F90413400	OR, Ø 75.8X3.53	6
20	F90770000	SPRING, Ø 41.5X41.1	3
21	F36715201	OUTLET VALVE UNIT	3
22	F73215656	PLUG, OUTLET VALVE	3
23	F90529300	ANTI-EXTRUSION RING, Ø 77.5X83.2X1.5	3
24	F94800100	SPRING, Ø 75X49.6	3
25	F78213891	OUTLET VALVE SEAT RING	3
26	F99514700	SCREW, M16X55	8
27	F73212356	VALVE COVER	1
28	F99522200	SCREW, M6X180	8
29	F96710500	WASHER, Ø 10X18X0.9,SS, PTFE	3
30	F99383000	SCREW, M10X140	3
31	F73040309	PLUNGER, Ø 45X117	3
	F73040409	PLUNGER, Ø 50X117	3
	F73040509	PLUNGER, Ø 55X117	3
32	F90390300	OR, Ø 60X2.62, MW45NRA	6
	F90391300	OR, Ø 69.52X2.62	6
33	F90382500	OR, Ø 10.78X2.62	6
	F73100956	HEAD PACKING RING, Ø 45	3
34	F73101056	HEAD PACKING RING, Ø 50	3
	F73101156	HEAD PACKING RING, Ø 55	3
35	F90371000	OR, Ø 81X2	6
	F94777000	SPRING, Ø 61X35, MW45NRA	3
36	F94773500	SPRING, Ø 54X38.5	3
	F73216256	SPRING RING, Ø 45	3
37	F73216356	SPRING RING, Ø 50	3
	F73216456	SPRING RING, Ø 55	3
	F73214482	SCRAPER, Ø 40	3
38	F73214582	SCRAPER, Ø 50	3
	F73214682	SCRAPER, Ø 55	3
	F90567500	PACKING, Ø 45	3
39	F90569500	PACKING, Ø 50	3
	F72065000	PACKING, Ø 55	3
	F90523500	ANTI-EXT. RING, Ø 45X58X2	3
40	F90524300	ANTI-EXT. RING, Ø 50X63X2	3
	F90526600	ANTI-EXT. RING, Ø 55X68X2	3
	F73216656	SUPPORT RING, Ø 45	3
41	F73216756	SUPPORT RING, Ø 50	3
	F73216856	SUPPORT RING, Ø 55	3
	F73217056	PACKING SUPPORT, Ø 45	3
42	F73217156	PACKING SUPPORT, Ø 50	3
	F73717256	PACKING SUPPORT, Ø 55	3
	F90284600	WASHER, Ø 45X56X5.5 L.P.	3
43	F90286000	WASHER, Ø 50X58X5.5 L.P.	3
	F90284000	WASHER, Ø 55X63X5.5 L.P.	3
44	F96735500	WASHER, Ø 16X65X1	3
45	F73150022	CLOSED INSPECTION COVER	1
46	F73050336	PLUNGER GUIDE ROD	3
47	F90414800	OR, Ø 202.8X3.53	2
49	F73150122	OPEN INSPECTION COVER	1
50	F90168500	RAD. RING, Ø40X72X7/8.5	3
51	F99188400	SCREW, M6X20	3
	F73050443	PLUNGER GUIDE	3
52	F73050543	PLUNGER GUIDE +0.10	3
52A	F73606201	PISTON GUIDE ASSEMBLY	3

