

SERIES 06 HYDRAULIC PUMPS

The hydraulic pump is operated by compressed air and has a capacity of 500 NI/min.

Three types of actuation are possible.

Manual: when the flywheel is turned clockwise, a valve delivers compressed air to the reciprocating pneumatic motor. When it is turned anticlockwise, the pump is no longer pressurized and the oil returns to the reservoir.

Pneumatic: the pump is operated by a remote pneumatic signal, allowing use in multiple systems.

No control: the pump is always pressurized.

In all three versions, when the pump reaches the pressure setting, it will deactivate. It restarts automatically only to compensate for strokes, pressure drops due to leaks, or system leaks.



APPLICATIONS

Hydraulic pumps can be used to supply high-pressure circuits, such as:

- single-acting cylinders
- multiple-circuit equipment (with the addition of a multiple valve)
- extractors, presses, and tools for bending, marking, drilling, blanking, upsetting and riveting.

TECHNICAL DATA

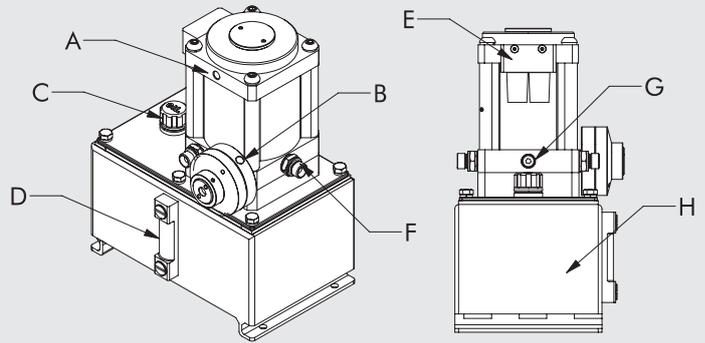
Bore	mm	100				
Piston rod dimensions	mm	14	16	18	20	22
Compression ratios		51:1	39:1	30:1	25:1	21:1
Oil flow rate	cm ³ /min	1500	2000	2500	3000	3400
Noise level	Db	89				
Maximum air flow required	NI/min	500				
Maximum air supply pressure	bar	2÷8				
Minimum pneumatic pressure for pneumatic control activation	bar	4				
Maximum hydraulic pressure at outlet	bar	40÷408				
Working temperature range	°C	-10°÷+70				
Recommended oil		TORQUEMATIC 2 DEXRON				
Fluid		Filtered air, lubricated or not.				
		If operating with lubricated air the lubrication must be continuous.				

KEY TO CODES

Z52	06	100	14	04	1	3
	SERIES	BORE	PISTON ROD DIAMETER	STROKE [cm]	CONTROL	RESERVOIR
	06	100	16	04	1 No control	1 No tank
			18		2 Manual control	2 With tank 0.5 Litre
			20		3 Pneumatic control	3 With tank 3 Litre
			22			4 With tank 5 Litre

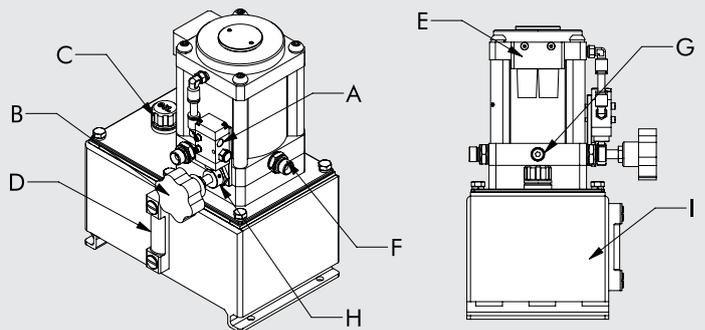
PNEUMATIC CONTROL VERSION COMPONENTS

- A Pump air feeding Input
- B Pneumatic control power Input
- C Tank oil refill Plug
- D Oil level in the tank
- E Air filter
- F Oil supply fitting
- G Circuit air drain cap
- H Oil tank



