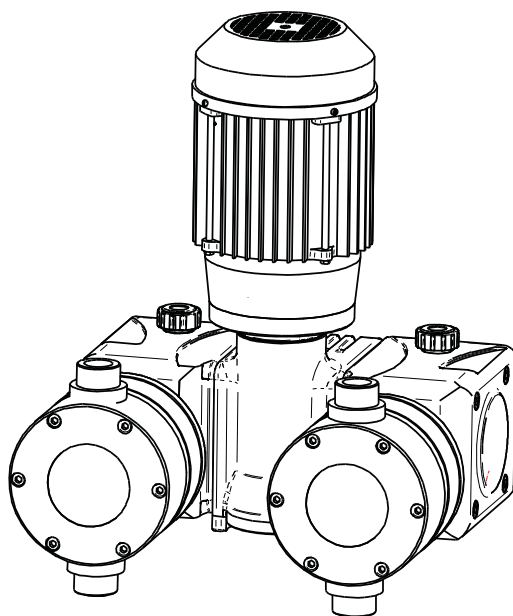




 **EF- DUPLEX**



SAFETY RULES

To avoid personal or enviromental damages and to guarantee a proper operation of the equipment, the staff in charge of the installation, set up and maintenance of the equipment must follow the instructions of this manual, specially those recommendations and warnings explicitly detailed. In addition, specific instructions for the chemical products to be dosed should be followed.

INDEX

1.-GENERAL DESCRIPTION	4
2.-UNPACKING AND STORAGE	5
3.-TECHNICAL FEATURES	6
4.-OPERATION	10
5.- INSTALLATION	
General considerations	10
Electric connection	10
Hydraulic connection	11
General installation scheme	13
6.- START UP	15
7.- MAINTENANCE	
Periodical maintenance	17
List of parts EF-Duplex piston	18
List of parts EF-Duplex diaphragm	22
Troubleshooting	26
CE APPROVAL DECLARATION	27
WARRANTY	27

1.- GENERAL DESCRIPTION

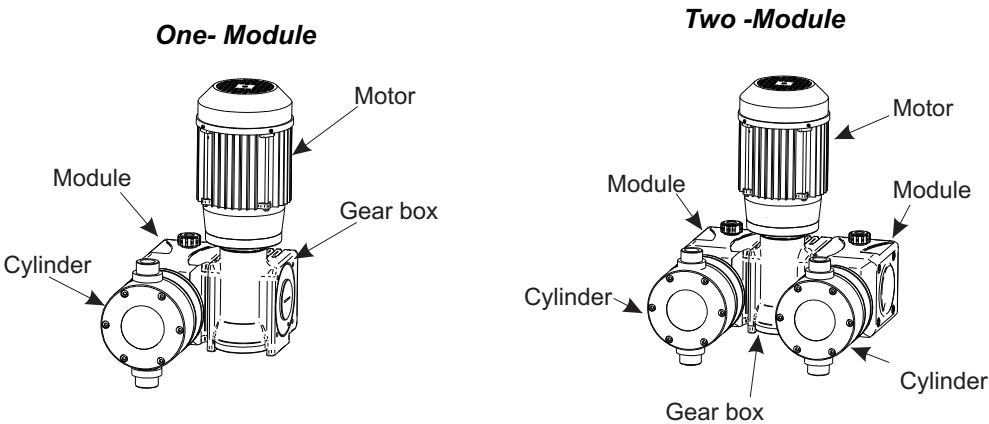
The EF-DUPLEX dosing pumps are electric piston pumps for dosing, made up of a worm gear reducer and one or two injection modules of 500, 750 or 1000 liter/hour with electronic regulation by means of a frequency inverter.

At 60HZ the flow increases 20%

The dosing flow can be regulated from 10% to 100%.

It is manufactured with materials which can resist the existing agrochemical products, even acids. It is designed for all sorts of processes where it is necessary to dose a product into a hydraulic network, such as: food, textile, chemical industry, water treatments, etc.

They are made up as follows:



Explanation of reference codes:

The reference code specifies exactly the bomb model under consideration. I.e.:

PISTON

61 - L S - P 75 P X

MOTOR	N° HEADS	HEAD	FLOW	MATERIAL Cylinder-Piston	OUTLET
H: 1,5HP 3Ph	S: 1 head D: 2 heads	P: Piston	50: 500 l/h 75: 750 l/h 10: 1000 l/h	P: PP - PEUHMW I: AISI316	T: 3/4" X: 1"1/4 Y: 1"1/4 NPT

DIAPHRAGM

61 - H 4 - D 41 P B X						
MOTOR	FREQUENCY	CYLINDER	FLOW	MATERIAL Cylinder	VALVES Body - Ball	OUTLET
H: 1,5HP 3Ph	3: 60 Ciclos/min. 4: 120 Ciclos/min.	D: Membrana	41: 415l/h 52: 520l/h 87: 870l/h	P: PP I: AISI316 F: PVDF	B: PP - Boro. I: AISI316-AISI316 F: PVDF - Boro.	X: 1"1/4 Y: 1"1/4 NPT

2.- CARRIAGE AND MAINTENANCE

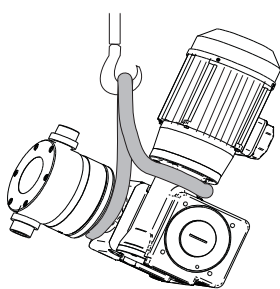
The original packing is prepared so that carriage and storing of the product do not cause any damage to the product, as long as this is done far from heat sources and in dry, ventilated spaces.

Inside packing we include:

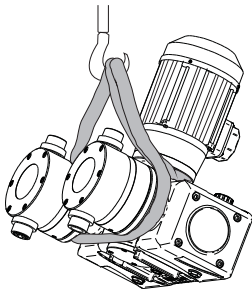
- EF dosing pump
- Support
- Accessories bag
- Instructions manual

HANDLING

For handling it will be necessary to use a sling as shown in fig. 2.1, and lift with the necessary means.



