

# DOROT S75 Series



Advanced Hydraulic Control Valve solutions  
for optimal management of liquid conveyance systems

 **Aquestia**

Directing the Flow

## Description

DOROT S75 Series Hydraulic Control Valve, is designed to control irrigation systems for crop fields, vineyards and orchards. The valve boasts exceptional hydraulic characteristics enabling high flow rates, while operating at a low head loss. A wide range of control functions allows for the design and operation of optimal irrigation networks.

## Features and Benefits

High flow capacity and low head losses are achieved by a flexible diaphragm that provides a wide water passage throughout the valve body.

- Durable composite materials
- Unique clog-free labyrinth inlet in electric 2-way valves
- Operates at a wide range of flow rates
- Electric 2-way or hydraulic / electric 3-way actuation
- Simple & easy maintenance
- Suitable for low pressure systems
- Control system devices are assembled on the valve bonnet. (2-way valve configuration)
- Removable flow control stem handle
- Integral stainless steel filter
- Excellent regulation capabilities, including Zero Flow conditions
- Extremely wide water pass-through cross sections
- End connection options:
 

BSP; NPT Thread	3/4" - 3" (20mm-80mm)
Universal Flange	3", 4" 6" 8" (80mm-200mm)
Grooved	4" (100mm)
- Versatility



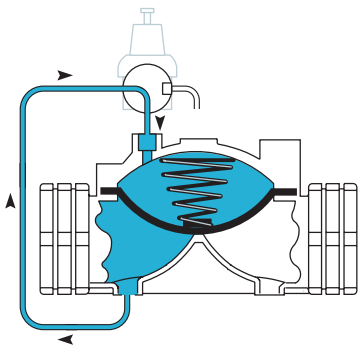
Manual throttling



Built-in operator

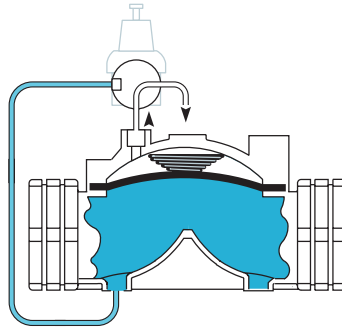
## Operation

### 3-way Control



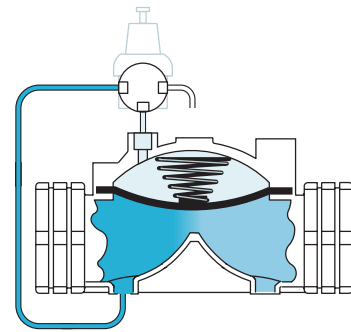
**Closed mode**

When inlet pressure is applied to the control chamber the valve closes drip-tight.



**Open mode**

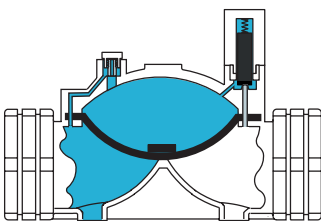
When the operating pressure is relieved from the control chamber, the line pressure at the valve inlet opens the valve.



**Modulating mode**

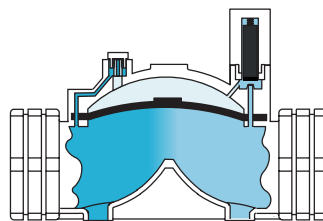
The position of the diaphragm is dictated by the volume of water in the control chamber, which is regulated by the pilot valve in order to maintain a preset pressure value.

### 2-way Control



**Closed mode**

A solenoid operator plugs the control chamber outlet. A permanent connection from the upstream through a labyrinth restriction ensures line pressure into the chamber closing the valve.



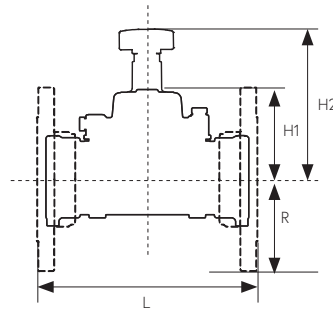
**Open mode**

Energizing the solenoid operator opens a drain to the downstream, allowing the valve to open.

