

Use Cover File

Liquid Tight Strain Reliefs



Altech's Liquid Tight Strain Reliefs provide cost effective solutions to your sealing applications. Altech offers the broadest range of strain reliefs that comply with national and international standards. This broad line ensures that you get the price/performance that you need to solve your requirements.

But Altech's commitment doesn't stop with its products.

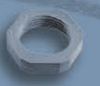
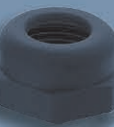
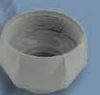
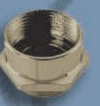
Altech has outstanding, experienced Product Engineers and Customer Service personnel to provide solutions to your most pressing application challenges. All, with one thought in mind. *To ensure that we solve your problem the first time!*



Quality Commitment

Altech's control components meet diverse national and international standards such as UL, NEC, CSA, IEC, VDE and more. Altech provides superior customer service and delivery through Total Quality Management and Continuous Process Improvement. Altech is ISO 9001 approved. We perform these services with honesty and integrity and are committed to achieve these goals.



	Standard Straight-Through Polyamide PG, Metric, NPT4		Once According to DIN 46320 Polystyrene Straight-Through PG22
	Standard Straight-Through Nickel-Plated Brass PG, Metric, NPT5		Locknuts Polyamide PG, Metric, NPT23
	Flathead and Multi Conductor Sealing Inserts6		Nickel-Plated Brass PG, Metric, NPT24
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Cable Gland / Standard Straight-Through - Polyamide

Material:

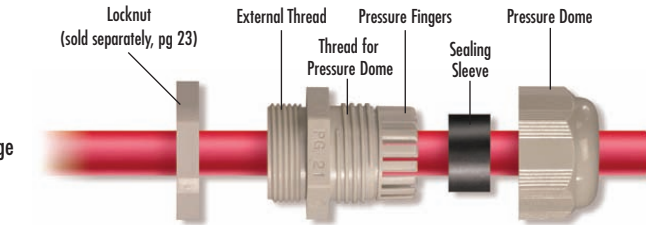
- Body: Polyamide 6
- Seal: Neoprene

Technical properties:

- Maximum strain relief through clamping range
- IP68 achieved without seal rings (PG and metric only)
- Trapezoidal thread with high torque guarantees tight and permanent fit of the dome nut
- Gas- and watertight

Applications:

- Machines and devices



Temperature Range	
PA6	Neoprene
-25 to 100°C (-13 to 212°F)	-25 to 100°C (-13 to 212°F)



Metric Only



E184471

PG Thread

Outer thread	Clamping range mm	Cat. No. Light Grey	Cat. No. Black	Std. Pk.
PG 7	1.5-5	5309107	5309207	100
PG 7	2.5-6.5	5308707	5308507	100
PG 9	1.5-6	5309109	5309209	50
PG 9	2.5-8	5308709	5308509	50
PG 11	2-7	5309111	5309211	50
PG 11	3.5-10	5308711	5308511	50
PG 13.5	3-9	5309113	5309213	50
PG 13.5	5-12	5308713	5308513	50
PG 16	5-12	5309116	5309216	50
PG 16	7-14	5308716	5308516	50
PG 21	7-16	5309121	5309221	25
PG 21	9-18	5308721	5308521	25
PG 29	11-21	5309129	5309229	20
PG 29	14-25	5308729	5308529	20
PG 36	13-26	5309136	5309236	10
PG 36	18-32	5308736	5308536	10
PG 42	17-31	5309142	5309242	5
PG 42	24-38.5	5308737	5308537	5
PG 48	26-39	5309148	5309248	5
PG 48	35-48	5308738	5308538	5

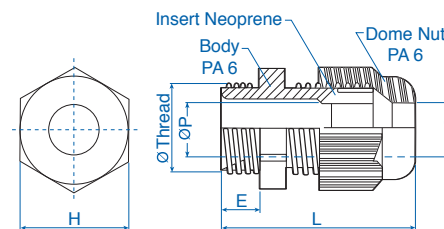
NPT Thread

NPT 3/8"	1.5-6	5308904	5308924	50
NPT 3/8"	2.5-8	5308900	5308920	50
NPT 1/2"	3-9	5308905	5308925	50
NPT 1/2"	5-12	5308901	5308921	50
NPT 3/4"	7-16	5308906	5308926	20
NPT 3/4"	9-18	5308902	5308922	20
NPT 1"	11-21	5308907	5308927	20
NPT 1"	14-25	5308903	5308923	20

Metric Thread*

M 12 x 1.5	1.5-5	5309612	5309712	100
M 12 x 1.5	2.5-6.5	5308950	5308940	100
M 16 x 1.5/9	1.5-6	5309615	5309715	50
M 16 x 1.5/11	2-7	5309616	5309716	50
M 16 x 1.5/9	2.5-8	5308958	5308948	50
M 16 x 1.5/11	3.5-10	5308951	5308941	50
M 20 x 1.5/13	3-9	5309619	5309719	50
M 20 x 1.5/16	5-12	5309620	5309720	50
M 20 x 1.5/13	5-12	5308959	5308949	50
M 20 x 1.5/16	7-14	5308952	5308942	50
M 25 x 1.5/16	5-12	5309624	5309724	50
M 25 x 1.5/21	7-16	5309625	5309725	25
M 25 x 1.5/16	7-14	5308960	5308962	50
M 25 x 1.5/21	9-18	5308953	5308943	25
M 32 x 1.5	11-21	5309632	5309732	20
M 32 x 1.5	14-25	5308954	5308944	20
M 40 x 1.5	13-26	5309640	5309740	10
M 40 x 1.5	18-32	5308955	5308945	10
M 50 x 1.5	17-31	5309650	5309750	5
M 50 x 1.5	24-38.5	5308956	5308946	5
M 63 x 1.5	26-39	5309663	5309763	5
M 63 x 1.5	35-48	5308957	5308947	5

Thread Size	Dimensions					
	H mm	E mm	L mm	ØC mm	ØP mm	ØThread mm
PG7	15	8	32	6.7	6.8	12.5
PG9	19	8	35	8.5	8.7	15.2
PG11	22	8	37	10.5	10.5	18.6
PG13.5	24	9	39	12.5	12.5	20.4
PG16	27	10	43	14.5	14.5	22.5
PG21	33	11	50	18.5	18.5	28.3
PG29	42	11	53	25.5	25.5	37.0
PG36	53	13	65	32.5	32.5	47.0
PG42	60	13	68	39.0	39.0	54.0
PG48	70	14	70	48.5	48.5	59.3
NPT 3/8	19	11	38	8.5	8.7	17.1
NPT 1/2	24	14	44	12.5	12.5	21.2
NPT 3/4	33	15	54	18.5	18.5	26.7
NPT 1	42	18	60	25.5	25.5	33.3
M12x1.5	15	8	32	6.7	6.8	12.0
M16x1.5/9	19	10	37	8.5	8.5	16.0
M16x1.5/11	22	10	39	10.5	10.5	16.0
M20x1.5/13	24	10	40	12.5	12.5	20.0
M20x1.5/16	27	10	43	14.5	14.5	20.0
M25x1.5/16	27	10	45	14.5	14.5	25.0
M25x1.5/21	33	10	49	18.5	18.5	25.0
M32x1.5	42	10	52	25.5	25.5	32.0
M40x1.5	53	10	62	32.5	32.5	40.0
M50x1.5	60	12	67	39.0	39.0	50.0
M63x1.5	70	12	68	48.5	48.5	63.0



* Extended thread available consult Altech

Material:

- Body: Nickel-plated brass
- Seal: Neoprene
- Clamping insert: Polyamide 6
- Sealing ring for outer thread: Nitril

Technical properties:

- Seal rings included for PG and Metric sizes
- Maximum strain relief through clamp range
- Gas- and watertight

Temperature Range
Neoprene
-25 to 100°C
(-13 to 212°F)



PG Thread*

Outer thread	Clamping range mm	Cat. No.	Std. Pk.
PG 7	1.5-5	4220351	50
PG 7	2.5-6.5	4220307	50
PG 9	2.5-7	4220352	50
PG 9	4-9.5	4220309	50
PG 11	3-8.5	4220353	50
PG 11	6-11.5	4220311	50
PG 13.5	4-10	4220354	50
PG 13.5	7-13	4220313	50
PG 16	5-12	4220355	50
PG 16	8-15	4220316	50
PG 21	8-16	4220356	20
PG 21	11-19	4220321	20
PG 29	11-21	4220357	20
PG 29	16-26	4220329	20
PG 36	16-28	4220358	10
PG 36	22-34.5	4220336	10
PG 42	22-34	4220359	5
PG 42	27-40	4220342	5
PG 48	28-40	4220360	5
PG 48	35-48	4220348	5

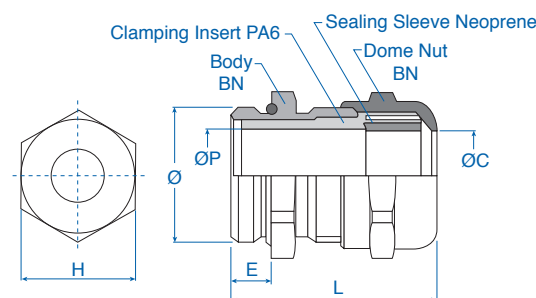
Thread Size	Dimensions					
	H mm	E mm	L mm	ØC mm	ØP mm	ØThread mm
PG7	14	5	25	6	6.6	12.5
PG9	17	6	29	9.7	10	15.2
PG11	20	6	30	11.7	12	18.6
PG13.5	22	6.5	32.5	13.2	13.5	20.4
PG16	24	6.5	34	15.2	15.5	22.5
PG21	30	7	35	19.5	19.5	28.3
PG29	40	8	38	26	26.5	37
PG36	50	9	42	34.5	35	47
PG42	58	10	47	40.5	41	54
PG48	65	10	54	48.5	50	59.3
NPT 3/8	18	15	38	9.7	10	17.1
NPT 1/2	23	20	46	13.2	13.5	21.2
NPT 3/4	28	20	48	16.2	16.5	26.7
NPT 1	36	25	55	21.5	22	33.3
M12x1.5	14	5	25	6.6	6.6	12
M16x1.5	17	5	28	9.7	10	16
M20x1.5	22	6	32	13.2	13.5	20
M25x1.5	27	7	35	16.2	16.5	25
M32x1.5	34	8	38	21.5	22	32
M40x1.5	42	8	41	27.5	28	40
M50x1.5	55	9	46	35.5	36	50
M63x1.5	65	10	54	48.5	50	63

NPT Thread

NPT 3/8"	2.5-7	4220810	50
NPT 3/8"	4-9.5	4220800	50
NPT 1/2"	4-10	4220811	50
NPT 1/2"	7-13	4220801	50
NPT 3/4"	5-13	4220812	20
NPT 3/4"	8-16	4220802	20
NPT 1"	7-17	4220813	5
NPT 1"	11-21	4220803	5

Metric Thread*

M 12 x 1.5	1.5-5	4220712	100
M 12 x 1.5	2.5-6.5	4220612	100
M 16 x 1.5	2.5-7	4220716	50
M 16 x 1.5	4-9.5	4220616	50
M 20 x 1.5	4-10	4220720	50
M 20 x 1.5	7-13	4220620	50
M 25 x 1.5	5-13	4220725	25
M 25 x 1.5	8-16	4220625	25
M 32 x 1.5	7-17	4220732	20
M 32 x 1.5	11-21	4220632	20
M 40 x 1.5	10-22	4220740	10
M 40 x 1.5	15-27	4220640	10
M 50 x 1.5	17-29	4220750	5
M 50 x 1.5	22-35	4220650	5
M 63 x 1.5	28-40	4220763	5
M 63 x 1.5	35-48	4220663	5



* Extended thread available consult Altech

Flat Head Sealing

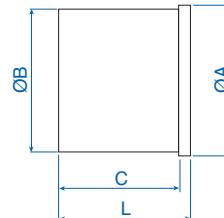
Material:

- EPDM, black

Features:

- For sealing cable gland entries when cables are not being installed.
- Insert into cable gland and tighten gland to seal.

Suitable for	ØA mm	ØB mm	C mm	L mm	Cat. No.	Std. Pk.
PG 7, PG 11, M 16	11.0	8.0	17.0	20.0	7217701	100
PG 13.5, PG 16, M 20	15.0	12.0	18.0	21.0	7217702	100
PG 21, M 25	18.0	15.0	19.0	22.0	7217703	100



Multi-Conductor Sealing

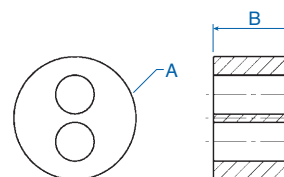
Material:

- Neoprene, black

Features:

- Standard Straight-Through Series
- Delivered separate, replaces sealing sleeve provided with gland

Suitable for	Hole Quantity	Hole Ø mm	ØA mm	B mm	Cat. No.	Std. Pk.
Multi-Conductor Seal						
PG 11/ M 16	2	4.0	13.0	8.0	8114200	100
PG 16/ M 20	2	5.0	17.0	10.0	8114203	100
PG 16/ M 20	2	6.0	17.0	10.0	8114201	100
PG 16/ M 20	4	5.0	17.0	10.0	8114202	100
PG 21/ M 25	2	6.0	22.5	11.5	8114204	100
PG 21/ M 25	2	8.0	22.5	11.5	8114208	100
PG 21/ M 25	3	7.0	22.5	11.5	8114205	100
PG 21/ M 25	4	6.5	22.5	11.5	8114206	100
PG 21/ M 25	6	4.0	22.5	11.5	8114207	100
PG 29/ M 32	4	6.0	30.5	13.0	8114212	100
PG 29/ M 32	4	8.0	30.5	13.0	8114209	100
PG 29/ M 32	6	6.0	30.5	13.0	8114210	100
PG 29/ M 32	8	4.0	30.5	13.0	8114211	100
Solid Sealing without holes						
PG 11/ M 16	—	—	13.0	8.0	8114250	100
PG 16/ M 20	—	—	17.0	10.0	8114251	100
PG 21/ M 25	—	—	22.5	11.5	8114252	100
PG 29/ M 32	—	—	30.5	13.0	8114253	100



Material:

- Body: Polyamide PA 6
25 % Glass-fiber Reinforced
- Seal: Tefabloc
ECA clamping ring: Polycarbonate

Characteristics:

- PG/metric thread
- ECA clamping ring
- Extended thread available

Technical properties:

- Strain relief through clamping ring
- Gas- and watertight
- Completely twist protected
- Combinable with various sealing inserts

Applications:

- Machines and devices
- Measuring and control engineering
- Plant installations

Temperature Range PA
-30 to 120°C (-22 to 248°F)

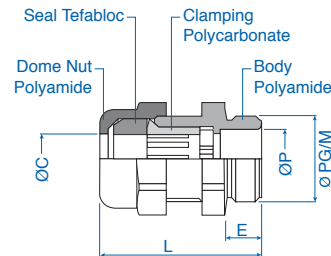
PROTECTION
IP68
RATING

ECA Clamping Ring Polyamide

Outer thread	Clamping range mm	Cat. No. Light Grey	Cat. No. Black	Std. Pk.
PG				
PG 7	3-6	5313610	5313620	50
PG 9	5-8	5313611	5313621	50
PG 11	6-10	5313612	5313622	50
PG 13.5	8-12	5313613	5313623	50
PG 16	10-14	5313614	5313624	50
PG 21	11.5-18	5313615	5313625	20
PG 29	15-24	5313616	5313626	20
Metric				
M 16 x 1.5	5-8	5313640	5313650	50
M 20 x 1.5/13	8-12	5313641	5313651	50
M 20 x 1.5/16	10-14	5313644	5313654	50
M 25 x 1.5	11.5-18	5313642	5313652	20
M 32 x 1.5	15-24	5313643	5313653	20



Thread Size	H mm	E mm	L mm	ØC mm	ØP mm	ØPG/M mm
PG7	15	8	31	6.5	7.0	12.5
PG9	19	8	32	8.5	9.0	15.2
PG11	22	8	35	11.5	11.0	18.6
PG13.5	24	9	36	12.5	13.5	20.4
PG16	27	10	40	14.5	15.0	22.5
PG21	33	11	44	18.5	19.0	28.3
PG29	42	12	55	25.0	25.0	37.0
PG36	55	18	65	35.0	37.0	47.0
PG42	65	18	67	43.0	44.0	54.0
PG48	70	18	67	51.0	51.0	59.3
M 16x1.5	19	8	32	8.5	9.0	16.0
M 20x1.5/13	24	9	36	12.5	13.5	20.0
M 20x1.5/16	27	9	39	14.5	15.0	20.0
M 25x1.5	33	11	44	18.5	19.0	25.0
M 32x1.5	42	12	55	25.0	25.0	32.0
M 40x1.5	55	15	63	35.0	34.5	40.0
M 50x1.5	65	15	65	43.0	42.5	50.0
M 63x1.5	70	15	65	51.0	51.0	63.0



Material:

- Body: Polyamide PA 6
25 % glass-fiber reinforced
- Seal: Tefabloc

Characteristic feature:

- PG/metric thread
- ECA clamping ring
- Extended thread available

Technical properties:

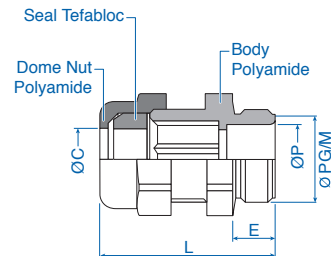
- Gas- and watertight
- Completely twist protected
- Combinable with various sealing inserts

Applications:

- Machines and devices
- Measuring and control engineering
- Plant installations

Short Seal Polyamide

PG				
PG 7	3-6	5211107	5211307	50
PG 9	4.5-8	5211109	5211309	50
PG 11	6.5-10.5	5211111	5211311	50
PG 13.5	7-12	5211113	5211313	50
PG 16	9-14	5211116	5211316	50
PG 21	11.5-18	5211121	5211321	20
PG 29	15-24.5	5211129	5211329	20
Metric				
M 16 x 1.5	4.5-8	5211416	5211616	50
M 20 x 1.5/13	7-12	5211420	5211620	50
M 20 x 1.5/16	9-14	5211421	5211621	50
M 25 x 1.5	11.5-18	5211425	5211625	20
M 32 x 1.5	15-24.5	5211432	5211632	20



Material:

- Body: Polyamide PA 6
25 % glass-fiber reinforced
- Seal: Santoprene/Nitril

Characteristic feature:

- PG/metric thread
- Extended thread available

Technical properties:

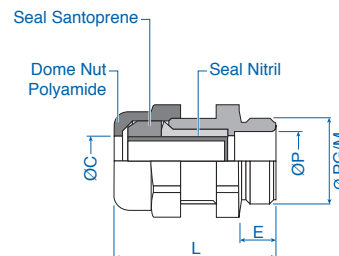
- Gas- and watertight
- Completely twist protected
- Combinable with various sealing inserts

Applications:

- Machines and devices
- Measuring and control engineering
- Plant installations

Long Seal, Two Part Polyamide

PG				
PG 9	3-8	5320001	5320051	50
PG 11	5-11	5320002	5320052	50
PG 13.5	5-12.5	5320003	5320053	50
PG 16	7-14.5	5320004	5320054	50
PG 21	10-18	5320005	5320055	20
PG 29	14-24	5320006	5320056	20
PG 36	22-32	5320007	5320057	10
PG 42	30-40	5320008	5320058	10
PG 48	34-46	5320009	5320059	5
Metric				
M 16 x 1.5	3-8	5320100	5320160	50
M 20 x 1.5/13	5-12.5	5320101	5320161	50
M 20 x 1.5/16	7-14.5	5320104	5320164	50
M 25 x 1.5	10-18	5320102	5320162	20
M 32 x 1.5	14-24	5320103	5320163	20
M 40 x 1.5	22-32	5320105	5320165	20
M 50 x 1.5	30-40	5320106	5320166	20
M 63 x 1.5	34-46	5320107	5320167	20



Cable Gland / Industrial Flat Cable - Polyamide

Material:

- Body: Polyamide PA 6
25 % Glass-fiber Reinforced
- Seal: Tefabloc

Characteristics:

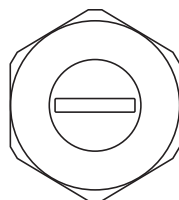
- PG/metric thread
- Seal for flat cable round, angular, oval

Technical properties:

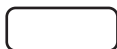
- Gas- and watertight
- Completely twist protected
- Combinable with various sealing inserts

Applications:

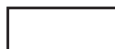
- Machines and devices
- Measuring and control engineering
- Plant installations



Flat Cable, Rounded



Flat Cable, Angular



Flat Cable, Oval



See page 7 for dimensions.

