



Product manual reducers, adapters, plugs and accessories .



INDEX ELEKTRO BV  
Harregatplein 15  
3214 VP Zuidland  
Netherlands



T. +31(0)181 452120  
<http://www.indexelektro.nl>  
email [Sales@indexelektro.nl](mailto:Sales@indexelektro.nl)



## Purpose of these instructions

Working in hazardous areas, the safety of personnel and plant depends on complying with all relevant safety regulations. Assembly and maintenance staff working on installations therefore have a particular responsibility. They require precise knowledge of the applicable standards and regulations. These instructions give a brief summary of the most important safety measures. It supplements the corresponding regulations which the staff must study.



## SAFETY INSTRUCTIONS

Use the explosion-proof cable gland only for its intended purpose. Explosion-proof cable glands are not suitable for Zone 0 and Zone 20 hazardous areas! Incorrect or impermissible use or non-compliance with these instructions invalidates our warranty provision. No changes to the device impairing its explosion protection are permitted. Use the explosion-proof cable gland only if it is clean and undamaged. Any damage can invalidate the Ex-protection.

Observe the following during installation and operation:

- National safety regulations
- National accident prevention regulations;
- National installation regulations;
- Generally recognized technical regulations;
- Safety guidelines in these operating instructions;

## Applicable scope

Transport and storage in original packaging only. National safety and installations regulations and the generally accepted rules of engineering practice must be observed when mounting and operating the cable glands.

## Technical data

Ex mark: II 2G Ex db IIC Gb  
 II 2G Ex eb IIC Gb  
 II 2D Ex tb IIC Db IP66  
 I M2 Ex db I Mb  
 I M2 Ex eb I Mb

Can be used in zone 1,2, 21 en 22  
 Ambient / Service temperature (Ts):  
 - Plug with EPDM O-ring -40°C / 100°C  
 - Plug with Silicone O-ring -60°C / 200°C  
 - Wiringnipples -20°C / 80°C  
 - Reducers, Adapters, Plugs, and all other metal parts -60°C / 200°C

The O-ring which is used metric cable glands, is made of the same material as the seals.  
 Degree of protection: IP66

Certificate APRAGAZ xxxxxxxxxxxx  
 Certificate Issep: ISSeP ATEX 035U

## Conformity to standards

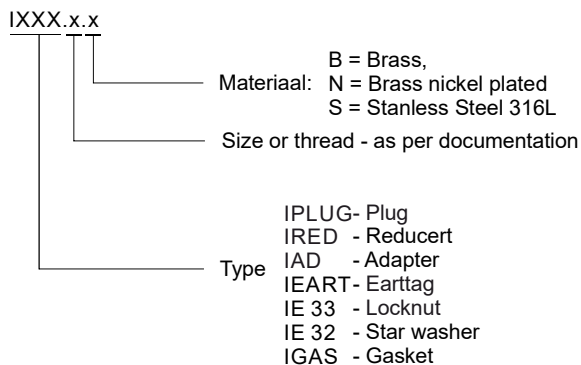
The explosion-proof cable gland is designed and manufactured according to standard of ISO 9001 and EN ISO 80079-34.  
 The explosion-proof cable gland is in conformity with ATEX directive and the standards:

EN IEC 60079-0:2018 / AC:2020-02  
 EN 60079-1:2014  
 EN IEC 60079-7:2015 / A1:2018  
 EN 60079-31:2014

## Special conditions for safe use:

- The flameproof joints are not intended to be repaired.
- Metric threaded glands are delivered with their O-ring and the O-ring is not allowed to be removed.
- For thread used in Ex e certified enclosures or in Ex t certified enclosures, whilst not certified Ex d, the enclosure:
  - \* must either have a tolerance class of 6H or higher according to ISO 965-1.
  - \* for enclosures having plain entries: the use of an O-ring and counternut is mandatory.

