

TYPE APPROVAL CERTIFICATE

Certificate no.:
TAP00001Y1
Revision No:
1

This is to certify:

that the **Flexible Hoses of Non-Metallic Material with Permanently Fitted Couplings**

with type designation(s)
R50TC/R56TC

issued to

Parker Hannifin Manufacturing S.r.l.
Veniano, CO, Italy

is found to comply with

DNV-OS-D101 – Marine and machinery systems and equipment, Edition July 2021
DNV rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV class programme DNV-CP-0183 – Type approval – Flexible non-metallic hoses

Application:

Product(s) approved by this certificate is/are accepted for installation on vessels classed by DNV.

Temperature range: -40°C to +100°C
Max. working press.: 500 bar / 560 bar (dependent on the size)
Sizes: DN6,10,12,16,19,25,31

Issued at **Høvik** on **2025-01-17**

This Certificate is valid until **2029-09-29**.

DNV local unit: **Italy/Malta CMC**

Approval Engineer: **Maheshraja Venkatesan**

for **DNV**



Digitally Signed By:
Bosman van der Merwe
Location: **DNV Høvik, Norway**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to USD 300 000.

Product description

Flexible hose assemblies constructed according to ISO 3862 type R15

Hoses made of synthetic rubber, reinforced with four or six spiral high-tensile steel wire, with highly abrasion resistance cover

Coupling designations:

Part number	Hose size			Fitting series
	inch	DN	Dash	
R56TC-4	¼	6	-4	V5
R56TC-6	3/8	10	-6	V5
R56TC-8	½	12	-8	V5
R50TC-10	5/8	16	-10	V4
R50TC-12	¾	19	-12	V4
R50TC-16	1	25	-16	V4
R50TC-20	1 ¼	31	-20	V6

Hose manufacturer : Parker Hannifin Manufacturing Srl, 22070 Veniano (CO), Italy
 Coupling Material : Carbon Steel: 1.0718,1.0715, SAE1137(35SMnPb14),1.07665,1.0581,1.0255, 1.0303, 1.0504, 1.7225,1.7131
 Stainless Steel: 1.4404, 1.4401, 1.4571

Coupling manufacturer : Parker Hannifin GmbH, Fluid Verbindungsteile, 35325 Mücke, Germany

Application/Limitation

This certificate is valid for the specific assembly of hose and coupling type as specified, assembled and delivered by the holder (named as manufacturer) of this certificate.

Hose assemblies covered by this certificate may be used in systems conveying:

- petroleum based hydraulic fluid at temperature ranging from -40°C to +100°C (except R56TC-4)
- water based Hydraulic fluids at temperature ranging from 0°C to +60°C
- fresh water at temperature ranging from 0°C to +60°C
- air at temperature ranging from -40°C to +70°C

Part number	Hose size			Maximum working Pressure (bar)	Minimum bend radius (mm)
	inch	DN	Dash		
R56TC-4	¼	6	-4	560	120
R56TC-6	3/8	10	-6	560	130
R56TC-8	½	12	-8	560	180
R50TC-10	5/8	16	-10	500	225
R50TC-12	¾	19	-12	500	270
R50TC-16	1	25	-16	500	300
R50TC-20	1 ¼	31	-20	500	450

Flexible hoses are only to be used in short lengths where it is necessary due to vibrations or flexible mounting of the machinery. The hoses shall not replace/be used where permanent piping is possible/required.

The hose assemblies must only be fitted in places where they are always accessible. Flexible hoses of these types are not to be used on boiler fronts.

Materials and material protection chosen for the specific system shall be suitable for the intended medium and environmental conditions.

The hoses are to be mounted in accordance with the manufacturer's instructions.

Hose assemblies covered by this certificate shall not be used in system subject to pressure below atmospheric or vacuum condition.

The cover of hoses for gaseous applications shall be pin-pricked.

The outer end of the pipe coupling (performing the connection to the fixed piping) is not covered by this certificate and shall follow the below requirements:

- Flanged ends shall be according to a recognized standard.
- Slip-on threaded joints having pipe threads where pressure-tight joints are made on the threads with parallel or tapered threads, shall comply with requirements of a recognized standard. Limitations stated in DNV-RU-SHIP Pt.4 Ch.6 Sec.9 [5.2.6] to be followed.
- If these outer ends are going to be part of a mechanical joint as covered by DNV-RU-SHIP Pt.4 Ch.6 Sec.9 [Table 8], then they shall be separately type approved.

Production testing

All hose assemblies delivered under the DNV type approval scheme shall be subject to a pressure test at 1.5 times the maximum working pressure and shall be delivered with the pressure test report with reference to this type approval certificate.

Type Approval documentation

Parker catalogue 4400/UK (Dab-29)

Burst pressure test, change in length, dimensional check test report numbers 3403,3404,3405 dated 2019-08-02 stamped as witnessed by DNV GL

Test report numbers 130,131,132,133,134,135 dated 2019-07-26

LAPI fire test report numbers 1560,1561,1562.0IS0100/19

Burst test sheet numbers 3653, 3651, 3652 dated 24-12-11

Tests carried out

Dimensional Check Test, Change in Length Test, Leakage test, vacuum test, Burst Test, Cold Flexibility Test, Ozone Resistance Test, Impulse Test, fluid resistance Test and Fire Test.

Marking of product

For traceability to this Type Approval, the products are at least to be marked with:

- hose manufacturer's name or trademark;
- date of manufacture (month/year);
- designation type reference;
- nominal diameter;
- pressure rating;
- temperature rating.

Periodical assessment

This certificate is only valid if required periodical assessments are carried out with satisfactory results.

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNV-CP-0338.

To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>.