



Product Catalogue
Series 500 Valves

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Catalogue



Waterworks

Dorot's valves are especially designed to comply with all the demands of Waterworks systems such as Pressure Management, Low Flow Regulation, Leakage Prevention, Pump Control, Level Control, Surge Prevention, Wastewater and Water Treatment.

Irrigation

Dorot is a leader in Automatic Control valves for irrigation applications: Drip Irrigation, Greenhouses, Turf and Landscaping. The innovative state of the art products are made of a variety of materials such as Cast Iron, Ductile Iron, Steel, Stainless Steel, Bronze, Polyamide and uPVC.

Construction And Industry

Dorot offers control applications for high rise buildings such as Flow and Pressure Regulation, Water Hammer Prevention and Reservoir Level Control.

Fire Protection

Dorot offers a variety of valves for Fire Protection applications with UL Approvals.

Filtration And Water Treatment

Dorot offers a variety of Back Flushing valves for Filtration Systems. These valves are made of high durability materials for water treatment of aggressive media.



Overview

The Dorot Series 500 is a unique, cost effective control valve for water-works and irrigation systems. It is designed for superb regulation capabilities, combined with low pressure loss in the fully open position.

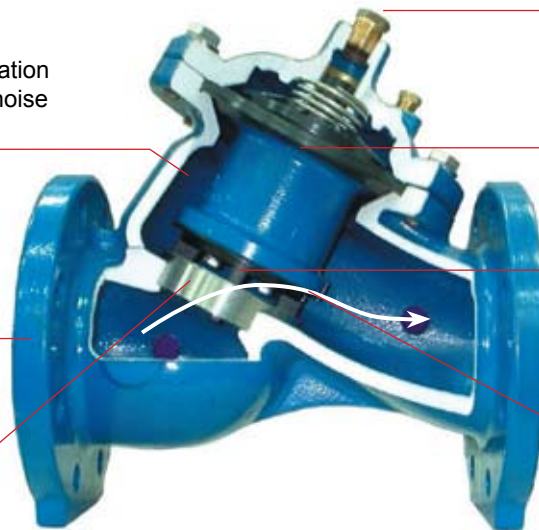
The experts at Dorot developed this technically-advanced product line with capabilities far beyond most other valves. This guide will assist you in the selection of the optimal DOROT Series 500 valve.

Features

Wide body shape prevents cavitation damage, and ensures very low noise during operation.

Coating:
UV resistant and certified for use in potable water applications

Wear & corrosion resistant SST seat



Option for SST indicator rod

Innovative diaphragm-trim assembly guided by low-friction top & bottom guides

LTP® (Linear Throttling Plug) for superior low flow regulation

Special valve design: reduction in head-losses

Features of the 500 Series

- The capability to regulate at “near zero” flow, as a standard feature on all sizes, achieved by the LTP® (“Linear Throttling Plug”) device, completely eliminates the need for a low flow bypass valve, or internal throttling device such as U-port or V-port.
- The unique bottom guide together with the hydrodynamically designed structure enable very low head loss in the “fully-open” position.
- A standard valve model fits a wide variety of control applications using Dorot pilot valves.
- An especially short face-to-face dimension, ensures maximal saving in installation space.
- An innovative internal trim ensures frictionless operation, easy maintenance and high reliability.
- During closure, the pace slows down to prevent slamming or water hammer / surges.
- The series includes a position indication rod, as an optional feature, attached by a floating connection, enabling smooth movement of the indicator.
- Very quiet and stable operation makes the valves especially suitable for housing and residential applications.
- All materials are WRAS & NSF approved for potable water.

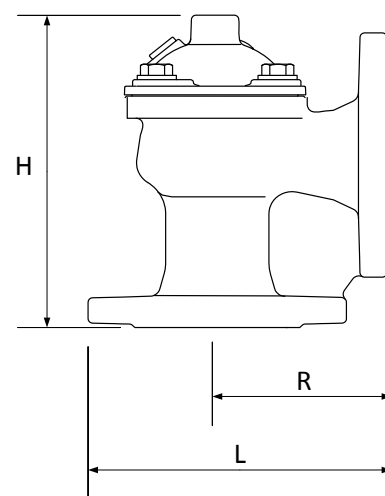
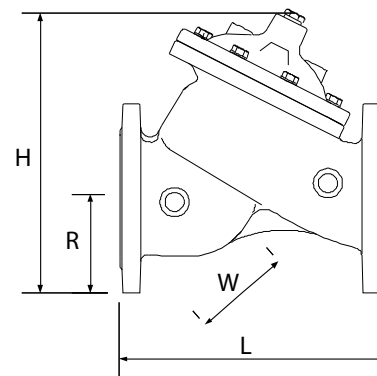
Technical Data

