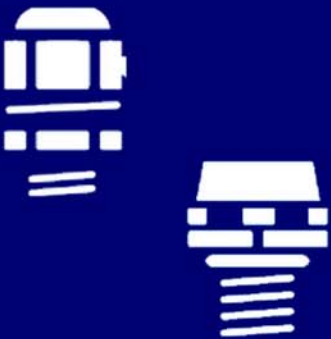




Electrical Components

Cable Glands & Accessories

- Industrial Domed Cable Glands ▪
Plastic & Metal ▪ EMC ▪
Compression ▪ 90° ▪
- Flex-Protect ▪ Thread Adapters ▪
Locknuts ▪ Stopping Plugs ▪
Sealing Washers ▪ Multi-hole Seals



Cable Glands & Accessories

This catalog features ITC’s extensive range of liquid-tight, strain relief cord connectors (cable glands) and accessories, including locknuts, sealing washers, plugs, etc. These cable glands suit the majority of industrial applications such as switchgear manufacturing, automation and control panels, machine tools, instrumentation, and anywhere else a reliable, liquid-tight and pull-resistant seal is required when running cables and wires from an enclosure to the external environment.

ITC’s cable glands are available in an array of styles and colours, and in the most popular threads including NPT, PG, Metric and BSP (PF or Gas). These glands are designed to accommodate a wide variety of cable diameters, from approximately 2mm-63mm / 0.08-2.50”, and most models are IP68 rated, meaning that they can be immersed in matter and still maintain a liquid-tight seal. The majority of models carry UL, CSA and VDE certifications.

ITC’s plastic glands are made of polyamide 6 (or PA6). Plastic locknuts are made of PA6 reinforced with 33% fiberglass. Standard colours are Black (RAL9005) or light grey (RAL7035). Other colours: Dark grey (RAL7001) available upon request for all polyamide glands, blue (RAL5015) standard for Ex-i glands, and red (RAL3020) or white (RAL9003) available for select models only. Metal glands and locknuts are made of brass, nickel plated for optimal resistance to corrosion (some models available upon request in stainless steel - please consult ITC). Internal seals are made of neoprene (synthetic rubber). See page 29 for more detailed characteristics of these materials.

New items to be found in this catalogue include metal glands for extra-large diameters of wires, long-thread glands, multi-hole seals, 90-degrees elbow connectors (male-female), and brass fittings for liquid-tight conduits.

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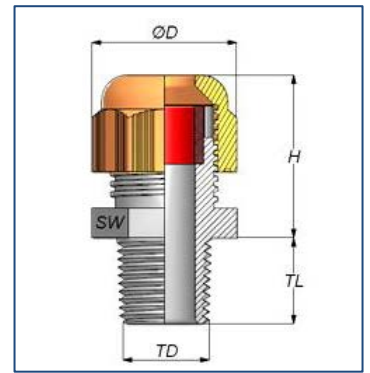
Plastic Glands - NPT Thread

Standard liquid-tight polyamide (plastic) strain-relief connectors are used in most industrial applications for protecting and sealing a cable or wire in the transition across a panel or machine wall. They accept a wide range of cable diameters, offer mechanical strength nearly equal to that of their metal counterparts, yet they are light, extremely resistant to corrosion and cost-effective.







The synchronous compression of the claw ring assures a liquid-tight and tug-proof grip on the cable, able to withstand submersion in low-pressure underwater applications without risk of corrosion or leakage.

Features and specifications:

- Operating Temperature: -20 to +100°C (permanent), -30 to 150°C (intermittent)
- Ingress Protection: IP68 @ 5 bar
- Material: Body and dome: Polyamide 6, Seal: Chloroprene






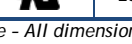


Plastic NPT Glands with Standard Seal (Order by Part No.)

NPT	Part Number		Cert.	Cable Range		Gland Dimensions (mm)				Gland Dimensions (in)				Pack
	Light Grey	Black		mm	in	TD	TL	H	ØD	TD	TL	H	ØD	
3/8" NPT	180.038	180.138		5-10	0.197-0.394	17.0	15	29.0	25.2	0.675	0.59	1.14	0.99	50
1/2" NPT	180.050	180.150		6-12	0.236-0.472	21.3	15	30.5	27.7	0.84	0.59	1.20	1.09	50
1/2" NPTL	182.050	182.150		10-14	0.394-0.551	21.3	15	32.0	31.0	0.84	0.59	1.263	1.22	50
3/4" NPT	182.075	182.175		13-18	0.511-0.709	26.7	15	35.5	37.0	1.05	0.59	1.397	1.464	25
1" NPT	180.091	180.191		18-25	0.709-0.984	33.4	18	40.5	47.5	1.32	0.709	1.594	1.87	20
1 1/4" NPT	-	180.194		22-32	0.866-1.260	42.0	18	53.0	53.0	1.654	0.709	2.087	2.087	10

Information subject to change without notice - All dimensions in mm except where indicated. See page 29 for recommended cut-out sizes

Plastic NPT Glands with Reducing Seal (Order by Part No.)

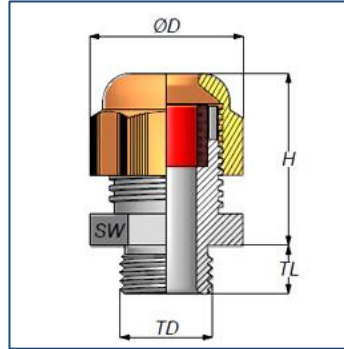
NPT	Part Number		Cert.	Cable Range		Gland Dimensions (mm)				Gland Dimensions (in)				Pack
	Light Grey	Black		mm	in	TD	TL	H	ØD	TD	TL	H	ØD	
3/8" NPT	181.038	181.138		3-7	0.118-0.276	17.2	15	29.0	25.2	0.675	0.59	1.140	0.99	50
1/2" NPT	181.050	181.150		5-9	0.197-0.354	21.3	15	30.5	27.7	0.84	0.59	1.200	1.09	50
1/2" NPTL	183.050	183.150		7-12	0.276-0.472	21.3	15	32.0	31.0	0.84	0.59	1.263	1.22	50
3/4" NPT	183.075	183.175		9-16	0.354-0.630	26.7	15	35.5	37.0	1.05	0.59	1.397	1.464	25
1" NPT	181.091	181.191		12-20	0.472-0.787	33.5	18	40.5	47.5	1.315	0.709	1.594	1.87	20
1 1/4" NPT	-	181.194		20-26	0.787-1.024	42.0	18	51.5	53.0	1.654	0.709	2.087	2.087	10

Information subject to change without notice - All dimensions in mm except where indicated. See page 29 for recommended cut-out sizes










Plastic Glands - Metric Thread

Features and specifications:

- Operating Temperature: -20 to 100°C (permanent), -30 to 150°C (intermittent)
- Ingress Protection: IP68 @ 5 bar
- Material: Body and dome: Polyamide 6, Seal: Chloroprene












Plastic Metric Glands with Standard Seal (Order by Part No.)

M	Part Number		Cert.	Cable Range		Gland Dimensions (mm)				Pack
	Light Grey	Black		mm	Inches	TD	TL	H	ØD	
M12x1.5	180.012	180.112		3-6.5	0.118-0.256	12	8	23.0	17.2	100
M16x1.5	180.017	180.117		5-10	0.197-0.394	16	10	30.0	25.2	50
M20x1.5	180.020	180.120		6-12	0.236-0.472	20	10	30.0	27.7	50
M20x1.5	182.020	182.120		10-14	0.394-0.551	20	10	33.0	31.0	50
M25x1.5	180.025	180.125		13-18	0.512-0.709	25	10	35.5	37.2	25
M32x1.5	180.032	180.132		18-25	0.709-0.984	32	15	41.0	47.5	20
M40x1.5	180.040	180.140		22-32	0.866-1.260	40	18	50.0	60.0	10
M50x1.5	180.051	180.151		30-38	1.181-1.496	50	18	54.0	67.7	10
M63x1.5	180.063	180.163		34-44	1.339-1.732	63	18	54.5	72.2	10

Information subject to change without notice - All dimensions in mm except where indicated. See page 29 for recommended cut-out sizes

Plastic Metric Glands with Reducing Seal (Order by Part No.)

M	Part Number		Cert.	Cable Range		Gland Dimensions (mm)				Pack
	Light Grey	Black		mm	Inches	TD	TL	H	ØD	
M12x1.5	181.012	181.112		2-5	0.079-0.197	12	8	23.0	17.2	100
M16x1.5	181.017	181.117		3-7	0.118-0.276	16	10	30.0	25.2	50
M20x1.5	181.020	181.120		5-9	0.197-0.354	20	10	30.0	27.7	50
M20x1.5	183.020	183.120		7-12	0.276-0.472	20	10	33.0	31.0	50
M25x1.5	181.025	181.125		9-16	0.354-0.630	25	10	35.5	37.2	25
M32x1.5	181.032	181.132		12-20	0.472-0.787	32	15	41.0	47.5	20
M40x1.5	181.040	181.140		20-26	0.787-1.024	40	18	50.0	60.0	10
M50x1.5	181.051	181.151		25-31	0.984-1.220	50	18	54.0	67.7	10
M63x1.5	181.063	181.163		29-35	1.142-1.378	63	18	54.5	72.2	10

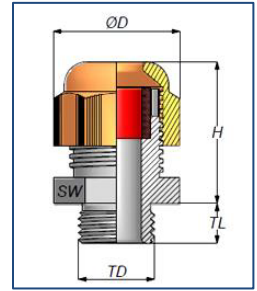
Information subject to change without notice - All dimensions in mm except where indicated. See page 29 for recommended cut-out sizes










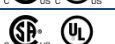
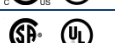

Plastic Glands - Pg Thread

Features and specifications:

- Operating Temperature: -20 to 100°C (permanent), -30 to 150°C (intermittent)
- Ingress Protection: IP68 @ 5 bar
- Material: Body and dome: Polyamide 6, Seal: Chloroprene













Plastic Pg Glands with Standard Seal (Order by Part No.)

Pg	Part Number		Cert.	Cable Range		Gland Dimensions				Pack
	Light Grey	Black		mm	Inches	TD	TL	H	ØD	
Pg7	180.007	180.107		3-6.5	0.118-0.256	12.4	8	23.0	17.2	100
Pg9	180.009	180.109		4-8	0.157-0.315	15.1	8	26.5	21.9	50
Pg11	180.011	180.111		5-10	0.197-0.394	18.5	8	28.0	25.2	50
Pg13.5	180.013	180.113		6-12	0.236-0.472	20.3	10	29.5	27.7	50
Pg16	180.016	180.116		10-14	0.394-0.551	22.5	10	32.5	31.0	50
Pg21	180.021	180.121		13-18	0.512-0.709	28.1	11	35.0	37.2	25
Pg29	180.029	180.129		18-25	0.709-0.984	37.0	11	42.0	47.5	20
Pg36	180.036	180.136		22-32	0.866-1.260	46.8	13	52.0	60.0	10
Pg42	180.042	180.142		30-38	1.181-1.496	54.0	13	54.5	67.7	10
Pg48	180.048	180.148		34-44	1.339-1.732	59.0	14	54.5	72.2	10

Information subject to change without notice - All dimensions in mm except where indicated
See page 29 for recommended cut-out sizes



Plastic Pg Glands with Reducing Seal (Order by Part No.)

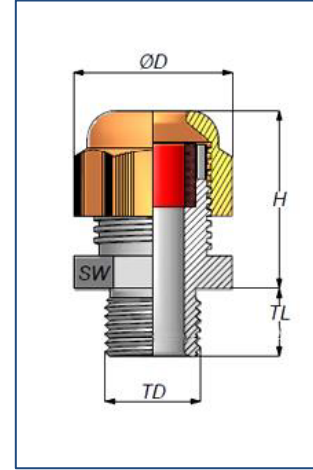
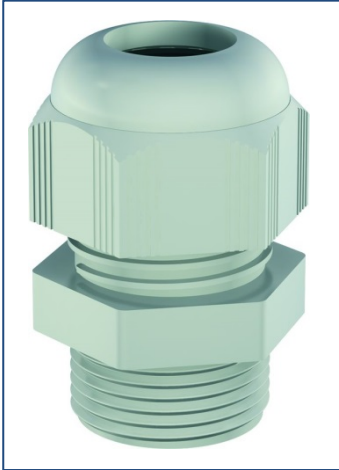
Pg	Part Number		Cert.	Cable Range		Gland Dimensions				Pack
	Light Grey	Black		mm	Inches	TD	TL	H	ØD	
Pg7	181.007	181.107		2-5	0.079-0.197	12.4	8	23.0	17.2	100
Pg9	181.009	181.109		2-6	0.079-0.236	15.1	8	26.5	21.9	50
Pg11	181.011	181.111		3-7	0.118-0.276	18.5	8	28.0	25.2	50
Pg13.5	181.013	181.113		5-9	0.197-0.354	20.3	10	29.5	27.7	50
Pg16	181.016	181.116		7-12	0.276-0.472	22.5	10	32.5	31.0	50
Pg21	181.021	181.121		9-16	0.354-0.630	28.1	11	35.0	37.2	25
Pg29	181.029	181.129		12-20	0.472-0.787	37.0	11	42.0	47.5	20
Pg36	181.036	181.136		20-26	0.787-1.024	46.8	13	52.0	60.0	10
Pg42	181.042	181.142		25-31	0.984-1.220	54.0	13	54.5	67.7	10
Pg48	181.048	181.148		29-35	1.142-1.378	59.0	14	54.5	72.2	10

Information subject to change without notice - All dimensions in mm except where indicated
See page 29 for recommended cut-out sizes





Plastic Glands with Long Thread - Metric & PG

Features and specifications:

- Operating Temperature: -20 to 100°C (permanent), -30 to 150°C (intermittent)
- Ingress Protection: IP68 @ 5 bar
- Material: Body and dome: Polyamide 6, Seal: Chloroprene






Plastic Metric Glands with Long Thread (Order by Part No.)

