DOROT S300 series

Advanced hydraulic solutions for optimal management of liquid conveyance systems

Aquestia

Directing the Flow

DOROT S300

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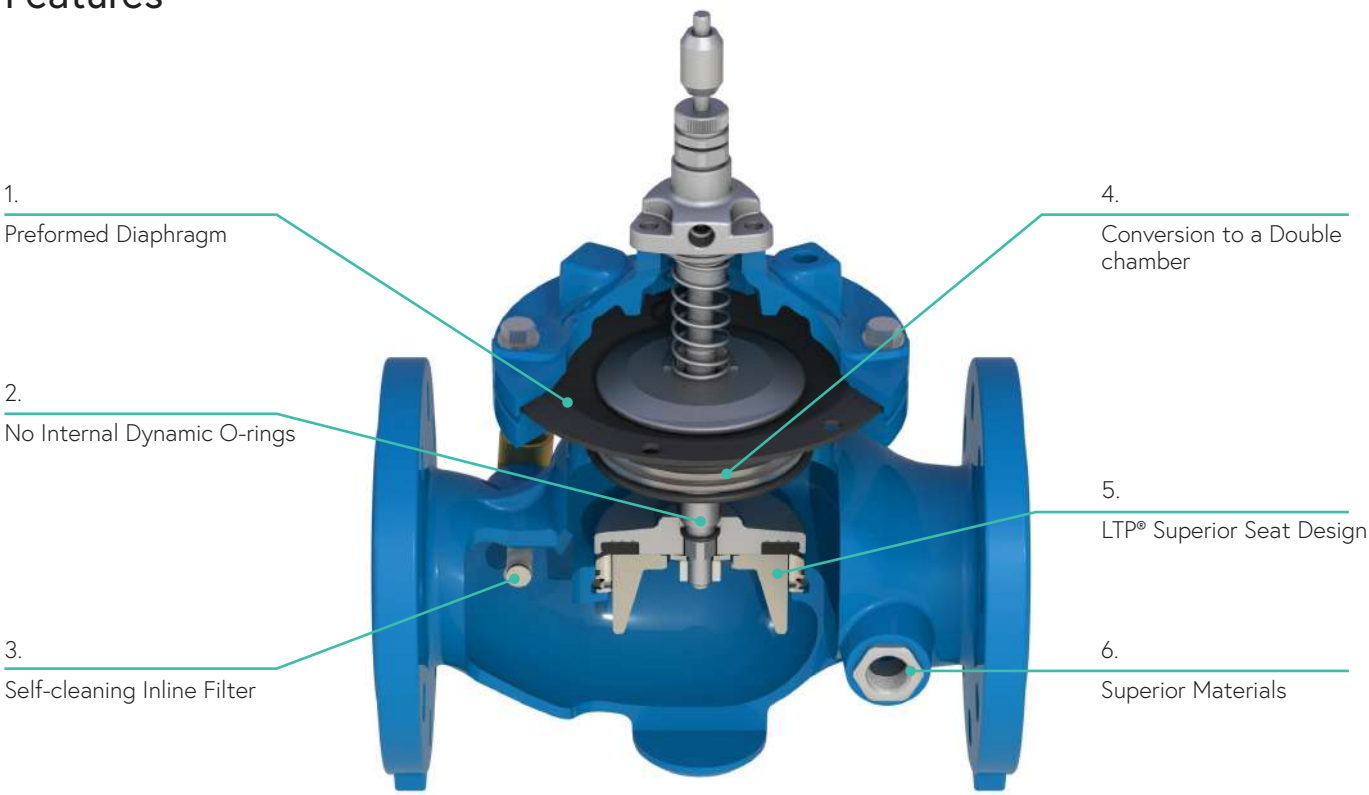
General Information

DOROT S300 Series, state-of-the-art automatic control valves are designed to withstand the most demanding requirements of water system control. Developed by engineering experts, the S300 offers technically-advanced capabilities that go far beyond any other control valve available on the market.

The following guideline will assist you in selecting the optimal DOROT S300 valve best suited to your needs:

Features



1. Preformed Diaphragm — no stress on the diaphragm after assembly, ensuring durability and longevity.
2. No Internal Dynamic O-rings — no maintenance on the O-rings is required. The valve's unique internal floating shaft design allows for frictionless operation and easy in-the-field maintenance.
3. Self-cleaning Inline Filter —The filter turns in the flow and filters the trim water without the need for service.
4. Conversion to a Double-chamber — the standard single-chamber valve design provides smooth operation in the most sensitive regulation conditions. If needed, conversion to a double-chamber valve is easily made by inserting DOROT's innovative Separation Disc; without removing the valve from the pipeline.
5. LTP® Superior Seat Design — LTP (Linear Throttling Plug) completely eliminates the need for a low flow bypass valve, or internal throttling device such as U-port or V-port. The DOROT S300 can throttle to near zero flow without the need for a by-pass. During valve closure the rate slows, preventing potential damage from water hammer or surges.
6. Superior Materials — All control ports are protected by SST-316 Inserts as standard, eliminating the risk of corroded and clogged ports. The valve is supplied with a replaceable Stainless Steel seat for excellent durability against erosion and a drip-tight seal. all internal parts up to 6" are made of Stainless Steel.
7. Certified Performance: NSF61, WRAS, ACS, DVGW, IS

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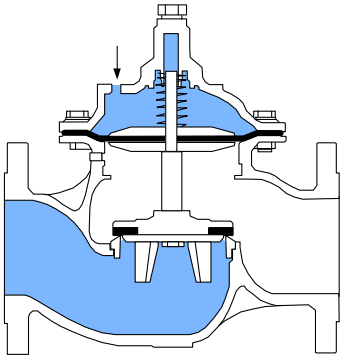
Basic Valve Operating Modes

On-Off Mode

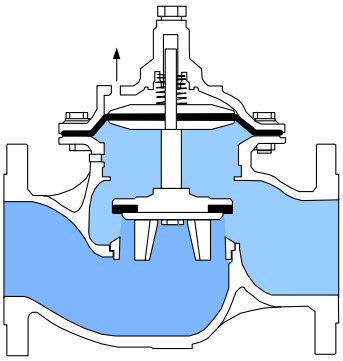
Standard (Single Chamber) Valve

Closed Mode
The control pressure (taken from the pipeline) is applied by the control device to the control chamber (top of the diaphragm). The pipeline pressure pushes the seal to open, and the control chamber pressure forces the diaphragm to close. Since the diaphragm area is larger than the seal area, it has greater hydraulic force so the valve remains in the closed position.