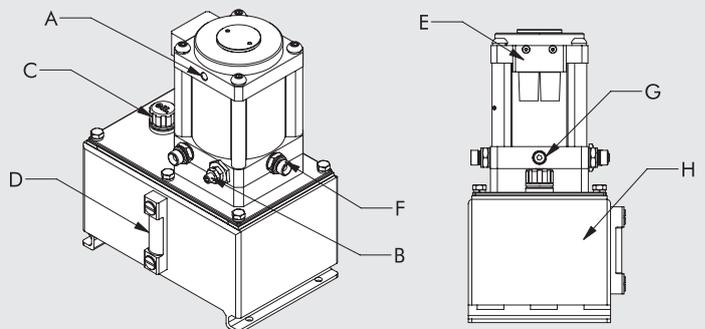
MANUAL CONTROL VERSION WITH HANDWHEEL COMPONENTS

- A Pump air feeding Input
- B Handwheel
- C Tank oil refill Plug
- D Oil level in the tank
- E Air filter
- F Oil supply fitting
- G Circuit air drain cap
- H Manual valve opening/closing cam
- I Oil tank

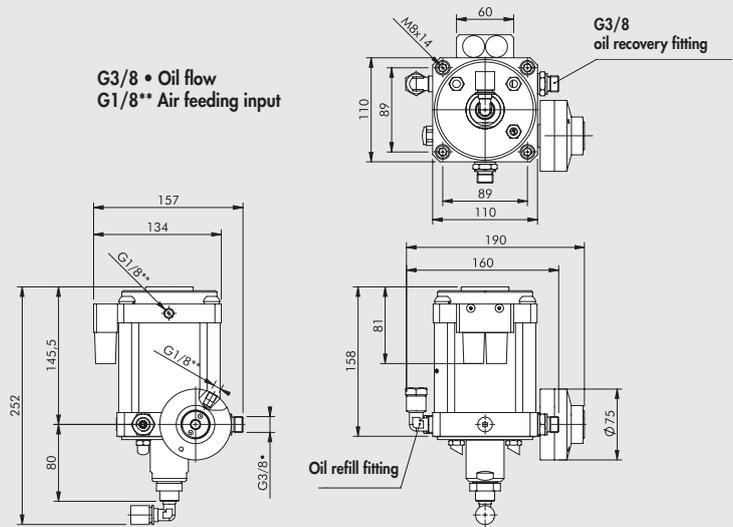


NO CONTROL VERSION OR FIXED CONTROL COMPONENTS

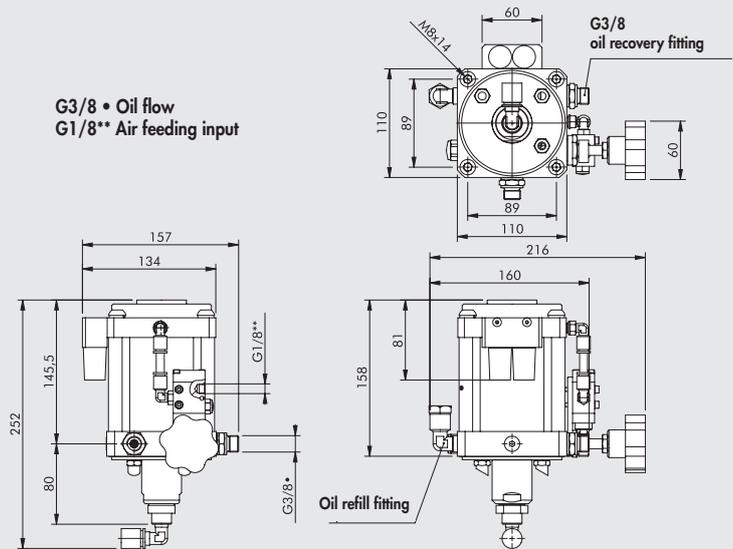
- A Pump air feeding Input
- B Fixed control dowel
- C Tank oil refill Plug
- D Oil level in the tank
- E Air filter
- F Oil supply fitting
- G Circuit air drain cap
- H Oil tank



