ELIPTIX R-30 Series

Advanced hydraulic solutions for optimal management of liquid conveyance systems

Aquestia

Directing the Flow

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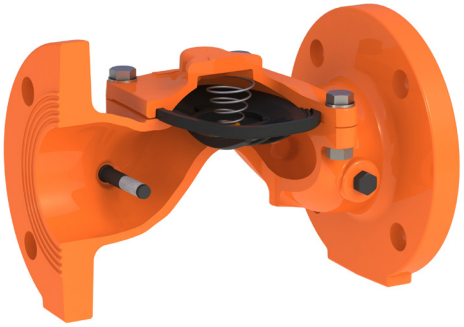
Accurate, Rapid, Reliable and Quiet

The ELIPTIX R-30 Series is line of metal, diaphragm-operated hydraulic control valves.
The valves are suitable for installation in agriculture, water transmission and waterworks systems for irrigation, landscape and infrastructure applications.
The R-30 series has an innovative elliptic shaped diaphragm that integrates well with a wide variety of regulating control pilots, solenoids and control accessories.
They are compatibility designed for water level control, flow control, electric & remote control as well as pressure reducing & pressure sustaining operation.

Features & Benifits

- Excellent regulating capabilities for a wide range of flow rates from drip (500 l/h) up to maximum flow
- Operational from low pressure up to 10 bar
- Highly reliable operation and durable over time
- Quick-reaction operation
- Rapid response to changes in flow rate
- Designed to reduce cavitation damage
- Silent operation
- Low head losses
- Wide range of connections: Flanged, Threaded and Grooved
- Simple mechanism
- Easy inline maintenance
- User-friendly



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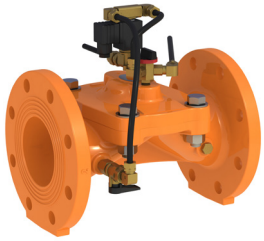
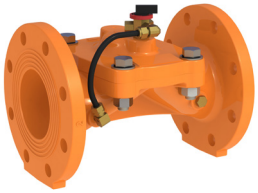
ELIPTIX R-30 ME (3W)

Weir-type, Elliptical-shaped Diaphragm, 3-way,
Electric Operated Control Valve



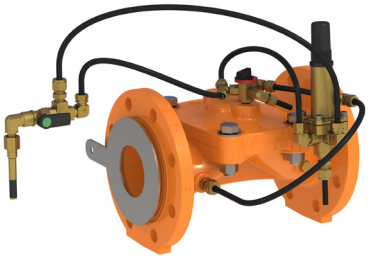
ELIPTIX R-30 M (3W)

Weir-type, Elliptical-shaped Diaphragm, 3-way,
Manual Control Valve



ELIPTIX R-30 MF (3W)

Weir-type, Elliptical-shaped Diaphragm, 3-way,
Manual Override, Flow Control Valve



ELIPTIX R-30 Q (2W)

Weir-type, Elliptical-shaped Diaphragm, 2-way ,
Quick Pressure Relief Control Valve

ELIPTIX R-30 R (2W)

Weir-type, Elliptical-shaped Diaphragm, 2-way ,
Pressure Reducing Control Valve

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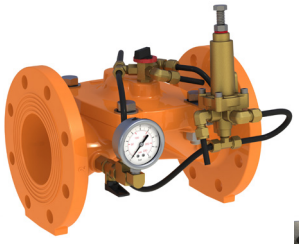
ELIPTIX R-30 RM (3W)

Weir-type, Elliptical-shaped Diaphragm, 3-way ,
Manual Override, Pressure Reducing Control Valve

ELIPTIX R-30 SM (3W)

Weir-type, Elliptical-shaped Diaphragm, 3-way ,
Manual Override, Pressure Sustaining Control Valve

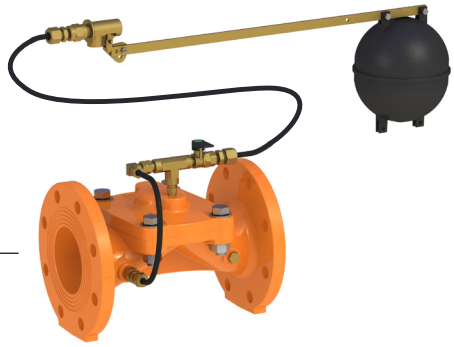


ELIPTIX R-30 Y (2W)