M	Part No.		Cert.	Cable Range		Gland Dimensions				Pack
	Light Grey	Black		mm	Inches	TD	TL	H	ØD	
M16x1.5	180.017L	180.117L		5-10	0.197-0.394	16	15	30.0	25.2	50
M20x1.5	180.020L	180.120L		6-12	0.236-0.472	20	15	30.0	27.7	50
M20x1.5	182.020L	182.120L		10-14	0.394-0.551	20	15	33.0	31.0	50
M25x1.5	180.025L	180.125L		13-18	0.512-0.709	25	15	35.5	37.2	25

Information subject to change without notice - All dimensions in mm except where indicated
See page 29 for recommended cut-out sizes

Plastic Pg Glands with Long Thread (Order by Part No.)

Pg	Part No.		Cert.	Cable Range		Gland Dimensions				Pack
	Light Grey	Black		mm	Inches	TD	TL	H	ØD	
Pg9	180.009L	180.109L		4-8	0.157-0.315	15.2	14.7	27.1	18.8	50
Pg11	180.011L	180.111L		5-10	0.197-0.394	18.3	14.9	32.0	22.0	50
Pg13.5	180.013L	180.113L		6-12	0.236-0.472	20.4	15.8	33.5	24.0	50

Information subject to change without notice - All dimensions in mm except where indicated
See page 29 for recommended cut-out sizes

Conus Polystyrene Glands - Pg Thread

These glands rely on the traditional axial compression of the top screw on an elastic grommet to obtain water resistant and strain-resistant seals.

Features and specifications:

- Operating Temperature: -30 to 80°C (permanent)
- Ingress Protection: IP65
- Material: Body and top screw: Polystyrene, Seal: PVC



Polystyrene Pg Conus Glands (Order by Part No.)

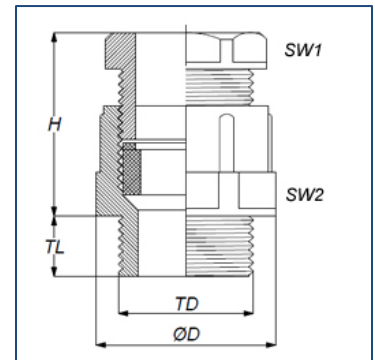
Pg	Part Number	Cable Range		Gland Dimensions				Pack
	Light Grey	mm	Inches	TD	TL	SW1	H	
Pg7	185.241 [^]	3-6	0.118-0.236	12.5	8	15	22	100
Pg11	185.243 [^]	6-9	0.236-0.354	18.6	8	22	25	50
Pg13.5	185.244 [^]	9-12	0.354-0.472	20.4	9	24	26	50
Pg16	185.245 [^]	11-14	0.433-0.551	22.5	10	27	28	50

Information subject to change without notice - All dimensions in mm except where indicated
[^] end of stock

Conus Metal Glands

Features and specifications:

- Operating Temperature: -20 to 100°C (permanent)
- Ingress Protection: IP55
- Material: Body and dome: Brass, nickel plated (except where indicated as brass)



Metal Pg Conus Glands (Order by Part No.)

Pg	Part No.	Cable Range		Gland Dimensions					Pack
		mm	inches	TD	TL	H	SW1	SW2	
Pg7	185.691 [^]	5-7	0.197-0.276	12.5	5	21.0	14	13	10
Pg9	185.692 [^]	8-10	0.315-0.394	15.2	6	23.0	17	15	10
Pg11	185.693 [^]	8-10	0.315-0.394	18.6	6	23.5	18	20	10
Pg13.5	185.694 [^]	10-12	0.394-0.472	20.4	6.5	25.5	20	22	10
Pg16	185.695 [^]	12-14	0.472-0.551	22.5	6.5	27.0	24	22	10
Pg21	185.696 [^]	17-19	0.669-0.748	28.3	7	29.5	28	30	10
Pg29	185.697 [^]	26-28	1.024-1.102	37.0	8	33.0	37	40	10
Pg36	185.698 [^]	33-35	1.299-1.378	47.0	9	39.0	47	50	10
Pg42	185.699 [^]	39-41	1.535-1.614	54.0	10	57.0	54	57	10
Pg48	185.700 [^]	43-45	1.693-1.772	59.3	10	46.0	60	64	5

Information subject to change without notice - All dimensions in mm except where indicated
[^] end of stock. See page 29 for recommended cut-out sizes



Metal BSP Conus Glands (Order by Part No.)

BSP	Part No.	Cable Range		Gland Dimensions					Pack
		mm	inches	TD	TL	H	SW1	SW2	
BSP 1/4"	185.771 [^]	5.5-7	0.217-0.276	13.0	6.5	23.5	13	15	10
BSP 1/2"	185.773 [^]	8-11	0.315-0.433	20.5	8.4	31.0	21	23	10
BSP 3/4"	185.775 [^]	14.5-17.5	0.571-0.689	26.0	9.0	35.0	27	29	10
BSP 1"	185.776 [^]	18-22	0.709-0.866	33.5	10.0	38.0	34	36	5
BSP 1 1/4"	185.778 ^{^a}	28-32	1.102-1.26	41.5	11.5	42.5	42	45	5
BSP 1 1/2"	185.779 ^{^a}	32-36	1.26-1.42	47.5	11.5	46.5	48	50	5
BSP 2"	185.780 ^{^a}	38-42	1.50-1.654	59.0	13.5	50.5	60	64	5

Information subject to change without notice - All dimensions in mm except where indicated
[^] end of stock. See page 29 for recommended cut-out sizes

^a Brass

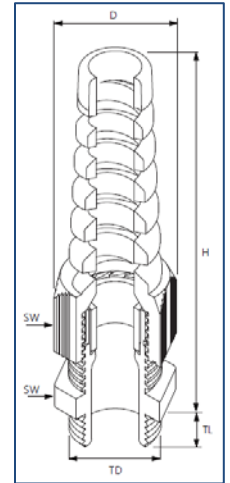
Flex-Protect Spiral Plastic Glands - NPT, Metric & Pg

Flex-protect cable glands (also known as “spiral” glands) offer added protection to the cable at its point of entry. The spiral head distributes strain over a larger area, avoiding damage that can result through repeated bending of the cord. These glands are made of polyamide (plastic) and have an internal compression claw ring, which assures a liquid-tight and tug-proof grip on the cable.





Available with standard and reducing seals.

Features and specifications:

- Operating Temperature: -20 to 100°C (permanent), -30 to 150°C (intermittent)
- Ingress Protection: IP68 @ 5 bar
- Material: Body and dome: Polyamide 6, Seal: Chloroprene




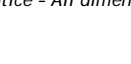


Flex-Protect NPT Plastic Glands with Standard Seal (Order by Part No.)

NPT	Part Number		Cert.	Cable Range		Gland Dimensions (mm)				Gland Dimensions (in)				Pack
	Light Grey	Black		mm	Inches	TD	TL	H	D	TD	TL	H	D	
3/8" NPT	180.538	180.438		5-10	.197-.394	17.2	15	80.5	25.3	0.675	.59	3.167	0.996	50
1/2" NPT	180.550	180.450		6-12	.236-.472	21.3	15	94.7	27.6	0.840	.59	3.730	1.086	50
1/2" NPT L	182.550	182.450		10-14	.394-.551	26.7	15	106.0	31.0	0.840	.59	4.169	1.220	50
3/4" NPT	182.575	182.475		14-18	.551-.709	33.4	15	117.4	37.9	1.315	.59	4.622	1.490	25





Information subject to change without notice - All dimensions in mm except where indicated. See page 29 for recommended cut-out sizes

Flex-Protect NPT Plastic Glands with Reducing Seal (Order by Part No.)

NPT	Part Number		Cert.	Cable Range		Gland Dimensions (mm)				Gland Dimensions (in)				Pack
	Light Grey	Black		mm	Inches	TD	TL	H	D	TD	TL	H	D	
3/8" NPT	181.538	181.438		3-7	.118-.276	17.2	15	80.5	25.3	0.675	.59	3.17	0.996	50
1/2" NPT	181.550	181.450		5-10	.197-.354	21.3	15	94.7	27.6	0.84	.59	3.73	1.086	50
1/2" NPT L	183.550L	183.450L		7-12	.276-.472	21.3	15	106.0	31.0	0.84	.59	4.17	1.220	50
3/4" NPT	183.575	183.475		9-16	.354-.630	33.4	15	117.4	37.9	1.315	.59	4.62	1.490	25





Information subject to change without notice - All dimensions in mm except where indicated. See page 29 for recommended cut-out sizes

Flex-Protect Metric Plastic Glands with Standard Seal (Order by Part No.)

M	Part Number		Cert.	Cable Range		Gland Dimensions				Pack
	Light Grey	Black		mm	Inches	TD	TL	H	D	
M12x1.5	180.512	180.412		3-6.5	0.118-0.256	12	8	56.0	17.1	100
M16x1.5	180.517	180.417		5-10	0.197-0.394	16	10	81.5	25.2	50
M20x1.5	180.520	180.420		6-12	0.236-0.472	20	10	94.5	27.6	50
M25x1.5	180.525	180.425		13-18	0.512-0.709	25	10	117.0	38.0	25







Information subject to change without notice - All dimensions in mm except where indicated. See page 29 for recommended cut-out sizes

Flex-Protect Metric Plastic Glands with Reducing Seal (Order by Part No.)

M	Part Number		Cert.	Cable Range		Gland Dimensions				Pack
	Light Grey	Black		mm	Inches	TD	TL	H	D	
M12x1.5	181.512	181.412		2-5	0.079-0.197	12	8	56.0	15	100
M16x1.5	181.517	181.417		3-7	0.118-0.276	16	10	81.5	22	50
M20x1.5	181.520	181.420		5-9	0.197-0.354	20	10	94.5	24	50
M25x1.5	181.525	181.425		9-16	0.354-0.630	25	10	117.0	33	25







Information subject to change without notice - All dimensions in mm except where indicated. See page 29 for recommended cut-out sizes

Flex-Protect Pg Plastic Glands with Standard Seal (Order by Part No.)

Pg	Part Number		Cert.	Cable Range		Gland Dimensions				Pack
	Light Grey	Black		mm	Inches	TD	TL	H	D	
Pg7	180.507	180.407		3-6.5	0.118-0.256	12.4	8	56.0	17.2	100
Pg9	180.509	180.409		4-8	0.157-0.315	15.1	8	69.0	21.8	50
Pg11	180.511	180.411		5-10	0.197-0.394	18.5	8	82.5	25.3	50
Pg13.5	180.513	180.413		6-12	0.236-0.472	20.3	9	94.0	27.6	50
Pg16	180.516	180.416		10-14	0.394-0.551	22.5	10	106	31.1	50
Pg21	180.521	180.421		13-18	0.512-0.709	28.1	11	117	38.0	25

Information subject to change without notice - All dimensions in mm except where indicated. See page 29 for recommended cut-out sizes

Flex-Protect Pg Plastic Glands with Reducing Seal (Order by Part No.)

