

GENERAL INFORMATION

HOW TO USE THIS MANUAL

This manual contains all information needed to carry out a correct and safe installation of the machine, to start it up and use it , to localize eventual trouble and to do the maintenance of the machines manufactured by FBF ITALIA.

We recommend to read carefully this manual before starting at all the installation procedure and before carrying out any connections or using this machine.

In case the machine is supplied with any optional electronic or electro-pneumatic devices, please consult the relative manuals that accompany the installation.

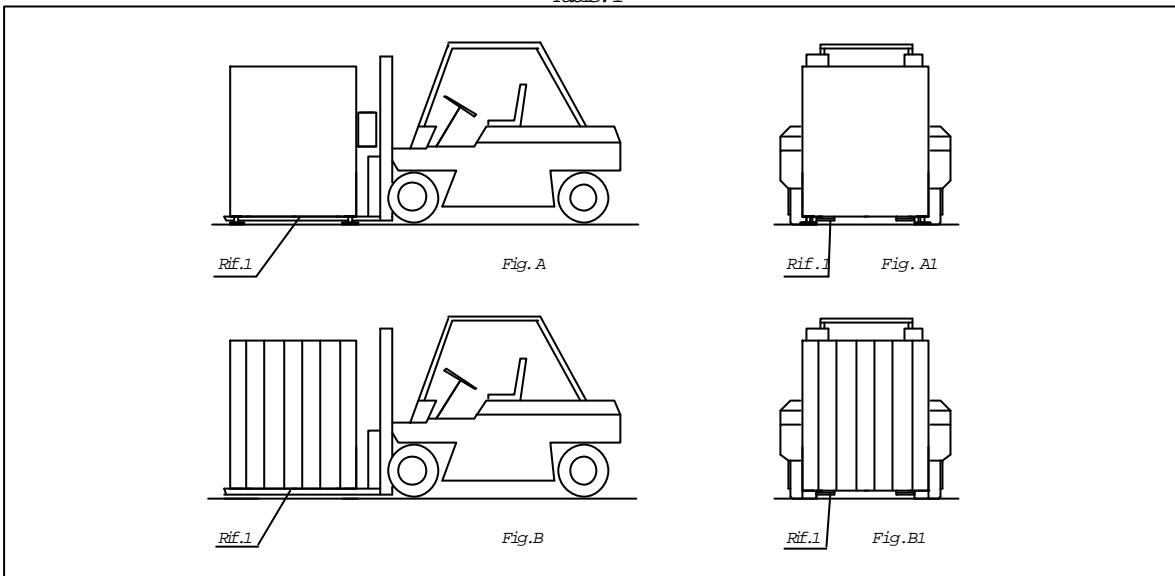
All our technical staff remains always at your disposal for any further information.



MOVING THE MACHINE

To transport and move the machine it is required the use of a fork lift truck with such a loading capacity as it will be suitable to lift and handle the machine (See table in Pag. 2). As indicated in Table 1 A-B, the length of the forks (Ref. 1) must be the same or even longer than the machine's depth. To move the machine the forks will have to be positioned, as indicated (Table 1 A1-B1), in between the supporting feet and as near to them as possible.

Table. 1

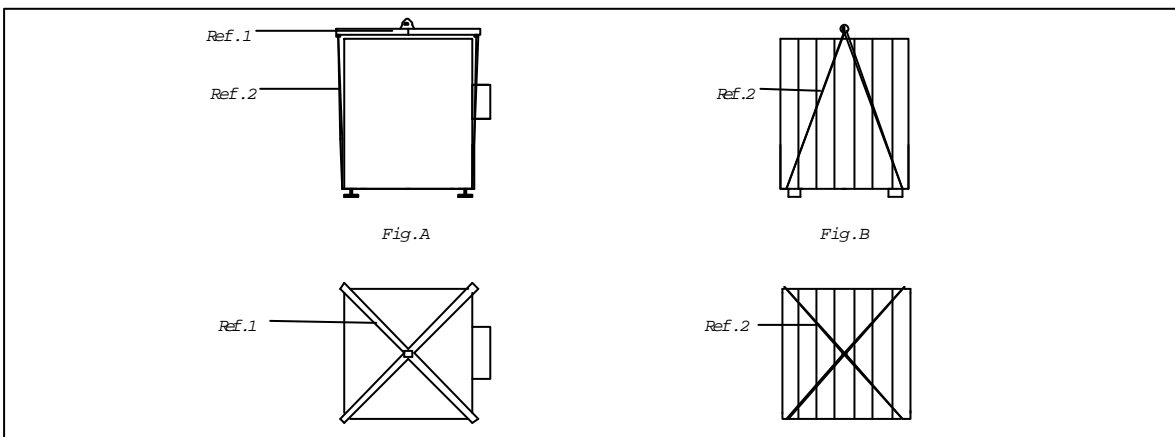


In case the machine will be moved by means of a crane or an over-head travelling crane, their loading capacity will have to be suitable to lift the machine itself (see table in Pag. 2). It is also compulsory to fix the machine with the aid of ropes or belts (Ref. 2), as shown in Table 2.

To lift the machine without packing (Fig. A) it will be necessary to use a rigid spring equalizing rocker arm (Ref. 1) which will be fixed to the machine by means of ropes or belts as shown by the figure; following this procedure you will avoid any possible damage to the frame structure of the machine.

To lift the machine with the package (Fig. B) it will be enough to use ropes or belts, fixed as indicated.

Table. 2



WARRANTY

This document certifies that FBF ITALIA warrants that its product(s) are free from defects of materials used and are manufactured under the conditions and limitations here below specified.

FBF ITALIA will not be hold responsible for latent defects or malfunctioning of any commercial components used, no matter the manufacturer might be a national or international leader company, that are not constructed by FBF ITALIA.

Should this case happened, FBF ITALIA, will recognize to the Client the same warranty that the manufacturer of the components supplies and will provide to supply all the necessary assistance to the user.

The pieces to be repaired or replaced will have to be sent to our factory by the Client, free at works, only after having received acceptance of warranty from our company.

What is covered by the warranty

The warranty covers the costs for replacing faulty parts, for repairing them or replacing them with equivalent parts, according to every case convenience.

A part or product are to be considered faulty, and therefore covered by the warranty, when it has been proved that the congenital defects of the part(s) already existed at the time of the delivery.

What is not covered by the warranty

This warranty does not cover parts or products that become damaged during transport, installation or repairing, or those that become damaged due to not regular use of the parts or products, overload, negligence, insufficient lubrication, normal wear of parts, use of not original FBF ITALIA spare parts, or any other damage caused by improper use, accident or negligence on having follow the instructions of this manual for the use and maintenance. The warranty does not cover also any damage caused for having used the product in a irresponsible way or if there have being carried out modifications that FBF ITALIA considers might have caused or worsen the eventual damages, or in case the eventual seals have been removed or regulations modified.

The warranty does not cover any other accidental costs, should those be consequential or connected costs: for example expenses of transport of eventual spare parts send under warranty, travelling expenses of technical assistance personnel, extraordinary expenses due to difficult accessibility of the machinery installed, missing profit, loss of time, harm or damages caused to other parts or goods that are not of FBF ITALIA manufacture indicated in the warranty.

FBF ITALIA does not authorize third parts to assume other responsibility regarding the sale of FBF's products than those established in this warranty.

Period of warranty

The warranty will be reckoning from the date of the delivery to the first owner / user.

FBF ITALIA warrants the machine for a period of twelve months on the mechanic parts and for a period of six months on the electric parts.

Operations previous delivery

Before leaving our factory all our products are carefully tested to make certain they fulfil all specifications and quality standards settle by FBF ITALIA.

Production modifications

FBF ITALIA reserves the right to modify any time the products manufactured and sold without advance notice and without the obligation to update already constructed or sold machinery.

FBF ITALIA srl

OVERALL DIMENSIONS, CONNECTIONS AND CONSUMPTION

Tav.3

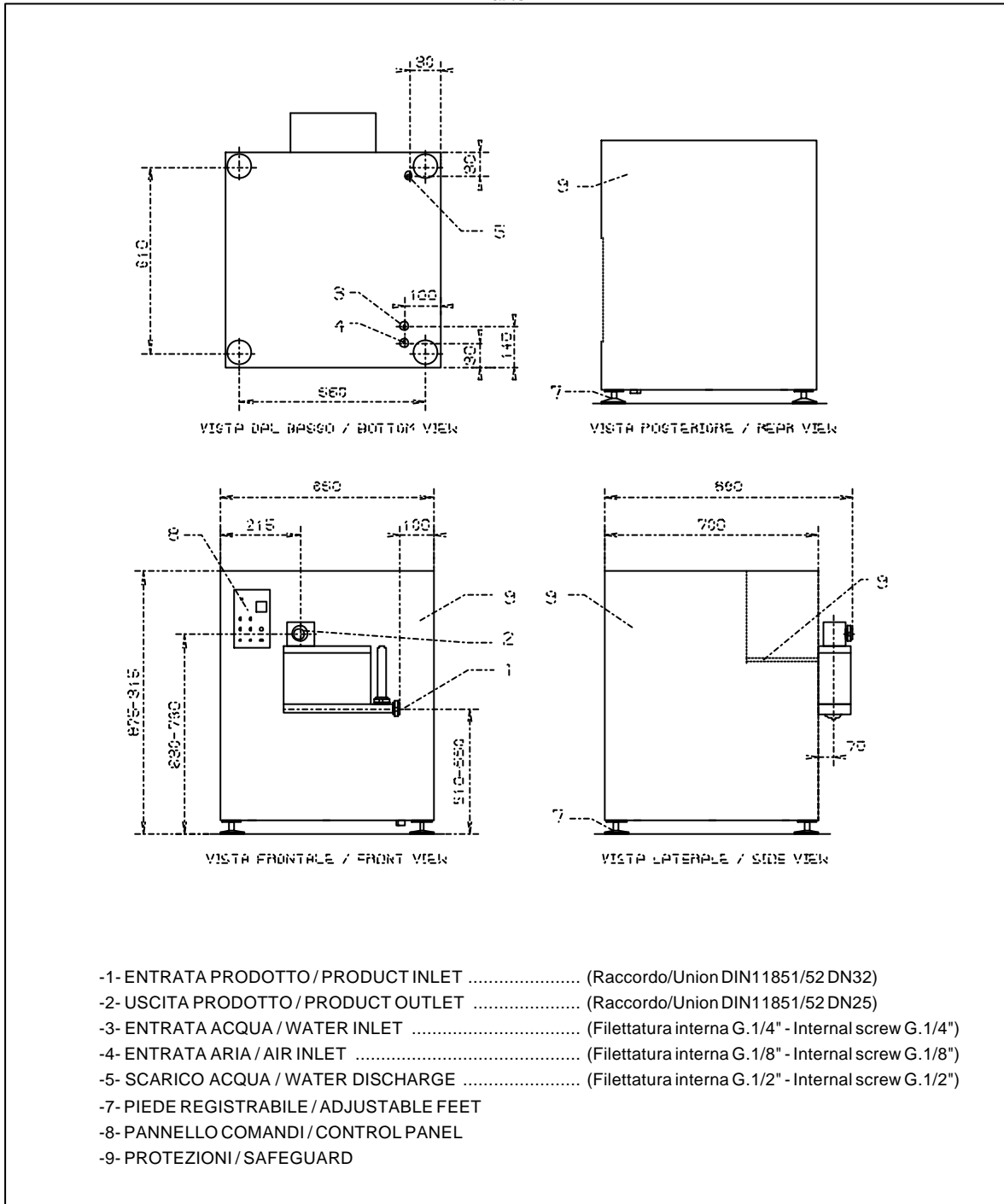


TABELLA CONSUMI MACCHINA TIPO XL3- CONSUMPTION TABLE MACHINE TYPE XL3		
OGGETTO SUBJECT	UNITA' DI MISURA MEASURE UNIT	VALORE VALUE
Acqua - Water	m3/h	0,12
Forza motrice - Motive power	Kw	4,1
Aria compressa - Compressed air	NI/h	Irrilevante - Irrelevant

TECHNICAL CARD

Table .4

MACHINE TYPE XL3	
CAPACITY LPH	600
PEAK OPERATING PRESSURE Kg/Cm2 (bar)	150
No.SPm OF PUMPING PISTON	206
PUMPING PISTON STROKE mm	45
PUMPING PISTON DIAMETER mm	22
PRODUCT TO BE TREATED	Ice cream mix
MOTOR PULLEY	Z34-8M-30
TRANSMISSION PULLEY	Z72-8M-30
TRANSMISSION BELT	1280-8M-30 HPR
CRANKSHAFT PULLEY	Z112-8M-50
TRANSMISSION PULLEY	Z34-8M-50
TRANSMISSION BELT	1040-8M-50 HPR
NOISE LEVEL	77,4 dBA
MAIN ELECTRICAL MOTOR	
ABB - M2AA112M4-B3 - 4 kW - 400 Vac - 50 Hz - 8,9 A - 1.435 Rpm - Phases 3 - Poles 4 - Is. Cl. F - IP55	
MAIN FAN MOTOR	
-	
REINFORCING FAN MOTOR	
-	
TEST CERTIFICATE	
TEST METHOD USED: The machine is test with water at operating pressure and capacity pressure. fed at a constant pressure of 1 bar. for a period of 12 hours.	
SURVEY	VALUE
ACTUAL CAPACITY IN ABSENCE OF PRESSURE	
ACTUAL CAPACITY AT THE WORKING PRESSURE	
CLEANING CAPACITY	
No. SPm OF PUMPING PISTON AT THE WORKING PRESSURE	
AIR PRESSURE IN THE PNEUMATIC SYSTEM	
POWER IN THE LINE WITH MACHINE IN ABSENCE OF PRESSURE	
POWER IN THE LINE WITH MACHINE IN PRESENCE OF PRESSURE	
N. OF REV./MINON MOTOR WITH MACHINE IN PRESSURE	
SUPPLY VOLTAGE	
NOTES:	

INFORMATION ABOUT THE ELECTRICAL INSTALLATION

The machine is equipped without electrical board.

All its electrical components (motor, electrovalves, push button, etc..) have been connected into a suitable shunting box to facilitate the connection with the relative electrical board (see the electrical scheme Pag.47).

INSTRUCTION FOR THE USE

HOW TO START THE MACHINE

- Supply power to the electric board (on Yr. line)
- Open the water valve (on main water supply line).
- Open the compressed air valve (on the main compressed air line).
- Make sure the machine is correctly fed with product (in the line upstream the machine, the product must be free of air and must travel to a constant pressure of at least 1-2 bar).

- Make sure the selector "ON-OFF" of the pressure is set to "OFF".
- Start the machine.
- Make sure that the whole surface of the pumping pistons, on the lower part of the compression head, is covered by a film of water in order to assure the correct cooling and lubrication of the pistons themselves.

Should it become necessary to regulate the flow of the water, use the tap installed inside the machine (Pag. 42, Ref. 1).

HOW TO TURN ON OR TURN OFF THE HOMOGENIZATION PRESSURE

After having made sure that the machine is running and that it is being correctly fed:

- Set the pressure selector "ON-OFF" to "ON".
- Now regulate the homogenization pressure to the desired value by means of the pressure regulator (Ref. 4, Page 12).
- At the end of the working cycle set the pressure selector "ON-OFF" to "OFF".
- If the pressure selector is left in the same position, the previously set homogenization pressure will be kept when the machine starts the new working cycle.

NOTE: We recommend never to exceed the operating pressure given by the manufacturer both for safety reasons and to help the mechanical parts to last longer.

HOW TO STOP THE MACHINE

- Set the pressure selector "ON-OFF" to "OFF"
- Stop the machine.
- Close the compressed air valve (on the main compressed air line).
- Close the water valve (on the main compressed air line).
- Switch off the main switch (on Yr. line)

NOT ALLOWED USES

It is not allowed to use the machine to process other product than the one specified in the technical card (Pag. 9, Ref. 4); furthermore the product must not contain hard particles or strange bodies, it must be free from air and it must be fed to the machine at a constant pressure of 1-2 Kg./Cm².

It is not also allowed to operate the machine at other capacity or pressure than the capacity and pressure indicated in the technical card (Pag. 9, Table 4).

TROUBLE-SHOOTING

TROUBLE-SHOOTING		
TYPE OF TROUBLE	CAUSE	REMEDY OR CONTROL
THE MACHINE DOES NOT START UP OR STOPS SUDDENLY	THE EMERGENCY STOP HAS BEEN ENERGIZED	Control the relative push-button (Pag. 13, Ref. 5)
	THE POWER SUPPLY UPSTREAM THE MACHINE IS MISSING.	Control the electric system upstream the machine
NOT ENOUGH CAPACITY	INSUFFICIENT FEEDING TO THE MACHINE	Control the capacity upstream the machine: it must be slightly superior to the operating capacity of the machine itself Control if the feeding pressure to the machine is enough Control if the product fed to the machine is free from air
	THE MAIN MOTOR IS WORKING AT A REVOLUTION SPEED LOWER THAT THE RATING SPEED	Control the revolutions of the main motor comparing this value to the main test values (Pag. 9, Table 4)
	THE SEAL OF THE VALVE INSIDE THE COMPRESSION HEAD IS LEAKING	Referring to Page 36, Table 16: Control that the sealing surface of the valves (Ref. 24) and the valves' seats (Ref. 23) are not ruined. If so, follow the instructions given in Page 27 Control that there are no strange bodies between the mentioned valves and their seats. If so take away those bodies and clean carefully the surfaces. Control the recovery spring of the valves (Ref. 25) Control the gaskets of the valves' seats (Ref. 22)
INSUFFICIENT HOMOGENIZATION PRESSURE	INSUFFICIENT FEEDING TO THE MACHINE	Control the capacity upstream the machine: it must be slightly superior to the operating capacity of the machine itself Control if the feeding pressure to the machine is enough Control if the product fed to the machine is free from air
	THE PRESSURE INDICATOR (Pag. 36, Ref. 34) IS NOT WORKING CORRECTLY.	Disassemble the pressure indicator from its own seat and control that the membrane is not damaged. If so, the pressure indicator must be replaced.

TROUBLE-SHOOTING		
TYPE OF TROUBLE	CAUSE	REMEDY OR CONTROL
HOMOGENIZATION PRESSURE MISSING	THE PRESSURE INDICATOR IS NOT WORKING CORRECTLY (Pag. 36, Ref. 34))	Disassemble the pressure indicator from its own seat and control that the membrane is not damaged. If so, the pressure indicator must be replaced.
	THE COMPRESSED AIR THAT SUPPLIES THE PNEUMATIC (Pag. 43, Table 34) SYSTEM IS MISSING	Control the pneumatic system upstream the machine
	THE PRESSURE SELECTOR "ON-OFF" DOES NOT WORK CORRECTLY	Control the mechanical and electric functioning of the solenoid valve (Pag. 43, Ref. 4)

MAINTENANCE BASE PLAN FOR THE COMPRESSION HEAD

MAINTENANCE INSTRUCTIONS FOR COMPRESSION HEAD (Pag. 36, Table 16)		
COMPONENT	OPERATION	FREQUENCY
GASKET CH (Ref. 8)	Replacement (See instructions in Pag. 25)	It can not be exactly determined since these parts' wear out is related to the different use of the machine (operating pressure, product temperature, correct use, etc.)
PUMPING PISTON (Ref. 11)	Replacement or regeneration (See instructions in Pag. 26)	It can not be exactly determined since these parts' wear out is related to the different use of the machine (operating pressure, product temperature, correct use, etc.)
VALVE SEATS (Ref. 23)	Replacement (See instructions in Pag. 27)	It can not be exactly determined since these parts' wear out is related to the different use of the machine (operating pressure, product temperature, correct use, etc.)
VALVES (Ref. 24)	Replacement (See instructions in Pag. 27)	It can not be exactly determined since these parts' wear out is related to the different use of the machine (operating pressure, product temperature, correct use, etc.)
SPRINGS (Ref. 25)	Replacement (See instructions in Pag. 28)	It can not be exactly determined since these parts' wear out is related to the different use of the machine (operating pressure, product temperature, correct use, etc.)

MAINTENANCE BASE PLAN FOR THE MOTORIZATION

MAINTENANCE INSTRUCTIONS FOR MOTORIZATION (Pag. 31, Table 14)		
COMPONENT	OPERATION	FREQUENCY
TIMING BELT (Ref. 1-4)	Control (See instructions in Pag. 31)	Every 2.000 hours
	Replacement (See instructions in Pag. 31)	It can not be exactly determined since these parts' wear out is related to the different use of the machine (operating pressure, product temperature, correct use, etc.)

MAINTENANCE INSTRUCTIONS FOR COMPRESSION HEAD

PUMPING PISTONS' GASKETS

For replacing correctly the gaskets of the pumping pistons follow these instructions:

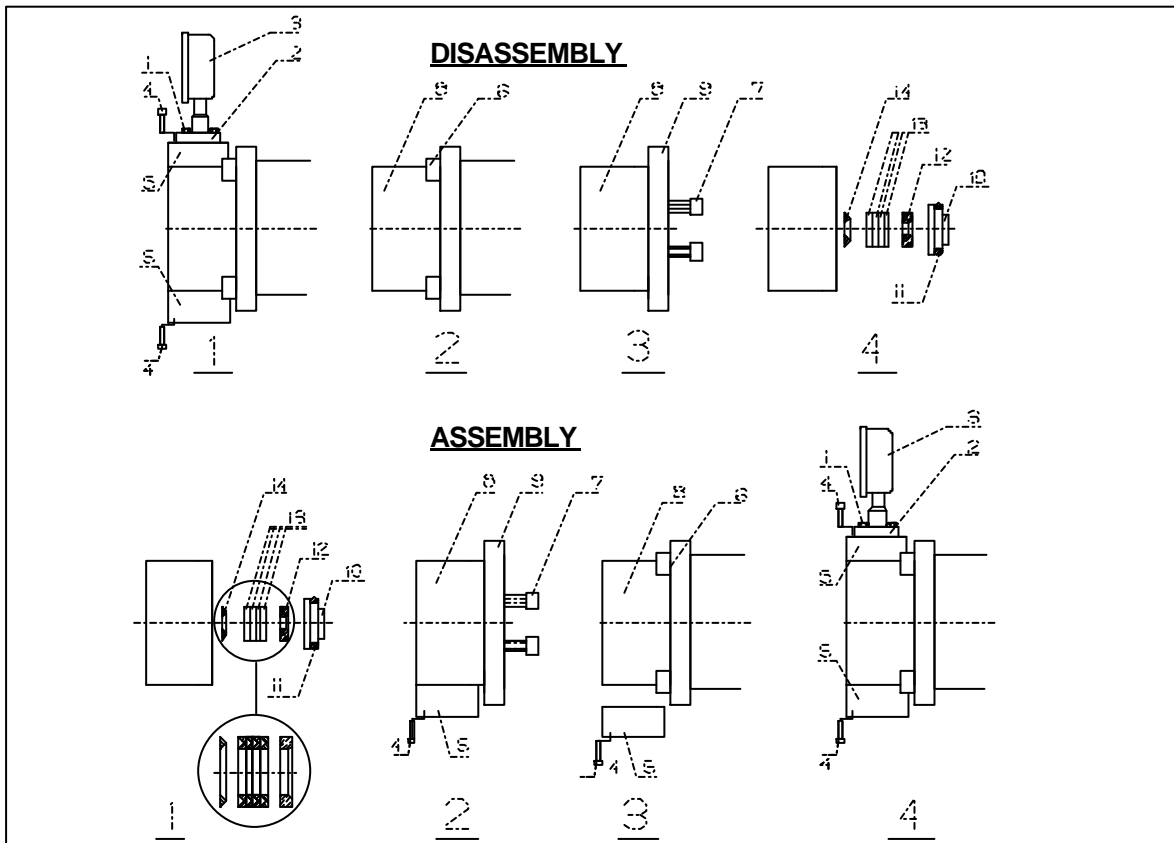
DISASSEMBLY

- 1- Unscrew the screws Ref. 1, then disassemble the flange Ref. 2 together with the pressure indicator Ref. 3. Unscrew the screws Ref. 4 and disassemble the manifolds Ref. 5.
- 2- Take away the head block Ref.8 from the machine body by unscrewing the screws Ref. 6.
- 3- Unscrew the screws Ref. 7 and then disassemble the piston cylinder Ref. 8.
- 4- Draw out the centering ring Ref. 10, the washer of the packing Ref. 12, the gasket CH Ref. 13 and the end ring Ref. 14.

ASSEMBLY

- 1- Insert the end ring Ref. 14 inside its own housing in the inside of the piston's cylinder Ref. 8, then insert the gasket CH Ref. 13 (to facilitate assembling operations it will be convenient to lubricate this gasket with silicon base grease suitable for foodstuff), then assembly the packing washer Ref. 12 and the centering ring Ref. 10, and then control the wear state of the gasket Ref. 11.
- 2- Assemble the suction manifold Ref. 5 by means the screw Ref.4 on the piston cylinder Ref.8., then assemble back the piston's cylinder Ref. 8 on the plate Ref. 9 and then screw to block the screws Ref. 7.
- 3- Disassemble the suction manifold Ref.5 disassembled before and assemble back the head block Ref.8 on the machine body, by mean the screws Ref. 6.
- 4- Assemble back the manifolds Ref. 5 and then screw to block the screws Ref. 4. Assemble back the flange Ref. 2 together with the pressure indicator Ref. 3 and then screw to block the screws Ref. 1

Table.8



VALVE SEAT AND VALVES

The valves and the seats of the suction and supply valve must be controlled and eventually replaced when the machine does not reach any more the established operating capacity or when the capacity starts oscillating.

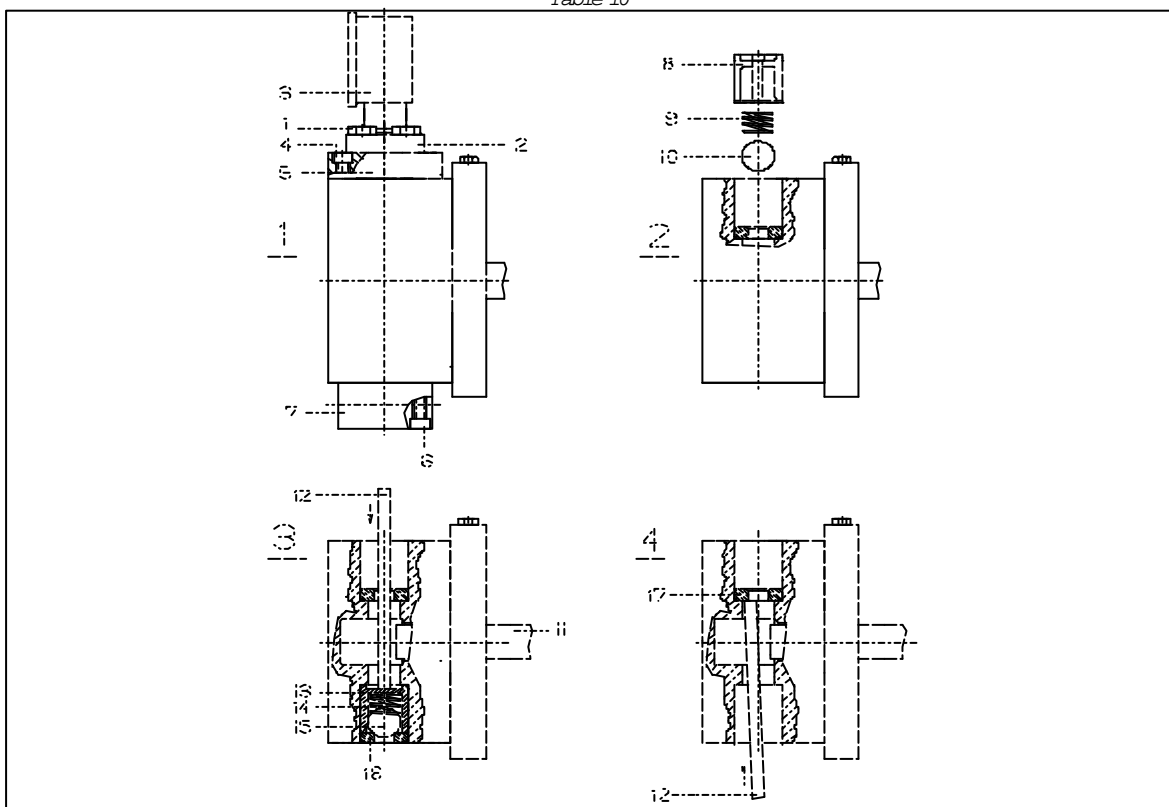
The efficiency of the machine is compromised mainly by the cuts that cross the sealing surface. If the surface of the seal presents marking by pricks it will be useful to carry out a reconditioning process with fine abrasive slurry.

The spheric or semi-spheric type of valve must be replaced when their spheric form is not any more perfect or when their surfaces present deep marks.

To disassemble correctly follow these instructions;

- 1- Unscrew the screws Ref.1, disassemble the flange Ref. 2 together with the pressure indicator Ref. 3.
Unscrew the screws Ref. 4 and Ref. 6 and disassemble the supply and suction manifolds Ref. 5 and Ref. 7.
- 2- Take out the guide of the valve Ref. 8, then the spring Ref. 9 and therefore the valve Ref. 10.
- 3- Take the pumping piston Ref. 11 to the indicated position by rotating the pulley on the pump's body, placed inside the machine (Ref. 2, Pag. 32).
By using the special plastic tool Ref. 12, supplied with the machine, take out the guide of the valve Ref. 13, the spring Ref. 14, the valve Ref. 15 and the valve seat Ref. 16.
- 4- Then by using the mentioned tool take out the valve seat Ref. 17.

Table 10



MAINTENANCE INSTRUCTIONS FOR THE HOMOGENIZING VALVE

OUTLET HEAD, IMPACT RING, IMPACT HEAD

The homogenizing heads wear out with the time and must be replaced when their operating surfaces are badly wasted, and they do not allow the machine to reach the requested homogenizing pressure .

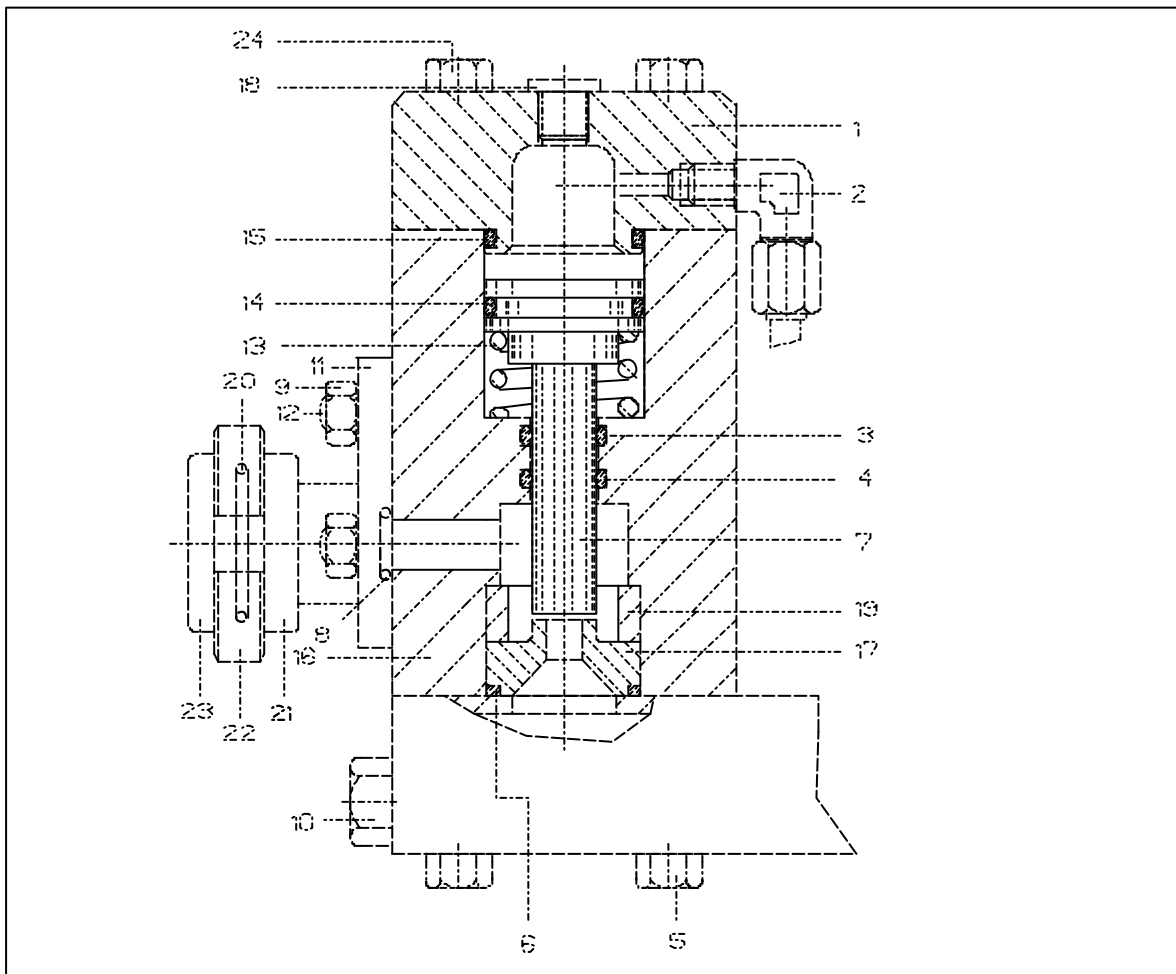
To replace the heads correctly follow these instructions:

- Remove the oleo-pneumatic plant's pipe from the junction Ref.2.
- Unscrew the screws Ref.24 and disassemble the flange Ref.1.
- After having disconnected the product infeed, unscrew the screws Ref.5 and take out the homogenizing chamber Ref.16.
- Take out the impact head Ref.7.
- Take out the outlet head Ref. 17.
- Take out the impact ring Ref. 19.

Attention:

After to have assembling back the parts, fill up with oil as explained in Pag. 30.

Table 12



MAINTENANCE INSTRUCTIONS FOR MOTORIZATION

INSTRUCTIONS FOR STRETCHING THE TIMING BELT

Normally the timing belts do not get loosen but in case it should become necessary to stretch them, follow these instructions:

To stretch the timing belt from the part of the transmission ref. 1, loosen the screws ref. 2 and then rotate the eccentric flanges ref. 3 towards the rear part of the machine. The timing belt is correctly stretched when the arrow (that represents the oscillation of the belt) you see in the central middle part between both pulleys, has a length of about 4 mm. when the load is 31N.

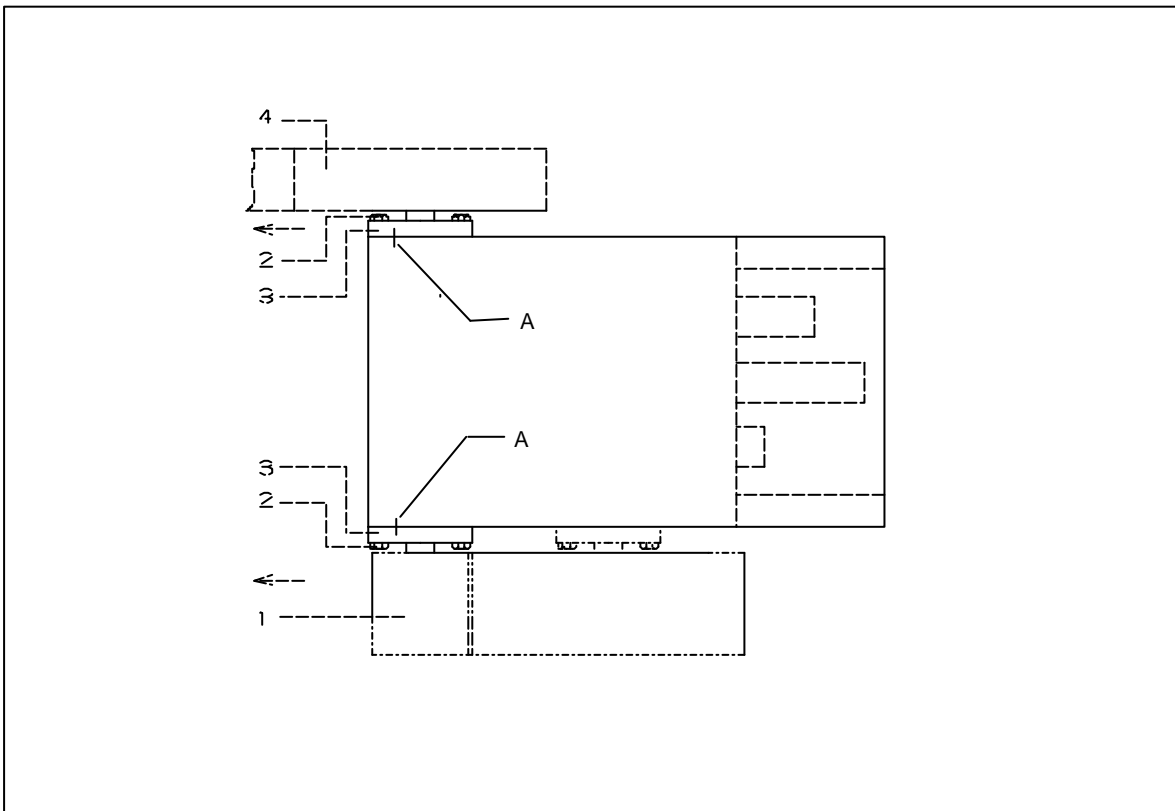
At this point control that the references placed on the flanges (Ref. A) are symmetrical (in order to avoid misalignment on the bearings) and then screw to block the screws.

To stretch the timing belt from the part of the motor ref. 4, use the adjustable slide of the motor itself.

The belt is correctly stretched when there is a total absence of vibrations and noise.

To change the timing belts, loosen the belts until it becomes possible to take them out of their seats.

Table14



INSTRUCTIONS FOR THE WASHING CYCLE

The machine must be washed periodically, having in consideration the product treated and the working exigencies.

The washing is normally a close cycle carried out while the machine is working and after having set to zero the homogenizing pressure. This procedure helps to avoid useless waste of energy and any possible damages to the homogenizing heads.

If the machine is equipped to be used at variable capacities, the washing will be carried out at the maximum speed.

To carry out the washing cycle it could be used both acid and basic solutions, but what is more important is to make sure that the solution used do not contain a quantity of nitric acid superior to 2% and that the solution is completely free from any trace of chlorine, even when it is a buffered solution.

We recommend not to use washing substances that might contain chlorine, specially if in shape of sodium hypochlorite, since in the presence of acids (although very weak ones) the chlorine decomposes and has an oxidative effect. This oxidative effect, favoured by the temperature, the time, the light and by the presence of heavy metals (such as nickel, chromium, etc.—) increases the concentration of ions Cl^- and tends to lower the PH from basic values towards neutral values.

This condition favours the tendency to the pitting effect and the danger increases if the ambient becomes weakly acid.

So in consideration to these facts, we are compelled to decline any responsibility for any relevant damages caused by the use of solutions containing chlorine, even during the period the machine is still covered by warranty

LIST OF RECOMMENDED SPARE PARTS

Q.TA' Q.TY.	DENOMINAZIONE DESCRIPTION	CODICE N° CODE NR.
3	PISTONE POMPANTE - PUMPING PISTON	001.01055
3	GUARNIZIONE CH - CH GASKET	004.0031
3	ANELLO DI FONDO - END RING	001.01053
3	RONDELLA PACCHETTO - PACKET WASHER	001.01054
1	SERIE COMPLETA GUARNIZIONI - COMPLETE SET OF GASKETS	068.XL3-D22
6	SEDE VALVOLA - SEAT VALVE	001.00016/T
6	VALVOLA - VALVE	007.0001
3	MOLLA ASPIRAZIONE - SUCTION SPRING	001.00043
3	MOLLA MANDATA - DELIVERY SPRING	001.00043
1	TESTINA USCITA - OUTLET HEAD	001.00047/T
1	TESTINA URTO - IMPACT HEAD	001.00581/T
2	ANELLO URTO - IMPACT RING	001.00018/T
1	INDICATORE DI PRESSIONE - PRESSURE GAUGE	015.0005
1	SERIE COMPLETA PARAOLI - COMPLETE SET OF OIL SEALS	069.XL3

