



Confirmation of Product Type Approval

Company Name: CRANE INSTRUMENTATION & SAMPLING PFT CORP

Address: 405 CENTURA CT SPARTANBURG SC 29303 United States

Product: Tube Fittings

Model(s): CM, CM/, BCM, CMS, LCMS, COS, COM, LM, LMF, LMFS, LMS, TTM, TMT, TST, TTS, CF, BCF, LF, TFT, TTF, U, RU, BU, LU, TTT, TTT_B, TTB, C UAN, UANO, BUAN, AAN, CW, LW, CBW, LBW, R, PC, CP, P, FR, FF, N, KN, BN, SCNF, SCF, CMT, CLF, XT, DU, DCM, TI, GMT, PST, LD, HPST, AM, AM/, AOS, AMS, BA, AOM, AF

Endorsements:

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	24-00T2535560-PDA	09-MAY-2024	08-MAY-2029
Manufacturing Assessment (MA)	24-6404998	21-MAY-2024	20-MAY-2029
Product Quality Assurance (PQA)	NA	NA	NA

Tier

2 - PDA Issued

Intended Service

Marine & Offshore Application - Tube and Tubing Systems (material is to be compatible for intended service)

Description

Connector, Male

Connector, Female

Union

Reducing Union

Bulkhead Connector, Male

Bulkhead Connector, Female

Bulkhead Union

Bulkhead Adapter

Elbow, Male

Elbow, Female

Elbow, Union,
Male Branch Tee,
Male Run Tee
Female Branch Tee
Female Run Tee
Union Tee
Union Cross
Reducer
Cap
Plug
Adapter, Male
Adapter, Female
Connector, O-Ring
Adapter, O-Ring
Connector, Butt Weld
Elbow, Butt Weld
Connector, Socket Weld
Elbow, Socket Weld
Tube Insert
Port Connector
Nut
Ferrule, Rear
Ferrule, Front
Nut and Ferrule Safety Changer
Ferrule Safety Changer

Ratings

Temperature rating: See attached

Pressure rating: See attached

Nominal Size: See attached

Material: Brass, 316 Stainless Steel, MONEL, HASTELLOY, Duplex 2205, INCONEL Alloy, Super Duplex 2507, Titanium, 254 SMO, 316/316L SS Forgings, 304/304L SS Forgings, Bass Bar Stock, Alloy 360, 316/316L SS Bar Stock, 304/304L SS Bar Stock, MONEL Forgings, Alloy 400, Brass Forgings,

Alloy 405, Brass Bar Stock, Alloy 535

Service Restrictions

1. Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.
2. Materials are to be compatible with intended services.
3. Threaded joints are to comply with the followings:
 - a) The taper-thread joints are not to be used for toxic and corrosive fluid services and for all services of temperatures exceeding 495 degree Celsius in accordance with 4-6-2/5.5.5 (a) of the Marine Vessel Rules.
 - b) For Classes I and II piping, the pressure rating of taper-thread joints is to comply with 4-6-2/5.5.5 (a) of the Marine Vessels Rules.
 - c) Taper-thread joints up to 80 mm nominal diameter for hydraulic oil system may be used without pressure limitation for connection to equipment only, such as pumps, valves, cylinders, accumulators, gauges and hoses. When such fittings are used solely to join sections of pipe, they are to be in accordance with 4-6-2/5.5.5 (a). However, hydraulic systems for the following services are to comply with 4-6-2/5.5.5 (a) of the Marine Vessels Rules in all respects:
 - Steering gear hydraulic systems
 - Controllable pitch propeller hydraulic systems
 - Hydraulic systems associated with propulsion or propulsion control
 - d) For hydraulic oil piping, straight thread 'o'-ring type fittings may also be used for connections to equipment, without pressure and service limitation, but are not to be used for joining sections of pipe in accordance with 4-6-2/5.5.5 (c) of the Marine Vessel Rules.
4. Each fitting is to be marked with permanent identification, such as manufacturer's name or trademark, standard of compliance, material identity, pressure rating, etc., as required by the standard of compliance or the manufacturer's specification.
5. Mechanical joints, which in the event of damage could cause fire or flooding, are not to be used in piping sections directly connected to the vessel's side below the bulkhead deck of passenger vessels and freeboard deck of cargo vessels or tanks containing flammable fluids in accordance with 4-6-2/5.9.1 (f) of the Marine Vessel Rules.
6. The installation of mechanical pipe joints is to be in accordance with the manufacturer's assembly instructions. Where special tools and gauges are required for installation of the joints, these are to be specified and supplied as necessary by the manufacturer. These special tools are to be kept onboard in accordance with 4-6-2/9.6 of the Marine Vessel Rules.

