DNV·GL

Certificate No:
TAE00003JK

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Cable Gland

with type designation(s)
Type 18.**.**, PROGRESS MS KB EX, MS T+KB EX, MS EMC KB EX, MS EX, MS EMC easy CONNECT, PROGRESS MS EX, MS Multi EX, MS EMC Rapid EX, MS EMC EX, EX Compact MS, EX Compact MS KB, EX Compact A2, EX Compact A4 KB, EX DAE, Locking plugs, Reductions MS EX, Extensions MS EX**

Issued to
AGRO AG
Hunzenschwil, AG, Switzerland

is found to comply with
DNV GL 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 GL.

Type	Material	Suitable for open deck	Suitable for Hazardous areas
Type 18.**.**.**	**Metallic**	**Yes**	**Yes**
PROGRESS MS KB EX, MS T+KB EX, MS EMC KB EX, MS EX, MS EMC easy CONNECT	**Metallic**	**Yes**	**Yes**
PROGRESS MS EX, MS Multi EX, MS EMC Rapid EX, MS EMC EX	**Metallic**	**Yes**	**Yes**
EX Compact MS, EX Compact MS KB, EX Compact A2, EX Compact A4 KB	**Metallic**	**Yes**	**Yes**
EX DAE	**Metallic**	**Yes**	**Yes**
Locking plugs, Reductions MS EX, Extensions MS EX	**Metallic**	**Yes**	**Yes**

Issued at **Hamburg** on **2019-09-23**
This Certificate is valid until **2024-09-22**.
DNV GL local station: **Augsburg**

Approval Engineer: **Uwe Supke**

for **DNV GL**

Arne Schaarmann
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.

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Product description

Type designation	Type 18**.**.** Cable glands nickel plated brass for flameproof enclosure entry thread: metric / Pg / Gas-pipe / NPT one-piece sealing insert, not overall length insulated IECEx PTB 12.0056 PTB 00 ATEX 1059
6.1 Material (Metallic, Non-metallic, composite)	Nickel plated brass CuZn39Pb3 Stainless steel A2
6.2 Mechanical properties (without or with cable anchorage – type A, B , impact category)	1)
6.3 Electrical properties (with electric continuity or insulating characteristics)	1)
6.4 Resistance to external influences	1)
6.4.1 IP class	IP68
6.4.2 Temperature range if different from -20C to +65C	-40°C up to +100°C
Gland sizes [mm]	M16-M63 Pg 9-Pg48 G3/8”-G2” NPT3/8”-NPT 1 ½”
Seal material	NBR
Ex certificates from accredited laboratory.	IECEx PTB 12.0056 PTB 00 ATEX 1059 1) Applied standards: EN 60079-0:2012 EN 60079-1:2007 EN 60079-31: 2009

Type designation	Locking plugs nickel plated brass for flameproof enclosure entry thread: metric / Pg IECEx PTB 12.0056 PTB 00 ATEX 1059
6.1 Material (Metallic, Non-metallic, composite)	Nickel plated brass CuZn39Pb3

6.2 Mechanical properties (without or with cable anchorage – type A, B , impact category)	1)
6.3 Electrical properties (with electric continuity or insulating characteristics)	1)
6.4 Resistance to external influences	1)
6.4.1 IP class	IP68
6.4.2 Temperature range if different from -20C to +65C	-40°C up to +100°C
Gland sizes [mm]	M12-M63 Pg 7-Pg36
Seal material	NBR
Ex certificates from accredited laboratory.	IECEx PTB 12.0056 PTB 00 ATEX 1059 1) Applied standards: EN 60079-0:2012 EN 60079-1:2007 EN 60079-31: 2009