Outer thread	Clamping range mm	Cat. No. Light Grey	Cat. No. Black	Clamping range mm	Cat. No. Light Grey	Cat. No. Black	Clamping range mm	Cat. No. Light Grey	Cat. No. Black	Std. Pk.
PG										
PG 9	3.5 x 5.5	5320300	5320500							50
PG 11	2.8 x 10.5	5320305	5320505							50
PG 11	3.5 x 9	5320306	5320506							50
PG 11	4 x 6	5320307	5320507							50
PG 13.5	3 x 12	5320310	5320510				5 x 8	5320375	5320575	50
PG 13.5	5 x 11	5320311	5320511				5 x 12	5320376	5320576	50
PG 16	5 x 12	5320315	5320515	8 x 12	5320351	5320551	5 x 12	5320380	5320580	50
PG 16	5 x 16	5320316	5320516				5.5 x 8.5	5320381	5320581	50
PG 16	7.5 x 14	5320317	5320517				5 x 15	5320382	5320582	50
PG 16							6 x 15	5320383	5320583	50
PG 16							7 x 14	5320384	5320584	50
PG 21	5 x 17	5320320	5320520	4 x 15	5320355	5320555	5 x 16	5320385	5320585	20
PG 21	7 x 18	5320321	5320521				7 x 16.5	5320386	5320586	20
PG 21	9 x 15	5320322	5320522				7 x 20	5320387	5320587	20
PG 29	6 x 29	5320325	5320525	6 x 26	5320360	5320560	10 x 27	5320390	5320590	20
PG 29	8 x 25	5320326	5320526	7 x 26	5320361	5320561				20
PG 29	10 x 25	5320327	5320527							20
PG 29	13 x 28	5320328	5320528							20
PG 36	6 x 30	5320330	5320530	5 x 36	5320365	5320565	6.5 x 32	5320393	5320593	20
PG 36	6 x 36	5320331	5320531	8 x 30	5320366	5320566	11 x 35	5320394	5320594	20
PG 36	8 x 36	5320332	5320532							20
PG 36	11 x 34	5320333	5320533							20
PG 36	12 x 35	5320334	5320534							20
PG 42	10 x 38	5320335	5320535	5.5 x 37	5320370	5320570	6 x 41	5320396	5320596	20
PG 42	13 x 35	5320336	5320536	6 x 39	5320371	5320571	9 x 38	5320397	5320597	20
PG 42	14 x 37	5320337	5320537							20
PG 48	6.5 x 47	5320342	5320542							20
PG 48	9 x 43	5320343	5320543							20
PG 48	14.5 x 39	5320344	5320544							20
PG 48	15 x 45	5320345	5320545							20
Metric										
M 16 x 1.5	3.5 x 5.5	5320710	5320810							50
M 20x1.5/13	3 x 12	5320715	5320815				5 x 8	5320770	5320870	50
M 20x1.5/13	5 x 11	5320716	5320816				5 x 12	5320771	5320871	50
M 20x1.5/16	5 x 12	5320717	5320817	8 x 12	5320785	5320885	5.5 x 8.5	5320772	5320872	50
M 20x1.5/16	7.5 x 14	5320718	5320818				7 x 14	5320773	5320873	50
M 25 x 1.5	5 x 16	5320720	5320820	4 x 15	5320786	5320886	5 x 15	5320774	5320874	20
M 25 x 1.5	5 x 17	5320721	5320821				5 x 16	5320775	5320875	20
M 25 x 1.5	7 x 18	5320722	5320822				6 x 15	5320776	5320876	20
M 25 x 1.5	9 x 15	5320723	5320823				7 x 16.5	5320777	5320877	20
M 32 x 1.5	8 x 25	5320730	5320830				7 x 20	5320780	5320880	20
M 32 x 1.5	10 x 25	5320731	5320831							20

Material:

- Body: Polyamide PA 6
- 25 % Glass-fiber Reinforced
- Seal: Tefabloc

Characteristics:

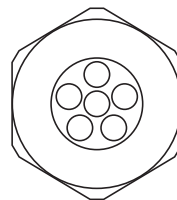
- PG thread
- Multi-holed seal inserts

Technical properties:

- Gas- and watertight
- Completely twist protected
- Combinable with various sealing inserts

Applications:

- Machines and devices
- Measuring and control engineering
- Plant installations

**Temperature Range****PA 6**-30 to 120°C
(-22 to 248°F)

See page 7 for dimensions.

Outer thread	Hole Quantity	Hole diameter mm	Cat. No. Light Grey	Cat. No. Black	Std. Pk.	Outer thread	Hole Quantity	Hole diameter mm	Cat. No. Light Grey	Cat. No. Black	Std. Pk.
PG 7	1	4	5315800	5315600	50	PG 16	4	4	5315862	5315662	50
PG 7	1	5	5315801	5315601	50	PG 16	4	5	5315863	5315663	50
PG 9	1	5	5315810	5315610	50	PG 16	4	6	5315864	5315664	50
PG 9	2	1	5315811	5315611	50	PG 16	5	4	5315865	5315665	50
PG 9	2	3	5315812	5315612	50	PG 16	5	5	5315866	5315666	50
PG 9	2	3.5	5315813	5315613	50	PG 16	6	4	5315867	5315667	50
PG 9	2	4	5315814	5315614	50	PG 16	7	4	5315868	5315668	50
PG 9	3	3	5315815	5315615	50	PG 21	2	4.5	5315869	5315669	20
PG 9	4	3	5315816	5315616	50	PG 21	2	8	5315870	5315670	20
PG 9	4	4	5315817	5315617	50	PG 21	2	8.7	5315871	5315671	20
PG 11	2	2.3	5315820	5315620	50	PG 21	2	9	5315872	5315672	20
PG 11	2	3	5315821	5315621	50	PG 21	2	11	5315873	5315673	20
PG 11	2	3.5	5315110	5315500	50	PG 21	3	7	5315210	5315520	20
PG 11	2	4	5315822	5315622	50	PG 21	3	8	5315211	5315521	20
PG 11	2	5	5315111	5315501	50	PG 21	3	9	5315874	5315674	20
PG 11	2	6	5315112	5315502	50	PG 21	4	5	5315875	5315675	20
PG 11	3	3	5315823	5315623	50	PG 21	4	6	5315212	5315522	20
PG 11	3	3.5	5315113	5315503	50	PG 21	4	7.5	5315876	5315676	20
PG 11	3	4	5315824	5315624	50	PG 21	4	8	5315213	5315523	20
PG 11	3	5	5315114	5315504	50	PG 21	5	5	5315877	5315677	20
PG 11	3	5.3	5315825	5315625	50	PG 21	5	6	5315214	5315524	20
PG 11	4	1.5	5315826	5315626	50	PG 21	5	6.5	5315215	5315525	20
PG 11	4	3.5	5315827	5315627	50	PG 21	6	4	5315878	5315678	20
PG 11	6	2	5315828	5315628	50	PG 21	6	5	5315879	5315679	20
PG 11	6	2.5	5315829	5315629	50	PG 21	6	6	5315216	5315526	20
PG 13.5	2	3	5315830	5315630	50	PG 21	6	6.5	5315217	5315527	20
PG 13.5	2	5	5315831	5315631	50	PG 21	6	7	5315218	5315528	20
PG 13.5	2	6	5315130	5315510	50	PG 21	7	6	5315219	5315529	20
PG 13.5	3	2	5315832	5315632	50	PG 21	8	4	5315880	5315683	20
PG 13.5	3	3	5315833	5315633	50	PG 21	8	5	5315220	5315530	20
PG 13.5	3	4	5315834	5315634	50	PG 21	11	5	5315221	5315531	20
PG 13.5	3	5.3	5315835	5315635	50	PG 21	21	2	5315881	5315684	20
PG 13.5	3	6	5315836	5315636	50	PG 21	28	3	5315222	5315532	20
PG 13.5	4	3	5315837	5315637	50	PG 29	2	9	5315289	5315690	20
PG 13.5	4	4	5315838	5315638	50	PG 29	2	11	5315891	5315691	20
PG 13.5	4	5	5315839	5315639	50	PG 29	2	12	5315892	5315692	20
PG 13.5	4	5.3	5315840	5315640	50	PG 29	3	9	5315893	5315693	20
PG 13.5	6	3.5	5315841	5315641	50	PG 29	3	11	5315894	5315694	20
PG 13.5	10	2	5315842	5315642	50	PG 29	4	8	5315290	5315540	20
PG 16	2	4	5315850	5315650	50	PG 29	4	9	5315895	5315695	20
PG 16	2	5	5315851	5315651	50	PG 29	4	10	5315896	5315696	20
PG 16	2	6	5315852	5315652	50	PG 29	6	6	5315897	5315697	20
PG 16	2	7	5315160	5315515	50	PG 29	6	6.5	5315292	5315542	20
PG 16	2	8	5315853	5315653	50	PG 29	6	7	5315293	5315543	20
PG 16	2	9	5315854	5315654	50	PG 29	7	6	5315294	5315544	20
PG 16	3	3	5315855	5315655	50	PG 29	7	7	5315898	5315698	20
PG 16	3	4	5315856	5315656	50	PG 29	8	5	5315899	5315699	20
PG 16	3	5	5315857	5315516	50	PG 29	8	6	5315295	5315545	20
PG 16	3	5.6	5315858	5315658	50	PG 29	10	6	5315900	5315700	20
PG 16	3	6	5315859	5315659	50	PG 29	11	5	5315296	5315546	20
PG 16	3	7	5315860	5315660	50	PG 29	28	3	5315297	5315547	20
PG 16	3	8	5315861	5315661	50						

Cable Gland / Industrial Multi-Conductor (Metric) - Polyamide

Material:

- Body: polyamide PA 6
25% Glass-fiber Reinforced
- Seal: Tefabloc

Characteristics:

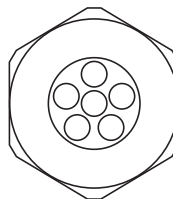
- Metric Thread
- Multi-holed seal inserts

Technical properties:

- Gas- and watertight
- Completely twist protected
- Combinable with various sealing inserts

Applications:

- Machines and devices
- Measuring and control engineering
- Plant installations



Temperature Range

PA 6

-30 to 120°C

(-22 to 248°F)



See page 7 for dimensions.

Outer thread	Hole Quantity	Hole diameter mm	Cat. No. Light Grey	Cat. No. Black	Std. Pk.
M 16 x 1.5	2	1	5316100	5318100	50
M 16 x 1.5	2	3	5316101	5318101	50
M 16 x 1.5	2	3.5	5316102	5318102	50
M 16 x 1.5	2	4	5316103	5318103	50
M 16 x 1.5	3	3	5316104	5318104	50
M 20 x 1.5/13	2	3	5316200	5318200	50
M 20 x 1.5/16	2	4	5316201	5318201	50
M 20 x 1.5/16	2	5	5316202	5318202	50
M 20 x 1.5/16	2	6	5316203	5318203	50
M 20 x 1.5/16	2	7	5316204	5318204	50
M 20 x 1.5/13	3	2	5316205	5318205	50
M 20 x 1.5/16	3	3	5316206	5318206	50
M 20 x 1.5/16	3	4	5316207	5318207	50
M 20 x 1.5/16	3	5	5316208	5318208	50
M 20 x 1.5/16	3	5.6	5316209	5318209	50
M 20 x 1.5/16	3	6	5316210	5318210	50
M 20 x 1.5/13	4	3	5316211	5318211	50
M 20 x 1.5/16	4	4	5316212	5318212	50
M 20 x 1.5/16	5	4	5316213	5318213	50
M 20 x 1.5/16	5	5	5316214	5318214	50
M 20 x 1.5/13	6	3.5	5316215	5318215	50
M 20 x 1.5/16	6	4	5316216	5318216	50
M 20 x 1.5/13	10	2	5316217	5318217	50
M 25 x 1.5	2	4.5	5316300	5318300	20
M 25 x 1.5	2	8	5316301	5318301	20
M 25 x 1.5	3	7	5316302	5318302	20
M 25 x 1.5	3	8	5316303	5318303	20
M 25 x 1.5	4	5	5316304	5318304	20

Outer thread	Hole Quantity	Hole diameter mm	Cat. No. Light Grey	Cat. No. Black	Std. Pk.
M 25 x 1.5	4	6	5316305	5318305	20
M 25 x 1.5	5	5	5316306	5318306	20
M 25 x 1.5	5	6	5316307	5318307	20
M 25 x 1.5	5	6.5	5316308	5318308	20
M 25 x 1.5	6	4	5316309	5318309	20
M 25 x 1.5	6	5	5316310	5318310	20
M 25 x 1.5	8	4	5316311	5318311	20
M 25 x 1.5	8	5	5316312	5318312	20
M 25 x 1.5	21	2	5316313	5318313	20
M 32 x 1.5	2	9	5316400	5318400	20
M 32 x 1.5	2	11	5316401	5318401	20
M 32 x 1.5	2	12	5316402	5318402	20
M 32 x 1.5	3	9	5316403	5318403	20
M 32 x 1.5	3	11	5316404	5318404	20
M 32 x 1.5	4	8	5316405	5318405	20
M 32 x 1.5	4	9	5316406	5318406	20
M 32 x 1.5	4	10	5316407	5318407	20
M 32 x 1.5	6	6	5316408	5318408	20
M 32 x 1.5	6	6.5	5316409	5318409	20
M 32 x 1.5	6	7	5316410	5318410	20
M 32 x 1.5	7	6	5316411	5318411	20
M 32 x 1.5	7	7	5316412	5318412	20
M 32 x 1.5	8	5	5316413	5318413	20
M 32 x 1.5	8	6	5316414	5318414	20
M 32 x 1.5	10	6	5316415	5318415	20
M 32 x 1.5	11	5	5316416	5318416	20
M 32 x 1.5	28	3	5316417	5318417	20

Material:

- Body: Polyvinylidene fluoride
- Seal: Santoprene
- ECA clamping ring: Polycarbonate

Characteristics:

- Metric thread
- ECA clamping ring
- Short and long seal

Technical properties:

- No halogen
- Strain relief through clamping ring
- Gas- and watertight
- Completely twist protected
- Combinable with various sealing inserts
- Chemical resistant

Applications:

- Machines and devices
- Measuring and control engineering
- Plant installations
- Food sector

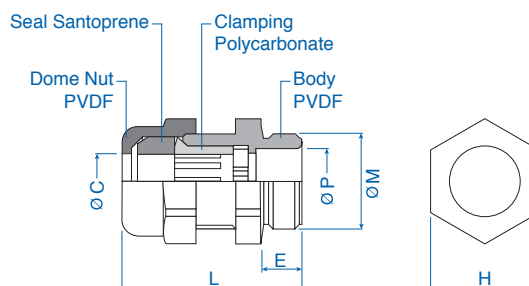


Temperature Range
PVDF
 -40 to 120°C
 (-40 to 248°F)

PROTECTION
IP68
 RATING

Metric Thread

ECA			Short Seal		Long Seal		Std. Pk.
Outer thread	Clamping range mm	Cat. No.	Clamping range mm	Cat. No.	Clamping range mm	Cat. No.	
M 16 x 1.5	5-8	5330016	4.5-8	5330116	3-8	5330216	50
M 20 x 1.5/13	8-12	5330020	7-12	5330120	6-12.5	5330220	50
M 20 x 1.5/16	10-14	5330021	9-14	5330121	7-14.5	5330221	50
M 25 x 1.5	11.5-18	5330025	11.5-18	5330125	10-18	5330225	20
M 32 x 1.5	15-24	5330032	15-24.5	5330132	14-24	5330232	20



Thread Size	PG Dimensions					
	H mm	E mm	L mm	ØC mm	ØP mm	ØM mm
M 16x1.5	19	15	39	8.5	9	16
M 20x1.5/13	24	15	42	12.5	13.5	20
M 20x1.5/16	27	15	45	14.5	15	20
M 25x1.5	33	15	48	18.5	19	25
M 32x1.5	42	15	58	25	25	32

Cable Gland / Industrial Straight-Through - Nickel-Plated Brass

Material:

- Body: Nickel-plated brass
- Seal: Tefabloc or Santoprene/Nitril
- ECA clamping ring: Polycarbonate
- Sealing ring for outer thread: Nitril

Characteristics:

- PG/Metric thread
- Extended Thread available

Technical properties:

- Strain relief through clamping ring
- Gas- and watertight
- Completely twist protected
- Combinable with various sealing inserts

Applications:

- Machines and devices
- Measuring and control engineering
- Plant installations

Temperature Range MS
-25 to 120°C (-13 to 248°F)

PROTECTION
IP68
RATING

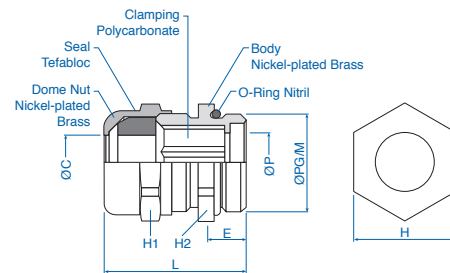
ECA Clamping Ring Nickel-Plated Brass

Outer thread	Clamping range mm	Cat. No.	Std. Pk.
PG			
PG 7	3-6	4221079	50
PG 9	5-8	4221095	50
PG 11	6-10	4221117	50
PG 13.5	8-12	4221133	50
PG 16	9.5-14	4221168	20
PG 21	11.5-18	4221214	20
PG 29	15-24	4221290	20
PG 36*	23-30	4221362	10
PG 42*	26-35	4221427	5
PG 48*	35-40	4221486	5
Metric			
M 12 x 1.5	3-6	4221714	50
M 16 x 1.5/7	3-6	4221716	50
M 16 x 1.5/9	5-8	4221717	50
M 20 x 1.5/11	6-10	4221720	50
M 20 x 1.5/13	8-12	4221721	50
M 25 x 1.5/16	9.5-14	4221725	20
M 25 x 1.5/21	11.5-18	4221726	20
M 32 x 1.5/21	11.5-18	4221732	10
M 32 x 1.5/29	15-24	4221733	10
M 40 x 1.5	15-24	4221740	5
M 50* x 1.5	23-30	4221750	5
M 63* x 1.5	26-35	4221760	5



