



**Global** performance. **Personal** touch.

waterworks



Waterworks



OCV Control Valves was founded more than 50 years ago with a vision and commitment to quality and reliability. From modest beginnings, the company has grown to be a global leader just a half century later. In fact, OCV valves can be found in some capacity in nearly every country around the world. From fire protection systems in Malaysia, to aircraft fueling systems in Africa, and oil refineries in Russia to water supply systems in the USA and Canada along with irrigation systems in Europe, South America and the Middle East, our valves provide water superior handling solutions.

The original foundation on which the company was built allows our team of professionals to not only provide the service required to be a worldwide supplier, but, more importantly, the opportunity to afford the personal touch necessary to be each of our customers' best partner. Simply stated, we take pride in all that we do.

Committed to the work they do, our employees average over 15 years of service. This wealth of knowledge allows us to provide quality engineering, expert support, exacting control and the know-how to create valves known for their long life.

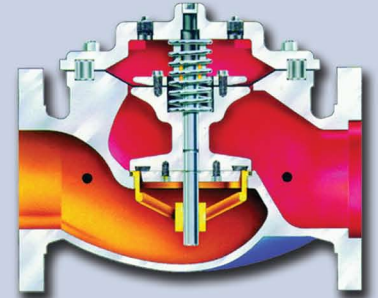
Being ISO 9001 certified means we are committed to a quality assurance program. Our policy is to supply each customer with consistent quality products and ensure that the process is right every time. Our valves meet and exceed industry standards around the world, including approvals by:



All valves are not created equal. OCV Control Valves proves that day in and day out. We stand behind our valves and are ready to serve your needs.

OCV control valves are hydraulically operated, diaphragm actuated globe or angle valves that operate automatically from either line pressure or an independent power source. Internal moving parts are minimal and all valves can be adjusted and serviced without removal from the line.

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## Basic Valve

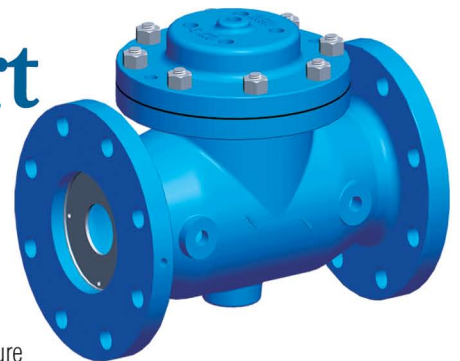
### Series 65 Basic Valve

The OCV Basic Control Valve 65 Globe and 65 Angle is a full port engineered valve. When equipped with a variety of pilots and accessories, the valve performs a wide range of automatic fluid control, making it a specified valve in municipal water, fire protection, irrigation, industrial, petroleum and aviation fueling systems.

- The 65 is dependable and hard working; with a simplicity of design that ensures minimal part wear for exceptional performance and longevity.
- Self-contained, the valve operates automatically off of line pressure.
- The 65 consists of three major components: body, bonnet, diaphragm assembly.

## Series 765 Reduced Port Reduced Port

The OCV Series 765 Control Valve is a globe pattern, reduced port engineered valve. The body, bonnet, internals and seat area are a size smaller than the flange size. Reduced port valves address the need for correctly sized valves without the use of pipeline reducers, allowing the valve to handle an application that demands flow rates of a smaller valve. An example would be an application where the flow rate dictates a 3" valve is used but the line size is 4 inches; thus a Model 765, 4" flanged body with 3" internals appropriately fits this condition.



Reduced port valves are available in most OCV valve series. Valve models using the reduced port basic valve start with a number 7. For example: Model 127 (full port pressure reducing) would become a Model 727 (reduced port pressure reducing). When equipped with a variety of pilots and accessories the 765 valve performs a wide range of automatic fluid control, making it a specified valve in many applications. Reduced port valves are not applicable for all applications; consult factory for proper sizing assistance. Most common applications are found in modulating or regulating valves; i.e. pressure reducing, pressure relief and others.



