# COALESCING FILTERS
## SERIES MC

Ports G1/4, G3/8 and G1/2
Modular
Metal bowl and bayonet-type mounting

- Quality of delivered air according to ISO 8573-1:2010, Class [1:8:1]
- Manual, automatic or depressuring drain

Series MC coalescing filters are available with G1/4, G3/8 and G1/2 ports.
The bowls of these filters are made of metal with a transparent sight glass and may have a condensate drain valve which can provide either a manual or semi-automatic function.

## General Data

| | | | |
|---|---|---|---|
| **Construction** | Modular, coalescing elements | | |
| **Materials** | Zama, NBR, technopolymer | | |
| **Ports** | G1/4 | G3/8 | G1/2 |
| **Weight** | 0,342 kg | 0,718 kg | 0,688 kg |
| **Mounting** | Vertical in line or wall-mounting | | |
| **Working temperature** | -5°C ÷ 50°C at 10 bar (with the dew point of the fluid lower than 2°C at the min. working temperature) | | |
| **Quality of delivered air according to ISO 8573-1:2010** | Class [1:8:1] with 0,01 µm filtering element | | |
| **Draining of condensate** | Manual - semi-automatic (standard), automatic, with depressurisation, protected depressurisation, without drain with port G1/8 | | |
| **Finish** | Enamelled | | |
| **Working pressure** | With standard drain and protected depressurisation 0,3 ÷ 16 bar<br>With depressurisation 0,3 ÷ 10 bar<br>With automatic drain 1,5 ÷ 12 bar for G3/8 and G1/2 | | |
| **Residual oil content with inlet at 3 mg/m³** | <0,01 mg/m³ | | |
| **Oil retain efficiency** | 99,80% | | |
| **Particles retain efficiency** | 99,99999% | | |
| **Nominal flow** | See FLOW DIAGRAMS on the following pages | | |
| **Fluid** | Compressed air | | |

COALESCING FILTERS
SERIES MC - CODING EXAMPLES

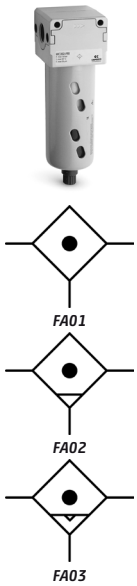
## Coding Example

| MC | 2 | 02 | - | F | B | 0 |
|---|---|---|---|---|---|---|

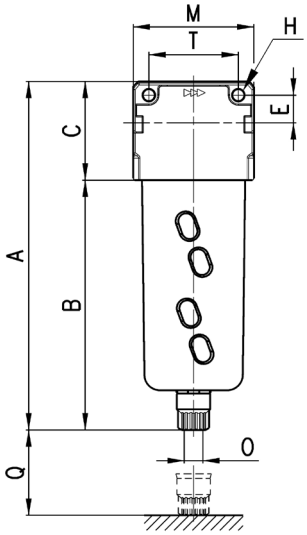
| | |
|---|---|
| **MC** | SERIES |
| **2** | SIZE<br>1 = G1/4<br>2 = G3/8 - G1/2 |
| **02** | PORTS<br>04 = G1/4<br>38 = G3/8<br>02 = G1/2 |
| **F** | F = Filter |
| **B** | FILTERING ELEMENT<br>B = 0,01µm |
| **0** | DRAINING OF CONDENSATE<br>0 = Manual - semi-automatic<br>3 = Automatic (only for G3/8 and G1/2)<br>4 = Depressurisation (only G1/4)<br>5 = Depressurisation, protected<br>8 = No drain, port 1/8 |

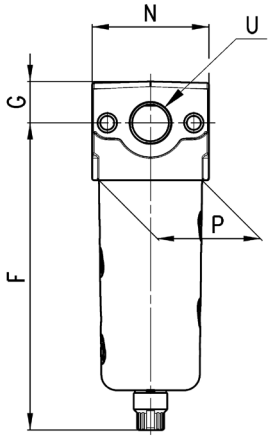


## Coalescing filters Series MC



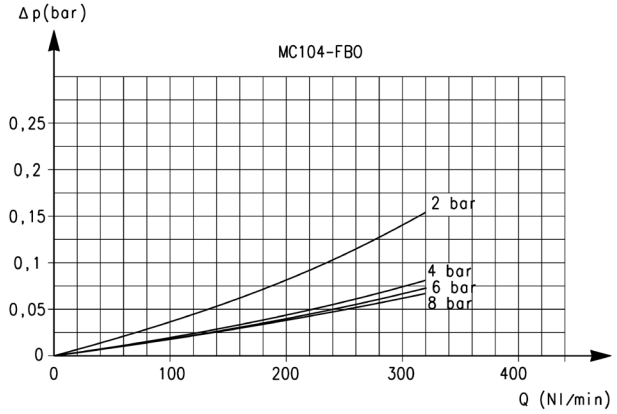

FA01 = Coalescing filter without drain with threaded port
FA02 = Coalescing filter with semi-automatic manual drain
FA03 = Coalescing filter with automatic drain



