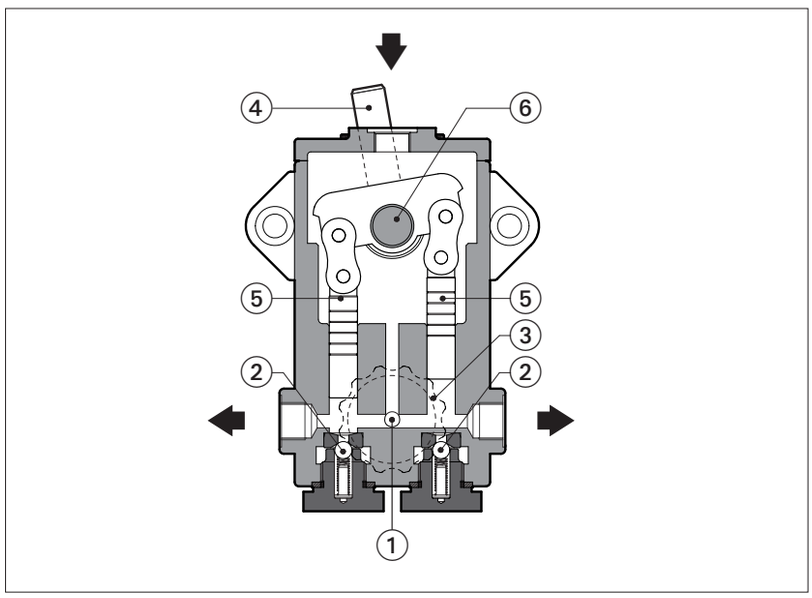
Hand pumps type PM

2-plunger



PM are double alternate-acting hand pumps with simple and rugged construction for minimum service and long operating life.
They are provided with one by-pass valve ① which connects directly the delivery ports with the inlet port through the delivery valves ②. The by-pass valve is operated by a handwheel ③.
Pumping operation is made by alternative movement of the lever ④ and consequently movement of plungers ⑤, after having locked the by-pass valve by means of the handwheel.
The splined shaft attachment ⑥ permits to turn the lever shaft in the best position.
On the pump body are available two outlet ports (one supplied plugged).

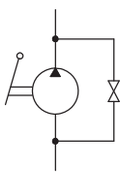
Displacements **from 12 to 20 cm³** for double stroke.

Max pressure **250 bar**

1 MODEL CODE

PM	-	112	*	/	*
2-plunger hand pump		Displacement, see section 2 **112**= 12 cm³/double stroke **120**= 20 cm³/double stroke	Series number		Seals material: omit for NBR (mineral oil & water glycol) **PE** = FPM