## Power Actuated

### Series 66 Power Actuated

The Basic Control Valve 66 Globe and 66 Angle is a full port engineered valve equipped with two diaphragm chambers, sealed from each other by the diaphragm, and isolated from the valve's main flow passage by an intermediate plate. By pressurizing one control chamber while simultaneously venting the other, the valve is positively powered to both open and close.

A large majority of OCV control valves have a single diaphragm chamber and operate off line pressure; more specifically, off the pressure differential between the inlet and outlet ports of the valve. There are, however, conditions that do not lend themselves to such an operation. For example operation. For example, adequate differential to properly actuate the valve may not exist, the liquid being handled may be extremely dirty or otherwise unsuitable, or design of the system may, for some reason, make it preferable to use an outside power source. Under such conditions, the OCV Power Actuated Valve 66/66A provides an excellent solution.





# Diaphragm Check

## Series 94 Diaphragm Check

The OCV Series 94 check valve is a simple on-off valve that opens to allow forward flow when inlet pressure exceeds outlet and closes tightly to prevent backflow when outlet pressure exceeds inlet pressure.

Series Features:

- Non-surge opening and/or closing when equipped with adjustable opening and/or closing speed controls.
- Equipped with valve position indicator on all models.

## Series 108 Pressure Relief

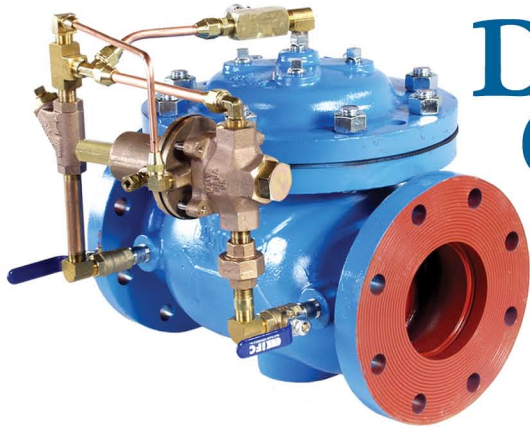
In many liquid piping systems, it is vital that line pressure is maintained within relatively narrow limits. This is the function of the 108 Pressure Relief / Back Pressure Series of the OCV control valves. Installed in the main flow line, the standard Model 108-2 acts as a back-pressure or pressure sustaining valve. In this configuration, the valve maintains a constant upstream pressure regardless of fluctuating downstream demand. When used in a bypass line, the same model will function as a relief valve, protecting the system against potentially damaging surges.

# Pressure Relief



Series Features:

- Relief: Maintains a constant inlet pressure by relieving excess high pressure.
- Sustaining: Prevents pressure from dropping below a minimum.
- Inlet pressure is adjustable with a complete range of control springs.
- Inlet pressure is accurate over a wide range of flow.
- Quick opening with controlled closing.



# Differential Control

## Series 110 Differential Control

The Series 110 Differential Control Valve is designed to accurately control the pressure

difference between any two points. In some systems this means the valve remains closed until pressure differential commands its opening. It is a pilot-operated modulating type valve which controls pressure accurately and consistently at the desired setting.

Series Features:

- Opens on increasing differential.
- Dual pilot sense lines can be valve or remote connected.
- Differential is adjustable over complete range of control springs.

## Series 115 Solenoid Control

The OCV Series 115 Solenoid Control Valve is designed to provide on/off or open/close control of fluids in response to an electrical signal. The valve consists of the basic OCV model 65 with solenoid-operated pilot. With the appropriate solenoid, the valve may be normally closed (energize to open) or normally open (energize to close).

# Solenoid Control

Series Features:

- The 115 Series provides responsive control in answer to such triggering devices as clocks, timers, relays, probes, pressure or temperature sensors.
- Available for AC or DC voltages.
- Wider range of sizes and flow capacity than is available with direct-acting solenoid valves.
- Valves can be equipped with Manual Override solenoid operation.
- Solenoid feature can be added to other hydraulic control functions.







## Surge Anticipation

### Series 118 Surge Anticipation

The OCV Series 118/108SA surge anticipation valves are designed to be installed in a bypass line and provide protection against damaging surges that can occur in pumping systems when a pump is suddenly stopped.