Item	Part #	Description	QTY.
53	F73210674	LIFTING BRACKET	2
54	F99513100	SCREW, M16x30, UNI 5931	4
55	F73030101	CONNECTING ROD ASSY.	3
56	F99378800	CONNECTING ROD SCREW, M10X1.5X80	6
	F90928000	CONROD HEAD SEMI-BUSHING, LOWER	3
58	F90928400	CONROD HEAD SEMI-BUSHING, LOWER, +0.25	3
	F90928500	CONROD HEAD SEMI-BUSHING, LOWER, +0.50	3
	F90928300	CONROD HEAD SEMI-BUSHING, UPPER	3
59	F90928100	CONROD HEAD SEMI-BUSHING, UPPER, +0.25	3
	F90928200	CONROD HEAD SEMI-BUSHING, UPPER, +0.50	3
60	F90915800	CONROD HEAD FOOT	3
61	F90069000	STOP RING, Ø 32 UNI 7437	6
62	F97744000	SPINDLE	3
63	F99183800	SCREW, M6X14, UNI 5931	4
64	F73200064	FOOT	2
65	F98206000	HOLE PLUG, Ø 15	6
66	F98233500	OIL FILLING PLUG, G1", WITH ROD	1
67	F90361600	OR, 34.65X1.78	1
68	F73210295	TUBE FOR OIL FILLING PLUG, G1 "	1
69	F91854000	CY. ROLLER BEARING	1
	F10076735	PINION, Z24 R1.875, HELICOL	1
70	F10076835	PINION, Z21 R2.238, HELICOL	1
	F10076935	PINION, Z18 R2.722, HELICOL	1
	F10082255	PINION, Z19 R3.211, HELICOL	1
71	F97623000	TMP. CYL. PIN, Ø 10X24	2
72	F90101000	STOP RING, Ø 120	1
73	F91859900	ADJUST. ROLLER BEARING	1
74	F73210455	BEARING SUPPORT RING	1
75	F90081000	STOP RING, Ø 55	1
76	F90172400	RAD. RING, Ø 55X75X8, VITON	1
77	F91500500	TAB, 14X9X60, UNI 6604	1
78	F73210589	RING GEAR SUPPORT RING	1
79	F99366700	SCREW, M10X25, UNI 5739	2
80	F91511000	KEY, 22X14X80 UNI 6604	1
81	F74213255	RING GEAR STOP	1
82	F73020035	CRANKSHAFT C. 70	1
	F10077035	RING GEAR, Z45 R1.875, HELICAL	1
83	F10077135	RING GEAR, Z47 R2.238, HELICAL	1
	F10077235	RING GEAR, Z49 R2.722, HELICAL	1
	F10082355	RING GEAR, Z61 R3.211, HELICAL	1
84	F99371100	SCREW, M10X40, UNI 5931	15
85	F73210113	REDUCTION GEAR COVER	1
86	F90415000	OR, Ø 253.6X3.53	2
87	F73210013	REDUCTION GEAR BOX	1
88	F91881000	CY. ROLLER BEARING	2
89	F73210384	SIDE SEAL	2
90	F73010013	PUMP CASING	1
91	F73160022	CASING COVER	1
92	F99368500	SCREW, M10X30, UNI 5931	14
93	F73150222	BEARING COVER	1
94	F98218100	PLUG, G1/2"X10, NICKEL	2
<b>WITH HYDRAULIC MOTOR</b>			
	F10079455	PINION, Z18, R 2.722, HELICOL	
95	F10077355	PINION, Z24, R1.875, HELICOL	1
	F10077455	PINION, Z21, R2.238, HELICOL	1
96	F73215513	GEAR BOX COVER	1
<b>DIRECT DRIVE</b>			
92	F99368500	SCREW, M10X30	8
97	F73150322	OPEN BEARING COVER	1
98	F90391450	OR, Ø 78.87X2.62	1
99	F73215654	RING FOR DIRECT DRIVE	1
100	F90195000	RING, RAD, Ø 90X110X12, VITON	1
<b>WITH AUXILIARY P.T.O.</b>			
51	F99367100	SCREW, M10X25, UNI 5931	6
92	F99368500	SCREW, M10X30	8
97	F73150322	OPEN BEARING COVER	1
98	F90391450	OR, Ø 78.87X2.62	1
100	F90195000	RING, RAD, Ø 90X110X12, VITON	1
101	F73215754	P.T.O. OUTLET	1

## REPAIR KITS

KIT NUMBER	F2163 (MWNR45A) Plunger Pack.	F2164 (MWNR50A) Plunger Pack.	F2165 (MWNR55A) Plunger Pack.	F2048 Valves	F2167 (MWNR45A) Complete Seals Kit	F2168 (MWNR50A) Complete Seals	F2169 (MWNR55A) Complete Seals	F2150 Conn. Rod	F2151 Conn. Rod +0.25	F2153 Conn. Rod +0.50	F2152 Mounting Feet
Positions Included	32, 33, 35, 38, 39, 40, 43	32, 33, 35, 38, 39, 40, 43	32, 33, 35, 38, 39, 40, 43	11, 12	5, 6, 13, 16, 18, 19, 23, 32, 33, 35, 38, 39, 40, 43, 47, 49, 67, 76, 86, 89	5, 6, 13, 16, 18, 19, 23, 32, 33, 35, 38, 39, 40, 43, 47, 49, 67, 76, 86, 89	5, 6, 13, 16, 18, 19, 23, 32, 33, 35, 38, 39, 40, 43, 47, 49, 67, 76, 86, 89	58, 59	58, 59	58, 59	54, 64

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**17.4 MWF PUMP****17.4.1 Operating instructions**

The MWF pump has been designed to operate in environments with atmospheres that are not potentially explosive it is ideal for pumping aggressive, poorly lubricating or abrasive fluids. Other fluids can be used only upon formal approval by the Customer Service Department.

