Innovation in Miniature

LEE

PRECISION MICROHYDRAULICS

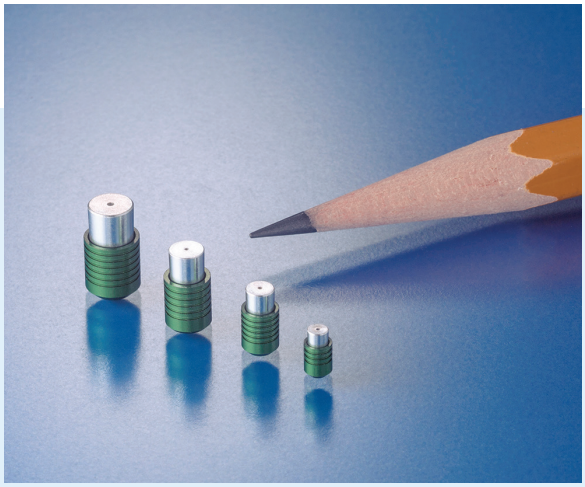
PRODUCT DATA SHEET

QUICK INSTALLATION LEE PLUG®

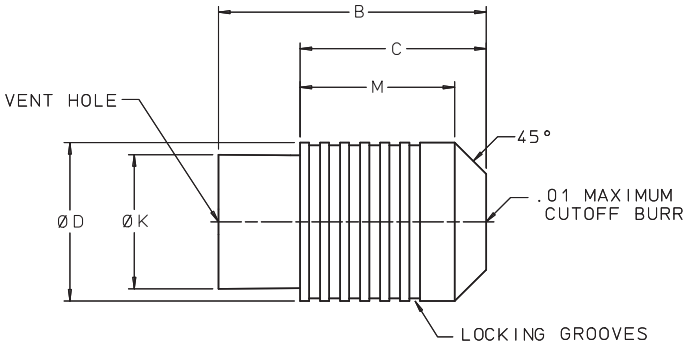
LEE QIP™

The Lee Company's new Quick Installation Plug combines ease of handling and installation with the proven reliability and performance of Lee Plug® expansion plugs. A leak-tight seal is created from Lee's controlled expansion principle. In addition, these plugs are compliant with RoHS, REACH, WEEE and ELV requirements. Quick Installation Lee Plugs are offered in four sizes: .093, .125, .156, and .187.

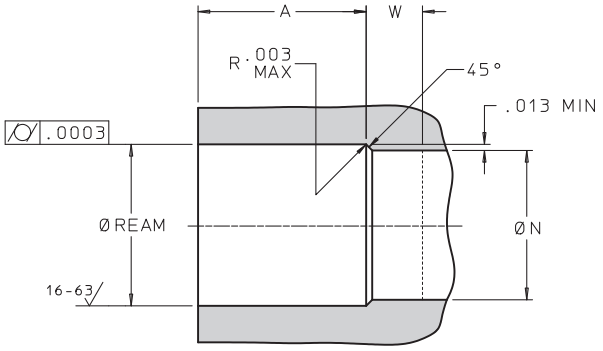
- Simplified installation
- Uses Lee field-proven controlled expansion principle
- Permanent leak-proof seal
- High proof pressures, to 12,000 psi
- Complies with RoHS, REACH, WEEE, ELV



PLUG ASSEMBLY



INSTALLATION HOLE



LEE PART NUMBER	093 PLPA 0930010A	125 PLPA 1250010A	156 PLPA 1560010A	187 PLPA 1870010A
D Max.	0.0937	0.1250	0.1562	0.1875
D Min.	0.0928	0.1241	0.1553	0.1866
B Nom.	0.178	0.245	0.288	0.335
C Nom.	0.123	0.160	0.185	0.210
M Nom.	0.103	0.140	0.170	0.185
K Nom.	0.069	0.095	0.118	0.154
Weight (gr.)	0.025	0.066	0.150	0.200
	PROOF PRESSURE (psi x 1000)			
CLASS 1	6	6	8	8
CLASS 2	8	8	9	9
CLASS 3	10	10	12	10
	REAM DIAMETERS			
CLASS 1	.0937 – .0962	.1250 – .1275	.1562 – .1587	.1875 – .1900
CLASS 2	.0937 – .0952	.1250 – .1265	.1562 – .1577	.1875 – .1890
CLASS 3	.0937 – .0942	.1250 – .1255	.1562 – .1567	.1875 – .1880
A Min.	0.118	0.158	0.186	0.201
N Dia. Ref.	0.062	0.093	0.125	0.156
W Min.	0.125	0.125	0.125	0.125

MATERIALS

PIN & PLUG: 2024-T4 Aluminum per SAE AMS-QQ-225/6 & AMS 4120

FINISH

PIN: Clear Chem Conversion Coat per MIL-DTL-5541 Type II Class 1A & Wax

PLUG: Anodize Green per MIL-A-8625 Type IIB

The Lee Company • 2 Pettipaug Road, PO Box 424, Westbrook, Connecticut 06498-0424
Tel: 860-399-6281 • Fax: 860-399-7037 • inquiry@theleeco.com • www.theleeco.com

LEE 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 – 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
in^3/min	4 620	17 600	1 760

GRAVIMETRIC FLOW UNITS			
Flow Units	Pressure Units		
	psi	bar	kPa
PPH	10 000	38 100	3810
gm/min	75 700	288 000	28 800

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)
*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.theleeco.com