



Certificate No:
TAP00002K9

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Pipe Couplings, Bite and Compression Type

with type designation(s)
Bite type Couplings B & B-1 Series

Issued to
IHARA SCIENCE CORPORATION
Nakatsugawa City,, Gifu Prefecture, Japan

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

Application :

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

Temperature range: -40°C up to +175°C
Max. working press.: 3.5 to 14 MPa depending on the size and type. (see page 2)
Sizes: 4mm to 25mm

Issued at **Høvik** on **2025-06-05**

This Certificate is valid until **2030-06-04**.

for **DNV**

DNV local station: **Japan CMC**

Approval Engineer: **Sarah Miller**

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Bosman van der Merwe
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 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 300,000 USD.



Product description

Bite type couplings Type B & B-1 series are approved for application in piping systems.

Coupling Type	Outer Diameter Range	Design Pressure (MPa)	Maximum working temp.
B	4 up to 16	14	200°C
	18 up to 25	10.5	
B-1	4 up to 16	7	200°C
	18 up to 25	3.5	

Component	Material	Standard
Body	Brass (C3604BD), Brass for forging (C3771BD)	
Nut	Brass for forging (C3771BD),(C2600)	
Sleeves	Brass (C3604)	
O-RING	NBR	

Manufacturing location:

Tsukechi No.1 Factory
10424 Arama, Tsukechi-cho, Nakatsugawa, Gifu, Japan 508-0351

Application/Limitation

Couplings covered by this certificate are only to be used in piping classes I, II and III in below applications:

Systems	Soft Seal	Classification of Piping system	Approved fire resistant type
Flammable fluids (flash point ≤ 60 °C)			
1. Cargo oil lines	NP	dry	+ ¹⁾
2. Crude oil washing lines	NP	dry	+ ¹⁾
3. Vent lines	NP	dry	+ ²⁾
Inert gas			
4. Water seal effluent lines	+	wet	+
5. Scrubber effluent lines	+	wet	+
6. Main lines	NP	dry	+ ¹⁾
7. Distribution lines	NP	dry	+ ¹⁾
Fresh water			
8. Cooling water system	NP	wet	+
9. Condensate return	NP	wet	+
10. Non-essential systems	+	dry, dry/wet, wet	+
Sanitary/drains/scuppers			
11. Deck drains (internal)	+ ⁴⁾	dry	+ ⁴⁾
12. Sanitary drains	+	dry	+
13. Scuppers and discharge (overboard)	+	dry	+
Sounding/vent			
14. Water tanks/dry spaces	+	dry/wet	+
15. Oil tanks (f.p > 60 °C)	NP	dry	+ ²⁾
Miscellaneous			
16. Starting/control air	+ ⁴⁾	dry	+ ³⁾
17. Service air (non-essential)	+	dry	+
18. Brine	+	wet	+
19. CO ₂ system (outside protected space)	+	dry	NP
20. CO ₂ system (inside protected space)	+	dry	NP
21. Steam	+	wet	+
Abbreviations			
+ Application permitted (with limitations, if any, as in the footnotes below)			
NP Application not permitted			

Systems	Soft Seal	Classification of Piping system	Approved fire resistant type
Footnotes 1) Not permitted when mechanical joints are installed in pump rooms and open decks. 2) Not permitted except in cases where such mechanical joints are installed on exposed open decks, as defined in SOLAS II-2/Reg. 9.2.3.3.2.2(10) and not used for fuel oil lines. 3) Not permitted when mechanical joints are installed in machinery spaces of category A. 4) Permitted only above bulkhead deck of passenger ships and freeboard deck of cargo ships.			

Materials chosen for the specific system shall be suitable for the intended medium and environmental conditions. Couplings covered by this certificate shall not be used in seawater systems.

Couplings covered by this certificate shall not be installed in systems subject to pressure below atmospheric or vacuum conditions.

For use at elevated temperatures the maximum allowable working pressure shall be reduced as per DNV-CP-0185 Sec.2 [Table 1].

Threaded connections where pressure-tight joints are made on the threads with parallel or tapered threads shall not be used for piping systems conveying toxic or flammable media or services where fatigue, sever erosion or crevice corrosion is expected to occur. For other applications threaded connections with pressure-tight joints on threads may be used for outside diameters:

- Threaded joints with tapered thread shall be allowed for class I systems only when the outside diameter is not more than 33.7mm
- Threaded joints with parallel thread shall be allowed only for class III systems.

The approval is only valid when the couplings are assembled with tubing of correct temper and tolerances as recommended by the manufacturer.

For mechanical joints at elevated temperatures, the maximum working pressure shall be reduced with the following factors:

Temperature (°C)	Carbon Steels, Unalloyed	Stainless Steels
20°C	1.00	1.00
50°C	1.00	0.95
100°C	1.00	0.85
150°C	0.89	0.77
200°C	0.81	0.71

This approval does not include the valves, pipe unions and other components that are not relevant to our class program CP-0185.

Slip-on threaded joints (including KC, KLN, KTN, KC, KTK) having pipe threads where pressure-tight joints are made on the threads with parallel or tapered threads, shall comply with requirements of a recognized national or international standard. DNV-RU-SHIP Pt.4 Ch.6 sec.9 [5.2.6].

The maximum allowable pressure shall be reduced at elevated temperatures according to DNV-CP-0185 Sec.2 Table 1.

Type Approval documentation

Tests carried out

Tightness test with nitrogen, Burst Pressure test, Pressure proof test, Pull-Out test, Vibration and Impulsive Pressure Test, Vacuum test and Repeated Assembling test.

Marking of product

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

- Manufacturer's name or trademark
- Size

Periodical assessment



Job Id: **262.1-037635-1**
Certificate No: **TAP00002K9**

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 at <https://approvalfinder.dnv.com>.