

plastic cable glands IP 55

ISO and PG

NEW



Technical characteristics (p. 303)

Cable gland and with flexible blades designed for commercial applications that require IP 55 protection and a good hold on the cables

Pack	Cat.Nos	Grey RAL 7035 cable glands		
ISO				
Conform to EN 50262				
		ISO	Clamping capacity	
			Ø Min. (mm)	Ø Max. (mm)
50	968 00	12	4	6.5
50	968 01	16	5	10
50	968 03	20	10	14
50	968 05	25	13	18
25	968 06	32	18	25
10	968 07	40	22	32
10	968 08	50	30	38
10	968 09	63	34	44
PG				
Conform to UTE C 68-300 and 68-311 guides recommendations				
		PG	Clamping capacity	
			Ø Min. (mm)	Ø Max. (mm)
50	968 20	7	3.5	6
50	968 21	9	4	8
50	968 22	11	5	10
50	968 23	13.5	7	12
50	968 24	16	10	14
50	968 25	21	13	18
25	968 26	29	18	25
10	968 27	36	22	32
10	968 28	42	30	38
10	968 29	48	34	44

Grey RAL 7035 locking nuts

ISO		
50	968 40	12
50	968 41	16
50	968 43	20
50	968 45	25
25	968 46	32
10	968 47	40
10	968 48	50
10	968 49	63
PG		
50	968 30	7
50	968 31	9
50	968 32	11
50	968 33	13.5
50	968 34	16
50	968 35	21
25	968 36	29
10	968 37	36
10	968 38	42
10	968 39	48

plastic cable glands IP 68

ISO and PG



Technical characteristics (p. 303)
Agreements (p. 952)

Anti-vibration mechanically tightened cable gland with neoprene weatherproof seal for IP 68 protection
Locking part consisting of flexible blades which exert strong pressure on the cable thus giving the product excellent tensile strength
Supplied with surface seal mounted
Polyamide

Pack	Cat.Nos	Grey RAL 7001 cable glands		
ISO				
Conform to EN 50 262				
		ISO	Clamping capacity	
			Ø Min. (mm)	Ø Max. (mm)
25	980 00	12	3	6.5
25	980 01	16	4	8
25	980 03	20	6	12
10	980 05	25	12	18
5	980 06	32	18	25
3	980 07	40	22	32
2	980 08	50	30	38
2	980 09	63	34	44
PG				
Conform to UTE C 68-300 and 68-311 guides recommendations				
		PG	Clamping capacity	
			Ø Min. (mm)	Ø Max. (mm)
25	980 20	7	3	6.5
25	980 21	9	4	8
25	980 22	11	5	10
25	980 23	13.5	6	12
20	980 24	16	10	14
10	980 25	21	12	18
5	980 26	29	18	25
3	980 27	36	22	32
2	980 28	42	30	38
2	980 29	48	34	44

Grey RAL 7001 stopping plugs - ISO

Hexagonal with base ensuring the IP protection of the enclosure Can be tightened using a flat screwdriver Supplied with surface seal Nuts to be ordered separately		
50	980 41	16
50	980 43	20
50	980 45	25
25	980 46	32
25	980 47	40

Metal cable glands (p. 304)

plastic cable glands IP 55/IP 68

■ RAL 7035 cable glands

Characteristics

Halogen-free polyamide UL 94-V2
 Operating temperature: - 20 °C to + 80 °C
 Self-extinguishing 650 °C according to IEC 60695-2-11

Dimensions (mm)

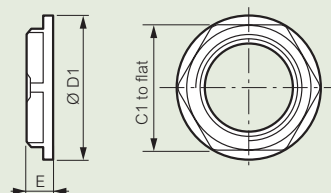
ISO							
Cat.Nos	Threading	A max.	B	∅ D	C to flat	∅ E	Drilling ∅
968 00	ISO 12	23	8	19	16	11.8	12.7
968 01	ISO 16	28	15	25	22	15.8	16.2
968 03	ISO 20	34	15	29	26	19.9	20.4
968 05	ISO 25	36	15	35	30	24.8	25.4
968 06	ISO 32	40	15	46	42	31.6	32.5
968 07	ISO 40	47	18	53	52	39.8	40.5
968 08	ISO 50	48	18	65	58	49.8	50.8
968 09	ISO 63	55	18.5	71	66	62.6	64

PG							
Cat.Nos	Threading	A max.	B	∅ D	C to flat	∅ E	Drilling ∅
968 20	PG 7	23	8	17	15	12.1	12.7
968 21	PG 9	27	8	22	19	15.1	15.2
968 22	PG 11	31	8	25	22	18.2	18.6
968 23	PG 13.5	32	9	27	24	20.2	20.4
968 24	PG 16	32	10	29	27	22.3	22.5
968 25	PG 21	35	11	39	33	28.7	28.3
968 26	PG 29	41	11	46	42	36.9	37
968 27	PG 36	50	14.5	59	53	46.4	47
968 28	PG 42	52	14.5	66	59	53.5	54
968 29	PG 48	52	14.5	70	64	59.9	60

■ RAL 7035 locking nuts

Glass fiber polyamide

Dimensions (mm)



ISO				
Cat.Nos	Threading	C1 to flat	E	∅ D1
968 40	ISO 12	17	5	19
968 41	ISO 16	22	5	24
968 43	ISO 20	26	6	28
968 45	ISO 25	32	6	35
968 46	ISO 32	42	7	46
968 47	ISO 40	50	7	56
968 48	ISO 50	60	8	66
968 49	ISO 63	75	8	81

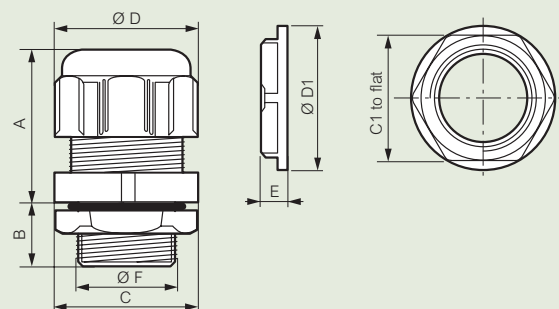
PG				
Cat.Nos	Threading	C1 to flat	E	∅ D1
968 30	PG 7	19	5	21
968 31	PG 9	22	5	24
968 32	PG 11	24	5	26
968 33	PG 13.5	26	6	28
968 34	PG 16	32	6	35
968 35	PG 21	36	7	38
968 36	PG 29	46	7	51
968 37	PG 36	60	8	66
968 38	PG 42	64	8	72
968 39	PG 48	69	8	77

■ RAL 7001 cable glands

Characteristics

Halogen-free polyamide UL 94-V2
 Operating temperature: - 20 °C to + 80 °C
 Self-extinguishing 960 °C according to IEC 60695-2-11

Dimensions (mm)