Diameter	40mm (1½")		50mm (2")		65mm (2½")		80mm (3")		100mm (4")		150mm (6")		200mm (8")	
	m³/h	GPM	m³/h	GPM	m³/h	GPM	m³/h	GPM	m³/h	GPM	m³/h	GPM	m³/h	GPM
Nominal flow	11	50	20	80	20	80	40	180	75	325	160	705	280	1240
Max. continuouce flow	25	110	40	175	40	175	100	440	160	705	350	1540	620	2730
Max. intermittent flow	35	160	55	250	55	250	145	640	225	995	510	2240	900	4000
Minimal flow	< 1 m³/h / GPM													
Kv [m³/h@1bar]	45		45		45		110		175		400		620	
Cv [gpm@1psi]	53		53		53		128		204		467		724	
K [dimensionless]	2		4.9		14.1		5.4		5.2		5		6.5	

Dimensions and Weights

Valve Size	40 Th (1½")		50 Th (2")		50A Th (2")		50A F (2")		50 F (2")	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
L	202	7 ¹⁵ / ₁₆	202	7 ¹⁵ / ₁₆	156	6 ¹ / ₈	193.5	7 ⁵ / ₈	200	7 ⁷ / ₈
H	169	6 ⁵ / ₈	169	6 ⁵ / ₈	185	7 ¹ / ₄	211	8 ⁵ / ₁₆	214	8 ⁷ / ₁₆
W	116	4 ⁹ / ₁₆	116	4 ⁹ / ₁₆	115	4 ¹ / ₂	165	6 ¹ / ₂	165	6 ¹ / ₈
R	38	1 ¹ / ₂	38	1 ¹ / ₂	117	4 ⁵ / ₈	111	4 ³ / ₈	82.5	3 ¹ / ₄
Weight *	Kg	lbs	Kg	lbs	Kg	lbs	Kg	lbs	Kg	lbs
	4.8	10.7	4.6	10.2	5.2	11.5	9.8	21.8	9.5	21.1

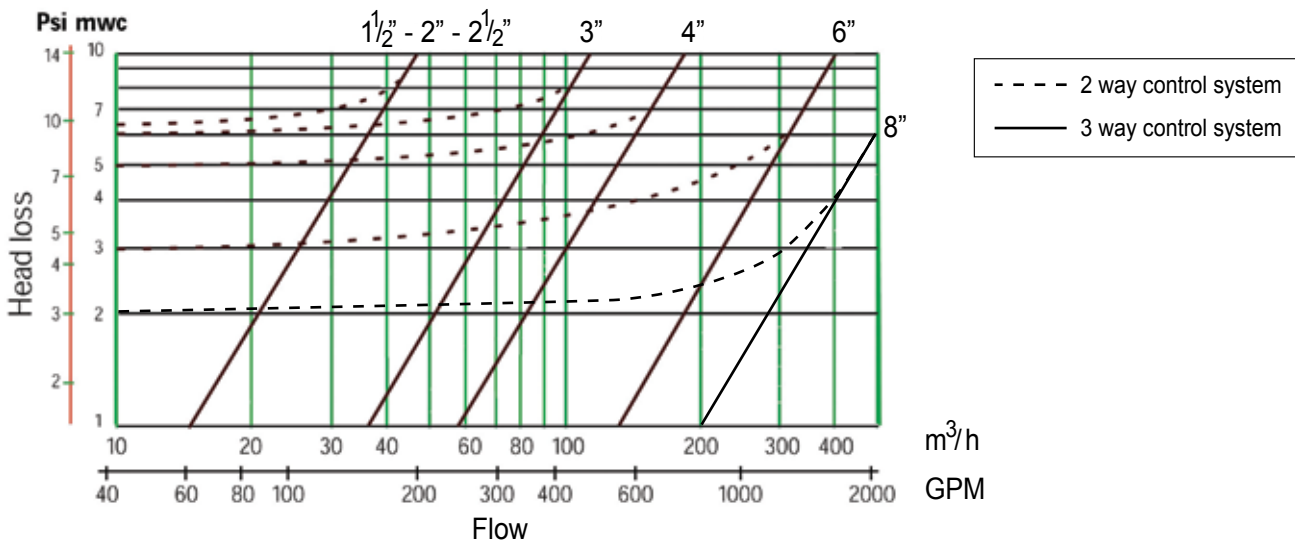
Valve Size	65 F (2½")		80 F (3")		100 F (4")		150 F (6")		200 F (8")	
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
L	210	8 ¹ / ₄	285	11 ¹ / ₄	305	12	390	15 ³ / ₈	495	19 ¹ / ₂
H	224	8 ¹³ / ₁₆	293	11 ⁹ / ₁₆	330	13	450	17 ³ / ₄	557	21 ¹⁵ / ₁₆
W	185	7 ¹ / ₄	200	7 ⁷ / ₈	220	8 ¹¹ / ₁₆	285	11 ¹ / ₄	386	15 ³ / ₁₆
R	92.5	3 ⁵ / ₈	100	3 ¹⁵ / ₁₆	110	4 ⁵ / ₁₆	142.5	5 ⁵ / ₈	170	6 ¹¹ / ₁₆
Weight *	Kg	lbs	Kg	lbs	Kg	lbs	Kg	lbs	Kg	lbs
	12	26.6	21	46.6	26	57.7	60	133.2	118	262