Pg	Part Number		Cert.	Cable Range		Gland Dimensions				Pack
	Light Grey	Black		mm	Inches	TD	TL	H	D	
Pg7	181.507	181.407		2-5	0.079-0.197	12.4	8	56	17.2	100
Pg9	181.509	181.409		2-6	0.079-0.236	15.1	8	69	21.8	50
Pg11	181.511	181.411		3-7	0.118-0.276	18.5	8	82.5	25.3	50
Pg13.5	181.513	181.413		5-9	0.197-0.354	20.3	9	94	27.6	50
Pg16	181.516	181.416		7-12	0.276-0.472	22.5	10	106	31.1	50
Pg21	181.521	181.421		9-16	0.354-0.630	28.1	11	117	38.0	25

Information subject to change without notice - All dimensions in mm except where indicated. See page 29 for recommended cut-out sizes

Elbow Glands & Elbow Connectors

The elbow glands were designed for applications where the cable must enter the panel or machine parallel to its surface, in order to prevent sharp bending or to improve ingress protection against water, dust, etc. Elbow angle is 90 degrees. The elbow connectors unique 90 degrees connectors are provided with the same metric thread - one male, one female - at each end, thus permitting installation of a metric cable gland at right angle from the surface of the panel or machinery.

Features and specifications:

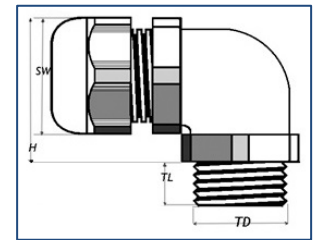
- Operating Temperature: -20-to 80°C (permanent)
- Ingress Protection: IP68 @ 5 bar
- Gland Material: Body and dome: Polyamide 6, Seal: Chloroprene, O-ring: Nitrile rubber
- Connector Material: Polyamide 6 + 30% fiberglass



Plastic NPT Elbow Glands (Order by Part No.)

NPT	Part No.	Cable Range		Gland Dimensions			Pack
	Black	mm	Inches	TD	TL	H	
3/8" NPT	187.238	5-9	0.118-0.354	16.7	11.7	30.0	20
1/2" NPT	187.250	10-13	0.394-0.512	21.2	14.7	31.2	20
3/4" NPT	187.275	13-16	0.512-0.630	26.3	14.8	41.6	20
1 1/4" NPT	187.294	22-29	0.866-1.142	41.9	18.8	53.0	10

Information subject to change without notice - All dimensions in mm except where indicated
See page 29 for recommended cut-out sizes



Plastic Pg Elbow Glands (Order by Part No.)

Pg	Part No.		Cable Range		Gland Dimensions				Pack
	Light Grey	Black	mm	Inches	TD	TL	SW	H	
Pg7	-	187.207	4-8	0.157-0.315	12.4	7	19	28.7	50
Pg9	-	187.209	4-8	0.157-0.315	15.5	8	22	29.0	50
Pg11	187.311^	187.211^	8-10	0.315-0.394	18.5	8	24	31.3	50
Pg13.5	187.313^	187.213^	10-12	0.394-0.472	20.4	9	27	34.0	50
Pg16	-	187.216^	12-14	0.472-0.551	22.4	10	29	38.2	50
Pg21	-	187.221^	14-18	0.551-0.709	28.3	11	36	45.7	25
Pg29	-	187.229^	18-24	0.709-0.945	37.0	11	46	57.0	10

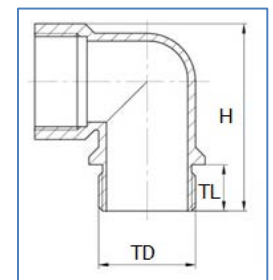
Pg thread elbow glands are supplied with an O-ring mounted on the male thread. Information subject to change without notice. All dimensions in mm except where indicated. See page 29 for recommended cut-out sizes
^ End of stock



Plastic Metric Elbow Connectors (Order by Part No.)

M	Part No.	Cable range		Connector dimensions			Pack
	Grey	mm	Inches	TD	TL	H	
M16x1.5	187.217	3-7	0.118-0.276	16	12	26.0	100
M20x1.5	187.220	5-9	0.197-0.354	20	12	30.0	50
M25x1.5	187.225	9-16	0.354-0.630	25	12	36.5	50
M32x1.5	187.232	18-25	0.709-0.984	32	14	43.5	25
M40x1.5	187.240	20-26	0.787-1.024	40	14	53.0	10

Information subject to change without notice. All dimensions in mm except where indicated
See page 29 for recommended cut-out sizes

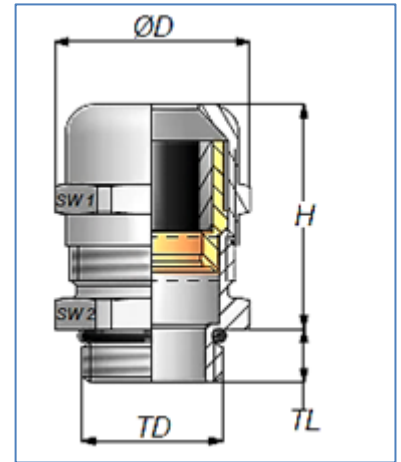


Metal Glands - NPT Thread





Liquid-tight metal glands offer excellent impact resistance, resistance to chemicals (solvents), a wide temperature range, while maintaining a liquid-tight and tug-proof grip on the cable by means of the inner claw ring. They accept a wider range of cable diameters, compared to standard industrial fittings.

Features and specifications:

- Operating Temperature: -20 to 100°C (permanent)
- Ingress Protection: IP68 @ 5 bar
- Material: Body and dome: Brass, nickel plated, Claw ring: Polyamide 6, Sealing ring: Chloroprene, O-ring: NBR






Metal NPT Glands with Regular Seal (Order by Part No.)

NPT	Part No.	Cert.	Cable Range		Gland Dimensions (mm)				Gland Dimensions (in)				Pack
			mm	inches	TD	TL	H	ØD	TD	TL	H	ØD	
3/8" NPT	180.738		4-8	.157-.314	16.7	11.5	23.0	19	.661	.452	0.905	.866	50
1/2" NPT	180.750		6-12	.236-.472	20.9	13.0	25.5	22	.822	.511	1.003	.964	50
1/2" NPT	182.750*	-	10-14	.394-.551	20.9	13.0	28.0	24	.822	.511	1.100	1.055	50
3/4" NPT	180.775		13-18	.511-.708	26.2	13.0	35.5	33	1.03	.511	1.397	1.299	25
1" NPT	180.791		18-25	.708-.984	3.33	24.0	29.0	34	1.29	.511	1.692	1.751	20

Information subject to change without notice. See page 29 for recommended cut-out sizes
 * Special order

Metal NPT Glands with Reducing Seal (Order by Part No.)

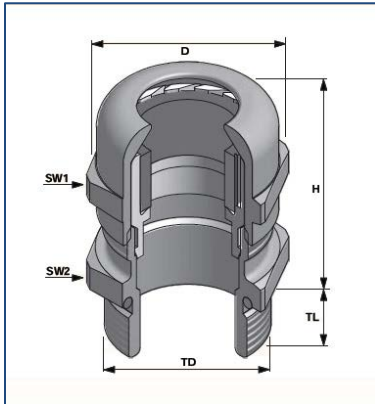
NPT	Part No.	Cert.	Cable Range		Gland Dimensions (mm)				Gland Dimensions (in)				Pack
			mm	inches	TD	TL	H	ØD	TD	TL	H	ØD	
3/8" NPT	181.738		3-7	.118-.276	16.7	11.5	23.0	19	.661	.452	0.905	.866	50
1/2" NPT	181.750		5-9	.197-.354	20.9	13.0	25.5	22	.822	.511	1.003	.964	50
3/4" NPT	181.775		9-16	.354-.630	26.2	13.0	35.5	33	1.03	.511	1.397	1.299	25

Information subject to change without notice. See page 29 for recommended cut-out sizes









Metal Glands with Standard Length Thread - Metric & Pg

Features and specifications:

- Operating Temperature: -20 to 100°C (permanent), -40 to 300°C (intermittent, silicone seal)
- Ingress Protection: IP68 @ 5 bar
- Material: Body and dome: Brass, nickel plated, Claw ring: Polyamide 6, Seal: Chloroprene











Metal Metric Glands (Order by Part No.)

M	Part No.	Cert.	Cable Range		Gland Dimensions					Pack
			mm	Inches	TD	TL	H	SW1	SW2	
M12x1.5	180.712		3-6.5	0.118-0.256	12	6	21.5	14	14	50
M16x1.5	180.717		4-8	0.157-0.315	16	7	23.0	17	18	50
M20x1.5	180.720		6-12	0.236-0.472	20	8	25.0	22	22	50
M25x1.5	180.725		10-14	0.394-0.551	25	8	28.0	24	27	25
M32x1.5	180.732		13-18	0.512-0.709	32	9	32.5	30	34	20
M40x1.5	180.740		18-25	0.709-0.984	40	9	38.0	40	43	20
M50x1.5	180.751		22-32	0.866-1.26	50	9	48.0	50	55	15
M63x1.5	180.763		34-44	1.339-1.732	63	14	54.0	64	68	12
M72x2	180.772	-	56-62	2.204-2.441	72	16	57.0	77	77	4











Information subject to change without notice - All dimensions in mm except where indicated.
See page 29 for recommended cut-out sizes

Metal Metric Glands with Reducing Seal (Order by Part No.)

M	Part No.	Cert.	Cable Range		Gland Dimensions					Pack
			mm	Inches	TD	TL	H	SW1	SW2	
M12x1.5	181.712		2-5	0.079-0.197	12	6	21.5	14	14	50
M16x1.5	181.717		3-7	0.118-0.276	16	7	23.0	17	18	50
M20x1.5	181.720		5-9	0.197-0.354	20	8	25.0	22	22	50
M25x1.5	181.725		7-12	0.276-0.472	25	8	28.0	24	27	25
M32x1.5	181.732		9-16	0.354-0.630	32	9	33.0	30	34	20
M40x1.5	181.740		20-26	0.787-1.024	40	9	38.0	40	43	20
M50x1.5	181.751*		25-31	0.984-1.220	50	9	48.0	50	55	15
M63x1.5	181.763*		29-35	1.142-1.380	63	14	53.0	64	68	12











Information subject to change without notice - All dimensions in mm except where indicated
* Special order. See page 29 for recommended cut-out sizes

Metal Pg Glands with Regular Seal (Order by Part No.)

Pg	Part No.	Cert.	Cable Range		Gland Dimensions					Pack
			mm	inches	TD	TL	H	SW1	SW2	
Pg7	180.707		3-6.5	0.118-0.256	12.5	6.0	22.0	14	14	50
Pg9	180.709		4-8	0.157-0.315	15.2	6.0	23.5	17	17	50
Pg11	180.711		5-10	0.197-0.394	18.6	6.0	26.0	20	20	50
Pg13.5	180.713		6-12	0.236-0.472	20.4	6.5	24.5	22	22	50
Pg16	180.716		10-14	0.394-0.551	22.5	6.5	28.0	24	24	25
Pg21	180.721		13-18	0.512-0.709	28.3	7.2	32.5	30	30	25
Pg29	180.729		18-25	0.709-0.984	37.0	8.0	38.5	40	40	20
Pg36	180.736		22-32	0.866-1.260	47.0	9.0	48.0	50	50	15
Pg42	180.742		30-38	1.181-1.496	54.0	12.0	48.5	58	58	12
Pg48	180.748		34-44	1.339-1.732	59.3	14.0	53.0	64	64	12

Information subject to change without notice - All dimensions in mm except where indicated.
See page 29 for recommended cut-out sizes

Metal Pg Glands with Reducing Seal (Order by Part No.)

Pg	Part No.	Cert.	Cable Range		Gland Dimensions					Pack
			mm	inches	TD	TL	H	SW1	SW2	
Pg7	181.707		2-5	0.079-0.197	12.5	6.0	22.0	14	14	50
Pg9	181.709		2-6	0.079-0.236	15.2	6.0	23.5	17	17	50
Pg11	181.711		3-7	0.118-0.276	18.6	6.0	26.0	20	20	50
Pg13.5	181.713		5-9	0.197-0.354	20.4	6.5	24.5	22	22	50
Pg16	181.716		7-12	0.276-0.472	22.5	6.5	28.0	24	24	25
Pg21	181.721		9-16	0.354-0.630	28.3	7.2	32.5	30	30	25
Pg29	181.729		12-20	0.472-0.787	37.0	8.0	38.5	40	40	20
Pg36	181.736		20-26	0.787-1.024	47.0	9.0	48.0	50	50	15
Pg42	181.742*		25-31	0.984-1.220	54.0	12.0	48.5	58	58	12
Pg48	181.748*		29-35	1.14-1.378	59.3	14.0	53.0	64	64	12

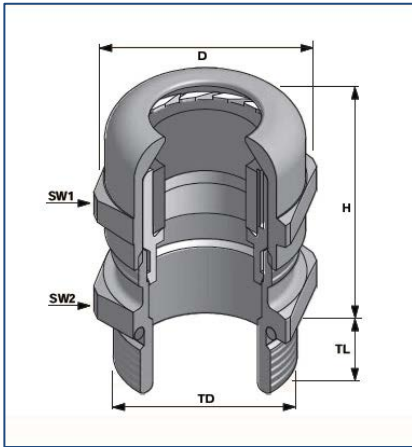
* Special order. Information subject to change without notice - All dimensions in mm except where indicated.

