

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

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Certificate No.: IECEx CES 22.0009X Page 1 of 3 Certificate history:

Status: Current Issue No: 0

Date of Issue: 2022-04-14

Applicant: Bimed Teknik Aletler Sanayi Ve Ticaret A.S.

S.S Bakir Pirinç Sanayi Sitesi Leylak Caddesi no:16

TR - 34524 Beylikdüzü - Istanbul

Turkey

Equipment: Cable glands, seies; VOL\*\*, VOLC\*\*, VOLF\*\*, VOLM\*\* - VOLS\*\*, VOLSC\*\*, VOLSF\*\*, VOLSM\*\* - VOLE\*\*,

VOLEC\*\*, VOLEF\*\*, VOLEM\*\* - CRX\*\*, CRXC\*\*, CRXF\*\*, CRXM\*\*

Optional accessory:

Type of Protection: Flameproof enclosures 'd'; increased safety 'e'; Dust ignition protection 't'

Marking: VOL\*\* and VOLS\*\* types only:

Ex db | Mb and Ex eb | Mb and/or Ex db | IC Gb and Ex eb | IC Gb and

Ex tb IIIC Db - IP66/68

VOLE\*\* types only:

Ex eb IIC Gb and

Ex tb IIIC Db - IP66

CRX\*\* types only:
Ex eb IIC Gb and

Ex tb IIIC Db - IP66/68:

Approved for issue on behalf of the IECEx

Mirko BALAZ

Certification Body:

Position: Deputy Head of IECEx CB

Signature:

(for printed version)

Date:

(for printed version)

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Certificate issued by:

CESI Centro Elettrotecnico Sperimentale Italiano S.p.A. Via Rubattino 54 20134 Milano Italy





Certificate No.: IECEx CES 22.0009X Page 2 of 3

Date of issue: 2022-04-14 Issue No: 0

Manufacturer: Bimed Teknik Aletler Sanayi Ve Ticaret A.S.

S.S Bakir Pirinç Sanayi Sitesi Leylak Caddesi no:16

TR - 34524 Beylikdüzü - Istanbul

Turkey

Manufacturing Bimed Teknik Aletler Sanayi Ve

locations:

Ticaret A.S.

S.S Bakir Pirinç Sanayi Sitesi Leylak

Caddesi no:16

TR - 34524 Beylikdüzü - Istanbul

Turkey

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

#### STANDARDS:

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements

Edition:7.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"

Edition:7.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

Edition:2

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

#### **TEST & ASSESSMENT REPORTS:**

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

IT/CES/ExTR22.0013/00

**Quality Assessment Report:** 

IT/CES/QAR12.0003/08



Certificate No.: IECEx CES 22.0009X Page 3 of 3

Date of issue: 2022-04-14 Issue No: 0

#### **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

The Cable glands VOL\*\* and VOLS\*\* (commercial gland family name VOLANS Ex-db) series are suitable for inserting circular shielded, braided, tape armoured, wire armoured and armoured lead sheathed cables into Ex db enclosures having threaded entries and Ex eb or Ex tb enclosures having either threaded or plane entries.

The cable glands VOL\*\* and VOLS\*\* types are designed for the following different uses:

- VOL\*\* and VOLS\*\* types receive circular cables;
- VOLM\*\* and VOLSM\*\* types receive circular cables with a Male treaded hub;
- VOLF\*\* and VOLSF\*\* types receive circular cables with a Female treaded hub;
- VOLC\*\* and VOLSC\*\* types receive circular cables with a hose connection hub.

Cable glands VOL\*\* and VOLS\*\* types with thread sizes lower than M20 or 1/2"NPT are not admitted for Group I (mines) applications.

The Cable glands VOLE\*\* (commercial gland family name VOLANS Ex-eb) series are suitable for inserting circular shielded, braided, tape armoured, wire armoured cables into Ex eb or Ex tb enclosures having either threaded or plane entries.

