



TECNOFLUID

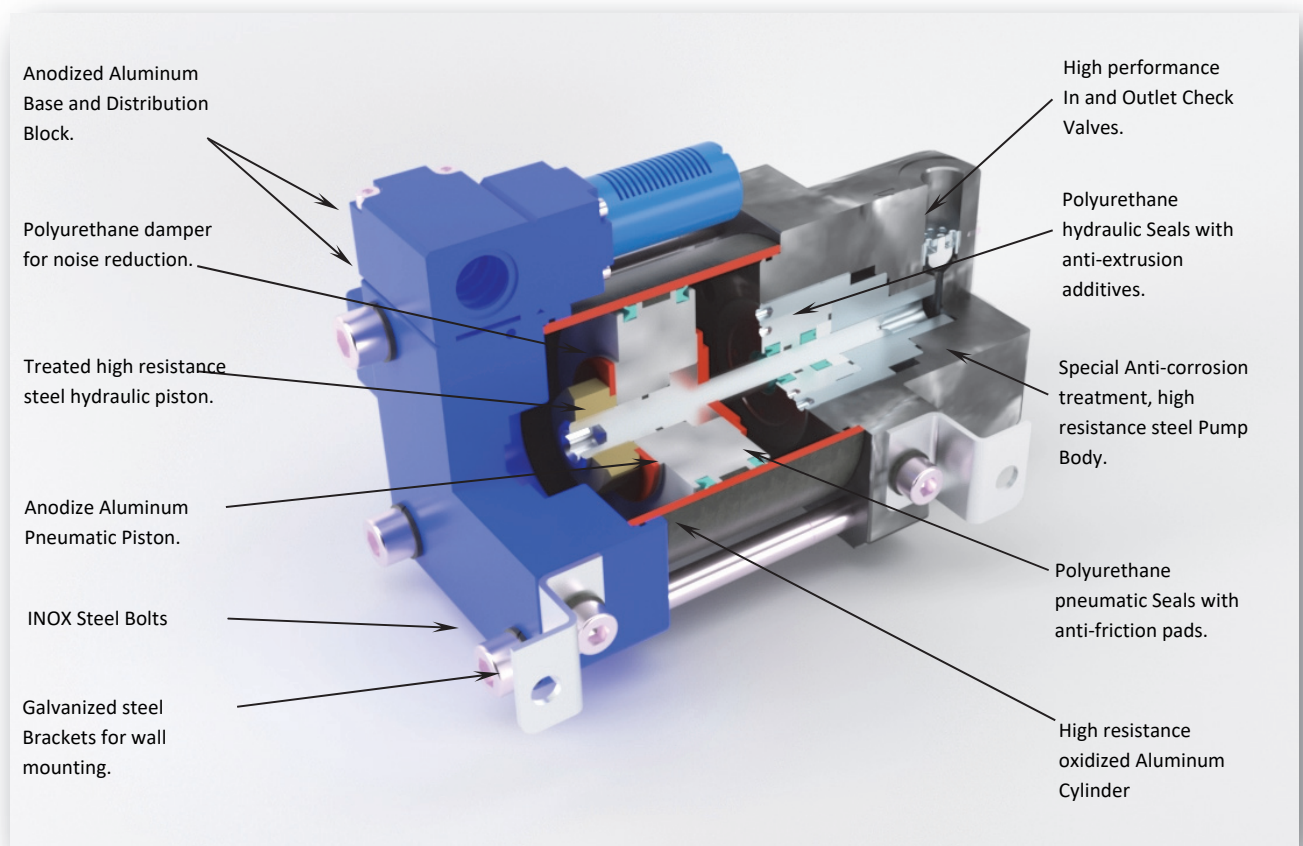
ENGINEERING



HP SERIES

OLEO PNEUMATIC PUMPS

HP Series Pumps Characteristics



General Specifications

- Pressure from 100 to 750 bar.
- 1/2" BSP Inlet ports.
- 3/8" BSP Outlet ports.
- 1/4" BSP ÷ 1/2" BSP Compressed Air Inlet.

HP Series Pumps Coding

H	Family	→	FIXED											
P	Device	→	FIXED											
...	Pump Size	→	1	80 mm Pneumatic Cylinder Bore	2	125 mm Pneumatic Cylinder Bore	3	200 mm Pneumatic Cylinder Bore						
...	Pump Typology	→	1	Double effect Single action	2	Double effect Double action								
...	Compression Ratio for Size 1 (80 mm)	→	A	64:1	B	44:1	C	32:1	D	25:1	E	14:1		
	Compression Ratio for Size 2 (125 mm)	→	A	108:1	B	79:1	C	48:1	D	32:1	E	25:1	F	15:1
	Compression Ratio for Size 3 (200 mm)	→	A	123:1	B	64:1	C	48:1	D	32:1	E	19:1		
...	Mounting Typology	→	1	Wall Mounting	2	Immersed								