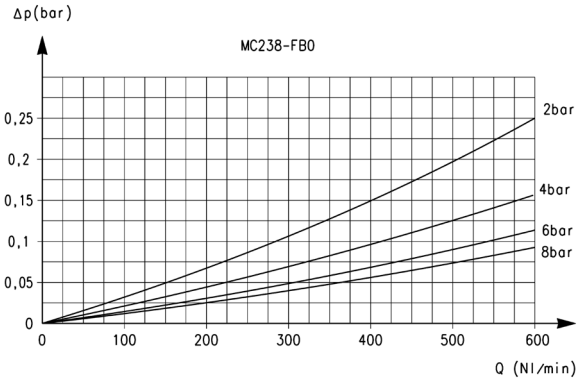

| Mod. | A | B | C | E | F | G | H | M | N | O | P | Q | T | U |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MC104-FB0** | 143 | 102 | 41 | 11 | 126,5 | 16,5 | 4,5 | 45 | 45 | G1/8 | 37 | 54 | 35 | G1/4 |
| **MC238-FB0** | 184 | 133 | 51 | 14 | 163 | 21 | 5,5 | 62 | 60 | G1/8 | 53 | 73 | 46 | G3/8 |
| **MC202-FB0** | 184 | 133 | 51 | 14 | 163 | 21 | 5,5 | 62 | 60 | G1/8 | 53 | 73 | 46 | G1/2 |

## Flow diagrams




**Flow diagram for model: MC104-FB0**
**ΔP = Pressure drop (bar)**
**Q = Flow (Nl/min)**

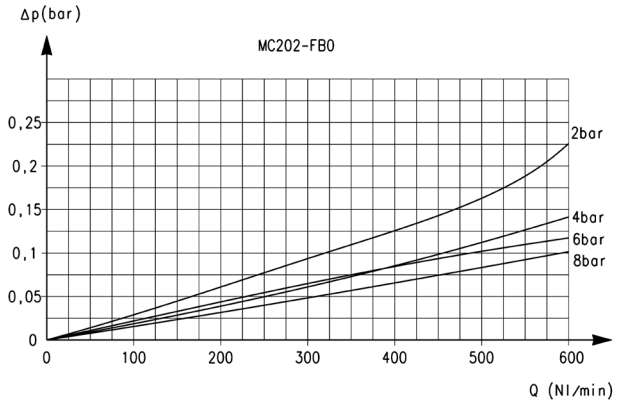
**In order to guarantee the indicated performances, the maximum flow of the filter must be the one indicated in the graph. A higher flow rate is possible but the same performances are not guarenteed.**




**Flow diagram for model: MC238-FB0**
**ΔP = Pressure drop (bar)**
**Q = Flow (Nl/min)**

**In order to guarantee the indicated performances, the maximum flow of the filter must be the one indicated in the graph. A higher flow rate is possible but the same performances are not guarenteed.**

## Flow diagram




**Flow diagram for model: MC202-FB0**
**ΔP = Pressure drop (bar)**
**Q = Flow (Nl/min)**

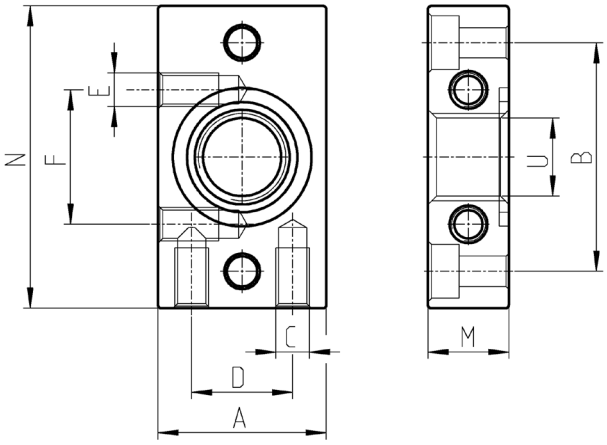
**In order to guarantee the indicated performances, the maximum flow of the filter must be the one indicated in the graph. A higher flow rate is possible but the same performances are not guarenteed.**

## Terminal flanges (Kit A)

**Materials:**
painted aluminium flanges, zinc-plated steel screws and NBR O-ring.

The kit MC104-FL is supplied with:
1x left flange,
1x right flange;
4x screws M4x14;
2x O-Ring 2068.