Type designation	Locking ring nickel plated brass suitable for cable glands flameproof enclosure Ex d IIC entry thread: N/A IECEx PTB 12.0056 PTB 00 ATEX 1059
6.1 Material (Metallic, Non-metallic, composite)	Nickel plated brass CuZn39Pb3 Stainless steel A2
6.2 Mechanical properties (without or with cable anchorage – type A, B , impact category)	1)
6.3 Electrical properties (with electric continuity or insulating characteristics)	1)
6.4 Resistance to external influences	1)
6.4.1 IP class	N/A
6.4.2 Temperature range if different from -20C to +65C	-40°C up to +100°C
Gland sizes [mm]	Wrench size 20-45
Seal material	N/A

Ex certificates from accredited laboratory.	IECEx PTB 12.0056 PTB 00 ATEX 1059 Applied standards: EN 60079-0:2012 EN 60079-1:2007 EN 60079-31: 2009

Type designation	PROGRESS MS T+KB EX Cable glands PROGRESS nickel plated brass with trumpet and clamps increase safety Ex e II. long and short entry thread: metric / Pg two-piece sealing insert, not overall length insulated IECEx SEV 15.0018 SEV 15 ATEX 0151
6.1 Material (Metallic, Non-metallic, composite)	Nickel plated brass CuZn39Pb3 Stainless steel A2
6.2 Mechanical properties (without or with cable anchorage – type A, B , impact category)	1)
6.3 Electrical properties (with electric continuity or insulating characteristics)	1)
6.4 Resistance to external influences	1)
6.4.1 IP class	IP68
6.4.2 Temperature range if different from -20C to +65C	-40°C up to +100°C
Gland sizes [mm]	M16-M40 Pg 9-Pg29
Seal material	TPE / NBR
Ex certificates from accredited laboratory.	IECEx SEV 15.0018 SEV 15 ATEX 0151 1) Applied standards: EN 60079-0:2012 EN 60079-7:2015 EN 60079-31: 2014

Type designation	PROGRESS MS EMV KB EX EMC cable glands PROGRESS nickel plated brass with contact sleeve and clamps increase safety Ex e II short entry thread: metric / Pg one-piece sealing insert, not overall length

	insulated IECEx SEV 15.0018 SEV 15 ATEX 0151
6.1 Material (Metallic, Non-metallic, composite)	Nickel plated brass CuZn39Pb3 Stainless steel A2
6.2 Mechanical properties (without or with cable anchorage – type A, B , impact category)	1)
6.3 Electrical properties (with electric continuity or insulating characteristics)	1)
6.4 Resistance to external influences	1)
6.4.1 IP class	IP68
6.4.2 Temperature range if different from -20C to +65C	-40°C up to +100°C
Gland sizes [mm]	M16-M63 Pg 9-Pg48 M12 an Pg7 see PTB 02 ATEX 1126X
Seal material	TPE / NBR
Ex certificates from accredited laboratory.	IECEx SEV 15.0018 SEV 15 ATEX 0151 Applied standards: EN 60079-0:2012 EN 60079-7:2015 EN 60079-31: 2014

Type designation	PROGRESS MS KB EX Cable glands PROGRESS nickel plated brass with clamps increased safety Ex e II one-piece sealing insert, not overall length insulated short entry thread: metric / Pg PTB 02 ATEX 1125
6.1 Material (Metallic, Non-metallic, composite)	Nickel plated brass CuZn39Pb3 stainless steel A2
6.2 Mechanical properties (without or with cable anchorage – type A, B , impact category)	1)
6.3 Electrical properties (with electric continuity or insulating characteristics)	1)

6.4 Resistance to external influences	1)
6.4.1 IP class	IP68
6.4.2 Temperature range if different from -20C to +65C	-40°C up to +100°C
Gland sizes [mm]	M16-M63 Pg9-Pg48 M12 an Pg7 see PTB 02 ATEX 1126X
Seal material	TPE / NBR
Ex certificates from accredited laboratory.	IECEx SEV 15.0018 SEV 15 ATEX 0151 Applied standards: EN 60079-0:2012 EN 60079-7:2015 EN 60079-31: 2014

