



TYPE APPROVAL CERTIFICATE

Certificate no.:
TAE00003VR
Revision No:
2

This is to certify:
that the Cable Gland

with type designation(s)
WADI one, WADI one EMC

issued to
Jacob GmbH Elektrotechnische Fabrik
Kernen im Remstal, Baden-Württemberg, Germany

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application:

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

Material	Metallic
Suitable for open deck	Yes
Suitable for Hazardous areas	No

Issued at **Høvik** on **2023-12-15**

for **DNV**

This Certificate is valid until **2028-10-17**.

DNV local unit: **Augsburg**

Approval Engineer: **Maik Gagern**

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

Cable glands type: WADI one
 WADI one EMC
 several series according to Type code designation

Gland size ranges: M12x1,5
 M16x1,6
 M20x1,5
 M25x1,5
 M32x1,5
 M40x1,5
 M50x1,5
 M63x1,5
 Connecting thread metric, as per EN 60423
 (IEC 60423:2007)

Classification according to IEC 62444

6.1 Material	Metallic Brass (nickel plated) Brass lead-free (nickel plated) Stainless steel 1.4305 Stainless steel 1.4404
6.2.1 Mechanical properties non-armoured cable	M12x1,5 to M63x1,5: Anchorage Type A over the whole clamping ranges, M12x1,5 to M63x1,5: Anchorage Type B for defined clamping ranges, according VDE Test Report
6.2.2 Mechanical properties armoured cable	no
6.2.3 Impact category	M12x1,5 Category 6 M16x1,5 to M63x1,5 Category 7
6.3 Electrical properties	Not declared
6.4.1 Degree of protection	M12x1,5: IP66 / IP68 - 15 bar (30 min.) / IP69 M16x1,5: IP66 / IP68 - 15 bar (30 min.) / IP69 M20x1,5: IP66 / IP68 - 15 bar (30 min.) / IP69 M25x1,5: IP66 / IP68 - 10 bar (30 min.) / IP69 M32x1,5: IP66 / IP68 - 10 bar (30 min.) / IP69 M40x1,5: IP66 / IP68 - 10 bar (30 min.) / IP69 M50x1,5: IP66 / IP68 - 5 to 10 bar (30 min.) / IP69 M63x1,5: IP66 / IP68 - 15 bar (30 min.) / IP69 According VDE Test Report
6.4.2 Temperature range	-40 °C / +100 °C
6.4.3 Resistance to UV light	Resistant The metallic materials listed under 6.1 are resistant to UV light
6.5 Sealing system	With a single-orifice seal (see also Jacob Type code designation, Variations sealing insert)

Additional accessories

Locknuts:

Hexagonal locknuts are necessary for mounting in the cable glands in clearance holes.

Hexagonal locknuts Type / series 50.2xx M, 50.2xx Y, 50.2xx YPOT, 50.2xx ES

Nomenclature / Type code designation:

xx = place holder for connecting thread size „12“, „16“, „20“, „25“, „32“, „40“, „50“, „63“;

Inner thread M12x1,5 to M63x1,5 / metric, as per EN 60423 (IEC 60423:2007)

Product description / Type code designation:

WADI one cable gland

WADI one EMC cable gland

Serie K150-1xxx-zz
 K151-1xxx-zz
 K250-1xxx-zz
 K251-1xxx-zz
 K252-1xxx-zz
 K253-1xxx-zz
 K450-1xxx-zz
 K451-1xxx-zz

Werkstoff:
 Material:

Messing Brass	1
Edelstahl Stainless steel	2
Messing bleifrei Brass lead-free	4

EMV-Variante:
 EMC version:

ohne EMV without EMC	50, 52
mit EMV with EMC	51, 53

Größe:
 Size:

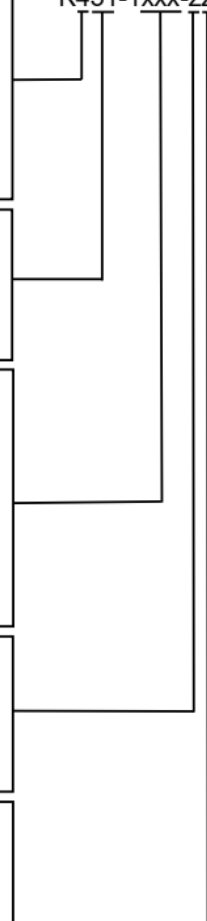
M12x1,5	012
M16x1,5	016
M20x1,5	020
M25x1,5	025
M32x1,5	032
M40x1,5	040
M50x1,5	050
M63x1,5	063

Anschlussgewindelänge:
 Connecting thread length:

Standard standard	0
lang long	5

Varianten Dichteinsatz:
 Variations sealing insert:

mit komplettem Dichteinsatz with complete sealing insert	0
nur Dichteinsatz-Außenteil sealing insert outer part only	1
mit komplettem Dichteinsatz und integrierter Staubschutzscheibe with complete sealing insert and integrated dust cap	5