One- Module



Two -Module

Fig. 2.1



3.- TECHNICAL FEATURES

PISTON

	CODE (Ø x carrera)	FLOW 50Hz		FLOW 60Hz		PRESSURE	
		l/h	GPH	l/h	GPH	bar	PSI
One Head	61-HS-P50PX (77x15)	500	132	600	159	12	174
	61-HS-P75PX (95x15)	750	198	900	238	8	116
	61-HS-P10PX (110x15)	1000	264	1200	317	6	87
Two Heads	61-HD-P50PX-P50PX	500+500	132+132	600+600	159+159	12	174
	61-HD-P75PX-P50PX	750+500	198+132	900+600	238+159	8	116
	61-HD-P75PX-P75PX	750+750	198+198	900+900	238+238	8	116
	61-HD-P10PX-P50PX	1000+500	264+132	1200+600	317+159	6	87
	61-HD-P10PX-P75PX	1000+750	264+198	1200+900	317+238	6	87
	61-HD-P10PX-P10PX	1000+1000	264+264	1200+1200	317+317	6	87

DIAPHRAGM

	CODE (Ø x stroke)	FLOW 50Hz		FLOW 60Hz		PRESSURE	
		l/h	GPH	l/h	GPH	bar	PSI
One Head	61-H4-D41PBX (142x10)	415-535	110-141	498-642	132-170	10	145
	61-H4-D52PBX (163x10)	520-685	137-181	624-822	165-217	7	102
	61-H4-D87PBX (163x15)	870-1045	230-276	1044-1254	276-331	5	73
Two Heads	61-H4-D41PBX-D41PBX	830-1070	220-282	996-1284	264-340	10	145
	61-H4-D52PBX-D41PBX	935-1220	247-322	1122-1464	297-387	7	102
	61-H4-D52PBX-D52PBX	1040-1370	274-362	1248-1644	330-434	7	102
	61-H4-D87PBX-D41PBX	1285-1580	340-417	1542-1896	408-500	5	73
	61-H4-D87PBX-D52PBX	1390-1730	367-457	1668-2076	440-548	5	73
	61-H4-D87PBX-D87PBX	1740-2090	460-552	2088-2508	552-662	5	73



POWER: 1.1 KW (1.5 Hp)

PROTECTION : IP-55

NOISE LEVEL dB(A): minor than 70

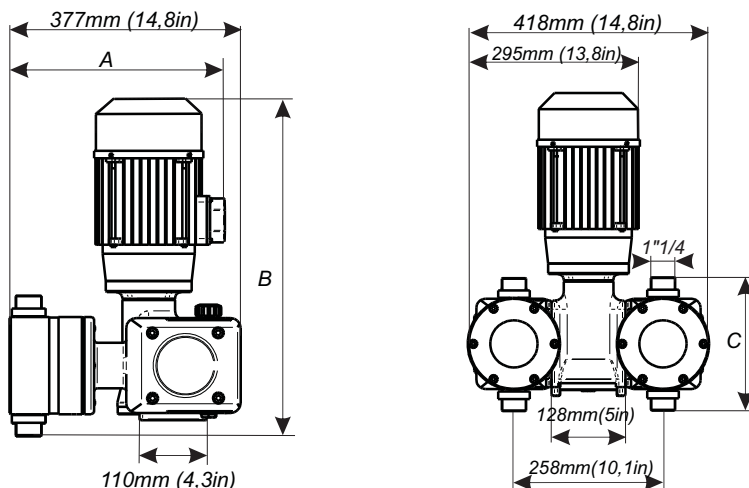
WEIGH: One head: 34 Kg (75 lb)

Two heads: 45 Kg (99 lb)

MATERIALS:

Piston:	PEUHMW / Ceramic
Diaphragm:	Elastomer base reinforced with fiber and P.T.F.E clothing
Retention:	FPM / EPDM
Cylinder:	P.P. / SS 316 / PVDF / PTFE
Valve (body):	P.P. / SS 316 / PVDF / PTFE
Valve (ball):	glass / glass borosilicate / ceramic

DIMENSIONS

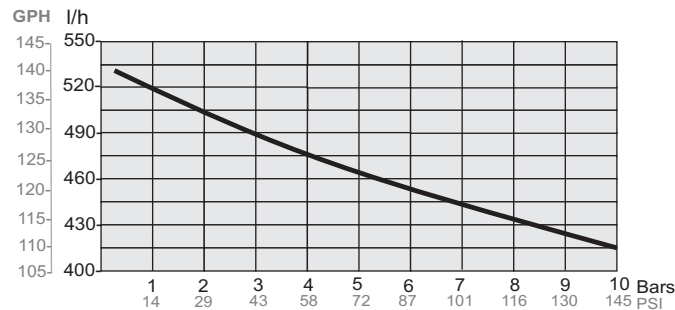


		A	B	C	
Piston 		351	520	230	mm
		13,8	20,5	9	in
Diaphragm 	D163	328	540	270	mm
		12,9	21,2	10,6	in
	D142	328	530	250	mm
		12,9	20,9	9,8	in

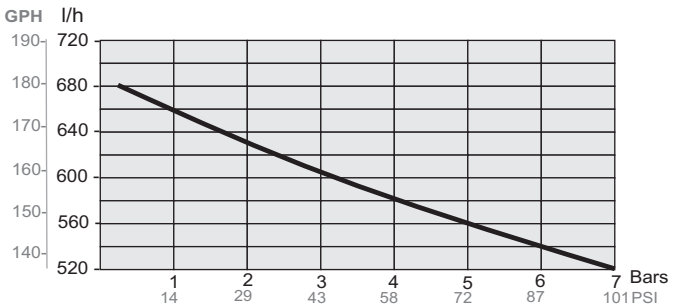
DIAPHRAGM PUMP

FLOW - PRESSURE GRAPH

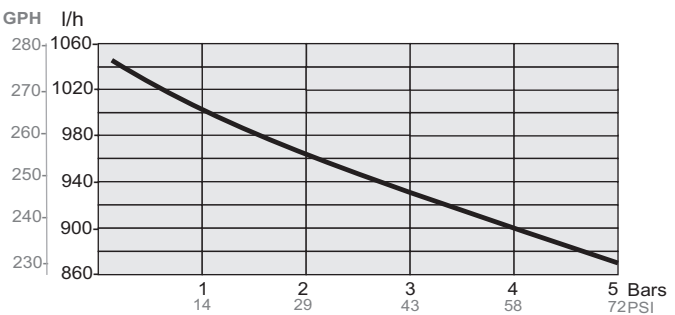
CODE: 61-H4-D41



CODE: 61-H4-D52



CODE: 61-H4-D87



4.- OPERATION

The electric motor transmits the rotation movement to the gear box by means of an flexible coupling. The gear box is made up by a worm gearing shaft (A) and a gear (B) which drives a shaft (C), where the module shaft (D) is coupled, having an eccentric which by means of a connecting rod (E) pushes and returns alternatively the rod (F) with a piston (G). (see fig. 3).

Since there is no need for a spring for the piston return - POSITIVE RETURN -, the motor transmits all its power both to the discharge and to the suction. Thus the power consumption is minimized, suction capacity is maximized, and high precision dosing is carried out.

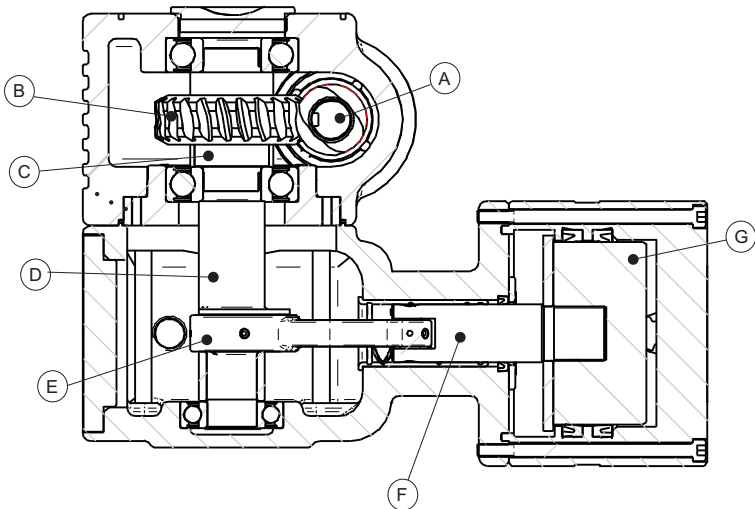


Fig. 3.1

If it is necessary to effect a regulation of the injection flow, this will be carried out by means of a frequency variator, which allows to regulate the flow from 10% to 100%. The variator is programmed in the factory. (fig. 3.2).

