



CERTIFICATE NUMBER

14-HG1204544-PDA

DATE

10 July 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: **EO Tube Fittings, Series "L" (light) and Series "S" (heavy).**

This Product Design Assessment (PDA) Certificate 14-HG1204544-PDA, dated 10/Jul/2014 remains valid until 09/Jul/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

Efstratios Maliatsos  
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 1-1-A/3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

## PARKER HANNIFIN MANUFACTURING GERMANY GMBH & CO. KG

AM METALLWERK 9  
D-33659 BIELEFELD  
Germany  
Telephone: +49- 521 40480  
Fax: +49- 521 40484280  
Email: [ermeto@parker.com](mailto:ermeto@parker.com)  
Web: [www.parker.com](http://www.parker.com)

Parker Hannifin SP.ZO.O  
Ul. E. Kwiatkowskiego 16  
PL 55-011 Siechnice  
Poland

MA Certificate No. 12-HN2096093

Tier: 3

**Product:** Pipe Fittings

**Model:** EO Tube Fittings, Series "L" (light) and Series "S" (heavy).

### Intended Service:

For general application in shipboard piping systems.

### Description:

The industrial tube fitting program consists of:

- EO-2 and Progressive Ring (PSR/ DPR) Fittings (screwed/bite type, steel/stainless steel/brass),
- Rotary Fittings, screwed/bite type, union body/nut/progressive ring (steel), ball bearings (steel) and plain bearings (steel/brass/CuNiFe),
- SAE and Hydraulic Flanges,welded or screwed/bite type connections (steel) GTW40 material for BFG/BFW hydraulic flanges only,
- Valves/Non Return Valves with EO screwed/bite type pipe connections (steel/stainless steel/brass, for further guidance see "Catalogue 4100").
- Pressure Gauge Adapter Fittings with screwed/bite type pipe connections (steel/stainless steel).
- Threaded EO Adapter Fittings (steel/stainless steel).
- EO Weld Nipple Fittings (steel/stainless steel),
- EO Seamless Steel (EN10305) and Stainless Steel (EN10212) Tubes.
- EO Tube Clamps.

Bite type couplings with "EO-2" cutting ring have "NBR/FKM" soft seal elements provided in the secondary zone and weld nipple unions are equipped with "O-rings" of "NBR or FKM" depending on base material of fitting. Bite type and weld nipple fittings are based on a 24 degree cone for tube connection.

Diameter range of fittings based on tube dimensions: Series "L" (6-42 mm), Series "S" (6-38 mm).

### Ratings:

Notwithstanding ratings given below, all fittings must maintain at least a 4:1 safety factor based upon manufacturer's specified burst pressure data whereby parts with as indicated "PN" pressure rating would meet this criteria. (Pmax. pressure ratings are to be derated accordingly).

Operating temperatures/parameters depending on coupling and sealing materials, as per manufacturer's specification (see comments).

"PN" Pressure Rating: Series "L" (160-500 bar), depending on tube O.D. and type/size of fitting.

"PN" Pressure Rating: Series "S" (315-800 bar), depending on tube O.D. and type/size of fitting.

Rotary Fittings, Series "L" : PN = 40 bar (all sizes) and Series "S": PN = 100 bar (all sizes).

For "PN" pressure rating of flanges and valves refer to manufacturer's specification i. e. Catalogue No. 4100.

### Service Restrictions:

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

The components are to be installed in a location where leakage would not create a hazard by way of damage to electrical systems or otherwise create a hazard to the vessel, equipment or personnel onboard.

