The Lee Company
2 Pettipaug Road
Westbrook, CT 06498-0424 USA
860-399-6281

Installation Procedure IP SCRM BR

REVISION HISTORY

Revision	Date	Change
A	5/2/2025	Preliminary Release
B	3/16/2026	Section 3.1

BR SERIES SCREEN

FACTORY INSTALLATION PROCEDURE

Table of Contents

1. Overview

This procedure is intended to provide process guidelines for the proper installation of BR Series Screens. Section 2 provides an overview of the installation hole requirements. Section 3 contains the installation procedure. Section 4 contains a diagram of proper orientation and position of the product with respect to the installation hole and installation tool.

Compliance with this installation procedure will ensure optimal product performance. Please contact your local Lee Company Sales Representative for all questions concerning installation of Lee Company products.

2. Installation Hole Requirements

BR Series Screens are purposely designed to perform well under adverse conditions. Therefore, the installation hole specifications outlined in this section should be followed precisely to ensure proper function of the product's expansion sealing features. Installation forces and pressure ratings are based on installations in aluminum housings or manifolds. Installations in other materials need to be reviewed with the Lee Company.

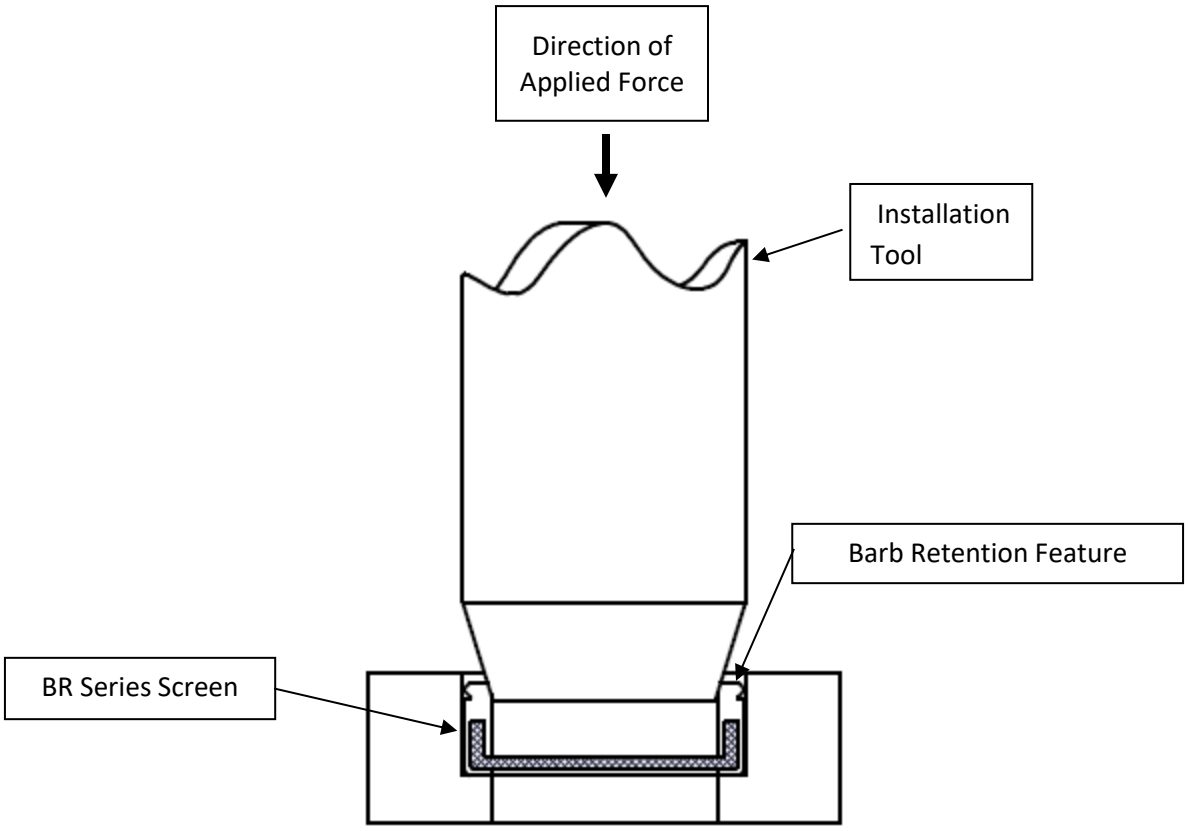
Installation hole specifications as found on Lee Installation Drawing (see Appendix D) will ensure proper operation of the BR Series Screen. The hole should be clean, dry, and free of burrs. Surface finish should not exceed 1.6µm (Ra) with no longitudinal surface defects. Surface finish requirements must be given special attention. The expansion section with the Barb Retention feature of the BR Series Screen seals and retains the product in the hole. A smooth machined surface where the product interacts with the hole is needed to seal and retain the product properly.