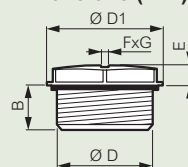
ISO										
Cat.Nos	Threading	A	B	∅ D	C (to flat)	∅ F	Drilling ∅	C1	E	∅ D1
980 00	ISO 12	22	10	16.8	15	11.9	12.7	19	5	21
980 01	ISO 16	26	10	21	19	15.9	16.2	22	5	24
980 03	ISO 20	29	12	26.5	24	19.8	20.4	26	6	28
980 05	ISO 25	35	15	36	33	24.8	25.4	32	6	35
980 06	ISO 32	40	15	46.5	42	31.6	32.5	42	7	43
980 07	ISO 40	49	17	58.5	53	39.9	40.5	50	7	56
980 08	ISO 50	54	17	66.5	60	50	50.8	60	8	66
980 09	ISO 63	54	18	75	68	62.9	64	75	8	82

PG										
Cat.Nos	Threading	A	B	∅ D	C (to flat)	∅ F	Drilling ∅	C1	E	∅ D1
980 20	PG 7	22	10	16.8	15	12.5	12.7	19	5	21
980 21	PG 9	26	10	21	19	15.2	15.2	22	5	24
980 22	PG 11	27	12	24.5	22	18.6	18.6	24	5	26
980 23	PG 13.5	29	12	26.5	24	20.4	20.4	26	6	28
980 24	PG 16	30	13	29.5	27	22.5	22.5	32	6	35
980 25	PG 21	35	15	36	33	28.3	28.3	36	7	38
980 26	PG 29	40	15	46.5	42	37	37	46	7	51
980 27	PG 36	49	17	58.5	53	47	47	60	8	66
980 28	PG 42	54	17	66.5	60	54	54	70	8	78
980 29	PG 48	54	18	75	68	60	60	75	8	82

■ RAL 7001 stopping plugs

Polyamide

Dimensions (mm)



Cat.Nos	Threading	∅ D	D1	F X G	B	E
980 41	ISO 16	15.8	20.5	8 x 2	12	3.9
980 43	ISO 20	19.8	25	8 x 2	12	3.8
980 45	ISO 25	24.8	30.5	8 x 2	12	4.4
980 46	ISO 32	31.8	38	8 x 2	12	4.9
980 47	ISO 40	39.8	46.5	8 x 2	12.5	4.9

metal cable glands IP 68

ISO and PG



Pack	Cat.Nos	Metal cable glands		
		Mechanically tightened cable glands with neoprene weatherproof seal for IP 68 protection. Locking part consisting of flexible blades which exert strong pressure on the cable thus giving the product excellent tensile strength Supplied with surface seal mounted		
		ISO Conform to EN 50262		
			Clamping capacity	
		ISO	Ø Min. (mm)	Ø Max. (mm)
20	955 01	16	4	9.5
20	955 03	20	7	13
10	955 05	25	8	16
5	955 06	32	11	21
5	955 07	40	15	27
2	955 08	50	22	35
2	955 09	63	35	48
		PG Conform to UTE C 68-300 and 68-312 guides recommendations		
			Clamping capacity	
		PG	Ø Min. (mm)	Ø Max. (mm)
20	955 10	7	3	6.5
20	955 11	9	4	9.5
20	955 12	11	6	11.5
20	955 13	13.5	7	13
20	955 14	16	8	15
10	955 15	21	11	19
10	955 16	29	16	26
10	955 17	36	22	34.5
2	955 18	42	27	40
2	955 19	48 DIN	35	48

Pack	Cat.Nos	Metal locking nuts	
		ISO	
50	979 81	16	
50	979 83	20	
50	979 85	25	
50	979 86	32	
25	979 87	40	
10	979 88	50	
10	979 89	63	
		PG	
50	979 90	7	
50	979 91	9	
50	979 92	11	
50	979 93	13.5	
50	979 94	16	
50	979 95	21	
25	979 96	29	
25	979 97	36	
10	979 98	42	
10	979 99	46	

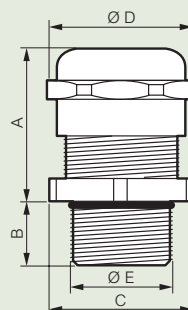
metal cable glands IP 68

■ Metal cable glands

Characteristics

Nickel-plated brass (locking part in polyamide)
Operating temperature : - 25 °C + 85 °C

Dimensions (mm)



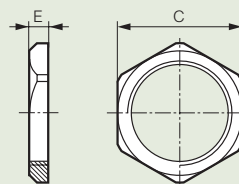
Cat.Nos	Threading	A max.	B	Ø D	C (to flat)	Ø E	Drilling Ø
955 01	ISO 16	25	5	19	17	15.9	16.2
955 03	ISO 20	27	6	24	22	19.8	20.4
955 05	ISO 25	27	7	30	27	24.6	25.4
955 06	ISO 32	31	8	36	34	31.6	32.5
955 07	ISO 40	34	8	46	42	39.7	40.5
955 08	ISO 50	37	9	60	55	49.7	50.8
955 09	ISO 63	45	10	70	65	62.6	64

Cat.Nos	Threading	A max.	B	Ø D	C (to flat)	Ø E	Drilling Ø
955 10	PG 7	21	5	15.6	14	12.4	12.7
955 11	PG 9	25	6	19	17	15.1	15.2
955 12	PG 11	25	6	22	20	18.4	18.6
955 13	PG 13.5	26	6.5	24	22	20.3	20.4
955 14	PG 16	28	6.5	26.6	24	22.4	22.5
955 15	PG 21	32	7	33	30	27.7	28.3
955 16	PG 29	36	8	44	40	36.9	37
955 17	PG 36	39	9	55.6	50	46.9	47
955 18	PG 42	42	10	63	58	54	54
955 19	PG 48	44	10	69.5	65	60	60

■ Metal locking nuts

Nickel-plated brass

Dimensions (mm)



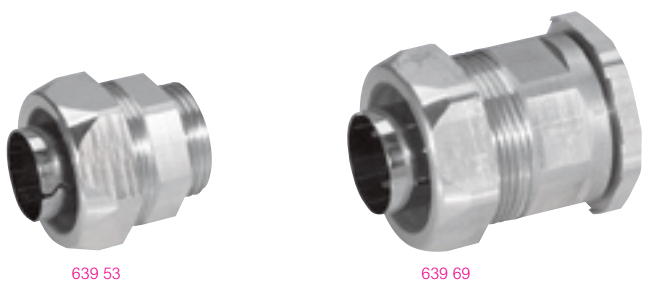
ISO			
Cat.Nos	Threading	C	E
979 81	ISO 16	19	3
979 83	ISO 20	24	3.5
979 85	ISO 25	30	4
979 86	ISO 32	36	4
979 87	ISO 40	46	5
979 88	ISO 50	60	5
979 89	ISO 63	70	6

PG			
Cat.Nos	Threading	C	E
979 90	PG 7	15	2.8
979 91	PG 9	18	2.8
979 92	PG 11	21	3
979 93	PG 13.5	23	3
979 94	PG 16	26	3
979 95	PG 21	32	3.5
979 96	PG 29	41	4
979 97	PG 36	51	5
979 98	PG 42	60	6
979 99	PG 48	65	6.5

