



Marine &amp; Offshore

Certificate number: 55046/A0 BV

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Product code: 2170H

*This certificate is not valid when presented without the full attached schedule composed of 7 sections*

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**TYPE APPROVAL CERTIFICATE***This certificate is issued to***Parker Hannifin Manufacturing Germany GmbH & Co. KG**  
Bielefeld - GERMANY*for the type of product***MECHANICAL JOINTS - COMPRESSION COUPLINGS - PRESS TYPE**  
HPF - Parker High Performance Flange System**Requirements:**

BUREAU VERITAS Rules for the Classification of Steel Ships

BUREAU VERITAS Rules for the Classification of Offshore Units

*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.***This certificate will expire on: 28 Apr 2026****For Bureau Veritas Marine & Offshore,**

At BV HAMBURG, on 28 Apr 2021,

Adama Diene



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 4 page(s)

# THE SCHEDULE OF APPROVAL

## 1. PRODUCT DESCRIPTION

### **HPF – Parker High Performance Flange System**

#### 1.1 Design:

Press type pipe couplings made of steel, with shaped insert and assembled with F37 seal or O-ring seal on flange side and with O-ring seal on tube side providing the gas leak tightness.

#### 1.2 Technical data:

SAE 3000/ISO 6162-1

<b>Size [Inch]</b>	1 1/4	1 1/2	2	2 1/2	3
<b>Maximum Working Pressure [bar]</b>	280	280	280	210	210

Effective pressure depends on the used tube and operating temperature, according to manufacturer's catalog.

SAE 6000/ISO 6162-2

<b>Size [Inch]</b>	3/4	1	1 1/4	1 1/2	2	2 1/2	3
<b>Maximum Working Pressure [bar]</b>	420	420	420	420	420	420	420

Effective pressure depends on the used tube and operating temperature, according to manufacturer's catalog.

ISO 6164 flange

<b>Size [Inch]</b>	2	2 1/2	3	3 1/2	4	4 1/2*	5*
<b>Maximum Working Pressure [bar]</b>	420	420	420	420	420	420	420

Effective pressure depends on the used tube and operating temperature, according to manufacturer's catalog.

\* Round flange design

#### 1.3 Material specification:

<b>Flange</b>	Steel, zinc plated, Cr(VI)-free
<b>Insert</b>	Steel, zinc plated, Cr(VI)-free
<b>F37-Seal</b>	PUR
<b>O-ring</b>	NBR or FKM
<b>Bolt</b>	Steel, grade 10.9, zinc flaked
<b>Nut</b>	Steel, grade 10, zinc flaked

## 2. DOCUMENTS AND DRAWINGS

According to the following document:

<b>Designation</b>	<b>Rev.</b>
Manufacturer's catalog: HPF – Parker High Performance Flange System	January 2021/CAT/4167

## 3. TEST REPORTS

- 3.1 Leakage test, tightness test, burst pressure test, repeated assembly test acc. to IACS P2.11 Req.2001/Rev.4 2016 witnessed by an IACS-Member, carried out at Parker Hannifin's premises in Bielefeld/GERMANY dated 07/5/19, 13/05/19 and 14/05/19.
- 3.2 Combined Vibration and Pressure Pulsation Tests acc. to IACS Req. 2001 / Rev.4 2016, P2.11, carried out at IMA Materialforschung und Anwendungstechnik GmbH in Dresden/GERMANY from 26/11/18 to 04/03/19. Test Report No.: K165/18.1 dated 25/07/19.
- 3.3 Vacuum and Fire Endurance Tests acc. to IACS Req. 2001 / Rev.4 2016, P2.11, carried out at IMA Materialforschung und Anwendungstechnik GmbH in Dresden/GERMANY from 23/04/19 to 28/05/19. Test Report No.: K165/18.2 dated 27/06/19.
- 3.4 Vibration and Pressure Pulsation Tests acc. to IACS Req. 2001 / Rev.4 2016, P2.11, carried out at IMA Materialforschung und Anwendungstechnik GmbH in Dresden/GERMANY from 11/06/19 to 28/06/19. Test Report No.: K165/18.3 dated 10/07/19.

