

## Product information

Intended for sprinkler applications. Protective device type BA with flanged connection for liquid category 4. Lever and worm gear have end position contacts. Mesh width on filter is adapted.

|                      |               |
|----------------------|---------------|
| Dimension range (DN) | 65 - 200      |
| PN                   | 10            |
| Temperature (°C)     | 0 - 65        |
| Main material        | Compound unit |

## Area of use

Backflow prevention for sprinkler applications. Used to protect internal and external plumbing systems against backflow and pressure backflow. Protective coverage for liquid up to category 4. The backflow prevention is of type BA in accordance with SSEN 1717.

## Tender text

### **PSG.260 Composite backflow prevention devices**

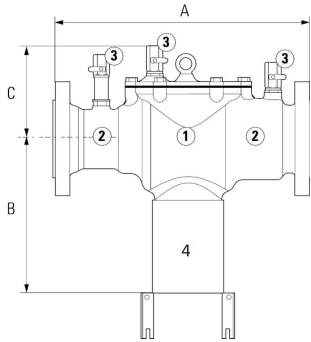
Backflow prevention device AT 1167-...MS (or 1167R...MS for stainless steel execution) DN.... Complete protection module consisting of protection device type BA with double check valves and intermediate pressure-controlled chamber with drainage, inlet and outlet valves, and dirt filter with valve for drainage. PN 10 in flanged execution. For maximum protection coverage of liquid category 4 according to SS-EN 1717. AT 1167B is powder-coated inside and out. Lever and worm gear have end position contacts. Mesh width on filter is adapted.

## Quality assurance

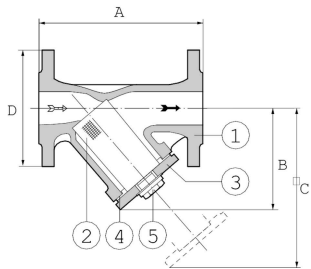
Fluid category 4, SS-EN 1717

**Product marking:** Manufacturer, DN, PN, flow direction, manufacturer's serial number. Separate inspection tag.

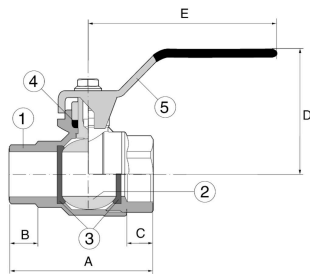
| Pos | Component | Material |
|-----|-----------|----------|
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| Pos | Component | Material |
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| Pos | Component | Material |
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Butterflyvalve List of details

| Pos | Component | Material |
|-----|-----------|----------|
|-----|-----------|----------|

Measurements and weight

Dimension range (DN): 65 - 200

| DN              | 65  | 80  | 100 | 150  | 200  |
|-----------------|-----|-----|-----|------|------|
| A               | 738 | 842 | 984 | 1222 | 1483 |
| Net weight (kg) | 50  | 66  | 85  | 152  | 258  |

Function and design

Backflow preventer type BA covers the risks up to liquid category 4 when connecting tap water, i.e. "Liquid that poses a health risk due to the presence of one or more toxic or highly toxic substances or one or more radioactive, mutagenic or carcinogenic substances".

The protective device has double check valves and an intermediate chamber with drainage. The protective devices work with

three different pressure zones. The pressure in zone 1 is higher than in zone 2, which is higher than in zone 3. A drainage valve is connected in zone 2 and opens when the pressure difference between zone 1 and zone 2 drops to 0.14 bar. The water in zone 2 is drained to the atmosphere. This prevents siphonage or overpressure backflow to the system.

The backflow preventer must be installed as a complete protection module. The protection module includes a protective device type BA together with a separate dirt filter. Shut-off valves are included for inlet and outlet. It is an absolute requirement that the backflow preventer is installed as a protection module.

The sprinkler module is adapted to the requirements for water sprinkler systems. The rotary valve valves are equipped with end position switches for indication of open/closed valve to meet the requirements according to SBF 120. Supplied with a filter insert with a mesh width of 8.0mm.