Several series according Type code designation

Type		Material	Suitable for open deck	Suitable for Hazardous areas
WADI one	K150-1xxx-00	Brass (nickel plated)	Yes	n/a
WADI one	K150-1xxx-01	Brass (nickel plated)	Yes	n/a
WADI one	K150-1xxx-05	Brass (nickel plated)	Yes	n/a
WADI one	K150-1xxx-50	Brass (nickel plated)	Yes	n/a
WADI one	K150-1xxx-51	Brass (nickel plated)	Yes	n/a
WADI one	K150-1xxx-55	Brass (nickel plated)	Yes	n/a
WADI one EMC	K151-1xxx-00	Brass (nickel plated)	Yes	n/a
WADI one EMC	K151-1xxx-01	Brass (nickel plated)	Yes	n/a
WADI one EMC	K151-1xxx-05	Brass (nickel plated)	Yes	n/a
WADI one EMC	K151-1xxx-50	Brass (nickel plated)	Yes	n/a
WADI one EMC	K151-1xxx-51	Brass (nickel plated)	Yes	n/a
WADI one EMC	K151-1xxx-55	Brass (nickel plated)	Yes	n/a
WADI one	K250-1xxx-00	Stainless steel 1.4305	Yes	n/a
WADI one	K250-1xxx-01	Stainless steel 1.4305	Yes	n/a
WADI one	K250-1xxx-05	Stainless steel 1.4305	Yes	n/a
WADI one	K250-1xxx-50	Stainless steel 1.4305	Yes	n/a
WADI one	K250-1xxx-51	Stainless steel 1.4305	Yes	n/a
WADI one	K250-1xxx-55	Stainless steel 1.4305	Yes	n/a
WADI one EMC	K251-1xxx-00	Stainless steel 1.4305	Yes	n/a
WADI one EMC	K251-1xxx-01	Stainless steel 1.4305	Yes	n/a
WADI one EMC	K251-1xxx-05	Stainless steel 1.4305	Yes	n/a
WADI one EMC	K251-1xxx-50	Stainless steel 1.4305	Yes	n/a
WADI one EMC	K251-1xxx-51	Stainless steel 1.4305	Yes	n/a
WADI one EMC	K251-1xxx-55	Stainless steel 1.4305	Yes	n/a
WADI one	K252-1xxx-00	Stainless steel 1.4404	Yes	n/a
WADI one	K252-1xxx-01	Stainless steel 1.4404	Yes	n/a
WADI one	K252-1xxx-05	Stainless steel 1.4404	Yes	n/a
WADI one	K252-1xxx-50	Stainless steel 1.4404	Yes	n/a
WADI one	K252-1xxx-51	Stainless steel 1.4404	Yes	n/a
WADI one	K252-1xxx-55	Stainless steel 1.4404	Yes	n/a
WADI one EMC	K253-1xxx-00	Stainless steel 1.4404	Yes	n/a
WADI one EMC	K253-1xxx-01	Stainless steel 1.4404	Yes	n/a
WADI one EMC	K253-1xxx-05	Stainless steel 1.4404	Yes	n/a
WADI one EMC	K253-1xxx-50	Stainless steel 1.4404	Yes	n/a
WADI one EMC	K253-1xxx-51	Stainless steel 1.4404	Yes	n/a
WADI one EMC	K253-1xxx-55	Stainless steel 1.4404	Yes	n/a
WADI one	K450-1xxx-00	Brass lead-free (nickel plated)	Yes	n/a
WADI one	K450-1xxx-01	Brass lead-free (nickel plated)	Yes	n/a
WADI one	K450-1xxx-05	Brass lead-free (nickel plated)	Yes	n/a
WADI one	K450-1xxx-50	Brass lead-free (nickel plated)	Yes	n/a
WADI one	K450-1xxx-51	Brass lead-free (nickel plated)	Yes	n/a
WADI one	K450-1xxx-55	Brass lead-free (nickel plated)	Yes	n/a
WADI one EMC	K451-1xxx-00	Brass lead-free (nickel plated)	Yes	n/a
WADI one EMC	K451-1xxx-01	Brass lead-free (nickel plated)	Yes	n/a
WADI one EMC	K451-1xxx-05	Brass lead-free (nickel plated)	Yes	n/a
WADI one EMC	K451-1xxx-50	Brass lead-free (nickel plated)	Yes	n/a
WADI one EMC	K451-1xxx-51	Brass lead-free (nickel plated)	Yes	n/a
WADI one EMC	K451-1xxx-55	Brass lead-free (nickel plated)	Yes	n/a
Locknut	50.2xx M	Brass (nickel plated)	Yes	n/a
Locknut	50.2xx Y	Brass lead-free (nickel plated)	Yes	n/a
Locknut	50.2xx YPOT	Brass lead-free (nickel plated)	Yes	n/a
Locknut	50.2xx ES	Stainless steel 1.4305	Yes	n/a

Application/Limitation

Manufacturer's installation description, instructions and DNV rules to be followed.

Not to be used in bulkheads/decks or for penetrating boundaries of tanks.

Suitable for open deck: Yes

Degree of protection will be safeguarded only when sealing and cable entry fittings are properly fitted.
The manufacturer's instructions must be followed.

Type Approval documentation

Test report: VDE Certificate No.: 40050445, dated 2019-07-22, updated 2022-01-31
File ref.: 715700-1492-0005 / 290746

Documents: Jacob GmbH data sheets, dated 2023

Tests carried out

Type tests in accordance with IEC 62444:2010

Marking of product



Jacob GmbH registered trademark (Letters WJ) on smallest packaging unit and / or on the product.
Type designation / size on smallest packaging unit

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE