



**OPERATION AND MAINTENANCE MANUAL FOR ROARK TOOLS
RAP1000 AND RAP1000Q PNEUMATIC TORQUE WRENCH PUMPS.**



This Manual Contains Important Warnings, Cautions and other Instructions.

Read and understand the instruction manual carefully, before use and retain it for reference.

All operators should review and be familiar with this operating manual before operating the pump.



NOTICE

Roark Tools RAP1000 Pneumatic Pumps are designed to be used with Roark Tools Hydraulic Torque Wrenches for installing and removing Fasteners .


Roark Tools Inc. is not responsible for customer modification of pumps for applications on which Roark Tools Inc. was not consulted. Any warranty claims or liabilities claims against Roark Tools/Dekksem become invalid in the following situations: a) If any unauthorized parts or accessories are used with any Roark Tool Products. b) If any Roark Tools/Dekksem equipment is obtained, purchased, rented, used or serviced from an unauthorized Roark Tools/ Dekksem distributor, representative or reseller. c) Not following the Roark Tools RAP1000 manuals guidelines and procedures. *Please contact Roark Tools Directly to verify certifications.

The use of other than genuine Roark Tools replacement parts may result in safety hazards, decreased tool performance, and increased maintenance, and may invalidate all warranties.

Roark Tools requires all tools, hoses and pumps to be inspected on a daily basis by the end user for any signs of damage or worn items.

Roark Tools also requires all tools to be factory inspected every 6 months by an authorized Roark Tools Representative or Repair Center.

Repairs should be made only by authorized personnel. Consult your nearest Roark Tools Authorized Service center. Refer All Communications to the Nearest Roark Tools Office or Distributor.

Always wear eye protection when operating or performing maintenance on this tool	Always wear ear protection when operating this tool	Operating at 10,000 Psi (681 bar) maximum pressure
The torque Reaction Arm must be positioned against a positive stop. Do not use the Arm as a dead Handel. Take all precautions to make certain the operator's hand cannot be pinched between the arm and solid objects.		All ways Turn up the Pump and disconnect the power before installing. Removing, or adjusting any accessory on this tool, or before performing any maintenance on this tool.
Keep body stance balanced and firm. Do not overreach when operating this tool.	Do not carry the tools by the hose	Do not use damaged, frayed or deteriorated hydraulic hoses and fittings.

Calibration

Roark Tools Recommends tools and gauges to be calibrated every 6 months. Calibration however may depend on each individual user's requirements.

WARNING AND CAUTION



WARNING

To avoid personal injury and equipment damages, be sure that every hydraulic component can rated for 10,000PSI (700kg/cm²) Operating Pressure.



WARNING

Try to minimum the danger of overload: Using hydraulic gauge to indicate the working pressure. Hydraulic gauge is a window to show what happened in the hydraulic system.



WARNING

Replace any worn components with the Roark Tools's new components as soon as possible.



CAUTION

Do not subject the components to potential hazard such as fire, sharp surfaces, extreme heat or cold, or heave impact.



CAUTION

Never attempt to grasp a leaking pressurized hose with your hands. The force of escaping hydraulic fluid could cause serious injury.

Do not let the hose kink, twist, curl or bend so tightly that oil flow within the hose is blocked or reduced. Do not use the hose to move attached equipment. Stress can damage the hose, causing personal injury.



WARNING

Do not modify any component of the Hydraulic Pump. Do not change the relief valve which is inside the swivel couplings.



CAUTION

The incorrect system connection will cause failure and danger. Before connection, make sure the swivel couplings being clean. After application, the swivel couplings must be put on the dust caps.



CAUTION

Do not use worn socket and square drive.



CAUTION

Please use the socket of good performance. The quality should be according with the standard of ISO-2725 or ISO-1174 or DIN3129 or DIN3121 or ASME-B107.2/1995.

OPERATING INSTRUCTIONS

Starting operations:

connect the hydraulic power unit to an air compressor that meets the requirements in order to assure proper functionality. .

Nominal through diameter for the pipeline of feeding air to the motor 3/8"

Net pressure for an optimal output between 6-7 bar.

STARTING

Open the sphere valve on the entry of the pneumatic circuit and through the handle grip of the regulator of pressure bring the pressure to 6-7 bar, verifying the value on the pressure gauge.

Operating the right pneumatic button on the push-button panel the motor starts, then pushing the button again the pumping will start, releasing the button there is the return of the torque wrench at low pressure. To stop the power unit press the left button on the push-button panel.

We remember that the hydraulic power unit is generally set in factory at the pressure of 700 bar for the exit A and 150 bar for the exit B. The pressure can be regulated on the exit A through the control valve of maximum pressure provided with handle grip of regulation.

