# DOROT Back-flushing Valves



Advanced hydraulic solutions for optimal management of liquid conveyance systems

Aquestia

Directing the Flow

# Introduction

DOROT Control Valves has earned a decades-long reputation for delivering superior control valve solutions for Back-flush Systems. Owing to our strong relationships with leading filter manufacturers worldwide, Dorot can offer the most advanced, high-reliability/ high-performance solutions available in the marketplace, supported by our deep understanding of filtration systems. All Dorot valves are designed and manufactured in-house, to exacting levels of performance and reliability.

This catalog supports design engineers, dealers and end-users with essential operating procedures and technical specifications. It includes hydraulic performance and ordering guides for the entire range of Dorot Back-flush Valves, plus additional information on special solutions and control applications.

Filtration is an indispensable function in today's water systems. Whether for residential, agricultural or industrial use, the efficient and effective removal of impurities from water systems is critical.

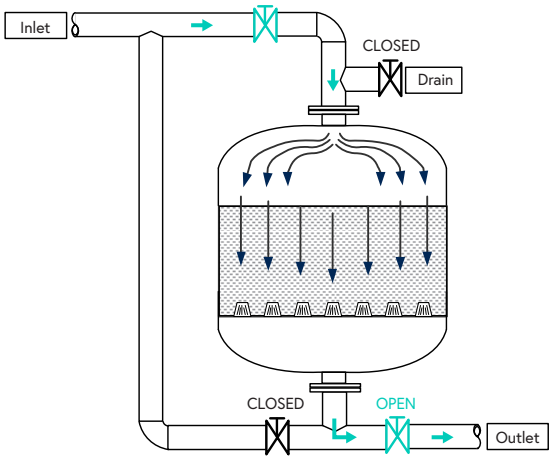
Different filtration methods are available such as, screen filters, disc filters, media filters, sand separators and others. All filter types however, require consistent comprehensive cleaning for the removal of accumulated dirt, particulate matter and other contaminants from the filtration element.

Cleaning the filtration element can be performed in several ways: manual rinsing, mechanical brushing/scraping, suction by scanner or Back-flushing.

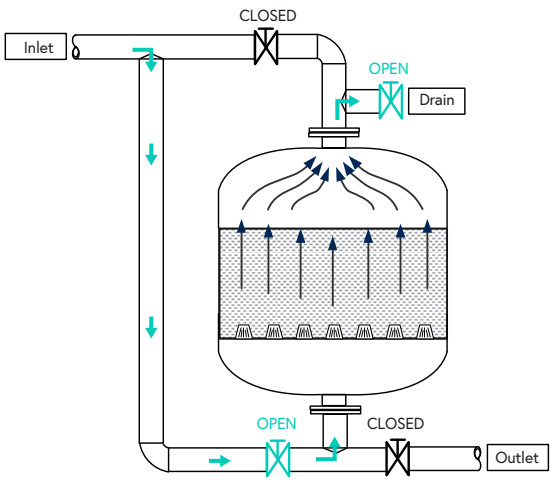
Back-flushing operation consists of applying a relatively clean, reverse-flow through the filter element and then discharging the water flow carrying dirt and debris out of the system through a drain line.

Example: Single media filter Back-flushing principle (without Back-flushing valves):

Filtration Mode




Back-flushing Mode




Back-flushing procedures require numerous valves (at least 4 per filter) in synchronized operation, making it complex to operate manually and costly to automate.

The use of Hydraulic Back-flushing Valves simplifies synchronization of the control system, reducing the number of valves required and allowing valve operation with little or no electrical power consumption.

# Operating principle

## Hydraulic Back-flushing Valve

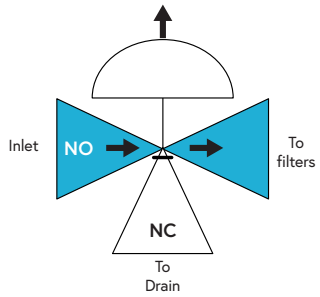
Back-flushing control valves are 3/2, semi-automatic control valves actuated by a pressure command. The valve has 3 ports:

| | |
|---|---|
| Inlet port | connected to the water source |
| Outlet / Common port | connected to the filter |
| Drain port | connected to the drain collector |

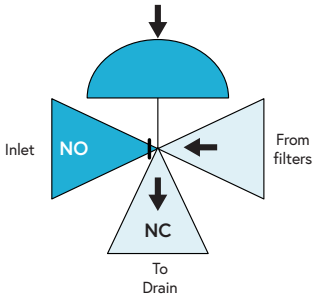
The valve is controlled manually, electrically or by remote pressure command to change position and connect the outlet and drain ports during the Back-flushing cycle. As flushing cycle ends, the valve returns to its normal position - connecting the inlet and outlet ports.

## Straight-flow, Back-flush Control Valve

**Filtration Mode**

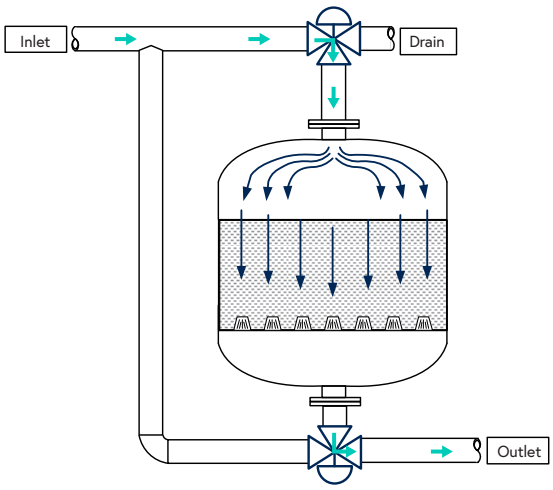



**Back-flushing Mode**

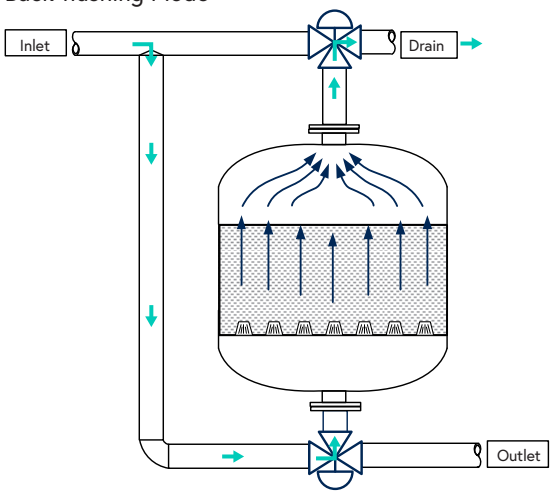



## Media filter back-flush system using back-flush control valves:

**Filtration Mode**




**Back-flushing Mode**




# Benefits

## Hydraulic Back-flushing Valves:

- Low-power automation (actuation by the line pressure or by compressed air). Electric actuation is possible using low-power solenoid valves that can be fed either by continuous power or by battery powered controller.
- Minimal number of valves required per filter.
- No need to synchronize the operation of two valves - one port closes while another simultaneously opens - the entire operation is integrated in the back-flush control valve.
- Simple maintenance, no motor gear or other electro-mechanical elements.

# DOROT 58P ("Plaslite")

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## Direct Diaphragm, Polymeric Back-flushing Control Valve



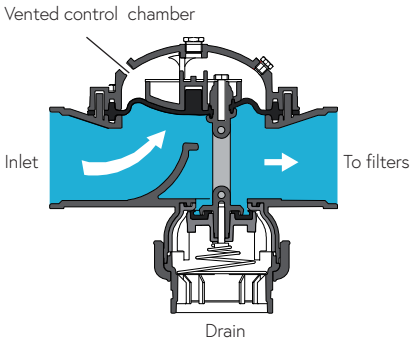
Reinforced Polyamide body, direct diaphragm-sealing valve, designed for automatic back-flush of filtration batteries

## Features

- Corrosion-proof materials
  (additional versions for seawater and aggressive media available)
- Sturdy body, made of Glass-Reinforced Polyamide (GRP)
- Lightweight
- Valve changes position in a frictionless manner
- Simple and easy maintenance
- Easy installation, no special tools or expertise required
- Special design models for disc and media filtration systems

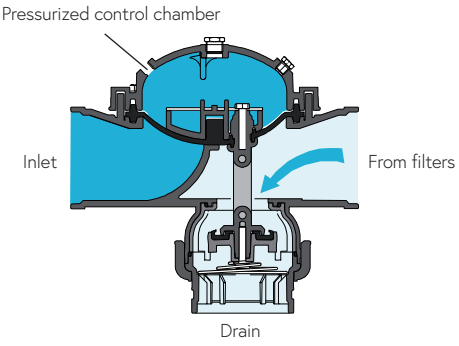
## Operating principle

### Filtration Mode




De-pressurized command - control chamber is vented to atmosphere: The valve allows straight flow. Bottom drain port is closed.

### Back-flushing Mode



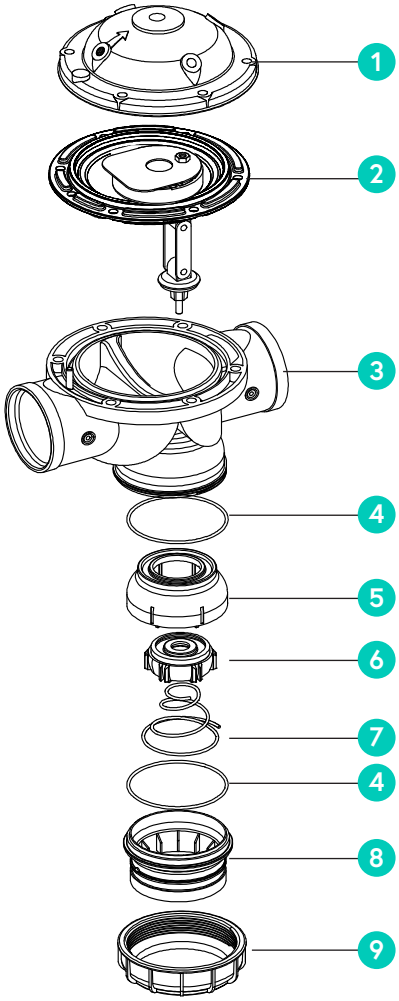

Pressure command - control chamber is pressurized:
The valve inlet port is closed by the diaphragm and the bottom port opens to allow flow from the filter, out to the drain.

