

# Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

<b>Manufacturer</b>	<b>Parker Hannifin Manufacturing Germany GmbH &amp; Co. KG</b>
<b>Address</b>	Am Metallwerk 9, Bielefeld, 33659, Germany
<b>Type</b>	Compression Fittings
<b>Description</b>	37° Flare-, Retaining Ring- and Welding Adapter Flange Connection made of steel or stainless steel with sealing material NBR, FKM or Polyurethan.
<b>Trade Name</b>	F37 & Retaining Ring Flange Connection
<b>Application</b>	General use in marine, offshore and industrial piping systems classed or intended for Classification with Lloyd's Register.
<b>Specified Standard</b>	IACS P2.11, ISO6162-1, ISO6162-2, ISO6164, SAE 3000, SAE 6000, Lloyd's Register Rules and Regulations for the Classification of Ships, 2020
<b>Ratings</b>	see Appendix
<b>Other Conditions</b>	Selection and installation are to be in accordance with the manufacturer's instructions and recommendations.



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## Type Approval Certificate

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document No. ENS 24161-09, Issue No. 2 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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## Appendix

### RATINGS

#### Parflange F37 (37° flared flange connection)

Flange Size [inch]	1000 PSI		3000 PSI		6000 PSI		ISO 6164	
	Flange	W.P. [bar]	Flange	W.P. [bar]	Flange	W.P. [bar]	Flange	W.P. [bar]
½	-	-	F37-308	350	F37-608	420	-	-
¾	-	-	F37-312	350	F37-612	420	-	-
1	-	-	F37-316	350	F37-616	420	-	-
1 ¼	-	-	F37-320	280	F37-620	420	-	-
1 ½	F37-124	70	F37-324	280	F37-624	420	-	-
2	F37-132	70	F37-332	280	F37-632	420	F37-432	400
2 ½	F37-140	70	F37-340	210	-	-	F37-440	400
3	F37-148	70	F37-348	210	-	-	F37-448	400
4	F37-164	70						
5	F37-180	50						
6	F37-196	50						
8	F37-1128	50						
10	F37-1160	50						

**RATINGS, cont.**

**Retaining Ring**

Flange Size [inch]	1000 PSI		3000 PSI		6000 PSI		ISO 6164	
	Flange	W.P. [bar]	Flange	W.P. [bar]	Flange	W.P. [bar]	Flange	W.P. [bar]
½	-	-	R-308	350	R-608	420	-	-
¾	-	-	R-312	350	R-612	420	-	-
1	-	-	R-316	350	R-616	420	-	-
1 ¼	-	-	R-320	280	R-620	420	-	-
1 ½	R-124	70	R-324	280	R-624	420	-	-
2	R-132	70	R-332	280	R-632	420	R-432	400
2 ½	R-140	70	R-340	210	R-640	420	R-440	400
3	R-148	70	R-348	210	R-648	420	R-448	400
3 ½	R-156	70	-	-	-	-	-	-
4	R-164	70	-	-	-	-	R-464	400
4 ½	-	-	-	-	-	-	R-872	350
5	R-180	70	-	-	-	-	R-880	350
6	R-196	70	-	-	-	-	R-896	350
8	R-1128	50	-	-	-	-	R-8128	250
10	R-1160	50	-	-	-	-	R-8160	250

Maximum working pressures depend on pipe material and thickness.

Pressure reductions depending on design temperature are to be observed according technical data of catalogue 4162.

## Temperature range:

Material	min. all. Temperatur [°C]	max. all. Temperature [°C]
Steel	-40	+200
stainless steel	-60	+400
NBR	-35/ -40*	+100 / +120*
FKM	-25 / -35*	+200
PUR	-35	+100 / +120*

\*Ambient temperature of hydraulic and pneumatic applications

**LLOYD'S REGISTER TYPE APPROVAL – DESIGN APPRAISAL DOCUMENT**  
**Issued by: Hamburg Technical Support Office (HPC 1961021)**  
**Issued to: PARKER HANNIFIN MANUFACTURING GERMANY GMBH & CO KG**  
**For: F37 & RETAINING RING CONNECTION**

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register Type Approval System Procedure TA14 Version 03 (July 2017) and this Design Appraisal Document forms part of the Certificate.

**TEST REPORTS**

HPC1961021	Production Quality Assessment including Supply Chain Assessment Audit report	24.10.2019
C139/07	Pull-out test of Parker 37-deg flange and Parker retaining ring flanges at IMA, Dresden	18.10.2007
2A2006-0768	Impulse pressure test on pipe connections at Car Synergies, Bochum	14.12.2006
C51.3/06	Pressure pulsation test of Parker 37-deg flange and retaining ring flanges at IMA, Dresden	08.12.2006
C51.2/06	Vibration test of Parker 37-deg flange at IMA, Dresden	27.11.2006
2A2006-0634	Impulse pressure test on pipe connections at Car Synergies, Bochum	14.11.2006
C51.1/06	Vacuum test and fire endurance test of Parker 37-deg flange at IMA, Dresden	18.09.2006
-	Repeated assembly, tightness and burst pressure test for 37° Flare Flange connection and Retaining Ring at test Lab & Test Field, Parker Hannifin, TFDE-Bielefeld	Oct. 2002



**APPROVAL DOCUMENTATION**

Form 2571	Application Form to LR Type Approval	24.04.2019
4162/UK	Catalogue Parflange® F37 for pipe and tube connections	2017
ES TFDE 0129, rev. A	Flange hole pattern acc. to ISO 6162-1, -2	26.02.2013
ES TFDE 0130, rev. A	Flange outer geometry acc. to ISO 6162-1, -2	26.02.2013
ES TFDE 0131, rev. A	Square-flange outer geometry and hole pattern acc. to ISO 6164 and round flange outer geometry and hole pattern	08.04.2014
ES TFDE 0133, rev. A	Retaining ring tube end machining	25.07.2014
ES TFDE 0134, rev. A	Retaining ring groove	07.08.2014
ES TFDE 0135	Grooves and seals for F37	07.05.2013
ES TFDE 0804, rev. L	TFDE Product Nomenclature	29.08.2014



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**Supplementary Type Approval Terms and Conditions**

*Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.*

*Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.*

*Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations. Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the Lloyd's Register Type Approval System Procedure.*