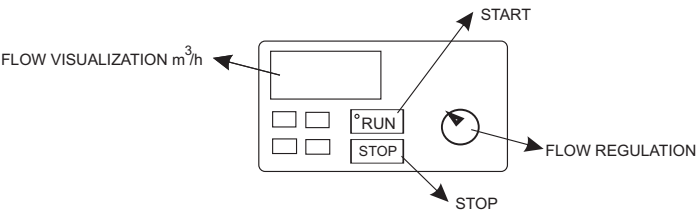


Fig. 3.2

5.-INSTALLATION

GENERAL INFORMATION

The machines must be set up in areas protected from water and where there is a possibility for ventilation.

LOCATION

Put the pump on a perfectly horizontal hard surface to attain a good lubrication of all the inner elements.

Fix the pump to the horizontal surface with four screw M6 . The length of the screws will be the width of the surface (mark M in fig. 2.2) plus 10 mm. Keep an eye on fig. 2.2 while doing the fixing.

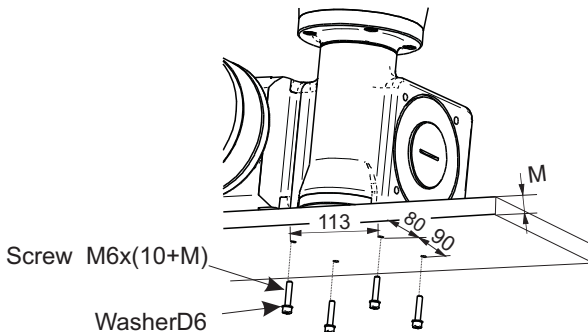


Fig. 2.2

WIRING DIAGRAM



The electric protection of the motor must be installed and adjusted following its nominal intensity (overloaded switch disjuntor). (See wiring)

A disconnection dispositive must be installed in case of emergency.

The equipment must be protected to avoid untimely sudden starts.

Depending on the voltage available, and whether it is necessary to put a variator, we shall put one of the following:



The rotation of the motor will be that indicated by the arrow (looking at the pump from the left hand cylinder), otherwise swap two terminals of the connexion.

THREE-PHASE

To work at 230 V we plug the motor in triangle (see fig. 2.3), and to work at 400 V it will be a star connexion (see fig. 2.4).

To protect the motor it is necessary to put an overcoad protection over it (see table 2.5).

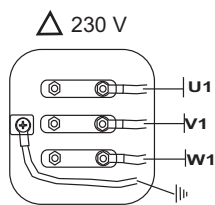


Fig. 2.3

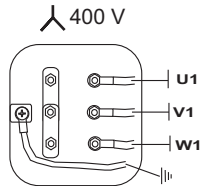


Fig. 2.4

OVERLOAD PROTECTION	MAXIMUM	
	230 V	400 V
High pressure 1,5 CV	4,65 A	2,69 A

Table 2.5

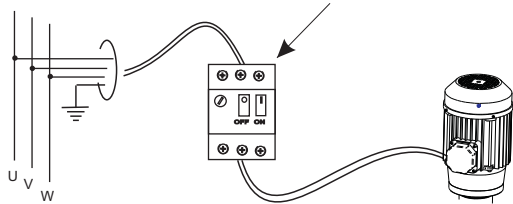
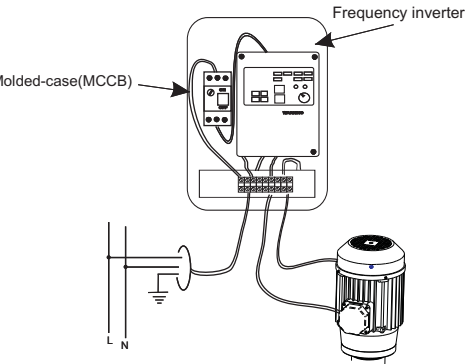


Fig. 2.6

WITH VARIATOR

The variator will be set in an easily accessible place, with a damp percentage of less than 90% (without condensation), clean, free from oil and dust (see fig. 2.9).

The variator will be fixed with a molded-case(MCCB) with the capacity shown in table 2.8 to protect the variator. The motor will always be plugged into 230 V (see fig. 2.3).



Molded-Case(MCCB)	Capaciti
High pressure 1,5 CV	20 A

Table 2.8

ELECTRIC DIAGRAM

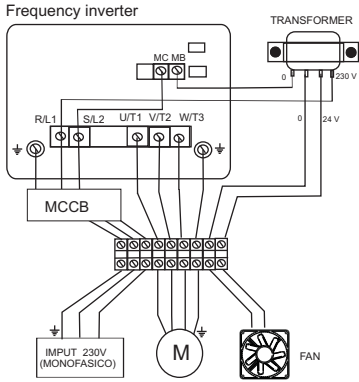


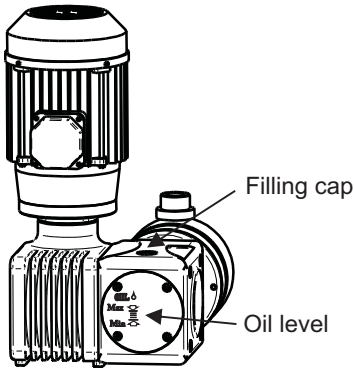
Fig. 2.9

BLOCK

Lift the cap and fill in with the supplied SAE oil 80 W 90, or another one with the same technical features, until the maximum level indicated is reached, wait some minutes and check the level again. It will take time for the level to become stable, since the reductor is also filled with the same oil.
The two-module dosing pump can be filled from any of the Modules.

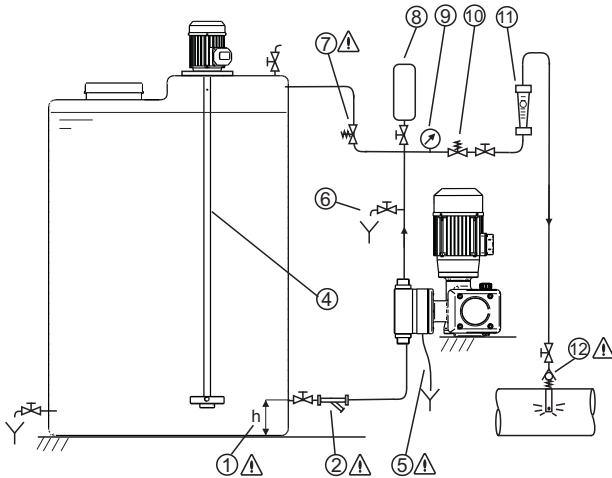
- Approximate intake of oil:
- one module 1.5 liters
 - two modules 2.5 liters

For transport, substitute filling cap with working one.