Closed Mode

Open Mode
The control device relieves the pressure from the control chamber. The pipeline pressure forces the seal to the "open" position so that the fluid can pass through the valve. While the valve is open, outlet pressure is applied to the lower side of the diaphragm, assisting with opening.

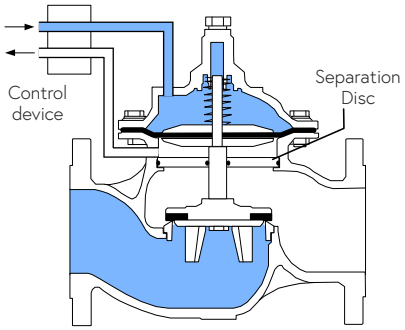


Opened Mode

Double Chamber Valve (Version D)

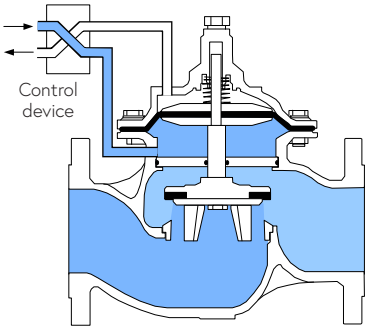
The double chamber version is created by inserting a separation disc between the diaphragm and the seal. This assembly creates a second control chamber below the diaphragm, permitting the activation of the valve in low-pressure systems and enabling a faster valve response. The response to varying conditions is quick, since downward movement closure is not resisted by pressure below the diaphragm.

Closed Mode
The control pressure (taken from the pipeline or supplementary pressure source) is applied to the top of the external diaphragm. The bottom control chamber drains. The pipeline pressure pushes the seal to open, but since the diaphragm area is larger than the seal area it creates greater hydraulic force which forces the valve to close. At this stage, the bottom chamber should be drained.



Closed Mode

Open Mode
The control device releases pressure from the top control chamber. The seal assembly is forced to the "open" position by the pipeline pressure, allowing flow through the valve.



Opened Mode

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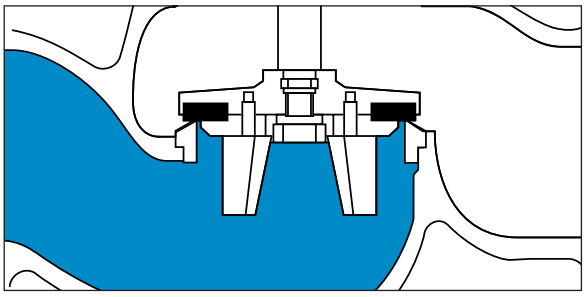
Modulating Mode

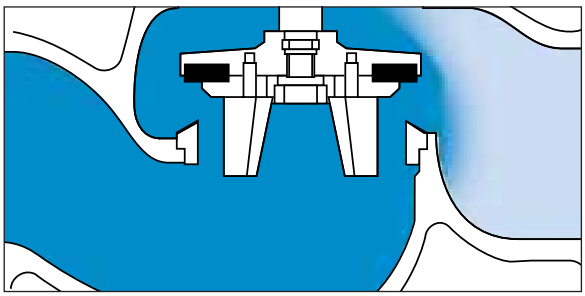
General

Positioning the seal a short distance (less than 1/4 of the seat diameter) from the seat, creates friction and turbulence, causing energy loss in the fluid passing through the valve.
The results are:
- Reduction of pressure and flow rate.
- Increase of inlet pressure.

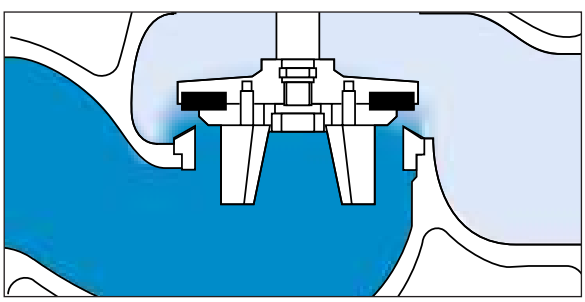
The position of the seal assembly is dictated by the volume of control fluid in the top control chamber, which is determined by the control device. The control device is operated by hand (manual control), by electric current (solenoid valve), or by hydraulic pressure (pilot valves, hydraulic relays). All can be used in standard (single chamber) valves as well as in double chamber valves.
Modulating mode in standard (single chamber) valves.



Closed



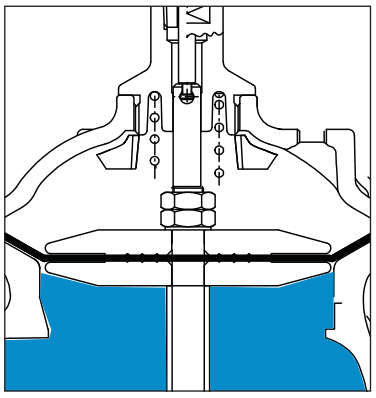
Fully Open



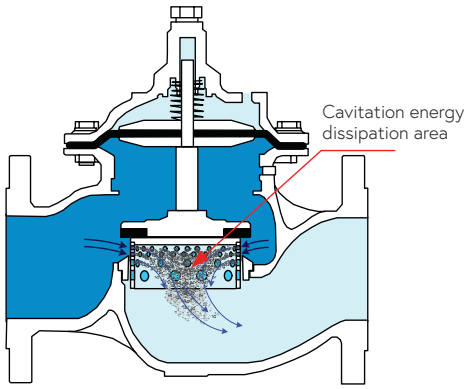
Regulating

Regulation at High Pressure

The S300 has exceptional resistance to damage, caused by cavitation conditions. This feature was certified by extensive tests, carried out by independent laboratories in US and Europe.
The operation limits, as found in these tests, can be calculated for any specific location- using a simple computer program (supplied upon request). For operating conditions that exceed the safe limit- a special Cavitation-free valve can be supplied. This version, marked by the suffix "F" (example 30F-3 is a cavitation-free, 80mm/3" valve), can operate at any pressure differential without sustaining damage. The internal structure includes a Stainless Steel, perforated cylinder, that is connected below the standard seal disc that moves freely inside the seat.
The valve is assembled to generate "over the seat" flow, so the water stream enters the cylinder from its external side and emerges through the internal side. The energy is dissipated by the high-velocity, turbulent flow through the exposed holes above the seat (due to varying trim positions). The pressure recovery, the cause of cavitation damage, occurs inside the cylinder and not adjacent to the valve body wall. The SST cylinder is cavitation resistant.



