

Water Flow Switch

'T' Type flow switch

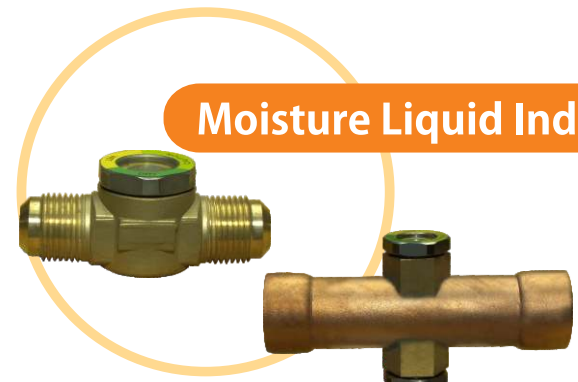
SPECIFICATIONS	
Pipe Connection	1/2", 3/4", 1"
Materials of construction	Brass / SS304 (CF8) Phosphor Bronze Mild Steel Plastic
Maximum Operating Pressure	10 bar (150PSI)
Liquid Temperature	1 to 100° C
Set point Adjustment	Screw under cover
Ambient Temperature Limits	0 to 60° C
Flow Rates	Chart provided gives flow rates in m³/h, Lpm and US Gpm.
Bellow Life	5,00,000 cycles
Switch Action	SPDT, Snap-acting.
Electrical Ratings	Upto to 250VAC, 15(7.5) A, 50/60 Hz
Wire Connections	Screw-down Terminals
Paddles	Supplied in set of 5 sizes 1",2",3",5", and 6"
Endosure Protection Class	I.P 55
Conduit Opening	22 mm diameter hole for 1/2 Conduit.
Dimensions	In the instruction leaflet provided with the controller.
Shipping Weight	0.7 kg.

Application
The paddle type WFS series flow controllers are specifically designed for use on liquid lines such as water, ethylene glycol or any other fluid which is not harmful to brass or phospher bronze and which is not classified as a hazardous fluid.

Installation
The flow controller can be mounted in a horizontal or vertical pipeline but must be located in a section of pipe where there is a straight run of atleast 5 pipe diameters on each side of the switch. The "T" type flow switch eliminates at the installers end the problems of locating the switch in the middle of the pipe and its related leakages..

Construction
The controller is made from various plastics and metals which are listed below in the specifications chart.Special Stainless Steel body flow switches are also available on request.

Features of 'T' type flow switch
does not require center adjustment as with standard flow switch
saves a lot of installation time
no welding of adopter required
forged / brazed as per model thereby eliminating leakages.

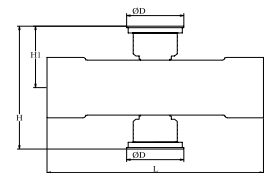
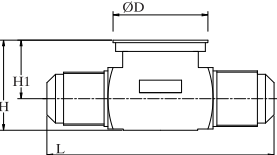


Moisture Liquid Indicators

Application
Moisture Liquid Indicators ensure failsafe inspection of the conditions of the refrigerant fluid in the system as regards to the regular flow and moisture.
Liquid indicators also ensure inspection of the regular flow of oil feed-back to the compressor sump.

Installation
Before start up the moisture indicator colour may show colour as per the wet colour. This may be due to exposure to air and humidity and moisture in the circuit.
When the moisture of the refrigerant fluid is brought back to acceptable levels with the dehydrator, the indicator colour will show the appropriate colour corresponding to dry.

Construction
Castle liquid indicators are manufactured with imported glass which has been directly fused onto the metal nut. This construction allows the total elimination of sealing gaskets between the glass disc and the metal structure with the consequent elimination of possible refrigerants.
The materials used for the main parts are:
BS-218 forged brass for the flare brass indicators
Refrigeration grade copper tube for copper end indicators
Neoprene rings for sealing



Hand Shut Off Valves

Application
These diaphragm type hand shut off valves are designed for installations in liquid, suction and hotgas lines of commercial refrigerating systems and on civil and industrial air-conditioning systems.
Construction
Diaphragm valves don't have gland seals. The external sealing is assured by thin metal discs (diaphragms), which hermetically divide the spindle chamber from the fluid flow area.

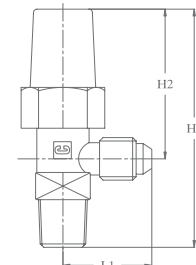
The main parts of the valves are made with the following materials
• Hot forged brass body as per BS-218
• Extruded brass for the spindle
• Special spring steel for the spring
• Engineering Plastics for seat sealing gaskets



Angle Valve (Receiver Valve)

Application
These receiver valves are designed for installation on commercial refrigerating systems and on civil and industrial air-conditioning systems. They are suitable for all refrigerant fluids except Ammonia.

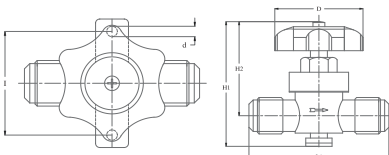
Construction
The main parts of these valves are made with the following materials :
• Hot forged brass as per BS-218
• Steel with proper surface protection, for the spindle
• Neoprene rubber for the gland
• Engineering Plastics for the cap that covers the spindle



Model	Size Flare	Size OD	Operating Temp		Operating Pressure PSI (Max)
			°C Min	°C Max	
CSV - 6	1/4"				
CSV - 6 S		1/4"			
CSV - 10	3/8"				
CSV - 10 S		3/8"			
CSV - 12	1/2"		-35	90	400
CSV - 12 S		1/2"			
CSV - 15	5/8"				
CSV - 15 S		5/8"			