NEW

connectors for metalloplastic rta flexible conduits

connectors for metalloplastic rta flexible conduits



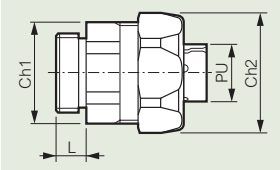
Pack	Cat.Nos	Spidò male aluminium connectors	
		Aluminium connectors, male fixed, for metalloplastic conduits PN series (p. 308) IP 68 with PN conduits Supplied in a plastic bag	
		ISO	
		Internal Ø (mm) conduit	Thread
15	639 58	10	ISO 16
15	639 59	12	ISO 20
40	639 60	15.5	ISO 20
40	639 61	20.5	ISO 25
20	639 62	26.5	ISO 32
8	639 63	34.5	ISO 40
8	639 64	39.5	ISO 50
8	639 65	50.5	ISO 63
		PG	
15	639 50	10	PG 9
15	639 51	12	PG 11
40	639 52	15.5	PG 16
40	639 53	20.5	PG 21
20	639 54	26.5	PG 29
8	639 55	34.5	PG 36
8	639 56	39.5	PG 42
8	639 57	50.5	PG 48

Pack	Cat.Nos	Spidò small aluminium connectors	
		Aluminium connectors with integrated nuts and O-ring for metalloplastic conduits PN series (p. 308) IP 68 with PN conduits The integrated flaring nuts reduce cables stress of flexure and internal overall dimensions Supplied in a plastic bag	
		Internal Ø (mm) conduit	Thread
15	639 66	10	PG 9
15	639 67	12	PG 11
40	639 68	15.5	PG 16
40	639 69	20.5	PG 21
20	639 70	26.5	PG 29
8	639 71	34.5	PG 36
8	639 72	39.5	PG 42
8	639 73	50.5	PG 48

Metalloplastic rta flexible conduits (p. 308)

■ Dimensions (mm) Spidò male aluminium connectors

Cat.Nos 639 50/51/52/53/54/55/56/57/58/59/60/61/62/63/64/65

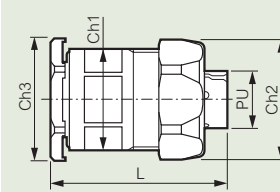


Cat.Nos	PU	L	CH1 (accross flat)	CH2 (accross flat)
639 50/58	8	8	19	22
639 51/59	10.5	8	22	26
639 52/60	14	8	25	29
639 53/61	19	8	30	35
639 54/62	24	9.5	38	45
639 55/63	32.8	9.5	46	54
639 56/64	37	11.5	55	60
639 57/65	48.5	13	57	77

Material
Body and nut: aluminium UNIEN 573-3 AW6262
Gasket: Polyurethane
Temperature: -20° to +80°

■ Dimensions (mm) Spidò small aluminium connectors

Cat.Nos 639 66/67/68/69/70/71/72/73



Cat.Nos	PU	L	CH1 (accross flat)	CH2 (accross flat)	CH3 (accross flat)
639 66	8	44	18	22	16
639 67	10.5	44	22	26	26
639 68	14	46.5	24	29	29
639 69	19	47.5	30	35	35
639 70	24	56.5	38	45	45
639 71	32.8	58.5	44	54	54
639 72	37	65.5	53	60	60
639 73	48.5	77.5	67	77	60

Material
Body and nut: aluminium UNIEN 573-3 AW6262
Gasket: Polyurethane
Temperature: -20° to +80°

SFP polyamide rta flexible conduits

conduits



637 05

637 34



638 93



Technical characteristics (p. 310)

Protect electrical cables in an environment requiring excellent flexibility
Very good resistance to impacts, chemical agents, and to high and low temperatures

Conform to standard EN 61386-1
IP 66, IP 68 with weatherproof seal
Halogen-free polyamide

Pack	Cat.Nos	Standard																																					
		Black spiral PA 6.6 conduit Suitable for the majority of applications for constructing machines and installations Conform to standard NF R 13-903 Supplied by packs of 25 or 50 metres (see packing)																																					
		<table border="1"> <thead> <tr> <th colspan="2">ø (mm)</th> </tr> <tr> <th>internal</th> <th>external</th> </tr> </thead> <tbody> <tr> <td>50</td> <td>637 01</td> <td>7</td> <td>10</td> </tr> <tr> <td>50</td> <td>637 02</td> <td>8</td> <td>12</td> </tr> <tr> <td>50</td> <td>637 03</td> <td>12</td> <td>16</td> </tr> <tr> <td>50</td> <td>637 04</td> <td>15</td> <td>20</td> </tr> <tr> <td>50</td> <td>637 05</td> <td>19</td> <td>25</td> </tr> <tr> <td>25</td> <td>637 06</td> <td>25</td> <td>32</td> </tr> <tr> <td>25</td> <td>637 07</td> <td>33</td> <td>40</td> </tr> <tr> <td>25</td> <td>637 08</td> <td>42</td> <td>50</td> </tr> </tbody> </table>		ø (mm)		internal	external	50	637 01	7	10	50	637 02	8	12	50	637 03	12	16	50	637 04	15	20	50	637 05	19	25	25	637 06	25	32	25	637 07	33	40	25	637 08	42	50
ø (mm)																																							
internal	external																																						
50	637 01	7	10																																				
50	637 02	8	12																																				
50	637 03	12	16																																				
50	637 04	15	20																																				
50	637 05	19	25																																				
25	637 06	25	32																																				
25	637 07	33	40																																				
25	637 08	42	50																																				

Pack	Cat.Nos	TR																																	
		Spiral PA 6.6 conduit covered with a metal braid Suitable for harsh conditions with risk of splashing (chips, solder splashes, etc) Supplied by packs of 25 or 50 metres (see packing)																																	
		<table border="1"> <thead> <tr> <th colspan="2">ø (mm)</th> </tr> <tr> <th>internal</th> <th>external⁽¹⁾</th> </tr> </thead> <tbody> <tr> <td>50</td> <td>637 32</td> <td>8</td> <td>12 / 14.5</td> </tr> <tr> <td>50</td> <td>637 33</td> <td>12</td> <td>16 / 18.5</td> </tr> <tr> <td>50</td> <td>637 34</td> <td>15</td> <td>20 / 22.5</td> </tr> <tr> <td>50</td> <td>637 35</td> <td>19</td> <td>25 / 27.5</td> </tr> <tr> <td>25</td> <td>637 36</td> <td>25</td> <td>32 / 34.5</td> </tr> <tr> <td>25</td> <td>637 37</td> <td>33</td> <td>40 / 44.5</td> </tr> <tr> <td>25</td> <td>637 38</td> <td>42</td> <td>50 / 52.5</td> </tr> </tbody> </table>		ø (mm)		internal	external ⁽¹⁾	50	637 32	8	12 / 14.5	50	637 33	12	16 / 18.5	50	637 34	15	20 / 22.5	50	637 35	19	25 / 27.5	25	637 36	25	32 / 34.5	25	637 37	33	40 / 44.5	25	637 38	42	50 / 52.5
ø (mm)																																			
internal	external ⁽¹⁾																																		
50	637 32	8	12 / 14.5																																
50	637 33	12	16 / 18.5																																
50	637 34	15	20 / 22.5																																
50	637 35	19	25 / 27.5																																
25	637 36	25	32 / 34.5																																
25	637 37	33	40 / 44.5																																
25	637 38	42	50 / 52.5																																

