



CERTIFICATE NUMBER
16-HS1475636-PDA

DATE
22 Jan 2016

ABS TECHNICAL OFFICE
Houston OED - Systems

CERTIFICATE OF DESIGN ASSESSMENT

This is to certify that a representative of this Bureau did, at the request of
PARKER HANNIFIN CORP.

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: **Hose, Non-metallic Flexible Hydraulic**

Model: **722TC & 722ST**


This Product Design Assessment (PDA) Certificate 16-HS1475636-PDA, dated 22/Jan/2016 remains valid until 21/Jan/2021 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

AMERICAN BUREAU OF SHIPPING


Tim Kimble
Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by the terms and conditions as contained in ABS Rules 1-1-A/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

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Tier: 2 - PDA Issued

Product: Hose, Non-metallic Flexible Hydraulic
Model: 722TC & 722ST

Intended Service:

Marine and Offshore Applications - Petroleum Base Hydraulic Fluids and Lubricating Oils

Description:

Synthetic Rubber Inner Tube. Four Spiral Steel Wire Reinforcement. Synthetic Rubber Abrasion Resistant Cover.

Rating:

Model 722TC - Size -6 to -16; MAWP: 4000 PSI, End Fittings: Parkrimp 43 Series; Temperature Range: -40 °F to +257 °F (-40 °C to +125 °C).

Model 722TC - Size -20; MAWP: 3000 PSI, End Fittings: Parkrimp 43 Series; Temperature Range: -40 °F to +257 °F (-40 °C to +125 °C). Temperature Range: petroleum-base hydraulic fluids and lubricating oils, -40°F to +257°F (-40°C to +125°C); Water, water/oil emulsion, and water/glycol hydraulic fluids, up to +185°F (+85°C); polyol ester fluids, up to +150°F (+65°C); air, up to +158°F (+70°C)

Model 722TC - Size -24 to -32; MAWP: 2500 PSI, End Fittings: Parkrimp 71 Series; Temperature Range: -40 °F to +257 °F (-40 °C to +125 °C). Temperature Range: petroleum-base hydraulic fluids and lubricating oils, -40°F to +257°F (-40°C to +125°C); Water, water/oil emulsion, and water/glycol hydraulic fluids, up to +185°F (+85°C); polyol ester fluids, up to +150°F (+65°C); air, up to +158°F (+70°C)

Model 722ST - Size -6 to -16; MAWP: 4000 PSI, End Fittings: Parkrimp 43 Series; Temperature Range: petroleum-base hydraulic fluids and lubricating oils, -40°F to +257°F (-40°C to +125°C); Water, water/oil emulsion, and water/glycol hydraulic fluids, up to +185°F (+85°C); polyol ester fluids, up to +150°F (+65°C); air, up to +158°F (+70°C).

Model 722ST - Size -20; MAWP: 3000 PSI, End Fittings: Parkrimp 43 Series; Temperature Range: petroleum-base hydraulic fluids and lubricating oils, -40°F to +257°F (-40°C to +125°C); Water, water/oil emulsion, and water/glycol hydraulic fluids, up to +185°F (+85°C); polyol ester fluids, up to +150°F (+65°C); air, up to +158°F (+70°C).

Model 722ST - Size -24 to -32; MAWP: 2500 PSI, End Fittings: Parkrimp 71 Series; Temperature Range: petroleum-base hydraulic fluids and lubricating oils, -40°F to +257°F (-40°C to +125°C); Water, water/oil emulsion, and water/glycol hydraulic fluids, up to +185°F (+85°C); polyol ester fluids, up to +150°F (+65°C); air, up to +158°F (+70°C).

See "pdf" attachment Manufacturer's Specification.

Service Restriction:

Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

- i) Flexible Hose assemblies are not applicable in high pressure fuel oil injection systems.
- ii) The type of end connections utilized (e.g. threaded, flanged, etc.) are to comply with the applicable requirements and limitations of the Steel Vessel Rules 4-6-2/5.7.3 b)
- iii) Flexible hose are not applicable to hoses intended to be used in fixed fire extinguishing systems.
- iv) All Flexible Hose assemblies are to be burst tested to demonstrate they are able to withstand a pressure not less than four times its design pressure in accordance with Steel Vessel Rules 4-6-2/5.7.5 b)
- v) Fittings made of Aluminum are Not to be used on the Hose Assembly.

