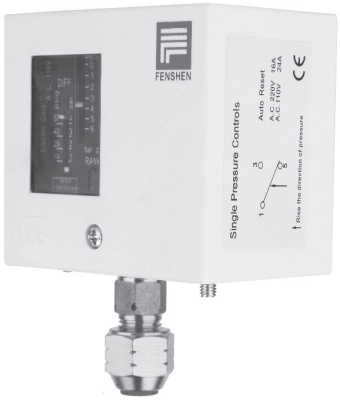
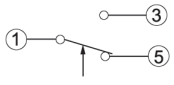
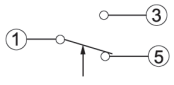
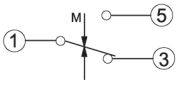
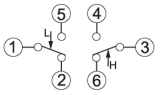
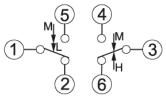
PRESSURE CONTROLS



■ Introduction

PS series pressure control is specially designed to protect the compressor of refrigeration and air-conditioning equipment. It is characterized with high grade precision and fast response speed. When the controlled pressure is higher than the setting pressure, the pressure control will cut off the circuit quickly and effectively to protect the compressor. When the controlled pressure decreases, the pressure control will connect the circuit. The pressure control is equipped with smart single pole double throw switch, thus can ensure reliable quick transformtion function.

■ Contact form

Symbol	Mode	Reset	Contact Form	Instruction
Low pressure (L.P.)	PS2，PS3 PS6，PS10	Auto reset		↑：Direction of rising pressure
High pressure (H.P.)	PS12，PS16 PS20，PS30	Auto reset		↑：Direction of rising pressure
	PS30M	Manual reset		↑：Direction of rising pressure ↑M：Manual reset direction
Dual pressure	PS830	Auto reset		↑L：Direction of rising pressure at low pressure side ↑H：Direction of rising pressure at high pressure side
	PS830HM	L.P.:Auto reset H.P.:Manual reset		↑L：Direction of rising pressure at low pressure side ↑H：Direction of rising pressure at high pressure side ↑M：Manual reset direction
	P830HLM	L.P.:Manual reset H.P.:Manual reset		↑L：Direction of rising pressure at low pressure side ↑H：Direction of rising pressure at high pressure side ↑M：Manual reset direction

■ Technical data

Ambient temperature: -20 ~ +65℃
Medium temperature: -20 ~ +120℃
Cable connection: The cable can be used for 15mm dia.
Max. working pressure: L.P:0.6MPa
H.P:3MPa
Connection:Inch connection: 1/4" Flare nut 7/16"-20UNF Thread
Metric connection: Φ6 Flare nut M12x1.25 Thread
Working voltage: AC220V, AC110V
Insulation properties: ≥10MΩ
Applicable medium: R22、R407C、R134a、R404A、R410A, water, air and oil

