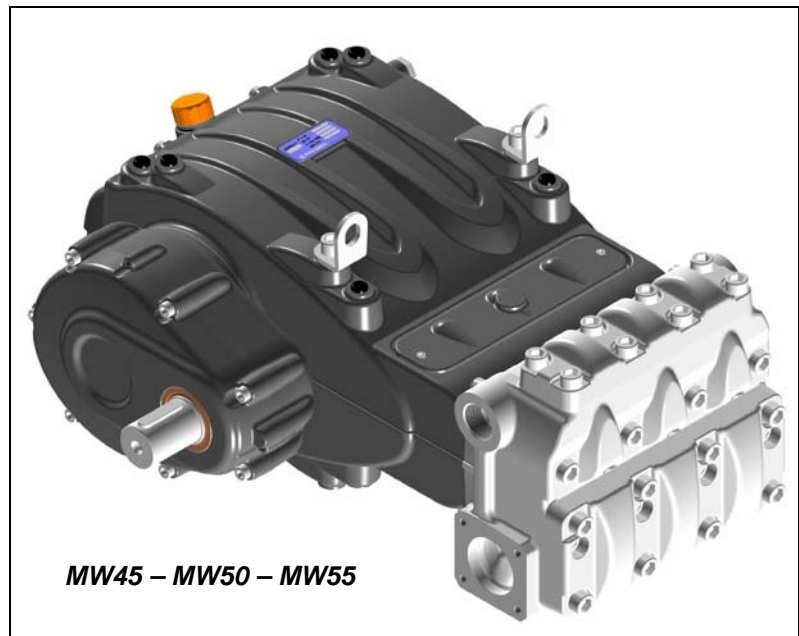
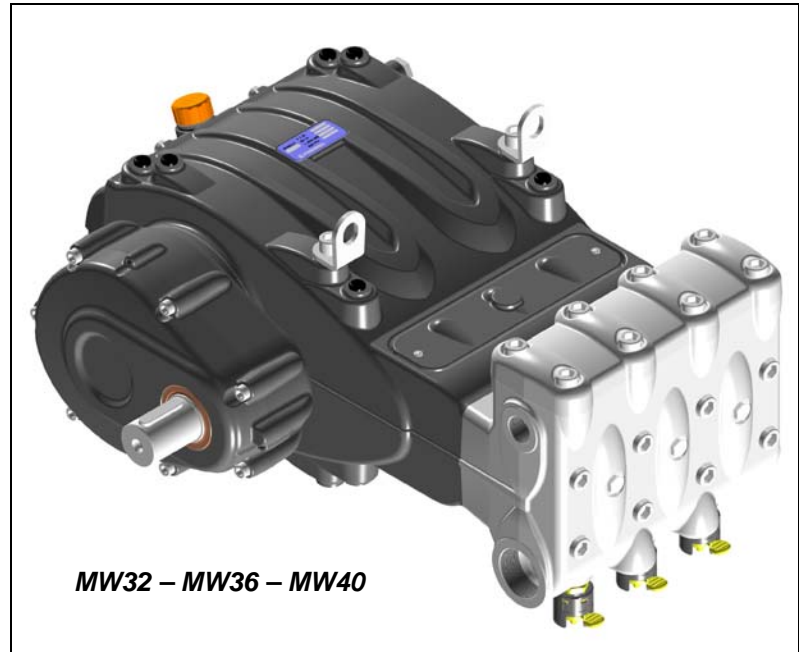


MW Series



Use and maintenance manual

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1. INTRODUCTION

This manual describes the instructions for use and maintenance of the MW pump and should be carefully read and understood before using the pump.

Proper pump operation and duration depend on the correct use and maintenance.

Interpump Group disclaims any responsibility for damage caused by negligence or failure to observe with the standards described in this manual.

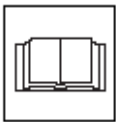
Upon receipt, verify that the pump is intact and complete.

Report any faults before installing and starting the pump.

2. DESCRIPTION OF SYMBOLS



Warning Sign



Read the contents of this manual carefully before each operation.



Danger sign
Danger of electrocution.



Danger sign
Wear a protective mask.



Danger sign
Wear protective goggles.



Danger sign
Put on protective gloves before each operation.



Danger sign
Wear appropriate footwear

3. SAFETY

3.1 General safety warnings

Improper use of pumps and high pressure systems as well as non-compliance with installation and maintenance standards can cause serious damage to people and/or property. Anyone assembling or using high pressure systems must possess the necessary competence to do so, knowing the characteristics of the components that will assemble/use and take all precautions necessary to ensure maximum safety in all operating conditions. In the interest of safety, both for the Installer and the Operator, no reasonably applicable precaution should be omitted.

3.2 Essential safety in the high pressure system

1. The pressure line must always be provided with a safety valve.
2. High pressure system components, particularly for systems that operate primarily outside, must be adequately protected from rain, frost and heat.
3. The electrical control system must be adequately protected against sprays of water and must meet specific regulations in force.
4. The high pressure pipes must be properly sized for maximum operating pressure of the system and always and only used within the operating pressure range specified by the Manufacturer of the pipe itself. The same rules should be observed for all other auxiliary systems affected by high pressure.
5. The ends of high pressure pipes must be sheathed and secured in a solid structure, to prevent dangerous whiplash in case of bursting or broken connections.
6. Appropriate protective casing must be provided in pump transmission systems (couplings, pulleys and belts, auxiliary power outlets).



3.3 Safety during work

The room or area within which the high pressure system operates must be clearly marked and prohibited to unauthorised personnel and, wherever possible, restricted or fenced.

Personnel authorised to access this area should first be instructed how to operate within this area and informed of the risks arising from high pressure system defects or malfunctions.

Before starting the system, the Operator is required to verify that:

1. The high pressure system is properly powered (see point 9.5).
2. The pump suction filters are perfectly clean; it is appropriate to include a device indicating the clogging level on all devices.
3. Electrical parts are adequately protected and in perfect condition.
4. The high pressure pipes do not show signs of abrasion and the fittings are in perfect order.

Any fault or reasonable doubt that may arise before or during operation should be promptly reported and verified by qualified personnel. In these cases, pressure should be immediately cleared and the high pressure system stopped.



3.4 Rules of conduct for the use of lances

1. The Operator must always place his safety and security first, as well as that of others that may be directly affected by his/her actions, or any other assessments or interests. The Operator's work must be dictated by common sense and responsibility.
2. The Operator must always wear a helmet with a protective visor, waterproof gear and wear boots that are appropriate for use and can ensure a good grip on wet floors.

Note: appropriate clothing will protect against sprays of water but not from direct impact with jets of water or very close sprays. Additional protections may therefore be necessary in certain circumstances.

3. It is generally best to organise personnel into teams of at least two people capable of giving mutual and immediate assistance in case of necessity and of taking turns during long and demanding operations.
4. The work area jet range must be absolutely prohibited to and free from objects that, inadvertently under a pressure jet, can be damaged and/or create dangerous situations.
5. the water jet must always and only be pointed in the direction of the work area, including during preliminary tests or checks.
6. The Operator must always pay attention to the trajectory of debris removed by the water jet. Where necessary, suitable guards must be provided by the Operator to protect anything that could become accidentally exposed.
7. The operator should not be distracted for any reason during work. Workers needing to access the operating area must wait for the Operator to stop work on his/her own initiative, after which they should immediately make their presence known.
8. It is important for safety that all team members are always fully aware of each other's intentions in order to avoid dangerous misunderstandings.
9. The high pressure system must not be started up and run under pressure without all team members in position and without the Operator having already directed his/her lance toward the work area.

3.5 Safety during system maintenance

1. High pressure system maintenance must be carried out in the time intervals set by the manufacture who is responsible for the whole group according to law.
2. Maintenance should always be performed by trained and authorised personnel.
3. Assembly and disassembly of the pump and the various components must only be carried out by authorised personnel, using appropriate equipment in order to prevent damage to components, in particular to connections.
4. Always only use original spare parts to ensure total reliability and safety.

4. PUMP IDENTIFICATION

Each pump has a specification label which contains:

- Pump model and version
- Serial number
- Max revs.
- Absorbed power Hp – kW
- Pressure bar – P.S.I.
- Flow rate l/min – Gpm



Model, version and serial number must always be indicated when ordering spare parts.

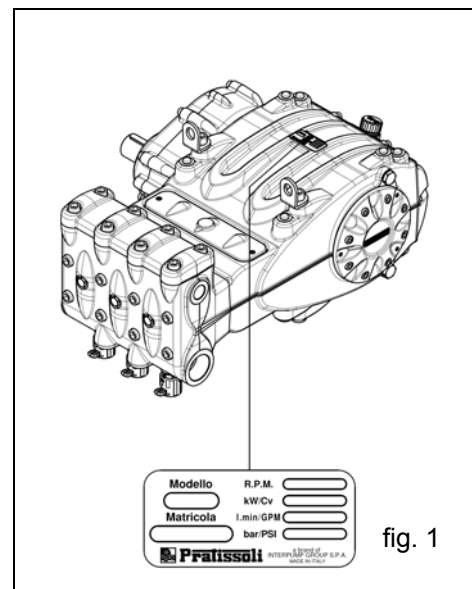


fig. 1

5. TECHNICAL CHARACTERISTICS

Model	Rpm/1'	Flow rate		Pressure		Power	
		l/min	Gpm	bar	psi	kW	Hp
MW 32	1500	135	35.7	300	4350	77	105
	1800	136	35.9	300	4350	78	106
	2200	136.5	36.1	300	4350	78	106
MW 36	1500	171	45.2	240	3480	78	107
	1800	172	45.4	240	3480	79	107
	2200	173	45.7	240	3480	79	108
MW 40	1500	211	55.7	190	2755	77	104
	1800	212	56.0	190	2755	77	105
	2200	213	56.3	190	2755	77	105
MW 45	1500	267	70.5	155	2248	79	107
	1800	269	71.1	155	2248	80	108
	2200	270	71.3	155	2248	80	109
MW 50	1500	330	87.2	125	1813	79	107
	1800	332	87.7	125	1813	79	108
	2200	333	88.0	125	1813	79	108
MW 55	1500	399	105.4	100	1450	76	104
	1800	401	105.9	100	1450	77	104
	2200	403	106.5	100	1450	77	105

6. DIMENSIONS AND WEIGHT

For dimensions and weights of MW32, MW36 and MW40 pumps, refer to fig. 2.

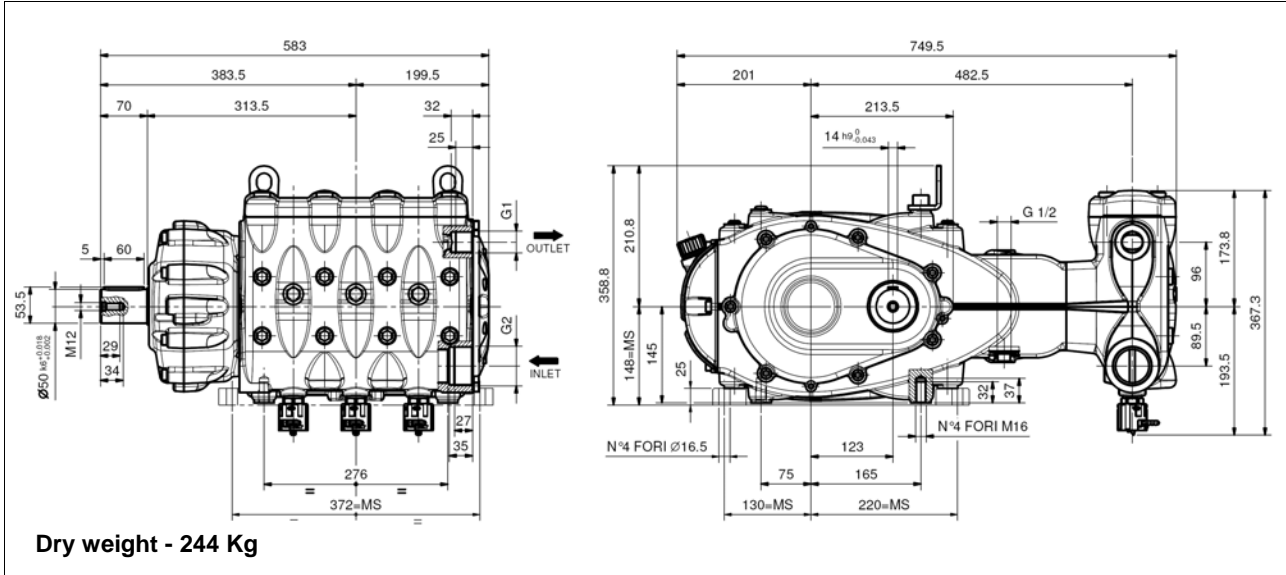


fig. 2

For dimensions and weights of MW45, MW50 and MW55 pumps, refer to fig. 2/a.

