



Marine & Offshore  
Division

Certificate number: 23066/B0 BV

File number: ACM 135/2681/1 - 2

Product code: 2130H

*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*

**SCREW COUPLINGS**

ERMETO ORIGINAL TUBE FITTINGS EO PSR/-DPR

**Requirements:**

BUREAU VERITAS Rules for the Classification of Steel Ships

BUREAU VERITAS Rules for the Classification of Offshore Units

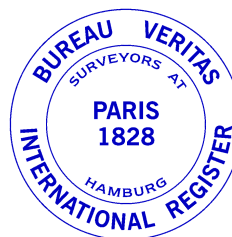
*This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

**This certificate will expire on: 01 Mar 2021**

**For BUREAU VERITAS,**

At BV HAMBURG, on 01 Mar 2016,

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. 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 Division 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 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 October 2014

This certificate consists of 4 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION:

#### **Ermeto Original Tube Fittings type EO PSR/-DPR**

**PSR** Progressive Stop Ring for Carbon Steel

**DPR** Progressive Ring for Stainless Steel

The Tube Fittings consist of the following components:

- Fitting body
- Support Sleeve for thin wall or soft metal tubes only
- Cutting Ring
- Nut

#### **1.1 Identification:**

1.1.1 PSR Progressive Stop Ring:

File Number: **ACM 135/2681/1**

Series	Steel, zinc plated, Cr(VI)-free	
	Tube OD [mm]	Nominal Pressure [bar]
L (Light)	6 – 10	500
	12 – 18	400
	22 – 42	250
S (Heavy)	06 – 10	800
	12 – 16	630
	20 – 38	420

1.1.2 DPR Progressive Ring:

File Number: **ACM 135/2681/2**

Series	Stainless Steel	
	Tube OD [mm]	Nominal Pressure [bar]
L (Light)	6 – 18	315
	22 – 42	160
S (Heavy)	06 – 14	630
	16 – 30	400
	38	315

#### **1.2 Temperature range for the used Materials:**

Material	Minimum allowable Temperature [°C]	Maximum allowable Temperature [°C]
Steel	-40	+250
Stainless steel	-60	+400
Brass	-60	+175
NBR	-35 / -40*	+100 / +120*
FKM	-25 / -35*	+200
EPDM	-40	+150

\* Ambient temperature of hydraulic and pneumatic applications

### 2. DOCUMENTS AND DRAWINGS:

According to the Manufacturer's Catalogue 4100-10/UK.

### **3. TEST REPORTS:**

According to the following Type Tests:

- Vibration Tests witnessed by an IACS-Member, performed at Parker Hannifin's premises in Bielefeld/GERMANY from 05/04/2007 to 29/08/2007 and from 21/11/2007 to 23.03.2007. Test Reports No. 6846, 6848, 6853, 6854, 6858, 6863, 6875, 6876 and 6903.
- Fire endurance Test witnessed by an IACS-Member, performed at WTD-71 in Kiel/GERMANY.
- Leakage Test, burst Test, Tightness Test and Repeated assembly Test witnessed by BUREAU VERITAS, performed at Parker Hannifin's premises in Bielefeld/GERMANY.

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

- 4.1 Tube Fittings intended to be used for Marine and Offshore Piping Systems
- 4.2 The Tube Fittings are to be at any time accessible.
- 4.3 For the Bulkhead Fittings, the requirements given in BUREAU VERITAS Rules Part C, Ch. 1, Sec 10, [5.3] have to be complied with.
- 4.4 When soft seals are used for Bulkhead unions, it must be ensured that water, oil or fire cannot penetrate through the watertight bulkheads or decks.
- 4.5 In all cases, the associated pipes are to be suitably adjusted, aligned and anchored.
- 4.6 The manufacturer's assembly instructions are to be complied with.
  - Tube preparation and final installation must be conducted by personal which is trained and currently certified by Parker Hannifin.
  - All assemblies must be made with machines that are approved by Parker Hannifin.
- 4.7 The wall thickness and the material of the used tubes are to be in accordance with the Rules of BUREAU VERITAS.
- 4.8 The nature of materials, joints included, should be suitable for the intended service.

### **5. PRODUCTION SURVEY REQUIREMENTS:**

- 5.1 The Tube Fittings are to be supplied by the manufacturer 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.
- 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:  
**Parker Hannifin Manufacturing Germany GmbH & Co. KG**  
**Bielefeld/GERMANY**
- 5.4 Water Pressure Test should be carried out through watertight bulkhead for Bulkhead unions.

### **6. MARKING OF PRODUCT:**

Each Tube Fitting is to be clearly identified to avoid any wrong utilization as manufacturer's instructions:

- Manufacturer's name or logo
- Model
- Size
- Nominal Diameter
- Nominal Pressure

**7. OTHERS:**

7.1 This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the products at any time and that **Parker Hannifin Manufacturing Germany GmbH & Co. KG** will accept full responsibility for informing shipbuilders, ship owners or their sub-contractors of the proper methods of use and general maintenance of the products and the conditions of this approval.

7.2 This certificate supersedes Type Approval Certificate No. 23066/A0 BV issued on 17/09/2010 by the Society.

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