AIR FILTER

Series : V050, V100, V200, V250, V300

FEATURES:

High flow Capacity

Shatter- Proof polycarbonate bowl with bowl guard

Minimum Pressure drop

Choice of filter Element up to 5 μ

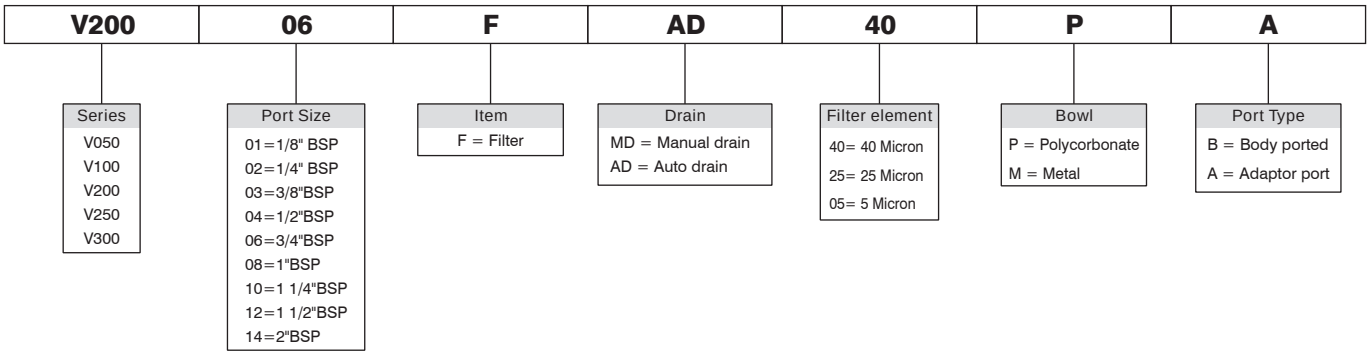
Optional Automatic drain

Compact design

* Powder coated in gold / black for superior finish & durability

ORDERING CODE

Example : V200 / 06 / F / AD / 40 / P / A



TECHNICAL SPECIFICATIONS :

Specification		Units	Technical Details				
Model		——	V050-F	V100-F	V200-F	V250-F	V300-F
Port size		Std.	G1/8 , G1/4	G3/8 G1/2	G1/2 , G3/4	G1 , G1¼	G1½ , G2
		Opt.	NPT ports				
Drain		Std.	Manual	Manual	Manual	Manual	Manual
		Opt.	——	——	Auto	Auto	Auto
Material of Construction	Bodies	——	Zinc	Cast - Aluminum	Cast - Aluminum	Cast - Aluminum	Cast - Aluminum
	Bowls	Std.	Polycarbonate	Polycarbonate	Polycarbonate	Polycarbonate	Cast - Aluminum
		Opt.	——	Cast - Aluminum	Cast - Aluminum	Cast - Aluminum	——
Bowl Capacity (Condensate Level)		C.C	20	30	75	100	300
Degree of Filtration		Microns	40 (25, 5 OPTIONAL)				
Filter element		——	Sintered Bronze				
Application		——	To supply filtered air				
Operating medium		——	Compressed Air				
Max. Operating Temp.		°C	50 (80° For Metal bowl)				
Max. Operating Pressure		Bar	10 (17 for Metal bowl)				

*Cost of Gold colour finish product will be 5% higher than the black

FILTERS:

The compressor which is the base source of air system draws into it contaminants like dust, moisture & other pollutants at the intake and sludge, oil and foreign matter gets added to the air in the compressor itself. Such contaminated air when used untreated can interfere with the air driven device operation and in time damage it.

Air filters are designed to separate liquid water and rust scale and debris from the compressed air.

Compressed air filters installed upstream from the air driven device remove these contaminants as well as most water condensate from the flowing compressed air.

Filters are rated according to the minimum particle size that their filter elements will trap. Although filters rated at 40 to 60 microns are adequate for protecting most industrial applications, filtering elements in the range of 5 microns – 25 microns are also in good use. It is to be noted that finer ratings increase the pressure drop through the filter.

Two types of filter elements are used in air filters. Depth type sintered bronze element and edge type paper element.

The sintered bronze filter element is made by using specified particle size bronze powder depending on the filtration rating required and sintering it to required shape in a furnace. In this the compressed air impinges on the outer surface of the filter element and as it traverses to the central core it passes through the zig zag paths between the bronze powder granules where the solid contaminants gets held. In course of time all these micro passages in the filter element get clogged leading to drop in flow capacity of the filter. By design these sintered bronze elements are not possible to be cleaned and reused.

The resin impregnated wound paper elements clean the compressed air by holding on to the solid contaminants at the outer surface of the filter element as air passes to the central core through linear micro passages between the layers of paper. Due to this linear flow passages, this filter element can be cleaned by brushing it's surface and additionally blowing compressed air in reverse from core to outer surface.

Generally, filters have transparent polycarbonate bowls, which allow easy visual inspection of the drained sump level. Pressure in filters with polycarbonate bowls should not exceed 10.5 bars (152.3 psi) and temperature of 50^{0} C (122^{0} F). It is recommended to have bowl guards for all filters with polycarbonate bowls. Where the ambient conditions do not permit usage of polycarbonate bowls, it is advisable to go in for metal bowls.

