

# APPROVAL CERTIFICATE

This is to certify, that the undernoted products have been approved in accordance with the relevant requirements of the DNV GL Approval System.

Certificate No. **82 402 - 92 HH**

Company **Armaturen- und Metallwerke  
Zöblitz GmbH  
Bahnhofstraße 16  
09496 Marienberg, GERMANY**

Product **SHUT-OFF VALVES WITHOUT / WITH TEST CONNECTION AND WITH  
BLOCKING TEST CONNECTION FOR PRESSURE GAUGES**

Type **ACCORDING TO WS-32-024 / 96**

Technical Data /  
Application

## TECHNICAL DATA

Designation	Body	Temp. Range	Nominal Pressure [bar]
C-Steel	1.0460*	see Table1, page2	up to PN 400
Cr-Ni-Steel	1.4571*	see Table1, page2	up to PN 400
Cr-Ni-Mo-Steel	1.4539*	see Table1, page2	up to PN 400
Duplex	1.4462*	-10 °C up to 300 °C	up to PN 400
Monel	2.4360*	-10 °C up to 425 °C	up to PN 400
Creep resistant Steel	1.5415*	-55 °C up to 500 °C	up to PN 400
Brass	2.0402*	-10 °C up to 250 °C	up to PN 250

\* or of equivalent material quality

Designation	Drawing	DN [mm]	Gasket
C-Steel	D-K; MAV	4 up to 8	Graphite, PTFE, Toroidal Ring
Cr-Ni-Steel	D-S; MAV	4 up to 8	Graphite, PTFE, Toroidal Ring
Cr-Ni-Mo-Steel	D-S; MAV	4 up to 8	Graphite, PTFE, Toroidal Ring
Duplex	D-S; MAV	4 up to 8	Graphite, PTFE, Toroidal Ring
Monel	D-S; MAV	4 up to 8	Graphite, PTFE, Toroidal Ring
Creep resistant Steel	D-W, MAV	4 up to 8	Graphite, PTFE, Toroidal Ring
Brass	D-M; MAV	4 up to 8	Graphite, PTFE, Toroidal Ring

Approval Standard

- Regulations for the Performance of Type Tests, Part 6-Test Requirements for Mechanical Components and Equipment.

Documents

- Technical data sheet WS-32-024 / 96
- ISO 9001
- DNVGL-Ref.-Nr.: 13-014294

Remarks

- TECHNICAL DATA, MARKING, PRODUCTION PLACE and RANGE OF APPLICATION see page 2.

Valid until **2019-08-04**

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File No. **XI.B.01**

**Hamburg, 2014-08-25**

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## TECHNICAL DATA

Table 1 / Pressure reduction factors at elevated temperatures

Temperature °C	Carbon steels unalloyed	Low alloyed steels	Stainless steels
20	1.00	1.00	1.00
50	1.00	1.00	0.95
100	1.00	1.00	0.85
150	0.89	0.93	0.77
200	0.81	0.87	0.71
250	0.72	0.81	0.67
300	0.65	0.75	0.63
350	0.59	0.69	0.60
400	0.54	0.63	0.58
450	0.50	0.57	0.57
500	N/A	0.52	0.56
550	N/A	N/A	0.55
600	N/A	N/A	0.50

Generally the following maximum metal temperatures will be accepted in connection with type approval:

- Carbon steels, unalloyed: - 40°C up to +450°C
- Low alloyed Mo-steels: - 30°C up to +500°C
- Low alloyed CrMo-steels: - 40°C up to +550°C
- Stainless steels 304L, 316L and 316Ti: - 55°C up to +400°C
- Stainless steels 304, 316 and 321: -55°C up to +600°C

## MARKING

Each device shall be legible and durable marking on the body or on a plate fixed securely to the body as follows:

- Manufacturer's Mark • Type • Nominal Diameter • Nominal Pressure •

## PRODUCTION PLACE

Armaturen- und Metallwerke  
Zöblitz GmbH  
Bahnhofstr. 16  
09496 Marienberg  
GERMANY

## RANGE OF APPLICATION

The above mentioned shut-off valves may be used on ships or other structures classed or intended for Classification with this Society under consideration of the GL Rules I-Ship Technology, Part 1, Chapter 2, Section 11 as applicable.

- The selection of the devices for the corresponding service and the right installation are to be in accordance with the instruction of the manufacturer.

Valid until **2019-08-04**

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Hamburg, **2014-08-25**

**DNV GL**

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