# DOROT 58P ("Plaslite")

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## Main parts

| No. | Part |
|---|---|
| 1 | Bonnet |
| 2 | Diaphragm kit |
| 3 | Body |
| 4 | Sealing ring |
| 5 | Seat |
| 6 | Plug |
| 7 | Spring |
| 8 | Adapter |
| 9 | Locking nut |

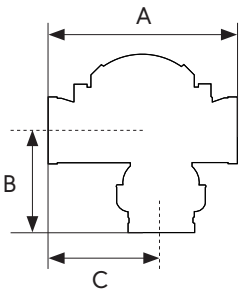



## Materials

| Part | Standard | Drinking Water | Seawater | Mines |
|---|---|---|---|---|
| Body & Bonnet | PA | PA | PA | PA |
| Shaft | SST 302 | SST 302 | SST 316 | SST 316 |
| Spring | SST 302 | SST 302 | SST 316 | SST 316 |
| Screws | SST 302 | SST 302 | SST 316 | SST 316 |
| Seals | NR | EPDM | NR | ALD |
| Diaphragm | NR | EPDM | NR | ALD |

## Dimensions

| Inlet / Outlet | | Drain | | Dimensions mm / inch | | | Weight |
|---|---|---|---|---|---|---|---|
| mm | inch | mm | inch | A | B | C | Kg / Lbs |
| 100 | 4 | 100 | 4 | 316/12 7/16 | 170 / 6 11/16 | 187 / 7 3/4 | 5.5 / 12.2 |
| 100 | 4 | 80 | 3 | 316/12 7/16 | 170 / 6 11/16 | 187 / 7 3/4 | 5.5 / 12.2 |
| 80 | 3 | 80 | 3 | 286/11 1/4 | 164 / 6 7/16 | 174 / 6 7/8 | 4.2 / 9.2 |
| 80 | 3 | 50 | 2 | 286/11 1/4 | 164 / 6 7/16 | 174 / 6 7/8 | 4.2 / 9.2 |




## End connections

| | |
|---|---|
| Inlet / Outlet ports | Grooved |
| Drain port | Grooved, Threaded 3", Male* / Female, NPT / BSP<br>*only for 3" drain port |

# DOROT 58P ("Plaslite")

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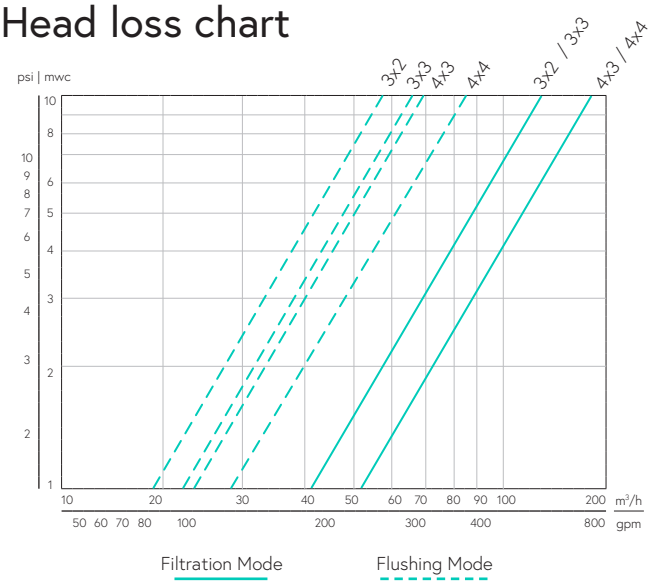
## Hydraulic performance

| SIze | | 3 x 2 | 3 x 3 | 4 x 3 | 4 x 4 |
|---|---|---|---|---|---|
| Max. recommended flow at filtration mode | $m^3/h$ | 90 | 90 | 160 | 160 |
| | gpm | 400 | 400 | 700 | 700 |
| Max. recommended flow at Back-flushing mode | $m^3/h$ | 40 | 90 | 90 | 160 |
| | gpm | 180 | 400 | 400 | 700 |
| Flow rate factor at filtration mode | Kv (metric) | 130 | 130 | 160 | 160 |
| | Cv (US) | 150 | 150 | 185 | 185 |
| Flow rate factor at Back-flushing mode | Kv (metric) | 57 | 65 | 70 | 83 |
| | Cv (US) | 66 | 75 | 81 | 96 |

**Operating pressure range**
Standard model: 1-10 bar / 14.5-145 psi
Low pressure model: 1-6 bar / 14.5-90 psi
High-pressure model: 3-10 bar / 45-145 psi

**Maximum operating temperature:**
60°C (140°F)

## Head loss chart



# DOROT 58P ("Plaslite")

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## Ordering guide

| Ordering data | Ordering code | | | | | | | | Ordering data |
|---|---|---|---|---|---|---|---|---|---|
| | 58P | ☐ | ☐ | X | ☐ | ☐ | ☐ | ☐☐ | |
| **Pressure rating** | | | | | | | | | |
| Standard (1-10 bar) | → | S | | | | | | | |
| Low Pressure (1-6 bar) | → | L | | | | | | | |
| High Pressure (3-10 bar) | → | H | | | | | | | |
| **Main port size** | | | | | | | | | |
| 3" / 80mm | → | | 3 | | | | | | |
| 4" / 100mm | → | | 4 | | | | | | |
| | | | | | | | | | **Special features** |
| | | | | | | | | DW | Drinking Water |
| **Drain port size** | | | | | | | | SW | Seawater |
| 2" / 50mm * | → | | | | 2 | | | MI | Mining |
| 3" / 80mm | → | | | | 3 | | | SK | Spin-Klin systems® |
| 4" / 100mm | → | | | | 4 | | | AK | Galaxy systems® |
| **Drain connection** | | | | | | | | | **Drain port thread type** |
| Grooved (VIC) ** | → | | | | | V | M | ← | Male (only for 3" drain port) |
| BSP Thread | → | | | | | B | F | ← | Female |
| NPT Thread | → | | | | | N | O | ← | Grooved |

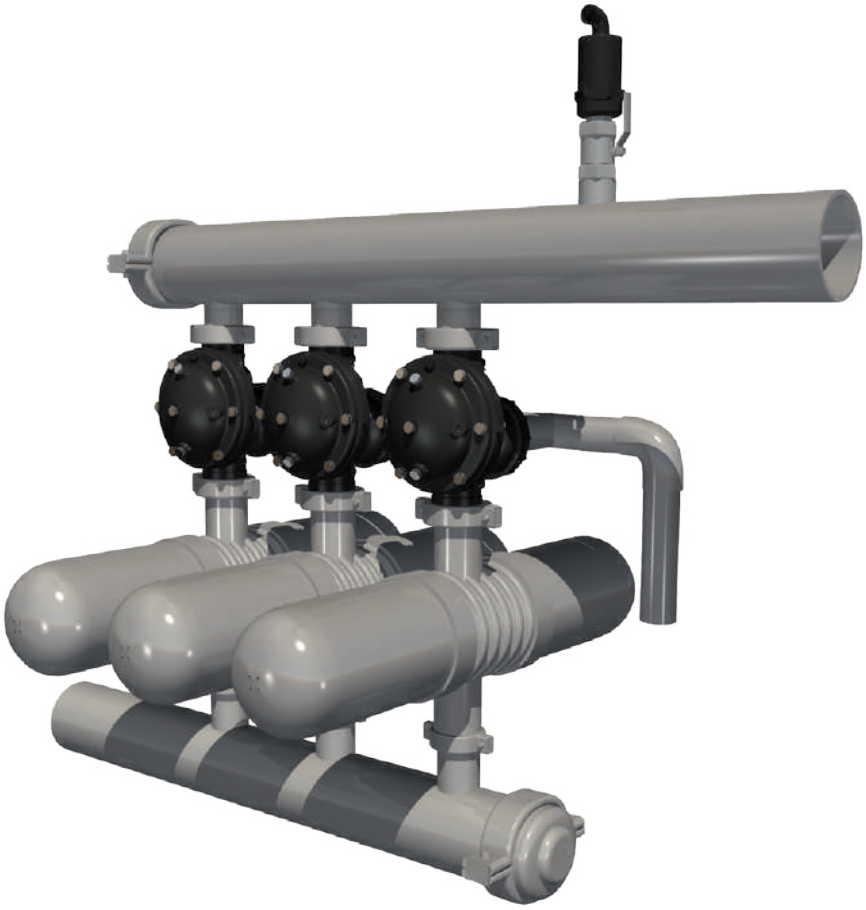
* Available only for 3" / 80mm main ports only
** Available only for 3" / 80mm and 4" / 100mm

# DOROT 58P ("Plaslite")

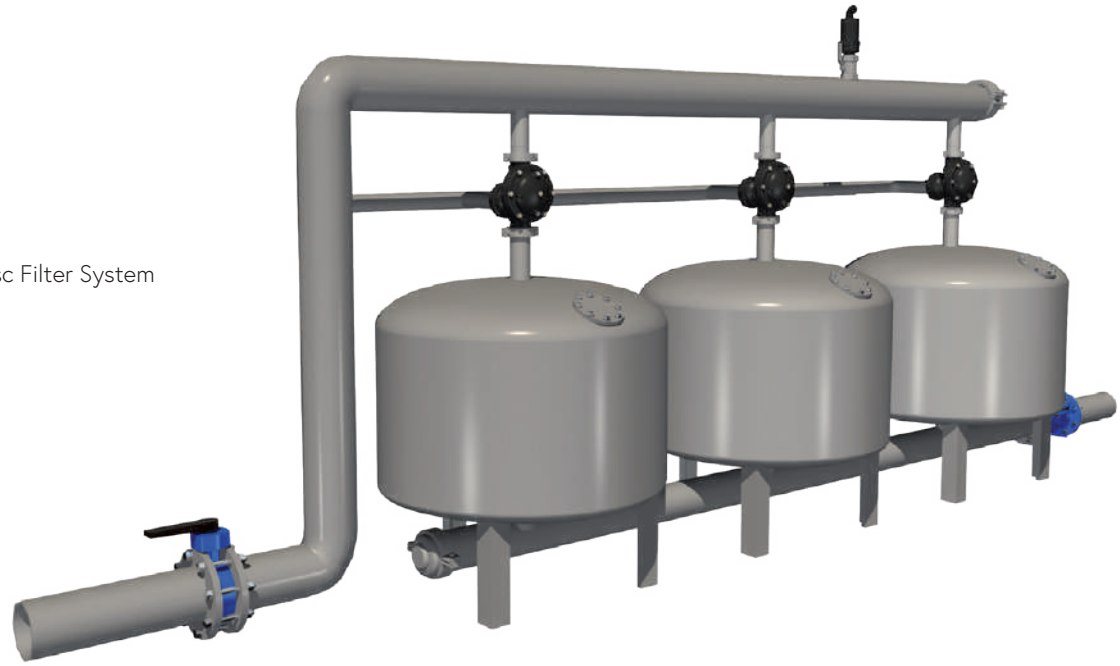
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## Applications

Sand Media Filters



Disc Filter System



# DOROT 57 / 58 ("FlushGAL")

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## Direct diaphragm, Metal Back-flushing Control Valve



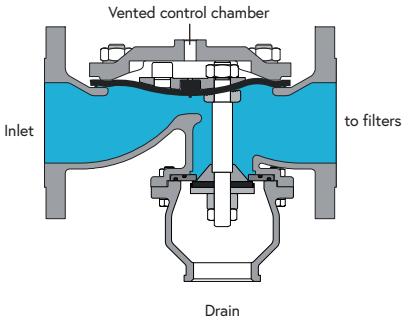
Cast iron body, 3-directional diaphragm-sealing valve, designed for automatic back-flush of filtration filters

## Features

- Sturdy body made of cast iron (optional SST version)
- Frictionless position change
- Low head-losses
- Easy installation, no special tools or expertise required
- Grooved (model 58) or flanged (model 57) connections available
- Special design model for disc filtration systems
- Optional model for high-pressure filtration systems available

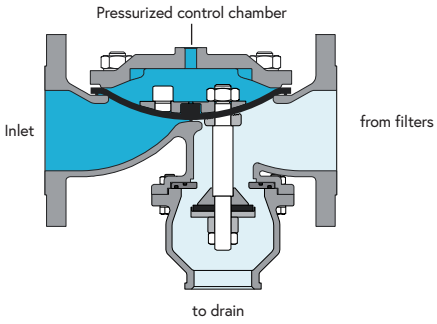
## Operating principle

### Filtration Mode




De-pressurized command - control chamber vents to atmosphere: The valve allows straight flow. Bottom drain plug is closed.

### Back-flushing Mode




Pressure command - control chamber is pressurized: The valve inlet port is closed by the diaphragm and the bottom port opens to allow flow from the filter, out to the drain.