## Technical data

**Main material:** Compound unit

**Included materials:** Compound unit

**Temperature (°C):** 0 - 65

**PN:** 10

**Connection:** Flanged EN1092

**ETIM classification:** EC004501 - Backflow preventer

## Backflow preventer AT 1167B- Technical data

| Item number | DN  | KVS   |
|-------------|-----|-------|
| 1167B65     | 65  | 35.8  |
| 1167B80     | 80  | 54.3  |
| 1167B100    | 100 | 108   |
| 1167B150    | 150 | 190.9 |
| 1167B200    | 200 | 339.3 |

| Item number | DN | KVS  | Mesh size (mm) |
|-------------|----|------|----------------|
| 4028B15     | 15 | 6.2  | 0.6            |
| 4028B20     | 20 | 9.6  | 0.6            |
| 4028B25     | 25 | 14.2 | 0.6            |
| 4028B32     | 32 | 23.1 | 0.6            |
| 4028B40     | 40 | 36.6 | 0.6            |

| Item number | DN  | KVS   | Mesh size (mm) |
|-------------|-----|-------|----------------|
| 4028B50     | 50  | 53.7  | 0.6            |
| 4028B65     | 65  | 95.1  | 0.6            |
| 4028B80     | 80  | 137.1 | 0.6            |
| 4028B100    | 100 | 206.4 | 0.6            |
| 4028B125    | 125 | 268.8 | 0.6            |
| 4028B150    | 150 | 401   | 0.6            |
| 4028B200    | 200 | 706   | 0.6            |
| 4028B250    | 250 | 1229  | 0.6            |
| 4028B350    | 350 | 2611  | 0.6            |
| 4028BE50    | 50  | 53.7  | 0.6            |
| 4028BE65    | 65  | 95.1  | 0.6            |
| 4028BE80    | 80  | 137.1 | 0.6            |
| 4028BE100   | 100 | 206.4 | 0.6            |
| 4028BE125   | 125 | 268.8 | 0.6            |
| 4028BE150   | 150 | 401   | 0.6            |
| 4028BE200   | 200 | 706   | 0.6            |
| 4028BE250   | 250 | 1229  | 0.6            |
| 4028BE300   | 300 | 1902  | 0.6            |
| 4028B50P    | 50  | 53.7  | 0.6            |
| 4028B80P    | 80  | 137.1 | 0.6            |
| 4028B100P   | 100 | 206.4 | 0.6            |
| 4028B125P   | 125 | 268.8 | 0.6            |

| Item number   | DN  | KVS   | Mesh size (mm) |
|---------------|-----|-------|----------------|
| 4028B150P     | 150 | 401   | 0.6            |
| 4028BE200-10  | 200 | 706   | 0.6            |
| 4028B50-1012  | 50  | 53.7  | 0.6            |
| 4028B40P      | 40  | 36.6  | 0.6            |
| 4028B80-1013  | 80  | 137.1 | 0.6            |
| 4028B32P      | 32  | 23.1  | 0.6            |
| 4028B32P-1012 | 32  | 23.1  | 0.6            |
| 4028B65P-1012 | 65  | 95.1  | 0.6            |
| 4028B80-1012  | 80  | 137.1 | 0.6            |
| 4028B40-1012  | 40  | 36.6  | 0.6            |
| 4028B80P-1012 | 80  | 137.1 | 0.6            |
| 4028BE50P     | 50  | 53.7  | 0.6            |
| 4028BE80P     | 80  | 137.1 | 0.6            |
| 4028B32-1012  | 32  | 23.1  | 0.6            |
| 4028B50-1014  | 50  | 53.7  | 0.6            |
| 4028B65P      | 65  | 95.1  | 0.6            |
| 4028BE65P     | 65  | 95.1  | 0.6            |
| 4028BE100P    | 100 | 206.4 | 0.6            |
| 4028B100-1012 | 100 | 206.4 | 0.6            |
| 4028B40-1014  | 40  | 36.6  | 0.6            |
| 4028B50-1013  | 50  | 53.7  | 0.6            |
| 4028B65-1013  | 65  | 95.1  | 0.6            |

