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AVIATION FUELING

CONTROL VALVES



Control Valves LLC
Registered to ISO 9001

Global performance. **Personal** touch.

Quality products backed by the industry's leading warranty.

For over 60 years, OCV has been a trusted name in the military and commercial aviation industries, providing quality products and backing them up with outstanding service and an industry-leading 5-year warranty. Nothing speaks louder of our commitment to quality and performance, and to the customers we serve around the globe.



Global performance. Personal touch.

Over the years, we've learned what's important to our customers. You want a quality product that's been tested and tested again, then backed by the leading 5-year warranty in the business. You want service that's personal, built on responsiveness, integrity and trust. And you want it all at a price that's competitive. That's why engineers, construction professionals and end users are choosing OCV Control Valves. With our modern facilities and expanding global presence, we're the smart choice for fluid system control.

We proudly service the waterworks, fire protection, terminal services, aviation fueling, commercial plumbing and mining industries, offering our customers, the highest quality control valves and fluid control solutions worldwide.



Smart Solutions for Military and Commercial Aviation

We offer a wide range of valve designs and custom solutions to meet the needs of the aviation industry. Our valves offer solutions from start to finish. All our control valves are high performance and designed to operate to spec. From truck loading, fuel filtration and back pressure control, our valves will help improve your fueling systems. Our quality and availability have made us the standard in aviation fueling.

OUR VALUES

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.

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.

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



FILTER SEPARATOR VALVES

Model 119 Filter Separator Shut-Off Valve

Model 119

The Model 119 Slug Valve (FSCV) interfaces with filter separators via OCV's filter-mounted float pilot. When too much water accumulates in the sump of a filter, the float rises up and shuts down the slug valve to prevent water from contaminating the hydrant system. This valve can be trimmed with a wide variety of features. Some of the more common features used are: Check, Flow-limiting, Emergency Shutdown, and Max-Differential Shutdown.

FEATURES

- High capacity pilot system provides quick closing
- Valve position indicator



Model 119-5 Filter Separator Rate of Flow/Shut-Off Valve

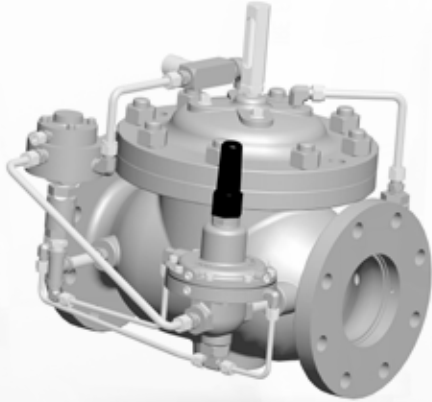
The Model 119-5 limits the flow of fuel through a filter separator and, in the event of high water levels in the filter separator sump, closes fully. It operates in conjunction with one of the OCV 800 Series interface float pilots.

FEATURES

- Controls or limits flow to a predetermined rate
- Built-in orifice plate for sensing flow rate
- Extra-sensitive differential pilot
- Flow rate is adjustable with single screw
- High capacity pilot system provides quick closing
- Valve position indicator
- Meets the UFGS-33 52 43.14 Guide Specifications for a Filter Separator Control Valve with a Flow Limiting Feature



Model 119-15 Filter Separator Rate of Flow/Shut-Off/Check Valve

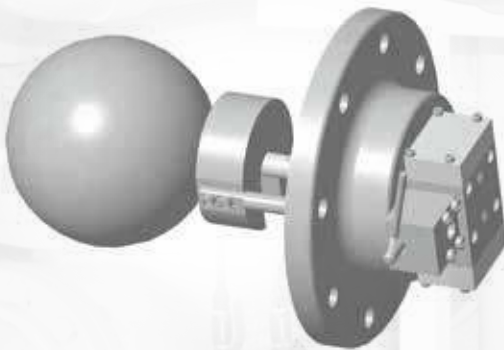


The Model 119-15 is designed to limit the flow of fuel through a filter separator, close fully in the event of high water levels in the filter separator sump and to prevent reverse flow. It operates in conjunction with one of the OCV 800 Series interface float pilots.

FEATURES

- Controls or limits flow to a predetermined rate
- Built-in orifice plate for sensing flow rate
- Extra-sensitive differential pilot
- Flow rate is adjustable with single screw
- High capacity pilot system provides quick closing on water slug
- Check feature integral to pilot system
- Optional solenoid can be added for emergency shut-off functions
- Meets the UFGS-33 52 43.14 Guide Specifications for a Filter Separator Control Valve

Model 800D-MTW Interface Float Pilot-Side Mounted



The Model 800D-MTW is the key control element of all OCV filter separator float controls, the sole purpose of which is to allow only the discharge of clean, water-free fuel from the filter separator.

