DNV·GL

Certificate No:
TAP0000154

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Check Valve

with type designation(s)
Storm Valves - Straight & Angle Type

Issued to
Dikkan Gemi ve Endustriyel Vana Sanayi Ticaret Anonim Sirketi
Izmir, Turkey

is found to comply with
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.

Temperature range:	**0°C to 100°C**
Max. working press.:	**4 bar(g)**
Sizes:	**DN 50 to DN 150 (see page 2)**

Issued at **Høvik** on **2018-01-02**
This Certificate is valid until **2023-01-01**.
DNV GL local station: **Istanbul**

for **DNV GL**

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.

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Job Id: **262.1-022199-1**
Certificate No: **TAP0000154**

Product description

Storm valves – straight & angle type constructed as per EN 12516-3 with the following data:

Valve size	*Minimum wall thickness of valve body & bonnet/cover, mm*	
	Straight type	*Angle type*
DN 50	6.5	6
DN 65	6.5	6
DN 80	7	6
DN 100	7.5	7
DN 125	8	7
DN 150	8	7

End flanges are in accordance with PN 10 from EN 1092-2.

Material of construction:

Valve component	*Material grade*	
	Straight type	*Angle type*
Body & bonnet	EN GJS-400-18-LT from EN 1563	
Stem and gland nut	CuZn39Pb3 from EN 12164	
Bonnet and disc gaskets	NBR	
Gland packing	Graphite	
Bolting	Grade 8.8 from ISO 898-1	
Disc carrier	EN GJS-400-18-LT from EN 1563	-
Plug	-	CuZn39Pb3 from EN 12164

Application/Limitation

Valves covered by this certificate are approved to be used in class II and class III piping systems in accordance with DNV GL Ship Rules Pt.4 Ch.6 and also:

- on the ship's side and bottom
- on the collision bulkhead

Pressure temperature ratings shall follow Table 16 from EN 1092-2.

Valves covered by this certificate are not considered as fire-safe.

The approval does not include any operating gear for remote control of the valves.

The valves may not be used as shut off or quick closing valve.

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).

For valves fitted on ship's side and bottom the test pressure shall not be less than 5 bar.

Certification

Valve bodies shall be delivered with material certificates in accordance with DNV GL Ship Rules Pt.4 Ch.6 Sec.2 Table 3. Materials with VL and W certificates shall be manufactured in a foundry approved by the society.

DNV GL product certificates are required for ship side valves where DN > 100 regardless of pressure. For other valves, manufacturer's product certificate may be accepted.

Type Approval documentation

Tests carried out

Burst tests as per EN 12516-3

Marking of product

Valves shall be marked at least with the following details:

- manufacturer's name or trade mark
- valve type designation and size
- maximum design pressure and temperature
- 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.