The Cable glands VOLE\*\* types are designed for the following different uses:

- VOLE\*\* types receive circular cables;
- VOLEM\*\* types receive circular cables with a Male treaded hub;
- VOLEF\*\* types receive circular cables with a Female treaded hub;
- VOLEC\*\* types receive circular cables with a hose connection hub.

The Cable glands CRX\*\* (commercial gland family name CRUX Ex-eb) series are suitable for inserting circular cables into Ex eb or Ex tb enclosures having either threaded or plane entries.

The cable glands CRX\*\* types are designed for the following different uses:

- CRX\*\* types receive circular cables;
- CRXM\*\* types receive circular cables with a Male treaded hub;
- CRXF\*\* types receive circular cables with a Female treaded hub;
- CRXC\*\* types receive circular cables with a hose connection hub.

The cable glands characteristics are further described in the Annexe of this certificate.

#### SPECIFIC CONDITIONS OF USE: YES as shown below:

- The coupling of the cable glands with the enclosures shall be made as indicated by the manufacturer in the documents annexed to this certificate in order to respect the type of protection of the electrical apparatus on which cable glands are mounted.
- The cable glands shall be mounted at the electrical apparatus in such a way that accidental rotation and loosening will be prevented.
- The cable glands **VOL**\*\* and **VOLS**\*\* series have to be protected from hydraulic fluids, oils and greases when applied for Group I (mines) applications.
- The cable glands VOL\*\* and VOLS\*\* series with sizes lower than M20 and 1/2"NPT are not admitted for Group I (mines)
- · When the cable glands . and VOLS.. series are designed for use in Group I (mines) applications:
  - the cables should be installed in compliance with the requirements of the local code of practice;
  - · conduits should provide additional mechanical protection only.
- The cable glands VOLE\*\* and CRX\*\* series are not admitted for Ex d and/or Group I (mines) applications.
- The cable glands **VOLE**\*\* series when used with braided or shielded cables and **CRX**\*\* series, are only suitable for fixed installations. The cables must be effectively clamped to prevent pulling and twisting.
- The cable glands shall be installed in such a way that the temperature at the mounting point will remain within the service temperature ranges accordingly to the marking.
- The degree of protection IP 66 and IP 68 according to the IEC 60529 standard will be guaranteed for the cable glands if the holes into which cable glands are mounted are suitably sealed. To this scope the correct positioning of the gaskets (for cylindrical threads) or the application of sealant on the threads (for tapered threads), shall be done as indicated in the manufacturer instruction.

#### Annex:

BIMED - IECEx CES 22.0009X Issue 0 - ANNEX - VOL VOLS VOLE CRX Cable glands.pdf





IECEx CES 22.0009X Issue No.:0 of 2022-04-14 Annex to certificate: Bimed Teknik Aletler Sanayi Ve Ticaret A.S. Applicant:

S.S Bakir Pirinç Sanayi Sitesi Leylak Caddesi no:16

TR - 34524 Beylikdüzü – Istanbul (Turkey)

Cable glands series: **Electrical Apparatus:** 

VOL\*\*, VOLC\*\*, VOLF\*\*, VOLM\*\*, VOLS\*\*, VOLSC\*\*, VOLSF\*\*, VOLSM\*\*, VOLE\*\*, VOLEC\*\*, VOLEF\*\*, VOLEM\*\*, CRX\*\*, CRXC\*\*, CRXF\*\*, CRXM\*\*.

#### **Description of product**

The Cable glands VOL\*\* and VOLS\*\* (commercial gland family name VOLANS Ex-db) series are suitable for inserting circular shielded, braided, tape armoured, wire armoured and armoured lead sheathed cables into Ex db enclosures having threaded entries and Ex eb or Ex tb enclosures having either threaded or plane entries. Attachment of the glands to an enclosure is by means of the male threaded portion on the male body.

An elastomeric inner sealing ring is used to realize sealing between the cable and the gland body. Ingress protection of IP66/68 (50 m for 30 min.) is maintained when the glands are installed in accordance with the manufacturer's instructions.