Closed Valve



Fully-opened Valve

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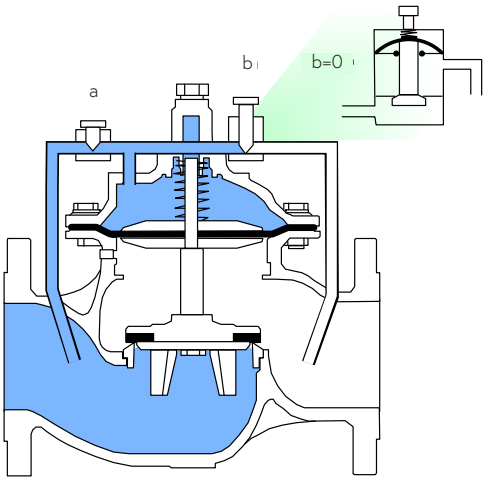
2-Way Control Device

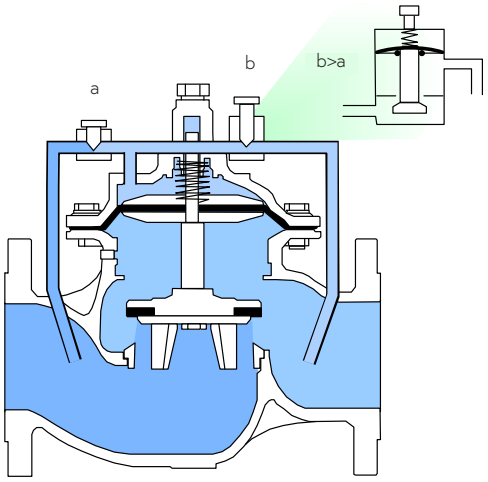
The 2-way control device is assembled on a control circuit, connecting upstream to downstream through the control chamber.
There are two restrictors assembled in this circuit:
(a) A nozzle or a needle valve, at a fixed opening.
(b) A modulating device (pilot), whose passage may vary from complete closure (b=o) to a fully open size (when b>a).
The volume of the control media in the chamber is determined by the relative passages (a) and (b), or, in fact, by the opening of (b), as (a) is fixed.



Closed Valve

Closed Mode

Pilot (b) senses a downstream pressure higher than the set-point and closes passage (b). Through passage (a) the upstream water flows directly into the upper part of the control chamber, forcing the diaphragm to close the valve.



Opened Valve

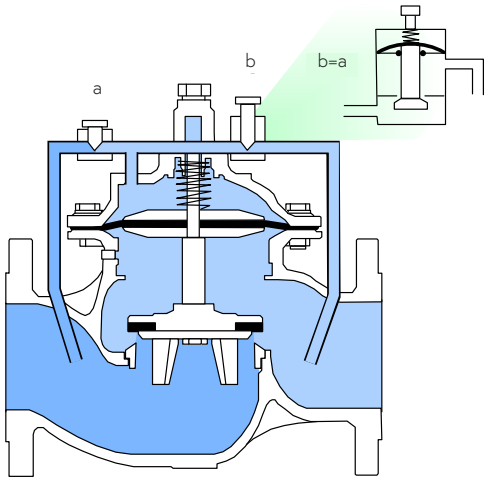
Open Mode

Pilot (b) senses a downstream pressure lower than the set-point, and fully opens passage (b), larger than (a). All the water from the upstream flows through (a) and (b), directly to the downstream, allowing water from the upper part of the control chamber to partially drain until the pressure in the chamber equals the downstream pressure.
Pressure in the upper part of the control chamber is decreased and the upstream water pressure forces the seal disc to rise (opening the valve).

Regulating Mode

The pilot is set to the required downstream pressure.
The pilot senses when the downstream pressure reaches the required value causing passage (b) to equal passage (a) b=a.
Now, water that flows through the control loop passes from (a) through (b) and into the downstream. The control media in the upper part of the control chamber is now steady, keeping the diaphragm and seal in a fixed position. Any change in the downstream pressure will change the b=a balance. This change adds or drains water from the control chamber, thus opening or closing the main valve until it reaches the balanced regulating position b=a once again.

The 2-way control device provides sensitive, accurate, and constant modulating, control of the main valve. The main valve does not fully open, as the control device prevents total drainage of the control chamber.
The 2-way control device is standard in most pressure regulating valves.



Regulating Valve

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3-Way Control Device

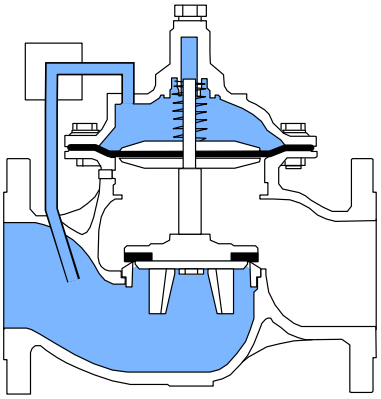
The 3-way control device is a small selector valve which:
1. Permits passage of the control media into the main valve control chamber (initiating the "closing" procedure), or
2. Permits drainage of the control media from the control chamber to the atmosphere (initiating the "opening" procedure).

Some 3-way control devices have a third mode as well, which prevents inflow or outflow from the control chamber, so that the main valve remains fixed when the device is in this mode.

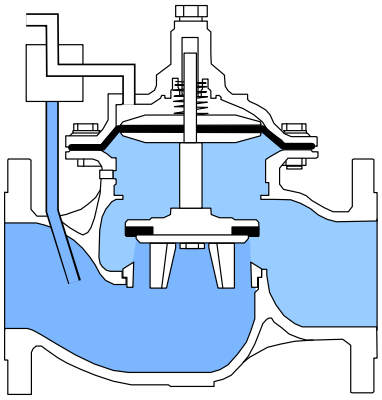
The 3-way mode is used in on-off valves or when the regulating valve is fully open, in order to obtain specific operating conditions. Once in position, there is no water flow through the control chamber.

The 3-way control circuit may open the main valve entirely, creating minimum head loss.

The 3-way control device must be used when external media (not pipeline water) is used to control the valve, or when the control media is dirty or abrasive.



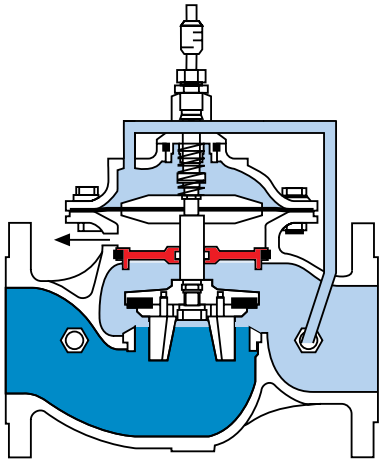
Closed Valve



Opened Valve

Proportional Pressure Reducer

The proportional pressure reducer is a valve that has a control chamber permanently connected to the downstream.
This valve must be a double chamber [D] type.
The balance of hydraulic forces created between the high pressure on the small seal area, and the lower downstream pressure on the larger diaphragm area, causes a fixed ratio of inlet/outlet pressure of approximately 3:1.
No other control device is needed.