Metal Glands with Long Thread - Metric & Pg











Metal Metric Glands with Long Thread (Order by Part No.)

M	Part No.	Cable Range		Gland Dimensions					Pack
		mm	inches	TD	TL	H	SW1	SW2	
M12x1.5	180.712L	3-6.5	0.118-0.256	12	12	22.0	14	14	50
M16x1.5	180.717L	4-8	0.157-0.315	16	12	23.0	17	18	50
M20x1.5	180.720L	6-12	0.236-0.472	20	12	24.5	22	22	50
M25x1.5	180.725L	10-14	0.394-0.551	25	12	28.0	24	27	25
M32x1.5	180.732L	13-18	0.512-0.709	32	15	32.0	30	34	25
M40x1.5	180.740L	18-25	0.709-0.984	40	15	38.0	40	43	20
M50x1.5	180.751L*	22-32	0.866-1.260	50	15	47.3	50	55	15
M63x1.5	180.763L*	34-44	1.339-1.732	63	18	53.0	64	68	12

* Special order. Information subject to change without notice - All dimensions in mm except where indicated
See page 29 for recommended cut-out sizes



Metal Pg Glands with Long Thread (Order by Part No.)

Pg	Part No.	Cert.	Cable Range		Gland Dimensions					Pack
			mm	inches	TD	TL	H	SW1	SW2	
Pg7	180.707L*		3-6.5	0.118-0.256	12.5	10	22.0	14	14	50
Pg9	180.709L*		4-8	0.157-0.315	15.2	10	23.5	17	17	50
Pg11	180.711L*		5-10	0.197-0.394	18.6	10	26.0	20	20	50
Pg13.5	180.713L*		6-12	0.236-0.472	20.4	10	24.5	22	22	50
Pg16	180.716L*		10-14	0.394-0.551	22.5	10	28.0	24	24	25
Pg21	180.721L*		13-18	0.512-0.709	28.3	12	32.5	30	30	25
Pg29	180.729L		18-25	0.709-0.984	37.0	12	38.5	40	40	25
Pg36	180.736L		22-32	0.866-1.259	47.0	14	48.0	50	50	25
Pg42	180.742L*		30-38	1.18-1.496	54.0	16	48.5	58	58	10
Pg48	180.748L*		34-44	1.34-1.732	59.3	18	53.0	64	64	10

Information subject to change without notice - All dimensions in mm except where indicated

See page 29 for recommended cut-out sizes

* Special order

Large Head Metal Glands with Long Thread - Metric

Metal Large Head Metric Glands with Long Thread & (Order by Part No.)

M	Part No.	Cable Range		Gland Dimensions					Pack
		mm	inches	TD	TL	H	SW1	SW2	
M16x1.5	182.717L	5-10	0.197-0.394	16	12	29.5	20	20	50
M20x1.5	182.720L	10-14	0.394-0.551	20	12	28.0	24	24	50
M25x1.5	182.725L	13-18	0.512-0.709	25	12	29.5	30	30	25
M32x1.5	182.732L	18-25	0.709-0.984	32	15	35.0	40	40	25
M40x1.5	182.740L	22-32	0.866-1.260	40	15	52.5	50	50	20
M50x1.5	182.751L*	27-44	1.063-1.732	50	15	49.0	64	68	15
M63x1.5	182.763L*	37-53	1.457-2.087	63	18	50.0	75	75	12

Information subject to change without notice - All dimensions in mm except where indicated

See page 29 for recommended cut-out sizes

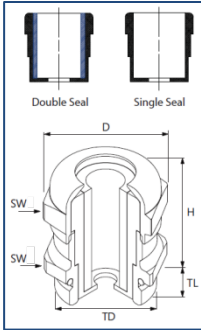
* Special order

Double Seal Metal Glands - Metric & Pg Thread

Double seal glands provide a wide range of cable clamping for each size, as the internal layer of the “onion-skin” seal can be removed easily. Upon request, these glands can be supplied with seal made of heat-resistant silicone (permanent temperature - 40 to 300°C). For a replacement cap add ‘-C’ to the part number and for a replacement inner seal add ‘-IS’.

Features and specifications:

- Operating Temperature: -20 to 100°C (permanent),
-40 to 300°C (intermittent, with silicone seal)
- Ingress Protection: IP68 @ 5 bar
- Material: Body and dome: Brass, nickel plated; Seal: Chloroprene;
O-ring: NBR



Metal Metric Double Seal Glands (Order by Part No.)

M	Part No.	Range(double seal)		Range (single seal)		Gland Dimensions				Pack
		mm	Inches	mm	Inches	TD	TL	H	SW	
M12x1.5	180.812	-	-	4.0-6.0	0.157-0.236	12	6.0	18.0	14	50
M16x1.5	180.817	4-6	0.157-0.236	6.5-9.0	0.256-0.354	16	5.1	23.9	18	50
M20x1.5	180.820	4.5-7	0.177-0.276	7.0-12	0.276-0.472	20	6.0	21.5	22	50
M25x1.5	180.825	10-13	0.394-0.512	14-17.5	0.551-0.689	25	7.0	22.5	28	25
M32x1.5	180.832	14.5-18	0.571-0.709	19-23.5	0.748-0.925	32	8.0	26.0	35	25
M40x1.5	180.840	16.5-23.5	0.650-0.925	19.5-27	0.768-1.063	40	8.0	35.5	43	10

Information subject to change without notice - All dimensions in mm except where indicated. See page 29 for recommended cut-out sizes

Metal Pg Double Seal Glands (Order by Part No.)

Pg	Part No.	Range(double seal)		Range (single seal)		Gland Dimensions				Pack
		mm	Inches	mm	Inches	TD	TL	H	SW	
Pg7	180.807	-	-	4-7	0.157-0.276	12.5	6.0	18.0	15	50
Pg9	180.809	4-6	0.157-.0236	6-10	0.236-0.394	15.2	6.0	18.7	18	50
Pg11	180.811	5-7	0.197-0.276	7-12	0.276-0.472	18.6	6.0	20.5	22	50
Pg13.5	180.813	8-10	0.315-0.394	10-15	0.394-0.591	20.4	6.0	21.0	24	50
Pg16	180.816	8-10	0.315-0.394	10-15	0.394-0.591	22.5	6.0	21.0	24/25	25
Pg21	180.821	10-13	0.394-0.512	13-20	0.512-0.787	28.3	7.6	25.0	32	25
Pg29	180.829	19-21	0.748-0.827	21-28	0.827-1.102	37.0	8.0	25.5	40	20
Pg29	180.830	19-21	0.748-0.827	21-28	0.827-1.102	37.0	16.0	25.5	40	20
Pg36	180.836	26-30	1.024-1.181	30-35	1.18-1.378	47.0	8.0	28.3	50	15
Pg42	180.842	35-39	1.378-1.535	39-44	1.535-1.732	54.0	10.0	32.2	58	12
Pg48	180.848	37-40	1.457-1.575	40-48	1.575-1.890	59.3	11.0	34.1	64	12

Information subject to change without notice - All dimensions in mm except where indicated. See page 29 for recommended cut-out sizes

EMC Metal Glands - NPT, Metric & Pg Thread





These EMC cable glands (Series 2) combine several advantages in one product.

Features and specifications:

- The same clamping ranges as the standard brass glands
- The cable gland does not have to be disassembled; a perfect shielding will be achieved by just tightening the dome nut. The components are pre-assembled
- **Operating Temperature:** -20 to 100°C (permanent), -40 to 150°C (intermittent)
- **Ingress protection:** IP68 @ 5 bar
- **Material:** Body and dome: Brass, nickel plated, Contact elements: Copper alloy, Seal: Chloroprene, O-ring: Nitrile Rubber





Metal NPT EMC Glands with Regular Seal (Order by Part No.)

NPT	Part No.	Cert.	Cable Range		Gland Dimensions (mm)				Gland Dimensions (in)				Pack
			mm	Inches	TD	TL	H	ØD	TD	TL	H	ØD	
3/8" NPT	180.938		5-10	0.196-0.394	17.2	11.5	29.5	22.0	0.675	0.452	1.160	0.866	50
1/2" NPT	180.950		6-12	0.236-0.472	21.3	13.0	25.5	24.5	0.840	0.511	1.003	0.964	50
3/4" NPT	180.975		13-18	0.511-0.709	26.7	13.0	35.5	33.0	1.05	0.511	1.397	1.299	25
1" NPT	180.991		18-25	0.708-0.984	33.2	13.0	44.5	48.9	1.29	0.511	1.735	1.757	10

Information subject to change without notice - Dimensions in mm except where indicated. See page 29 for recommended cut-out sizes

Metal NPT EMC Glands with Reducing Seal (Order by Part No.)

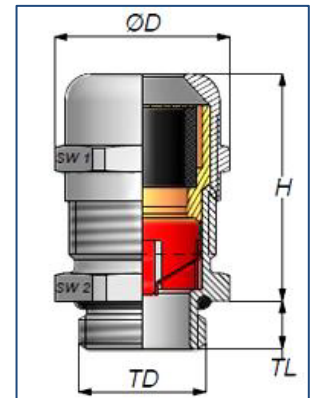
NPT	Part No.	Cert.	Cable Range		Gland Dimensions (mm)				Gland Dimensions (in)				Pack
			mm	Inches	TD	TL	H	ØD	TD	TL	H	ØD	
3/8" NPT	181.938		3-7	0.118-0.276	17.2	11.5	29.5	22.0	0.675	0.452	1.160	0.866	50
1/2" NPT	181.950		5-9	0.197-0.354	21.3	13.0	25.5	24.5	0.840	0.511	1.003	0.964	50
3/4" NPT	181.975		13-18	0.512-0.709	26.7	13.0	35.5	33.0	1.05	0.511	1.397	1.299	25

Information subject to change without notice - Dimensions in mm except where indicated. See page 29 for recommended cut-out sizes

Metal Metric EMC Glands with Regular Seal (Order by Part No.)

M	Part No.	Cable Range		Gland Dimensions					Pack
		mm	Inches	TD	TL	H	SW1	SW2	
M12x1.5	180.912	3-6.5	0.118-0.256	12	6	22.0	14	14	50
M16x1.5	180.917	4-8	0.157-0.315	16	7	23.0	17	18	50
M20x1.5	180.920	6-12	0.236-0.472	20	8	24.5	22	22	50
M25x1.5	180.925	10-14	0.394-0.551	25	8	28.0	24	27	25
M32x1.5	180.932	13-18	0.512-0.709	32	9	32.5	30	34	25
M40x1.5	180.940	18-25	0.709-0.984	40	9	38.0	40	43	20
M50x1.5	180.951	22-32	0.866-1.260	50	9	48.0	50	55	15
M63x1.5	180.963	34-44	1.339-1.732	63	14	53.0	64	68	12

Large head metric EMC domed glands up to M110x2 are available on request
 Information subject to change without notice - Dimensions in mm except where indicated
 See page 29 for recommended cut-out sizes



Metal Metric EMC Glands with Reducing Seal (Order by Part No.)

M	Part No.	Cable Range		Gland Dimensions					Pack
		mm	Inches	TD	TL	H	SW1	SW2	
M12x1.5	181.912	2-5	0.079-.0197	12	6	22.0	14	14	50
M16x1.5	181.917	3-7	0.118-0.276	16	7	23.0	17	18	50
M20x1.5	181.920	5-9	0.197-0.354	20	8	24.5	22	22	50
M25x1.5	181.925	9-16	0.354-0.630	25	8	28.0	24	27	25
M32x1.5	181.932	12-20	0.472-0.787	32	9	32.5	30	34	25
M40x1.5	181.940	20-26	0.787-1.024	40	9	38.0	40	43	20
M50x1.5	181.951	25-31	0.984-1.220	50	9	48.0	50	55	15
M63x1.5	181.963	29-35	1.142-1.380	63	14	53.0	64	68	12

Large head metric EMC domed glands up to M110x2 are available on request
 Information subject to change without notice - Dimensions in mm except where indicated
 See page 29 for recommended cut-out sizes

Metal Pg EMC Glands with Regular Seal (Order by Part No.)