# DOROT 57 / 58 ("FlushGAL")

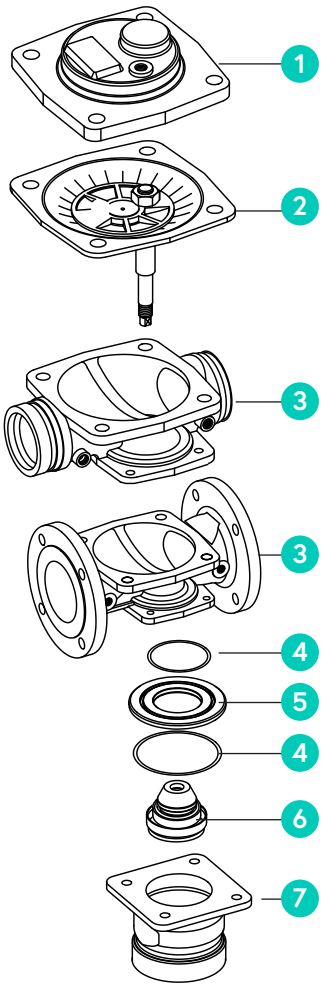
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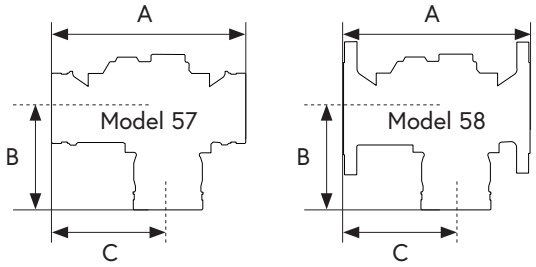
## Main parts

| No. | Part |
|---|---|
| 1 | Bonnet |
| 2 | Diaphragm kit |
| 3 | Body |
| 4 | Sealing ring |
| 5 | Seat |
| 6 | Plug |
| 7 | Adapter |

## Materials

| Part | Material | Optional Material |
|---|---|---|
| Body & Bonnet | Cast Iron | SST |
| Bolts & Nuts | Coated Steel | SST |
| Diaphragm | NR | NBR, EPDM, ALD or other |
| Shaft | SST 303 | |
| Seat | Brass | SST |
| Plug cone | Brass | SST |
| Seal | NR | NBR, EPDM, ALD or other |
| Spring (optional) | SST 302 | |




## Dimensions

| | Inlet / Outlet | | Drain | | Dimensions mm / inch | | | Weight |
|---|---|---|---|---|---|---|---|---|
| | mm | inch | mm | inch | A | B | C | Kg / Lbs |
| 57 | 80 | 3 | 50 | 2 | 289 / $11^{3}/_{8}$ | 158 / $6^{1}/_{4}$ | 176 / $6^{15}/_{16}$ | 22 / 48 |
| | 100 | 4 | 80 | 3 | 305 / $12^{3}/_{16}$ | 161 / $6^{7}/_{16}$ | 184 / $7^{5}/_{16}$ | 25 / 55 |
| 58 | 80 | 3 | 50 | 2 | 287 / $11^{5}/_{16}$ | 152 / 6 | 175 / $6\,^{7}/_{8}$ | 15 / 33 |
| | 100 | 4 | 80 | 3 | 323 / $12^{11}/_{16}$ | 167 / $6^{9}/_{16}$ | 194 / $7\,^{5}/_{8}$ | 18 / 40 |

## End connections

| | |
|---|---|
| Inlet / Outlet ports | Model 57 - Flanged, Model 58 - Grooved |
| Drain port | Grooved or Female-threaded |
| In 4x3 models | Internal 3" / 80mm thread and external Grooved 4" / 100mm connection |
| Flange standards | ISO 2084 / ANSI B16 / BSTD (others upupon request) |
| Thread standards | Female NPT / BSP |

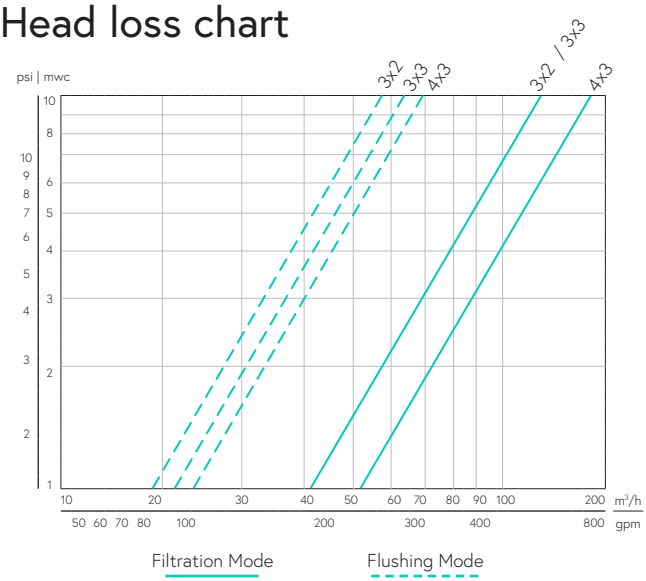
# DOROT 57 / 58 ("FlushGAL")

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## Hydraulic performance

| Model | | 57 / 58 | |
|---|---|---|---|
| SIze | | 3 x 2 | 4 x 3 |
| Max. recommended flow at filtration mode | $m^3/h$ | 90 | 160 |
| | gpm | 400 | 705 |
| Max. recommended flow at Back-flush-ing mode | $m^3/h$ | 40 | 90 |
| | gpm | 180 | 400 |
| Flow rate factor at filtration mode | Kv (metric) | 130 | 160 |
| | Cv (US) | 150 | 185 |
| Flow rate factor at Back-flushing mode | Kv (metric) | 58 | 70 |
| | Cv (US) | 67 | 81 |

## Head loss chart




**Operating pressure range**
Low pressure model: 0.7-10 bar / 10-150 psi
Standard model: 1-16 bar / 15-250 psi

**Maximum operating temperature:** 60°C (140°F)

## Ordering guide

| Ordering data | Ordering code | | | | | | | | Ordering data |
|---|---|---|---|---|---|---|---|---|---|
| | 5□ | □ | X | □ | □□ | □ | □ | □□ | |
| **Main port connections** | | | | | | | | | |
| Flanged | 7 | | | | | | | | |
| Grooved (VIC) | 8 | | | | | | | | |
| **Main port size** | | | | | | | | | |
| 3" / 80mm | → | 3 | | | | | | | **Special features** |
| 4" / 100mm | → | 4 | | | | | | HP | High Pressure (1-16 bar) |
| | | | | | | | | SK | Spin-Klin version |
| **Drain port size** | | | | | | | | | **Coating** |
| 2" / 50mm | → | | | 2 | | | | | |
| 3" / 80mm | → | | | 3 | | | R | ← | Polyester Red |
| 4" / 100mm * | → | | | 4 | | | L | ← | Polyester Blue |
| **Main port connection standard** | | | | | | | X | ← | Other (specify) |
| ISO PN16 | → | | | | I1 | | | | **Drain port connection standard** |
| ANSI 125 | → | | | | A1 | V | | ← | Grooved (VIC) |
| BS TD / AS TD | → | | | | BD | B | | ← | ** BSP Thread |
| Grooved | → | | | | VI | N | | ← | *** NPT Thread |

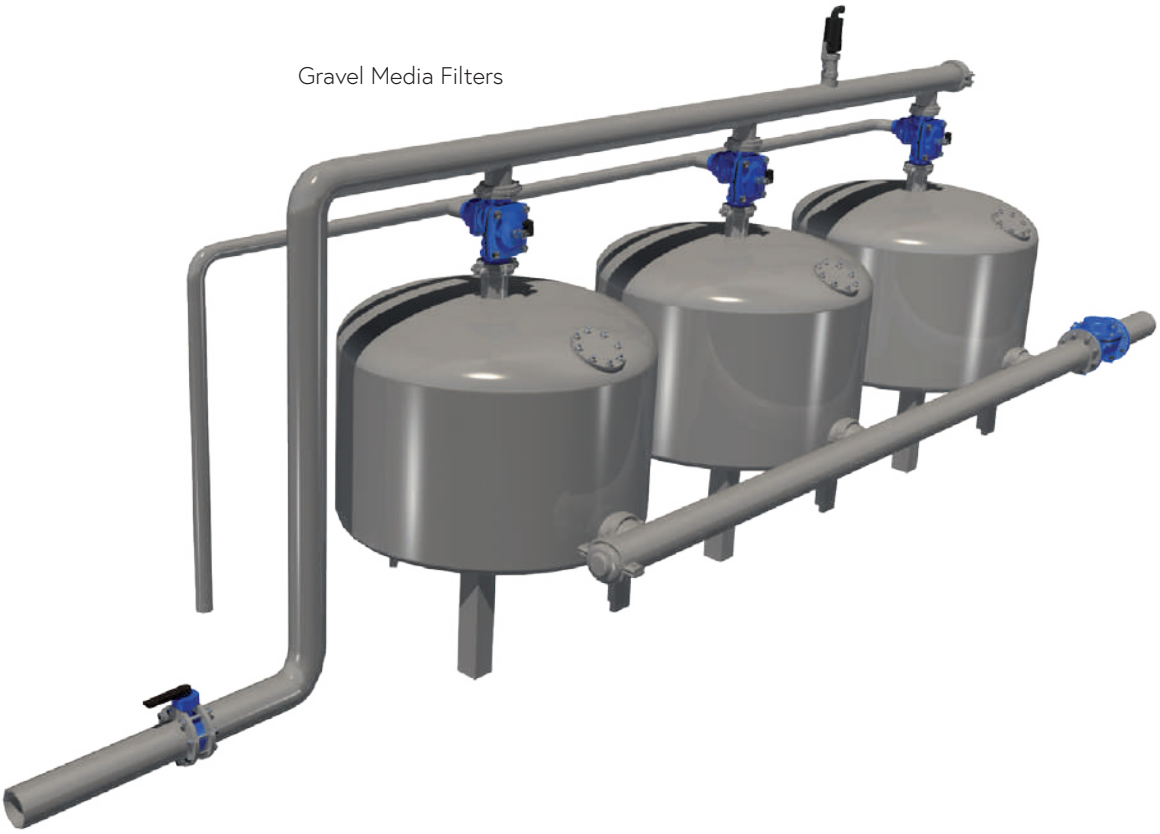
* only available for the 58 model
** only available for ISO / BSTD / ASTD
*** only available for ANSI

# DOROT 57 / 58 ("FlushGAL")

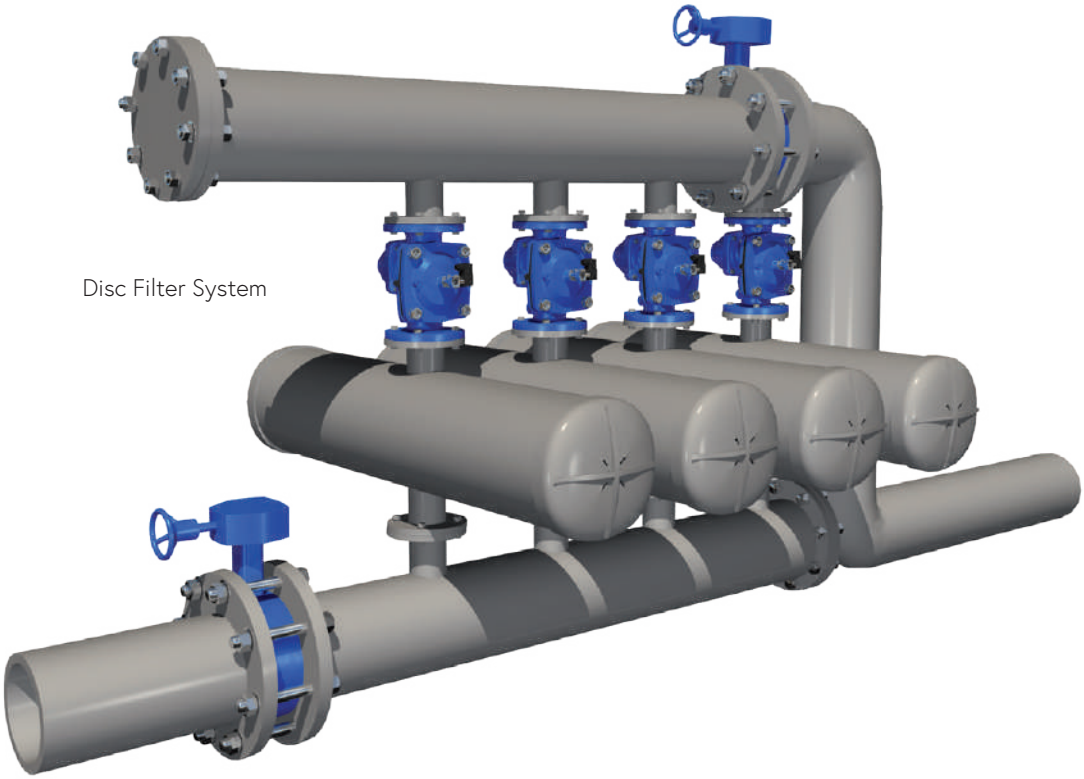
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## Applications

