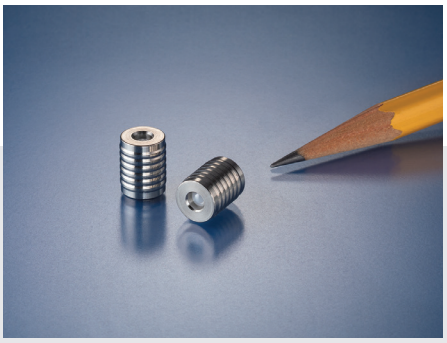
855 SERIES 316L PRESS-IN CHECK VALVE WITH CERAMIC BALL



The new 855 Series 316L Press-In Check Valve With Ceramic Ball is a miniature cartridge style check valve, specifically designed for installation into plastics. This valve is constructed from medical grade 316L stainless steel and features a ceramic ball for improved compatibility with hydrogen and other aggressive fluids.

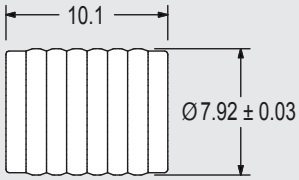
Its unique barbed design provides easy press-in installation, ensures retention and prevents any bypass leakage around the valve. A high quality metal seat provides low leakage and highly repeatable cracking pressures. A robust design and 100% performance testing ensures consistent long term performance.

- 316L stainless steel and ceramic configuration for improved compatibility with hydrogen and other aggressive fluids
- 100% performance tested to eliminate rework
- Simple, bidirectional installation provides design flexibility with forward and reverse flow capabilities

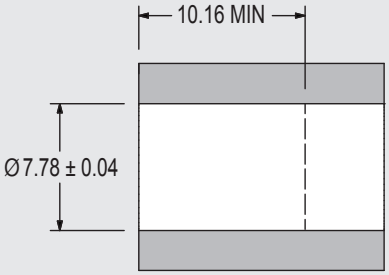
ACTUAL SIZE

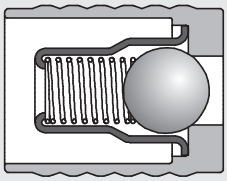
(As Installed)

CHECK VALVE



INSTALLATION HOLE



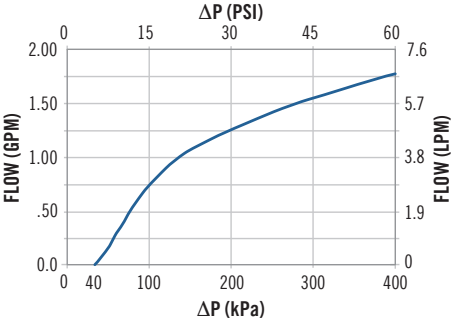


FLOW DIRECTION

CHECKED DIRECTION

All dimensions are in millimeters.

ΔP vs. FLOW ON WATER @ 80°F (27°C)



TYPICAL FLOW CURVE for 40 kPa VALVE

PART NUMBER	CRACKING PRESSURE
CCPI8040000S	0 kPa (no spring)
CCPI8040004S	4 ± 3 kPa (0.6 ± 0.4 psid)
CCPI8040007S	7 ± 5 kPa (1 ± 0.7 psid)
CCPI8040014S	14 ± 5 kPa (2 ± 0.7 psid)
CCPI8040040S	40 ± 15 kPa (6 ± 2.2 psid)
CCPI8040069S	69 ± 15 kPa (10 ± 2.2 psid)

PERFORMANCE	
Lohm Rate	75 Lohms*
Checked Direction Leakage	20 SCCM (max.) @ 172 kPa (25 psid) on air
Maximum Working Pressure	The valve's maximum working pressure is dependent on housing material, configuration and operating conditions.
Materials	Body, cage, pin, and spring are 316L stainless steel. Ball is ceramic.

