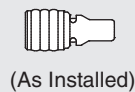# LEE IMH Chek™ Valve – 558 LC Series Press-In

The Lee Company's Industrial Micro-Hydraulics Group (IMH) introduces the latest addition to our line of miniature cartridge-style check valves specifically designed for installation into plastics. The new 558 LC Series Press-In Chek™ Valve offers more than a 78% increase in flow capacity over the existing 5.5 mm CCPI series check valve. This new valve features all stainless-steel construction, providing compatibility with a wide range of fluids and gases.

Its unique barbed design provides easy "press-in" installation, ensures retention and prevents any bypass leakage around the valve. The valve can be installed in either direction, allowing for forward or reverse flow capabilities, offering system design flexibility. A high quality metal-to-metal seat provides low leakage and highly repeatable cracking pressure. This robust design and 100% functional testing ensures consistent long-term performance.
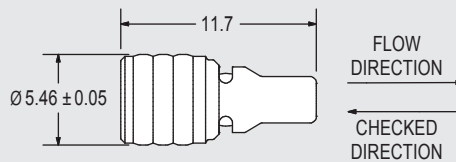
- ■ Press-in Design
  - – Simple Installation
- ■ Bidirectional Installation
  - – Provides Forward or Reverse Flow Capabilities
  - – Design Flexibility
- ■ Leak Tight
  - – Efficient System Performance
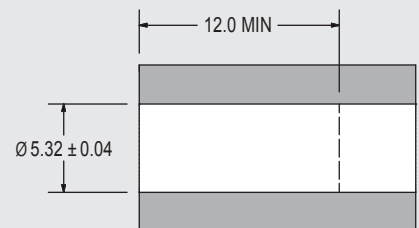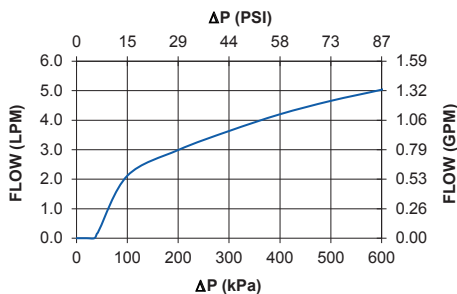- ■ 100% Tested
  - – Eliminates Rework

ACTUAL SIZE

(As Installed)

CHEK VALVE

11.7

Ø 5.46 ± 0.05

FLOW DIRECTION

CHECKED DIRECTION

INSTALLATION HOLE

12.0 MIN

Ø 5.32 ± 0.04

All dimensions in millimeters, except where noted.

ΔP vs. Flow on Water @80°F (27°C)

ΔP (PSI)

0   15   29   44   58   73   87

FLOW (LPM): 6.0 5.0 4.0 3.0 2.0 1.0 0.0

FLOW (GPM): 1.59 1.32 1.06 0.79 0.53 0.26 0.00

ΔP (kPa): 0 100 200 300 400 500 600

PERFORMANCE

Lohm Rate: 140 Lohms*

Leakage: 20 sccm/min. (max.) @172 kPa (25 psid) on air
1 Drop/min. (max.) on water

Materials: Body, Cage, Ball and Spring are Stainless Steel.

The valve's maximum working pressure is dependent on housing material, configuration and operating conditions.

* Lohm is a measure of flow resistance. See back page for more information.

LEE PART NUMBER	CRACKING PRESSURE
CLCP5510000S	0 kPa (No Spring)
CLCP5510004S	4 kPa ± 3 kPa (0.6 ± 0.4 psid)
CLCP5510007S	7 kPa ± 5 kPa (1 ± 0.7 psid)
CLCP5510014S	14 kPa ± 5 kPa (2 ± 0.7 psid)
CLCP5510040S	40 kPa ± 15 kPa (6 ± 2.2 psid)
CLCP5510069S	69 kPa ± 17.3 kPa (10 ± 2.5 psid)

LEE PART NUMBER	CRACKING PRESSURE
CLCP5510100S	100 kPa ± 15 kPa (14.5 ± 2.2 psid)
CLCP5510200S	200 kPa ± 30 kPa (29 ± 4.4 psid)
CLCP5510300S	300 kPa ± 45 kPa (43.5 ± 6.6 psid)
CLCP5510400S	400 kPa ± 60 kPa (58 ± 8.8 psid)
CLCP5510500S	500 kPa ± 75 kPa (72.5 ± 10.9 psid)

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LEE®

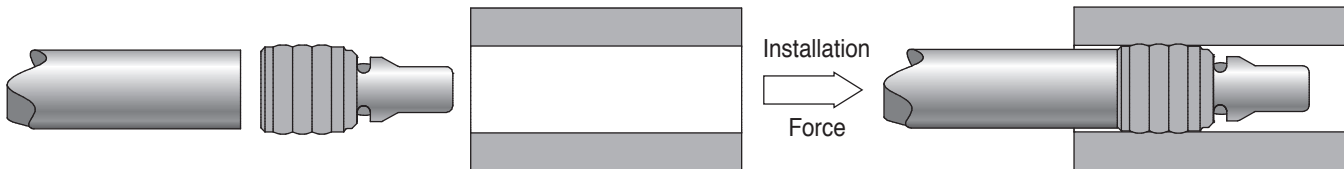## LEE IMH Chek™ Valve – 558 LC Series Press-In

SIMPLE TO INSTALL

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

The valve can be installed in either direction, providing forward or reverse flow capabilities. Lee installation tools for each flow orientation are available as follows: Installation Tool Part

Number: CCRT0072391S for reverse flow orientation installations, Tool Part Number: CCRT0900170S for forward flow orientation installations.

† These valves can be pressed directly into plastics that have sufficient elongation such as Nylon, Polyethylene, Polypropylene, Acetal and PEEK.

REVERSE FLOW INSTALLATION

Installation

Force

FORWARD FLOW INSTALLATION

Installation

Force

† For installation into other plastics contact your Lee Sales Engineer for more information. 558 LC Press-In Chek Valves are not designed to be installed into metal.

LOHM LAWS

LOHMS LAWS (liquids)

Every engineer will be interested in our simple system of defining the fluid resistance of Lee hydraulic components.

Just as the OHM is used in the electrical industry, we find that we can use a liquid OHM or "Lohm" to good advantage on all hydraulic computations.

When using the Lohm system, 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 testing each component to establish flow tolerances. The resistance to flow of any fluid control 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.

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 $L = \dfrac{KV}{I} \sqrt{\dfrac{H}{S}}$

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

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.

(For other fluids and temperatures, contact your Lee Sales Engineer or visit us at www.leeimh.com)

LIQUID FLOW – UNITS CONSTANT K

VOLUMETRIC FLOW UNITS			
Flow Units	Pressure 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
in³/min	4 620	17 600	1 760

GRAVIMETRIC FLOW UNITS			
Flow Units	Pressure Units		
	psi	bar	kPa
PPH	10 000	38 100	3 810
gm/min	75 700	288 000	28 800

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