Pack	Cat.Nos	TR protection rings
		Fitted on the ends of the metal braid on the SFP TR conduit
		External ø (mm) conduit with braid
25	638 92	14.5
25	638 93	18.5
25	638 94	22.5
10	638 95	27.5
10	638 96	34.5
10	638 97	44.5
5	638 98	52.5

(1) Only polyamid conduit/conduit with braid

SFP polyamide rta flexible conduits

connectors and junctions, accessories



637 55

637 85

638 09

638 10

Pack	Cat.Nos		Connectors and junctions	
			Provide excellent tensile strength in static and dynamic applications No tools needed when used with SFP standard, robotic and TR polyamide conduits Conduit inserted directly, clamped by simply pulling the ring, locked with a 1/4 turn with closing indication IP 66, IP 68 with weatherproof seal Supplied in a sachet Black halogen-free PA 6.6	
			Straight and right-angled male connectors	
			External ø (mm) polyamide conduit	Thread
			10	ISO 12
			12	ISO 16
			16	ISO 16
			16	ISO 20
			20	ISO 20
			20	ISO 25
			25	ISO 25
			32	ISO 32
			40	ISO 40
			50	ISO 50
			Right-angled base connectors	
			Supplied with joint surface	
			External ø (mm) polyamide conduit:	
			40	
			50	
			Y junctions	
			External ø (mm) polyamide conduit:	
			12 / 10 - 10	
			16 / 12 - 12	
			20 / 12 - 12	
			20 / 16 - 16	
			25 / 20 - 20	

SFP polyamide rta flexible conduits

connectors and junctions, accessories



638 65



638 74



Example of associated bases



979 45

Pack	Cat.Nos	Accessories
------	---------	-------------

IP 68 weatherproof seals

Fitted at the ends of the conduit to obtain IP 68 with the connectors and junctions
Supplied in a sachet

External \varnothing (mm) polyamide conduit:

50	638 61	10
50	638 62	12
50	638 63	16
50	638 64	20
10	638 65	25
10	638 66	32
10	638 67	40
10	638 68	50

Snap-fixing bases

Accessory for holding SFP standard and robotic polyamide conduits
Fixed with screws (not supplied)
Conduit simply clipped in place and closed with a cover
Bases can be used with clips supplied
Supplied in a sachet
Black PA 6.6

External \varnothing (mm) conduit (arrival/departure):

25	638 71	10
25	638 72	12
25	638 73	16
10	638 74	20
10	638 75	25
10	638 76	32
5	638 77	40
5	638 78	50

Nuts

Hexagonal with conduit support in order to protect the casing surface when tightening
Black reinforced fibreglass PA 6

50	979 40	ISO 12
50	979 41	ISO 16
50	979 43	ISO 20
50	979 45	ISO 25
25	979 46	ISO 32
25	979 47	ISO 40
25	979 48	ISO 50

SFP polyamide rta flexible conduits

mounting principle

■ Mounting principle

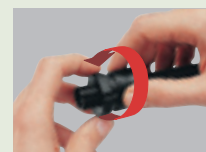
Assembling the SFP polyamide rta connector



1. Insert the conduit



2. Clamp the connector by pulling on the ring



3. Lock with a 1/4 turn

Assembling the weatherproof seal

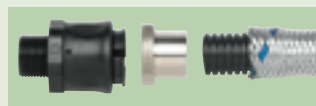


1. Position the seal on the conduit



2. Fit the connector

Assembling the TR protection ring



1. Composition of the assembly

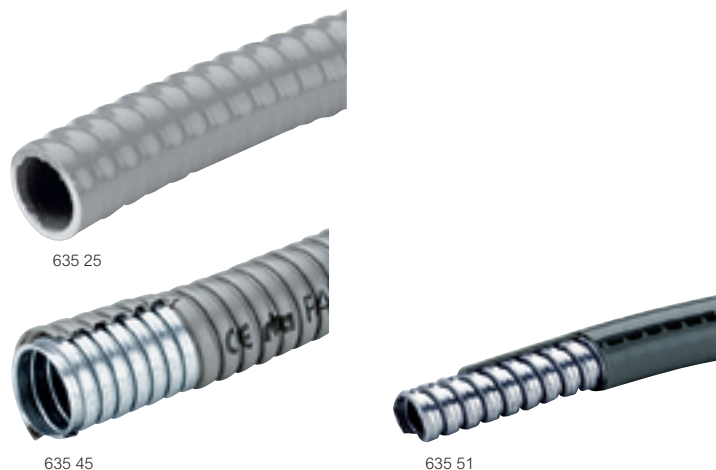


2. Place the protection ring in position



3. Fit the connector

PVC and metalloplastic rta flexible conduits



Technical characteristics (p. 312)

Protect electrical cables in a harsh environment requiring good resistance to oils and dilute acids
 Excellent flexibility
 FP 2000 PVC and metalloplastic conduits conforming to standard EN 61386-1
 P2 metalloplastic conduits conforming to standard UL 224

Pack	Cat.Nos	PVC																																					
		FP 2000																																					
		Conduit in grey PVC with reinforcement Smooth interior allows cables to slide through easily Ensures excellent mechanical resistance IP 44 with Universale connectors IP 66 with Metal 2000 connectors Supplied by packs of 25 or 50 metres (see packing)																																					
		<table border="1"> <thead> <tr> <th colspan="2">∅ (mm)</th> </tr> <tr> <th>internal</th> <th>external</th> </tr> </thead> <tbody> <tr><td>50</td><td>635 21</td><td>10</td><td>15.5</td></tr> <tr><td>50</td><td>635 22</td><td>12.5</td><td>17.5</td></tr> <tr><td>50</td><td>635 23</td><td>16</td><td>21</td></tr> <tr><td>50</td><td>635 24</td><td>21</td><td>26</td></tr> <tr><td>25</td><td>635 25</td><td>27</td><td>33.5</td></tr> <tr><td>25</td><td>635 26</td><td>35.5</td><td>42.5</td></tr> <tr><td>25</td><td>635 27</td><td>40.5</td><td>48.5</td></tr> <tr><td>25</td><td>635 29</td><td>52</td><td>60.5</td></tr> </tbody> </table>		∅ (mm)		internal	external	50	635 21	10	15.5	50	635 22	12.5	17.5	50	635 23	16	21	50	635 24	21	26	25	635 25	27	33.5	25	635 26	35.5	42.5	25	635 27	40.5	48.5	25	635 29	52	60.5
∅ (mm)																																							
internal	external																																						
50	635 21	10	15.5																																				
50	635 22	12.5	17.5																																				
50	635 23	16	21																																				
50	635 24	21	26																																				
25	635 25	27	33.5																																				
25	635 26	35.5	42.5																																				
25	635 27	40.5	48.5																																				
25	635 29	52	60.5																																				

