Certificate no.:
TAP000030D

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Blind Flange Valve

with type designation(s)
S812, S812H

issued to
AFFCO Flow Control (Shanghai) Co., Ltd
Shanghai, **China**

is found to comply with
DNV rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV class programme DNV-CP-0186 – Type approval – Valves

Application:

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Type:	Max. working temp.:	Max. working press.:	Sizes:
S812	see certificate	PN10, PN16, Class 150	DN 50 - DN 450
S812H	see certificate	PN10, PN16, Class 150	DN 50 - DN 450

Issued at **Hamburg** on **2025-04-24**
This Certificate is valid until **2030-04-23**.
DNV local unit: **Shanghai**

for **DNV**

Approval Engineer: **Ana Cristina Do Carmo Insfran**

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to USD 300 000.

Product description

Blind Flange Valve types S812 and S812H for installations in piping systems.

S812 - no handwheel blind valve,
S812H - with handwheel blind valve

Valve design:
- DIN 3352

Flange connections according to:
- EN 1092-1 PN10, PN16
- ASME B16.5 Class 150

Flange Dimension:
- DIN EN 1092-1 PN10, PN16

Face to Face:
- DIN 3202

Testing Standard:
- EN 12266-1

S812 and S812H valve nominal sizes: DN 50 to DN 450

Pressure ratings: PN 10 (10 bar), PN 16 (16 bar), Class 150 (19.6 bar)

Design temperature: Depending on seat materials

Seat design type	Temperature range [°C]
PTFE	-20° to +180°
VITON	-15° to +200°

Materials S812:

Parts	Material	Standard
Body	Ductile iron	JS 1030 (QT400-15) EN1563
	Carbon Steel	WCB ASTM A216
	Stainless Steel	CF8M/CF3M ASTM A351 F316/F316L ASTM A182
	Aluminium-Bronze	C95500 ASTM B148
Disc	Stainless Steel	CF8M/CF3M ASTM A351
	Carbon Steel	WCB + STL ASTM A216
Bonnet	Carbon Steel	WCB ASTM A216
	Stainless Steel	CF8M/CF3M ASTM A351
Spring	Steel	ASTM 1065
Seat	Soft Seat	PTFE/VITON

Materials S812H:

Parts	Material	Standard
Body	Ductile Iron	JS 030 (QT400-15) EN 1563

	Carbon Steel	WCB ASTM A216
	Stainless Steel	CF8M/CF3M ASTM A351 F316/F316L ASTM A182
	Aluminium-Bronze	C95500 ASTM B148
Disc	Stainless Steel	CF8M/CF3M ASTM A351
	Carbon Steel	WCB + STL ASTM A216
Bonnet	Carbon Steel	WCB ASTM A216
	Stainless Steel	CF8M/CF3M ASTM A351
Spool	Carbon Steel	WCB ASTM A216
	Stainless Steel	CF8M/CF3M ASTM A351
Stem	Carbon Steel	WCB ASTM A216
	Stainless Steel	CF8M/CF3M ASTM A351 F316 / F316L ASTM A182
Handwheel	Carbon Steel	WCB ASTM A216
	Ductile Iron	EN-GJS400-15
Seat	Soft Seat	PTFE /VITON

Application

Blind Flange Valve types S812 - no handwheel blind valve and, S812H - with handwheel blind valve are type approved for the following operating media:

Ballast water systems, hydraulic oil, crude oil, lube oil*
All valve components in contact with fluid shall be suitable for intended medium and temperature.

Technical remarks:
- Valves for applications in sea water systems should be manufactured with stainless steel grades having a minimum pitting resistance equivalent number (PREN) of ≥ 30.
- Seal material used shall be resistant to the fluid flowing through the valves.

Limitation

*The valve may not be used as shut off or quick closing valve for sea water systems or hydrocarbon services where “fire safe” application is required. See DNV Rules Pt. 4, Ch. 1 – Machinery systems, General, Section 3 and DNV Rules Pt. 4, Ch.6 – Piping systems

The Line Blind Flange Valves may not be used for liquefied gases and applications with flowing media specified as dangerous and/or toxic fluids. Valves of austenitic stainless steel shall not be used in direct contact with seawater.

Body material of copper and copper alloys are subjected to requirements according to DNV Rules Pt.2, Ch.2 – Metallic Materials, Section 10 and 11 and to operating temperatures limits specified in DNV Rules Pt.4, Ch. 6 – Piping Systems, Section 2 – Materials.

Valves fabricated of copper and copper alloy shall not be used for media having temperature above the following limits:
- Copper and aluminum brass: 200°C
- Copper Nickel: 300°C

Tests carried out

Blind Flange Valve types S812 - no handwheel blind valve and, S812H - with handwheel blind valve have been tested in accordance with the following standards:

Test standard: EN 12266-1 DNV Pt.4 Ch.6 DNV CP 0186		Purpose
Title	Test reference	
Hydrostatic Pressure Test	Valve Body	To confirm the pressure containing capability of the shell against internal pressure Test pressure = 1,5 times the design pressure No leakage is permitted.
Hydrostatic/Pneumatic Seat tightness	Valve seat	To confirm the capability of the seats to comply with the specified leakage rate At the manufacture In the direction(s) for which the valve is designed No visible leakage.
Functional test	Valve assembly	Function test of completed assembled valve.

Type Approval documentation
Certification

Application in machinery and piping systems
Valves intended to be installed in piping system listed in DNV Rules Pt.4, Ch.6 – Section 1 shall be certified according to DNV Rules Pt.4 Ch.6 – Piping systems, Section 9

Valve nominal size / Pressure rating	Type of Certificate / Issued by
DN > 100 mm / PN > 16 bar	PC Product Certificate / DNV
DN ≤ 100 mm / PN ≤ 16 bar	PD Product Declaration / Manufacturer

Material certificates (valve bodies)
In accordance with DNV Rules Pt.4 Ch.6 – Piping systems, Section 2 – Table 3

Marking of product

For traceability to this type approval the products are to be marked with:
- Manufacturers name or trade mark
- Valve type designation
- Size
- Maximum design pressure and temperature
- Arrow to indicate direction of flow on one way flow valves

Production Place

AFFCO Flow Control (Shanghai) Co., Ltd
No.99 Desheng Road, Fengcheng Town, Fengxian District, Shanghai, P.R. CHINA

Periodical assessment

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the Type Approval are complied with. Refer to DNV CP-0338, Sec.4.

The certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in https://approvalfinder.dnv.com

END OF CERTIFICATE