



345 Carlingview Drive
Toronto, Ontario
CANADA M9W 6N9
Tel.: 416.734.3300
Fax.: 416.231.1626
Toll Free: 1.877.682.8772
www.tssa.org

June 19, 2018

SUSAN TURNER
PARKER HANNIFIN INSTRUMENTATION GROUP CANADA
4635 DURHAM RD S
GRIMSBY ON L3M 4G4
CA

Service Request Type.: BPV-National CSA
Service Request No.: 2234358
Your Reference No.:
Registered to.: PARKER HANNIFIN INSTRUMENTATION GROUP CANADA

Dear SUSAN TURNER,

Please find enclosed the original response from QC, SK registered under the CRN No.:
CSA-0C11191.56ADD2.

As all jurisdictional fees are handled by the Technical Standards and Safety Authority (TSSA), you do not pay any jurisdictions directly.

Should you have any questions or require further assistance, I will be happy to assist you.
For general enquiries, please contact a Customer Service Advisor at 1.877.682.TSSA (8772) or e-mail customerservices@tssa.org. When contacting TSSA regarding this file, please refer to the Service Request number provided above.

Yours truly,

Joanna Karpinski

Tel: 416-734-3377
Fax: 416-231-6183
Email: jkarpinski@tssa.org

REGISTERED



CRN: CSA-OC11191.56ADD2

Registration Process administered by
CSA Group per CSA B51

Statutory Declaration Registration of Fittings

(a) Design Qualification

I¹ Marcus Ashford

(Name of applicant)

Engineering Manager

(Position eg, president, plant manager, chief eng.)

of Parker Hannifin IPDE

(name of company)

Located at Riverside Road, Barnstaple, Devon, UK EX31 1NP

(plant address)

do solemnly declare that the fittings listed hereunder, which are subject to the Boilers & Pressure Vessels Act:

☐ comply with all the requirements of the ANSI/ASME codes as to their dimensions, material, identification & service for which are required:

Or

☒ are not covered by the provisions of the ANSI/ASME codes, and are therefore constructed to comply with MSSSP99 ASME B16.34 ASME VIII code and standard, and are designed to the best current engineering practice, as shown by the supporting test data.

(b) Quality control of Manufacture

I further declare the manufacture of these fittings is controlled by a quality control program which complies with the requirements of ISO 9001:2015, and has been verified by the following authority or authorized agency DNV MANAGEMENT SYSTEMS

The fittings² covered by this declaration, for which I seek registration, are Catalogues 4190-MESC

In support of the application, the following information, calculations and/or test data are attached:
Design Verification – Manifold Products

Declared before me at Barnstaple Devon UK

In the of CSA of AD 2017

The 30th day of October

AD 2017

A (commissioner for oaths)

Signature of Declarer³

For Official Use Only

The application is accepted for registration in Category C in accordance with the Boilers and Pressure Vessels Act and CSA Standard B51.

This registration must be revalidated after ten (10) years from the date of acceptance. OCT. 20. 2026

Registered Number CRN CSA-OC11191.56ADD2

For the Chief Inspector

Date



A. BANWATT

APRIL. 09. 2018

¹ Three completed copies of Statutory Declaration form together with three copies of Catalogs, drawings of Bulletins illustrating above fittings shall be submitted.

² All fittings are required to be registered in the name of the Manufacturer.

³ This form shall be completed and signed by the president of highest official in the manufacturing plant where the fitting is produced.

Statutory Declaration (Registration of Fittings)

TSK-1008

I. Declaration Information

I, Marcus Ashford
Engineering Manager
(company title, e.g. vice president, plant manager, chief engineer)
(must be in a position of authority in the manufacturing plant where the fitting is produced)

In this space, show facsimile of
manufacturer's logo or trademark as it will
appear on the fitting.



of: Parker Hannifin IPDE
(name of manufacturer)

located at: Riverside Road, Barnstaple EX31 1NP
(Plant Address - Apt/Street) (City, Prov) (Postal Code)

do solemnly declare that the fittings listed hereinunder, which are subject to the **Saskatchewan Boiler and Pressure Vessel Safety Act** (check one)

- ☐ Comply with the requirements of _____ which specifies the dimensions,
(title of recognized North American Standard)
Materials of construction, pressure / temperature ratings and identification marking of the fittings, or
- ☒ Are not covered by the provisions of a recognized North American standard and are therefore manufactured
to comply with MSSSP99, ASME B16.34, ASME viii as supported by the attached
data which identifies the dimensions, materials of construction, pressure / temperature ratings and the basis
for such ratings, and the marking of the fittings for identification.