Please consult the torque wrench calibrated torque chart for the correct tool being used to determine what pressure the pump needs to be set to for the correct output.

THE PUMP DOESN'T INTAKE

On the occasion of the first starting the pump is able not to intake oil for the presence of air in the suction chamber. To expel it needs to tilt the power unit of 45° more times up to when the pump doesn't intake. The power units don't ask for particular cares, all it takes is holding checked the level of the oil of the hydraulic circuit. The oil must be replaced every 40 to 60 hours of operation.

Before using a power unit for the first time, you clean the air from the hydraulic circuit performing the following steps:

- Connect the flexible hose to the pump. Press the ball of the rapid joint against a hard surface (wall, floor, work bench, etc.), start the motor and make to go out oil up to when from the rapid joint an outlet of regular oil is not noticed and without air bubbles.
- Release the ball having care to clean the zone that could have dirtied during this operation.
- Don't throw the flexible hose and don't use it as it was a handle to transport the power unit.
- Don't use the hydraulic equipment near to a flame, to explosive, to heat source or to other conditions that could cause a fire or the damage of the equipment. Don't use electric motors in potentially explosive environments.
- The hydraulic equipment should not be exposed to temperatures superior to 70°C when it is in use or when it is in the store.
- The hydraulic oil can be harmful if it enters to direct contact with an open or bloody wound. We recommend to put never a finger or a part of the body in proximity of an orifice or a crack from which there is a hydraulic loss because if it was had to verify an outlet of high pressure hydraulic oil, this could cause a wound and to contaminate it.

AIR MOTOR

GENERAL INFORMATIONS:

This motor can be operated only through compressed air .

Fluid, particles, solid or any other substance they don't have to be present in the air of feeding and particularly combustibile to avoid explosions.

ATTENTION: Not use with inflammable or explosive gas

NOTICE: The motor is designed to exclusively work with air. Prevent the entry in the motor of corrosive gas or dusts. The possible content of aqueous vapor, of contamination substances with oil or other liquids must be eliminated through filtration. The temperature environment doesn't have to overcome the 121°C.

Don't leave never to turn the motor without load to high speed. This would cause an excessive inside overheating, Causing inside parts to rapidly damage of the motor.

LUBRICATION: Use cleansing oil SAE10 or similar

Regular the lubricator placed on the entry line of the motor so that to release a drop of oil every 1400/2100 lt/min of consumption of air. The lubrication is necessary to guarantee the good operation of all the inside

mobile parts and to prevent the rust. An excess of damp inside the line can cause the formation of rust and the formation of ice in the silencer following the expansion of the expelled air.

DANGER: Pay attention to any part in movement. Predispose suitable protections to prevent damages to the people and to the things.

Liquid or solid substances expelled by the motor can cause damages to the skin or to the eyes. Hold distant from the throw of air.

Before any intervention disconnect always the feeding of the air.

At determined speed and at determined exercise loads these models overcome the 85 DBA. Near these motors it is therefore necessary to wear the protection.

REPARATION: If the motor needs an intervention that goes over the simple norms of maintenance, it is convenient to send the motor to the center of assistance.

DANGER: To prevent the risk of explosions don't use the motor with combustible gas. The consequences can be very serious for people and things.

DON'T USE KEROSENE OR OTHER INFLAMMABLE SOLVENTS.

Protect the eyes with special glasses, hold the face away from the throw of air and never wash the motor with inflammable solvents.

The extraneous bodies eventually expelled by the motor can cause serious damages to the people and the things.

INSTRUCTION: the motor speed should never overcome 3000 rpm and don't feed the motor with air pressure superior to 7 bar.

If the motor is slow or inefficient try to wash it with the special solvent AH255B or the Loctite Safety Solvent or a Safety Solvent.

