



# TYPE APPROVAL CERTIFICATE

Certificate no.:  
**TAP000003B**  
Revision No:  
**3**

**This is to certify:**  
**that the Gaskets and Sealings**

with type designation(s)  
**DeltaV-Seal**

issued to  
**Pipeotech AS**  
**Akland, Norway**

is found to comply with  
**ASME B16.20-2023, Metallic Gaskets for Pipe Flanges**  
**EN 1514-2:2014+A1:2021 Flanges and their joints – Gaskets for PN-designated flanges – Part 2: Spiral wound gaskets for use with steel flanges**

## Application:

**Temperature range:** See cert.  
**Max. working press.:** See cert.  
**Design:** Metallic gasket  
**Sizes:** 1/2" - 24" / DN15 - DN600

Issued at **Høvik** on **2024-10-17**

for **DNV**

This Certificate is valid until **2029-10-15**.

DNV local unit: **Kristiansand S**

Approval Engineer: **Per Ola Nymo**

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

Delta-V Seal metallic gaskets with outside diameters and inside/outside diameter tolerances according to the following standards:

- ASME B16.20 to be used in the ASME B16.5 flanges
- EN 1514-2 to be used in the EN 1092-1 flanges

### Flange Size:

ASME B16.5: ½", ¾", 1", 1¼", 1½", 2", 2½", 3", 3½", 4", 5", 6", 8", 10", 12", 14", 16", 18", 20", 24"

EN 1092-1: DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80, DN100, DN125, DN150, DN200, DN250, DN300, DN350, DN400, DN450, DN500, DN600

### Materials:

Carbon steel	EN 10025-2	S235, S275, S355
Stainless steel	EN10028-7	1.4401, 1.4404, 1.4432, 1.4435

## Application/Limitation

Pressure classes/ratings permitted based on the flange standards:

ASME B16.5	Class 150, Class 300
EN 1092-1	PN6, PN10, PN16, PN25, PN40

The metal seal is considered to be Fire safe according to API 6FB for the flange assembly with size: 6", Class 300 and seal material of SS316L.

The Tightness and Leakage tests have been performed respectively according to VDI 2440 and EN 13555 for the flange assembly of DN40/PN40.

This approval has not covered the gasket recommended bolt torque values.

This Type Approval certificate is not valid for designs, components, equipment, systems or products which are subject to classification by DNV.

## Type Approval documentation

<i>Doc ref.</i>	<i>Rev</i>	<i>Description</i>
		DVS datasheet ANSI/ASME B16.5, March 2015
		DVS datasheet DIN/EN, March 2015
DVS-111-X0-006	01	DVS EN1514-2 DN40 PN40
DVS-112-X0-030	01	DVS 4" ASME B16.20 Class 300
DVS-112-X0-032	01	DVS 6" ASME B16.20 Class 300
DVS-113-D0-002	2	Bolt Torque Test Report 1"
DVS-113-D0-003	2	Bolt Torque Test Report 2"
DVS-113-D0-004	2	Bolt Torque Test Report 4"
DVS-113-D0-007	1	No leakage test report 1", 6" #300, dated 2015-02-03
DVS-113-D0-007_1	1	No leakage test report 12", dated 2015-03-13
DVS-113-D0-008	1	Burst pressure test report 1", 6" #300, dated 2015-02-03
DVS-113-D0-008_1	1	Burst pressure test report 12", dated 2015-03-13
DVS-113-D0-010	1	No leakage test – with damaged flange 2" #300, dated 2014-12-09
DVS-113-D0-011	1	Vibration test report 1" #300, dated 2015-05-05
DVS-113-D0-012	1	Vibration test report 6" #300, dated 2015-04-13
DVS-113-D0-013	1	Vibration test report 12" #300, dated 2015-08-30
DVS-113-D0-014	1	Pressure pulsation test report 1" #300, dated 2015-05-06
DVS-113-D0-015	1	Pressure pulsation report 6" #300, dated 2015-04-13
DVS-113-D0-016	1	Pressure pulsation test 12" #300, dated 2015-08-30
DVS-113-F0-001	5	Part list – dimensions for DeltaV-Seal
DVS-112-X0-023	01	DVS 1" ASME B16.20 Class 300
DVS-112-X0-032	01	DVS 6" ASME B16.20 Class 300
DVS-112-X0-035	01	DVS 12" ASME B16.20 Class 300

### Tests carried out

Bolt torque test (1", 2", 4"), leakage and burst test (1", 6", 12"), pressure pulsation and vibration test (1", 6", 12"), damaged flange leakage test (2"), Fire Test (6"), Tightness and Leakage tests (DN40/PN40) according to VDI 2440 and EN 13555.

### Marking of product

Each gasket is to be marked with:

- The manufacturer's name or trademark;
- Gasket material;
- DN or NPS size designation;
- PN or pressure rating class.

### Periodical assessment

This certificate is only valid if required periodical assessments are carried out with satisfactory results.

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.

To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>.