

Series 100

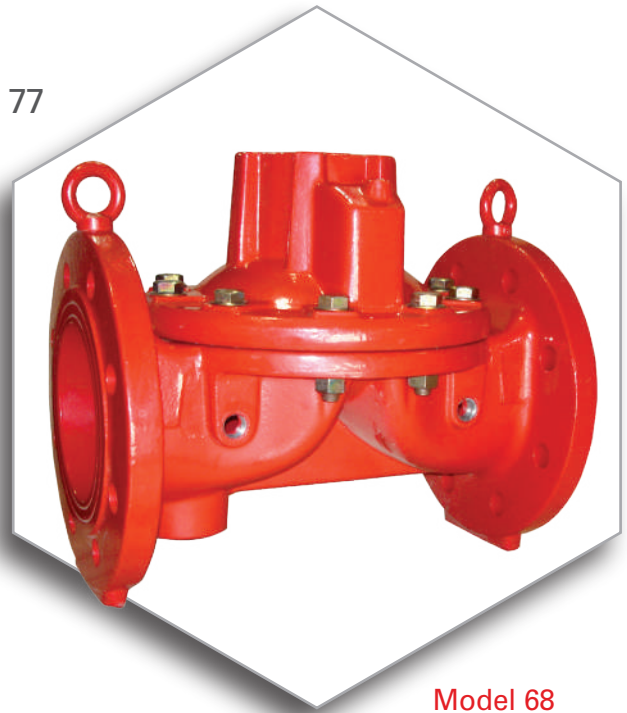
UL Listed Basic Untrimmed Valve Models: 44, 68, 77

The Series 100 control valves are automatic, hydraulically actuated, direct diaphragm sealing globe/weir type valves with a proven and reliable design. These valves are designed for use in fire protection applications including deluge, pre-action, pressure relief, monitors, hydrants and are suitable for water, foam and seawater systems. The valves consist of three major components: body, cover and diaphragm assembly.

Model 44: Up to 230psi working pressure, threaded.

Model 68: Up to 375psi working pressure, flanged & grooved with drain port.

Model 77: Up to 230psi working pressure, flanged & grooved.



Model 68

LISTINGS & APPROVALS



- Valves are UL Listed under the following categories:
 - "Special Systems Water Control Valves" Deluge (VLFT) - Model 68
 - "Fire Pump Pressure Relief Valves" (QXZQ) - Models 44 & 77
- ABS Design assessment & Fire tested to EN ISO 6182-5:2006 - Model 68 2"-6"
- Lloyd's type approval
- CCCf - Model 68 DE/EL(CN)
- GOST-R
- Manufacture and conformity assessment of pressure equipment & assemblies Directive (97/23/EC / EN1074)

Consult the UL listing guide or contact OCV Fluid Solutions for a complete list of approved applications and valve sizes.

FEATURES

- Listed & approved for use in fire protection systems by various global standards
- Quick opening; Non-slam closing operation
- Drip tight shut off to ANSI FCI 70-2 VI seat leakage class
- Simple & reliable design
- Low lifelong maintenance costs due to straightforward design
- Easy installation & inline maintenance
- High grade construction materials
- Exceptionally low pressure losses

OPTIONAL FEATURES

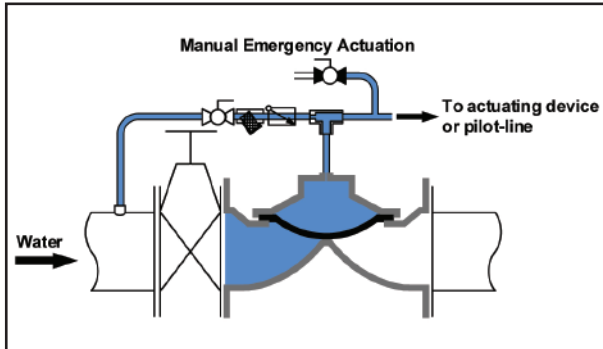
- Remote or manual reset
- Manual, electric, hydraulic, pneumatic & combined control trims
- Explosion proof, SIL redundant solenoids & trim accessories
- Seawater & foam concentrate service

