



Certificate no.:
TAP000034J

TYPE APPROVAL CERTIFICATE

This is to certify:
that the Tube Fittings

with type designation(s)
Banjo Connector

issued to
Wabtec Transportation Systems, LLC
Erie, PA, USA

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: 0°C to 100°C
Max. working press.: 16 bar / 232 psi
Sizes: 0.375 inch and 0.5 inch

Issued at **Hamburg** on **2026-02-23**

This Certificate is valid until **2031-02-22**.

for **DNV**

DNV local unit: **Certification & Inspection Services**

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

Pipe fitting of banjo type to connect lubricating oil pipes to the actuators for the EGR valves.

The product is consisting of a banjo connector, banjo bolt and annealed copper washer, to connect the lube oil system to the ports in the valve actuators.

Each actuator is connected with two banjo connectors of 2 different sizes: 0.375 inch and 0.5 inch.

Materials:

Banjo Connector	AISI 12L 14 Low Carbon Steel
Banjo Bolt	AISI 1018 Low Carbon Steel
Washers	Annealed Copper DIN 7603
Braze Filler Material	Silver alloy AWS 5.8 Bag-8

Application/Limitation

The Wabtec banjo connector is type approved for application in pipe class II and III-piping systems.

For lube oil piping systems connecting the actuators with the EGR valves.

Classified acc. to DNV-Rules "Ships" Pt. 4, Ch. 6, Sec. 9 Table 8, 9 & 10.

The Wabtec banjo connector, equipped with metallic sealings/copper-washers is classified as fire-resistant.

Type-approved & type-tested for fire endurance test-condition "wet".

Classification and fire endurance according to DNV-Rules "Ships" Pt. 4, Ch. 6, Sec. 9 Table 9.

The wall thickness of the tubes is to be selected acc. to DNV Rules "Ships" Part 4 Chapter 6 Section 9 Table 3.

Type Approval documentation

Tests carried out

Marking of product

Product will be marked in accordance with 84B551082

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:

Wabtec Transportation Systems, LLC; 1503 W Main Street Grove City PA 16127 USA.