

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Globe Valve**

with type designation(s)

Pressure Regulated Hydrant Valve FP-V-PRH-XX-FL150, Pressure Regulated Hydrant Valve FP-V-PRH-XX-FL300

Issued to

**Fireproducts AS
Kristiansand, Norway**

is found to comply with

DNVGL-OS-D101 – Marine and machinery systems and equipment, Edition January 2018**DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems****DNV GL class programme DNVGL-CP-0186 – Type approval – Valves****Application :****Product(s) approved by this certificate is/are accepted for installation on vessels classed by DNV GL.**

Type:	Temperature range:	Max. working press.:	Sizes:
Pressure Regulated Hydrant Valve FP-V-PRH-XX-FL150	0 °C to +80 °C	20 bar	Valve body of size 2-1/2" with inlet connection ranging from 1-1/2" to 3" and outlet connection from 1-1/2" to 2-1/2" (see page 2)
Pressure Regulated Hydrant Valve FP-V-PRH-XX-FL300	0 °C to +80 °C	28 bar	Valve body of size 2-1/2" with inlet connection ranging from 1-1/2" to 3" and outlet connection from 1-1/2" to 2-1/2" (see page 2)

Issued at **Høvik** on **2018-01-23**This Certificate is valid until **2019-06-30**.for **DNV GL**DNV GL local station: **Kristiansand S**Approval Engineer: **Maheshraja Venkatesan****Marianne Spæren Marveng
Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Product description

Pressure regulating globe hydrant valves for use in seawater and fresh water fire mains.

Approved on the basis of burst testing and fire testing.

Construction

Valve body of size 2 ½" with

- Inlet connection compatible with ANSI B16.5 flange sizes (1 ½", 2", 2 ½" or 3") and
- Outlet connection by way of BSP/NPT threaded connection (sizes 1 ½", 2 or 2½")

The valves feature a pressure regulator and ¼" NPT connection to the outlet of the valve which may be used to mix in fire fighting foams and chemicals. The valves are operated by handwheels.

Models and sizes

Model	Inlet connection	Outlet connection
FP-V-PRH-XX-FL150	Flange of sizes 1 ½", 2", 2 ½" or 3" as per ASME B16.5 class 150	1 ½", 2 or 2½" with BSP/ NPT threads
FP-V-PRH-XX-FL300	Flange of sizes 1 ½", 2", 2 ½" or 3" as per ASME B16.5 class 300	

Materials

Valve body, stem, seat and cover	ASTM B367 Grade C-2; ASTM A351 Gr.CF8M; ASTM A890 Gr.5A; ASTM A890 Gr.1B; ASTM B861 Gr.2; ASTM B148 C95400; ASTM B148 C95500; ASTM B584 C83600
Seat sealing & O-rings	NBR
Handwheel	Stainless steel 316
Gaskets	Graphite + stainless steel 316

Application/Limitation

The approval is valid for valves to be used in the fire hydrants with piping systems carrying fresh/ sea water for class II and III applications.

Valves with outside diameter not more than 60.3 mm are allowed only with:

- threaded joints having tapered threads (NPT) for class II and class III systems
- threaded joints having parallel threads (BSP) for class III systems

Valve bodies, stem, seat and cover with CF8M material grade shall be used only in fresh water mains.

The maximum allowable working pressure (MAWP) for valves are as follows:

Class 150 valves: MAWP 20 bar @ 80 °C

Class 300 valves: MAWP 28 bar @ 80 °C

Type Approval documentation

Tests carried out

Burst and fire testing (as per DNV TA Programme 5-794.40, para 9.1.2)

Production testing

All valve bodies shall be subjected by the manufacturer to a hydrostatic test at a pressure equal to 1.5 times the nominal pressure (The nominal pressure is the maximum allowable working pressure at room temperature).

All valve assemblies shall be subjected to seat leakage test at 1.1 times maximum working pressure at closed position.

Production Testing and acceptance criteria shall be in accordance with EN 12266-1 (leakage rate A).

Certification

For ship installations (DNV GL-RU-SHIP Pt.4 Ch.6):

- Valve bodies shall be delivered with test reports issued by manufacturer in accordance with DNV GL Ship Pt.4 Ch.6 Sec.2 Table 3.
- Valves shall be delivered with manufacturer's works certificate only.

For offshore marine and machinery systems and equipment (DNV GL-OS-D101):

- Valve bodies shall be delivered with the same material certificates as for steel valves in class III piping systems, i.e., Test Report/2.2 certificate (ISO 10474/EN 10204). See DNVGL-OS-D101 Ch.2 Sec.2 Table 5.
- Valves are covered under certification category IIA (DNVGL-OS-D101 Ch.3 Sec.1 Table 7) and may be delivered with a manufacturer's works certificate only.

Marking of product

Each valve shall be clearly marked for identification. The identification marking may be performed on the body or on a plate of non-corrosive material. When a metallic plate is used, the plate shall be permanently fixed to the body.

Identification marking on the body shall be located to nonstressed areas and shall be clearly legible. The identification marking shall as a minimum include the following:

- manufacturer's name or trade mark
- valve type designation
- size
- maximum design pressure or pressure class
- arrow to indicate direction of flow on one way flow valves.

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNVGL-CP-0338.