



No. MAC333317XG

This is to certify that the product identified below satisfies the requirements of the standard quoted under "Reference standard"

<i>Description</i>	MECHANICAL JOINTS FOR PIPES
<i>Type</i>	Bite Type Compression Couplings EO-D/ -PSR/ -DPR, EO-2 and EO2-Form
<i>Applicant</i>	PARKER HANNIFIN MANUFACTURING GERMANY GMBH & CO. KG Am Metallwerk 9, 33659 Bielefeld GERMANY
<i>Manufacturer</i>	PARKER HANNIFIN MANUFACTURING GERMANY GMBH & CO. KG Am Metallwerk 9, 33659 Bielefeld GERMANY
<i>Place of manufacture</i>	PARKER HANNIFIN MANUFACTURING GERMANY GMBH & CO. KG Am Metallwerk 9, 33659 Bielefeld GERMANY
<i>Reference standards</i>	RINA Rules for the Classification of Ships Pt C, Ch 1, Sec 10; RINA Rules for the Type Approval of Mechanical Joints for Pipes

Issued in **HAMBURG** on **January 11, 2018**. *This Certificate is valid until* **January 10, 2023**



**RINA Services S.p.A.
Giuseppe Russo**

This certificate consists of this page and 3 enclosures.



TYPE APPROVAL CERTIFICATE

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Bite Type Compression Couplings

EO-D/ -PSR/ -DPR, EO-2 and EO2-Form

Reference documents:

- Catalogue 4100-10/UK filed under RINA dwg no. HMMC-10231.
- Fire Endurance Tests EO-2 filed under RINA dwg no. HMMC-10362.
- Fire Endurance Tests EO-2-Form filed under RINA dwg no. HMMC-10363.
- Fire Endurance Tests PSR/DPR filed under RINA dwg no. HMMC-10364.
- Impulse Vibration Tests DPR/PSR EO-2 filed under RINA dwg no. HMMC-10365.
- Impulse Vibration Tests EO-2-Form filed under RINA dwg no. HMMC-10366.
- Pull Out Tests filed under RINA dwg no. HMMC-10367.
- Repeated Assembly, Tightness & Burst Pressure Tests filed under RINA dwg no. HMMC-10368.

Technical characteristics:

This product is designed according to DIN 3861/EN ISO 8434-1 and is coded as per pages Part I8 & I9 of the Parker Catalogue 4100-10/UK.

The function of fittings is described in chapter A of catalogue 4100-10/UK.

The following couplings listed on the above-mentioned pages are excluded from this type approval:

High pressure banjo elbows (WH-M, WH-M-KDS, WH-R, WH-R-KDS),

Low pressure banjo elbows (DSVW-M, DSVW-R),

High pressure banjo tees (TH-M, TH-M-KDS, TH-R, TH-R-KDS),

Metric male stud banjo elbows (SWVE-M, SWVE-M-KDS),

BSP male stud banjo elbows (SWVE-R, SWVE-R-KDS).

This product is intended to be used for tubes with outer diameter from 4 mm to 42 mm.

Working temperature range is -55 to +400°C and depends on the sealing ring materials as follows:

Carbon steel: -20 to +300°C

Stainless steel: -55 to +400°C

Brass: -55 to +200°C

FKM: -25 to +200°C

NBR: -35 to +100°C



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Maximum working pressure is 63 bar up to 800 bar.