OPERATION

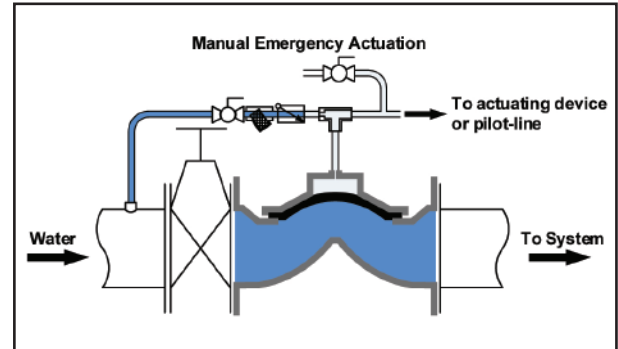
Figure showing Model 68. Same principle of operation is applicable for Models 44 & 77.

Standard Operation

Standby Position (Valve Closed)

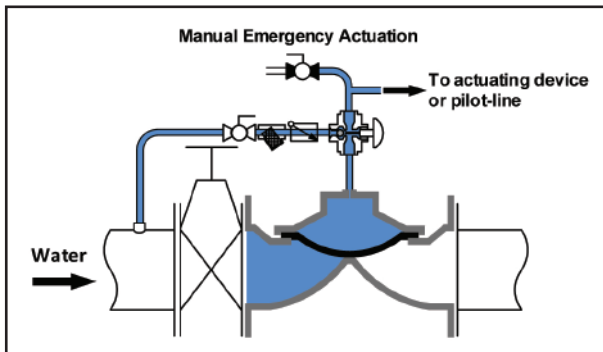


Fire Event (Valve Actuated Automatically or Manually)

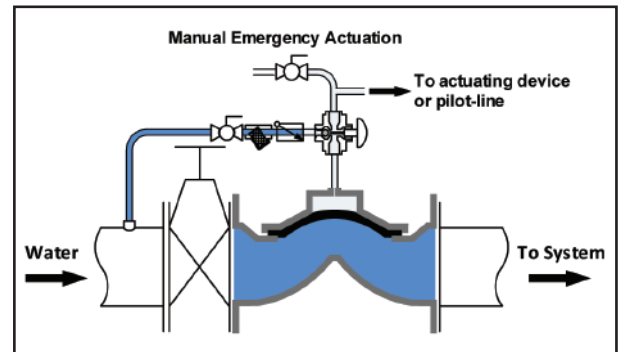


Manual Reset Operation

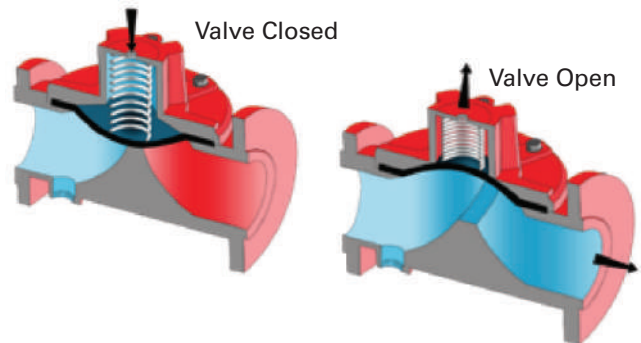
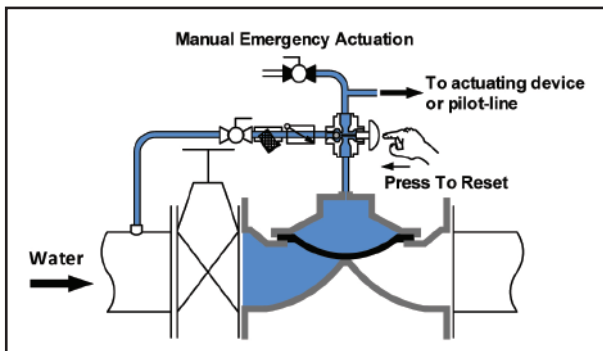
Standby Position (Valve Closed)



Fire Event (Valve Actuated Automatically or Manually)