## Model and implication of INDEX.Cable Glands Accessories





## Maintenance / repairs

- Observe the relevant national regulations for your country.
- Only parts from our company that can be used to replace or maintenance and the operation should be carried out by professional staf.
- The following points must be checked during maintenance:
  - \* Compliance with permitted temperatures of the enclosures
  - \* Check if the product has been fixed reliably.
  - \* Check if the product is damaged.

## Disposal / recycling

The respective valid national regulations for waste disposal shall be observed when disposing products. We are pleased to answer any questions. In this case you can contact INDEX ELEKTRO BV.

## Considerations:

- Only use original spare parts like O- rings from Index Elektro BV.
- Avoid dust accumulation
- Only use the materials for their intended purpose.
- If no cable gland is fitted in a reducer or adapter, it should be replaced with a suitable blind plug. In Ex d boxes, no blind plug should be placed in the reducer or adapter.
- In an Ex d box, the materials must not be secured with a nut.

## Labeling/Marking plug with EPDM O-Ring

⊕ II 2 G Ex db IIC Gb - ⊕ II 2 G Ex eb IIC Gb - ⊕ II 2 D Ex tb IIIC Db  
⊕ I M2 Ex db I Mb - ⊕ I M2 Ex eb I Mb T.amb./T.service -40°C / 100°C  
IP66 - Type IPLUG.xxxxxxxxxxxxxx APRAGAZ 24 ATEX xxxxxx  
CE 2776 - Index Elektro BV - Harregatplein 15 - 3214VP Zuidland (NL)

## Labeling/Marking plug with Silicone O-Ring

⊕ II 2 G Ex db IIC Gb - ⊕ II 2 G Ex eb IIC Gb - ⊕ II 2 D Ex tb IIIC Db  
⊕ I M2 Ex db I Mb - ⊕ I M2 Ex eb I Mb T.amb./T.service -60°C / 200°C  
IP66 - Type IPLUG.xxxxxxxxxxxxxx APRAGAZ 24 ATEX xxxxxx  
CE 2776 - Index Elektro BV - Harregatplein 15 - 3214VP Zuidland (NL)

## Labeling/Marking other materials without O-Ring (Reducers, adapters etc.)

⊕ II 2 G Ex db IIC Gb - ⊕ II 2 G Ex eb IIC Gb - ⊕ II 2 D Ex tb IIIC Db  
⊕ I M2 Ex db I Mb - ⊕ I M2 Ex eb I Mb T.amb./T.service -60°C / 200°C  
IP66 - Type IBxxxxxxxxxxxxx APRAGAZ 24 ATEX xxxxxx  
CE 2776 - Index Elektro BV - Harregatplein 15 - 3214VP Zuidland (NL)