Pack	Cat.Nos	Metalloplastic																																					
		Excellent mechanical resistance Electrical continuity guaranteed with Metal 2000 connectors IP 65 with Metal 2000 connectors																																					
		FA																																					
		Single seam connection steel conduit, coated with aspirated grey PVC Supplied by packs of 25 or 50 metres (see packing)																																					
		<table border="1"> <thead> <tr> <th colspan="2">∅ (mm)</th> </tr> <tr> <th>internal</th> <th>external</th> </tr> </thead> <tbody> <tr><td>50</td><td>635 41</td><td>10</td><td>14</td></tr> <tr><td>50</td><td>635 42</td><td>12</td><td>15.5</td></tr> <tr><td>50</td><td>635 43</td><td>15.5</td><td>19.5</td></tr> <tr><td>50</td><td>635 44</td><td>20.5</td><td>24.5</td></tr> <tr><td>25</td><td>635 45</td><td>26.5</td><td>31.5</td></tr> <tr><td>25</td><td>635 46</td><td>34.5</td><td>40</td></tr> <tr><td>25</td><td>635 47</td><td>39.5</td><td>45</td></tr> <tr><td>25</td><td>635 49</td><td>50.5</td><td>56</td></tr> </tbody> </table>		∅ (mm)		internal	external	50	635 41	10	14	50	635 42	12	15.5	50	635 43	15.5	19.5	50	635 44	20.5	24.5	25	635 45	26.5	31.5	25	635 46	34.5	40	25	635 47	39.5	45	25	635 49	50.5	56
∅ (mm)																																							
internal	external																																						
50	635 41	10	14																																				
50	635 42	12	15.5																																				
50	635 43	15.5	19.5																																				
50	635 44	20.5	24.5																																				
25	635 45	26.5	31.5																																				
25	635 46	34.5	40																																				
25	635 47	39.5	45																																				
25	635 49	50.5	56																																				

Pack	Cat.Nos	PN																																					
		Single seam connection steel conduit, coated with smooth grey PVC Excellent resistance to wear and abrasion Supplied by packs of 25 or 50 metres (see packing)																																					
		<table border="1"> <thead> <tr> <th colspan="2">∅ (mm)</th> </tr> <tr> <th>internal</th> <th>external</th> </tr> </thead> <tbody> <tr><td>50</td><td>635 51</td><td>10</td><td>15.5</td></tr> <tr><td>50</td><td>635 52</td><td>12</td><td>18</td></tr> <tr><td>50</td><td>635 53</td><td>15.5</td><td>21.5</td></tr> <tr><td>50</td><td>635 54</td><td>20.5</td><td>27</td></tr> <tr><td>25</td><td>635 55</td><td>26.5</td><td>34</td></tr> <tr><td>25</td><td>635 56</td><td>34.5</td><td>42.5</td></tr> <tr><td>25</td><td>635 57</td><td>39.5</td><td>48.5</td></tr> <tr><td>25</td><td>635 59</td><td>50.5</td><td>61</td></tr> </tbody> </table>		∅ (mm)		internal	external	50	635 51	10	15.5	50	635 52	12	18	50	635 53	15.5	21.5	50	635 54	20.5	27	25	635 55	26.5	34	25	635 56	34.5	42.5	25	635 57	39.5	48.5	25	635 59	50.5	61
∅ (mm)																																							
internal	external																																						
50	635 51	10	15.5																																				
50	635 52	12	18																																				
50	635 53	15.5	21.5																																				
50	635 54	20.5	27																																				
25	635 55	26.5	34																																				
25	635 56	34.5	42.5																																				
25	635 57	39.5	48.5																																				
25	635 59	50.5	61																																				

connectors for PVC and metalloplastic rta flexible conduits



Connectors for PVC conduits

Universal straight male connectors

IP 44 with FP 2000 conduit
 Supplied in a sachet
 Grey reinforced fibreglass PA 6

Pack	Cat.Nos	∅ conduit (mm)		Thread
		min. internal	max. external	
25	636 01	10	16	ISO 16
25	636 02	12	18	ISO 16
25	636 03	12	18	ISO 20
10	636 04	15	21.5	ISO 20
10	636 05	20	26.5	ISO 25
5	636 06	27	33.5	ISO 32
1	636 09	34.5	42.5	ISO 40
1	636 10	39	50	ISO 40
1	636 12	50	61	ISO 50
25	636 21	10	16	PG 9
25	636 22	12	18	PG 11
25	636 23	12	18	PG 13.5
10	636 24	15	21.5	PG 13.5
10	636 25	15	21.5	PG 16
10	636 26	20	26.5	PG 21
5	636 27	27	33.5	PG 29

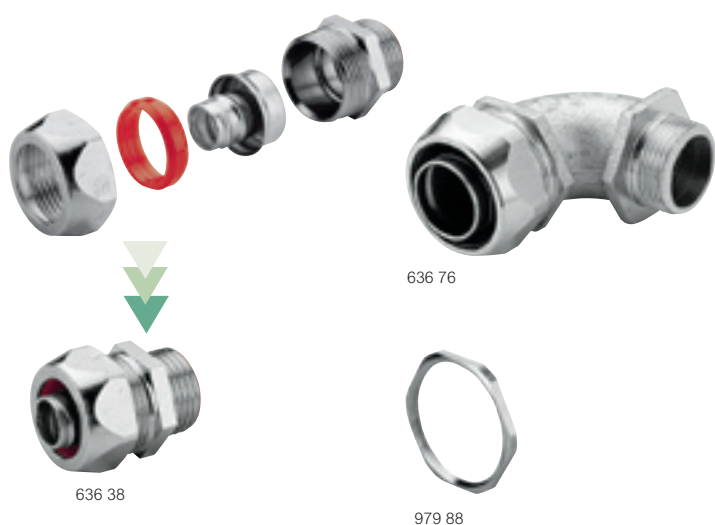
Nuts for universal connectors

Hexagonal with conduit support in order to protect the casing surface when tightening
 Black reinforced fibreglass PA 6

Pack	Cat.Nos	Thread
50	979 41	ISO 16
50	979 43	ISO 20
50	979 45	ISO 25
25	979 46	ISO 32
25	979 47	ISO 40
25	979 48	ISO 50
50	979 51	PG 9
50	979 52	PG 11
50	979 53	PG 13.5
50	979 54	PG 16
50	979 55	PG 21
25	979 56	PG 29

Spidò connectors for PN metalloplastic rta flexible conduits (p. 305)

connectors for PVC and metalloplastic rta flexible conduits (continued)



