

FUELLING SOLUTIONS

BY LIQUIP

SPARE PARTS CATALOGUE

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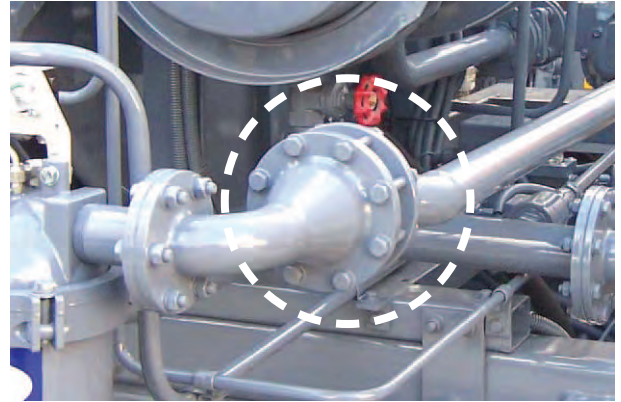


VALVES

NON-RETURN VALVES - NRV80

LIQUIP NRV80 sandwich type non-return Valve is typically fitted between standard 3" TTMA or 80mm DIN pipeline flanges, predominantly in aviation Refuellers. Special contoured and shaped valve to allow minimum pressure drop under full flow condition. Immediately after the flow ceases the valve shuts, preventing product from draining back down the pipeline.

However should a pressure build up occur due to temperature increase and expansion, the valve is fitted with a small thermal relief valve to guard against over pressurisation.

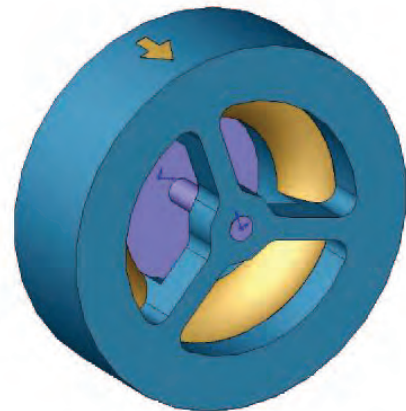
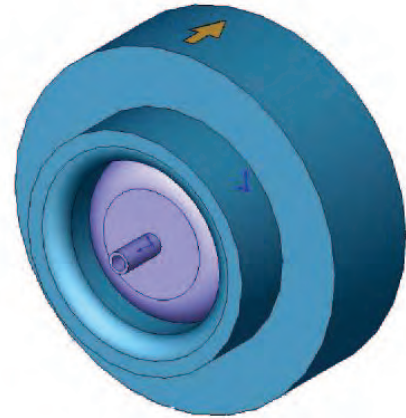


Technical Specifications

Special Features:	No gasket required. O-rings are used for positive sealing. Thermal relief valve. Full flow.
Materials of Construction:	Aluminium body, poppet, spider and washer. All viton seals and o-rings. Stainless steel shaft screws and springs. Suitable for aviation fuel.