Pg	Part No.	Cable Range		Gland Dimensions					Pack
		mm	inches	TD	TL	H	SW1	SW2	
Pg7	180.907	3-6.5	0.118-0.256	12.5	6.0	22.0	14	14	50
Pg9	180.909	4-8	0.157-0.315	15.2	6.0	23.2	17	17	50
Pg11	180.911	5-10	0.197-0.394	18.6	6.0	26.0	20	20	50
Pg13.5	180.913	6-12	0.236-0.472	20.4	6.5	24.5	22	22	50
Pg16	180.916	10-14	0.394-.0551	22.5	6.5	28.0	24	24	25
Pg21	180.921	13-18	0.512-.0709	28.3	7.2	32.3	30	30	25
Pg29	180.929	18-25	0.709-0.984	37.0	8.0	38.0	40	40	20
Pg36	180.936	22-32	0.866-1.260	47.0	9.0	47.8	50	50	15
Pg42	180.942	30-38	1.18-1.496	54.0	12.0	48.9	58	58	12
Pg48	180.948	34-44	1.339-1.73	59.3	14.0	52.4	64	64	12

Information subject to change without notice - Dimensions in mm except where indicated
 See page 29 for recommended cut-out sizes

Metal Pg EMC Glands with Reducing Seal (Order by Part No.)

Pg	Part No.	Cable Range		Gland Dimensions					Pack
		mm	inches	TD	TL	H	SW1	SW2	
Pg7	181.907	2-5	0.079-0.197	12.5	6.0	22.0	14	14	50
Pg9	181.909	2-6	0.079-0.236	15.2	6.0	23.2	17	17	50
Pg11	181.911	3-7	0.118-0.276	18.6	6.0	26.0	20	20	50
Pg13.5	181.913	5-9	0.197-0.354	20.4	6.5	24.5	22	22	50
Pg16	181.916	7-12	0.276-0.472	22.5	6.5	28.0	24	24	25
Pg21	181.921	9-16	0.354-0.630	28.3	7.2	32.3	30	30	25
Pg29	181.929	12-20	0.472-0.787	37.0	8.0	38.0	40	40	20
Pg36	181.936	20-26	0.787-1.024	47.0	9.0	47.8	50	50	15
Pg42	181.942*	25-31	0.984-1.22	54.0	12.0	48.9	58	58	12
Pg48	181.948*	29-35	1.142-1.38	59.3	14.0	52.4	64	64	12

Information subject to change without notice - Dimensions in mm except where indicated
 * Special Order. See page 29 for recommended cut-out sizes



Ventilation Plugs

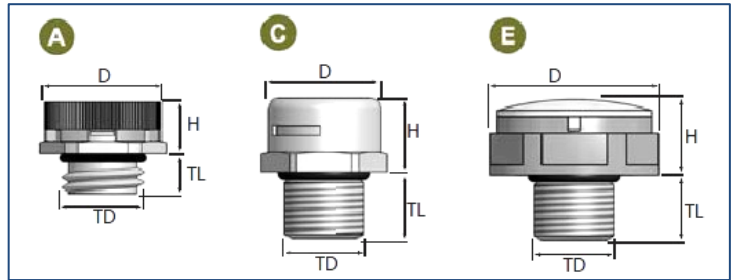
Ventilation plugs (also known as pressure balance elements) are membrane devices which are permeable to air, gases and vapour, and impermeable, or almost impermeable to water, liquids, and dust. The degree of permeability to liquids depends upon the size of the pores and structure of the membrane inside such devices.



Applications include:

- prevention of pressure increase inside an enclosure without risk of penetration of liquids
- prevention of accidental suction of liquids in an enclosure when its inside temperature decreases
- allowing air flow for ventilation
- improved maintenance criteria, since pressure buildup will not be present if the interior of an enclosure is hot, etc...

The products presented here include a range of IP67 metallic and non-metallic plugs, equipped with an acrylic co-polymer membrane on a plastic support, with different degrees of permeability (Standard, Medium, High, Ultra-High). The higher the degree of permeability, the lower the pressure at which liquid intrusion occurs. Models include standard and high permeability plastic and stainless steel.







Consult ITC for models with Ultra-high permeability.

Ventilation glands are also available, combining the functionality of both cable glands and ventilation plugs.

Features and specifications:



- **Operating Temperature:** -20 to 100°C (permanent), -30 to 150°C (intermittent)
- **Ingress Protection:** IP68/67 (for the water intrusion 0.1 bar)
- **Material:**
 - **Body (SS models):** Stainless Steel, **Body (plastic models):** Polyamide 6 V2, light grey
 - **O-ring:** Nitrile rubber, **Membrane:** Acrylic co-polymer on plastic support

Plastic Metric Ventilation Plugs (Order by Part No.)

M					Dimensions					Permeability*		dwg
	P *	Part No.	Cert.	Model	TD	TL	H	D	SW	AAP	WIP	
M12x1.5	Std.	195.012S		SBVPB-11	12.0	6.0	7.5	17.0	17	16	0.9	A
M12x1.5 long thread	Std.	195.012S-L		SBVPB-11L	12.0	10.0	7.5	17.0	17	16	0.9	A
M12x1.5 long thread	Med	195.012M-L		MBVPB-11L	12.0	10.0	7.5	17.0	17	25	0.5	A
M12x1.5 long thread	High	195.012H-L		HBVPB-11L	12.0	10.0	7.5	17.0	17	120	0.2	A
M16x1.5	High	195.016H		HBVPF-11	16.0	10.0	11.7	23.7	24	450	0.2	E
M20x1.5	Std.	195.020S		SBVPE-11	20.0	10.0	11.7	23.7	24	42	0.9	E
M20x1.5	High	195.020H		HBVPE-11	20.0	10.0	11.7	23.7	24	450	0.2	E

* P=Degree of permeability - AAP - Average Air Permeability in lt/hour, WIP - Water Intrusion Pressure in mbar
 Information subject to change without notice - All dimensions in mm except where indicated
 See page 29 for recommended cut-out sizes
 All ventilation plugs come in packages of 50

Stainless Steel Metric Ventilation Plugs Short & Long Thread (Order by Part No.)

M/Pg					Dimensions					Permeability*		dwg
	P *	Part No.	Cert.	Model	TD	TL	H	D	SW	AAP	WIP	
M12x1.5	Std.	195.712S		SBBVP-01L	12.0	10.0	11.0	17.0	17	16	0.9	C
M12x1.5	High	195.712H		HBBVP-01L	12.0	10.0	11.0	17.0	17	120	0.2	C
Pg7	Std.	195.707S		SBBVP-0S	16.0	10.0	11.7	23.7	24	42	0.9	E
Pg7	High	195.707H		HBBVP-0S	16.0	10.0	11.7	23.7	24	42	0.9	E
M16x1.5	Std.	195.716S		SBBVP-02	16.5	6.0	12.4	17.0	18	120	0.2	C
M16x1.5	High	195.716H		HBBVP-02	16.5	6.0	17.0	17.0	18	16	0.9	C
M20x1.5	Std.	195.720S		SBBVP-03L	20.0	6.0	17.0	17.0	22	16	0.9	C
M20x1.5	High	195.720H		HBBVP-03L	20.0	6.0	17.0	17.0	22	120	0.2	C

* P=Degree of permeability - AAP - Average Air Permeability in It/hour, WIP - Water Intrusion Pressure in mbar
 Information subject to change without notice - All dimensions in mm except where indicated
 See page 29 for recommended cut-out sizes
 All ventilation plugs come in packages of 50

Ventilation Glands




Ventilation glands provide the advantages of cable glands and pressure balance elements combined in one product. Properties of the membrane stay the same independent of the cable diameter and torque.

Features and specifications:

- Operating Temperature: -20 to 100°C (permanent), -30 to 150°C (intermittent)
- Ingress Protection: IP66/67
- Material: Body (metal): Brass, nickel plated, Body (Plastic): Polyamide 6, Clamping Insert (metal only): Polyamide 6 light grey, Membrane: PTFE, Seal: Chloroprene, Washer: NBR







Plastic Ventilation Glands (Order by Part No.)

M	Light Grey	Cert.	Cable Range		Dimensions					Permeability*		
	Part No.		mm	inches	TD	TL	H	D	SW	AAP	WIP	WID
M12x1.5	180.012V		4-8	0.157-0.315	12.0	8.0	25.5	21.9	19	25	0.1	1.0
M16x1.5	180.016V		4-8	0.157-0.315	16.0	10.0	25.5	21.9	19	25	0.1	1.0
M20x1.5	180.020V		6-12	0.236-0.472	20.0	10.0	30.0	27.7	24	40	0.1	1.0

* AAP - Average Air Permeability in It/hour, WIP - Water Intrusion Pressure in mbar, WID - Water Immersion Depth in meters
 Information subject to change without notice - All dimensions in mm except where indicated
 All ventilation glands come in packages of 50 See page 29 for recommended cut-out sizes

Metal Ventilation Glands (Order by Part No.)

M	Part No.	Cert.	Cable Range		Dimensions					Permeability*		
			mm	inches	TD	TL	H	D	SW	AAP	WIP	WID
M12x1.5	180.712V		4-8	0.157-0.315	12.0	6.0	30.5	18.8	17	25	0.1	1.0
M16x1.5	180.716V		4-8	0.157-0.315	16.0	5.0	27.0	18.8	17	25	0.1	1.0
M16x1.5	180.716VL		5-10	0.197-0.394	16.0	8.0	32.0	22.0	20	35	0.1	1.0
M20x1.5	180.720V		6-12	0.236-0.472	20.0	8.0	28.0	24.5	22	50	0.1	1.0

* AAP - Average Air Permeability in It/hour, WIP - Water Intrusion Pressure in mbar, WID - Water Immersion Depth in meters
 Information subject to change without notice - All dimensions in mm except where indicated
 All ventilation glands come in packages of 50 See page 29 for recommended cut-out sizes

Accessories - Plastic Locknuts with Flange

Flanged plastic locknuts offer the advantage of a larger contact surface: this in turn means better seal, correction of possible irregularities of the cutout. Sealing quality can be improved by means of an additional sealing washer, mounted between the gland and the panel.

Available in NPT, Metric and Pg thread. PF (Gas, or ISO) thread upon request.

Features and specifications:

- Operating Temperature: -20 to 100°C (permanent), -30 to 150°C (intermittent)
- Standard colours: black RAL9005 and light grey RAL7035
- Other colours: dark grey RAL7001, red ◊ RAL3020, blue ◊ RAL5015, white ◊ RAL9003; upon request only; (◊ = metric only)
- Material: Polyamide 6 with 30% fiberglass

Plastic Metric Locknuts with Flange (Order by Part No.)

M	Part No.		Dimensions			Pack
	Light Grey	Black	SW	H	ØD	
M12x1.5	184.012	184.112	18	5	19.5	100
M16x1.5	184.017	184.117	22	5	24.2	50
M20x1.5	184.020	184.120	26	6	28.6	50
M25x1.5	184.025	184.125	32	6	35.0	50
M32x1.5	184.032	184.132	41	7	46.1	25
M40x1.5	184.040	184.140	50	7	55.3	10
M50x1.5	184.051	184.151	60	8	66.1	10
M63x1.5	184.063	184.163	75	8	82.5	10

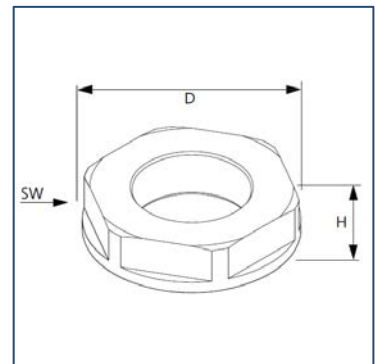
Information subject to change without notice - Dimensions in mm except where indicated



Plastic Pg Locknuts with Flange (Order by Part No.)

Pg	Part No.		Dimensions			Pack
	Light Grey	Black	SW	H	ØD	
Pg7	184.007	184.107	19	5	21	50
Pg9	184.009	184.109	22	5	24	50
Pg11	184.011	184.111	24	5	26	50
Pg13.5	184.013	184.113	27	6	29	50
Pg16	184.016	184.116	30	6	33	50
Pg21	184.021	184.121	36	7	39	25
Pg29	184.029	184.129	46	7	50	20
Pg36	184.036	184.136	60	8	66	10
Pg42	184.042	184.142	65	8	73	10
Pg48	184.048	184.148	70	8	78	10

Information subject to change without notice - Dimensions in mm except where indicated



Plastic NPT Locknuts with Flange (Order by Part No.)

