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September 23, 2020

LAURA VEAL  
PARKER HANNIFIN - INSTRUMENTATION PRODUCTS DIVISION  
1005 A CLEANER WAY  
HUNSTVILLE AL 35805  
US

Service Request Type: BPV-Fitting Registration  
Service Request No.: 2913040  
Your Reference No.:  
Registered to: PARKER HANNIFIN - INSTRUMENTATION PRODUCTS DIVISION

Dear LAURA VEAL,

Technical Standards and Safety Authority (TSSA) is pleased to inform you that your submission has been reviewed and registered as follows:

**CRN No.: 0C22701.5**  
**Main Design No.: LC Series Check Valves per Registration Scope**

**Expiry Date: 23-Sep-2030**

Please be advised that a valid quality control system must be maintained for the fitting registration to remain valid until the expiry date.

A stamped copy of the approved registration and invoice for engineering services will be sent to you shortly. Should you have any questions or require further assistance, however, please contact a Customer Service Advisor at 1.877.682.TSSA (8772) or e-mail [customerservices@tssa.org](mailto:customerservices@tssa.org). We will be happy to assist you. When contacting TSSA regarding this file, please refer to the Service Request number provided above.

Yours truly,

Zivko Gacevic P. Eng.  
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**Registration Scope**

Parker Hannifin  
Instrumentation Products Division

Catalog 4135-CV, April 2019, Page 14  
LC Series Check Valves

Based on the following summary, we seek registration for the attached scope .

Series/Model	Size	CWP	Body Material
4Z-LC6L-SS	1/4"	6000 PSI	ASTM A182, Type F316
4A-LC6L-SS	1/4"	6000 PSI	ASTM A182, Type F316
4F-LC6L-SS	1/4"	6000 PSI	ASTM A182, Type F316
4L-LC12L-SS	1/4"	6000 PSI	ASTM A182, Type F316
6Z- LC12L-SS	3/8"	6000 PSI	ASTM A182, Type F316
6A- LC12L-SS	3/8"	6000 PSI	ASTM A182, Type F316
8F-LC16L-SS	1/2"	6000 PSI	ASTM A182, Type F316
8Z-LC16L-SS	1/2"	6000 PSI	ASTM A182, Type F316
8A-LC16L-SS	1/2"	6000 PSI	ASTM A182, Type F316

**Summary**

**Table 1: Summary Table for the LC Series Check Valves**

Main Pressure Bearing Component	Main Pressure Bearing Material (Standard)	Port Connections and Sizes	Pressure Rating	Design Code of Construction
Body (Refer to Table 2 for Sizes)	ASTM <del>A276</del> , Type 316 <i>A182 F316</i>	Refer to End Connection in Table 2 below	6,000 psi CWP	MSS-SP-99

Table 2 below shows the valve part number description from the catalog for the LC Series Check valves. For this valve the valve bodies are available only in one material (ASTM 182 Type F316). The valve is available three sizes (1/4", 1/2", and 1.0") designated as 6, 12, and 16 in the part number. The minimum wall thickness for all valves in this line is at the undercut of the thread on the valve body.

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to doc in file*

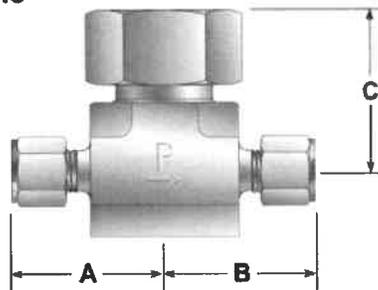
**Table 2: Dimensions and End Connections**

Dimensions in inches (millimeters) are for reference only, subject to change.

Part #	Size/Connection	A	B	C	Bonnet Hex
2F-LC6L-SS	1/8" Female NPT	1.00 (25.4)	1.00 (25.4)	1.34 (34.0)	15/16 (23.8)
4Z-LC6L-SS	1/4" CPI™	1.38 (35.1)	1.38 (35.1)	1.34 (34.0)	15/16 (23.8)
4A-LC6L-SS	1/4" A-LOK®	1.38 (35.1)	1.38 (35.1)	1.34 (34.0)	15/16 (23.8)
4F-LC6L-SS	1/4" Female NPT	1.03 (26.2)	1.03 (26.2)	1.34 (34.0)	15/16 (23.8)
M6A-LC6L-SS	6mm A-LOK®	1.38 (35.1)	1.38 (35.1)	1.34 (34.0)	15/16 (23.8)
4F-LC12L-SS	1/4" Female NPT	1.13 (28.7)	1.13 (28.7)	1.50 (38.1)	1-1/4 (31.8)
6Z-LC12L-SS	3/8" CPI™	1.60 (40.6)	1.60 (40.6)	1.50 (38.1)	1-1/4 (31.8)
6A-LC12L-SS	3/8" A-LOK®	1.60 (40.6)	1.60 (40.6)	1.50 (38.1)	1-1/4 (31.8)
8F-LC16L-SS	1/2" Female NPT	1.56 (39.6)	1.56 (39.6)	1.86 (47.2)	1-1/2 (38.1)
8Z-LC16L-SS	1/2" CPI™	1.97 (50.0)	1.97 (50.0)	1.86 (47.2)	1-1/2 (38.1)
8A-LC16L-SS	1/2" A-LOK®	1.97 (50.0)	1.97 (50.0)	1.86 (47.2)	1-1/2 (38.1)

For CPI™ A-LOK®, dimensions are measured with nuts in the finger-tight position.  
Metric dimensions are noted by ( ).

**Dimensions**



The Pressure and Temperature information is shown below.

**Specifications**

**Pressure Rating**

.....6000 psig (414 bar) CWP

**Temperature Rating**

..... -100°F to 900°F (-148°C to 482°C)

**Flow Data:**

LC6 Series..... **C<sub>v</sub>** = .63    **X<sub>T</sub>** = .47  
 LC12 Series..... **C<sub>v</sub>** = 1.20    **X<sub>T</sub>** = .63  
 LC16 Series..... **C<sub>v</sub>** = 2.29    **X<sub>T</sub>** = .65

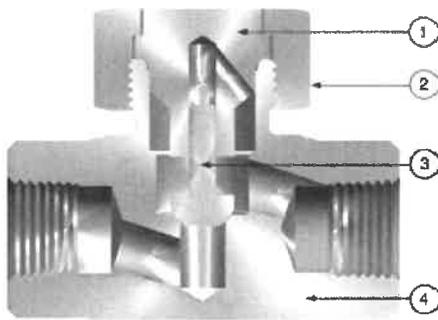
The Cold Working Pressure (CWP) is established by burst testing in accordance with MSS SP-105.

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A diagram of the components and the materials of constructions are provided below.

**Exhibit 1: Diagram of the Components and the Materials of Construction**

**Materials**



Item #	Part	Stainless Valve
1	Poppet Guide	ASTM A479, Type 316
2	Bonnet Nut	ASTM A479, Type 316
3	Poppet	ASTM A564, Type 630
4	Valve Body	ASTM A182, Type F316

LC16 Series utilizes a nickel-chromium-iron alloy bonnet seal.

**Quality System**

Parker Hannifin Instrumentation Products Division's quality management system complies with the requirements of ISO 9001:2015. A copy of the current DNV-GL certificate is included in this submission.

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