










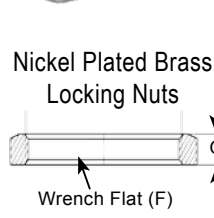
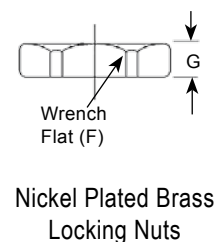

	Locking Nuts - Page 29 · Black & Gray Nylon · Nickel Plated Brass	
	O-Rings - Page 31 · Buna-N · Silicone · FKM	
	Hole Plug - Page 32-34 Dome Plugs: · Buna-N · FKM Hex Plugs: · Black Nylon · Nickel Plated Brass · Stainless Steel	
	Wrenches - Page 34 · Deep Socket Wrenches	
	Thread Reducers - Page 37-39 Reduces a Type of (NPT, PG, Metric) · Gray Nylon · Black Nylon · FKM · Stainless Steel	
	Page 30 - Locking Nuts EMI/RFI Proof (Nickel Plated Brass) · Zinc Plated Steel · Stainless Steel (303) - INOX	
	Page 31 - Seal Rings Polyethylene · Fiber-Reinforced Plastic	
	Page 32-33 - Blind Plug/Clamp Blind Plugs: · Black Nylon Cable Clamp: Nickel Plated Brass	
	Page 35-36 - Thread Adapters Converts a Type of (NPT, PG, Metric) Threads · Black Nylon · Nickel Plated Brass	
	Page 40 - Thread Enlargers Enlarges a Type of (NPT, PG, Metric) Threads · Black Nylon · Nickel Plated Brass	

Accessories - Locking Nuts Nylon & Nickel Plated Brass - PG / NPT / Metric Threads

Nylon: Black & Gray Locking Nuts*				
Part Numbers		Thread Type & Size	Dimens. Inches (mm)	
-40°F to 212°F (-40°C to 100°C)			G	F
		See page 56 for thread specs	Thickness	Wrench Flats
NP-07-BK	NP-07-GY		PG 7	.20 (5)
NP-09-BK	NP-09-GY	PG 9	.20 (5)	.87 (22)
NP-11-BK	NP-11-GY	PG 11	.20 (5)	.94 (24)
NP-13-BK	NP-13-GY	PG 13 / 13.5	.24 (6)	1.06 (27)
NP-16-BK	NP-16-GY	PG 16	.24 (6)	1.18 (30)
NP-21-BK	NP-21-GY	PG 21	.28 (7)	1.41 (36)
NP-29-BK	NP-29-GY	PG 29	.28 (7)	1.81 (46)
NP-36-BK	NP-36-GY	PG 36	.31 (8)	2.36 (60)
NP-42-BK	NP-42-GY	PG 42	.31 (8)	2.56 (65)
NP-48-BK	NP-48-GY	PG 48	.31 (8)	2.76 (70)
<hr/>				
NN-09-BK	NN-09-GY	3/8" NPT	.28 (7)	.94 (24)
NN-13-BK	NN-13-GY	1/2" NPT	.24 (6)	1.06 (27)
NN-21-BK	NN-21-GY	3/4" NPT	.28 (7)	1.26 (32)
NN-29-BK	NN-29-GY	1" NPT	.28 (7)	1.57 (40)
<hr/>				
NM-12-BK	NM-12-GY	M12 X 1.5	19 (4.79)	.86 (22)
NM-16-BK	NM-16-GY	M16 X 1.5	.20 (5)	.87 (22)
NM-20-BK	NM-20-GY	M20 X 1.5	.24 (6)	1.06 (27)
NM-25-BK	NM-25-GY	M25 X 1.5	.26 (6.5)	1.26 (32)
NM-32-BK	NM-32-GY	M32 X 1.5	.28 (7)	1.61 (41)
NM-40-BK	NM-40-GY	M40 X 1.5	.28 (7)	1.97 (50)
NM-50-BK	NM-50-GY	M50 X 1.5	.31 (8)	2.36 (60)
NM-63-BK	NM-63-GY	M63 X 1.5	.31 (8)	2.95 (75)

