

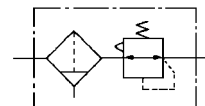
# Filter Regulator

# AW10 to AW60

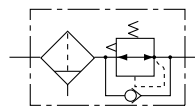
## Filter Regulator with Backflow Function

# AW20K to AW60K

JIS Symbol  
Filter Regulator



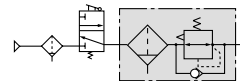
Filter Regulator with  
Backflow Function



- Integrated filter and regulator units save space and require less piping.
- With the backflow function it incorporates a mechanism to exhaust the air pressure in the outlet side reliably and quickly.

Example)

When the air supply is cut off and releasing the inlet pressure to the atmosphere, the residual pressure release of the outlet side can be ensured for a safety purpose.



## How to Order

AW **30** **K** - **03** **BE** - **1N**

① ② ③ ④ ⑤ ⑥

• Made to Order

Refer to pages 374 through to 377 for details.

- Option/Semi-standard: Select one each for a to i.
- Option/Semi-standard symbol: When more than one specification is required, indicate in alphanumeric order.  
Example) AW30K-03BE-1N

|                           |   | Symbol                      | Description  | ①  |    |    |    |    |   |
|---------------------------|---|-----------------------------|--|--|----|----|----|----|---|
|                           |   |                             |  | Body size  |    |    |    |    |   |
|                           |   |                             |  | 10   | 20 | 30 | 40 | 60 |   |
| ②                         | With backflow function                                  | Nil                         | Without backflow function                                  | ●  | ●  | ●  | ●  | ●  |   |
|                           |   | K <small>Note 1)</small>    | With backflow function                                     | —  | ●  | ●  | ●  | ●  |   |
| +                         |   |                             |  |  |    |    |    |    |   |
| ③                         | Thread type   | Nil                         | Metric thread (M5)   | ●  | —  | —  | —  | —  |   |
|                           |   |                             | Rc   | —  | ●  | ●  | ●  | ●  |   |
|                           |   | N <small>Note 2)</small>    | NPT  | —  | ●  | ●  | ●  | ●  |   |
|                           |   | F <small>Note 3)</small>    | G  | —  | ●  | ●  | ●  | ●  |   |
| +                         |   |                             |  |  |    |    |    |    |   |
| ④                         | Port size   | M5                          | M5   | ●  | —  | —  | —  | —  |   |
|                           |   | 01                          | 1/8  | —  | ●  | —  | —  | —  |   |
|                           |   | 02                          | 1/4  | —  | ●  | ●  | ●  | —  |   |
|                           |   | 03                          | 3/8  | —  | —  | ●  | ●  | —  |   |
|                           |   | 04                          | 1/2  | —  | —  | —  | ●  | —  |   |
|                           |   | 06                          | 3/4  | —  | —  | —  | ●  | ●  |   |
|                           |   | 10                          | 1  | —  | —  | —  | —  | ●  |   |
| +                         |   |                             |  |  |    |    |    |    |   |
| ⑤                         | a   | Mounting                    | Nil  | Without mounting option                                    | ●  | ●  | ●  | ●  | ● |
|                           |   |                             | B <small>Note 5)</small>                                   | With bracket   | ●  | ●  | ●  | ●  | ● |
|                           |   |                             | H  | With set nut (for panel fitting)                           | ●  | ●  | ●  | ●  | — |
|                           | +   |                             |  |  |    |    |    |    |   |
|                           | b   | Float type auto drain       | Nil  | Without auto drain   | ●  | ●  | ●  | ●  | ● |
|                           |   |                             | C  | Float type auto drain (N.C.)                               | ●  | ●  | ●  | ●  | ● |
|                           |   |                             | D  | Float type auto drain (N.O.)                               | —  | —  | ●  | ●  | ● |
|                           | +   |                             |  |  |    |    |    |    |   |
|                           | c   | Pressure gauge              | Nil  | Without pressure gauge                                     | ●  | ●  | ●  | ●  | ● |
|                           |   |                             | E  | Square embedded type pressure gauge (with limit indicator) | —  | ●  | ●  | ●  | ● |
|                           |   |                             | G  | Round type pressure gauge (without limit indicator)        | ●  | —  | —  | —  | — |
|                           |   |                             |  | Round type pressure gauge (with limit indicator)           | —  | ●  | ●  | ●  | ● |
|                           |   | Digital pressure switch     | M  | Round type pressure gauge (with color zone)                | —  | ●  | ●  | ●  | ● |
|                           |   |                             | E1 <small>Note 6)</small>                                  | Output: NPN output / Electrical entry: Wiring bottom entry | —  | ●  | ●  | ●  | ● |
|                           |   |                             | E2 <small>Note 6)</small>                                  | Output: NPN output / Electrical entry: Wiring top entry    | —  | ●  | ●  | ●  | ● |
| E3 <small>Note 6)</small> |   |                             | Output: PNP output / Electrical entry: Wiring bottom entry | —  | ●  | ●  | ●  | ●  |   |
| +                         |   |                             |  |  |    |    |    |    |   |
| E4 <small>Note 6)</small> | Output: PNP output / Electrical entry: Wiring top entry | —                           | ●  | ●  | ●  | ●  |    |    |   |
|                           | +   |                             |  |  |    |    |    |    |   |
| ⑥                         | d   | Set pressure                | Nil <small>Note 7)</small>                                 | 0.05 to 0.85 MPa setting                                   | ●  | ●  | ●  | ●  | ● |
|                           |   |                             | 1 <small>Note 8)</small>                                   | 0.02 to 0.2 MPa setting                                    | ●  | ●  | ●  | ●  | ● |
|                           | +   |                             |  |  |    |    |    |    |   |
|                           | e   | Bowl <small>Note 9)</small> | Nil  | Polycarbonate bowl   | ●  | ●  | ●  | ●  | ● |
|                           |   |                             | 2  | Metal bowl   | ●  | ●  | ●  | ●  | ● |
|                           |   |                             | 6  | Nylon bowl   | ●  | ●  | ●  | ●  | ● |
|                           |   |                             | 8  | Metal bowl with level gauge                                | —  | —  | ●  | ●  | ● |
| C                         |   |                             | With bowl guard  | —  | ●  | —  | —  | —  |   |
| 6C                        |   |                             | Nylon bowl with bowl guard                                 | —  | ●  | —  | —  | —  |   |

