

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Butterfly Valves

with type designation(s)
DESPONIA, DESPONIA Plus

Issued to
INTERAPP VALCOM, S.A.
San Agustin del Guadalix, Madrid, Spain

is found to comply with
DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNVGL-OS-D101 – Marine and machinery systems and equipment, Edition January 2018
DNV GL class programme DNVGL-CP-0186 – Type approval – Valves

Application :

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

Type:	Temperature range:	Max. working press.:	Sizes:
DESPONIA	-55°C to +200°C (see page 2)	16 bar	DN 25 to 1600 mm
DESPONIA Plus	-55°C to +200°C (see page 2)	20 bar	DN 25 to 600 mm

Issued at **Høvik** on **2020-12-07**

for **DNV GL**

This Certificate is valid until **2024-09-11**.

DNV GL local station: **Madrid**

Approval Engineer: **Sarah Miller**

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 GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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.



Job Id: **262.1-019690-3**
 Certificate No: **TAP0000052**
 Revision No: **3**

Product description

Wafer, lug and flange type, elastomer lined, butterfly valves with soft seats according to EN 12516-1.

Type		Sizes
DESPONIA	D1 Wafer	DN25/32, 40, 50, 65, 80, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800, 900
	D3 Lug	DN25/32, 40, 50, 65, 80, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600
	D4 Flanged	DN150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 750, 800, 900, 1000, 1100, 1200, 1400, 1600
DESPONIA plus	DP1 Wafer	DN25/32, 40, 50, 65, 80, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600
	D3 Lug	300, 350, 400, 450, 500, 600

Part	Material	Designation	Standard
Body	Grey cast iron	EN-GJL-250	EN 1561
	Nodular cast iron (ferritic type)	EN-GJS-400-15	EN 1563
		EN-GJS-400-18U-LT	EN 1563
	Carbon Steel	WCA/WCB	ASTM A216
		1.0619	EN 10213
Stainless Steel	CF8M	ASTM A351M	
	1.4408	EN 10213	
Disc	Nodular cast iron (ferritic type)	EN-GJS-400-15	EN 1563
		EN-GJS-400-18U-LT	EN 1563
	Carbon Steel	WCA/WCB	ASTM A216
		1.0619	EN 10213
	Stainless Steel	CF8M	ASTM A351M
		1.4408	EN 10213
		1.4588	EN 10283
		1.4573	DIN SEW 410
Special Steel	Hastelloy "CW-12MW"	ASTM A-494	
Al-Bronze	C98500	ASTM B148	
Lining/Seat	Hypalon H, ECO EP, EPDM (E,EF,EE,EC), FLUCAST (FE,FN,FP,FT, XTREME), VITON (standard,VA,VD), NBR (White, Standard, Hydrogenated, GAS), Silicone (S, SA)		

Application/Limitation

Butterfly valves covered by this certificate are approved for use in ship piping and machinery piping systems. Maximum allowable pressure for the valve bodies is 16 bar for DESPONIA type and 20 bar for DESPONIA Plus type.

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

Working temperature ranges are dependent on material in lining and seat:

- HYPALON: -10°C to +100°C
- ECO EP -40°C to +90°C
- EPDM E/EE -20°C to +90°C
- EPDM EF -10°C to +90°C
- EPDM EC -20°C to +130°C
- FLUCAST FE -5°C to +90°C
- FLUCAST FN 0°C to +90°C
- FLUCAST FP -10°C to +70°C
- FLUCAST FT -5°C to +130°C
- FLUCAST XTREME -5°C to +200°C
- VITON Standard/VA/VD -5°C to +200°C
- NBR (White, Standard, Hydrogenated, GAS) -10°C to +90°C

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- Silicone (S, SA) -55°C to +200°C
EPDM may not be used for hydrocarbon services.

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.

Grey cast iron (EN-GJL-250):

- shall not to be used for piping subject to pressure shock, excessive strains and vibration
- shall not be used for class I and II piping with the following exceptions:
 - valves in hydraulic piping systems where failure would not render the system inoperative or introduce a fire risk
- may be used for class III piping, with the following exceptions:
 - valves fitted on ship sides and bottom and on sea chests
 - valves fitted on collision bulkhead
 - valves under static head fitted on the external wall of fuel tanks, lub. oil tanks and tanks for other flammable oils
 - valves for fluids with temperatures in excess of 120°C.

