

**TYPE APPROVAL CERTIFICATE****This is to certify:****That the Butterfly Valves**with type designation(s)  
**DESPONIA**

Issued to

**INTERAPP VALCOM, S.A.**  
**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 July 2015**  
**Det Norske Veritas' Standards for Certification 2.9 No. 5-794.40****Application :****Butterfly valves approved for use in ship piping and machinery piping systems according to DNV GL Ship Rules Pt.4 Ch.6.****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Temperature range:** Dep. on seat matr., see cert.  
**Max. working press.:** 2,5 - 6 - 10 - 16 bar (see cert.)  
**Sizes:** DN 25 to 1600 mm (see cert.)This Certificate is valid until **2020-11-12**.Issued at **Høvik** on **2015-11-13**DNV GL local station: **Madrid**Approval Engineer: **Simon Ratcliffe**for **DNV GL**.....  
**Marianne Spæren Marveng**  
**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.

## Product description

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

Type designations, flange type and sizes:

Type	Sizes
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

Material:

Body:

Cast iron GG-25, DIN 1691,  
Nodular cast iron GGG-40/40.3 acc. DIN 1693

Disc:

Nodular cast iron GGG-40/40.3 acc. DIN 1693  
Stainless steel WNo. 1.4408 acc. DIN 14408, or CF-8M acc. ASTM A351M  
Carbon Steel WNo. 1.0619 acc. DIN 1.0619, or WCA / WCB acc. ASTM A216M  
AlBronze WNo. 1.714 acc. ASTM B148 - 958  
Special steel "URANUS B6", acc. DIN 14539  
Special steel "HASTELLOY C", acc. DIN 24686

Lining / Seat:

EPDM (ord, White and KP), Nitrile (ord. and White), Silicone, Hypalon, Viton

## Application/Limitation

Maximum allowable pressure for the valve bodies is 16 bar, or limited by the connecting flange rating where lower.

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

Maximum working temperatures dependent on material in lining and seat:

- EPDM 95 °C
- EPDM White 95 °C
- EPDM HT 130 °C
- NBR 100 °C
- Silicone 200 °C
- Hypalon 125 °C
- Viton 210 °C

Valves having EPDM lining are not to be used for hydrocarbon service.

### Restrictions on grey cast iron

The valves shall not to be used in piping subject to pressure shock, excessive strains and vibration.

Grey cast iron shall not be used for class I and II piping with the following exceptions:

- components in hydraulic piping systems where failure would not render the system inoperative or introduce a fire risk.
- pump and filter housings in fuel and lubrication oil systems where the design temperature does not exceed 120°C.

Grey cast iron 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, lube oil tanks and tanks for other flammable oils
- valves for fluids with temperatures in excess of 120°C.
- for media having a temperature below 0°C

## 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 drawings

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

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

### Body drawings U-shape

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

### Body drawings wafer

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

### Disc drawings

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

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	

## Tests carried out

N/A

## Production testing

The valve housing of each valve shall be subjected to a hydrostatic pressure test at minimum 1.5 times the design pressure. The test pressure need not be more than 70 bar in excess of the design pressure.

Holding time and acceptance criteria: according to EN 12266-1.

The valve assembly shall be subjected to a hydrostatic seat leakage test. The test pressure shall at least be equal to the design pressure. The test shall be performed with closed valve with the other end open to atmosphere. The pressure shall be applied independently on each side of the closed disc.

Holding time and acceptance criteria: according to EN 12266-1.

## Certification

Valves shall be delivered with material certificates in accordance with DNV GL Ship Pt.4 Ch.6 Sec.2 Table 3.

DNV GL 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 manufacturers certificate may be accepted.

## Marking of product

For traceability to this type approval, each valve is to be marked with:

- Manufacturer's name:
- Type designation
- Size
- Max. design pressure(s) or pressure class
- Direction of flow
- Serial numbers on each valve, as relevant

## Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform a survey - every second year and before the expiry date of this certificate - to verify that the conditions for the type approval are complied with.