Each of the kits MC202-FL and MC238-FL is supplied with:
1x left flange,
1x right flange;
4x screws M5x14;
2x O-Ring 3100.




| Mod. | A | B | C | D | E | F | N | M | U | Size |
|---|---|---|---|---|---|---|---|---|---|---|
| **MC104-FL** | 25 | 34 | M5 | 15 | M5 | 20 | 45 | 12 | G1/4 | 1 |
| **MC238-FL** | 35 | 44,5 | M5 | 20 | - | - | 60 | 14 | G3/8 | 2 |
| **MC202-FL** | 35 | 44,5 | M5 | 20 | - | - | 60 | 14 | G1/2 | 2 |

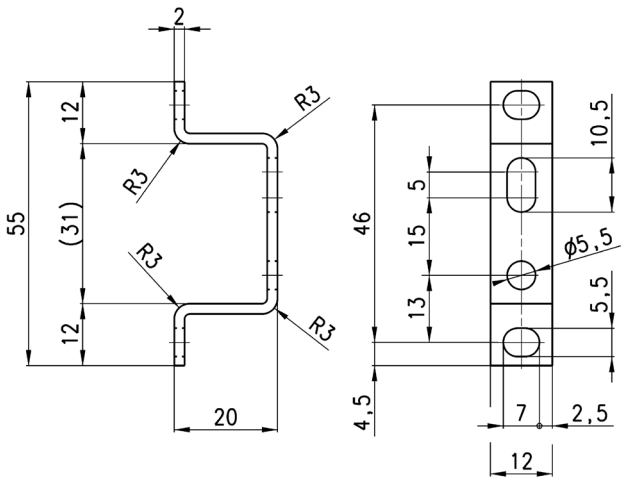


## Mounting bracket for (Kit B)

**Mounting bracket for terminals 1/4, 3/8, 1/2.**

Materials:
zinc-plated steel brackets and screws.

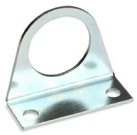
The kit MC104-ST is supplied with:
2x terminal brackets
4x screws M5x10.

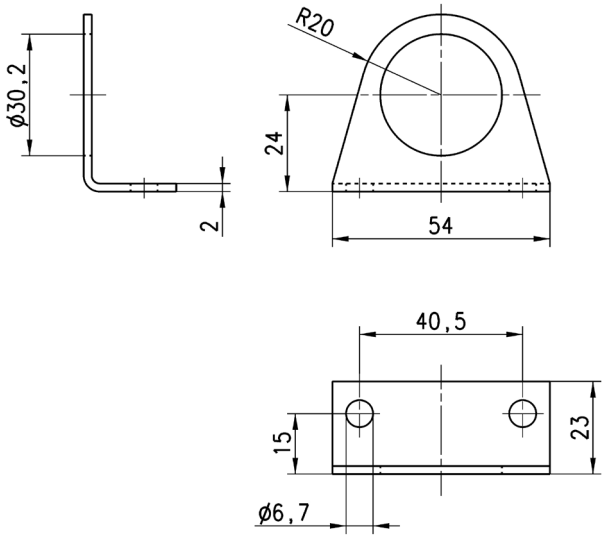



| Mod. |
|---|
| **MC104-ST** |

## Mounting bracket Mod. C114ST

For regulators and filter-regulators MC1



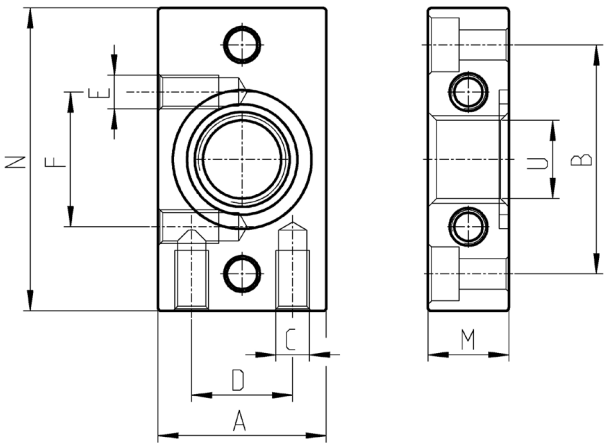



**Material:**
zinc-plated steel

Supplied with:
1x bracket

| Mod. |
|---|
| C114-ST |

## Terminal flanges (Kit A)




**Materials:**
painted aluminium flanges, zinc-plated steel screws and NBR O-ring.

The kit MC104-FL is supplied with:
1x left flange,
1x right flange;
4x screws M4x14;
2x O-Ring 2068.

