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Optional accumulators to ensure hydraulic pilota control even in emergency condition

Description:

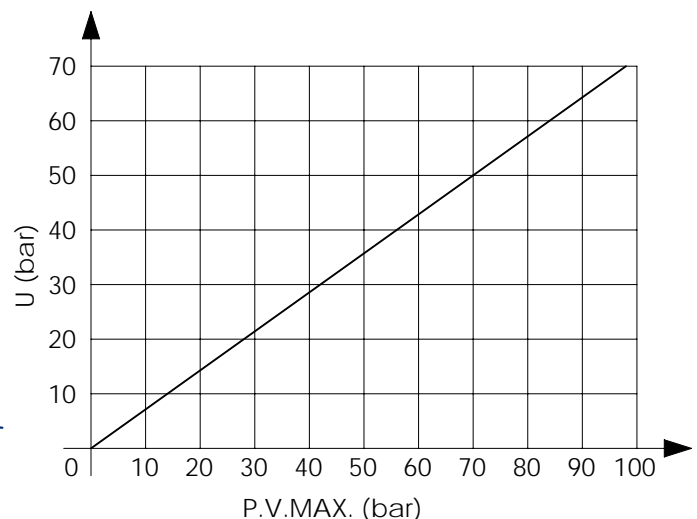
FLUIDEA supply units type HSU may be used in the hydraulic systems to keep constantly pressurized the inlet port of joysticks, foot pedals, brake and clutch circuits, when when it is not available on the system an auxiliary pump for the purpose. They also may guarantee a pilot signal, in case of blackout of the main power supply, to bring manually the operating functions of the system in a safe position, until the maintenance and restart of the circuit.

They operate by the principle of the direct acting pressure reducing valves. The fluid comes from the high pressure main circuit and feeds the inlet ports P1-P2-P3; the pressure is reduced and stabilized to the required value through a pressure reducing valve that sends to the port U the flow required to the inlet ports of the remote pilot control valves. The low pressure circuit is protected with an adjustable relief valve integrated into the reducing valve cartridge.



Pilot supply units are usually equipped with a membrane hydro pneumatic accumulator. The purpose of the accumulator is to increase the flow to the pilot remote valves, therefore reducing the response time and also to ensure a number of emergency operations in order to put the machine back in a safe position, by keeping the circuit pressurized, in case of power supply failure. A check valve has the purpose of preventing the accumulator to get empty.

In addition to the extremely compact dimensions, an useful characteristic of the hydraulic supply units HSU is the possibility of adjust at the same time both the pressure reducer valve and the pressure relief valve, just acting on a single screw. The pressure setting of the pressure reducer valve will always be 10 bar lower than the pressure relief valve, as shown the diagram.



The data and the technical features in this catalogue are not binding. The manufacturer reserves the right to carry out modifications, by its unquestionable judgement and without prior notice, in order to improve its products. The manufacturer is not responsible for damage to people or properties caused by an improper use of the product.

Technical features

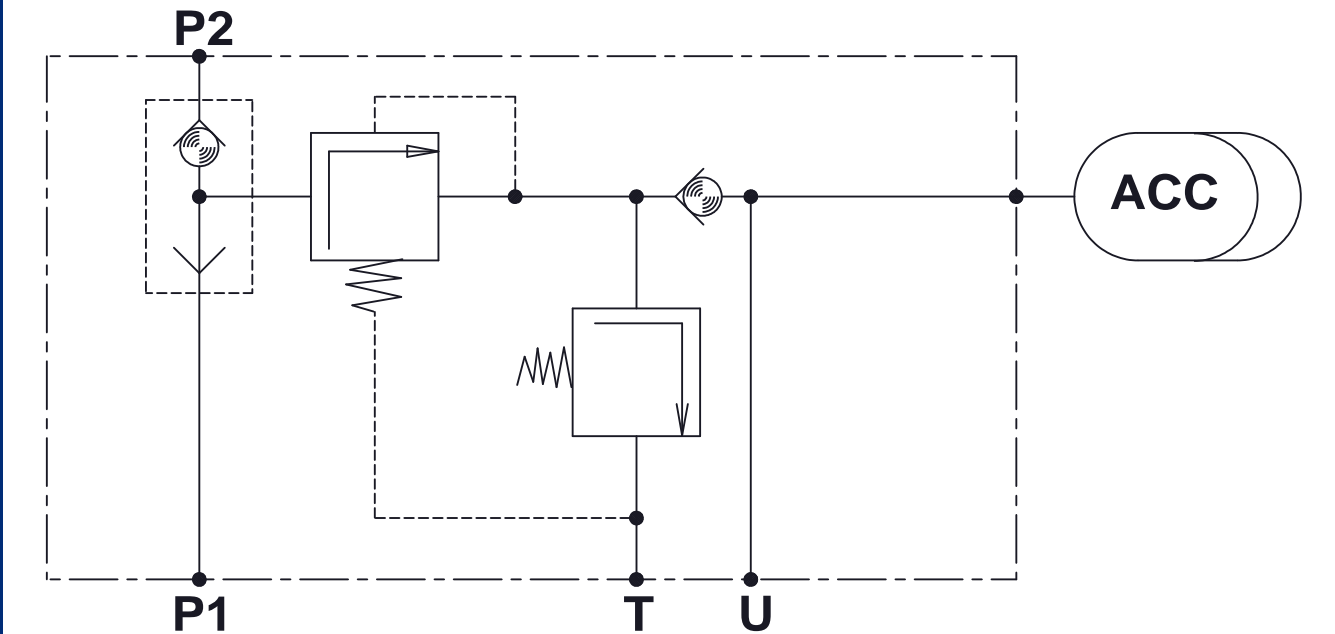
Hydraulic supply units HSU can be mounted in any position, taking care to keep the accumulator away from heat sources.