FEATURES

- Ballasted manual tester verifies integrity of float ball
- Side-mount flange fits most brands of filter separators
- Pilot float “rides” the interface between water and fuel
- Four-way control to actuate discharge slug valve and/or automatic water drain valve
- Uses OCV’s time-proven 800 pilot block design
- Stainless Steel pilot and float assembly (no red metals)
- Meets the UFGS-33 52 43.14 Guide Specifications for a Filter Separator Float Control Valve and Tester

Model 120-16

The Model 120-16 is applicable anywhere the flow rate must be controlled or limited. Typical examples include pump systems and fuel metering systems (FSCV).

FEATURES

- Modulates as required to prevent flow rate from exceeding a predetermined maximum
- Opens and closes via discrete electrical signals
- Closes to prevent backflow in the event of pressure reversal
- Built-in orifice plate for sensing flow rate
- Extra-sensitive differential pilot
- Flow rate is adjustable with single screw
- Adjustable response speed



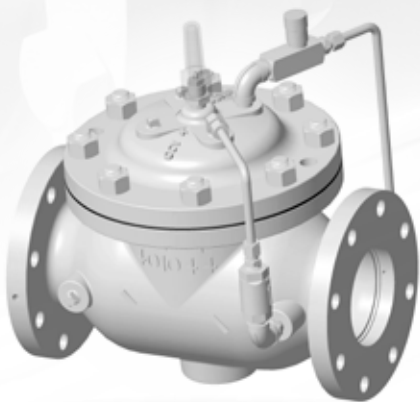
PUMP DISCHARGE VALVES

Model 120-6 Rate of Flow/ Non-Surge Check Valve

The Model 120-6 is applicable where the flow rate must be controlled or limited and reverse flow must be prevented, and is therefore ideal as a pump discharge control valve (CV).

FEATURES

- Controls or limits flow to a predetermined rate
- Built-in orifice plate for sensing flow rate
- Check feature closes valve on pressure reversal
- Extra-sensitive differential pilot
- Flow rate is adjustable with single screw
- Adjustable response speed
- Optional solenoid can be added for emergency shut-off functions
- Meets the UFGS-33 52 43.14 Guide Specifications for a Non-Surge Check Valve with Flow Control



Model 94-1QC Non-Surge Check Valve

The Model 94-1QC non-surge check valve is a simple on/off valve which effectively minimizes pump start up surges. The 94-1QC opens at an adjustable speed to allow forward flow and closes quickly and tightly to prevent reverse flow (CV).

FEATURES

- Opens slowly on pump start
- Closes quickly on pump shut-down
- Visual indicator enables operator to determine valve position at a glance
- Meets the UFGS-33 52 43.14 Guide Specifications for a Non-Surge Check Valve

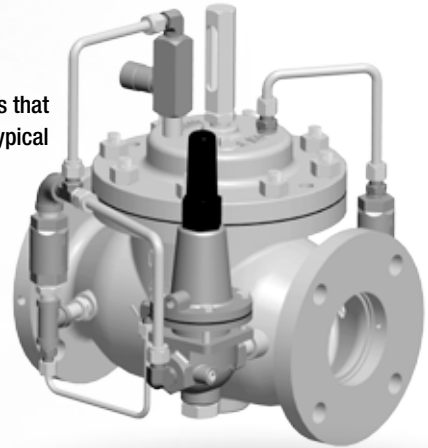
SYSTEM PRESSURE CONTROL VALVES

Model 108-3

The Model 108-3 is applicable anywhere a system must be protected from pressures that are too high (relief) or too low (sustaining) and reverse flow must be prevented. Typical examples include pump systems and fuel distribution systems (PCV).

FEATURES

- Pressure Sustaining: prevents inlet pressure from dropping below a predetermined minimum
- Automatic closure on pressure reversal
- Operates over a wide flow range
- Set pressure is adjustable with single screw
- Quick opening and adjustable closing speed



Model 108-34 Backpressure/Check/Solenoid Shut-Off Valve

The Model 108-34 is used to maintain a minimum back pressure, combined with the requirement of backflow prevention and an on/off electrical operation. Typical application examples include pump systems, fuel distribution systems and hydrant refueling system back pressure control valve (BPCV, PCV, D/FV).