* V0 Rated



Nickel Plated Brass: Locking Nuts				
Part Numbers		Thread Type & Size	Dimens. Inches (mm)	
Nickel Plated Brass			G	F
		See page 56 for thread specs	Thickness	Wrench Flats
NP-07-BR			PG 7	.11 (2.8)
NP-09-BR		PG 9	.11 (2.8)	.71 (18)
NP-11-BR		PG 11	.12 (3)	.83 (21)
NP-13-BR		PG 13 / 13.5	.12 (3)	.91 (23)
NP-16-BR		PG 16	.12 (3)	1.02 (26)
NP-21-BR		PG 21	.14 (3.5)	1.26 (32)
NP-29-BR		PG 29	.16 (4)	1.61 (41)
NP-36-BR		PG 36	.20 (5)	2.01 (51)
NP-42-BR		PG 42	.20 (5)	2.36 (60)
NP-48-BR		PG 48	.22 (5.5)	2.52 (64)
<hr/>				
NN-09-BR		3/8" NPT	.19 (4.79)	.82 (22)
NN-13-BR		1/2" NPT	.12 (3)	.94 (24)
NN-21-BR		3/4" NPT	.14 (3.5)	1.18 (30)
NN-29-BR		1" NPT	.14 (3.5)	1.38 (35)
<hr/>				
NM-06-BR		M6 X 1.0	.10 (2.5)	.39 (10)
NM-08-BR		M8X1.25	.10 (2.5)	.51 (13)
NM-10-BR		M10 X 1.5	.11 (2.8)	.51 (13)
NM-12-BR		M12 X 1.5	.11 (2.8)	.59 (15)
NM-16-BR		M16 X 1.5	.11 (2.8)	.75 (19)
NM-20-BR		M20 X 1.5	.12 (3)	.91 (23)
NM-25-BR		M25 X 1.5	.14 (3.5)	1.14 (29)
NM-32-BR		M32 X 1.5	.16 (4)	1.42 (36)
NM-40-BR		M40 X 1.5	.18 (4.5)	1.77 (45)
NM-50-BR		M50 X 1.5	.22 (5.5)	2.17 (55)
NM-63-BR		M63 X 1.5	.24 (6)	2.76 (70)

* German Lloyd only applies to Nickel Plated Brass Locking Nuts.

Additional: Nickel Plated Brass Extra Small & Large Locking Nuts are available in Metric: (M6, M8, M10, M63, M75, M80, M90, M100, M110). See Page 15.

For Material Specifications and Approval Information refer to page 52.

Metric	Major Thread Diameter	Minor Thread Diameter	PG	Major Thread Diameter	Minor Thread Diameter	NPT	Major Thread Diameter	Minor Thread Diameter	Dome Opening
M6 x 1.0	6.0 mm / .24"	5.0 mm / .19"							3.0 mm / .11"
M8 x 1.25	8.0 mm / .31"	6.8 mm / .26"							5.0 mm / .19"
M10 x 1.5	10.0 mm / .40"	8.4 mm / .33"							6.0 mm / .24"
M12 x 1.5	12.0 mm / .47"	8.0 mm / .32"							6.5 mm / .26"
			PG 7	12.5 mm / .49"	11.3 mm / .49"	1/4"	12.5 mm / .49"	11.6 mm / .46"	6.5 mm / .26"
			PG 9	15.2 mm / .60"	13.9 mm / .54"	3/8"	16.8 mm / .66"	15.2 mm / .60"	8.0 mm / .31"
M16 x 1.5	16.0 mm / .63"	14.5 mm / .57"							8.0 mm / .31"
M16 X 1.5 E			PG 11	18.6 mm / .73"	17.3 mm / .68"				10.0 mm / .39"
M20 x 1.5	20.0 mm / .79"	18.5 mm / .72"							12.0 mm / .47"
			PG 13	20.4 mm / .89"	19.1 mm / .75"	1/2"	20.8 mm / .82"	18.8 mm / .74"	12.0 mm / .47"
M20 x 1.5 E			PG 16	22.5 mm / .89"	21.2 mm / .83"	1/2"-E	20.8 mm / .82"	18.8 mm / .74"	14.0 mm / .55"
M25 x 1.5	25.0 mm / .98"	23.5 mm / .92"							18.0 mm / .71"
			PG 21	28.3 mm / 1.11"	26.8 mm / 1.05"	3/4"	26.2 mm / 1.03"	24.1 mm / .95"	18.0 mm / .71"
M32 x 1.5	32.0 mm / 1.26"	30.5 mm / 1.20"							25.0 mm / .98"
			PG29	37.0 mm / 1.46"	35.5 mm / 1.46"	1"	32.8 mm / 1.29"	30.5 mm / 1.20"	25.0 mm / .98"
						1-1/4"	41.4 mm / 1.63"	38.1 mm / 1.50"	25.0 mm / .98"
M40 x 1.5	40.0 mm / 1.57"	38.5 mm / 1.51"							32.0 mm / 1.26"
			PG 36	47.0 mm / 1.85"	45.5 mm / 1.79"	1-1/2"	47.8 mm / 1.88"	45.7 mm / 1.80"	32.0 mm / 1.26"
M50 x 1.5	50.0 mm / 1.97"	48.5 mm / 1.90"							38.0 mm / 1.50"
			PG 42	54.0 mm / 2.13"	52.5 mm / 2.13"				38.0 mm / 1.50"
			PG 48	59.3 mm / 2.33"	57.8 mm / 2.72"				44.0 mm / 1.73"
M63 x 1.5	63.0 mm / 2.48"	61.5 mm / 2.42"							44.0 mm / 1.73"