FUNCTIONING OF AIR FILTERS: (Ref. Fig on page 40)

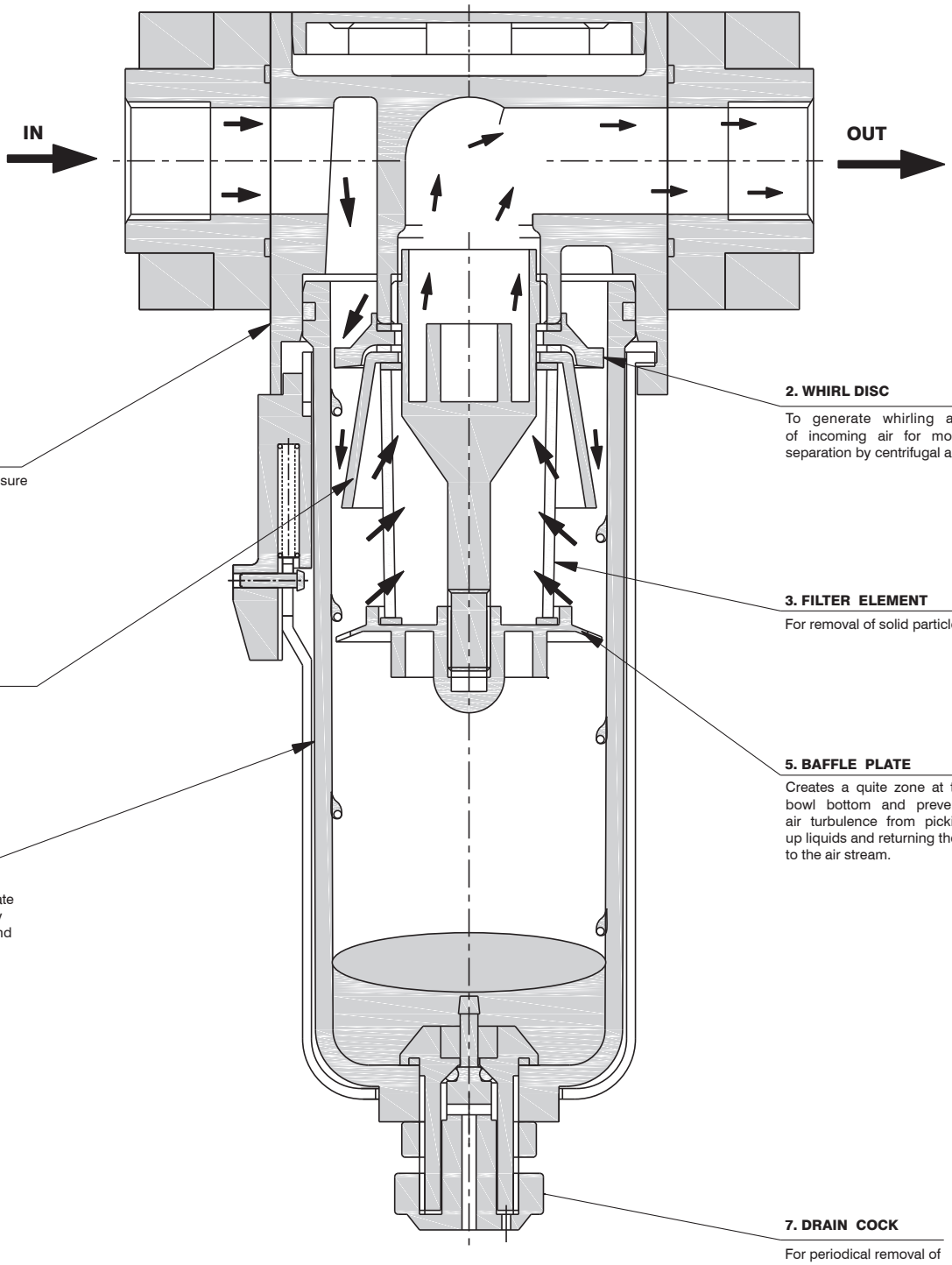
The airline filters are designed to remove liquid condensate and solid particles from the compressed air.

The moisture content in the incoming air that passes in to the bowl(4) is removed mechanically by the whirl disc(2) which causes the air to move in a swirling motion. The condensed water droplets are centrifugally impounded against the sidewalls of the bowl from where they are carried down to the water sump by the force of gravity. The baffle plate creates quiet zone at the bottom of the bowl for the condensate to settle.

The conical cover(6) over the filter element(3) helps in guiding the flowing air not to pass directly through the filter element until the large particles and moisture are removed. The air then flows through the filter element where solid particles are filtered out and only clean air is allowed to pass down stream.

The design provides easy removal of bowl guard with bowl to permit convenient replacement of filter element if necessary or for its cleaning.

The accumulated condensate in the bottom of the bowl can be drained out with the help of manual drain(7) by rotating the drain cock counter clockwise. Filters with automatic drain expel the condensate automatically after it reaches a pre-determined level in the bowl. For detailed functioning of Auto drain, refer Page No. 47



1. FILTER BODY

Precision machined pressure die cast aluminium alloy.

2. WHIRL DISC

To generate whirling action of incoming air for moisture separation by centrifugal action.

3. FILTER ELEMENT

For removal of solid particles.

4. BOWL

Made out of polycarbonate material for clear visibility of the filtering element and level of water sump.

5. BAFFLE PLATE

Creates a quite zone at the bowl bottom and prevents air turbulence from picking up liquids and returning them to the air stream.

6. CONICAL COVER

7. DRAIN COCK

For periodical removal of the accumulated drain.

Instructions for Installation and Maintenance of Air Filter

1. Install the air filter vertically the bowl facing downward; Failure to do so could result in a drainage discharge fault.
2. If air filter bowl is heavily contaminated or transparency has dropped, replace with new bowl. To wash the bowl, rinse well with mild soap water:
3. Avoid using metal bowls where strong acids or bases are present or in salt laden atmosphere.

AIR FILTER (V050 -1/8" & 1/4" BSP)