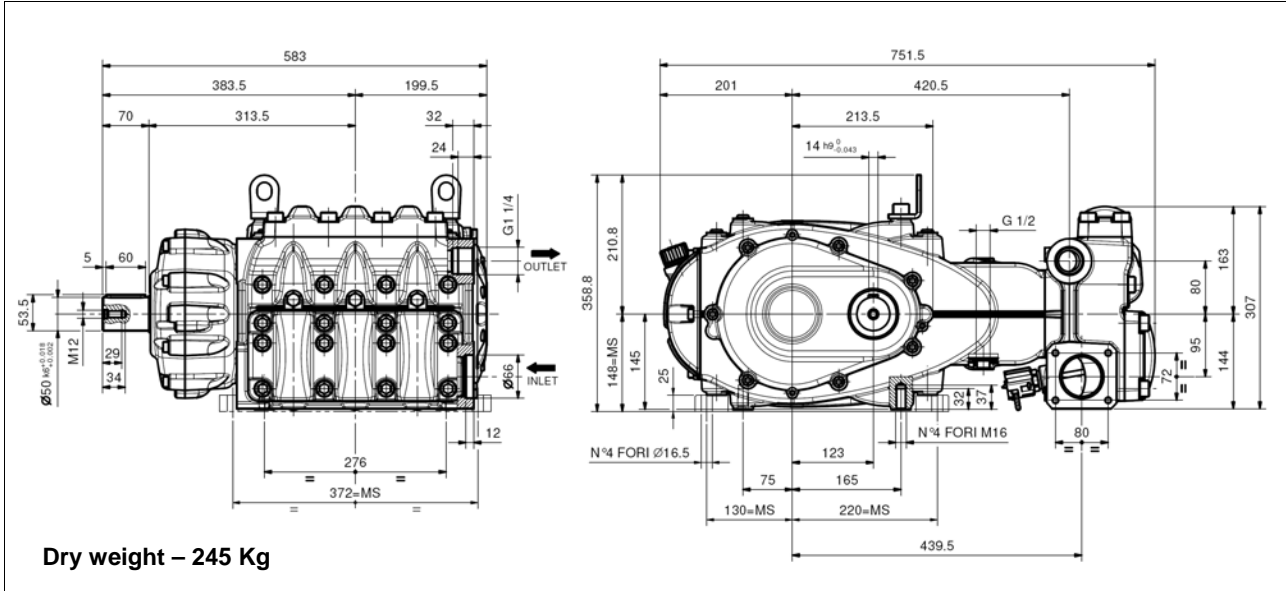


fig. 2/a

7. OPERATING INSTRUCTIONS



The MW pump was designed to work with clean water (see point 9.7) and at maximum temperature of 40°C. Other liquids can be used only after approval by the **Technical or Customer Service Departments**.

7.1 Water temperature



The maximum permissible water temperature is 40°C. However, the pump can be used with water up to a temperature of 60°C, but only for short periods. In this case, it is best to contact our **Technical or Customer Service Departments**.

7.2 Maximum pressure and flow rate

The rated specifications stated in our catalogue are the maximum that can be obtained from the pump. **Independently** of the power used, the maximum pressure and rpm indicated in the specification label can never be exceeded unless expressly authorised by our **Technical or Customer Service Departments**.

7.3 Minimum rotating speed















Any rotating speed other than that indicated in the performance table (see chapter 5) must be expressly authorised by our **Technical or Customer Service Departments**.

7.4 Brands and types of oils recommended

The pump is supplied with oil suitable for room temperatures from 0°C to 30°C.

Some types of recommended oil are indicated in the table below. These oils have additives to increase corrosion resistance and fatigue resistance (DIN 51517 part 2).

Alternatively you can also use Automotive SAE 85W-90 oil for gearing lubrication.

Hersteller Manufacturer Producteur	Schmieröl Lubricant Lubrifiant	Hersteller Manufacturer Producteur	Schmieröl Lubricant Lubrifiant	Hersteller Manufacturer Producteur	Schmieröl Lubricant Lubrifiant
	AGIP ACER 220		ELF POLYTELIS 220, REDUCTELF SP 220		Shell Tellus Öl C 220
	Aral Degol BG 220		NUTO 220, TERESSO 220		Wintershall Ersolan 220, Wintershall Wiolan CN 220
	BP Energel HLP 220		FINA CIRKAN 220		RANDO HD 220
	CASTROL HYSPIN VG 220, CASTROL MAGNA 220		RENOLIN 212, RENOLIN DTA 220		TOTAL Cortis 220
	Falcon CL 220		Mobil DTE Oil BB		

Check the oil level by means of the cap with dipstick, equipped with minimum and maximum reference notches ①, fig.3. Refill if necessary to top up level. The correct checking of the oil level is made with the pump at room temperature. Oil changes are to be made with the pump at working temperature, removing the plug pos.②, fig.3. The oil check and change must be carried out as indicated in chapter 11. The quantity required is ~ 9 litres.

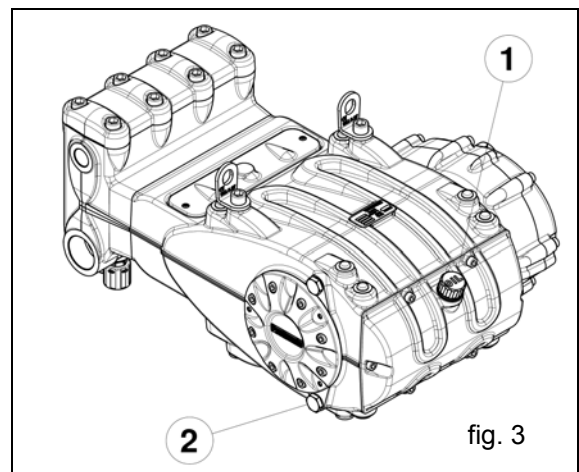


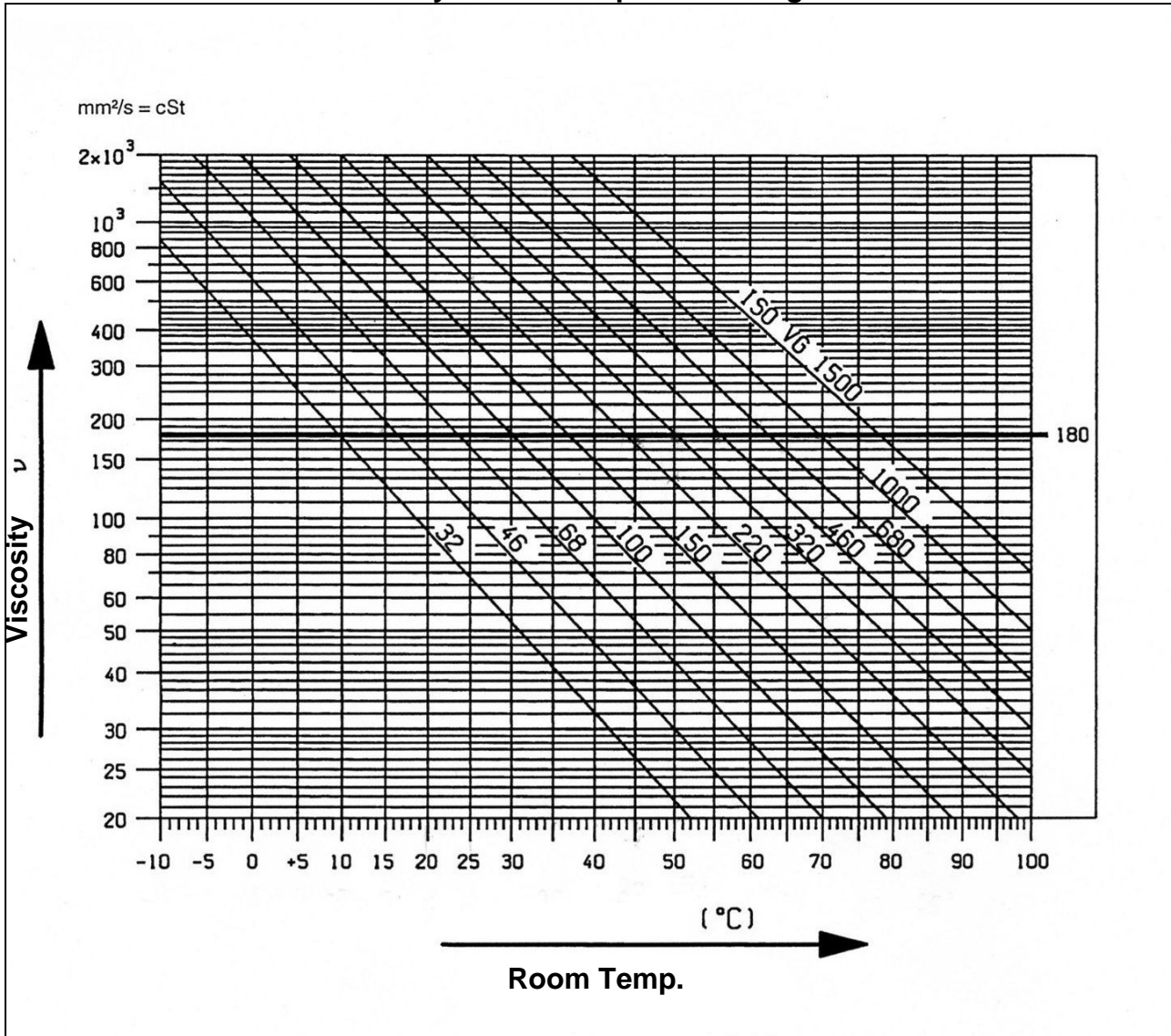
fig. 3



In any case the oil must be changed at least once a year, as it is degraded by oxidation.

For a room temperature other than between 0°C - 30°C, follow the instructions in the following diagram, considering that oil must have a minimum viscosity of 180 cSt.

Viscosity / Room temperature Diagram



The oil must be placed in a suitable container and disposed of in special centres. It absolutely should not be discarded into the environment.

8. PORTS AND CONNECTIONS

The MW series pumps are equipped with (see fig.4 and fig.4/a):

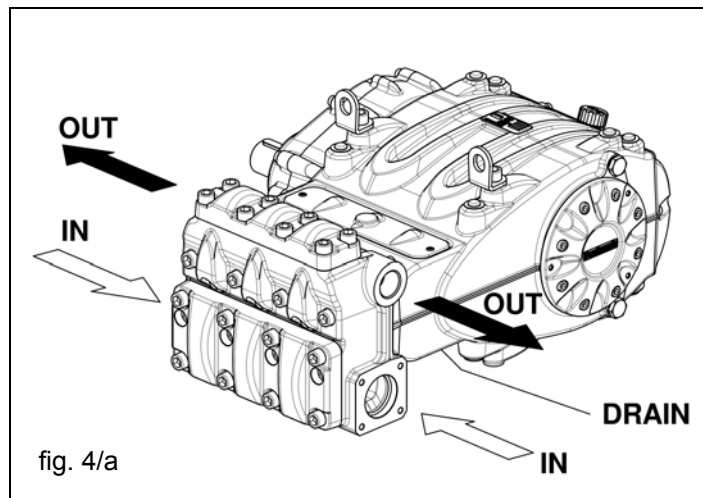
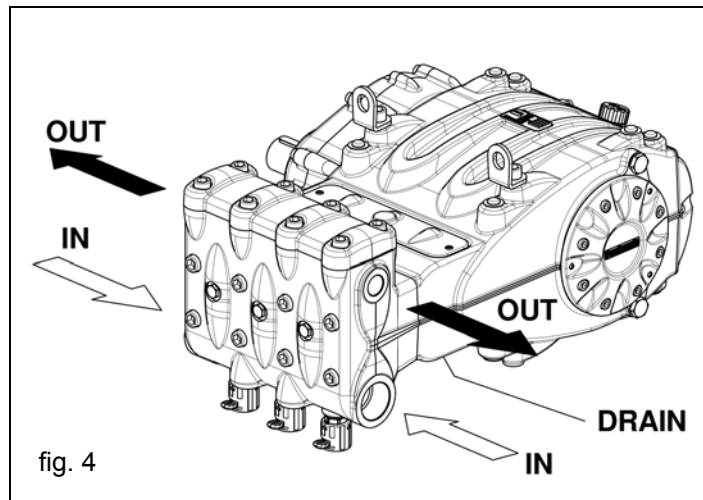
2 "IN" inlet ports: G2" (in versions MW32, MW36, MW40)
 Ø66 mm (in versions MW45, MW50, MW55)

Line connection to any of the two ports is indifferent for proper pump functioning.
 The unused ports must be hermetically closed.

2 "OUT" outlet ports: G1" (in versions MW32, MW36, MW40)
 G1 1/4" (in versions MW45, MW50, MW55)

1 "DRAIN" port: with a G1/2" hole positioned in the lower cover to monitor any water leaks due to pressure seal wear. Refer to the repair manual for any leaks.

The above-mentioned holes must always be kept open.



9. PUMP INSTALLATION

9.1 Installation

The pump must be fixed horizontally using the M16 threaded support feet.

Tighten the screws with a torque of 200 Nm.

The base must be perfectly flat and rigid enough as not to allow bending or misalignment on the pump coupling axis/transmission due to torque transmitted during operation.

Two lifting brackets are mounted on the pump for easy installation, as per the figure below.



The brackets are sized solely for pump lifting and therefore are absolutely not permitted for use of additional loads.