Sizes and pressure range ^{1,2}

Fitting components acc. to Parker catalogue I2	Size range (mm)	Series	Stainless steel (bar)	Carbon steel (bar)	Brass (bar)
D	04, 06, 08, 10, 12	LL	100*	100*	63
	06, 08, 10, 12, 15, 18	L	-	-	200
	22, 28, 35, 42	L	-	-	100
	06, 08, 10, 12, 14	S	-	-	400
	16, 20, 25, 30	S	-	-	250
	38	S	-	-	200
PSR	06, 08, 10	L	-	500	-
	12, 15, 18	L	-	400	-
	22, 28, 35, 42	L	-	250	-
	06, 08, 10	S	-	800	-
	12, 14, 16	S	-	630	-
	20, 25, 30, 38	S	-	420	-
DPR	06, 08, 10, 12, 15, 18	L	315	-	-
	22, 28, 35, 42	L	160	-	-
	06, 08, 10, 12, 14	S	630	-	-
	16, 20, 25, 30	S	400	-	-
	38	S	315	-	-
Fm-EO-2 Functional nut	04	LL	-	100	-
	04, 06	LL	100	-	-
FM-E0-2 Functional nut EO2-FORM Set	06, 08, 10	L	-	500	-
	12, 15, 18	L	-	400	-
	22, 28, 35, 42	L	-	250	-
	06, 08, 10	S	-	800	-
	12, 14, 16	S	-	630	-
	20, 25, 30, 38	S	-	420	-
FM-E0-2 Functional nut	06, 08, 10, 12, 15, 18	L	315	-	-
	22, 28, 35, 42	L	160	-	-
	06, 08, 10, 12, 14,	S	630	-	-
	16, 20, 25, 30	S	400	-	-
	38	S	315	-	-
EO2-FORM Set	06, 08, 10	L	500	-	-
	12, 15, 18	L	400	-	-
	22, 28, 35, 42	L	250	-	-
	06, 08, 10, 12	S	630	-	-
	14, 16	S	530	-	-
	20, 25, 30, 38	S	420	-	-

Notes

- 1 Individual nominal pressures of the fittings accordance to catalogue 4100-10/UK has to be observed.
- 2 Max working pressure depends on pipe material and thickness

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Bite Type Compression Couplings

Fields of application:

This product is intended for use in shipboard carbon steel, stainless steel and brass piping systems. This product is suitable for the systems indicated in Table 16 and Article 2.4.5 of Part C, Chapter 1, Section 10 of RINA Rules where approved fire resistant types are required.

Acceptance conditions:

1. Application of this product and its acceptable use for particular piping systems is indicated in RINA Rules Part C, Chapter 1, Section 10, Table 16 and column referring to compression couplings.
2. This product, categorized as a bite type compression coupling, is allowed to be used in Class I, II and III piping systems, having in mind, that outside diameters of pipes being connected are not above 60,3 mm as per RINA Rules Part C, Chapter 1, Section 10, Table 17.
3. Threaded bulkhead pipe coupling coded SV and WSV are not allowed to be used on tank walls, fire divisions and watertight bulkheads and decks.
4. Threaded pipe couplings with pressure tight joints made on the parallel or tapered threads coded GE-R, GE-R(KEG), GE-M, GE-M(KEG), GE-NPT, EGE-NPT, WE-NPT, WE-M(KEG), WE-M, WE-R, WE-R(KEG), TE-R, TE-R(KEG), TE-M, TE-M(KEG), LE-M, LE-R, LE-R(KEG), LE-M(KEG), GAI-M, GAI-R, GAI-NPT, RI, RI-ED are allowed to be used for piping systems as indicated in RINA Rules Part C, Chapter 1, Section 10, Table 15.
5. This product is to be used for tubes of a correct temper and tolerance as recommended by the Manufacturer and not to be used on tubes in cold fabricated (hard temper) conditions.

Remarks:

1. The selection of the compression couplings for the corresponding service is to be in accordance with the instructions of the Manufacturer.
2. The installation on board is to be made in accordance with the Manufacturer's assembly instructions. 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.
3. In addition, this Certificate covers the following production sites:
Parker Hannifin Manufacturing Germany GmbH & Co. KG
Bahndamm 31 - 33, 33758 Schloß Holte-Stukenbrock
Germany
Parker Hannifin Manufacturing Poland Sp. z o.o.
ul. E. Kwiatkowskiego 16, 55-011 Siechnice,
Poland

HAMBURG January 11, 2018



A handwritten signature in black ink, appearing to be 'J. A.', is written above the RINA logo.