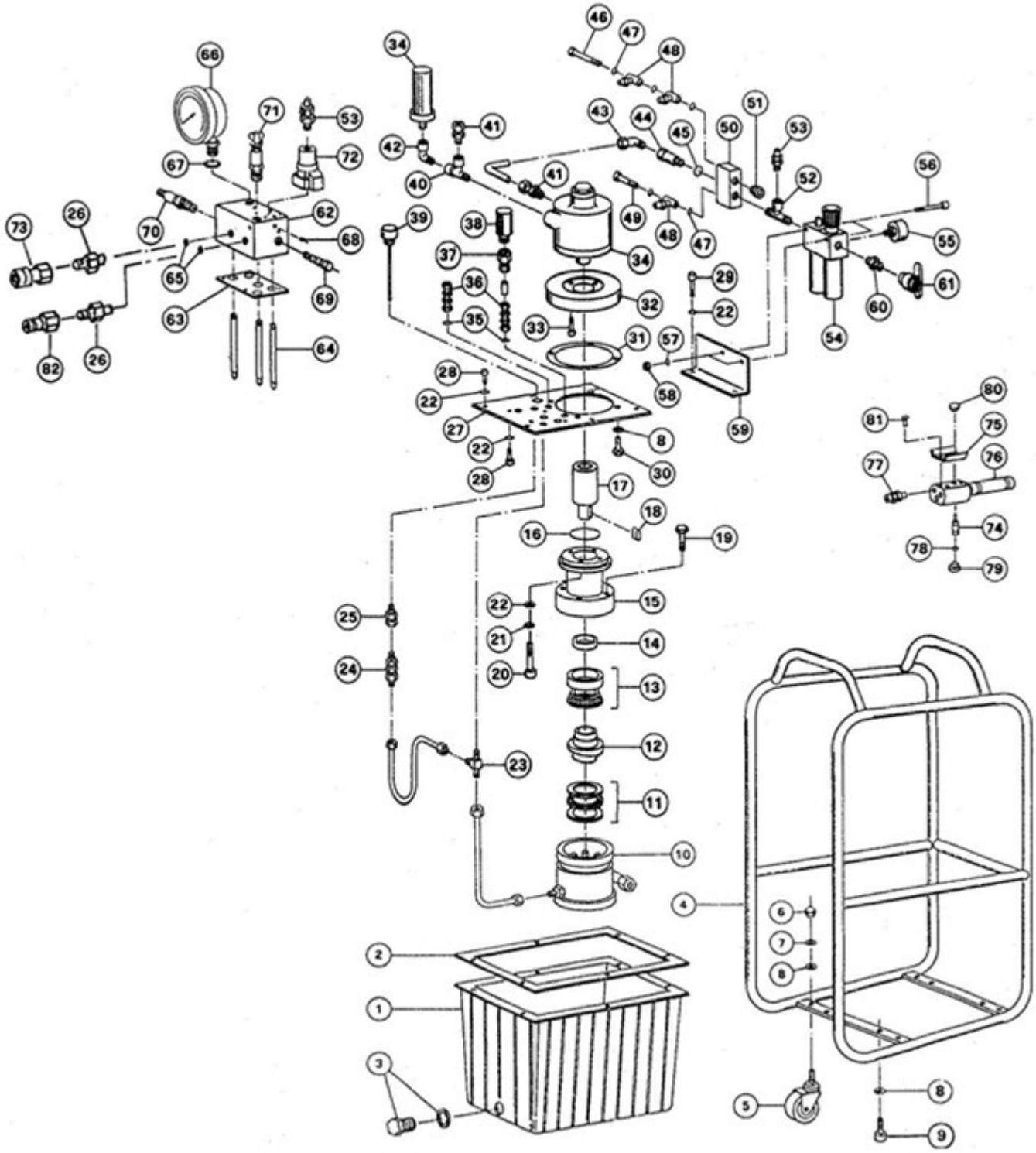
Before proceeding to the washing, disconnect the feeding airline and the silencer and sprinkle or directly pour some spoon of recommended solvent in the motor.

Manually rotate the shaft in both the directions for a few minutes, connect the feeding airline and slowly increase the pressure until there are not more traces of solvent in the unloading air. Perform the washing in a well-ventilated zone.