Replace the oil filling hole closing service plug positioned on the rear casing cover with the plug with oil dipstick. Check the correct quantity.

The oil dipstick must always be reachable, even when the unit is assembled.



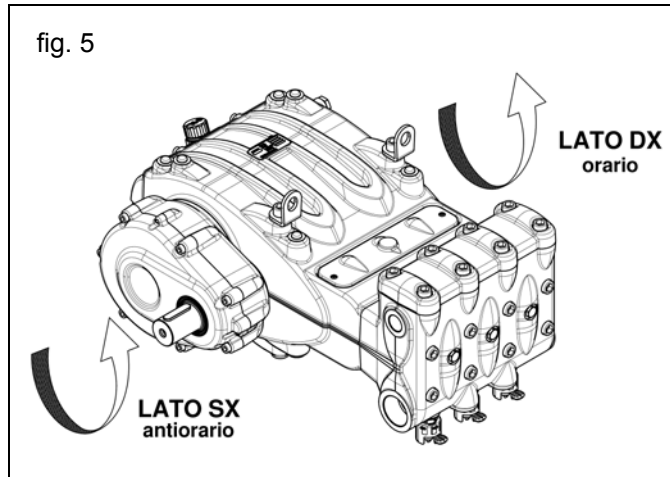
The pump shaft (PTO) should not be rigidly connected to the propulsor unit

The following types of transmission are recommended:

- Flexible joint.
- Cardan-shaft (comply with manufacturer's Max. recommended working angles).
- Belts. For proper application consult with our **Technical or Customer Service Departments.**

9.2 Rotation direction

The PTO rotation direction is indicated by an arrow located on the reduction gear cover. From a position facing the pump head, the rotation direction will be as in fig. 5



9.3 Version change and reduction gear positioning

The pump version is defined as right when:

Observing the pump facing the head side, the pump shaft must have a PTO shank on the right side.

The pump version is defined as left when:

Observing the pump facing the head side, the pump shaft must have a PTO shank on the left side (see fig.5).



The version can only be modified by trained and authorised personnel and carefully following the instructions below:

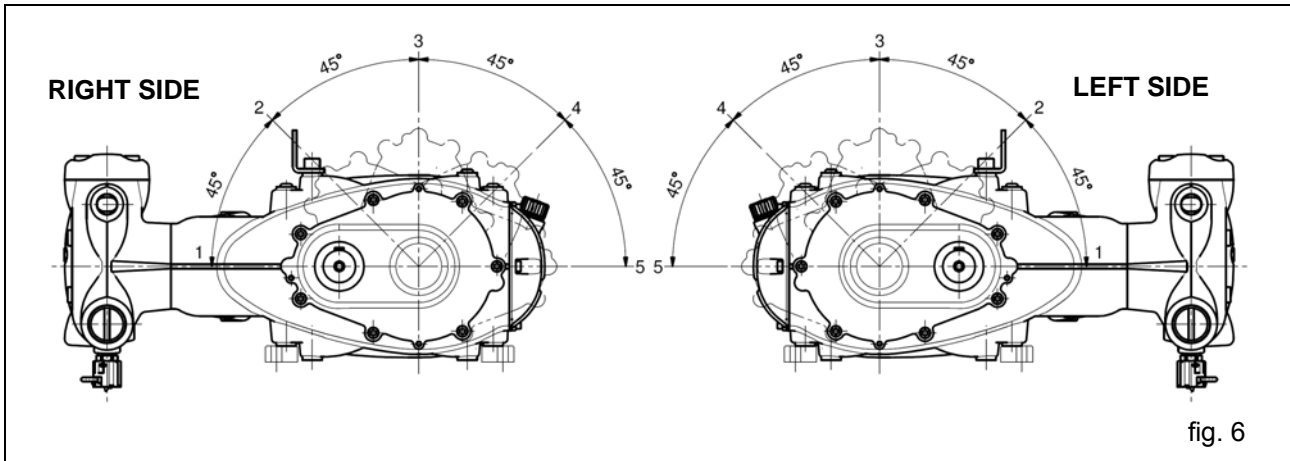
1. Separate the hydraulic part from the mechanical part as indicated in chapter 2 in points 2.2.1 and 2.2.3 of the repair manual.
2. Turn the mechanical part 180° and reposition the rear casing cover in such a way that the oil dipstick is turned upward. Reposition the lifting bracket and relative hole closing plugs in the upper part of the casing. Invert the two inspection covers, ensuring that the open one is positioned lower. Finally, properly reposition the specification label in its housing on the casing.



Make sure that the lower inspection cover draining holes are open

3. Unite the hydraulic part with the mechanical part as indicated in chapter 2 in points 2.2.1 and 2.2.4 of the repair manual.

It is also possible to place the reduction gear in 5 different positions as per fig.6.



The reduction gear position can only be modified by trained and authorised personnel carefully following directions contained in the repair manual.

9.4 Hydraulic connections

In order to isolate the system from vibrations produced by the pump, it is advisable to make the first section of the duct adjacent to the pump (both suction and outlet) with flexible piping. The consistency of the suction section must be such as to prevent deformations caused by vacuums produced by the pump.

9.5 Pump power supply

The MW pumps must always be installed under the positive head, or rather they must receive water as it falls or by means of forced power and never suctioned from a lower level.

The pumps are able to tolerate minimum heads of 1 metre though, to obtain best volumetric performance and above all to prevent cavitation, the available positive head (NPSH avail) measured on the suction flange of the head should be equal or exceed the following values:

	MW32	MW36	MW40	MW45	MW50	MW55
NPSH_r(m)	4.5	5.5	6.5	7.5	8	9

For higher cylinder capacity, pumps MW 45 - 50 - 55, forced power by means of a booster pump is strongly recommended to prevent cavitation, considering the geometry of the hydraulic part and the considerable flow rate.

The booster pump must have a flow rate that is at least double the nominal flow rate of the plunger pump with minimum pressure between 2 and 3 bars.

These supply conditions must be respected at any operating rpm.



Booster pump start-up must always come before start-up of the plunger pump. Installing a pressure regulator downstream from the pump protection filters on the power supply line is recommended.

9.6 Suction line

For a smooth operation of the pump, the suction line should have the following characteristics:

1. Minimum internal diameter as indicated in the graph at point 9.9 and equal to or exceeding that of the pump head.



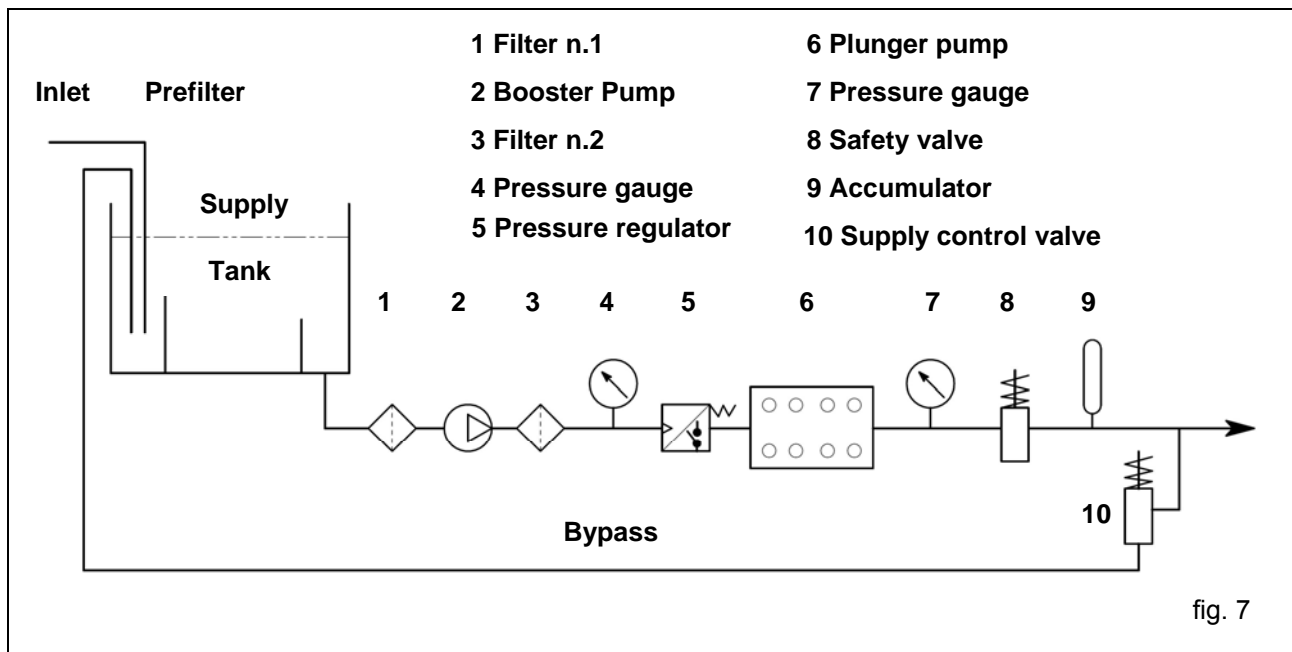
Localised restrictions should be avoided along the run of the duct, as these can cause load losses resulting in cavitation. Avoid 90° elbow bends, connections with other piping, constrictions, counterslopes, inverted U-curves and T-connections.

2. With a layout that is set in such a way to prevent cavitation.
3. Completely airtight and constructed to ensure sealing over time.
4. Prevents that pump stopping causes emptying, even partial.
5. Do not use hydraulic fittings, 3 or 4-way fittings, adapters, swivel joints, etc. as they could jeopardise pump performance.
6. Do not install Venturi tubes or injectors for detergent suction.
7. Avoid use of base valves or other types of unidirectional valves.
8. Do not recirculate by-pass valve discharge directly into suction.
9. Provide for proper guards inside the tank to prevent that water flow from the bypass and the tank supply line can create vortexes or turbulence near the pump supply pipe port.
10. Make sure the suction line is thoroughly clean inside before connecting it to the pump.
11. Install the pressure gauge to control booster pressure near the plunger pump suction port and always downstream from the filters.

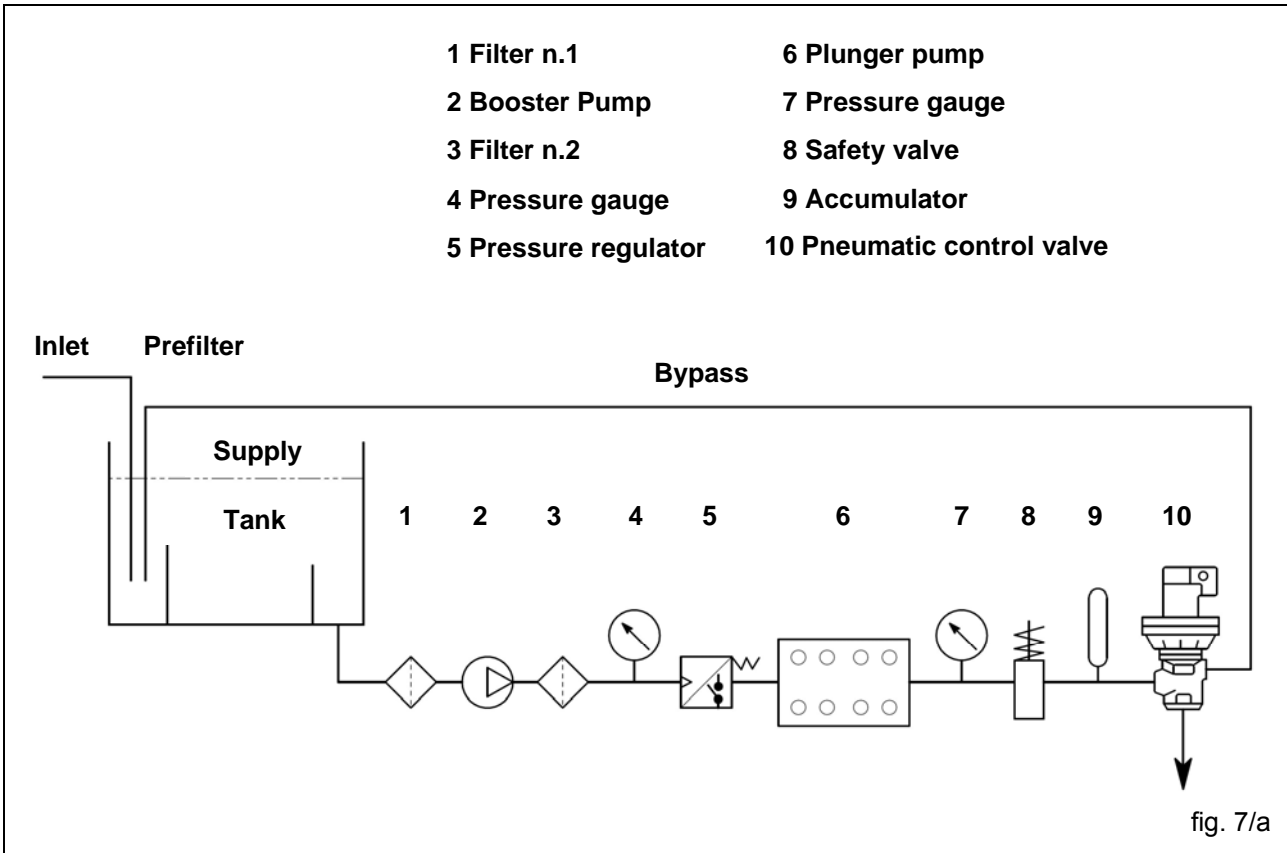
9.7 Filtration

Two filters must be installed on the pump suction line, positioned as indicated in fig. 7 and fig. 7/a.