Separation Disc

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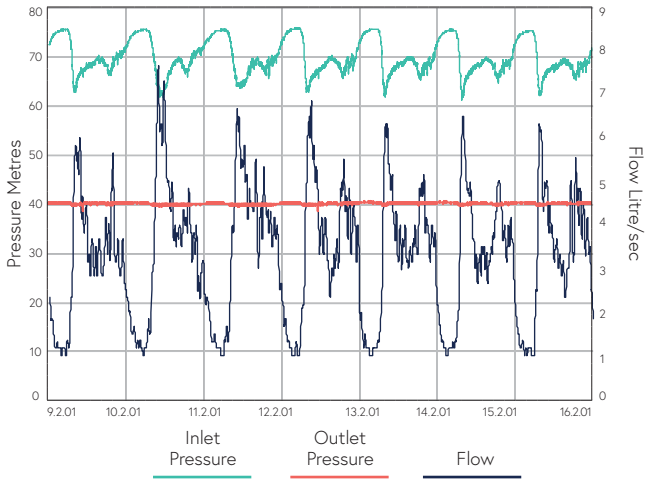
Typical Pressure Reducing Performance Chart

DOROT 300 4" (100mm)

Pressure Reducing Valve

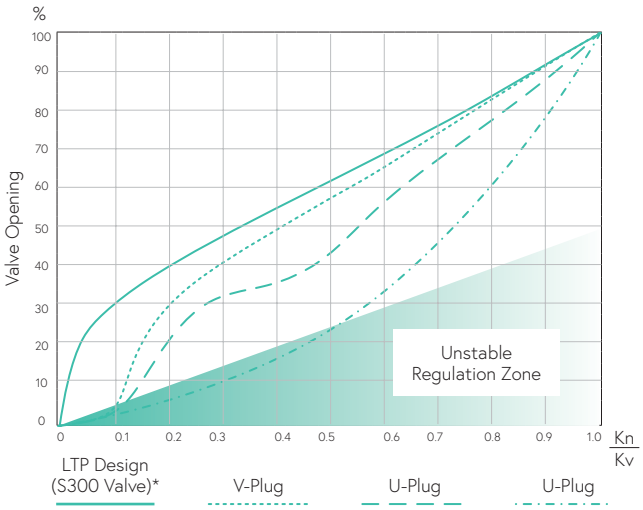
Saughton Hall under 100mm CX Pilot Control



Pressure logged at 1 minute intervals
Flow logged at 15 minute intervals

Comparison of different seal structures

Characteristic curve comparison
with competitive designs



* Independent laboratory report data source

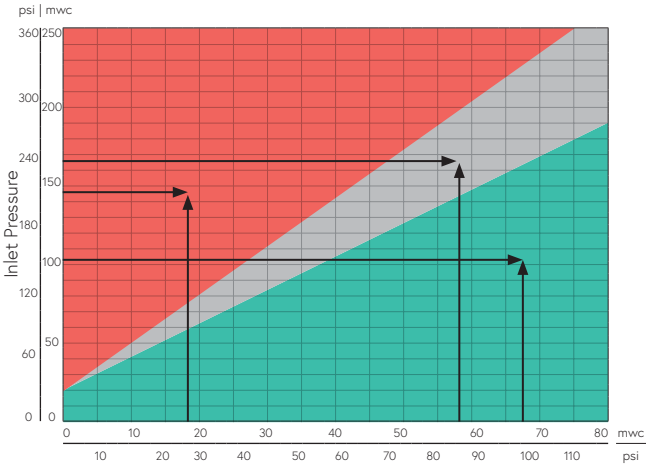
Cavitation Data

Limits of operating conditions
The chart sets the safe limits for valves designed to operate at a considerable pressure differential.
Such conditions generate noise and possible cavitation damage to the valve body.

How to use the chart

1. Determine the maximum dynamic pressure that may be applied to the valve inlet.
2. Draw an horizontal line from the pressure scale at the left side of the chart.
3. Find the requested outlet pressure in the pressure scale at the bottom of the chart.
4. Draw an upward line at this point.
5. The intersection of the two lines defines the cavitation characteristics of the valve operation.

Cavitation Chart



- Destructive Cavitation - the valve may sustain damage in a fairly short time.
- Noisy Operatione - the valve may generate noise that exceeds 80db.
- Safe Opertaion Conditions - the valve will perform safely and quietly.

* The cavitation and noise data are based on tests done by the Utah State University, USA, and Delft Hydraulic Laboratories, Holland.

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S300 Models

Model	Pressure Rating	Flow Port	Pattern	Lay Length
30	16 bar / 250 psi	Full-bore	Globe	ISO 7005-2
30A	16 bar / 250 psi	Full-bore	Angle	ISO 7005-2
31	25 bar / 360 psi	Full-bore	Globe	ISO 7005-2
31A	25 bar / 360 psi	Full-bore	Angle	ISO 7005-2
32	25 bar / 360 psi	Reduced Bore	Globe	ISO 7005-2
33	16 bar / 250 psi	Full-bore	Globe	ANSI B16.42
34	25 bar / 360 psi	Full-bore	Globe	ANSI B16.42

Technical Specifications

Parameter	Standard	Optional
Connections	Flanged ISO 7005 / AS10 / ANSI Threaded BSP / NPT Grooved	JIS B22 / ABNT and others
Pressure Range	Models 30/30A/33 0.5 – 16 bar (7 – 250 psi) Models 31/31A/32/34 0.5 – 25 bar (7 – 360 psi) Note: higher pressure rating available on special demand and for tailor-made projects	0 min. press. with N.O spring assisted opening. 0.2 bar / 3 psi min. pressure without a spring Note: both options require usage of external higher closing pressure
Max. Water Temp.	80°C / 180°F	110°C / 233°F

Materials

Part	Standard	Optional
Body & Cover	Ductile Iron GGG50 (ASTM A-536)	Cast Steel A-216 WCB DUPLEX Cast SST CF8M (316) Ni Aluminum Bronze Others
Main Valve Internals	SST, Bronze and Coated Steel	SST 316, HASTELLOY, SMO, DUPLEX
Spring	SST 302	SST 316, INCONNEL, HASTELLOY
Diaphragm	Nylon fabric reinforced EPDM (WRAS and NSF approved)	NBR
Seals	EPDM	NBR, Viton
Coating	Fusion Bonded Epoxy (FBE) RAL 5010	UV protected FBE RAL 5010 FBE RAL 3000 (fire red) UV protected FBE RAL 3000 Rilsan (Nylon) Halar
Control Trim: Fittings & Control Devices	Brass	SST 316, Duplex
Control Trim: Tubes	Reinforced, heavy-duty Polypropylene	Copper, SST 316, Duplex