■ Type & Data

Symbol	Model	Low pressure				High pressure				Reset		Max.testing pressure			
		Adjust range		Differential		Adjust range		Differential		L.P.	H.P.	L.P.		H.P.	
		MPa	psi	MPa	psi	MPa	psi	MPa	psi			MPa	psi	MPa	psi
Low pressure (L.P.)	PS2	0.05 ~ 0.2	7.25 ~ 29	0.04 ~ 0.1	5.8~14.5					Auto.		1.7	246.5		
	PS3	-0.05 ~ 0.3	-7.25~43.5	0.05 ~ 0.2	7.25~29					Auto.		1.7	246.5		
	PS6	-0.05 ~ 0.6	-7.25~87	0.1 ~ 0.4	14.5~58					Auto.		1.7	246.5		
	PS10	0.1 ~ 1.0	14.5~145	0.1 ~ 0.3	14.5~43.5					Auto.		1.7	246.5		
High pressure (H.P.)	PS12D					0.2 ~ 1.2	29~174	0.1 ~ 0.5	14.5 ~ 72.5		Auto.			3.5	507.5
	PS16D					0.3 ~ 1.7	43.5~246.5	0.2 ~ 0.5	29 ~ 72.5		Auto.			3.5	507.5
	PS20D					0.4 ~ 2.0	58~290	0.2 ~ 0.5	29 ~ 72.5		Auto.			3.5	507.5
	PS30D					0.5 ~ 3.0	72.5~435	0.5 ~ 1.0	72.5 ~ 145		Auto.			3.5	507.5
	PS30M					1.0 ~ 3.0	145~435	Fixed≤0.6	Fixed≤87		Manual			3.5	507.5
Dual pressure	PS830	-0.05 ~ 0.6	-7.25~87	0.1 ~ 0.4	14.5~58	1.0 ~ 3.0	145~435	Fixed≤0.6	Fixed≤87	Auto.	Auto.	1.7	246.5	3.5	507.5
	PS830HM	-0.05 ~ 0.6	-7.25~87	0.1 ~ 0.4	14.5~58	1.0 ~ 3.0	145~435	Fixed≤0.6	Fixed≤87	Auto.	Manual	1.7	246.5	3.5	507.5
	PS830HLM	-0.05 ~ 0.6	-7.25~87	Fixed≤0.2	Fixed≤29	1.0 ~ 3.0	145~435	Fixed≤0.6	Fixed≤87	Manual	Manual	1.7	246.5	3.5	507.5

Remark: The minumum differential pressure must be less than the minumum lower limit of the adjust range.

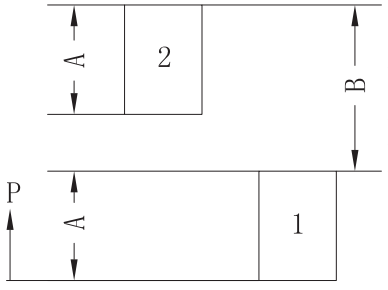

■ Introduction

P30D-3S (2S) three (two) grade pressure controller with three (two) single pole double throw switch, suitable for a variety of heating, ventilation, refrigeration and air conditioning, condenser fan, air compressors, pumps and other energy discharge automatic charge control. It can be used as three (two) level heating, three (two) level cooling and three (two) level water control purposes, to make rational use of energy, saving energy.

■ Technical parameter

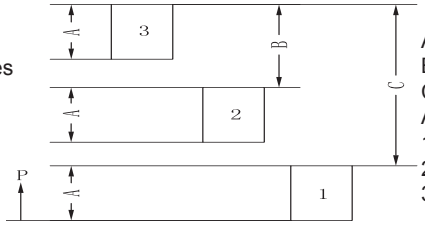
working range		0.5 ~ 3.0MPa
Differential	Each Level	0.2MPa
	Interstage	0.1 ~ 0.3MPa (setting according to customer requirements)
Electrical parameters	resistive load，AC voltage 220V， rated current 5A	

■ Two grade pressure schematic



A) per-stage differential
B) differential between poles
AP) pressure rise direction
A1) First Grade
A2) Second Grade

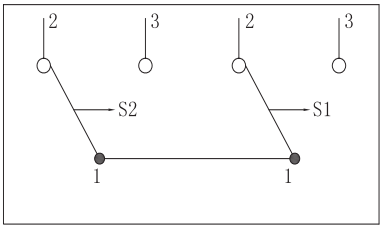
■ Three grade pressure schematic



A) per-stage differential
B) Two grade pressure controller
C) Three grade pressure controller
AP) pressure rise direction
1) First Grade
2) Second Grade
3) Third Grade