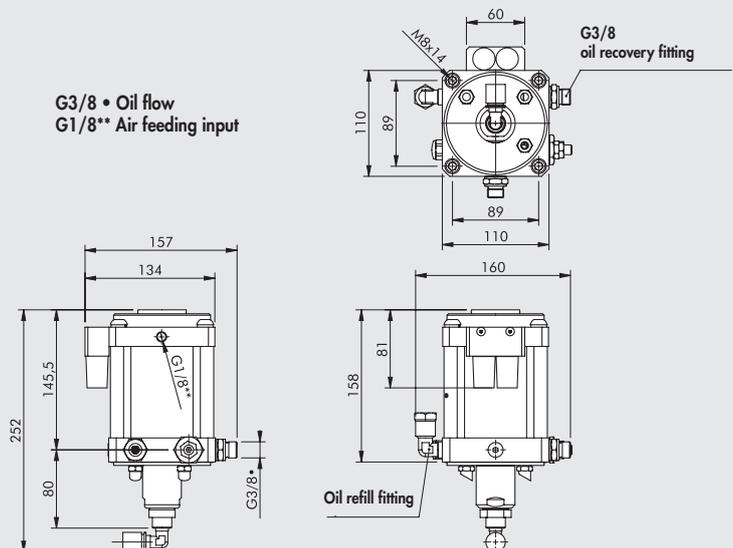
PNEUMATIC CONTROL DIMENSIONS



MANUAL CONTROL DIMENSIONS

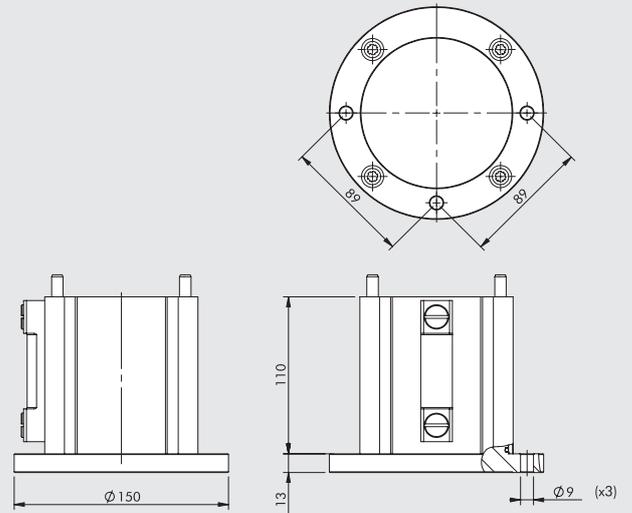


NO CONTROL DIMENSIONS

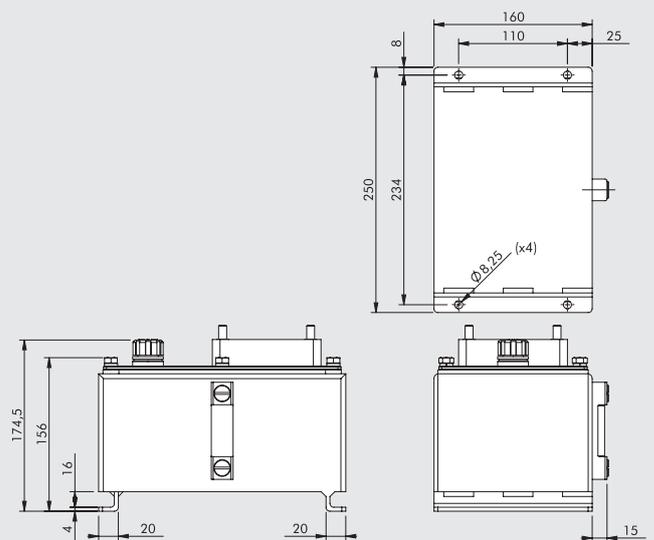


0,5 LITRE TANK DIMENSIONS

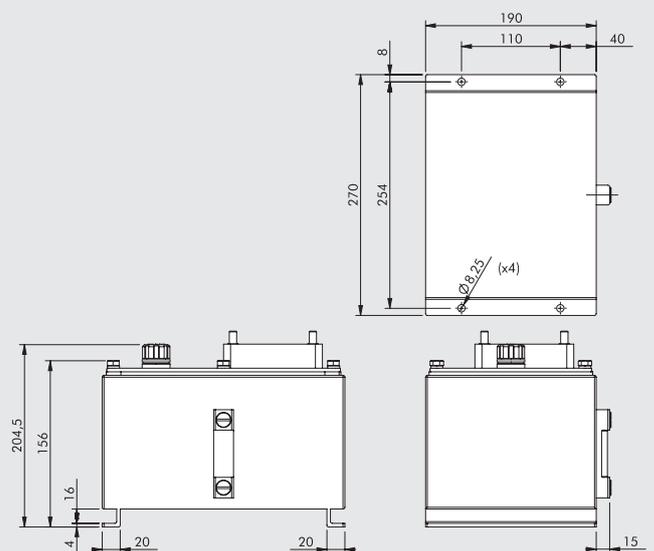
The 0.5 Lt. tank has the option - by unscrewing the 4 fixing screws - to get rotated keeping the level to the desired position.



3 LITRE TANK DIMENSIONS



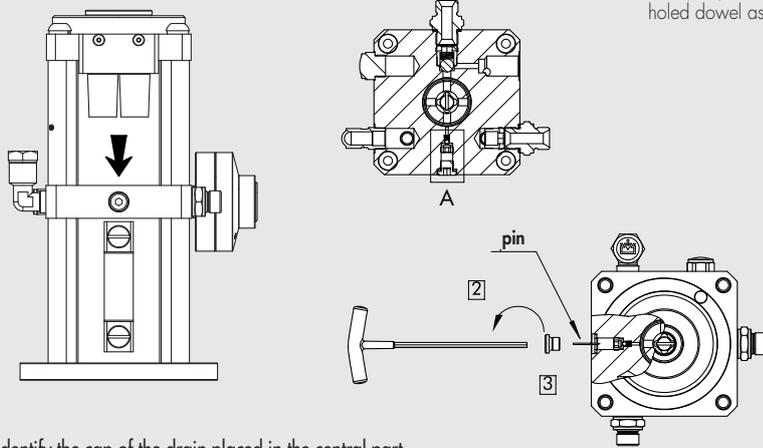
5 LITRE TANK DIMENSIONS



AIR DRAIN STAGES

How to drain the pump if there is air in the circuit.

The operation principle is extremely simple, in fact it's nothing but a non-return valve. The spring - aided by the oil pressure - keeps the ball pressed against the wall of the holed dowel as long as we act manually on it.



First, identify the cap of the drain placed in the central part of the intermediate flange under the filters.

FIRST STAGE:

Connect the hydraulic pump, fill the tank and operate the circuit.
At this point the pump should work.
Should it pump without going in pressure it means that there is air in the circuit.
We must then proceed with the next stages, that are the drain ones.

SECOND STAGE:

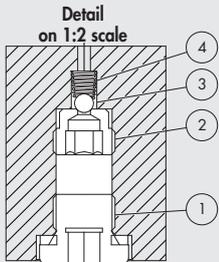
Unscrew the 1/8 cap ① with the Allen key 5.

THIRD STAGE:

Bring the provided pin and - for each vacuum flow delivery of the pump - press on the ball ③ until a drop of oil comes out.