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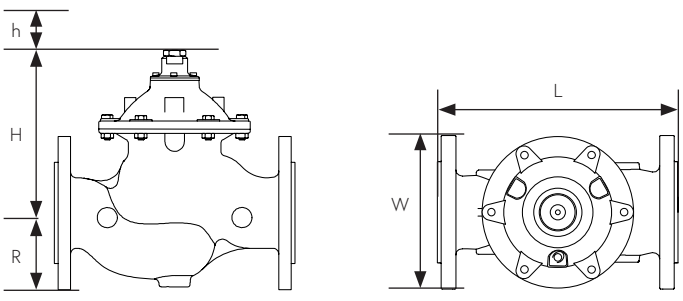
Dimensions & Weights

Models 30 / 31 Globe Flanged

Valve Size	DN40 (1½")		DN50 (2")		DN65 (2½")		DN80 (3")		DN100 (4")		DN150 (6")		DN200 (8")	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
L	230	9 1/16	230	9 1/16	290	11 3/8	310	12 3/16	350	13 3/4	480	18 7/8	600	23 5/8
L (ANSI#300)	230	9 1/16	235	9 3/16	292	12 1/2	345	13 1/2	400	15 11/16	525	20 5/8	605	23 13/16
H	185	7 5/16	185	7 5/16	185	7 5/16	230	9 1/16	240	9 7/16	330	13	390	15 3/8
h **	140	5 1/2	140	5 1/2	140	5 1/2	170	6 11/16	180	7	230	9	300	11 13/16
W	153	6	170	6 11/16	185	7 3/16	200	7 7/8	235	9 1/4	330	13	415	16 5/16
R	82.5	3 1/4	82.5	3 1/4	92.5	3 5/8	100	3 15/16	110	4 5/16	142.5	5 5/8	172.5	6 3/4
Weight * Kg/lbs	12 / 26		13 / 29		16 / 35		26 / 57		37 / 82		76 / 168		141 / 311	
Vol.control chamber lit/gal	0.1 / 0.02		0.1 / 0.02		0.1 / 0.02		0.3 / 0.08		0.7 / 0.2		1.5 / 0.4		4.3 / 1.1	

Valve Size	DN250 (10")		DN300 (12")		DN350 (14")		DN400 (16")		DN450 (18")		DN500 (20")		DN600 (24")	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
L	730	28 3/4	850	33 7/16	980	38 9/16	1100	43 5/16	1200	47 1/4	1250	49 3/16	1450	57 1/16
L (ANSI#300)	790	31 1/8	910	35 13/16	980	38 9/16	1150	45 5/16	1200	47 1/4	1250	49 3/16	1450	57 1/16
H	520	20 1/2	635	25	635	25	855	33 5/8	855	33 5/8	855	33 5/8	1200	47
h **	390	15 1/4	450	17 11/16	450	17 11/16	590	23 1/4	600	23 5/8	600	23 5/8	740	29 1/8
W	525	20 11/16	610	24	610	24	850	33 7/16	850	33 7/16	850	33 7/16	1100	43 5/16
R	205	8 1/16	230	9	272	10 11/16	290	11 7/16	310	12 3/16	357.5	14 1/16	490	19 5/16
Weight * Kg/lbs	245 / 540		405 / 893		510 / 1124		822 / 1812		945 / 2083		980 / 2160		1950 / 4299	
Vol.control chamber lit/gal	9.7 / 2.6		18.6 / 4.9		18.6 / 4.9		50 / 13.2		50 / 13.2		50 / 13.2		84 / 22.2	

* Approximate shipping Weight (PN 25)
** h - Minimal required maintenance space



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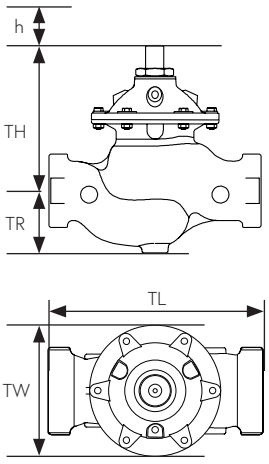
Dimensions & Weights

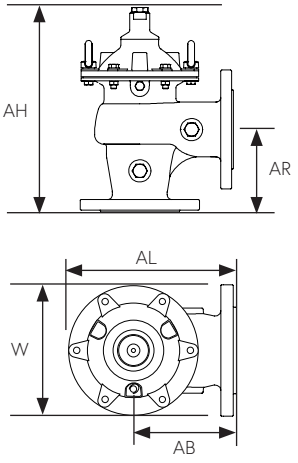
Models 30A / 31A Angle Flanged

Valve Size	DN50 (2")		DN80 (3")		DN100 (4")		DN150 (6")		DN200 (8")		DN250 (10")	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
AL	208	8 3/16	250	9 13/16	295	11 1/16	405	16	505	19 7/8	585	23
AH	240	9 7/16	415	16 5/16	445	17 1/2	570	22 7/16	635	25	832	32 3/4
AW	170	6 11/16	200	7 7/8	235	9 1/4	330	13	415	16 5/16	495	19 1/2
AR	107	4 3/16	138	5 7/16	147	5 13/16	180	7 1/16	302	11 7/8	338	13 5/16
AB	125	4 15/16	150	5 7/8	173	6 13/16	240	9 7/16	300	11 13/16	338	13 5/16
Weight kg/lbs*	26 / 12		44 / 20		81 / 37		167 / 76		330 / 150		550 / 234	

Models 30 / 31 Threaded

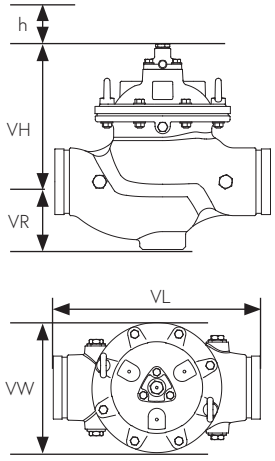
Valve Size	DN40 (1½")		DN50 (2")	
	mm	inch	mm	inch
TL	215	8 7/16	215	8 7/16
TH	185	7 5/16	185	7 5/16
h	140	5 1/2	140	5 1/2
TW	129	5	129	5
TR	62	2 3/8	62	2 3/8
Weight kg/lbs*	7 / 15		7 / 15	