Reset to Close

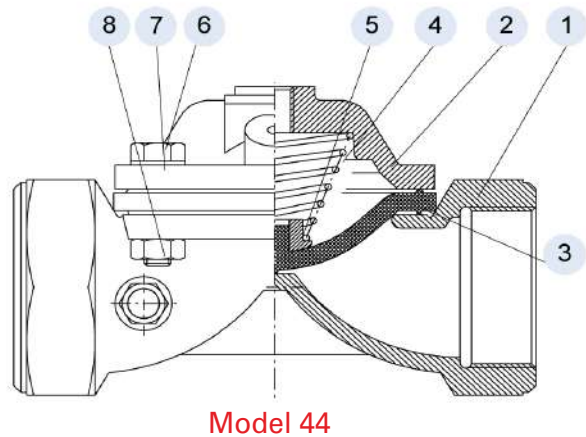
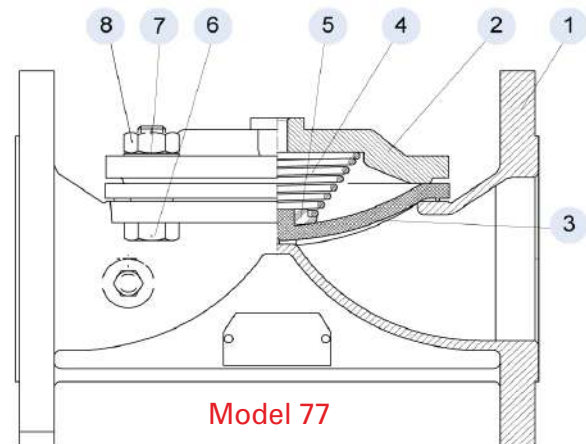
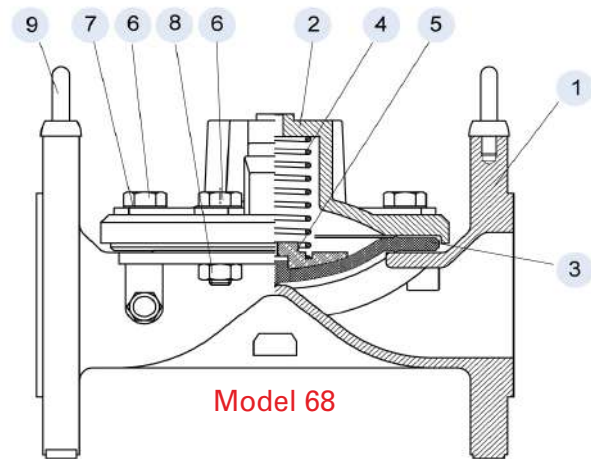
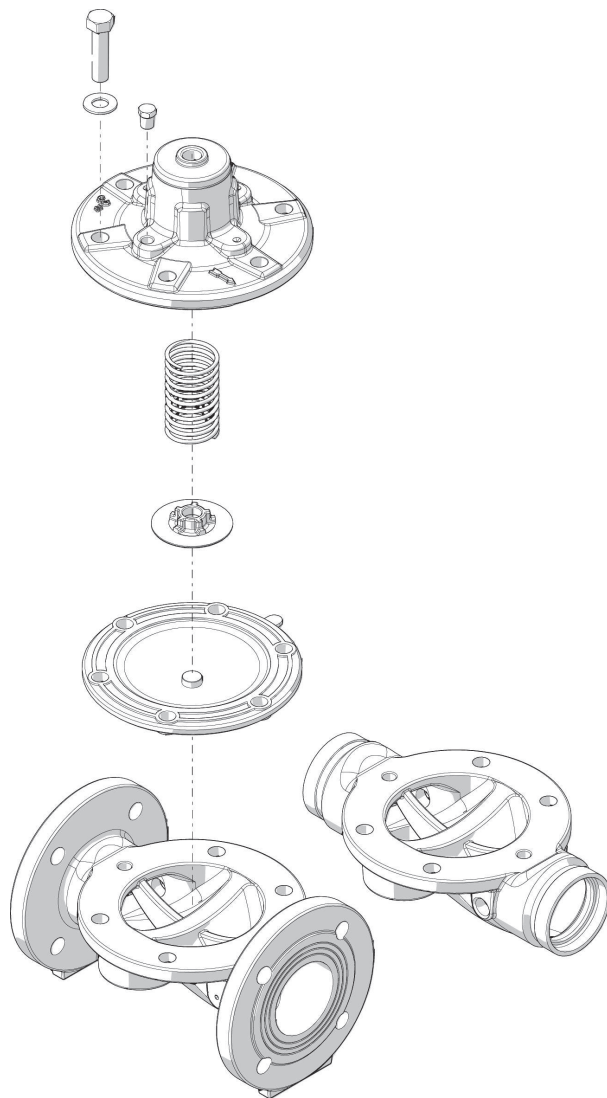


Resetting, maintenance and periodic testing instructions must be followed as described in detail in the applicable OCV IOM (Installation, Operation & Maintenance) Manual.