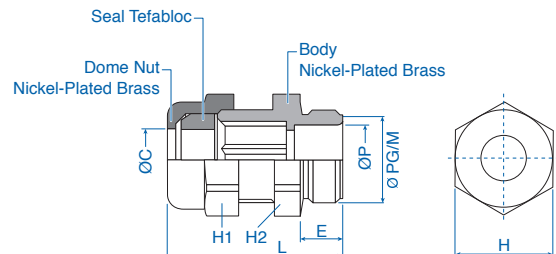
*Clamping ring made of polyoxymethylene (POM), temperature range -30°C to +95°C (-22°F to 203°F)

Thread Size	H1 mm	H2 mm	E mm	L mm	ØC mm	ØP mm	ØPG/M mm
PG7	14	14	5	24	6.5	7.2	12.5
PG9	17	17	6	25	8.5	9.2	15.2
PG11	20	20	6	26	10.5	11.2	18.6
PG13.5	22	22	6.5	28	12.5	13.1	20.4
PG16	24	24	6.5	30	15.2	15.6	22.5
PG21	30	30	7	35	18.5	20.1	28.3
PG29	40	40	8	43	25.0	26.2	37.0
PG36	50	50	9	50	30.5	33.0	47.0
PG42	58	58	10	57	35.5	40.0	54.0
PG48	64	64	10	59	40.5	47.5	59.3
M 12x1.5	14	14	7	27	6.5	7.2	12
M 16x1.5/7	14	17	7	27	6.5	7.2	16
M 16x1.5/9	17	17	7	27	8.5	9.2	16
M 20x1.5/11	20	22	7	28	10.5	11.2	20
M 20x1.5/13	22	22	7	29	12.5	13.1	20
M 25x1.5/16	24	26	8	31	15.2	15.6	25
M 25x1.5/21	30	30	8	37	18.5	20.1	25
M 32x1.5/21	30	33	8.5	38	18.5	20.1	32
M 32x1.5/29	40	40	8.5	45	25.0	26.2	32
M 40x1.5	40	42	8.5	45	25.0	26.2	40
M 50x1.5	50	55	9.5	51	30.5	33.0	50
M 63x1.5	58	70	10.5	58	30.5	40.0	63



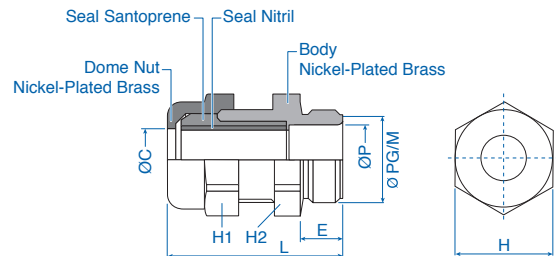
Short Seal Nickel-Plated Brass

PG			
PG 7	3-6	4221000	50
PG 9	5-8	4221001	50
PG 11	6-10	4221002	50
PG 13.5	8-12	4221003	50
PG 16	9.5-14	4221004	20
PG 21	11.5-18	4221005	20
PG 29	15-24	4221006	20
PG 36	22-30	4221007	10
PG 42	25-35	4221008	5
PG 48	30-40	4221009	5
Metric			
M 12 x 1.5	3-6	4221039	50
M 16 x 1.5/7	3-6	4221040	50
M 16 x 1.5/9	5-8	4221041	50
M 20 x 1.5/11	6-10	4221042	50
M 20 x 1.5/13	8-12	4221043	50
M 25 x 1.5/16	9.5-14	4221044	20
M 25 x 1.5/21	11.5-18	4221045	20
M 32 x 1.5/21	11.5-18	4221046	10
M 32 x 1.5/29	15-24	4221047	10
M 40 x 1.5	15-24	4221048	5
M 50 x 1.5	22-30	4221049	5
M 63 x 1.5	25-35	4221050	5



Long Seal, Two Part Nickel-Plated Brass

PG			
PG 9	3-8	4224001	50
PG 11	5-10.5	4224002	50
PG 13.5	6-12.5	4224003	50
PG 16	7-14.5	4224004	20
PG 21	10-18	4224005	20
PG 29	14-24	4224006	20
Metric			
M 16 x 1.5/9	3-8	4224101	50
M 20 x 1.5/11	5-10.5	4224102	50
M 20 x 1.5/13	6-12.5	4224103	50
M 25 x 1.5/16	7-14.5	4224104	20
M 25 x 1.5/21	10-18	4224105	20
M 32 x 1.5/21	10-18	4224106	10
M 32 x 1.5/29	14-24	4224107	10



Material:

- Body: Nickel-Plated Brass
- Seal: Tefabloc
- Sealing ring for outer thread: Nitril

Characteristics:

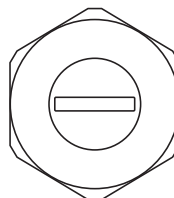
- PG/metric thread
- Seal for flat cable round, angular, oval
- Extended thread available

Technical properties:

- Gas- and watertight
- Completely twist protected
- Combinable with various sealing inserts

Applications:

- Machines and devices
- Measuring and control engineering
- Plant installations



See page 12 for dimensions.



Flat Cable, Rounded



Flat Cable, Angular



Flat Cable, Oval



Outer thread	Clamping range mm	Cat. No.	Clamping range mm	Cat. No.	Clamping range mm	Cat. No.	Std. Pks.
PG							
PG 9	3.5 x 5.5	4224300					50
PG 11	2.8 x 10.5	4224305					50
PG 11	3.5 x 9	4224306					50
PG 11	4 x 6	4224307					50
PG 13.5	3 x 12	4224310			5 x 8	4224375	50
PG 13.5	5 x 11	4224311			5 x 12	4224376	50
PG 16	5 x 12	4224315	8 x 12	4224351	5 x 12	4224390	25
PG 16	7.5 x 14	4224317			5.5 x 8.5	4224380	25
PG 16					6 x 10	4224382	25
PG 16					7 x 14	4224384	25
PG 16/21	5 x 16	4224316			5 x 15	4224381	20
PG 16/21					6 x 15	4224383	20
PG 21	5 x 17	4224320	4 x 15	4224355	5 x 16	4224385	20
PG 21	7 x 18	4224321			7 x 16.5	4224386	20
PG 21	9 x 15	4224322					20
PG 21/29					7 x 20	4224387	10
PG 29	8 x 25	4224326					10
PG 29	10 x 25	4224327					10
Metric							
M 16 x 1.5/9	3.5 x 5.5	4224700					50
M 20 x 1.5/11	2.8 x 10.5	4224705					50
M 20 x 1.5/11	3.5 x 9	4224706					50
M 20 x 1.5/11	4 x 6	4224707					50
M 20 x 1.5/13	3 x 12	4224710			5 x 8	4224775	50
M 20 x 1.5/13	5 x 11	4224711			5 x 12	4224776	50
M 25 x 1.5/16	5 x 12	4224715	8 x 12	4224751	5 x 12	4224790	20
M 25 x 1.5/16	7.5 x 14	4224717			5.5 x 8.5	4224780	20
M 25 x 1.5/16					6 x 10	4224781	20
M 25 x 1.5/16					7 x 14	4224782	20
M 25 x 1.5/21	5 x 16	4224716	4 x 15	4224755	5 x 15	4224784	20
M 25 x 1.5/21	5 x 17	4224720			5 x 16	4224785	20
M 25 x 1.5/21	7 x 18	4224721			6 x 15	4224783	20
M 25 x 1.5/21	9 x 15	4224722			7 x 16.5	4224786	20
M 32 x 1.5/29	8 x 25	4224726			7 x 20	4224787	10
M 32 x 1.5/29	10 x 25	4224727					10

Cable Gland / Industrial Multi-Conductor (PG) - Nickel-Plated Brass

Material:

- Body: Nickel-Plated Brass
- Seal: Tefabloc
- Sealing ring for outer thread: Nitril

Characteristics:

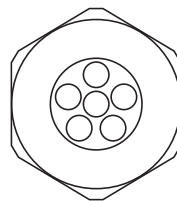
- PG thread
- Multi-holed seal inserts

Technical properties:

- Gas- and watertight
- Completely twist protected
- Combinable with various sealing inserts

Applications:

- Machines and devices
- Measuring and control engineering
- Plant installations



Temperature Range MS

-25 to 120°C
(-13 to 248°F)



See page 12 for dimensions.

Outer thread	Hole Quantity	Hole diameter mm	Cat. No.	Std. Pk.
PG 7	1	4	4248640	50
PG 7	1	5	4248641	50
PG 9	1	5	4248642	50
PG 9	2	1	4248643	50
PG 9	2	3	4248644	50
PG 9	2	3.5	4248645	50
PG 9	2	4	4248646	50
PG 9	3	3	4248647	50
PG 9	4	3	4248648	50
PG 9	4	4	4248649	50
PG 11	2	2.3	4248650	50
PG 11	2	3	4248651	50
PG 11	2	3.5	4248405	50
PG 11	2	4	4248652	50
PG 11	2	5	4248660	50
PG 11	2	6	4248661	50
PG 11	3	3	4248653	50
PG 11	3	3.5	4248407	50
PG 11	3	4	4248654	50
PG 11	3	5	4248662	50
PG 11	3	5.3	4248655	50
PG 11	4	1.5	4248656	50
PG 11	4	3.5	4248657	50
PG 11	6	2	4248658	50
PG 11	6	2.5	4248659	50
PG 13.5	2	3	4248663	50
PG 13.5	2	5	4248664	50
PG 13.5	2	6	4248404	50
PG 13.5	3	2	4248665	50
PG 13.5	3	3	4248666	50
PG 13.5	3	4	4248667	50
PG 13.5	3	5.3	4248668	50
PG 13.5	3	6	4248669	50
PG 13.5	4	3	4248670	50
PG 13.5	4	4	4248671	50
PG 13.5	4	5	4248673	50
PG 13.5	4	5.3	4248672	50
PG 13.5	6	3.5	4248674	50
PG 13.5	10	2	4248675	50
PG 16	2	4	4248678	50
PG 16	2	5	4248679	50
PG 16	2	6	4248680	50
PG 16	2	7	4248409	50
PG 16	2	8	4248681	50
PG 16	2	9	4248682	50
PG 16	3	3	4248683	50
PG 16	3	4	4248684	50
PG 16	3	5	4248677	50
PG 16	3	5.6	4248685	50
PG 16	3	6	4248686	50
PG 16	3	7	4248695	50
PG 16	3	8	4248687	50

Outer thread	Hole Quantity	Hole diameter mm	Cat. No.	Std. Pk.
PG 16	4	4	4248688	50
PG 16	4	5	4248689	50
PG 16	4	6	4248694	50
PG 16	5	4	4248690	50
PG 16	5	5	4248691	50
PG 16	6	4	4248692	50
PG 16	7	4	4248693	50
PG 21	2	4.5	4248696	20
PG 21	2	8	4248697	20
PG 21	2	8.7	4248698	20
PG 21	2	9	4248699	20
PG 21	2	11	4248700	20
PG 21	3	7	4248542	20
PG 21	3	8	4248531	20
PG 21	3	9	4248701	20
PG 21	4	5	4248702	20
PG 21	4	6	4248529	20
PG 21	4	7.5	4248709	20
PG 21	4	8	4248703	20
PG 21	5	5	4248704	20
PG 21	5	6	4248539	20
PG 21	5	6.5	4248541	20
PG 21	6	4	4248705	20
PG 21	6	5	4248706	20
PG 21	6	6	4248713	20
PG 21	6	6.5	4248710	20
PG 21	6	7	4248715	20
PG 21	7	6	4248714	20
PG 21	8	4	4248707	20
PG 21	8	5	4248543	20
PG 21	11	5	4248712	20
PG 21	21	2	4248708	20
PG 21	28	3	4248711	20
PG 29	2	9	4248716	20
PG 29	2	11	4248717	20
PG 29	3	9	4248719	20
PG 29	3	11	4248720	20
PG 29	4	8	4248629	20
PG 29	4	9	4248721	20
PG 29	4	10	4248722	20
PG 29	6	6	4248627	20
PG 29	6	6.5	4248610	20
PG 29	6	7	4248614	20
PG 29	7	6	4248631	20
PG 29	7	7	4248723	20
PG 29	8	5	4248724	20
PG 29	8	6	4248632	20
PG 29	10	6	4248725	20
PG 29	11	5	4248634	20
PG 29	28	3	4248612	20

Material:

- Body: Nickel-Plated Brass
- Seal: Tefabloc
- Sealing ring for outer thread: Nitril

Characteristics:

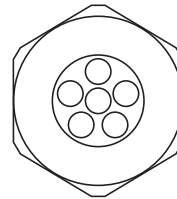
- Metric thread
- Multi-holed seal inserts
- Extended thread available

Technical properties:

- Gas- and watertight
- Completely twist protected
- Combinable with various sealing inserts

Applications:

- Machines and devices
- Measuring and control engineering
- Plant installations

**Temperature Range
MS**

-25 to 120°C
(-13 to 248°F)



See page 12 for dimensions.

Outer thread	Hole Quantity	Hole diameter mm	Cat. No.	Std. Pk.
M 16 x 1.5/9	2	1	4249600	50
M 16 x 1.5/9	2	3	4249601	50
M 16 x 1.5/9	2	3.5	4249602	50
M 16 x 1.5/9	2	4	4249603	50
M 16 x 1.5/9	3	3	4249604	50
M 20 x 1.5/11	2	2.3	4249610	50
M 20 x 1.5/13	2	3	4249611	50
M 20 x 1.5/11	2	3.5	4249612	50
M 20 x 1.5/11	2	4	4249613	50
M 20 x 1.5/13	2	5	4249614	50
M 20 x 1.5/13	2	6	4249615	50
M 20 x 1.5/13	3	2	4249616	50
M 20 x 1.5/13	3	3	4249617	50
M 20 x 1.5/11	3	3.5	4249618	50
M 20 x 1.5/13	3	4	4249619	50
M 20 x 1.5/13	3	5.3	4249620	50
M 20 x 1.5/11	4	1.5	4249621	50
M 20 x 1.5/13	4	3	4249622	50
M 20 x 1.5/11	4	3.5	4249623	50
M 20 x 1.5/13	4	4	4249624	50
M 20 x 1.5/11	6	2	4249625	50
M 20 x 1.5/11	6	2.5	4249626	50
M 20 x 1.5/13	6	3.5	4249627	50
M 20 x 1.5/13	10	2	4249628	50
M 25 x 1.5/16	2	4	4249640	20
M 25 x 1.5/21	2	4.5	4249641	20
M 25 x 1.5/16	2	5	4249642	20
M 25 x 1.5/16	2	6	4249643	20
M 25 x 1.5/16	2	7	4249644	20
M 25 x 1.5/21	2	8	4249645	20
M 25 x 1.5/16	3	3	4249646	20
M 25 x 1.5/16	3	4	4249647	20
M 25 x 1.5/16	3	5	4249648	20
M 25 x 1.5/16	3	5.6	4249649	20
M 25 x 1.5/16	3	6	4249650	20
M 25 x 1.5/21	3	7	4249651	20
M 25 x 1.5/21	3	8	4249652	20
M 25 x 1.5/16	4	4	4249653	20
M 25 x 1.5/21	4	5	4249654	20
M 25 x 1.5/21	4	6	4249655	20
M 25 x 1.5/16	5	4	4249656	20
M 25 x 1.5/21	5	5	4249657	20
M 25 x 1.5/21	5	6	4249658	20
M 25 x 1.5/21	5	6.5	4249659	20
M 25 x 1.5/21	6	4	4249660	20
M 25 x 1.5/21	6	5	4249661	20
M 25 x 1.5/21	8	4	4249662	20
M 25 x 1.5/21	8	5	4249663	20
M 25 x 1.5/21	21	2	4249664	20
M 32 x 1.5/21	2	4.5	4249670	20
M 32 x 1.5/21	2	8	4249671	20
M 32 x 1.5/29	2	9	4249672	20
M 32 x 1.5/29	2	11	4249673	20
M 32 x 1.5/29	2	12	4249674	20
M 32 x 1.5/21	3	7	4249675	20
M 32 x 1.5/21	3	8	4249676	20

Outer thread	Hole Quantity	Hole diameter mm	Cat. No.	Std. Pk.
M 32 x 1.5/29	3	9	4249677	20
M 32 x 1.5/29	3	11	4249678	20
M 32 x 1.5/21	4	5	4249679	20
M 32 x 1.5/21	4	6	4249680	20
M 32 x 1.5/29	4	8	4249681	20
M 32 x 1.5/29	4	9	4249682	20
M 32 x 1.5/29	4	10	4249683	20
M 32 x 1.5/21	5	5	4249684	20
M 32 x 1.5/21	5	6	4249685	20
M 32 x 1.5/21	5	6.5	4249686	20
M 32 x 1.5/21	6	4	4249687	20
M 32 x 1.5/21	6	5	4249688	20
M 32 x 1.5/29	6	6	4249689	20
M 32 x 1.5/29	6	6.5	4249690	20
M 32 x 1.5/29	6	7	4249691	20
M 32 x 1.5/29	7	6	4249692	20
M 32 x 1.5/29	7	7	4249693	20
M 32 x 1.5/21	8	4	4249694	20
M 32 x 1.5/29	8	5	4249695	20
M 32 x 1.5/29	8	6	4249696	20
M 32 x 1.5/29	10	6	4249697	20
M 32 x 1.5/29	11	5	4249698	20
M 32 x 1.5/21	21	2	4249699	20
M 32 x 1.5/29	28	3	4249701	20

Cable Gland / ATEX - Polyamide

Material:

- Body: Polyamide 6
- Seal: Neoprene
- Color: Blue

Technical properties:

- Maximum strain relief through clamping range
- Gland must be mounted with flat seal and metal locknut
- Trapezoidal thread with high torque guarantees tight and permanent fit of the dome nut
- Gas- and watertight

Applications:

- Explosion endangered areas
- Machines and devices
- Measuring and control engineering
- Plant installations

Temperature Range

-20 to 60°C
(-4 to 140°F)



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ATEX

PG Thread

Outer thread	Clamping range mm	Cat. No. Blue	Std. Pk.
PG 7	2.5-6.5	5507430	100
PG 9	2.5-8	5507431	50
PG 11	3.5-10	5507432	50
PG 13.5	5-12	5507433	50
PG 16	7-14	5507434	50
PG 21	9-18	5507435	20
PG 29	14-25	5507436	20
PG 36	18-32	5507437	10
PG 42	24-38.5	5507438	5
PG 48	35-48	5507439	5

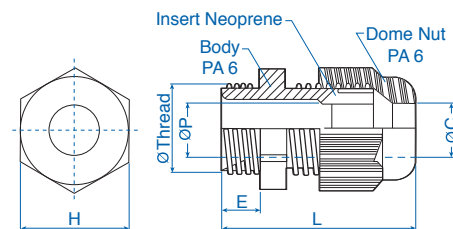
NPT Thread

Outer thread	Clamping range mm	Cat. No. Blue	Std. Pk.
NPT 3/8"	2.5-8	5507760	50
NPT 1/2"	5-12	5507761	50
NPT 3/4"	9-18	5507762	20
NPT 1"	14-25	5507763	20

Metric Thread*

Outer thread	Clamping range mm	Cat. No. Blue	Std. Pk.
M 12 x 1.5	2.5-6.5	5507560	50
M 16 x 1.5/9	2.5-8	5507561	50
M 16 x 1.5/11	3.5-10	5507562	50
M 20 x 1.5/13	5-12	5507563	50
M 20 x 1.5/16	7-14	5507564	50
M 25 x 1.5/16	7-14	5507565	20
M 25 x 1.5/21	9-18	5507566	20
M 32 x 1.5	14-25	5507567	20
M 40 x 1.5	18-32	5507568	20
M 50 x 1.5	24-38.5	5507569	10
M 63 x 1.5	35-48	5507570	5

Dimensions						
Thread Size	H mm	E mm	L mm	ØC mm	ØP mm	ØThread mm
PG7	15	8	32	6.7	6.8	12.5
PG9	19	8	35	8.5	8.7	15.2
PG11	22	8	37	10.5	10.5	18.6
PG13.5	24	9	39	12.5	12.5	20.4
PG16	27	10	43	14.5	14.5	22.5
PG21	33	11	50	18.5	18.5	28.3
PG29	42	11	53	25.5	25.5	37.0
PG36	53	13	65	32.5	32.5	47.0
PG42	60	13	68	39.0	39.0	54.0
PG48	70	14	70	48.5	48.5	59.3
NPT 3/8	19	11	38	8.5	8.7	17.1
NPT 1/2	24	14	44	12.5	12.5	21.2
NPT 3/4	33	15	54	18.5	18.5	26.7
NPT 1	42	18	60	25.5	25.5	33.3
M12x1.5	15	8	32	6.7	6.8	12.0
M16x1.5/9	19	10	37	8.5	8.5	16.0
M16x1.5/11	22	10	39	10.5	10.5	16.0
M20x1.5/13	24	10	40	12.5	12.5	20.0
M20x1.5/16	27	10	43	14.5	14.5	20.0
M25x1.5/16	27	10	45	14.5	14.5	25.0
M25x1.5/21	33	10	49	18.5	18.5	25.0
M32x1.5	42	10	52	25.5	25.5	32.0
M40x1.5	53	10	62	32.5	32.5	40.0
M50x1.5	60	12	67	39.0	39.0	50.0
M63x1.5	70	12	68	48.5	48.5	63.0



* Extended thread available consult Altech

Material:

- Body: Polyamide PA 6
25 % Glass fiber Reinforced
- Seal: Neoprene
- ECA clamping ring: Polycarbonate

Characteristics:

- PG/Metric thread
- Extended thread available
- Strain relief through clamping ring

Applications:

- For explosion endangered areas according to EN 50014 and EN 50019
- Machines and devices
- Measuring and control engineering
- Plant installations



Temperature Range PA 6
-20 to 55°C (-4 to 131 °F)

Gland must be mounted with flat seal and lockout.