Maximum inlet pressure (P1, P2, P3):	350 bar
Minimum inlet pressure (P1, P2, P3):	10 bar
Outlet reduced pilot pressure (U):	10 ÷ 70 bar
Outlet flow (U), without accumulator:	8 l/min
Maximum back pressure on the tank port (T):	3 bar
Fluids:	Hydraulic mineral oils HL, HLP DIN 51524
Fluid temperature operating range:	- 20 ÷ + 80 °
Ambient temperature range:	- 40 ÷ + 60 °
Fluid viscosity range:	10 ÷ 300 Cst
Fluid contamination class:	21/16/13 ISO 4406
Accumulator nitrogen pre-charge pressure:	13 bar
Body material:	Cast iron
Ports:	1/4" ISO 228/1 - 9/16"-18 UNF 2B ISO 11226



HSU pilot supply unit with 3 inlet ports, 2 VSE solenoid valves and hydro pneumatic accumulator

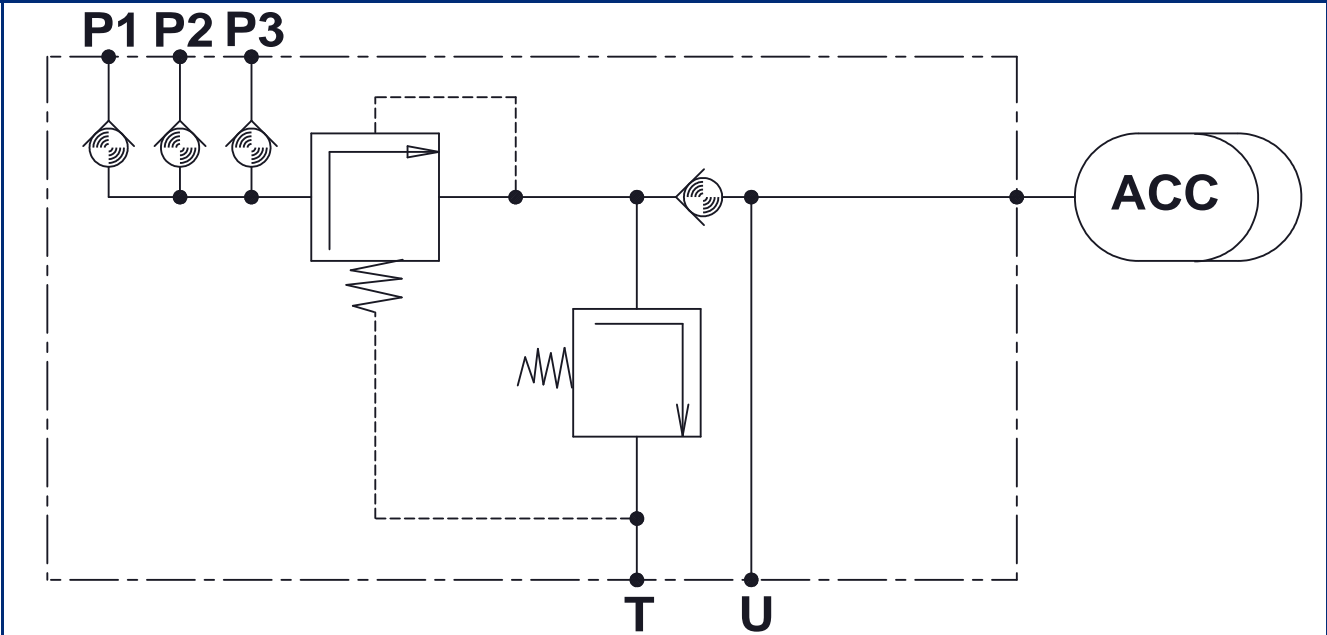
Hydraulic circuit diagrams



Supply unit HSU with two high pressure inlet ports without ESV (*)

A

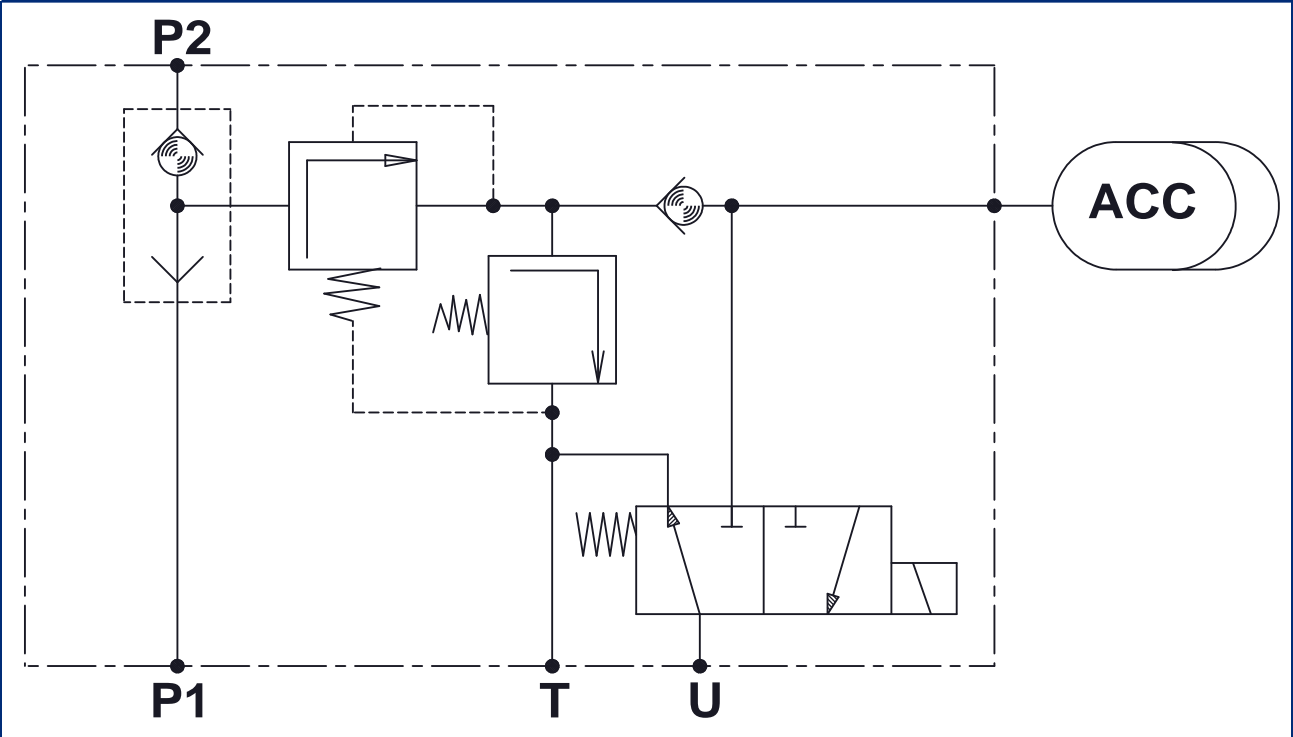
(*) ESV = Electric selector valve



Supply unit HSU with three high pressure inlet ports without ESV (*)