* Approximate Shipping Weight

F - Flanged Th - Threaded A - Angle

Flow chart



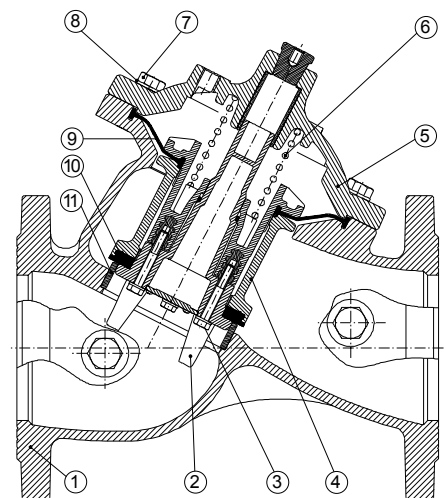
Technical specifications

Available sizes	40 to 200 mm (1 1/2" to 8")
Operating pressure	0.5 to 16 bar (7 to 250 psi)
Temperature range	60°C (140°F)
End connections	Valves diameters 50-200 mm (2" - 8") supplied in the following international flange standards: ISO 7005; ANSI B16; AS10; JIS B22. Other standards are available upon request. Valves diameters 40-50 mm (1 1/2" - 2") supplied also in the following thread standards: F-BSP; F-NPT
Coating	Electrostatically applied, oven baked Polyester. Epoxy on request.

Materials

Component No.	Description	Materials
1	Body	Ductile Iron
2	Trim: LTP, Guides and top diaphragm retainer	Composite Materials (WRAS & NSF approved GRP)
3	Trim bolts	SST
4	Trim cylinder	40-65mm/1 1/2"-2 1/2" - SST
		80-200mm/3"-8" - Ductile Iron
5	Cover	Ductile Iron
6	Spring	SST
7	Cover bolts	SST
8	Washer	SST
9	Diaphragm	Reinforced EPDM Rubber
10	Plug seal	NBR Rubber
11	Seat	SST

Components



GRP: Glass Reinforced polyamide
SST: Stainless Steel

Remote Control & Check Valves

EL - Solenoid Controlled Valve

A 3-way solenoid valve, activated by an electric current or an electric pulse, opens or closes the main valve. The standard valve is “normally close”. The “normally open” is optional.

Electric activation can be added to other control applications on request.



EL

CV - Hydraulic Check Valve

The valve is in the “open” position when the upstream pressure is higher than the downstream pressure.

Should the upstream pressure drop below the downstream pressure, the valve will instantly close, preventing return flow.

Opening and closing speeds are adjustable.



CV

RC - Hydraulic Remote Control Valve

A hydraulic relay opens or closes the valve, in response to a pressure command, carried by a control tube from a remote control center.

Pressure Reducing Valves

PR - Pressure Reducing Valve

The valve maintains a preset downstream pressure, regardless of upstream pressure or flow rate fluctuation.

The main valve is controlled by either a 3-way pilot valve (allowing full opening when downstream pressure drops below the set-point), or by a 2-way pilot valve (creating minimal pressure differential in open position).



PR

PR/EL - Electrically Operated Pressure Reducing Valve

The valve is a Pressure Reducing Valve which maintains a preset downstream pressure, regardless of upstream pressure or flow rate fluctuation.

The valve's opening is controlled by an electric solenoid valve. This either causes the valve to open (and regulate) or to close.