BASIC VALVE COMPONENTS

ID	Description
1	Body
2	Bonnet
3	Diaphragm
4	Spring*
5	Spring Disc*
6	Bolts
7	Washer
8	Nut
9	Suspension Hook

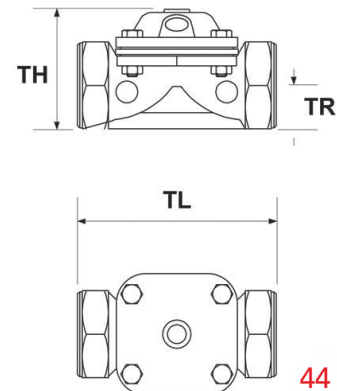
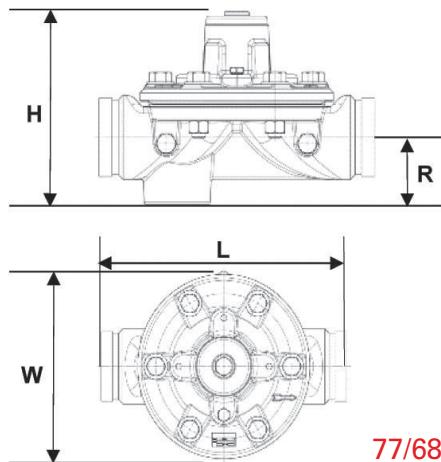
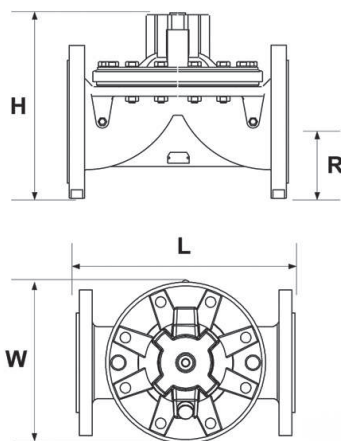
*Spring & Spring Disc Optional for Model 68



BASIC VALVE DIMENSIONS & WEIGHTS

68 (Flanged)	2" (50)		2.5" (65)		3" (80)		4" (100)		6" (150)		8" (200)		10" (250)		12" (300)	
DIM	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
L	9 5⁄8	243	9 3⁄16	233	12 3⁄16	310	14	356	17 1⁄8	436	20 13⁄16	530	25	636	NA	
H	6 5⁄8	169	7 5⁄16	185	9 5⁄16	237	10 5⁄16	263	14 13⁄16	378	18 7⁄8	481	21 1⁄2	546		
R	3 5⁄16	85	3 11⁄16	92.5	4 1⁄8	105	4 11⁄16	120	5 7⁄8	150	7	180	8 3⁄8	215		
W*	6 7⁄8	175	7 5⁄16	185	7 13⁄16	200	10 3⁄16	260	12 5⁄8	320	15 11⁄16	400	19 3⁄8	495		
Approx. Weight	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg
	22	10	32	14.5	66.1	30	83.8	38	165.3	75	271	123	419	190	NA	
68 (Grooved)	2" (50)		2.5" (65)		3" (80)		4" (100)		6" (150)		8" (200)		10" (250)		12" (300)	
L	9 5⁄8	243	10	253	13 3⁄16	336	15	380	17 5⁄16	440	21 7⁄8	556	NA			
H	5 5⁄8	143	5 5⁄8	143	8 11⁄16	220	9	229	13 5⁄16	337	17	433				
R	2 3⁄16	55	2 3⁄16	55	3	77	3 3⁄8	86.5	4 1⁄2	114	5 1⁄2	139				
W*	6 13⁄16	172	6 13⁄16	172	9 5⁄16	236	10 5⁄16	261	12 13⁄16	326	15 11⁄16	400				
Approx. Weight	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg
	13.7	6.2	14	6.4	32	14.5	46.3	21	85	38.5	145.5	66	NA			
77 (Flanged)	2" (50)		2.5" (65)		3" (80)		4" (100)		6" (150)		8" (200)		10" (250)		12" (300)	
L	7 13⁄16	200	8 3⁄8	214	11 3⁄16	285	12	305	15 5⁄16	390	18 1⁄8	460	21	535	22 13⁄16	580
H	6 1⁄2	166	7 5⁄16	185	7 13⁄16	200	9	230	12 5⁄16	314	15 11⁄16	400	17 1⁄2	445	19 3⁄8	495
R	3 5⁄16	85	3 5⁄8	92.5	4 1⁄8	105	4 5⁄16	110	5 11⁄16	145	6 5⁄8	170	8	205	9 3⁄8	240
W*	6 1⁄2	166	7 5⁄16	185	7 13⁄16	200	9	230	11 13⁄16	300	14 3⁄8	365	17 5⁄16	440	19 5⁄16	490
Approx. Weight	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg
	17	7.7	22.7	10.3	40.1	18.2	53	24	108	49	190	86	276	125	368	167
44 (Threaded)	2" (50)		2.5" (65)		3" (80)											
TL	7 3⁄8	188	8 5⁄8	219	12 3⁄8	316										
TH	4 1⁄2	115	4 11⁄16	118	5 5⁄16	135										
TR	1 5⁄8	42	1 13⁄16	46	2	53										
W*	4 3⁄8	112	4 3⁄8	112	7 13⁄16	200										
Approx. Weight	lbs	kg	lbs	kg	lbs	kg										
	7	3.2	7.9	3.6	24	11										