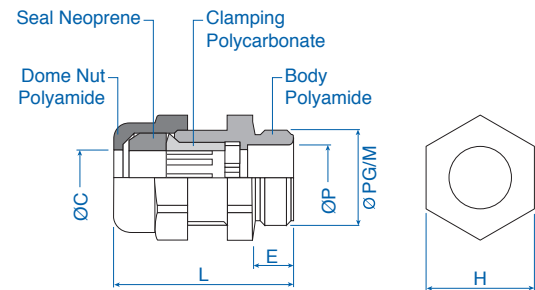
ECA Clamping Ring (Punch-out Seal)

Outer thread	Clamping range mm	Cat. No. Dark Grey	Cat. No. Black	Std. Pk.
PG				
PG 9	3.5 - 8.5	5507009	5507050	50
PG 11	4.0 - 10.5	5507011	5507051	50
PG 13.5	5.0 - 12.5	5507013	5507052	50
PG 16	6.5 - 14.0	5507016	5507053	50
PG 21	8.0 - 18.5	5507021	5507054	20
PG 29	10.0 - 25.0	5507029	5507055	20
Metric				
M 16 x 1.5	3.5 - 8.5	5507216	5507250	50
M 20 x 1.5/13	5.0 - 12.5	5507220	5507251	50
M 20 x 1.5/16	6.5 - 14.0	5507221	5507252	50
M 25 x 1.5	8.0 - 18.5	5507225	5507253	20
M 32 x 1.5	10.0 - 25.0	5507232	5507254	20

Thread Size	Dimensions					
	H mm	E mm	L mm	ØC mm	ØP mm	ØPG/M mm
PG9	19	8	32	8.5	9.0	15.2
PG11	22	8	35	11.5	11.0	18.6
PG13.5	24	9	36	12.5	13.5	20.4
PG16	27	10	40	14.5	15.0	22.5
PG21	33	11	44	18.5	19.0	28.3
PG29	42	12	55	25.0	25.0	37.0
M 16x1.5	19	8	32	8.5	9.0	16.0
M 20x1.5/13	24	9	36	12.5	13.5	20.0
M 20x1.5/16	27	9	39	14.5	15.0	20.0
M 25x1.5	33	11	44	18.5	19.0	25.0
M 32x1.5	42	12	55	25.0	25.0	32.0

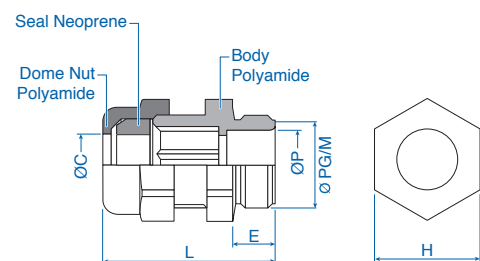
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ATEX



Short Seal

Outer thread	Clamping range mm	Cat. No. Dark Grey	Cat. No. Black	Std. Pk.
PG				
PG 9	4.5 - 8.0	5508009	5508050	50
PG 11	5.5 - 10.5	5508011	5508051	50
PG 13.5	7.0 - 12.0	5508013	5508052	50
PG 16	9.0 - 14.0	5508016	5508053	50
PG 21	11.5 - 18.0	5508021	5508054	20
PG 29	16.0 - 24.5	5508029	5508055	20
Metric				
M 16 x 1.5	4.5 - 8.0	5808216	5808250	50
M 20 x 1.5/13	7.0 - 12.0	5808220	5808251	50
M 20 x 1.5/16	9.0 - 14.0	5808221	5808252	50
M 25 x 1.5	11.5 - 18.0	5808225	5808253	20
M 32 x 1.5	16.0 - 24.5	5808232	5808254	20



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ATEX

Cable Gland / EMC - Nickel-Plated Brass

Material:

- Body: Nickel-plated brass
- Seal: Tefabloc
- Clamping ring for grounding connection: Tin-plated plastic
- Seal ring for outer thread: Nitril

Characteristics:

- PG/Metric thread

Technical properties:

- Continuous EMC protection due to tin-plated plastic
- Gas- and watertight
- Completely twist protected
- Combinable with various sealing inserts

Applications:

- Machines and devices
- Measuring and control engineering
- Plant installations



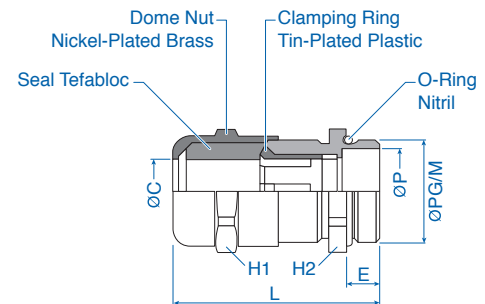
Temperature Range MS

-25 to 120°C (-13 to 248°F)



Thread Size	H1 mm	H2 mm	E mm	L mm	ØC mm	ØP mm	ØPG/M mm
PG7	14	14	5	35	6.5	7.2	12.5
PG9	17	17	6	37	8.5	9.2	15.2
PG11	20	20	6	40	10.5	11.2	18.6
PG13.5	22	22	6.5	40	12.5	13.1	20.4
PG16	24	24	6.5	40	15.2	15.6	22.5
PG21	30	30	7	50	18.5	20.1	28.3
PG29	40	40	8	60	25.0	26.2	37.0
PG36	50	50	9	70	30.5	33.0	47.0
M 12x1.5/7	14	14	7	37	6.5	7.2	12.0
M 16x1.5/7	14	17	7	37	6.5	7.2	16.0
M 16x1.5/9	17	17	7	38	8.5	9.2	16.0
M 20x1.5/11	20	22	7	41	10.5	11.2	20.0
M 20x1.5/13	22	22	7	41	12.5	13.1	20.0
M 25x1.5/16	24	26	8	41	15.2	15.6	25.0
M 25x1.5/21	30	30	8	51	18.5	20.1	25.0
M 32x1.5/21	30	33	8.5	51.5	18.5	20.1	32.0
M 32x1.5/29	40	40	8.5	60.5	25.0	26.2	32.0
M 40x1.5/29	40	42	8.5	60.5	25.0	26.2	40.0
M 40x1.5/36	50	50	8.5	67	30.5	33.0	40.0

Outer thread	Cable Clamping range mm	Shield Clamping range mm	Cat. No.	Std. Pk.
PG				
PG 7	4 - 6.5	4 - 6.5	4264007	50
PG 9	5 - 8.5	4.5 - 8.5	4264009	50
PG 11	7 - 10.5	6 - 10.5	4264011	50
PG 13.5	8 - 12.5	8 - 12.5	4264013	50
PG 16	10 - 14.5	10 - 14.5	4264016	20
PG 21	13.5 - 18	13.5 - 18	4264021	20
PG 29	17 - 24	17 - 24	4264029	10
PG36	24 - 30	24 - 30	4264036	10
Metric				
M 12 x 1.5/7	4 - 6.5	4 - 6.5	4264112	50
M 16 x 1.5/7	4 - 6.5	4 - 6.5	4264116	50
M 16 x 1.5/9	5 - 8.5	4.5 - 8.5	4264117	50
M 20 x 1.5/11	7 - 10.5	6 - 10.5	4264120	50
M 20 x 1.5/13	8 - 12.5	8 - 12.5	4264121	50
M 25 x 1.5/16	10 - 14.5	10 - 14.5	4264125	20
M 25 x 1.5/21	13.5 - 18	13.5 - 18	4264126	20
M 32 x 1.5/21	13.5 - 18	13.5 - 18	4264132	10
M 32 x 1.5/29	17 - 24	17 - 24	4264133	10
M 40 x 1.5/29	17 - 24	17 - 24	4264134	10
M 40 x 1.5/36	24 - 30	24 - 30	4264135	10



Material:

- Body: Nickel-plated brass
- Seal: Santoprene
- O-ring: Perbunan

Characteristics:

- PG thread

Technical properties:

- EMC protection due to pressure rings and circular spring
- Gas- and watertight
- Completely twist protected

Applications:

- Machines and devices
- Measuring and control engineering
- Plant installations

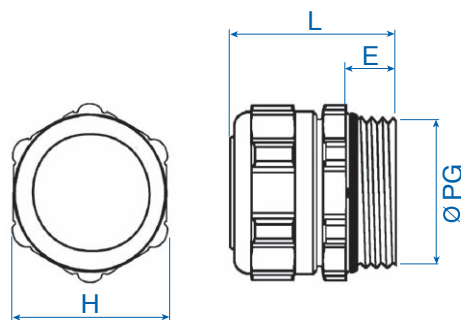


Thread Size	Dimensions			
	H mm	E mm	L mm	ØPG mm
PG9	20	6	34	15.2
PG11	24	10	41	18.6
PG13.5	24	10	41	20.4
PG16	30	11	43	22.5
PG21	30	12	44	28.3
PG29	40	13	53	37.0
PG36	50	14	61	47.0
PG42	60	15	65	54.0

Temperature Range MS
-40 to 135°C (-40 to 275°F)



Outer thread	Cable Clamping range mm	Shield Clamping range mm	Cat. No.	Std. Pk.
PG				
PG 9	4 - 6	2.5 - 6	4266003	25
PG 9	6.5 - 9.5	2.2 - 6.5	4266004	25
PG 9	6.5 - 9.5	3.5 - 8.5	4266005	25
PG 11	4 - 6	3 - 6	4266006	25
PG 11	6 - 9	3.5 - 7.5	4266007	25
PG 11	7 - 10.5	4 - 8.5	4266008	25
PG 13.5	4 - 6	4 - 6	4266010	25
PG 13.5	6 - 9	3.5 - 7.5	4266011	25
PG 13.5	7 - 10.5	4 - 8	4266013	25
PG 16	6 - 9.5	6 - 9	4266015	25
PG 16	6 - 10.5	6 - 9	4266014	25
PG 16	8 - 12	6 - 9.5	4266018	25
PG 16	10 - 14	9 - 13	4266016	25
PG 16	14 - 18	9 - 13	4266020	25
PG 21	6 - 10.5	6 - 10	4266023	20
PG 21	10 - 14	9 - 13	4266021	20
PG 21	14 - 18	9 - 13	4266024	20
PG 21	14 - 18	12.5 - 17.5	4266025	20
PG 21	17 - 20	12.5 - 17.5	4266022	20
PG 29	19 - 23	15 - 21	4266028	20
PG 29	22 - 27	15 - 21	4266029	20
PG 36	25 - 29	18 - 25.5	4266031	10
PG 36	29 - 32	24 - 31	4266033	10
PG 42	37 - 41	29 - 33	4266035	10



Cable Gland / Traction Relief - Nickel-Plated Brass

Material:

- Nickel-plated brass
- Sealing ring: Neoprene

Characteristics:

- PG/Metric thread
- Sealing ring, punchable

Applications:

- Tension proof grip
- Grounding connection possible
- Protects bent cable

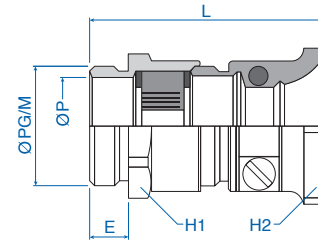
Temperature Range PA
-25 to 100°C (-13 to 212°F)

PROTECTION
IP65
RATING

Type ZEVB Nickel-Plated Brass

with traction relief and kink protection

Outer thread	Clamping range Seal mm	Clamping range traction relief mm	Cat. No.	Std. Pk.
PG				
PG 9	2 - 9	6 - 9.5	4308093	50
PG 11	4 - 11	8 - 11.5	4308115	50
PG 13.5	4.5 - 12	9 - 13	4308131	50
PG 16	5.5 - 14.5	10 - 15	4308166	25
PG 21	8 - 19	14 - 20	4308212	25
PG 29	12 - 27	19 - 30	4308298	10
Metric				
M 16 x 1.5	2 - 9	6 - 9.5	4308516	100
M 20 x 1.5	4 - 11	8 - 11.5	4308520	100
M 20 x 1.5	4.5 - 12	9 - 13	4308521	100
M 25 x 1.5	5.5 - 14.5	10 - 15	4308525	50
M 25 x 1.5	8 - 18	14 - 20	4308526	25
M 32 x 1.5	8 - 19	14 - 20	4308532	25
M 32 x 1.5	12 - 27	19 - 30	4308533	25



Dimensions						
Thread Size	H1 mm	H2 mm	E mm	L mm	ØP mm	ØPG/M mm
PG9	17	22	6	34	12.5	15.2
PG11	20	24	6	36	15	18.6
PG13.5	22	28	6.5	37	17	20.4
PG16	24	30	6.5	40	18.5	22.5
PG21	30	38	7	43	24	28.3
PG29	40	50	8	48	32	37
M16	18	22	7	35	12.5	16
M20	22	24	7	37	15	20
M20	22	28	7	37.5	16	20
M25	27	30	8	41.5	18.5	25
M25	32	38	8	44	18.5	25
M32	34	38	8.5	44.5	24	32
M32	40	50	8.5	48.5	28	32

Material:

- Nickel-plated brass
- Sealing ring: Neoprene

Characteristics:

- PG/Metric thread

Applications:

- Centered traction relief
- No cable twisting while clamping
- Tension proof grip
- Grounding connection possible

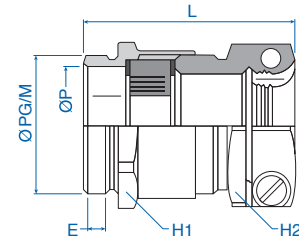
Temperature Range PA
-25 to 100°C (-13 to 212°F)

PROTECTION
IP65
RATING

Type ZA Nickel-Plated Brass

with centered traction relief and kink protection

Outer thread	Clamping range Seal mm	Clamping range traction relief mm	Cat. No.	Std. Pk.
PG				
PG 7	4 - 6	5.5 - 7.5	4305078	100
Pg 9	2 - 9	6.5 - 9.5	4305094	50
PG 11	4 - 11	7.5 - 11.5	4305116	50
PG 13.5	4.5 - 12	8.5 - 13.5	4305132	50
PG 16	5.5 - 14.5	10.5 - 16.5	4305167	25
PG 21	8 - 19	12 - 20.5	4305213	25
PG 29	12 - 27	19 - 29.5	4305299	10
PG 36	22 - 33	24 - 36.5	4305361	10
PG 42	25 - 40	33 - 42.5	4305426	5
PG 48	30 - 45	36 - 47.5	4305485	5
Metric				
M 12 x 1.5	4 - 6	5.5 - 7.5	4305500	50
M 16 x 1.5	2 - 9	6.6 - 9.5	4305501	50
M 16 x 1.5	4 - 11	7.5 - 11.5	4305502	50
M 16 x 1.5	4.5 - 12	8.5 - 13.5	4305503	50
M 20 x 1.5	4 - 11	7.5 - 11.5	4305504	50
M 20 x 1.5	4.5 - 12	8.5 - 13.5	4305505	50
M 20 x 1.5	5.5 - 14.5	10.5 - 16.5	4305506	50
M 25 x 1.5	5.5 - 14.5	10.5 - 16.5	4305507	20
M 32 x 1.5	8 - 19	12 - 20.5	4305508	20
M 32 x 1.5	12 - 27	19 - 29.5	4305509	20
M 40 x 1.5	12 - 27	19 - 29.5	4305510	20
M 50 x 1.5	22 - 33	24 - 36.5	4305511	10
M 50 x 1.5	25 - 40	33 - 42.5	4305512	10
M 63 x 1.5	25 - 40	33 - 42.6	4305513	5
M 63 x 1.5	30 - 45	36 - 47.5	4305514	5
M 75 x 1.5	30 - 45	36 - 47.5	4305515	1



Dimensions						
Thread Size	H1 mm	H2 mm	E mm	L mm	ØP mm	ØPG/M mm
PG7	14	16	5	29	10	12.5
PG9	17	19	6	34	12.5	15.2
PG11	20	22	6	35	15	18.6
PG13.5	22	24	6.5	36	17	20.4
PG16	24	27	6.5	36	18.5	22.5
PG21	30	33	7	42	24	28.3
PG29	40	42	8	47	32	37
PG36	50	52	9	53	42	47
PG42	57	60	10	65	48	54
PG48	64	64	10	68	52.5	59.3
M12	14	16	7	29	8	12
M16	18	19	7	34	12.5	16
M16	20	22	7	34	12.5	16
M16	22	24	7	35	12.5	16
M20	22	22	7	34	15	20
M20	22	24	7	39	16	20
M20	24	27	7	34	16	20
M25	27	27	8	40	18.5	25
M32	34	33	8.5	43	24	32
M32	40	42	8.5	46	28	32
M40	42	42	8.5	45	32	40
M50	52	52	9.5	50	42	50
M50	58	60	9.5	54	42	50
M63	65	60	10.5	55	48	63
M63	65	64	10.5	56	48	63
M75	80	64	11.5	56	52.5	75

Material:

- Body: Polyamide 6
- Seal: Neoprene

Characteristics:

PG/Metric/NPT threads

Metric extended thread available



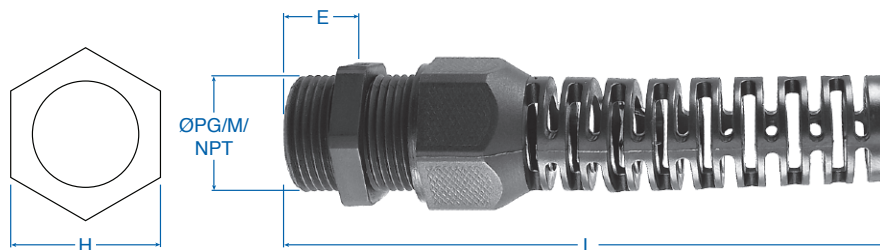
Temperature Range PA
-20 to 100°C (-4 to 212°F)

Technical properties:

- Optimal strain relief through clamping range
- Seals against housing through sealing lip
- Trapezoidal threading with high torque guarantees tight and permanent fit of the dome nut
- Also available with reduction insert
- Gas- and watertight

Applications:

- Machines and devices



Outer thread	Clamping range mm	Cat. No. Dark Grey	Cat. No. Black	Std. Pk.	Thread Size	Dimensions			
						H mm	E mm	L mm	ØPG/M/NPT mm
PG					PG7	15	8	62	12.5
PG 7	2.5 -6.5	5306007	5306107	50	PG9	19	8	72	15.2
PG 9	3 - 8	5306009	5306109	50	PG11	22	8	85	18.6
PG 11	4 - 10	5306011	5306111	50	PG13.5	24	9	97	20.4
PG 11	2 - 7	5306012	5306112	50	PG16	27	10	112	22.5
PG 13.5	5.5 - 12	5306013	5306113	50	M 12x1.5	15	6	60	12
PG 13.5	3 - 7	5306014	5306114	50	M 16x1.5	19	6	70	16
PG 16	8.5 - 14	5306016	5306116	25	M 20x1.5	24	8	96	20
PG 16	5 - 11	5306017	5306117	25	NPT 3/8"	19/22	15	79	17.1
					NPT 1/2"	24	15	103	21.2
Metric									
M 12 x 1.5	2.5 - 6.5	5306030	5306130	50					
M 16 x 1.5	4 - 8	5306031	5306131	50					
M 20 x 1.5	3 - 7	5306032	5306132	50					
M 20 x 1.5	5.5 - 12	5306033	5306133	50					
NPT									
NPT 3/8"	3 - 8	5306050	5306150	50					
NPT 1/2"	3 - 7	5306051	5306151	50					
NPT 1/2"	5.5 - 12	5306052	5306152	50					

Cable Gland / Once According to DIN 46320 - Polystyrene

Material:
• Polystyrene
Seal:
• Neoprene

Characteristics:
• Hexagon base
• PG Thread



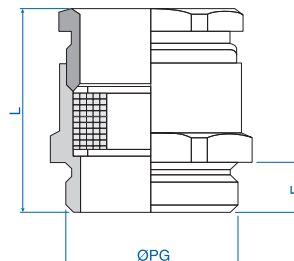
Temperature Range PS
-20 to 70°C (-4 to 158°F)

once according to DIN 46320

Outer thread	Clamping range mm	Cat. No. Lt. Gray	Std. Pk.
PG			
PG 7	3.5 - 6	5202078	50
PG 9	4.5 - 7	5202094	50
PG 11	6 - 9	5202116	50
PG 13.5	9 - 12	5202132	50
PG 16	11 - 14	5202167	50
PG 21	14 - 18	5202213	25
PG 29	18 - 25	5202299	10
PG 36	25 - 32	5202361	10
PG 42	30 - 38	5202434	10
PG 48	36 - 44	5202485	10

Dimensions

Thread Size	E mm	L mm
PG7	8	29
PG9	8	31.5
PG11	8	33
PG13.5	9.5	36
PG16	10	40.5
PG21	11	43.5
PG29	11	46
PG36	13	57
PG42	13	61
PG48	14	60



Material:

- Polyamide 6
- 25 % Glass fiber Reinforced

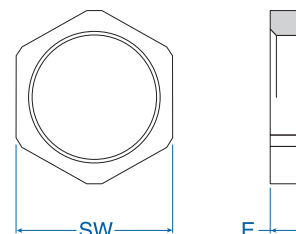
Characteristic feature:

- PG / metric and NPT thread

Temperature Range PA
-30 to 120°C (-22 to 248°F)



Thread	Thickness (E) mm	SW mm	Cat. No. Light grey	Cat. No. Black	Std. Pk.
PG (once according to DIN 46 320)					
PG 7	5	19	7211881	7211851	50
PG 9	5	22	7211882	7211852	50
PG 11	5	24	7211883	7211853	50
PG 13.5	6	27	7211884	7211854	50
PG 16	6	30	7211885	7211855	50
PG 21	6.5	36	7211886	7211856	20
PG 29	7.5	46	7211887	7211857	20
PG 36*	8	60	7211888	7211858	10
PG 42*	9	65	7211889	7211859	5
PG 48*	9.5	70	7211890	7211860	5
Metric					
M 12 x 1.5	5	19	7211979	7211974	50
M 16 x 1.5	5	22	7211980	7211975	50
M 20 x 1.5	5	24	7211981	7211976	50
M 25 x 1.5	6	30	7211982	7211977	50
M 32 x 1.5	7.5	38	7211983	7211978	50
M 40 x 1.5	8	50	7211984	7211990	20
M 50 x 1.5*	9	60	7211985	7211991	10
M 63 x 1.5*	10	75	7211986	7211992	5
NPT					
NPT 3/8"	5	22	7211485	7211495	50
NPT 1/2"	6	27	7211486	7211496	20
NPT 3/4"	6.5	36	7211487	7211497	20
NPT 1"	7	41	7211488	7211498	20



Locknuts / Nickel-Plated Brass

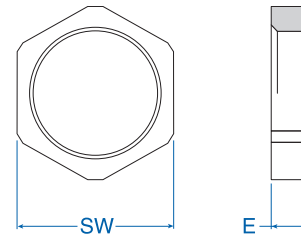
Material:

- Nickel-plated brass

Characteristics:

- PG and Metric thread

Thread	Thickness (E) mm	SW mm	Cat. No.	Std. Pk.
PG (once according to DIN 46 320)				
PG 7	2.9	15	6000070	50
PG 9	2.9	18	6000096	50
PG 11	2.9	21	6000118	50
PG 13.5	3.1	23	6000134	50
PG 16	3.1	26	6000169	50
PG 21	3.6	32	6000215	20
PG 29	4.1	41	6000290	20
PG 36	5.1	51	6000363	10
PG 42	5.1	60	6000428	5
PG 48	5.6	64	6000487	5
Metric				
M 12 x 1.5	3	15	6004121	50
M 16 x 1.5	3	20	6004164	50
M 20 x 1.5	3.5	24	6004202	50
M 25 x 1.5	3.5	30	6004253	25
M 32 x 1.5	4.5	35	6004326	20
M 40 x 1.5	4.5	45	6004407	10
M 50 x 1.5	4.5	55	6004504	10
M 63 x 1.5	6	70	6004636	5



Lock Nuts, Ribbed, Nickel-Plated Brass

Material:

- Nickel-plated brass

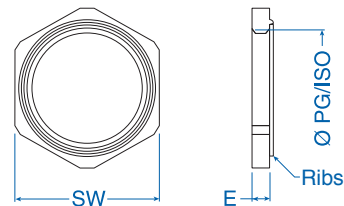
Characteristics:

- PG and Metric thread

Applications:

- EMC applications

Thread	Thickness (E) mm	SW mm	Cat. No.	Std. Pk.
PG				
PG 7	2.9	15	6011007	50
PG 9	2.9	18	6011009	50
PG 11	3.1	21	6011011	50
PG 13.5	3.1	23	6011013	50
PG 16	3.1	26	6011016	50
PG 21	3.6	32	6011021	20
PG 29	4.1	41	6011029	20
PG 36	5.1	51	6011036	10
PG 42	5.1	60	6011042	10
PG 48	5.6	64	6011048	10
Metric				
M 12 x 1.5	3	15	6011112	50
M 16 x 1.5	3	20	6011116	50
M 20 x 1.5	3.5	24	6011120	50
M 25 x 1.5	3.5	30	6011125	25
M 32 x 1.5	4.5	35	6011132	20
M 40 x 1.5	4.5	45	6011140	10
M 50 x 1.5	5.5	55	6011150	10
M 63 x 1.5	6	70	6011163	10



* Not glass fiber reinforced.

Material:
 • Polyamide
 • Glass fiber reinforced

Characteristics:
 • PG Thread
 • Metric Thread

Temperature Range PA
 -40 to 100°C (-40 to 212°F)

External thread	Internal thread	SW mm	Thread length mm	Cat. No. Light Grey	Std. Pk.
Type B					
PG	PG				
PG 11	PG 7	22	8	7005302	100
PG 13.5	PG 7	24	9	7005304	100
PG 13.5	PG 9	24	9	7005305	100
PG 16	PG 9	27	10	7005307	100
PG 16	PG 11	27	10	7005308	100
PG 21	PG 11	32	11	7005310	100
PG 21	PG 13.5	32	11	7005311	100
PG 21	PG 16	32	11	7005312	100
PG 29	PG 13.5	40	11	7005313	50
PG 29	PG 16	40	11	7005314	50
PG 29	PG 21	40	11	7005315	50
PG 36	PG 16	50	13	7005316	50
PG 36	PG 21	50	13	7005317	50
PG 36	PG 29	50	18	7005318	50
PG 42	PG 21	55	18	7005319	25
PG 42	PG 29	55	18	7005320	25
PG 42	PG 36	55	18	7005321	25
PG 48	PG 29	60	18	7005322	25
PG 48	PG 36	60	14	7005323	25
PG 48	PG 42	60	17	7005324	25
Type A					
PG 9	PG 7	19	8	7005301	100
PG 11	PG 9	22	8	7005303	100
PG 13.5	PG 11	24	9	7005306	100
PG 16	PG 13.5	27	10	7005309	100



Type B



Type A

External thread	Internal thread	SW mm	Thread length mm	Cat. No. Light Grey	Std. Pk.
Metric					
Metric	Metric				
M 16 x 1.5	M 12 x 1.5	20	8	7008516	50
M 20 x 1.5	M 12 x 1.5	24	8	7008519	50
M 20 x 1.5	M 16 x 1.5	24	9	7008520	50
M 25 x 1.5	M 12 x 1.5	29	8	7008523	50
M 25 x 1.5	M 16 x 1.5	29	8	7008524	50
M 25 x 1.5	M 20 x 1.5	30	10	7008525	20
M 32 x 1.5	M 16 x 1.5	36	10	7008530	50
M 32 x 1.5	M 20 x 1.5	36	10	7008531	50
M 32 x 1.5	M 25 x 1.5	36	11	7008532	20
M 40 x 1.5	M 20 x 1.5	46	10	7008538	50
M 40 x 1.5	M 25 x 1.5	46	10	7008539	20
M 40 x 1.5	M 32 x 1.5	44	12	7008540	20
M 50 x 1.5	M 25 x 1.5	55	12	7008548	20
M 50 x 1.5	M 32 x 1.5	55	12	7008549	20
M 50 x 1.5	M 40 x 1.5	55	13	7008550	10
M 63 x 1.5	M 32 x 1.5	68	12	7008561	20
M 63 x 1.5	M 40 x 1.5	68	12	7008562	20
M 63 x 1.5	M 50 x 1.5	70	15	7008563	5



Reducer / Nickel-Plated Brass

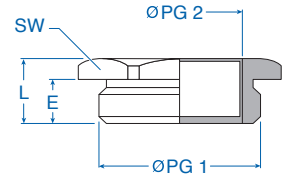
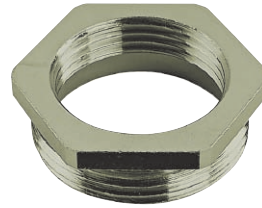
Material:

- Nickel-plated brass

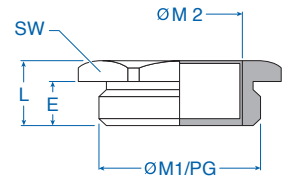
Characteristics:

- PG thread
- Metric thread
- Hexagon

External thread	Internal thread	SW mm	Thread length mm (E)	Complete length mm (L)	Cat. No.	Std. Pk.
PG 1	PG 2					
PG 9	PG 7	17	5	8	6102018	100
PG 11	PG 9	19	6	9	6102034	100
PG 11	PG 7	19	6	9	6102030	100
PG 13.5	PG 11	21	6	9	6102077	100
PG 13.5	PG 9	21	6	9	6102042	100
PG 13.5	PG 7	21	6	8.5	6102026	100
PG 16	PG 13.5	23	6	9	6102115	100
PG 16	PG 11	23	6	9	6102085	100
PG 16	PG 9	23	6	9	6102050	100
PG 21	PG 7	24	7	10	6102158	100
PG 21	PG 13.5	29	7	10	6102123	50
PG 21	PG 11	29	7	10	6102093	20
PG 21	PG 9	29	7	10	6102069	50
PG 29	PG 21	39	8	11	6102190	25
PG 29	PG 16	39	8	11	6102166	25
PG 29	PG 13.5	39	8	11	6102131	25
PG 29	PG 11	39	8	11	6102107	25
PG 36	PG 29	50	8	11	6102220	25
PG 36	PG 21	50	8	11	6102204	25
PG 36	PG 13.5	50	8	11	6102140	25
PG 42	PG 36	64	10	14	6102241	25
PG 42	PG 29	64	10	14	6102239	25
PG 48	PG 42	64	10	14	6102258	25
PG 48	PG 36	64	10	14	6102255	25
PG 48	PG 29	64	10	14	6102247	25
PG 48	PG 21	64	10	14	6102212	25
PG 48	PG 16	64	10	14	6102182	25



Metric 1	Metric 2					
M 16 x 1.5	M 12 x 1.5	20	7	10	6102400	50
M 20 x 1.5	M 12 x 1.5	24	7	10	6102404	50
M 20 x 1.5	M 16 x 1.5	24	7	10	6102405	50
M 25 x 1.5	M 16 x 1.5	30	8	11.5	6102409	20
M 25 x 1.5	M 20 x 1.5	30	8	11.5	6102410	20
M 32 x 1.5	M 16 x 1.5	36	8.5	12.5	6102414	20
M 32 x 1.5	M 20 x 1.5	36	8.5	12.5	6102413	20
M 32 x 1.5	M 25 x 1.5	36	8.5	12.5	6102415	20
M 40 x 1.5	M 25 x 1.5	42	8.5	12.5	6102419	10
M 40 x 1.5	M 32 x 1.5	42	8.5	12.5	6102420	10
M 50 x 1.5	M 32 x 1.5	55	9.5	14.5	6102424	10
M 50 x 1.5	M 40 x 1.5	55	9.5	14.5	6102425	5
M 63 x 1.5	M 40 x 1.5	70	10.5	17.5	6102429	1
M 63 x 1.5	M 50 x 1.5	70	10.5	17.5	6102430	1
M 75 x 1.5	M 63 x 1.5	80	11.5	19.5	6102435	1



Reducer, Ribbed, Nickel-Plated Brass

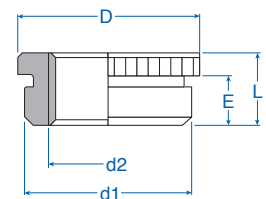
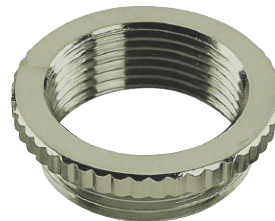
Material:

- Nickel-plated brass

Characteristics:

- PG/Metric external thread
- PG/Metric internal thread
- Round ribbed

External thread (d1)	Internal thread (d2)	Diameter mm (D)	Thread length mm (E)	Complete length mm (L)	Cat. No.	Std. Pk.
Metric	PG					
M 16 x 1.5	PG 7	20	6	9	6104716	100
M 20 x 1.5	PG 9	24	6.5	9.5	6104720	50
M 25 x 1.5	PG 11	30	7	10	6104725	50
M 25 x 1.5	PG 13.5	30	7	10	6104726	50
M 25 x 1.5	PG 16	30	7	10	6104727	50
M 32 x 1.5	PG 16	34	8	11.5	6104732	20
M 32 x 1.5	PG 21	34	8	11.5	6104733	20
M 40 x 1.5	PG 21	50	9	12	6104740	10
M 50 x 1.5	PG 29	57	9	12	6104750	5
M 63 x 1.5	PG 36	70	10.5	14.5	6104763	1
M 63 x 1.5	PG 42	70	10.5	14.5	6104764	1



Material:

- Polyamide glass fiber reinforced

Characteristics:

- PG/Metric external thread
- PG/Metric internal thread

Temperature Range PA

-30 to 100°C (-22 to 212°F)

External thread	Internal thread	SW mm	Thread length mm	Complete length mm	Cat. No. Light Gray	Std. Pk.
PG						
PG 7	PG 9	19	7	20	7004200	100
PG 9	PG 11	22	8	23	7004201	100
PG 11	PG 13.5	24	8	23	7004202	100
PG 13.5	PG 16	27	9	26	7004203	100
PG 16	PG 21	32	9	29	7004204	100
PG 21	PG 29	42	10	32	7004205	50
PG 29	PG 36	53	11	35.5	7004206	25
PG 36	PG 42	60	13	40.5	7004207	10
PG 42	PG 48	65	13	41	7004208	10
Metric						
M12 x 1.5	M16 x 1.5	20	8	18.5	7004300	50
M16 x 1.5	M20 x 1.5	24	8	20	7004301	50
M20 x 1.5	M25 x 1.5	30	9	22	7004302	50
M25 x 1.5	M32 x 1.5	36	10	24	7004303	20
M32 x 1.5	M40 x 1.5	44	11	26	7004304	20
M40 x 1.5	M50 x 1.5	55	12	28	7004305	20
M50 x 1.5	M63 x 1.5	70	13	31.5	7004306	10



Enlarger / Nickel-Plated Brass

Material:

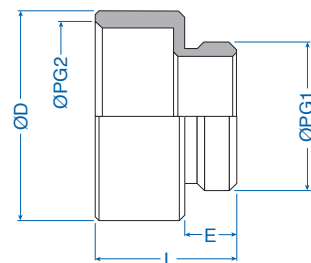
- Nickel-plated brass

Characteristics:

- PG external thread
- PG internal thread
- Round

According to DIN 259 and formerly by DIN 46320

External thread	Internal thread	Diameter mm (D)	Thread length mm (E)	Complete length mm (L)	Cat. No.	Std. Pk.
PG 1	PG 2					
PG 7	PG 9	17	5	15	6200010	50
PG 9	PG 11	20	6	16.5	6200028	50
PG 9	PG 13.5	22	6	17.5	6200036	50
PG 11	PG 13.5	22	6	17.5	6200044	50
PG 11	PG 16	24	6	18.5	6200052	25
PG 13.5	PG 16	24	6.5	19	6200060	25
PG 13.5	PG 21	30	6.5	21	6200079	20
PG 16	PG 21	30	6.5	21	6200087	20
PG 21	PG 29	39	7	23	6200095	15
PG 29	PG 36	50	8	28	6200109	10
PG 36	PG 42	57	9	31	6200117	10
PG 42	PG 48	64	10	33	6200125	10



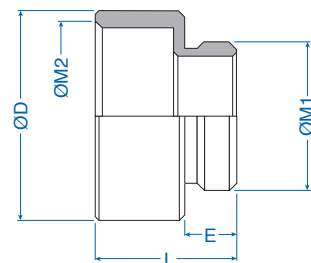
Material:

