



**TYPE APPROVAL CERTIFICATE**  
No. **MAC337919XG**

**This is to certify** that the product identified below is in compliance with the regulations herewith specified.

<i>Description</i>	<b>Tube Clamps</b>
<i>Type</i>	<b>Series A (Light Series), Series B (Twin Tube Clamp), Series C (Heavy Series)</b>
<i>Applicant</i>	<b>PARKER HANNIFIN MANUFACTURING GERMANY GMBH &amp; CO. KG Am Metallwerk 9 33659 Bielefeld GERMANY</b>
<i>Manufacturer</i>	<b>PARKER HANNIFIN MANUFACTURING GERMANY GMBH &amp; CO. KG</b>
<i>Place of manufacture</i>	<b>Am Metallwerk 9 33659 Bielefeld GERMANY</b>
<i>Reference standards</i>	<b>RINA Rules for the Classification of Ships Part C, Chapter 1, Section 10</b>
<i>Reference documents</i>	<b>RINA TYPE APPROVAL SYSTEM</b>

*Issued in* **Hamburg** on **December 19, 2019**. *This Certificate is valid until* **December 18, 2024**

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

This certificate consists of this page and 2 enclosures.



**TYPE APPROVAL CERTIFICATE**No. **MAC337919XG****Enclosure - Page 1 of 2****Series A (Light Series), Series B (Twin Tube Clamp), Series C (Heavy Series)****Reference Documents:**

Catalogue no. CAT/4100, chapter of Tube Clamps filed for information under RINA dwg no. HMMC-15508.

**Technical Characteristics:**

Type	Design	Outer diameter of pipes		
		Metric series	Inch series	Imperial series
Series A	Light construction series / DIN 3015, Part 1	4 up to 101,8mm	1/8" up to 3 1/2"	1/4" up to 4"
	Normal mechanical loads	nine standard sizes		
Series B	Twin tube clamps / DIN 3015, Part 3	6 up to 42mm	1/8" up to 1 1/4"	1/4" up to 1 1/2"
	Normal mechanical loads	five standard sizes		
Series C	Heavy series / DIN 3015, Part 2	6 up to 406,4	1/8" up to 16"	5/16" up to 12 3/4"
	High mechanical loads	ten standard sizes		

**Assembly Variants:**

Assembly on to metal welding	Cover plates, clamp body, screws
Assembly on support rails	Support rail, support rail nuts, clamp body, cover plate, screws
Construction assembly	Same as assembly on support rail. Clamps allow the assembly of multiple clamps of the same construction

**Materials:**

Clamp body	Material designation
Series A	Polypropylene (PP), Polyamide (PA)), Rubber (TPE), Aluminum (Al)
Series B	
Series C	
Cover plates, Screws	Carbon steel,
Rails, Rail nuts, Welding plates	Stainless steel

**Temperature Range:**

Clamp body material	Temperature range	Color
Polypropylene	-30°C up to +90°C	dark green
Polyamide	-40°C up to +120°C	black
Rubber	-50°C up to +120°C	black
Aluminum	-40°C up to +300 °C	n.a.

**Fields of application:**

These pipe clamps may be used in piping systems installed on board of the RINA certified ships, mobile units and floating offshore installations.

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**Series A (Light Series), Series B (Twin Tube Clamp), Series C (Heavy Series)**

**Acceptance Conditions:**

1. Pipe clamps being used inside machinery spaces are to be provided with upper and lower steel cover plates.
2. Plastic materials used in pipe clamps applied for fire fighting piping systems are to be of an approved flame retardant type or pipe clamps are to be adequately protected by means of shields resistant to flame.

**Remarks:**

1. The selection of the pipe clamps and their installation is to be in accordance with the manufacturer's instructions.
2. Each pipe clamp is to be marked with Manufacturer's logo, diameter and size.

**Hamburg December 19, 2019**