If the manufacturer or purchaser's request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Coupling types with tapered pipe threads are not to be used for toxic and corrosive fluid services and for all services of temperatures exceeding 495 °C. In Classes I and II piping systems in general, for joining sections of hydraulic pipes and for steering gear-, controllable pitch propeller-, and propulsion related hydraulic systems their use is limited to the following restrictions: 6 mm to 20 mm OD for 103 bar, 22 mm to 25 mm OD for 82.8 bar, 28 mm to 42 mm OD for 41.4 bar. In other hydraulic systems they may be used without pressure limitation only for connection to equipment, such as pumps, valves, cylinders, accumulators, gauges and hoses. Straight-thread O-ring type fittings may be used for connections to equipment in hydraulic oil piping, without pressure and service limitation, but are not to be used for joining sections of pipes. Split type flanges are not to be used in steering gear systems. Only metallic

## PARKER HANNIFIN MANUFACTURING GERMANY GMBH & CO. KG

AM METALLWERK 9  
D-33659 BIELEFELD  
Germany  
Telephone: +49- 521 40480  
Fax: +49- 521 40484280  
Email: [ermeto@parker.com](mailto:ermeto@parker.com)  
Web: [www.parker.com](http://www.parker.com)

Parker Hannifin SP.ZO.O  
Ul. E. Kwiatkowskiego 16  
PL 55-011 Siechnice  
Poland

**MA Certificate No.** 12-HN2096093 **Tier: 3**

---

pipe clamps or pipe clamps that have metallic base and cover plates would be acceptable for installation on classed vessels/facilities. Generally, care is to be taken to prevent build-up of static electricity in piping conveying fluids having flash point of 60°C or less or being routed through hazardous areas.

### Comments:

The manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product. Even though the "PN" pressure rating of the fittings already includes a safety margin of four (4) against burst pressure care is to be taken that this would apply also to the actual working pressure of the fittings that may be required to be reduced based on operating temperatures, high pressure surges etc. General, each particular application of the pipe fittings is to be specifically approved in connection with the relevant piping system for which they are intended. Tube preparation and final installation of the pipe fittings is to be performed by duly qualified personnel in accordance with manufacturer's specifications, instructions and recommendations. Use of the fittings only in connection with manufacturer's special fitting tools. Original PDA resides with Parker Hannifin Manufacturing Germany GmbH & Co., Ltd. Duplicate PDA reside in Parker Hannifin Fluid Connectors (Qingdao) Co., Ltd.

### 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:

This Product Design Assessment (PDA) Certificate 14-HG1204544-PDA, dated 10/Jul/2014 remains valid until 09/Jul/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.

## STANDARDS

### ABS Rules:

The Rules applicable to this assessment are:

- Rules for Building and Classing Steel Vessels (2014): 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-1-1/TABLE 6; 4-3-4/9.5.2, 4-6-1/5, 4-6-2/5.5/5.9/9.15, 4-6-7/Table 1
- Steel Vessels Under 90 Meters (295 Feet) in Length (2014): 1-1-4/7.7, 1-1-A 3, 1-1-A4
- Offshore Support Vessels (2014): 1-1-4/7.7, 1-1-A3, 1-1-A 4
- Aluminum Vessels (1975): 1-1-4/7.7, 1-1-A3, 1-1-A4
- Steel Vessels for Service on Rivers and Intracoastal Waterways (2014): 1-1-4/7.7, 1-1-A3, 1-1-A4
- Bulk Carriers for Service on the Great Lakes (1978): 1-1-4/7.7, 1-1-A3, 1-1-A4

### National:

DIN EN/ISO 8434, DIN 3861, 3865.

### International:

ISO 8434, EN10305, EN10212.

### Government Authority:

None

**PARKER HANNIFIN MANUFACTURING GERMANY GMBH & CO. KG**

AM METALLWERK 9  
D-33659 BIELEFELD  
Germany  
Telephone: -49- 521 40480  
Fax: -49- 521 40484280  
Email: ermeto@parker.com  
Web: www.parker.com

Parker Hannifin SP.ZO.O  
Ul. E. Kwiatkowskiego 16  
PL 55-011 Siechnice  
Poland

**MA Certificate No.** 12-HN2096093

**Tier:** 3

---

**EUMED:**

None

**Others:**

None