- Nickel-plated brass

Characteristics:

- Metric external thread
- Metric internal thread
- Round

External thread	Internal thread	Diameter mm (D)	Thread length mm (E)	Complete length mm (L)	Cat. No.	Std. Pk.
Metric 1	Metric 2					
M 12 x 1.5	M 16 x 1.5	18	5	15	6200212	50
M 16 x 1.5	M 20 x 1.5	22	6	17.5	6200216	50
M 20 x 1.5	M 25 x 1.5	27	6.5	19	6200220	50
M 25 x 1.5	M 32 x 1.5	34	8	20.5	6200225	20
M 32 x 1.5	M 40 x 1.5	42	7	23	6200232	20
M 40 x 1.5	M 50 x 1.5	53	9	31	6200240	10
M 50 x 1.5	M 63 x 1.5	65	9.5	24	6200250	5
M 63 x 1.5	M 75 x 1.5	80	10.5	26	6200263	1



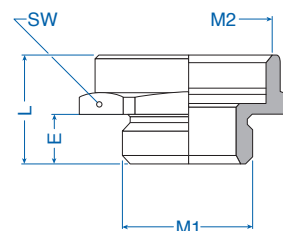
Material:

- Nickel-plated brass

Characteristics:

- Metric external thread
- Metric internal thread
- Hexagon

External thread	Internal thread	SW mm	Thread length mm (E)	Complete length mm (L)	Cat. No.	Std. Pk.
Metric 1	Metric 2					
M12 x 1.5	M16 x 1.5	19	7	19	6200312	50
M16 x 1.5	M20 x 1.5	22	7	19	6200316	50
M20 x 1.5	M25 x 1.5	28	7	20	6200320	50
M25 x 1.5	M32 x 1.5	36	8	21.5	6200325	20
M32 x 1.5	M40 x 1.5	42	8.5	22	6200332	20
M40 x 1.5	M50 x 1.5	52	8.5	23	6200340	10
M50 x 1.5	M63 x 1.5	65	9.5	25	6200350	5
M63 x 1.5	M75 x 1.5	80	10.5	27.5	6200363	1



Material:

- Nickel-plated brass

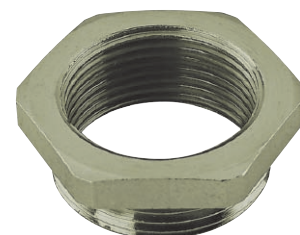
Characteristics:

- PG external thread
- Metric internal thread
- Hexagon

External thread	Internal thread	SW mm	Thread length mm	Complete length mm	Cat. No.	Std. Pk.
Form A						
PG	Metric					
PG 7	M 12 x 1.5	17	6.5	16.5	6604807	50
PG 7	M 16 x 1.5	19	6.5	16.5	6604808	50
PG 9	M 16 x 1.5	19	6.5	16.5	6604810	50
PG 9	M 20 x 1.5	22	6.5	18.5	6604811	50
PG 11	M 20 x 1.5	22	7	17	6604813	50
PG 11	M 25 x 1.5	27	7	18	6604814	50
PG 13.5	M 20 x 1.5	24	7	17	6604816	50
PG 13.5	M 25 x 1.5	27	7	18	6604817	50
PG 16	M 20 x 1.5	27	7	16	6604818	50
PG 16	M 25 x 1.5	27	7	18	6604819	50
PG 16	M 32 x 1.5	36	7	18.5	6604820	50
PG 21	M 32 x 1.5	36	8	19.5	6604822	20
PG 21	M 40 x 1.5	42	8	19.5	6604823	20
PG 29	M 40 x 1.5	42	8.5	20	6604831	20
PG 29	M 50 x 1.5	55	8.5	21	6604832	20
PG 36	M 50 x 1.5	55	8.5	21	6604837	10
PG 42	M 63 x 1.5	65	10	23.5	6604843	5
PG 48	M 63 x 1.5	65	10	24.5	6604849	5
PG 48	M 75 x 1.5	80	10	24.5	6604850	5
Form B						
PG 9	M 12 x 1.5	19	6.5	10	6604809	50
PG 11	M 16 x 1.5	22	7	11	6604812	50
PG 13.5	M 16 x 1.5	24	7	11	6604815	50
PG 21	M 25 x 1.5	32	8	13	6604821	20
PG 29	M 25 x 1.5	40	8.5	14	6604829	20
PG 29	M 32 x 1.5	40	8.5	14	6604830	20
PG 36	M 40 x 1.5	55	8.5	15	6604836	10
PG 42	M 50 x 1.5	58	10	16.5	6604842	5
PG 48	M 50 x 1.5	65	10	17	6604848	5



Form A



Form B

Adapter / Nickel-Plated Brass

Material:

- Nickel-plated brass
- O-ring: Nitril

Characteristics:

- Metric external thread
- PG internal thread
- Hexagon

External thread	Internal thread	SW mm	Thread length mm	Complete length mm	Cat. No.	Std. Pk.
Form A						
Metric	PG					
M 12 x 1.5	PG 7	14	7	17	6604712	100
M 16 x 1.5	PG 9	18	7	17.5	6604716	50
M 16 x 1.5	PG 11	20	7	18	6604715	50
M 16 x 1.5	PG 13.5	22	7	19.5	6604709	50
M 16 x 1.5	PG 16	24	7	21.5	6604717	50
M 20 x 1.5	PG 11	22	7	18	6604720	50
M 20 x 1.5	PG 13.5	22	7	19.5	6604721	50
M 20 x 1.5	PG 16	24	7	20.5	6604722	50
M 20 x 1.5	PG 21	32	7	22.5	6604708	50
M 25 x 1.5	PG 16	27	8	21.5	6604726	50
M 25 x 1.5	PG 21	32	8	23.0	6604725	50
M 25 x 1.5	PG 29	40	8	25	6604727	20
M 32 x 1.5	PG 21	34	8.5	23.5	6604729	20
M 32 x 1.5	PG 29	40	8.5	25.0	6604732	10
M 40 x 1.5	PG 29	42	8.5	25	6604734	10
M 40 x 1.5	PG 36	50	8.5	28.0	6604740	10
M 50 x 1.5	PG 36	52	9.5	29	6604742	10
M 50 x 1.5	PG 42	58	9.5	31.5	6604750	5
M 63 x 1.5	PG 42	65	10.5	32.5	6604752	1
M 63 x 1.5	PG 48	65	10.5	32.5	6604763	1
M 75 x 1.5	PG 48	80	11.5	34.5	6604764	1
Form B						
M 16 x 1.5	PG 7	18	7	10.5	6604713	100
M 20 x 1.5	PG 9	22	7	11	6604719	50
M 25 x 1.5	PG 9	27	8	12	6604707	50
M 25 x 1.5	PG 11	27	8	12	6604723	50
M 25 x 1.5	PG 13.5	27	8	12	6604724	50
M 32 x 1.5	PG 13.5	34	8.5	12.5	6604706	20
M 32 x 1.5	PG 16	34	8.5	12.5	6604728	20
M 32 x 1.5	PG 21	34	8.5	12.5	6604730	20
M 40 x 1.5	PG 16	42	8.5	13.5	6604705	10
M 40 x 1.5	PG 21	42	8.5	13.5	6604733	10
M 40 x 1.5	PG 29	42	8.5	13.5	6604735	20
M 50 x 1.5	PG 21	52	9.5	15.5	6604704	10
M 50 x 1.5	PG 29	52	9.5	15.5	6604741	10
M 50 x 1.5	PG 36	52	9.5	15.5	6604743	10
M 63 x 1.5	PG 29	65	10.5	17.5	6604703	5
M 63 x 1.5	PG 36	65	10.5	17.5	6604751	5
M 63 x 1.5	PG 42	65	10.5	17.5	6604753	5



Form A



Form B

Material:

- Nickel-Plated Brass

Characteristics:

- PG/Metric external thread
- NPT internal thread
- Hexagon

External thread	Internal thread	SW mm	Thread length mm	Complete length mm	Cat. No.	Std. Pk.
PG Form A						
PG 7	NPT 3/8"	19	5	19.5	6400400	50
PG 9	NPT 1/2"	24	6	24	6400401	50
PG 11	NPT 1/2"	24	6	24	6400402	50
PG 13.5	NPT 1/2"	24	6.5	24.5	6400403	50
PG 13.5	NPT 3/4"	30	6.5	25	6400404	50
PG 16	NPT 1/2"	24	6.5	24.5	6400405	50
PG 16	NPT 3/4"	30	6.5	25	6400406	50
PG 21	NPT 3/4"	30	7	23	6400407	20
PG 21	NPT 1"	36	7	30	6400408	20
PG 29	NPT 1 1/4"	50	8	32	6400410	20
PG 36	NPT 1 1/2"	55	9	34	6400412	10
PG 48	NPT 2"	64	10	35	6400415	5
Form B						
PG 29	NPT 1"	40	8	18	6400409	20
PG 36	NPT 1 1/4"	50	9	18.5	6400411	10
PG 42	NPT 1 1/2"	60	10	19.5	6400413	5
PG 48	NPT 1 1/2"	64	10	19.5	6400414	5
Metric Form A						
M16 x 1.5	NPT 3/8"	19	7	21.5	6402316	50
M16 x 1.5	NPT 1/2"	24	7	25	6402317	50
M20 x 1.5	NPT 1/2"	24	7	25	6402321	50
M25 x 1.5	NPT 3/4"	30	8	27	6402326	20
M32 x 1.5	NPT 1"	36	8.5	31	6402333	10
Form B						
M20 x 1.5	NPT 3/8"	24	7	13	6402320	50
M25 x 1.5	NPT 1/2"	30	8	15	6402325	20
M32 x 1.5	NPT 3/4"	36	8.5	15.5	6402332	10



Form A



Form B

Adapter / Nickel-Plated Brass

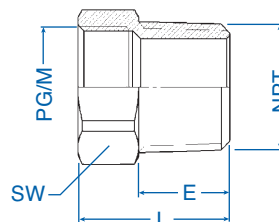
Material:

- Nickel-plated brass

Characteristics:

- NPT external thread
- PG or M internal thread
- Hexagon

External Thread	Internal Thread	SW mm	Thread Length mm (E)	Complete Length mm (L)	Cat. No.	Std. Pk.
NPT	PG					
3/8"	PG 7	19.0	15.0	20.0	6402020	50
1/2"	PG 9	22.0	20.0	25.0	6402038	50
1/2"	PG 11	22.0	20.0	28.0	6402046	50
1/2"	PG 13.5	24.0	20.0	30.0	6402054	50
1/2"	PG 16	24.0	20.0	30.0	6402055	50
3/4"	PG 11	29.0	20.0	30.0	6402060	50
3/4"	PG 13.5	29.0	20.0	30.0	6402062	50
3/4"	PG 16	29.0	20.0	30.0	6402070	50
3/4"	PG 21	32.0	20.0	32.0	6402072	50
1"	PG 16	36.0	25.0	35.0	6402087	20
1"	PG 21	36.0	25.0	35.0	6402089	20
1"	PG 29	42.0	25.0	38.0	6402091	20
1 1/4"	PG 29	46.0	25.0	35.0	6402097	20
1 1/4"	PG 36	50.0	25.0	42.0	6402099	10
1 1/2"	PG 36	52.0	26.0	42.0	6402100	10
1 1/2"	PG 48	65.0	26.0	49.0	6402102	5
2"	PG 48	65.0	27.0	50.0	6402119	5
NPT	Metric					
3/8"	M 20	23.0	15.0	26.0	6402214	50
3/8"	M 25	28.0	15.0	27.0	6402215	50
1/2"	M 20	23.0	20.0	30.0	6402216	50
1/2"	M 25	28.0	20.0	32.0	6402217	50
1"	M 20	36.0	25.0	31.0	6402218	20
1"	M 25	36.0	25.0	31.0	6402219	20



Features:

- Self adjusting of widths across flat
- Fixing of widths across flat possible
- Ratchet function

Nut Width mm	Cat. No.	Std. Pk.
13.0 - 23.0	9000020	1
24.0 - 36.0	9000025	1



2 Piece Set with case

Nut Width mm	Cat. No.	Std. Pk.
13.0 - 23.0 & 24.0 - 36.0	9000030	1



Plug / Polyamide

Material:

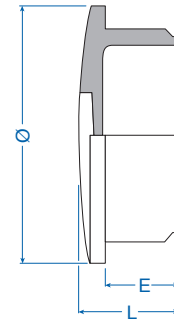
- Polyamide
- 25 % glass fiber reinforced

Characteristics:

- PG/Metric
- Round, with slot

Temperature Range PA
-30 to 120°C (-22 to 248°F)

External thread	Diameter mm	Thread length mm (E)	Complete length mm (L)	Cat. No. Light Grey	Std. Pk.
PG					
PG 7	15	6	8	7215517	100
PG 9	19	6	9	7215525	100
PG 11	22	6	9	7215533	100
PG 13.5	25	6	9.5	7215541	100
PG 16	27	6	9.5	7215550	100
PG 21	33	8	11	7215568	100
PG 29	44	8	12	7215576	100
PG 36	55	10	15	7215584	50
PG 42	62	10	16	7215592	50
PG 48	69	12	18.5	7215606	50
Metric					
M 12 x 1.5	16	6	8	7217312	50
M 16 x 1.5	20	6	8	7217316	50
M 20 x 1.5	26	8	10.5	7217320	50
M 25 x 1.5	32	8	11	7217325	20
M 32 x 1.5	40	10	13.5	7217332	20
M 40 x 1.5	48	10	14	7217340	20
M 50 x 1.5	55	12	17	7217350	10
M 63 x 1.5	70	12	18	7217363	5



Plug / Nickel-Plated Brass

Material:

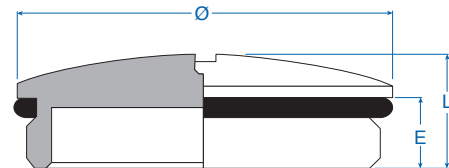
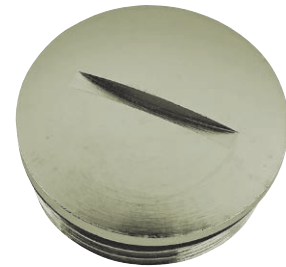
- Nickel-plated brass
- O-ring, Nitril

Characteristics:

- PG/Metric thread
- Round, with slot

PROTECTION
IP68
RATING

External thread	Diameter mm	Thread length mm (E)	Complete length mm (L)	Cat. No.	Std. Pk.
PG					
PG 7	14	5	8	6700507	50
PG 9	17	6	9	6700509	50
PG 11	20	6	9	6700511	50
PG 13.5	22	6.5	9.5	6700513	50
PG 16	24	6.5	9.5	6700516	25
PG 21	30	7	11	6700521	20
PG 29	39	8	12	6700529	15
PG 36	50	9	15	6700536	10
PG 42	57	10	16	6700542	10
PG 48	64	10	16	6700548	10
Metric					
M 12 x 1.5	14	5	7	6700612	100
M 16 x 1.5	18	6	8	6700616	100
M 20 x 1.5	22	6.5	8.5	6700620	100
M 25 x 1.5	27	7	10	6700625	100
M 32 x 1.5	34	8	11	6700632	50
M 40 x 1.5	44	9	13	6700640	50
M 50 x 1.5	54	10	14.5	6700650	25
M 63 x 1.5	67	10	15	6700663	25



Material:

• Perbunan

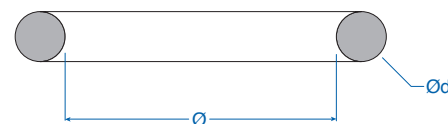
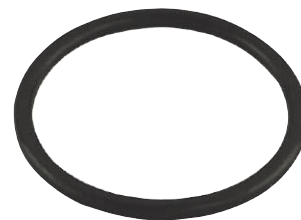
Characteristics:

• PG and metric thread

Temperature Range

-25 to 120°C (-13 to 248°F)

Connecting thread		Internal Diameter mm	Thickness mm (d)	Cat. No.	Std. Pk.
PG	metric				
PG 7	M 12	10	1.5	8112070	1000
PG 9	M 16	13	1.5	8112096	1000
PG 11		16	1.5	8112118	1000
PG 13.5	M 20	18	1.5	8112134	1000
PG 16		20	1.5	8112169	1000
PG 21		25	2	8112215	1000
	M 25	22	2	8112250	100
	M 32	28	2	8112320	100
PG 29		33	2	8112290	1000
	M 40	37	2	8112400	100
PG 36		43	2	8112363	1000
	M 50	48	2	8112500	100
PG 42		50	2	8112428	1000
PG 48	M 63	55	2	8112630	1000
	M 75	68	2.6	8112675	100



Sealing Ring / Neoprene

Material:

• Neoprene, black

Characteristics:

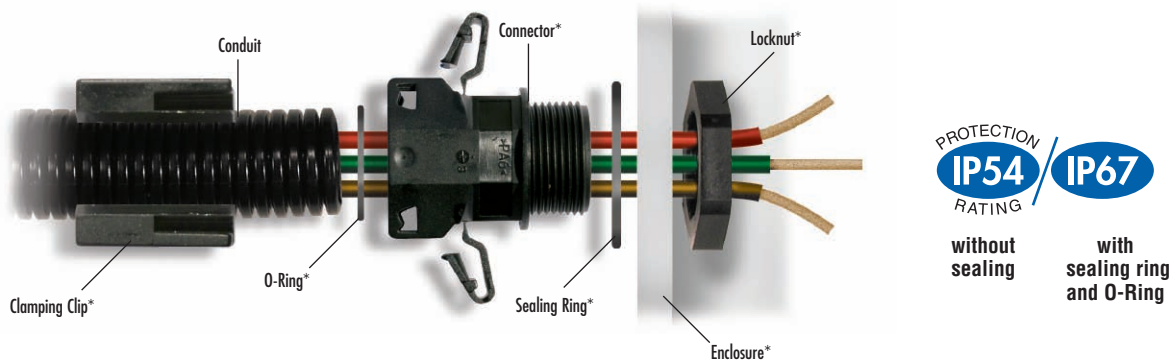
• PG and metric thread

Temperature Range

-25 to 100°C (-13 to 212°F)

Connecting thread	External diameter mm	Internal diameter mm	Thickness mm	Cat. No.	Std. Pk.
PG					
PG 7	17	11.3	1.2	8113301	100
PG 9	20	13.9	1.2	8113302	100
PG 11	23	17.1	1.2	8113303	100
PG 13.5	25	19.0	1.2	8113304	100
PG 16	27	21.0	1.2	8113305	100
PG 21	34	26.6	1.5	8113306	50
PG 29	45	35.2	1.5	8113307	50
PG 36	56	45.2	1.5	8113308	50
PG 42	67	52.2	1.5	8113309	50
PG 48	72	57.7	1.5	8113310	50
Metric					
M 12	15	10	1.2	8113490	100
M 16	20	13.9	1.2	8113302	100
M 20	24	18	1.2	8113492	100
M 25	30	23	1.2	8113493	100
M 32	40	30	1.5	8113494	100
M 40	48	38	1.5	8113495	100
M 50	58	48	1.5	8113496	100
M 63	75	61	1.5	8113497	100
M 75	90	73	1.5	8113498	100





Material:

- Polyamide 6

Upper temperature range:

- Short-term: 150°C, (302°F)

Characteristics:

- Parallel corrugated
- Gray available

Technical properties:

- Flame retardant according to FMVSS302 and UL94
- Halogen free
- Durable
- UV resistant according to DIN EN ISO 8580

Applications:

Engine compartment, car body and interior, machines, instruments, devices, ship and train building, switch cabinet and movable machine parts.