**17.4.2 Water temperature**

The maximum permissible water temperature is 140° F (60° C).

**17.4.3 Maximum pressure and flow rate**

The rated specifications stated in our catalog are the maximum that can be obtained by the pump. Independently of the power used, the maximum pressure and RPM indicated on the specification label can never be exceeded unless upon prior formal authorization by our Customer Service Department.

**17.4.4 Maximum RPM**

Any rotating speed other than that indicated in the performance table (see 17.3.5) must be expressly authorized by our Customer Service Department.

**17.4.5 Technical characteristics**

For the technical characteristics of MWF36A and MWF40A, refer to table 5 for MW pumps (page 7).

**17.4.6 Dimensions and weight**

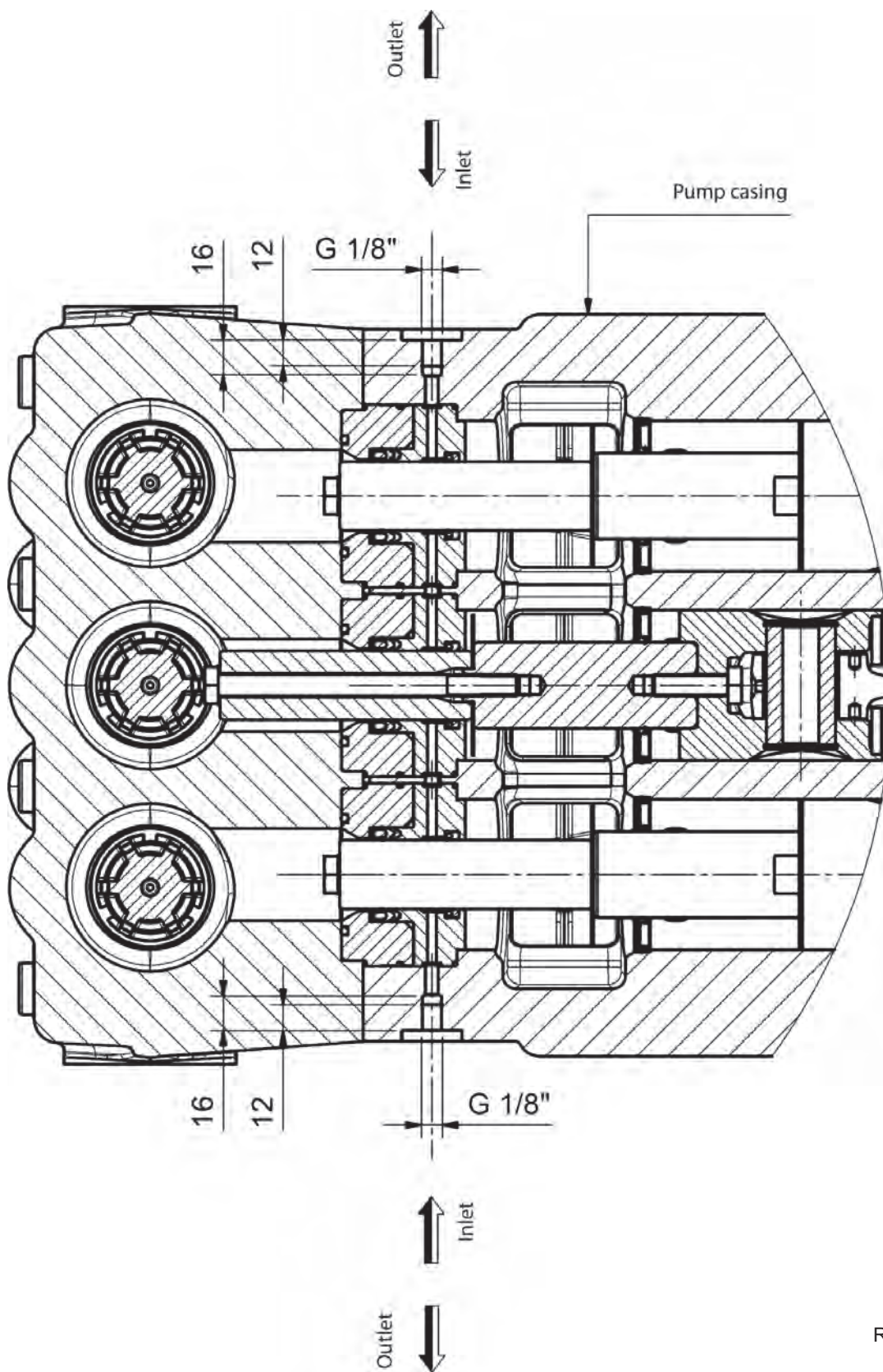
For the dimensions and weight of the MWF36A and MWF40A pumps, refer to the diagram of the MW pump, fig. 2 (page 8).

