

# AIR PREPARATION UNITS

## FRCL MODULAR Series FRCLM1

Cat No FRCLM1...W - 02 - C

### FILTER REGULATOR COMBINATION - LUBRICATOR, MODULAR - 1/8, 1/4, 3/8, 1/2, 3/4, 1"

#### Features

- ❑ Modular type for easy and fast maintenance
- ❑ Suitable for wall mounting
- ❑ Filter
  - Bronze filtering element
  - Separator and shield for efficient moisture separation
  - Press type manual drain for easy operation
- ❑ Regulator
  - Diaphragm operated, relieving type
  - Pressure compensated by balanced poppet
  - Flow compensated ( with venturi ) in models FRCLM14, FRCLM15 and FRCLM17 for faster response
  - Non raising ' Press to lock ' adjusting knob for locking at any set pressure
- ❑ Lubricator
  - Fog / Mist type Lubricator
  - Fine adjustment of lubrication
  - Lubrication proportional to flow
- ❑ Steel bowl guard, bayonet type on FRCLM14, FRCLM15 & FRCLM17 models and threaded type on FRCLM13 model
- ❑ Good flow and regulating characteristics

#### Model FRCLM1.../W



#### Model FRCLM1.../S



#### Technical Specifications

| Model   | FRCLM13.../W   | FRCLM14.../W   | FRCLM15.../W   | FRCLM17.../W   | FRCLM17.../W |             |
|---|--|----------------|----------------|----------------|--------------|-------------|
|   | FRCLM13.../S   | FRCLM14.../S   | FRCLM15.../W   | FRCLM17.../W   | FRCLM17.../W |             |
| Medium  | Compressed air   |                |                |                |              |             |
| Port size   | NPT 1/4 (G1/4)   | NPT 3/8 (G3/8) | NPT 1/2 (G1/2) | NPT 3/4 (G3/4) | NPT 1 (G1)   |             |
| Pressure gauge port size  | NPT 1/8 (G1/8)   |                |                | NPT 1/4 (G1/4) |              |             |
| Flow rate <sup>@</sup> (lts / min)                                      | 17.66 (500)  | 44.14 (1250)   | 98.9 (2800)    | 123.6 (3500)   | 141.3 (4000) |             |
| Max supply pressure in psi (bar)  | 140 (10)   |                |                |                |              |             |
| Regulating Pressure Range in psi (bar) <sup>#</sup>                     | 3 - 30 (0.2 - 2), 3 - 60 (0.2 - 4), 7 - 100 (0.5 - 7), 7 - 140 (0.5 - 10) (Standard) |                |                |                |              |             |
| Ambient / Medium temperature  | 41° - 120° F (5° - 50° C)  |                |                |                |              |             |
| Filteration in microns <sup>#</sup>                                     | 1, 5, 25, 40 (standard), 50, 100   |                |                |                |              |             |
| Min operating flow in scfm (NI / min)                                   | 0.424 (12)   | 1.41 (40)      | 1.6 (45)       | 1.77 (50)      | 1.77 (50)    |             |
| Bowl capacity Filter in ounce (ml)<br>(at maximum condensate level)     | 0.30 (9)   | 1.08 (32)      | 1.48 (44)      | 5.58 (165)     | 5.58 (165)   |             |
| Bowl capacity Lubricator in ounce (ml)<br>(at maximum condensate level) | 0.68 (20)  | 1.98 (57)      | 5.13 (152)     | 6.8 (200)      | 6.8 (200)    |             |
| Recommended oil   | ISO VG 32 (Servo System 32)  |                |                |                |              |             |
| Bowl material   | Polycarbonate  |                |                |                |              |             |
| Installation  | Vertical (as shown in the picture)   |                |                |                |              |             |
| Materials of construction   | Aluminium, Bronze, Brass, Steel, Acetal, Polycarbonate, SS, Nitrile                  |                |                |                |              |             |
| Optional accessories <sup>*</sup>                                       | Pressure gauge   |                |                |                |              |             |
| Weight in lb (Kg)   | FRCLM1.../W  | 1.19 (0.54)    | 2.21 (1.00)    | 4.43 (2.01)    | 8.14 (3.69)  | 8.03 (3.64) |
|   | FRCLM1.../S  | 1.12 (0.51)    | 2.09 (0.95)    | 4.23 (1.92)    | 7.83 (3.55)  | 7.69 (3.49) |

