# NACE COMPLIANT 250 H BENDER JET®

Lee NACE Compliant 250 H Bender Jets are multi-orifice restrictors made entirely from MP35N, a nickel-cobalt based alloy. Compliant with NACE MR0175/ISO 15156, these restrictors are specifically designed to offer exceptional corrosion resistance and performance for harsh duty applications found in the oil and gas industries.

Designed to handle demanding system conditions, including high flow rates and large pressure drops, the Lee 250 H Bender Jet uses a unique metering element that places three orifices in series to help lower fluid velocities and reduce the possibility of cavitation. This multi-orifice design also offers a 40% increase in minimum passage size over a comparable single orifice restrictor, providing an increased resistance to contamination.
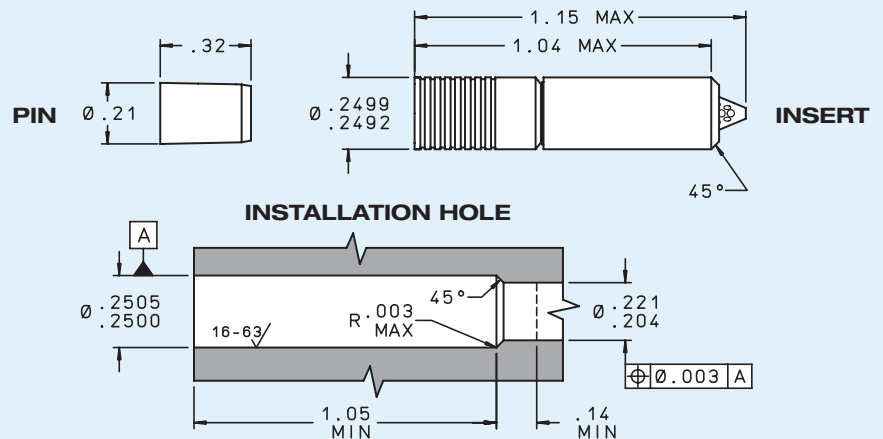
Rated for a maximum working pressure differential of 5000 psi, the 250 H Bender Jet is offered in seventeen standard Lohm* rates, ranging from 600 to 1800 Lohms, and is protected with two integral safety screens for bidirectional flow capability. In addition, each Bender Jet is 100% flow tested to ensure accurate, consistent performance. Special flow rates are available upon request. Contact your Lee Sales Engineer for additional information and technical assistance.

CROSS-SECTION VIEW
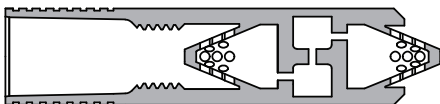
* The Lohm is a measure of flow resistance. Example: One Lohm will permit a flow of 100 GPM of water at 25 psid at 80°F. Additional information can be found on the back of this sheet or at www.theleeco.com.

- ■ NACE Compliant Construction
- ■ Lohm Rate Tolerance: +/-5%
- ■ 100% Tested Bi-directional Flow
- ■ Maximum Working Pressure: 5000 psid
- ■ Nominal Weight: 4.5 grams

PIN   .32   Ø.21

INSERT   1.15 MAX   1.04 MAX   Ø.2499/.2492   45°

INSTALLATION HOLE

Ø.2505/.2500   16-63   R.003 MAX   45°   Ø.221/.204   ⊕ Ø.003 A   1.05 MIN   .14 MIN

LEE PART NUMBER	LOHM RATE* ±5%	MINIMUM PASSAGE SIZE (Inches)	NOMINAL SCREEN HOLE SIZE (Inches)
JHBA2501600L	600	.050	.024
JHBA2501650L	650	.048	.024
JHBA2501700L	700	.046	.024
JHBA2501750L	750	.044	.024
JHBA2501800L	800	.042	.020
JHBA2501850L	850	.040	.020
JHBA2501900L	900	.039	.020
JHBA2501950L	950	.037	.020
JHBA2501100D	1000	.036	.020
JHBA2501110D	1100	.035	.015
JHBA2501120D	1200	.033	.015
JHBA2501130D	1300	.032	.015
JHBA2501140D	1400	.031	.015
JHBA2501150D	1500	.030	.015
JHBA2501160D	1600	.029	.015
JHBA2501170D	1700	.027	.015
JHBA2501180D	1800	.026	.015

PART	MATERIAL
Locking End	MP35N
Pin	MP35N
Metering Element	MP35N
Body	MP35N
Screen	MP35N

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
in³/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