Each of the kits MC202-FL and MC238-FL is supplied with:
1x left flange,
1x right flange;
4x screws M5x14;
2x O-Ring 3100.

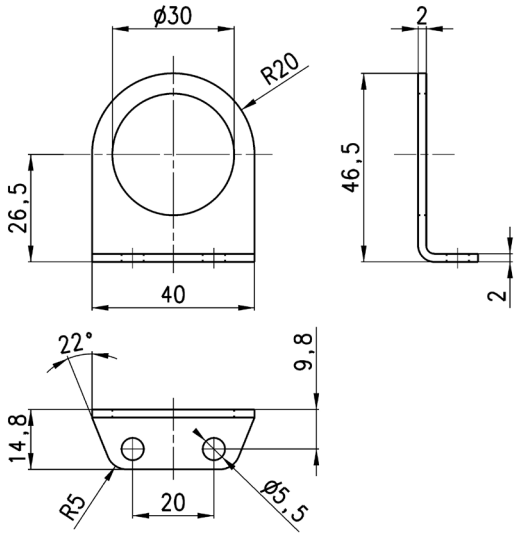
| Mod. | A | B | C | D | E | F | N | M | U | Size |
|---|---|---|---|---|---|---|---|---|---|---|
| **MC104-FL** | 25 | 34 | M5 | 15 | M5 | 20 | 45 | 12 | G1/4 | 1 |
| **MC238-FL** | 35 | 44,5 | M5 | 20 | - | - | 60 | 14 | G3/8 | 2 |
| **MC202-FL** | 35 | 44,5 | M5 | 20 | - | - | 60 | 14 | G1/2 | 2 |

## Mounting bracket Mod. 114-ST/1

For regulators and filter-regulators MC1

**Material:**
zinc-plated steel

Supplied with:
1x bracket




| Mod. |
|---|
| C114-ST/1 |

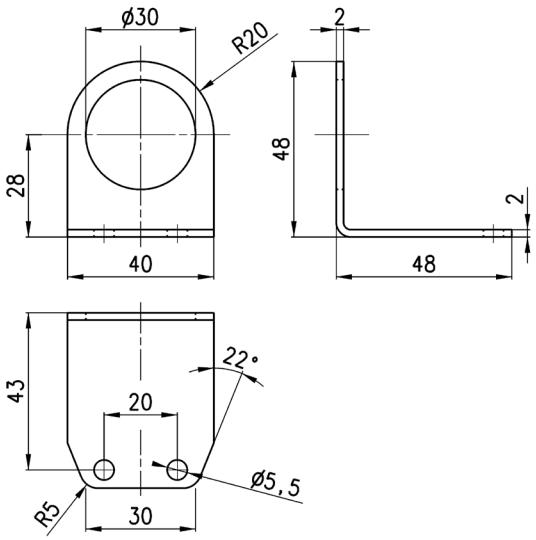


## Mounting bracket C114-ST/2

For regulators and filter-regulators MC1

**Material:**
zinc-plated steel

Supplied with:
1x bracket



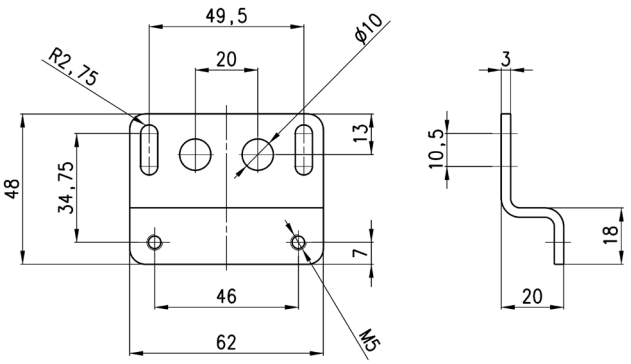

| Mod. |
|---|
| C114-ST/2 |

## Mounting bracket Mod. C238-ST/1

For MC2

**Materials:**
zinc-plated steel bracket and screws.

Supplied with:
1x bracket
2x screws M5X65.