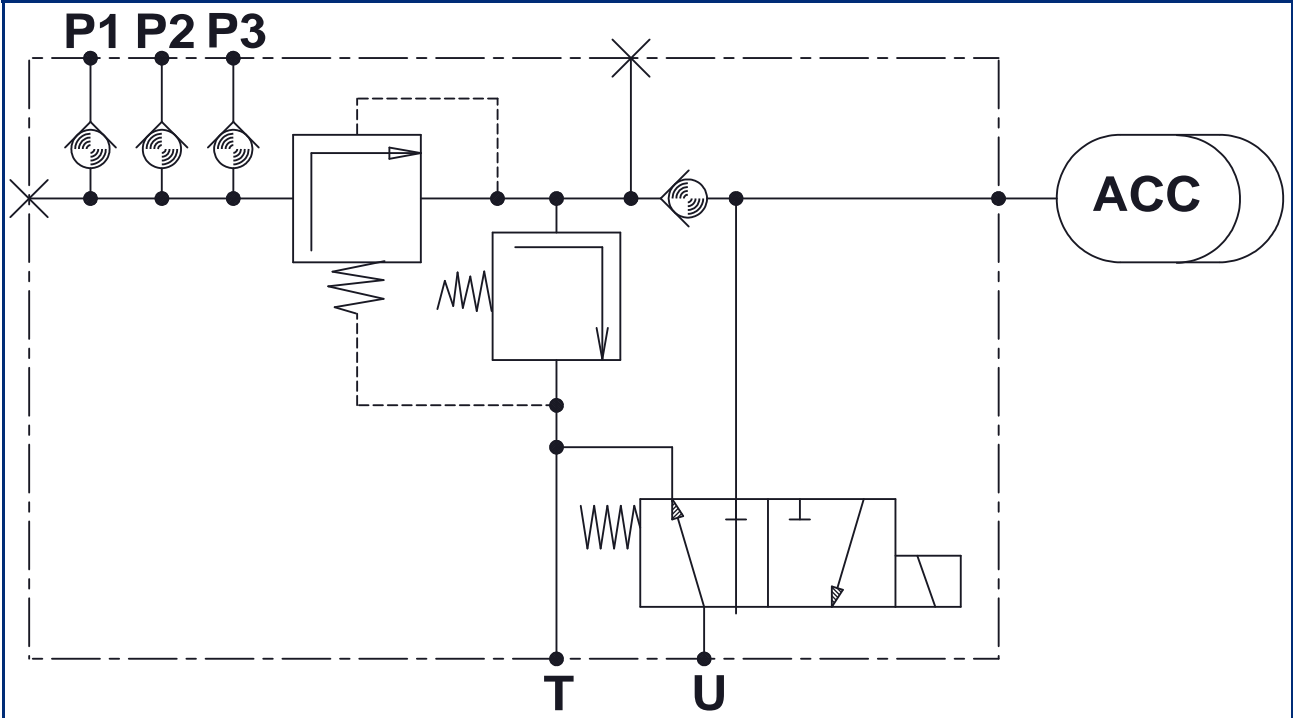
B

Hydraulic circuit diagrams



Supply unit HSU with two high pressure inlet ports with ESV (*)

