



Lloyd's  
Register

## 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.*

This certificate supersedes certificate number 00/20015 (E3) issued on 24.08.2016 which is hereby cancelled.

This certificate is issued to:

<b>PRODUCER</b>	Parker Hannifin Manufacturing Germany GmbH & Co.KG Am Metallwerk 9 33659 Bielefeld Germany
<b>DESCRIPTION</b>	Steel, stainless steel and brass Parker O-Lok, O-ring face seal tube fitting according to Catalogue 4100-10/UK, Chapter J
<b>TYPES</b>	Parker O-Lok ORFS Tube Fittings
<b>APPLICATION</b>	General use in marine, offshore and industrial piping systems classed or intended for Classification with Lloyd's Register. <u>Restriction:</u> Separable joints of ND 25 mm or less are not to be used for applications with rotary flexure loads.
<b>STANDARDS</b>	Lloyd's Register Rules and Regulations for the Classification of Ships, 2016; ISO 8434-3, Part 3; IACS P2.11

<b>Certificate No.</b>	<b>00/20015 (E4)</b>
<b>Issue Date</b>	29 June 2017
<b>Expiry Date</b>	28 June 2022
<b>Sheet</b>	1 of 2

Lloyd's Register EMEA  
71 Fenchurch Street, London EC3M 4BS



Torsten Schröder  
Hamburg Technical Support Office  
Lloyd's Register EMEA

Lloyd's Register EMEA  
Is a subsidiary of Lloyd's Register Group

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.



RATINGS	Tube O.D. (mm)	(inch)	PN (bar)	Material	Temperature (°C)
	6-42	¼ to 1 ½	630 – 280	Steel	-40 to + 250
				Stainl. Steel	-60 to + 400
				Brass	-60 to + 175
				NBR	-35 to + 100
				FKM	-25 to + 200

Maximum working pressures depend on tube material and thickness.  
Pressure reductions depending on design temperature are to be observed according performance data of catalogue 4100-10/UK, C2.

**OTHER CONDITIONS** Selection and installation to be in accordance with the producer's instructions and recommendations.

<b>PLACE OF PRODUCTION</b>	Parker Hannifin Manufacturing Germany GmbH & Co.KG Am Metallwerk 9 33659 Bielefeld Germany	Parker Hannifin Poland Sp.z.o.o. UL.E. Kwiatkowskiego 16 50-011 Siechnice Poland
----------------------------	--	---

*The Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.*

*If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.*

*The Design Appraisal Document No. HPC/HMD 3088-00, Issue No. 5 and its supplementary Type Approval Terms and Conditions form part of this Certificate.*

<b>Certificate No.</b>	<b>00 / 20015 (E4)</b>
<b>Issue Date</b>	29 June 2017
<b>Expiry Date</b>	28 June 2022
<b>Sheet</b>	2 of 2

Torsten Schröder  
Hamburg Technical Support Office  
**Lloyd's Register EMEA**

LR031.1.2016.06

Torsten Schröder  
Hamburg Technical Support Office  
Lloyd's Register EMEA

Lloyd's Register EMEA  
71 Fenchurch Street, London EC3M 4BS

Lloyd's Register EMEA  
Is a subsidiary of Lloyd's Register Group



# Design Appraisal Document

Lloyd's Register EMEA  
Hamburg Technical Support Office  
Am Sandtorkai 41  
20457 Hamburg  
Telephone +49 (0)40 328107-0 Fax +49 (0)40 328107-480  
E-mail: hamburg-technical-support@lr.org

Date  
**29 June 2017**

Please quote this reference number on all future communications  
**HPC1561054/36271-17/TS**

**THE LLOYD'S REGISTER'S TYPE APPROVAL SYSTEM, 2014  
ISSUED TO: PARKER HANNIFIN MANUFACTURING GERMANY  
FOR: PARKER O-LOK; ORFS TUBE FITTINGS  
TYPE APPROVAL CERTIFICATE NO. 00/20015 (E3)**

**This Marine Design Appraisal Document supersedes and cancels  
document number HPC/HMD 3088-00, Issue 4, dated 24.08.2016.**

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

## COMMENTS

1. The materials are to be in compliance with the Rules respectively the new alternative Supply Chain Assurance Assessment Scheme as agreed between Parker and Lloyd's Register.
2. The minimum unweakened carbon steel tube thicknesses are to be calculated in accordance with the Rules Part 5, Chapter 12, Section 2.1, and stainless steel tubes according to Section 10.

## APPROVAL DOCUMENTATION

-	Application for Type Approval	28.02.2017
4100-10/UK	Catalogue, Chapter J	-

## TEST REPORTS

HPC1561054	Supply Chain Assessment Manufacturer Audit for plant Bielefeld	21.02.2017
KAT1700225	Supply Chain Assessment Manufacturer Audit for plant Siechnice	03.04.2017
KAT1500562/1	LR Production Quality Assessment at Works in Siechnice, Poland	10.09.2015
HPC1561054	LR Production Quality Assessment at Works in Bielefeld, Germany	30.06.2015
80283/21+23+24	Fire endurance test of pipe couplings type O-Lok 24 steel, O-Lok 4 and 10 stainless steel with seal NBR at WTD71, Eckernförde	16.04.2008

FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

Lloyd's Register EMEA  
Is a member of Lloyd's Register group

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

Lloyd's Register EMEA  
Hamburg Technical Support Office  
Am Sandtorkai 41  
20457 Hamburg  
Telephone +49 (0)40 328107-0 Fax +49 (0)40 328107-480  
E-mail: hamburg-technical-support@lr.org

Date  
**29 June 2017**

Please quote this reference number on all future communications  
**HPC1561054/36271-17/TS**

### TEST REPORTS, cont.

DATA O LOK.doc Test Report, consisting of: 27.02.1997  
Leak and burst pressure test, Vacuum test, Impulse test, Vibration test  
Tensile Pull test, Hardness Profile of Steel & Stainless Steel Tubing,  
Macrography of Tubing, Shock test, Fire test



LR031.1.2016.06  
Torsten Schröder  
Senior Specialist  
Engineering Systems  
Hamburg Technical Support Office  
Lloyd's Register EMEA  
T +49 (0)40 328107-463  
E torsten.schroeder@lr.org

### 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 LR Type Approval System Procedure.*

FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

Lloyd's Register EMEA  
Is a member of Lloyd's Register group