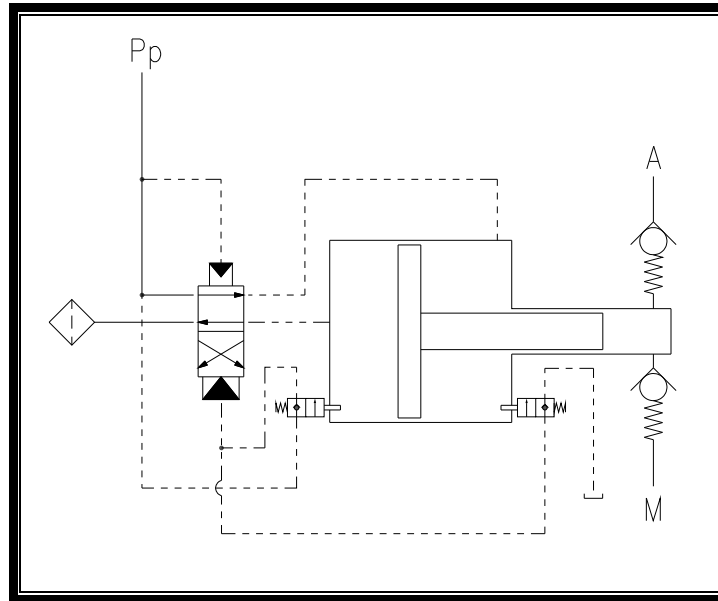
Coding example for a wall fixed pump, 125 mm size, double action, oil to air ratio equal to 32:1 =

HP 2 2 D 1

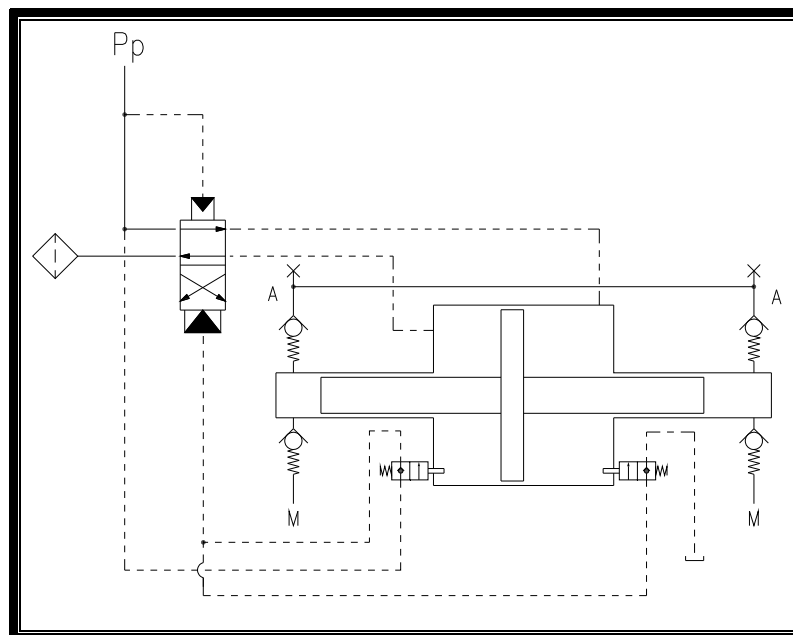
Working Diagram

HP series Oleo Pneumatic pumps have different circuits depending on being single or double action.

Single Action Pump Working Diagram:



Double Action Pump Working Diagram:



System Requirements

HP series oleo pneumatic pumps are born to drive or pressurize all hydraulic devices that don't require a strictly uniform movement.

Its conception makes itself deliver a pulsed hydraulic flow that translates into an irregular movement of any device connected to it.

HP pumps are made to deliver pressure, therefore it is necessary an oil direction control system which returns the fluid back to its tank, whenever is not required.

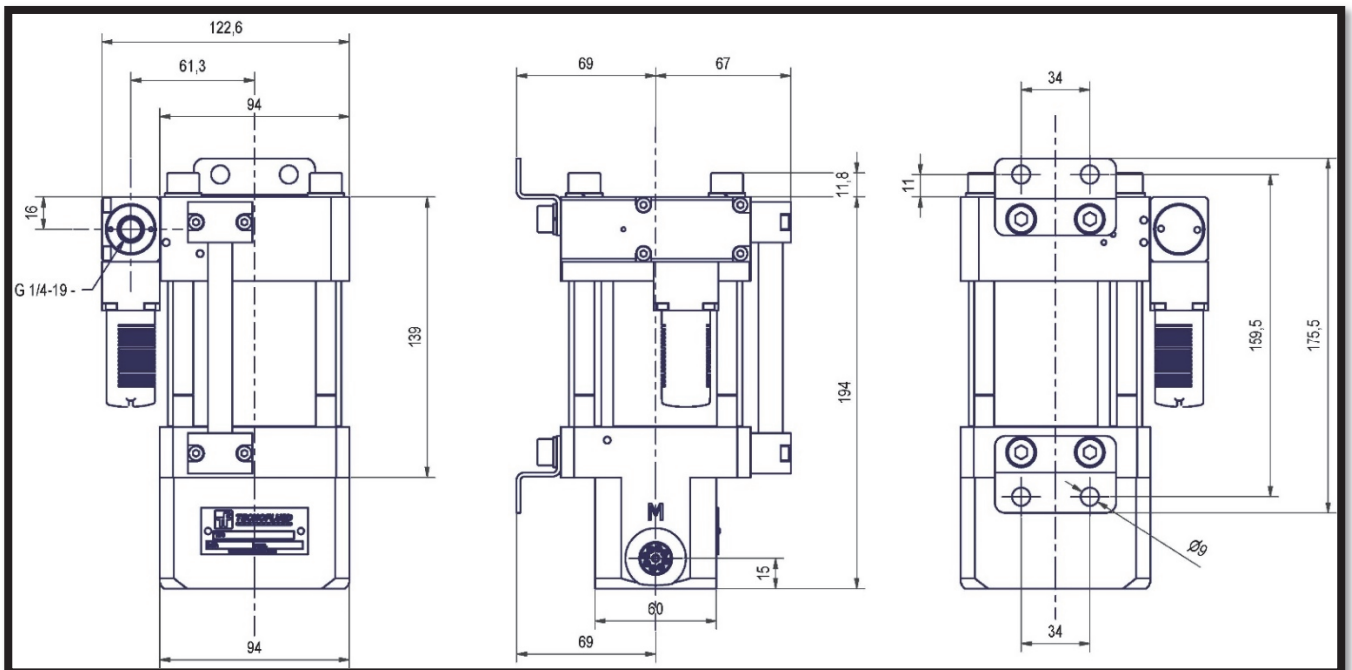
It is also needed, a pneumatic feeding circuit with filter, reducer and lubricator to drive the pump and an tank from which gather the oil.

Working Principle

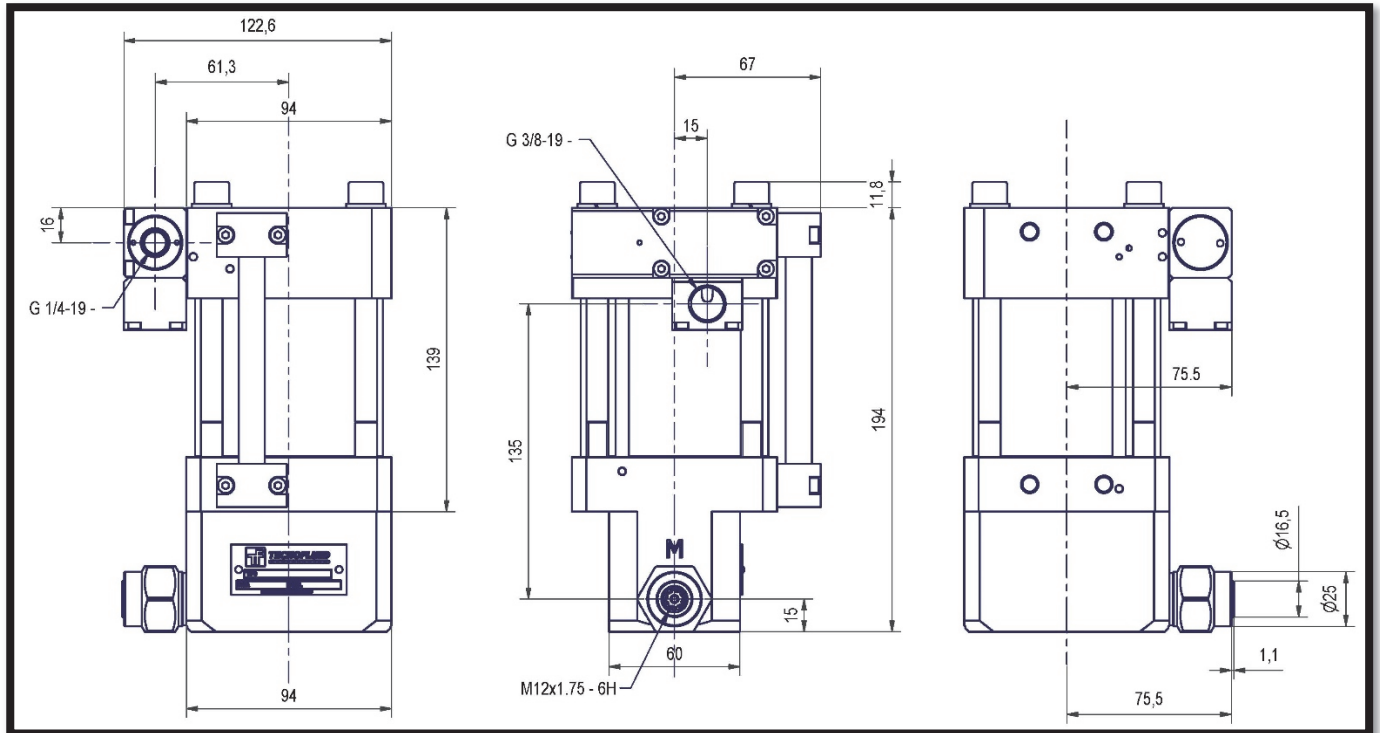
HP series oleo pneumatic pumps use the Pascal principle in which the energy of compressed air moves a large diameter pneumatic piston, and in turn moves an attached smaller diameter hydraulic piston that converts it again into oil pressure.

Values of resultant hydraulic pressure is calculated multiplying the fed pneumatic pressure times the area ratio of the pump (compression ratio).

HP 11 * 1 Outer Dimensions



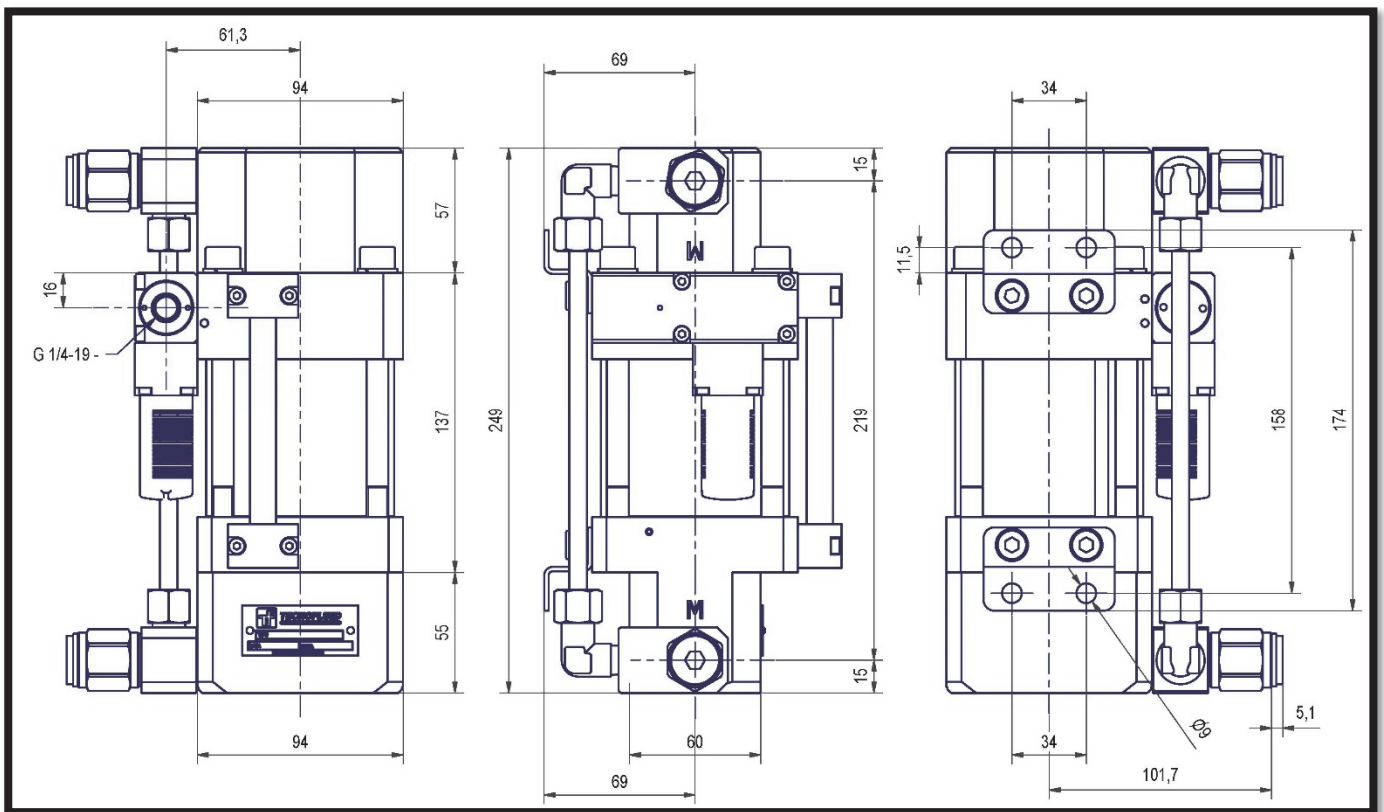
HP 1 1 * 2 Outer Dimensions



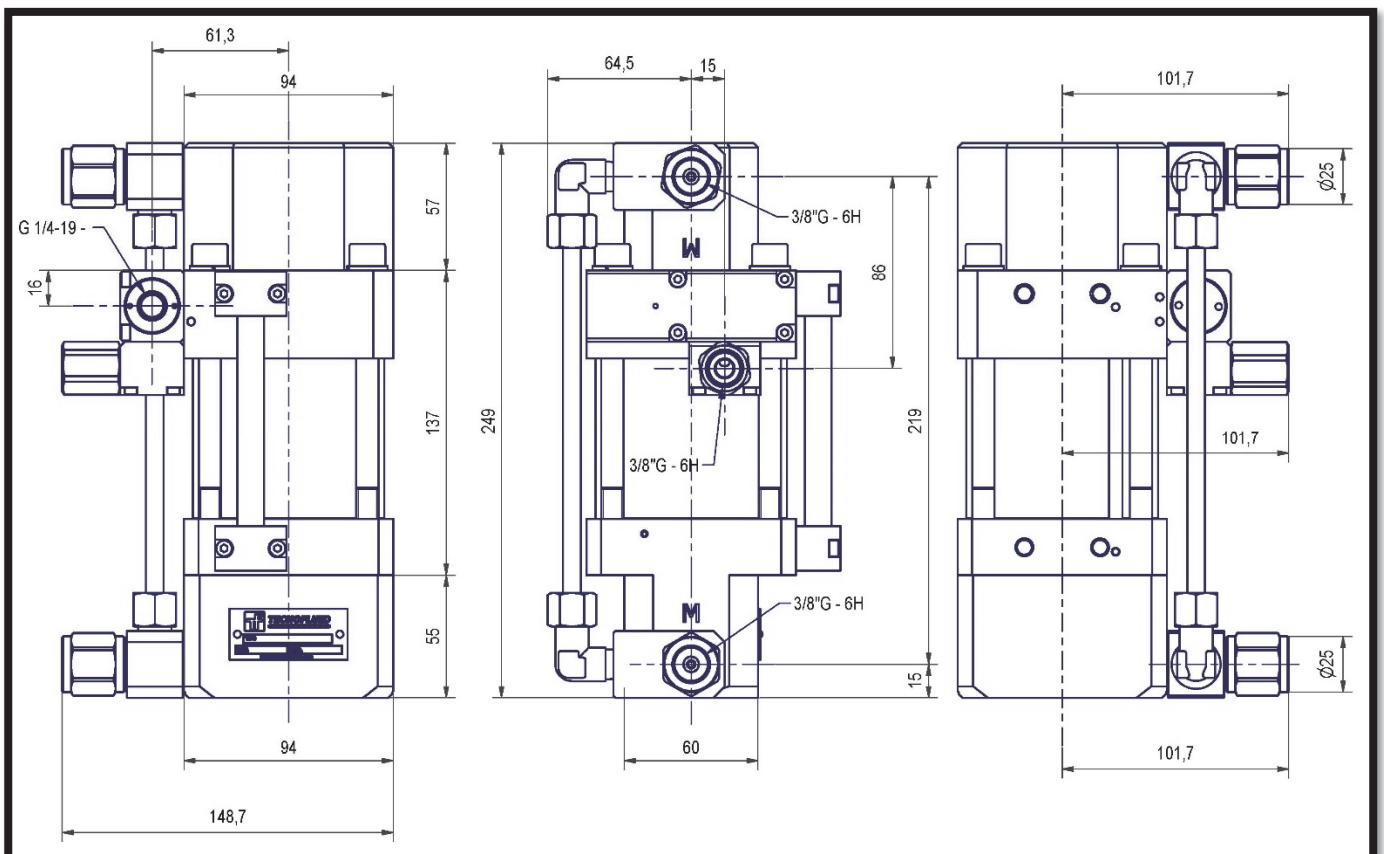
HP 1 1 Pump - Technical Characteristics

AIR TO OIL COMPRESSION RATIO	See coding on pag. 2
OIL MAXIMUN VISCOSITY	10° Engler
OIL MAXIMUN TEMPERATURE	80° C.
ROOM TEMPERATURE	-10 +50 ° C.
MINIMUN PNEUMATIC FEEDING PRESSURE	1 bar
MAXIMUN PNEUMATIC FEEDING PRESSURE	10 bar
PNEUMATIC INLET PORT	1/4" G.
HYDRAULIC INLET PORT "A"	1/2" G.
HYDRAULIC OUTLET PORT "M" (WALL MOUNTED)	3/8" G.
HYDRAULIC OUTLET PORT "M" (IMMERSED PUMP)	M12x1.75
INLET OIL FILTER DEGREE	60 micron