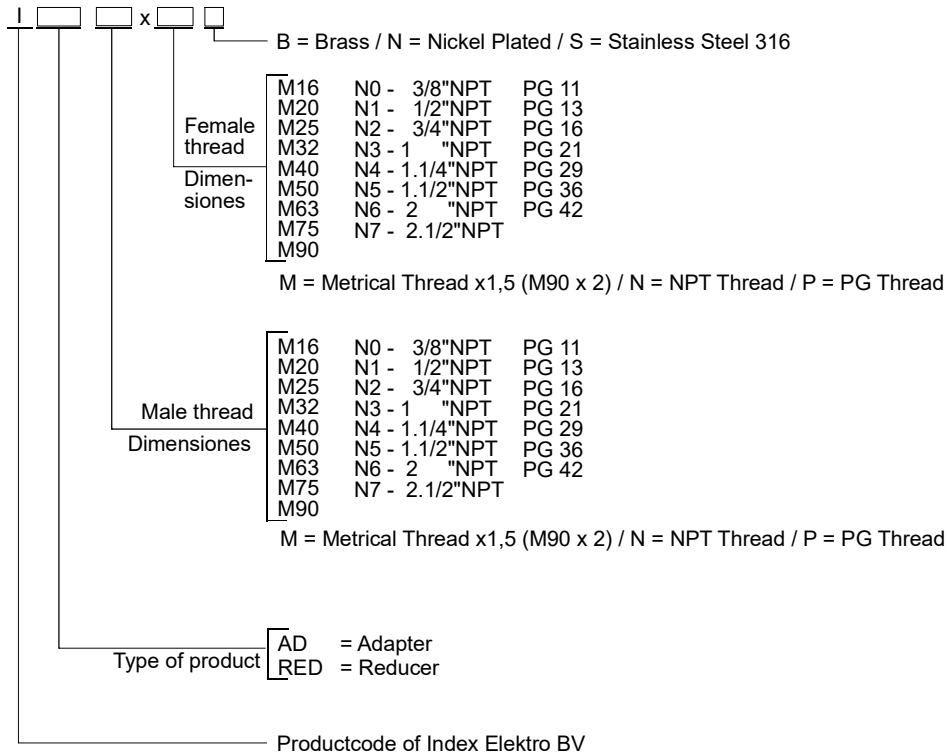
## Labeling/Marking ISSeP certification

⊕ II 2 G Ex db I/IIIC Gb - ⊕ II 2 G Ex eb I/IIIC Gb ⊕ II 2 D Ex tb IIIC Db IP66  
CE 2776 - Type xxxxxxxxxxxxxxxx IndexElektro.nl ISSeP10ATEX35U

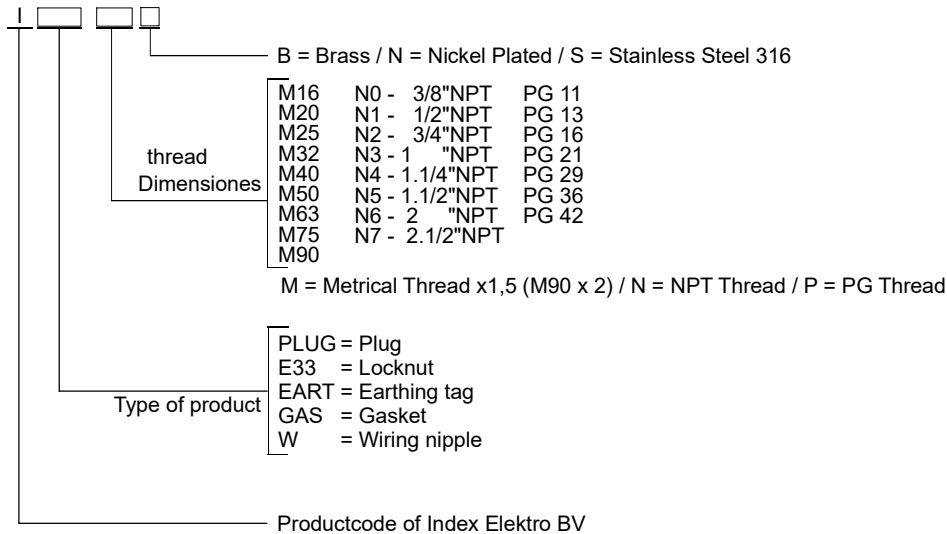


## Model and implication

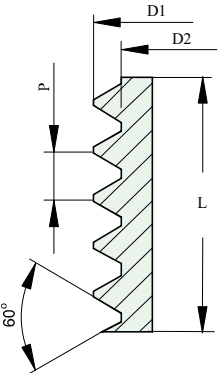
### Explosion-proof Reducers / Adapters / Wiring nipples



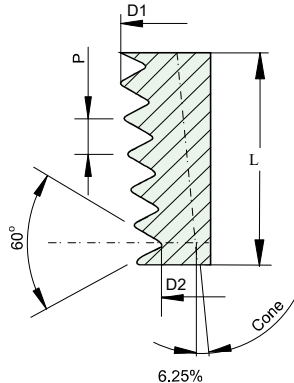
### Explosion-proof Plugs / Locknuts / Wiring nipples