*Valve Width **Approximate dimensions ***Contact OCV Fluid Solutions for information on additional valve sizes & models



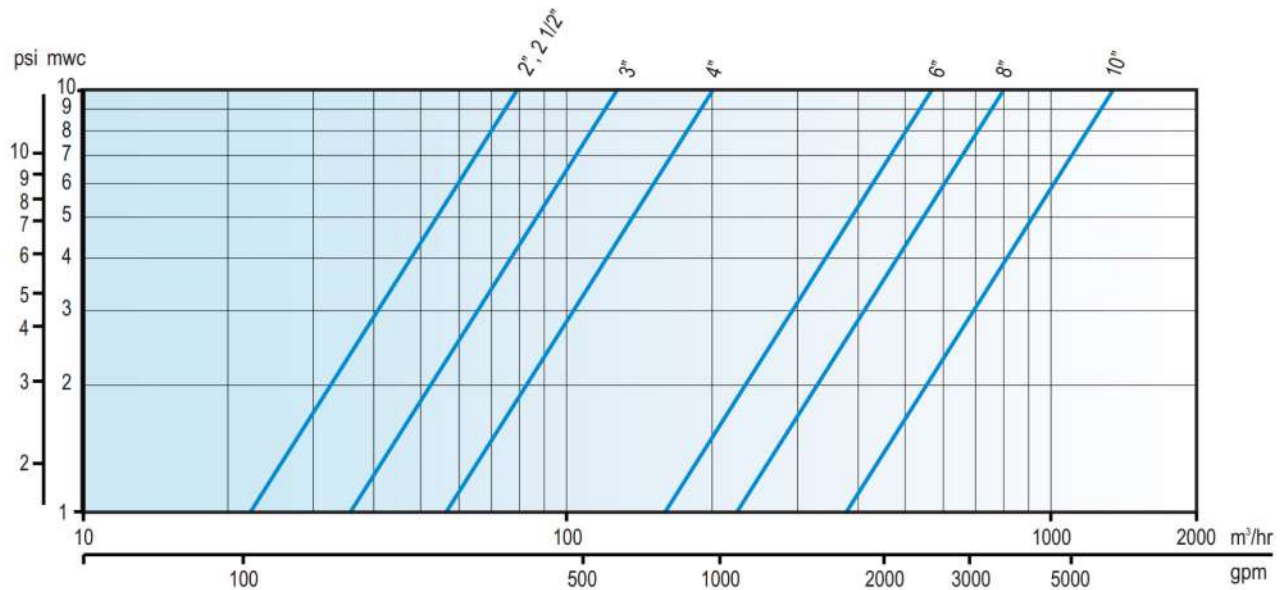
77/68

44

* General representation of valve

HEAD LOSS & HYDRAULIC CHARACTERISTICS

Model 68 Head Loss



Model 68 Hydraulic Characteristics

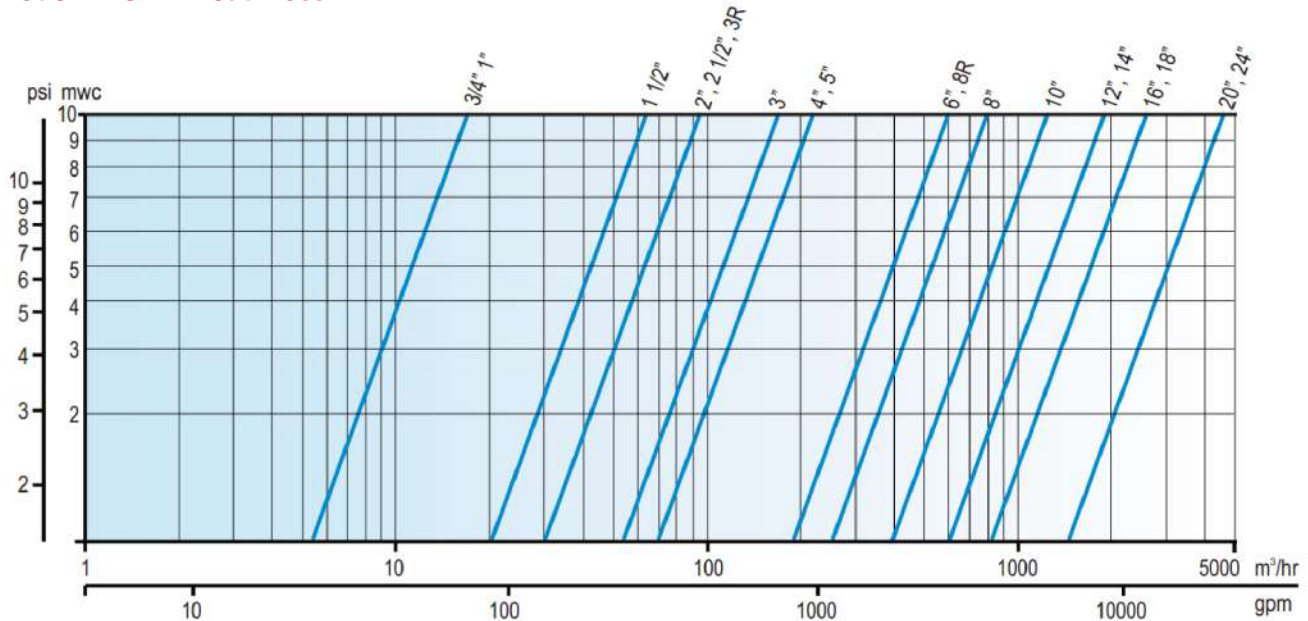
Table showing information for UL listed diameters.

Valve Size		50 (2")	65 (2.5")	80 (3")	100 (4")	150 (6")	200 (8")	250 (10")
K_v	m³/hr @ 1 bar	78	78	120	200	550	800	1300
C_v	gpm @ 1 psi	91	91	140	234	643	935	1519
K Factor	-	1.7	1.7	3.7	4.2	2.8	4.2	3.9
Equivalent Pipe Length @ C_{HW} = 120	meters	3.7	13.3	16.4	18.9	20.9	42.5	51.2
	feet	12	44	54	62	69	139	168
Control Chamber Displacement Volume	Liters	0.18	0.18	0.3	0.5	2	4.8	6.2
	Gallons	0.05	0.05	0.08	0.13	0.53	1.27	1.64



HEAD LOSS & HYDRAULIC CHARACTERISTICS

Model 44 & 77 Head Loss



Model 44 & 77 Hydraulic Characteristics

Table showing information for UL listed diameters.