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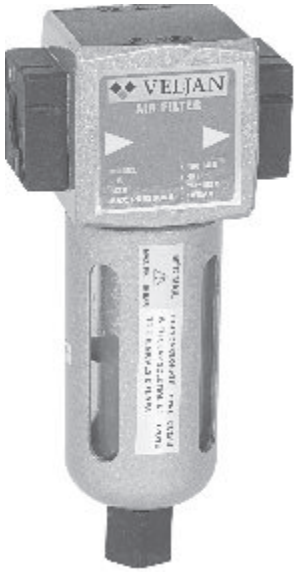
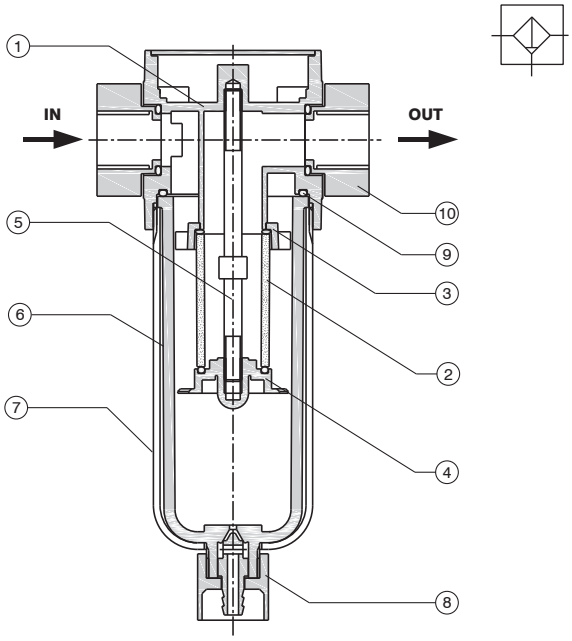
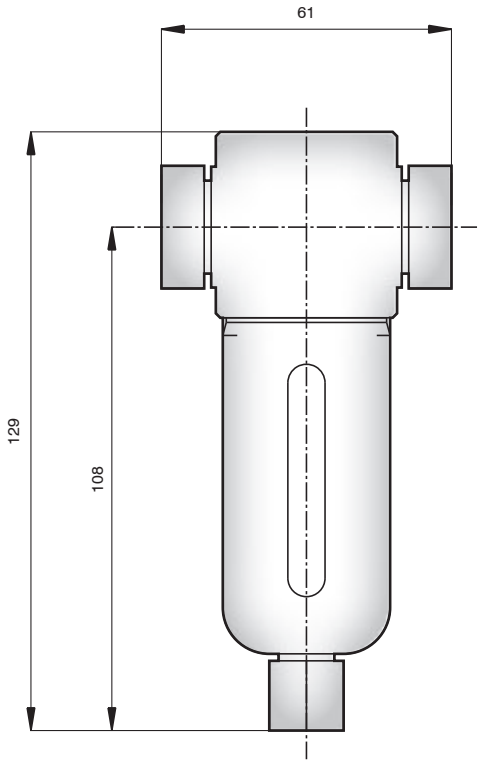
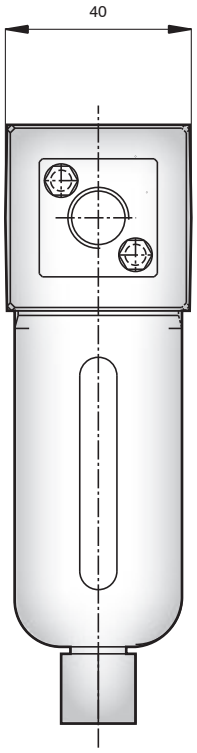




S.no.	Description	Material
1	Filter Body	Zinc
2	Filter Element	Sintered Bronze
3	Whirl disc	A.B.S.
4	Baffle plate	H.D.P.E
5	Stud	Brass
6	Bowl	Polycarbonate
7	Bowl Guard	Cold Rolled Steel
8	Drain Cock	Delrin
9	`O' Ring	Nytrile
10	Adaptor	Aluminum





AIR FILTER (V100 - 3/8" & 1/2" BSP)

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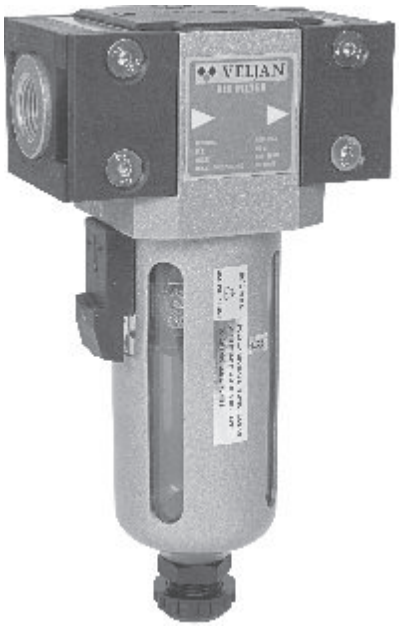
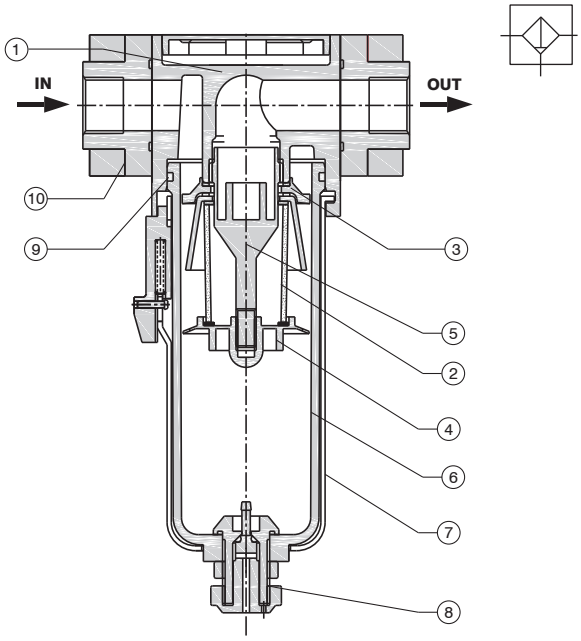
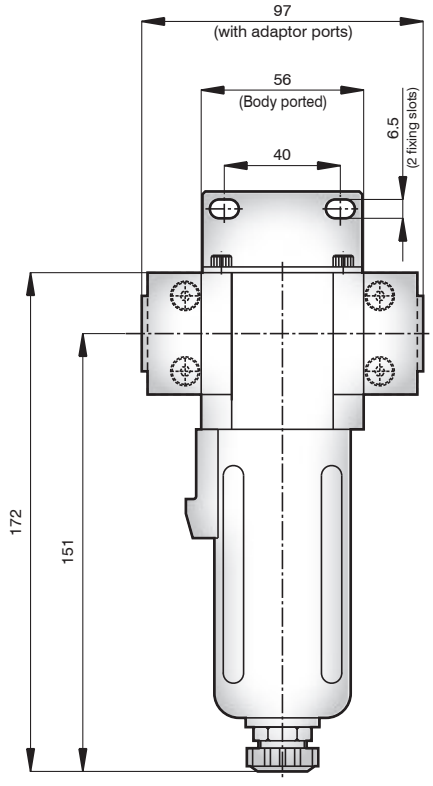
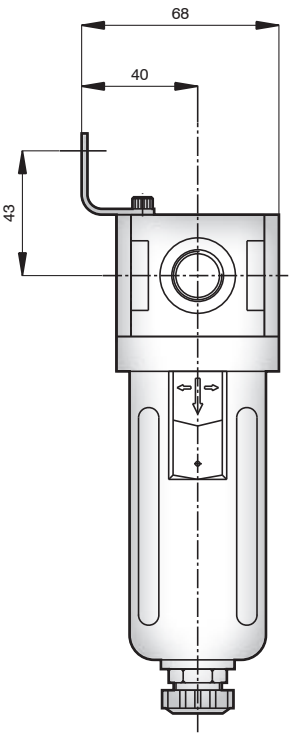




