

TYPE APPROVAL CERTIFICATE

This is to certify:

That the **Ball Valve**

with type designation(s)
47 Series

Issued to

Habonim Industrial Valves and Actuators Ltd.
Kfar ha-Nasi, Israel

is found to comply with

DNV class programme DNV-CP-0186 – Type approval – Valves
DNV-OS-D101 – Marine and machinery systems and equipment, Edition July 2021
DNV rules for classification – Ships Pt.4 Ch.6 Piping systems

Application :

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

Temperature range: See certificate
Max. working press.: See certificate
Sizes: DN 8 to DN 150

Issued at **Høvik** on **2023-05-25**

This Certificate is valid until **2028-05-24**.

for **DNV**

DNV local unit: **Haifa**

Approval Engineer: **Jane Lozanov**

Zeinab Sharifi
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.

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 300,000 USD.



Product description

Three pieces floating ball valve design according to ASME B16.34.

Size	Maximum working pressure (class)	Inside diameter (mm)	Min. wall thickness (mm)
DN 8	900	22	5.6
DN 15	900	22	5.6
DN 20	900	27	6.4
DN 25	900	36.5	7
DN 32	900	46	7.6
DN 40	900	55	8.3
DN 50	900	65	9.3
DN 65	600	89	8.7
DN 80	400*	110	8.7
DN 100	400*	141	10.2
DN 100	300	159	9.7
DN 150	300	189	10.7

*Class 400 is intermediate rating class and linear interpolation according to ASME B16.34 is required.

Valve body minimum thickness according to ASME B16.34 table 3A.

Minimum wall thickness for socket welding and threaded ends shall be in accordance with ASME B16.34 table 4.

End connections: flange according to ASME B16.5

welded according to ASME B16.25

threaded according to ASME B16.11

Body, steam, ends, ball		Design temperature
ASME A216 WCB	Casting 1.1 group	-29°C to 260°C
ASME A351 CN7M	Casting 3.17 group	-55°C to 260°C
ASME A351 CK3MCuN	Casting 2.8 group	-55°C to 260°C
ASME A494 CW-12MW	Casting 3.15 group	-55°C to 260°C
ASME A494 M-35-1	Casting 3.4 group	-55°C to 260°C
ASME A995 CD3MWCuN 6A	Casting 2.8 group	-46°C to 260°C
ASME A995 CD4MCuN 1B	Casting 2.8 group	-46°C to 260°C
ASME A479 316L	Bar 2.3 group	-55°C to 260°C
ASME B574 N06022	Bar 3.8 group	-55°C to 260°C

Bolts material: carbon steel, ISO 898 8.8 and 10.9

stainless steel, ISO 3506 A2-70 and A4-80

Application/Limitation

Pressure-temperature ratings shall be in accordance with the design standard for the selected metallic material of the valve, also limited to the temperature ranges for sealings as following:

AF801 VIRGIN PEEK	-55°C to 260°C
PE1000 - Polyethylene 1000	-55°C to 80°C
Dyneon TFM 1600 PTFE:	-55°C to 260°C
PVDF - Polyvinylidene fluoride:	-50°C to 140°C
Kel-F (PCTFE):	-55°C to 132°C
PTFE+25%Carbon - teflon carbon filled	-55°C to 260°C
V733 FKM Viton:	-20°C to 250°C
POM-H - polyacetal homopolymer:	-50°C to 90°C
PTFE:	-55°C to 190°C

Valves covered by this certificate may be used in general machinery service.

The approval does not include actuator and/or other equipment for remote control of the valves.

Materials for pressure equipment shall meet the requirements given in relevant chapters of DNV-SHIP-RU Pt.2 Ch.2.

Materials and material protection chosen for the specific system shall be suitable for the intended medium and environmental conditions. Valves of austenitic stainless steel shall not be used in direct contact with seawater.

EPDM may not be used for hydrocarbon services. (if EPDM is used as a seat).

Threaded joints may not be used for piping systems conveying toxic or flammable media or services where fatigue, severe erosion or crevice corrosion is expected to occur.

Threaded joints in CO₂ systems shall be allowed only inside protected spaces and in CO₂ cylinder rooms.

Threaded joints with tapered thread are to be only allowed for:

- class I piping system, when outside diameter not more than 33.7 mm
- class II and class III piping systems, when outside diameter not more than 60.3 mm.

Threaded joints with parallel thread are only allowed for class III piping class systems when outside diameter is not more than 60.3 mm.

Socket welded joints and slip-on sleeve welded joints may be used for class I and II pipes with an outer diameter of 88.9 mm and less.

The valves covered by this certificate are not to be considered fire safe and therefore shall not be installed wherever fire safe application is required, e.g., as shut off or quick closing valves.

Type Approval documentation

Production Testing and Certification

Production Testing and Certification for the actual intended application shall follow the latest applicable edition of the Rules (as mentioned on the front page of this certificate).

Marking of product

Minimum marking requirements shall be as outlined in the valve design standard.

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 approval are complied with. Reference is made to DNV-CP-0338.