Diameter 3/4" - 4"R

## Technical Data

### Dimensions



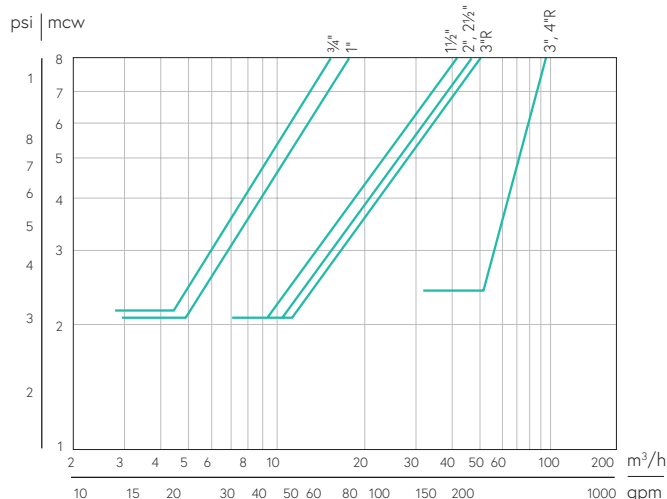
Dimension		20mm 3/4"	25mm 1"	35mm 1 1/2"	50mm 2"	65mm 2 1/2"	80mmR 3"R	80mm 3"	80mm 3" Flanged	100mmR 4"R Flanged
Height	H1	mm / inch	38 / 1 1/2	38 / 1 1/2	67 / 2 5/8	67 / 2 5/8	67 / 2 5/8	67 / 2 5/8	100 / 3 15/16	100 / 3 15/16
	H2	mm / inch	100 / 4	100 / 4	112 / 4 3/8	112 / 4 3/8	112 / 4 3/8	112 / 4 3/8	180 / 7 1/8	180 / 7 1/8
	R	mm / inch	18 / 11/16	22 / 13/16	30 / 13/16	37 / 1 1/2	47 / 1 7/8	54 / 2 1/8	60 / 2 3/8	100 / 3 15/16
Length	L	mm / inch	113 / 4 1/2	124 / 4 7/8	188 / 7 3/8	199 / 7 7/8	228 / 9	236 / 9 1/4	260 / 10 1/4	290 / 11 7/16
Vol.control chamber	cc / gal	36 / 0.01	36 / 0.01	180 / 0.04	180 / 0.04	180 / 0.04	180 / 0.04	250 / 0.05	250 / 0.05	250 / 0.05
Weight	kg / lbs	0.2 / 0.44	0.2 / 0.44	0.9 / 2	0.9 / 2	1.2 / 2.6	1.4 / 3.1	1.8 / 4.4	3 / 6.8	4 / 8.8

### Operation Data

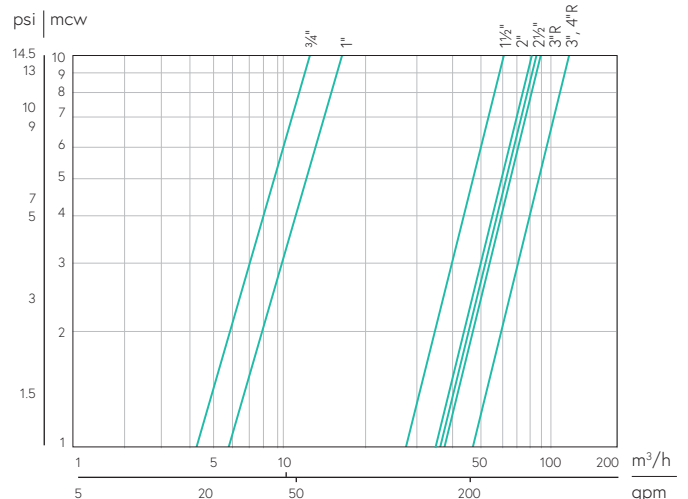
Valve Size	mm inch	20mm 3/4"	25mm 1"	35mm 1 1/2"	50mm 2"	65mm 2 1/2"	80mmR 3"R	80mm 3"	100mmR 4"R
Max. recommended flow rate for continuous operation	m <sup>3</sup> /h	6	10	25	40	65	90	100	145
	gpm	26	44	110	176	285	396	440	640
Min. recommended flow rate	m <sup>3</sup> /h	>1							
	gpm	>5							
Flow rate factor	Kv (metric)	12	16	60	83	85	90	120	120
	Cv (US)	14	20	70	96	98	104	140	140
Pressure range	meter	9 * - 80		7 * - 100				4 - 100	
	psi	15 * - 115		15 * - 150				6 - 145	