With a manually activated control valve



With a pneumatically activated control valve



The filter must be installed as close as possible to the pump, it must be easily inspected and must have the following characteristics:

1. Minimum flow rate at least 3 times the nominal flow rate of the pump.
2. Inlet/outlet port diameters no smaller than the inlet port diameter of the pump.
3. Filtration grade between 200 and 360 μm .



For smooth pump operation, regular filter cleaning is necessary, planned according to the actual use of the pump in relation to the quality of water used and actual clogging conditions.

9.8 Outlet line

For the correct laying of the outlet line, the following installation rules must be followed:

1. The internal diameter of the pipe must be sufficient to ensure correct fluid velocity, see graph at point 9.9.
2. The first section of the line connected to the pump outlet must be a flexible hose, in order to isolate the vibrations produced by the pump of the rest of the system.
3. Use high pressure pipes and fittings to ensure high safety margins in all operating conditions.
4. The outlet line must always be installed with a safety gauge.
5. Use pressure gauges suitable to withstand pulsating loads typical of the plunger pumps.
6. During the design stage, keep in mind the line load losses which result in a drop in pressure during use with respect to the pressure measured on the pump.
7. For those applications where pulses produced by the pump on the outlet line may prove harmful or unwanted, install a pulsation dampener of sufficient size.

9.9 Calculation of the internal diameter of the duct pipes.

To determine the internal diameter of the duct, refer to the following diagram:

Suction duct

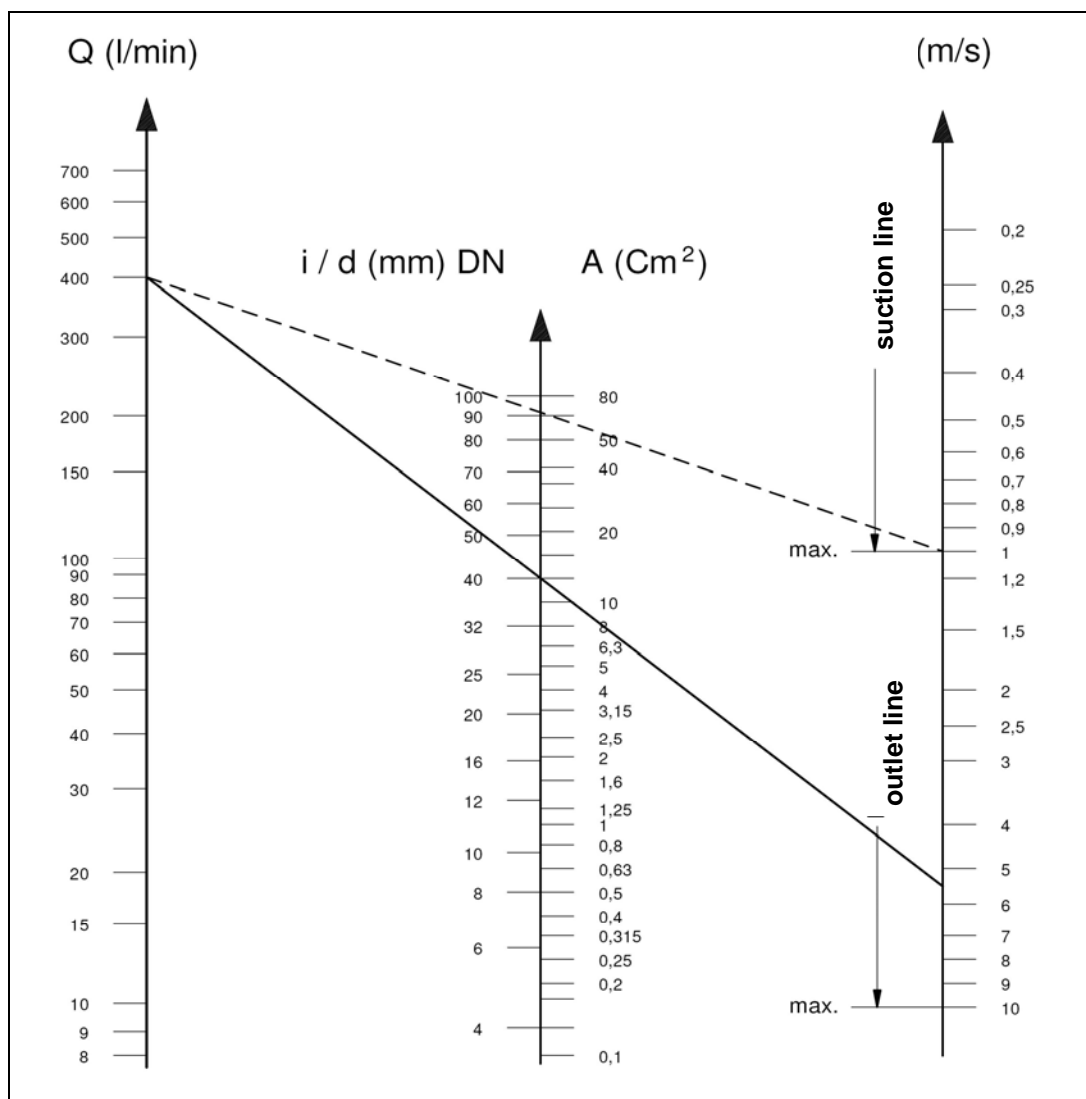
With a flow rate of ~ 400 L/min and a water velocity of 1 m/sec. The graph line joining the two scales meets the central scale showing the diameters, corresponding to a value of ~ 90 mm.

Outlet duct

With a flow rate of ~ 400 L/min and a water velocity of 5.5 m/sec. The graph line joining the two scales meets the central scale showing the diameters, corresponding to a value of ~ 40 mm.

Optimal speed to be obtained with the Booster pump:

- Suction: ≤ 1 m/sec.
- Outlet: ≤ 5.5 m/sec.



The graph does not take into account pipe resistance, valves, load loss produced by the length of the ducts, the viscosity of the liquid pumped or the temperature itself.

If necessary, contact our **Technical or Customer Service Departments**.

9.10 V-belt transmission

As indicated in point 9.1, the pump can be controlled by a v-belt system only in exceptional cases. For proper layout sizing, consult our **Technical or Customer Service Departments**.

10. START-UP AND OPERATION

10.1 Preliminary checks

Before start-up, ensure that:



The suction line is connected and pressurised (see chapter 9): the pump must never run dry.

1. The suction line ensures a hermetic seal over time.
2. Any shut-off valves between the supply source and the pump are fully open. The outlet line is free discharge, to permit air present in the pump head to come out quickly and therefore favour fast priming.
3. All suction and outlet fittings and connections are properly tightened.
4. The coupling tolerances on the pump/transmission axis (half-joint misalignment, Cardan joint tilt, belt pulling, etc.) remain within limits required by the transmission manufacturer.
5. Oil in the pump casing is at level, verified with a dipstick (position 1 fig.8)

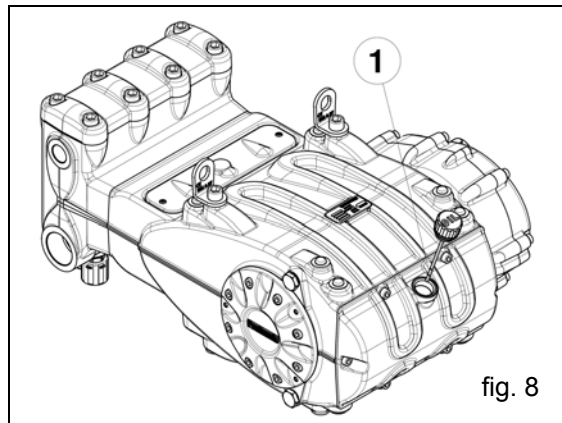


fig. 8



In case of prolonged storage or long-term inactivity, reset proper functioning of the suction valves opening the three valve lifter devices (see position 2 fig.9). Make sure to have closed the valves back up before starting up the pump. See fig. 10 for "work" and "rest" positions.

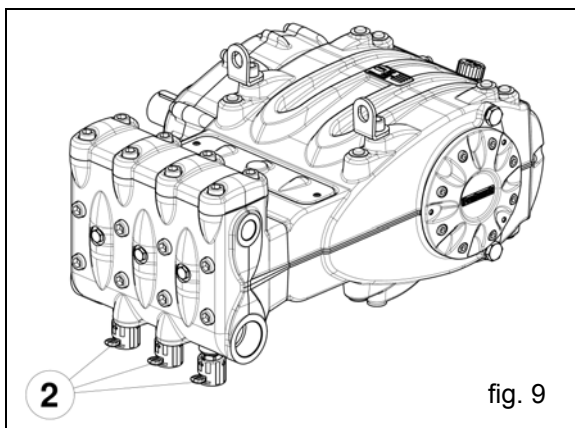


fig. 9

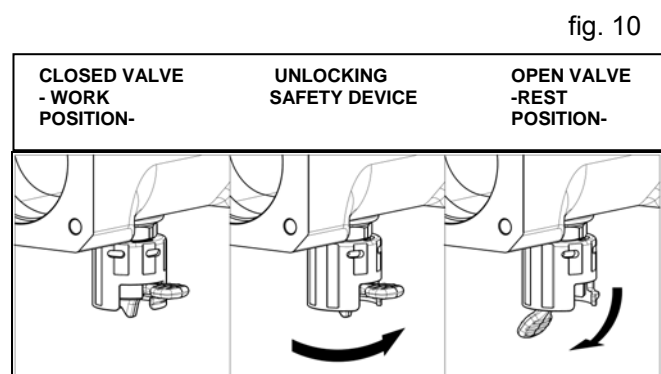


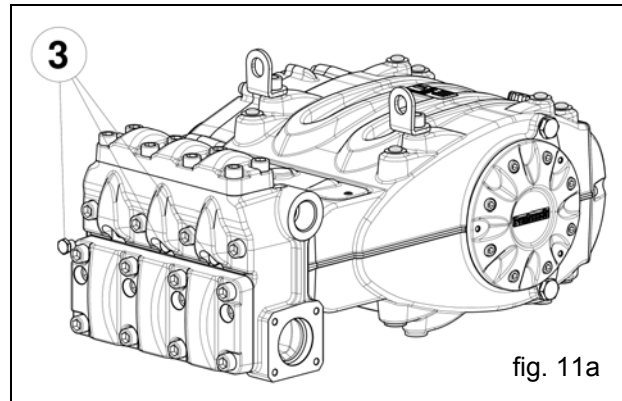
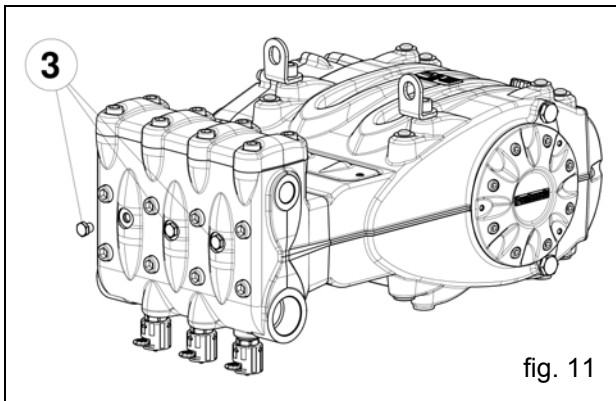
fig. 10

10.2 Start-up

1. At first start-up, verify that the rotation direction is correct.
2. Check proper pump supply.
3. Start-up the pump without any load.
4. Check that the rotation rpm during operation does not exceed the nominal rpm of the pump.
5. Let the pump run for a period of no less than 3 minutes, before putting it under pressure.
6. Before each pump stop, reset pressure by means of the control valve or with any relieving devices.



Whenever priming problems arise due to an insufficient supply, intervene by removing the front three plugs on the head as shown in position 3 fig.11 and 11a.



11. PREVENTIVE MAINTENANCE

For pump reliability and efficiency, comply with maintenance intervals as shown in the table below.

PREVENTIVE MAINTENANCE	
Every 500 hours	Every 1500 hours
Check oil level	Change oil
	Check / Replace * : Valves Valve housings Valve springs Valve guides
	Check / Replace * : H.P. seals L.P. seals

* for replacement follow instructions contained in the repair manual

12. PUMP STORAGE

12.1 Method for filling pump with anti-corrosion emulsion or anti-freeze solution using an external diaphragm pump based on the layout shown in point 9.7

- a) Close the filter drainage, if open.
- b) Make sure the connecting pipe is clean, spread with grease and connect them to the high pressure discharge.
- c) Fix the suction pipe to the diaphragm pump, open the pump suction connection and attach the pipe between it and the diaphragm pump.
- d) Fill the container with solution / emulsion.
- e) Put the free ends of the suction pipe and the high pressure exhaust pipe inside the container.
- f) Switch on the diaphragm pump.
- g) Pump the emulsion until it exits from the high pressure exhaust pipe.
- h) Continue pumping for at least another minute. The emulsion can be reinforced if necessary by adding Shell Donax for example to the solution.
- i) Stop the pump, remove the pipe from the suction connection and close with a plug.
- j) Remove the hose from the high pressure exhaust. Clean and grease and plug both connections and pipes.