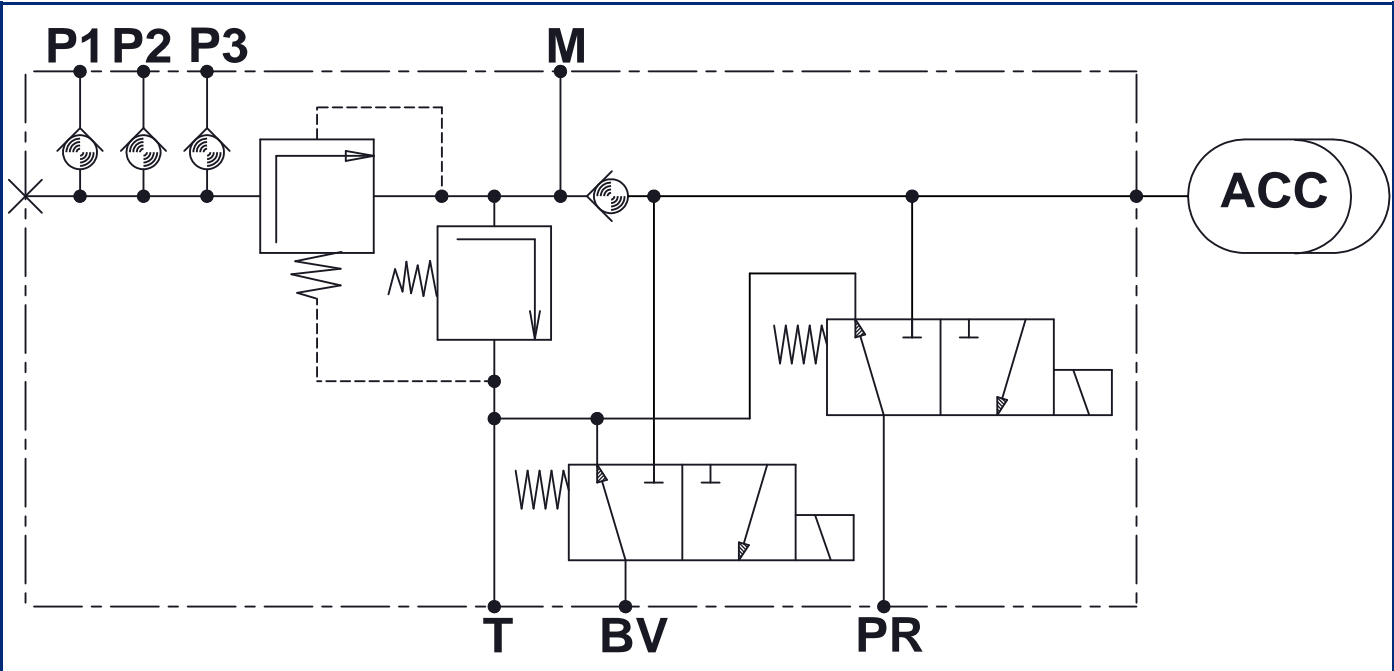
C



Supply unit HSU with three high pressure inlet ports with ESV (*)

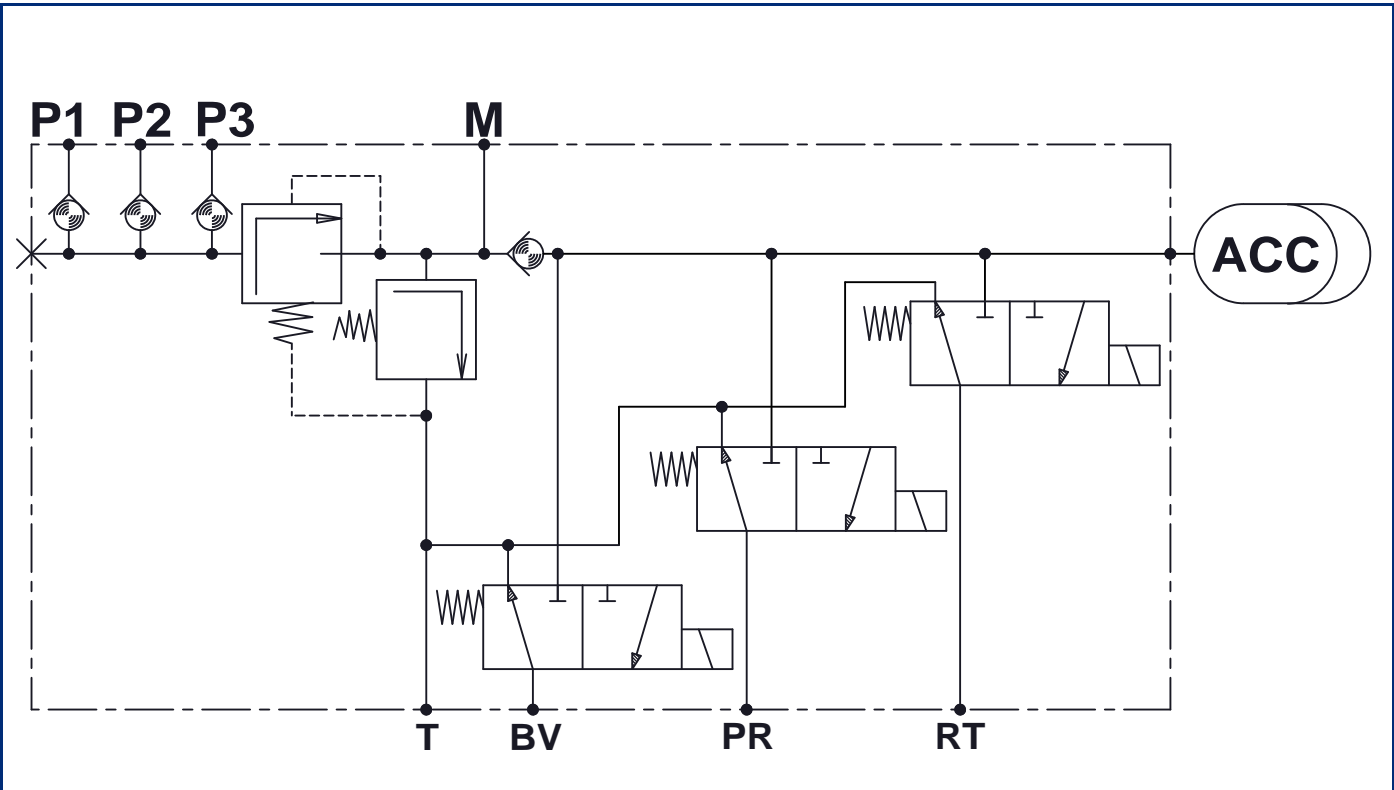
D

Hydraulic circuit diagrams



Supply unit HSU with three high pressure inlet ports with two ESV (*)