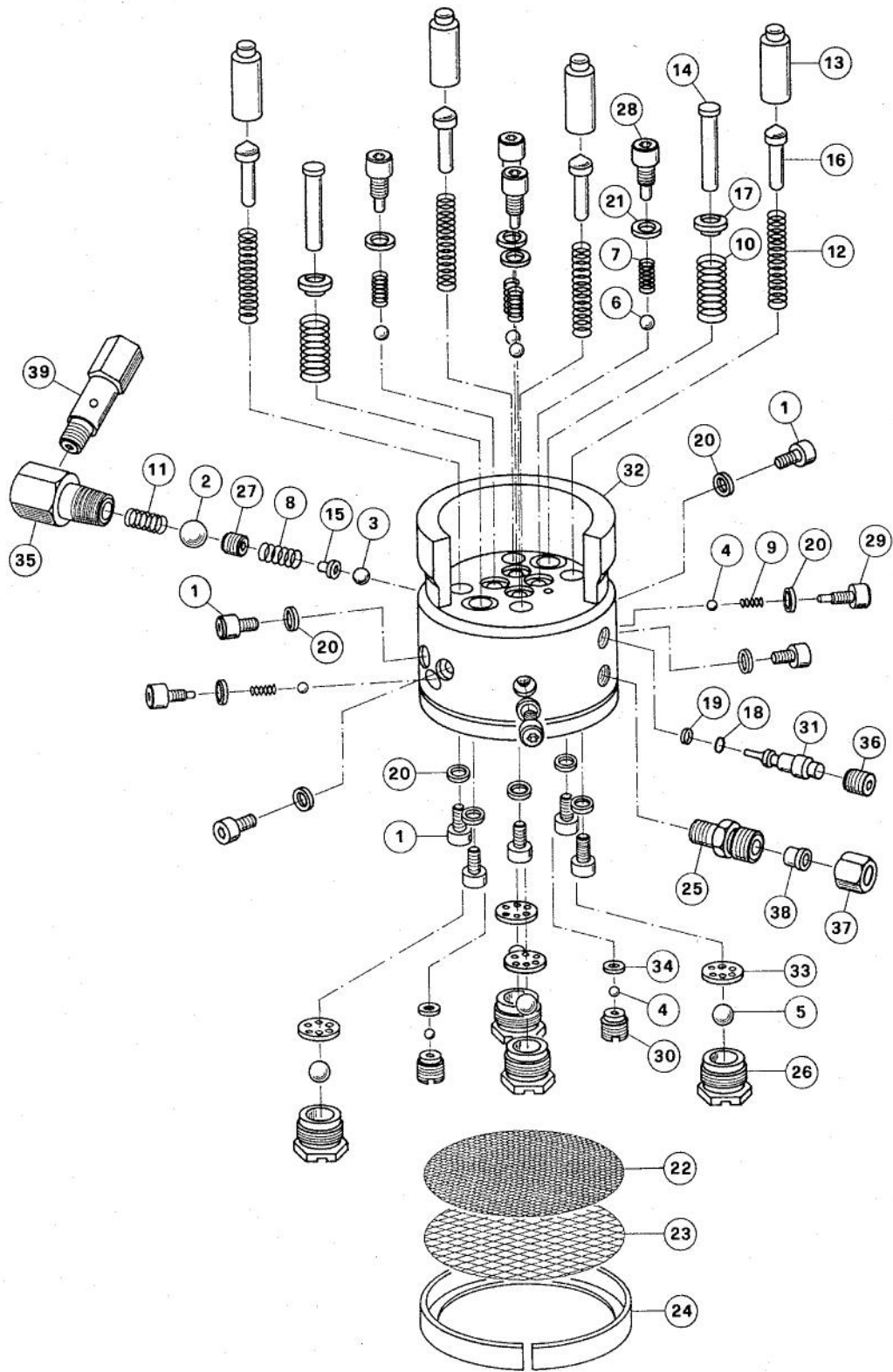
Again lubricate the motor with a throw of oil.

NOTE: The substitution of the inside parts or the removal of possible extraneous bodies can be served only by a mechanic authorized by the builder.

Don't try to get off the motor or the closing flange making lever with a screwdriver this it would get scratches to the surface both of the flange that of the body of the motor with consequent losses of air.