Unlike conventional relief valves, which open only when a high pressure wave hits, surge anticipation valve sense the precursor of the high pressure wave (pump power failure or low pressure wave) and open in anticipation of the returning high pressure wave that follows. By opening, the valve prevents the buildup of pressure before it occurs.

#### Series Features:

##### Electro-hydraulic Series 118

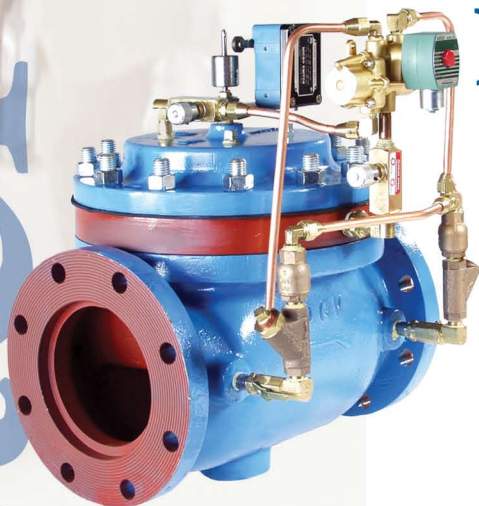
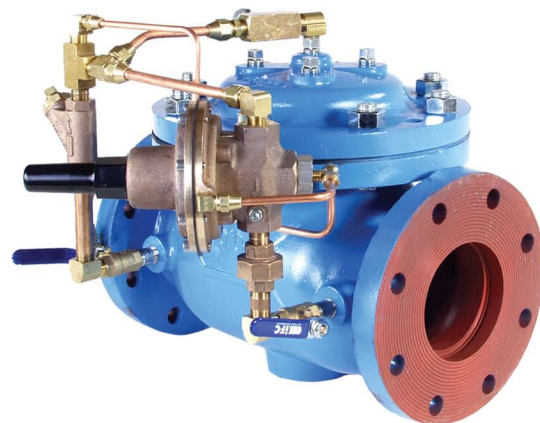
- Electrical power connection to pumping system for opening on loss of power or on a pressure switch low-pressure signal.
- Valve closes after (adjustable) predetermined time on power failure or low-pressure opening.
- Hydraulic, pilot operated, high-pressure relief opening.
- Uses Surge Commander electronics package (Model 118-4). *Hydraulic Model 108SA-3*
- No electrical requirements. ● Low-pressure opening pilot. ● High-pressure relief pilot.

### Series 120 Rate of Flow

The OCV Series 120 Rate of Flow control valve is designed to control or limit flow to a predetermined rate, regardless of fluctuations in downstream or upstream pressure.

## Rate of Flow

- Self contained, including the differential-sensing orifice plate and pilot.
- Flow rate is field adjustable (within orifice bore range).
- Extra-sensitive-differential pilot specifically designed for Rate-of-Flow application.
- Works equally well on all types of clean, non-abrasive liquids.



## Pump Control

### Series 125 Pump Control

The OCV Series 125 and 126 Pump Control Valves are designed to effectively eliminate the surges associated with the starting and stopping of the pump. Electrically interfaced with the

pump motor, the valve opens and closes at an adjustable speed, providing a smooth, predictable transition of pump discharge pressure and volume into the system.

#### Series Features:

- Valve opening speed is adjustable to pump and system requirements for smooth increase in pressure.
- Valve closing speed is adjustable, gradually decreasing pressure to system as valve closes.
- Valve is interlocked with pump motor to perform unified pump and valve operation.
- Built-in reverse flow check feature.
- Valve automatically shuts off pump motor on loss of pump discharge pressure (shaft lock-up).
- Two simple field adjustments: opening speed and closing speed.

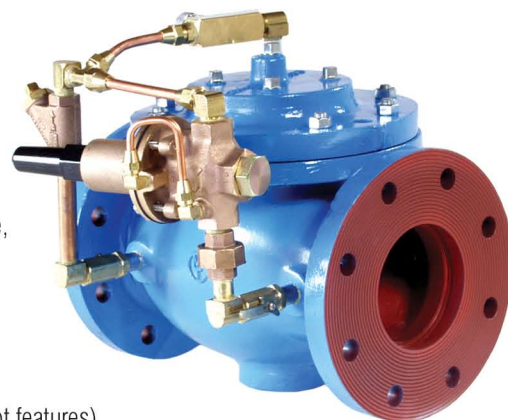
### Series 127 Pressure Reducing

The OCV Pressure-Reducing Valve is used in many applications worldwide. The primary function of the 127 series is to reduce a greater upstream pressure to a lesser, more manageable downstream pressure, operating without regard to either upstream supply or downstream demand.