D

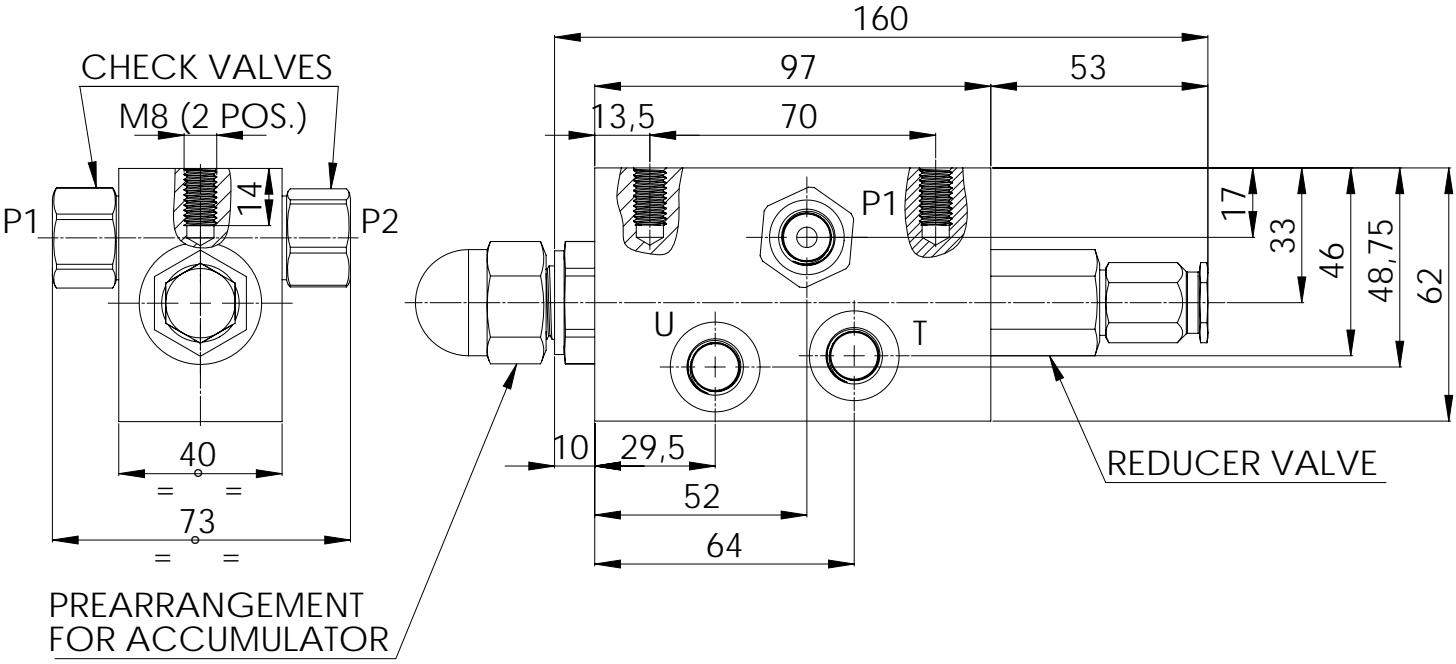


Supply unit HSU with three high pressure inlet ports with three ESV (*)