I further declare that the manufacturer of these fittings is controlled by a quality control program which has been
verified by the following authority, DNV MANAGEMENT SYSTEMS as being suitable for the manufacturer
of these fittings to the stated standard. The fittings covered by this declaration, for which I seek registration, are
Catalogue 4190-MESC,

In support of this application, the following information, calculations and / or test data are attached:

Design Verification - Manifold Products

II. Declaration

DECLARED before me at Saskatoon In the Cornwall County of Saskatchewan
this 30th day of October, 2017
Marcus Ashford (print name) (Signature)
(Signature of Commissioner of Oaths) Natly Puhli

III. Office Use Only

To the best of my knowledge and belief, the application meets the requirements of the **Boiler and Pressure Vessel Safety Act** and
CSA B51, Clause 4.2, and is accepted for registration in Category _____

(Registration Number)

REGISTERED



APRIL - 09 - 2018

(Date Registered - MM DD YYYY)
(For the Administrator / Chief Inspector)

OCT - 20 - 2026

(Expiry Date - MM DD YYYY)

A. BANWATT

CRN: CSA-OC11191.56ADD2

Registration Process administered by
CSA Group per CSA B51



TSK-1008
Rev. 10/2012
Page 1 of 1



345 Carlingview Drive
Toronto, Ontario M9W 6N9
Tel. 416 734 3300
Fax 416 231 1626
Toll Free 1 877 682 8772

www.tssa.org

January 24, 2018

SUSAN TURNER
PARKER HANNIFIN INSTRUMENTATION GROUP CANADA
4635 DURHAM RD S
GRIMSBY ON L3M 4G4
CA

Service Request Type: BPV-Fitting Registration

Service Request No.: 2220332

Your Reference No.:

Registered to: PARKER HANNIFIN INSTRUMENTATION GROUP CANADA

Dear SUSAN TURNER,

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

CRN No.: 0C11191.5ADD2

Main Design No.: ADD2: Additional "H-Series Manifold Products" as per scope of registration

Expiry Date: 20-Oct-2026

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

NOTE: Refer to the attachment to the Statutory Declaration Form for the scope of registration.

The stamped copy of the approved registration and the invoice are mailed separately. Should you have any questions or require further assistance, please contact a Customer Service Advisor at 1.877.682.TSSA (8772) or e-mail 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,


Mark Valcic
Engineer Specialist BPV
Tel. : 416-734-3494
Fax : 416-231-6183
Email : mvalcic@tssa.org

	CSA Group	1 BF4
ATTACHMENT TO		
C.R.N.: CSA-0C11191.56ADD2		
Signed: 		
178 Rexdale Boulevard, Toronto, ON Canada M9W 1R3		

DESIGN VERIFICATION

'H-Series Manifold Products'



Foreword

The H-Series Needle Valve currently holds CRN under design verification in 316 Stainless Steel material in 6,000 PSI and 10,000 PSI forms. The purpose of this document is to expand the CRN coverage to include other product form, material options and optional extras.

Scope

Product Variants

This design verification serves to demonstrate suitability of the manifold products as detailed within this document, which are also in line with the existing approval and calculations for the H-Series needle valve. It should be noted that the 'H-Series Needle Valve' is widely used in a range of products including Single Isolate valves, Manifold Products and Double Block and Bleed valves to name a few examples.

The products displayed in the referenced product catalogues are not exhaustive and there are many possible options which can be defined by the customer. These options would be engineered to follow the same principles and design considerations as detailed in this verification so we would propose they are also to be considered as verified for the purposes of CRN. Table 1 provides details of the catalogues we are referencing for this verification and lists exclusions for which we are not considering for verification on this occasion;

Catalogue Title	Catalogue Number	Exclusions
Instrumentation Hand Valves	4190-HV	HRPV Series HYNV Series
H' Series 3 and 5 Valve Differential Pressure Manifolds	4190-FM	No Exclusions
Instrumentation Solutions – MESC Compliant Modular Mounting Systems	4190-MESC	All products with Part numbers not commencing with MMHOMD or MMHOML

 **CSA Group** *OF-4*
Table 1

ATTACHMENT TO
C.R.N. *CSA-0211191.16 ADD2*

Signed: *ASB*

178 Rexdale Boulevard, Toronto, ON Canada M9W 1R3

THIS IS PART OF
CRN *0211191.5 ADD2*
Technical Standards & Safety Authority
Boilers & Pressure Vessels
Safety Program
Jan 24/13

Materials

Further to the above product coverage table we would propose the extension of the Stainless Steel verification by means of demonstrating that the mechanical properties used in the calculations, in this instance Tensile Strength (UTS) and Yield, are above that of Stainless Steel. As such we would propose that the material options as detailed in table 2 are suitable for approval also.