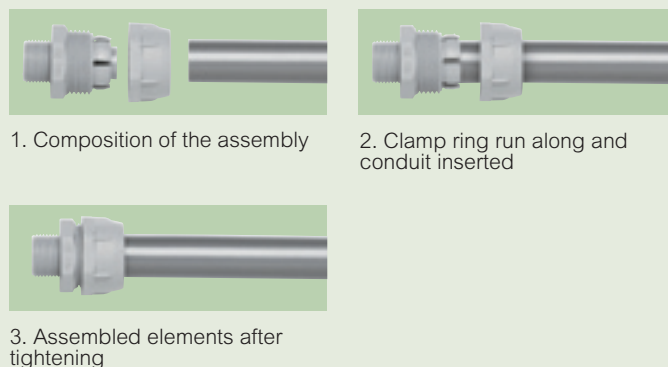
Pack	Cat.Nos		Connectors for FP 2000 PVC and metalloplastic conduits	
			Metal 2000 male connectors	
			Sealing ring providing the IP between the connector and the conduit	
			IP 66 with PVC FP 2000 conduit	
			IP 65 with metalloplastic conduits	
			Tinned steel ferrule screwed inside the metal conduit to ensure electrical continuity and protection of cables	
			Supplied in a sachet. Nickel-plated brass	
			Internal Ø (mm) conduit	Thread
1	Straight	Right-angled	10	ISO 16
1	636 31	636 71	12	ISO 16
1	636 32	636 72	12	ISO 20
1	636 33	636 73	15.5	ISO 20
1	636 35	636 74	20.5	ISO 25
1	636 37	636 75	26.5	ISO 25
1	636 38		26.5	ISO 32
1	636 39	636 76	34.5	ISO 40
1	636 40	636 77	39.5	ISO 50
1	636 41	636 78	50.5	ISO 63
1	636 42	636 79	10	PG 9
1	636 52	636 82	10	PG 11
1	636 53	636 83	12	PG 11
1	636 55	636 84	15.5	PG 13.5
1	636 58	636 86	15.5	PG 16
1	636 59	636 87	20.5	PG 21
1	636 60	636 88	26.5	PG 29
1	636 61	636 89	34.5	PG 36
1	636 62	636 90	39.5	PG 42
1	636 63	636 91	50.5	PG 48
1	636 64	636 92		
			Nuts for metal connectors	
			Nickel-plated brass	
50			ISO 16	
50			ISO 20	
50			ISO 25	
50			ISO 32	
25			ISO 40	
10			ISO 50	
10			ISO 63	
50			PG 9	
50			PG 11	
50			PG 13.5	
50			PG 16	
50			PG 21	
25			PG 29	
25			PG 36	
10			PG 42	
10			PG 48	

PVC and metalloplastic rta flexible conduits

mounting principle

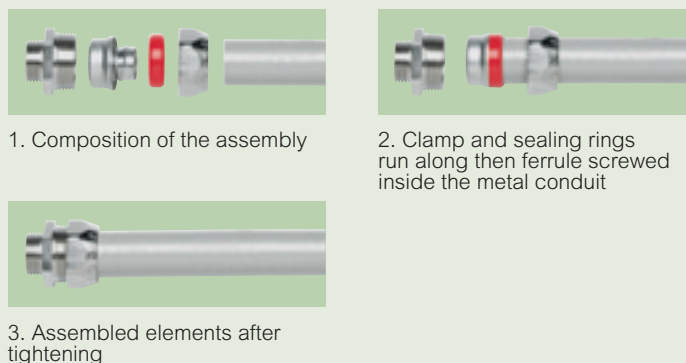
■ Mounting principle

Assembling the Universale connector



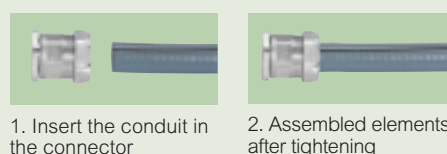
■ Installation

Assembling the Metal 2000 connector



■ Installation

Assembling the Spido connector



SFP polyamide rta flexible conduits

Characteristics

SFP polyamide conduit		Standard	Robotics	TR
Materials ⁽¹⁾		PA 6.6	PA 12	PA 6.6 + zinc-plated steel
Classification acc. to EN 50086-1	ext. diam. ≤ 12 mm	2 2 2 3	1 1 4 2	2 4 4 3
	ext. diam. > 12 mm	2 4 4 3	1 4 5 2	
Compressive strength		320 N	125 N	320 N
Impact strength	ext. diam. ≤ 12 mm	IK 06 (1 joule)	IK 04 (0.5 joule)	IK 08 (6 joules)
	ext. diam. > 12 mm	IK 08 (6 joules)	IK 08 (6 joules)	
Operating temperatures ⁽²⁾	min.	- 25 °C	- 45 °C	- 25 °C
	max.	+ 105 °C	+ 90 °C	+ 105 °C
Protection acc. to IEC EN 50086-1		IP 66/IP 68 (with seal)		
Held the U.V.		500 h	500 h	> 500 h
Self-extinguishing acc. to EN 50086-1		Flame-retardant		
Self-extinguishing ⁽³⁾ acc. to IEC EN 60695-2-11		750 °C		
Resistance to the main chemical agents	Lead-free petrol	***	***	***
	Dilute industrial detergents	***	***	***
	Diesel	***	**	***
	Lubricating oils	***	***	***
	Dilute acids	*	*	-
	Dilute alkaline solutions	***	***	***
	Cleaning solvents	***	***	***

(1) Halogen-free materials

(2) Min. - 45 °C, max. + 105 °C for connectors and junctions

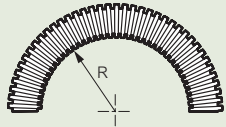
(3) 850 °C for connectors and junctions

*** Very good

** Good

* Limited

Conduit bending radius

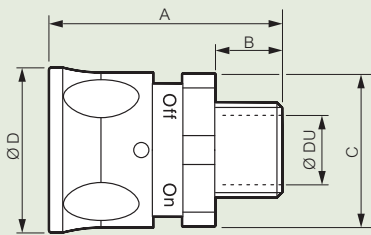


Cat.Nos	int. Ø (mm)	R min. (mm) ⁽¹⁾		
		Standard	Robotic	TR
637 01	7	18	16	-
637 02/32	8	20	18	23
637 03/33	12	25	22	25
637 04/34	15	30	27	30
637 05/35	19.5	40	36	40
637 06/36	25.5	50	45	55
637 07/37	33	60	54	70
637 08/38	42	70	63	110

(1) Indicative dimensions

Dimensions

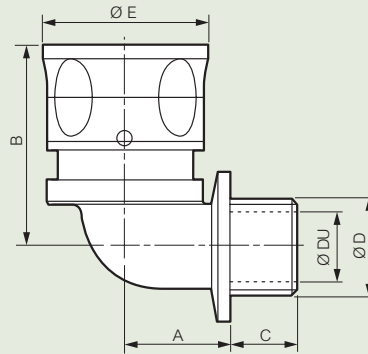
Straight male connectors



ISO

Cat.Nos	Thread	Dimensions (mm)				
		Ø DU	A	B	C (across flat)	Ø D
637 50	ISO 12	7	41.5	10	22	24
637 51	ISO 16	9	41.5	10	24	26
637 52	ISO 16	11	46	12	28	30.5
637 53	ISO 20	12.5	46	12	28	30.5
637 54	ISO 20	14.5	49	14	32	34.5
637 55	ISO 25	15.5	49	14	32	34.5
637 56	ISO 25	19	52	14	38	39.5
637 57	ISO 32	26	56	14	45	47
637 58	ISO 40	33.4	59	14	54	55
637 59	ISO 50	42.8	66	16	64	65

