

TYPE APPROVAL CERTIFICATE

DNV·GL

This is to certify that the undernoted product(s) has/have been tested in accordance with the relevant requirements of the DNV GL Type Approval System.

Certificate No. **13 573 - 14 HH**

Company **Hansun Engineering Co., Ltd.**
27, Noksansandan 361-ro
Busan 618-819, REPUBLIC OF KOREA

Product Description **Tube Fittings**

Type **BITE -JIS B 2351 - Metallic Sealing**

Environmental Category **None**

Technical Data /
Range of Application **Temperature Range:**
Steel: -20°C - +120°C; Brass: -60°C - +175°C; Stainless Steel: -60°C - +300°C

Size:
Tube O.D. [mm] 4~15 16~22 25~28 30~38 40~45

**Working Pressure/
PN [bar]:**
Carbon /St. Steel: 500 400 350 250 210
Brass: 350 280 245 178 147

For the selection of the tube fittings the service pressure specified in the catalogue is to be observed.

Pressure reduction factors: refer to page 2

Test Standard **VI-7-8 Test Requirements for Components and Systems of Mechanical Engineering and Offshore Technology, Edition 2013.**

Documents **GL-Approval RefNo.: 13-098877 (Test reports), Audit Report dated 2014-03-20, ISO 9001:2009 Certificate 122404-2012-AQ-KOR-RvA.**

Remarks **refer to page 2**

Valid until **2020-01-19**

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File No. **II.C.05**

Hamburg, 2015-05-26

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Olaf Drews

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Material of Fittings:

Carbon Steel: S10C - S48C / EN No: 1.0460; Stainless Steel: SUS316/316L, SUS304/304L / EN No: 1.4571; Brass C3771, C3604 / EN No: 2.0540

Pressure reduction factors:

Temperature °C	Carbon Steel	Stainless Steel	Brass
50	1,00	0,95	0,90
100	1,00	0,85	0,80
120	0,94	0,77	0,75
175	---	0,71	0,65
250	---	0,67	---
300	---	0,63	---

BITE TYPE TUBE FITTINGS for JIS B2351: Straight Union(BU), Union elbow(BL), Union Tee(BT), Straight Bulkhead Union(BBU), Bulkhead Elbow(BBL), Long Male Connector(BLMC), Male Connector(BMC-R/-G), Male Connector for O-Ring(BOM), Male Elbow(BL M), Long Male Elbow(BLLM), O-Seal Male Elbow(BOLM), Banjo Elbow(BSLM), Male Branch Tee(BBTM), Male Run Tee(BRTM), Bulkhead Female Connector(BBFC), Female Connector(BFC), Gauge Connector(BGC), Female Elbow(BLF), Female Branch Tee(BBTF), Female Run Tee (BRTF), Jig(BJ), Cap(BC), Plug(BP), Hose Male Union(BHUM), Hose Female Union(BHUF), Hose Bulkhead Male Union(BHBM), Hose Bulkhead Female Union(BHBF), Hose Male Elbow(BHLM), Hose Female Elbow(BHLF), Hose Bulkhead Male Elbow(BHBLM), Hose Bulkhead Female Elbow(BHBFLF), Welding Connector(BCW), Welding Bulkhead Union(BBUW), Adapter(BA-R / -G), Reducer(BR), Positionable Elbow(BLA), Positionable Branch Tee(BBTA), Positionable Run Tee(BRTA).

The Tube Fitting is type approved for applications in piping systems as specified in GL-rules I-1-2, Section 11-D, see Table 11.14.

Limitation: Application of Tube Fittings of Type BBU, BBFC, BHBM, BHBF, BHBLM, BHLF, is not approved through tank walls and watertight deck- and bulkheads. For this application Welding Bulkhead Union of type BBUW shall be used.

Scope of Tests:

Tightness & Leakage Test, Burst Pressure Test, Repeated Assembly Test, Pull-Out Test, Vibration & Pressure Pulsation Test.

Marking of Product: For traceability to this Type Approval each product is to be marked with Manufacture's name or trade mark, size and type designation.

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