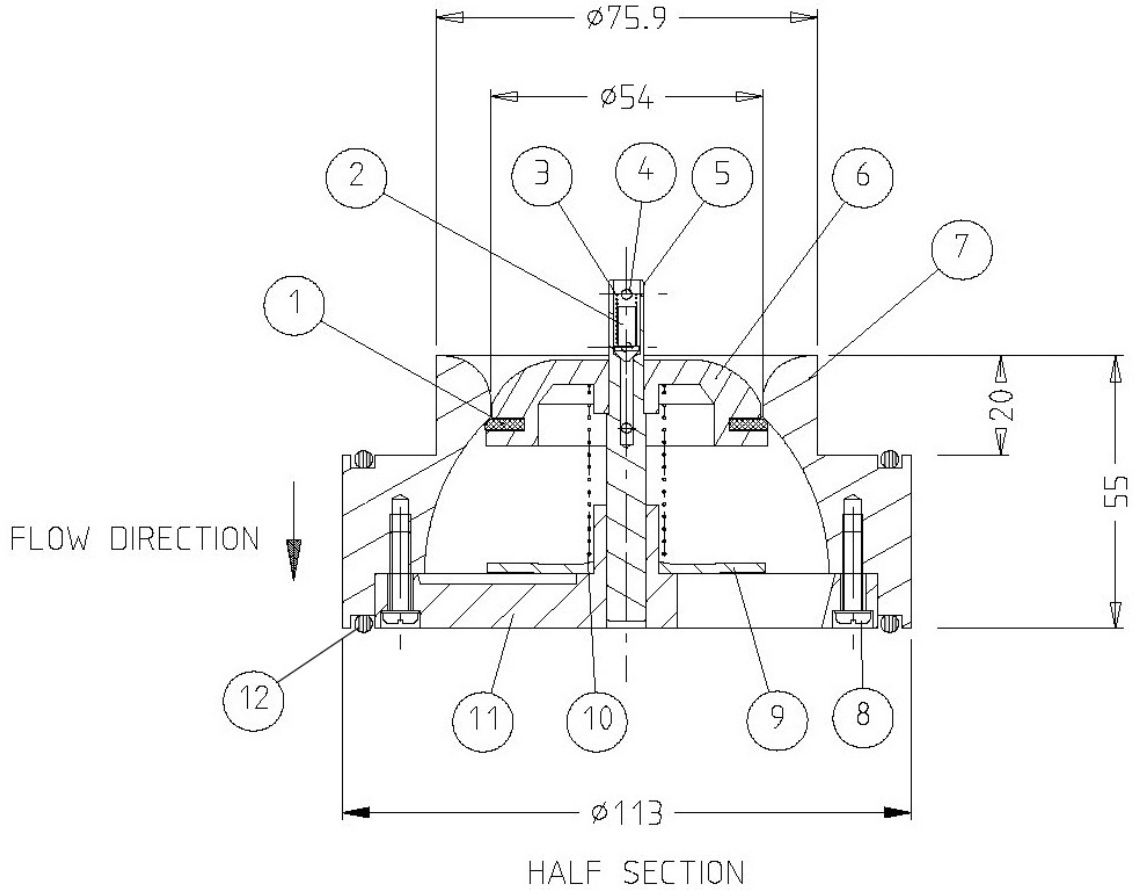
Main poppet opens at a pressure of 0.9 kPa.

Vacuum poppet opens at a pressure of 350 kPa.



NON-RETURN VALVES - NRV80

Ordering Information:



Item No	Part No	Description	Qty	Material
1	4623	Seal Main	1	Viton
2	4624	Seal Vacuum	1	Viton
3	6110	Spring Vacuum	1	S/S
4	0756	Pin Cotter 1/16" x 1/2"	1	S/S
5	NRV80-1	Shaft	1	S/S
6	NRV80-2	Poppet	1	Aluminium
7	NRV80-3	Body	1	Aluminium
8	6464	Screw M4 x 16LG Pan/HD Slot	2	S/S
9	5316	Washer	1	Aluminium
10	6111	Spring Poppet	1	S/S
11	NRV80-4	Spider	1	Aluminium
12	4626	O-ring	2	Viton

CARTER IN-LINE PRESSURE CONTROL VALVE (PCV)

These valves utilize a direct operating design concept with a control module added to the basic valve. This control module is mounted to the main valve body with one bolt. The new control module gives the unit finer control and eliminates exterior tubing from the valve.