Backpressure Control Valves (BPCV) are activated via solenoid and maintain a hydrant system pressure during aircraft fueling operations. Pressure Control Valves (PCV) lower hydrant system pressure during low usage or zero-demand times. Defuel/Flush Valves (D/FV) are used while either defueling aircraft or flushing hydrant system of debris.

FEATURES

- Pressure Sustaining: Prevents inlet pressure from dropping below a predetermined minimum
- Electrically operated solenoid allows valve to open (control pressure) or shut off (close)
- Automatic closure on pressure reversal
- Operates over a wide flow range
- Meets the UFGS-33 52 43.14 Guide Specifications for a Backpressure Control Valve in a Type III System, for a Pressure Control Valve in a Type III System and an Air Block Valve/Non-Surge Check Valve
- Set pressure is adjustable with single screw
- Quick opening and adjustable closing speed
- Can be specialized for Type III and Type IV Systems





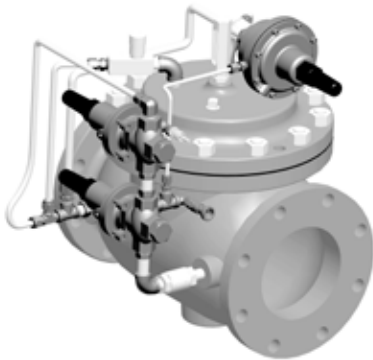
Model 115-2 Solenoid Shut-Off/Flushing Valve

The Model 115-2 is used to open and close a valve electrically. Typical application examples include process control, petroleum loading terminals and storage tank level control (FV).

FEATURES

- Electrically operated solenoid allows valve to open or close
- Adjustable response speed

REFUELING & DEFUELING CONTROL VALVES



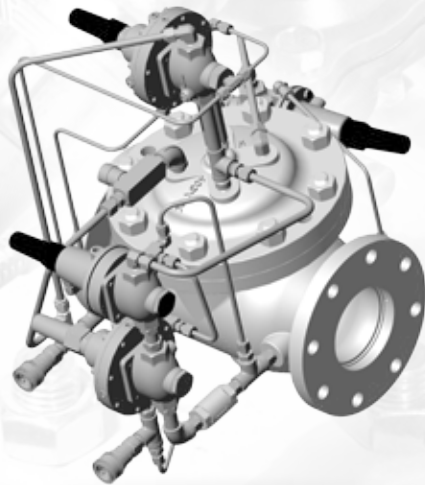
Model 114-1 Hydrant Control Valve for Hose Truck Systems

The OCV Model 114-1 is a control valve specifically designed for aircraft refueling service. Known as either a refueling or a hydrant control valve, it is the typical control valve for hydrant refueling systems and is used in conjunction with a hydrant hose truck or refueler. It opens and closes via pneumatic deadman control, modulates to control downstream pressure at a predetermined set point while open and closes rapidly to prevent undue pressure buildup due to a rapid reduction in demand (HCV).

FEATURES

- Pneumatic deadman control
- Pressure reducing pilot senses valve outlet or pressure compensating venturi
- High capacity surge control minimizes pressure buildup on reduction of flow
- Opening speed control
- Automatically opens for downstream thermal relief or defueling
- Equipped with visual indicator to monitor valve position
- Meets the UFGS-33 52 43.14 Guide Specifications for a Hydrant Control Valve for Hose Truck Systems (HHT) and Pantograph Systems

Model 114-2 control valve



The OCV Model 114-2 is a control valve specifically designed for aircraft refueling service. Known as either a refueling or a hydrant control valve, it is the typical control valve used on pantograph refueling systems. It opens and closes via hydraulic deadman control, while open modulates to control downstream pressure at a predetermined set point, limits flow rate to a predetermined maximum and closes rapidly to prevent undue pressure buildup due to a rapid reduction in demand (HCV).

FEATURES

- Hydraulic deadman control
- Pressure reducing pilot senses valve outlet or pressure compensating venturi
- High capacity surge control minimizes pressure buildup on reduction of flow
- Rate of flow pilot limits maximum flow
- Opening speed control
- Automatically opens for downstream thermal relief or defueling
- Equipped with visual indicator to monitor valve position

Model 114-3 Hydrant Control Valve for Pantograph Systems



The OCV Model 114-3 is a control valve specifically designed for aircraft refueling service. Known as either a refueling or a hydrant control valve, it is the typical control valve used on pantograph refueling systems. It opens and closes via hydraulic deadman control, modulates to control downstream pressure at a predetermined set point whole open, and closes rapidly to prevent undue pressure buildup due to a rapid reduction in demand (HCV).

FEATURES

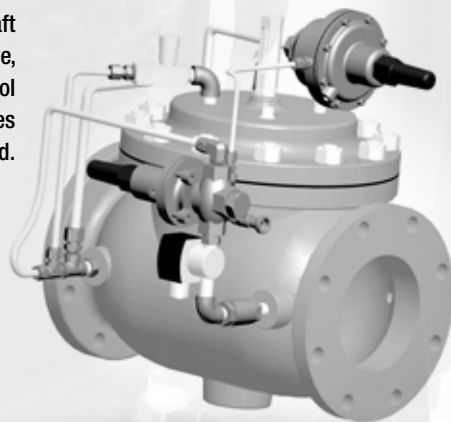
- Hydraulic deadman control
- Pressure reducing pilot senses valve outlet or pressure compensating venturi
- High capacity surge control minimizes pressure buildup on reduction of flow
- Opening speed control
- Automatically opens for downstream thermal relief or defueling
- Equipped with visual indicator to monitor valve position
- Meets the UFGS-33 52 43.14 Guide Specifications for a Hydrant Control Valve for Pantograph Systems

Model 114-1E Refueling Control Valve

The OCV Model 114-1E is a control valve specifically designed for aircraft refueling service. Known as either a refueling or a hydrant control valve, it opens and closes electrically via a solenoid pilot, modulates to control downstream pressure at a predetermined set point while open and closes rapidly to prevent undue pressure buildup due to a rapid reduction in demand.

FEATURES

- Electrical deadman control
- Pressure reducing pilot senses valve outlet or pressure compensating venturi
- High capacity surge control minimizes pressure buildup on reduction of flow
- Opening speed control
- Automatically opens for downstream thermal relief or defueling
- Equipped with visual indicator to monitor valve position
- Designed for Hose Truck Systems (HHT) and Pantograph Systems

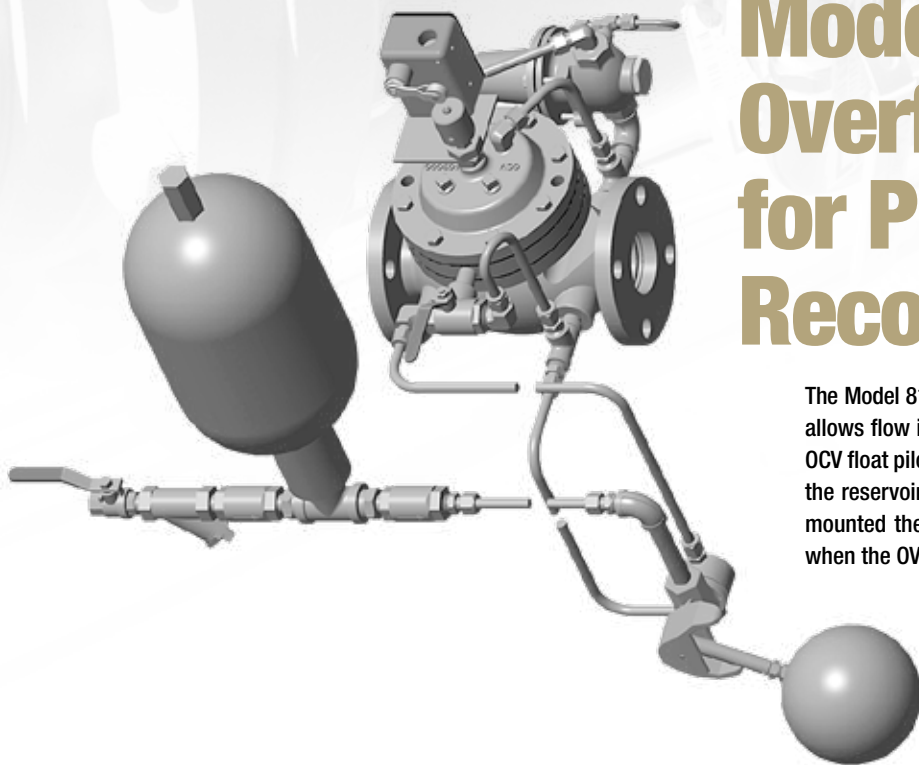


Model 8121-ETR Overfill Valve for Product Recovery Tank

The Model 8121-ETR Overfill Valve (OV) is a normally open valve that allows flow into a fuel reclaim reservoir. The OV is controlled via an OCV float pilot remotely mounted on the fuel reclaim reservoir. When the reservoir is full, the OV will close to prevent overfilling. A valve mounted thermal relief valve prevents upstream pressure build-up when the OV is closed due to a full reservoir.