\* Low pressure diaphragms - minimal opening pressure: 3/4" - 1" : 6 meter / 9 psi, 1 1/2" - 3" : 3.5 meter / 5 psi  
Maximum operating temperature: 60°C (140°F)

### Head Loss - 2-way



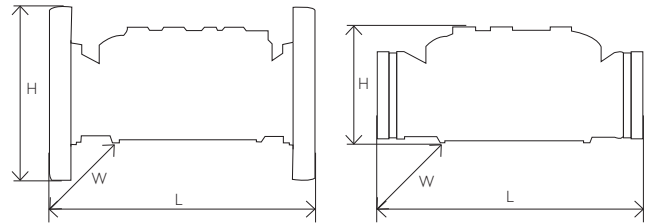
### Head Loss - 3-way



**Diameter 3"H - 8"R**

R = Reduced port, 3R=323  
H = High flow, 3H=343

## Technical Data



## Dimensions

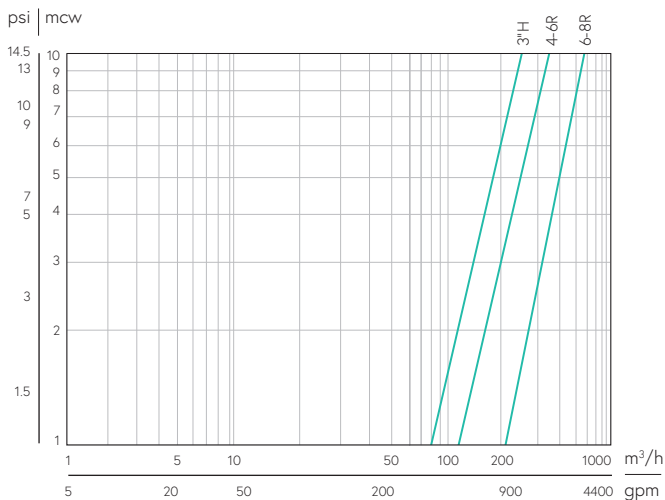
Dimension			80mm 3"H Threaded	80mm 3"H Flanged	100mm 4" Grooved	100mm 4" Flanged	150mmR 6"R	150mm 6"	200mmR 8"R	
Height	H	mm / inch	162 / 6 3/8	190 / 7 1/2	160 / 7	230 / 9	285 / 11 1/5	285 / 11 1/5	307 / 12	
Width	W	mm / inch	236 / 9 2/7	236 / 9 2/7	236 / 9 2/7	236 / 9 2/7	285 / 11 1/5	285 / 11 1/5	307 / 12	
Length	L	mm / inch	452 / 17 3/4	485 / 19	350 / 13 3/4	373 / 14 1/2	420 / 16 1/2	420 / 16 1/2	500 / 19 3/8	
Vol. control chamber	cc / gal	500 / 0.13						1000 / 0.26		
Weight	kg / lbs	4.7 / 10.4	6 / 13.2	3.9 / 8.6	6 / 13.2	7.5 / 16.5	10.6 / 23.4	13.8 / 30.4		

## Operation Data

Valve Size	mm inch	80mm 3"H	100mm 4"	150mmR 6"R	150mm 6"	200mmR 8"R
Max. recommended flow rate for continuous operation	m <sup>3</sup> /h	160			350	
	gpm	705			1542	
Min. recommended flow rate	m <sup>3</sup> /h	>1				
	gpm	>5				
Flow rate factor	Kv (metric)	250	350		580	
	Cv (US)	290	405		670	
Pressure range	meter	5 - 120				
	psi	7 - 180				