Comments

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes, Drawings and Documentation

Drawing No. AOS, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. LMS, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. LF, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. CBW, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. SAE-LCMS, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. Crane-1660115_QMS_ENG ISO 9001, Crane-1660115_QMS_ENG ISO 9001, Revision: -, Pages: -

Drawing No. HNS1710040/1, Lloyd's Register Inspection Certificate, Revision: -, Pages: 2

Drawing No. CM-EB, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. CM-ME_CM-MC, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. CMT, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. LM-MA, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. R-ME, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. LBW-ME, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. BCM-ME, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. AOM-ME, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. PC-MM REDUCING, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. C, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. UANO, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. 121347-MECH6, GASTEC Certification CNG Fittings type HOKE GYROLOK, Revision: -, Pages: 3

Drawing No. AF-EZ, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. LMF, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. CBW-ME, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. 122373-MECH22, GASTEC Certification CNG Fittings type HOKE GYROLOK, Revision: -, Pages: 1

Drawing No. CMT-ME, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. BU, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. BUAN, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. TTTB-MM, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. TFT-ME, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. C-MM, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. P, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. CM-MA, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. LM, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. LU, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. AM-EA, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. TFT, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. AM, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. PC-REDUCING, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. LW, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. T58682-01, Wyle Laboratories Certificate of Conformance, Revision: -, Pages: 1
Drawing No. LF-ME, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. 111-210/06, EC-Type Examination aa. to Directive 97/23/EC, Revision: -, Pages: 1
Drawing No. AM-MC, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. AM-ME, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. TMT, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. TTS, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. TTM, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. TTT, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. R-MM, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. CF-EC, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. COS, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. P-MM, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. AM-MB, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. TTT-MM, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. U-MM, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. BCM, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. CP-MM, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. SAE-CMS, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. ASTM F1387-23 C of C, Certification of Conformity ASTM F1387-23 Hoke Gyrolok Fittings, Revision: -, Pages: 9
Drawing No. BA, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. CF-MC, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. XT, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. ER-GYROCRN, Qualification of Hoke Gyrolok Tube and Pipe Fittings by Burst Test and Similarity, Date: 14 Feb 2022, Revision: B, Pages: 232
Drawing No. CM_CM-EC, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. AF-ME, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. CF, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. RU-MM, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. AF-MZ, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. AM-EC, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. PC, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. BCF-ME, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. CM-EA, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. COM, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. LM-EC, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
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Drawing No. Lloyds-Register-Witness-Gyrolok-XP-Metric-01,
Lloyds-Register-Witness-Gyrolok-XP-Metric-01, Revision: -, Pages: -
Drawing No. LM-ME, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. AOM, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. BU-MM, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. BCF, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. R-EM, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. 77100_GyrolokFittings_Manual_Catalog, 77100_GyrolokFittings_Manual_Catalog,
Revision: -, Pages: -
Drawing No. BA-MM, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. CF-ME, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. CW, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. RU, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. TST, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. TTB, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. TTF-ME, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. LBW, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. RU-ME, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. CM-MB, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. AMS, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. CMT-MA, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. TAP000004K, DNV-GL TYPE APPROVAL CERTIFICATE, Revision: -, Pages: 4
Drawing No. CMT-MC, CATALOG SECTION PRINTS, Revision: NA, Pages: NA
Drawing No. PRJ-11100351059-001-2022-01-21-Colson-X-Cel-Ltd,
PRJ-11100351059-001-2022-01-21-Colson-X-Cel-Ltd, Revision: -, Pages: -

Drawing No. AF, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. U, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. LM-MB, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. AAN, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. CP, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. TMT-ME, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Drawing No. AF-EC, CATALOG SECTION PRINTS, Revision: NA, Pages: NA

Term of Validity

This Product Design Assessment (PDA) Certificate remains valid until 08/May/2029 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.

ABS Rules

2024 Rules for Conditions of Classification: 1A-1-4/7.7, 1A-1-A3, 1A-1-A4, which covers the following:

2024 Rules for Building and Classing Marine Vessels: 4-6-2/5

2024 Rules for Conditions of Classification - Offshore Units and Structures: 1B-1-4/9.7, 1B-1-A2, 1B-1-A3, which covers the following:

2024 Rules for Building and Classing Mobile Offshore Units: 4-2-2/5

2024 Rules for Facilities on Offshore Installations: 3-5/5.1

International Standards

ASTM F1387-23

EU-MED Standards

NA

National Standards

NA

Government Standards

NA

Other Standards

NA



A handwritten signature in blue ink, appearing to read "Joseph W. White".

Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 24-May-2024 10:44

ABS has used due diligence in the preparation of this certificate, and it represents the information on the product in the ABS Records as of the date and time the certificate is printed.

If the Rules and/or standards used in the PDA evaluation are revised or if there is a design modification (whichever occurs first), a PDA revalidation may be necessary.

The continued validity of the MA is dependent on completion of satisfactory audits as required by the ABS Rules. The validity of both PDA and MA entitles the product to receive a **Confirmation of Product Type Approval**.

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 prior to the effective date of the ABS Rules and standards applied at the time of PDA issuance. ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. The manufacturer is responsible to maintain compliance with all specifications applicable to the product design assessment. Unless specifically indicated in the description of the product, certification under type approval does not waive requirements for witnessed inspection or additional survey for product use on a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.