The Lee Company does not recommend the use of coatings or surface treatments around the installation hole where the product is to be installed. These may reduce product retention.

3. Installation

Installation Overview – All BR Series Screens use a tool to expand the locking barb of the screen into the housing material to affect a seal and retain the component. The screen is pre-lubricated for proper installation. Do not clean prior to installation.

(Section View of Hole, BR Series Screen and Installation Tool)



1. The BR Series Screen is inserted into the installation hole with the locking groove up as shown.
2. The installation tool (See Appendix E) is properly aligned with the installation hole as it approaches and contacts the screen. The tool expands the locking barb into the housing material with a non-impact force.
3. When the installation tool is retracted, the installed product can be inspected.

3.1 Installation Force

The installation force required to drive the barb retention feature into the housing is a function of boss material, installation hole dimensions and boss geometry. A boss made of a harder material or having a larger wall thickness will require a greater installation force than one made of a softer material or having thinner walls. It is important for each customer to establish the correct installation force with their unique housing and installation press. Shown below are typical installation forces for the 12 mm BR Series Screen.

Boss Material	Hardness	Typical Installation Force
6061 Aluminum	40 HRa	8.9 kN (2,000 lbf)
303 Stainless Steel	23 HRc	10.0 kN (2,250 lbf)

3.2 Standard Factory Installation

The BR Series Screen has been designed to be installed using arbor, pneumatic, hydraulic or servo type press equipment. An electric servo-press system is recommended for high volume production as it provides detailed feedback for better process controls of the installation process. See Appendix 4.3 for further information about a recommended electric servo-press system from Promess, Inc.

Insertion should be done using the defined Lee Installation Tool (see Appendix 4.2). Special attention to the installation tool material and hardness will ensure proper installation and maximum tool life. The housing in which the valve is to be installed should be held stationary on a solid surface. The tool and installation hole should be concentric. The tool can approach the product at a rate of 20-35 mm/sec. The maximum speed of the tool during installation should be limited to 3 mm/sec.

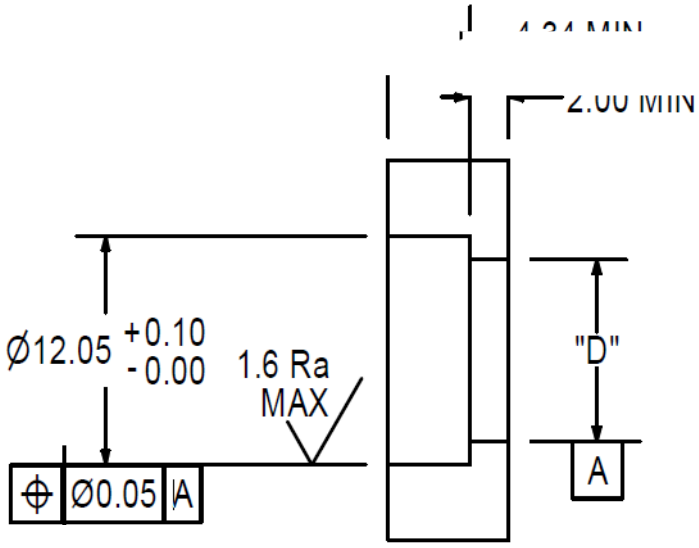
Factory Best Practices:

1. Examine the condition of the Installation Tool at appropriate intervals and replace if damaged or chipped.
2. Clean feed bowls once per day.
3. Turn off vibratory feed bowl when the assembly station is idle, or if the feed rail is full of parts.
4. Use the minimum vibration setting necessary to advance valves in the feed bowl.
5. If the check valve is blown into the assembly area from the feed rail, minimize the air pressure at which the check valve is blown into the assembly area to prevent possible damage.

