Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

PTB

(1) # EC-TYPE-EXAMINATION CERTIFICATE

(Translation)

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**

(3) EC-type-examination Certificate Number:

PTB 02 ATEX 1126 X

(4) Equipment: Cable gland, type Progress ... EX

(5) Manufacturer: AGRO AG

(6) Address: Korbackerweg 7, 5502 Hunzenschwil, Switzerland

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report PTB Ex 03-12341.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014:1997 + A1 + A2 **EN 50019:2000**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type-examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:

Ex II 2 G/D EEx e II IP 68

Zertifizierungsstelle Explosionsschutz
By order:

Dr.-Ing. U. Klausmeyer
Regierungsdirektor

Braunschweig, April 07, 2003

(13) # SCHEDULE

(14) ## EC-TYPE-EXAMINATION CERTIFICATE PTB 02 ATEX 1126 X

(15) Description of equipment

The cable gland of type Progress ... EX is made from plastics, brass or steel. It is used as cable entry into electrical equipment designed to type of protection Increased Safety "e". The cable gland is mounted in enclosures provided with threaded holes and feed-through openings.
The main elements of the cable gland are the forcing nut, the adapter gland, and the sealing element. The sealing element provides the required strain relief. Accessories provided include reducers, expansion fittings, plugs and counternuts.

Technical data

Type	Type and size of thread	Restrictions	
		Pull	Impact force
Progress MS EX	M8x1 to M12x1.5, short and long	low	low
	M16x1.5 to M63x1.5, short and long	low	high
	Conduit thread Pg7, short and long	low	low
	Pg9 to Pg48, short and long	low	high
Progress GFK EX	M16x1.5 to M25x1.5,	low	low
	M32x1.5 to M63x1.5	low	high
	Conduit thread Pg9 to Pg21	low	low
	Conduit thread Pg29 to Pg48	low	high
Progress MS EMV EX	M8x1 to M12x1.5, short and long	low	low
	M16x1.5 to M63x1.5, short and long	low	high
	Conduit thread Pg7, short and long	low	low
	Pg9 to Pg48, short and long	low	high
Progress MS EMV KB EX	M12x1.5	high	low
	Conduit thread Pg7	high	low
Progress MS KB EX	M12x1.5	high	low
	Conduit thread Pg7	high	low
Progress MS HT KB EX	M12x1.5	high	low
	Conduit thread Pg7	high	low
Expansion MS EX	M8x1 to M12x1.5	----	low
	Conduit thread Pg7	----	low

Nominal diameter of cables ..... 3 mm to 52 mm

Min. wall thickness:
for equipment with threaded holes: ..... 4.0 mm (metal),
5.0 mm (plastics)
for equipment with feed-through holes: ..... 2.0 mm to 6.0 mm
(metal and plastics)

Max. operating temperatures, sealing ring TPE, black ..... -20 °C to +100 °C
sealing ring FPM, green ..... -20 °C to +200 °C

Operating temperature range for type Progress GFK EX ..... -20 °C to +85 °C

(16) Test report PTB Ex 03-12341

(17) Special conditions for safe use

For types with a low tensile force or pull, only permanently wired cables may be fitted. The operating company shall ensure that adequate strain relief is guaranteed.

Types with a low impact force shall be mounted into the enclosure in such a way that they are mechanically protected against impact force as required under EN 50014, section 23.4.3.1.

Cable glands with heavy-gauge conduit thread must be clearly marked.

(18) Essential health and safety requirements

met by compliance with the standards mentioned above

Zertifizierungsstelle Explosionsschutz
By order:

i. V.

Dr.-Ing. U. Klausmeier
Regierungsdirektor

Braunschweig, April 07, 2003

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

1st S U P P L E M E N T

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 02 ATEX 1126 X

(Translation)

Equipment: Cable gland, type Progress ... EX

Marking: ⟨Ex⟩ **II 2 G EEx e II**
⟨Ex⟩ **II 2 D IP 68**

Manufacturer: AGRO AG

Address: Korbackerweg 7, 5502 Hunzenschwil, Switzerland

Description of supplements and modifications

The cable gland, type Progress ... EX, is expanded to include the following components:
Extensions MS HT EX with the sizes listed below. These types have to be protected against impact.
In addition, alternative TPE material may be used for the sealing element.

Technical data

Type name	Type and size of thread	Restrictions	
		Tensile force	Impact energy
Extension MS HT EX	M8x1 to M12x1.5, short Pg7, short	---- ----	Low Low

Connecting thread – sealing ring
FPM, green -20 °C to +200 °C

Applied standards

EN 50014:1997 + A1 + A2 **EN 50019:2000** **EN 50281-1-1:1998**

Test report: PTB Ex 06-16077

Zertifizierungsstelle Explosionsschutz
By order

Braunschweig, June 28, 2006

Dr.-Ing. U. Klausmeyer
Direktor und Professor

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Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

2nd SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 02 ATEX 1126 X

(Translation)

Equipment: Cable gland, type Progress ... EX

Marking: ⟨Ex⟩ **II 2 G EEx e II**
⟨Ex⟩ **II 2 D IP 68**

Manufacturer: AGRO AG

Address: Korbackerweg 7, 5502 Hunzenschwil, Switzerland

Description of supplements and modifications

The cable gland, type Progress ... EX, made from brass or steel, is extended to include the type series Progress MS EMV Rapid Ex and Progress MS EMV Rapid KB Ex, made from nickelized brass. The sizes of these glands are listed below.

Types EX 1080.08.040 and EX1080.10.060 of type series Progress MS EMV EX may be used within the temperature range -40 °C to +100 °C.

The ambient temperatures for the TPE sealing ring, black, is extended to -40 °C ... +100 °C.

Technical data

Type name	Type and size of thread	Restrictions	
		Tensile force	Impact energy
Progress MS EMV Rapid EX	M12x1.5, short and long M16x1.5 to M32x1.5, short and long Pg7, short and long Pg9 to Pg29, short and long	Low Low Low Low	Low High Low High
Progress MS EMV Rapid KB EX	M12x1.5 Pg7	High High	Low Low

Max. working temperatures, TPE sealing ring, black..... -20 °C to +100 °C

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Braunschweig und Berlin

2nd SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 02 ATEX 1126 X

Applied standards

EN 50014:1997 + A1 + A2

Test report: PTB Ex 06-16302

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, September 28, 2006

Dipl.-Phys. U. Völkel

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

3rd SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 02 ATEX 1126 X

Applied standards

EN 60079-0:2006 **EN 60079-7:2007** **EN 61241-0:2006** **EN 61241-1:2004**

Test report: PTB Ex 08-18041

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, March 27, 2008

Dr.-Ing. M. Thedens
Oberregierungsrat