



CERTIFICATE NUMBER	21-2190346-PDA
EFFECTIVE DATE	10-Dec-2021
EXPIRY DATE	09-Dec-2026
ABS TECHNICAL OFFICE	Hamburg Engineering Department

CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

GEORG FISCHER JRG AG

located at

HAUPTSTRASSE 130, 4450 SISSACH, Switzerland

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: Piping System and Fittings
Model: System JRG Sanipex MT Pipes, Fittings and Valves
Endorsements:
Tier: 2 - PDA Issued

This Product Design Assessment (PDA) Certificate remains valid until 09/Dec/2026 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau Of Shipping

Efstratios Maliatsos, 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 ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

GEORG FISCHER JRG AG

HAUPTSTRASSE 130

4450 SISSACH

Switzerland

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Web: www.gfps.com

Tier: 2 - PDA Issued

Product: Piping System and Fittings
Model: System JRG Sanipex MT Pipes, Fittings and Valves
Endorsements:

Intended Service:
Non-essential sanitary, hot and cold drinking water, heating, cooling and compressed air systems.

Description:
Pipes, PPSU/PA-fittings, PPSU/gunmetal fittings for use with "JRG Sanipex MT" Multilayer (PE-X / AL /PE-X) in the range 16 to 63 mm diameter. 1025 Safety valve JRGARANT, 1300 - 1363 JRGURED pressure reducing valve, 1610 -1615 Return flow inhibitor 1830 -1846; Fine filter without / with by-pass JRG LegioStop, 3400 & 3410 JRGUMAT thermoblending valve, 5200 - 5225 Y-type valve JRG LegioStop, 5262 - 5281 Swing check valve, closable, JRG LegioStop, 5350 - 5371 Straight seat valve JRG LegioStop, 6320 JRGUTHERM Flow regulator.

Rating:
Dimension range: 16 mm - 32 mm, 40 mm, 50 mm, 63 mm.
Working pressure: PN16 (for d16 - 32), PN13 (for d40, d50, d63).
Max. operating temperature: 70 °C (50 years), 95 °C (short-term).
Materials: PE-Xc / Al / PE-Xb (d16 - 40), PE-Xc / Al / PE-Xc (d50 + d63), PPSU / PA, PPSU / Gunmetal / PA.

Service Restriction:

- 1) Unit certification is not required for this product. If the manufacturer or purchaser requests an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.
- 2) Usage limited to non-essential services only.
- 3) This material has not been tested for fire endurance and therefore can only be used in services/locations indicated as 0, no fire endurance testing required, in accordance with Marine Vessel Rules 4-6-3/Table 1 and Mobile Offshore Unit Rules 4-2-2/Table 2.
- 4) Unless installed on open decks or within tanks, cofferdams, void spaces, pipe tunnels and ducts, acceptability of flame spread testing carried out in accordance with ASTM D635 is subject to approval by the vessel's Flag Administration.
- 5) Where plastic pipes are to be utilized for any installation within tanks or other locations which may be subject to a vacuum condition inside the pipe or a head of liquid on the outside of the pipe, external pressure is to be considered. The pipe is to be designed for an external pressure of not less than the sum of the pressure imposed by the maximum potential head of liquid outside the pipe plus full vacuum of 14.5 psi (1 bar) inside the pipe. The maximum external pressure for a pipe is to be determined by dividing the collapse test pressure by a safety factor of 3. This collapse pressure may be verified experimentally or determined by a combination of testing and calculation methods. These details are to be submitted to ABS before installation of the pipe, for ABS approval on a case by case basis.
- 6) This material is not considered electrically conductive, and therefore cannot be used in hazardous areas or with non-conductive fluids in accordance with Marine Vessel Rules 4-6-3/5.15 and Mobile Offshore Unit Rules 4-2-2/7.5.8.

Comments:

- 1) The Manufacturer has provided a declaration about the control of, or the lack of asbestos in this product.
- 2) All pipes and fittings are to be permanently marked with identification of pressure rating, design standard, material and date of fabrication.
- 3) For every installation, details of operating medium, maximum and operating pressure and temperature, pipe sizes and pipe supports and fixing arrangements are to be submitted for review.
- 4) Installation and joining procedures are to be carried out as per 4-6-3/7 of the Marine Vessel Rules and the manufacturer's instructions, to the satisfaction of the attending Surveyor.

Notes/Drawing/Documentation:
See attachments.

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Tier: 2 - PDA Issued

Terms of Validity:

This Product Design Assessment (PDA) Certificate remains valid until 09/Dec/2026 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

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STANDARDS

ABS Rules:

2021 Rules for Conditions of Classification: 1-1-4/7.7, 1-1-A3 and A4, which covers the following:
2021 Rules for Building and Classing Marine Vessel Rules: 4-6-3/5 & 4-6-3/Table 2

2021 Rules for Conditions of Classification – Offshore Units and Structures: 1-1-4/9.7, 1-1-A2 and A3, which covers the following:
2021 Rules for Building and Classing Mobile Offshore Units: 4-2-2/7.5 & 4-2-2/Table 3

National:

NA

International:

DIN EN ISO 21003

Government:

NA

EUMED:

NA

OTHERS:

NA

21-2190346-PDA

Attached to 21-2190346-PDA
Company: GEORG FISCHER JRG AG

System JRG Sanipex MT Pipes, Fittings and Valves

Issuance Date: 10-Dec-2021

Expiry Date: 09-Dec-2026

Intended Service:

Non-essential sanitary, hot and cold drinking water, heating, cooling and compressed air systems.

