



Pressosmart

Pressurisation set

Alfa Laval manufactures and sells a complete line of pressurisation sets: the Pressosmart range. With a simple, unique design and very high reliability, these pressurisation sets allow control and efficiency, steadily maintaining constant pressure in a closed water loop. Pressurisation sets can be used in a very wide range of applications in heating, air conditioning and industrial fields where low temperature, high pressure, overheated or chilled water closed loop systems are being used as heating or cooling sources.

When installed in a closed loop water system where temperature variations occur, the Pressosmart pressurisation set performs four main functions automatically:

- Maintenance of a constant and steady pressure
- Expansion
- Filling-up
- Disconnection

Operating principle

When water temperature rises:

The internal pressure of the closed loop water system increases until it exceeds the pressure control valve setting value, which then opens and lets water flow back to the open expansion vessel.

When water temperature decreases:

The closed loop water system internal pressure falls until it reaches the pressure controller set point which then activates the pump(s).

Main components

A pressurisation set of the Pressosmart range consists of two parts delivered separately that the contractor has to reassemble together on site:

A "pump module" with a painted base frame fitted with:

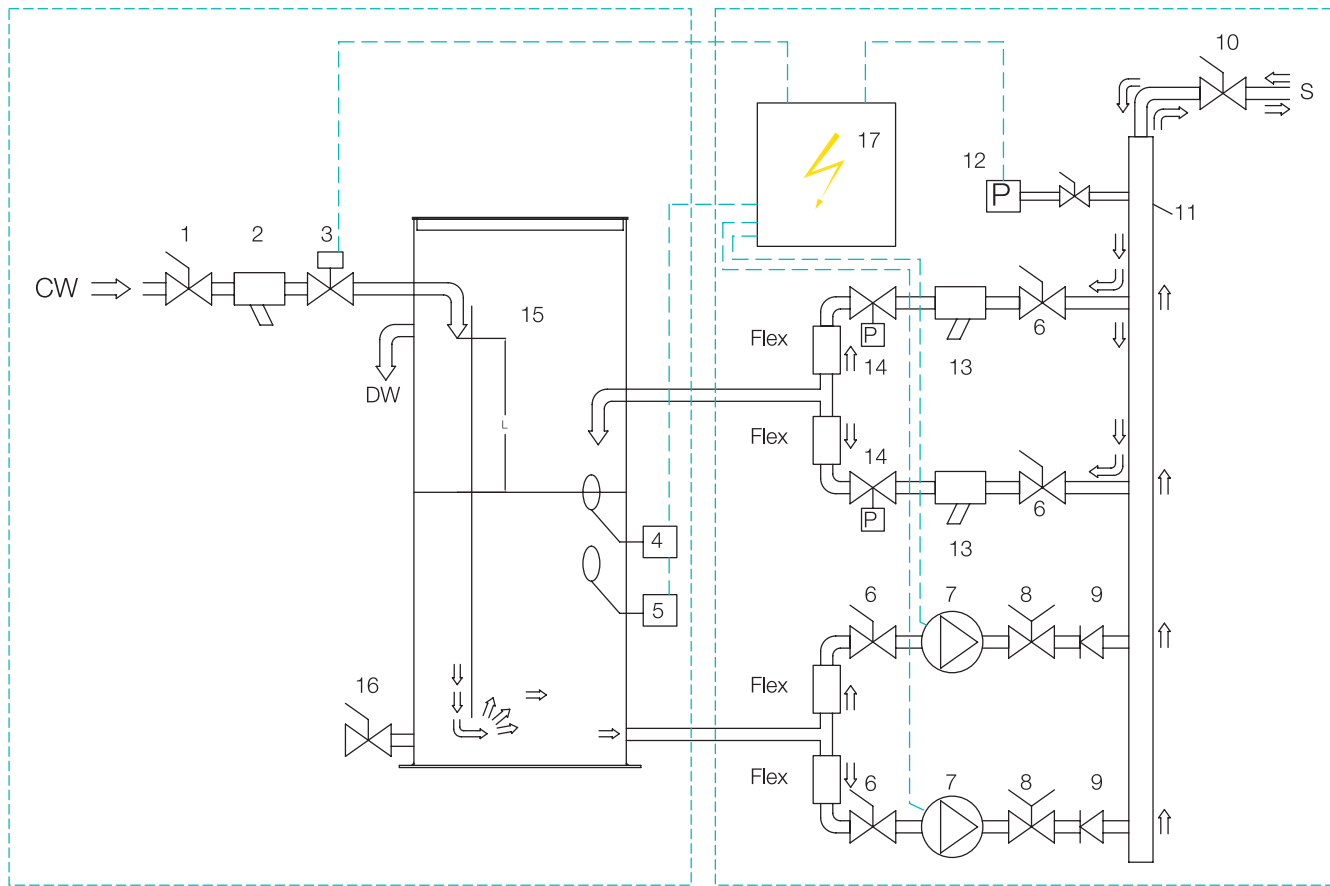
- One or two pumps (depending on model)
- One or two pressure control valves (depending on model)
- A set of black steel connecting pipes
- An electronic pressure transducer (or pressure switches)
- The electrical panel including the pressure controller, contactors and overload protections for the pump motors