Determine Sizes & Type of Fitting:

- Check markings on the hex portion (wrenching flats). PG, NPT or Metric size should be embedded. This only applies to Nylon parts.
- Measure major thread diameter and compare with chart above. This may tell you whether it is a PG, NPT or Metric thread (Nylon or Brass)
- Confirm grommet type inside fitting. (See table on right for grommet identification)
- The shorter length fittings are CD's (connector dome), the longer type are CF's (connector flex).
- We offer Enlarged as well as Reduced solutions. A PG13.5/16 has a PG13 thread with a PG16 body. Reduced would be the opposite (only in Nylon)
- The shading (grouping) indicates same size bodies, but different threads.

Grommet Identification	
Color	Type of Grommet
Black	Standard
Gray	Reduced
Beige	Multi-Hole / Solid Plug
Green	FKM
Red	Silicone
Blue	RG / FP Hygienic Glands

Note:

Dome Opening = the largest possible dimension diameter for one or more cables.

Recommended Torque Specifications for Strain Relief Fittings

Torque in in-lb - Inch-Pound (Nm - Newton Meters)

Sizes	Plastic Fittings		Metal Fittings	
	Dome Nuts	Thread & Lock Nuts	Dome Nuts	Thread & Lock Nuts
M6			17.7 (2)	17.7 (2)
M8			17.7 - 26.6 (2-3)	17.7 - 26.6 (2-3)
PG7, M12X1.5	14.4 (1.62)	22.1 (2.5)	36.9 (4.17)	55.3 (6.25)
PG 9, PG 11, PG 13, 3/8" NPT, 1/2" NPT, M16X1.5, M20X1.5	22.1 (2.5)	33.2 (3.75)	36.9 (4.17)	55.3 (6.25)
PG 16, 1/2" NPT-E	29.5 (3.33)	44.2 (5)	44.2 (5)	66.4 (7.5)
PG21, PG29, PG36, PG42, PG48, 3/4" NPT, 1" NPT 1-1/4" NPT, 1-1/2" NPT, M25, M32, M40, M50, M63	44.2 (5)	66.4 (7.5)	59 (6.67)	88.5 (10)

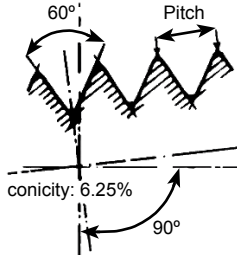
Note: Torque for dome nuts was determined using a metal rod. It may vary for cable, depending on the crush resistance of the cable. We recommend to determine the actual torque empirically, testing the actual cable used. The values shown above are for reference only. Torque Specification is based on Norm: EN 50262

The Pull-Test Rating of our Strain Relief Fittings complies with Industry Standards.