# Filter Regulator *Series AW10 to AW60*

## Filter Regulator with Backflow Function *Series AW20K to AW60K*



**AW20, AW20K    AW40, AW40K**

|   |               | Symbol | Description                        | 1                          |   |  |                           |                           |                           |                           |
|---|---------------|--------|------------------------------------|----------------------------|---|--|---------------------------|---------------------------|---------------------------|---------------------------|
|   |               |        |                                    | Body size                  |   |  |                           |                           |                           |                           |
|   |               |        |                                    | 10                         | 20  | 30   | 40                        | 60                        |                           |                           |
| 6 | Semi-standard | f      | Drain port <small>Note 10)</small> | Nil                        | With drain cock   | ●  | ●                         | ●                         | ●                         | ●                         |
|   |               |        |                                    | J <small>Note 11)</small>  | Drain guide 1/8   | —  | ●                         | —                         | —                         | —                         |
|   |               |        |                                    |                            | Drain guide 1/4   | —  | —                         | ●                         | ●                         | ●                         |
|   |               |        |                                    |                            | W <small>Note 12)</small>   | Drain cock with barb fitting: For ø6 x ø4 nylon tube | —                         | —                         | ●                         | ●                         |
|   |               |        |                                    | +                          |   |  |                           |                           |                           |                           |
|   |               | g      | Exhaust mechanism                  | Nil                        | Relieving type  | ●  | ●                         | ●                         | ●                         | ●                         |
|   |               |        |                                    | N                          | Non-relieving type  | ●  | ●                         | ●                         | ●                         | ●                         |
|   |               | +      |                                    |                            |   |  |                           |                           |                           |                           |
|   |               | h      | Flow direction                     | Nil                        | Flow direction: Left to right   | ●  | ●                         | ●                         | ●                         | ●                         |
|   |               |        |                                    | R                          | Flow direction: Right to left   | ●  | ●                         | ●                         | ●                         | ●                         |
|   |               | +      |                                    |                            |   |  |                           |                           |                           |                           |
|   |               | i      | Pressure unit                      | Nil                        | Name plate, caution plate for bowl, and pressure gauge in imperial units: MPa     | ●  | ●                         | ●                         | ●                         | ●                         |
|   |               |        |                                    | Z <small>Note 13)</small>  | Name plate, caution plate for bowl, and pressure gauge in imperial units: psi, °F | ○ <small>Note 15)</small>                            | ○ <small>Note 15)</small> | ○ <small>Note 15)</small> | ○ <small>Note 15)</small> | ○ <small>Note 15)</small> |
|   |               |        |                                    | ZA <small>Note 14)</small> | Digital pressure switch: With unit conversion function                            | —  | △ <small>Note 16)</small> | △ <small>Note 16)</small> | △ <small>Note 16)</small> | △ <small>Note 16)</small> |