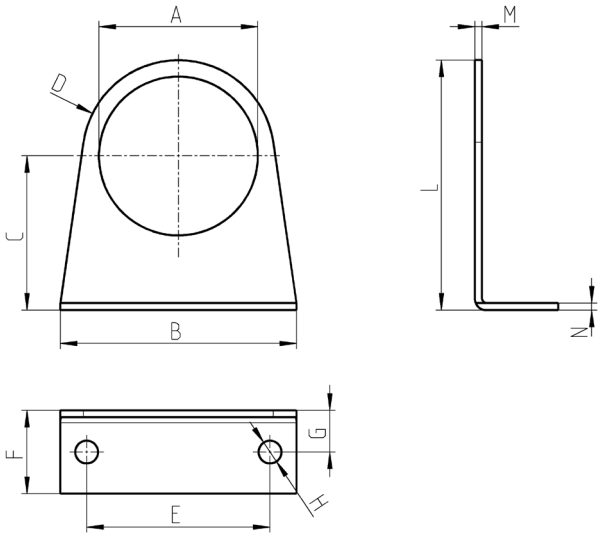



| Mod. |
|---|
| C238-ST/1 |

## Fixing bracket for regulators

For regulators MC2

**Supplied with:**
1x zinc-plated steel bracket



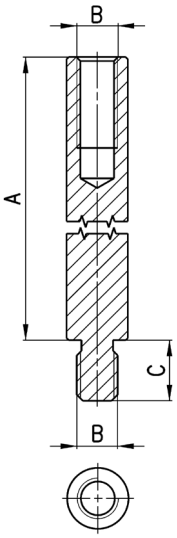

| Mod. | A | B | C | D | E | F | G | H | L | M | N |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MX2-S | Ø47,2 | 73 | 60,5 | R29,5 | 54 | 25 | 15 | Ø6,2 | 90 | 2,5 | 2,5 |

## Tie-rods for assembling (Kit C)

**Materials:**
nickel-plated steel tie-rods and NBR O-ring.

The kit MC1-TMF is supplied with:
2x male/female tie-rods
1x O-ring 2068.

The kit MC2-TMF is supplied with:
2x male/female tie-rods
1x O-ring 3100.




| Mod. | A | B | C | Size |
|---|---|---|---|---|
| **MC1-TMF** | 45 | M4 | 6 | 1 |
| **MC2-TMF** | 62 | M5 | 6 | 2 |

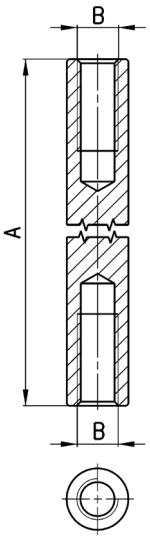


## Tie-rods for assembling (Kit D)

**Materials:**
nickel-plated steel tie-rods.

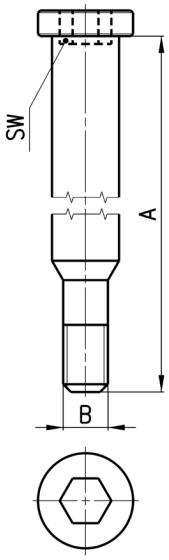
The kit MC1-TFF is supplied with:
2x female tie-rods.

The kit MC2-TFF is supplied with:
2x female tie-rods.




| Mod. | A | B | Size |
|---|---|---|---|
| **MC1-TFF** | 44 | M4 | 1 |
| **MC2-TFF** | 61 | M5 | 2 |

## Screws for assembling (Kit E)



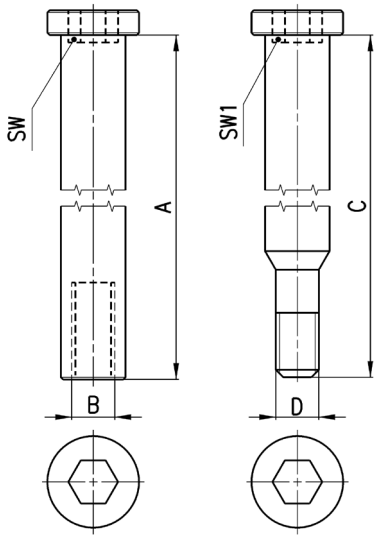

**Materials:**
zinc-plated steel screws and NBR O-ring.

The kit MC1-VM is supplied with:
2x male screws
1x O-ring 2068.

The kit MC2-VM is supplied with:
2x male screws
1x O-ring 3100.

| Mod. | A | B | SW | Size |
|---|---|---|---|---|
| **MC1-VM** | 48,5 | M4 | 3 | 1 |
| **MC2-VM** | 65,5 | M5 | 4 | 2 |

## Screws for assembling (Kit F)




**Materials:**
zinc-plated steel male screws, nickel-plated steel female screws and NBR O-ring.

The kit is supplied with:
2x male screws
2x female screws
1x O-ring (OR 2068 for MC1-VMF; OR 3100 for MC2-VMF).