Gravel Media Filters



Disc Filter System



# DOROT 51 / 52

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## Double-chamber, Metal Back-flushing Valve

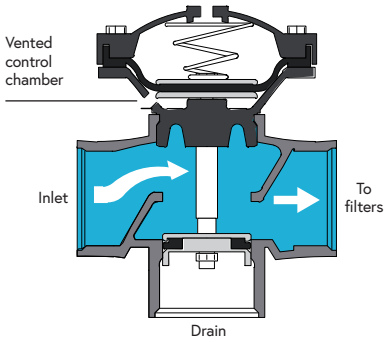
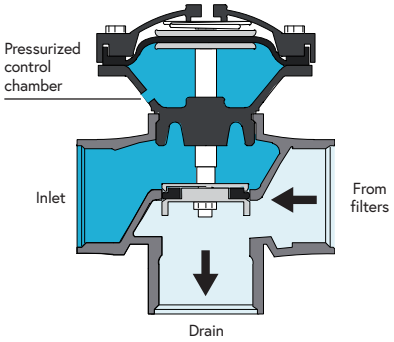
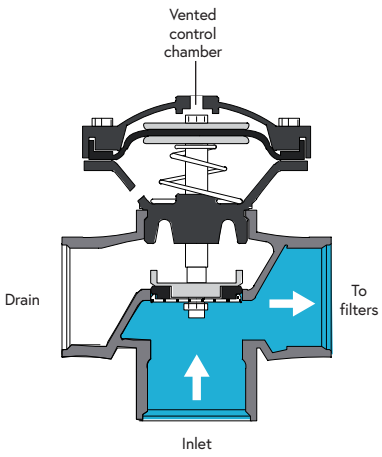
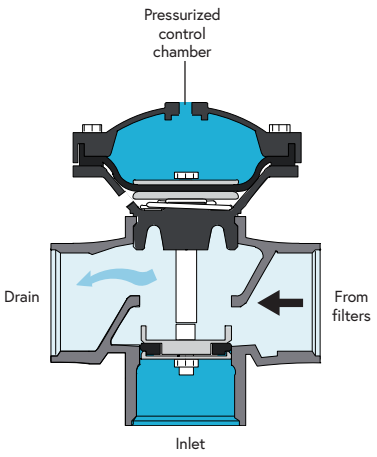
2"/ 50mm Brass body, 3-directional, double-chamber valve
for Back-flushing of filtration batteries



## Features

- Simple, compact design
- Double chamber structure
- Non-metallic actuator construction
- Super-fast position change
- In-line maintenance
- Easy installation, no special tools or expertise required
- Straight or angle flow with easy conversion from one model to another, offering maximum flexibility in system design

## Operating principle

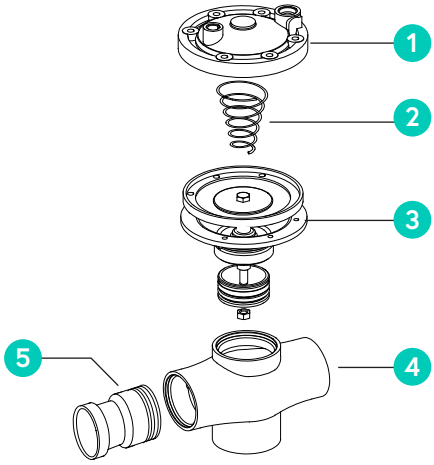
| | Filtration Mode<br>Control chamber is de-pressurized -<br>The valve is in filtration mode | Back-flushing Mode<br>Control chamber pressurized -<br>The valve is in flushing mode |
|---|---|---|
| Model 51 |  |  |
| Model 52 |  |  |

# DOROT 51 / 52

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## Main parts

| No. | Part |
|---|---|
| 1, 5 | Bonnet |
| 2 | Spring |
| 3 | Diaphragm & Actuator Kit |
| 4 | Body |
| 5 | Grooved connection adapter |

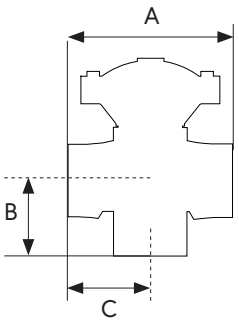



## Materials

| Part | Standard | High Pressure | Optional |
|---|---|---|---|
| Bonnet | GRP | Aluminum | SST |
| Diaphragm | NR | NR | EPDM |
| Spring | SST 302 | SST 302 | SST 316 |
| Diaphragm discs | Brass | Brass | SST 316 |
| Screws | SST 302 | SST 302 | SST 316 |
| Operator Body | GRP | Brass | SST |
| Body | Brass | Brass | SST |
| Shaft | SST 304 | SST 304 | SST 316 |
| Plug assy. | Brass | Brass | SST |
| Seals | NBR | NBR | Viton |

## Dimensions

| Inlet / Outlet / Drain | | Dimensions mm / inch | | | Weight |
|---|---|---|---|---|---|
| mm | inch | A | B | C | Kg / Lbs |
| 50 | 2 | 155/6⅞ | 75 / 2¹⁵⁄₁₆ | 78 / 3⅛ | 3.1 / 6.8 |




## End connections

Groove adapters supplied upon request.

Each groove adapter adds 30 mm (11/8 inch) to the length / height dimensions according to its location.

Threaded connections: Female - NPT / BSP

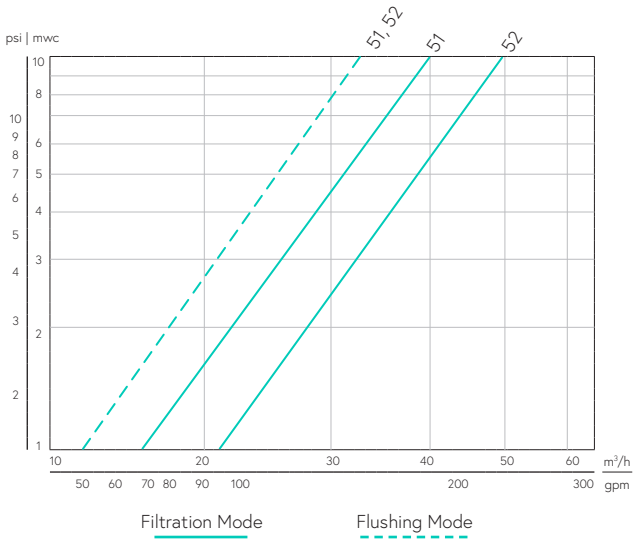
# DOROT 51 / 52

Aquestia
Directing the Flow

## Hydraulic performance

| Model | | 51 | 52 |
|---|---|---|---|
| SIze | | 2 x 2 | 2 x 2 |
| Max. recommended flow at filtration mode | $m^3/h$ | 40 | 40 |
| | gpm | 176 | 176 |
| Max. recommended flow at Back-flushing mode | $m^3/h$ | 40 | 40 |
| | gpm | 176 | 176 |
| Flow rate factor at filtration mode | Kv (metric) | 43 | 52 |
| | Cv (US) | 50 | 60 |
| Flow rate factor at Back-flushing mode | Kv (metric) | 40 | 37 |
| | Cv (US) | 45 | 43 |

## Head loss chart



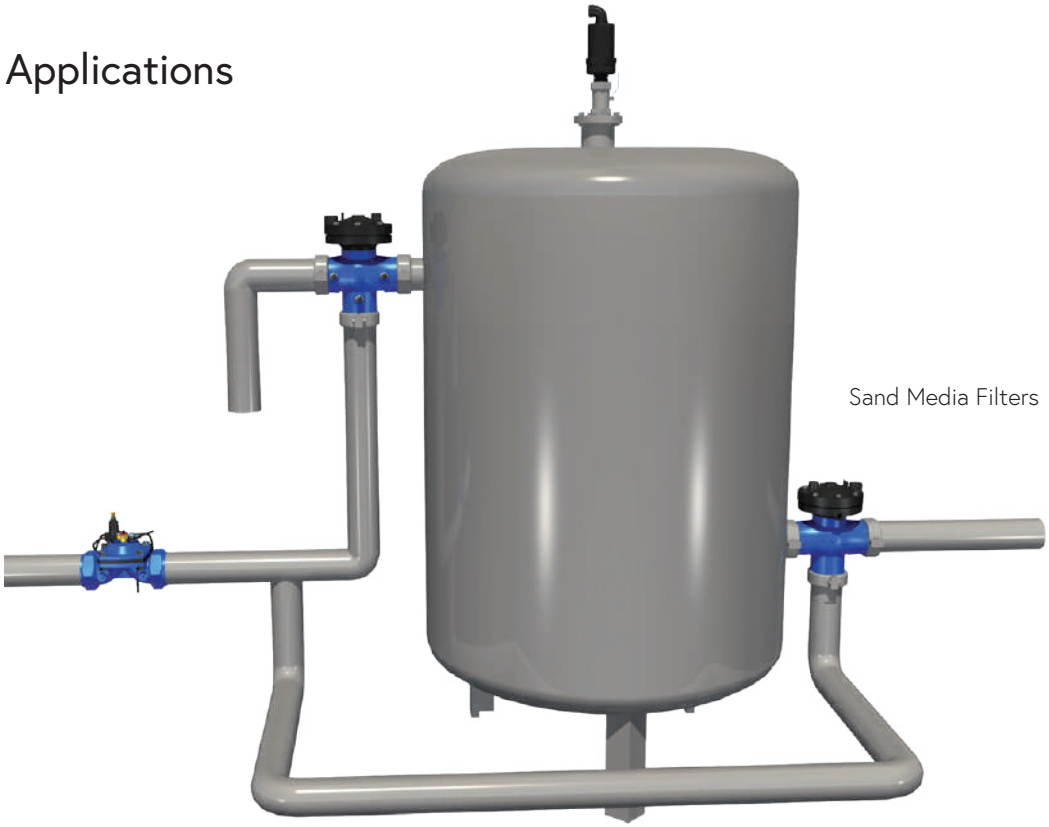

**Operating pressure range**
Standard pressure model: 0.7-10 bar / 10-150 psi
High Pressure model: 0.7-16 bar / 10-250 psi

**Maximal operating temperature**
Standard model: 60°C (140°F)
Hot water model: 90°C (195°F)

## Ordering guide

| Ordering data | Ordering code | | | | | | | Ordering data |
|---|---|---|---|---|---|---|---|---|
| | 5☐ | 2x2 | ☐ | ☐ | ☐ | ☐ | ☐☐ | |
| **Filtration flow direction** | | | | | | | **Special versions** | |
| Straight | 1 | | | | | | HW | Hot Water |
| Angle | 2 | | | | | | HP | High Pressure (16 bar) |
| | | | | | | | **Coating** | |
| **Inlet port connection** | | | | | | | | |
| Grooved adapter | → | | V | | | R | ← | Polyester Red |
| BSP Thread | → | | B | | | L | ← | Polyester Blue |
| NPT Thread | → | | N | | | X | ← | Other (specify) |
| **Outlet port connection** | | | | | | **Drain port connection** | | |
| Grooved adapter | → | | | V | V | ← | | Grooved adapter |
| BSP Thread | → | | | B | B | ← | | BSP Thread |
| NPT Thread | → | | | N | N | ← | | NPT Thread |