Models 30 / 31 Grooved

Valve Size	DN50 (2")		DN80 (3")		DN100 (4")		DN150 (6")	
	mm	inch	mm	inch	mm	inch	mm	inch
VL	215	8 1/2	351	13 13/16	376	14 13/16	521	20 1/2
VH	173	6 13/16	228	9	240	9 7/16	330	13
h	140	5 1/2	170	6 11/16	180	7 1/16	230	9 1/16
VW	128	5	197	7 3/4	236	9 5/16	331	13 1/16
VR	78	3	106	4 3/16	118	4 5/8	147.5	5 13/16
Weight kg/lbs*	6.5 / 14.5		15.1 / 33.25		26.5 / 58.5		58.25 / 128.5	



* Approximate shipping Weight (PN 25)
** h - Minimal required maintenance space

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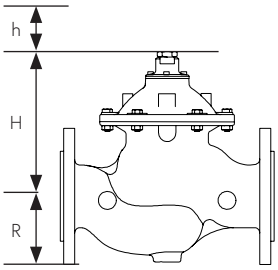
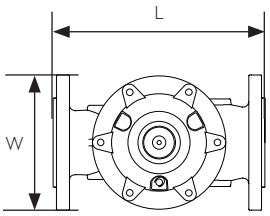
Dimensions & Weights





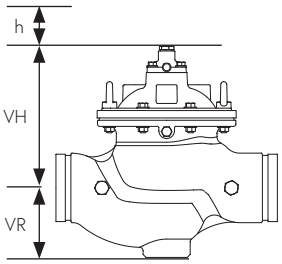
Model 32 Flanged

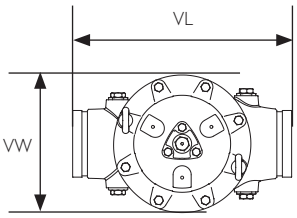
Valve Size	DN80 (3")		100 (4")		DN125 (5")***		DN150 (6")		DN200 (8")		DN250 (10")		DN300 (12")		DN350 (14")	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
L	310	12 3/16	350	13 3/4	358	14 1/8	480	18 7/8	600	23 5/8	730	28 3/4	850	33 7/16	980	38 9/16
H	185	7 1/4	232	9 3/16	241	9 1/2	250	10	334	13 1/8	395	15 1/2	545	21 1/2	635	25
h **	107	4 1/4	156	6 1/8	156	6 1/8	170	6 3/4	220	8 11/16	275	10 13/16	400	15 3/4	480	18 7/8
W	200	7 7/8	235	9 1/4	270	10 5/8	300	11 3/4	360	14 3/16	425	16 3/4	489	19 1/4	610	24
R	100	3 15/16	120	4 11/16	137	5 3/8	150	5 7/8	182	6 3/16	215	8 7/16	245	9 3/8	260	10 3/16
Weight * Kg/lbs	15 / 33		27 / 60		43 / 94		51 / 112		92 / 202		171 / 377		330 / 726		510 / 1124	
Vol. control chamber lit/gal	0.1 / 0.02		0.3 / 0.08		0.3 / 0.08		0.7 / 0.2		1.5 / 0.37		4.3 / 1.1		9.7 / 2.6		18.6 / 4.9	

Valve Size	DN400 (16")		DN450 (18")		DN500 (20")		DN600 (24")		DN700 (28")		DN800 (32")		DN900 (36")		DN1000 (40")	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
L	1100	43 5/16	1200	47 1/4	1250	49 3/16	1259	49 9/16	1650	64 15/16	1850	72 7/8	1850	72 13/16	1864	73 5/16
H	635	25	855	33 5/8	855	33 5/8	1311	51 5/8	1200	47	1200	47	1200	47 3/16	1200	73 3/16
h **	480	18 7/8	600	23 5/8	600	23 5/8	245	9 5/8	860	33 7/8	860	33 7/8	740	29 1/8	740	29 1/8
W	628	24 3/4	850	33 7/16	850	33 7/16	881	34 11/16	1100	43 5/16	1090	42 15/16	1190	46 13/16	1320	52
R	314	12 3/8	310	12 3/16	357.5	14 1/16	459	18 1/16	498	19 5/8	603	23 3/4	595	23 3/8	660	26
Weight * Kg/lbs	544 / 1197		945 / 2083		980 / 2160		1030 / 2266		2070 / 4560		2600 / 5730		2700 / 5953		3200 / 7056	
Vol. control chamber lit/gal	18.6 / 4.9		50 / 13.2		50 / 13.2		50 / 13.2		84 / 22.2		84 / 22.2		84 / 22.2		84 / 22.2	

Model 32 Grooved

Valve Size	DN80 (3")		DN100 (4")		DN150 (6")	
	mm	inch	mm	inch	mm	inch
VL	310	12 3/16	348	13 11/16	480	20 1/2
VH	173	6 13/16	228	9	330	13
h **	107	4 3/16	156	6 1/8	230	9 1/16
VW	128	5 1/16	197	7 3/4	331	13 1/16
VR	78	3 1/16	105	4 1/8	122	5 13/16
Weight * kg/lbs	6.5 / 14.3		15 / 33		48 / 105	





* Approximate shipping Weight (PN 25)
** h - Minimal required maintenance space
*** Min order quantities - consult factory

DOROT S300

Aquestia
Directing the Flow

Dimensions & Weights

Models 33/34 Flanged

Valve Size	DN50 (2")		DN65 (2½")		DN80 (3")		DN100 (4")		DN150 (6")		DN200 (8")	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
L	238	9 3/8	279	10 63/64	305	12 1/64	381	15	508	20	645	25 25/64
L (ANSI#300)	-	-	-	-	-	-	397	15 5/8	533	20 63/64	670	26 3/8
H	185	7 5/16	185	7 5/16	230	9 1/16	240	9 7/16	330	13	390	15 3/8
h **	140	5 ½	140	5 ½	170	6 11/16	180	7	230	9	300	11 13/16
W	170	6 11/16	185	7 3/16	200	7 7/8	235	9 1/4	330	13	415	16 5/16
R	82.5	3 1/4	92.5	3 5/8	100	3 15/16	110	4 5/16	142.5	5 5/8	172.5	6 3/4
Weight * Kg/lbs	13 / 29		16 / 35		26 / 57		37 / 82		77 / 170		140 / 309	
Vol.control chamber lit/gal	0.1 / 0.02		0.1 / 0.02		0.3 / 0.08		0.7 / 0.2		1.5 / 0.4		4.3 / 1.1	

* Approximate shipping Weight (PN 25)
** h - Minimal required maintenance space

DOROT S300

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Hydraulic Performance

Models 30 / 31 / 33 / 34 Globe

Valve Size		DN40 (1½")	DN50 (2")	DN65 (2½")	DN80 (3")	DN100 (4")	DN150 (6")	DN200 (8")
Max. recommended flow rate for continuous operation	m^3/h	25	40	40	100	160	350	620
	gpm	110	180	180	440	700	1600	2800
Min. recommended flow rate		<1m^3/h (<5 gpm)						
Flow Rate Factor	Kv Cv	43 50	43 50	43 50	115 133	167 195	407 475	676 790
Head Loss Factor	K	2.2	5.4	15.4	4.8	5.6	4.8	5.5