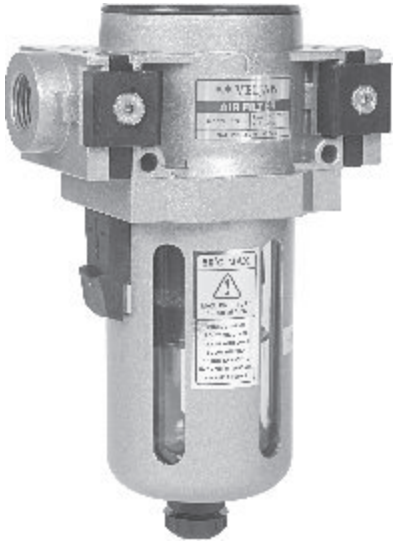
S.no.	Description	Material
1	Filter Body	Aluminum
2	Filter Element	Sintered Bronze
3	Whirl disc	A.B.S.
4	Baffle plate	H.D.P.E
5	Stud	Delrin
6	Bowl	Polycarbonate
7	Bowl Guard	Cold Rolled Steel
8	Drain Cock	Delrin
9	`O' Ring	Nytrile
10	Adaptor	Aluminum

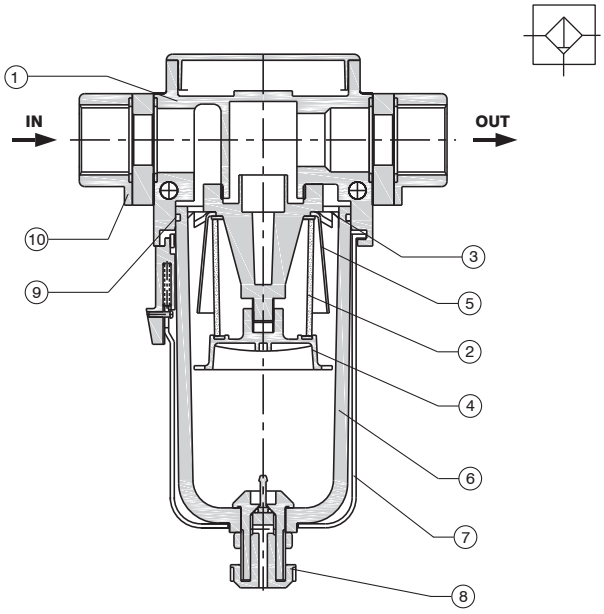




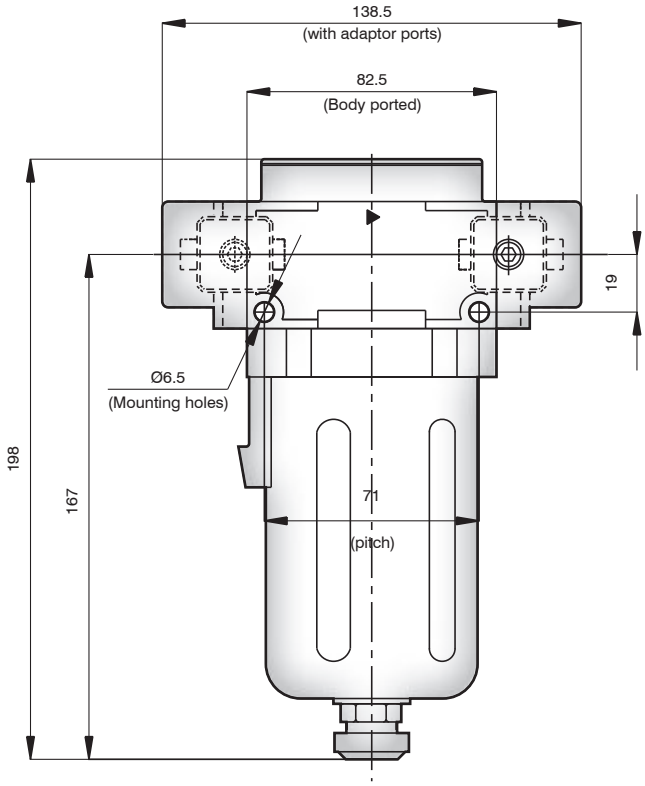
AIR FILTER (V200 -1/2" & 3/4" BSP)

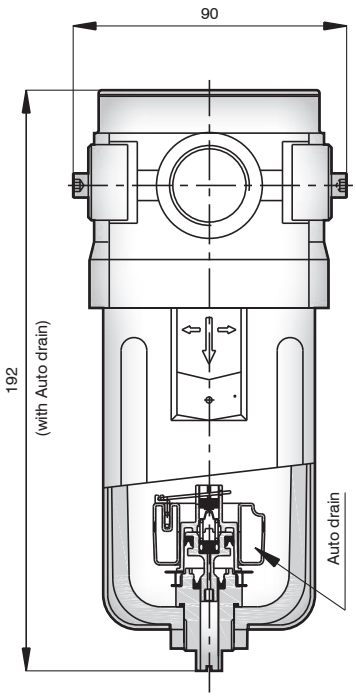
VELJAN





S.no.	Description	Material
1	Filter Body	Aluminum
2	Filter Element	Sintered Bronze
3	Whirl disc	Delrin
4	Baffle plate	H.D.P.E
5	Cover	H.D.P.E
6	Bowl	Polycarbonate
7	Bowl Guard	Cold Rolled Steel
8	Drain Cock	Delrin
9	`O' Ring	Nytrile
10	Adaptor	Aluminum