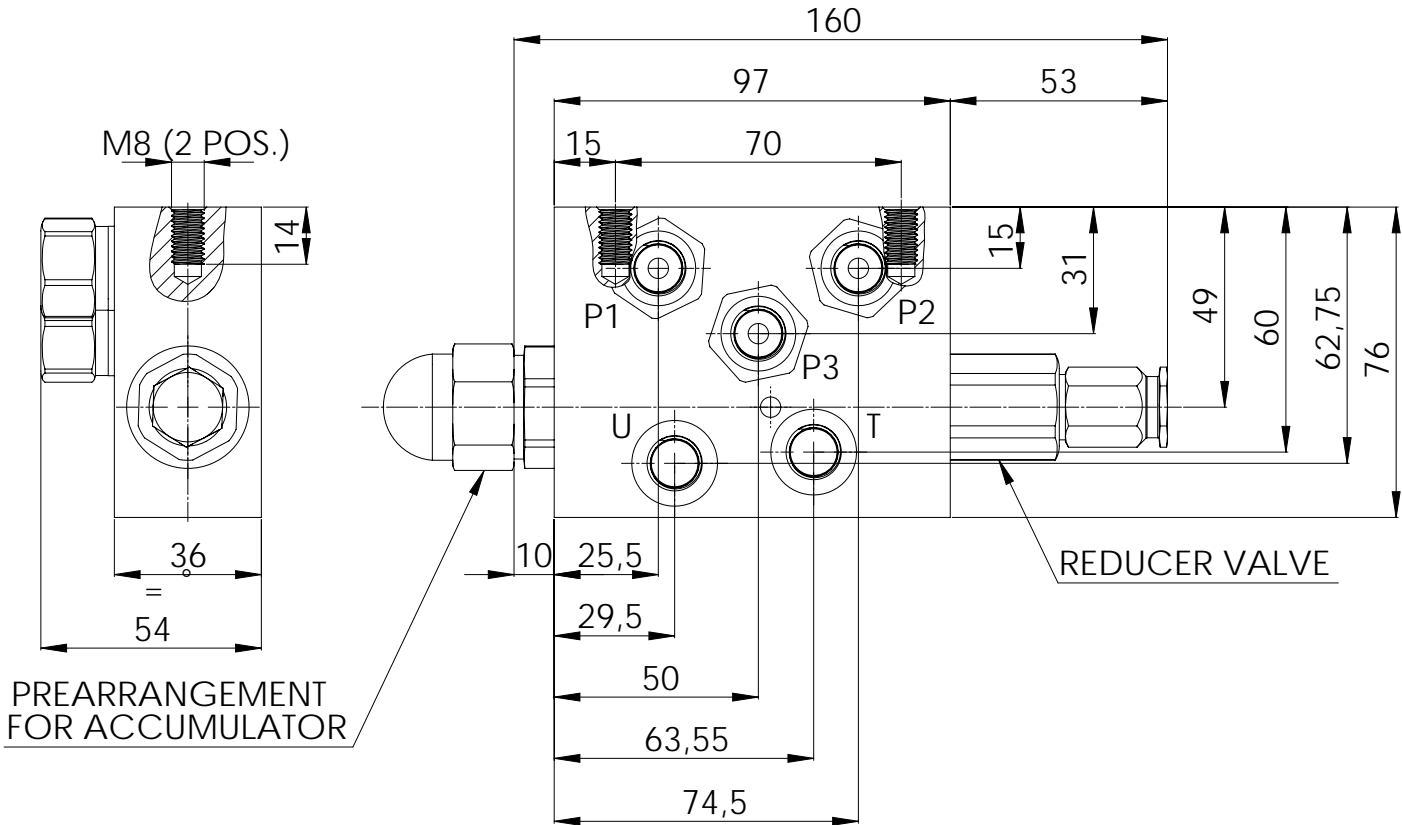
E

Overall dimensions

Supply unit HSU with two high pressure inlet ports without ESV **A**



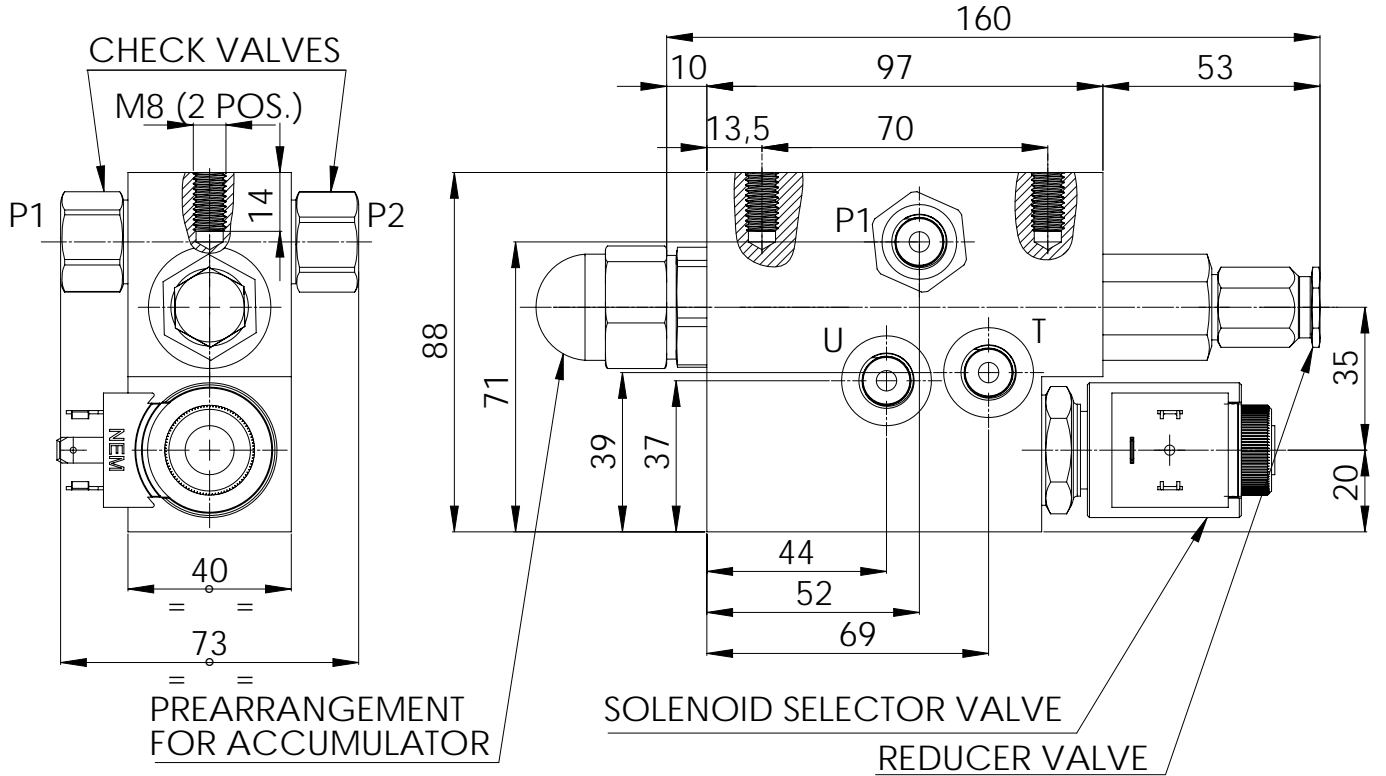
Supply unit HSU with three high pressure inlet ports without ESV **B**



Overall dimensions

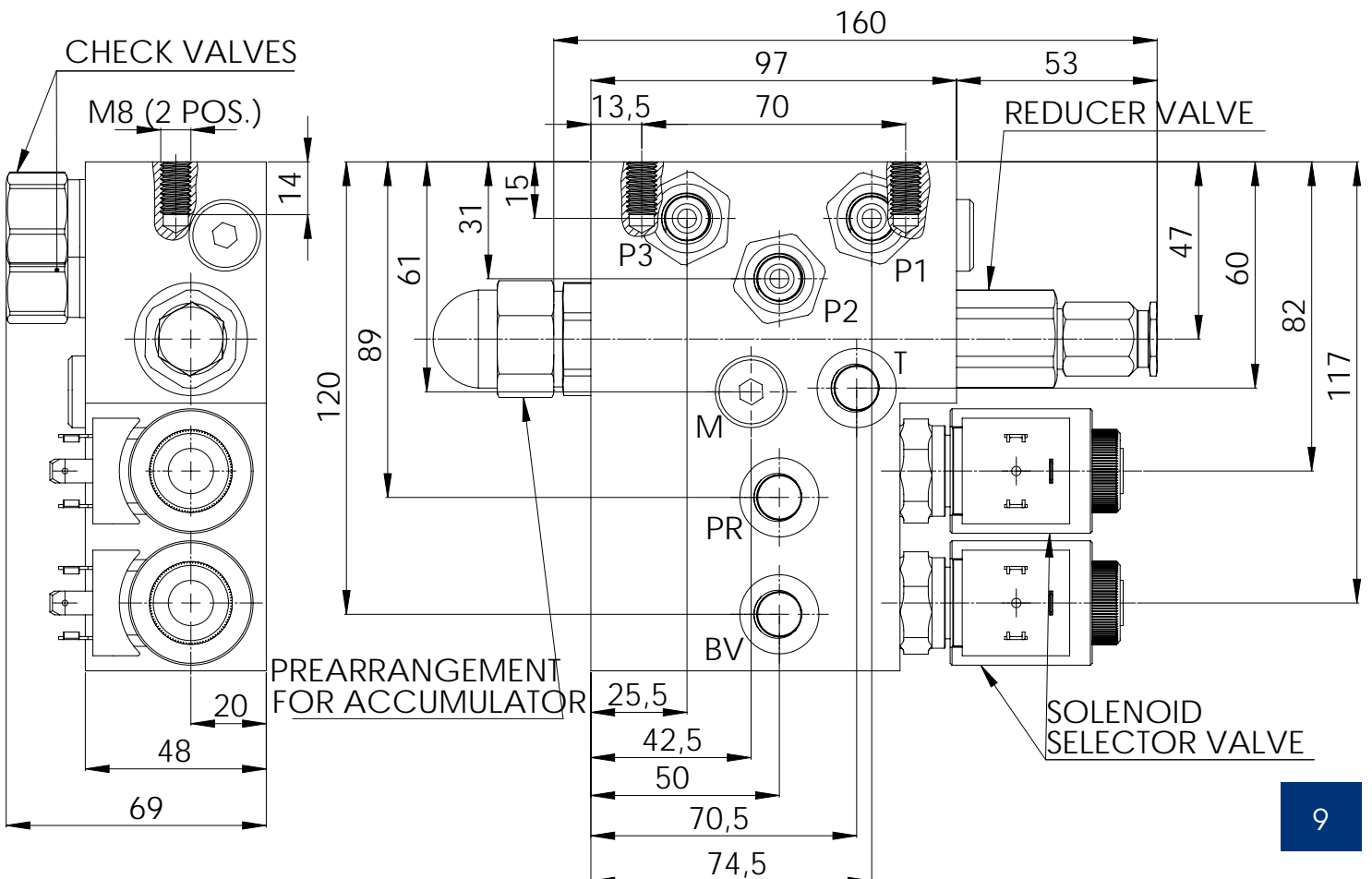
Supply unit HSU with two high pressure inlet ports with one ESV