The cable glands **VOL\*\*** and **VOLS\*\*** series are designed for the following different uses:

- VOL\*\* and VOLS\*\* types receive circular cables;
- **VOLM\*\*** and **VOLSM\*\*** types receive circular cables with a Male treaded hub;
- **VOLF\*\*** and **VOLSF\*\*** types receive circular cables with a Female treaded hub;
- **VOLC\*\*** and **VOLSC\*\*** types receive circular cables with a hose connection hub.

Shielded, braided, tape and wire armoured cables clamping: when the upper body is screwed onto the lower body, the braid or armouring wires of the cable is clamped between the grounding cone on which is placed the reversible armour cone ring. Furthermore, a special spring is provided when used for lead sheathed cables to ground the lead sheath.

Cable glands VOL\*\* and VOLS\*\* types with thread sizes lower than M20 or 1/2"NPT are not admitted for Group I (mines) applications.

The Cable glands VOLE\*\* (commercial gland family name VOLANS Ex-eb) series is suitable for inserting circular shielded, braided, tape armoured, wire armoured cables into Ex eb or Ex tb enclosures having either threaded or plane entries. Attachment of the glands to an enclosure is by means of the male threaded portion on the male body.

An elastomeric inner O-ring is used to realize sealing between the cable and the gland body. Ingress protection of IP66 is maintained when the glands are installed in accordance with the manufacturer's instructions.

The Cable glands VOLE\*\* series is designed for the following different uses:

- VOLE\*\* types receive circular cables;
- **VOLEM\*\*** types receive circular cables with a Male treaded hub;
- **VOLEF\*\*** types receive circular cables with a Female treaded hub;
- **VOLEC\*\*** types receive circular cables with a hose connection hub.

Shielded, braided, tape and wire armoured cables clamping: when the upper body is screwed onto the lower body, the braid or armouring wires of the cable is clamped between the grounding cone on which is placed the reversible armour cone ring.

The Cable glands CRX\*\* (commercial gland family name CRUX Ex-eb) series is suitable for inserting circular cables into Ex eb or Ex tb enclosures having either threaded or plane entries. Attachment of the glands to an enclosure is by means of the male threaded portion on the male body.

An elastomeric inner O-ring is used to realize sealing between the cable and the gland body. Ingress protection of IP66/68 (50 m for 30 min.) is maintained when the glands are installed in accordance with the manufacturer's instructions.





IECEx CES 22.0009X Issue No.:0 of 2022-04-14 Annex to certificate: Bimed Teknik Aletler Sanayi Ve Ticaret A.S. Applicant:

S.S Bakir Pirinç Sanayi Sitesi Leylak Caddesi no:16

TR - 34524 Beylikdüzü – Istanbul (Turkey)

Cable glands series: **Electrical Apparatus:** 

VOL\*\*, VOLC\*\*, VOLF\*\*, VOLM\*\*, VOLS\*\*, VOLSC\*\*, VOLSF\*\*, VOLSM\*\*, VOLE\*\*, VOLEC\*\*, VOLEF\*\*, VOLEM\*\*, CRX\*\*, CRXC\*\*, CRXF\*\*, CRXM\*\*.

The cable glands **CRX\*\*** series is designed for the following different uses:

- CRX\*\* types receive circular cables;
- **CRXM\*\*** types receive circular cables with a Male treaded hub;
- **CRXF\*\*** types receive circular cables with a Female treaded hub;
- **CRXC\*\*** types receive circular cables with a hose connection hub.

Cables clamping: when the cup is screwed onto the lower body, the cable is clamped between the cup and the lower body.

All the Cable glands types standard threads are cylindrical ISO Metric 965/1 and ISO 965/3 from M12x1.5 up to M115x1.5 and tapered series NPT ANSI/ASME B1.20.1 from 1/4" up to 5".

Alternative available cylindrical threads are ISO Metric 965/1 and ISO 965/3 pitch 2, GAS ISO 228/1, NPSM ANSI/ASME B1.20.1 and series PG DIN 40430 from PG7 up to PG48 size. Thread series PG DIN 40430 can be used for "Ex eb" execution only.

The whole Cable glands series is generally made in Brass. The following alternative materials can be supplied on demand:

- Nickel-plated Bras.
- Stainless steel.
- Galvanized carbon steel.