3.5 Pull-out test acc. to IACS Req. 2001 / Rev.4 2016, P2.11, carried out at IMA Materialforschung und Anwendungstechnik GmbH in Dresden/GERMANY from 16/05/19 to 28/06/19 and on 24/07/19. Test Report No.: K165/18.4 dated 15/07/19 and K116/19 dated 02/08/19.

#### **4. APPLICATION / LIMITATION**

4.1 The application of the couplings and their acceptable use for each service is indicated in the table below. Pipes are not included in this type approval certificate.

Application:

<b>Flammable fluids ( flash point # 60°C)</b>	
-cargo oil lines	(4)
-crude oil washing lines	(4)
-vent lines	(3)

<b>Inert gas</b>	
-water seal effluent lines	
-scrubber effluent lines	
-main lines	(4)
-distribution lines	(4)

<b>Flammable fluids ( flash point &gt; 60°C)</b>	
-cargo oil lines	(4)
-fuel oil lines	(3)
-lubricating oil lines	(3)
-hydraulic oil	(3)
-thermal oil	(3)

<b>Sea water</b>	
-bilge lines	(1)
-water filled fire extinguishing systems, e.g. sprinkler systems	(3)
-non water filled fire extinguishing systems, e.g. foam, drencher systems	(3)
-fire main (not permanently filled)	(3)
-ballast system	(1)
-cooling water system	(1)
-tank cleaning services	
-non-essential systems	

<b>Fresh water</b>	
-cooling water system	(1)
-condensate return	(1)
-non-essential systems	

<b>Sanitary / drains / scuppers</b>	
-deck drains (internal)	(6)
-sanitary drains	
-scuppers and discharge (overboard)	

<b>Sounding / vent</b>	
-water tanks / dry spaces	
-oil tanks (flash point > 60°C)	(3)

<b>Miscellaneous</b>	
-starting/control air	(1)
-service air (non-essential)	
-brine	
-CO2 system	(1)
-steam	

Footnotes – Fire resistance capability:

If mechanical joints include any components which readily deteriorate in case of fire, the following footnotes are to be observed:

(1): Inside machinery spaces of category A - approved fire resistant types.

(3): Approved fire resistant types except in cases where such mechanical joints are installed on open decks, as defined in SOLAS II-2/Reg. 9.2.3.3.2.2(10) and not used for fuel oil lines.

(4): In pump rooms and open decks - approved fire resistant types.

Footnotes – General:

(6): Only above bulkhead deck of passenger ships and freeboard deck of cargo ships.

- 4.2 The used materials are to be compatible with the fluid to be conveyed and the maximum working temperature in accordance with the manufacturer's instructions.
- 4.3 In all cases, the associated pipes are to be suitably supported and anchored. The joints are to be at any time accessible, excepting inside tanks where permitted by the BUREAU VERITAS Rules.
- 4.4 Couplings, sealings and O-rings are to be assembled with pipes in accordance with the assembly instructions given by the manufacturer.

## **5. PRODUCTION SURVEY REQUIREMENTS**

- 5.1 The pipe couplings are to be supplied by **Parker Hannifin Manufacturing Germany GmbH & Co. KG** in compliance with the type described in this certificate.
- 5.2 This type of product is within the category HBV of BUREAU VERITAS Rule Note NR320 and as such does not require a BUREAU VERITAS product certificate.
- 5.3 **Parker Hannifin Manufacturing Germany GmbH & Co. KG** has to make the necessary arrangements to have its works recognized by BUREAU VERITAS in compliance with the requirements of NR320 for HBV products.
- 5.4 For information, **Parker Hannifin Manufacturing Germany GmbH & Co. KG** has declared to BUREAU VERITAS the following production site:  
**Parker Hannifin Manufacturing Germany GmbH & Co. KG, Bielefeld / GERMANY**

## **6. MARKING OF PRODUCT**

Pipe coupling is to be clearly marked with at least:

- Manufacturer's name or logo
- Type designation
- Size

## **7. OTHERS**

- 7.1 It is **Parker Hannifin Manufacturing Germany GmbH & Co. KG**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

\*\*\* END OF CERTIFICATE \*\*\*