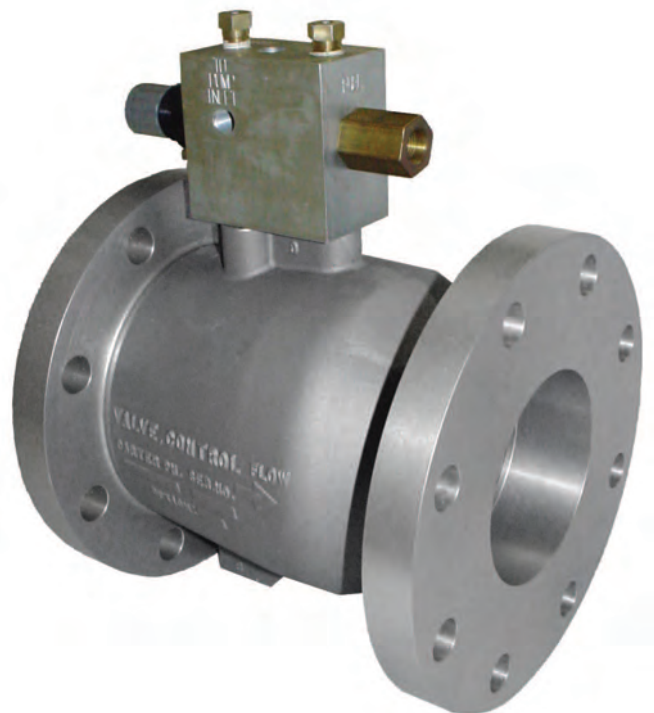
There are also separate air-to-fuel interface seals that are vented to the atmosphere eliminating the typical fuel to air leakage of competing pilot operated valves.

The same control module is used on both the 3 & 4 inch valves. Most of the seals in the main body of the 3 & 4 inch valves are the same, thus minimizing the spares required for any type of maintenance. The control module incorporates a unique bleeder that requires no tools to facilitate bleeding, and it has a vent to prevent fuel from entering the air system, a problem found in several competitors' valves.

Due to the efficient flow path design, they offer less "wide-open" pressure drop, hence up to 16% greater flow rate than the competing Whittaker units allowing for the refuelling of aircraft in a shorter time.

Features

- Standard 150 lb ANSI inlet and outlet flanges
- Victaulic adapters available
- Bleeder on module block facilitates simple bleeding of air from the valve — no venting is required once proper bleeding is accomplished
- No expensive servos to adjust
- Spare parts required for maintenance kept to a minimum due to lack of complicated servos. Many parts are common to bypass valves of same size.
- Many spares common to Carter brand couplers



CARTER IN-LINE PRESSURE CONTROL VALVE (PCV)

Ordering Information:

Both Models 64500 and 64510 have two available options to be added to the basic part number when desired.

Option	Description
D	Victaulic adapter on inlet
E	Victaulic adapters on inlet and outlet

Note: It is not recommended to use option E on a valve without additional support to keep it from turning in the piping