PR/EL

Pressure Sustaining & Relief Valves

PS - Pressure Sustaining Valve

PS(R) - Pressure Relief Valve

The valve maintains upstream pressure, regardless of flow rate variations. The valve will be in the “closed” position if the upstream pressure drops below the set-point and will be “fully-opened” when the upstream pressure exceeds the set-point.



PS PS(R)

DI - Pressure Differential Sustaining Valve

The valve maintains a preset pressure differential between the upstream and downstream pressures. The valve controls booster pumps discharge, heating and cooling systems, bypass configurations and more.

QR - Quick-Relief Safety Valve

The valve opens instantly when the pressure in the pipeline exceeds the safe level, thus relieving excessive pressure from the network. When the pressure returns to normal, the valve closes slowly, at an adjustable pace.



QR

Flow Rate Control Valves

FR - Flow Rate Control Valve

The valve limits the flow rate in the network to a preset value, regardless of pressure variations.

The valve opens fully when the flow rate drops below the set-point.



FR

FE - Excessive Flow Shut-Off Valve

The valve closes when the flow rate exceeds the normal value (due to pipeline rupture for example). Reopening is by manual reset only.



FE

Level Control Valves

FL - Modulating Float Controlled Valve

The main valve is controlled by a float valve, located in the tank or reservoir and set at the required maximum water level. The valve maintains the maximum level continuously.

Optional Addition: Surge-Preventing Closure (SA).



FL

FLDI - Differential Float Controlled Valve

A Float valve (model 70-550) controls the main valve, closing it when the water reaches maximum level, and opening it when the water drops to its preset minimum level. The differential between the maximum and the minimum levels is adjustable, at a wide range.

Optional Addition: Surge-Preventing Closure (SP).



FLDI

FLEL - Electric Float-Controlled Valve

An automatic, level control valve, activated by an electric float that operates the main valve by a solenoid.

Enabling adjustable differential of the max / min levels.

Optional addition: surge-preventing closure (SP)



FLEL

AL - Altitude Control Valve

The main valve is controlled by a highly sensitive pilot, located outside the tank. The pilot opens or closes the valve in response to the static pressure of the water. The pilot allows for differential adjustments between the maximum and minimum level.

Optional Addition: Surge-Preventing Closure (SP).



AL

Special Control Applications

SP - Surge-Preventing Closure

The device automatically adjusts the closing speed of a valve that is located at the end of a long pipeline, preventing pressure surges.

Please consult DOROT, or your local distributor for details.

Ordering guide

Ordering data		Ordering code					Ordering data	
	m	□	□	□□	□□	□□		
Type		→	-					
Straight flow								
Angle								
Indicator Rod		→	-	I				
No								
Yes								
Diameter		→						
1½" / 40mm				15				
2" / 50mm				02				
2½" / 65mm				25				
3" / 80mm				03				
4" / 100mm				04				
6" / 150mm				06				
8" / 200mm				08				
End Connections								
Flange	ISO16	→		I1	TO		Two stage opening	
	ANSI 125 / 150	→		A1	SP		Surge preventing closure (upstream)	
	BS TD / AS TD	→		BD	CV		Hydraulic Non Return	
	JIS-10	→		J1	EC		PLC controlled	
	Un-drilled	→		UN	XX		Other (specify)	
Thread	BSP	→		BS			* Please specify N.O or N.C	
	NPT	→		NP				
	Other (specify)	→		XX				

Ordering example:

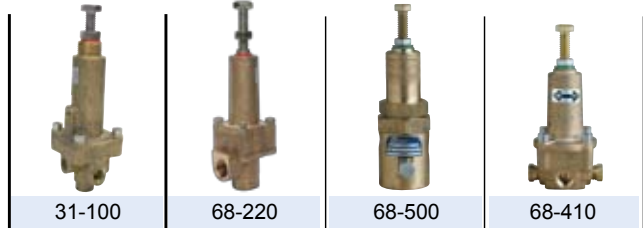
50	A	I	02	A1	PR / PS / EL (N.C)
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An Angle-pattern, with an indication rod, 50mm / 2" size, flanged to ANSI 150, pressure reducing and sustaining, opened by an electric command