* *The Lohm is a measure of flow resistance. Additional information can be found on the reverse side and at theleeco.com/Lohm.*

855 SERIES 316L PRESS-IN CHECK VALVE WITH CERAMIC BALL

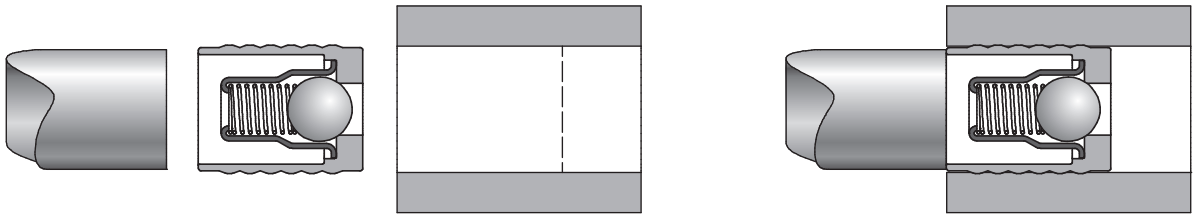
INSTALLATION

To install, simply press the valve into a plastic installation hole until the valve is flush with the top of the installation hole.

The valve can be installed in either direction, providing forward or reverse flow capabilities. Lee Installation Tool part number CCRT0900180S is available.

These valves can be pressed directly into plastics that have sufficient elongation such as nylon, polyethylene, polypropylene, acetal, and PEEK.

For installation into other plastics, contact your Lee Sales Engineer for more information. 855 Series 316L Press-In Valves are not designed to be installed into metal.



REVERSE FLOW INSTALLATION

LEE LOHM LAWS (LIQUIDS)

WORKING WITH LIQUIDS

Engineers will be interested in our simple method of defining and measuring the resistance to fluid flow for hydraulic components. Just as the Ohm is used in electrical engineering, we find that we can use a liquid Ohm or “Lohm” to good advantage on all hydraulic computations.

When using the Lohm, you can forget about coefficients of discharge and dimensional tolerances on drilled holes. These factors are automatically compensated for in the Lohm calculations and confirmed by our testing of each component to establish flow tolerances. The resistance to flow of any fluid component can be expressed in Lohms.

The Lohm has been selected so that a 1 Lohm restriction will permit a flow of 100 gallons per minute of water with a pressure drop of 25 psi at a temperature of 80°F.

Due to the differences in fluid properties between gases and liquids, the equations for calculating the relationship between flow restriction, pressure differential, and flow rate are different.

LIQUID FLOW FORMULA

The following formulas are presented to extend the use of the Lohm laws to many different liquids, operating over a wide range of pressure conditions.

These formulas introduce compensation factors for liquid density and viscosity. They are applicable to any liquid of known properties, with minimum restrictions on pressure levels or temperature.

The units constant (K) eliminates the need to convert pressure and flow parameters to special units.

Volumetric Flow Units $L = \frac{KV}{I}\sqrt{\frac{H}{S}}$

Gravimetric Flow Units $L = \frac{KV}{w}\sqrt{HS}$

NOMENCLATURE

- L = Lohms
- S = Specific gravity*
- H = Differential pressure
- V = Viscosity compensation factor**
- I = Liquid flow rate: Volumetric
- w = Liquid flow rate: Gravimetric
- K = Units Constant – Liquid (see chart below)
- *S = 1.0 for water at 80°F.
- **V = 1.0 for water at 80°F.

LIQUID FLOW – UNITS CONSTANT "K"

VOLUMETRIC FLOW UNITS			
	PRESSURE UNITS		
FLOW UNITS	psi	bar	kPa
GPM	20	76.2	7.62
l/min	75.7	288	28.8
ml/min	75,700	288,000	28,800
in^3/min	4620	17,600	1760

GRAVIMETRIC FLOW UNITS			
	PRESSURE UNITS		
FLOW UNITS	psi	bar	kPa
PPH	10,000	38,100	3810
g/min	75,700	288,000	28,800

For more information on Lohms, contact your local Lee Sales Engineer or visit theleeco.com/Lohm.