HYDRAULIC INSTALLATION

Installation examples

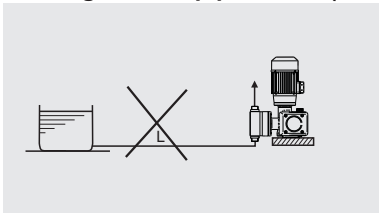


- ⚠ ① Avoid suctioning the undiluted particles from the bottom of the tank.
- ⚠ ② Filter. It is important to install a filter (150 micron) in the suction pipe.
- ④ Agitator
- ⚠ ⑤ Make sure to collect any liquid leakage from the cylinder's vent/drain hole in a proper container.
- ⑥ Prime valve / drain valve
- ⚠ ⑦ Safety relief valve. Install a safety valve in a derivation as near as possible from the pump, in order to protect it and the whole installation from possible over-pressures. This derivation must derive liquid to a safe place.
- ⑧ Pulsation dampener
- ⑨ Pressure gauge
- ⑩ Pressure regulating valve
- ⑪ Flowmeter
- ⚠ ⑫ Injection check valve

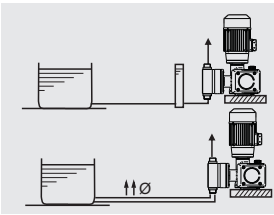
Recomendations for correct installation

SUCTION PIPE

⚠ Long suction pipe: $L > 2\text{m}$ (6.5ft)



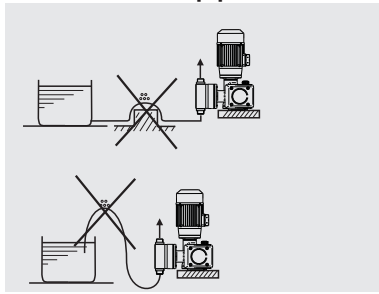
⇒



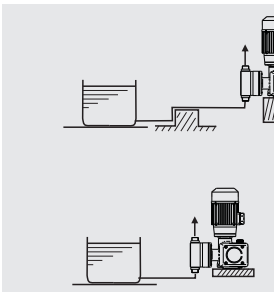
Øint	$L \leq 2\text{ m}$	$L \leq 5\text{ m}$
30	1200	660
40	1330	1000
50	1600	1330
70		1600

Q max (l/h)

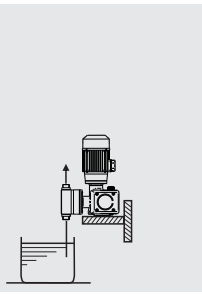
⚠ Air in suction pipe



⇒

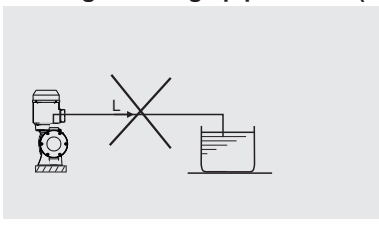


⇒

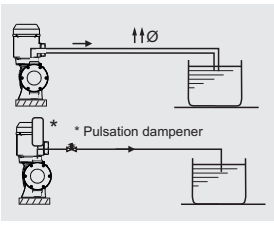


DISCHARGE PIPE

⚠ Long discharge pipe: $L > 5\text{m}$ (16 ft)



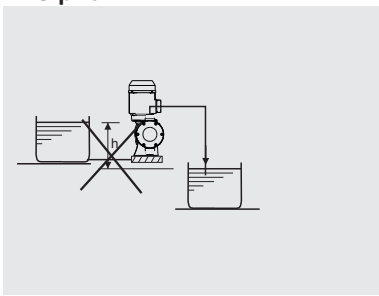
⇒



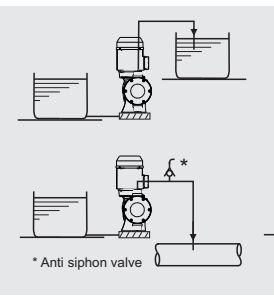
Øint	$L \leq 2\text{ m}$	$L \leq 10\text{ m}$
30	1000	330
40	1330	500
50		800
60		1000
70	1600	1330
80		1600

Q max (l/h)

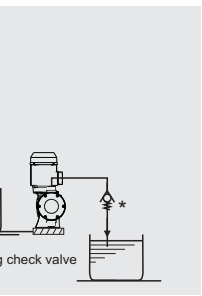
⚠ Siphon



⇒



* Anti siphon valve



* Spring check valve

6.- START UP AND REGULATION



STAND: Check that the pump is properly installed in its stand.



OIL: Take off re-filling lid and fill the pump with the provided oil: SAE 80 W 90 or equivalent. If the pump has several modules oil must be spread to all filling holes.

Lubricants list:

CEPSA SAE 80W 90

REPSOL EP 80W/90

SHELL SPIRLAX HD OIL 80W/90

ESSO GEAR OIL 80W/90

AGIP ROTRA MP 80W-90

MOBILUDE HD 80W-90

BP ENERGEGEAR HT 80W-90

CASTROL HYPOYC

GULF GEAR MP SAE 80W 90

ELF TRANSGEAR HD 80W-90

Check the oil level with the level indicate.

When carrying change filling lid for working lid.



CHECKING OF HYDRAULIC CIRCUIT: Check that all valves are opened and that escapes from priming valves derive the liquid to a proper receptacle.



ROTARY DIRECTION: Start up the pump to check that the rotary direction coincides with the one shown by the arrow. To change rotary direction invert two phases in the motor terminals box.



CHECKING OF PUMP: Check visually/auditorilly the proper working of the pump.



PRIMING: To prime the pump easily, especially for not very important flows and we if do not have priming valve, we suggest to lower pressure up to the minimum injection point. If that is not possible, fill up the cylinder and the suction pipe with liquid..



OVER-PRESSURE PROTECTION: Adjust the safety valve over-pressure or relief to the wished pressure to protect the installation without exceeding the pump nominal pressure.



ELECTRIC PROTECTION: Adjust the electric dispositive of electric protection to the motor nominal current

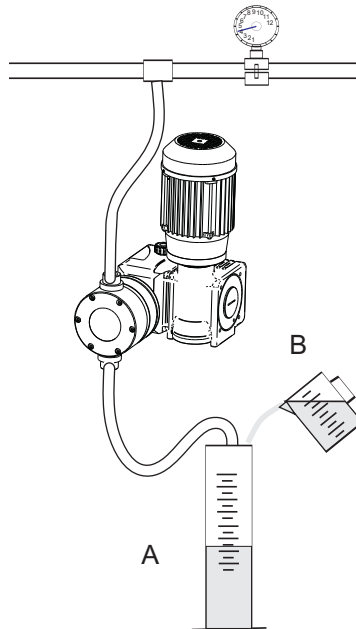
DOSING FLOW

Through the micrometric regulator, the dosing flow can be adjusted from 0 to 100% depending on the wished value. It is not advisable a regulation under 10%.