The cable glands can be also used for intrinsically safe circuits Ex i and should have a part painted in light blue.

#### Ambient/service temperature ranges:

All the models are admitted for: - 60 °C ÷ + 130 °C: Models made of Galvanized carbon steel: limited up to - 20 °C.

#### Degree of protection (IP code):

Cable glands VOL.. and VOLS.. series are with: IP 66 / 68 (50 m for 30 min.);

Cable glands **VOLE..** series are with:

Cable glands **CRX..** series are with: IP 66 / 68 (50 m for 30 min.).





Annex to certificate: Applicant:

IECEx CES 22.0009X Issue No.:0 of 2022-04-14 Bimed Teknik Aletler Sanayi Ve Ticaret A.S.

S.S Bakir Pirinç Sanayi Sitesi Leylak Caddesi no:16

TR - 34524 Beylikdüzü – Istanbul (Turkey)

Cable glands series: **Electrical Apparatus:** 

VOL\*\*, VOLC\*\*, VOLF\*\*, VOLM\*\*, VOLS\*\*, VOLSC\*\*, VOLSF\*\*, VOLSM\*\*, VOLE\*\*, VOLEC\*\*, VOLEF\*\*, VOLEM\*\*, CRX\*\*, CRXC\*\*, CRXF\*\*, CRXM\*\*.

#### Identification of Cable glands VOL\*\*, VOLS\*\* series:

VOL	1 2 3 4 10 11 12	<u>1</u>	Table 1.		codes corresponding to
VOLC VOLF	1 2 3 4 9 10 11 12 1 2 3 4 5 6 7 8 10 11 12	<u>2</u>	Optional code	Blank:	Standard clamping range : Reduced clamping range
VOLM	1 2 3 4 5 6 7 8 10 11 12	<u>3</u>	Thread pitch (*)	Blank: 2:	1.5 pitch 2.0 pitch
VOLS	1 2 3 4 10 11 12	<u>4</u>	Mounting	N:	NPT ANSI ASME B1.20.1
VOLSC	1 2 3 4 9 10 11 12		thread type	M: P:	Metric ISO 261 PG DIN 40430 (for Ex-e or
VOLSF	1 2 3 4 5 6 7 8 10 11 12			S: C:	NPSM ANSI ASME B1.20. GAS ISO 228/1
VOLSM	1 2 3 4 5 6 7 8 10 11 12	<u>5</u>	Table 1.	Model o	codes corresponding to the nread types and sizes
		<u>6</u>	Optional code	Blank:	Standard clamping range

		No or o. Reduced clamping range					
<u>3</u>	Thread pitch (*)	Blank: 2:	1.5 pitch 2.0 pitch				
<u>4</u>	Mounting thread type	N: M: P: S: C:	NPT ANSI ASME B1.20.1 Metric ISO 261 PG DIN 40430 (for Ex-e only) NPSM ANSI ASME B1.20.1 GAS ISO 228/1				
<u>5</u>	Table 1.	Model codes corresponding to the upper thread types and sizes					
<u> </u>			Standard clamping range S: Reduced clamping range				
<u>7</u>	Thread pitch (*)	Blank: 2:	1.5 pitch 2.0 pitch				
<u>8</u>	Upper thread type	N: M: P: S: C:	NPT ANSI ASME B1.20.1 Metric ISO 261 PG DIN 40430 (for Ex-e only) NPSM ANSI ASME B1.20.1 GAS ISO 228/1				
<u>9</u>	Ferule type (**)	S: Blank: L: XL:	Small Standard Large X-large				
<u>10</u>	Body material	B: X: BN: Z:	Brass Stainless steel Nickel plated brass Galvanized steel				
<u>11</u> <u>12</u>	Sealing material Lead sheath	S: -LSK:	Silicon Lead sheath spring (optional)				
	Load Sheath						

cables

(\*) - For Metric threads only (\*\*) - For VOLC, VOLSC only





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TR - 34524 Beylikdüzü – Istanbul (Turkey)

Cable glands series: **Electrical Apparatus:** 

VOL\*\*, VOLC\*\*, VOLF\*\*, VOLM\*\*, VOLS\*\*, VOLSC\*\*, VOLSF\*\*, VOLSM\*\*, VOLE\*\*, VOLEC\*\*, VOLEF\*\*, VOLEM\*\*, CRX\*\*, CRXC\*\*, CRXF\*\*, CRXM\*\*.

