



# Pressosmart

Pressurisation set for heating systems, air conditioning and a variety of industrial applications



Pressosmart with two closed expansion vessels.

## Application

Pressosmart is a pressurization set designed to maintain stable pressure in a closed water loop, such as those used in heating systems, air conditioning and a variety of industrial applications.

With its electronic controller, Pressosmart offers more accurate control than standard stand-alone membrane expansion technology and a considerably smaller equipment footprint.

Pressosmart can be connected to closed expansion vessels that prevent water from coming into contact with oxygen in the air. This reduces corrosion and pipeline maintenance, which extends the lifetime of the entire installation. Pressosmart can also be connected to open expansion vessels.

## Working principle

When the temperature increases in a closed water loop, the water volume expands. When the temperature decreases, the opposite occurs.

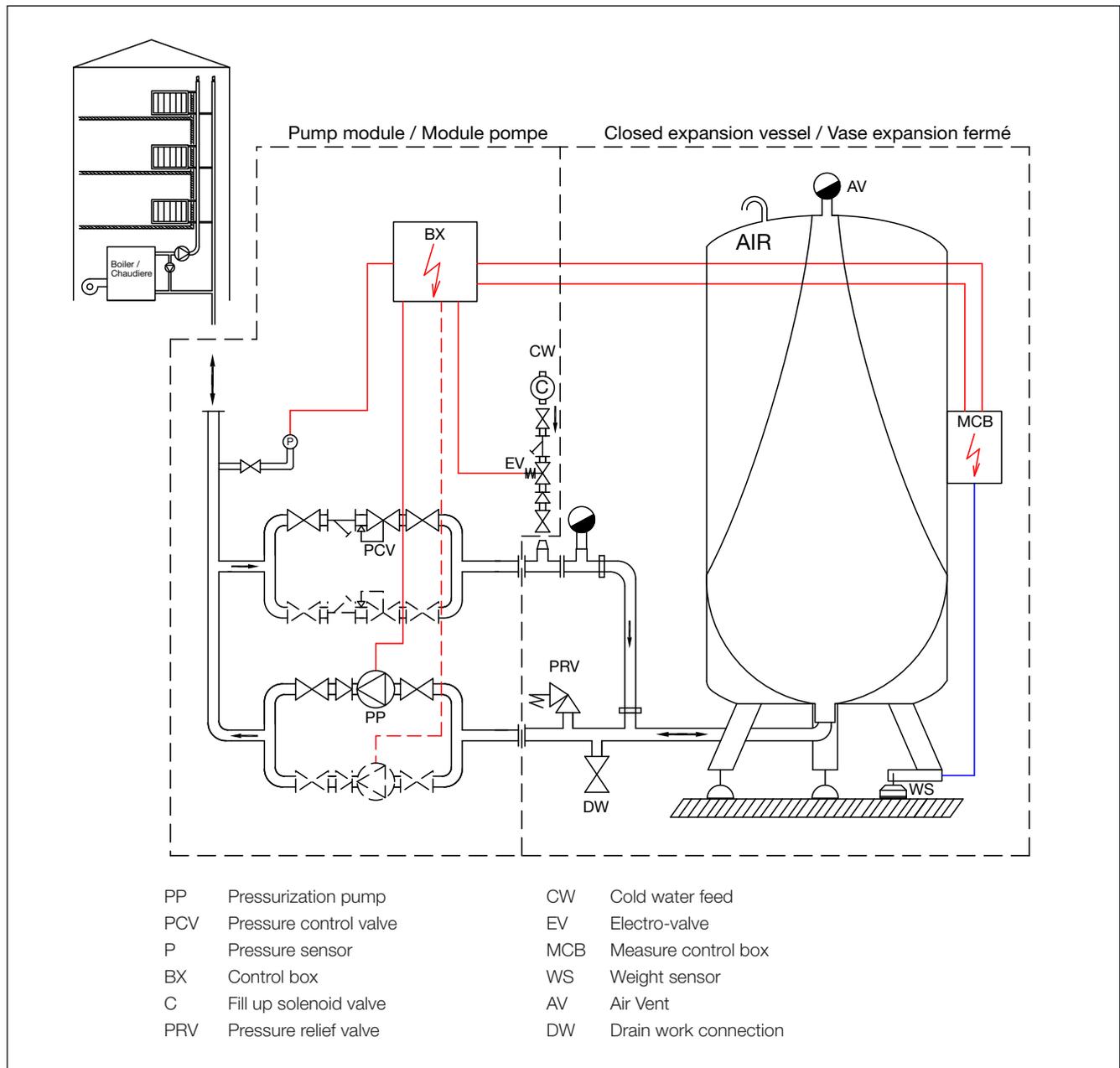
The increased volume generated by thermal expansion in the closed loop will be discharged through the pressure control valve and stored in the expansion vessel. When the pressure sensor detects a pressure drop due to a temperature decrease, water will be pumped back into the loop. Stable and even pressure is thus continuously maintained in the closed loop.