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Comments:

Duplicate PDA resides with Parker Hannifin Corp. - ALLIANCE, Parker Hannifin Corp. - MANHATTAN and Parker Hannifin India Pvt. Ltd - NAGPUR

- i) The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
- ii) The Flexible Hoses are to be complete with factory assembled end fittings or factory supplied ends made of steel only and installed in accordance with manufacturer's procedures in accordance with 4-6-2/5.7.3 b)
- iii) Hose assemblies are to be installed only when flexibility is required and are not to be subject to torsional deflection under normal conditions. In addition, the length of the hose is to be limited to that required for flexibility only as indicated in Steel Vessel Rules 4-6-2/5.7.4.
- iv) Flexible Hoses are to be permanently marked by the manufacturer with the following details: Hose manufacturer's name or trademark, date of manufacturer (month/year), designation type reference, nominal diameter, pressure and temperature rating in accordance with Steel Vessel Rules 4-6-2/5.7.6

Notes/Drawing/Documentation:

Drawing No. 722TC-20 DNV Product Audit, 722TC-20 DNV Product Audit, Revision: -, Pages: 1
Drawing No. Catalog Information 722ST and 722TC, Catalog Information 722ST and 722TC, Revision: -, Pages: 1
Drawing No. DNV Product Audit 722ST-10 722TC-10, DNV Product Audit 722ST-10 722TC-10, Revision: -, Pages: 1
Drawing No. DNV Product Audit 722ST-12 722TC-12, DNV Product Audit 722ST-12 722TC-12, Revision: -, Pages: 1
Drawing No. DNV Product Audit 722ST-16 722TC-16, DNV Product Audit 722ST-16 722TC-16, Revision: -, Pages: 1
Drawing No. DNV Product Audit 722ST-6 722TC-6, DNV Product Audit 722ST-6 722TC-6, Revision: -, Pages: 1
Drawing No. DNV Product Audit 722ST-8 722TC-8, DNV Product Audit 722ST-8 722TC-8, Revision: -, Pages: 1
Drawing No. DNV Witness Test 722ST-32, DNV Witness Test 722ST-32, Revision: -, Pages: 1
Drawing No. DNV Witness Test 722TC-32, DNV Witness Test 722TC-32, Revision: -, Pages: 1
Drawing No. Fire Test 722ST-10 722TC-10, Fire Test 722ST-10 722TC-10, Revision: -, Pages: 1
Drawing No. Fire Test 722ST-16, 722TC-16, Fire Test 722ST-16, 722TC-16, Revision: -, Pages: 1
Drawing No. Fire Test 722ST-32 71, Fire Test 722ST-32 71, Revision: -, Pages: 1
Drawing No. Fire Test 722ST-6 722TC-6, Fire Test 722ST-6 722TC-6, Revision: -, Pages: 1
Drawing No. Fire Test 722TC-20, Fire Test 722TC-20, Revision: -, Pages: 1
Drawing No. Fire Test 722TC-32 71, Fire Test 722TC-32 71, Revision: -, Pages: 1
Drawing No. Product Test Summary 722TC 722ST, Product Test Summary 722TC 722ST, Revision: -, Pages: 1

Terms of Validity:

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STANDARDS

ABS Rules:

The Rules for Conditions of Classification, Part 1 - 2016 Steel Vessels Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

Steel Vessel (2016): 4-6-2/5.7.

The Rules for Conditions of Classification, Part 1 - 2016 Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

Mobile Offshore Drilling Units (2016): 4-2-1/11.29;

Facilities on Offshore Installations (2016): A2/Table 1-Marine Support.

2012, Up-dated December 2015, ABS Guide for the Classification of Drilling Systems 2/7.25, 5/3.7-Support Systems.

National:

SAE J517:2013-Hydraulic Hose - 100R2

International:

ISO 18752:2014 Rubber hoses and hose assemblies - Wire- or textile-reinforced single-pressure types for hydraulic applications - Specification

ISO 15540:1999 Ships and marine technology - Fire resistance of hose assemblies - Test methods

ISO 3862:2009 Rubber hoses and hose assemblies - Rubber- covered spiral-wire-reinforced hydraulic types for oil-based or water-based fluids - Specification

ISO 6945:1991 Rubber hoses - Determination of abrasion resistance of the outer cover

EN 856:1997 Rubber hoses and hose assemblies - Rubber- covered spiral-wire-reinforced hydraulic type - Specification

Government:

NA

EUMED:

NA

OTHERS:

NA