Sizes and clamping ranges of cable glands **VOL\*\***, **VOLS\*\*** series are listed on the following <u>Table 1</u>.

Cable gland thread size CODE (*)		Thread size		Cable Dia. ranges (mm)		
Metric code	NPT code	ISO	NPT	Inner sheath	Armour sheath	
0S	0S	M 12	1/4"	3.0-8.0	5.5-12.0	
01S	01S	M 16	3/8"	3.0-8.0	5.5-12.0	
01	01	M 16	1/2"	6.0-12.0	9.0-16.0	
1XS	1XS	M 20	1/2"	3.0-8.0	5.5-12.0	
1S	1S	M 20	1/2"	6.0-12.0	9.0-16.0	
1	1	M 20	1/2"	6.0-14.0	12.0-20.0	
2XS	2XS	M 25	3/4"	6.0-12.0	9.0-16.0	
2S	2S	M 25	3/4"	6.0-14.0	12.0-20.0	
2	2	M 25	3/4"	11.0-20.0	16.0-26.0	
3XS	3XS	M 32	1"	6.0-14.0	12.0-20.0	
3S	3S	M 32	1"	11.0-20.0	16.0-26.0	
3	3	M 32	1"	16.0-26.5	20.0-33.0	
4XS	4XS	M 40	1 1/4"	11.0-20.0	16.0-26.0	
4S	4S	M 40	1 1/4"	16.0-26.5	20.0-33.0	
4	4	M 40	1 1/4"	22.0-32.5	29.0-41.0	
5XS	5XS	M 50	1 1/2"	16.0-26.5	20.0-33.0	
5S	5S	M 50	1 ½"	22.0-32.5	29.0-41.0	
5	5	M 50	1 ½"	29.0-44.0	36.0-52.0	
6XS	6XS	M 63	2"	22.0-32.5	29.0-41.0	
6S	6S	M 63	2"	29.0-44.0	36.0-52.0	
6	-	M 63		43.0-56.0	50.0-52.0	
-	6	-	2"	43.0-54.3	50.0-65.0	
7XS	7XS	M 75	2 ½"	29.0-44.0	36.0-52.0	
7S	7S	M 75	2 ½"	43.0-56.0	50.0-52.0	
7	-	M 75	Z /2 -	54.0-68.0	61.0-78.0	
- 1	7		2 ½"	54.0-65.3		
80XS	80XS	- M 80	3"	43.0-56.0	61.0-78.0 50.0-65.0	
80S	80S	M 80	3"			
	80		3"	54.0-68.0 65.0-75.0	61.0-78.0	
80	1	M 80			75.0-89.0	
8X	-	M 90	- 2.1/"	43.0-56.0	50.0-65.0	
-	9XS	- M 00	3 ½"	54.0-68.0	61.0-78.0	
8S	-	M 90	3 ½"	54.0-68.0	61.0-78.0	
-	9S	-	3 /2	65.0-78.0	75.0-89.0	
8	-	M 90	- 0.1/"	65.0-78.0	75.0-89.0	
-	9	- M 400	3 ½"	76.0-92.0	88.0-104.0	
9XS	10XS	M 100	4"	54.0-68.0	61.0-78.0	
-	10S	-	4"	65.0-78.0	75.0-89.0	
9S	-	M 100	-	65.0-78.0	75.0-89.0	
9	10	M 100	4"	76.0-92.0	88.0-104.0	
10XS	-	M 110	-	54.0-68.0	61.0-78.0	
-	11XS	-	5"	65.0-78.0	75.0-89.0	
10S	-	M 110	-	65.0-78.0	75.0-89.0	
-	11S	-	5"	76.0-92.0	88.0-104.0	
10	-	M 110	-	76.0-92.0	88.0-104.0	
11XS	-	M 115	-	54.0-68.0	61.0-78.0	
11S	-	M 115	-	65.0-78.0	75.0-89.0	
11	-	M 115	-	76.0-92.0	88.0-104.0	

The code and the related thread size are referred to the enclosure mounting threads and for VOLM and VOLF types to the hub threads too.