Pressosmart automatically fills the installation when there is not enough water and also protects against overflow.

## Renovation

Existing Pressosmart installations that use open expansion vessels can be easily upgraded to the closed expansion technology by simply replacing the existing vessel with a closed expansion vessel. The pump module does not need to be replaced.

## Hydraulic chart



## Options

- **Impulsion meter** to control the normal operation of the system by filling with water, and to alert and shut down the system in case of leakage. Included for closed expansion vessel.
- **Core-water strainer**, 89 µm, to protect the solenoid valve used to fill the expansion vessel.
- **Water-hammer damper**, for use when the length of pipeline between the Pressosmart and the installation may cause a water hammer.
- **Fill-up bypass** to enable a quick filling of the system via a manual valve.
- **Flood detector** to detect and warn of boiler room flooding.

## Quick selection guide

The chart below should be used for closed-loop installations running low-pressure hot water at 90/70°C (mean temperature 80°C).

### Example of use:

#### See below chart

- Installation capacity: 2500 kW
- Building static height: 40 m

### Selection:

Possible choice: MP4N616, MP5N616, MP5N626, MP71017.

Connected to a 1000 L closed expansion vessel.

Alternative: 1000 L open expansion vessel.

Installation Volume (m <sup>3</sup> )	Installation capacity P (kW)															
	0	6	12	15	18	24	30	45	60	75	90	105	120	150	175	
Closed exp. vessel	500 L				1000 L				2x1000 L				Please consult			
	200 L	400 L	600 L	800 L	1000 L	1800 L		2500 L	3000 L	3500 L	4000 L	5000 L	2x3000 L			
75m	MP71516	MP71516	MP71516	MP71516	MP71516	MP71516	MP71516	MP71516								
	MP71526	MP71526	MP71526	MP71526	MP71526	MP71526	MP71526	MP71526	MP71526							
	MP71517	MP71517	MP71517	MP71517	MP71517	MP71517	MP71517	MP71517	MP71517							
	MP71527	MP71527	MP71527	MP71527	MP71527	MP71527	MP71527	MP71527	MP71527	MP71527	MP71527					
65m	MP5N816	MP5N816	MP5N816	MP5N816	MP5N816	MP5N816	MP5N816									
	MP5N826	MP5N826	MP5N826	MP5N826	MP5N826	MP5N826	MP5N826	MP5N826								
		MP71316														
		MP71326	MP71526	MP71526	MP71526	MP71526										
55m	MP4N716	MP4N716	MP4N716	MP4N716	MP4N716											
	MP5N716	MP5N716	MP5N716	MP5N716	MP5N716											
	MP5N726	MP5N726	MP5N726	MP5N726	MP5N726	MP5N726	MP5N726	MP5N726								
		MP71016	MP71016	MP71016	MP71016	MP71016	MP71016	MP71316								
45m	MP195N S2															
	MP195N L2															
	MP4N616	MP4N616	MP4N616	MP4N616	MP4N616	MP4N616	MP4N616									
	MP5N616	MP5N616	MP5N616	MP5N616	MP5N616	MP5N616	MP5N616									
Building static height: 40m	MP5N626	MP5N626	MP5N626	MP5N626	MP5N626	MP5N626	MP5N726	MP5N726	MP5N726							
		MP71016														
							MP71026	MP71026	MP71026	MP71326	MP71326	MP71326				
							MP71017	MP71017	MP71017	MP71317						
35m	MP195N S1															
	MP195N L1															
	MP4N516	MP4N516	MP4N516	MP4N516	MP4N516	MP4N516	MP4N516									
	MP5N516	MP5N516	MP5N516	MP5N516	MP5N516	MP5N516	MP5N516									
25m	MP5N526	MP5N526	MP5N526	MP5N526	MP5N526	MP5N526	MP5N526	MP5N526	MP5N526							
		MP71016														
							MP71026	MP71026	MP71026	MP71026	MP71026	MP71326				
							MP71017	MP71017	MP71017	MP71017						
15m	MP195N S1															
	MP195N L1															
	MP4N416	MP4N416	MP4N416	MP4N416	MP4N416	MP4N416	MP4N416									
	MP5N416	MP5N416	MP5N416	MP5N416	MP5N416	MP5N416	MP5N416									
0m	MP5N426	MP5N426	MP5N426	MP5N426	MP5N426	MP5N426	MP5N426	MP5N426	MP5N426							
		MP71016														
							MP71026	MP71026	MP71026	MP71026	MP71026	MP71026				
							MP71017	MP71017	MP71017	MP71017						