| Item number    | DN  | KVS   | Mesh size (mm) |
|----------------|-----|-------|----------------|
| 4028B65-1012   | 65  | 95.1  | 0.6            |
| 4028B32-1013   | 32  | 23.1  | 0.6            |
| 4028B100-1013  | 100 | 206.4 | 0.6            |
| 4028B100-1014  | 100 | 206.4 | 0.6            |
| 4028B25-1012   | 25  | 14.2  | 0.6            |
| 4028B25P       | 25  | 14.2  | 0.6            |
| 4028B25-1013   | 25  | 14.2  | 0.6            |
| 4028BE125P     | 125 | 268.8 | 0.6            |
| 4028B125-1012  | 125 | 268.8 | 0.6            |
| 4028B125-1013  | 125 | 268.8 | 0.6            |
| 4028B125P-1012 | 125 | 268.8 | 0.6            |
| 4028BE150P     | 150 | 401   | 0.6            |
| 4028B150-1012  | 150 | 401   | 0.6            |
| 4028B150-1014  | 150 | 401   | 0.6            |
| 4028B200P      | 200 | 706   | 0.6            |
| 4028BE200P     | 200 | 706   | 0.6            |
| 4028B200-1012  | 200 | 706   | 0.6            |
| 4028B200-1014  | 200 | 706   | 0.6            |
| 4028B250P      | 250 | 1229  | 0.6            |
| 4028B250-1012  | 250 | 1229  | 0.6            |
| 4028B250-1013  | 250 | 1229  | 0.6            |
| 4028B300       | 300 | 1902  | 0.6            |

| Item number | DN  | KVS  | Mesh size (mm) |
|-------------|-----|------|----------------|
| 4028B400    | 400 | 3438 | 0.6            |

| Item number | KVS   | Connection 1                        | Connection 1 - spec. | Connection 2                        | Connection 2 - spec. |
|-------------|-------|-------------------------------------|----------------------|-------------------------------------|----------------------|
| 3640-10     | 5.8   | Internal thread ISO 228-1 (G, BSPP) | 3/8                  | External thread ISO 228-1 (G, BSPP) | 3/8                  |
| 3640-15     | 15.7  | Internal thread ISO 228-1 (G, BSPP) | 1/2                  | External thread ISO 228-1 (G, BSPP) | 1/2                  |
| 3640-20     | 30.8  | Internal thread ISO 228-1 (G, BSPP) | 3/4                  | External thread ISO 228-1 (G, BSPP) | 3/4                  |
| 3640-25     | 49.3  | Internal thread ISO 228-1 (G, BSPP) | 1                    | External thread ISO 228-1 (G, BSPP) | 1                    |
| 3640-32     | 79    | Internal thread ISO 228-1 (G, BSPP) | 1 1/4                | External thread ISO 228-1 (G, BSPP) | 1 1/4                |
| 3640-40     | 125.3 | Internal thread ISO 228-1 (G, BSPP) | 1 1/2                | External thread ISO 228-1 (G, BSPP) | 1 1/2                |
| 3640-50     | 224.2 | Internal thread ISO 228-1 (G, BSPP) | 2                    | External thread ISO 228-1 (G, BSPP) | 2                    |

### Butterflyvalve Technical data

| Item number | KVS | Connection according to ISO 5211 | Stem measurments | Required torque (Nm) |
|-------------|-----|----------------------------------|------------------|----------------------|
| 2313BS40    | 95  | F07                              | 10x10mm          | 4                    |
| 2313BV40    | 95  | F07                              | 9x9mm            | 4                    |
| 2313BS50    | 95  | F07                              | 10x10mm          | 6                    |
| 2313BV50    | 95  | F07                              | 9x9mm            | 6                    |
| 2313BS65    | 231 | F07                              | 10x10mm          | 10                   |
| 2313BV65    | 231 | F07                              | 9x9mm            | 10                   |
| 2313BS80    | 491 | F07                              | 10x10mm          | 16                   |