AIR FILTER (V250 -1" & 1 1/4" BSP)

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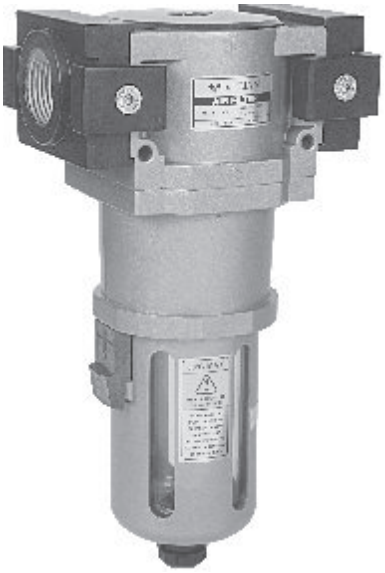
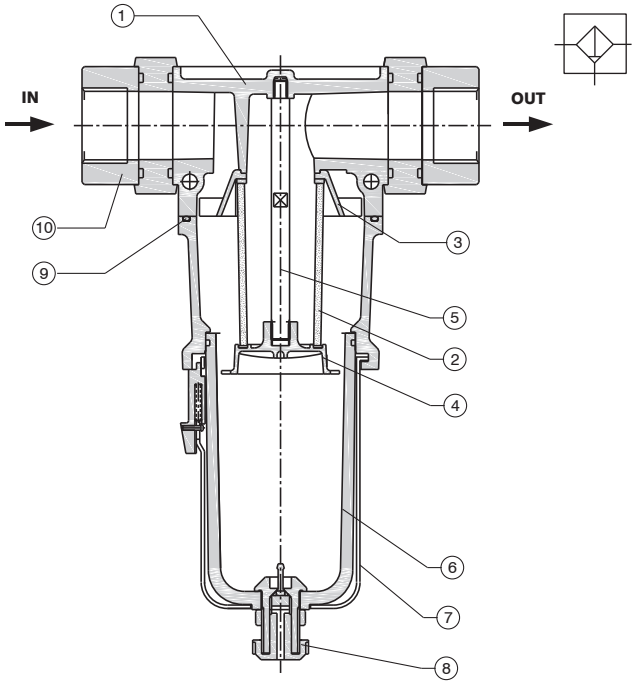
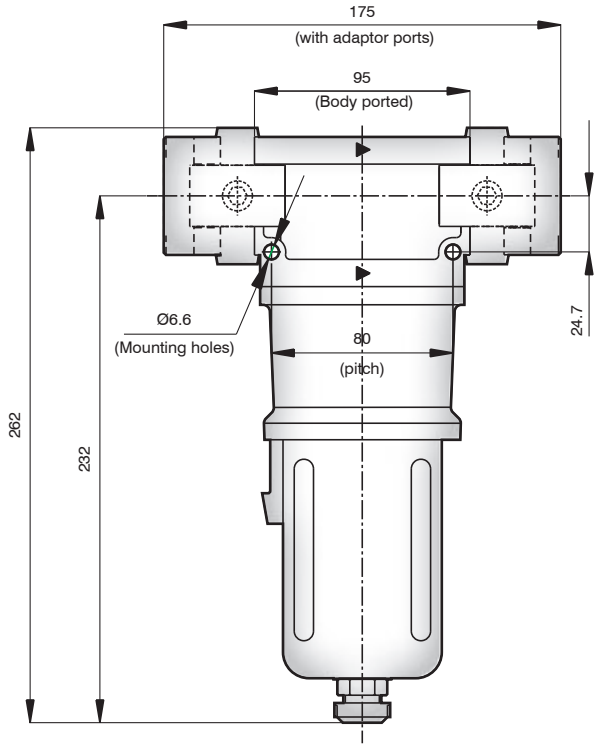
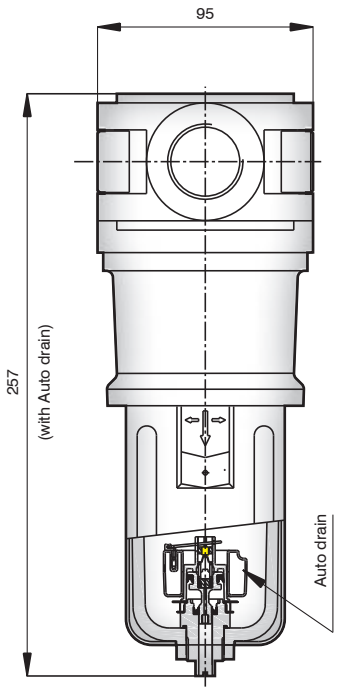




S.no.	Description	Material
1	Filter Body	Aluminum
2	Filter Element	Sintered Bronze
3	Whirl disc	Delrin
4	Baffle plate	H.D.P.E
5	Stud	Aluminum
6	Bowl	Polycarbonate
7	Bowl Guard	Cold Rolled Steel
8	Drain Cock	Delrin
9	`O' Ring	Nytrile
10	Adaptor	Aluminum





AIR FILTER (V300 -1½" & 2" BSP)