12.2 Tubes

- a) Before greasing and protecting pipes according to previously described procedure, dry connections with compressed air.
- b) Cover with polyethylene.
- c) Do not wind too tight, ensure that there are no folds.

13. PRECAUTIONS AGAINST FROST



Follow the instructions in Chapter 12 in areas and times of the year at risk of frost (see point 12.2).



In the presence of ice, do not run the pump for any reason until the circuit has not been fully defrosted, in order to avoid serious damage to the pump.

14. GUARANTEE CONDITIONS

Pumps are guaranteed for a period of 12 months from the date of supply or else for 1,000 hours of work with the exception of worn parts.

Refer to the terms of the contract for other guarantee conditions.

The guarantee will be invalidated if:

- a) The pump is used for purposes other than for those agreed upon.
- b) The pump is fitted with an electric or combustion motor with performance exceeding those indicated in the table.
- c) Safety devices are decalibrated or disconnected.
- d) The pump is used with accessories or parts not supplied by Interpump Group.
- e) Damage has been caused by:
 - 1) improper use
 - 2) failure to follow maintenance instructions
 - 3) any use different from that described in the operating instructions
 - 4) insufficient flow rate
 - 5) defective installation
 - 6) improper positioning or sizing of pipes
 - 7) unauthorised plan modifications
 - 8) cavitation

15. OPERATING FAULTS AND THEIR POSSIBLE CAUSES



The pump does not produce any noise upon start-up:

- The pump is not primed and is running dry.
- No suction water.
- Valves are blocked.
- The outlet line during is closed and does not allow air present in the pump head to come out.



The pump pulsates irregularly:

- Air suction.
- Insufficient supply.
- Bends, elbow bends, fittings along the suction line are choking the passage of liquid.
- The suction filter is dirty or too small.
- The booster pump, where installed, is supplying insufficient pressure or flow rate.
- The pump is not primed for insufficient head or the outlet is closed during priming.
- The pump is not primed for the fixing of some valves.
- Worn valves.
- Worn pressure seals.
- Imperfect functioning of the pressure control valve.
- Problems on the transmission.



The pump does not supply the nominal flow rate/excessive noise:

- Insufficient supply (see various causes as above).
- The number of rpms is less than the nominal rate.
- Excessive leakage of the pressure control valve.
- Worn valves.
- Excessive leakage of the pressure seals.
- Cavitation due to:
 - 1) Improper sizing of suction ducts/undersized diameters.
 - 2) Insufficient flow rate.
 - 3) Elevated water temperature.



The pressure supplied by the pump is insufficient:

- Use (nozzle) is or has become higher than the capacity of the pump.
- The number of rpms is insufficient.
- Excessive leakage of the pressure seals.
- Imperfect functioning of the pressure control valve.
- Worn valves.



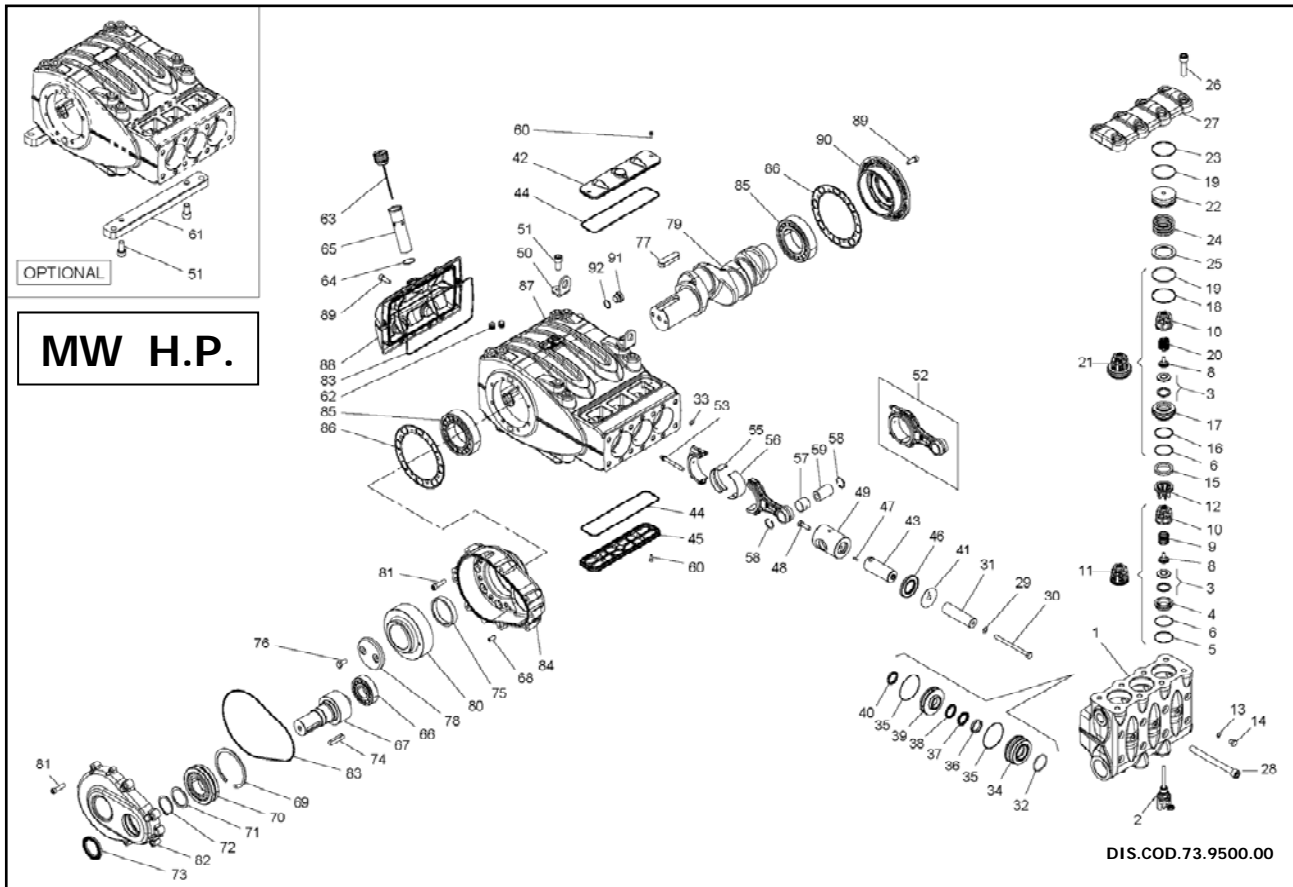
The pump is overheated:

- The pump is working in pressure excess or the number of rpms is higher than the nominal rate.
- Oil in the pump casing is not at level or not the recommended type as detailed in chapter 7 (see point 7.4).
- Joint or pulley alignment is incorrect.
- Excessive pump tilt during operation.



Vibrations and shock to pipes:

- Air suction.
- Imperfect functioning of the pressure control valve.
- Valve malfunction.
- Non-uniformity in the transmission motion.

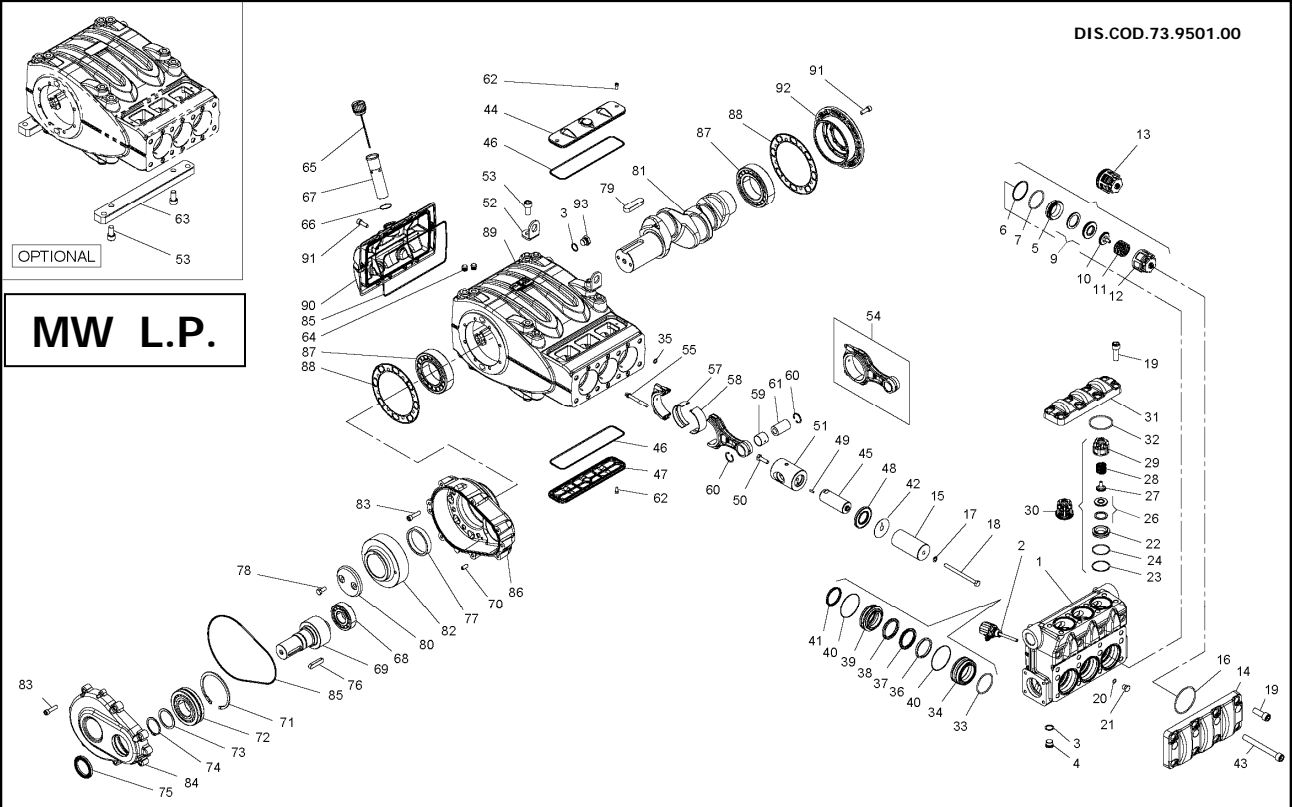
16. EXPLODED DRAWING AND PARTS LIST

KIT RICAMBIO – SPARE KIT

	MW32	MW36	MW40
A Kit tenute pompanti – Plunger packing kit	KIT 2136	KIT 2137	KIT 2138
B Kit valvole – Valves kit	KIT 2055		
C Kit tenute complete – Complete seals kit	KIT 2144	KIT 2145	KIT 2146
D Kit bronzine bielle – Conrod bushing kit	KIT 2150 – 2151 – 2153		