Drawing List

Engineering Office:	Hamburg Engineering Department	
Submitter:	GEORG FISCHER JRG AG (WCN: 411652)	
Drawing No	Revision No	Drawing Title
Online Application	-	Online Application
Declaration of Conformity	-	Declaration of Conformity
37_100_62 JRG_Sanipex_MT_e_LOW	-	Technical Data JRG Sanipex MT

Drawing List as per 16-HG1581396-PDA (Jan 2017)

Engineering Office:	Hamburg Engineering Department	
Submitter:	GEORG FISCHER JRG AG (WCN: 411652)	
Drawing No	Revision No	Drawing Title
1058989_1a_joint_E	1a	Technical Drawing JRG Sanipex MT with Multilayer Pipe - joint
2016-11-21_Overview_JRG Sanipex MT	-	Product Overview List JRG Sanipex MT
Certificate_GFPS_9-14-18_SQS_2015	-	Confirmation of Certificates ISO 9001-2008, ISO 14001-2004, OHSAS 18001-2007
DNV test report_Sanipex MT_20130904	-	Test Report of 4 Sep 2013 Leak and Burst Pressure Test
gf jrg 103903	-	Test Report of 6 Mar 2013 JRG Sanipex MT - Beaded Clamping Fittings and Pipes
96069_10	-	Test Report of 26 Jul 2010 Fire
37_100_62 JRG_Sanipex_MT_e_LOW	-	Technical Data JRG Sanipex MT

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Temperature regulator**with type designation(s)
JRGUTHERM, JRGUMAT

Issued to

Georg Fischer JRG AG
Sissach, BL, Switzerland

is found to comply with

DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV GL class programme DNVGL-CP-0186 – Type approval – Valves**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Temperature range: up to 90°C**
Max. working press.: 10bar
Sizes: up to DN80Issued at **Hamburg** on **2020-12-17**for **DNV GL**This Certificate is valid until **2025-12-16**.DNV GL local station: **Essen**Approval Engineer: **Hagen Markus**.....
Olaf Drews
Head of Section

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 GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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 300,000 USD.



Product description

Thermostatic flow regulator valve of type JRGUTHERM and Thermostatic mixing valve of type JRGUMAT for drinking water installation.

Reference, product brochure "JRGUMAT – Thermostatic Mixing Valve" and "JRGUTHERM – Thermostatic flow regulator with threaded shut-off connections".

Materials		
Valve type	JRGUMAT	JRGUTHERM
Component	Material designation	Material designation
Body / Housing	Gunmetal, Cu Sn5 Zn5 Pb2-C (CC499K)	
Functional parts	1.4301, 1.4305, 1.4435, 1.4568	1.4305, 1.4435, 1.4568, 1.4310
Thermoelement	CW501L, CW724R	
Seals, O-Rings	EPDM	
Gasket	AFM 34/2	
Cylinder ring	PTFE	n.a.
Regulation bush	n.a.	CC499K

Design parameter					
Type	Catalog no.	DN	PN	Temperature range	Drawing
JRGUTHERM	6320	15, 20	10bar	up to 70°C	1129554, 1128865
JRGUMAT	3400	15 to 50		up to 90°C	1147488, 1147492
	3410	65, 80			1147511

Application/Limitation

Hot and cold potable water, technical water and water heating systems.

For installation and operation, the instruction manuals "JRGUMAT" and "JRGUTHERM" are to be observed.

Type Approval documentation

Actual TAP000028B

- DNVGL Assessment report dated 2020-06-23
- Certification reports issued by SVGW for drinking water application:
 - 6320: SVGW No.: 1704-H6601
 - 3400, 3410: SVGW No.: 1701-H6585

Previous certificate 86 972-10HH, 86 973-10HH

- Test report of pressure tests carried out at GF JRG Sissach witnessed by DNVGL surveyor, February 2010
- DNV GL-Ref.-No.: 09-166004; 15-029107

Job Id: **262.1-033326-1**
Certificate No: **TAP000028B**

Tests carried out

Tightness test, Pressure and Burst pressure test witnessed by DNVGL surveyor.
Product test according to SVGW ZW 102

Production testing

Each product will be tested according to JRG Directives and Working sheets.
Appropriate Test Report according to EN 10204-2.2 will be issued on request.

Marking of product

For traceability of the product to this type approval certificate each packaging unit and the product to be marked at least with the scope specified in below table.

Scope	Examples	
	Packaging unit	Valve body
Manufacturers mark	+GF+ JRG	n.a.
Valve type	JRGUMAT 3400.942 Thermoblending valve	JRGUMAT
Nominal diameter	DN32	32 – 1 1/4"
Nominal pressure	PN10	PN10
Material designation	CC499K	n.a.
Batch No	141220	

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform periodical assessment to verify that the conditions for the Type Approval are complied with. Refer to the Class Programme DNVGL-CP-0338, Sec.4.

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

End of certificate