

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.

Manufacturer	Parker Hannifin Manufacturing Germany GmbH & Co. KG
Address	Am Metallwerk 9, Bielefeld, 33659, Germany
Type	Support Clamps
Description	Tube clamps TYPES Tube clamps Series A (light series), Series B (twin tube clamp) and Series C (heavy series)
Trade Name	Tube clamps Series A (light series), Series B (twin tube clamp) and Series C (heavy series)
Application	General use in marine, offshore and industrial piping systems classed or intended for Classification with Lloyd's Register. For essential systems inside machinery spaces Category A and accommodation spaces only the tube clamp versions with two bolts in conjunction with a steel cover plate are to be used.
Specified Standard	DIN 3015, Part 1, 2 and 3; DIN 3567, Lloyd's Register Rules and Regulations for the Classification of Ships, 2020
Other Conditions	Selection and installation are to be in accordance with the manufacturer's instructions and recommendations.



Torsten Schroeder

Senior Specialist to Lloyd's Register EMEA
A member of the Lloyd's Register group

71 Fenchurch Street, London, EC3M 4BS, United Kingdom

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This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

Previous Version: 10/20033(E3)

The Design Appraisal Document ENS 25838-10, Issue No. 3 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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Appendix

RATINGS	Series	sizes	O.D. [mm]		
	A	Light series	0 - 8	6 – 101,8	For normal mechanical loads
	B	Twin tube clamp	1 – 5	6 – 42	
	C	Heavy series	1 - 10	6 – 406,4	For high mechanical loads

Clamp material	Design temperature range:
P = Polypropylene	-30 up to +90°C
N = Polyamide (Nylon)	-40 up to +120°C
V = Rubber ¹⁾	-50 up to +120°C
A = Aluminium ²⁾	Up to +300°C

Interior surface: standard grooved, G = smooth³⁾

- 1) Rubber only available for series A and B, inside smooth and series C grooved design (R)
- 2) Aluminium only available for series A size 1 to 6 and series C size 1 to 8
- 3) Smooth interior surface in series C only for size 4, Aluminium clamps in grooved design (R), Inside smooth series A size 1 to 6

Assembly is possible on to metal welding plates, support rails or construction assembly.
 Screw tightening torques and axial pipe shearing forces depending on bolt and clamp material are to be observed according the manufacturer's catalogue.
 All steel parts are also available in stainless steel.

RESTRICTIONS Series A, size 0 and Series B with only one central bolt for each clamp are not to be used for essential systems inside machinery spaces of Category A or accommodation spaces.

LLOYD'S REGISTER TYPE APPROVAL – DESIGN APPRAISAL DOCUMENT

Issued by: Hamburg Technical Support Office (HPC 1561052)
Issued to PARKER HANNIFIN MANUFACTURING GERMANY GMBH & CO. KG
For: TUBE CLAMPS SERIES A, B AND C

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register Type Approval System Procedure TA14 Version 04 (September 2020) and this Design Appraisal Document forms part of the Certificate.

COMMENTS

1. The tube clamps are to be installed so that no significant stresses can be induced in the piping system. Allowances are to be made for thermal expansion of pipes or similar cases. Additional sliding bearings may be necessary.
2. The clamps are limited for applications within the design temperature range depending on the material according catalogue.
3. The clamps are to be installed to the satisfaction of the Surveyor.

APPROVAL DOCUMENTATION

Form 2571	Application for Type Approval	12.08.2020
10/20033(E2)	Previous Type Approval	14.06.2016
4100-10/UK	Parker Industrial Tube Fittings Europe Technical handbook / Catalogue (T1-42)	2015

TEST REPORTS

PRJ111002900095	Production Quality Assessment	30.11.2020
2007-1742	Fire behaviour test of clamp material Wellamid 6600, PA 66 according to E DIN 54837: 2003-9 at Fire Test Laboratory Höchst as accredited by Federal Railway Authority EBA.	25.09.2007
2007-1856	Fire behaviour test of clamp material Santoprene according to E DIN 54837: 2003-9 at Fire Test Laboratory Höchst as accredited by Federal Railway Authority EBA.	06.11.2007
2007-0196-A	Damping behaviour test for different tube clamps at AKUVIB, Bochum	20.08.2007
A07-0492-A	Damping behaviour test for different tube clamps at AKUVIB, Bochum	25.02.2008
2008-D-R0046	Shock testing of Parker Hannifin tube fittings together with Parker tube clamps series C according to AMBV Shock requirements for equipment, of the Royal Netherlands Navy: Shock zone BM, Shock Class A at TNO in Delft / Netherlands	08.01.2008



Torsten Schröder
Senior Specialist
Engineering Systems
Hamburg Technical Support Office
Lloyd's Register EMEA
T +49 (0)40 349 700 10 259
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 Lloyd's Register Type Approval System Procedure.