OCV Model 66TS

High Level Shut-Off/Special Application Valves

Aquestia
Directing the Flow

General representation

Fueling

Aviation Fueling

Tank Safety Valve

Description

The tank safety valve shall operate by means of hydraulic pressure from the transfer pump discharge. The valve shall open on positive pressure and close on loss of pressure. It shall be equipped to relieve downstream to upstream in the event of thermal buildup. It shall be equipped with a manual opening feature and valve position indicator.

The OCV 66TS 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 runs 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 & Benefits

- 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
- Can be maintained without removal from the line
- Valve position indicator standard
- Factory tested

Certification & Compliance

NSF-ISO Quality System (9001)

ABS Type Approval

Joint Certification Program — United States / Canada Joint Certification Program Certification Number 0073030

UFGS-33 52 43.14 Guide Specifications

CE (Conformité Européenne) Compliance

Typical Applications

Commercial Airports

Military Bases

Bulk Fuel Storage Tanks

Truck On/Off Loading

Fuel Farms

Hydrant Systems

Mobile Refueling Equipment (Carts/Trucks/Tankers)

Refineries

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Operation

The OCV 66TS is built on a dual diaphragm chamber valve design. It is opened and closed by pressure applied to either side of the diaphragm. The lower chamber receives pressure from pump discharge and acts to open the valve, while loss of this pressure allows the valve spring to close the valve.

Opening Cycle: When the pump discharge pressure reaches 5 psi over tank head, the valve begins to open. It is fully open when pump discharge is 15 psi over tank head.

Closing Cycle: Valve closing will start when pump discharge pressure drops for any reason to tank head. This may be due to normal pump shut down, pump failure, or line rupture.

Manual Opening: The valve is equipped with a Schrader air valve to enable connection of a pressure source (hand pump, low pressure air bottle, etc.) to open the valve.

Thermal Relief: Pressure buildup of 6-10 psi (above tank head) in the downstream piping will automatically be relieved back through the valve to the tank.

Components

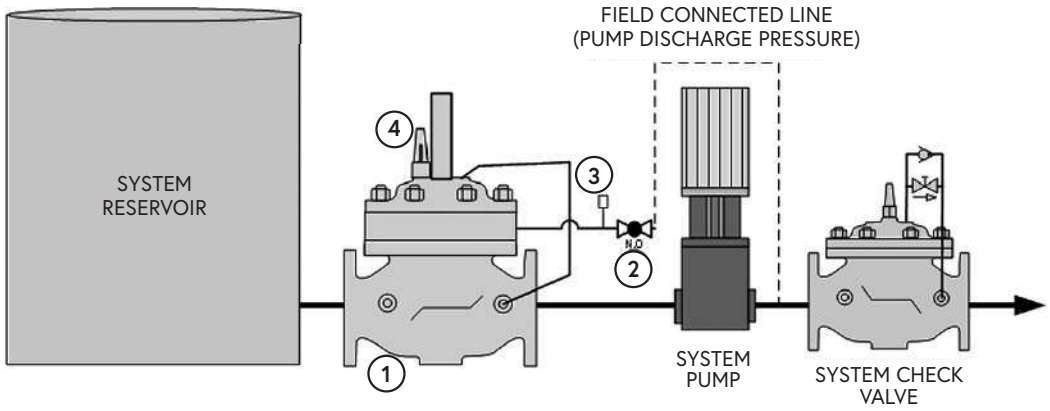
The OCV 66TS consists of the following components, arranged as shown on the schematic diagram:

1 66TS Main Valve

2 Ball Valve

3 Schrader Valve

4 Visual Indicator



Pressure Table

End Connections	Ductile Iron	STEEL/SST	STEEL LCB	STEEL WCB	Aluminum
Standard (Maximum Working Pressures at 100°F)					
Screwed	640 psi	640 psi	--	--	285 psi
Grooved	300 psi	300 psi	--	--	200 psi
150# Flanged	250 psi	285 psi	--	--	285 psi
300# Flanged	640 psi	740 psi	--	--	--
Metric (Maximum Working Pressures at 37.78°C)					
Screwed	44.1 bar	44.1 bar	44.1 bar	44.1 bar	19.7 bar
Grooved	20.7 bar	20.7 bar	20.7 bar	20.7 bar	13.8 bar
150# Flanged	17.2 bar	19.0 bar	18.4 bar	19.7 bar	19.7 bar
300# Flanged	44.1 bar	49.6 bar	48.0 bar	51.0 bar	--

Based on ANSI flange ratings.

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Flow Chart

Standard Size Max. Flow (GPM)	2"	3"	4"	6"	8"	10"	12"	16"
20 FT/SEC (Max. Continuous)	200	460	800	1800	3100	4900	7000	11000
Valve Cv	47	120	200	450	750	1250	1960	2850
Metric Size Max. Flow (m^3/hr)	DN50	DN80	DN100	DN150	DN200	DN250	DN300	DN400
6.10 M/SEC (Max. Continuous)	45	105	182	409	681	954	1363	2180
Valve Cv	41	104	173	389	649	1080	1695	2465

The size of the OCV 66TS is typically the same as the pump suction line; however, in no case should the maximum velocity exceed 20 ft/sec (metric: 6.10 meters/sec).