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S.S Bakir Pirinç Sanayi Sitesi Leylak Caddesi no:16

TR - 34524 Beylikdüzü – Istanbul (Turkey)

Cable glands series: **Electrical Apparatus:** 

VOL\*\*, VOLC\*\*, VOLF\*\*, VOLM\*\*, VOLS\*\*, VOLSC\*\*, VOLSF\*\*, VOLSM\*\*, VOLE\*\*, VOLEC\*\*, VOLEF\*\*, VOLEM\*\*, CRX\*\*, CRXC\*\*, CRXF\*\*, CRXM\*\*.

### Identification of Cable glands VOLE\*\* and CRX\*\* series:

VOL 5	4 0 0 4 40 44		T.1.1. 0	N4 - 1 - 1 -	. I Po
VOLE	1 2 3 4 10 11	<u>1</u>	Table 2.	mountin	odes corresponding to g thread types and sizes
VOLEC VOLEF	1 2 3 4 9 10 11 1 2 3 4 5 6 7 8 10 1	<u>2</u>	Optional code		Standard clamping range : Reduced clamping range
VOLEM	1 2 3 4 5 6 7 8 10 1	2	Thread pitch (*)	Blank: 2:	1.5 pitch 2.0 pitch
CRX	1 2 3 4 10 11	<u>4</u>	Mounting	N:	NPT ANSI ASME B1.20.1
CRXC	1 2 3 4 9 10 11		thread type	M: P:	Metric ISO 261 PG DIN 40430 (for Ex-e only)
CRXF	1 2 3 4 5 6 7 8 10 1			S: C:	NPSM ANSI ASME B1.20.1 GAS ISO 228/1
CRXM	1 2 3 4 5 6 7 8 10 1	<u>5</u>	Table 2.	Model c upper th	odes corresponding to the rread types and sizes
		<u>6</u>	Optional code		Standard clamping range : Reduced clamping range
		<u>7</u>	Thread pitch (*)	Blank: 2:	1.5 pitch 2.0 pitch
		<u>8</u>	Upper thread type	N: M: P: S: C:	NPT ANSI ASME B1.20.1 Metric ISO 261 PG DIN 40430 (for Ex-e only) NPSM ANSI ASME B1.20.1 GAS ISO 228/1
		<u>9</u>	Ferule type (**)	S: Blank: L: XL:	Small Standard Large X-large
		<u>10</u>	Body material	B: X: BN: Z:	Brass Stainless steel Nickel plated brass Galvanized steel
		<u>11</u>	Sealing material	S:	Silicon

(\*) - For Metric threads only (\*\*) - For VOLEC, CRXC only





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Cable glands series: **Electrical Apparatus:** 

VOL\*\*, VOLC\*\*, VOLF\*\*, VOLM\*\*, VOLS\*\*, VOLSC\*\*, VOLSF\*\*, VOLSM\*\*, VOLE\*\*, VOLEC\*\*, VOLEF\*\*, VOLEM\*\*, CRX\*\*, CRXC\*\*, CRXF\*\*, CRXM\*\*.

Sizes and clamping ranges of cable glands **VOLE\*\***, **CRX\*\*** series are listed on the following <u>Table 2</u>.