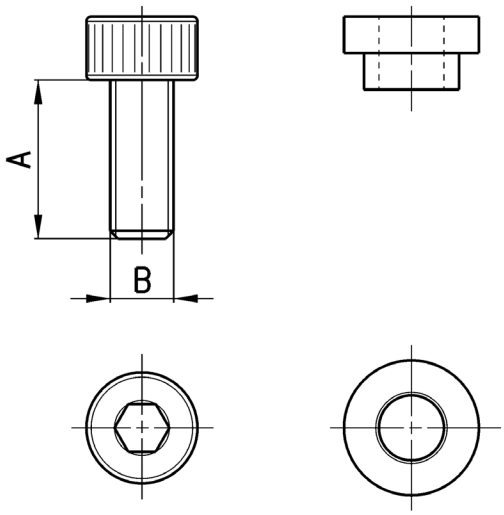
| Mod. | A | B | C | D | SW | SW1 | Size |
|---|---|---|---|---|---|---|---|
| **MC1-VMF** | 42 | M4 | 48,5 | M4 | 3 | 3 | 1 |
| **MC2-VMF** | 59 | M5 | 68,5 | M5 | 4 | 4 | 2 |

## Screws (Kit G) to assemble 2 bodies type “M”

**Materials:**
zinc-plated steel screws, brass spacers and NBR O-ring.

The kit MC1-VMD is supplied with:
4x screws M4X10
4x spacers
2x O-ring 2068.

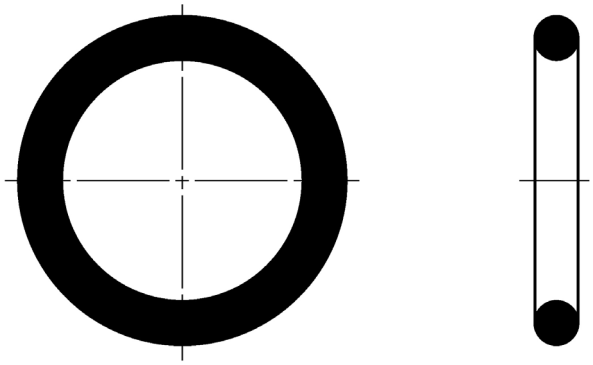
The kit MC2-VMD is supplied with:
4x screws M5X12
4x spacers
2x O-ring 3100.




| Mod. | A | B | Size | |
|---|---|---|---|---|
| **MC1-VMD** | 10 | M4 | 1 | * |
| **MC2-VMD** | 12 | M5 | 2 | * |



## O-ring for assembling

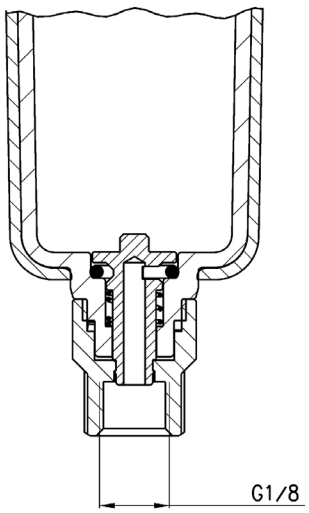


| Mod. | O-ring | For assembly |
|---|---|---|
| **160-39-11/19** | OR 3125 | MX2 |
| **OR 38x2,8 NBR** | OR 38x2,8 | MX3 |

# Semi-automatic manual drain Type 0

**Functioning: with the operator mechanism turned clockwise, each time the pressure falls below 0,3 bar, the draining of condensate will be released; when resetting the pressure, the drain will close again.**
The release can also be carried out manually; when the bowl is pressurised, the operator mechanism is pushed upwards.

Assembled with Filtering element 25µ, Filtering element 5µ, Filtering element 1µ, Filtering element 0.01µ.

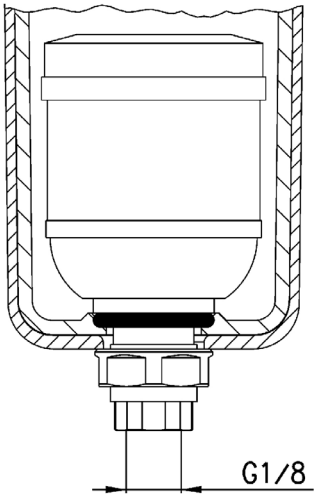



| Mod. filter | Bowl with semiautomatic manual drain |
|---|---|
| **N10...-F** | N1-F71 |
| **N10...-D** | N1-F71 |
| **N10...-FB** | N1-F71 |
| **N20...-F** | N2-F71 |
| **N20...-D** | N2-F71 |
| **N20...-FB** | N2-F71 |
| **MC104-F** | MC1-F71 |
| **MC104-D** | MC1-F71 |
| **MC104-FB** | MC1-F71 |
| **MC202-F** | MC2-F71 |
| **MC202-D** | MC2-F71 |
| **MC202-FB** | MC2-F71 |
| **MC238-F** | MC2-F71 |
| **MC238-D** | MC2-F71 |
| **MC238-FB** | MC2-F71 |
| **MX2...-F** | MX2-F2-P |
| **MX2...FR** | MX2-F2-P |
| **MX2...-FC** | MX2-F2-P |
| **MX3...-F** | MX3-F2-P |
| **MX3...-FR** | MX3-F2-P |
| **MX3...-FC** | MX3-F2-P |
| **MD1-F0..** | MD1-FSP01 |
| **MD1-F1..** | MD1-FSP04 |
| **MD1-FR0..** | MD1-FSP01 |
| **MD1-FR1..** | MD1-FSP04 |
| **MD1-FC0..** | MD1-FCSP01 |
| **MD1-FC1..** | MD1-FCSP04 |