MW32 – MW36 – MW40

POS	CODE CODICE	DESCRIZIONE DESCRIZIONE	KIT	NR. PCS	POS	CODE CODICE	DESCRIZIONE DESCRIZIONE	KIT	NR. PCS	POS	CODE CODICE	DESCRIZIONE DESCRIZIONE	KIT	NR. PCS
1	73.1200.15	Testata HP		1	38	90.2784.00	Anello RESTOP Ø 32x4x5,5/3	A-C	3	71	73.2104.55	Anello appoggio cuscinetto		1
	73.1202.15	Testata HP-NPT		1		90.2818.00	Anello RESTOP Ø 36x4x5/3	A-C	3	72	90.0810.00	Anello di arresto Ø 55 UNI 7435		1
2	2000.3017.0	Dispositivo apertura valvole		3		90.2838.00	Anello RESTOP Ø 40x5x5/4,5	A-C	3	73	90.1724.00	Anello rad. Ø 55x75x8 – VITON	C	1
3	36.2088.01	Valvola sferica – Completa		6		73.2110.68	Supporto guarnizione Ø 32		3	74	91.5005.00	Linguetta 14x5x60 UNI 6604		1
4	36.3067.66	Sede valvola aspirazione		3	39	73.2111.68	Supporto guarnizione Ø 36		3	75	73.2105.89	Anello appoggio corona		1
5	90.5260.00	Anello antiest. Ø 51.5x56x1.5	C	3		73.2112.68	Supporto guarnizione Ø 40		3	76	99.3667.00	Vite M10x25 UNI 5739		2
6	90.3890.00	OR Ø 50.47x2.62 (3200) – 90 Sh.	C	6		90.2780.00	Anello ten. alt. Ø 32x40x5,5 LP	A-C	3	77	91.5110.00	Linguetta 22x14x80 UNI 6604		1
8	36.2090.51	Guida valvola interna		3	40	90.2798.00	Anello ten. alt. Ø 36x44x5,5 LP	A-C	3	78	74.2132.55	Fermo corona		1
9	94.7600.00	Molla Ø 28.3x30,7		3		90.2828.00	Anello ten. alt. Ø 40x48x5,5 LP	A-C	3	79	73.0200.35	Albero a gomiti C.70		1
10	36.2061.51	Guida valvola aspiraz./mandata		6	41	96.7355.00	Rosetta Ø 16x65x1		3		10.0770.35	Corona 245 R1.875 – Ellicoidale		1
11	36.7151.01	Gruppo valvola aspirazione	B	3	42	73.1500.22	Coperchio ispezione chiuso		1	80	10.0771.35	Corona 247 R2.238 – Ellicoidale		1
12	74.2106.51	Distanziale guida valvola HP	B	3	43	73.0501.56	Stelo guida pistone		3		10.0772.35	Corona 249 R2.722 – Ellicoidale		1
13	90.3584.00	OR Ø 10.82x1.78 (2043) – 90 Sh.	B	3	44	90.4148.00	OR Ø 202.8x3.53 (4800)	C	2	81	99.3710.00	Vite M10x40 UNI 5931		15
14	90.2046.00	Tappo G 1/4" x13 – INOX		3	45	73.1501.56	Coperchio ispezione aperto		1	82	73.2101.13	Coperchio riduttore		1
15	73.2122.70	Anello distanziale sede valvola		3	46	90.1685.00	Anello rad. Ø 40x72x7/8,5	C	3	83	90.4150.00	OR Ø 253.6x3.53 (41000)	C	2
16	90.5265.00	Anello antiest. Ø 51.7x56.2x1.5	C	3	47	97.6740.00	Spina elastica Ø 5x16 UNI 6876		3	84	73.2100.13	Scatola riduttore		1
17	36.2069.66	Sede valvola di mandata		3	48	99.3697.00	Vite M10x35 UNI 5739		3	85	91.8810.00	Cuscinetto a rulli cil. NJ 2216 ECP		2
18	90.5276.00	Anello antiest. Ø 67.5x72x1.5	C	3	49	73.0500.43	Guida pistone		3	86	73.2103.84	Guarnizione laterale	C	2
19	90.3911.00	OR Ø 66.35x2.62 (3262)	C	6		73.0502.43	Guida pistone +0,10		3	87	73.0100.13	Carter pompa		1
20	94.7605.00	Molla Ø 28.5x32		3	50	73.2106.74	Staffa di sollevamento		2	88	73.1600.13	Coperchio carter		1
21	36.7153.01	Gruppo valvola di mandata	B	3	51	99.5230.00	Vite M16x30 UNI 5931		4	89	99.3686.00	Vite M10x30 UNI 5931		14
22	74.2110.70	Tappo valvola di mandata HP		3	52	73.0301.01	Biella completa		3	90	73.1502.22	Coperchio cuscinetto		1
23	90.5280.00	Anello antiest. Ø 67.7x72.2x1.5	B-C	3	53	99.3788.00	Vite serraggio biella M10x1.5x80		6	91	98.2183.00	Tappo G 1/2" x13 – NICKEL		2
24	94.7750.00	Molla Ø 58x45,4		3		90.9283.00	Sembiccoccola testa biella – Inf.	D	3	92	96.7514.00	Rosetta alluminio Ø 21.5x27x1,5		2
25	74.2108.66	Anello sede valvola di mandata		3	55	90.9284.00	Sembiccoccola testa biella +0,25 – Inf.	D	3					
26	99.5147.00	Vite M16x55 UNI 5931 – GEOMET		8		90.9285.00	Sembiccoccola testa biella +0,50 – Inf.	D	3					
27	73.2107.15	Coperchio valvole		1		90.9280.00	Sembiccoccola testa biella – Sup.	D	3					
28	99.5222.00	Vite M16x180 UNI 5931 – GEOMET		8	56	90.9281.00	Sembiccoccola testa biella +0,25 – Sup.	D	3					
29	96.7105.00	Rosetta Ø 10x18x0,9 – INOX+PTFE		3		90.9282.00	Sembiccoccola testa biella +0,50 – Sup.	D	3					
30	99.3830.00	Vite M10x140 UNI 5737		3	57	90.9158.00	Boccola piede biella		3					
31	73.0400.09	Pistone Ø 32		3	58	90.0690.00	Anello di arresto Ø 32 UNI 7437		6					
	73.0401.09	Pistone Ø 36		3	59	97.7440.00	Spinnotto Ø 32x55		6					
	73.0402.09	Pistone Ø 40		3	60	99.1837.00	Vite M6x14 UNI 5931		6					
32	90.4085.00	OR Ø 49.21x3.53 (153)	A-C	3	61	73.2000.64	Piedino		2					
33	90.3825.00	OR Ø 10.78x2.62 (3043)	A-C	6	62	98.2060.00	Tappo per foro Ø 15 – TTN18		6					
	73.2116.56	Camicia pistone Ø 32		3	63	98.2331.00	Tappo carico olio G 1" con asta		1					
	73.2117.56	Camicia pistone Ø 36		3	64	90.3616.00	OR Ø 34.65x1.78 (2137)		1					
	73.2118.56	Camicia pistone Ø 40		3	65	73.2102.95	Tube per tappo carico olio G 1"		1					
35	90.3710.00	OR Ø 81x2	A-C	6	66	91.8540.00	Cuscinetto a rulli cil. NJ 308 ECP		1					
	73.1000.92	Anello di testa pistone Ø 32		3		10.0767.35	Pignone Z24 R1.875 – Ellicoidale		1					
	78.1001.92	Anello di testa pistone Ø 36		3	67	10.0768.35	Pignone Z21 R2.238 – Ellicoidale		1					
	74.1000.92	Anello di testa pistone Ø 40		3		10.0769.35	Pignone Z18 R2.722 – Ellicoidale		1					
37	90.2788.00	Anello ten. alt. Ø 32x44x6/3,5 HP	A-C	3	68	97.6230.00	Spina cil. tmp. Ø10x24 UNI 6364		2					
	90.2820.00	Anello ten. alt. Ø 36x48x6/3,5 HP	A-C	3	69	90.1010.00	Anello di arresto Ø 120 UNI 7437		1					
	90.2832.00	Anello ten. alt. Ø 40x52x7,5/4,5 HP	A-C	3	70	91.8599.00	Cuscini a rulli orient. 21311		1					

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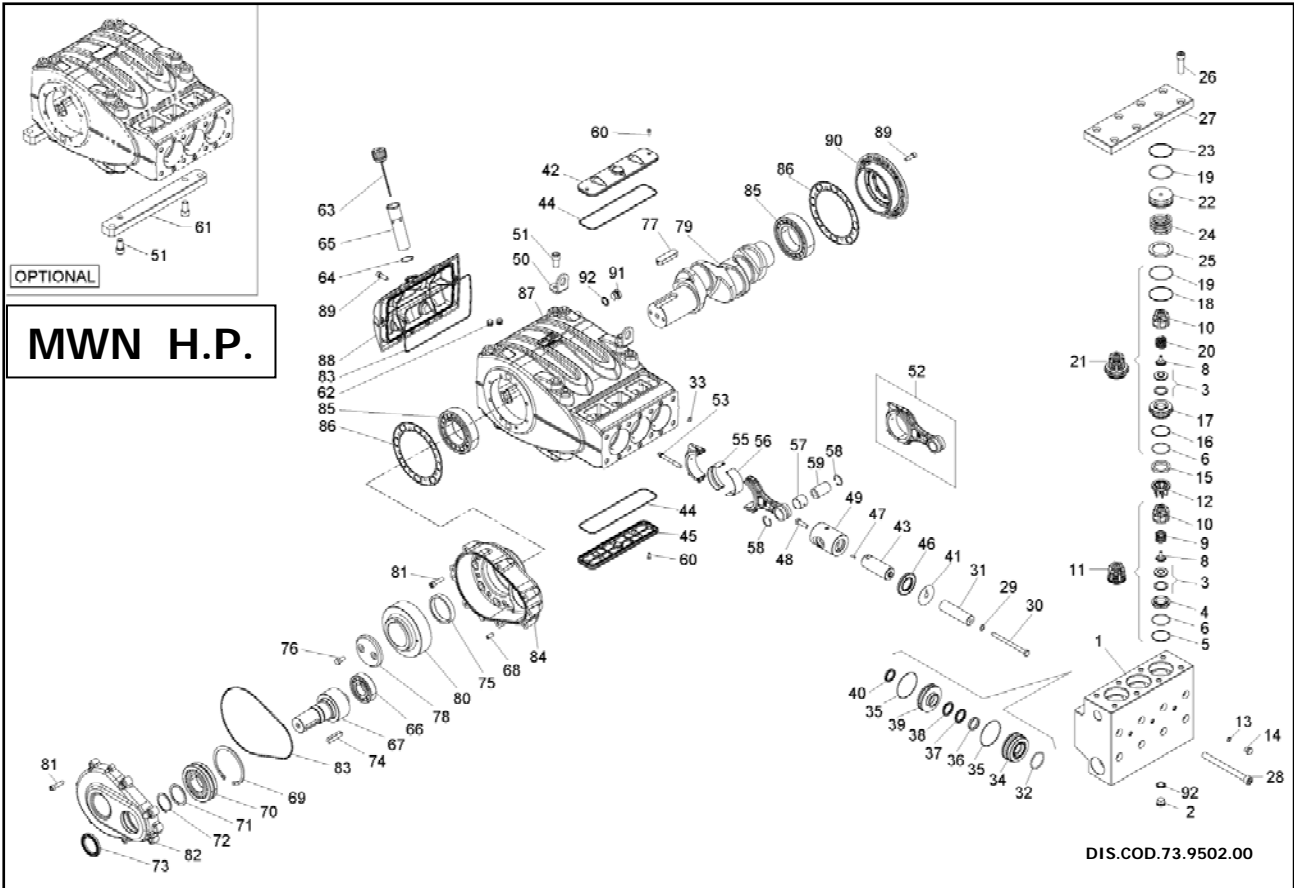


MW L.P.

KIT RICAMBIO – SPARE KIT		MW45	MW50	MW55
A	Kit tenute pompanti – Plunger packing kit	KIT 2139	KIT 2140	KIT 2141
B	Kit valvole aspirazione – Suction valves kit		KIT 2142	
C	Kit valvole di mandata – Outlet valves kit		KIT 2062	
D	Kit tenute complete – Complete seals kit	KIT 2147	KIT 2148	KIT 2149
E	Kit bronzine bielle – Conrod bushing kit		KIT 2150 – 2151 – 2153	

MW45 – MW50 – MW55

POS	CODE CODICE	DESCRIZIONE DESCRIZIONE	KIT	NR. PCS	POS	CODE CODICE	DESCRIZIONE DESCRIZIONE	KIT	NR. PCS	POS	CODE CODICE	DESCRIZIONE DESCRIZIONE	KIT	NR. PCS
1	73.1201.15	Testata LP		1	38	90.2848.00	Anello RESTOP Ø 45x60x3/6.5	A-D	3	70	97.6230.00	Spina cil. tmp. Ø 10x24 UNI 6364		2
	73.1203.15	Testata LP – NPT		1		90.2865.00	Anello RESTOP Ø 50x65x8/4.5	A-D	3	71	90.1010.00	Anello di arresto Ø 120 UNI 7437		1
2	2000.3017.0	Dispositivo apertura valvole		3		90.2875.00	Anello RESTOP Ø 55x70x8/4.5	A-D	3	72	91.8599.00	Cuscinetto a rulli orient. 21311 E		1
3	96.7514.00	Rosetta Ø 21.5x27x1.5		5		73.2113.68	Supporto guarnizione Ø 45		3	73	73.2104.55	Anello appoggio cuscinetto		1
4	98.2185.00	Tappo acciaio 1/2"		3	39	73.2114.68	Supporto guarnizione Ø 50		3	74	90.0810.00	Anello di arresto Ø 55 UNI 7435		1
5	36.2066.66	Sede valvola d'aspirazione		3		73.2115.68	Supporto guarnizione Ø 55		3	75	90.1724.00	Anello rad. Ø 55x75x8 – VITON	D	1
6	90.5270.00	Anello antiest. Ø 61.2x67x2	D	3	40	90.3710.00	OR Ø 81x2	A-D	6	76	91.5005.00	Linguetta 14x9x60 UNI 6604		1
7	90.4105.00	OR Ø 59.62x3.53 (4237)	D	3		90.2846.00	Anello ten. alt. Ø 45x53x5.5 LP	A-D	3	77	73.2105.89	Anello appoggio corona		1
9	36.2087.01	Valvola sferica - Completa		3	41	90.2860.00	Anello ten. alt. Ø 50x58x5.5 LP	A-D	3	78	99.3667.00	Vite M10x25 UNI 5739		2
10	36.2089.51	Guida valvola interna		3		90.2870.00	Anello ten. alt. Ø 55x63x5.5 LP	A-D	3	79	91.5110.00	Linguetta 22x14x80 UNI 6604		1
11	94.7698.00	Molla Ø41.5x37.9		3	42	96.7355.00	Rosetta Ø 16x55x1		3	80	74.2132.55	Fermo corona		1
12	36.2060.51	Guida valvola aspirazione		3	43	99.5212.00	Vite M16x150 UNI 5931 – GEOMET		1	81	73.2022.35	Albero a gomiti. C.70		1
13	36.7150.01	Gruppo valvola aspirazione	B	3	44	73.1500.22	Coperchio ispezione chiuso		8		10.0770.35	Corona 245 R1.875 - Ellicoidale		1
14	73.2108.15	Coperchio valvola aspirazione		1	45	73.0501.56	Stelo guida pistone		3	82	10.0771.35	Corona 247 R2.238 - Ellicoidale		1
	73.0403.09	Pistone Ø 45x117		3	46	90.4148.00	OR Ø 202.8x3.53 (4800)	D	2		10.0772.35	Corona 249 R2.722 - Ellicoidale		1
	73.0404.09	Pistone Ø 50x117		3	47	73.1501.22	Coperchio ispezione aperto		1	83	99.3710.00	Vite M10x40 UNI 5931		15
	73.0405.09	Pistone Ø 55x117		3	48	90.1685.00	Anello rad. Ø 40x72x7/8.5	D	3	84	73.2101.13	Coperchio riduttore		1
16	90.4142.00	OR Ø 85.32x3.53 (4337) – 90 Sh.	D	3	49	97.6740.00	Spina elastica Ø 5x16 UNI 6876		3	85	90.4150.00	OR Ø 253.6x3.53 (41000)	D	2
17	96.7105.00	Rosetta Ø 10x18x0.9 – INOX+PTFE		3	50	99.3697.00	Vite M10x35 UNI 5739		3	86	73.2100.13	Scatola riduttore		1
18	99.3830.00	Vite M10x140 UNI 5737		3	51	73.0500.43	Guida pistone		3	87	91.8810.00	Cuscinetto a rulli cil. NJ 2216 ECP		2
19	99.5142.00	Vite M16x45 UNI 5931 – GEOMET		16		73.0502.43	Guida pistone +0.10		3	88	73.2103.84	Guarnizione laterale	D	2
20	90.3584.00	OR Ø 10.82x1.78 (2043) – 90 Sh.	D	3	52	73.2106.74	Staffa di sollevamento		2	89	73.0100.13	Carter pompa		1
21	98.2046.00	Tappo G 1/4"x13 - INOX		3	53	99.5130.00	Vite M16x30 UNI 5931		4	90	73.1600.22	Coperchio carter		1
22	36.2067.66	Sede valvola di mandata		3	54	73.0301.01	Biella completa		3	91	99.3686.00	Vite M10x30 UNI 5931		14
23	90.5260.00	Anello antiest. Ø 51.5x56x1.5	D	3	55	99.3788.00	Vite serraggio biella M10x1.5x80		6	92	73.1502.22	Coperchio cuscinetto		1
24	90.3890.00	OR Ø 50.47x2.62 (3200) – 90 Sh.	D	3		90.9280.00	Semiboccola testa biella – Inf.	E	3	93	98.2183.00	Tappo G 1/2"x13 - NICKEL		2
26	36.2088.01	Valvola sferica - Completa		3	57	90.9284.00	Semiboccola testa biella +0.25 – Inf.	E	3					
27	36.2090.51	Guida valvola interna		3		90.9285.00	Semiboccola testa biella +0.50 – Inf.	E	3					
28	94.7605.00	Molla Ø 28.5x32		3		90.9283.00	Semiboccola testa biella – Sup.	E	3					
29	36.2061.51	Guida valvola di mandata		3	58	90.9281.00	Semiboccola testa biella +0.25 – Sup.	E	3					
30	36.2077.01	Gruppo valvola di mandata	C	3		90.9282.00	Semiboccola testa biella +0.50 – Sup.	E	3					
31	73.2109.15	Coperchio valvole di mandata		1	59	90.9158.00	Boccola piede biella		3					
32	90.4120.00	OR Ø 68.26x3.53 (171) – 90 Sh.	D	3	60	90.0690.00	Anello di arresto Ø 32 UNI 7437		6					
33	90.4115.00	OR Ø 63.5x3.53 (167)	A-D	3	61	97.7440.00	Spirotto Ø 32x55		3					
	73.2119.56	Camicia Ø 45		3	62	99.1837.00	Vite M6x14 UNI 5931		4					
	73.2120.56	Camicia Ø 50		3	63	73.2000.64	Piedino		2					
	73.2121.56	Camicia Ø 55		3	64	98.2060.00	Tappo per foro Ø 15 – TTN18		6					
35	90.3825.00	OR Ø 10.78x2.62 (3043)	A-D	6	65	98.2331.00	Tappo carico olio G 1" con asta		1					
	74.1001.92	Anello di testa pistone Ø 45		3	66	90.3616.00	OR Ø 34.35x1.78 (2137)		1					
	74.1002.92	Anello di testa pistone Ø 50		3	67	73.2102.95	Tubo per tappo carico olio G 1"		1					
	74.1003.92	Anello di testa pistone Ø 55		3	68	91.8540.00	Cuscinetto a rulli cil. NJ 308 ECP		1					
	90.2850.00	Anello ten. alt. Ø 45x60x5/7.5 HP	A-D	3	69	10.0767.35	Pignone Z24 R1.875 - Ellicoidale		1					
	90.2863.00	Anello ten. alt. Ø 50x65x7.5/4.5 HP	A-D	3		10.0768.35	Pignone Z21 R2.238 - Ellicoidale		1					
	90.2873.00	Anello ten. alt. Ø 55x70x7.5/4.5 HP	A-D	3		10.0769.35	Pignone Z18 R2.722 - Ellicoidale		1					



MWN H.P.

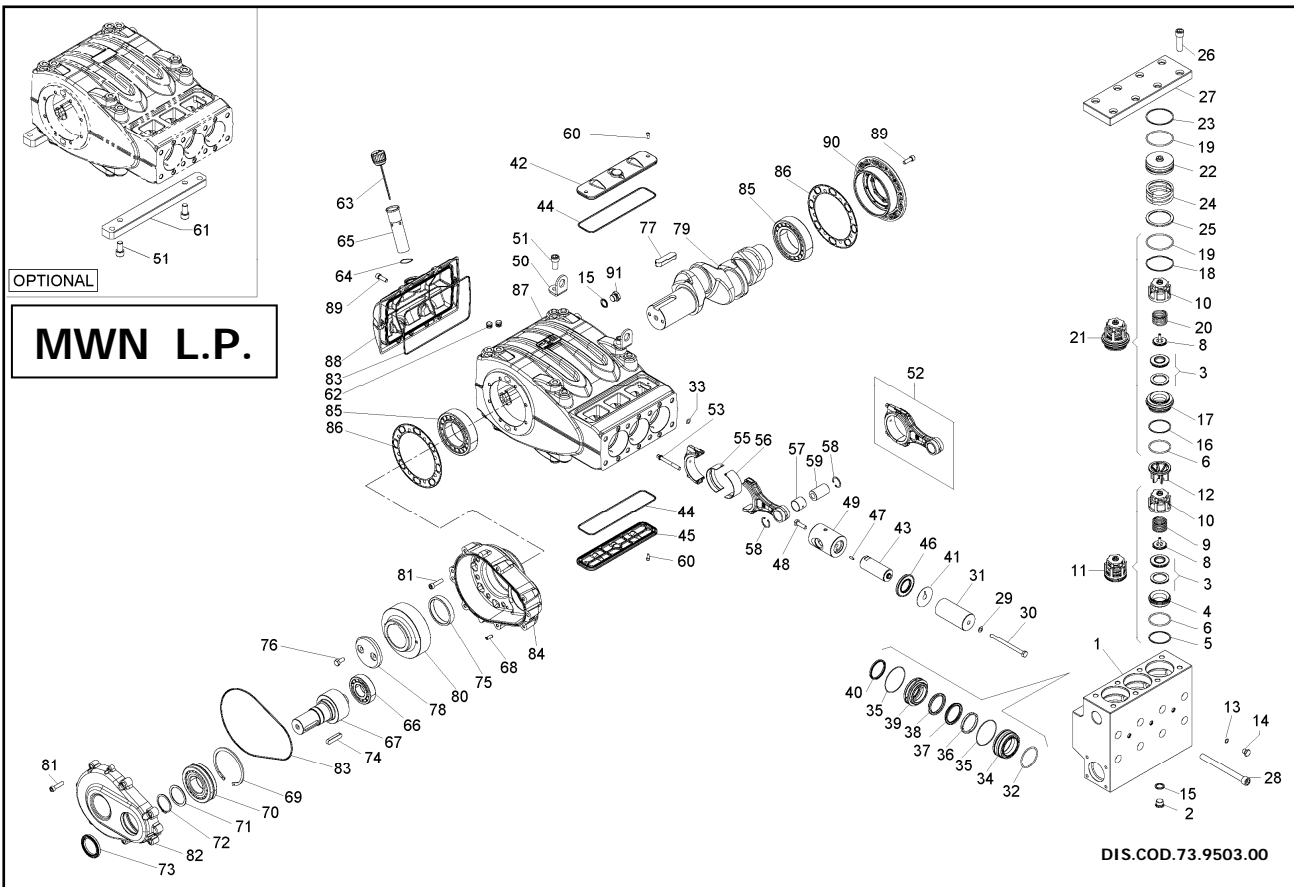
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KIT RICAMBIO – SPARE KIT		MWN32	MWN36	MWN40
A	Kit tenute pompanti – Plunger packing kit	KIT 2136	KIT 2137	KIT 2138
B	Kit valvole – Valves kit	KIT 2055		
C	Kit tenute complete – Complete seals kit	KIT 2144	KIT 2145	KIT 2146
D	Kit bronzine bielle – Conrod bushing kit	KIT 2150 – 2151 – 2153		