NPT	Part Number		Dimensions (mm)			Dimensions (in)			Pack
	Light Grey	Black	SW	H	ØD	SW	H	ØD	
3/8" NPT	184.038	184.138	22	5	25.0	.866	.276	0.984	50
1/2" NPT	184.050	184.150	27	5	30.5	1.063	.276	1.200	50
3/4" NPT	184.075	184.175	33	5	37.5	1.299	.276	1.476	25
1" NPT	184.091	184.191	47	6	46.5	1.85	.276	1.831	20
1 1/4" NPT	184.094	184.194	48.8	9	54.0	1.92	.354	2.126	10

Information subject to change without notice - Dimensions in mm except where indicated



Plastic BSP Locknuts (Order by Part No.)

BSP	Part No. with Flange		Part No. without Flange		Pack
	Light Grey	Black	Light Grey	Black	
BSP 1/4"	184.027	184.127	184.527	184.427	100
BSP 3/8"	184.037	184.137	184.537	184.437	100
BSP 1/2"	184.049	184.149	184.549	184.449	50
BSP 3/4"	184.074	184.174	184.574	184.474	25
BSP 1"	184.090	184.190	184.590	184.490	10

Information subject to change without notice - Dimensions in mm except where indicated

Accessories - Plastic Locknuts without Flange

Non-flanged plastic locknuts (Metric and Pg thread) are mostly used when there is limited space for the application of the locknut. Sealing quality can be improved by means of an additional sealing washer, mounted between the gland and the panel.

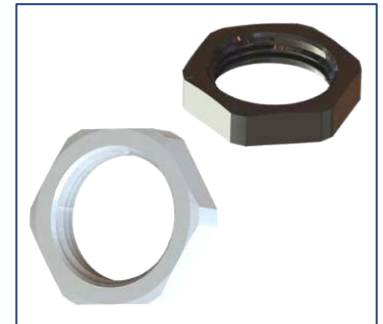
Features and specifications:

- Operating Temperature: -20 to 80°C (permanent)
- Colours: Black RAL9005 and light grey RAL7035. Dark grey RAL7001 available upon request
- Material: Polyamide 6 with 30% fiberglass

Plastic Metric Locknuts without Flange (Order by Part No.)

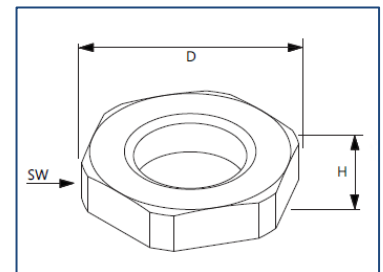
M	Part Number		Dimensions			Pack
	Light Grey	Black	SW	H	ØD	
M12x1.5	184.512	184.412	18	5	19.5	100
M16x1.5	184.517	184.417	22	5	24.2	50
M20x1.5	184.520	184.420	26	6	28.6	50
M25x1.5	184.525	184.425	32	6	35.0	50
M32x1.5	184.532	184.432	41	7	46.1	25
M40x1.5	184.540	184.440	50	7	55.3	10

Information subject to change without notice - Dimensions in mm except where indicated


Plastic Pg Locknuts without Flange (Order by Part No.)

Pg	Part Number		Dimensions			Pack
	Light Grey	Black	SW	H	ØD	
Pg7	184.507	184.407	19	5	21	100
Pg9	184.509	184.409	22	5	24	100
Pg11	184.511	184.411	24	5	26	50
Pg13.5	184.513	184.413	27	6	29	50
Pg16	184.516	184.416	30	6	33	50
Pg21	184.521	184.421	36	7	39	25
Pg29	184.529	184.429	46	7	50	25
Pg36	184.536	184.436	60	8	66	25
Pg42	184.542	184.442	65	8	72	10
Pg48	184.548	184.448	70	8	78	10

Information subject to change without notice - Dimensions in mm except where indicated



Accessories - Metal Locknuts

Metric and Pg available in standard and EMC versions; NPT and BSP available in standard versions.

Features and specifications:

- Operating Temperature: -60 to 200°C
- Material: Brass, nickel plated

Metal Metric Locknuts (Order by Part No.)

M	Standard Part No.	EMC Part No.	SW	Pack
M12x1.5	184.712	-	15	100
M16x1.5	184.717	184.917	19	100
M20x1.5	184.720	184.920	24	100
M25x1.5	184.725	184.925	30	100
M32x1.5	184.732	184.932	36	50
M40x1.5	184.740	184.940	46	50
M50x1.5	184.751	184.951	60	10
M63x1.5	184.763	184.963	70	10
M72x2.0	184.772	-	77	10

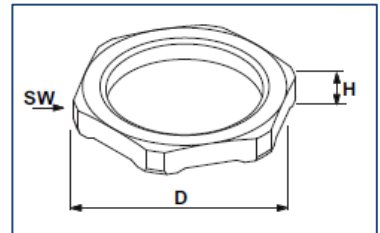
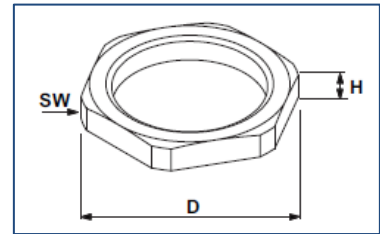
Information subject to change without notice - All dimensions in mm except where indicated



Metal Pg Locknuts (Order by Part No.)

Pg	Standard Part No.	EMC Part No.	SW	Pack
Pg7	184.707	184.907	15	100
Pg9	184.709	184.909	18	100
Pg11	184.711	184.911	21	100
Pg13.5	184.713	184.913	23	100
Pg16	184.716	184.916	26	100
Pg21	184.721	184.921	32	100
Pg29	184.729	184.929	41	50
Pg36	184.736	184.936	51	25
Pg42	184.742	184.942	60	10
Pg48	184.748	184.948	64	10

Information subject to change without notice - All dimensions in mm except where indicated



Metal BSP Thread Locknuts (Order by Part No.)

BSP	Part No.	SW	H	Pack
¼" BSP	184.727	15	3.0	100
3/8" BSP	184.737	19	3.0	100
1/2" BSP	184.749	24	3.5	100
3/4" BSP	184.774	30	4.0	50
1" BSP	184.790	37	4.0	25
1-1/4" BSP	184.793	45	4.5	20
1-1/2" BSP	184.796	52	5.5	20
2" BSP	184.797	64	7.0	10
2-1/2" BSP	184.798	80	7.0	5
3" BSP	184.799	95	8.0	5

Information subject to change without notice - All dimensions in mm except where indicated



Metal NPT Locknuts (Order by Part No.)

NPT	Part No.	SW	H	Pack
3/8" NPT	184.738	22	5	50
1/2" NPT	184.750	24	6	25
3/4" NPT	184.775	30	7	25

Information subject to change without notice - All dimensions in mm except where indicated

Accessories - Plastic Blind Stops

Blind stops are used to temporarily or permanently seal a hole in a panel or machine. Use the corresponding plastic locknut when the hole is not threaded. Sealing quality can be improved by means of an additional sealing washer, mounted between the gland and the panel.

Available in Metric, Pg and NPT thread.

Features and specifications:

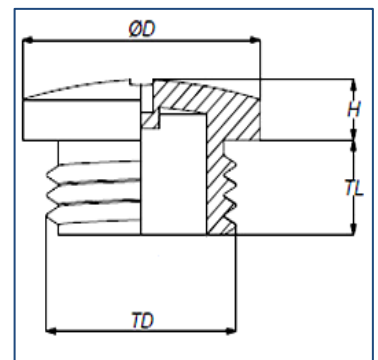
- Operating Temperature: -20 to 100°C (permanent)
- Standard colours: Black RAL9005 and light grey RAL7035
- Material: Polyamide 6

Plastic Blind Stops (Order by Part No.)

M/Pg/ NPT	Part No.		Dimensions (mm)				Pack
	Light Grey	Black	TD	TL	H	ØD	
Metric thread							
M12x1.5	188.012	188.112	12	6	4.5	15.0	100
M16x1.5	188.017	188.117	16	7	4.5	20.0	50
M20x1.5	188.020	188.120	20	7	5.5	24.0	50
M25x1.5	188.025	188.125	25	7.5	5.0	30.0	50
M32x1.5	188.032	188.132	32	9.5	4.0	39.0	25
M40x1.5	188.040	188.140	40	6	6.5	46.5	25
M50x1.5	188.051	188.151	50	10	4.0	57.0	10
M63x1.5	188.063	188.163	62	12	18.5	69.5	10
Pg Thread							
Pg7	188.007	188.107	12.5	6	2.0	15	100
Pg9	188.009	188.109	15.2	6	2.5	19	100
Pg11	188.011	188.111	18.6	6	2.5	22	50
Pg13.5	188.013	188.113	20.4	6	2.5	25	50
Pg16	188.016	188.116	22.5	6	3.0	27	50
Pg21	188.021	188.121	28.3	8	4.0	33	25
Pg29	188.029	188.129	37.0	8	3.5	44	25
Pg36	188.036	188.136	47.0	10	4.0	55	25
Pg42	188.042	188.142	54.0	10	5.0	62	10
Pg48	188.048	188.148	69.3	12	5.0	69	10
NPT/BSP Thread							
3/8" BSP	188.037●	-	16	7.5	6.0	18.0	100
1/2" NPT	-	188.150	20.0	7.0	4.5	25.0	50
1/2" BSP	188.049●	-	20.5	11.0	6.0	22.5	50

Information subject to change without notice

● hexagonal head



Accessories - Metal Blind Stops

Blind stops are used to temporarily or permanently seal a hole in a panel or machine. Use the correspondent plastic locknut when the hole is not threaded. Sealing quality can be improved by means of an additional sealing washer, mounted between the gland and the panel.

Features and specifications:

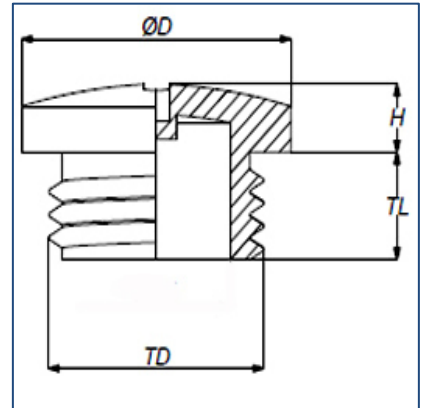
- Round heads except where indicated
- Operating Temperature: -60 to 200°C
- Material: Brass, nickel plated

Metal Blind Stops (Order by Part No.)

M/Pg/ NPT	Part No.	Dimensions (mm)				Pack
		TD	TL	H	ØD	
Metric thread						
M12x1.5	188.712	12	5.0	3.0	16	50
M16x1.5	188.717	16	6.0	3.0	20	50
M20x1.5	188.720	20	6.5	2.5	24	10
M20x1.5	188.720H●	20	7.0	3.3	23/25.5	10
M25x1.5	188.725	25	7.7	3.0	28	10
M32x1.5	188.732	32	8.0	3.1	34.8	5
M40x1.5	188.740	40	8.0	4.0	43	1
M50x1.5	188.751	50	9.5	4.3	55	1
M63x1.5	188.763	63	10.0	5.0	62	1
Pg Thread						
Pg7	188.707	12.5	5.0	2.5	14	50
Pg9	188.709	15.2	6.0	2.5	17	50
Pg11	188.711	18.6	6.0	2.5	20	50
Pg13.5	188.713	20.4	6.0	3.0	22	50
Pg16	188.716	22.5	6.5	3.0	24	10
Pg21	188.721	28.3	7.0	3.8	30	10
Pg29	188.729	37.0	8.5	3.0	34	5
Pg36	188.736	47.0	9.0	4.5	50	5
Pg42	188.742	54.0	9.8	4.0	57	1
Pg48	188.748	59.3	10.5	4.0	64	1
NPT Thread (Hexagonal Heads)						
3/8" NPT	188.738●	17.1	15.0	3.0	19/21	25
1/2" NPT	188.750●	21.2	15.5	3.1	23.1/22.5	10
3/4" NPT	188.775●	26.7	21.0	4.5	29.2/32.5	5
1" NPT	188.791●	32.2	25.0	4.5	36/40	1

Information subject to change without notice

● Hexagonal head



Accessories - Sealing Washers & O-Rings

Sealing washers and O-rings add extra protection against liquid leakage between the body of the gland and the enclosure. Use in areas of added risk of wash-down.

Features and specifications:

- Operating Temperature: -20 to 80°C (polyethylene), -30 to 100°C (rubber)
- Standard colours: Light grey RAL7035 (polyethylene) and Black RAL9005 (rubber)
- Material: High Density Polyethylene or Nitrile Rubber

Sealing Washers & O-Rings (Order by Part No.)

M/Pg/NPT/ISO				Sealing Washer Part No.		O-Ring Part No.	Pack
Metric	Pg	NPT	BSP/ISO	Rubber	Polyethylene	Rubber	
M12x1.5	-	-	-	185.880	185.579		100
-	Pg7	¼" NPT	¼" BSP	185.891	185.580		100
-	Pg9	-	-	185.892	185.581		100
M16x1.5	-	-	-	185.881	185.571		100
-	Pg11	⅜" NPT	⅜" BSP	185.893	185.582		100
M20x1.5	-	-	-	185.882	185.572	185.413 * 185.420 *	100
-	Pg13.5	½" NPT	½" BSP	185.894	185.583		100
-	Pg16	-	-	185.895	185.584	185.416	100
M25x1.5	-	-	-	185.883	185.573	185.425	100
-	Pg21	¾" NPT	¾" BSP	185.896	185.585	185.421	50
M32x1.5	-	-	-	185.884	185.574		50
-	Pg29	1" NPT	1" BSP	185.897	185.586	185.429	25
M40x1.5	-	-	-	185.885	185.575		50
-	Pg36	1 ½" NPT	1 ½" BSP	185.898	185.587		25
M50x1.5	-	-	-	185.886	185.576		25
-	Pg42	1 ¾" NPT	1 ¾" BSP	185.899	185.588		25
M63x1.5	-	-	-	185.887	185.577		25
-	Pg48	-	-	185.900	185.589		10

* 185.413 dimensions are 22x18x2mm, 184.420 dimensions are 21x18x1.5mm
Information subject to change without notice



Accessories - Multiple-hole Seals

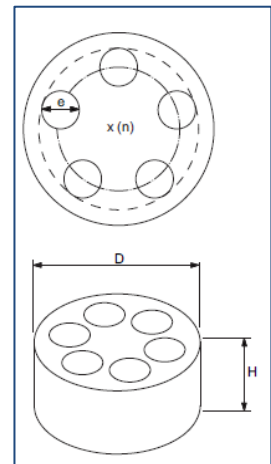
Use a multiple-hole seal in those applications where more than one non-terminated cable or wire needs to be inserted into the same cutout. The seals below are to be used with standard industrial domed glands by ITC (plastic or metal) after having removed the original internal rubber seal.

Features and specifications:

- Operating Temperature: -20 to 80°C (permanent)
- Material: Nitrile Rubber RoHS compliant

Multiple-Hole Seals (Order by Part No.)

M/Pg/NPT			Holes x Dia.		Part No.	Dimensions		Pack
Metric	Pg	NPT	N	E		H	ØD	
-	Pg9	-	2	3	189.223	7.5	10.6	50
-	Pg9	-	3	2	189.232	7.5	10.6	50
-	Pg9	-	4	2	189.242	7.5	10.6	50
-	Pg9	-	4	3	189.243	7.5	10.6	50
M16x1.5	Pg11	3/8"	2	4	189.324	8.5	13.3	50
M16x1.5	Pg11	3/8"	3	4	189.334	8.5	13.3	50
M16x1.5	Pg11	3/8"	3	5	189.335	8.5	13.3	50
M20x1.5 (NH)	Pg13.5	1/2" (NH)	2	5	189.425	8.5	15.3	50
M20x1.5 (NH)	Pg13.5	1/2" (NH)	2	6	189.426	8.5	15.3	50
M20x1.5 (NH)	Pg13.5	1/2" (NH)	3	4	189.434	8.5	15.3	50
M20x1.5 (NH)	Pg13.5	1/2" (NH)	3	5	189.435	8.5	15.3	50
M20x1.5 (LH)	Pg16	1/2" (LH)	2	4	189.524	9.0	17.4	50
M20x1.5 (LH)	Pg16	1/2" (LH)	2	6	189.526	9.0	17.4	50
M20x1.5 (LH)	Pg16	1/2" (LH)	3	4	189.534	9.0	17.4	50
M20x1.5 (LH)	Pg16	1/2" (LH)	3	6	189.536	9.0	17.4	50
M20x1.5 (LH)	Pg16	1/2" (LH)	4	4	189.544	9.0	17.4	50
M20x1.5 (LH)	Pg16	1/2" (LH)	4	5	189.545	9.0	17.4	50
M20x1.5 (LH)	Pg16	1/2" (LH)	5	4	189.554	9.0	17.4	50
M25x1.5	Pg21	3/4"	2	7	189.627	11.0	22.2	25
M25x1.5	Pg21	3/4"	2	8	189.628	11.0	22.2	25
M25x1.5	Pg21	3/4"	2	9	189.629	11.0	22.2	25
M25x1.5	Pg21	3/4"	3	7	189.637	11.0	22.2	25
M25x1.5	Pg21	3/4"	3	8	189.638	11.0	22.2	25
M25x1.5	Pg21	3/4"	4	7	189.647	11.0	22.2	25
M25x1.5	Pg21	3/4"	5	5	189.655	11.0	22.2	25
M25x1.5	Pg21	3/4"	5	8	189.658	11.0	22.2	25
M25x1.5	Pg21	3/4"	8	1.5	189.681	12.0	22.9	25
M32x1.5	Pg29	1"	2	8	189.728	14.0	30.4	20
M32x1.5	Pg29	1"	2	9	189.729	14.0	30.4	20
M32x1.5	Pg29	1"	3	9.5	189.739	14.7	30.0	20
M32x1.5	Pg29	1"	4	8	189.748	14.0	30.4	20
M32x1.5	Pg29	1"	5	8	189.758	14.0	30.4	20
M32x1.5	Pg29	1"	8	5	189.785	13.0	29.8	20
M40x1.5	Pg36	1 1/4"	3	8.3	189.938	17.0	38.6	10



NH = normal head LH = large head N= number of holes E = diameter of each hole
 Information subject to change without notice - Dimensions in mm except where indicated
 Upon request, ITC can also supply glands already equipped with standard multiple-hole seals, or with custom-specified multiple-hole seals

Accessories - Custom Cable Seals

Upon request, ITC can also manufacture seals for special flat, ribbon or custom-shaped cables, designed to fit ITC's Cable Glands. Contact ITC for such special applications.



Accessories - Special Seals

ITC provides, from stock, specially designed seals for ASI (Actuator-Sensor Interface) cables. The seals below are to be used with standard industrial domed glands by ITC (either plastic or metal) after having removed the original internal rubber seal.



Features and specifications:

- Operating Temperature: -30 to 100°C (permanent)
- Material: Evoprene TPE

Special Seals (Order by Part No.)

M/Pg/NPT			ASI cables	Part No.	Dimensions (mm)		Pack
Metric	Pg	NPT	N		H	ØD	
M20x1.5 (NH)	Pg13.5	1/2" (NH)	1	191.511	9.0	15.0	10
M20x1.5 (NH)	Pg13.5	1/2" (NH)	2	191.512	9.0	15.0	10
M20x1.5 (LH)	Pg16	1/2" (LH)	1	191.521	9.3	19.8	10
M20x1.5 (LH)	Pg16	1/2" (LH)	2	191.522	9.3	19.8	10

NH = normal head LH = large head

Information subject to change without notice

Accessories - Multi-hole Seal Plugs & Temporary Blocking Plugs

Multi-hole seal plugs used to block a hole in a multiple-hole seal and maintain IP68.

Features and specifications:

- Operating Temperature: -20 to 90°C (permanent)
- Material: Polyamide 6.6 (light grey)

Multi-hole Seal Plugs (Order by Part No.)

Part No.	Diameter	Length	Pack
188.903	3	8	100
188.904	4	8	100
188.905	5	13	50
188.906	6	13	50
188.907	7	13	50
188.908	8	17	50

Information subject to change without notice

All dimensions in mm except where indicated

Temporary blocking plugs are used to seal an installed cable gland before the wire and cable is passed inside it. Their mushroom shape prevents the plug from being inserted too deep and facilitates removal. Do not remove the original internal rubber seal!

Temporary Blocking Plugs (Order by Part No.)

Part No.	Plug Ø.A. (mm)	Pack
188.207	4.5	10
188.209	8	10
188.213	10	10
188.216	12.5	10
188.225	16	10
188.232	19	10
188.236	31.5	10
188.251	35	10

Information subject to change without notice

Ø.A. - diameter of the body of the plug, not the cap



Grommets (Snap Bushings) & Plugs

Snap bushings are used to protect wires and cables passing through panel openings.
Hole-plugs are used for temporary closing round holes in a panel.

Features and specifications:

- Lock into hole firmly with fingertip pressure
- Colour: Black
- Material: Polyamide



Grommets & Plugs (Order by Part No.)

Part No.	Description	Cutout (mm)	Inside Ø (mm)	Head outside Ø (mm)	Pack Qty	Approvals
111.148	Snap bushing, black polyamide 7.8mm dia.	7.8	6.8	9.8	100	LR
111.149	Snap bushing, black polyamide 9.5mm dia.	9.5	6.4	12.0	100	LR
111.150	Snap bushing, black polyamide 12.7mm dia.	12.7	8.0	15.0	100	LR
111.152	Snap bushing, black polyamide 15.9mm dia.	15.9	12.7	18.6	100	LR
111.153	Snap bushing, black polyamide 19 mm dia.	19.0	14.3	21.7	100	LR
111.154	Snap bushing, black polyamide 22.2 mm dia.	22.2	17.5	24.2	100	LR
111.155	Snap bushing, black polyamide 25.5mm dia.	25.5	19.1	28.5	100	LR
111.156	Snap bushing, black polyamide 30mm dia.	30.0	24.1	33.3	100	LR
111.157	Snap bushing, black polyamide 31.5mm dia.	31.5	23.8	34.6	100	LR
111.158	Snap bushing, black polyamide 38.1mm dia.	38.1	29.0	42.1	100	LR
111.159	Snap bushing, black polyamide 44.5mm dia.	44.5	35.4	47.8	10	LR
111.160	Snap bushing, black polyamide, 50.1mm dia.	50.1	41.6	54.6	10	LR
111.162	Hole-plug, black polyamide, 16mm dia.	15.9	-	19.5	10	-
111.163	Hole-plug, black polyamide, 19mm dia.	19.0	-	22.9	10	-
111.164	Hole-plug, black polyamide, 22.5mm dia.	22.2	-	25.8	10	-
111.165	Hole-plug, black polyamide, 25mm dia.	25.3	-	29.0	10	-
111.166	Hole-plug, black polyamide, 30mm dia.	30.0	-	34.2	10	-
111.167	Hole-plug, black polyamide, 38mm dia.	38.1	-	42.1	10	-
111.174	Cable guiding snap bushing, black polyamide 22.5mm dia.	22.5	-	25.6	100	

Information subject to change without notice - All dimensions in mm

Ingress Protection (IP)

Ingress protection for Low Voltage Enclosures is defined by the European Standard IEC 60529 as a code comprising 2 letters (IP) and 2 digits.

The first digit (between 0 and 6) indicates the degree of protection provided with respect to the equipment contained in the enclosure. The second digit (between 0 and 8) indicates the degree of protection with respect to the harmful effects of liquid penetration. The ratings for water ingress are not cumulative beyond IPX6. Since the definitions are different, there is no exact equivalence between European IP Ingress Protection ratings, and North American NEMA ratings.

1st digit

IP	Description
0	No protection
1	Protection against solid objects greater than 50mm
2	Protection against solid objects greater than 12.5mm
3	Protection against solid objects greater than 2.5mm
4	Protection against solid objects greater than 1.0mm
5	Protection against penetration of dust
6	Dust-tight

2nd digit

IP	Description
0	No protection
1	Protection against dripping water
2	Protection against dripping water when tilted up to 15°
3	Protection against spraying water
4	Protection against splashing water
5	Protection against water jets
6	Protection against heavy seas
7	Protection against the effects of immersion
8	Protection against submersion
9K	Protection against high pressure, high temperature liquid (80°C) or steam

Example: an enclosure rated IP54 is protected against penetration of dust, and against splashing water.

Characteristics of Plastic Materials

Resistance to chemicals and solvents, UL 94 rating and temperature

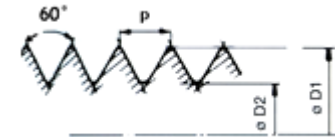
	Weak acids	Strong acids	Weak alkali	Strong alkali	Alcohol	Gasoline	Mineral oil	Ammonia	Vegetable fats/oils	Animal fats	UL94 rating	Temp °C rating
Polystyrene	●	⊙	●	●	●	○	●	●	●	○	HB	-20/+70
Polycarbonate	●	○	○	○	⊙	○	●	○	●	●	V2	-40/+135
Polyamide 6	○	○	●	●	●	⊙	●	●	⊙	●	V2	-30/+100
Polyamide 6 w/fiberglass	○	○	●	●	●	⊙	●	●	⊙	●	HB	-30/+110
Chloroprene	⊙	⊙	⊙	●	⊙	●	⊙	⊙	⊙	●	-	-25/+100
NBR	●	⊙	⊙	○	●	●	●	⊙	●	●	-	-25/+120
Silicon rubber	○	○	○	○	●	⊙	○	⊙	⊙	-	-	-50/+230
Polyoxymethylene	○	○	⊙	-	●	●	⊙	⊙	⊙	-	HB	-30/+100
PVC	⊙	⊙	⊙	⊙	●	⊙	⊙	○	●	●	V0	-20/+130

● = Very Good, ⊙ = Fair, ○ = Poor, - = test results not available
 The information above is given for average applications and for general use only

Thread Tables

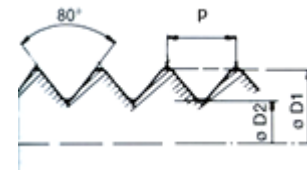
M	Pitch (mm)	D1 (mm)	Core D2 (mm)	Cut-out (mm)*	Recommended Cut-out (mm)	Recommended Cut-out (in)
M10 x 1.0	1.0	10	9.0	10.2	10.5	0.41
M12 x 1.5	1.5	12	10.5	12.2	12.5	0.5
M16 x 1.5	1.5	16	14.5	16.2	16.5	0.65
M20 x 1.5	1.5	20	18.5	20.2	20.5	0.81
M25 x 1.5	1.5	25	23.5	25.2	25.5	1.0
M32 x 1.5	1.5	32	30.5	32.2	32.5	1.3
M40 x 1.5	1.5	40	38.5	40.2	40.5	1.6
M50 x 1.5	1.5	50	48.5	50.2	50.5	1.99
M63 x 1.5	1.5	63	61.5	63.2	63.5	2.5

METRIC ISO Thread
According to EN 60423



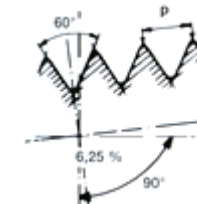
Pg	Pitch (mm)	D1 (mm)	Core D2 (mm)	Cut-out (mm)*	Recommended Cut-out (mm)	Recommended Cut-out (in)
Pg 7	1.270	12.5	11.28	12.7	13	0.51
Pg 9	1.410	15.2	13.86	15.4	16	0.63
Pg 11	1.410	18.6	17.26	18.8	19	0.75
Pg 13.5	1.410	20.4	19.06	20.7	21	0.83
Pg 16	1.410	22.5	21.16	22.8	23	0.91
Pg 21	1.588	28.3	26.78	28.6	29	1.14
Pg 29	1.588	37.0	35.48	37.4	37	1.46
Pg 36	1.588	47.0	45.48	47.5	42	1.65
Pg 42	1.588	54.0	52.48	54.5	47	1.85
Pg 48	1.588	59.3	57.78	59.8	54	2.13

PG Thread
According to DIN 40430



NPT	Pitch (mm)	D1 (mm)	Threads /inch	Cut-out (mm)*	Recommended Cut-out (mm)	Recommended Cut-out (in)
3/8"	1.411	17.055	18	17.2	17.5	0.69
1/2"	1.814	21.223	14	21.4	21.5	0.85
3/4"	1.814	26.568	14	26.9	27.0	1.07
1"	2.208	33.227	11 1/2"	33.7	34.5	1.36
1 1/4"	2.208	41.984	11 1/2"	42.4	43.0	1.69
1 1/2"	2.208	48.053	11 1/2"	48.5	49.2	1.93
2"	2.208	60.091	11 1/2"	60.2	61.0	2.40

NPT Thread



Thread Adapters

ITC provides a wide variety of adapters, enlargers and reducers, both in metal and plastic, to convert knockouts or hubs from one style to another, or convert to a larger / smaller size of the same style.

Available in Metric, Pg and NPT threads.

Metal thread adapters are made of brass, nickel-plated, RoHS compliant, and are available in various styles:

- Hex wrenching flats - add "H" to the part number when ordering i.e. 194.501H
- Round or Knurled

Plastic thread adapters are made either of Polyamide (plastic) or polycarbonate, depending on model and size. They are light grey unless otherwise indicated with '^'.

Metric thread to Metric thread

Male thread (from)	Female thread (to)	Part No. (Metal)	Part No. (Plastic)
M12	M16	194.501 ○●	193.501
M16	M12	194.510 ○●	193.510
M16	M20	194.512 ●	193.512
M20	M12	194.520 ●	193.520^
M20	M16	194.521 ○●	193.521^
M20	M25	194.523 ○●	193.523
M25	M12	194.530 ○	193.530
M25	M16	194.531 ○	193.531^
M25	M20	194.532 ○●	193.532^
M25	M32	194.534 ○●	193.534
M32	M16	-	193.541
M32	M20	194.542 ○●	193.542
M32	M25	194.543 ○	193.543
M32	M40	194.545 ○●	193.545
M40	M20	-	193.552
M40	M25	194.553 ●	193.553
M40	M32	194.554 ○	193.554^
M40	M50	194.556 ○●	193.556
M50	M20	-	193.562
M50	M25	-	193.563
M50	M32	194.564 ○	193.564
M50	M40	194.565 ○●	193.565^
M50	M63	194.567 ○●	193.567
M63	M32	-	193.574
M63	M40	194.575 ○	193.575
M63	M50	194.576 ○	193.576^

Information subject to change without notice

^ black



Metric thread to NPT thread

Male thread (from)	Female thread (to)	Part No. (Metal)	Part No. (Plastic)
M12	3/8" NPT	194.601 ●	-
M16	3/8" NPT	194.611 ●	-
M16	1/2" NPT	194.612 ○●	193.612^
M20	1/2" NPT	194.622 ○●	193.622^
M20	3/4" NPT	194.623 ●	-
M25	1/2" NPT	194.632 ●	-
M25	3/4" NPT	194.633 ○	-
M25	1" NPT	194.634 ●	-
M32	3/4" NPT	194.643 ○●	-
M32	1" NPT	194.644 ○	-
M40	3/4" NPT	194.653 ●	-
M40	1 1/4" NPT	194.655 ○●	-
M40	1 1/2" NPT	194.656 ●	-
M50	1 1/2" NPT	194.666 ●	-
M63	1 1/2" NPT	194.676 ●	-

Information subject to change without notice

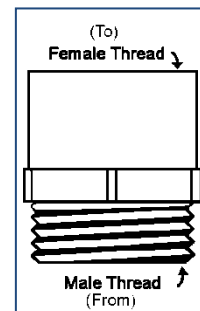
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Metric thread to Pg thread

Male thread (from)	Female thread (to)	Part No. (Metal)	Part No. (Plastic)
M16	Pg11	194.712 ○	-
M20	Pg9	194.721 ○●	-
M20	Pg11	194.722 ○●	193.722
M20	Pg13.5	194.723 ○●	193.723
M20	Pg16	194.724 ○●	193.724^
M25	Pg16	194.734 ○●	193.734
M25	Pg21	194.735 ●	193.735
M32	Pg16	194.744 ○●	-
M32	Pg21	194.745 ○	193.745
M32	Pg29	194.746 ●	193.746
M40	Pg29	194.756 ●	193.756
M40	Pg36	194.757 ○	-
M50	Pg36	194.767 ○	-
M63	Pg36	194.777 ●	-

Information subject to change without notice

^black



Pg thread to Pg thread

Male thread (from)	Female thread (to)	Part No. (Metal)	Part No. (Plastic)
Pg7	Pg9	194.001 ⊕	193.001
Pg9	Pg7	194.010 ⊕ ●	193.010
Pg9	Pg11	194.012 ⊕	193.012
Pg11	Pg7	194.020 ⊕	193.020
Pg11	Pg9	194.021 ⊕	193.021
Pg11	Pg13.5	194.023 ⊕ ●	193.023
Pg13.5	Pg7	194.030 ⊕	193.030
Pg13.5	Pg9	194.031 ⊕	193.031
Pg13.5	Pg11	194.032 ⊕	193.032
Pg13.5	Pg16	194.034 ⊕ ●	193.034
Pg16	Pg9	194.041 ⊕	193.041
Pg16	Pg11	194.042 ⊕	193.042
Pg16	Pg13.5	194.043 ⊕	193.043
Pg16	Pg21	194.045 ⊕ ●	193.045
Pg21	Pg11	194.052 ⊕	193.052
Pg21	Pg13.5	194.053 ⊕	193.053
Pg21	Pg16	194.054 ⊕	193.054
Pg21	Pg29	194.056 ⊕ ●	193.056
Pg29	Pg13.5	-	193.063
Pg29	Pg16	194.064 ⊕	193.064
Pg29	Pg21	194.065 ⊕	193.065
Pg29	Pg36	194.067 ⊕ ●	193.067
Pg36	Pg16	-	193.074
Pg36	Pg21	194.075 ⊕ ●	193.075
Pg36	Pg29	194.076 ⊕	193.076
Pg36	Pg42	194.078 ⊕	193.078
Pg42	Pg29	194.086 ⊕	193.086
Pg42	Pg36	194.087 ⊕ ●	193.087
Pg42	Pg48	194.089 ⊕	-
Pg48	Pg29	-	193.096
Pg48	Pg36	194.097 ⊕	193.097
Pg48	Pg42	194.098 ●	193.098

Information subject to change without notice

NPT thread to Metric thread

Male thread (from)	Female thread (to)	Part No. (Metal)	Part No. (Plastic)
3/8"NPT	M20	194.312 ●	-
1/2"NPT	M16	194.321 ●	-
1/2"NPT	M20	194.322 ⊕ ●	-
3/4"NPT	M25	194.333 ●	-

Information subject to change without notice



Pg thread to NPT thread

Male thread (from)	Female thread (to)	Part No. (Metal)	Part No. (Plastic)
Pg7	3/8"NPT	194.101 ●	-
Pg9	1/2"NPT	194.112 ●	-
Pg11	3/8"NPT	194.121 ⊕ ●	-
Pg11	1/2"NPT	194.122 ⊕	193.122
Pg13.5	1/2"NPT	194.132 ⊕	-
Pg16	1/2"NPT	194.142 ⊕ ●	193.142
Pg16	3/4"NPT	194.143 ●	193.143
Pg21	1/2"NPT	194.152 ⊕ ●	193.152
Pg21	3/4"NPT	194.153 ⊕ ●	193.153
Pg21	1"NPT	194.154 ⊕ ●	-
Pg29	1"NPT	194.164 ⊕ ●	-
Pg29	1 1/4"NPT	194.165 ⊕ ●	-
Pg36	1 1/4"NPT	194.175 ⊕ ●	-
Pg36	1 1/2"NPT	194.176 ⊕ ●	-
Pg42	1 1/2"NPT	194.186 ⊕ ●	-
Pg48	1 1/2"NPT	194.196 ⊕ ●	-
Pg48	2"NPT	194.197 ● - Special order	-

Information subject to change without notice

Pg thread to Metric thread:

Male thread (from)	Female thread (to)	Part No. (Metal)	Part No. (Plastic)
Pg7	M16	-	193.801
Pg9	M12	-	193.810
Pg9	M16	-	193.811
Pg11	M16	-	193.821
Pg11	M20	-	193.822
Pg13.5	M16	-	193.831
Pg13.5	M20	194.832 ⊕ ●	193.832
Pg13.5	M25	-	193.833
Pg16	M20	194.842 ⊕ ●	193.842
Pg16	M25	194.843 ●	193.843
Pg21	M20	194.852 ⊕	-
Pg21	M25	194.853 ⊕ ●	193.853
Pg21	M32	194.854 ●	193.854
Pg29	M32	-	193.864
Pg29	M40	194.865 ⊕	193.865
Pg36	M40	-	193.875
Pg42	M50	194.886 ●	193.886
Pg48	M63	-	193.897

Information subject to change without notice

NPT thread to Pg thread

Male thread (from)	Female thread (to)	Part No. (Metal)	Part No. (Plastic)
3/8"NPT	Pg9	-	193.411
1/2"NPT	Pg9	194.421 ●	-
1/2"NPT	Pg11	194.422 ●	-
1/2"NPT	Pg13.5	194.423 ⊕ ●	193.423
1/2"NPT	Pg16	194.424 ⊕ ●	-
3/4"NPT	Pg16	194.434 ●	-
3/4"NPT	Pg21	194.435 ●	193.435
1"NPT	Pg16	194.444 ●	-
1"NPT	Pg21	194.445 ●	-
1"NPT	Pg29	194.446 ●	193.446
1 1/4"NPT	Pg36	-	193.457
1 1/2"NPT	Pg42	-	193.468

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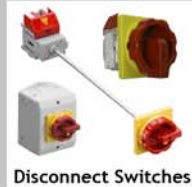
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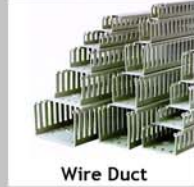
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