Certificate no.:
TAP00002ZT

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Pipe Couplings, Bite and Compression Type

with type designation(s)
24°cone connectors of type JF for connection with mechanically reshaped tube ends, JF-GV/WV/TV/KV

issued to
Dalian Jierui Fluid Control Co., Ltd.
Dalian, **China**

is found to comply with
DNV rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV class programme DNV-CP-0185 – Type approval – Mechanical joints

Application:

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

Temperature range:	**-40°C to +200°C**
Max. working press.:	**420 bar / 42 MPa**
Sizes:	**DN6 to DN42**

Issued at **Hamburg** on **2025-12-04**
This Certificate is valid until **2030-12-03**.
DNV local unit: **Dalian NB & CMC**

for **DNV**

Approval Engineer: **Christian Kaemmer**

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

The Dalian Jierui Fluid Control Compression Coupling of type **JF** is a tube-reshaped system consisting of the components nut, sealing-ring and joint-body.
The mechanically reshaped tube end is connected by a joint-body and the nut. The leakage path is sealed by a elastomeric ring in combination with a metallic ring, (bite-type), (integral 24° cone of the tube) acc. to ISO 8434-1.

The tube ends shall be mechanically reshaped by shaping machine Type: PMM642 with original clamping dies.

Component	Type Designation	Series
Tube to tube fittings		
Straight fitting	**JF-GV**	**S** or **L**
Right-angle fitting (Elbow)	**JF-WV**	**S** or **L**
Tee	**JF-TV**	**S** or **L**
Cross	**JF-KV**	**S** or **L**

Component	Material
Joint-body / Nut	45#
	Q355NE (Non-alloy steel)
	316L
	316Ti
	S22053
Sealing ring, composed of 2 materials: metal and non-metal (rubber)	20#, 316L NBR, FKM, EPDM

Design pressure:

Compression Coupling															
Nominal Diameter	**6**	**8**	**10**	**12**	**15**	**16**	**18**	**20**	**22**	**25**	**28**	**30**	**35**	**38**	**42**
	PN (bar)														
Series L	315	315	315	315	315		315		250		250		250		250
Series S	420	420	420	420	--	400		400		400		400		315	

Temperature-range

The applicable temperature range is limited by the material of the elastomeric sealing:

Component	Material	Temperature range
Sealing ring	NBR	-40°C to +100°C
	FKM	-20°C to +200°C
	EPDM	-40°C to +150°C
Pressurized part / joint body	Steel	-40°C to +200°C

Application/Limitation

The Compression Coupling:

- JF- GV / WV / TV / KV - **S**
- JF- GV / WV / TV / KV - **L**

is type-approved for application **pipe-classes I, II and III** in piping systems as specified in DNV-RU - "Ships" Pt.4, Ch. 6, Sec. 9 Table 8 and 10 and classified as type: Compression-Coupling "Bite type".
The application of Compression Coupling **JF** in piping systems is indicated for each service in table 9.

The Compression Couplings are not type-approved for:

- Piping sections directly connected to the ship´s side below the bulkhead deck of passenger ships and freeboard deck of cargo ships or tanks containing flammable fluids:
  if: An event of damage could cause fire or flooding.

The Compression Couplings **JF-S- and L** are tested & type-approved for fire endurance test condition **"wet"**, this includes the fire endurance test condition "fire endurance test not required".

Fire endurance classification of pipe system according to DNV-Rules "Ships" Pt. 4, Ch. 6, Sec. 9 Table 9.

Selection of materials

It shall be noted that the selection of the materials considers the applicable service condition with respect to type of media, flow velocity, media temperature and installation area of the piping system. In particular, the resistance to corrosion, erosion, oxidation and other deterioration during projected service life are to be considered.
References: DNV Rules "Ships" Pt.4 Ch.6 – Section 2 – Materials.

Sea water application

The term "Sea water application" includes sea water piping systems and installation of piping systems on open deck.
The guidance note in DNV Rules "Ships" Pt.4 Ch.6 – Section 2 – item 1.1.2 & table 1 "Materials" is to be observed.

Pressure reduction factor for application at elevated temperatures shall be observed as follows:

Temperature [°C]	Pressure reduction factor	
	Non-alloy steel	Stainless steel
20	1.00	1.00
50	1.00	0.95
100	1.00	0.85
150	0.89	0.77
200	0.81	0.71

For the assembling & installation, the instructions specified in Jierui "Installation Instructions" are to be observed.
Minimum tube wall thickness acc. to DNV RU Ship Pt.4 Ch.6, Section 9, Table 2 & 3 are to be observed.

Type Approval documentation

Tests carried out

Marking of product

For traceability to this type approval, each joint is to be marked with:

Nominal Diameter DN, Nominal Pressure PN, Type, Sealing-type

Periodical assessment

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment to verify that the conditions for the Type Approval are complied with. Refer to the Class Programme DNV - CP-0338, Section 4.
In addition, burst pressure testing on selected sizes to be carried out in the course of renewal of the certificate. To check the validity of this certificate, please look it up in https://approvalfinder.dnv.com

Manufactured by:

Dalian Jierui Fluid Control Co., Ltd.