4. Appendices

4.1. Installation Hole

12 mm BR Series Screen Installation Hole



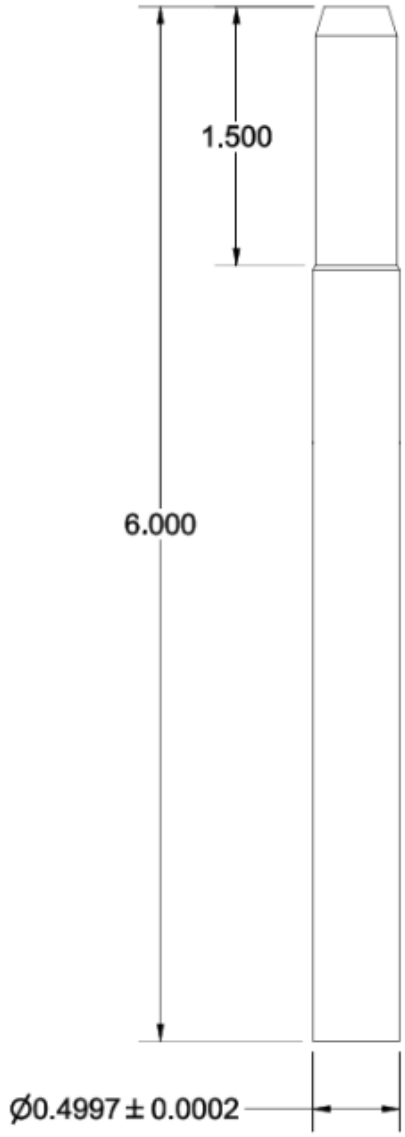
NOTES:
1. HOLE SHOULD BE CLEAN, DRY AND FREE OF BURRS.
2. NO LONGITUDINAL SURFACE DEFECTS PERMITTED.
3. NO COATING OR SURFACE TREATMENTS IN THE AREA OF THE INSTALLATION HOLE WHERE THE PRODUCT IS TO BE INSTALLED.

Dimensions in millimeters. Refer to table below for installation hole part number with complete specifications and “D” dimension.

Part Number	Description	Installation Hole Part Number	D (mm)
SCRM5121040S	12 mm – 40 Micron	1INST100819S	9.60
SCRM5121075S	12 mm – 75 Micron	1INST100821S	9.60
SCRM5121125S	12 mm – 125 Micron	1INST100823S	9.58
SCRM5121170S	12 mm – 170 Micron	1INST100825S	9.22

4.2. Installation Tool

12 mm BR Series Screen Installation Tool



Dimensions in inches. Refer to table below for installation tool part numbers.

Part Number	Description	Installation Tool Part Number
SCRM5121040S	12 mm – 40 Micron	CCRT5120040S
SCRM5121075S	12 mm – 75 Micron	CCRT5120075S
SCRM5121125S	12 mm – 125 Micron	CCRT5120125S
SCRN5121170S	12 mm – 170 Micron	CCRT5120170S

4.3. Promess, Inc. Press Information

Contact: Promess, Inc. 11429 Grand River Road, Brighton, MI 48116

Phone: (810) 229-9334, Web: www.promessinc.com

Press Information:

Number 8kN/200mm - FEMP12/200MP includes the following:

1-Press w/ integrated load cell, motor mounting plate and Motor

2-PreAmplifier (Connected to the Press Load Cell and Prox Switch)

3-MotionPRO Servo Amplifier

4-Motor Power Cable

5-Motor Encoder Cable

6-PreAmplifier Cable

7-MotionPRO software