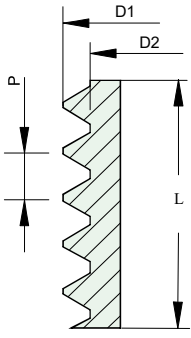
**Table of metric threads**

<b>ISO METRIC 262</b>							
		M	P	L	D1	∅ gat bij tappen ∅ hole for tapping D2	∅ gat bij moer ∅ hole when locknut is used
		12	1.5	15	12	10.5	12.5
		16	1.5	15	16	14.5	16.5
		20	1.5	15	20	18.5	20.5
		25	1.5	15	25	23.5	25.5
		32	1.5	15	32	30.5	32.5
		40	1.5	15	40	38.5	40.5
		50	1.5	15	50	48.5	50.5
		63	1.5	15	63	61.5	63.5
		75	1.5	15	75	73.5	75.5
		90	2.0	20	90	88.0	90.5

**Table of NPT threads**

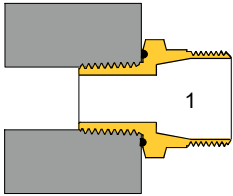
<b>NPT - ANSI B1.20.1</b>							
		M	P	L	D1	∅ gat bij tappen ∅ hole for tapping D2	∅ gat bij moer ∅ hole when locknut is used
		3/8"	1.411	15	17.055	14.5	17.5
		1/2"	1.814	18	21.223	18	22.0
		3/4"	1.814	18	26.568	23	27.0
		1"	2.208	22	33.227	29	34.0
		1 1/4"	2.208	22	41.984	38	42.5
		1 1/2"	2.208	24	48.053	44	48.5
		2"	2.208	24	60.091	56	60.5
		2 1/2"	3.175	28	72.699	71	73.0
		3"	3.175	28	88.608	84	89.0

**Table of PG threads**

<b>PG - DIN40430</b>							
		M	P	L	D1	∅ gat bij tappen ∅ hole for tapping D2	∅ gat bij moer ∅ hole when locknut is used
		PG 9	1.41	15	15.2	14.0	16.0
		PG 11	1.41	15	18.6	17.25	19.0
		PG 13,5	1.41	15	20.4	19.0	21.0
		PG16	1.14	15	22.5	21.0	23.0
		PG 21	1,59	15	28.3	26.75	29.0
		PG 29	1,59	17	37.0	35.5	37.5
		PG 36	1,59	17	47.0	45.5	47.5
		PG 42	1,59	18	54.0	52.5	54.5
		PG 48	1,59	18	59.3	58.0	60.0

## Assembling accessories

Install plugs, reducers and adapters for Ex e, Ex t or Ex d applications until tight. note that the materials with metric threads are tightened to the o-ring, gaskets or up to the metal part and comply with the tables below.

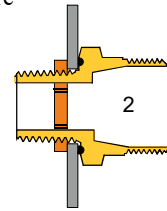


For Ex d versions - Figure 1 - the thread must be screwed into the enclosure a minimum of 5 passes.

For Ex e or Ex t versions, if the number of turns is less than 3, (or with through-holes) the cable glands must be tightened with a locknut - figure 2.

Materials required for this, such as nuts, earthtags, etc. can be purchased from us.

NPT thread always tighten without O-ring and/or gasket, never use NPT thread in plastic (polyester o.e.) boxes



Tabel / Table

Grootte Size	Torque (NM)
0	10
01	12
1	12
12	15
2	15
3	18
4	22
5	26
6	30
7	35
8	40

Make sure that the cable gland is fitted perpendicular to the enclosure wall.

Tabel / Table

Grootte Size	Torque (NM)
0	10
01	10
1	10
12	10
2	12
3	14
4	16
5	18
6	20
7	22
8	25

## Assembling accessories

### Materials used Index plugs, reducers, adapters and accessories

Materials used consist of the following metal and plastic parts

- Brass - Suitable for EPL Ga max. 10% aluminium, Magnesium, Titanium, Zirconium and not more than 7,5% Magnesium, Titanium en Zirconium
- Brass nickel plated - Brass as indicated above, provided with a layer of nickel to protect the brass against and corrosion
- Stainles Steel 316L - SS 316L as per EN 1.4404 / ASTM A276
- EPDM, O-ring - Hardness ASTM D2240 - Shore A - 60 (+5 -4) / Tensile Strength min. 10 Mpa / Elongation at Break min. 250% / Compression (24h at 100°C) max.35% - Ambient/service temperature -40° tot +100°C
- Silicone, O-ring - Hardness ASTM D2240 - Shore A - 55 (+5 -4) / Tensile Strength min. 10 Mpa / Elongation at Break min. 250% / Compression (24h at 100°C) max.35% - Ambient/service temperature -60° tot +200°C
- B-compound - Araldite CW 1302 - 100 pbw / Aradur HY 1300 - 11 pbw ratio 4:1 = 32cc - 8cc
- Nylon gasket - Nylon type 6 (PA6)
- Wiring (in wiring nipples) - H05V2 - K - 90° max or H07V2 - K - 90° max.
- Cabling (in wiring nipples) - UTP, glasfiber, and other special cables - T.amb. min. 80°C



## Plug

Afbeelding Illustration	Grootte Size	Type	
	M 16	IPLUG.M16 <input type="checkbox"/>	
	M 20	IPLUG.M20 <input type="checkbox"/>	
	M 25	IPLUG.M25 <input type="checkbox"/>	
	M 32	IPLUG.M32 <input type="checkbox"/>	
	M 40	IPLUG.M40 <input type="checkbox"/>	
	M 50	IPLUG.M50 <input type="checkbox"/>	
	M 63	IPLUG.M63 <input type="checkbox"/>	
	M 75	IPLUG.M75 <input type="checkbox"/>	
	M 90	IPLUG.M90 <input type="checkbox"/>	
	3/8" NPT	IPLUG.N3/8 <input type="checkbox"/>	
	1/2" NPT	IPLUG.N1/2 <input type="checkbox"/>	
	3/4" NPT	IPLUG.N3/4 <input type="checkbox"/>	
	1" NPT	IPLUG.N1 <input type="checkbox"/>	
	1 1/4" NPT	IPLUG.N1 1/4 <input type="checkbox"/>	
	1 1/2" NPT	IPLUG.N1 1/2 <input type="checkbox"/>	
	2" NPT	IPLUG.N2 <input type="checkbox"/>	
	2 1/2" NPT	IPLUG.N2 1/2 <input type="checkbox"/>	
	3" NPT	IPLUG.N3 <input type="checkbox"/>	

Messing - Brass - B  
 Vernikkeld - Nickel plated - N  
 RVS 316 - Stainless Steel 316 - S



Uitwendig Male	Inwendig Female	Type
M20	M16	IRED.M20xM16 ☐
M20	½"NPT	IRED.M20xN1 ☐
M25	M16	IRED.M25xM16 ☐
M25	M20	IRED.M25xM20 ☐
M25	½"NPT	IRED.M25xN1 ☐
M25	¾"NPT	IRED.M25xN2 ☐
M32	M16	IRED.M32xM16 ☐
M32	M20	IRED.M32xM20 ☐
M32	M25	IRED.M32xM25 ☐
M32	¾"NPT	IRED.M32xN2 ☐
M32	1"NPT	IRED.M32xN1 ☐
M40	M20	IRED.M40xM20 ☐
M40	M25	IRED.M40xM25 ☐
M40	M32	IRED.M40xM32 ☐
M50	M20	IRED.M50xM20 ☐
M50	M25	IRED.M50xM25 ☐
M50	M32	IRED.M50xM32 ☐
M50	M40	IRED.M50xM40 ☐
M63	M20	IRED.M63xM20 ☐
M63	M25	IRED.M63xM25 ☐
M63	M32	IRED.M63xM32 ☐
M63	M40	IRED.M63xM40 ☐
M63	M50	IRED.M63xM50 ☐
M75	M32	IRED.M75xM32 ☐
M75	M40	IRED.M75xM40 ☐
M75	M50	IRED.M75xM50 ☐
M75	M63	IRED.M75xM63 ☐

Messing - Brass - B  
Vernikkeld - Nickel plated - N

Uitwendig Male	Inwendig Female	Type
½"NPT	M20	IRED.N1xM20 ☐
½"NPT	M16	IRED.N1xM16 ☐
¾"NPT	M16	IRED.N2xM16 ☐
¾"NPT	M20	IRED.N2xM20 ☐
¾"NPT	M25	IRED.N2xM25 ☐
¾"NPT	½"NPT	IRED.N2xN1 ☐
1"NPT	M20	IRED.N3xM20 ☐
1"NPT	M25	IRED.N3xM25 ☐
1"NPT	M32	IRED.N3xM32 ☐
1"NPT	¾"NPT	IRED.N3xN2 ☐
1¼"NPT	M20	IRED.N4xM20 ☐
1¼"NPT	M25	IRED.N4xM25 ☐
1¼"NPT	M32	IRED.N4xM32 ☐
1¼"NPT	¾"NPT	IRED.N4xN2 ☐
1¼"NPT	1"NPT	IRED.N4xN3 ☐
1½"NPT	M20	IRED.N5xM20 ☐
1½"NPT	M25	IRED.N5xM25 ☐
1½"NPT	M32	IRED.N5xM32 ☐
1½"NPT	M40	IRED.N5xM40 ☐
1½"NPT	¾"NPT	IRED.N5xN2 ☐
1½"NPT	1"NPT	IRED.N5xN3 ☐
1½"NPT	1¼"NPT	IRED.N5xN4 ☐
2"NPT	M20	IRED.N6xM20 ☐
2"NPT	M25	IRED.N6xM25 ☐
2"NPT	M32	IRED.N6xM32 ☐
2"NPT	M40	IRED.N6xM40 ☐
2"NPT	M50	IRED.N6xM50 ☐

Messing - Brass - B  
Vernikkeld - Nickel plated - N



## Reducer Ex db / Ex eb

Uitwendig Male	Inwendig Female	Type
PG11	M16	IRED.P11xM16.B
PG11	M20	IRED.P11xM20.B
PG13.5	M16	IRED.P13xM16.B
PG13.5	M20	IRED.P13xM20.B
PG13.5	M25	IRED.P13xM25.B
PG16	M16	IRED.P16xM16.B
PG16	M20	IRED.P16xM20.B
PG16	M25	IRED.P16xM25.B
PG16	M32	IRED.P16xM32.B
PG21	M16	IRED.P21xM16.B
PG21	M20	IRED.P21xM20.B
PG21	M25	IRED.P21xM25.B
PG21	M32	IRED.P21xM32.B
PG29	M25	IRED.P29xM25.B
PG29	M32	IRED.P29xM32.B
PG29	M40	IRED.P29xM40.B
PG36	M32	IRED.P36xM32.B
PG36	M40	IRED.P36xM40.B
PG36	M50	IRED.P36xM50.B
PG42	M50	IRED.P42xM50.B
PG42	M63	IRED.P42xM63.B




## Adapter Ex db / Ex eb

Uitwendig Male	Inwendig Female	Type
M16	M20	IAD.M16xM20 □
M20	M25	IAD.M20xM25 □
M25	M32	IAD.M25xM32 □
M32	M40	IAD.M32xM40 □
M40	M50	IAD.M40xM50 □
M50	M63	IAD.M50xM63 □
M63	M75	IAD.M63xM75 □
M75	M90	IAD.M75xM90 □
3/8"NPT	1/2"NPT	IAD.N3/8xN1/2 □
1/2"NPT	3/4"NPT	IAD.N1/2xN3/4 □
3/4"NPT	1"NPT	IAD.N3/4xN1 □



Messing - Brass - B  
 Vernikkeld - Nickel plated - N

## Nijlon gasket


Afbeelding Illustration	Grootte Size	Type
	M 16	IGAS M16
	M 20	IGAS M20
	M 25	IGAS M25
	M 32	IGAS M32
	M 40	IGAS M40
	M 50	IGAS M50
	M 63	IGAS M63
	M 75	IGAS M75
	M 90	IGAS M90


## Reducer Ex db / Ex eb

Afbeelding Illustration	Grootte Size	Type
	M 16	Ie3316 □
	M 20	IE3320 □
	M 25	IE3325 □
	M 32	IE3332 □
	M 40	IE3340 □
	M 50	IE3350 □
	M 63	IE3363 □
	M 75	IE3375 □
	M 90	IE3390 □

Vernikkeld - Nickel plated - N  
RVS 316 - Stainless Steel 316 - S

## Earthtag

Afbeelding Illustration	Grootte Size	Type
	M 16	IEART.M16
	M 20	IEART.M20
	M 25	IEART.M25
	M 32	IEART.M32
	M 40	IEART.M40
	M 50	IEART.M50
	M 63	IEART.M63
	M 75	IEART.M75
	M 90	IEART.M90

Afbeelding Illustration	Grootte Size	Aderdoorsnede Conductor size mm <sup>2</sup>	Aantal draden Number of wires	Max. stroom / Current (A)		Type
				T = 40°C	T = 80°C	
 <p>IWR</p>	Size 1 M20 / ½"NPT	0.50	8	6	4	IW□1.05 □
		0.75/1.00	6	10	5	IW□1.07 □
		1.50	3	15	8	IW□1.15 □
		2.50	3	20	10	IW□1.25 □
	Size 2 M25 ¾"NPT	0.50	18	6	4	IW□2.05 □
		0.75/1.00	14	10	5	IW□2.10 □
		1.50	12	15	8	IW□2.15 □
		2.50	8	20	10	IW□2.25 □
		4	4	26	14	IW□2.40 □
		6	2	35	18	IW□2.60 □
Size 3 M32 1"NPT	10	1	50	25	IW□2.100□	
	0.50	25	6	4	IW□3.05 □	
	0.75/1.00	20	10	5	IW□3.07 □	
	1.5	16	15	8	IW□3.15 □	
	2.5	12	20	10	IW□3.25 □	
	4	10	26	14	IW□3.40 □	
	6	8	35	18	IW□3.60 □	
	10	6	50	25	IW□3.100□	
Size 4 M40 1¼"NPT	16	4	70	33	IW□3.160□	
	0.50	36	6	4	IW□4.05 □	
	0.75/1.00	30	10	5	IW□4.07 □	
	1.5	25	15	8	IW□4.15 □	
	2.5	22	20	10	IW□4.25 □	
	4	15	26	14	IW□4.40 □	
	6	11	35	18	IW□4.60 □	
	10	8	50	25	IW□4.100□	
Size 5 M50 1½"NPT	16	6	70	33	IW□4.160□	
	25	4	90	45	IW□4.250□	
	0.50	52	6	4	IW□5.05 □	
	0.75/1.00	48	10	5	IW□5.07 □	
	1.50	40	15	8	IW□5.15 □	
	2.50	36	20	10	IW□5.25 □	
	4	28	26	14	IW□5.40 □	
	6	16	35	18	IW□5.60 □	
	10	11	50	25	IW□5.100□	
	16	8	70	33	IW□5.160□	
Size 6 M63 2"NPT	25	5	90	45	IW□5.250□	
	35	4	115	54	IW□5.350□	
	50	3	140	68	IW□5.500□	
	0.50	85	6	4	IW□6.05 □	
	0.75/1.00	80	10	5	IW□6.07 □	
	1.5	68	15	8	IW□6.15 □	
	2.5	59	20	10	IW□6.25 □	
	4	45	26	14	IW□6.40 □	
	6	26	35	18	IW□6.60 □	
	10	18	50	25	IW□6.100□	
	16	13	70	33	IW□6.160□	
	25	9	90	45	IW□6.250□	
	35	7	115	54	IW□6.350□	
	50	5	140	68	IW□6.500□	
70	4	170	82	IW□6.700□		

Notes:

- Wiring is cast in over at least 25 mm.
- For cables, the sheath is removed in the nipple and the loose wiring is cast in over at least 25 mm. The maximum number of loose wires is max 75% of the above numbers
- All nipples are wired and filled with B-compound by Index Elektro bv

one side threads - R  
to side threads - N

Brass - B  
Brass Nickel plated - N  
Stainless Steel 316 - S