Temperature Range PA 6
-40 to 120°C (-40 to 248°F)

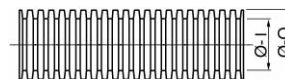


E81472



Other materials and styles available, please consult Altech.

NW	Ø-I mm	Ø-O mm	Bending Radius mm	Cat. No. Black	Std. Pk. Meters
7.5	6.7	10.0	13	1200070	50
8.5	8.4	11.7	15	1200089	50
10	9.9	13.0	20	1200100	50
12	12.2	15.7	30	1200127	50
13	12.7	15.8	35	1200135	50
14	14.2	18.5	40	1200143	50
16	15.0	18.9	45	1200160	50
17	16.6	21.2	45	1200178	50
19	19.3	24.3	50	1200194	50
22	21.3	25.4	50	1200224	50
23	23.2	28.3	55	1200232	50
26	25.8	31.2	60	1200267	25
29	29.0	34.5	65	1200291	25
37	36.0	42.4	90	1200372	25
50	47.7	54.0	100	1200500	25



Fitting conduit glands and accessories: see pages 37-39.

* Sold separately.

Material:

- Polyamide 66

Technical properties:

- Easy and tight single hand mounting
- Insert tube in the "closed" gland
- Special click-in system
- Conical sealing on the corrugated tube
- Gray available

- Thread side sealed by integral sealing ridges
- Conduit can be rotated within the mounting gland
- Halogen free

Applications:

- All fields using conduit

Mounting instructions:

Insert the conduit with a short twist all the way into the end of the SEM conduit gland. Pull the tube back slightly to latch it securely.

PROTECTION
IP65 / IP68
RATING *

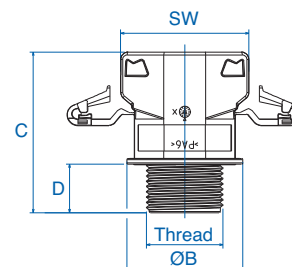
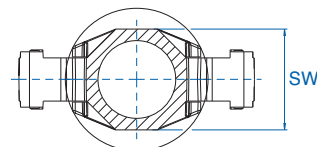


Pending



Temperature Range PA 6
-40 to 120°C (-40 to 248°F)

Thread	Fits for NW	D mm	SW mm	A mm	B mm	C mm	Cat. No. Black	Std. Pk.
PG								
PG 7	7.5	11.0	14.0	19.0	18.0	34.0	3805028	50
PG 7	8.5	11.0	16.0	20.6	20.0	35.0	3805012	50
PG 9	10	12.0	17.0	21.6	22.0	36.0	3805004	50
PG 11	12 + 13	12.0	20.0	25.5	25.0	38.0	3805009	50
PG 16	17	13.0	27.0	34.5	31.0	43.0	3805006	50
PG 21	22	13.0	32.0	40.5	36.0	48.0	3805023	25
PG 21	23	13.0	34.0	42.5	38.0	48.0	3805014	25
PG 29	29	15.0	41.0	49.5	46.0	52.0	3805016	20
PG 36	37	17.0	50.0	59.0	55.0	62.0	3805018	10
PG 48	50	19.0	64.0	72.0	72.0	68.0	3805021	5
Metric								
M 12 x 1.5	7.5	11.0	14.0	19.0	18.0	34.0	3805047	50
M 12 x 1.5	8.5	11.0	16.0	20.6	20.0	35.0	3805011	50
M 16 x 1.5	10	12.0	17.0	21.6	22.0	36.0	3805001	50
M 20 x 1.5	12 + 13	12.0	20.0	25.5	25.0	38.0	3805008	50
M 20 x 1.5	17	13.0	27.0	34.5	31.0	43.0	3805002	50
M 25 x 1.5	22	13.0	32.0	40.5	36.0	48.0	3805022	25
M 25 x 1.5	23	13.0	34.0	42.5	38.0	48.0	3805013	25
M 32 x 1.5	29	15.0	41.0	49.5	46.0	52.0	3805015	20
M 40 x 1.5	37	17.0	50.0	59.0	55.0	62.0	3805017	10
M 63 x 1.5	50	19.0	64.0	72.0	72.0	68.0	3805020	5



* With sealing ring, see page 39.

Conduit Gland SEM-FAST angled 90° / Quick-Mounting System for Polyflex PA 6 Conduit

Material:

- Polyamide 66

Technical properties:

- Easy and tight single hand mounting
- Insert tube in "closed" gland
- Special click-in system
- Conical sealing on the corrugated tube

- Thread side sealed by integral sealing ridges

- Gray available
- Conduit can be rotated within the mounting gland
- Halogen free

Applications:

All fields using conduit

Mounting instructions:

Insert the conduit with a short twist all the way into the end of the SEM conduit gland.
Pull the tube back slightly to latch it securely.

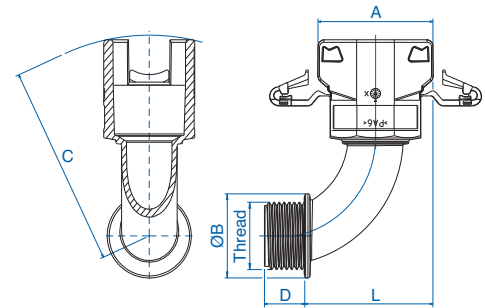
PROTECTION
IP65 / **IP68**
RATING *

AI
Pending

Temperature Range PA 6

-40 to 120°C (-40 to 248°F)

Thread	Fits NW	D mm	L mm	A mm	B mm	C mm	Cat. No. Black	Std. Pk.
PG								
PG 9	10	12.0	29.0	21.6	20.0	50.0	3805201	50
PG 11	12 + 13	12.0	34.0	25.5	25.0	54.6	3805207	50
PG 16	17	13.0	44.5	34.5	31.0	65.8	3805213	25
PG 21	23	13.0	51.5	42.5	38.0	74.1	3805219	20
PG 29	29	15.0	63.5	49.5	48.0	86.8	3805225	10
PG 36	37	17.0	74.5	59.0	56.0	104.8	3805231	10
PG 48	50	19.0	99.8	72.0	72.0	129.0	3805237	5
Metric								
M 16 x 1.5	10	12.0	29.0	21.6	20.0	50.0	3805200	50
M 20 x 1.5	12 + 13	12.0	34.0	25.5	25.0	54.6	3805206	50
M 20 x 1.5	17	12.0	38.5	34.5	25.0	59.7	3805211	25
M 25 x 1.5	23	13.0	48.5	42.5	31.0	71.3	3805217	20
M 32 x 1.5	29	13.0	54.5	49.5	38.0	77.2	3805223	10
M 40 x 1.5	37	15.0	68.5	59.0	48.0	95.6	3805229	10
M 63 x 1.5	50	19.0	99.8	72.0	72.0	129.0	3805236	5



Notes:

- * With sealing ring, see page 39.

Material:

- NBR 70

Characteristic feature:

- Shore: 70 ± 5

Feature:

The O-ring must be mounted into the first groove of the conduit

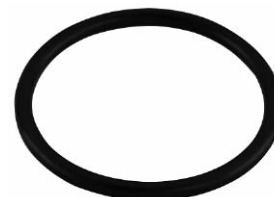
The conduit, with its pre-mounted sealing ring, must be inserted into the SEM gland and simply twisted into the end.

Temperature Range

-30 to 120°C (-22 to 248°F)

Fits for NW	Internal Diameter mm	Thickness mm	Cat. No.	Std. Pk.
7.5	5.0	1.5	8112800	50
8.5	7.0	1.2	8112801	50
10	7.0	1.5	8112802	50
12	9.0	1.5	8112804	50
13	8.0	1.6	8112803	50
17	14.0	1.8	8112807	50
22	14.0	2.0	8112808	25
23	18.0	2.0	8112809	25
29	20.0	2.5	8112810	20
37	24.0	2.5	8112811	10
50*	28.0	2.5	8112813	5

* NW50 parts require 2 o-rings (one in first and one in second groove of corrugated tube).



Clamping clip for conduit tubes

Material:

- Polyamide

Color:

- Black

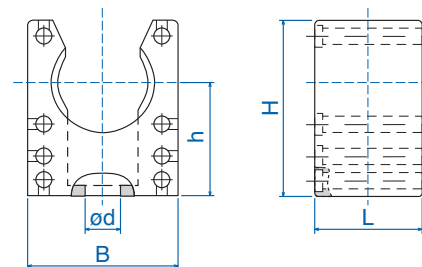
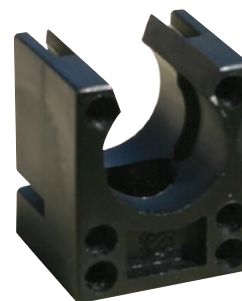
Technical Properties:

- Stackable
- Quick mounting of conduits
- Center rib for traction relief

Temperature Range

-40 to 105°C (-40 to 221°F)

Suitable for NW	B mm	H mm	h mm	L mm	d mm	Cat. No.	Std. Pk.
7.5	20.0	18.0	12.0	20.0	4.2	8221050	100
10	20.0	23.0	15.5	20.0	5.5	8221051	100
12 + 13	22.0	26.0	17.1	20.0	5.5	8221052	50
14 + 16	28.0	33.0	21.1	20.0	6.5	8221053	50
17	28.0	33.0	21.4	20.0	6.5	8221054	50
23	35.0	40.0	24.8	20.0	6.5	8221055	50
29	43.0	45.0	26.8	20.0	6.5	8221056	50
37	54.0	53.0	30.8	20.0	6.5	8221057	20
50	68.0	66.0	37.8	20.0	6.5	8221058	20



	Concen- tration %	at temp. +°C	Poly- amide	Poly- amide	Poly- amide	Thermo- plastic Polyurethane	Poly- propylene	Poly- ethylene	Poly- ethylene	Poly- styrene	Thermo- plastic elastomere	Nitrile- butadiene- rubber
+ stands for: resistant o stands for: conditionally resistant - stands for: not resistant												
Reagents			PA 6	PA 66	PA 12	PU	PP	HD-PE	LD-PE	PS	TPE	NBR
Acetaldehyde	40	20	o	o	+		+					20°C o
Acetic acid	100	20					+	+	+			o
Acetone	100	20	+	+	+	-	+	o	o			-
Acrylic acid	100	> 30	-	-	-					-		
Allyl alcohol	96	20	o	o	+		+	+	+	20% +		
Alum, hydrous	dilute	40					+	+	+	+		20°C +
Aluminium chloride, hydrous	dilute	40					+	+	+	+		20°C +
Aluminium sulphate, hydrous	dilute	40					+	+	+	+		20°C +
Ammonia solution, hydrous	saturated	20	20% +	20% +	20% +		+	+	+	20% +		
Ammonium chloride, hydrous	saturated	60				3% o	+	+	+			20% +
Ammonium nitrate, hydrous	dilute	40					+	+	+	+		20% +
Ammonium sulphate, hydrous	dilute	40					+	+	+			-
Aniline hydrochloride, hydrous	saturated	20					+	o	o			
Aniline, pure	100	20	o	o	o		+	+	+	-	+	
Benzaldehyde, hydrous	saturated	20	pure o	pure o	pure o		+			-		-
Benzine	100	20	+	+	+		o	+	o	-	o	+
Benzoic acid, hydrous	any	40	20% o	20% o			+	+	+	+		-
Benzole	100	20	+	+	+		o	o	o	-		-
Bleaching liquor	12,5 Cl	20	-	-	o	3% -	+	+	+	+		-
Borax, hydrous	dilute	40					+	+	+	+		20% o
Boric acid, hydrous	dilute	40	o	o	o	3% o	+	+	+	+		20% +
Bromine, liquid	100	20	-	-	-		-	-	-	-	-	-
Butanediol, hydrous	to 10	20	pure +	pure +			+	+	+			
Butanol	to 100	20					+	+	+	+		+
Butylacetate	100	20	+	+	+		o	o	o	-		-
Calcium chloride, hydrous	saturated	40	+	+	+		+	+	+	+		20% +
Carbon bisulphide	100	20	+	+	+		+	o	o	-		-
Carbon dioxide	100	60	+	+	+							20% +
Carbon dioxide, dry	100	60					+	+	+	50°C +		20% +
Carbon tetrachloride	100	20	+	+	+		-	o	-	-		
Caustic potash solution, hydrous	50	20	+	+	+		+	+	+	+	10% +	
Caustic soda lye, hydrous	10	20	+	+	+	3% o	+	+	+	+	50% +	
Chlorine	any	20	-	-	-		-	-	-	-		-
Chrome alum, hydrous	dilute	40					+	+	+			20% +
Citric Acid	to 10	40	20% +	20% +	20% +	3% o	+	+	+	+		20% +
Cooling liquids DIN 53521		120	o	o								
Copper monochloride, hydrous	saturated	20					+	+	+			+
Copper sulphate, hydrous	saturated	60					+	+	+			20% +
Cresol, hydrous	to 90	20	pure -	pure -			+	+	o	o		-
Cyclohexanol	-	20	+	+	+		+	+	+	+		+
Diesel fuel		85	+	+	+	20% +	20% +	20% +	20% +			
Drilling oil			+	+	+							
Ethanoic acid	10	20	o	o	+	3% o	+	+	+	o	+	
Ethyl alcohol, hydrous	10	20	40 Vol.%+	40 Vol.%+	40 Vol.%+		+				+	+
Ethyl dichloride	100	20					o	-	-			-
Ethyl ether	100	20					o					o
Ethylene oxide, liquid	100	20					o					
Ferric cyanide, hydrous	saturated	60					+	+	+			
Ferrous chloride, hydrous, indiff.	10	20	+	+		+	+	+	+		+	
Fluorine	50	40	pure -	pure -	pure -		-	-	-			
Formaldehyde, hydrous	dilute	40	pure +	pure +	pure +		40% +	40% +	40% +	30% +		20°C o
Formic acid, hydrous	10	20	o	o	+		+	+		+		
Glucose, hydrous	any	50					+	+	+			
Hydraulic fluid, hardly inflammable		80	+	+	+							
Hydraulic oil H and HL (DIN 51524)		100	+	+	+							

	Concen- tration %	at temp. +°C	Poly- amide	Poly- amide	Poly- amide	Thermo- plastic Polyurethane	Poly- propylene	Poly- ethylene	Poly- ethylene	Poly- styrene	Thermo- plastic elastomere	Nitrile- butadiene- rubber
Reagents			PA 6	PA 66	PA 12	PU	PP	HD-PE	LD-PE	PS	TPE	NBR
Hydrobromic acid, hydrous	to 10	40	-	-	-		+	+	+			-
Hydrochloric acid, hydrous	30	20	20% -	20% -	20% -	3% -	+	+	+	15% +	10% +	0
Hydrogen	100	60	20°C +	20°C +	20°C +		+	+	+			20°C +
Hydrosilicofluoric acid, hydrous	to 30	20	-	-			+	+	+			
Hydroxylamine sulphate, hydrous	to 12	30					+					
Kerosine	100	80	+	+	+		20°C +	20°C +	20°C o	-		
Lactic acid, hydrous	to 90	20	10% +	10% +	10% +	3% o	+	+	+	80% +		+
Lubricating grease, base diester oil		110	0	0								
Lubricating grease (base polyphenyle ester)		110	+	+	+							
Lubricating grease, base silicone oil		110	+	+	+							
Magnesium carbonate, hydrous	saturated	100					+			50°C +		
Magnesium chloride, hydrous	saturated	20	10% +	10% +	10% +		+	+	+	+		+
Mercury	pure	20	+	+	+		+	+	+	+		+
Methyl alcohol	100	20	+	+	+		40°C +	+	+	+	+	+
Methylene chloride	100	20	0	0	0		0	0	-			
Mineral oil			+	+	+		20°C +	20°C +	20°C +			
Nickel chloride, hydrous	saturated	20	10% o	10% o	10% o		+			+		+
Nickel sulphate, hydrous	saturated	20	10% o	10% o	10% o		+	+	+			+
Nitric acid, hydrous	50	20	-	-	-	3% -	0	0	0	30% +		-
Nitro glycerin	dilute	20						-	-			
Oil and grease		20	+	+	+		0				0	
Oleic acid	-	20	+	+	+		+	+	+	+		0
Oxalic acid	any	20	10% o	10% o	10% o	3% o	+	+	+	+		0
Ozone	pure		-	-	-		0	0	0			
Phosgene, gaseous	100	20					0	0	0			
Phosphoric acid, hydrous	dilute	20	10% -	10% -	10% -	3% o	+	+	+	86% +		-
Phosphorus pentoxide	100	20					+					
Potassium bromide, hydrous	any	20	10% +	10% +	10% +		+	+	+	+		
Potassium chloride, hydrous	10	20	+	+	+		+	+	+	+		+
Potassium dichromate, hydrous	40	20	5% o	5% o	5% o		+	+	+			+
Potassium nitrate, hydrous	any	20	10% +	10% +	10% +		+	+	+	+		+
Potassium permanganate, hydrous	saturated	20					+			+		
Sea water		40	+	+	+	20°C +	+	+	+	+	+	20°C +
Soap solution, hydrous	any	20	dilute +	dilute +	dilute +		+	+	+			+
Sodium chlorate, hydrous	saturated	20	10% o	10% o	10% o		+	+	+			
Sodium sulphide, hydrous	dilute	40					+	+	+			
Sulphuric acid, hydrous	10	20	-	-	-	3% -	50% +	50% +	50% +	+	98% +	-
Tin dichloride, hydrous	dilute	40					+	+	+	-	10% +	20°C +
Toluene	100	20	+	+	+	-		0	0	0		-
Trichloroethylene	100	20	0	0	0		0	0	-			
Urea, hydrous	to 10	40	20% +	20% +	20% +		+	+	+	+		
Vinyl acetate	100	20					+					
Waste gas-, containing carbon dioxide	any	60						+	+			
Waste gas-, containing SO2	low	60						+	+			
Xylene	100	20	+	+	+		-	0	0	-		-
Zinc chloride, hydrous	dilute	60	10% o	10% o			+	+	+	50°C +		20°C +
Zinc sulphate, hydrous	dilute	60					+	+	+			20°C +

Source: Plastic Table, B. Carlowitz, Carl Hanser Verlag, et. al.

The above mentioned data enable a preselection. However it is not the use of the data, to promise definite properties of the products or their suitability for a concrete application purpose. The data doesn't release the purchaser to control the quality conformance.

CHART I International Protection (IP) Ratings to IEC 529

Protection Modes to EN 60529 DIN VDE 0470 Part 1			Second Digit – Degree of Water Protection								
First Digit		Protection against penetra- tion of foreign bodies	IP X0 No Protection	IP X1 Protection against dripping water falling vertically	IP X2 Protection against dripping water even when tilted 15° vertically	IP X3 Protection against dripping water even when tilted 60°	IP X4 Protection against splashing water from any direction	IP X5 Protection against water jets from any direction	IP X6 Protection against heavy seas from any direction	IP X7 Protection against effects of immersion	IP X8 Protection against submersion
IP 0X	No protection	No protection	IP 00								
IP 1X	Protection against touching with the hand	Protection against large solid bodies > 50mm Ø	IP 10	IP 11	IP 12						
IP 2X	Protection against touching with the finger	Protect. against med., solid bod- ies > 12.5 mm Ø	IP 20	IP 21	IP 22	IP 23					
IP 3X	Protection against touching with tools, wires, etc., > 2.5 mm Ø	Protection against small, solid bodies > 2.5 mm Ø	IP 30	IP 31	IP 32	IP 33	IP 34				
IP 4X	Protection against touching with tools, wires, etc., > 1 mm Ø	Protection against small, solid bodies > 1 mm Ø	IP 40	IP 41	IP 42	IP 43	IP 44				
IP 5X	Protection against touching with tools, wires, etc., > 1 mm Ø	Protection against internal dust accumulation	IP 50				IP 54	IP 55			
IP 6X	Protection against touching with tools, wires, etc., > 1 mm Ø	Protection against all dust penetration	IP 60					IP 65	IP 66	IP 67	IP 68

In some countries a third digit is added. It gives information about the mechanical properties of the equipment.