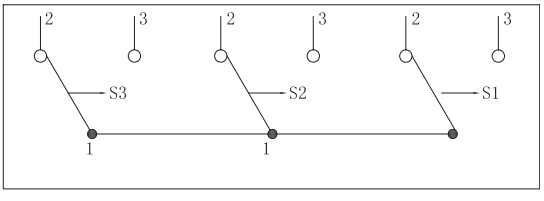
■ Contact form

Two grade pressure controller



When pressure increases, contact 1-3 closes

Three grade pressure controller



When pressure increases, contact 1-3 closes


■ Introduction

P/PC series pressure control can protect compressors in refrigeration and air-conditioning plant, and keep them from over-low suction pressure or over-high discharge pressure.
P/PC series pressure controls can start and stop refrigeration compressors and fans of air condensers.
P/PC series pressure controls can be used not only in fluoride refrigeration, but also in air and liquid.
P/PC series pressure controls are fitted with 3 kinds of changeover switch: a single pole double throw (SPDT), a double pole single throw(DPST) and a double pole double throw(DPDT). The position of the switch is determined by the pressure control setting and the pressure at the connector.
Approvals: CQC(China), CE(Europe), RoHS, UL(USA. Canada).

■ Technical data

Ambient temperature	–20 ~ +65℃	Max. working pressure	Max. testing pressure
Medium temperature	–20 ~ +120℃	L.P.: 0.6MPa	L.P.: 1.7MPa
Cable connection	The cable entry can be used for 15mm dia.	H.P.: 3 MPa	H.P.: 3.5MPa

■ R410aTechnical data

Ambient temperature –20 ~ +65℃ Medium temperature –20 ~ +120℃ Max. working pressure L.P.: 1.2MPa H.P.: 4.5MPa
Cable connection The cable entry can be used for 15mm dia. Max. testing pressure L.P.: 2.5MPa H.P.:4.8MPa

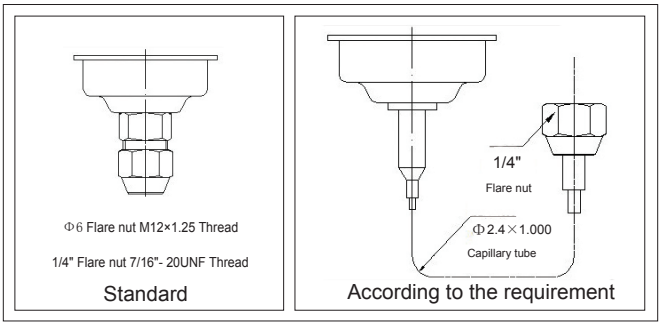
■ Electrical data

Current (A) \ Voltage (V)		A.C.110	A.C.220
Non-inductive current		24	16
Inductive current	Full load	24	16
	Starting	144	96

■ Placing order

Any special requirements please remark behind the model number.
Inch connection size (7/16-20UNF), please state letter “E” after the model number.
“MG” stands for capillary, standard length is 1m (including flare nuts), please mark the special length requirement.
“MGL” stands for “Capillary with thread”.
“A” stands for “Stainless steel air box assembly”.

■ Connection



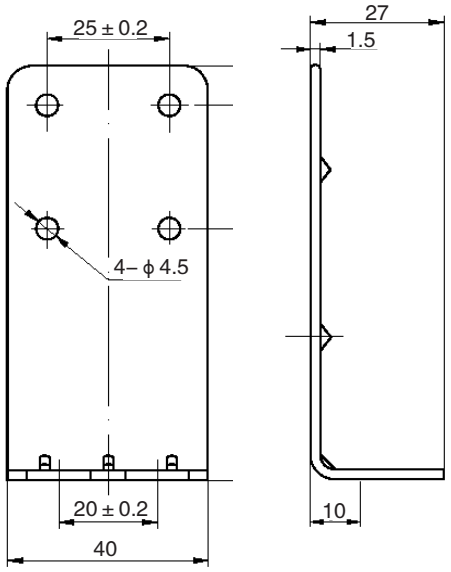
Inch connection: 1/4'' Flare nut 7/16"-20UNF Thread
Metric connection: Φ6 Flare nut M12x1.25 Thread