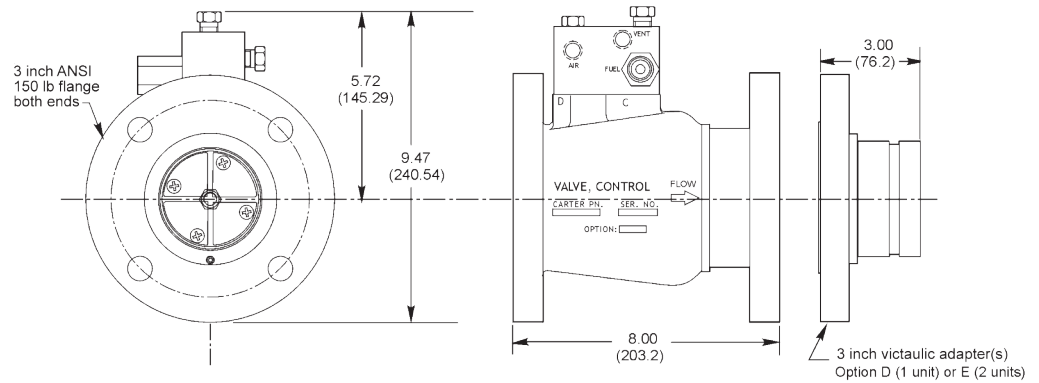
Operating Characteristics

	64500 – 3 inch	64510 – 4 inch
Working Pressure	Up to 200 psi (13.793 bar)	Up to 200 psi (13.793 bar)
Rated Flow	Up to 800 gpm (3028 l/min)	Up to 1200 gpm (4542 l/min)
Pressure Drop	4.9 psi (.338 bar) @ 600 gpm (2271 l/min)	4.3 psi (.296 bar) @ 1000 gpm (3785 l/min)
Pressure Control	25 to 75 psi (1.724 to 5.171 bar) nominal	25 to 75 psi (1.724 to 5.171 bar) nominal
Overshoot	>5% of rated flow	>5% of rated flow
Opening Time	5 to 10 seconds	5 to 10 seconds
Closing time	2 to 5 seconds — (see overshoot)	2 to 5 seconds — (see overshoot)
Repeatability	±3 psi (.207 bar)	±3 psi (.207 bar)
Surge Control	>120 psi (8.273 bar)	>120 psi (8.273 bar)
Operating Temperature	-40°F to +125°F (-40°C to +52°C)	-40°F to +125°F (-40°C to +52°C)

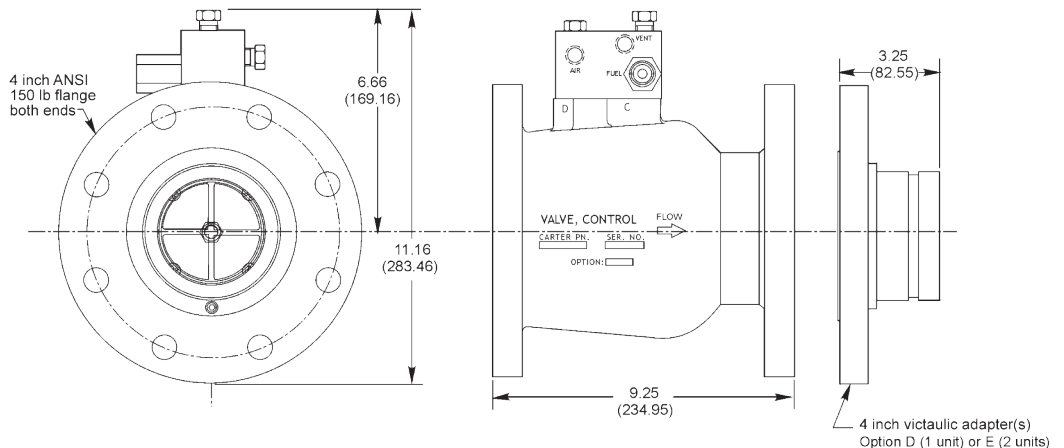
Envelope Dimensions

Dimensions shown in inches (millimetres)

Model 64500



Model 64510



STAINLESS STEEL FLANGED BALL VALVES

These ball valves are 2-piece stainless steel floating ball type valves with Teflon trim.

Our range of flanged ANSI150 Lb. stainless steel ball valves incorporate a fire safe design which features:

- Blow out-proof stem
- Secondary metal seat
- Metal to metal seal



Ordering Information:

Part No	Description
9657	1 1/2" S/S Flanged Ball Valve
9952	2" S/S Flanged Ball Valve
9656	3" S/S Flanged Ball Valve
9655	4" S/S Flanged Ball Valve



SMALL ISOLATION BALL VALVES

These in-line ball valves are 2-piece either stainless steel or nickel-plated brass double-female BSP valves & Teflon trim.

Ordering Information:

Part No	Description
9019	1/4" BSP Ni-plated Brass Ball Valve
0365	1/2" BSP Ni-plated Brass Ball Valve
0366	1/2" BSP Ni-plated Brass Ball Valve
0367	3/4" BSP Ni-plated Brass Ball Valve
8479	3/8" S/S Two Piece Ball Valve
8498	1/4" S/S Two Piece Ball Valve
TS2005	2 1/2" Two Piece Ball Valve



APOLLO VALVE

The "Apollo"™ whilst a registered Brand name has become a generic term for spring-loaded / return or "deadman" pull-down handle valves. They are in a variety of sizes.