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

Typical Materials

Part	Standard Material
Body/Bonnet	Ductile Iron (epoxy coated), Carbon Steel (epoxy coated), Stainless Steel
Seat Ring	Stainless Steel, Bronze
Stem	Stainless Steel, Monel
Spring	Stainless Steel
Diaphragm	Buna-N, Viton (Nylon reinforced)
Seat Disc	Buna-N, Viton
Pilot	Stainless Steel, Bronze
Other Pilot System Components	Stainless Steel, Bronze/Brass
Tubing & Fittings	Stainless Steel

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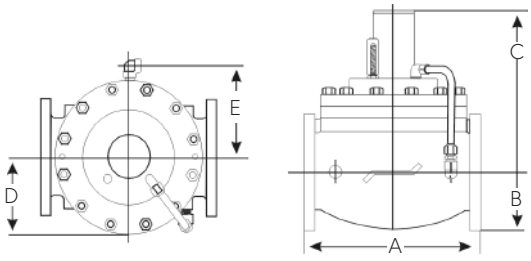
General Arrangement & Dimensions

Standard Sizes									
DIM	ANSI FLANGE	2"	3"	4"	6"	8"	10"	12"	16"
A	150#	--	12	15	17.75*	25.38	29.75	34	40.38
	300#	--	12.75	15.62	18.62*	26.38	31.12	35.50	42
B	150#	--	3.75	4.50	5.50	6.75	8	9.50	11.75
	300#	--	4.12	5	6.25	7.50	8.75	10.25	12.75
C	ALL	--	10.75	13.50	17.50	20	23	25	32
D	ALL	--	4.38	5.88	7	10.5	12.25	14	17.25
E	ALL	--	5.12	6.38	8.62	12	14	16	19.25

*Note: for military fueling valves, 6" 150# flanges have 20" face to face dimensions and 6" 300# flanges have 21" face to face dimensions.

Metric Sizes									
DIM	ANSI FLANGE	DN50	DN80	DN100	DN150	DN200	DN250	DN300	DN400
A	150#	238	305	381	451*	645	756	864	1026
	300#	251	324	397	473*	670	791	902	1067
B	150#	76	95	114	140	171	203	241	298
	300#	83	105	127	159	191	222	260	324
C	ALL	250	273	343	445	508	584	635	813
D	ALL	86	111	149	178	267	311	356	438
E	ALL	105	130	162	219	305	356	406	489

*Note: for military fueling valves, 6" (DN150) 150# flanges have 20" (508 mm) face to face dimensions and 6" (DN150) 300# flanges have 21" (533.4 mm) face to face dimensions.



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Technical Data

Temperature (Elastomers)	
Buna-N	-40°F to 180°F
Viton	20°F to 230°F
Fluorosilicone	-40°F to 150°F
EPDM	0°F to 230°F
Sizes	
Screwed Ends	2" - 3"
Grooved Ends	2" - 6" (globe); 2" - 4" (angle)
Flanged Ends	2" - 16" (globe & angle)
Pressure Rating (ANSI at 100°F)	
250psi for Class 150# ANSI Flanged Ductile Iron	
285psi for Steel/Stainless Steel & Aluminum	
300# ANSI Flanges are available	
Solenoid Voltage	
Enclosure	Explosion Proof NEMA 4X, 6P, 7, 9
Body	Brass, Stainless Steel
Voltages	24, 120, 240, 480 VAC; 12, 24 VDC

Body & Cover Material
Ductile Iron
Carbon Steel
Stainless Steel
Aluminum
Trim Material
Bronze/Brass
Stainless Steel
Copper
Optional Components
Two-Stage Opening
Pre-Wired Junction Box
Items to Specify
Fluid Type
Model Number
Size
Body & Trim Material
Solenoid Voltage
Globe or Angle
Special Installation Requirements

Engineering Specifications

The tank safety valve shall be a single-seated, dual chamber, diaphragm actuated, globe valve. The valve shall seal by means of a corrosion-resistant seat and a resilient, rectangular seat disc. These, and other parts, shall be replaceable without removing the valve from the line. The stem of the main valve shall be guided top and bottom by integral bushings. Alignment of the body, lower chamber and diaphragm assembly shall be by precision dowel pins. The diaphragm shall not be used as a seating surface, nor shall the pistons be used as an operating means. The tank safety valve shall be operationally and hydrostatically tested prior to shipment. The main valve body and bonnet shall be ductile iron. All ferrous surfaces shall be coated with 4 mils of epoxy. The main valve seat ring shall be stainless steel. Elastomers (diaphragms, resilient seats and o-rings) shall be Buna-N. The tank safety valve shall be suitable for operation on <voltage> (see Technical Data section). The tank safety valve shall be suitable for pressures of <X to X> psi (see Pressure Table) at flow rates up to <X> gpm (see Flow Chart). The tank safety valve shall be an OCV 66TS, as manufactured by OCV, Tulsa, OK, USA.

Aquestia USA

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