

TYPE APPROVAL CERTIFICATE

Certificate No:
TAP000017F
Revision No:
2

This is to certify:

That the Pipe System with Couplings

with type designation(s)
RM DRAIN

Issued to

RACCORDERIE METALLICHE S.P.A.
Campitello di Marcaria MN, Italy

is found to comply with

DNV rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV-OS-D101 – Marine and machinery systems and equipment, Edition July 2021
DNV class programme DNV-CP-0185 – Type approval – Mechanical joints

Application :

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

Temperature range: -20°C to +120°C
Max. pressure: +0.5 bar (without socket clamps) / vacuum pressure: 0.97 bar
Design: Slip type

Issued at **Høvik** on **2023-01-12**

for **DNV**

This Certificate is valid until **2028-01-11**.

DNV local station: **Italy/Malta CMC**

Approval Engineer: **Andreas Hansen**

Bosman van der Merwe
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

Pipes with slip-on fittings (slip type), made of stainless steel AISI 316L with EPDM o-rings

Fitting configurations: 802, 803, 804/87, 804/45, 804/30, 804/15, 805/T, 805/87, 805/45, 805/30, 805/15, 806, 807, 807/R, 808/87, 808/45, 809, 810, 811/87, 811/45, 812, 813, 814/87, 814/45, 815/87, 816/45, 817, 818, 819/000, 819/001, 819/002, 819/004, 820/S, 821/PN16, 822/PN6, 822/PN16, 819/003, 827, 820/PN6, 820/PN16, 820/I, 820/R, 820/F, 821/PN6, 823/F1, 823/M1, 823/M2, 823/M3, 823/M4, 825/G, 825/V, 825/O1, 825/O2, 825/O3, 825/O4, 825/O5, 825/O6Q, 825/O6C, 825/O7Q, 825/O7C, and 820/P.

Application/Limitation

The pipe system may be used for non-essential fresh water gravity-flow systems and vacuum sanitary discharge systems above freeboard deck and in enclosed spaces below.

The pipe system with material AISI 316L, should not be considered suitable for use in seawater systems.

Pipe penetrations through watertight bulkheads, fire bulkheads or shell plating shall be approved in each separate case. When penetrating a watertight bulkhead there shall be remotely operated valves secured to each bulkhead. The valves and control system shall be located outside the damage zone of the ship.

The components are to be mounted according to manufacturer's instructions. The approval is only valid when the couplings are assembled with tubing of correct temper and tolerances as recommended by the manufacturer.

The piping system is subject to a hydraulic pressure test to 1.5 times maximum allowable working pressure after assembly on board.

Nominal diameter of pipe :

Nominal size	Wall thickness of pipe	Max working pressure	Burst pressure
DN40	1 mm	0.5 bar	2 bar
DN50	1 mm	0.5 bar	2 bar
DN65	1.25 mm	0.5 bar	2 bar
DN80	1.25 mm	0.5 bar	2 bar
DN100	1.25 mm	0.5 bar	2 bar
DN125	1.5 mm	0.5 bar	2 bar
DN150	1.5 mm	0.5 bar	2 bar

The listed pressures are without socket clamp.

Type Approval documentation

Document no.	Title	Rev.	Date
RP-052-17	Burst pressure test report witnessed by DNV GL Surveyor	-	2017-11-20
-	Manufacturer data sheet	-	-
-	DNV Test report for RM drain, witnessed by DNV surveyor	-	2013-10-10
RP021-19	Burst test report for DN125 and DN150	-	2019-07-23
RP-029-22	Renewal burst test report, witnessed by DNV surveyor	-	2022-07-18

Tests carried out

Burst test, vacuum test, leakage test

Marking of product

For traceability to this type approval the pipe system is to be marked with:

- Manufacturer's name or trademark
- Type designation

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.