HP 1 2 * 1 Outer Dimensions



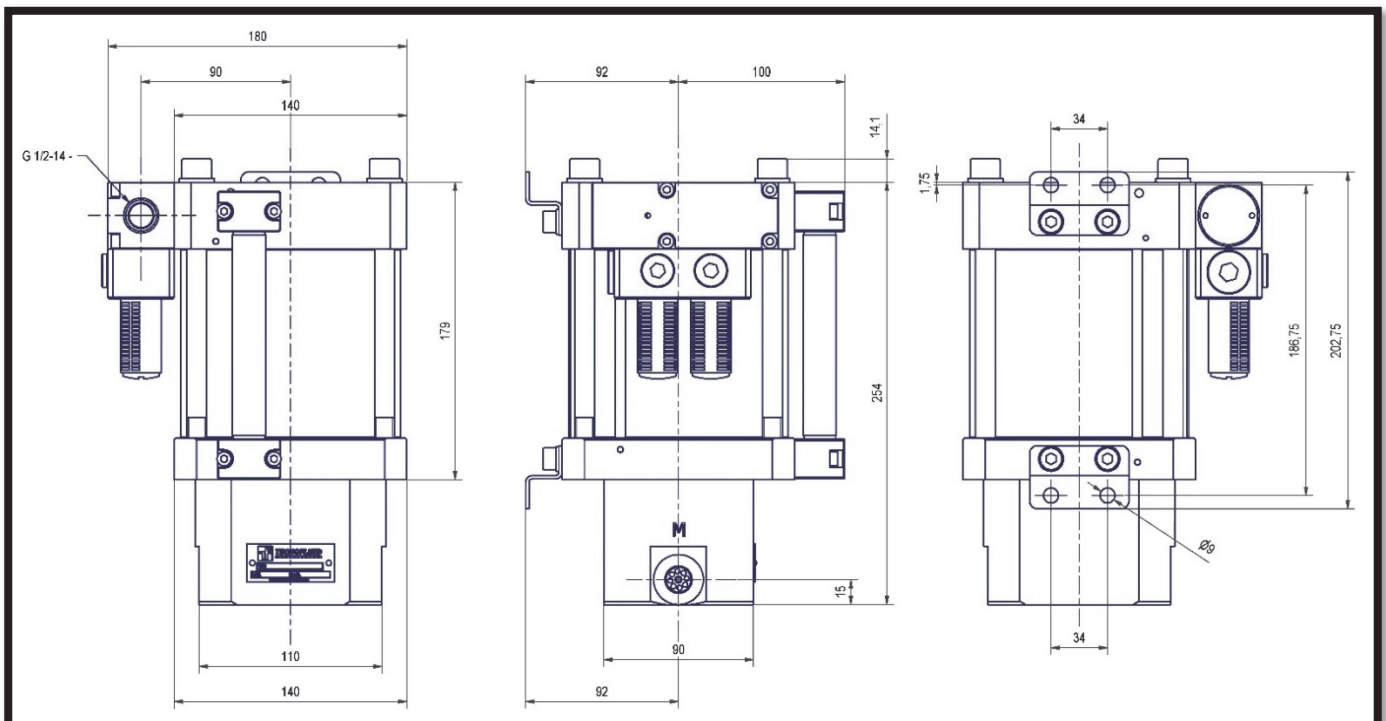
HP 1 2 * 2 Outer Dimensions



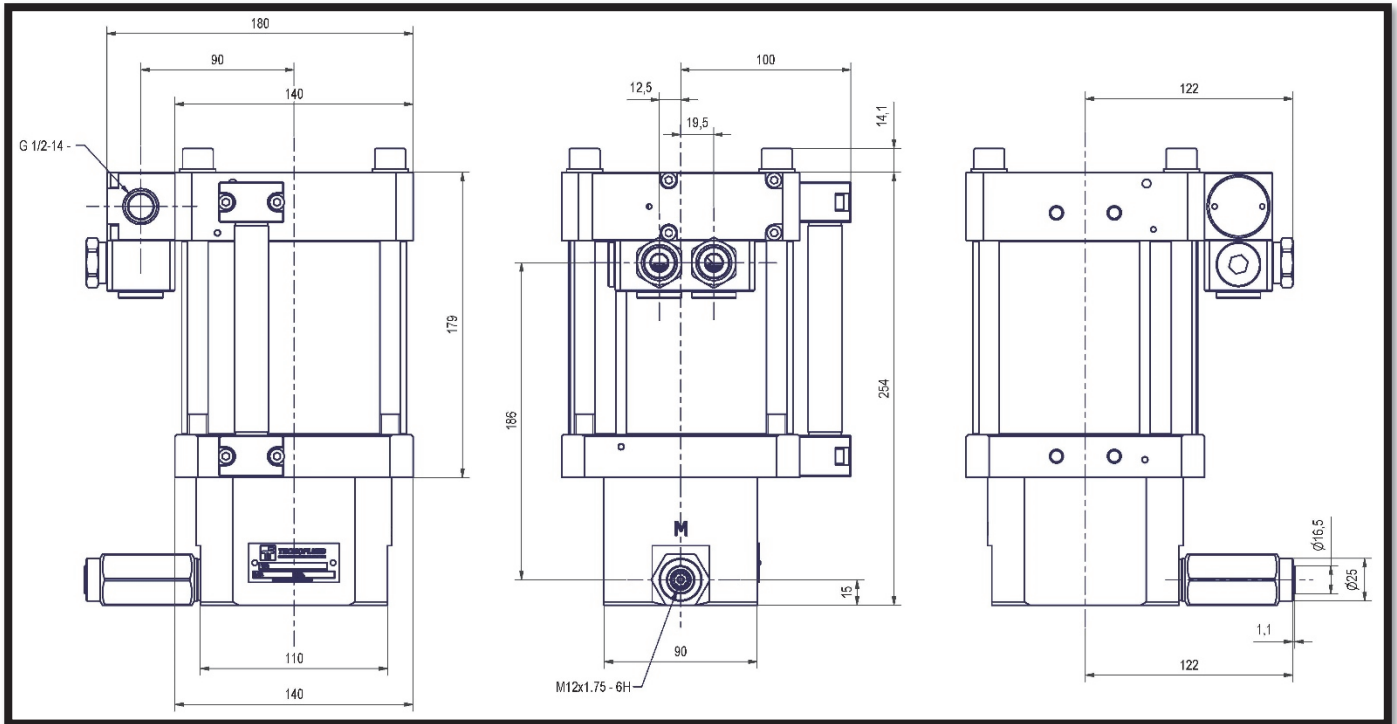
HP 1 2 Pump - Technical Characteristics

AIR TO OIL COMPRESSION RATIO	See coding on pag. 2
OIL MAXIMUM VISCOSITY	10° Engler
OIL MAXIMUM TEMPERATURE	80° C.
ROOM TEMPERATURE	-10 +50 ° C.
MINIMUM PNEUMATIC FEEDING PRESSURE	1 bar
MAXIMUM PNEUMATIC FEEDING PRESSURE	10 bar
PNEUMATIC INLET PORT	1/4" G.
HYDRAULIC INLET PORT "A"	1/2" G.
HYDRAULIC OUTLET PORT "M"	3/8" G.
INLET OIL FILTER DEGREE	60 micron