Type designation	Verschlusszapfen MS EX Locking screws nickel plated brass increase safety Ex e II entry thread: metric / Pg IECEx SEV 15.0018 SEV 15 ATEX 0151
6.1 Material (Metallic, Non-metallic, composite)	Nickel plated brass CuZn39Pb3
6.2 Mechanical properties (without or with cable anchorage – type A, B , impact category)	1)
6.3 Electrical properties (with electric continuity or insulating characteristics)	1)
6.4 Resistance to external influences	1)
6.4.1 IP class	IP68
6.4.2 Temperature range if different from -20C to +65C	-40°C up to +100°C
Gland sizes [mm]	M8-M63 Pg7-Pg48
Seal material	NBR
Ex certificates from accredited laboratory.	IECEx SEV 15.0018 SEV 15 ATEX 0151

	1) Applied standards: EN 60079-0:2012 EN 60079-7:2015 EN 60079-31: 2014

Type designation	PROGRESS MS EX Cable glands PROGRESS Cable nickel plated brass increased safety Ex e II long and short entry thread: metric / Pg one-piece sealing insert, not overall length insulated IECEx SEV 15.0019X SEV 15 ATEX 0152X
6.1 Material (Metallic, Non-metallic, composite)	Nickel plated brass CuZn39Pb3
6.2 Mechanical properties (without or with cable anchorage – type A, B , impact category)	1)
6.3 Electrical properties (with electric continuity or insulating characteristics)	1)
6.4 Resistance to external influences	1)
6.4.1 IP class	IP68
6.4.2 Temperature range if different from -20C to +65C	-40°C up to +100°C
Gland sizes [mm]	M8-M40 Pg7-Pg36
Seal material	TPE / NBR
Ex certificates from accredited laboratory.	IECEx SEV 15.0019X SEV 15 ATEX 0152X 1) Applied standards: EN 60079-0:2012 EN 60079-7:2015 EN 60079-31: 2014

Type designation	PROGRESS MS Multi EX Nickel plated cable glands PROGRESS for increased safety Ex e II with sealing insert for multiple cables short entry thread: metric / Pg one-piece sealing insert, not overall length insulated

	IECEx SEV 15.0019X SEV 15 ATEX 0152X
6.1 Material (Metallic, Non-metallic, composite)	Nickel plated brass CuZn39Pb3
6.2 Mechanical properties (without or with cable anchorage – type A, B , impact category)	1)
6.3 Electrical properties (with electric continuity or insulating characteristics)	1)
6.4 Resistance to external influences	1)
6.4.1 IP class	IP68
6.4.2 Temperature range if different from -20C to +65C	-40°C up to +100°C
Gland sizes [mm]	M12-M63 Pg9-Pg48
Seal material	TPE / NBR
Ex certificates from accredited laboratory.	IECEx SEV 15.0019X SEV 15 ATEX 0152X 1) Applied standards: EN 60079-0:2012 EN 60079-7:2015 EN 60079-31: 2014
Type designation	PROGRESS MS KB EX Cable glands PROGRESS nickel plated brass with clamps increased safety Ex e II short entry thread: metric / Pg one-piece sealing insert, not overall length insulated IECEx SEV 15.0018 SEV 15 ATEX 0151
6.1 Material (Metallic, Non-metallic, composite)	Nickel plated brass CuZn39Pb3 stainless steel A2
6.2 Mechanical properties (without or with cable anchorage – type A, B , impact category)	1)
6.3 Electrical properties (with electric continuity or insulating characteristics)	1)
6.4 Resistance to external influences	1)

6.4.1 IP class	IP68
6.4.2 Temperature range if different from -20C to +65C	-40°C up to +100°C
Gland sizes [mm]	M12 Pg7
Seal material	TPE / NBR
Ex certificates from accredited laboratory.	IECEx SEV 15.0018 SEV 15 ATEX 0151 Applied standards: EN 60079-0:2012 EN 60079-7:2015 EN 60079-31: 2014