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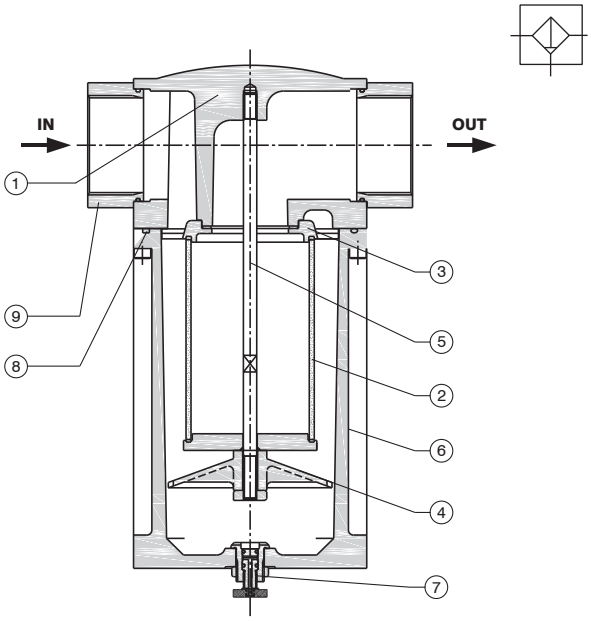
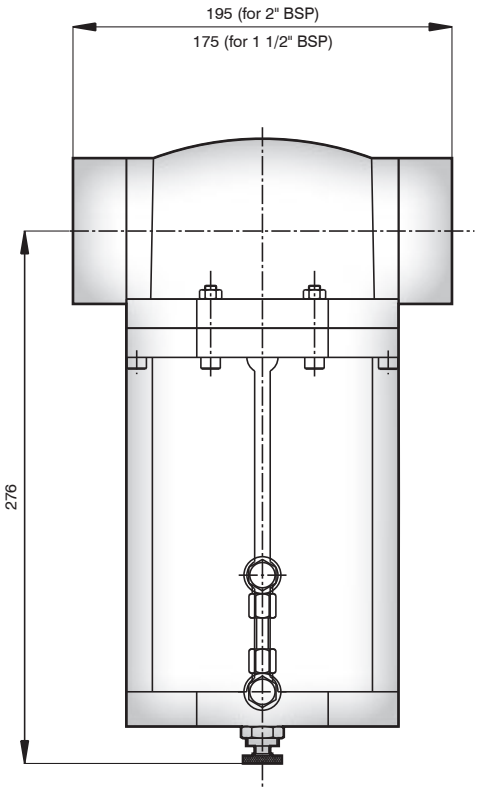
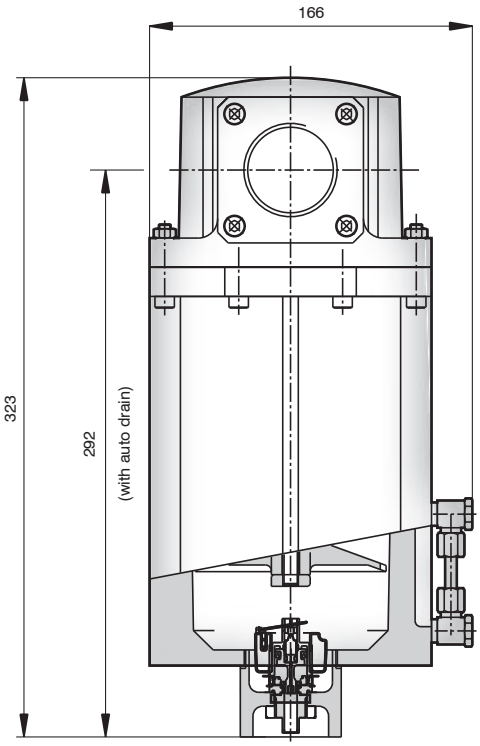


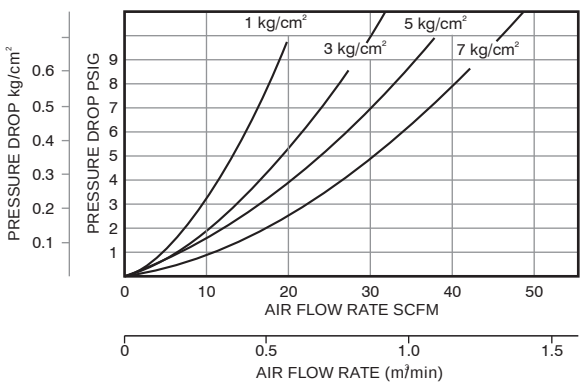
S.no.	Description	Material
1	Filter Body	Aluminum
2	Filter Element	Sintered Bronze
3	Whirl disc	A.B.S.
4	Baffle plate	H.D.P.E
5	Stud	Aluminum
6	Bowl	Aluminum
7	Drain Cock	Brass
8	`O' Ring	Nytrile
9	Adaptor	Aluminum



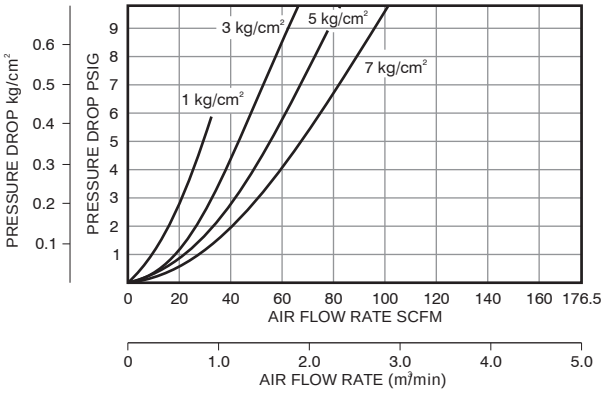


FLOW CHARACTERISTICS :

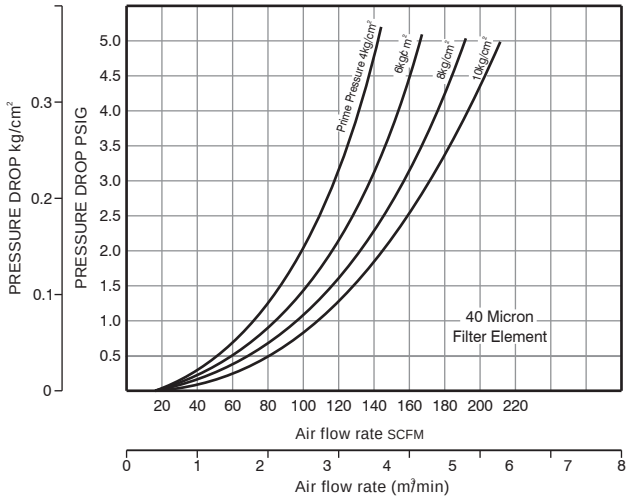
V050 (1/4" BSP PORT)