Cable gland thread size CODE (*)		Thread size		Cable Dia. ranges (mm)			
				VOLE*	CRX** type		
Metric	NPT	ISO NPT		<del></del>	VOLE** type Inner Armour		
code	code	130	NFI	Sheath max	sheath	Cable sheath	
0S	08	M 12	1/4"	8.0	5.5-12.0	3.0-8.0	
01S	01S	M 16	3/8"	8.0	5.5-12.0	3.0-8.0	
01	01	M 16	1/2"	12.0	9.0-16.0	5.5-12.0	
1XS	1XS	M 20	1/2"	8.0	5.5-12.0	9.0-16.0	
18	18	M 20	1/2"	12.0	9.0-16.0	5.5-12.0	
1	1	M 20	1/2"	14.0	12.0-20.0	9.0-16.0	
2XS	2XS	M 25	3/4"	12.0	9.0-16.0	5.5-12.0	
2S	2S	M 25	3/4"	14.0	12.0-20.0	9.0-16.0	
2	2		3/4"	20.0			
	3XS	M 25	1"		16.0-26.0	12.0-20.0	
3XS 3S	3S	M 32	1"	14.0 20.0	12.0-20.0	9.0-16.0	
		M 32	1"		16.0-26.0	12.0-20.0	
3 4XS	3 4XS	M 32	1 1/4"	26.5 20.0	20.0-33.0	16.0-26.0	
		M 40			16.0-26.0	12.0-20.0	
4S 4	4S 4	M 40 M 40	1 ½" 1 ½"	26.5	20.0-33.0	16.0-26.0	
-			1 1/2"	32.5	29.0-41.0	20.0-33.0	
5XS	5XS	M 50	1 ½	26.5	20.0-33.0	16.0-26.0	
5S	5S	M 50		32.5	29.0-41.0	20.0-33.0	
5	5	M 50	1 ½"	44.0	36.0-52.0	29.0-41.0	
6XS	6XS	M 63	2"	32.5	29.0-41.0	20.0-33.0	
6S	6S	M 63	2"	44.0	36.0-52.0	29.0-41.0	
6	-	M 63	-	56.0	50.0-65.0	36.0-52.0	
-	6	-	2"	54.3	50.0-65.0	36.0-52.0	
7XS	7XS	M 75	2 ½"	44.0	36.0-52.0	29.0-41.0	
7S	7S	M 75	2 ½"	56.0	50.0-65.0	36.0-52.0	
7	-	M 75	- 0.1/11	68.0	61.0-78.0	50.0-65.0	
-	7	-	2 ½"	65.3	61.0-78.0	50.0-65.0	
80XS	80XS	M 80	3"	56.0	50.0-65.0	36.0-52.0	
80S	80S	M 80	3"	68.0	61.0-78.0	50.0-65.0	
80	80	M 80	3"	75.0	75.0-89.0	61.0-78.0	
8X	-	M 90	-	56.0	50.0-65.0	36.0-52.0	
-	9XS	-	3 ½"	68.0	61.0-78.0	50.0-65.0	
8S	-	M 90	-	68.0	61.0-78.0	50.0-65.0	
-	9S	-	3 ½"	78.0	75.0-89.0	61.0-78.0	
8	-	M 90	-	75.0	75.0-89.0	61.0-78.0	
-	9	-	3 ½"	92.0	88.0-104.0	75.0-89.0	
9XS	10XS	M 100	4"	68.0	61.0-78.0	50.0-65.0	
-	10S	-	4"	78.0	75.0-89.0	75.0-89.0	
9S	-	M 100	-	75.0	75.0-89.0	61.0-78.0	
9	10	M 100	4"	92.0	88.0-104.0	75.0-89.0	
10XS	-	M 110	-	68.0	61.0-78.0	61.0-78.0	
-	11XS	-	5"	78.0	75.0-89.0	75.0-89.0	
10S	-	M 110	-	75.0	75.0-89.0	75.0-89.0	
-	11S	-	5"	92.0	88.0-104.0	88.0-104.0	
10	-	M 110	-	92.0	88.0-104.0	88.0-104.0	
11XS	-	M 115	-	68.0	61.0-78.0	61.0-78.0	
11S	-	M 115	-	75.0	75.0-89.0	75.0-89.0	
11	-	M 115	-	92.0	88.0-104.0	88.0-104.0	

<sup>(\*)</sup> The code and the related thread size are referred to the enclosure mounting threads and for VOLEM, VOLEF and CRXM, CRXF types to the hub threads too.