Mini Pilot-Valves

For valve sizes 20mm to 150mm - 3/4" to 6"
 Pressure rating: 25 bar / 360 psi

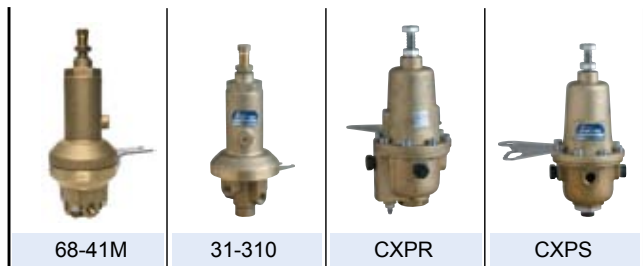
- 68-410** - 2-way Pressure reducing pilot valve
- 68-500** - 2-way Pressure sustaining pilot valve
- 68-220** - 2-way Quick pressure relief pilot valve
- 31-100** - 3-way (pressure rating 16bar / 230psi) Multi purpose (pressure reducing and sustaining) pilot valves



Pilot-Valves

For valve sizes 40mm to 600mm - 1 1/2" to 24"
 Pressure rating: 25 bar / 360 psi

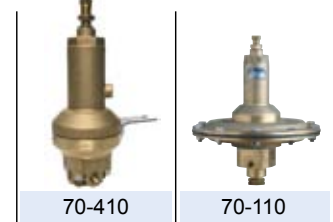
- CXPR** - 2-way Pressure reducing pilot valve (CXRS - remote sensing, CXRD differential pressure reducing)
- CXPS** - 2-way Pressure sustaining pilot valve (CXSD differential pressure sustaining)
- 31-310** - 3-way Multi purpose (pressure reducing and sustaining) pilot valve
- 76-200** - 3 way Differential multi purpose (flow control, differential pressure sustaining)
- 68-41M** - 2-way, Pneumatically modulated, pressure reducing pilot valve



High Sensitivity Pilot-Valves

For valve sizes 40mm to 600mm - 1 1/2" to 24"
 Pressure rating: 25 bar / 360 psi

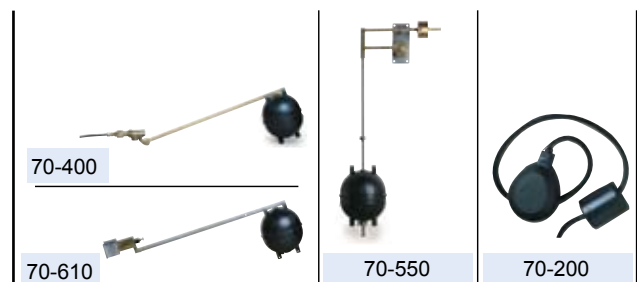
- 70-410** - 2-way Differential pressure reducing mini pilot valve (flow control and altitude control)
- 70-110** - 3 way Differential multi purpose (flow control, altitude control and differential pressure sustaining) with adjustable differential



Float Pilot-Valves

For valve sizes 40mm to 600mm - 1 1/2" to 24"
 Pressure rating: 25 bar / 360 psi

- 70-200** - Electric float
- 70-400** - Modulating, 2-way metal float pilot
- 70-610** - Horizontal, differential, 3-way metal float pilot
- 70-550** - Vertical, differential, 3 and 4-way metal float pilot



Relay-Valves

For valve sizes 40mm to 600mm - 1 1/2" to 24"

Pressure rating: 25 bar / 360 psi

66-210 3-way / 2 positions NO (66-213: NC) hydraulic relay

66-310 3-way adjustable hydraulic relay

28-200 2-way / 2 positions hydraulic relay

28-310 3-way / 2 positions NO/NC hydraulic relay



28-310



66-210



66-310



28-200

Heavy-duty Solenoid Valves

For valve sizes 20mm to 600mm - 3/4" to 24"

Pressure rating: According to the selected orifice and solenoid type

Operating Voltage (others available upon request):

AC: 24V, 110V or 220V

DC: 12V or 24V

Latch 9V, 12V, 24V

B2 2-way NC or NO solenoid valve

B3 3-way NC or NO solenoid valve

s80 3-way NC or NO solenoid valve



s80



B2



B3

Control Filters

Self-Flushing, Inline Stainless steel screen filter, located within the main valve, and rinsed continuously by the stream

Sizes: 1/4", 1/2", 1"

External, "Y" type - Stainless steel screen installed in a "Y" shaped body on the pressure source.

Sizes: 3/8", 1/2"

External, large - A large volume external filter



Large Filter



"Y Filter"



Self Flushing Filter



Innovation
Innovation

Expertise
Expertise

Reliability
Reliability



Hundreds of companies in the industrial, civil engineering, municipal and agricultural sectors around the world have chosen DOROT's innovative and field-proven technologies. Since its establishment in 1946, DOROT leads the hydraulic valves market with continued innovation, uncompromising excellence and firm commitment to its customers, consulting and supporting them through all stages of a project and overcoming challenges in R&D, design, implementation, and maintenance.



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