■ Type & Data

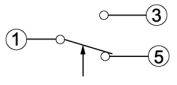
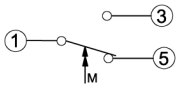
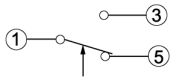
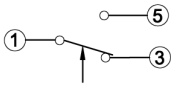
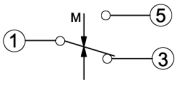
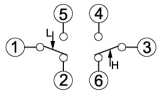
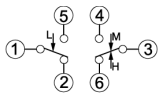
Symbol	Model	Low pressure				High pressure				Reset		Max.testing pressure			
		Adjust range		Differential		Adjust range		Differential		L.P.	H.P.	L.P.		H.P.	
		MPa	psi	MPa	psi	MPa	psi	MPa	psi			MPa	psi	MPa	psi
Low pressure (L.P.)	PC2	0.05 ~ 0.2	7.25 ~ 29	0.04 ~ 0.1	5.8~14.5					Auto.		1.7	246.5		
	PC3	–0.05 ~ 0.3	–7.25~43.5	0.05 ~ 0.2	7.25~29					Auto.		1.7	246.5		
	PC6	–0.05 ~ 0.6	–7.25~87	0.1 ~ 0.4	14.5~58					Auto.		1.7	246.5		
	PC6M	–0.05 ~ 0.6	–7.25~87	Fixed ⩽ 0.2	Fixed ⩽ 29					Manual		1.7	246.5		
	PC10	0.1 ~ 1.0	14.5~145	0.1 ~ 0.3	14.5~43.5					Auto.		1.7	246.5		
	P6W–12S	0.05 ~ 0.2	7.25~29	0.04 ~ 0.1	5.8~14.5					Auto.		1.7	246.5		
	P6W–12D	0.05 ~ 0.2	7.25~29	⩽ 0.04	⩽ 5.8					Auto.		1.7	246.5		
	P12L	0.2 ~ 1.2	29~174	0.1 ~ 0.5	14.5 ~ 72.5					Auo.		2.5	362.5		
	P760	–0.1 ~ 0	–14.5~0							Auto.		1.7	246.5		
High pressure (H.P.)	PC12D					0.2 ~ 1.2	29~174	0.1 ~ 0.5	14.5 ~ 72.5		Auto.			3.5	507.5
	PC16D					0.3 ~ 1.7	43.5~246.5	0.2 ~ 0.5	29 ~ 72.5		Auto.			3.5	507.5
	PC20D					0.4 ~ 2.0	58~290	0.2 ~ 0.5	29 ~ 72.5		Auto.			3.5	507.5
	PC30D					0.5 ~ 3.0	72.5~435	0.5 ~ 1.0	72.5~145		Auto.			3.5	507.5
	PC30					1.0 ~ 3.0	145~435	Fixed ⩽ 0.6	Fixed ⩽ 87		Auto.			3.5	507.5
	PC30M					1.0 ~ 3.0	145~435	Fixed ⩽ 0.6	Fixed ⩽ 87		Manual			3.5	507.5
	P45L					1.0 ~ 4.5	145~652.5	Fixed ⩽ 0.8	Fixed ⩽ 116		Auto.			4.8	696
	P45DL					1.0 ~ 4.5	145~652.5	0.5 ~ 1.5	72.5~217.5		Auto.			4.8	696
Dual pressure	P830	–0.05 ~ 0.6	–7.25~87	0.1 ~ 0.4	14.5~5.8	1.0 ~ 3.0	145~435	Fixed ⩽ 0.6	Fixed ⩽ 87	Auto.	Auto.	1.7	246.5	3.5	507.5
	P830HM	–0.05 ~ 0.6	–7.25~87	0.1 ~ 0.4	14.5~5.8	1.0 ~ 3.0	145~435	Fixed ⩽ 0.6	Fixed ⩽ 87	Auto.	Manual	1.7	246.5	3.5	507.5
	P830HLM	–0.05 ~ 0.6	–7.25~87	Fixed ⩽ 0.2	Fixed ⩽ 29	1.0 ~ 3.0	145~435	Fixed ⩽ 0.6	Fixed ⩽ 87	Manual	Manual	1.7	246.5	3.5	507.5
	P1245L	0.2 ~ 1.2	29~174	0.1 ~ 0.5	14.5 ~ 72.5	1.2 ~ 4.5	174~652.5	Fixed ⩽ 0.8	Fixed ⩽ 116	Auto.	Auto.	2.5	362.5	4.8	696
	P1245LHM	0.2 ~ 1.2	29~174	0.1 ~ 0.5	14.5 ~ 72.5	1.2 ~ 4.5	174~652.5	Fixed ⩽ 0.8	Fixed ⩽ 116	Auto.	Manual	2.5	362.5	4.8	696
	P1245LHLM	0.2 ~ 1.2	29~174	Fixed ⩽ 0.5	Fixed ⩽ 72.5	1.2 ~ 4.5	174~652.5	Fixed ⩽ 0.8	Fixed ⩽ 116	Manual	Manual	2.5	362.5	4.8	696