In order to check the dosing flow:

- 1.- Prime the pump immersing the suction pipe in a graduated receptacle (A).
- 2.- Mark in the receptacle the liquid level.
- 3.- Start up the pump and pour a known volume (V) of measured liquid in a second receptacle (B).
- 4.- Measure the time (t) that goes between the start up of the pump and the precise instant in which the liquid reaches the level of the mark receptacle A.
- 5.- The dosed flows corresponds to:

$$Q(l/h) = V \text{ (liters)} / t \text{ (seconds)} \times 3600$$



7.- MAINTENANCE



Before any maintenance operation we will check:

That the pump is stopped and disconnected from the electric supply.

There is no pressure neither inside the head nor in the impulsion pipe. It is advisable to empty the head before opening it.

The staff in charge of the maintenance will use the adequate protection means in order to manipulate the dosed liquid.

PERIODICAL MAINTENANCE:

Change oil after the first 500 hours. Next changes will be every 2000 hours (minimum once a year).

Check the piston every 3 months or 1000 hours.

Check the bellows every 3 months or 1000 hours.

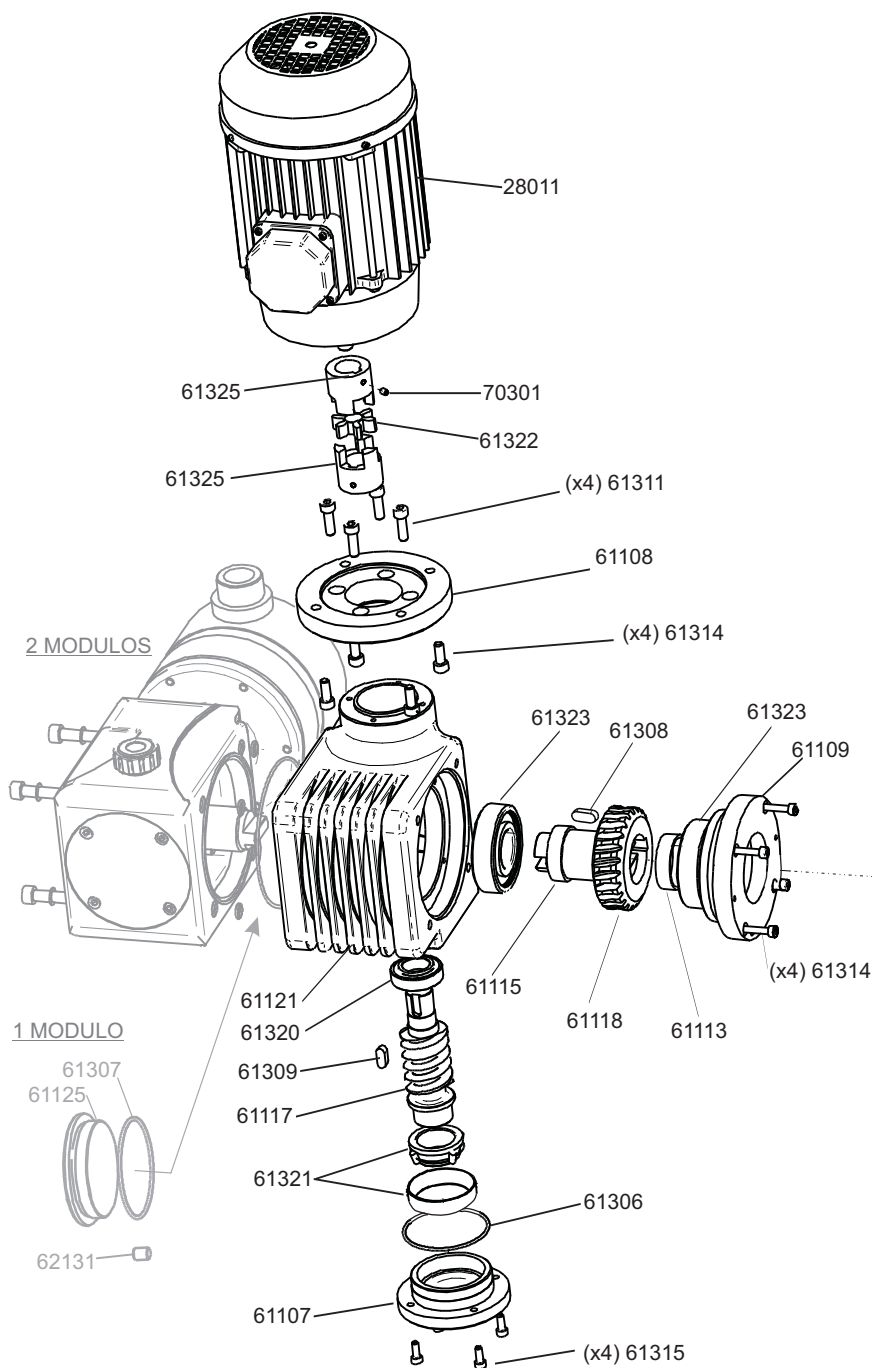
Check the suction filter once a month.