For MP4/MP5/MP7 the last 2 digits indicate the number and type of pressure-control valve. Appropriate system configuration can be done in our electronic selection tool AlfaSelect.

## Equipment

	Pump No.	PCV No. <sup>(1)</sup>	Static Height (m)	1 PCV		2 PCV		Connection to the pipeline
				Max. Capacity (kW) <sup>(2)</sup>	Article Number	Max. Capacity (kW) <sup>(2)</sup>	Article Number	
MP195	1	1	5-40	500	MP195NL			1"
			41-50	500	MP195NL4150			
MP4	1	1	5-15	4000	MP4N316			1"
			5-25	4000	MP4N416			
			5-35	3500	MP4N516			
			5-30	4000	MP4N616			
			31-50	1500	MP4N6163150			
			51-60	800	MP4N6165160			
			5-30	4000	MP4N716			
			31-50	3750	MP4N7163150			
MP5	2	1 or 2	5-20	4000	MP5N316	7500	MP5N326	1½"
			5-30	4000	MP5N416	7500	MP5N426	
			5-30	4000	MP5N516	7500	MP5N526	
			31-40	4000	MP5N5163140	2000	MP5N5263140	
			5-30	4000	MP5N616	7500	MP5N626	
			31-50	3000	MP5N6163150	3000	MP5N6263150	
			5-30	4000	MP7N716	7500	MP7N726	
			31-50	4000	MP5N7163150	7500	MP5N7263150	
			51-60	2500	MP5N7165160	2000	MP5N7265160	
			5-30	4000	MP5N816	7500	MP5N826	
			31-50	4000	MP5N8163150	7500	MP5N8263150	
			51-70	2500	MP5N8165170	2000	MP5N8265170	
			MP7	2	1 or 2	10-45	5000	
46-55	3750	MP710164555				5500	MP710264555	
10-45	5000	MP71316				9500	MP71326	
46-65	4650	MP713164565				8750	MP713264565	
10-45	5000	MP71516				9500	MP71526	
46-75	5000	MP715164575				8750	MP715264575	

(1) PCV (Pressure Control Valve) opens when pressure exceeds the set point.

(2) Max capacity given for Samson 44-6 PCV type. The use of Samson 44-7 type will increase these values (MP7).

(3) FLA (Full Load Amperage) when operating at full load conditions under 230 V 1Phase 50 Hz.

(4) Except for MP195 where an open expansion vessel is included.

All Pressosmart pump modules are equipped with Micro2000 controller, except MP195 type S which uses electro-mechanical pressure switches.

Electrical supply 230 V 1Phase 50 Hz. Pressosmart MP7 also exists for 400 V 3Phase 50 Hz power. Please consult our electronic selection tool.

Max. operating pressure 7.5

Max. operating temperature 95°C

Maximum operating pressure varies according to the model.

### Closed expansion vessel

The closed expansion vessels of steel and an internal rubber bag are available in two configurations: one with the control equipment and one without control equipment to extend expansion capacities (always combine same volumes).

Two volumes are available: 500 L (800 mm x 1460 mm, 90 kg) and 1000 L (820 mm x 2350 mm, 150 kg). PPH open expansion vessels are also available from 200 L to 5000 L.

Pressosmart products are built in compliance with PED 97/23 Art. 3.3 and CE73/23 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](http://www.alfalaval.com)