Model	DIMENSIONS (MM)						Weight gm
	H1	H2	L1	d	I	D	
CSV-6	69	54	56.5	4.5	28	54	160
CSV-6S	69	54	56.5	4.5	28	54	160
CSV-10	77	59.5	69	4.8	50	54	220
CSV-10S	77	59.5	69	4.8	50	54	210
CSV-12	75	55	80	4.8	50	54	310
CSV-12S	75	55	80	4.8	50	54	290
CSV-15	75	55	80	4.8	50	54	320
CSV-15S	75	55	80	4.8	50	54	290

- Feature**
- Can be used on all CFC's and HCFC's
 - Seat of Engineering Plastics to give complete shut off with minimum torque
 - Fitted with stainless steel diaphragms that prevent leakage
 - Throughout the operating life of the valve

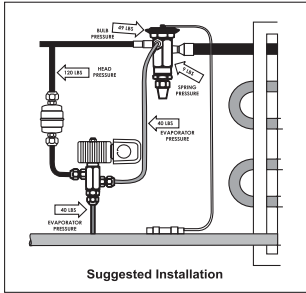


Model	Connections		Model	DIMENSIONS (MM)			Weight gm
	1/4" Flare	1/4" NPT		H 1	H 2	L 1	
CAV-76	1/4" Flare	1/4" NPT	CAV - 76	67	44.5	26	80
CAV-66	1/4" Flare	1/4" Flare	CAV - 66	67	44.5	26	80
CAV-98	3/8" Flare	3/8" Flare	CAV - 98	75	48	31	120
CAV-99	3/8" Flare	3/8" NPT	CAV - 99	75	48	31	120

Operating Temp		Operating Pressure PSI (Max)
°C Min	°C Max	
-35	90	400



Pilot Operated Solenoid Valve



Principles of operation
The principle upon which the 180 Solenoid Pilot Control influences the expansion valve action is by the creation of a pressure under the valve diaphragm which is higher than the bulb pressure. This is how it is accomplished.

The type 180 has two parts, both in the the valve body-one high pressure and one low pressure. When the solenoid coil is energized, the plunger moves upward sealing off the high pressure port. With the high pressure excluded from the pilot control, true suction pressure acts on the underside of the expansion valve diaphragm through the equalizer line and the low pressure port.

When the solenoid coil is de-energized, the low pressure port is closed, thereby closing the equalizer line from the valve to the suction line. The high pressure port is open and liquid line pressure is applied to the underside of the thermostatic expansion valve diaphragm.

This high side pressure instantly overcomes the bulb pressure and supplements the valve spring, immediately closing the port of the expansion valve.

Application
The type 180 Solenoid Pilot Control suitable for all refrigerants except Ammonia

The 180 Solenoid Pilot Control is applicable for CFC & HCFC as a supplementary device to Thermostatic Expansion Valves. It is used in place of capacity solenoid valves for positive shut-off of liquid lines.

The Solenoid Pilot Control does not directly close the liquid line, but acts on the thermostatic expansion valve causing the expansion valve to close. The 180 is installed in the external equalizer line of the thermostatic expansion valve, and has a third 1/4" connection from the liquid line.



Oil Separator

Application
The advantages of the oil separator on the discharge line of a compressor in a refrigeration system are confirmed by many years of experience. The oil separator intercepts the oil mixed with compressed gas and returns it to the crankcase of the compressor thus assuring an efficient lubrication of its moving parts. Furthermore, the oil separator maintains a high coefficient of condenser and evaporator performance by almost completely removing oil deposits from their exchange surfaces. When a very high temperature at the end of the compression stage lead to the formation of oil vapours. Moreover, the oil separator, damping the valves pulsations, reduces system noise with an open or semi-hermetic compressor.
Finally, the use of an oil separator leads to:
• a longer life of the compressor;
• a better performance of the whole system with consequent energy saving;
• A quieter operation by reducing pulsations.

Installation
The oil separators should be installed in the discharge line between the compressor and the condenser mounted securely in a vertical position and reasonably close to the compressor.
To prevent the return of refrigerant from condenser, during the off cycle of the system, it's advisable to install a check valve between the condenser and oil separator outlet

Type	Connection		Rated Plant Capacity (KW)				
	in.	Version	R 22	R 134a	R 404A	R 12	R 502
Coub 1	3/8", 1/2", 5/8"	Flare/Solder	3.1	2.5	3.5	2.3	3.5
Coub 4	7/8", 1.1/8"	Solder	11.6	9.6	12.8	8.8	12.8

connection.
Oil separator performs best when operating at or near the compressor discharge temperature. In location the oil separator, choose a position to avoid, as far as possible, chilling of the shell, which may result in condensing of liquid within the separator. If this is not possible, it is advisable to supply the separator with the better solutions (insulation, strap heater, others) to prevent the refrigerant in the system from condensing in the shell. Before the oil separator is installed, an initial charge of oil should be added to it. Refer to general characteristics of oil separators or to instruction sheet for the proper amount of oil. Oil pre-charge is very important, failure to pre-charge separator sump may result in damage to the oil return float mechanism. Use the same type of oil that is in the compressor crankcase.
Acting as the layout of refrigerating system, the return line may be run from the oil fitting to:
• the compressor crankcase;
• the suction line upstream the compressor or upstream the receiver, if present;
• the oil reservoir if oil control system is being used.
A sight glass may be installed in the oil line, in a position that oil is flowing through the tube, to check the correct working of the oil separator.

Construction
Castle oil separators are manufactured from deep drawn special steel of adequate thickness. End connections are manufactured from special steel bars.
The internal float ball is constructed of Stainless Steel.