Valve Size		25 (1")	40 (1.5")	50 (2")	65 (2.5")	80 (3")	100 (4")	150 (6")	200 (8")	250 (10")	300 (12")
K_v	m ³ /hr @ 1 bar	17	64	95	95	170	220	600	800	1250	1900
C_v	gpm @ 1 psi	20	75	110	110	200	260	700	930	1460	2220
K Factor	-	2.2	1.0	1.1	3.2	2.3	3.3	2.2	4.0	4.0	3.6
Equivalent Pipe Length @ C_{HW} = 120	meters	2	2	3	9	9	16	18	42	55	62
	feet	7	6	8	30	28	52	58	139	181	202
Control Chamber Displacement Volume	Liters	0.03	0.07	0.16	0.16	0.60	0.60	1.80	4.70	6.50	9.40
	Gallons	0.01	0.02	0.04	0.04	0.16	0.16	0.48	1.24	1.72	2.48



Model 77 PS\UL

Fire Pump Pressure
Relief Valve

UL Listed
Lloyd's Type Approved



Model 44 HY\PR1

Hydrant Pressure
Reducing Valve

Lloyd's Type Approved

PRESSURE RATING

Recommended nominal system pressure to flange class for typical materials as:

- Ductile Iron ASTM A536
- Stainless Steel ASTM CF8M
- Cast Steel ASTM A216 & ASTM A352 LCB
- NAB ASTM B148 C-95800

- 250psi nominal system pressure for flanges ANSI B16.42 & ANSI B16.50 class Class #150 accordingly.
- 375psi maximal system pressure for flanges ANSI B16.42 & ANSI B16.50 class Class #300 accordingly.

Material	End connections		Valve Sizes	Standard	Max. recommended working Pressure
Ductile Iron ASTM A536	Flanged	#150 RF (or FF)	2″–12″	ASME/ANSI B16.42	250 psi / 17.2 BAR
		#300 RF (or FF)	2″–12″	ASME/ANSI B16.42	375 psi / 25.8 BAR
		PN16	2″–12″	ISO 7005-2	230 psi / 16 BAR
		PN25	2″–12″	ISO 7005-2	360 psi / 25 BAR
		Grooved PN16	2″–8″	ASME/ANSI AWWA 606	230 psi / 16 BAR
		Grooved PN25	2″–8″	ASME/ANSI AWWA 606	360 psi / 25 BAR
		Threaded PN16	2″–3″	BSP / NPT	230 psi / 16 BAR
		Threaded PN25	2″–3″	BSP / NPT	360 psi / 25 BAR
Cast Steel WCB ASTM A216 LCB ASTM A352 Stainless Steel ASTM CF8M NAB ASTM B148 C-95800	Flanged	#150 RF (or FF)	2″–10″	ASME/ANSI B16.50	250 psi / 17.2 BAR
		#300 RF (or FF)	2″–10″	ASME/ANSI B16.50	375 psi / 25.8 BAR
		PN16	2″–10″	ISO 7005-2	230 psi / 16 BAR
		PN25	2″–10″	ISO 7005-2	360 psi / 25 BAR

For exact pressure & temperature ratings see relevant ASME/ANSI B16 Standards for Pipes and Fittings.
Contact OCVFS for information on additional materials and standards.

TECHNICAL DATA

Temperature:

- Water up to 85°C / 185°F max

Sizes:

- Straight Flow: .75" - 24" / 20-600 mm
- UL Listed: 2" - 10" / 50-250 mm
- Lloyd's Type Approved: 1" - 24" / 25-600 mm

End Connections:

- Flanged (Models 68 & 77) 1" - 24":
ISO PN16 & ISO PN25
ASME/ANSI B16.42 & B16.50 Class #150
& Class #300
Additional options available upon request
- Grooved (Models 68 & 77) 2" - 8":
ASME/ANSI AWWA 606
- Threaded (Model 44) .75" - 3":
BSP/NPT

Body & Cover Material:

- Ductile Iron ASTM A536
- Cast Steel ASTM A216 & A352 LCB
- Stainless Steel ASTM CF8M
- NAB ASTM B148 C-95800

Coating Material:

- High Built, Fusion Bonded Epoxy

Optional Coating Material:

- UV Protection
- Polyester
- Other coatings conforming to ISO-12944
C4, C5 & C5M

Internal Trim Material:

- Stainless Steel

Elastomers:

- Neoprene • NBR
- NR • EPDM

Control Trim & Accessories:

- Brass
- Bronze
- NAB
- Stainless Steel
- Monel
- Super Duplex

Optional Components:

- Pressure Reducing Feature
- Position Indicator
- Limit/Proximity Switch Assembly
- Pressure Switch
- Alarm Test Trim
- Drain Valve
- Explosion Proof
- Open/Close Speed Control
- Block & Bleed Valves for Pressure Sensing Components
- PPCS (Pneumatic Pressure Control System for Pneumatically Actuated Models)



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