Nodular cast iron of the ferritic type (EN-GJS-400-15 & EN-GJS-400-18U-LT), with specified minimum elongation of 12%, may be used in class II and III piping and in pipes and valves located on the ship's side and bottom and valves on the collision bulkhead. Maximum temperature is limited to +350°C.

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

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.

The valves covered by this certificate shall not be used in LNG//LPG applications.

Type Approval documentation

Technical data sheet Desponia sizes DN25 – 1600

Calculations following EN 12516

DNV test report MAD 03-004 dated 2003-02-14

DNV GL witnessed test report, dated 2015-08-31

Assembly drawing (DESPONIA):

D3 25-32-EL, D3 450-600-EL, D4 1400-EL, D1 250-400-EL, D3 40-EL, D4 150-400-EL, D4 1600-EL
D1 450-700-EL, D3 50-200-EL, D4 450-700-EL, D1 25-32-EL, D1 800-1000-EL, D3 250-400-EL, D4 750-1200-EL, D1 40-200-EL

Body drawings – lug type (DESPONIA):

6215,6269,6363,6443,6225,6272,6366,6447,6227,6338,6409,6490,6228,6361,6441,6536

Body drawings U-shape (DESPONIA):

6276,6327,6453,6465,6279,6332,6457,CHK-4080,6311,6337,6459,6316,6356,6461,6321,6451,6463

Body drawings wafer (DESPONIA):

6167,6190,6199,6243,6169,6191,6200,6262,6171,6192,6207,6287,6173,6193,6232,6290,6184,6198,6240,6299

Disc drawings (DESPONIA):

4518,4993,6136,DI.DE0080.001,4768,4994,6156,DI.DE0100.001,4774,4995,DI.DE0032.001,DI.DE0125,001,4792,4996,DI.DE0040.001,DI.DE0150.001,4821,5102,DI.DE0050.001,DI.DE0200.001,4829,6122,DI.DE0065.001

Shaft drawings (DESPONIA):

6059,6213,6206,6064,6142,6223,6209,6065,6175,6052,6211,6066,6179,6143,6214,6067,6194,6176,6224,6068,6196,6180,6537,6100,6203,6195,6044,6101,6205,6197,6058,6102,6208,6204,6062,6103,6210,6063

Assembly drawing (DESPONIA PLUS):

8239,8240,8248,8249,8250,8251

Part drawings (DESPONIA PLUS):

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7326,7730,7330,7731,7333,7732,7759,7335,7733,7764,7339,7734,7769,7342,7735,7774,7346,7736,
7779,7350,7737,7787,7401,7738,7792,4993,7474,7739,7801,4994,7361,7740,7808,4995,6103,7741,
7816,4996,6068,7742,7744,4768,6142,6143,6231,6354,4774,6175,6176,6239,6268,6179,6180,6271,
6286,8106
DI.DE0032(04), DI.DE0040(04), DI.DE0050(04), DI.DE0065(04), DI.DE0080(04), DI.DE0100(04),
DI.DE0125(03), DI.DE0150(02), DI.DE0200(03)

Production Testing

Each valve body shall be subjected to:

- hydrostatic pressure test at 1.5 times the maximum working pressure at room temperature.
- seat leakage testing at 1.1 times the maximum working pressure in the valve flow direction.

Testing shall follow procedures and acceptance criteria in EN12266-1 (leakage rate A).

Certification

The Society's product certificates are required for valves with $DN > 100$ mm having a design pressure, $p > 16$ bar and for ship side valves with $DN > 100$ mm regardless of pressure rating. For other valves, works certificate will be accepted.

Valve bodies shall be delivered with material certificates in accordance with DNVGL-RU-SHIP Pt.4 Ch.6 Sec.2 Table 3. Approval of manufacturer is required for VL and W material certificates.

Marking of product

For traceability to this type approval the valves are to be marked as a minimum with:

- manufacturer's name or trade mark
- valve type designation
- size
- maximum design pressure and temperature
- arrow to indicate direction of flow

Periodical assessment

For retention of the Type Approval, a DNV GL 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 DNVGL-CP-0338.