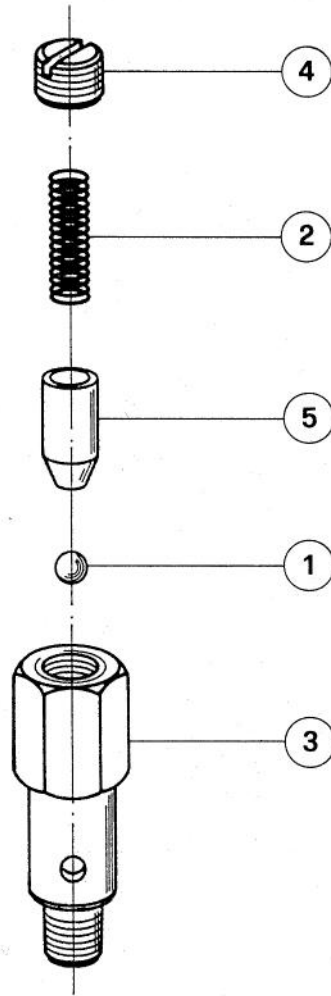
Pos	Nr	DENOMINAZIONE	CODICE	Pos	Nr	DENOMINAZIONE	CODICE
1	1	RESERVOIR	09198CP10	42	1	FITTING	09291A10140
2	1	COVER PLATE GASKET	09205GCP10	43	1	FITTING	09291B51008140
3	1	DISCHARGE PLUG	0921459801	44	1	FITTING	09291A25140
4	1	PROTECTION CAGE	0921519134	45	1	1/4" ALLUMINIUM WASHER	09291D11140
5	4	WHEEL	09252PV/139L	46	1	FITTING	09291D8180
6	4	M8 NUT	09123008	47	5	1/8" ALLUMINIUM WASHER	09291D11180
7	4	D.8.4 LOCK WASHER	09126008	48	3	FITTING	09291R136180
8	12	D.8.4 PLAIN WASHER	09125008	49	1	FITTING	09291D7180
9	4	M8x16 SCREW	09111008016	50	1	PNEUMATIC VALVE	09260PNV33PNBNC
10	1	AXIAL PISTON PUMP	04FPT10	51	1	1/4" GAS PLUG	09291A7140
11	1	BALL BEARING	0918151108	52	1	FITTING	09291A17140
12	1	CAM	0922310282	53	2	FITTING	09291C10604140
13	1	TAPER ROLL BEARING	0918232008	54	1	AIR PRESSURE REGULATOR	09VFRFL0380
14	1	SHAFT SEAL	09208BA32427	55	1	AIR GAUGE	092100431181001
15	1	PUMP FLANGE	0918410660	56	2	M4x40 SCREW	09111004040
16	1	O-RING	09200140	57	2	D.4.3 PLAIN WASHER	09125004
17	1	COUPLING	0922315456	58	2	M4 NUT	09122004020
18	1	COUPLING KEY	091350606028	59	1	PLATE	0922115367
19	4	M6x35 SCREW	09103006035	60	1	1/4" GAS NIPPLE	09291A2140140
20	4	M6x25 SCREW	09111006025	61	2	1/4" GAS BALL VALVE	09260VSC0140
21	4	D.6.4 LOCK WASHER	09126006	62	1	MANIFOLD	0922210287
22	14	D.6.4 PLAIN WASHER	09125006	63	1	GASKET	0920612786
23	1	FITTING	09298LF8S	64	3	DISCHARGE TUBING	0925612435
24	1	CHECK VALVE	09298170D8S	65	2	FILTER	09216F23C4000
25	1	FITTING	09298DF08S	66	1	PRESSURE GAUGE	01MD100G
26	2	1/4" NPT NIPPLE	01N341	67	1	COPPER RING	0920307018015
27	1	COVER PLATE	0922015389	68	7	1/16" NPT PLUG	09295000116
28	8	M6x16 SCREW	09111006016	69	1	INVERSION VALVE	09VI3/HTW
29	2	M6x20 SCREW	09111006020	70	1	RELIEF VALVE 350 BAR	09160VPP204S-16
30	4	M8x20 SCREW	09103008020	71	1	RELIEF VALVE 700 BAR	09160MVE4AR
31	1	GASKET	0920612787	72	1	PNEUMATIC VALVE	09301PZ31
32	1	FLANGE	0918410373	73	1	1/4" NPT FEMALE COUPLING	04GR5F
33	3	1/4"x3/4" UNC SCREW	091110014000340	74	2	PNEUMATIC VALVE	09260MAV3C
34	1	AIR MOTOR	091496AMNRV7A	75	1	PUSH BUTTON PROTECTION	0929310260
35	2	COPPER RING	0920316522015	76	1	HANDGRIP	0929310259
36	2	FITTING	09291B41008	77	3	FITTING	09291C10604180
37	1	FITTING	09291B21008380	78	2	O-RING	09200611
38	1	FILTER	09216SIL380	79	2	SCREW	0921410482
39	1	OIL FILLER CAP	0921454111	80	2	PUSH BUTTON	0929311916-1
40	1	FITTING	09291A13140	81	2	M4x12 SCREW	09108504012
41	2	FITTING	09291811008140	82	1	1/4" NPT MALE COUPLING	04GR5M