HP 2 1 * 1 Outer Dimensions



HP 2 1 * 2 Outer Dimensions



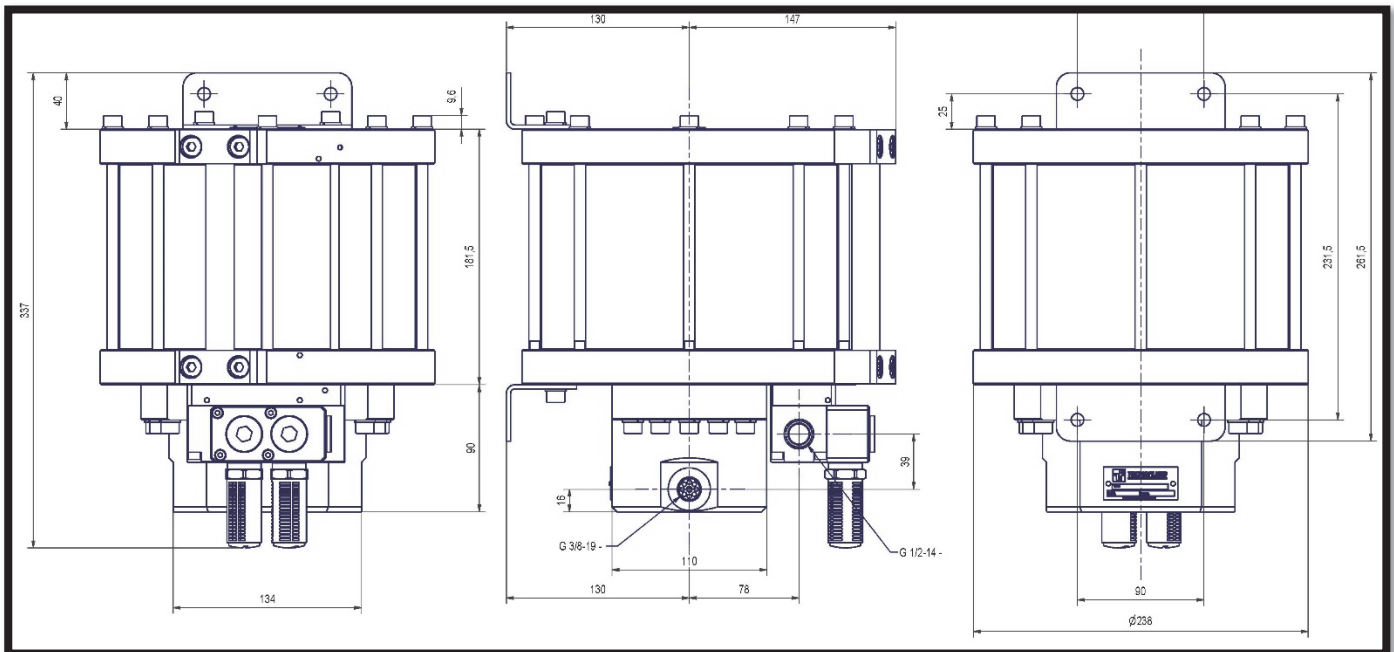
HP 2 1 Pump - Technical Characteristics

AIR TO OIL COMPRESSION RATIO	See coding on pag. 2
OIL MAXIMUN VISCOSITY	10° Engler
OIL MAXIMUN TEMPERATURE	80° C.
ROOM TEMPERATURE	-10 +50 ° C.
MINIMUN PNEUMATIC FEEDING PRESSURE	1 bar
MAXIMUN PNEUMATIC FEEDING PRESSURE	10 bar
PNEUMATIC INLET PORT	1/2" G.
HYDRAULIC INLET PORT "A"	1/2" G.
HYDRAULIC OUTLET PORT "M" (WALL MOUNTED)	3/8" G.
HYDRAULIC OUTLET PORT "M" (IMMERSED PUMP)	M12x1.75
INLET OIL FILTER DEGREE	60 micron