LIST OF COMPONENTS OF THE COMPRESSION HEAD

POS. REF.	DENOMINAZIONE DESCRIPTION	CODICE N° CODE No.
1	FLANGIA - FLANGE	001.02297
2	RONDELLA - WASHER	001.00056
3	GUARNIZIONE - GASKET	001.00188
4	VITE - SCREW	030.TE8x10
5	PIASTRA TESTATA - HEAD PLATE	001.02391
6	RACCORDO - UNION	013.0002
7	VITE - SCREW	030.TE10x10
8	GUARNIZIONE CH - CH GASKET	004.0031
9	GUARNIZIONE - GASKET	003.3137
10	COMPENSATORE DI PULSAZIONI - PULSATION COMPENSATOR	001.00801
11	PISTONE POMPANTE - PUMPING PISTON	001.01055
12	RONDELLA PACCHETTO - PACKET WASHER	001.01054
13	RONDELLA CENTRAGGIO - CENTERING WASHER	001.02390
14	ANELLO DI FONDO - END RING	001.01053
15	VITE - SCREW	030.TCEI10x30
16	GUARNIZIONE - GASKET	003.0324
17	GIRELLA - SHEAVE	002.0024
18	RACCORDO - UNION	002.0045
19	VITE - SCREW	001.01877
20	VITE - SCREW	030.TCEI10x45
21	COLLETTORE ASPIRAZIONE - SUCTION MANIFOLD	001.01541
22	GUARNIZIONE - GASKET	001.00075
23	SEDE VALVOLA - SEAT VALVE	001.00016/T
24	VALVOLA - VALVE	007.0001
25	MOLLA - SPRING	001.00043
26	GUIDA VALVOLA - VALVE GUIDE	001.00039
27	CILINDRO PISTONE - PISTON CYLINDER	001.01056
28	GUARNIZIONE - GASKET	001.00190
29	TAPPO - PLUG	001.01156
30	GUARNIZIONE - GASKET	001.01155
31	VITE - SCREW	030.TCEI12x35
32	COLLETTORE MANDATA - DELIVERY MANIFOLD	001.02359
33	VITE - SCREW	030.TE12x65
34	INDICATORE DI PRESSIONE - PRESSURE GAUGE	015.0005

LIST OF COMPONENTS OF THE HOMOGENIZING VALVE

POS. REF.	DENOMINAZIONE DESCRIPTION	CODICE N° CODE No.
1	FLANGIA - FLANGE	001.02295
2	RACCORDO - UNION	013.0002
3	GUARNIZIONE - GASKET	003.0115
4	GUARNIZIONE - GASKET	003.0115
5	VITE - SCREW	030.TE10X50
6	GUARNIZIONE - GASKET	001.00075
7	TESTINA URTO - IMPACT HEAD	001.00581/T
8	GUARNIZIONE - GASKET	003.3056
9	DADO - NUT	044.0008
10	TAPPO - PLUG	001.01156
11	FLANGIA - FLANGE	001.02360
12	PRIGIONIERO - STUD	032.0001
13	MOLLA - SPRING	001.00055
14	GUARNIZIONE - GASKET	003.4100
15	GUARNIZIONE - GASKET	003.4100
16	CAMERA OMOGENEIZZANTE - HOMOGENIZING CHAMBER	001.02356
17	TESTINA USCITA - OUTLET HEAD	001.00047/T
18	TAPPO - PLUG	013.0003
19	ANELLO URTO - IMPACT RING	001.00018/T
20	GUARNIZIONE - GASKET	003.0321
21	GIRELLA - NUT	002.0023
22	RACCORDO - UNION	002.0044
23	VITE - SCREW	030.TE10X35

LIST OF COMPONENTS OF THE TRANSMISSION BODY

POS. REF.	DENOMINAZIONE DESCRIPTION	CODICE N° CODE Nr.
1	PARAOLIO - OIL SEAL	006.0022
2	SPINA - PIN	001.01876
3	GUARNIZIONE - GASKET	003.0112
4	CHIAVETTA - STEADY PIN	037.0003
5	PARAOLIO - OIL SEAL	006.0003
6	GUARNIZIONE - GASKET	003.4100
7	VITE - SREW	046.TE10x25
8	GUARNIZIONE - GASKET	003.4312
9	ALBERO RINVIO - COUNTERSHAFT	001.02789
10	FLANGIA - FLANGE	001.00032
11	DISTANZIERE - SPACER	001.00033
12	CUSCINETTO - BEARING	009.0003
13	CORPO POMPA - PUMP BODY	001.00025
14	GUARNIZIONE - GASKET	003.4362
15	FLANGIA - FLANGE	001.00031
16	CUSCINETTO - BEARING	009.0002
18	ANELLO SEEGER - SEEGER RING	008.0013
19	SPINOTTO - PIN	001.01161
20	PARAOLIO - OIL SEAL	006.0001
21	FLANGIA - FLANGE	001.00841
22	PISTONE GUIDA - GUIDE PISTON	001.01162
23	GUARNIZIONE - GASKET	003.0150
24	BIELLA - ROD	039.0001
25	BRONZINA - BRONZE BEARING	001.02800
27	ALBERO A GOMITI - CRANKSHAFT	001.02790
28	FLANGIA - FLANGE	001.00032
29	PARAOLIO - OIL SEAL	006.0003
30	DISTANZIERE - SPACER	001.00033
31	GUARNIZIONE - GASKET	003.4100
32	CUSCINETTO - BEARING	009.0001
33	COPERCHIO - COVER	001.00081
34	VITE - SREW	046.TCEI10x25
35	FLANGIA - FLANGE	001.00030
36	DISTANZIERE - SPACER	001.00004
37	GUARNIZIONE - GASKET	003.0144
38	PARAOLIO - OIL SEAL	006.0009
39	CHIAVETTA - STEADY PIN	037.0004
40	CHIAVETTA - STEADY PIN	037.0004
42	VITE - SREW	046.TE10x35
43	VITE - SREW	046.TCEI6x20