## Automatic drain (Type 3)

**Functioning: the presence of liquid inside the bowl raises the float, thus opening the exhaust valve.**

Assembled with Filtering element 25µ, Filtering element 5µ, Filtering element 1µ, Filtering element 0.01µ.

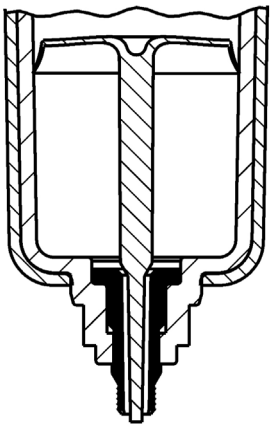



| Mod. filter | Bowl with automatic drain |
|---|---|
| **MC202-F** | MC2-F71/3 |
| **MC202-D** | MC2-F71/3 |
| **MC202-FB** | MC2-F71/3 |
| **MC238-F** | MC2-F71/3 |
| **MC238-D** | MC2-F71/3 |
| **MC238-FB** | MC2-F71/3 |
| **MX2...-F** | MX2-F2/1-P |
| **MX2...FR** | MX2-F2/1-P |
| **MX2...-FC** | MX2-F2/1-P |
| **MX3...-F** | MX3-F2/1-P |
| **MX3...-FR** | MX3-F2/1-P |
| **MX3...-FC** | MX3-F2/1-P |
| **MD1-F0..** | MD1-FSP08 |
| **MD1-F1..** | MD1-FSP07 |
| **MD1-FR0..** | MD1-FSP08 |
| **MD1-FR1..** | MD1-FSP07 |

## Depressurisation drain (Type 4)

**Functioning: each time air is required from the inlet, a slight difference of pressure is created between the upper part and lower part of the drain that rises, thus opening the exhaust valve.**

Assembled with Filtering element 25µ, Filtering element 5µ, Filtering element 0.01µ.

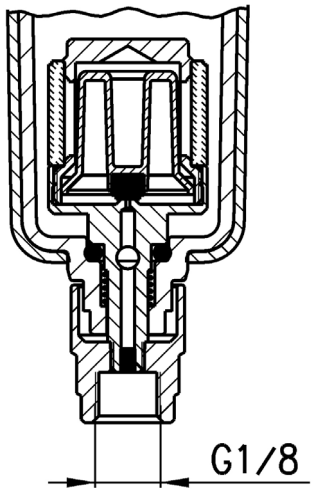


| Mod. filter | Bowl with depressurization drain |
|---|---|
| **N20...-F** | N2-F71/2 |
| **N20...-D** | N2-F71/2 |
| **N20...-FB** | N2-F71/2 |
| **MC104-F** | MC1-F71/2 |
| **MC104-D** | MC1-F71/2 |
| **MC104-FB** | MC1-F71/2 |

# Depressurisation drain, protected (Type 5)

**Solution similar to the Type 4 but requiring a ΔP = 1 bar.**
Functioning: this version has a filtering element which prevents any impurities from clogging the exhaust hole.

Assembled with Filtering element 25µ, Filtering element 5µ, Filtering element 1µ, Filtering element 0.01µ.