Materials that we are not proposing under this verification have been listed as N/A in table 2. This is because the material mechanical properties are below that of stainless steel and as such would require additional validation.

Material	Part Number Designator	Parker Material Standard	Material Grade	UTS (PSI)	Yield (PSI)
316/316L	S	ESSM019/1	ASTM A479 Grade UNS S31600/S31603, EN10088-3 Grade 1.4404	75000	30000
316L (Cast)	S	ESSM019/7	ASTM A351 CF3M	70000	30000
Monel	M	ESSM022/1	ASTM B164 Grade UNS N04400	84121	49602
Duplex	D1	ESSM051/1	ASTM A479 (UNS S31803)	90000	65000
Super Duplex	D2	Use ASTM	ASTM A479 UNS S32750/S22760	109000	75000
Hastelloy	HC	ESSM034/1	ASTM B574 Grade UNS N10276	100000	41000
Carbon Steel	C	N/A	N/A	N/A	N/A
6Mo	6MO	ESSM026/3	ASTM A479 Grade UNS S31254, EN10088-3 Grade 1.4547	95000	44000
Titanium	T	N/A	N/A	N/A	N/A
Incoloy 825	825	ESSM024	ASTM B425 UNS N8825	85572	31908
Inconel 625	625	ESSM056/3 or ESSM056/1	ASTM B446 Grade 1, UNS N06625, BS3076 NA21	120000	60000

Table 2

It is noted that material ASTM A351 CF3M in table 2 has a UTS value of less than 75,000 PSI and as such is not considered for use in manufacturing H-Series bonnet components. The material is however used to make manifold bodies on the HF, MMHOMD and MMHOML manifolds and calculation to validate the body requirements are carried out in addition to the H-Series calculations, these calculations are included in this submission and as such we would propose cast 316L manifolds be included in the design verification.

30F4

 CSA Group

ATTACHMENT TO
C.R.N. CSA-0C11191.56ADD2

Signed: [Signature]

178 Rexdale Boulevard, Toronto, ON Canada M9W 1R3



Wale Jmr 24/18

Connection Options (PTFree)

H-Series manifold products in the proposed materials and configurations have the option of a process connection option called PTFree. This is a Parker Hannifin design and has not previously be submitted for validation for CRN, however having said this the two major design elements that make up the product have separately received validation and as such we would propose that the design also be approved.

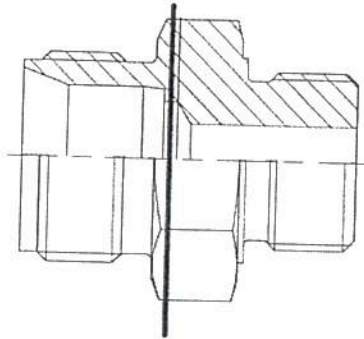


Fig 1

The PTFree design is a combination of the A-Lok / CPI Tube fitting design and the H-Series Needle Valve Bonnet Stud design. Fig 1 shows the body component of the PTFree fitting and demonstrates that detail to the left of the red line is common to the A-Lok / CPI design and detail to the right common to the H-Series bonnet stud.

The pressure boundary and retention calculations relevant to the product are covered either in the A-Lok / CPI validation or the Calculation Pack for the H-Series bonnet so we would propose that no further validation is required and manifold products with the PTFree option be covered under this verification.



Calculations

The relevant calculations for this verification can be found in the below listed documents which should be considered as justification for verification for the Parker H-Series manifold product range with exceptions as detailed.

CRN H-Series Needle Valve Calculation.xls

CRN H-Series Needle Valve Calculation Cast Body.xls

Conclusions

It can be adequately concluded that the H-Series manifold products utilising the H-Series needle valve head which are made with materials with UTS of 75,000 PSI and above with 0.2% Yield stress of 30,000 PSI and above which are within the Parker material options in Table 2 are safe for use to 6,000 PSI (Std. range) and 10,000 PSI (High pressure range).