Weir-type, Elliptical-shaped Diaphragm, 2-way,
Vertical Float, Level Control Valve

ELIPTIX R-30 X (2W)

Weir-type, Elliptical-shaped Diaphragm, 2-way,
Horizontal Float, Level Control Valve



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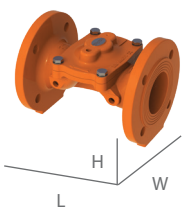
Technical Specifications

Straight Valves

Size	End Connection	Dimensions (mm)			Weight (Kg)	Control Chamber Volume (ml)	Hydraulic Performance	
		Length	Width	Height			Working Pressure (bar)	Kv
1" (25 mm)	Threaded	128	78	55	0.9	22	0.7-16	24
1½"N (40-25-40 mm)	Threaded	140	78	70	1.2	22	0.7-16	34
1½"S (40-50-40 mm)	Threaded	176	126	82	2.7	68	0.4-16	60
2" (50 mm)	Threaded	185	126	96	2.8	68	0.4-16	95
2" (50 mm)	Flanged	150	150	151	6.0	68	0.4-16	95
3"R (80-50-80 mm)	Threaded	252	126	114	4.9	68	0.4-16	95
3"N (80 mm)	Threaded	254	161	128	6.4	200	0.4-16	137
3"N (80 mm)	Grooved	256	161	121	5.5	200	0.4-16	137
3"N (80 mm)	Flanged	254	200	200	13	200	0.4-16	137
3"S (80-100-80 mm)	Threaded	317	212	148	13	300	0.4-16	260
3"S (80-100-80 mm)	Flanged	254	212	192	18	300	0.4-16	260
4" (100 mm)	Grooved	305	212	147	12	300	0.4-16	270
4" (100 mm)	Flanged	305	220	220	20	300	0.4-16	270
6" (150 mm)	Grooved	436	298	208	26	1200	0.4-16	700
6" (150 mm)	Flanged	406	300	287	40	1200	0.4-16	700
8"R (200 mm)	Flanged	521	343	350	47	1200	0.4-16	713
8" (200 mm)	Flanged	521	378	348	69	1600	0.4-16	806
10" (250 mm)	Flanged	633	525	422	126	6900	0.4-16	1800
12" (300 mm)	Flanged	751	525	480	144	6900	0.4-16	2000
14" (350 mm)	Flanged	775	533	533	177	6900	0.4-16	2000
16" (400 mm)	Flanged	752	660	608	285	13800	0.4-16	3500

$Kv = Q/\sqrt{\Delta p}$ Where Q=Flow Rate (m^3/h), ΔP=Pressure loss across the valve (bar), when fully open



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Technical Specifications

Angle Valves

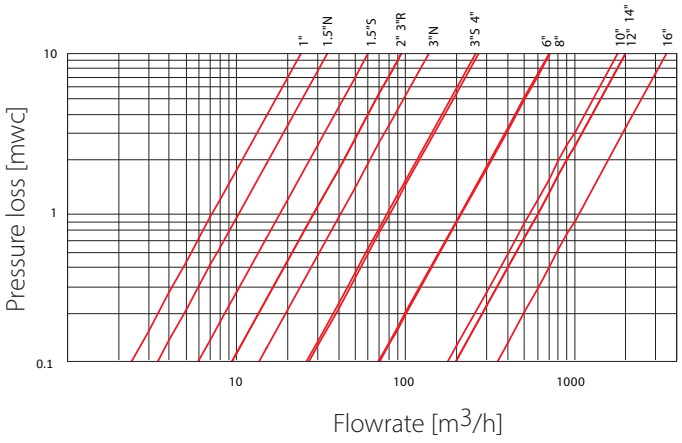
Size	End Connection	Dimensions (mm)			Weight (Kg)	Control Chamber Volume (ml)	Hydraulic Performance	
		Length	Width	FTC			Working Pressure (bar)	Kv
2" (50 mm)	Threaded	158	126	118	2.9	68	0.4-16	90
3"R (80-50-80 mm)	Threaded	208	126	153	5.3	68	0.4-16	90
3"N (80 mm)	Threaded	234	161	175	6.9	200	0.4-16	187
3"N (80 mm)	Grooved	217	161	157	5.4	200	0.4-16	187
3"N (80 mm)	Flanged	254	200	154	12	200	0.4-16	187
3"S (80-100-80 mm)	Threaded	250	212	192	12	300	0.4-16	268
3"S (80-100-80 mm)	Flanged	263	212	163	17	300	0.4-16	268
4" (100 mm)	Grooved	242	212	181	11	300	0.4-16	291
4" (100 mm)	Flanged	298	220	188	20	300	0.4-16	291
6" (150 mm)	Flanged	371	298	230	36	1200	0.4-16	710