# Applications



Sand Media Filters



Double Disc Filter System

# DOROT 51P/52P

Aquestia
Directing the Flow

## Double-chamber, Polymeric Back-flushing Valve

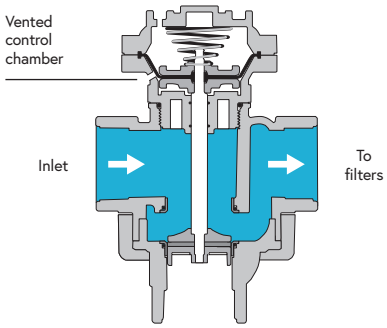
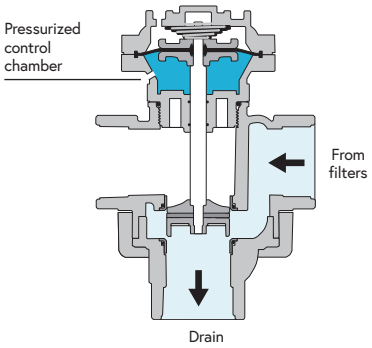
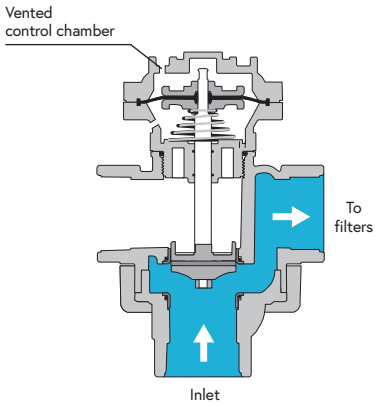
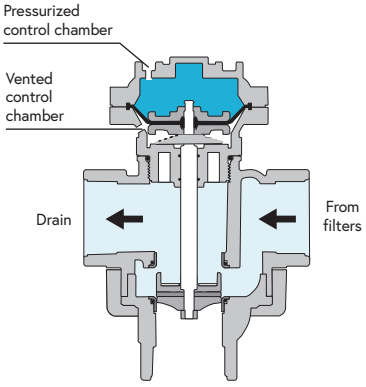


2"/ 50mm Reinforced-Polyamide body, 3-directional, double-chamber valve for Back-flushing of filtration batteries

## Features

- Corrosion-proof materials (additional versions for seawater and aggressive media available)
- Sturdy body, made of Glass-Reinforced Polyamide (GRP)
- Lightweight
- Simple, compact design
- Double chamber structure
- Super-fast position change
- In-line maintenance
- Easy installation, no special tools or expertise required
- Straight or angle flow with easy conversion from one model to another, offering maximum flexibility in system design

## Operating principle

| | Filtration Mode<br>Control chamber is de-pressurized -<br>The valve is in filtration mode | Back-flushing Mode<br>Control chamber pressurized -<br>The valve is in flushing mode |
|---|---|---|
| Model 51P |  |  |
| Model 52P |  |  |

# DOROT 51P/52P

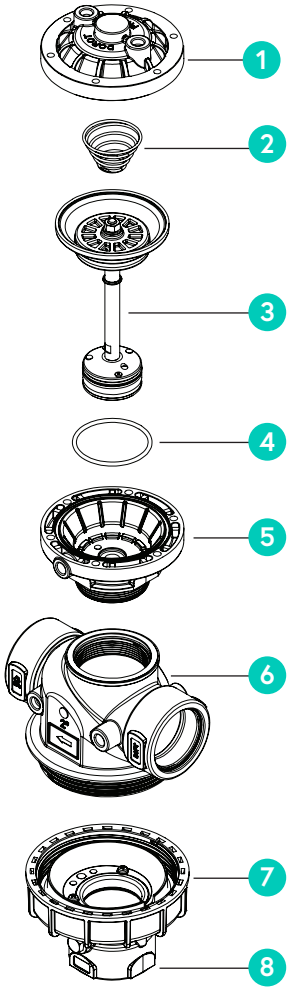
Aquestia
Directing the Flow

## Main parts

| No. | Part |
|---|---|
| 1 | Bonnet |
| 2 | Spring |
| 3 | Diaphragm & Actuator Kit |
| 4 | O-ring |
| 5 | Actuator body |
| 6 | Body |
| 7 | Locking ring |
| 8 | Adapter |

## Materials

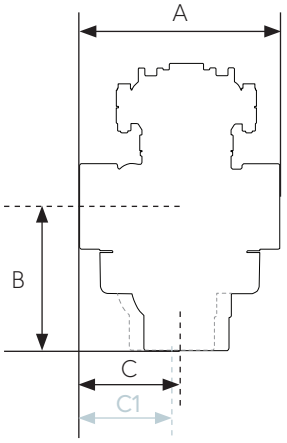
| Part | Standard |
|---|---|
| Bonnet | GRP |
| Diaphragm | NR |
| Spring | SST 302 |
| Diaphragm discs | GRP |
| Screws | SST 302 |
| Operator Body | GRP |
| Body | GRP |
| Shaft | SST 316 |
| Plug assy. | PA |
| Seals | NR |




## Dimensions

| Inlet / Outlet / Drain | | Dimensions mm / inch | | | Weight |
|---|---|---|---|---|---|
| mm | inch | A | B | C | Kg / Lbs |
| 50 | 2 | 180 / 7 1/8 | 135 / 5 5/16 | 90 / 3½ | 3.1 / 6.8 |

C1 - offset adapter model - AZ




## End connections

Groove adapters supplied upon request.

Each groove adapter will add 30 mm (11/8 inch) to the length / height dimensions according to its location.

Threaded connections: Female - NPT / BSP

# DOROT 51P/52P

Aquestia
Directing the Flow

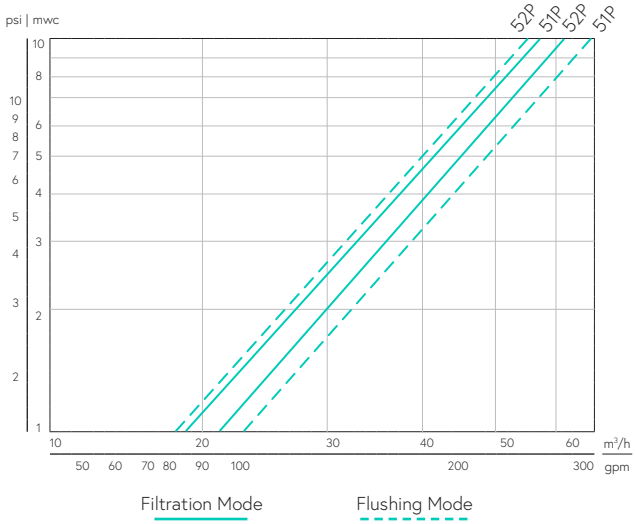
## Hydraulic performance

| Model | | 51P | 52P |
|---|---|---|---|
| SIze | | 2 x 2 | 2 x 2 |
| Flow rate factor at filtering | Kv (metric) | 56 | 61 |
| | Cv (US) | 65 | 70 |
| Flow rate factor at flushing | Kv (metric) | 69 | 55 |
| | Cv (US) | 80 | 63 |

**Operating pressure range**
Standard model: 1-10 bar / 15-150 psi

**Maximal operating temperature**
Standard models: 65°C (150°F)

## Head loss chart




## Ordering guide

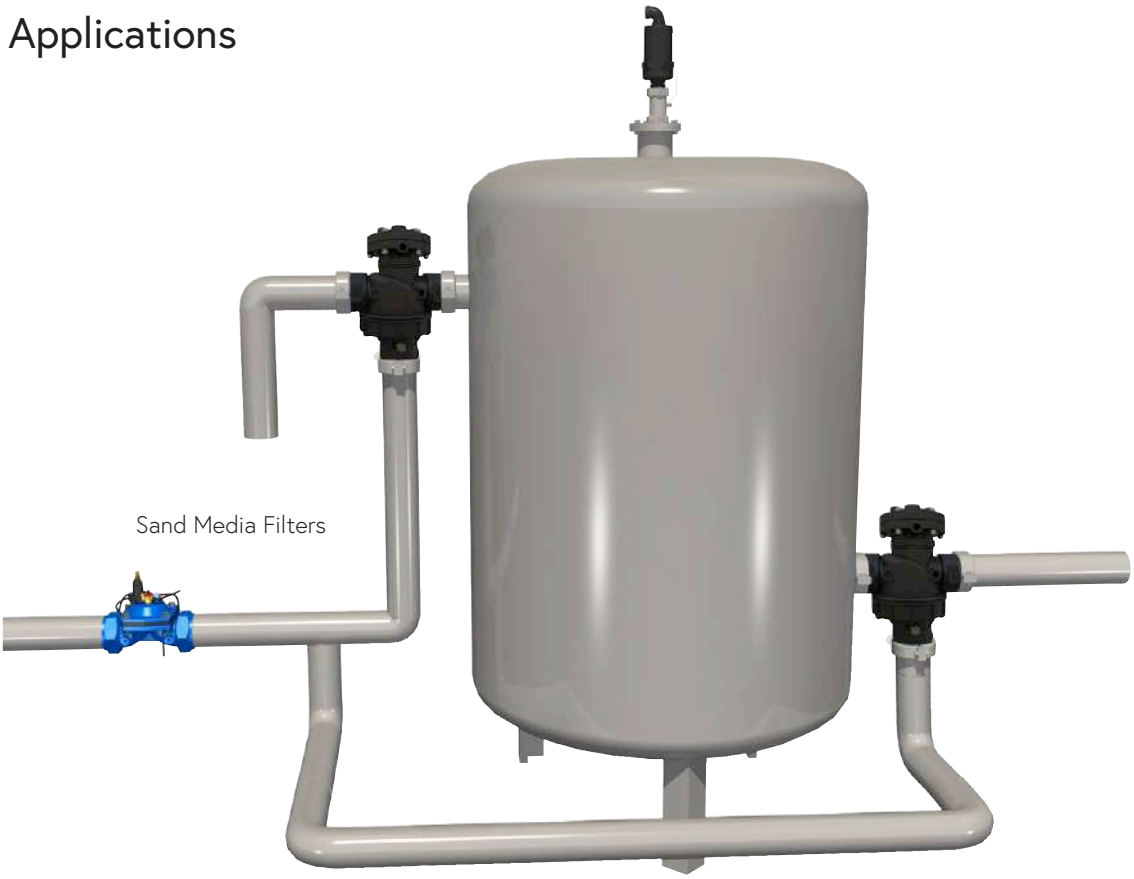
| Ordering data | Ordering code | | | | | | Ordering data |
|---|---|---|---|---|---|---|---|
| | 5☐P | 2x2 | ☐ | ☐ | ☐ | ☐☐ | |
| **Filtration flow direction** | | | | | | | **Special versions** |
| Straight | 1 | | | | | AZ* | Offset adapter |
| Angle | 2 | | | | | | None |
| | | | | | | | **Drain port connection** |
| **Inlet port connection** | | | | | V | ← | Grooved adapter |
| Grooved adapter | → | | V | | B | ← | BSP Thread |
| BSP Thread | → | | B | | N | ← | NPT Thread |
| NPT Thread | → | | N | | | | |
| **Outlet port connection** | | | | | | | |
| Grooved adapter | → | | | V | | | |
| BSP Thread | → | | | B | | | |
| NPT Thread | → | | | N | | | |

* Adapter suitable for AZUD filter batteries only.