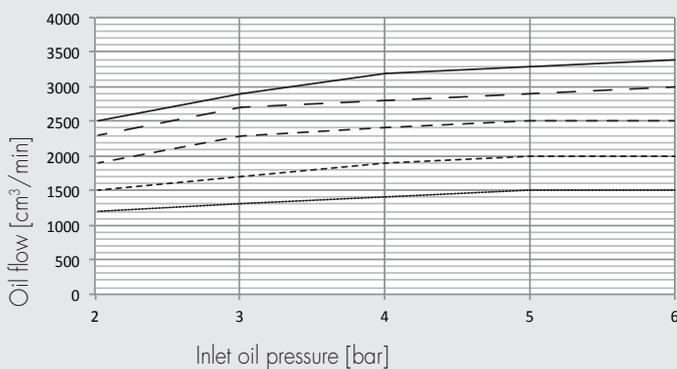
FOURTH STAGE:

Now we are sure that the circuit is full, therefore we can unscrew the cap again.



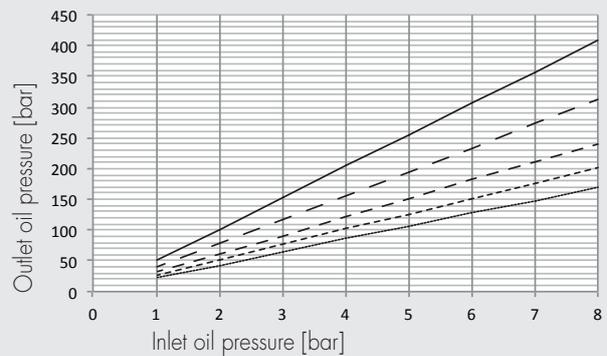
In the sectional view we can see how a drain system is composed. We find the cap ①, the holed dowel ②, the ball ③, and finally the spring ④.

AIR PRESSURE/ OIL FLOW DIAGRAM



— D.St.14
 - - - D.St.16
 - - - D.St.18
 - - - D.St.20
 — D.St.22

AIR PRESSURE/ OIL FLOW OUTLET DIAGRAM



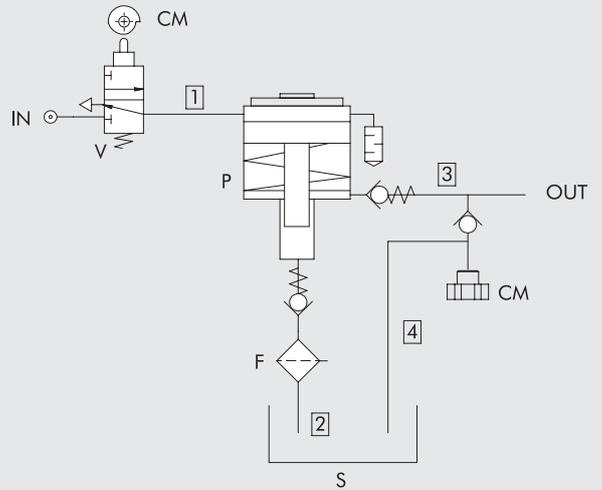
— Z52061001404__
 - - Z52061001604__
 - - - Z52061001804__
 - - - Z52061002004__
 — Z52061002204__

MANUAL CONTROL PUMP SCHEME

- IN = Air inlet
- OUT = Oil outlet

- P = Oleopneumatic pump
- V = 3/2 mechanical valve normally closed
- F = Oil filter
- S = Oil tank
- CM = Cam manual drive + handwheel

- 1 = Inlet air line
- 2 = Inlet oil line
- 3 = Oil supply line
- 4 = Oil discharge line



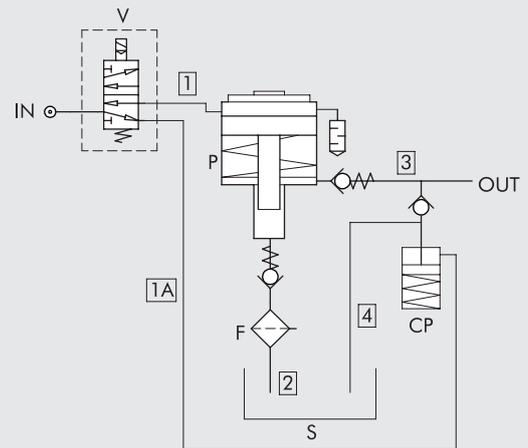
PNEUMATIC CONTROL PUMP SCHEME

- IN = Air inlet
- OUT = Oil outlet

- P = Oleopneumatic pump
- F = Oil filter
- S = Oil tank
- CM = Cam manual drive + handwheel