| Item number | KVS   | Connection according to ISO 5211 | Stem measurments | Required torque (Nm) |
|-------------|-------|----------------------------------|------------------|----------------------|
| 2313BV80    | 491   | F07                              | 9x9mm            | 16                   |
| 2313BS100   | 690   | F07                              | 12x12mm          | 29                   |
| 2313BV100   | 690   | F07                              | 11x11mm          | 29                   |
| 2313BS125   | 1450  | F07                              | 12x12mm          | 45                   |
| 2313BV125   | 1450  | F07                              | 14x14mm          | 45                   |
| 2313BS150   | 1945  | F07                              | 16x16mm          | 65                   |
| 2313BV150   | 1945  | F07                              | 14x14mm          | 65                   |
| 2313BV200   | 4095  | F07                              | 17x17mm          | 141                  |
| 2313BV250   | 6085  | F10                              | 22x22mm          | 276                  |
| 2313BV300   | 9570  | F10                              | 22x22mm          | 394                  |
| 2313BV350   | 13500 | F10                              | 22x22mm          | 478                  |
| 2313BV400   | 16350 | F14                              | 27x27mm          | 824                  |
| 2313BV450   | 21550 | F14                              | 27x27mm          | 942                  |
| 2313BV500   | 27700 | F16                              | 36x36mm          | 1459                 |
| 2313BV600   | 37200 | F16                              | 36x36mm          | 2168                 |
| 2313B-40    | 95    | F07                              | 9x9mm            | 4                    |
| 2313B-50    | 95    | F07                              | 9x9mm            | 6                    |
| 2313B-65    | 231   | F07                              | 9x9mm            | 10                   |
| 2313B-80    | 491   | F07                              | 9x9mm            | 16                   |
| 2313B-100   | 690   | F07                              | 11x11mm          | 29                   |
| 2313B-125   | 1450  | F07                              | 14x14mm          | 45                   |
| 2313B-150   | 1945  | F07                              | 14x14mm          | 65                   |

| Item number | KVS  | Connection according to ISO 5211 | Stem measurments | Required torque (Nm) |
|-------------|------|----------------------------------|------------------|----------------------|
| 2313B-200   | 4095 | F07                              | 17x17mm          | 141                  |
| 2313B-250   | 6085 | F10                              | 22x22mm          | 276                  |
| 2313B-300   | 9570 | F10                              | 22x22mm          | 394                  |

## Installation and maintenance

**Flowdirection:** Uni-directional

**Possible mounting position:** Horizontal

A backflow preventer should never be installed alone (as a protective device) but should always be installed as a protection module to allow for control according to the standard SS-EN 1717. The installation drawing shows a protection module with two shut-off valves placed on either side of the protective device. These are needed for maintenance of the unit. A dirt filter must be installed between the shut-off valve on the upstream side (inlet side) and the backflow preventer (for 1168C, the dirt filter is integrated). The filter's cleaning plug should be replaced with a valve for draining.

- The protection module should be installed in a suitable location in the drinking water installation, as close to the potential source of risk as possible.
- The protection module should be mounted horizontally with the drainage opening downwards.
- Ensure that the flow arrow corresponds to the flow direction.
- The protection module should not be installed where flooding is possible.
- The protection module should be installed in a ventilated environment (not contaminated air).
- The protection module should be protected against frost and high temperatures.
- All backflow preventers will drain at some point. The drainage valve outlet is connected with an air gap to a drain with the same dimension as the backflow preventer's pipe holder. The connection dimension for the protective device's drainage is indicated under dimensions and weight.
- The drain should have a capacity that can accommodate the drainage flow.
- The protection module can only be installed for expected backflows that do not exceed the device's drainage capacity.
- The protection module should be installed so that it is not subjected to external tensile or compressive forces.
- The protection module should be easily accessible and should be mounted between 0.5 to 1.5 m above the floor to facilitate inspection and service.
- The installation drawing's H dimension indicates the minimum free dimension of space above the protection device required for accessibility for service and easy access to the pressure measurement outlets on the protective device's top. The H dimension is the total height of the protection module.
- Tap points after the backflow preventer should be marked with "NOT DRINKING WATER" to prevent consumption of drinking water in a contaminated zone. Note that a solenoid valve or a quick-closing valve before or after the backflow preventer or a weak pipe layout in connection with a long stretch can create an imbalance in the system with resulting pressure surges. An

additional check valve installed before or after the backflow preventer may possibly eliminate the problem. After installation, a functional check is performed. The property owner has an obligation to notify the water supplier when connecting a backflow preventer of type BA.

### Please feel free to contact us

We answer your questions by e-mail and telephone. No question is too small, no challenge is too big. You are always welcome at Armatec.

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