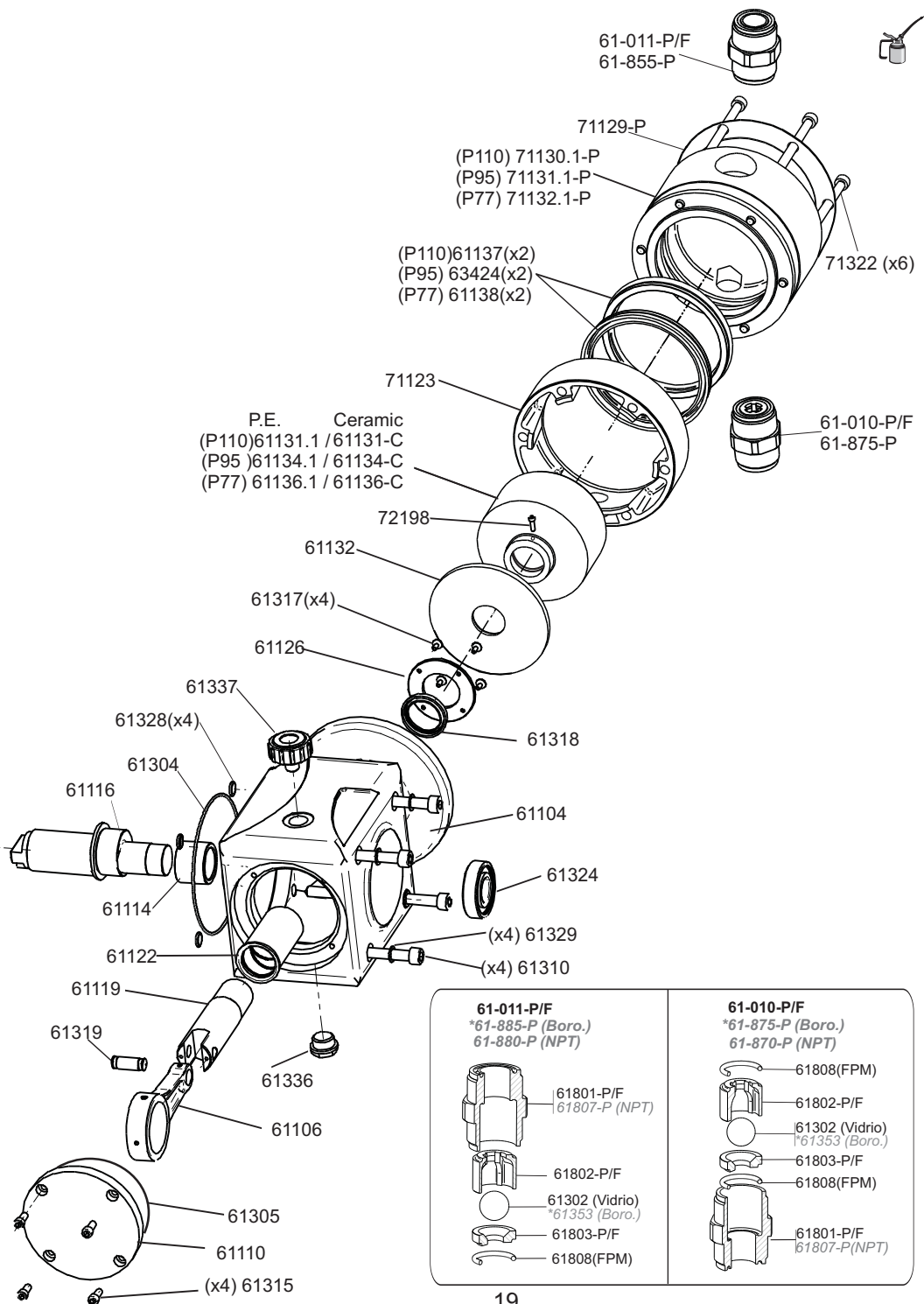
Check the valves every 3 months or 1000 hours.

It is advisable to clean periodically the injector, letting clean water flow through it (We can make it coincide with the emptying out of the tank), to eliminate precipitated rests that can remain in the inner part of the cylinder or in suction / impulsion pipes.

If we are using highly corrosive liquids it is advisable to double the frequency of checkings.

EF-DUPLEX PISTON





LIST OF PARTS: EF-DUPLEX PISTON

CODES	DESCRIPTION	UNITS	
		1 Mod.	2Mod.
28011	Electric motor 1,5cv 3ph T80 B14	1	1
61104	EF module	1	2
61106	Connecting rod EF	1	2
61107	Lower cover lid for EF gear box	1	1
61108	Motor flange T90	1	1
61109	Cover lid side for EF gear box	1	1
61110	Cover lid module EF	1	2
61113	Spacer for EF gear box	1	1
61114	Spacer for EF module	1	2
61115	Gear box shaft EF	1	1
61116	Module shaft EF	1	2
61117	Pinion 2 EF	1	1
61118	Ring gear 2p EF	1	1
61119	Rod EF	1	2
61121	Gear box case EF	1	1
61122	Slider for EF rod	1	2
61126	Oil ef seal lid	1	2
61131.1	Piston 1000 l/h d110 lock EF	1	2
61131-C	Piston 1000 l/h d110 lock EF Ceramic	1	2
61132	Protection disc	1	2
61134.1	Piston 750 l/h EF d95 lock EF	1	2
61134-C	Piston 750 l/h EF d95 lock EF Ceramic	1	2
61136.1	Piston 500 l/h EF d77 lock EF	1	2
61136-C	Piston 500 l/h EF d77 lock EF Ceramic	1	2
61137	Seal 1000 l/h FPM	2	4
61138	Seal 750 l/h FPM	2	4
61162	Piston spacer	1	2
61304	O-ring 132x2,5 NBR	1	2
61305	O-ring 88x2,5 NBR	1	2
61306	O-ring 73x3 NBR	1	1
61308	Wedging piece Din 6885 12x8x30	1	1
61309	Wedging piece Din 6885 8x7x20	1	1
61310	Screw M10x140 Din 912	4	8
61311	Screw M8x25 Din 912	4	4
61313	Screw M8x130 Din 912	6	12
61314	Screw M6x20 Din 912	8	8
61315	Screw M6x14 Din 912 A2	8	12
61317	Screw M4x8 Din 7991	4	8
61318	Seal diM3646 36x46x7 NBR	1	2

CODES	DESCRIPTION	UNITS	
		1 Mod.	2Mod.
61319	Bolt 12	1	2
61320	Bearing 6005 (25x47x12) EF	1	1
61321	Bearing 32007xj(35x62x18) EF	1	1
61322	Elastic coupling star	1	1
61323	Bearing 6307zz (35x80x21) EF	2	2
61324	Bearing 6206zz (30x62x16) EF	1	2
61325	Elastic coupling 24	2	2
61328	O-ring 9,5x3 NBR	4	8
61329	Aluminum seal 1,5x10x16	4	8
61336	Drain plug ½	2	3
61337	Filler plug ½"	1	2
63424	Seal 78x87x6 FPM 500 l/h	2	4
70301	Screw M5x5 Din 913	1	1
71129	Couronne cylindre piston	1	2
71130.1-P	Cylinder 1000 l/h s PP	1	2
71131.1-P	Cylinder 750 l/h s PP	1	2
71132.1-P	Cylinder 500 l/h s PP	1	2
71322	Screw M8x130 Din 912	1	2
72198	Screw M5x12 Din 914 A2	6	12