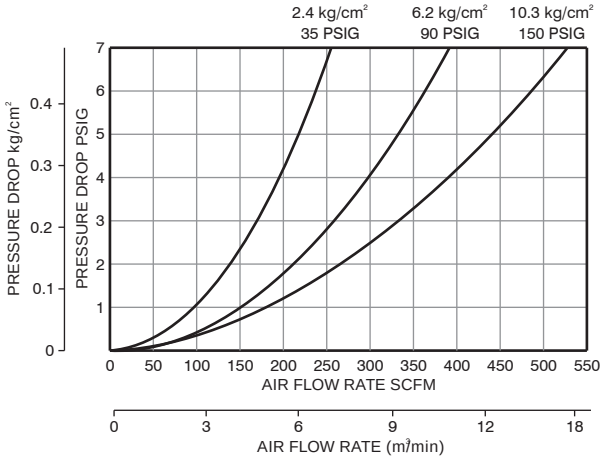
V100 (3/8" BSP PORT)



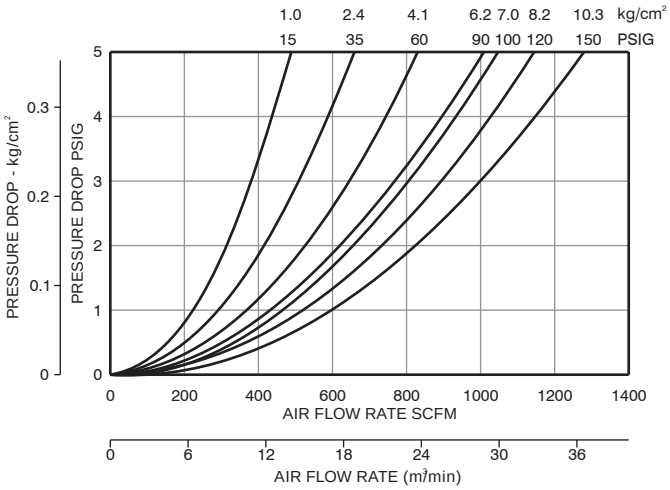
V200 (3/4" BSP PORT)

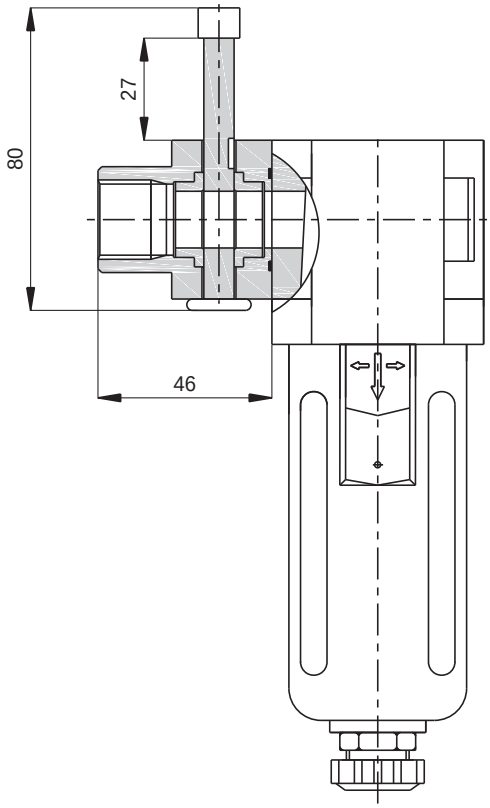


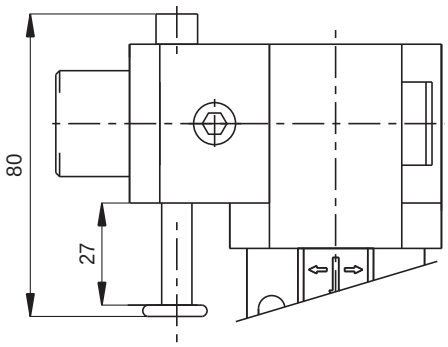
V250 (1¼" BSP PORT)



V300 (2" BSP PORT)



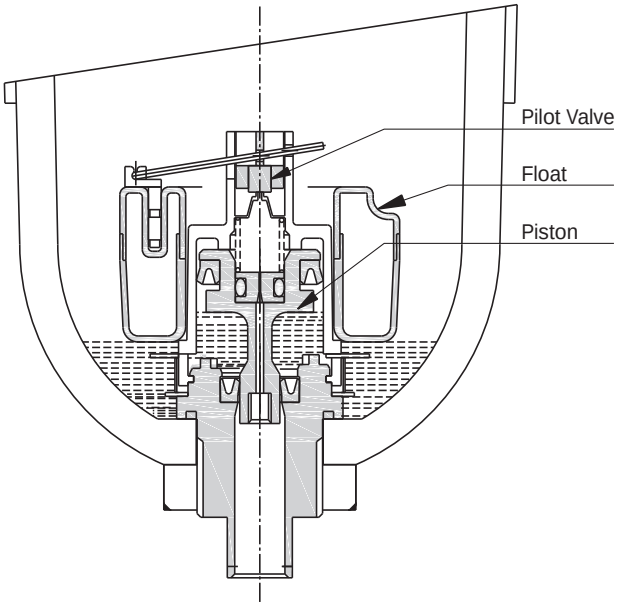


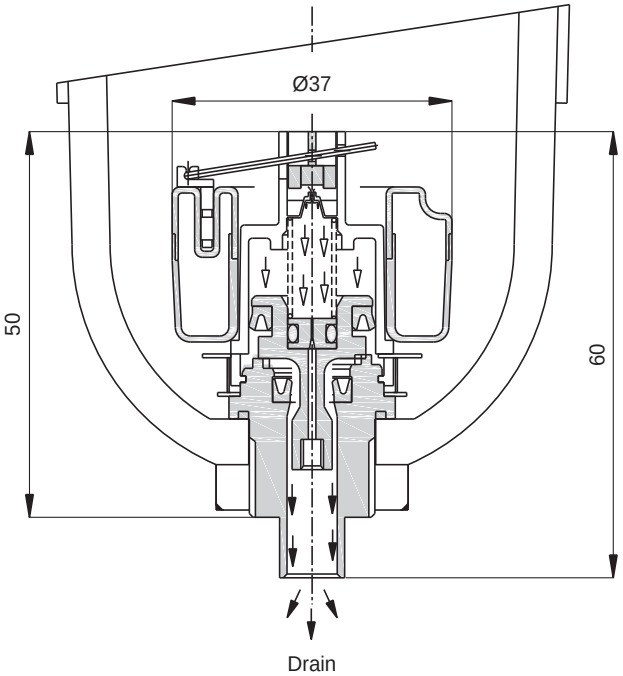


Shut off valve :

Shut off valve provides positive shut off for easy removal of modular FRL units for servicing / maintenance. The valve can be locked in the closed or exhaust position for safety.