Note 1) The AW10 type comes with a backflow function as a standard feature. (K is not available.) When using the AW10 type as w/ backflow function, backflow may not occur with the set pressure 0.15 MPa or less. Please set the inlet pressure to at least 0.05 MPa higher than the set pressure.

Note 2) Drain guide is G 1/8 (applicable to the AW20(K)) and NPT 1/4 (applicable to the AW30(K) to AW60(K)). The auto drain port comes with ø3/8" one-touch fitting (applicable to the AW30(K) to AW60(K)).

Note 3) Drain guide is G 1/8 (applicable to the AW20(K)) and G 1/4 (applicable to the AW30(K) to AW60(K)).

Note 4) Option B, G, H, M are not assembled and supplied loose at the time of shipment.

Note 5) Assembly of a bracket and set nuts (AW10,

AW20(K) to AW40(K))

Note 6) Including 2 mounting screws for the AW60(K) When choosing with H (panel mount), the installation space for lead wires will not be secured. In this case, select "wiring top entry" for the electrical entry.

Note 7) Only the AW10 has a pressure setting of 0.05 to 0.7 MPa.

Note 8) The only difference from the standard specifications is the adjusting spring for the regulator. It does not restrict the setting of 0.2 MPa or more. When the pressure gauge is attached, a 0.2 MPa pressure gauge will be fitted.

Note 9) Refer to Chemical Data on page 287 when selecting a case material.

Note 10) Float type auto drain: The combination of C and

D is not possible.

Note 11) Without a valve function

Note 12) Metal bowl: The combination of 2 and 8 is not possible.

Note 13) For thread type: M5 and NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) The digital pressure switch will be equipped with the unit conversion function, setting to psi initially.

Note 14) For options: E1, E2, E3, E4. This product is for overseas use only according to the new Measurement Law. (The SI unit is provided for use in Japan.)

Note 15) ○: For thread type: M5 and NPT only

Note 16) △: Select with options: E1, E2, E3, E4.

### Standard Specifications

| Model  | AW10   | AW20(K)          | AW30(K)  | AW40(K)       | AW40(K)-06 | AW60(K) |
|--|--|------------------|----------|---------------|------------|---------|
| Port size  | M5 x 0.8   | 1/8, 1/4         | 1/4, 3/8 | 1/4, 3/8, 1/2 | 3/4        | 3/4, 1  |
| Pressure gauge port size <sup>Note 1)</sup>      | 1/16 <sup>Note 2)</sup>  | 1/8              |          | 1/4           |            |         |
| Fluid  | Air  |                  |          |               |            |         |
| Ambient and fluid temperature <sup>Note 3)</sup> | −5 to 60°C (with no freezing)                                    |                  |          |               |            |         |
| Proof pressure                                   | 1.5 MPa  |                  |          |               |            |         |
| Maximum operating pressure                       | 1.0 MPa  |                  |          |               |            |         |
| Set pressure range                               | 0.05 to 0.7 MPa  | 0.05 to 0.85 MPa |          |               |            |         |
| Relief pressure <sup>Note 4)</sup>               | Set pressure + 0.05 MPa [at relief flow rate of 0.1 ℓ/min (ANR)] |                  |          |               |            |         |
| Nominal filtration rating                        | 5 μm   |                  |          |               |            |         |
| Drain capacity (cm³)                             | 2.5  | 8                | 25       | 45            | 45         | 45      |
| Bowl material                                    | Polycarbonate  |                  |          |               |            |         |
| Bowl guard                                       | —  | Semi-standard    | Standard |               |            |         |
| Construction                                     | Relieving type   |                  |          |               |            |         |
| Mass (kg)  | 0.09   | 0.32             | 0.40     | 0.72          | 0.75       | 2.00    |

Note 1) Pressure gauge connection threads are not available for F.R.L. unit with a square embedded type pressure gauge (AW20(K) to AW60(K)).