PNEUMATIC SYSTEM DIAGRAM

Table .21

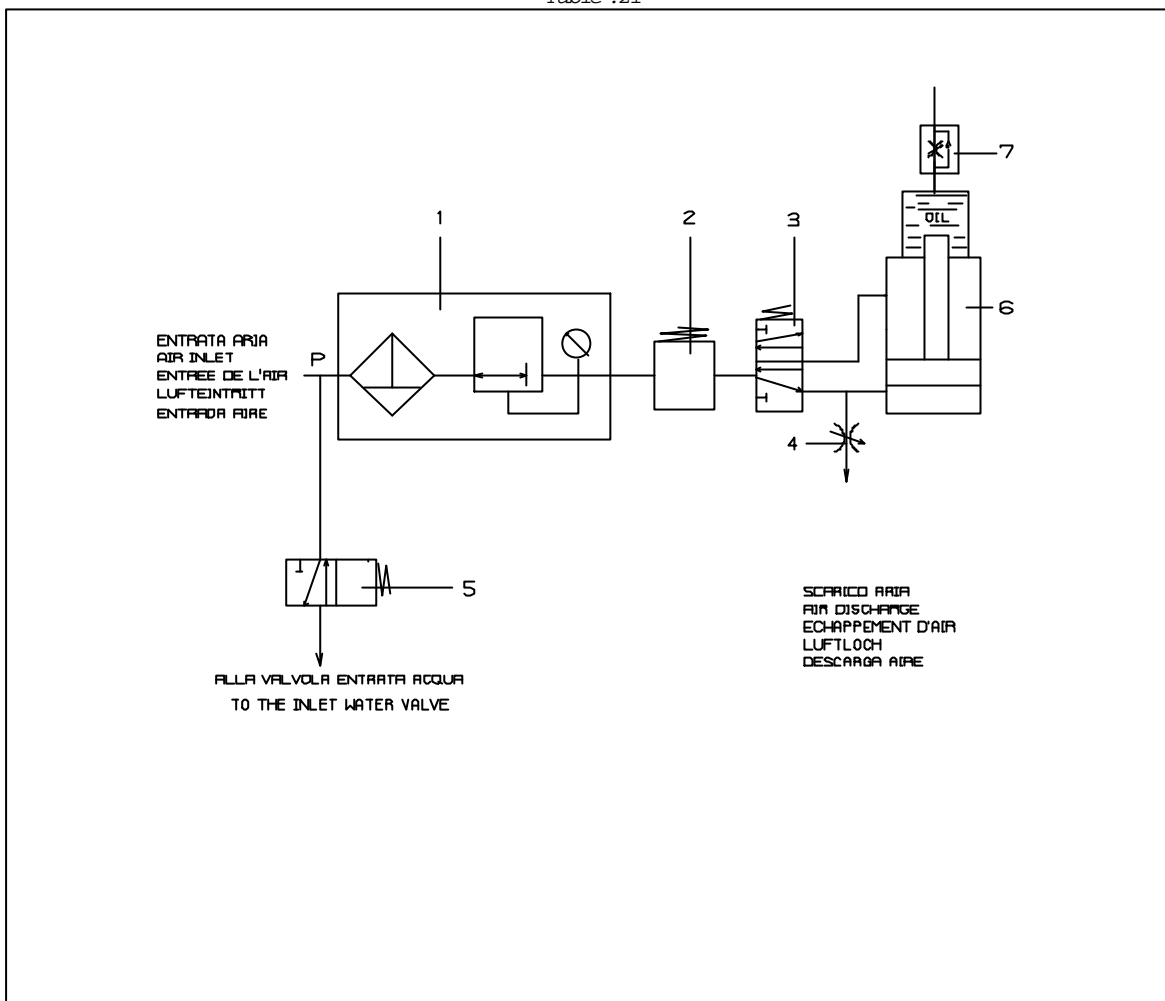


Table I2537IP

POS. REF.	DENOMINAZIONE DESCRIPTION	CODICE N° CODE No.
1	FILTRO-RIDUTTORE - ADJUSTING BLOCK FILTER	043.0001
2	RIDUTTORE - ADJUSTER	043.0003
3	ELETTROVALVOLA YV2 - ELECTROVALVE YV2	041.0015
4	DOSATORE DI SCARICO - FLOWMETER	060.0003
5	ELETTROVALVOLA YV1 - ELECTROVALVE YV1	041.0004
6	CILINDRO PNEUMATICO - PNEUMATIC CYLINDER	040.0008
7	DOSATORE DI FLUSSO - FLOWMETER	060.0001

SAFETY VALVE

This valve, situated on the compression head, is preset at a higher pressure until the maximum admitted (see Table Page 9) and operate only in the case of overpressure discharging the product in the lower part of the machine.

In case of intervention of the valve it is necessary to stop the machine and, using the due protections in the situation where the treated product is hot, replace the gasket Ref.4 in the Table below and effect the cleaning of the relative discharge pipe.

In order to reach the above mentioned gasket, it is necessary to disassembly the valve body (Ref.1), unscrewing the nuts (Ref.2).

After having replaced the gasket (Ref.4), you must reassemble the valve body (Ref.1).

Pay attention: For safety reasons it is to avoid replace the gasket Ref.4 with any other type not exatly correspondant and it is also important to verify the propretightening of discharging pipe.

The overpressure that causes the intervention of the safety valve is due to:

- A) Homogenizing pressure value higher to that one admitted (See technical sheet on page 9).
- B) Instantaneous overpressures (water hammers), not ever checkable by the pressure gauge, caused by air compression inside of the product and/or boost feeding of the machine.
- C) Foreign bodies (for ex.pieces of gaskets) and/or product to be treated containing hard particles (clots) which can obstruct the passing trough the homogenizing heads (Table 12, Page29)
- D) Anomaly of the valve groups (broken springs, foreign bodies between valve seats and seats or their wearing) that could cause istantaneous and alternate capacity changes.

CROSS SECTION OF THE SAFETY VALVE

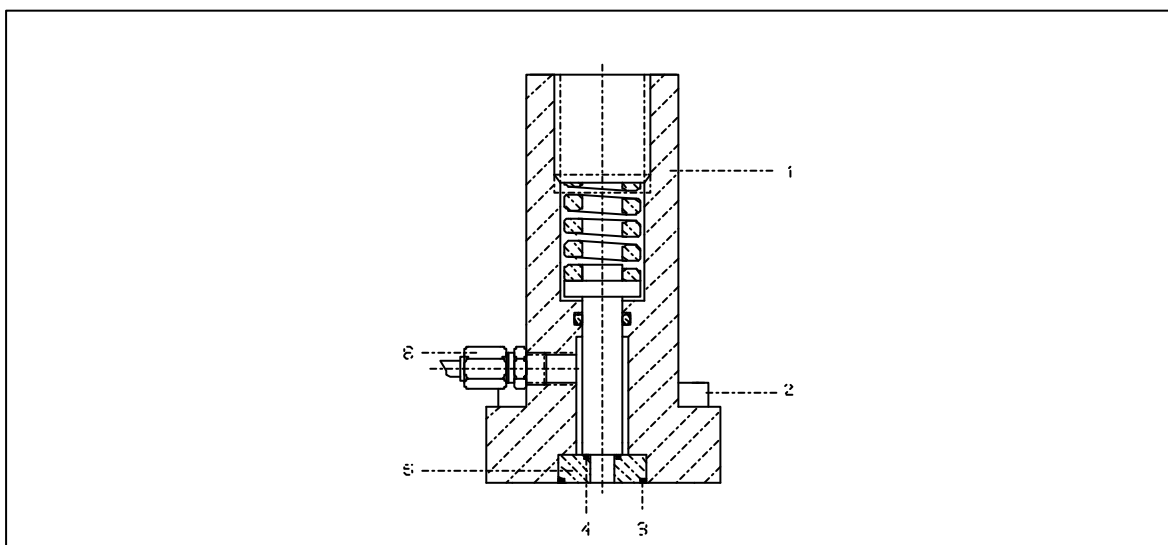


Table 2198V SX3

POS. REF..	DENOMINAZIONE DESCRIPTION	CODICE N° CODE No.
1	CORPO VALVOLA - VALE BODY	001.02325
2	VITE - SCREW	030.TCE112x80
3	GUARNIZIONE - GASKET	001.00075
4	GUARNIZIONE - GASKET	003.0109
5	VALVOLA - VALVE	001.02172
6	RACCORDO - UNION	013.0004

ELECTRIC DIAGRAM
