**THE LEE COMPANY**

HFS LEE CHECK VALVE

The Lee Company's new family of HFS (High Flow Slotted) check valves offers both high flow and high pressure capability in a compact package. This new addition to our Lee Chek® valve product line provides three times more flow capacity than similar ball-style check valves and these valves are rated for system pressures up to 5000 psi. Offered in a choice of either axial or side-exit flow, HFS Lee Check Valves are shorter in length than other high-pressure designs and incorporate The Lee Company's controlled expansion locking end for easy installation without the need for seals and threads.

Featuring all stainless steel construction for durability and long life, Lee HFS Check Valves are available in 0.156, 0.187 and 0.250 inch diameters with rated flows up to 15 GPM. Every Lee check valve is 100% tested and inspected to ensure reliable, consistent, long-term performance.

- Compact size with high flow capability
- Designed for system pressures up to 5000 psi
- All stainless steel construction
- Available in 0.156, 0.187, and 0.250 inch diameters
- Light weight: ranging from 0.7 to 4 grams

PIN **INSERT** **INSTALLATION HOLE**
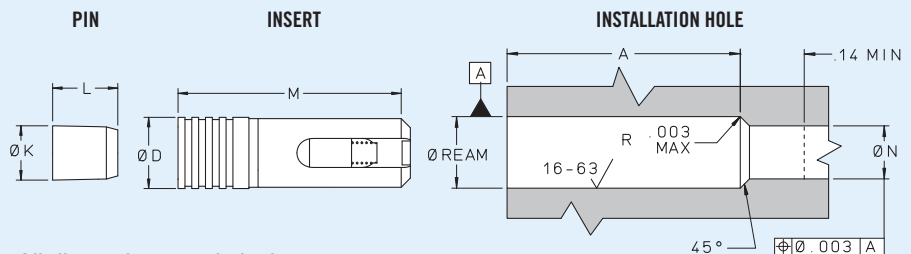
All dimensions are in inches.

FREE FLOW FORWARD
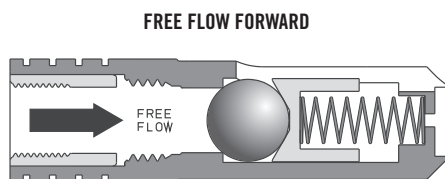
DIMENSIONS (in)			
	0.156 in DIAMETER	**0.187 in DIAMETER**	**0.250 in DIAMETER**
Ø D	0.1554 - 0.1561	0.1867 - 0.1874	0.2492 - 0.2499
M	0.49	0.66	0.74
Ø K	0.13	0.15	0.21
L	0.14	0.16	0.14
A	0.51 min.	0.67 min.	0.76 min.
Ø N	0.111 - 0.121	0.130 - 0.147	0.205 - 0.221
Ø Ream	0.1562 - 0.1567	0.1875 - 0.1880	0.2500 - 0.2505

MATERIALS	
PART	**MATERIAL**
Body	15-5PH CRES
Ball	440C CRES
Ball Follower	15-5PH CRES or 303 CRES
Spring	17-7PH CRES or 302 CRES
Pin	13-8 MO

Pins are prewaxed. Do not degrease. Do not lubricate.

LEE PART NUMBER	DIAMETER (in)	LOHM* RATE (max.)	CRACKING PRESSURE (psid)	MAXIMUM LEAKAGE IN CHECKED DIRECTION	MAX. WORKING PRESSURE (psid)
CHFA1566501A	0.156	250	1 +/- 0.5 5 +/- 3	1 drop/min at 5 psid 1 drop/h at 1000-5000 psid	5000
CHFA1566505A					
CHFA1876801A	0.187	120			
CHFA1876805A					
CHFA2506801A	0.250	55			
CHFA2506805A					

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

LOHM 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 GPM 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
$$L = \frac{KV}{I} \sqrt{\frac{H}{S}}$$

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

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

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 local Lee Sales Engineer or visit the Engineering Tools section of our website.

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
in³/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