# DOROT 51P/52P

Aquestia
Directing the Flow

## Applications



Sand Media Filters



Double Disc Filter System

# DOROT 62 / 63

Aquestia
Directing the Flow

## Double-chamber, Metal Back-flushing Control Valve

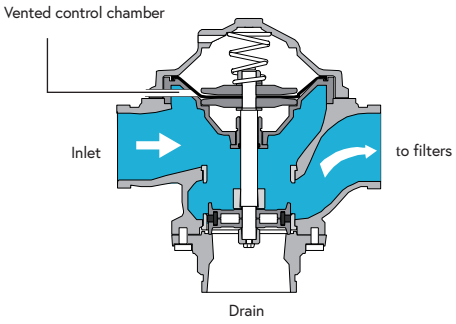
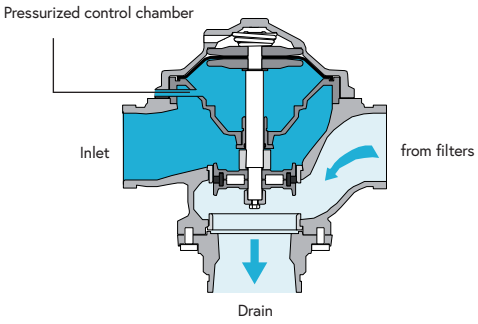
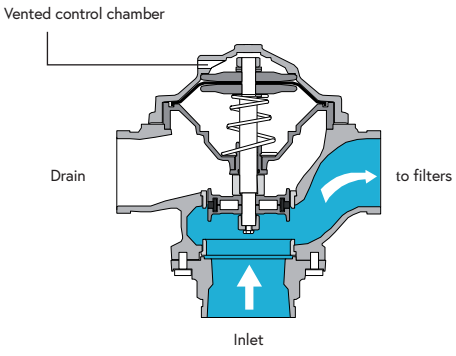
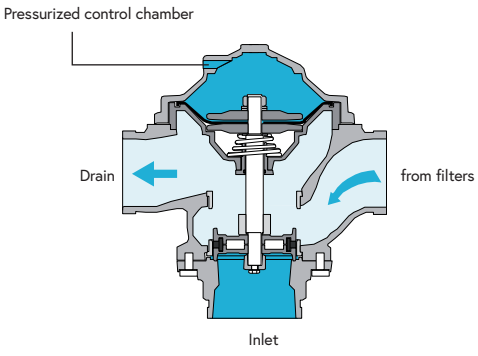
Cast iron, 3-directional, double-chamber valve for Back-flushing of filtration batteries



## Features

- Sturdy body made of cast iron
- Double chamber structure
- High-flow coefficiency allows high flow and low pressure losses
- Super-fast position change
- Easy installation, no special tools or expertise required
- Suitable materials for drinking-water use
- Straight or angle flow with easy conversion from one model to another, offering maximum flexibility in system design

## Operating principle

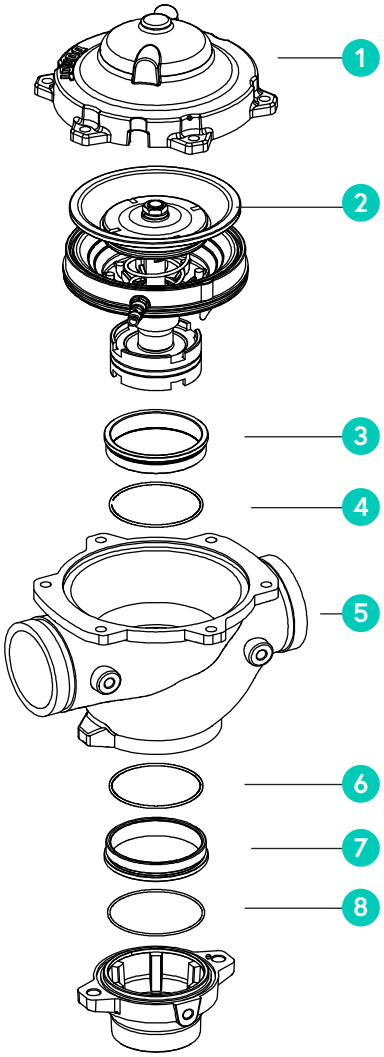
| | Filtration Mode<br>Control chamber is de-pressurized - The valve is in filtration mode | Back-flushing Mode<br>Control chamber pressurized - The valve is in flushing mode |
|---|---|---|
| Model 62 |  |  |
| Model 63 |  |  |

# DOROT 62 / 63

Aquestia
Directing the Flow

## Main parts

| No. | Part |
|---|---|
| 1 | Bonnet |
| 2 | Diaphragm & Actuator Kit |
| 3 | Seat |
| 4 | O-ring |
| 5 | Body |
| 6 | O-ring |
| 7 | Seat |
| 8 | O-ring |

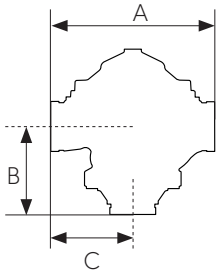



## Materials

| Part | Standard | High Pressure |
|---|---|---|
| Bonnet | C.I. | C.I. |
| Diaphragm discs | PAGF | PAGF |
| Bottom chamber | PAGF | Bronze |
| Spring | SST 302 | SST 302 |
| Seals | NR | NR |
| Diaphragm | NR | NR |
| Bolts & Nuts | SST 302 | SST 302 |
| Shaft | SST 316 | SST 316 |
| Plug assy. | PAGF | PAGF |
| Seats | SST 304 | SST 304 |

## Dimensions

| Inlet / Outlet | | Drain | | Dimensions mm / inch | | | Weight |
|---|---|---|---|---|---|---|---|
| mm | inch | mm | inch | A | B | C | Kg / Lbs |
| 80 | 3 | 50 | 2 | 290 / $11^{7}/_{16}$ | 168 / $6^{5}/_{8}$ | 145 / $5^{11}/_{16}$ | 18 / 40 |
| 80 | 3 | 80 | 3 | 290 / $11^{7}/_{16}$ | 157 / $3^{3}/_{16}$ | 145 / $5^{11}/_{16}$ | |
| 100 | 4 | 80 | 3 | 317 / $12^{1}/_{2}$ | 200 / $7^{7}/_{8}$ | 158 / $6^{1}/_{4}$ | 27 / 60 |
| 100 | 4 | 100 | 4 | 317 / $12^{1}/_{2}$ | 200 / $7^{7}/_{8}$ | 158 / $6^{1}/_{4}$ | |




## End connections

| | |
|---|---|
| Inlet / Outlet ports | Grooved |
| Drain port | Threaded or Grooved |
| Thread standards | Female NPT / BSP |

# DOROT 62 / 63

Aquestia
Directing the Flow

## Hydraulic performance

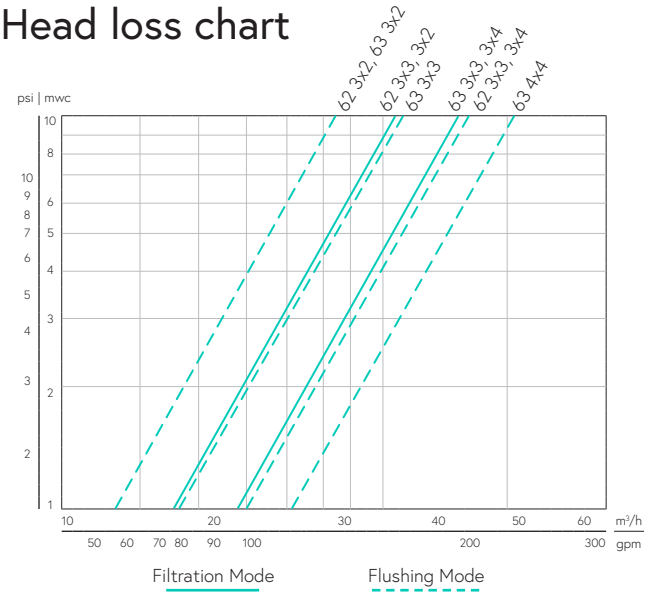
| Model | | 62 & 63 | | | | |
|---|---|---|---|---|---|---|
| SIze | | 4 x 2 | 4 x 3 | 4 x 4 | 3 x 3 | 3 x 2 |
| Max. recommended flow at filtration mode | $m^3/h$ | 160 | | | 90 | |
| | gpm | 700 | | | 400 | |
| Max. recommended flow at Back-flushing mode | $m^3/h$ | 40 | 90 | 160 | 90 | 40 |
| | gpm | 180 | 400 | 700 | 400 | 180 |
| Flow rate factor at filtration mode | Kv (metric) | 160 | | | 100 | |
| | Cv (US) | 185 | | | 115 | |
| Flow rate factor at Back-flushing mode | Kv (metric) | 110 | 140 | 205 | 145 | 80 |
| | Cv (US) | 128 | 163 | 238 | 168 | 93 |

**Operating pressure range:**
Standard version: 0.5-12 bar / 7-180 psi

*When using 4-way control circuit with external pressure source, no minimal line pressure is required

**Maximum operating temperature:** 60°C (140°F)

## Head loss chart




## Ordering guide

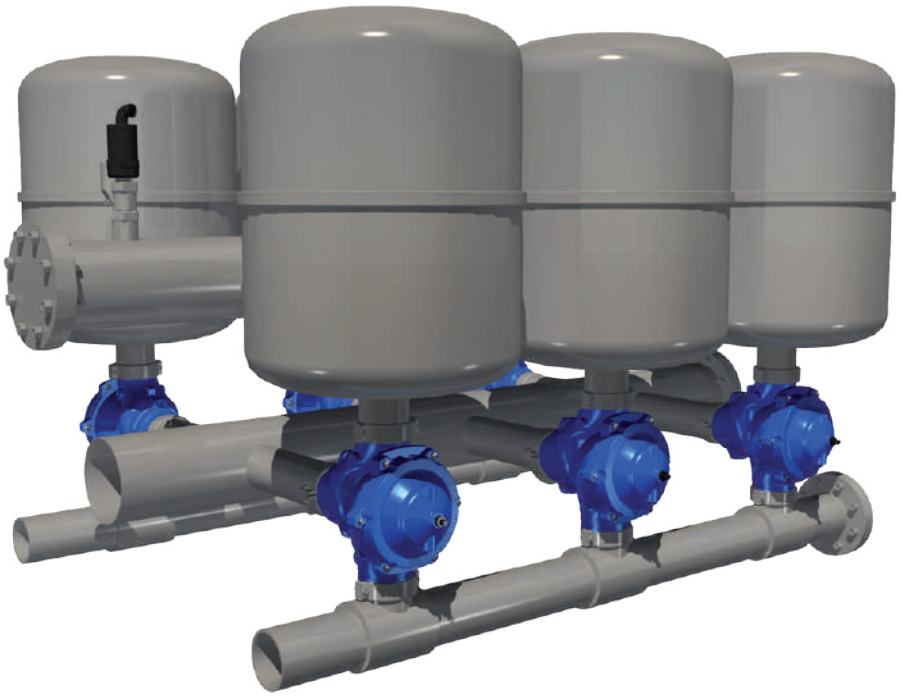
| Ordering data | Ordering code | | | | | | Ordering data |
|---|---|---|---|---|---|---|---|
| | 6☐ | ☐ | X | ☐ | ☐ | ☐ | |
| **Flow direction at filtering** | | | | | | | **Coating** |
| Straight | 2 | | | | | L | Polyester Blue |
| Angle | 3 | | | | | R | Polyester Red |
| **Top port size** | | | | | | X | Other (specify) |
| 4" / 100mm | → | 4 | | | | | **Drain port connection** |
| 3" / 80mm | → | 3 | | | V | ← | Grooved (VIC) |
| | | | | | B | ← | BSP Thread |
| **Bottom port size** | | | | | N | ← | NPT Thread |
| 4" / 100mm | → | | | 4 | | | |
| 3" / 80mm | → | | | 3 | | | |
| 2" / 50mm | → | | | 2 | | | |

# Applications

Sand Media Filters



Disc Filter System



# DOROT 09 ("Galil")

Aquestia
Directing the Flow

## Double-chamber 2"/50mm Back-flushing Valve

Brass body, double-chamber control valve, designed to enable automatic backflush of screen filters