- V = NOT SUPPLIED valve

- 1 = Inlet air line
- 1A = Pneumatic control inlet air line
- 2 = Inlet oil line
- 3 = Oil supply line
- 4 = Oil discharge line

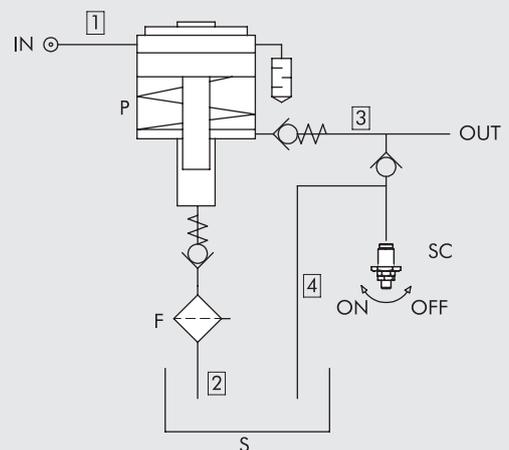


NO CONTROL PUMP SCHEME

- IN = Air inlet
- OUT = Oil outlet

- P = Oleopneumatic pump
- F = Oil filter
- S = Oil tank
- SC = Without control (the nut is needed only to discharge the pump in case of emergency)

- 1 = Inlet air line
- 2 = Inlet oil line
- 3 = Oil supply line
- 4 = Oil discharge line



MAINTENANCE

Faults indicators

Sign	Cause	Solution
1 . The pump continues to pump but does not create pressure	1 .1 The correct discharge hasn't been carried out	1 .1 Carry out the discharge as described above
	1 .2 There is no oil in the tank	1 .2 Fill the oil tank
	1 .3 The drive is open and goes to discharge	1 .3 Close the drive
	1 .4 The internal gaskets are worn	1 .4 Replace the gasket kit
	1 .5 Oil suction filter obstructed	1 .5 Clean the oil filter
2 . Even if in pressure the pump continues to reactivate	2 .1 Outside circuit leak	2 .1 Check the entire circuit
	2 .2 The internal gaskets are worn	2 .2 Replace the gasket kit
	2 .3 Dirt in the ball bearing valves	2 .3 Clean the ball bearing valves, the filters and change the oil
3 . The pump works slowly	3 .1 Air pressure drop	3 .1 Check the air system
	3 .2 Lack of grease or lubrication	3 .2 Regreased or lubricate (if you start to use lubrication, effect it periodically)
	3 .3 Presence of dirt in the filters	3 .3 Remove and clean filters or replace them
	3 .4 Icing on the air filters	3 .4 Stop the pump and clean the filters from ice

Below you find some operations to effect a general but fundamental maintenance on the pump.

- Clean or replace the air filters consistently
- Regularly clean the oil filter from any possible residues in the tank
- Check the oil level in the tank
- We suggest a complete control of the oil in the system after about 2000 hours of work or every time it is polluted by external agents.

CAUTION:

DO NOT PERFORM MAINTENANCE WORK WHEN THE SYSTEM IS UNDER PRESSURE EITHER PNEUMATIC AND OLEODINAMIC.

COMPATIBLE OIL TABLE

For filling or topping up the oil we suggest the use only of the following oils:

- TORQUE o MATIC DATF
- MOBIL - ATF 220-32°
- BP - AUTRAN GM-MP 34°
- AGIP - ATF DEXRON 35°
- API - APILUBE ATF DEXRON IID
- ESSO - AUTOMATIC TRASMISSION FLUID D
- FIAT - TUTELA GI/A
- FINA - FINAMATIC II
- IP - TRASMISSION FLUID DX
- ROLOIL - HIDROMATIC - DEX
- SHELL - ATF DEXRON 11
- TOTAL - FLUIDE ATX