* FTC - Face To Center

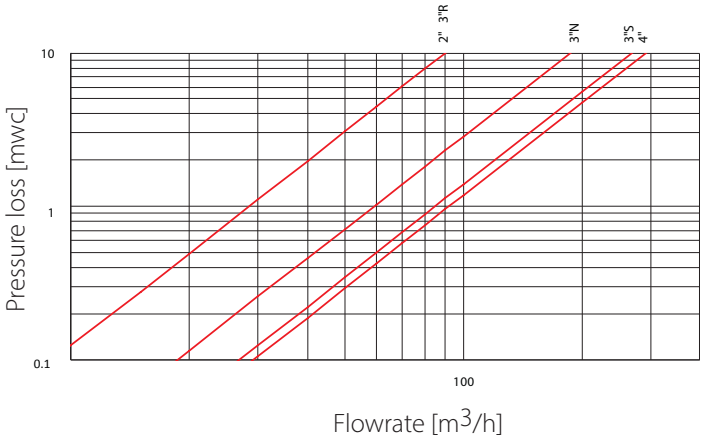
$Kv = Q/\sqrt{\Delta p}$ Where Q=Flow Rate (m3/h), ΔP=Pressure loss across the valve (bar), when fully open

Flow Charts

Straight Valves



Angle Valves



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Diaphragm Working Pressure

Diaphragm Model	Working Pressure
Low pressure	0.2 - 5 (bar)
Default	0.4 - 10 (bar)
High pressure	0.7 - 16 (bar)

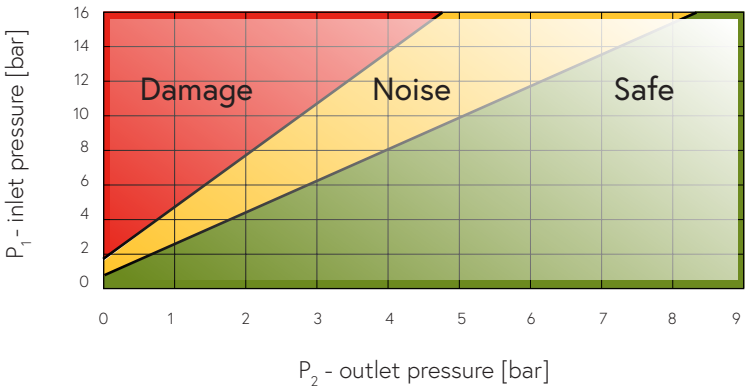
* Other diaphragm materials available on request

Bolts tightening

Size	Recommended Torque [Nm]
1" - 1.5"	10
2" - 3"	30
4" - 8"	80
10" - 16"	100

Cavitation Data

Determining safe operating pressure drop conditions



$$\sigma \text{ system} = \frac{P_1 - P_{Vapor}}{P_1 - P_2}$$

Where
σ = Cavitation number [no units],
P = Absolute pressure [either unit are acceptable; e.g.: bar/mwc/psi]

* Operating conditions inside the cavitation damage zone is permissible for infrequent periods of short duration.
* Based on cavitation index (sigma values) as defined by Utah State University Water Research Laboratory.
* Operating conditions, at standard temperature and elevation.

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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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