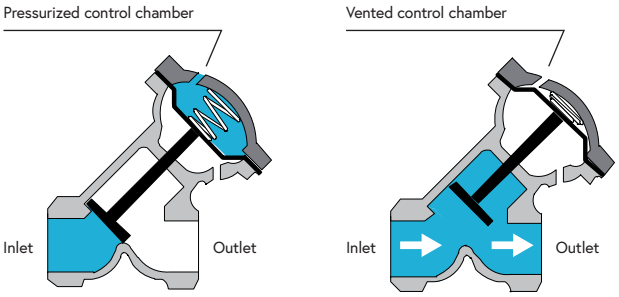


## Features

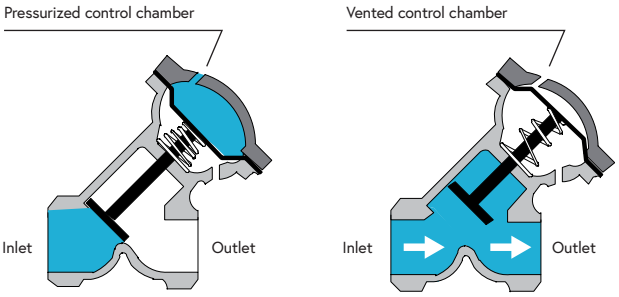
- A sturdy body made of Brass (SST optional)
- Double chamber control
- In-line maintenance
- Fast reaction
- Easy installation, no special tools or expertise required
- Configurable to "Normally Open" or "Normally Closed" operation
- Optional manual throttling
- Straight (model 09) or angle (model 09-A) flow

## Operating principle

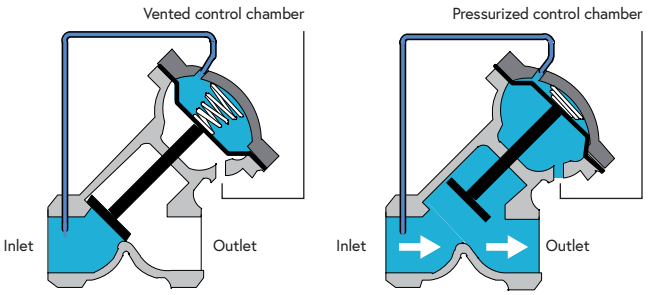
### Standard Model



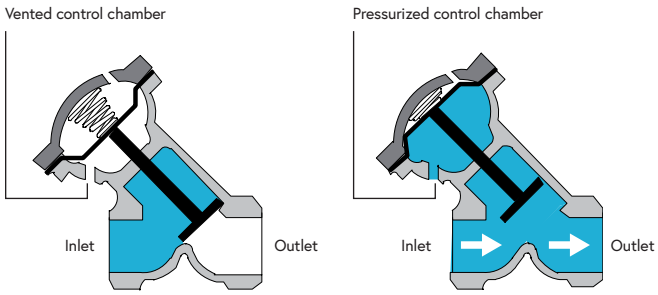

### Normally Open Model




### Normally Closed Model (Normal Flow)




### Normally Closed Model (Reverse Flow)

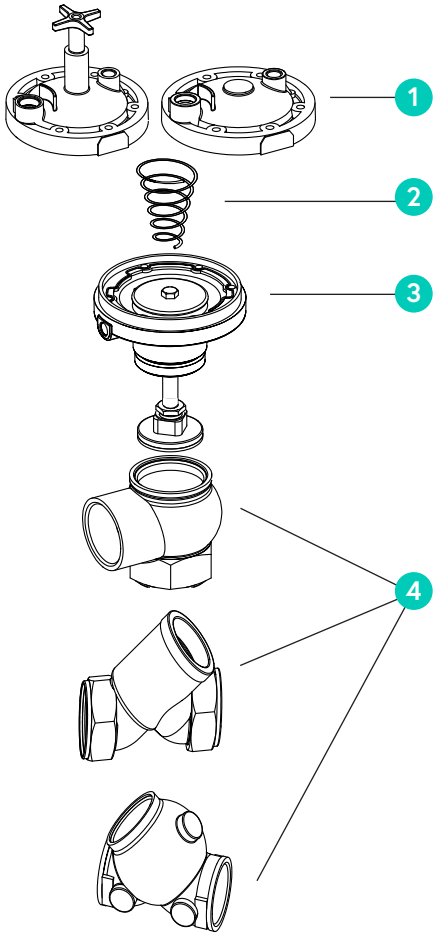


# DOROT 09 ("Galil")

Aquestia
Directing the Flow

## Main parts

| No. | Part |
|---|---|
| 1 | Bonnet |
| 2 | Spring |
| 3 | Operator kit |
| 4 | Body |



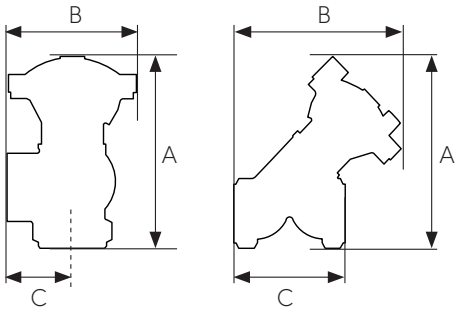

## Materials

| # | Part | Standard | High Pressure | Hot Water | Seawater* |
|---|---|---|---|---|---|
| 1 | Body | Brass | Brass | Brass | SST 316 |
| 2 | Bonnet | PAGF | AL | AL | SST 316 |
| 3 | Actuator housing | PAGF | Brass | Brass | SST 316 |
| 4 | Shaft | SST 302 | SST 302 | SST 302 | SST 316 |
| 5 | Spring | SST 302 | SST 302 | SST 302 | SST 316 |
| 6 | Screws | Steel | Steel | Steel | SST 316 |
| 7 | Seals | NR | NR | Viton / EPDM | NR |
| 8 | Diaphragm | NR | NR | EPDM | NR |

* In Angle pattern only

## Dimensions

| Model | Type | Dimensions mm / inch | | | Weight Kg / Lbs |
|---|---|---|---|---|---|
| | | A | B | C | |
| 09 | Straight | 196 / $7^{11}/_{16}$ | 193 / $7^{5}/_{8}$ | 125 / $4^{15}/_{16}$ | 3.2 / 7 |
| 09 + throttling handle | Straight | 235 / $9^{1}/_{4}$ | 219 / $8^{5}/_{8}$ | 125 / $4^{15}/_{16}$ | |
| 09-A | Angle | 192 / $7^{9}/_{16}$ | 130 / $5^{1}/_{8}$ | 66 / $2^{5}/_{8}$ | |
| 09-A + throttling handle | Angle | 260 / $10^{1}/_{4}$ | 130 / $5^{1}/_{8}$ | 66 / $2^{5}/_{8}$ | |




## End connections

Threaded connections: Female - NPT / BSP

# DOROT 09 ("Galil")

Aquestia
Directing the Flow

## Hydraulic performance

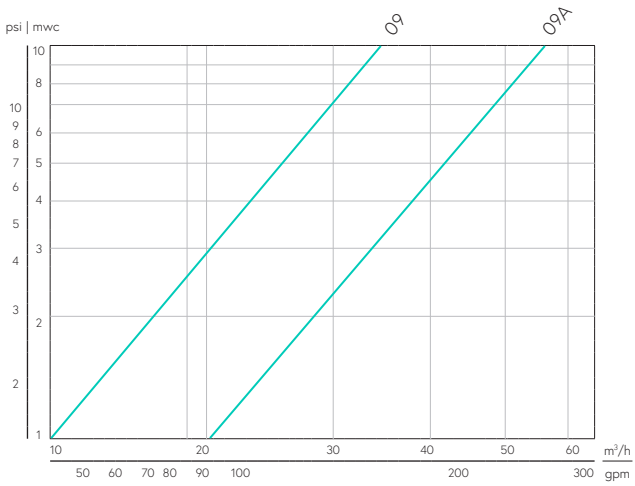
| Size | | | 2" / 50mm |
|---|---|---|---|
| Max. recommended flow rate | | $m^3/h$ | 40 |
| | | gpm | 176 |
| Flow rate factor | Model 09 | Kv (metric) | 35 |
| | | Cv (US) | 41 |
| | Model 09-A | Kv (metric) | 55 |
| | | Cv (US) | 65 |

**Operating pressure range**
Standard model: 1-10 bar / 14.5-145 psi

High Pressure model: 1-16 bar / 14.5-250 psi

**Maximum operating temperature**
Standard model: 60°C (140°F)
Hot water model: 90°C (195°F)

## Head loss chart



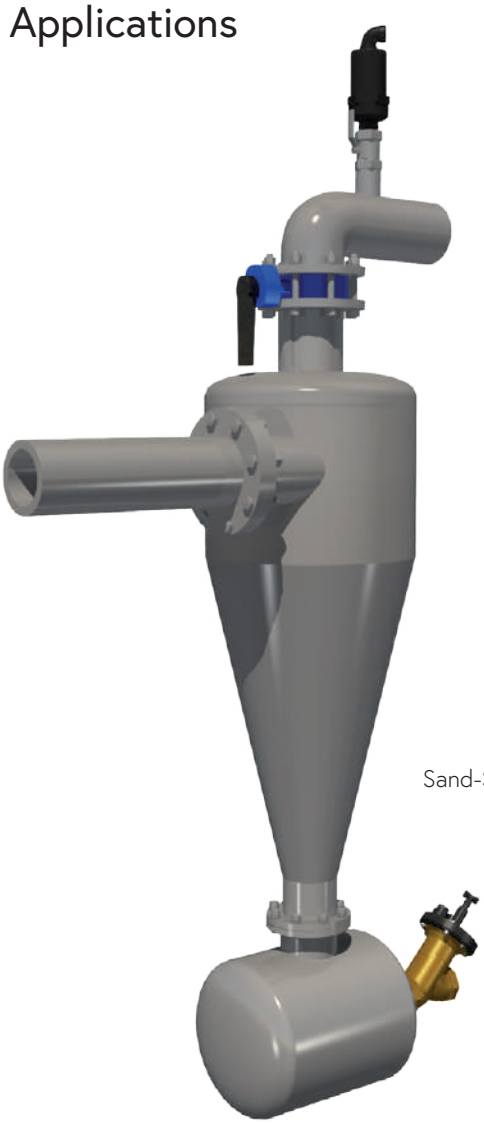

## Ordering guide

| Ordering data | Ordering code | | | | | | | | | Ordering data |
|---|---|---|---|---|---|---|---|---|---|---|
| | 09 | □ | □ | -2- | □□ | □□ | □□ | □□ | □□ | |
| **Valve body** | | | | | | | | | | |
| Straight flow | → | - | | | | | | | | **Special features** |
| Angle flow | → | A | | | | | | | WB | Wide Body version |
| **Trottling handle** | | | | | | | | | HP | High Pressure (16 bar) |
| Without | → | | - | | | | | | IN | Indicator rod (supplied with metalic bonnet) |
| With | → | | T | | | | | | HW | Hot Water |
| | | | | | | | | | RS | Low-Pressure Seal |
| **Connections Standard** | | | | | | | | | PC | Conic Plug |
| BSP Threads | → | | | | BS | | | | SO | No Spring |
| NPT Threads | → | | | | NP | | | | XS | Stiff Spring |
| **Function** | | | | | | | | | | **Coating** |
| Standard | → | | | | | - | | | ← | Uncoated |
| Normaly Closed | → | | | | | NC | | - | ← | Polyester Red |
| Normaly Open | → | | | | | NO | | CR | ← | Polyester Blue |
| **Flow direction** | | | | | | | | CB | ← | Other (specify) |
| Normal (under the seat) | → | | | | | | - | X | ← | |
| Reverse (over the seat) | → | | | | | | RF | | | |