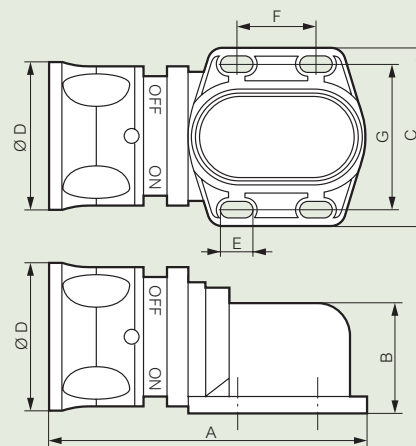
Right-angled male connectors 90°



ISO

Cat.Nos	Thread	Dimensions (mm)					
		Ø DU	A	B	C	Ø D	Ø E
637 80	ISO 12	7	16	33.5	10	17.5	24
637 81	ISO 16	8.2	17	34	10	21	26
637 82	ISO 16	10.4	19.5	39.5	12	26	30.5
637 83	ISO 20	10.4	19.5	39.5	12	26	30.5
637 84	ISO 20	13.8	22	41.5	14	31	34.5
637 85	ISO 25	13.8	22	41.5	14	31	34.5
637 86	ISO 25	16.9	25	48	14	34	39.5
637 87	ISO 32	25.3	28.5	58.5	14	43	47

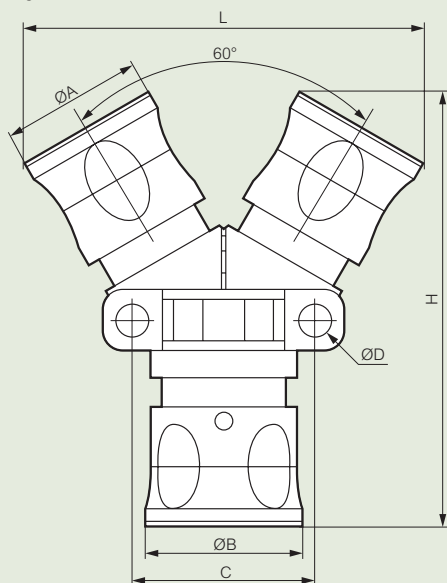
Right-angled base connectors 90°



Cat.Nos	Dimensions (mm)						
	A	B	C	Ø D	E	F	G
638 08	130	60	89	47	13	43	75
638 09	155	60	89	55	13	43	75

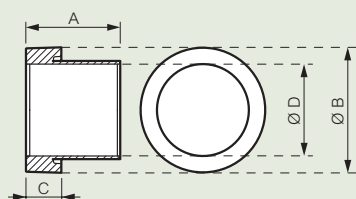
SFP polyamide rta flexible conduits

Y junctions



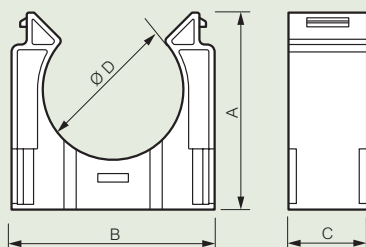
Cat.Nos	Dimensions (mm)						
	H	L	Depth	Ø A	Ø B	C	Ø D
638 10	70	65	32	26	24	30	5.5
638 12	77	70	32	30.5	26	30	5.5
638 14	82	72	41	34.5	26	30	5.5
638 16	86	81	41	34.5	30.5	42	5.5
638 18	92	86	41	34.5	34.5	42	5.5

IP 68 weatherproof seal



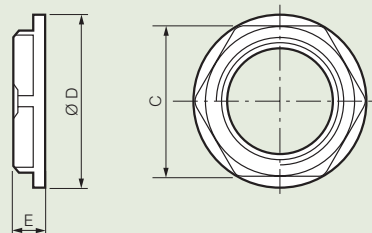
Cat.Nos	Dimensions (mm)			
	A	Ø B	C	Ø D
638 61	10	9.7	3.5	5.4
638 62	10	11.7	3.5	7.4
638 63	11	15.6	3.5	11.4
638 64	15	19.8	5	14.1
638 65	18	24.9	7	17.6
638 66	23	31.9	9	23.4
638 67	24.5	39.9	9	31.4
638 68	27.5	49.9	10	40.1

Snap-fixing base



Cat.Nos	Dimensions (mm)			
	A	B	C	D
638 71	21.5	22.5	18	10
638 72	24.5	23.5	18	12
638 73	28.5	26	18	16
638 74	32.5	32	18	20
638 75	39	38	18	25
638 76	45	46.5	18	32
638 67	53.5	53.5	18	40
638 78	61	63	18	50

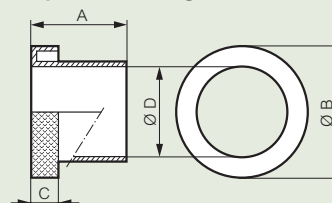
Nuts



ISO

Cat.Nos	Thread	Dimensions (mm)		
		C	E	Ø D
979 40	ISO 12	19	5	21
979 41	ISO 16	22	5	24
979 43	ISO 20	26	6	28
979 45	ISO 25	32	6	35
979 46	ISO 32	41	7	43
979 47	ISO 40	50	7	56
979 48	ISO 50	60	8	66

TR protection rings



Cat.Nos	Dimensions (mm)			
	A	Ø B	C	Ø D
637 32	21	19.7	6	12
637 33	21	24.8	6	16
637 34	21	28.8	6	20
637 35	21	34.6	8	25
637 36	21	42	8	32
637 37	21	50	10	40
637 38	21	61	10	50

PVC rta flexible conduits and universal connectors

■ Characteristics

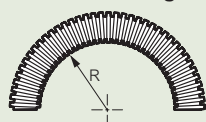
PVC conduit		GE - PVC	FP 2000
Materials		plasticized PVC	PVC
Classification according to EN 61386-1		-	2 3 1 1
Compressive strength		-	320 N
Impact strength		-	IK 07 (2 joules)
Operating temperatures ⁽¹⁾	min.	- 15 °C	+ 5 °C
	max.	+ 70 °C	+ 60 °C
Protection in accordance with IEC EN 60529	With Universale connector	IP 65	IP 44
	With Metal 2000 connector	-	IP 66
Fire resistance ⁽²⁾ in accordance with EN 61386-1		Flameproof	
Resistance to the main chemical agents	Lead-free petrol	..	...
	Dilute industrial detergents	...	...
	Diesel	..	...
	Lubricating oils	...	..
	Dilute acids	..	..
	Dilute alkaline solutions	.	.
	Cleaning solvents	..	.