Pull-Test Rating: 35 lb.*

NPT Threads

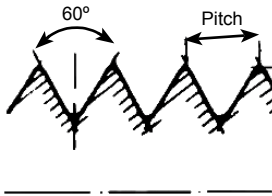
Thread Size	1/4" NPT	3/8" NPT	1/2" NPT	3/4" NPT	1" NPT	1-1/4" NPT	1-1/2" NPT	2" NPT
Major Dia. in Inches (mm)	.54 (13.72)	.675 (17.145)	.84 (21.336)	1.05 (26.67)	1.314 (33.40)	1.66 (42.164)	1.90 (48.26)	2.375 (60.325)
Pitch in Inches (mm)	.056 (1.41)	.056 (1.411)	.071 (1.814)	.071 (1.814)	.087 (2.208)	.087 (2.208)	.087 (2.208)	.087 (2.208)
Threads per Inch	18	18	14	14	11.5	11.5	11.5	11.5



- NPT Thread = National Pipe Thread
- Taper rate for all NPT threads is 1/16
- The taper on NPT threads allows them to form a seal when torqued as the flanks of the threads compress against each other, as opposed to straight thread fittings

Metric Threads

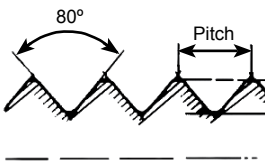
Thread Size	M6	M8	M10	M12	M16	M20	M25	M32	M40	M50	M63
Major Dia. in Inches (mm)	.24 (6)	.31 (8)	.39 (10)	.47 (12)	.63 (16)	.79 (20)	.98 (25)	1.26 (32)	1.57 (40)	1.97 (50)	2.48 (63)
Pitch in Inches (mm)	.04 (1)	.05 (1.25)	.06 (1.5)	.059 (1.5)	.059 (1.5)	.059 (1.5)	.059 (1.5)	.059 (1.5)	.059 (1.5)	.059 (1.5)	.059 (1.5)
Thru Hole in Inches (mm)	.251 (6.4)	.33 (8.4)	.413 (10.5)	.492 (12.5)	.63 (16)	.79 (20)	.98 (25)	1.26 (32)	1.57 (40)	1.97 (50)	2.48 (63)



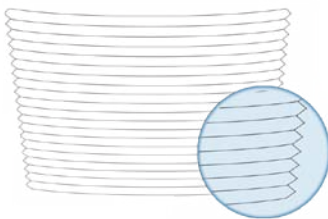
- World-wide most commonly used type thread
- Characterized by its major diameter and its pitch
- Designated by the letter M followed by the value of the nominal diameter and the pitch, both expressed in millimeters and separated by the multiplication sign 'x' (i.e. M12 x 1.5)

PG Threads

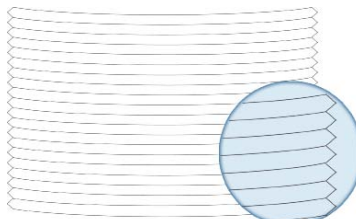
Thread Size	PG 7	PG 9	PG 11	PG 13 / 13.5	PG 16	PG 21	PG 29	PG 36	PG 42	PG 48
Major Dia. in Inches (mm)	.49 (12.5)	.60 (15.2)	.73 (18.6)	.80 (20.4)	.89 (22.5)	1.11 (28.3)	1.46 (37)	1.85 (47)	2.13 (54)	2.39 (59.3)
Pitch in Inches (mm)	.05 (1.27)	.056 (1.41)	.056 (1.41)	.056 (1.41)	.056 (1.41)	.062 (1.59)	.062 (1.59)	.062 (1.59)	.062 (1.59)	.062 (1.59)
Thru Hole in Inches (mm)	.50 (12.7)	.606 (15.4)	.74 (18.8)	.8149 (20.7)	.897 (22.8)	1.12 (28.6)	1.47 (37.4)	1.87 (47.5)	2.14 (54.5)	2.35 (59.8)



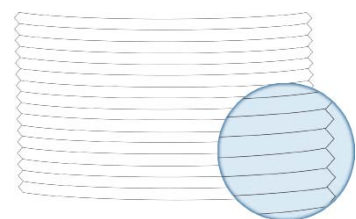
- PG Thread = Panzer-Gewinde (also Panzer-Rohr-Gewinde)
- German thread type
- Depth of thread smaller than NPT or Metric, but larger flank angle
- Straight thread



NPT Threads
(Tapered)



Metric Threads
(Straight)



PG Threads
(Straight)