FEATURES

- Automatically opens to allow flow to the tank when the tank is less than full (float down)
- Closes when the tank is full (float up)
- Relieves upstream thermal pressure buildup into the tank regardless of tank level



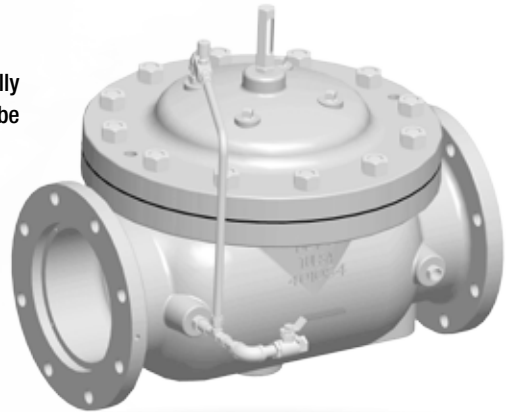
HIGH LEVEL CONTROL VALVES

Model 8101

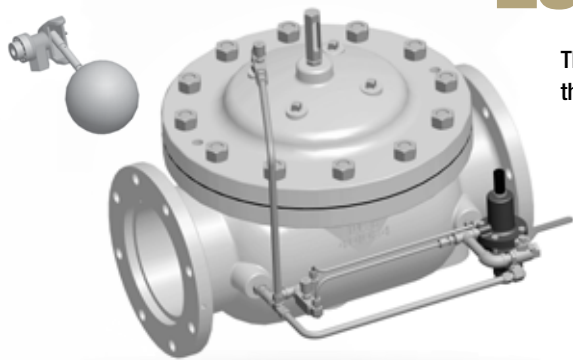
The Model 8101 is applicable anywhere it is necessary to automatically control the high level in storage tanks where the float pilot can be mounted inside the tank.

FEATURES

- Allows tank filling and shuts off on high level
- Remote-mounted float pilot (inside tank)
- Two field-installed lines between valve and float pilot
- Adjustable response speed
- Manual tester available on float pilot



Model 8104 High Level Shut-Off Valve



The Model 8104 automatically controls the high level in storage tanks where the float pilot can be mounted inside the tank, such as below ground tanks.

FEATURES

- Allows tank filling and shuts off on high level
- Remote-mounted float pilot (inside tank)
- Two field-installed lines between valve and float pilot
- Adjustable response speed
- Manual tester available on float pilot

Model 8106-6 High Level Shut-Off Valve

The Model 8106-6, with its chamber-mounted float pilot, is specifically designed for high level shut-off use on floating pan tanks. It opens to allow the tank to fill, automatically closing when the tank high level is reached and closes tightly to prevent flow if the tank head should exceed inlet pressure.

- Optional pressure sensitive closing feature can be added
- Optional quick opening solenoid can be added
- Meets the UFGS-33 52 43.14 Guide Specifications for a High Level Shut-Off Valve with Check Feature



TANK SAFETY VALVES

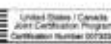


The Model 66TS Tank Safety Valve

The Model 66TS Tank Safety Valve is designed to automatically isolate a fuel storage tank from its loading terminal or product transfer point. Hydraulically linked to the delivery pump, the valve is open only when the pump is running and is effectively producing pressure. The valve will automatically close when the pump is off, fails to produce pressure, or in the event of a line rupture.

FEATURES

- Totally hydraulic operation; no electrical connections
- Dual chamber, full open, low pressure drop design
- Thermal relief of excess downstream pressure
- Provides anti-siphon protection
- Capable of manual operation
- Valve position indicator standard



