



CERTIFICATE NUMBER

08-HG343730-3-PDA

DATE

24 November 2014

ABS TECHNICAL OFFICE

Hamburg Engineering Department

CERTIFICATE OF DESIGN ASSESSMENT

This is to Certify that a representative of this Bureau did, at the request of
**PARKER HANNIFIN MANUFACTURING GERMANY GMBH &
CO. KG - D-33659 BIELEFELD**

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

PRODUCT: **Pipe Fittings**

MODEL: **Parflange® F37 - 37° Flared / Retaining Ring Flange System
for Pipe and Tube Connections, (Steel and Stainless Steel).**

This Product Design Assessment (PDA) Certificate 08-HG343730-3-PDA, dated 24/Nov/2014 remains valid until 23/Nov/2019 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

AMERICAN BUREAU OF SHIPPING

Wulf-Peter Senebald

Engineer

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by the terms and conditions as contained in ABS Rules 1-2-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

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MA Certificate No. 12-HN2096093

Tier: 3

Product: Pipe Fittings

Model: Parflange® F37 - 37° Flared / Retaining Ring Flange System
for Pipe and Tube Connections, (Steel and Stainless Steel).

Intended Service:

For use in all Classes of Piping Systems.

Description:

Design: 37° Flared (F37-) and Retaining Ring (R-) Flange Connections.

Materials: Forged steel: C22.3 and C22.8/ASTM A 105/S355.

Hot rolled steel plate: S355.

Stainless Steel: Forged or hot rolled AISI 316, 316L or 316TI and equivalent or higher quality.

Bolt Strength: Mild Steel Class 8.8, 10.9, Stainless Steel A2 or A4 class of strength 80.

Sizes: 1/2 inch to 10 inch.

Sealing System: Bonded seal (B), F37 seal (V) and flat face (F).

Materials: NBR, FKM, Polyurethan.

Ratings:

Maximum working pressure: 50 bar to 420 bar.

Temperature range: -40°C to +200°C.

More details as per Attachment.

Service Restrictions:

Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

For operating temperatures at lower than -18°C all materials used are to be certified for their adequate notch toughness properties.

Comments:

The application and installation of the flange connections is to be for steel pipes of equivalent sizes (nominal pipe size, wall thickness or schedule number etc.) and in accordance with the manufacturer's recommendations and instructions.

Duplicate PDA resides with Messrs. Parker Hannifin Fluid Connectors (Qingdao) Co. Ltd. / China.

Notes / Drawings / Documentation:

This Product Design Assessment (PDA) is valid only for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

Term of Validity:

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Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

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STANDARDS

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STANDARDS

ABS Rules:

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product. The Rules applicable to this assessment are:

ABS Steel Vessel Rules 1-1- Appendix 3, 1-1-4/7.7, 4-3-4/9.5.2, 4-6-2/3/5.5.4/5.9.

National:

NA

International:

NA

Government Authority:

NA

EUMED:

NA

Others:

IACS UR P2.7.4/2.11.

Parflange® F37 - 37° Flared / Retaining Ring Flange System
 for Pipe and Tube Connections, (Steel and Stainless Steel)

Ratings:

ISO 6162-1 / SAE 1000

Size (inch)	37° Flared	Working Pressure (bar)	Retaining Ring	Working Pressure (bar)
½	F37-108	70	R-108	70
¾	F37-112	70	R-112	70
1	F37-116	70	R-116	70
1¼	F37-120	70	R-120	70
1½	F37-124	70	R-124	70
2	F37-132	70	R-132	70
2½	F37-140	70	R-140	70
3	F37-148	70	R-148	70
3½	F37-156	70	R-156	70
4	F37-164	70	R-164	70
5	F37-180	50	R-180	70
6	F37-196	50	R-196	70
8	F37-1128	50	R-1128	50
10	-	-	R-1160	50

ISO 6162-1 / SAE 3000

Size (inch)	37° Flared	Retaining Ring	Working Pressure (bar)
½	F37-308	R-308	350
¾	F37-312	R-312	350
1	F37-316	R-316	350
1¼	F37-320	R-320	280
1½	F37-324	R-324	280
2	F37-332	R-332	280
2½	F37-340	R-340	210
3	F37-348	R-348	210

ISO 6162-2 / SAE 6000

Size (inch)	37° Flared	Retaining Ring	Working Pressure (bar)
½	F37-608	R-608	420
¾	F37-612	R-612	420
1	F37-616	R-616	420
1¼	F37-620	R-620	420
1½	F37-624	R-624	420
2	F37-632	R-632	420

Parflange® F37 - 37° Flared / Retaining Ring Flange System
for Pipe and Tube Connections, (Steel and Stainless Steel)

Ratings:

ISO 6164

Size (inch)	37° Flared	Retaining Ring	Working Pressure (bar)
2	F37-432	R-432	420
2½	F37-440	R-440	420
3	F37-448	R-448	420
4	-	R-464	420
4½	-	R-872	420
5	-	R-880	420
6	-	R-896	350
8	-	R-8128	250
10	-	R-8160	250