<sup>@</sup> Supply pressure 100 psi (7 bar), Set pressure 85 psi (6 bar), Pressure drop  $\Delta p = 14.5$  psi (1bar) ( For standard models )

<sup>#</sup> For details see " How to order "

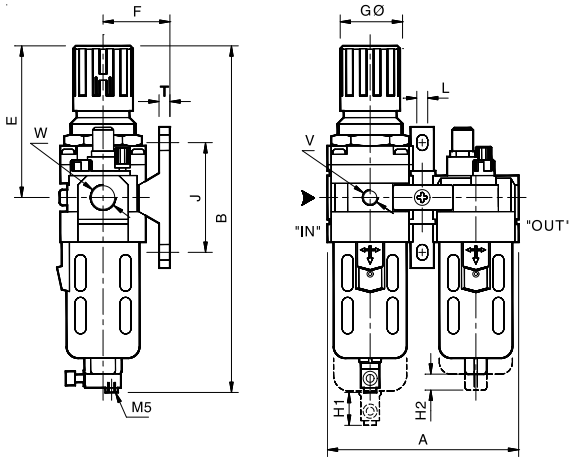
<sup>\*</sup> For details refer optional accessories Cat No APA - 02 - C

# AIR PREPARATION UNITS

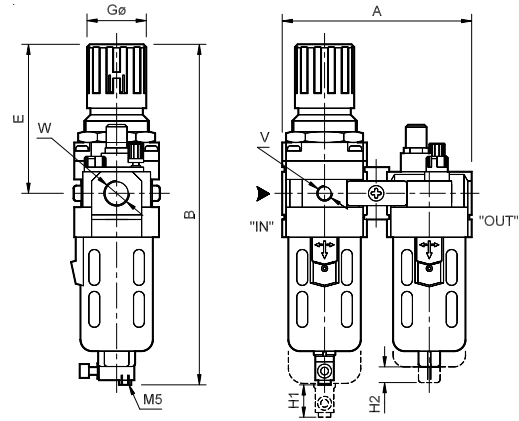
## FRCL MODULAR Series FRCLM1

Cat No FRCLM1...W - 02 - C

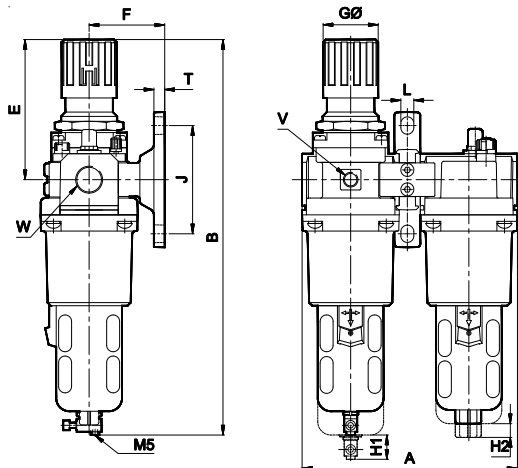
Model FRCLM1.../W



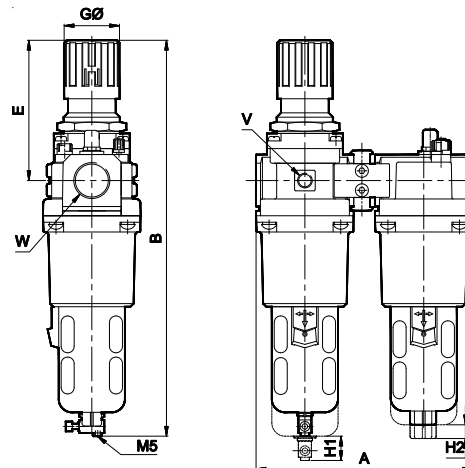
Model FRCLM1.../S



Model FRCLM17.../W



Model FRCLM17.../S



| Model        | W  | V              | A          | B           | E           | F          | GØ         | J           | L          | T          | H1         | H2         |
|--------------|--|----------------|------------|-------------|-------------|------------|------------|-------------|------------|------------|------------|------------|
| FRCLM13.../W | NPT 1/8 (G1/8)<br>NPT 1/4 (G1/4)                   | NPT 1/8 (G1/8) | 3.62 (92)  | 6.69 (170)  | 2.677 (68)  | 1.378 (35) | 1.102 (28) | 1.968 (50)  | 0.275 (7)  | 0.275 (7)  | 1.968 (50) | 1.378 (35) |
| FRCLM14.../W | NPT 1/4 (G1/4)<br>NPT 3/8 (G3/8)                   | NPT 1/8 (G1/8) | 4.88 (124) | 8.66 (220)  | 3.74 (95)   | 1.772 (45) | 1.575 (40) | 2.756 (70)  | 0.275 (7)  | 0.275 (7)  | 2.165 (55) | 1.772 (45) |
| FRCLM15.../W | NPT 1/4 (G1/4)<br>NPT 3/8 (G3/8)<br>NPT 1/2 (G1/2) | NPT 1/8 (G1/8) | 6.14 (156) | 11.02 (280) | 4.921 (125) | 2.165 (55) | 2.008 (51) | 3.543 (90)  | 0.354 (9)  | 0.354 (9)  | 3.15 (80)  | 1.772 (45) |