## Pressure Reducing

#### Series Features:

- Reduces higher inlet pressure to a constant lower outlet pressure.
- Outlet pressure is accurate over wide range of flow.
- Pilot-operated main valve is not subject to pressure fall-off characteristic of direct-acting PRV's.
- Outlet pressure is adjustable over complete range of control spring (see pilot features).







## Float Control

### Series 8000 Float Control

The OCV Series 8000 float control valves are designed to maintain a desired level in a tank or reservoir by opening for filling the tank when fluid is below the high level point and closing tightly when the desired level is reached.

#### Series Features:

- The 8000 is a non-modulating valve; either full open or full closed. It is available in two basic configurations:
  1. Model 8000, with the float pilot provided separate from the main valve for remote mounting. This configuration is used when the fill line is located at the bottom of the tank.
  2. Model 8000VM, with the float pilot mounted on the main valve. This configuration is typically used when the fill line is located at the top of the tank.
- All Series 8000 valves include an OCV Model 65 Basic Valve assembly and a Model 814 three-way rotary float pilot. For faster operation, valves 8" and larger also include a Model 3600 three-way auxiliary pilot.
- For modulating Float Valves, please see OCV Series 8100.

## Altitude Control

### Series 3330 Altitude Control

The elevated tank, standpipe or storage reservoir is a common and important element found in many water distribution systems: municipal, fire protection, commercial, military and industrial. The function of the OCV Series 3330 Altitude Control Valve is accurate, automatic level control, without the use of floats or sensors. Pilot controls for the series can accommodate storage facilities up to 230 feet high, maintaining the liquid level to within inches of a predetermined set point. The series is offered in two basic types. The Model 3331 one-way flow is used for tank fill only. The Model 3333 allows flow both into and out of the tank.

#### Series Features:

- Consistently maintains water level to within inches of set point in tank/reservoirs from 5 to 230 ft high.
- Installs at the base of tank.
- Operates hydraulically without need for a tank-mounted float or electrical controls or sensors.



## Digital Electronic Control

### Series 22 Digital Electronic Control

With the development and proliferation of high level SCADA systems comes the need for automatic control valves to interface with such systems. The OCV Series 22 digital electronic control valves were specifically designed for this task. While retaining the advantages of simplicity and operation from line pressure, these valves offer a level of ease of operation and degree of control not previously achieved.

#### Series Features:

- Can be used as part of a SCADA system, or as a "stand alone"
- Extreme stability over a wide range of flows
- Useful when set points must be changed frequently
- Remote set point available
- Can be used to control almost any process variable
- Hydraulic pilot backup available
- Can be configured to accept all common process signals (4-20 mA, 0-5 volt, etc.)
- Can be configured for low head pressure applications.
- Well Commander is available for well/aquifer applicators.

