

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Cable Gland

with type designation(s)

Type 18,**, PROGRESS MS T+KB EX, MS EMV KB EX, PROGRESS MS EX, MS Multi EX, MS KB EX, MS EMV Rapid EX, MS EMV EX, GFK EX, GFK Multi EX, EX Compact MS**

Issued to

Agro AG
Hunzenschwil, Switzerland

is found to comply with

Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards

Application :

Cable glands for hazardous areas.
Manufacturer's installation instructions to be followed.

This Certificate is valid until **2019-06-15**.

Issued at **Høvik** on **2015-06-16**

DNV GL local station: **Essen**

for **DNV GL**

Approval Engineer: **Hanwee Low**

Marit Laumann
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.

Job Id: **262.1-009078-2**
 Certificate No: **TAE000001K**

Product description

Classification according to EN60079-0:2006 / EN60079-1:2004 / EN61241-0:2006 / EN61241-1:2004:

Type designation	Cable glands nickel plated brass for flameproof enclosure Ex d IIC entry thread: metric / Pg / Gas-pipe / NPT one-piece sealing insert, not overall length insulated 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 1/2"
Seal material	NBR
Ex certificates from accredited laboratory.	PTB 00 ATEX 1059 1) Applied standards: EN60079-0:2006 EN60079-1:2004 EN61241-0:2006 EN61241-1:2004

Type designation	Locking screws nickel plated brass for flameproof enclosure Ex d IIC entry thread: metric / Pg PTB 00 ATEX 1059
6.1 Material (Metallic, Non-metallic, composite)	Nickel plated brass CuZn39Pb3
6.2 Mechanical properties (without or with cable	1)

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anchorage – type A, B , impact category)	
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.	PTB 00 ATEX 1059 1) Applied standards: EN60079-0:2006 EN60079-1:2004 EN61241-0:2006 EN61241-1:2004

Type designation	Locking ring nickel plated brass suitable for cable glands flameproof enclosure Ex d IIC entry thread: N/A 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.	PTB 00 ATEX 1059

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	1) Applied standards: EN60079-0:2006 EN60079-1:2004 EN61241-0:2006 EN61241-1:2004
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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 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-M40 Pg 9-Pg29
Seal material	TPE / NBR
Ex certificates from accredited laboratory.	PTB 02 ATEX 1125 1) Applied standards: EN60079-0:2006 EN60079-7:2007 EN61241-0:2006 EN61241-1:2004

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
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	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 Pg 9-Pg48 M12 an Pg7 see PTB 02 ATEX 1126X
Seal material	TPE / NBR
Ex certificates from accredited laboratory.	PTB 02 ATEX 1125 1) Applied standards: EN60079-0:2006 EN60079-7:2007 EN61241-0:2006 EN61241-1:2004

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)

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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.	PTB 02 ATEX 1125 1) Applied standards: EN60079-0:2006 EN60079-7:2007 EN61241-0:2006 EN61241-1:2004

Type designation	Verschlusszapfen MS EX Locking screws nickel plated brass increase safety Ex e II entry thread: metric / Pg PTB 02 ATEX 1125
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.	PTB 02 ATEX 1125 1) Applied standards:

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	EN60079-0:2006 EN60079-7:2007 EN61241-0:2006 EN61241-1:2004
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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 PTB 02 ATEX 1126X
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.	PTB 02 ATEX 1126X 1) Applied standards: EN60079-0:2006 EN60079-7:2007 EN61241-0:2006 EN61241-1:2004

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
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	PTB 02 ATEX 1126X
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.	PTB 02 ATEX 1126X 1) Applied standards: EN60079-0:2006 EN60079-7:2007 EN61241-0:2006 EN61241-1:2004
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 PTB 02 ATEX 1126X
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

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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.	PTB 02 ATEX 1126X 1) Applied standards: EN60079-0:2006 EN60079-7:2007 EN61241-0:2006 EN61241-1:2004

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 PTB 02 ATEX 1126X
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.	PTB 02 ATEX 1126X 1) Applied standards: EN60079-0:2006 EN60079-7:2007 EN61241-0:2006

