



**TYPE APPROVAL CERTIFICATE**  
No. **MAC390221XG/002**

**This is to certify** that the product identified below is in compliance with the regulations herewith specified.

<i>Description</i>	<b>Pipes couplings</b>
<i>Type</i>	<b>VSH XPress Galvanized</b>
<i>Applicant</i>	<b>Aalberts Integrated Piping Systems B.V. Oude Amersfoortseweg 99 1212 AA Hilversum NETHERLANDS</b>
<i>Manufacturer</i>	<b>Aalberts Integrated Piping Systems B.V.</b>
<i>Place of manufacture</i>	<b>Oude Amersfoortseweg 99 1212 AA Hilversum NETHERLANDS</b>
<i>Reference standards</i>	<b>Part C, Chapter 1, Section 10 of RINA Rules</b>
<i>Reference documents</i>	<b>RINA Type approval system</b>

Issued in **HAMBURG** on **January 18, 2022**. This Certificate is valid until **January 17, 2027**

  
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**RINA Services S.p.A.**  
**Giuseppe Russo**

This certificate consists of this page and 1 enclosure

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VSH XPress Galvanized

### Reference documents

VSH XPress System Catalogue 5997134\_2021\_2.2

Assembly drawings and technical specification sheets of VSH XPress Galvanized Carbon Steel Fittings

IMA Test Reports no. C099/10.2 dated 12.01.2010 (Fire Resistance Test ISO 19921)

IHA Test Reports no. 001, no. 004 dated 20.10.2010 and no. 005 dated 26.10.2010 (IACS P2.11)

### Materials/Components

Pipes: thin-walled tubes of galvanized carbon steel no. 1.0031, 1.0034 (EN10305-2/3)

Fittings: galvanized carbon steel no. 1.0034 (EN10305-2)

O-rings: Black EPDM, Green Viton, Grey Viton

### Technical characteristics

Maximum Working Pressure: 16 bar for pipe sizes from 12 up to 54 mm  
12.5 bar for pipe size 76.1  
10 bar for pipe sizes from 88.9 up to 108 mm

Maximum Working Temperature: -35°C to 200°C depending on O-Ring material  
and application as per VSH Technical Specification.

Pipes Dimensions according to the following table:

Pipe external diameter (mm)	Pipe thickness (mm)
12	1.2
15	1.2
18	1.2
22	1.5
28	1.5
35	1.5
42	1.5
54	1.5
76.1	2.0
88.9	2.0
108	2.0



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**VSH XPress Galvanized**

***Fields of application***

Application of the mechanical joints and their acceptable use for each service are indicated in Table 16, Part C, Chapter 1, Section 10 of RINA Rules. Services where fire resistant type is required are accepted.

Application of the mechanical joints depending upon the class of piping is indicated in Table 17 of above mentioned Rules. Furthermore press type compression couplings are not allowed on piping systems of I and II Class.

The mechanical joints are not to be used in those systems where pressure pulsation other than water hammer is expected.

***Acceptance conditions***

The acceptance of the a.m. products on board ships and other units classed with RINA is subject to the satisfactory outcome of testing as per RINA Rules.

The installation on board of mechanical joints is to be made in accordance with the Manufacturer's assembly instructions. Where special tools and gauges are required for installation of the joints, these are to be supplied by the Manufacturer.

The gasket (O-ring) material is to be suitable for the conveyed medium and working temperatures as per Manufacturer's instructions.

This certificate annuls and replaces the previous ones Nos. MAC220916XG/002.

**HAMBURG January 18, 2022**