| FRCLM17.../W | NPT 3/4 (G3/4)                                     | NPT 1/4 (G1/4) | 7.87 (200) | 10.63 (370) | 14.57 (130) | 2.756 (70) | 2.008 (51) | 3.937 (100) | 0.472 (12) | 0.394 (10) | 3.15 (80)  | 1.772 (45) |
| FRCLM17.../W | NPT 1 (G1)   | NPT 1/4 (G1/4) | 7.87 (200) | 10.63 (370) | 14.57 (130) | 2.756 (70) | 2.008 (51) | 3.937 (100) | 0.472 (12) | 0.394 (10) | 3.15 (80)  | 1.772 (45) |

| Model        | W  | V              | A          | B           | E           | GØ         | H1         | H2         |
|--------------|--|----------------|------------|-------------|-------------|------------|------------|------------|
| FRCLM13.../S | NPT 1/8 (G1/8)<br>NPT 1/4 (G1/4)                   | NPT 1/8 (G1/8) | 3.62 (92)  | 6.69 (170)  | 2.677 (68)  | 1.102 (28) | 1.968 (50) | 1.378 (35) |
| FRCLM14.../S | NPT 1/4 (G1/4)<br>NPT 3/8 (G3/8)                   | NPT 1/8 (G1/8) | 4.88 (124) | 8.66 (220)  | 3.74 (95)   | 1.575 (40) | 2.165 (55) | 1.772 (45) |
| FRCLM15.../S | NPT 1/4 (G1/4)<br>NPT 3/8 (G3/8)<br>NPT 1/2 (G1/2) | NPT 1/8 (G1/8) | 6.14 (156) | 11.02 (280) | 4.921 (125) | 2.008 (51) | 3.15 (80)  | 1.772 (45) |
| FRCLM17.../S | NPT 3/4 (G3/4)                                     | NPT 1/4 (G1/4) | 7.87 (200) | 10.63 (370) | 14.57 (130) | 2.008 (51) | 3.15 (80)  | 1.772 (45) |
| FRCLM17.../S | NPT 1 (G1)   | NPT 1/4 (G1/4) | 7.87 (200) | 10.63 (370) | 14.57 (130) | 2.008 (51) | 3.15 (80)  | 1.772 (45) |

