Confirmation of Product Type Approval

Company Name: IMM HYDRAULICS SPA

Address: VIA ITALIA 49-51 ATESSA (CH) 66041 Italy

Product: Flanged Coupling

Model(s): 37 deg Flared Flanged Coupling

Endorsements:

Certificate Type	Certificate Number	Issue Date	Expiry Date
Product Design Assessment (PDA)	24-0030494-PDA	05-SEP-2024	04-SEP-2029
Manufacturing Assessment (MA)	24-6420931	27-MAY-2024	07-JUL-2029
Product Quality Assurance (PQA)	NA	NA	NA

Tier
3 - Type Approved, unit certification not required

Intended Service
Hydraulic Piping System.

Description
37° Flared Flange Connection – compression coupling flared type.

Material of construction for flanges:

- Carbon steel: S355, P355NL1

- Stainless steel: 1.4401, 1.4404, 1.4462 (UNS S32205) from EN 10028-7

Material of construction for flared tube:

- P235GH, ASTM A106 gr. B, E235 and E355

- Stainless steel: AISI 316, 1.4462 (UNS S32205)* from EN 10028-7

* only allowed in Seawater systems at room temp and pressure.

Sealing material: NBR & FKM90

Ratings
Sizes: See Attached table

Nominal Pressure: 50 bar to 420 bar (see attached Table)

Design Temperature: -40 deg C to +200 deg C (see attached Table)

The temperature range is dependent on the sealing material as follows:

NBR: -25 to +100 °C

Viton: -40 to +200 °C

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. Flanged couplings having temperature ratings of below -18 deg C are subject to material tests in accordance with the respective ABS Rules.

Comments
1. According to 4-6-1/Table 2 of ABS Marine Vessel Rules, all components are to bear 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. Such markings may be cast or forged integral with, stamped on, or securely affixed by nameplate on the component, and are to serve as a permanent means of identification of the component throughout its service life.

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

Notes, Drawings and Documentation
Drawing No. 19, Upload Summary, Revision: 0, Pages: 1

Drawing No. 2014XF206, Burst test RINA, Revision: 0, Pages: 1

Drawing No. 21, GS37 dwg 100_122, Revision: 0, Pages: 1

Drawing No. 22, GS37 dwg 125, Revision: 0, Pages: 1

Drawing No. 23, GS37 dwg 132, Revision: 0, Pages: 1

Drawing No. 24, GS37 dwg 134, Revision: 0, Pages: 1

Drawing No. 25, GS37 dwg 135, Revision: 0, Pages: 1

Drawing No. 26, GS37 dwg 184, Revision: 0, Pages: 1

Drawing No. 27, GS37 dwg 185, Revision: 0, Pages: 1

Drawing No. DNV-P-12001, Leakage after Fire test, Revision: 0, Pages: 1

Drawing No. DNVGL - CP - 0135, 37 degree DNV Burst test II, Revision: 0, Pages: 1

Drawing No. DNVGL-CP-0135, 37 degree DNV Burst Test I, Revision: 0, Pages: 1

Drawing No. IMM- GS Hydro Letter, IMM- GS Hydro Letter, Revision: -, Pages: 1

Drawing No. PRCS003228-B, Dynamic and vibration test, Revision: 0, Pages: 1

Drawing No. QA007/18, GS-Hydro to IMM Hydraulics SPA Type Approval and Certification Activity

Authorization, Revision: -, Pages: 1

Drawing No. QA016/18, Interpump Group - IMM Hydraulics SPA GS Hydro Acquisition, Revision: -, Pages: 1

Drawing No. S-03301-18, Fatigue Test, Revision: 0, Pages: 1

Drawing No. S-04482-18, Tightness and Pull Out Test, Revision: 0, Pages: 1 Drawing No. VTT-S-2789-11, Fire Test, Revision: 0, Pages: 1

Term of Validity
This Product Design Assessment (PDA) Certificate remains valid until 04/Sep/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
Rules for Conditions of Classification 2024, 1A-1-4/7.7, 1A-1-A3, 1A-1-A4, which covers the following:

Rules for Building and classing Marine Vessels 2024, 4-6-1/7.1, 4-6-2/3.1.6, and 4-6-2/5.9

Rules for Building and Classing Steel Vessels for Service on Rivers and Intracoastal Waterways 2024, 4-3-2/7.5.5 4-3-2/7.11

Rules for Building and classing Yachts 2024, 4-4-2/7.5.5, 4-4-2/13

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

Rules for Building and classing Mobile Offshore Units 2024, 4-2-2/7.5.5 and 4-2-2/11

Rules for Conditions of Classification 2024, 1C-1-4/11.9, 1C-1-A2 and A3, which covers the following:

Rules for Building and Classing High Speed Craft 2024: 4-4-2/7.5.5 and 4-4-2/13

International Standards
ISO 19921:2005(E) Ship and marine technology – Fire resistance of metallic pipe components with resilient and elastomeric seals – Test methods

ISO 19922:2005(E) Ship and marine technology – Fire resistance of metallic pipe components with resilient and elastomeric seals – Requirements imposed on the test bench.

EU-MED Standards
NA

National Standards
NA

Government Standards
NA

Other Standards
NA

Corporate ABS Programs
American Bureau of Shipping
Print Date and Time: 30-Sep-2024 10:03

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.