



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. **P-14188**

This is to certify that the
Butterfly Valves

with type designation(s)
SRS 924TF wafer type, SRS 925TF lug type, SRS 926TF flanged type

Manufactured by
Cephas Pipelines Corp.
Pusan, Republic of Korea

is found to comply with
Det Norske Veritas' Rules for Classification of Ships
Det Norske Veritas' Standards for Certification 2.9 No. 5-794.40

Application

The valves may be used for the following systems: **Fuel oil, lubr.oil, Cargo oil, Water ballast, Fresh and Seawater, Fire mains, Sanitary and Bilge (in connection with a non-return valve).**

Temperature range: See certificate
Max. working press.: PN 10 / 16/ 25 (Class 125 lbs and 150 lbs), JIS 5K/ 10K/ 16K
Sizes: DN65. 80, 100, 125, 150, 200, 250, 300.

Høvik, 2012-08-20
for Det Norske Veritas AS


Giorgio Saia
Acting Head of Section



DNV local office:
Pusan

This Certificate is valid until
2015-06-30


Mohsen Mohebbi
Surveyor

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.
If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Certificate No.: P-14188
File No.: 794.41
Job Id.: 262.1-011925-1

Product description

Butterfly valves - wafer, flange and lug type. Fire tested with RTFE/ Stainless steel seat.

One piece stem, eccentric located. Disc is secured to the stem by screws. Seat is mechanically retained in the body.

Materials in the valves:

BODY

Grey cast iron	ASTM A126 Class B, BS 1452-220, DIN 1691-GG20/25, JIS G 5501 FC200/250
Nodular cast iron	ASTM A536 Gr. 65-45-12, BS 2789 420/12, DIN 1693 GGG40, JIS G 5502 FCD400/450
Carbon steel	ASTM A216 Grade WCB, ASTM A352 Grade LCB, BS 1504-161 Grade A/B, JIS G5101 SC480, JIS G5152 SCPL
Aluminium bronze	ASTM B148 C95800, BS 1400 AB2, JIS H 5111 BC6, JIS H5114 ALBC2/ALBC3
Stainless steel	ASTM A351 CF3/CF3M/CF8/CF8M, JIS G5121 SCS13/14

DISC:

Nodular cast iron nylon coated	ASTM A536 Gr. 65-45-12, BS 2789 420/12, DIN 1693 GGG40, JIS G 5502 FCD400/450
Stainless steel	ASTM A351 CF3/CF3M/CF8/CF8M, JIS G 5121 SCS13/14
Aluminium bronze	ASTM B148 C95800, BS 1400 AB2, JIS H5114 ALBC2/ALBC3

STEM:

Stainless steel	ASTM A479 Gr.304/316, AISI 410, ASTM A 564 TYPE 630, JIS G 4303 SUS304/316
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SEAT:

RTFE + Stainless steel 316

Application/Limitation

Valves of grey cast iron are not permitted fitted in/on the following:

Piping system	Pressure greater than	Temperature greater than
Steam	7 bar	170 °C
Fuel oil	7 bar	60 °C



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- Class I and II piping systems.
- Service temperatures below 0 °C and above 120°C
- Hydraulic piping systems
- Ship's side or bottom and on sea chest
- Collision bulkheads
- Under static head fitted on external wall of fuel oil tanks
- Ballast lines to forward tanks through cargo oil tanks
- Bilge and ballast piping in tunnels in double bottom

Valves of nodular cast iron are not permitted fitted in/on the following:

- Class I piping systems
- Media having temperature below 0 °C and above 350°C

When used as ship side valves the disc must not extend outside the hull plating in open position.

These valves can be used for bilge suction when fitted in connection with a non-return valve.

Bilge valves and ship side valves should always be arranged for manual operation even if these valves are remote controlled. A portable hydraulic hand pump is not accepted as equivalent to manual operation.

The maximum output torque from actuators used on butterfly valves must not exceed the limit at which the valve spindle or disc can be damaged if the disc is restrained in any position.

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

Each valve body shall be subject to a hydrostatic pressure test at minimum 1.5 times the design pressure.

Size	Holding time:
65 to 100 mm	: 2 minutes
125 to 250 mm	: 5 minutes
300 mm	: 10 minutes

No leakage is permitted.

The valve assembly shall be subject to hydrostatic seat leakage test. The test pressure shall at least be equal to the design pressure. The test shall be performed with closed valve with the other end open to atmosphere. The pressure shall be applied independently on each side of the closed disc.

Holding time 5 min. for all sizes.

Acceptable leakage rate: Drop tight

Each valve is to be surveyed and certified by DNV when required by the DNV rules, or by the purchaser.

DNV product certificate is required for:

- valves DN> 100 and PN> 16 bar
- ship side/bottom valves regardless of pressure rating.

Each product/delivery is to be accompanied by the following documents:

- Product certificate prepared by the manufacturer
- Work's Certificate for materials used in valve body, stem and disc indicating mechanical and chemical properties. Valve bodies with nominal diameter 100 mm or less will be accepted with test report.

Type Approval documentation

Catalogue: "High Performance / Cargo Valve"

Drawings no.:

- 3012B101, rev. 0- Hi-Performance lug type Butterfly valve API-609-B DN65
- 30025B201, rev. 0- Hi-Performance lug type Butterfly valve API-609-B DN65- Body Dwg.
- 30025E101, rev. 0- Hi-Performance lug type Butterfly valve API-609-B DN65- Disc & part Dwg.
- 3006A101, rev. 0- Hi-Performance lug type Butterfly valve API-609-B DN150
- 3006B201, rev. 0- Hi-Performance lug type Butterfly valve API-609-B DN150- Body Dwg.



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3006D101, rev. 0- Hi-Performance lug type Butterfly valve API-609-B DN150- Disc & part Dwg.
Retention survey checklist dated 2011-06-10

Tests carried out

Hydrostatic pressure test, seat leakage test, API607 Fire test.

Marking of product

For traceability to this type approval, each valve is at least to be marked with:

- Manufacturer's name or trade mark:
- Type designation
- Size
- Max. design pressure or pressure class

Certificate Retention Survey

For retention of the Type Approval, a DNV Surveyor shall perform a survey every second year and before the expiry date of this certificate to verify that the conditions for the type approval are complied with.

END OF CERTIFICATE

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