Valve Size		DN250 (10")	DN300 (12")	DN350 (14")	DN400 (16")	DN450 (18")	DN500 (20")	DN600 (24")
Max. recommended flow rate for continuous operation	m^3/h	970	1400	1900	2500	3100	3600	5600
	gpm	4300	6200	8400	11000	13660	15800	24700
Min. recommended flow rate		<1m^3/h (<5 gpm)						
Flow Rate Factor	Kv Cv	1160 1360	1600 1900	1600 1900	3000 3500	3150 3700	3300 3860	6500 7600
Head Loss Factor	K	4.5	5	9	3.8	6	5.9	4.8

Models 30A / 31A Angle

Valve Size		DN40 (1½")	DN50 (2")	DN65 (2½")	DN80 (3")	DN100 (4")	DN150 (6")	DN200 (8")	DN250 (10")
Max. recommended flow rate for continuous operation	m^3/h	25	40	40	100	160	350	620	970
	gpm	110	180	180	440	700	1600	2800	4300
Min. recommended flow rate		<1m^3/h (<5 gpm)							
Flow Rate Factor	Kv Cv	60 70	60 70	-	140 164	190 222	460 537	770 900	1310 1533
Head Loss Factor	K	1.3	2.8	-	3.3	4.3	4.3	4.2	3.6

For head Loss of fully open valves use the following equations:

$$H\,(Bar) = \left(\frac{Q[m^3/h]}{Kv}\right)^2 \qquad H\,(Psi) = \left(\frac{Q[gpm]}{Cv}\right)^2 \qquad H = K\frac{V^2}{2g}$$

DOROT S300

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Directing the Flow

Hydraulic Performance

Models 32 Globe

Valve Size		DN80 (3")	DN100 (4")	DN150 (6")	DN200 (8")	DN250 (10")	DN300 (12")	DN350 (14")
Max. recommended flow rate for continuous operation	m^3/h	60	145	225	510	970	1400	1900
	gpm	265	640	990	2250	3990	6200	8400
Min. recommended flow rate		<1m^3/h (<5 gpm)						
Flow Rate Factor	Kv Cv	43	115	165	345	663	1160	1600
Head Loss Factor	K	50	133	192	400	770	1360	1900

Valve Size		DN400 (16")	DN450 (18")	DN500 (20")	DN600 (24")	DN700 (28")	DN800 (32")	DN900 (32")	DN1000 (32")
Max. recommended flow rate for continuous operation	m^3/h	2030	3100	3600	3600	7600	8135	8135	8135
	gpm	8940	13660	15860	15860	33500	35840	35840	35840
Min. recommended flow rate		<1m^3/h (<5 gpm)							
Flow Rate Factor	Kv Cv	1600	3000	3000	3000	6500	6500	6500	6500
Head Loss Factor	K	1900	3500	3500	3500	7600	7600	7600	7600

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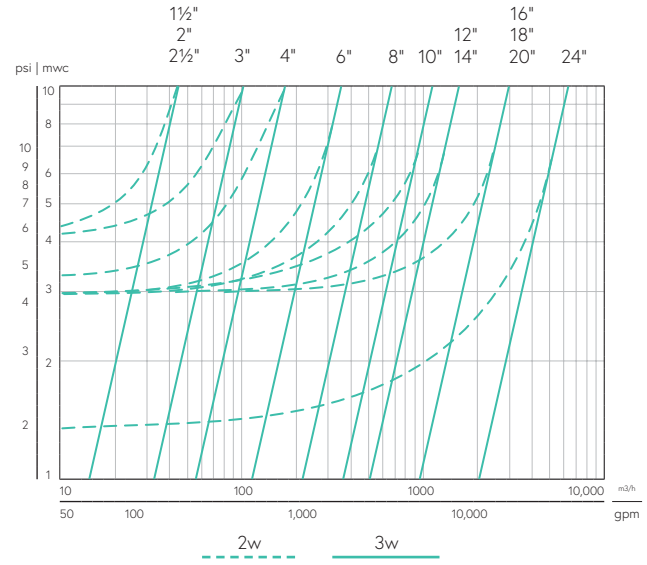
Headloss Charts