Remark: The minumum differential pressure must be less than the minumum lower limit of the adjust range.

■ Mounting plate (Unit: mm)

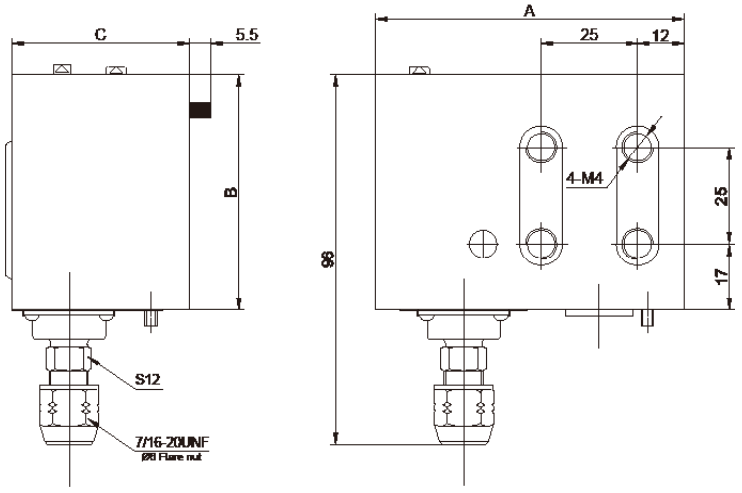


■ Contact form

Symbol	Mode	Reset	Contact Form	Instruction
Low pressure (L.P.)	PC/P2，P3，P6，P10	Auto reset		↑：Direction of rising pressure
	PC/P6M	Manual reset		↑：Direction of rising pressure ↑ M：Manual reset direction
High pressure (H.P.)	PC/P12D，P16D，P20D，P30D，P12L，P45DL	Auto reset		↑：Direction of rising pressure
	PC/P30，P45L	Auto reset (Fixed differential)		↑：Direction of rising pressure
	PC/P30M	Manual reset		↑：Direction of rising pressure ↑ M：Manual reset direction
Dual pressure	P830 P1245L	Auto reset		↑L：Direction of rising pressure at low pressure side ↑H：Direction of rising pressure at high pressure side
	P830HM P1245LHM	L.P.:Auto reset H.P.:Manual reset		↑L：Direction of rising pressure at low pressure side ↑H：Direction of rising pressure at high pressure side ↑ M：Manual reset direction
	P830HLM P1245LHLM	L.P.:Manual reset H.P.:Manual reset		↑L：Direction of rising pressure at low pressure side ↑H：Direction of rising pressure at high pressure side ↑ M：Manual reset direction