HP 2 2 Pump - Technical Characteristics

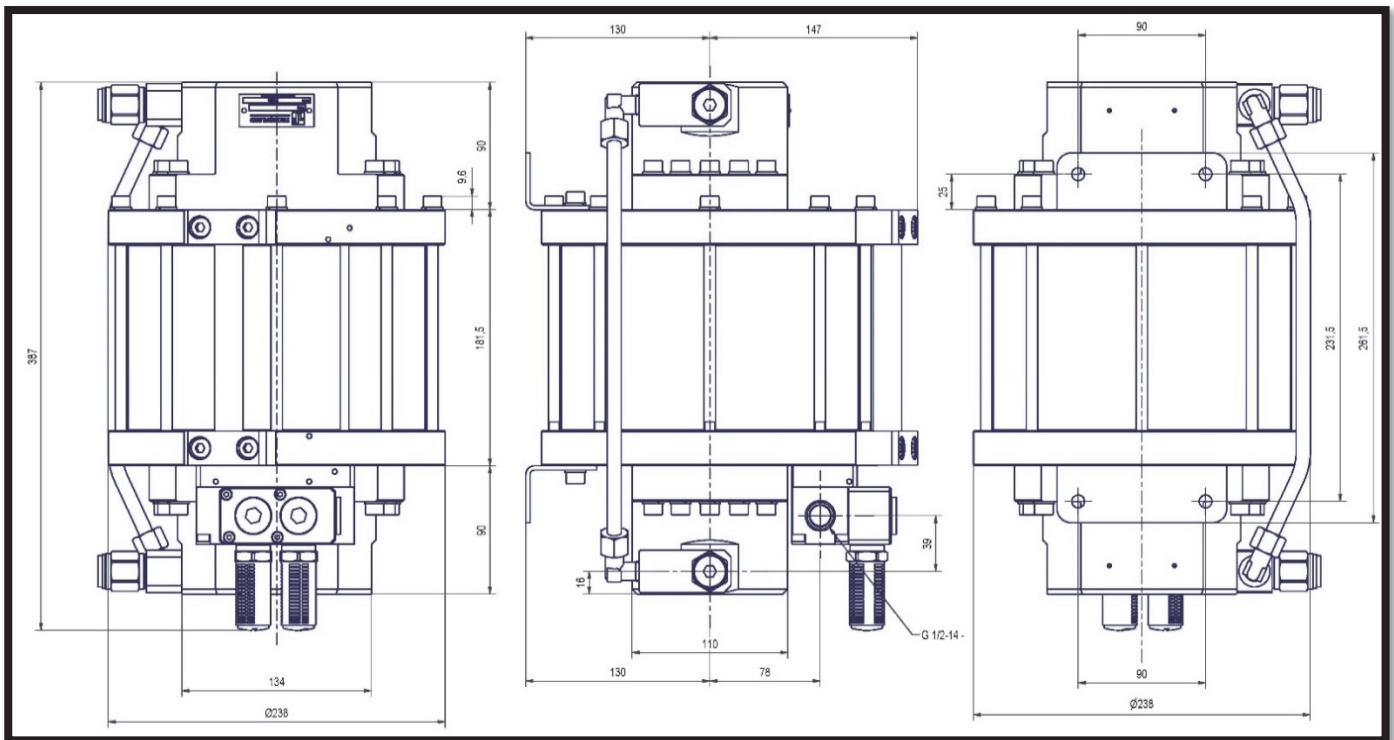
AIR TO OIL COMPRESSION RATIO	See coding on pag. 2
OIL MAXIMUN VISCOSITY	10° Engler
OIL MAXIMUN TEMPERATURE	80° C.
ROOM TEMPERATURE	-10 +50 ° C.
MINIMUM PNEUMATIC FEEDING PRESSURE	1 bar
MAXIMUM PNEUMATIC FEEDING PRESSURE	10 bar
PNEUMATIC INLET PORT	1/2" G.
HYDRAULIC INLET PORT "A"	1/2" G.
HYDRAULIC OUTLET PORT "M"	3/8" G.
INLET OIL FILTER DEGREE	60 micron

HP 3 1 * 1 Outer Dimensions



Note: Immerse version, code **HP 3 1 * 2** does not exist for pumps size 200.

HP 3 2 * 1 Outer Dimensions



Note: Immerse version, code **HP 3 2 * 2** does not exist for pumps size 200.

HP 3 1 e HP 3 1 Pump - Technical Characteristics

AIR TO OIL COMPRESSION RATIO	See coding on pag. 2
OIL MAXIMUN VISCOSITY	10° Engler
OIL MAXIMUN TEMPERATURE	80° C.
ROOM TEMPERATURE	-10 +50 ° C.
MINIMUN PNEUMATIC FEEDING PRESSURE	1 bar
MAXIMUN PNEUMATIC FEEDING PRESSURE	10 bar
PNEUMATIC INLET PORT	1/2" G.
HYDRAULIC INLET PORT "A"	1/2" G.
HYDRAULIC OUTLET PORT "M"	3/8" G.
INLET OIL FILTER DEGREE	60 micron

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