PISTONS PUMPS MOD. RFPT-1

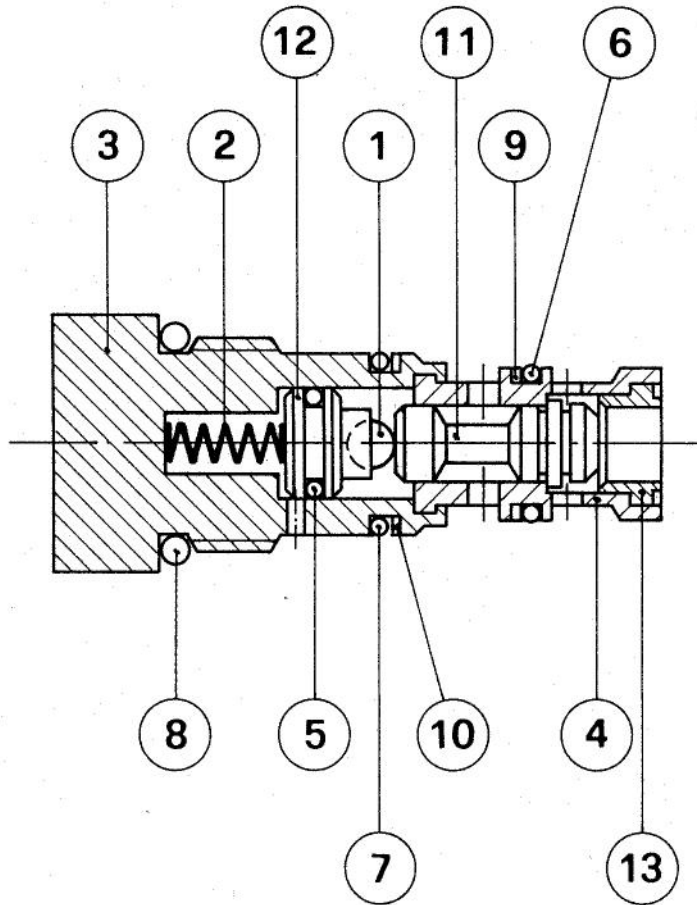
POS	QTY	DESCRIPTION	PART #
1	11	VITE T.C.E.I. M 5 X 8	09111005008
2	1	SFERA 1/2"	09129000120
3	1	SFERA 1/4"	09129000140
4	4	SFERA 1/8"	09129000180
5	4	SFERA 3/8"	09129000380
6	4	SFERA 7/32"	09129000732
7	4	MOLLA	0914610229
8	1	MOLLA	0914610246
9	2	MOLLA	0914610382
10	2	MOLLA	0914610460
11	1	MOLLA	0914610603
12	4	MOLLA	0914610604
13	4	PISTONE DIAM.12.5	0918920085
14	2	PISTONE DIAM. 6	0918910996
15	1	PERNO GUIDA	0919610228
16	4	GUIDA MOLLA	0919610685
17	2	RONDELLA GUIDA	0919610997
18	1	O.RING	09200006
19	1	ANELLO ANTIESTR.	09201006
20	13	RONDELLA RAME	0920305108010
21	4	RONDELLA RAME	0920308212515
22	1	FILTRO ASPIRAZ.	0921611249
23	1	SUPPORTO FILTRO	0921611250
24	1	ANELLO FISSAGGIO	0922110227
25	1	RACCORDO USCITA	0922210687
26	4	VALVOLA ASPIRAZ.	0922410688
27	1	GRANO FORATO	0923010689
28	4	VITE	0923010417
29	2	VITE	0923010998
30	2	TAPPO ASPIRAZ.	0923110948
31	1	SPOOL SCARICO	0923410462
32	1	CORPO POMPA	0924020084
33	4	RONDELLA ASPIR.	0925010557
34	2	RONDELLA ASPIR.	0925012320
35	1	RACCORDO	0925611108
36	1	TAPPO 1/8"	09295000180
37	1	DADO BLOCCAGGIO	09298004551
38	1	ANELLO TAGLIENTE	09298070520
39	1	VALVOLA DI MAX	0916020700018

RELIEF VALVE



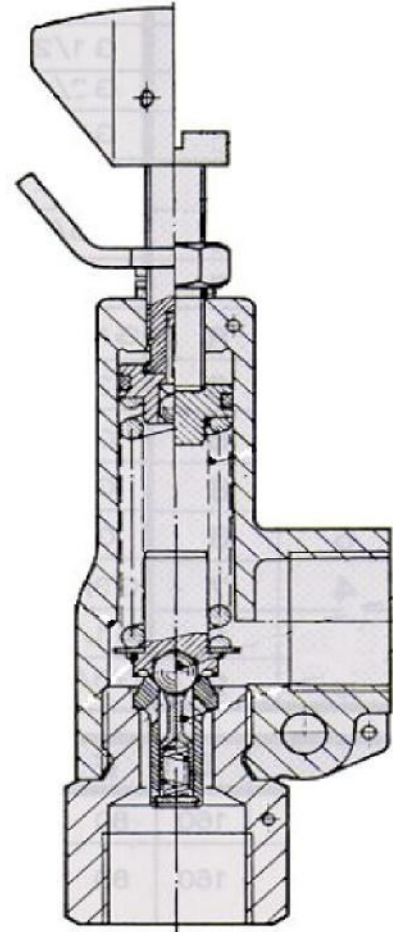
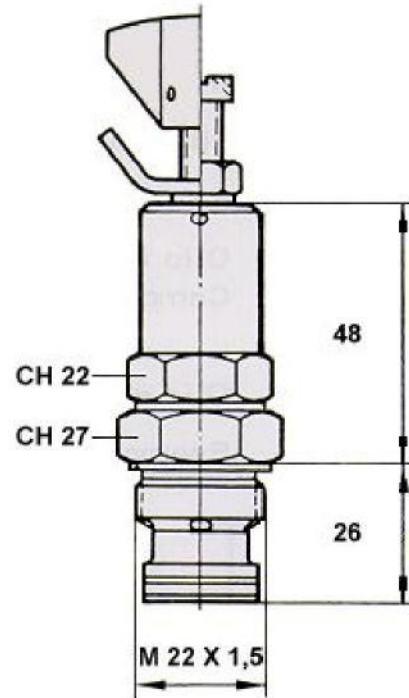
POS	Qty	DESCRIPTION	CODE
5	1	SPRING GUIDE PIN	0919610677
4	1	ADJUSTING SCREW	0923010058
3	1	BODY VALVE	0919210422
2	1	SPRING	0914610678
1	1	BALL 3/16	09129000316

