



Marine &amp; Offshore

Certificate number: 04471/F2 BV

File number: ACM 135/0708/004

Product code: 2120I

*This certificate is not valid when presented without the full attached schedule composed of 7 sections*

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## TYPE APPROVAL CERTIFICATE

*This certificate is issued to*

**I.M.M. HYDRAULICS S.p.A.**  
ATESSA-CH - ITALY

*for the type of product*

**PIPE FLANGE CONNECTIONS**

GS Flare Flange System and GS Retain Ring System

### Requirements:

- BUREAU VERITAS Rules for the Classification of Steel Ships
- BUREAU VERITAS Rules for the Classification of Offshore Units

*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

**This certificate will expire on: 27 Nov 2020**

**For Bureau Veritas Marine & Offshore,**

At BV VENEZIA, on 12 Jun 2019,

Sandro BRUSEGAN



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site [www.veristar.com](http://www.veristar.com). Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION

GS Flare Flange System and GS Retain Ring System:

- GS flanges (SAE, ANSI, DIN, flange connections)
- 37° and 90° flared tubes

#### 1.1 Design

- The GS system consists of a flare flange system which allows piping systems with internal working pressure and pipe diameters between 16 mm and 400 mm to be assembled without welding.
- The 37° Flare Flange connections are used for high pressure applications.
- The 90° Flare Flange connections are used for low pressure applications.

#### 1.2 Rating

GS-System	Face type	Size, flange	Size, pipe	Pressure (bar)
90° Flare Flange System	SAE J518C	1/2" to 8"	16x1.5 - 220x6	10-40
90° Flare Flange System	ANSI	1/2" to 16"	21.3x2.1 - 406x8.8	10-40
90° Flare Flange System	DIN	1/2" to 16"	21.3x2.1 - 406x8.8	10-40
37° Flare/Retain Ring Flange System	SAE 50 bar	1 1/2" to 10"	50x3 - 273x6	50
37° Flare/Retain Ring Flange System	SAE 3000 psi	1/2" to 3"	16x2 - 90x5	350
37° Flare/Retain Ring Flange System	SAE 6000 psi	1/2" to 2"	16x2 - 60x5	420
Retain Ring Flange System	GS Flange, 350-400 bar	2" to 8"		350-400

The max. working temperature depends on the sealing material based on media inside pipes.

- Flare Flange Fittings are mainly welding nipple, female thread flange, male thread flange, tee flange, blind flange, flange bends 90°, 45°, 22.5°, reducer flange, hose assembly, valves ends.

#### 1.3 Material specification

Flange	Electric zinc coated carbon steel, hot dip galvanized carbon steel, stainless steel, titanium
Pipe	Mild steel, galvanized steel, copper-nickel, aluminium-brass duplex, super duplex, titanium
Seal	Viton, NBR, Klinger

*When other choices of materials are used per manufacturer's instructions, the BV agreement will be obtained.*

### 2. DOCUMENTS AND DRAWINGS

- GS-HYDRO catalogue Revision March 2019
- GS-37° Installation Instructions N° 8990306502 dated March 2015
- GS-90° Installation Instructions N° 8990306503 dated January 2015
- GS-Retain Ring Installation Instructions N° 8990306501 dated March 2015

*No departure from the above documents shall be made without the prior consent of the Society. The manufacturer must inform the Society of any modification or changes to these documents and drawings.*

### 3. TEST REPORTS

Not required

### 4. APPLICATION / LIMITATION

4.1 The GS Flare Flange System may be used for the following services on board:

- Fresh water and sea water, compressed air, fuel oil, lub oil and hydraulic oil, steam and condensate, cargo oil for oil tankers and
- All other marine III piping systems.

4.2 The use of stainless steel is to be restricted as per the requirements of the Bureau Veritas Rules.

4.3 The GS Flare Flanges are to be installed according to manufacturer's instructions and Bureau Veritas Rules.

### 5. PRODUCTION SURVEY REQUIREMENTS

5.1 The products are to be supplied by **I.M.M. HYDRAULICS S.p.A.** in compliance with the type and the requirements described in this certificate.

5.2 This type of product is within the category IBV of Bureau Veritas Rule Note NR320.

5.3 BV product certificate is required.

5.4 - For information, **I.M.M. HYDRAULICS S.p.A.** has declared to Bureau Veritas the following production site:  
**I.M.M. HYDRAULICS S.p.A.: Via Italia 49-51, 66041 ATESSA-CH, ITALY**

#### **6. MARKING OF PRODUCT**

Each GS-Flange and fitting must be marked with at least:

- Manufacturer's name or logo
- Type designation
- Society's brand as relevant

#### **7. OTHERS**

It is **I.M.M. HYDRAULICS S.p.A.**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

*This certificate supersedes the Type Approval Certificates N° 04471/F1 BV issued by the Society.*

**\*\*\* END OF CERTIFICATE \*\*\***