Type designation	PROGRESS MS EMV Rapid EX Cable glands PROGRESS EMC Rapid nickel plated brass with contact disc increased safety Ex e II short entry thread: metric / Pg one-piece sealing insert, not overall length insulated IECEx SEV 15.0019X SEV 15 ATEX 0152X
6.1 Material (Metallic, Non-metallic, composite)	Nickel plated brass CuZn39Pb3 stainless steel A2
6.2 Mechanical properties (without or with cable anchorage – type A, B , impact category)	1)
6.3 Electrical properties (with electric continuity or insulating characteristics)	1)
6.4 Resistance to external influences	1)
6.4.1 IP class	IP68
6.4.2 Temperature range if different from -20C to +65C	-40°C up to +100°C
Gland sizes [mm]	M12-M32 Pg7-Pg29
Seal material	TPE / NBR
Ex certificates from accredited laboratory.	IECEx SEV 15.0019X SEV 15 ATEX 0152X Applied standards:

	EN 60079-0:2012 EN 60079-7:2015 EN 60079-31: 2014

Type designation	PROGRESS MS EMV EX EMC cable glands PROGRESS nickel plated brass with contact sleeve increased safety Ex e II short entry thread: metric / Pg one-piece sealing insert, not overall length insulated IECEx SEV 15.0019X SEV 15 ATEX 0152X
6.1 Material (Metallic, Non-metallic, composite)	Nickel plated brass CuZn39Pb3
6.2 Mechanical properties (without or with cable anchorage – type A, B , impact category)	1)
6.3 Electrical properties (with electric continuity or insulating characteristics)	1)
6.4 Resistance to external influences	1)
6.4.1 IP class	IP68
6.4.2 Temperature range if different from -20C to +65C	-40°C up to +100°C
Gland sizes [mm]	M8-M40 Pg7-Pg36
Seal material	TPE / NBR
Ex certificates from accredited laboratory.	IECEx SEV 15.0019X SEV 15 ATEX 0152X Applied standards: EN 60079-0:2012 EN 60079-7:2015 EN 60079-31: 2014
Type designation	PROGRESS MS EMV KB EX EMC cable glands PROGRESS nickel plated brass with contact sleeve and clamps increase safety Ex e II short entry thread: metric / Pg one-piece sealing insert, not overall length insulated IECEx SEV 15.0018 SEV 15 ATEX 0151

6.1 Material (Metallic, Non-metallic, composite)	Nickel plated brass CuZn39Pb3 Stainless steel A2
6.2 Mechanical properties (without or with cable anchorage – type A, B , impact category)	1)
6.3 Electrical properties (with electric continuity or insulating characteristics)	1)
6.4 Resistance to external influences	1)
6.4.1 IP class	IP68
6.4.2 Temperature range if different from -20C to +65C	-40°C up to +100°C
Gland sizes [mm]	M12 Pg 7
Seal material	TPE / NBR
Ex certificates from accredited laboratory.	IECEx SEV 15.0018 SEV 15 ATEX 0151 1) Applied standards: EN 60079-0:2012 EN 60079-7:2015 EN 60079-31: 2014

Type designation	Reduktion MS EX Reduction fittings nickel plated brass increased safety Ex e II entry thread: metric / Pg IECEx SEV 15.0018 SEV 15 ATEX 0151
6.1 Material (Metallic, Non-metallic, composite)	Nickel plated brass CuZn39Pb3
6.2 Mechanical properties (without or with cable anchorage – type A, B , impact category)	1)
6.3 Electrical properties (with electric continuity or insulating characteristics)	1)
6.4 Resistance to external influences	1)
6.4.1 IP class	IP68
6.4.2 Temperature range if different from -20C to +65C	-40°C up to +100°C
Gland sizes [mm]	M10-M63 / M8-M50

	Pg7-Pg48 / M8-M50
Seal material	NBR
Ex certificates from accredited laboratory.	IECEx SEV 15.0018 SEV 15 ATEX 0151 Applied standards: EN 60079-0:2012 EN 60079-7:2015 EN 60079-31: 2014