C



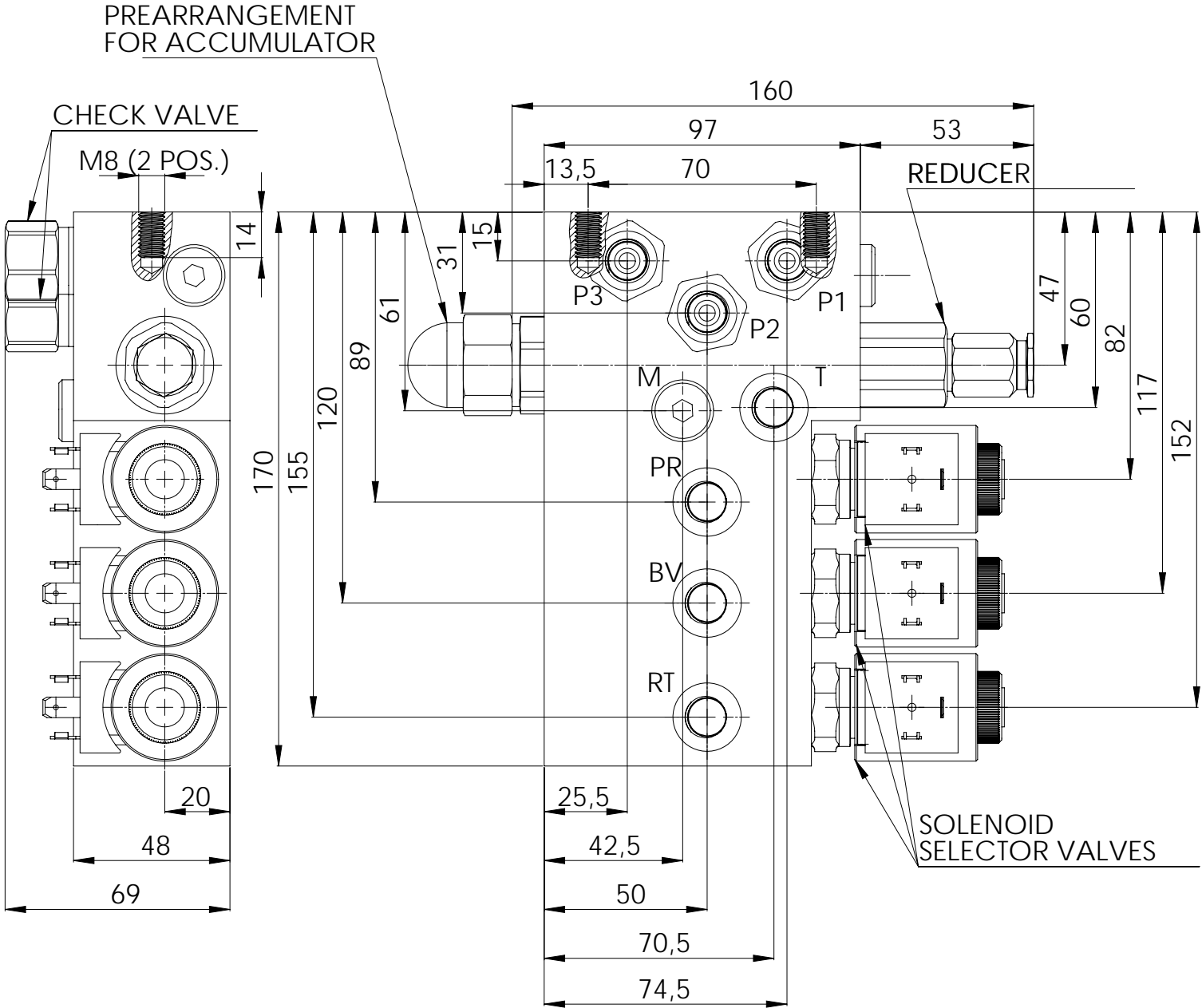
Supply unit HSU with three high pressure inlet ports with two ESV

D



Overall dimensions

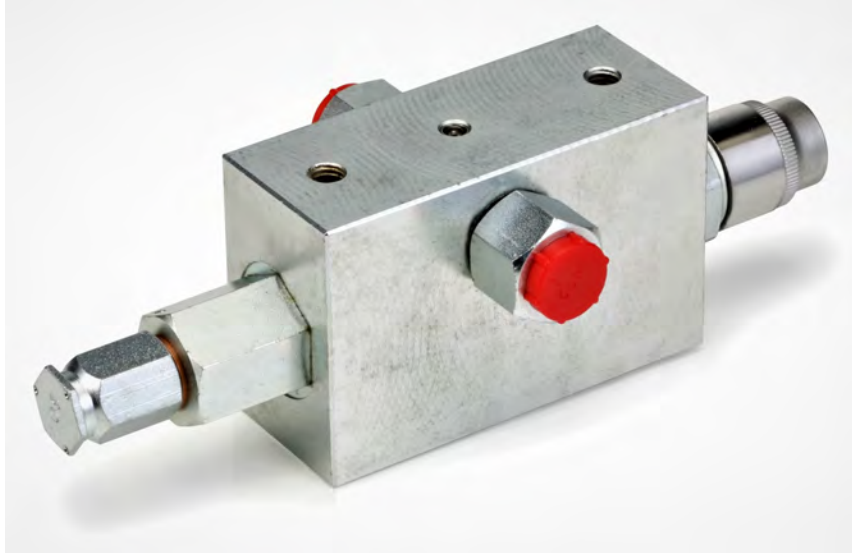
Supply unit HSU with three high pressure inlet ports with three ESV **E**



Accumulators

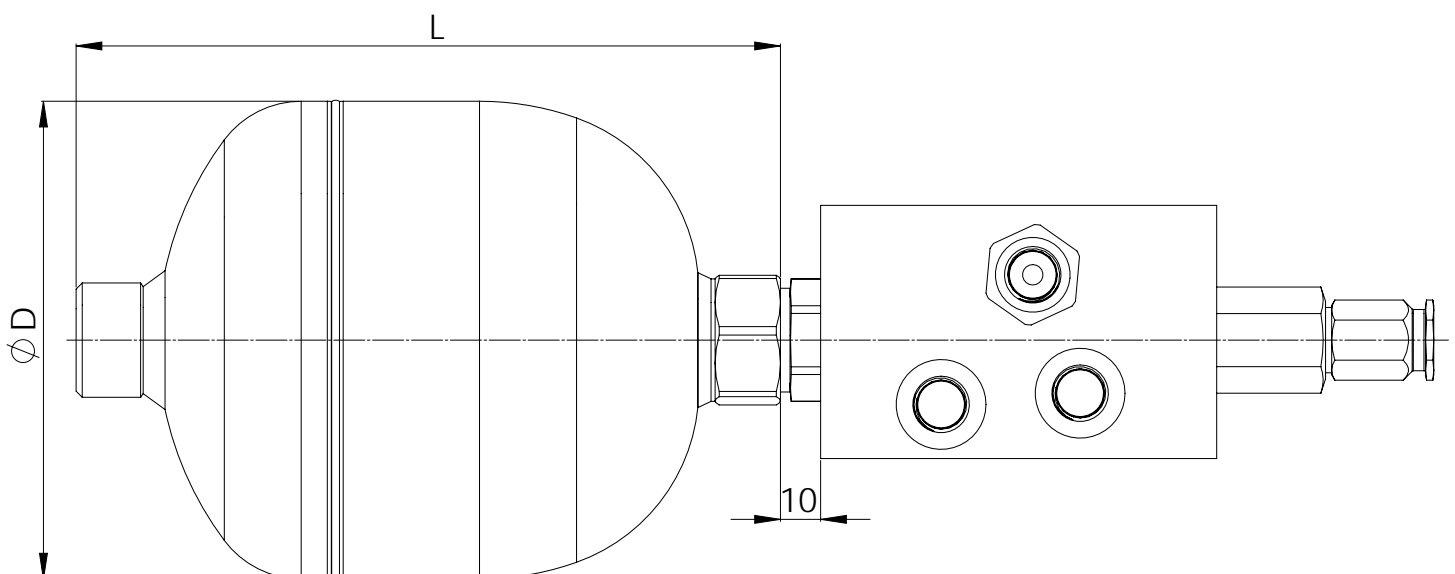
Without accumulator with M18x1,5 male port and plug

A000



With hydro-neumatic membrane accumulator - code and variable dimensions

Accumulator size (lt)	0,35 l	A035	0,5 l	A050	0,75 l	A075	1,4 l	A140
L (mm)	130		166		200		290	
D (mm)	77		105		116		116	



The membrane of the accumulator is precharged with nitrogen at 15 bar

Ordering key

HSU	2	B	30	E24	A035
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Accumulator:

- **A000** = Without accumulator with M18X1,5 F port and plug
- **A035** = With accumulator size 350 cc
- **A035** = With accumulator size 350 cc
- **A050** = With accumulator size 500 cc
- **A075** = With accumulator size 750 cc
- **A140** = With accumulator size 1400 cc

Solenoid operated selector valve:

- **E00** = Without
- **E12** = with 1 solenoid valve at 12 VDC
- **E14** = with 1 solenoid valve at 24 VDC
- **E22** = with 2 solenoid valves at 12 VDC
- **E24** = with 2 solenoid valves at 24 VDC
- **E32** = with 3 solenoid valves at 12 VDC
- **E34** = with 3 solenoid valves at 24 VDC

Pressure reducing valve setting:

- **25** = 25 bar
 - **30** = 30 bar (**standard value**)
 - **35** = 35 bar
 - **40** = 40 bar
- Other values on request

Ports:

- **B** = 1/4" BSP (Standard)
- **U** = 9/16"-18 UNF

Number of Inlet ports:

- **2** = with 2 inlet ports
- **3** = with 3 inlet ports

Basic model:

- **HSU** = Hydraulic supply unit



THE COMPREHENSIVE RANGE OF MANUFACTURED AND MARKETED COMPONENTS INCLUDES:

- Hydraulic gear and axial piston pumps & motors
- Directional control valves & selector valves
- Proportional EH pressure reducing valves & manifold blocks
- Hydraulic, pneumatic and electric on-off & proportional joysticks
- Control electronics
- Radio controls, push buttons stations, dashboards and armrests
- Multifunction ergonomic, cylindrical & palm grips
- Hydraulic filters & contamination control systems
- Heat exchangers and cooling systems
- Fluid monitoring & diagnostic instruments
- Bell housings, driving flanges & elastic couplings