This designation has not yet been standardized according to current DIN and IEC regulations.

Devices in this catalogue correspond to digit IP .7.

CHART II NEMA / IP Cross Reference

The chart below provides a cross-reference from NEMA to International Protection (IP) Ratings. This cross-reference is an approximation based on the most current information available. It is not sanctioned by NEMA, IEC, or any other regulatory body. This chart should be used only as a guideline.

IEC 529 Protection Ratings	NEMA Ratings									
	1	2	3	3R	4	4X	5	6	12	13
IP 00	↓									
IP 10		↓								
IP 11										
IP 20										
IP 21										
IP 22										
IP 23										
IP 30										
IP 31										
IP 32				↓						
IP 33										
IP 40										
IP 41										
IP 42										
IP 43										
IP 50										
IP 51							↓			
IP 52										
IP 53										
IP 54										↓
IP 55										
IP 56										
IP 60										
IP 61										
IP 62			↓							
IP 63										
IP 64										
IP 65					↓	↓				
IP 66								↓	↓	
IP 67										
IP 68										

CHART III International Protection (IP) Ratings to IEC 262

The standard EN 50 262 was issued on 01.04.1998 and published in April 1999 in Germany as DIN-EN 50 262/VDE 0619. The well-known standards for cable glands, such as DIN VDE 0619 (VDE 0619): 1987-09, DIN 46 319: 1989-12, DIN 46 320-1: 1985-09 and DIN 46 320-2...-4: 1973-01 etc, are only applicable until 31.12.1999. Approved technical drawings using these standards are valid until 01.03.2001.

1.) Fields of application for standard EN 50 262: This European standard contains the requirements and tests for the construction and design of metric cable glands. This standard covers the cable gland as a complete part, but not the parts of cable glands.

2.) The screw-in thread of cable glands must be constructed according to chart 1 of EN 60 423. The dimensions of the thread are M6x0,75; M8x1; M10x1; M12x1.5; M16x1.5; M20x1.5; M25x1.5; M32x1.5; M40x1.5; M50x1.5; M63x1.5 and M75x1.5.

3.) The mounting holes must be dimensioned according to **Chart A**.

4.) Cable glands must be able to guarantee the retaining power for cables and conduits for the complete sealing section. Cable glands with traction relief for cables and conduits must free the conduits from the load of tension and twist. The tests are carried out, with in each case the smallest and largest mentioned value of the seal resp. tension relief section of the according loads and torque values in **Chart B**.

These tests are performed with test pins reproducing the outer diameters of the cables and conduits. The test pins consist of a metal rod with an elastomere sheath.

5.) Cable glands must be impact resistant. A test pin according to the smallest value of the sealing section is fastened to the test probe and then the test is carried out a lowest temperature according to the energy in accordance with category of **Chart C**. All specifications, charts and values are excerpts from standard DIN 50 262. Obviously further tests (electric properties, IP-Code etc.), which are necessary to classify and mark cable glands are described in this standard. It would although go beyond the scope of this catalogue.

Chart A: Mounting holes for cable glands

Thread size	12	16	20	25	32	40	50	63
Diameter of Mounting hole	M12	M16	M20	M25	M32	M40	M50	M63
+ 0.2/- 0.4 mm	12.5	16.5	20.5	25.5	32.5	40.5	50.5	63.5

Chart B: Tensile load for retaining power and tension relief, torque for turning tests

Cable and Conduit diameter	Retaining Power	Tensile relief Type A	Tensile relief Type B	Torque Type A and B
[mm]	[N]	[N]	[N]	[Nm]
thru 4	5	-	-	-
> 4 thru 8	10	30	75	0,10
> 8 thru 11	15	42	120	0,15
> 11 thru 16	20	55	130	0,35
>16 thru 23	25	70	140	0,60
> 23 thru 31	30	80	250	0,80
> 31 thru 43	45	90	350	0,90
> 43 thru 55	55	100	400	1,00
> 55	70	115	450	1,20

Chart C: Value for impact test

Categorie	1	2	3	4	5	6	7	8
Load [N]	2	2	2	2	10	10	10	20
Weight [Kg]	0.2	0.2	0.2	0.2	1.0	1.0	1.0	2.0
Energy [J]	0.2	0.5	1.0	2.0	4.0	7.0	10.0	20.0
Height [m]	0.1	0.25	0.5	1.0	0.4	0.7	1.0	1.0

CHART IV Tightening torque for cable glands

In casing with female thread or hole with lock nut.

Dome nuts may be tightened with max half of the locknut tightening torque according to the chart.

Note:

The values in the chart serve as a general guideline, the exact procedure depends upon the material.

Nominal size	Metal	Plastic moulded parts
	Tightening torque [Nm]	Tightening torque [Nm]
Pg 7/M12	6.25	2.5
Pg 9/M16	6.25	3.75
Pg 11/NPT3/8	6.25	3.75
Pg 13.5/M20/NPT1/2	6.25	3.75
Pg 16	7.5	5.0
Pg 21/M25/NPT3/4	10.0	7.5
Pg 29/M32/NPT1	10.0	7.5
Pg 36/M40	10.0	7.5
Pg 42/M50	10.0	7.5
Pg 48/M63	10.0	7.5

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1200127	36	4220352	5	4221117	12	4224386	13	4248649	14
1200135	36	4220353	5	4221133	12	4224387	13	4248650	14
1200143	36	4220354	5	4221168	12	4224390	13	4248651	14
1200160	36	4220355	5	4221214	12	4224700	13	4248652	14
1200178	36	4220356	5	4221290	12	4224705	13	4248653	14
1200194	36	4220357	5	4221362	12	4224706	13	4248654	14
1200224	36	4220358	5	4221427	12	4224707	13	4248655	14
1200232	36	4220359	5	4221486	12	4224710	13	4248656	14
1200267	36	4220360	5	4221714	12	4224711	13	4248657	14
1200291	36	4220612	5	4221716	12	4224715	13	4248658	14
1200372	36	4220616	5	4221717	12	4224716	13	4248659	14
1200500	36	4220620	5	4221720	12	4224717	13	4248660	14
3805001	37	4220625	5	4221721	12	4224720	13	4248661	14
3805002	37	4220632	5	4221725	12	4224721	13	4248662	14
3805004	37	4220640	5	4221726	12	4224722	13	4248663	14
3805006	37	4220650	5	4221732	12	4224726	13	4248664	14
3805008	37	4220663	5	4221733	12	4224727	13	4248665	14
3805009	37	4220712	5	4221740	12	4224751	13	4248666	14
3805011	37	4220716	5	4221750	12	4224755	13	4248667	14
3805012	37	4220720	5	4221760	12	4224775	13	4248668	14
3805013	37	4220725	5	4224001	12	4224776	13	4248669	14
3805014	37	4220732	5	4224002	12	4224780	13	4248670	14
3805015	37	4220740	5	4224003	12	4224781	13	4248671	14
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3805020	37	4220801	5	4224101	12	4224785	13	4248675	14
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3805023	37	4220810	5	4224104	12	4224790	13	4248679	14
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3805047	37	4220812	5	4224106	12	4248405	14	4248681	14
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5316309	10	5318311	10	5320386	8	5320722	8	5507053	17
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5507563	16	6011021	24	6104725	26	6402055	32	6604742	30
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TITLE - Title to the products of ALTECH shall remain with ALTECH until payment is made in full by Customer. Such reservation of title is for the purpose of securing the purchase price and shall not relieve Customer of the duty to inspect the products upon receipt, to notify ALTECH of any deficiencies or defects, and to exercise due care in the use, installation, operation, and maintenance of the products when on the premise of the Customer or under the control of the Customer. Notwithstanding any reservation of title by ALTECH, risk of loss shall pass to customer at any time of shipment.

SHIPMENT AND DELIVERY - All orders for destination in the mainland United States (less Hawaii, Alaska and non-continental United States possessions) will be shipped F.O.B. Flemington, N.J. All destination, shipping and other charges shall be paid by the Customer in accordance with ALTECH's then current shipping and billing practices.

Delivery dates given in the acceptance of any order are approximate. ALTECH shall not be liable for delays in delivery or in performance due to causes beyond its reasonable control including acts of God, acts of Customer, acts of civil or military authority, fires, strikes or other labor disturbances, war, riot or delays in transportation. In the event of such delay, the date of delivery or performance shall be extended for a period equal to the time lost by reason of the delay.

PRICE - PRICES in any ALTECH publication are subject to change without prior notification. Catalog prices are based on prices published in the current price list. All written quotations are valid for thirty (30) days from the date of quotation. Customer shall pay all sales, use, excise or similar taxes whenever ALTECH must itself pay and/or collect such tax from Customer arising out of the sale.

PAYMENT - Customer agrees to make payment within thirty (30) days of date of the invoice from ALTECH. Customer agrees to pay a late payment charge of one and one-half percent (1.5% per month, or the maximum late payment charge permitted by applicable law, whichever is less, on any unpaid amount for each calendar month (or fraction thereof) that such payment is in default. Orders amounting to less than \$100.00 will be billed at \$100.00 plus freight. Full carton purchases are required. In the event of referral to an attorney for collection, reasonable attorney's fees for collection of the overdue amount shall be paid by Customer. In the event payment is not received within 30 days from the date of invoice, any discount shall be cancelled and the full list price will be due.

LIMITED WARRANTY - ALTECH warrants to Customer that the equipment purchases shall be free from defects in material and workmanship under normal use and service for a period of one year from shipment.

Written notice as an explanation of the circumstances of any claim that the equipment has proved defective in material or workmanship shall be given promptly by the Customer to ALTECH.

ALTECH will not be liable for any misuse, improper operations, improper installation, improper maintenance, alteration, modification, accident or unusual degradation of the equipment or parts due to an unsuitable installation environment.

No representation of other affirmation of facts, including but not limited to statements regarding capacity, suitability for use or performance of the equipment, shall be or be deemed to be a warranty or representation by ALTECH for any purpose, nor give rise to any liability or obligation of ALTECH whatsoever.

Customer's sole and exclusive remedy in the event of breach of warranty, as set forth herein, is expressly limited to (1) the correction of the defect by adjustment, repair, modification, or replacement, or (2) issuance of a credit or refund of the purchase price for the defective equipment at ALTECH's election and sole expense.

EXCEPT AS SPECIFICALLY PROVIDED IN THIS AGREEMENT, THERE ARE NO OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

THIS WARRANTY EXTENDS ONLY TO THE CUSTOMER FROM ALTECH OR ITS AUTHORIZED DISTRIBUTOR.

LIMITATION OF LIABILITY - IN NO EVENT, SHALL ALTECH BE LIABLE FOR LOSS OF PROFITS, INDIRECT, SPECIAL, CONSEQUENTIAL OR OTHER SIMILAR DAMAGES ARISING OUT OF ANY BREACH OF THIS AGREEMENT OR OBLIGATIONS UNDER THE AGREEMENT.

ALTECH SHALL NOT BE LIABLE FOR ANY DAMAGES CAUSED BY DELAY IN SHIPMENT, INSTALLATION OR FURNISHING OF EQUIPMENT OR SERVICES UNDER THIS AGREEMENT.

No action arising out of any claimed breach of this Agreement may be brought by either party more than two (2) years after the cause of action has accrued.

PATENT INDEMNITY - ALTECH shall defend or settle any suit or proceeding brought against Customer based on a claim that any equipment made to ALTECH design and furnished hereunder constitutes an infringement of any existing United States patent, provided (ALTECH) is notified promptly in writing and is given complete authorization and information required for the defense, and ALTECH shall pay all damages and costs awarded against Customer, but shall not be responsible for any costs, expense or compromise incurred or made by Customer without ALTECH's prior written consent. If any equipment is in ALTECH's opinion likely to or does become the subject of a claim for patent infringement, ALTECH may at its option and expense procure for Customer the right to continue using the device, modify it to become non-infringing, but in the event ALTECH is not reasonably able to modify, substitute, or otherwise procure for Customer the right to continue using it, ALTECH will remove such equipment and refund to Customer the amount paid in excess of a reasonable rental for past use.

ALTECH shall not be liable for any infringement or claim based upon use of the equipment in combination with other equipment not supplied by ALTECH or with modifications made by Customer.

The foregoing states the entire liability of ALTECH to Customer arising from patent infringement.

SELLER'S REMEDIES - Should Customer fail to make any payment within ten (10) days of its due date, or fail to perform any other of the Customer's obligation hereunder upon thirty (30) days written notice, or should Customer be or become insolvent or be a party to any bankruptcy receivership proceeding prior to full payment of all amounts payable hereunder, ALTECH may: (a) with or without demand or notice to customer declare the entire amount unpaid immediately due and payable; (b) enter upon the premises where the equipment may be found and remove it (Customer shall assemble the equipment and make it available to ALTECH at a place reasonably convenient to both parties and shall permit and assist ALTECH in effecting the retaking and removal of the equipment); and (c) sell any or all the equipment as permitted under applicable law, applying the proceeds of the sale to payment of the expenses of retaking, repairing and selling the equipment, reasonable attorney fees and to the satisfaction of all indebtedness then due and unpaid under this Agreement. Any surplus shall be paid to Customer and any deficiency shall be paid to ALTECH by Customer.

The remedies provided herein shall be cumulative and in addition to all other remedies provided by law or equity or under the Uniform Commercial Code.

GOVERNING LAW - This agreement will be governed by the Laws of the State of New Jersey.

GENERAL - This Agreement shall only become effective and binding when either (a) it has been accepted and executed by an authorized representative of ALTECH, or (b) the equipment has been shipped to Customer, with or without acceptance in writing hereon. Notice of acceptance is hereby waived by Customer. Customer hereby acknowledges receipt of a true and complete copy hereof.

No addition to or modification of any of the Terms and Conditions of Sale as they appear herein shall be binding upon ALTECH unless signed in writing by duly authorized representative of ALTECH in Flemington, N.J.

Typographical and clerical errors in quotations, orders and acknowledgments are subject to correction.

This Agreement is not assignable without the prior written consent of ALTECH. Any attempt to assign any of the rights, duties or obligations of this Agreement without such consent is void.

If any provision or provisions of this Agreement shall be held to be invalid, illegal or unenforceable, the validity, legality and enforceability, of the remaining provisions shall not in any way be affected or impaired thereby.

ALTECH is not responsible for failure to fulfill its obligation under this Agreement due to causes beyond its control, or except as agreed herein.

THE CUSTOMER ACKNOWLEDGES THAT HE HAS READ THE AGREEMENT, UNDERSTANDS IT, AND AGREES TO BE BOUND BY ITS TERMS AND CONDITIONS. FURTHERMORE, THE CUSTOMER AGREES THAT IT IS THE COMPLETE AND EXCLUSIVE STATEMENT OF THE AGREEMENT BETWEEN THE PARTIES, WHICH SUPERSEDES ALL PROPOSALS OR PRIOR AGREEMENTS, ORAL OR WRITTEN, EXPRESSED OR IMPLIED, AND ALL OTHER COMMUNICATIONS BETWEEN THE PARTIES RELATING TO THE SUBJECT MATTER OF THIS AGREEMENT.

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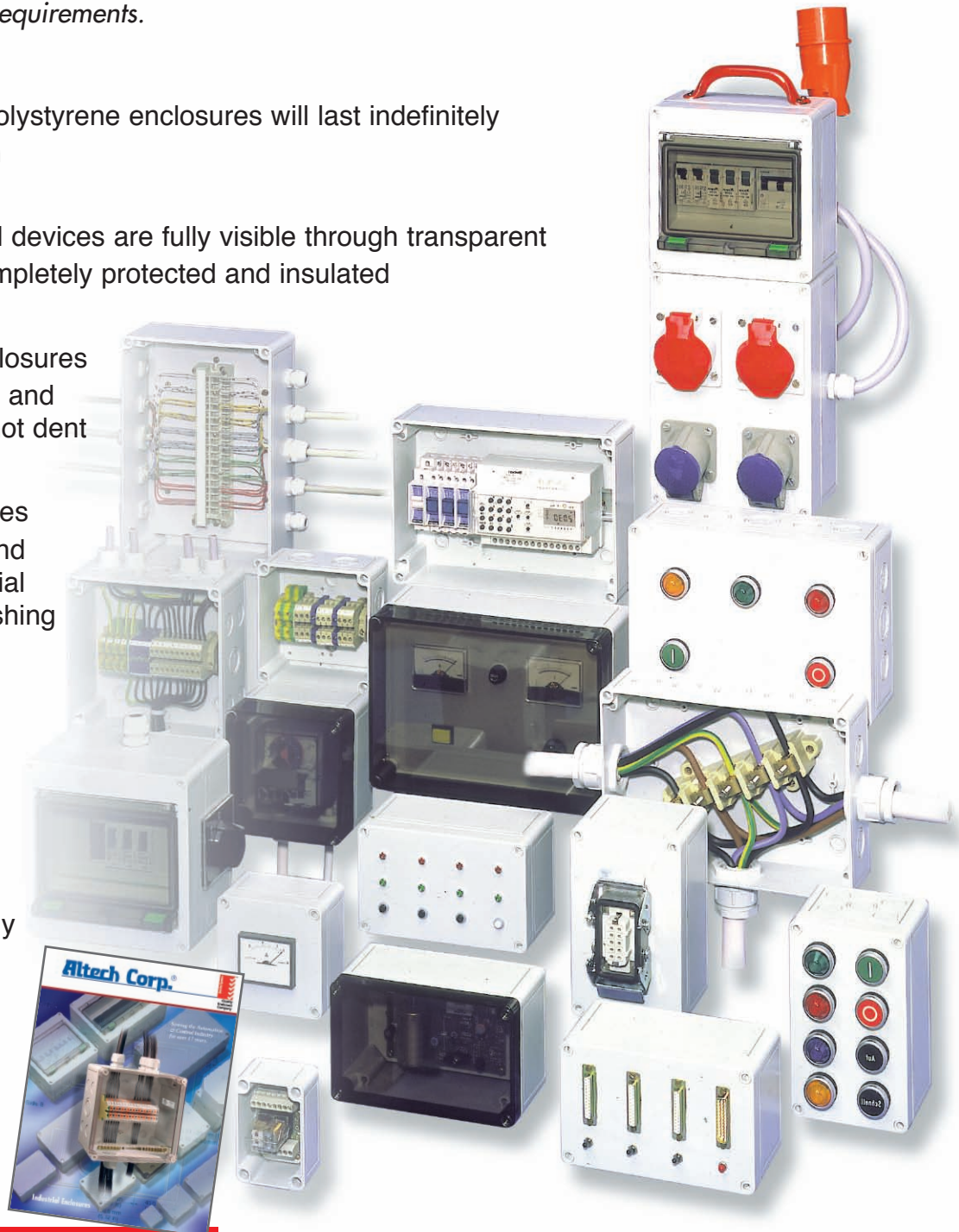
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