**17.4.7 Minimum rotating speed**

For the exploded drawing and list of spare parts for the MWF36A and MWF40A pumps, refer to the exploded view of the MW pumps on pages 22 and 23.

## 17.4.8. FLUSHING DIAGRAM

Adhere to the following values for proper system operation: minimum circuit flow rate is 2 GPM (8 l/m), maximum fluid pressure is 87 PSI (6 bar).





## 18. REPAIR TOOLS

Pump maintenance may be carried out using simple tools for assembling and disassembling components. The following tools are available:

<b>KIT</b>	<b>For Assembly:</b>	
	• Shaft (con-rod interlocking) . . . . .	F27566200
	• Bearing on crankshaft . . . . .	F27604700
	• Pinion bearing on reduction gear box . . . . .	F27604900
	• Crankshaft bearing on the reduction gear box. . . . .	F27605000
	• Crankshaft bearing on the bearing cover. . . . .	F27605000
B	• Oil seal insertion tool, MW/S . . . . .	F27605300
B	• Oil seal insertion cone, MW/S . . . . .	F27634400
	• Bearing on pinion . . . . .	F27604800
	• Pinion seal ring. . . . .	F27634900 plus F27635000
D	• Outlet valve housing O-ring MW32A, MWS36A, MWS40A. . . . .	F27516000
<b>KIT</b>	<b>For Disassembly:</b>	
B	• Oil seal extraction tool . . . . .	F27644300
B	• Bolt for oil seal extraction tool . . . . .	99366900
	• Shaft (con-rod interlocking) . . . . .	F27566200
D	• Outlet and suction valve units . . . . .	F27516400
D	• Suction valve housing MW32A, MWS36A, MWS40A . . . . .	F27516200
C	• Cylinder removal tool w/handle, MW/S series . . . . .	F27632500
A	• Slide hammer, MW/S valve tool. . . . .	F26019400
A	• 8mm x 10mm adapter, MW/S slide hammer . . . . .	F27513600
A	• 32mm collett for MW/S discharge seat . . . . .	520339
A	• 42mm collett for MW/S inlet valve seat . . . . .	520340

### RECOMMENDED REPAIR KITS

#### FKITMWV - MWS45A, MWS50A, MWS55A Valve removal / Installation Tool Kit A

Includes:	F26019400	Slide Hammer	Qty. 1
	F27513600	10mm Adapter	Qty. 1
	520339	32mm Collet	Qty. 1
	520340	42mm Collet	Qty. 1
	520426	Valve Cage Adapter	Qty. 1

#### FKITMWP - Piston Oil Seal Removal / Installation Tool Kit B

Includes:	F27605300	Insertion Tool	Qty. 1
	F27634400	Insertion Cone	Qty. 1
	F27644300	Extraction Tool	Qty. 1
	99366900	Extraction Tool Bolt	Qty. 1

#### F27632500 - Cylinder Removal Tool with Handle - MW - Tool Kit C

Includes:	F27632500	Spacer with Handle	Qty. 1
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#### 530078 - Splined Dummy Shaft Tool, 14 TPI Qty. 1

#### FKITMKVHP - MW32A, MWS36A, MWS40A Valve removal / Installation Tool Kit D

Includes:	F27516000	Outlet valve housing O-ring	Qty. 1
	F27516400	Outlet and suction valve units	Qty. 1
	27516200	Suction valve housing	Qty. 1
	520426	Valve Cage Adapter	Qty. 1

## 19. MAINTENANCE LOG

### HOURS & DATE

<b>OIL CHANGE</b>							
<b>GREASE</b>							
<b>PACKING REPLACEMENT</b>							
<b>PLUNGER REPLACEMENT</b>							
<b>VALVE REPLACEMENT</b>							



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