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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 PTB 02 ATEX 1126X
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.	PTB 02 ATEX 1126X 1) Applied standards: EN60079-0:2006 EN60079-7:2007 EN61241-0:2006 EN61241-1:2004
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 PTB 02 ATEX 1126X
6.1 Material (Metallic, Non-metallic, composite)	Nickel plated brass CuZn39Pb3 Stainless steel A2

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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.	PTB 02 ATEX 1126X 1) Applied standards: EN60079-0:2006 EN60079-7:2007 EN61241-0:2006 EN61241-1:2004

Type designation	PROGRESS GFK EX Synthetic cable glands PROGRESS GFK increased safety Ex e II entry thread: metric / Pg one-piece sealing insert PTB 02 ATEX 1126X
6.1 Material (Metallic, Non-metallic, composite)	Polyamide PA6 GF30 Light grey RAL7035 black RAL9005
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	-20°C up to +85°C
Gland sizes [mm]	M16-M63

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	Pg9-Pg48
Seal material	TPE / NBR
Ex certificates from accredited laboratory.	PTB 02 ATEX 1126X 1) Applied standards: EN60079-0:2006 EN60079-7:2007 EN61241-0:2006 EN61241-1:2004

Type designation	PROGRESS GFK Multi EX Synthetic cable glands PROGRESS GFK for increased safety Ex e II with sealing for multiple cables entry thread: metric / Pg one-piece sealing insert PTB 02 ATEX 1126X
6.1 Material (Metallic, Non-metallic, composite)	Polyamide PA6 GF30 Light grey RAL7035 black RAL9005
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	-20°C up to +85°C
Gland sizes [mm]	M16-M63 Pg9-Pg48
Seal material	TPE / NBR
Ex certificates from accredited laboratory.	PTB 02 ATEX 1126X 1) Applied standards: EN60079-0:2006 EN60079-7:2007 EN61241-0:2006 EN61241-1:2004

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Type designation	PROGRESS GFK EX Synthetic cable glands PROGRESS GFK for increased safety Ex e II and intrinsic safety Ex i II entry thread: metric / Pg one-piece sealing insert PTB 02 ATEX 1126X
6.1 Material (Metallic, Non-metallic, composite)	Polyamide PA6 GF30 Light blue RAL5012
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	-20°C up to +85°C
Gland sizes [mm]	M16-M63 Pg9-Pg48
Seal material	TPE / NBR
Ex certificates from accredited laboratory.	PTB 02 ATEX 1126X 1) Applied standards: EN60079-0:2006 EN60079-7:2007 EN61241-0:2006 EN61241-1:2004

Type designation	Reduktion MS EX Reduction fittings nickel plated brass increased safety Ex e II entry thread: metric / Pg PTB 02 ATEX 1126X
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)

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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.	PTB 02 ATEX 1126X 1) Applied standards: EN60079-0:2006 EN60079-7:2007 EN61241-0:2006 EN61241-1:2004

Type designation	Erweiterung MS EX Enlarging fittings nickel plated brass increased safety Ex e II entry thread: metric / Pg PTB 02 ATEX 1126X
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.	PTB 02 ATEX 1126X 1) Applied standards: EN60079-0:2006 EN60079-7:2007 EN61241-0:2006

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	EN61241-1:2004
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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 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 (30 bar) IP69K
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.	PTB 10 ATEX 1034X 1) Applied standards: EN 60079-0 :2012 EN60079-1 :2007 EN 60079-7 :2007 EN 60079-31 :2009

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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 DNV Rules.

Type Approval documentation

EC TYPE-Examination certificates from PTB:

PTB 00 ATEX 1059,
PTB 02 ATEX 1125,
PTB 02 ATEX 1126X
PTB 10 ATEX 1034X

Data sheets / drawings:

Relevant pages from Agro's product catalogue.

Tests carried out

Type tests by Physikalisch-Technische Bundesanstalt. 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 is 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 shall be performed at least every second year.

END OF CERTIFICATE