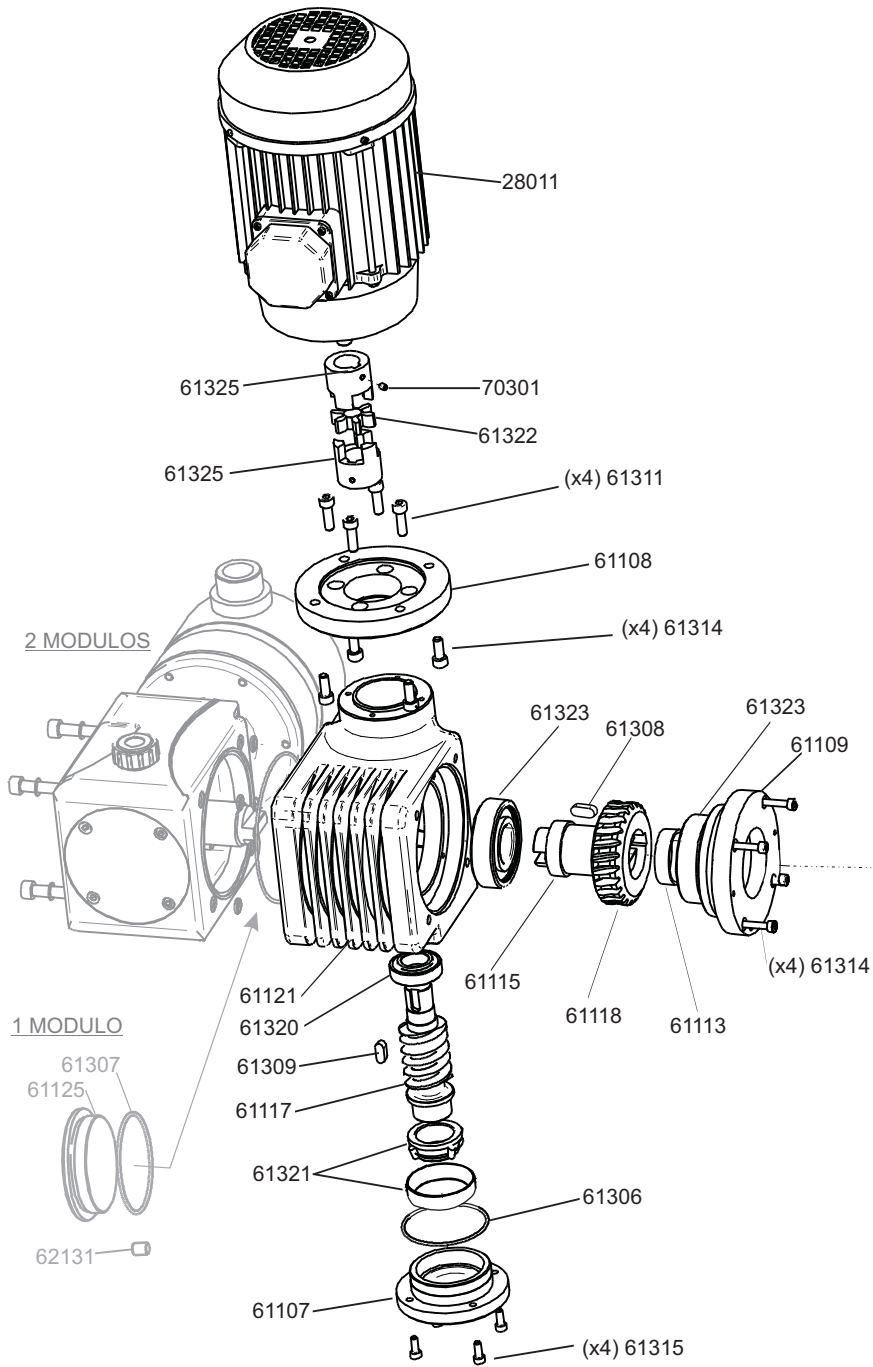
VALVES

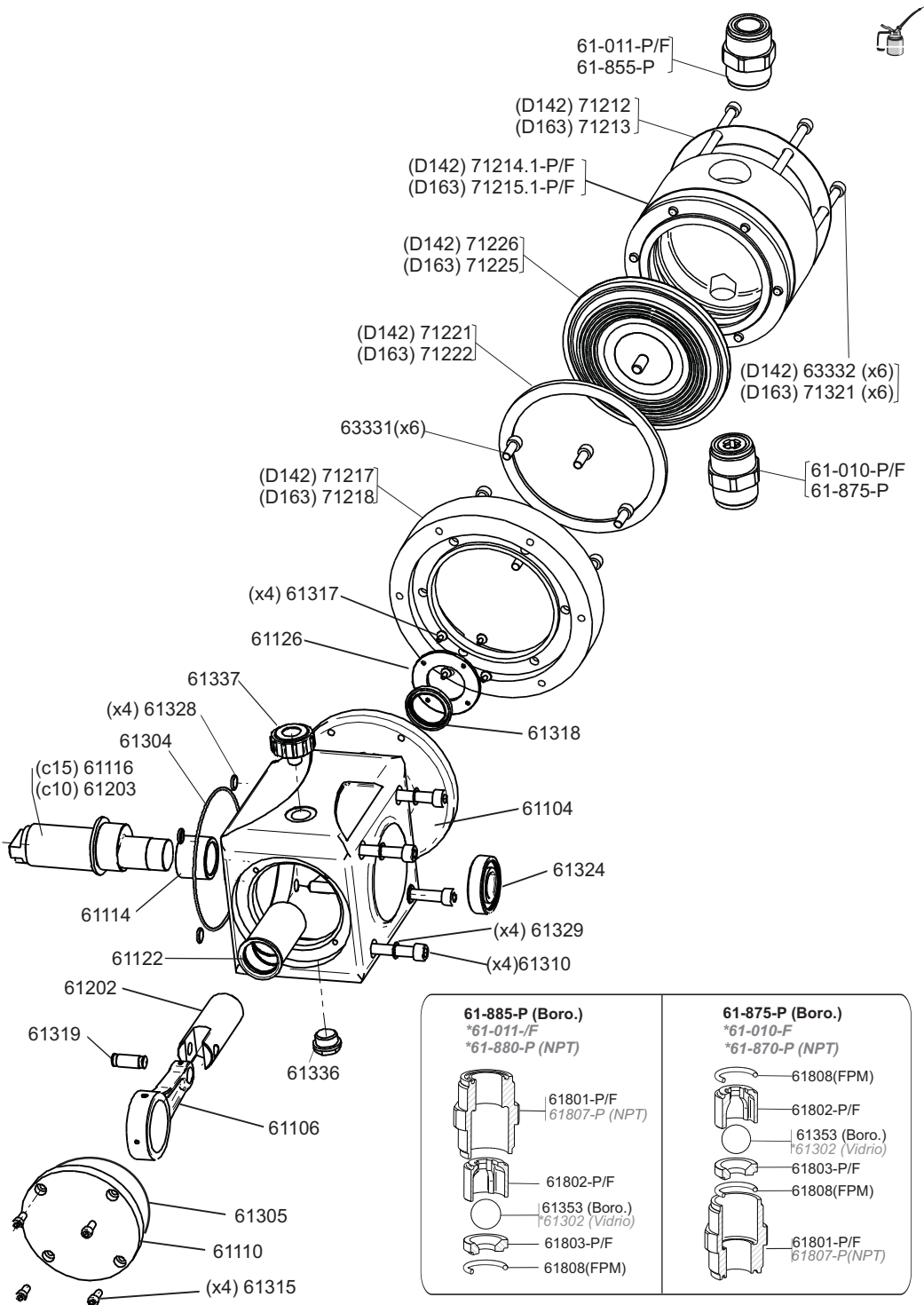
61-010-P/F	Suction check valve 1 1/4 PP	1	2
61-011-P/F	Discharge check valve 1 1/4 PP	1	2
61-875-P	Suction check valve 1 1/4 NPT PP	1	2
61-855-P	Discharge check valve 1 1/4 NPT PP	1	2
61-875-P	Suction check valve 1 1/4 PP Borosilicate	1	2
61-885-P	Discharge check valve 1 1/4 PP Borosilicate	1	2

ACCESSORIES

61339	Filter 1"1/4	1	2
63302	500 CC bottle	3	6
61-854-P	Injection check valve 1 1/4 PP	1	2

EF-DUPLEX DIAPHRAGM





LIST OF PARTS: EF-DUPLEX DIAPHRAGM

CODES	DESCRIPTION	UNITS	
		1 Mod.	2Mod.
28011	Electric motor 1,5cv 3ph T80 B14	1	1
61104	EF module	1	2
61106	Connecting rod EF	1	2
61107	Lower cover lid for EF gear box	1	1
61108	Motor flange T90	1	1
61109	Cover lid side for EF gear box	1	1
61110	Cover lid module EF	1	2
61111	Motor flange T80	1	1
61113	Spacer for EF gear box	1	1
61114	Spacer for EF module	1	2
61115	Gear box shaft EF	1	1
61116	Module shaft EF	1	2
61117	Pinion 2 EF	1	1
61118	Ring gear 2p EF	1	1
61119	Rod EF	1	2
61121	Gear box case EF	1	1
61122	Slider for EF rod	1	2
61126	Oil ef seal lid	1	2
61202	Rod diaphragm EF 2000	1	2
61203	Module shaft c10 EF	1	2
61304	O-ring 132x2,5 NBR	1	2
61305	O-ring 88x2,5 NBR	1	2
61306	O-ring 73x3 NBR	1	1
61308	Wedging piece Din 6885 12x8x30	1	1
61309	Wedging piece Din 6885 8x7x20	1	1
61310	Screw M10x140 Din 912	4	8
61311	Screw M8x25 Din 912	4	4
61314	Screw M6x20 Din 912	8	8
61315	Screw M6x14 Din 912 A2	8	12
61317	Screw M4x8 Din 7991	4	8
61318	Seal diM3646 36x46x7 NBR	1	2
61319	Bolt 12	1	2
61320	Bearing 6005 (25x47x12) EF	1	1
61321	Bearing 32007xj(35x62x18) EF	1	1
61322	Elastic coupling star	1	1
61323	Bearing 6307zz (35x80x21) EF	2	2
61324	Bearing 6206zz (30x62x16) EF	1	2
61325	Elastic coupling 24	2	2
61328	O-ring 9,5x3 NBR	4	8
61329	Aluminum seal 1,5x10x16	4	8
61336	Drain plug ½	2	3
61337	Filler plug ½"	1	2

CODES	DESCRIPTION	UNITS	
		1 Mod.	2Mod.
63331	Screw M8x20 Din 912 A2	6	12
63332	Screw M8x80 Din 912 A2	6	12
70301	Screw M5x5 Din 913	1	1
71212	Ring for diaphragm cylinder D142	1	2
71213	Ring for diaphragm cylinder D163	1	2
71214.1-P/F	Cylinder diaphragm D50 D142	1	2
71215.1-P/F	Cylinder diaphragm D50 D163	1	2
71217	Diaphragm flange D142	1	2
71218	Diaphragm flange D163	1	2
71221	Diaphragm base D142	1	2
71222	Diaphragm base D163	1	2
71225	Diaphragm D163	1	2
71226	Diaphragm D142	1	2
71321	Screw M8x70 Din 912	6	12
VALVES			
61-010-P/F	Suction check valve 1 1/4 PP	1	2
61-011-P/F	Discharge check valve 1 1/4 PP	1	2
61-880-P	Suction check valve 1 1/4 NPT PP	1	2
61-870-P	Discharge check valve 1 1/4 NPT PP	1	2
61-875-P	Suction check valve 1 1/4 PP Borosilicate	1	2
61-885-P	Discharge check valve 1 1/4 PP Borosilicate	1	2
ACCESSORIES			
61339	Filter 1"1/4	1	2
63302	500 CC bottle	3	6
61-854-P	Injection check valve 1 1/4 PP	1	2

PROBLEM	CAUSE	SOLUTION
MOTOR DOES NOT RUN	THERE IS NO TENSION	- Check with a voltmeter incoming tension
	MOTOR PROTECTION HAS BLOWN UP	- Check with ammeter that current is not superior than nominal one
MOTOR RUNS HOT	A PHASE IS FAILING (three-phase); WRONG INCOMING TENSION	- Check with voltmeter tension in motor terminals - Check that incoming tension coincides with motor one (-10% / +10%)
	SUPERIOR CONSUME THAN NOMINAL ONE	- Check that injection pressure is not superior to the one specified in the module - Check with a voltmeter incoming tension
	LOW WORK FREQUENCY (only with inverter)	- Increase working frequency with inverter
MOTOR RUNS BUT PUMP DOES NOT INJECT OR INJECTION IS INFERIOR TO NOMINAL ONE	PUMP HAS NOT BEEN PRIMED	- Prime the pump injecting at zero pressure
	SUCTION / IMPULSION VALVES ARE DIRTY OR DAMAGED	- Clean or change valves
	SUCTION FILTER IS DIRTY	- Clean filter
	AIR COMES INTO SUCTION PIPE	- Check sealing in connection points
	CAVITATION IN SUCTION	- Increase pipe diameter. - Reduce suction pipe length. - Reduce speed through an inverter. - Use a less viscous liquid.
PUMP TRICKLES LIQUID THROUGH INFERIOR CYLINDER HOLE	DAMAGED SEALS	- Change seals
	DAMAGED PISTON	- Change piston
PUMP TRICKLES OIL THROUGH INFERIOR CYLINDER HOLE	DAMAGED BELLOWS	- Change bellows
PUMP LEAKS OIL THROUGH REGULATOR	DAMAGED REGULATOR O'RINGS	- Change o'rings

EC CONFORMITY DECLARATION



I.T.C S.L..
Mar Adriàtic, 1
Polígono Torre del Rector
08130 Santa Perpètua de Mogoda

Declares that all models **EF-Duplex** products, identified by a serial number and year of manufacture, strictly fulfill 2006/042/CE and low voltages directives D2006/95/CE, as long as installation, use and maintenance are carried out following the prevailing regulation and following the instructions contained in the handbook.

Antón Planas
Manager

WARRANTY



I.T.C. S.L. Warrants the product specified in this document for a period of 1 year from the purchase date. This warranty obligation is limited to the free replacement of the damaged parts due to any material or manufacture defect. This warranty does not include periodic maintenance and damage resulting from misuse.

The equipment must be sent to **I.T.C. S.L.** Service Center with prepaid transport charges, and will be sent back with transport charges for customer's account.

The warranty document with sales date and shop stamp, or an invoice copy must be sent with the equipment.

MODEL

Sales date and shop stamp

SERIAL #

Ed:14-07-2014 An



C/ Del Mar Adriàtic nº 1 Pol. Ind. Torre del Rector
P.O. Box 60
08130 STA. PERPETUA DE MOGODA
BARCELONA - SPAIN

Tel. 93 544 30 40 *Fax* 93 544 31 61
e-mail: itc@itc.es www.itc.es