Note 2) Use a bushing (part no:131368) when connecting the R1/8 pressure gauge to the Rc 1/16.

Note 3) -5 to 50°C for the products with the digital pressure switch

Note 4) Not applicable to the AW10.

# Series AW10 to AW60

# Series AW20K to AW60K

## Options/Part No.

| Optional specifications                          |   |                         | Model                        |   |             |              |            |                                |  |
|--|---|-------------------------|------------------------------|---|-------------|--------------|------------|--------------------------------|--|
|  |   |                         | AW10(K)                      | AW20(K)   | AW30(K)     | AW40(K)      | AW40(K)-06 | AW60(K)                        |  |
| Bracket assembly <sup>Note 1)</sup>              |   |                         | AR10P-270AS                  | AW20P-270AS                                       | AR30P-270AS | AR40P-270AS  |            | AW60P-270AS <sup>Note 6)</sup> |  |
| Set nut  |   |                         | AR10P-260S                   | AR20P-260S  | AR30P-260S  | AR40P-260S   |            | — <sup>Note 7)</sup>           |  |
| Pressure gauge                                   | Round type <sup>Note 2)</sup>                   | Standard                | G27-10-R1                    | G36-10-□01  |             | G46-10-□02   |            |                                |  |
|  |   | 0.02 to 0.2 MPa setting | G27-10-R1 <sup>Note 3)</sup> | G36-2-□01   |             | G46-2-□02    |            |                                |  |
|  | Round type (with color zone) <sup>Note 2)</sup> | Standard                | —                            | G36-10-□01-L                                      |             | G46-10-□02-L |            |                                |  |
|  |   | 0.02 to 0.2 MPa setting | —                            | G36-2-□01-L                                       |             | G46-2-□02-L  |            |                                |  |
|  | Square embedded type <sup>Note 4)</sup>         | Standard                | —                            | GC3-10AS [GC3P-010AS (Pressure gauge cover only)] |             |              |            |                                |  |
|  |   | 0.02 to 0.2 MPa setting | —                            | GC3-2AS [GC3P-010AS (Pressure gauge cover only)]  |             |              |            |                                |  |
| Digital pressure switch <sup>Note 5)</sup>       |   |                         | —                            | NPN output / Wiring bottom entry                  |             |              |            |                                |  |
|  |   |                         |                              | ISE35-N-25-MLA [ISE35-N-25-M (Switch body only)]  |             |              |            |                                |  |
|  |   |                         |                              | NPN output / Wiring top entry                     |             |              |            |                                |  |
|  |   |                         |                              | ISE35-R-25-MLA [ISE35-R-25-M (Switch body only)]  |             |              |            |                                |  |
|  |   |                         |                              | PNP output / Wiring bottom entry                  |             |              |            |                                |  |
|  |   |                         |                              | ISE35-N-65-MLA [ISE35-N-65-M (Switch body only)]  |             |              |            |                                |  |
|  |   |                         |                              | PNP output / Wiring top entry                     |             |              |            |                                |  |
|  |   |                         |                              | ISE35-R-65-MLA [ISE35-R-65-M (Switch body only)]  |             |              |            |                                |  |
| Float type auto drain <sup>Note 8) Note 9)</sup> |   |                         | N.C.                         | AD17  | AD27        | AD37         | AD47       |                                |  |
|  |   |                         | N.O.                         | —   | —           | AD38         | AD48       |                                |  |