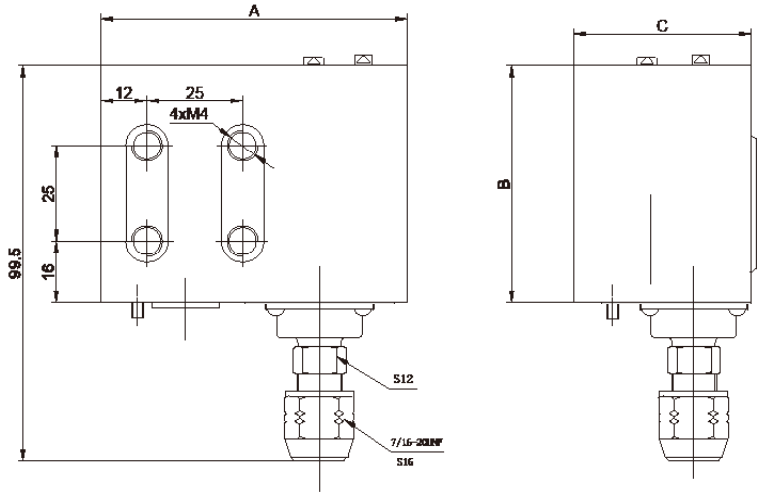
■ Dimensions (Unit: mm)

＊ Single Pressure



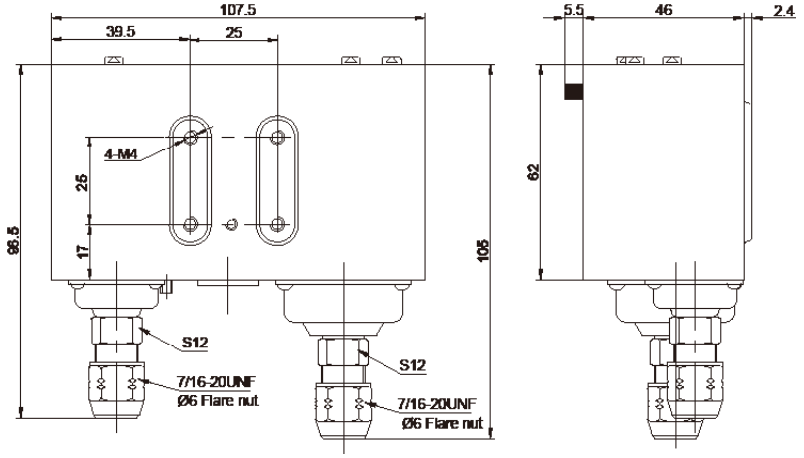
Symbol		A	B	C
Low pressure	P	80	62	46
	PC	68	62	46
High pressure	P	80	62	46
	PC	68	62	46

Single pressure manual reset type



Single pressure automatic reset type

＊ Dual Pressure



Dual pressure

■ Introduction

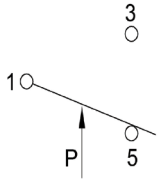
P760 pressure control is a pressure protection equipment which is specially designed for refrigeration or other mechanical system with negative pressure vacuum degree control. It can prevent the air leak into the system due to low vacuum from breakdown. It is an automatic controller, which works when receives the pressure signal. In refrigeration equipment, when the pressure of compressor is lower than the setting pressure, the pressure controller will send electricity signal to cut off the circuit to stop the compressor, so as to protect the system.

■ Technical Data

Adjust range: 0 ~ -1bar
Switch contact capacity: A.C.220V 16A A.C110V 24A
Applicable medium: Non-corrosive gas, water and oil
Ambient temperature: -20 ~ +65℃
Medium temperature: -20 ~ +120℃
Contact capacity: 220VAC 16A 110V AC 24A

■ Contact form:

Contact form and function
The switch contact form is SPDT
1-5 is normally closed



1---Common contact
1-3---close on pressure rise
1-5---open on pressure rise
the arrow indicates the direction of the rising pressure

■ Introduction

P6W-12S pressure control is a control equipment which is specially designed for fire protection system. Its characteristic is: it not only has a fast working SPDT (single pole double throw) switch, but also can control the low pressure. It can send out the signal in a fairly small pressure to make actuators stop working, it protects the pressure well.