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

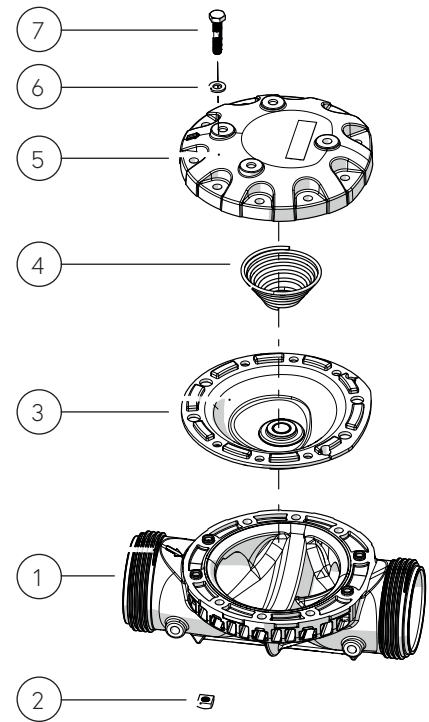
## Head Loss



## Parts & Materials

	Part	Standard	Optional
1	Body	GRP	Polypropylene PP
2	Nut	BRASS	SST 316
3	Diaphragm	NR	ALD, EPDM
4	Spring	SST 302	SST 316, Inconel
5	Bonnet	GRP	Polypropylene
6	Washer	SST 304	SST 316
7	Bolt	SST 304	SST 316

\* Special or additional materials are available, subject to minimum order quantity



## Typical Applications

PR  
Pressure Reducing



ELD3  
Electric 3-Way

PR / RC  
Pressure Reducing / Remote Control



ED2  
Electric 2-Way

PR / PS  
Pressure Reducing / Pressure Sustaining



## Ordering Guide

Diameter Range: 3/4" - 4"R

Ordering data		Ordering code				Ordering data	
		7□	□	□□	□□	□□	
<b>Versions</b>		↑	↑	↑	↑	↑	<b>Port connections</b>
Threaded	→	5				BS	BSP threaded
Flanged	→	5S-F*				NP	NPT threaded
Polypropylene PP	→	5P / 6P				<b>Application</b>	
<b>Bonnet</b>					B	←	Basic
Standard	→	-			M	←	Manual ON-OFF
With throttling handle	→	T			RC	←	Remote Hydraulic Control
<b>Port size</b>					ED2	←	Electric 2-way Valve (integral operator)**
3/4"/20 mm	→	75			ED2(CV)	←	Electric 2-way Valve with check feature**
1"/25 mm	→	1			EL(D3)	←	Electric 3-way Valve**
1 1/2"/40 mm	→	1.5			ED3	←	Electric 3-way Valve (integral operator)**
2"/50 mm	→	2			PR	←	Pressure Reducing
2 1/2"/65 mm	→	2.5			PS	←	Pressure Sustaining/Relief
3"R/80 mmR	→	3R			PR/EL	←	Electrically-activated Pressure Reducing**
3"/80 mm	→	3			PR/RC	←	Hydraulically-activated Pressure Reducing
4"R/100 mmR	→	4R			PR/PS	←	Pressure Reducing and Pressure Sustaining
					PS/EL	←	Electrically-activated Pressure Sustaining**
					FR	←	Flow Control Valve
					FL	←	Modulating Float Controlled Valve
					XX	←	Other (specify)

\* Available for 3" and 4"R only  
 \*\* For electric applications please specify voltage and current

Diameter Range: 3"H - 8"R

Ordering data		Ordering code			Ordering data		
		□	□	□□			
<b>Port size</b>		↑	↑	↑	<b>Application***</b>		
3"H/80mmH	→	3H			M	←	Manual ON-OFF
4"/100mm	→	4			RC	←	Remote Hydraulic Control
6"R/150mmR	→	6R			EL	←	****Electric 3-way Valve
6"/150mm	→	6			PR	←	Pressure Reducing
8"R/200mmR	→	8R			PS	←	Pressure Sustaining/Relief
<b>Port size</b>					PR/EL	←	****Electrically-activated Pressure Reducing
Threaded*	→	T			PR/RC	←	Hydraulically-activated Pressure Reducing
Grooved**	→	V			PR/PS	←	Pressure Reducing and Pressure Sustaining
Flanged	→	F			PS/EL	←	****Electrically-activated Pressure Sustaining
					FR	←	Flow Control Valve
					FL	←	Modulating Float Controlled Valve
					XX	←	Other (Specify)

\* Threaded For 3"H valve only  
 \*\*Grooved For 4" valve only  
 \*\*\* Regulating valves come with pilot 29-50M as standard  
 \*\*\*\* For electric application- specify voltage and current





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.**