## Semi-standard/Bowl Assembly Part No.

| Semi-standard specifications   |   |      |                                   |                         |                       | Model   |          |         |         |            |         |
|--------------------------------|---|------|-----------------------------------|-------------------------|-----------------------|---------|----------|---------|---------|------------|---------|
| Bowl material                  | Note 8) Note 9)<br>Float type<br>auto drain |      | Note 9)<br>With<br>drain<br>guide | With<br>barb<br>fitting | With<br>bowl<br>guard | AW10(K) | AW20(K)  | AW30(K) | AW40(K) | AW40(K)-06 | AW60(K) |
|                                | N.C.  | N.O. |                                   |                         |                       |         |          |         |         |            |         |
| Polycarbonate                  | —   | —    | —                                 | —                       | ●                     | —       | C2SF-C   | —       | —       |            |         |
|                                | ●   | —    | —                                 | —                       | ●                     | —       | AD27-C   | —       | —       |            |         |
|                                | —   | —    | ●                                 | —                       | —                     | —       | C2SF-J   | C3SF-J  | C4SF-J  |            |         |
|                                | —   | —    | —                                 | ●                       | —                     | —       | —        | C3SF-W  | C4SF-W  |            |         |
|                                | —   | —    | ●                                 | —                       | ●                     | —       | C2SF-CJ  | —       | —       |            |         |
| Nylon                          | —   | —    | —                                 | —                       | —                     | C1SF-6  | C2SF-6   | C3SF-6  | C4SF-6  |            |         |
|                                | —   | —    | —                                 | —                       | ●                     | —       | C2SF-6C  | —       | —       |            |         |
|                                | ●   | —    | —                                 | —                       | —                     | AD17-6  | AD27-6   | AD37-6  | AD47-6  |            |         |
|                                | —   | ●    | —                                 | —                       | —                     | —       | —        | AD38-6  | AD48-6  |            |         |
|                                | ●   | —    | —                                 | —                       | ●                     | —       | AD27-6C  | —       | —       |            |         |
|                                | —   | —    | ●                                 | —                       | —                     | —       | C2SF-6J  | C3SF-6J | C4SF-6J |            |         |
|                                | —   | —    | —                                 | ●                       | —                     | —       | —        | C3SF-6W | C4SF-6W |            |         |
| Metal                          | —   | —    | ●                                 | —                       | ●                     | —       | C2SF-6CJ | —       | —       |            |         |
|                                | —   | —    | —                                 | —                       | —                     | C1SF-2  | C2SF-2   | C3SF-2  | C4SF-2  |            |         |
|                                | ●   | —    | —                                 | —                       | —                     | AD17-2  | AD27-2   | AD37-2  | AD47-2  |            |         |
|                                | —   | ●    | —                                 | —                       | —                     | —       | —        | AD38-2  | AD48-2  |            |         |
| Metal bowl with<br>level gauge | —   | —    | ●                                 | —                       | —                     | —       | C2SF-2J  | C3SF-2J | C4SF-2J |            |         |
|                                | —   | —    | —                                 | —                       | —                     | —       | —        | C3LF-8  | C4LF-8  |            |         |
|                                | ●   | —    | —                                 | —                       | —                     | —       | —        | AD37-8  | AD47-8  |            |         |
|                                | —   | ●    | —                                 | —                       | —                     | —       | —        | AD38-8  | AD48-8  |            |         |
|                                | —   | —    | ●                                 | —                       | —                     | —       | —        | C3LF-8J | C4LF-8J |            |         |

Note 1) Assembly of a bracket and set nuts

Note 2) □ in part numbers for a round pressure gauge indicates a type of connection thread. No indication is necessary for R; however, indicate N for NPT. Please contact SMC regarding the connection thread NPT and pressure gauge supply for psi unit specifications.

Note 3) Standard pressure gauge

Note 4) Including one O-ring and 2 mounting screws. [ ]: Pressure gauge cover only

Note 5) Lead wire with connector (2 m), adapter, lock pin, O-ring (1 pc.), mounting screw (2 pcs.) are attached. [ ]: Switch body only. Also, regarding how to order the digital pressure switch, please refer to page 388. A pressure switch adapter assembly (AW60P-310AS) will be additionally required for the AW60(K) only. Use the attached mounting screw (M3 x 0.5 x 14) for mounting. The mounting screw (M3 x 0.5 x 7) attached to the digital pressure switch assembly will not be required.

Note 6) Assembly of a bracket and 2 mounting screws

Note 7) Please consult SMC regarding the set nuts for the AW60(K).

Note 8) Minimum operating pressure: N.O. type—0.1 MPa; N.C. type—0.1 MPa (AD27) and 0.15 MPa (AD37/47). Please contact SMC for psi and °F unit specifications.

Note 9) Please consult SMC for details on drain piping to fit NPT or G port sizes.

Note) • Bowl O-ring is included for the AW20(K) to AW60(K).

• Bowl assembly for the AW30(K) to AW60(K) models comes with a bowl guard (steel band material). (except when the bowl material is metal)