INVERSION VALVE MOD. VI3/HTW



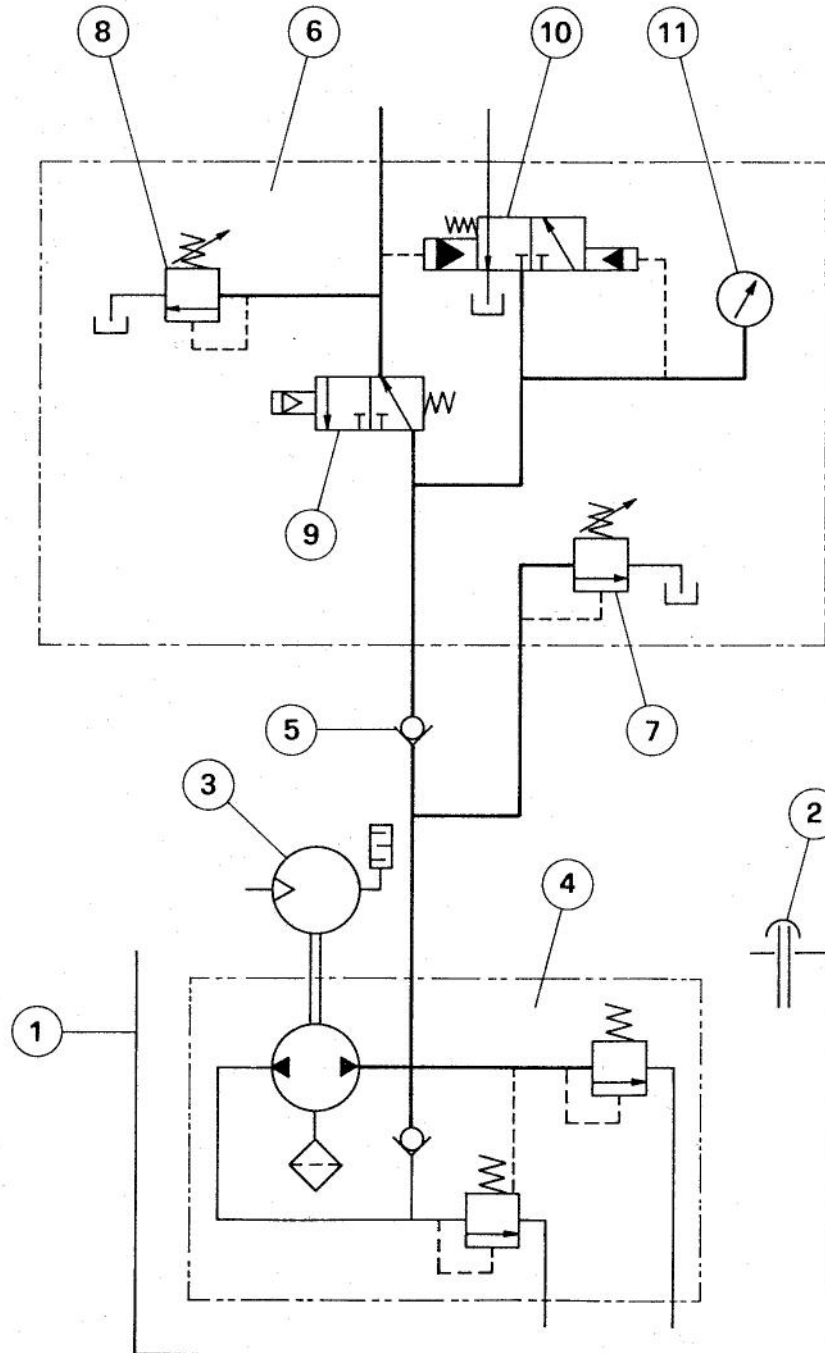
POS	Qty	DESCRIPTION	CODE
13	1	BUSH	0923510394
12	1	PISTON	0923410393
11	1	SPOOL	0923410392
10	1	BK RING	09202009010
9	1	BK RING	09202008010
8	1	O.RING	09200014
7	1	O.RING	09200009010
6	1	O.RING	09200008010
5	1	O.RING	09200005010
4	1	INTERNAL BODY	0919210391
3	1	EXTERNAL BODY	09119210390
2	1	SPRING	09114610395
1	1	BALL 1/8	09129000180