SPECIFICATIONS

VALVE BODY & BONNET	DUCTILE IRON		CAST STEEL WCB		CAST STEEL WCB		STAINLESS STEEL	
END CONNECTIONS								
Flange Standard (also available in metric)	ANSI B16.42		ANSI B16.5		ANSI B16.5		ANSI B16.5	
Flange Class	150#	300#	150#	300#	150#	300#	150#	300#
Flange Face	Flat	Raised	Raised	Raised	Raised	Flat	Raised	Raised
Maximum Working Pressure (at 100°F)	250 psi	640 psi	285 psi	740 psi	285 psi	740 psi	275 psi	720 psi
INTERNALS								
Stem	Stainless Steel							
Spring	Stainless Steel							
Spool	Ductile Iron (epoxy coated) / OPTIONAL - Stainless Steel						Stainless Steel	
Seat Disc Retainer	Ductile Iron 9epoxy coated) (10" & Larger) Stainless Steel (8" & Smaller / Optional - All Sizes)						Stainless Steel	
Diaphragm Plate	Ductile Iron (epoxy coated) / OPTIONAL - Stainless Steel						Stainless Steel	
Seat Ring (Trim)	Stainless Steel / Optional Bronze						Stainless Steel	
Upper Stem Bushing	Bronze or Teflon®						Teflon®	
Lower Stem Bushing	Not Applicable for Bronze Seat Rings / Teflon® for Stainless Steel Seat Rings							
ELASTOMERS PARTS (Rubber)								
Diaphragm/Seat Disc/O-Rings	BUNA-N		or	VITON®	or	Fluorosilicon	or	EPDM
Operating Temperature*	-20°F to 180°F		20°F to 230°F		-40°F to 150°F		0°F to 230°F	
*Consult factory when temperatures approach low or high temperature allowance.								
COATINGS Wide range of coating fluid applications. Coatings handle petroleum and refined products. Electroless nickel plating is standard for military applications.								
ELECTRICAL SOLENOIDS								
Bodies	Brass or Stainless Steel							
Enclosures	Explosion proof solenoids available. ATEX/IECEx Optional							
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)			

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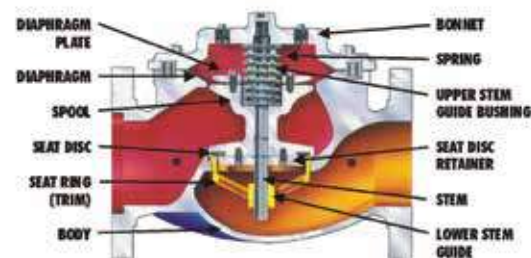
CONTROL PILOTS

Bodies	Stainless Steel
Internal	Stainless Steel

CONTROL CIRCUITS

Tubing	Stainless Steel
Fittings	Stainless Steel

Stainless Steel is standard for Control pilot and control circuit tubing unless requested otherwise by the customer.



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

DIMENSIONS

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	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 5/8*	26 3/8	31 1/8	35 1/2	40 1/2	42	63 3/4
B	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	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	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

* Note: for military fueling valves, 6" 150# flanges have 20" face to face dimensions and 6" 300# flanges have 20-7/8" face to face dimensions.

METRIC DIMENSIONS - MM													
DIM	END CONN.	DN32-DN40	DN50	DN65	DN80	DN100	DN150	DN200	DN250	DN300	DN350	DN400	DN600
A	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	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	150# FLGD	108	121	52	152	191	254	322	378	432	--	529	--
	300# FLGD	111	127	162	162	198	267	335	395	451	--	549	--
D	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

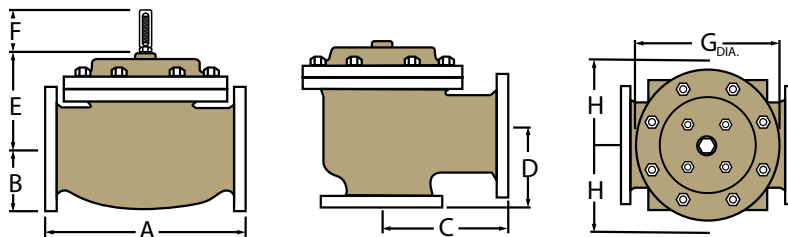
* Note: for military fueling valves, 6" (DN150) 150# flanges have 20" (20 mm) face to face dimensions and 6" (DN150) 300# flanges have 20-7/8" (208 mm) face to face dimensions.

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 - Fluid to be Controlled - Elastomer Material - Special Needs / or Installation Requirements.



A plant powered by our people.

In 2010, we transitioned from a family-owned company to an Employee Stock Ownership Plan (ESOP), extending our ownership to workers who now have a direct stake in our success. It's that pride and personal investment that have empowered us to become worldwide leaders in valve manufacturing and sales.

Our state-of-the-art manufacturing campus and corporate headquarters are located in Tulsa, Oklahoma.



OCV World Headquarters

- A. Plant 1: Machine shop, valve assembly and water valve testing.
- B. Administrative offices.
- C. Plant 2: Coating shop.
- D. Plant 3: Fueling valve testing.
- E. Valve storage.



Global performance. **Personal** touch.

1-888-OCV-VALV (628-8258) | 918.627.1942

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