### Pressure Setting

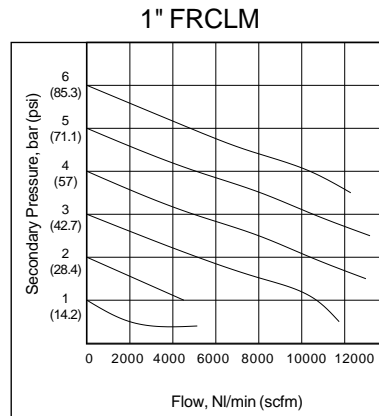
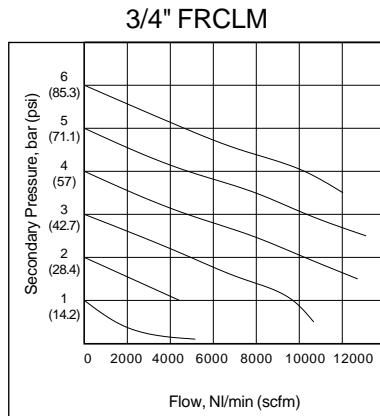
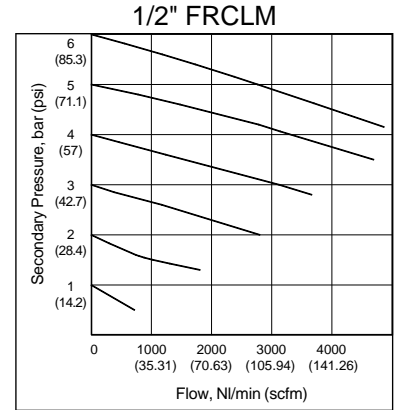
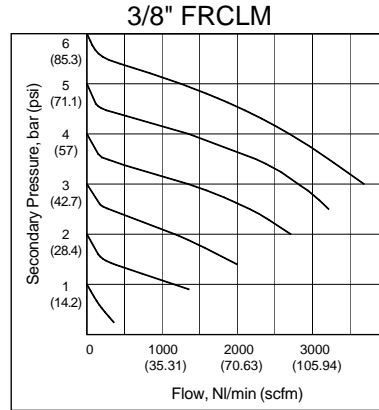
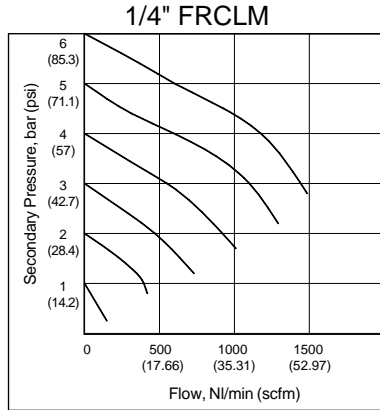
Pull the knob and adjust by turning the knob clockwise to increase the pressure. Push the knob back to its locked position.  
( Turning the knob counter clockwise will reduce the pressure )

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Cat No FRCLM1...W - 02 - C

### Flow Graphs



Flow graphs are for 40µm filtrations only

### Precautions

- Note the direction of flow before installation and connect piping accordingly.
- Flush pipings for dirt, dust, rust and other foreign particles.
- Install in clean atmosphere.
- Nipples of taper threads ( R ) to be used with teflon tape. Ensure teflon tape doesnot enter the unit during tightening. Nipples of straight threads ( G ) to be used with sealing washer.
- Polycarbonate bowls may get damaged and possibly fail if exposed to synthetic oils, thinner, solvents, trichloroethylene, kerosene or other aromatic hydrocarbons.

### How to order

**FRCLM1** ○ ○ ○ / ○

| Body & Port size |               |
|------------------|---------------|
| 390 (360)        | NPT1/8 (G1/8) |
| 391 (361)        | NPT1/4 (G1/4) |
| 491 (461)        | NPT1/4 (G1/4) |
| 492 (462)        | NPT3/8 (G3/8) |
| 591 (561)        | NPT1/4 (G1/4) |
| 592 (562)        | NPT3/8 (G3/8) |
| 593 (563)        | NPT1/2 (G1/2) |
| 794 (764)        | NPT3/4 (G3/4) |
| 795 (765)        | NPT1 (G1)     |

| Filtration in microns |                 |
|-----------------------|-----------------|
| 0                     | - 1             |
| 1                     | - 5             |
| 2                     | - 25            |
| 3                     | - 40 (Standard) |
| 4                     | - 50            |
| 5                     | - 100           |

| Pressure range in psi (bar) |                             |
|-----------------------------|-----------------------------|
| 1                           | 3 - 30 (0.2 - 2)            |
| 2                           | 3 - 60 (0.2 - 4)            |
| 3                           | 7 - 100 (0.5 - 7)           |
| 4                           | 7 - 140 (0.5 - 10) Standard |

| Mounting |                       |
|----------|-----------------------|
| W        | Wall mounting bracket |
| S        | Spacer                |

**Ordering example :** Filter Regulator Combination and Lubricator Modular - 3/8 size (with NPT 3/8 (G3/8) port) and wall mounting bracket with 5 microns Filter and pressure range 7 - 100 psi: Ordering No: FRCLM1492 (1462) 13 / W.



- For safety instructions, please refer instruction manual IS - FRCLM1 - 2 - 01

Subject to change