AUTO DRAIN

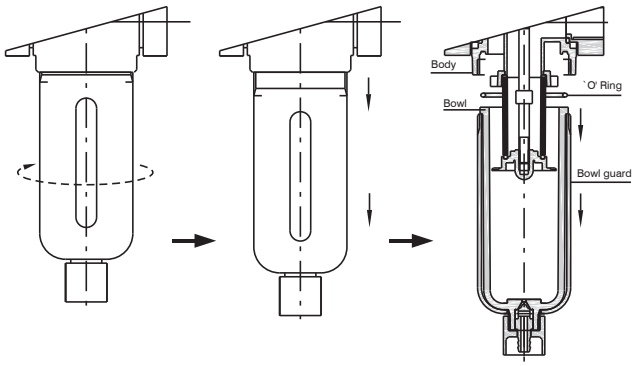




Auto drain Functioning:

The automatic drain is simple in operation. When sufficient liquid has accumulated, the float operates a pilot valve which lets the air pressure push on a piston that moves down past the seal draining out the condensate under pressure. The float closes the pilot valve when the pressure on the piston is relieved and a spring closes the drain valve.

For removing the bowl (V050)



Step 1

Removal of Bowl & Bowl guard by Rotating the bowl guard in clock wise direction.

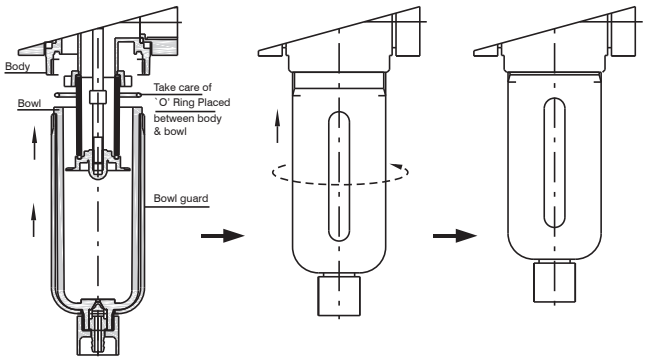
Step 2

Bowl guard getting unscrewed from the body.

Step 3

Bowl guard removed position .

For Assembling the bowl (V050)



Step 1

Position the bowl guard to get in to the body

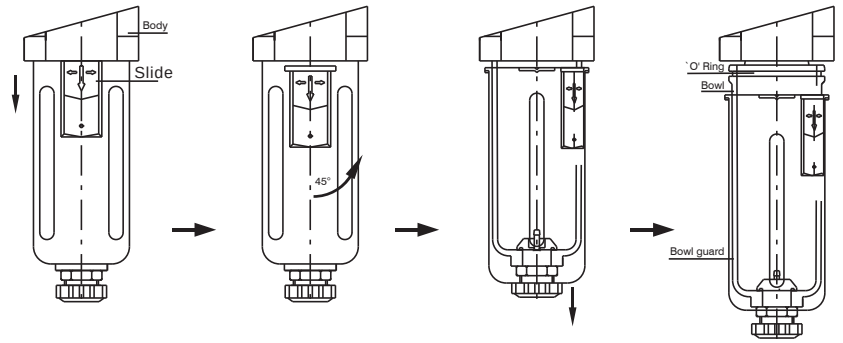
Step 2

Rotate the Bowl guard anti clockwise and screw in to the body

Step 3

Bowl guard assembled

For removing the bowl (V100, V200, & V250)



Step 1

Push the slide down

Step 2

Rotate the bowl guard (keeping slide pressed) in anti clockwise direction till 45° rotation

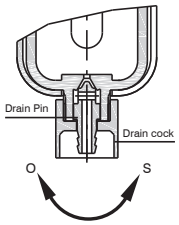
Step 3

Pull the bowl guard down

Step 4

Bowl guard removed position .

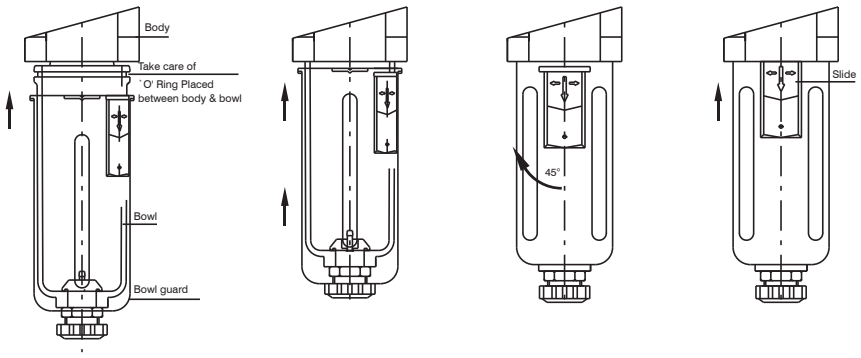
Manual Drain (V050)



* Drain is discharged when the Drain cock is turned to the `O' side and the discharge is stopped when the drain cock is turned in the `S' direction.

Do not turn more than 2 turns in `O' direction

For Assembling the bowl (V100, V200, & V250)



Step 1

Push up the Bowl & Bowl guard in to position for inserting into the body

Step 2

Push the Slide down & Insert the Bowl and Bowl guard in to the body

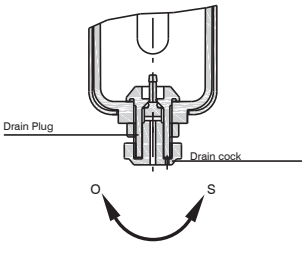
Step 3

Rotate the bowl guard (keeping slide pressed) in clockwise direction till 45° rotation and release the slide

Step 4

Bowl guard assembled

Manual Drain (V100, V200 & V250)



* Drain is discharged when the Drain cock is turned to the `O' side and the discharge is stopped when the drain cock is turned in the `S' direction.