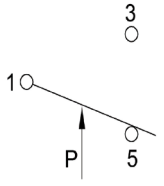
■ Technical Data

Adjust Range: 0 ~ 0.20MPa
Differential: 0.04 ~ 0.10MPa
Max working pressure: 0.2MPa
Switch contact capacity: A.C.220V 16A A.C110V 24A

Applicable medium: Non-corrosive gas, water and oil
Ambient temperature: -20 ~ +65℃
Medium temperature: -20 ~ +120℃
Contact capacity: 220V A.C. 16A, 110V A.C. 24A

■ Contact form:

The switch contact form is SPDT
1--5 is normally closed



1---Common contact
1-3---close on pressure rise
1-5---open on pressure rise
the arrow indicates the direction of the rising pressure

■ Introduction

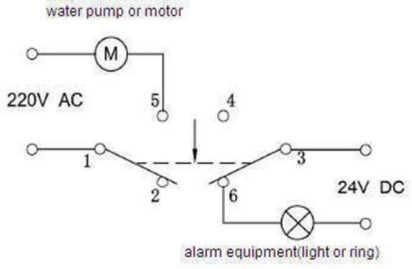
P6W-12D pressure control is a pressure control equipment which is specially designed for the fire protection system, Its characteristic is: it has a DPDT (double pole double throw) rapid action switch, at the same time it can make two different kinds of signal to control the pump of the fire protection system, and send out the alarm signal. It is an automatic controller which works when it receives the pressure signal.In the equipment, when the controlled pressure is higher than the setting pressure, the pressure controller will send the signal to cut off the circuit (or alarm) to make the water pump stop working, and send out the alarm signal.

■ Technical Data

Adjust Range: 0.05 ~ 0.20MPa
Differential: ≤0.04MPa
Max working pressure: 0.2MPa
Switch contact capacity: A.C.220V 16A A.C110V 24A

Medium:Non-corrosive gas,water and oil
Ambient temperature: -20 ~ +65℃
Medium temperature: -20 ~ +120℃
Contact capacity: 220V A.C. 16A, 110V A.C. 24A

■ Contact form:



The switch contact form is DPDT
1--5 and 3--4 are normally closed
↑the arrow indicates the direction of the rising pressure

■ Introduction

MP45-Series Micro pressure control is an electrical switch controlled by pressure signal. It's affected by the discharge pressure of the compressor. When the discharge pressure of the compressor exceeds the setting pressure of the control, it will cut out the power supply and protect the system from undue pressure.

■ Type explanation

Model	MP45	F	01	B	11	D	3	T	2.6
Explanation	Type code MP45M means manual reset type	Connect code W	Connect size code X	Switch action code Y	Lead code Z	Off code D	Off pressure	On code T	On pressure

Note: Refer to the table of code instructions for the details of codes in the table.

■ Code instructions

Code	Instruction
W	Connection way: Female flare “F”, Male flare “M”, Solder “W”
X	Flare size code: 01(7/16 ″ -20UNF), 02（1/8 ″ -27UNF), 03（1/4 ″ -18UNF), 04（3/8 ″ -24UNF) Solder size code: 05（Φ6X86), 06（Φ6X94), 07（Φ6X100), 08（Φ6X78X60 right angled),09（Φ2.5X915 capillary tube)
Y	Code: A - Lead wire N.O., B - Lead wire N.C., C - Quick connect terminal N.O., D - Quick connect terminal N.C., E - Lead wire SPDT, F - Quick connect terminal SPDT
Z	Code: 10-Lead wire length 305mm, 11-Lead wire length 610mm, 12-Lead wire length 915mm, 13-Lead wire length 1220mm
D	Off code
Off Pressure	Off pressure range: 0.02 ~ 4.5MPa
T	On code
On Pressure	On pressure range: 0.02 ~ 4.5MPa

Note: 1) Manual reset type MP45M.
2) Consult with Fengshen factory for special requirement.

■ Example MP45F 01 B11 D3T 2.6

Instruction：Type MP45, Female flare, 7/16"-20UNF, Lead wire N.C., Lead wire length 610mm, Off pressure 3MPa, On pressure 2.6MPa.