A PPH (polypropylene) open expansion vessel fitted with:

- A drain port
- An overflow port
- A port for connecting the automatic fill-up solenoid valve (delivered loose – 230V / 1Ph / 50 Hz coil)
- Two ports for fitting the level control float devices
- Two ports for connection of the pump module
- A removable top cover enabling internal inspection of the vessel and introduction of chemical treatment products

Basic equipment



CW Cold water feed
 DW Drain work connection
 S To the water system

- 1 Cold feed manual isolation valve
- 2 Strainer to protect the fill-up solenoid valve (option)
- 3 Filling-up solenoid valve – 230 V / 50 Hz coil
- 4 Low water level float switch
- 5 Lack of water float switch
- 6 Manual isolation valve
- 7 Fill-up water pump
- 8 Manual flow adjustment valve
- 9 Non-return valve
- 10 Main manual isolation valve (not provided)
- 11 Connection pipe
- 12 Pressure transducer or pressure switch
- 13 Strainer for protection of the flow control valve
- 14 Upstream pressure control valve (PCV)
- 15 Open expansion vessel
- 16 Drain cock
- 17 Control panel equipped with main power switch

Quick Selection Chart

The chart below should be used for installations running LPHW at 90/70°C (average temperature of 80°C).

Example of use:

- Installation capacity: 3000 kW
- Building Static Height: 40 m

Selection:

Possible choice: MP4-60, MP5-60, MP7-9 with 1800 L expansion tank

Vol.(m ³) Installation	0	6	12	18	24	30	45	60	75	90	105	120	150	175
P (kW)	0	500	1,000	1,500	2,000	2,500	3,750	4,650	6,850	7,500	8,750	10,000	12,500	14,500
Exp. Tank Volume	200	400	600	800	1000	1800	2500	3000	3500	4000	5000	2x3000		
65														
	MP7-13	MP7-13	MP7-13	MP7-13	MP7-13	MP7-13	MP7-13	MP7-15	MP7-15	MP7-15	MP7-15			
55														
	MP7-10	MP7-10	MP7-10	MP7-10	MP7-10	MP7-10	MP7-13	MP7-13	MP7-13	MP7-15	MP7-15	MP7-15		
45	MP195													
	MP4 60	MP4 60	MP4 60	MP4 60	MP4 60	MP4 60	MP4 60							
	MP5 60	MP5 60	MP5 60	MP5 60	MP5 60	MP5 60	MP5 60	MP5 60						
					MP7-9	MP7-9	MP7-10	MP7-10	MP7-13	MP7-13	MP7-13	MP7-15	MP7-15	
35	MP195													
	MP4 50	MP4 50	MP4 50	MP4 50	MP4 50	MP4 50								
	MP5 50	MP5 50	MP5 50	MP5 50	MP5 50	MP5 50	MP5 50	MP5 50						
					MP7-7	MP7-9	MP7-9	MP7-9	MP7-9	MP7-10	MP7-13	MP7-13	MP7-13	
25	MP195													
	MP4 50	MP4 50	MP4 50	MP4 50	MP4 50	MP4 50								
	MP5 50	MP5 50	MP5 50	MP5 50	MP5 50	MP5 50	MP5 50	MP5 50						
					MP7-7	MP7-7	MP7-7	MP7-9	MP7-9	MP7-9	MP7-10	MP7-10	MP7-10	
15	MP195													
	MP4 30	MP4 30	MP4 30	MP4 30	MP4 30	MP4 30								
	MP5 30	MP5 30	MP5 30	MP5 30	MP5 30	MP5 30	MP5 30	MP5 30						
					MP7-5	MP7-5	MP7-5	MP7-7	MP7-7	MP7-7	MP7-7	MP7-7	MP7-7	
0														