**MWN32 – MWN36
MWN40**

POS	CODE CODICE	DESCRIPTION DESCRIZIONE	KIT	NR. PCS	POS	CODE CODICE	DESCRIPTION DESCRIZIONE	KIT	NR. PCS	POS	CODE CODICE	DESCRIPTION DESCRIZIONE	KIT	NR. PCS
1	73.1204.15	Testata HP		1	38	90.2784.00	Anello RESTOP Ø 32x4x5,5/3	A-C	3	71	73.2104.55	Anello appoggio cuscinetto		1
2	98.2186.00	Tappo G 1/4"x14 - INOX		3	39	90.2818.00	Anello RESTOP Ø 36x4x6/3	A-C	3	72	90.0810.00	Anello di arresto Ø 55 UNI 7435		1
3	36.2088.01	Valvola sferica - Completa		6		90.2838.00	Anello RESTOP Ø 40x5x8/4,5	A-C	3	73	90.1724.00	Anello rad. Ø 55x75x8 - VITON	C	1
4	36.3067.66	Sede valvola aspirazione		3		73.2124.92	Supporto guarnizione Ø 36		3	74	91.5005.00	Linguetta 14x9x60 UNI 6604		1
5	90.5260.00	Anello antiest. Ø 51.5x56x1.5	C	3		73.2125.92	Supporto guarnizione Ø 40		3	75	73.2105.89	Anello appoggio corona		1
6	90.3890.00	OR Ø 50.47x2.62 (3200) - 90 Sh.	C	6		73.2126.92	Supporto guarnizione Ø 40		3	76	99.3667.00	Vite M10x25 UNI 5739		2
8	36.2090.51	Guida valvola interna		6		90.2780.00	Anello ten. alt. Ø 32x40x5,5 LP	A-C	3	77	91.5110.00	Linguetta 22x14x80 UNI 6604		1
9	94.7600.00	Molla Ø 28.3x30.7		3	40	90.2798.00	Anello ten. alt. Ø 36x44x5,5 LP	A-C	3	78	74.2132.55	Fermo corona		1
10	36.2061.51	Guida valvola aspiraz./mandata		6		90.2828.00	Anello ten. alt. Ø 40x48x5,5 LP	A-C	3	79	73.0200.35	Albero a gomiti C.70		1
11	36.7151.01	Gruppo valvola aspirazione	B	3	41	96.7355.00	Rosetta Ø 16x6x5x1		3		10.0770.35	Corona 245 R1.875 - Ellicoidale		1
12	74.2106.51	Distanziale guida valvola HP	B	3	42	73.1500.22	Coperchio ispezione chiuso		1	80	10.0771.35	Corona 247 R2.238 - Ellicoidale		1
13	90.3584.00	OR Ø 10.82x1.78 (2043) - 90 Sh.	C	3	43	73.0501.56	Stelo guida pistone		2		10.0772.35	Corona 249 R2.722 - Ellicoidale		1
14	90.2046.00	Tappo G 1/4"x13 - INOX		3	44	90.4148.00	OR Ø 202.8x3.53 (4800)	C	2	81	99.3711.00	Vite M10x40 UNI 5931		15
15	73.2137.56	Anello distanziale sede valvola		3	45	73.1501.56	Coperchio ispezione aperto		1	82	73.2101.13	Coperchio riduttore		1
16	90.5285.00	Anello antiest. Ø 51.7x56.2x1.5	C	3	46	90.1685.00	Anello rad. Ø 40x72x7/8,5	C	3	83	90.4150.00	OR Ø 253.6x3.53 (41000)	C	2
17	36.2069.66	Sede valvola di mandata		3	47	97.6740.00	Spina elastica Ø 5x16 UNI 6876		3	84	73.2100.13	Scatola riduttore		1
18	90.5276.00	Anello antiest. Ø 67.5x72x1.5	C	3	48	99.3697.00	Vite M10x35 UNI 5739		3	85	91.8810.00	Cuscinetto a rulli cil. NJ 2216 ECP		2
19	90.3911.00	OR Ø 66.35x2.62 (3262)	C	6		73.0500.43	Guida pistone		3	86	73.2103.84	Guarnizione laterale	C	2
20	94.7605.00	Molla Ø 28.5x32		3	49	73.0502.43	Guida pistone +0.10		3	87	73.0100.13	Carter pompa		1
21	36.7153.01	Gruppo valvola di mandata	B	3	50	73.2106.74	Staffa di sollevamento		2	88	73.1600.13	Coperchio carter		1
22	74.2158.56	Tappo valvola di mandata HP		3	51	99.5231.00	Vite M16x30 UNI 5931		4	89	99.3685.00	Vite M10x30 UNI 5931		14
23	90.5280.00	Anello antiest. Ø 67.7x72.2x1.5	B-C	3	52	73.0301.01	Biella completa		3	90	73.1502.22	Coperchio cuscinetto		1
24	94.7749.00	Molla Ø 58x45.4 - INOX		3	53	99.3788.00	Vite serraggio biella M10x1.5x80		6	91	98.2181.00	Tappo G 1/2"x13 - INOX		2
25	74.2159.91	Anello sede valvola di mandata		3		90.9283.00	Semboboccola testa biella - Inf.	D	3	92	93.1971.00	Rondella di tenuta G 1/2" - INOX		5
26	99.5147.00	Vite M16x55 UNI 5931 - GEOMET		8	55	90.9284.00	Semboboccola testa biella +0.25 - Inf.	D	3					
27	73.2123.56	Coperchio valvole - INOX		1		90.9285.00	Semboboccola testa biella +0.50 - Inf.	D	3					
28	99.5222.00	Vite M16x180 UNI 5931 - GEOMET		8		90.9280.00	Semboboccola testa biella - Sup.	D	3					
29	96.7105.00	Rosetta Ø 10x18x0.9 - INOX+PTFE		3	56	90.9281.00	Semboboccola testa biella +0.25 - Sup.	D	3					
30	99.3830.00	Vite M10x140 UNI 5737		3		90.9282.00	Semboboccola testa biella +0.50 - Sup.	D	3					
31	73.0400.09	Pistone Ø 32		3	57	90.9158.00	Boccola piede biella		3					
32	73.0401.09	Pistone Ø 36		3	58	90.0690.00	Anello di arresto Ø 32 UNI 7437		6					
33	73.0402.09	Pistone Ø 40		3	59	97.7440.00	Spinotto Ø 32x55		6					
	90.4085.00	OR Ø 49.21x3.53 (153)	A-C	3	60	99.1838.00	Vite M6x14 UNI 5931		6					
	90.3825.00	OR Ø 10.78x2.62 (3043)	A-C	6	61	73.2000.64	Piedino		2					
34	73.2130.56	Camicia pistone Ø 32		3	62	98.2060.00	Tappo per foro Ø 15 - TTN18		6					
	73.2131.56	Camicia pistone Ø 36		3	63	98.2331.00	Tappo carico olio G 1" con asta		1					
	73.2132.56	Camicia pistone Ø 40		3	64	90.3616.00	OR Ø 34.65x1.78 (2137)		1					
35	90.3710.00	OR Ø 81x2	A-C	6	65	73.2102.95	Tubo per tappo carico olio G 1"		1					
	73.1001.91	Anello di testa pistone Ø 32		3	66	91.8540.00	Cuscinetto a rulli cil. NJ 308 ECP		1					
	78.1002.91	Anello di testa pistone Ø 36		3		10.0767.35	Pignone Z24 R1.875 - Ellicoidale		1					
	78.1000.91	Anello di testa pistone Ø 40		3	67	10.0768.35	Pignone Z21 R2.238 - Ellicoidale		1					
	90.2788.00	Anello ten. alt. Ø 32x44x6/3,5 HP	A-C	3		10.0769.35	Pignone Z18 R2.722 - Ellicoidale		1					
	90.2820.00	Anello ten. alt. Ø 36x46x6/3,5 HP	A-C	3	68	97.6230.00	Spina cil. tmp. Ø10x24 UNI 6364		2					
	90.2832.00	Anello ten. alt. Ø 40x55x7,5/4,5 HP	A-C	3	69	90.1010.00	Anello di arresto Ø 120 UNI 7437		1					
					70	91.8599.00	Cuscinetti a rulli orient. 21311		1					



DIS.COD.73.9503.00

KIT RICAMBIO – SPARE KIT		MWN45	MWN50	MWN55
A	Kit tenute pompanti – Plunger packing kit	KIT 2139	KIT 2140	KIT 2141
B	Kit valvole – Valves kit	KIT 2048		
C	Kit tenute complete – Complete seals kit	KIT 2159	KIT 2160	KIT 2161
D	Kit bronzine bielle – Conrod bushing kit	KIT 2150 – 2151 – 2153		



**MWN45 – MWN50
MWN55**

POS	CODE CODICE	DESCRIZIONE	KIT	NR. PCS	POS	CODE CODICE	DESCRIZIONE	KIT	NR. PCS	POS	CODE CODICE	DESCRIZIONE	KIT	NR. PCS
1	73.1205.15	Testata LP		1	38	90.2848.00	Anello RESTOP Ø 45x60x3/6,5	A-C	3	71	73.2104.55	Anello appoggio cuscinetto		1
2	98.2186.00	Tappo G 1/4"x14 - INOX		3	42	90.2818.00	Anello RESTOP Ø 50x48x6/3	A-C	3	72	90.0810.00	Anello di arresto Ø 55 UNI 7435		1
3	36.2087.01	Valvola sferica – Completa		6	43	90.2875.00	Anello RESTOP Ø 55x70x8/4,5	A-C	3	73	90.1724.00	Anello rad. Ø 55x75x8 – VITON	C	1
4	36.3066.66	Sede valvola aspirazione		3	44	73.2127.92	Supporto guarnizione Ø 45		3	74	91.5005.00	Linguetta 14x9x60 UNI 6604		1
5	90.5270.00	Anello antiest. Ø 61.2x67x2		3	45	73.2128.92	Supporto guarnizione Ø 50		3	75	73.2105.89	Anello appoggio corona		1
6	90.4105.00	OR Ø 59.92x3.53 (4237)		6	46	73.2129.92	Supporto guarnizione Ø 55		3	76	99.3667.00	Vite M10x25 UNI 5739		2
8	36.2089.51	Guida valvola interna		6	47	90.2846.00	Anello ten. alt. Ø 45x53x5,5 LP	A-C	3	77	91.5110.00	Linguetta 22x14x80 UNI 6604		1
9	94.7698.00	Molla Ø 41.5x37.9		3	48	90.2860.00	Anello ten. alt. Ø 50x58x5,5 LP	A-C	3	78	74.2132.55	Fermo corona		1
10	36.2060.51	Guida valvola aspiraz./mandata		6	49	90.2870.00	Anello ten. alt. Ø 55x63x5,5 LP	A-C	3	79	73.0200.35	Albero a gomiti C.70		1
11	36.7150.01	Gruppo valvola aspirazione		3	41	96.7355.00	Rosetta Ø 16x65x1		3		10.0770.35	Corona Z45 R1.875 – Ellicoidale		1
12	74.2105.51	Distanziale guida valvola HP		3	42	73.1500.22	Coperchio ispezione chiuso		1	80	10.0771.35	Corona Z47 R2.238 – Ellicoidale		1
13	90.3584.00	OR Ø 10.82x1.78 (2043) – 90 Sh.		3	43	73.0501.56	Stelo guida pistone		3		10.0772.35	Corona Z49 R2.722 – Ellicoidale		1
14	90.2046.00	Tappo G 1/4"x13 – INOX		3	44	90.4148.00	OR Ø 202.8x3.53 (4800)	C	2	81	99.3711.00	Vite M10x40 UNI 5931		15
15	93.1971.00	Rondella di tenuta G 1/2" – INOX		5	45	73.1501.56	Coperchio ispezione aperto		1	82	73.2101.13	Coperchio riduttore		2
16	90.5273.00	Anello antiest. Ø 61.4x67.2x1.5		3	46	90.1685.00	Anello rad. Ø 40x72x7/8,5	C	3	83	90.4150.00	OR Ø 253.6x3.53 (41000)	C	1
17	36.2068.66	Sede valvola di mandata		3	47	97.6740.00	Spina elastica Ø 5x16 UNI 6876	C	3	84	73.2100.13	Scatola riduttore		1
18	90.5290.00	Anello antiest. Ø 77.2x83x1.5		3	48	99.3697.00	Vite M10x35 UNI 5739		3	85	91.8810.00	Cuscinetto a rulli cil. NJ 2216 ECP	C	2
19	90.4134.00	OR Ø 75.8x3.53 (4300)		6	49	73.0500.43	Guida pistone		3	86	73.2103.84	Guarnizione laterale	C	2
20	94.7700.00	Molla Ø 41.5x41.1		3	49	73.0502.43	Guida pistone +0.10		3	87	73.0100.13	Carter pompa		1
21	36.7152.01	Gruppo valvola di mandata		3	50	73.2106.74	Staffa di sollevamento		2	88	73.1600.13	Coperchio carter		1
22	73.2136.56	Tappo valvola di mandata LP		3	51	99.5231.00	Vite M16x30 UNI 5931		4	89	99.3685.00	Vite M10x30 UNI 5931		14
23	90.5293.00	Anello antiest. Ø 77.4x83.2x1.5		3	52	73.0301.01	Biella completa		3	90	73.1502.22	Coperchio cuscinetto		1
24	94.8001.00	Molla Ø 75x49.6 – INOX		3	53	99.3788.00	Vite serraggio biella M10x1.5x80		6	91	98.2181.00	Tappo G 1/2"x13 – INOX		2
25	73.2138.91	Anello sede valvola di mandata		3		90.9283.00	Semiboccola testa biella – Inf.	D	3					
26	99.5147.00	Vite M16x55 UNI 5931 – GEOMET		8		90.9284.00	Semiboccola testa biella +0.25 – Inf.	D	3					
27	73.2123.56	Coperchio valvole – INOX		1		90.9285.00	Semiboccola testa biella +0.50 – Inf.	D	3					
28	99.5222.00	Vite M16x180 UNI 5931 – GEOMET		8		90.9280.00	Semiboccola testa biella – Sup.	D	3					
29	96.7105.00	Rosetta Ø 10x18x0.9 – INOX+PTFE		3		90.9281.00	Semiboccola testa biella +0.25 – Sup.	D	3					
30	99.3830.00	Vite M10x140 UNI 5737		3		90.9282.00	Semiboccola testa biella +0.50 – Sup.	D	3					
31	73.0403.09	Pistone Ø 45x117		3	57	90.9158.00	Boccola piede biella		3					
	73.0404.09	Pistone Ø 50x117		3	58	90.0690.00	Anello di arresto Ø 32 UNI 7437		6					
	73.0405.09	Pistone Ø 55x117		3	59	97.7440.00	Spinnotto Ø 32x55		6					
32	90.4115.00	OR Ø 63.5x3.53 (167)	A-C	3	60	99.1838.00	Vite M6x14 UNI 5931		6					
33	90.3825.00	OR Ø 10.78x2.62 (3043)	A-C	6	61	73.2000.64	Piedino		2					
	73.2133.56	Camicia pistone Ø 45		3	62	98.2060.00	Tappo per foro Ø 15 – TTN18		6					
	73.2134.56	Camicia pistone Ø 50		3	63	98.2331.00	Tappo carico olio G 1" con asta		1					
	73.2135.56	Camicia pistone Ø 55		3	64	90.3616.00	OR Ø 34.65x1.78 (2137)		1					
35	90.3710.00	OR Ø 81x2	A-C	6	65	73.2102.95	Tubo per tappo carico olio G 1"		1					
	78.1003.91	Anello di testa pistone Ø 45		3	66	91.8540.00	Cuscinetto a rulli cil. NJ 308 ECP		1					
	73.1002.91	Anello di testa pistone Ø 50		3		10.0767.35	Pignone Z24 R1.875 – Ellicoidale		1					
	73.1003.91	Anello di testa pistone Ø 55		3	67	10.0768.35	Pignone Z21 R2.238 – Ellicoidale		1					
	90.2850.00	Anello ten. alt. Ø 45x60x4,5/7,5 HP	A-C	3		10.0769.35	Pignone Z18 R2.722 – Ellicoidale		1					
	90.2863.00	Anello ten. alt. Ø 50x65x7,5/4,5 HP	A-C	3	68	97.6230.00	Spina cil. tmp. Ø10x24 UNI 6364		2					
	90.2873.00	Anello ten. alt. Ø 55x70x7,5/4,5 HP	A-C	3	69	90.1010.00	Anello di arresto Ø 120 UNI 7437		1					
					70	91.8599.00	Cuscinetti a rulli orient. 21311		1					

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