Type designation	Erweiterung MS EX Enlarging fittings nickel plated brass increased safety Ex e II entry thread: metric / Pg IECEx SEV 15.0018 SEV 15 ATEX 0151
6.1 Material (Metallic, Non-metallic, composite)	Nickel plated brass CuZn39Pb3
6.2 Mechanical properties (without or with cable anchorage – type A, B , impact category)	1)
6.3 Electrical properties (with electric continuity or insulating characteristics)	1)
6.4 Resistance to external influences	1)
6.4.1 IP class	IP68
6.4.2 Temperature range if different from -20C to +65C	-40°C up to +100°C
Gland sizes [mm]	M8-M50 / M10-M63 Pg7-Pg48 / M12-M63
Seal material	NBR
Ex certificates from accredited laboratory.	IECEx SEV 15.0018 SEV 15 ATEX 0151 1) Applied standards: EN 60079-0:2012 EN 60079-7:2015 EN 60079-31: 2014

Type designation	EX Compact MS nickel plated brass (EX Compact A2 Steel AISI 303) (EX Compact A4 Steel AISI 316L)

	increased safety Ex e II and flameproof enclosure Ex d IIC entry thread: Metric and NPT One-piece sealing insert, not overall length insulated IECEx PTB 12.0055X PTB 10 ATEX 1034X
6.1 Material (Metallic, Non-metallic, composite)	Nickel plated brass CuZn39Pb3 (EX Compact A2 Steel AISI 303) (EX Compact A4 Steel AISI 316L)
6.2 Mechanical properties (without or with cable anchorage – type A, B , impact category)	1)
6.3 Electrical properties (with electric continuity or insulating characteristics)	1)
6.4 Resistance to external influences	1)
6.4.1 IP class	IP68
6.4.2 Temperature range if different from -20C to +65C	-60°C up to +105°C
Gland sizes [mm]	M16 - M63 NPT 3/8” - NPT 2”
Seal material	HNBR / FPM
Ex certificates from accredited laboratory.	IECEx PTB 12.0055X PTB 10 ATEX 1034X 1) Applied standards: EN 60079-0 :2012 EN 60079-1 :2007 EN 60079-7 :2007 EN 60079-31 :2009

Type designation	EX Compact MS KB nickel plated brass (EX Compact A2 KB Steel 1.4305) (EX Compact A4 KB Steel 1.4435) increased safety Ex e II and flameproof enclosure Ex d IIC entry thread: Metric and NPT One-piece sealing insert, not overall length

	insulated IECEx SEV 17.0017 SEV 17 ATEX 0153
6.1 Material (Metallic, Non-metallic, composite)	Nickel plated brass CuZn39Pb3 (EX Compact A2 Steel 1.4305) (EX Compact A4 Steel 1.4435)
6.2 Mechanical properties (without or with cable anchorage – type A, B , impact category)	1)
6.3 Electrical properties (with electric continuity or insulating characteristics)	1)
6.4 Resistance to external influences	1)
6.4.1 IP class	IP68
6.4.2 Temperature range if different from -20C to +65C	-60°C up to +105°C
Gland sizes [mm]	M16 - M63 NPT 3/8” - NPT 2”
Seal material	HNBR / FPM
Ex certificates from accredited laboratory.	IECEx SEV 17.0017 SEV 17 ATEX 0153 2) Applied standards: EN 60079-0 :2012 EN 60079-1 :2014 EN 60079-7 :2015 EN 60079-31 :2014

Application/Limitation

For use in hazardous areas.
The information related to Ex-certification is given as information only.
Installations in hazardous areas to be carried out in accordance with manufacturer's instructions, special conditions given in the Ex-certificates and in accordance with DNVGL Rules.

Type Approval documentation

Tests carried out

Type tests by Physikalisch-Technische Bundesanstalt or Eurofins Electrosuisse Product Testing.
Refer to product description for each cable gland type for certificate number.

Marking of product

Agro – type designation and in accordance with the EC Type Examination certificate.

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 periodical assessment are:

- Inspection of factory samples, selected at random from the production line (where practicable)
- Results from production sample tests (PST) and routine tests (RT) to be checked (if not available tests according to PST and RT to be carried out)
- 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