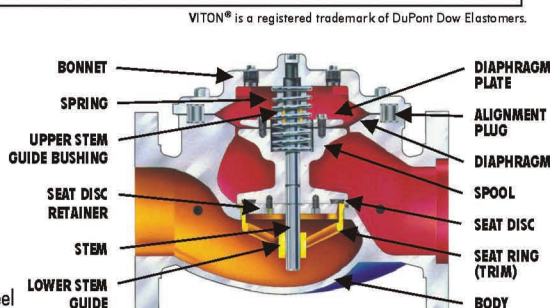




# Specifications

VALVE BODY & BONNET	DUCTILE IRON		CAST STEEL		CAST BRONZE		STAINLESS STEEL	
<b>Material Specifications</b>	ASTM A536 (epoxy coated)		ASTM A216/WCB (epoxy coated)		BRONZE		ASTM A743/CF8M	
<b>END CONNECTIONS</b>								
Flange Standard (also available in metric)	ANSI B16.42		ANSI B16.5		ANSI B16.24		ANSI B16.5	
Flange Class	150#	300#	150#	300#	150#	300#	150#	300#
Flange Face	Flat	Raised	Raised	Raised	Flat	Flat	Raised	Raised
Maximum Working Pressure	250 psi	640 psi	285 psi	740 psi	225 psi	500 psi	285 psi	740 psi
Screwed Working Pressure:	ANSI B1.20.1 (B2.1) 640 psi		Grooved End Working Pressure:		300 psi			
<b>INTERNALS</b>								
Stem	STAINLESS STEEL AISI 303				OPTIONAL MONEL			
Spring	STAINLESS STEEL AISI 302							
Spool	DUCTILE IRON ASTM A536 (epoxy coated)				BRONZE		STN. STL. ASTM A 743/CF8M	
Seat Disc Retainer	DUCTILE IRON ASTM A536 (epoxy coated) 4" & SMALLER VALVES - STAINLESS STEEL				BRONZE		STAINLESS STEEL	
Diaphragm Plate	DUCTILE IRON ASTM A536 (epoxy coated)				BRONZE		STAINLESS STEEL	
Seat Ring (Trim)	BRONZE OPTIONAL STAINLESS STEEL ASTM A743/CF8M						STN. STL. ASTM A 743/CF8M	
Upper Stem Bushing	STANDARD BRONZE ASTM B438		VALVE W/ STAINLESS STEEL SEAT RING-TEFLON			TEFLON		
Lower Stem Bushing	SEAT MATERIAL VALVES W/ STAINLESS STEEL SEAT RING-TEFLON						TEFLON	
<b>ELASTOMER PARTS (Rubber)</b>								
Diaphragm/Seat Disc/O-Rings	STANDARD - BUNA-N NYLON REINFORCED				OPTIONAL - VITON®		OPTIONAL - EPDM	
Operating Temperature	* Consult factory when temperatures approach low or high temperature allowances -40°F to 180°F				32°F to 400°F		0°F to 300°F	
<b>COATINGS</b> WIDE RANGE OF COATING PER YOUR FLUID APPLICATION. COATINGS HANDLE MUNICIPAL POTABLE WATER, SEAWATER, PETROLEUM AND REFINED PRODUCTS.								
<b>ELECTRICAL SOLENOIDS</b>								
Bodies	STANDARD BRASS				STAINLESS STEEL-OPTIONAL			
Elastomers	STANDARD - BUNA-N NYLON REINFORCED				OPTIONAL - VITON®			
Enclosures	WATER TIGHT, NEMA 1, 3, 4, & 4X - EXPLOSION PROOF - OPTIONAL (NEMA 7 & 9)							
Power	AC, 60HZ - 24, 120, 240, 480 VOLTS		AC, 50HZ - In 110 VOLT MULTIPLES			DC, 12, 24, 125, 240 VOLTS		
Operation	ENERGIZE TO OPEN (NORMALLY CLOSED)				DE-ENERGIZE TO OPEN (NORMALLY OPEN)			

<b>CONTROL PILOTS</b>		
Bodies	BRONZE	STAINLESS STEEL ASTM A743/CF8M
Internal		AISI 303
<b>CONTROL CIRCUITS</b>		
Tubing		COPPER OR STAINLESS STEEL
Fittings		BRASS OR STAINLESS STEEL



### SALTWATER SERVICE VALVE MATERIALS

Cast Steel Special Coatings --Ni Aluminum Bronze ASTM B148 --Super Duplex Stainless Steel



#### Globe Flanged Sizes

1.25"	1.5"	2"	2.5"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
32mm	40mm	50mm	65mm	80mm	100mm	150mm	200mm	250mm	300mm	350mm	400mm	450mm*	500mm*	600mm

\*CONSULT FACTORY



#### Angle Flanged Sizes

1.25"	1.5"	2"	2.5"	3"	4"	6"	8"	10"	12"	16"
32mm	40mm	50mm	65mm	80mm	100mm	150mm	200mm	250mm	300mm	400mm



#### Globe/Angle Screwed Sizes

1.25"	1.5"	2"	2.5"	3"
32mm	40mm	50mm	65mm	80mm



#### Globe/Angle Grooved Sizes

1.5"	2"	2.5"	3"	4"	6"
32mm	50mm	65mm	80mm	100mm	150mm*

\*GLOBE ONLY

Valves are also available in reduced port sizing. Please refer to the Series 765 in the OCV catalog.



# Dimensions

# OCV CONTROL VALVES

## U.S. DIMENSIONS - INCHES

DIM	END CONN.	1 1/4-1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	24
A	SCREWED	8 3/4	9 7/8	10 1/2	13	--	--	--	--	--	--	--	--
	GROOVED	8 3/4	9 7/8	10 1/2	13	15 1/4	20	--	--	--	--	--	--
	150# FLGD	8 1/2	9 3/8	10 1/2	12	15	17 3/4	25 3/8	29 3/4	34	39	40 3/8	62
	300# FLGD	8 3/4	9 7/8	11 1/8	12 3/4	15 5/8	18 3/4	26 3/8	31 1/8	35 1/2	40 1/2	42	63 3/4
B	SCREWED	1 7/16	1 11/16	1 7/8	2 1/4	--	--	--	--	--	--	--	--
	GROOVED	1*	1 3/16	1 7/16	1 3/4	2 1/4	3 3/16	--	--	--	--	--	--
	150# FLGD	2 5/16-2 1/2	3	3 1/2	3 3/4	4 1/2	5 1/2	6 3/4	8	9 1/2	10 5/8	11 3/4	16
	300# FLGD	2 5/8-3 1/16	3 1/4	3 3/4	4 1/8	5	6 1/4	7 1/2	8 3/4	10 1/4	11 1/2	12 3/4	18
C ANGLE	SCREWED	4 3/8	4 3/4	6	6 1/2	--	--	--	--	--	--	--	--
	GROOVED	4 3/8*	4 3/4	6	6 1/2	7 5/8	--	--	--	--	--	--	--
	150# FLGD	4 1/4	4 3/4	6	6	7 1/2	10	12 11/16	14 7/8	17	--	20 13/16	--
	300# FLGD	4 3/8	5	6 3/8	6 3/8	7 13/16	10 1/2	13 3/16	15 9/16	17 3/4	--	21 5/8	--
D ANGLE	SCREWED	3 1/8	3 7/8	4	4 1/2	--	--	--	--	--	--	--	--
	GROOVED	3 1/8*	3 7/8	4	4 1/2	5 5/8	--	--	--	--	--	--	--
	150# FLGD	3	3 7/8	4	4	5 1/2	6	8	11 3/8	11	--	15 11/16	--
	300# FLGD	3 1/8	4 1/8	4 3/8	4 3/8	5 13/16	6 1/2	8 1/2	12 1/16	11 3/4	--	16 1/2	--
E	ALL	6	6	7	6 1/2	8	10	11 7/8	15 3/8	17	18	19	27
F	ALL	3 7/8	3 7/8	3 7/8	3 7/8	3 7/8	3 7/8	6 3/8	6 3/8	6 3/8	6 3/8	6 3/8	8
G	ALL	6	6 3/4	7 11/16	8 3/4	11 3/4	14	21	24 1/2	28	31 1/4	34 1/2	52
H	ALL	10	11	11	11	12	13	14	17	18	20	20	28 1/2

\*GROOVED END NOT AVAILABLE IN 1 1/4"

## METRIC DIMENSIONS - M.M.

DIM	END CONN.	DN32-DN40	DN50	DN65	DN80	DN100	DN150	DN200	DN250	DN300	DN350	DN400	DN600
A	SCREWED	222	251	267	330	--	--	--	--	--	--	--	--
	GROOVED	222	251	267	330	387	508	--	--	--	--	--	--
	150# FLGD	216	238	267	305	381	451	645	756	864	991	1026	1575
	300# FLGD	222	251	283	324	397	473	670	791	902	1029	1067	1619
B	SCREWED	37	43	48	57	--	--	--	--	--	--	--	--
	GROOVED	25*	30	37	44	57	81	--	--	--	--	--	--
	150# FLGD	59-64	76	89	95	114	140	171	203	241	270	298	406
	300# FLGD	67-78	83	95	105	127	159	191	222	260	292	324	457
C ANGLE	SCREWED	111	121	152	165	--	--	--	--	--	--	--	--
	GROOVED	111*	121	152	165	194	--	--	--	--	--	--	--
	150# FLGD	108	121	152	152	191	254	322	378	432	--	529	--
	300# FLGD	111	127	162	162	198	267	335	395	451	--	549	--
D ANGLE	SCREWED	79	98	102	114	--	--	--	--	--	--	--	--
	GROOVED	79*	98	102	114	143	--	--	--	--	--	--	--
	150# FLGD	76	98	102	102	140	152	203	289	279	--	398	--
	300# FLGD	79	105	111	111	148	165	216	306	298	--	419	--
E	ALL	152	152	178	165	203	254	302	391	432	457	483	686
F	ALL	98	98	98	98	98	98	162	162	162	162	162	203
G	ALL	152	171	195	222	298	356	533	622	711	794	876	1321
H	ALL	254	279	279	279	305	330	356	432	457	508	508	724

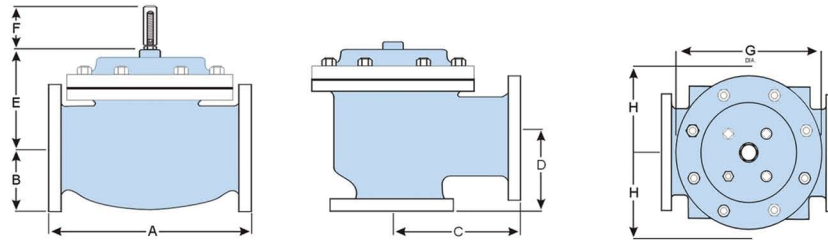
\*GROOVED END NOT AVAILABLE IN DN32

For maximum efficiency, the OCV control valve should be mounted in a piping system so that the valve bonnet (cover) is in the top position. Other positions are acceptable but may not allow the valve to function to its fullest and safest potential. In particular, please consult the factory before installing 8" and larger valves, or any valves with a limit switch, in positions other than described. Space should be taken into consideration when mounting valves and their pilot systems.

A routine inspection & maintenance program should be established and conducted yearly by a qualified technician. Consult our factory @ 1-888-628-8258 for parts and service.

### How to order your valve

When ordering please provide: - Series Number - Valve Size - Globe or Angle - Pressure Class - Screwed, Flanged, Grooved - Trim Material - Adjustment Range - Pilot Options - Special Needs / or Installation Requirements.



## 765 Dimensions Table

DIM	ANSI CLASS	VALVE SIZE									
		3	4	6	8	10*	12*	16*	18	20	24
A	150	10.50	13.50	15.50	21.62	26.00	30.00	35.00	48.00	48.00	48.00
	300	10.88	14.12	16.38	22.62	27.38	31.50	36.62	49.62	49.62	49.75
B	150	3.75	4.50	5.50	6.75	8.00	9.50	11.75	12.50	13.75	16.00
	300	4.12	5.00	6.25	7.50	8.75	10.25	12.75	14.00	15.25	18.00
E	ALL	6.00	6.50	7.92	10.00	11.88	15.38	17.00	19.00	19.00	19.00
F	ALL	3.88	3.88	3.88	3.88	6.38	6.38	6.38	6.38	6.38	6.38
G	ALL	6.75	8.75	11.75	14.00	21.00	24.50	28.00	34.50	34.50	34.50
H	ALL	11.00	11.00	12.00	13.00	14.00	17.00	18.00	20.00	20.00	20.00
INTERIOR PORT		2"	3"	4"	6"	8"	10"	12"	16"	16"	16"
Cv		70	135	215	480	--	--	--	3000	3300	3600

\*Consult factory





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**1-888-OCV-VALV (628-8258)**

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Visit [www.valvemasterocv.com](http://www.valvemasterocv.com) for our unique valve sizing software



YouTube



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**Global** performance. **Personal** touch.