THE LEE COMPANY

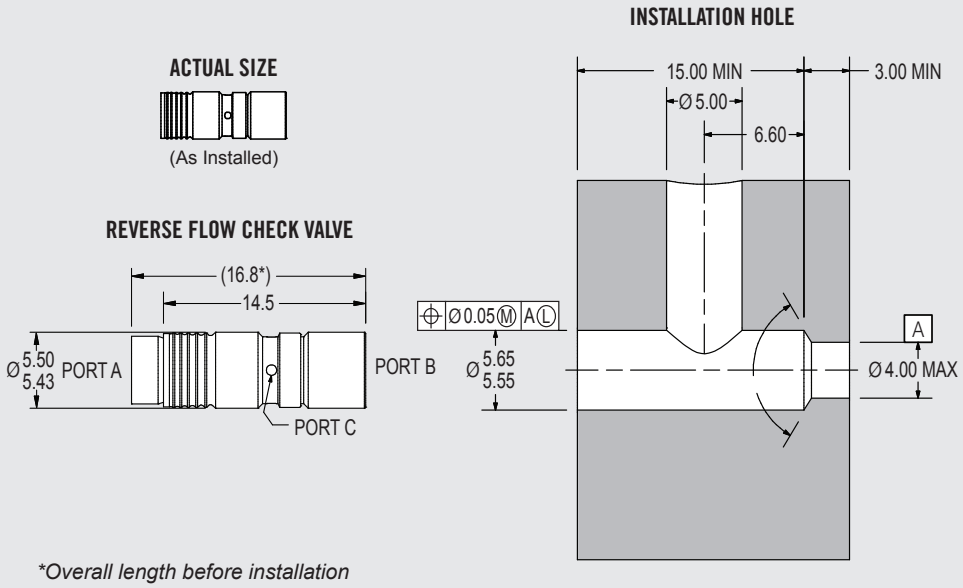
# 5.5 mm INSERT PILOT-OPERATED CHECK VALVE

The new 5.5 mm Insert Pilot-Operated Check Valve is a compact, cartridge-style solution engineered for direct installation into metal manifolds and fittings. It functions as a standard check valve under normal conditions and enables piloted flow when pilot pressure is applied to Port B — providing precise control in high pressure hydraulic systems up to 28 MPa.

Designed for demanding environments, this rugged valve is 100% performance-tested to ensure consistent operation over time. The valve's locking end uses the field-proven Lee Controlled Expansion Principle to provide secure retention and eliminate the need for threads, O-rings, or secondary retainers. To install, simply insert the valve into a drilled installation hole and drive the expansion pin to the specified force range to seal and lock it in place.

Standard configurations include minimum pilot ratios of 3:1 and cracking pressures of 250 or 500 kPa. For custom pilot ratios or application-specific support, contact your local Lee Sales Engineer.

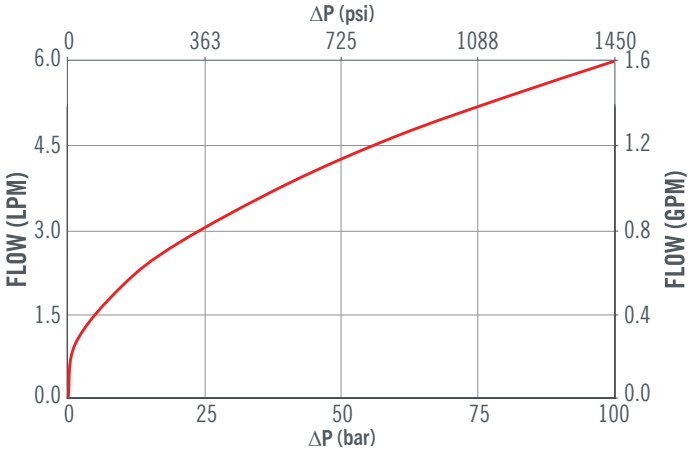
- Reliable reverse flow control with pilot actuation: ideal for load-holding, actuator locking, and safety-critical hydraulic functions
- 100% functionally tested for cracking pressure, minimum pilot ratio, and checked direction leakage
- Robust sealing between Port B and Port C delivers dependable piloting performance in high pressure environments