CONTROL PRESSURE VALVE



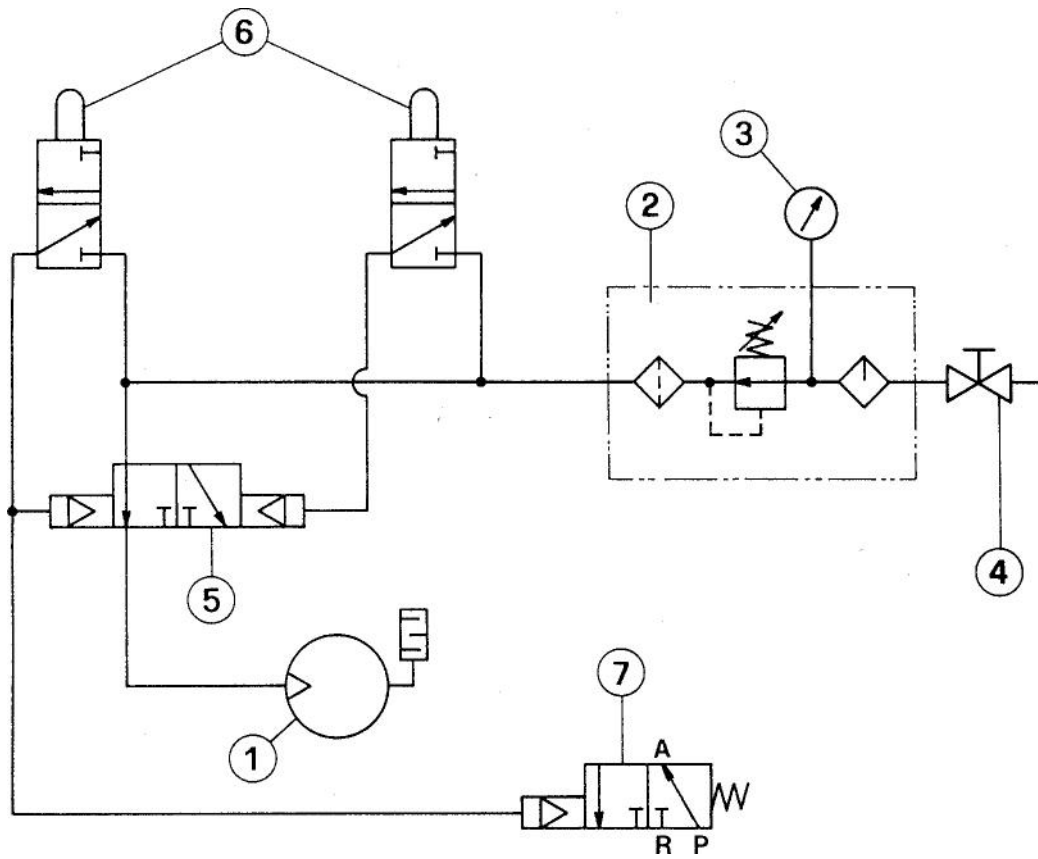
The control pressure valve primarily acts on the pressure of the hydraulic plant (DIN ISO 1219) It protects the plant avoiding to go beyond the admissible maximum values or to limit the working pressure to the desired field

HYDRAULIC SCHEME



POS	QTY	DESCRIPTION	CODE
1	1	RESERVOIR	198CP10
2	1	OIL FILLER CAP	21454111
3	1	MOTOR	091496AMNRV7A
4	1	PISTON PUMP	FPT-10
5	1	CHECK VALVE	298170D8S
6	1	BLOCK	BD4VA/HTW
7	1	700 BAR VALVE	160MVE4AR
8	1	350 BAR VALVE	160VPP204S-16
9	1	PNEUMATIC VALVE	301PZ31
10	1	INVERSION VALVE	VI3/HTW
11	1	PRESSURE GAUGE	MD100G

PNEUMATIC SCHEME



POS	QTY	DESCRIPTION	CODE
1	1	MOTOR	1496AMNRV7A
2	1	F.R.L. GROUP	09183VFRFL0380
3	1	PRESSURE GAUGE	092100531181001
4	1	BALL VALVE	
5	1	PNEUM. VALVE	09260PNV43PNBNC
6	2	PUSH BOTTON	09260MAV3C
7	1	PNEUM. VALVE	09301PZ31