2 OPERATING CHARACTERISTICS with hydraulic fluid having a viscosity of 24 mm²/s and 40°C

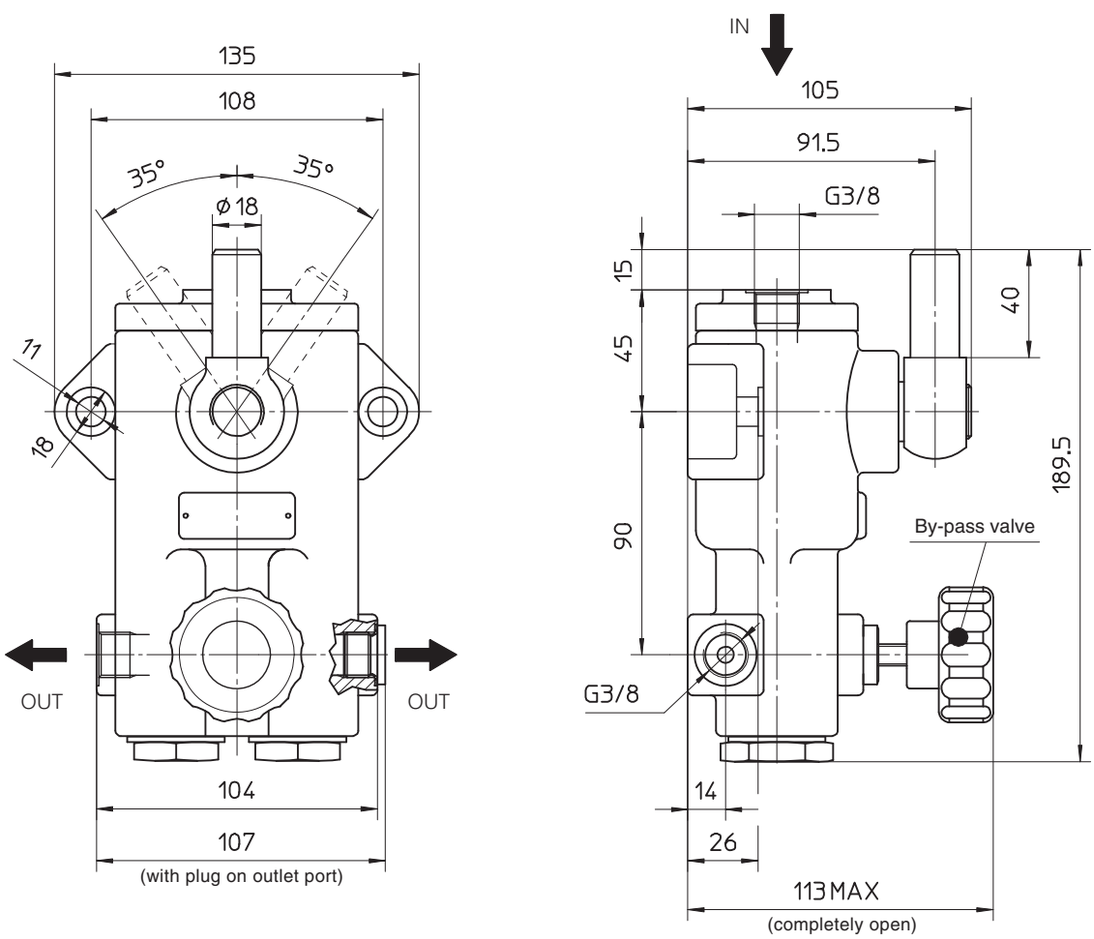


Model	Displacement for double stroke [cm³]	Max pressure [bar]	Shaft rotation angle [degree]	Maximum torque required [Nm]
PM-112	12	250	± 35°	133
PM-120	20	120	± 35°	116

3 MAIN CHARACTERISTICS OF HAND PUMP TYPE PM

Installation position		Vertical position, with inlet port facing upward to ensure complete case filling	
Commissioning		Pumping operation is made by alternative movement of the lever after closing by-pass valve. **Note:** the by-pass valve connects the delivery ports with inlet port and when locked it could allow some leakage from outlet ports. Two opposite outlet ports are available for pump delivery: one of these is supplied plugged. The pumps are supplied without lever harm that could made by a simple tube with Ø 18 mm inside diameter. Usually a lenght of 500 to 600 mm is appropriate. Lever position can be selected by proper assembling of lever on splined shaft.	
Ambient temperature		**Standard** = -25°C ÷ +80°C **/PE** option -15°C ÷ +80°C	
Fluid		Hydraulic oil as per DIN 51524...535; for other fluids see section 1	
Recommended viscosity		10 ÷ 100 mm²/sec at 40°C (ISO VG 15 - 100)	
Max fluid contamination level	normal operation	ISO4406 class 21/19/16 NAS1638 class 10	see also filter section at www.atos.com or KTF catalog
	longer life	ISO4406 class 18/16/13 NAS1638 class 8	
Fluid temperature		-20°C +60°C -20°C +50°C (water glycol) -20°C +80°C (/PE seals)	
Compliance		RoHS Directive 2011/65/EU as last update by 2015/863/EU REACH Regulation (EC) n°1907/2006	

4 DIMENSIONS [mm]



Mass: 4,6 Kg