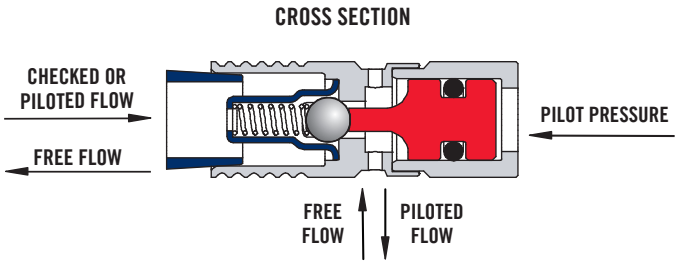

*Overall length before installation*

*All dimensions are in millimeters, except where noted.*

## ΔP vs. FLOW ON HYDRAULIC FLUID AT 27°C (80°F)




FLOW CURVE FROM PILOTED A TO C FOR 250 kPa VALVE



THE LEE COMPANY

# 5.5 mm INSERT PILOT-OPERATED CHECK VALVE

| PERFORMANCE | |
|---|---|
| Piloted Lohm Rate [Port A to Port C] | 525 Lohms* |
| Minimum Pilot Ratio [Port A to Port B] | 3:1 |
| Cracking Pressure [Port C to Port A] | The pressure at which uprun flow exceeds 50 SCCM of air. |
| Checked Direction Leakage [Port A to Port C] | 20 SCCM max. at 172 kPa (25 psid) on air (ref. 1 drop/min max. on hydraulic fluid) |
| Maximum Working Pressure Differential | 28 MPa |
| Materials | Upper body, lower body, pin, cage, spring, ball, and piston are stainless steel. Seal is FKM. |
| Weight | 1.8 grams |

| PART NUMBER | CRACKING PRESSURE | FLOW DIRECTION |
|---|---|---|
| POCR5531025S | 250 ± 37.5 kPa (36.3 ± 5.4 psid) | Reverse |
| POCR5531050S | 500 ± 75 kPa (72.5 ± 10.9 psid) | Reverse |

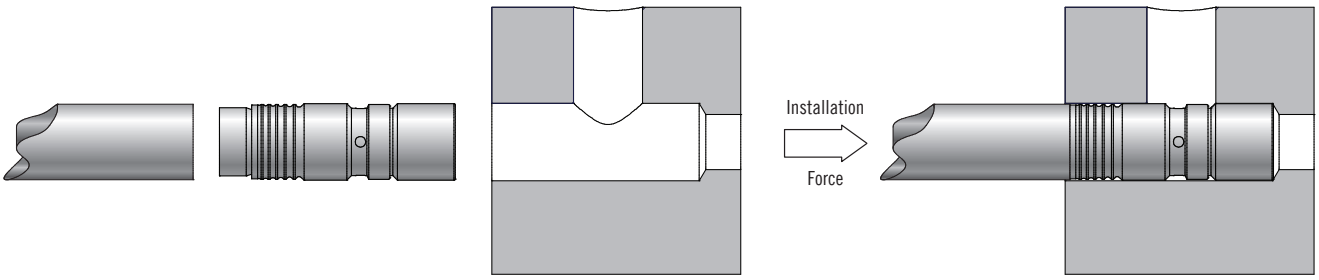
**The Lohm is a measure of flow resistance. Additional information can be found at theleeco.com/Lohm.*

## INSTALLATION

After placing the valve into the installation hole, use the installation tool to apply 5.3 – 6.2 kN installation force to the expansion pin to seal the nose of the valve and achieve proper installation pin flushness. The expansion pin should be pressed to within 0.25 mm above flush of the valve body. Installation force and tool travel should be monitored for proper valve installation.

The installation force required is a function of boss material, installation hole dimensions, and boss geometry. A boss made of a harder material will require a greater installation force than one made of a softer material. It is important for each customer to establish the correct force with their unique housing and installation press.

Please contact your local Lee Sales Engineer for installation support or to review installation procedure "IP POCR 5.5" for more information.




# LEE LOHM LAWS

## WORKING WITH LIQUIDS & GASES

Engineers will be interested in our simple method of defining and measuring the resistance to fluid flow for hydraulic and pneumatic 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 and pneumatic 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.

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.

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