All systems operating under 230V/1Ph/50Hz
(for model operating under 400V/3Ph/50Hz, PLEASE CONSULT)

Article Number: MP4 : one CH2 pump and one 44-6 PCV (3/4") Ex : MP4 30-16 loaded with a CH2 30 pump
 MP5 : two CH2 pumps and one or two 44-6 PCV (3/4") Ex : MP5 60-26 loaded with 2-off CH2 60 pumps
 MP7: two CR3 pumps and one or two 44-6 or 44-7 PCV (1")



For special installation capacity or static height, PLEASE CONSULT

General features

	Number of pumps	Number of PCV ⁽¹⁾	Electrical Supply	Power Input kW	FLA A ⁽²⁾	Static Height ⁽³⁾	Weight without expansion tank ⁽⁴⁾	Connection size ⁽⁵⁾
MP195 S1	1	1	230 V 1Ph 50Hz	0.8	3.8	35	96	DN25 (1")
MP195 S2				0.9	4.2	45	96	
MP195 L1				0.8	3.8	35	96	
MP195 L2				0.9	4.2	45	96	
MP4 30	1	1	230 V 1Ph 50Hz	0.6	2.4	15	45	DN25 (1")
MP4 50				0.8	3.8	35	47	
MP4 60				0.9	4.2	45	48	
MP5 30	2	1 or 2	230 V 1Ph 50Hz	1.2	4.8	15	57	DN40 (1 1/2")
MP5 50				1.6	7.6	35	58	
MP5 60				1.8	8.4	45	61	
MP7 5	2	1 or 2	230 V 1Ph 50Hz	0.7	5.9	15	96	DN50 (2")
MP7 7				1.1	8.0	35	101	
MP7 9				1.5	10.2	45	106	
MP7 10				1.5	10.2	55	107	
MP7 13				2.2	14.8	65	124	
MP7 15				2.2	14.8	65	125	

(1) PCV stands for Pressure Control Valve

(2) Full Load Amperage when operating at full load conditions under 230/1Ph/50Hz

(3) Building maximum static height

(4) Except for MP195

(5) Minimum pipe diameter to connect to the installation

Options

89µm core water strainer

- To protect the expansion vessel fill-up solenoid valve.
- To be fitted upstream from the cold water fill-up solenoid valve.

Anti water hammer

- To be used when the pipe length between the Pressosmart and the installation is significant.
- Standard for the MP195 range.

Impulsion meter

- To control the normal operation of the system through the water fill-up.
- To alert and shut-down the system in case of leakage.

Fill-up bypass

- To enable a quick fill-up of the system through the use of a manual valve.

Flooding detector

- To detect the presence of water at ground level in the room where the Pressosmart is used
- The sensor is mounted onto the side of the pump module frame.

Pressosmart products are built in compliance with PED CE 97/23 Art 3.3 and CE 73/23 electrical regulation.

How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com