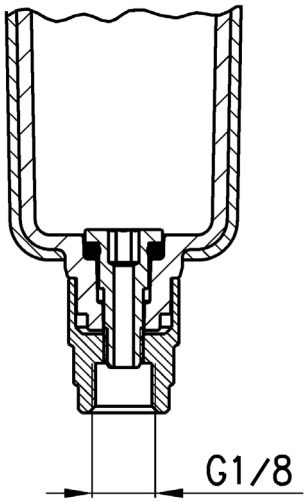



| Mod. filter | Bowl with depressurization drain, protected |
|---|---|
| **N20...-F** | N2-F71/1 |
| **N20...-D** | N2-F71/1 |
| **N20...-FB** | N2-F71/1 |
| **MC104-F** | MC1-F71/1 |
| **MC104-D** | MC1-F71/1 |
| **MC104-FB** | MC1-F71/1 |
| **MC202-F** | MC2-F71/1 |
| **MC202-D** | MC2-F71/1 |
| **MC202-FB** | MC2-F71/1 |
| **MC238-F** | MC2-F71/1 |
| **MC238-D** | MC2-F71/1 |
| **MC238-FB** | MC2-F71/1 |
| **MX2...-F** | MX2-F2/3-P |
| **MX2...FR** | MX2-F2/3-P |
| **MX2...-FC** | MX2-F2/3-P |
| **MX3...-F** | MX3-F2/3-P |
| **MX3...-FR** | MX3-F2/3-P |
| **MX3...-FC** | MX3-F2/3-P |
| **MD1-F0..** | MD1-FSP03 |
| **MD1-F1..** | MD1-FSP06 |
| **MD1-FR0..** | MD1-FSP03 |
| **MD1-FR1..** | MD1-FSP06 |
| **MD1-FC0..** | MD1-FCSP03 |
| **MD1-FC1..** | MD1-FCSP06 |

# Bowl without drain (Type 8)

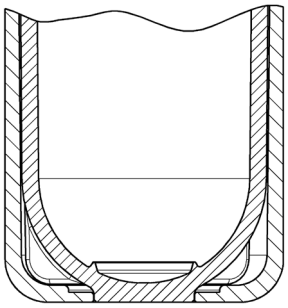
**The solution with port G1/8 is used to assemble the items to the bowl which is realized with a through hole of Ø3 mm and a threaded port G1/8.**

Assembled with Filtering element 25µ, Filtering element 5µ, Filtering element 1µ, Filtering element 0.01µ.




| Mod. filter | Bowl without drain (1/8 port) |
|---|---|
| **N10...-F** | N1-F71-1/8 |
| **N10...-D** | N1-F71-1/8 |
| **N10...-FB** | N1-F71-1/8 |
| **N20...-F** | N2-F71-1/8 |
| **N20...-D** | N2-F71-1/8 |
| **N20...-FB** | N2-F71-1/8 |
| **MC104-F** | MC1-F71-1/8 |
| **MC104-D** | MC1-F71-1/8 |
| **MC104-FB** | MC1-F71-1/8 |
| **MC202-F** | MC2-F71-1/8 |
| **MC202-D** | MC2-F71-1/8 |
| **MC202-FB** | MC2-F71-1/8 |
| **MC238-F** | MC2-F71-1/8 |
| **MC238-D** | MC2-F71-1/8 |
| **MC238-FB** | MC2-F71-1/8 |
| **MX2...-F** | MX2-F2/2-P |
| **MX2...FR** | MX2-F2/2-P |
| **MX2...-FC** | MX2-F2/2-P |
| **MX3...-F** | MX3-F2/2-P |
| **MX3...-FR** | MX3-F2/2-P |
| **MX3...-FC** | MX3-F2/2-P |
| **MD1-F0..** | MD1-FSP02 |
| **MD1-F1..** | MD1-FSP05 |
| **MD1-FR0..** | MD1-FSP02 |
| **MD1-FR1..** | MD1-FSP05 |
| **MD1-FC0..** | MD1-FCSP02 |
| **MD1-FC1..** | MD1-FCSP05 |

## Closed bowl



**Assembled with Activated carbon filter.**

| Mod. filter | Closed bowl |
|---|---|
| **N20...-FCA** | N2-L71 |
| **MC104-FCA** | MC1-L71 |
| **MC202-FCA** | MC2-L71 |
| **MC238-FCA** | MC2-L71 |
| **MX2..-FCA** | MX2-L2-P |
| **MX3..-FCA** | MX3-L2-P |
| **MD1-FCA..** | MD1-FCASP01 |

## Coalescing filters

**Assembled with Semi-automatic manual drain, Automatic drain, Depressurisation drain, Depressurisation drain protected, Bowl without drain.**

| Mod. filter | Filtering element 0.01 µ |
|---|---|
| **N10...-FB** | MX1-F10 |
| **N20...-FB** | MX1-F10 |
| **MC104-FB** | MX1-F10 |
| **MC202-FB** | MX2-F10 |
| **MC238-FB** | MX2-F10 |
| **MX2...-FC** | MX2-F10 |
| **MX3...-FC** | MX3-F10 |
| **MD1-FC0..** * | MD1-F10 |

## Coalescing filters

**Assembled with Semi-automatic manual drain, Automatic drain, Depressurisation drain protected, Bowl without drain.**

| Mod. filter | Filtering element 1 µ |
|---|---|
| **MX2...-FC** | MX2-F9 |
| **MX3...-FC** | MX3-F9 |
| **MD1-FC1..** * | MD1-F9 |