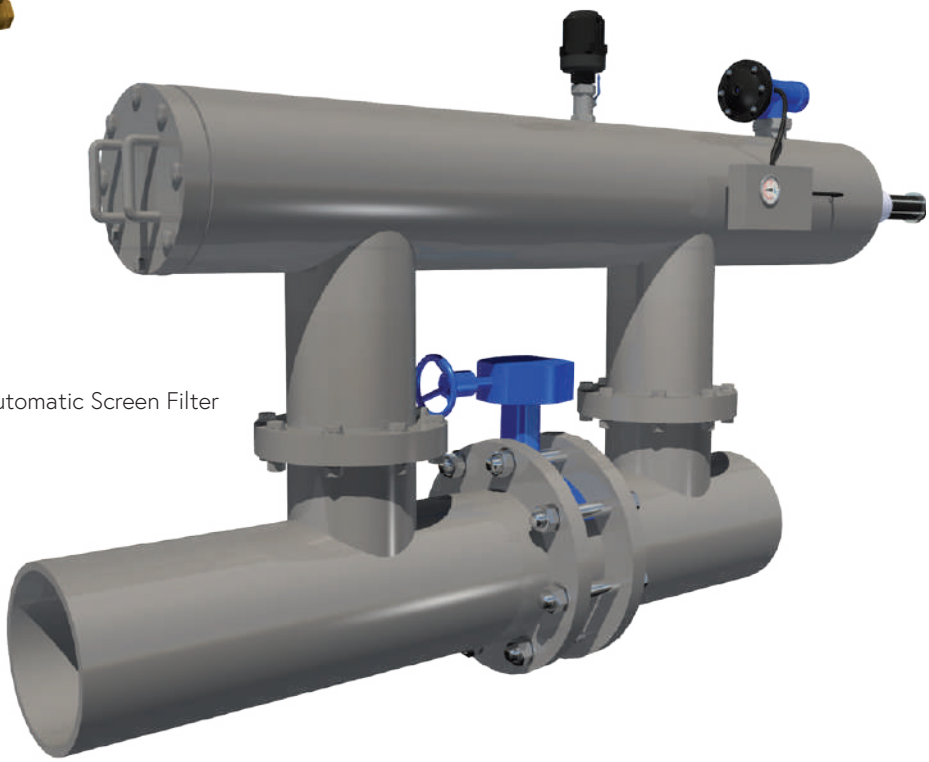
# DOROT 09 ("Galil")

Aquestia
Directing the Flow

## Applications



Sand-Separator (Hydrocyclone) System



Automatic Screen Filter

# DOROT 60

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## Normally-closed, Polymeric Back-flushing Valve

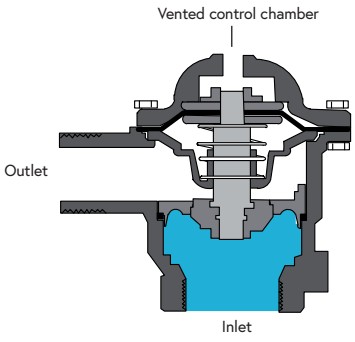


## Features

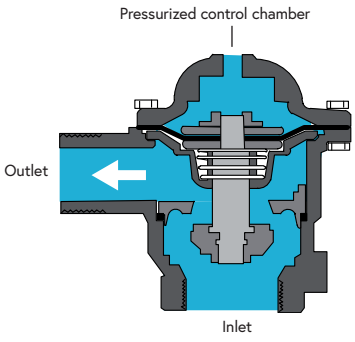
- High resistance to corrosive fluids
- Normally-closed operation
- Fast reaction
- Easy installation and maintenance
- Tough and durable construction
- Drip-tight sealing at zero pressure
- Angle pattern minimizes pressure losses

## Operating principle

Closed Valve




Open Valve



# DOROT 60

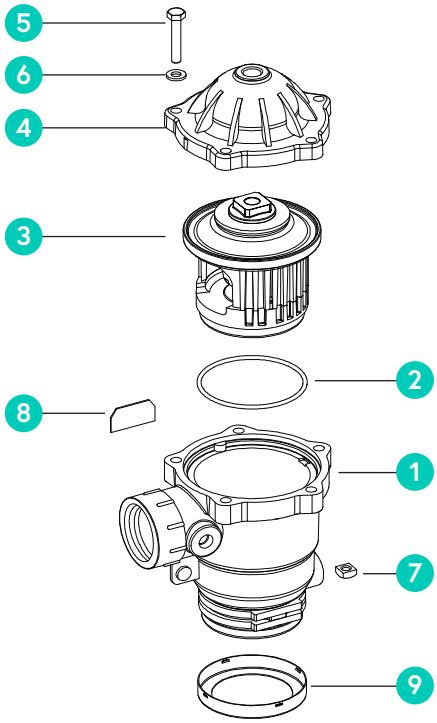
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## Main parts

| No. | Part |
|---|---|
| 1 | Body |
| 2 | O-ring |
| 3 | Diaphragm assembly |
| 4 | Bonnet |
| 5 | Bolt |
| 6 | Washer |
| 7 | Nut |
| 8 | ID Plate |
| 9 | Ring |

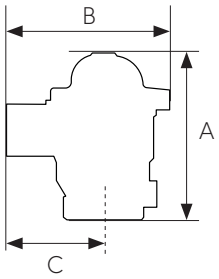
## Materials

| Part | Standard | Mining |
|---|---|---|
| Body | PPGF | PPGF |
| Bonnet | PPGF | PPGF |
| Shaft | PPGF | PPGF |
| Spring | SST 302 | SST 316 |
| Screws | SST 304 | SST 304 |
| Seals | EPDM | ALD and Viton |
| Diaphragm | EPDM | ALD |




## Dimensions

| Size | Dimensions mm / inch | | | Weight Kg / Lbs |
|---|---|---|---|---|
| | A | B | C | |
| 40mm / 1.5" | 164 / $6^{7}/_{16}$ | 127 / 5 | 89 / $3^{1}/_{2}$ | 0.7 / 1.6 |




## End connections

**Threaded connections:** Inlet Female, Outlet Male - NPT / BSP

## Hydraulic performance

| Size | | 11/2" / 40mm |
|---|---|---|
| Max. recommended flow rate | $m^3/h$ | 25 |
| | gpm | 110 |
| Flow rate factor | Kv (metric) | 25 |
| | Cv (US) | 30 |

**Operating pressure range:**
Standard model: 0.4-8 bar / 6-115 psi

**Maximal operating temperature:** 60°C (140°F)

**Minimal command pressure:** 0.4 bar,
to be at least 60% of line pressure

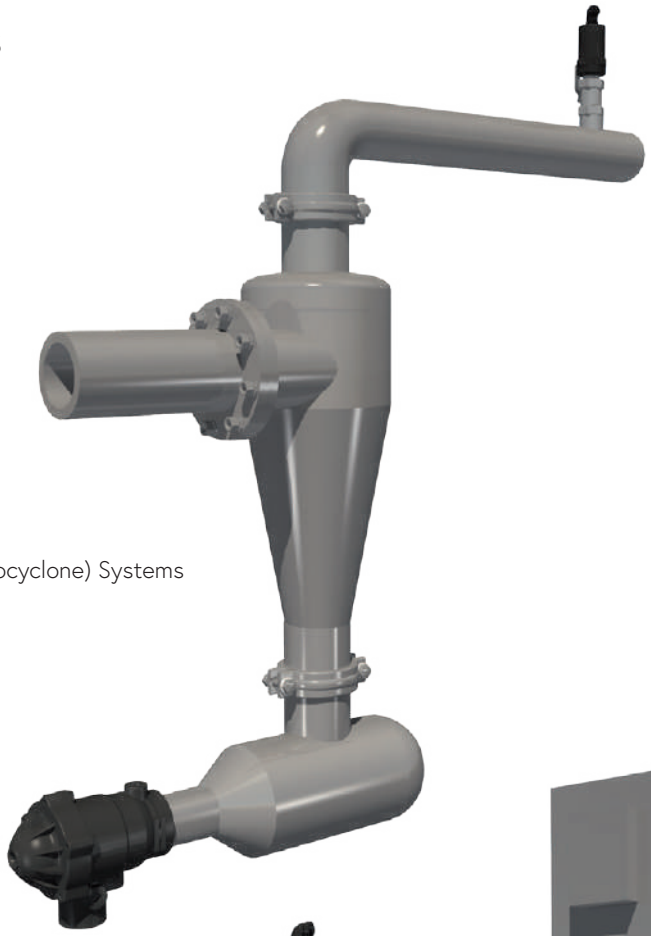
## Ordering guide

| Ordering data | Ordering code | | | Ordering data |
|---|---|---|---|---|
| | 60-ANC | □□ | □□ | |
| Connection standard | | | | Special features |
| NPT | → | NP | ST | Standard |
| BSP | → | BS | MI | Mining |

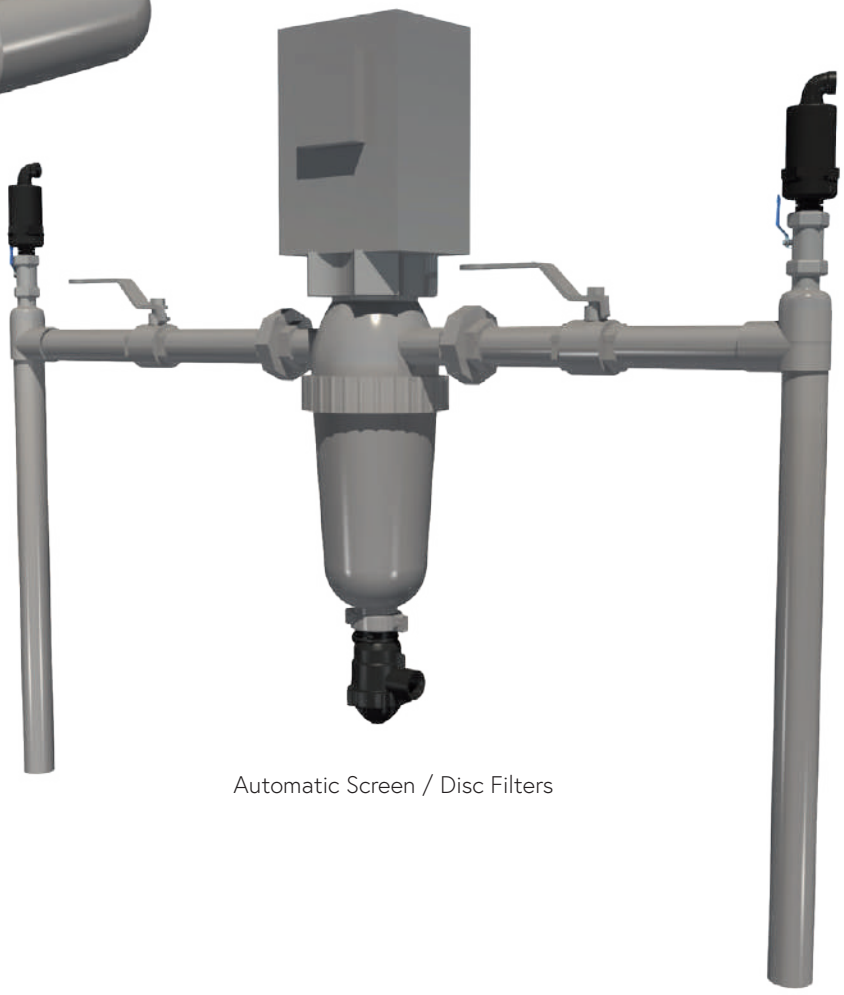
DOROT 60

Aquestia
Directing the Flow

# Applications



Sand Separator (Hydrocyclone) Systems



Automatic Screen / Disc Filters

Aquestia

Directing the Flow

## Advanced hydraulic solutions for optimal management of liquid conveyance systems

Aquestia is a world leader in providing optimal solutions for surge protection, water loss reduction and pressure management, by integrating uniquely developed products with innovatively designed software. Bringing together three strong brands - A.R.I., DOROT and OCV – we combine decades of experience, a wealth of knowledge and expertise, and a wide range of solutions and services.
We are where liquid flows, serving customers in segments that include waterworks and wastewater systems, irrigation, fire protection, mining, ballast water, desalination, commercial plumbing, aviation fueling, oil & gas, and more.

**Aquestia – high-quality, reliable products and committed service - for your peace of mind.**

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