

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Butterfly Valve of Plastic Material**with type designation(s)
Type 567 and 578

Issued to

Georg Fischer Piping Systems Ltd.
Schaffhausen, SH, Switzerland

is found to comply with

DNV GL rules for classification – Ships**DNV GL class programme DNVGL-CP-0072 – Type approval – Thermoplastic piping systems****Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**Issued at **Hamburg** on **2018-10-05**This Certificate is valid until **2023-10-04**.for **DNV GL**DNV GL local station: **Augsburg**Approval Engineer: **Hagen Markus**

Olaf Drews
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.



Job Id: **262.1-006090-4**
Certificate No: **TAK000016X**

Product description

The type 567 Butterfly Valve is a wafer style whereas the type 578 is a lug style compatible with both ANSI B16.5 150 lb and DIN 2501 flange patterns.
This type approval certificate does not include any remote operating gear.

Overview main components and materials

Component	Material grade
Outer valve body	PP-GF30
Inner valve body	PVC-U, PVC-C, PP-H, PVDF, ABS
Disc	
Shaft set	AISI 304
Lugs (578)	AISI 316L
Shaft seal, face seal	EPDM, FPM
Disc seal	EPDM, FPM, PTFE/FPM
Shaft bushing	PVC, CPVC, PP, PVDF
Lower retaining cap	316 Stainless steel

Sizes and pressure range

Sizes DN	Nominal Pressure PN
50, 65, 80, 100, 125, 150, 200, 250, 300	10
300 (578)	8

Production places

	DNV GL local office
Georg Fischer Kunststoffarmaturen AG, Seewis-Pardisla, Switzerland	Augsburg

Responsibility

The holder of this certificate takes the responsibility that both design and production are in compliance with Rules, Standards and/or Regulations listed on page 1 of this certificate.

Marking of product

For traceability to this type approval, each valve is to be marked by a name plate specifying at least:

Scope	Example
Manufacturer's name or trademark	+GF+
Type designation	578
Nominal Size	DN250
Nominal pressure	PN10

Application/Limitation

The valves of type 567 and 578 are type approved for application in piping systems as listed in "Table 1- Fire endurance requirements matrix" of DNVGL Rules Pt.4, Ch.6, Section 2. as follows:

Reference heading to Table 1		Piping system ¹
Seawater	19	Non-essential
Sanitary and drains and scuppers	24	Sanitary drains (internal)
		- Black and grey water - Waste water discharge lines to shore
Freshwater	22	Non-essential systems
		- Potable water generating and treatment systems - Potable hot and cold water - Chilled water and cooling water of air condition systems
Miscellaneous	29	Service air (non-essential)
	30	Brine
	32	Central vacuum cleaners

Notes

¹ Approved installation locations where "0" is specified in "Table 1 - Fire endurance requirements matrix".
Appropriate footnotes are to be observed.

² Not approved at the ship side.

Service temperatures

Inner valve body material	Temperature range
PVC-U	0°C up to +60°C
PVC-C	0°C up to +80°C
PP-H	-10°C up to +80°C
PVDF	0°C up to +120°C
ABS	-30°C up to +60°C

Permissible pressure at elevated temperatures

For application at permanent elevated temperatures above 25°C the pressure reduction curves as specified in the "Georg Fischer Piping Systems +GF+ Planning Fundamentals For Industrial Piping Systems, Section Fundamentals for butterfly valve, hand operated" are to be observed.

Extent of Type Tests applicable to piping system dependent on application

Fire endurance level, smoke and toxicity

The valves of type 567 and 578 are not tested with respect to fire endurance or smoke and toxicity characteristics.

Flame spread

Surface flame spread characteristics is confirmed by ASTM D635 HB.

Electrical conductivity

Not applicable.

Passenger vessels

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For application on passenger vessels additional requirements specified in the Rules and Regulations of the appropriate flag state authority may have to be observed.

Installation

For installation of the valves the instructions specified in the Georg Fischer (GF) "Betriebsanleitung Absperrklappe Type 567/568" are to be observed.

The valves are not approved for installation:

- within tanks and vacuum applications (service pressure below - 0.1bar gauge).
- in gas hazardous area.

Production testing

All valves shall be subjected at manufacturer works to a static leakage tightness test of the seat and shaft.

Test procedure and acceptance criteria according to GF specification 1002155, Rev.4.

Type Approval documentation

Tests carried out

Periodical assessment

For retention of the type approval certificate periodical assessments shall be carried out at production places by DNVGL surveyor.

The objective of the periodical assessment is to verify that the design and production conditions for the type approval have not been altered.

Main scope of the assessment:

- verification of the production and quality control system
- review of quality control documentation of recent deliveries
- review of drawings in production to verify any design changes which may have an impact on data specified in the type approval certificate, performance and range of application
- verification of the product marking

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

End of certificate