Ordering Information:

Part No	Description
8476	3/8" BSP S/S Construction
8477	1/2" BSP S/S Construction
8585	3/4" BSP S/S Construction
8584	1" BSP S/S Construction
8586	1 1/2" BSP S/S Construction
8590	2" BSP S/S Construction

N.B. NPT versions are available by special order



TANK COMPARTMENT INTERNAL DRAIN VALVE

The ITV1-AO 25mm internal valve with integral elbow, has been designed for use on aircraft refueller tankers which have small sample or drain lines. The normal fitting in the sump is a 25mm BSP socket. Flow is outwards only. The elbow incorporates a shear groove above the pipe attachment aperture to ensure a breakaway (in the event of damage) at that point.

Valve poppet, spring and shaft are all attached above the shear point to ensure the continued containment of product in the tank. In the event of fire the air line will soften at 80 degrees C and release any air in the system and close the poppet.

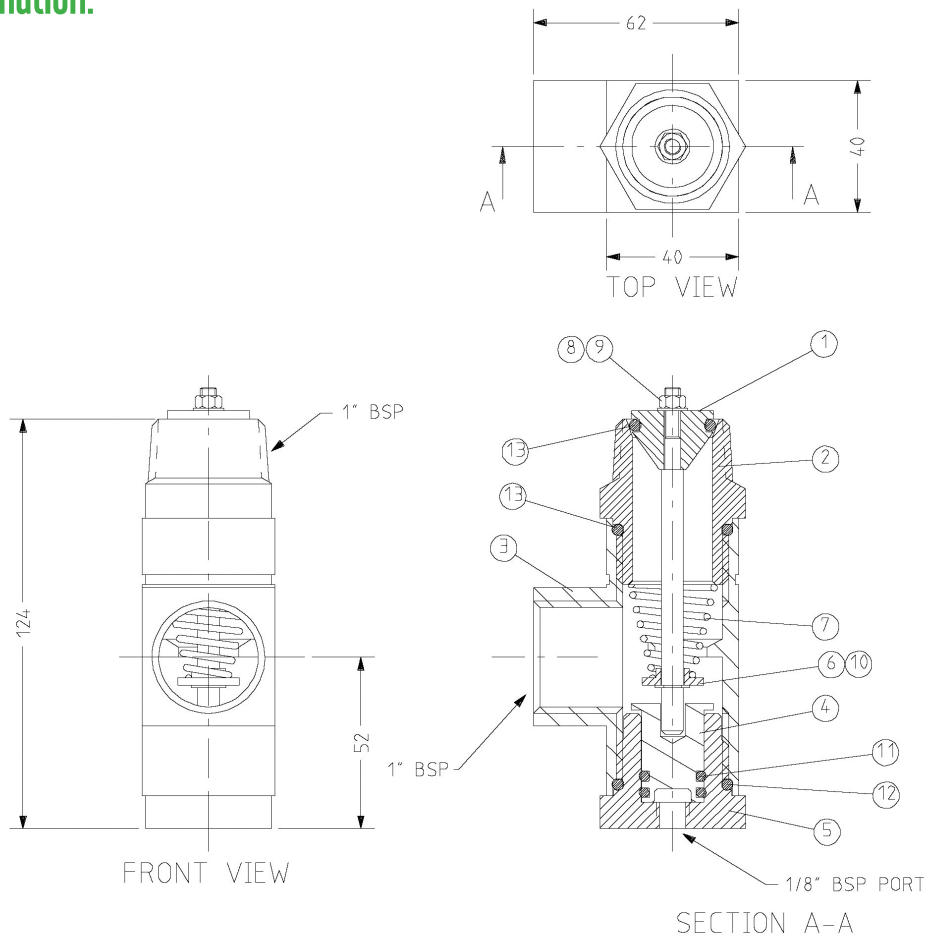
Ordering Information:

Part No	Description
ITV1-AO	Internal Valve Air Operated



TANK COMPARTMENT INTERNAL DRAIN VALVE

Ordering Information:



ITV1-AO (Parts List)				
Item No	Part No	Description	Qty	Material
1	ITV1-1	Poppet Assembly	1	AL
2	ITV1-2	Valve Seat	1	Steel
3	ITV100-1	Body Valve	1	Aluminium
4	ITV100-2	Piston	1	Delrin
5	ITV1-5	Cylinder End	1	Steel
6	ITV1-6	Step Washer	1	St Steel
7	4411	Spring	1	St Steel
8	4380	Nut	1	St Steel
9	0809	Washer	1	St Steel
10	4517	E-Clip	1	St Steel
11	0288	O-Ring	2	Viton
12	0171	O-Ring	2	Nitrile
13	0252	O-Ring	1	Viton

ATS TANK SUMP

- Aluminium conical tank sump with sloping bottom and central 1" female BSP socket for drain.
- Large capacity volume.
- Removable bottom plate to facilitate cleaning.

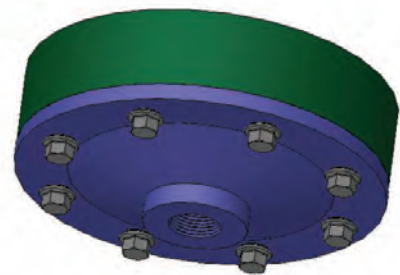
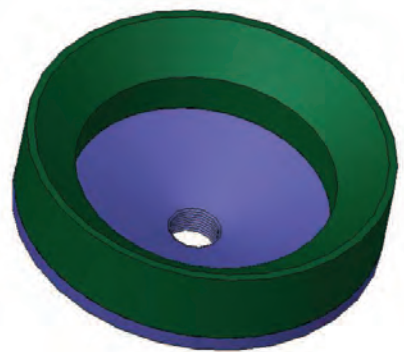
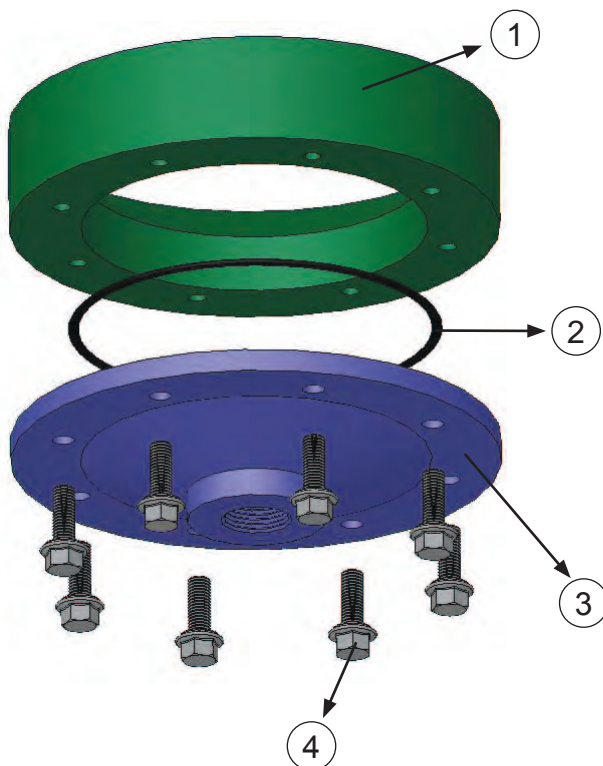
Associated Equipment: ITV1-AO pneumatic sampling valve.

Ordering Information:



Tank Sump	
Part No	Description
ATS100	ATS Tank Sump

Parts List		
Item No	Part No	Description
1	ATS100-1	Aluminium Sump
2	1530	O-ring Buna
3	ATS100-2	Aluminium Weld Flange
4	4947	Setscrew
	5261	Washer



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