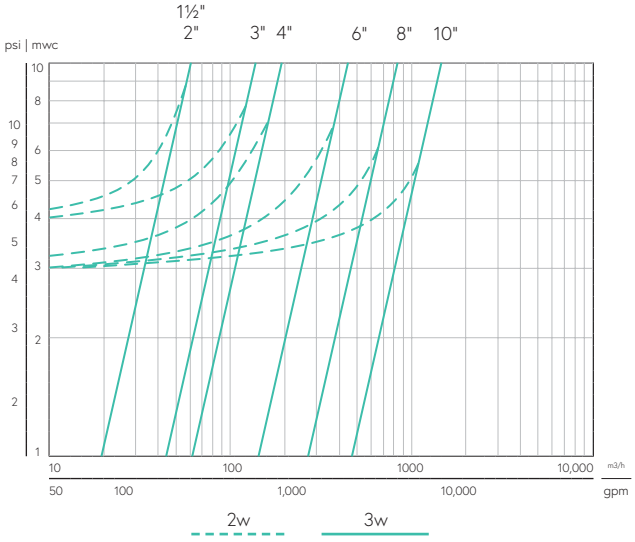
Models 30 / 31 / 33 / 34 Globe

Pressure Loss Chart



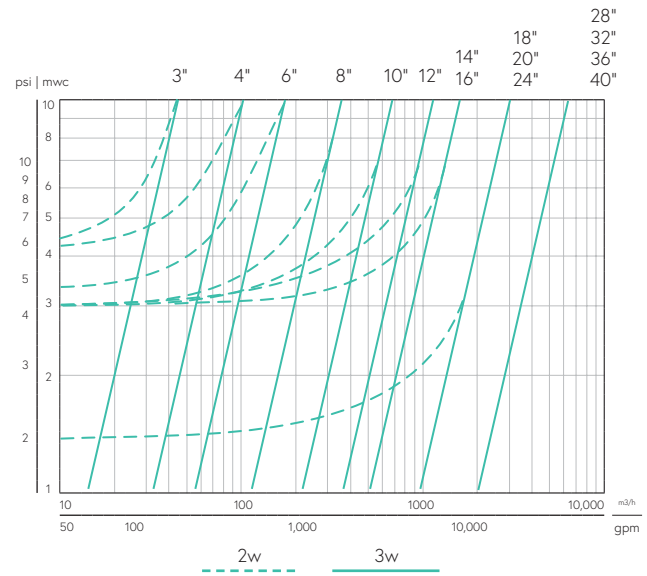
Models 30A / 31A Angle

Pressure Loss Chart



Model 32 Globe

Pressure Loss Chart



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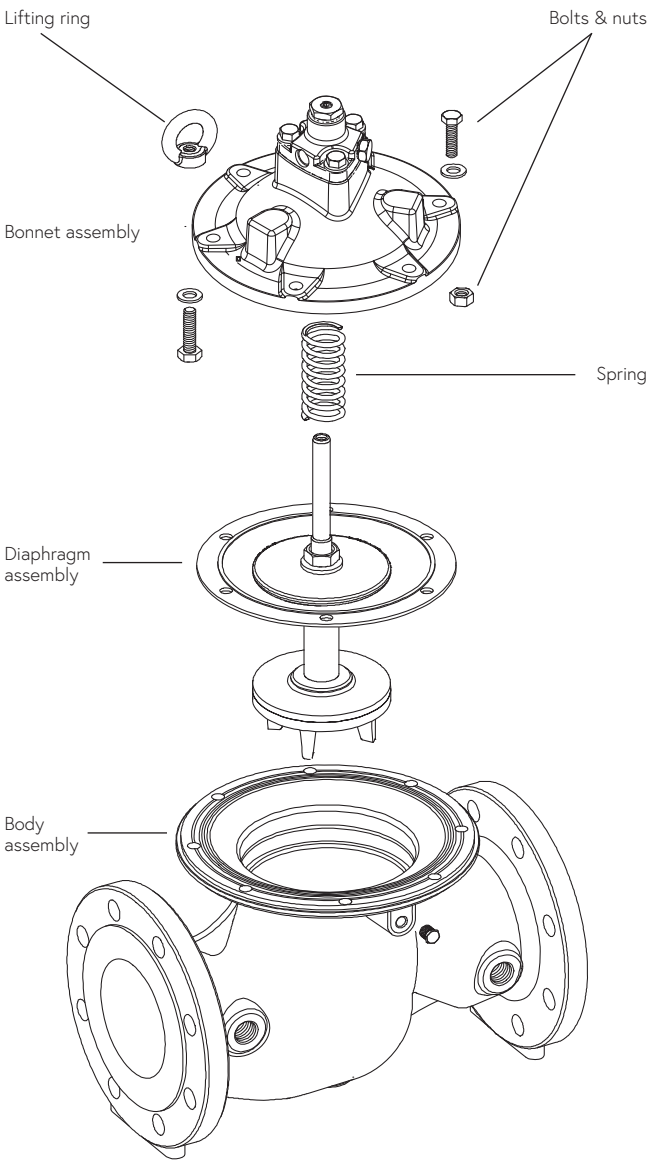
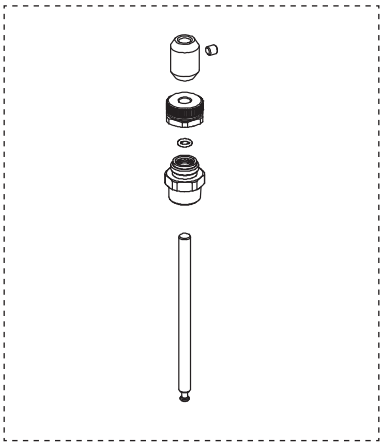
Components

Main components

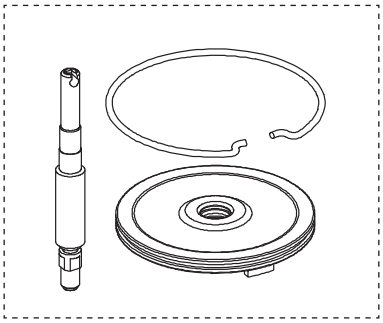


Additional components

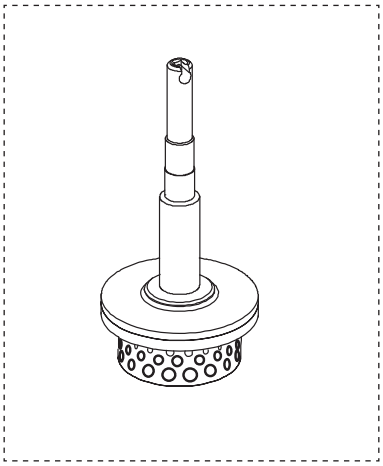
Position Indicator kit



Double chamber conversion kit



"F" version conversion kit



DOROT S300

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Pressure & Flow Applications

DOROT S300-DI

Pressure Differential Sustaining Valve

DOROT S300-FR/EL

Flow Control Valve

DOROT S300-FR

Flow Control Valve

DOROT S300-HyMod

Flow-Modulated Pressure-Reducing Valve

DOROT S300

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Pressure & Flow Applications

DOROT S300-PR[D]

Proportional
Pressure-Reducing Valve

DOROT S300-PR

Pressure-Reducing Valve

DOROT S300-PRM

Dual Set-Point
Pressure-Reducing Valve

DOROT S300-PS

Pressure Sustaining Valve

DOROT S300-PS[R]

Pressure-Sustaining/Relief Valve

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Electronic Control Applications

DOROT S300-EC

Electronic Control Valve

DOROT S300-EL/TO

Two Stage Opening Solenoid
Control Valve

DOROT S300-EL

Solenoid Control Valve

DOROT S300

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Pumps and Safety Applications

DOROT S300-BC/PS

Pump Control and Pressure
Sustaining Valve

DOROT S300-BC

Pump Control Valve

DOROT S300-CV

Hydraulic Non-Return Valve

DOROT S300-DW

Deep Well (Borehole)
Pump Control Valve

DOROT S300-FE

Excessive Flow Shut-off Valve

DOROT S300

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Pressure & Flow Applications

DOROT S300-NS

Two-Stage,
Cushioned Closure Check Valve

DOROT S300-QR

Quick Pressure-Relief Valve

DOROT S300-RE

Solenoid Control Valve

DOROT S300-REEL

Surge Anticipating Valve

DOROT S300

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Tanks & Reservoirs Applications

DOROT S300-AL

3W Altitude Pilot Controlled Valve

DOROT S300-FL

Modulating Float Valve

DOROT S300-FLDI/FR(PR)

Differential Float
and Flow Control Valve

DOROT S300-FLDI/PS

Differential Float
and Pressure Sustaining Valve

DOROT S300-FLEL

Electric Float Controlled Valve

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.

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