(1) Min. - 20 °C, max. 80 °C for connectors

(2) Universale connectors, self-extinguishing at 850 °C acc. to IEC EN 60695-2-11 - V.O. acc. to UL 94

... Very good
 .. Good
 . Limited

Conduit bending radius

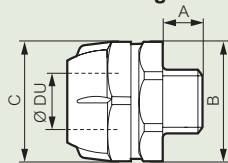


FP 2000		
Cat.Nos	∅ internal	R min. (mm) ⁽¹⁾
635 21	10	40
635 22	12.5	55
635 23	16	70
635 24	21	80
635 25	27	90
635 26	35.5	120
635 27	40.5	140
635 29	52	160

(1) Indicative dimensions

■ Dimensions

Universal straight male connectors



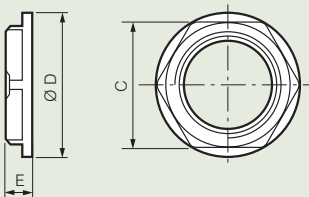
ISO

Cat.Nos	Thread	Dimensions (mm)			
		∅ DU	A	B (across flat)	C (across flat)
636 01	ISO 16	8	10	24	25
636 02	ISO 16	10	12	26	28
636 03	ISO 20	10	12	26	28
636 04	ISO 20	13	13	31	34
636 05	ISO 25	18	14	36	40
636 06	ISO 32	24	15	45	48
636 09	ISO 40	32	15	54	60
636 10	ISO 40	34	15	61	67
636 12	ISO 50	45.5	20	73	80

PG

Cat.Nos	Thread	Dimensions (mm)			
		∅ DU	A	B (across flat)	C (across flat)
636 21	PG 9	8	10	24	25
636 22	PG 11	10	12	26	28
636 23	PG 13.5	10	13	26	28
636 24	PG 13.5	13	13	31	34
636 25	PG 16	13	13	31	34
636 26	PG 21	18	14	36	40
636 27	PG 29	24	15	45	48

Nuts for universal connectors



ISO

Cat.Nos	Thread	Dimensions		
		C	E	∅ D
979 41	ISO 16	22	5	24
979 43	ISO 20	26	6	28
979 45	ISO 25	32	6	35
979 46	ISO 32	41	7	43
979 47	ISO 40	50	7	56
979 48	ISO 50	60	8	66
979 49	ISO 63	75	8	82

PG

Cat.Nos	Thread	Dimensions		
		C	E	∅ D
979 51	PG 9	22	5	24
979 52	PG 11	24	5	26
979 53	PG 13.5	26	6	28
979 54	PG 16	32	6	35
979 55	PG 21	36	7	38
979 56	PG 29	46	7	51

metalloplastic rta flexible conduits and Metal 2000 connectors

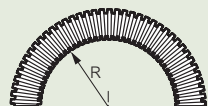
■ Characteristics

Metalloplastic conduit		FA	PN	P2
Materials		PVC coated hot dip galvanized steel		
Classification according to EN 61386-1		3 3 3 1	3 3 3 1	4 4 3 1
Compressive strength		750 N	750 N	1250 N
Impact strength		IK 07 (2 joules)	IK 07 (2 joules)	IK 08 (6 joules)
Operating temperatures ⁽¹⁾	min.		- 15 °C	
	max.		+ 60 °C	
Protection in accordance with IEC EN 60529 with metal connector		IP 65		
Self-extinguishing in accordance with EN 61386-1		Flameproof		
Resistance to the main chemical agents	Lead-free petrol	...	..	...
	Dilute industrial detergents	...	...	...
	Diesel	..	..	..
	Lubricating oils	...	...	...
	Dilute acids	..	.	.
	Dilute alkaline solutions	.	.	.
	Cleaning solvents	.	.	.

(1) Min. -20 °C, max. 80 °C for connectors

... Very good
 .. Good
 . Limited

Conduit bending radius

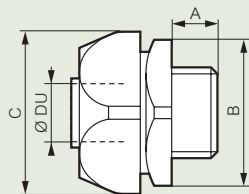


FA			PN		
Cat.Nos	∅ internal	R min. (mm) ⁽¹⁾	Cat.Nos	∅ internal	R min. (mm) ⁽¹⁾
635 41	10	30	635 51	10	35
635 42	12	35	635 52	12	50
635 43	15.5	40	635 53	15.5	70
635 44	20.5	60	635 54	20.5	80
635 45	26.5	100	635 55	26.5	110
635 46	34.5	110	635 56	34.5	135
635 47	39.5	150	635 57	39.5	160
635 49	50.5	200	635 59	50.5	200

(1) Indicative dimensions

■ Dimensions

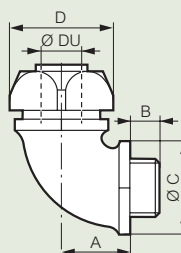
Metal 2000 straight male connectors



Cat.Nos	Thread	Dimensions (mm)			
		∅ DU	A	B (across flat)	C (across flat)
636 31	ISO 16	8.5	10	20	22
636 32	ISO 16	10	10	24	26
636 33	ISO 20	10	10	24	26
636 35	ISO 20	14	10	27	29
636 37	ISO 25	19	10	33	35
636 38	ISO 25	24	10	43	35
636 39	ISO 32	24	12	43	45
636 40	ISO 40	32	14	51	54
636 41	ISO 50	37	14	60	62
636 42	ISO 63	47	16	74	77

Cat.Nos	Thread	Dimensions (mm)			
		∅ DU	A	B (across flat)	C (across flat)
636 52	PG 9	8.5	10	20	22
636 53	PG 11	8.5	10	20	22
636 55	PG 11	10	10	24	26
636 58	PG 13.5	14	10	27	29
636 59	PG 16	14	10	27	29
636 60	PG 21	19	10	33	35
636 61	PG 29	24	12	43	45
636 62	PG 36	32	14	51	54
636 63	PG 42	37	14	60	62
636 64	PG 48	47	16	74	77

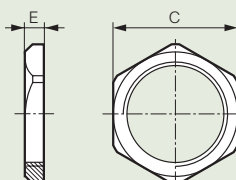
Metal 2000 right-angled male connectors 90°



Cat.Nos	Thread	Dimensions (mm)				
		∅ DU	A	B	∅ C	D (across flat)
636 71	ISO 16	8.5	20.5	10	22	22
636 72	ISO 16	10	23	10	25	26
636 73	ISO 20	10	23	10	25	26
636 74	ISO 20	14	23.5	10	27	29
636 75	ISO 25	19	27.5	10	32	35
636 76	ISO 32	24	33	14	42	45
636 77	ISO 40	32	39	16	51	54
636 78	ISO 50	37	47	18	60	62
636 79	ISO 63	47	55	20	74	77

Cat.Nos	Thread	Dimensions (mm)				
		∅ DU	A	B	∅ C	D (across flat)
636 82	PG 9	8.5	20.5	10	22	22
636 83	PG 11	8.5	20.5	10	22	22
636 84	PG 11	10	23	10	25	26
636 86	PG 13.5	14	23.5	10	27	29
636 87	PG 16	14	23.5	10	27	29
636 88	PG 21	19	27.5	10	33	35
636 89	PG 29	24	33	14	42	45
636 90	PG 36	32	39	16	51	54
636 91	PG 42	37	47	18	60	62
636 92	PG 48	47	55	20	74	77

Nuts for Metal 2000 connectors



Cat.Nos	Thread	Dimensions (mm)	
		C	E
979 81	ISO 16	19	3
979 83	ISO 20	24	3.5
979 85	ISO 25	30	4
979 86	ISO 32	36	4
979 87	ISO 40	46	5
979 88	ISO 50	60	5
979 89	ISO 63	70	5

Cat.Nos	Thread	Dimensions (mm)	
		C	E
979 91	PG 9	18	2.8
979 92	PG 11	21	3
979 93	PG 13.5	23	3
979 94	PG 16	26	3
979 95	PG 21	32	3.5
979 96	PG 29	41	4
979 97	PG 36	51	5
979 98	PG 42	60	5
979 99	PG 48	64	5.5