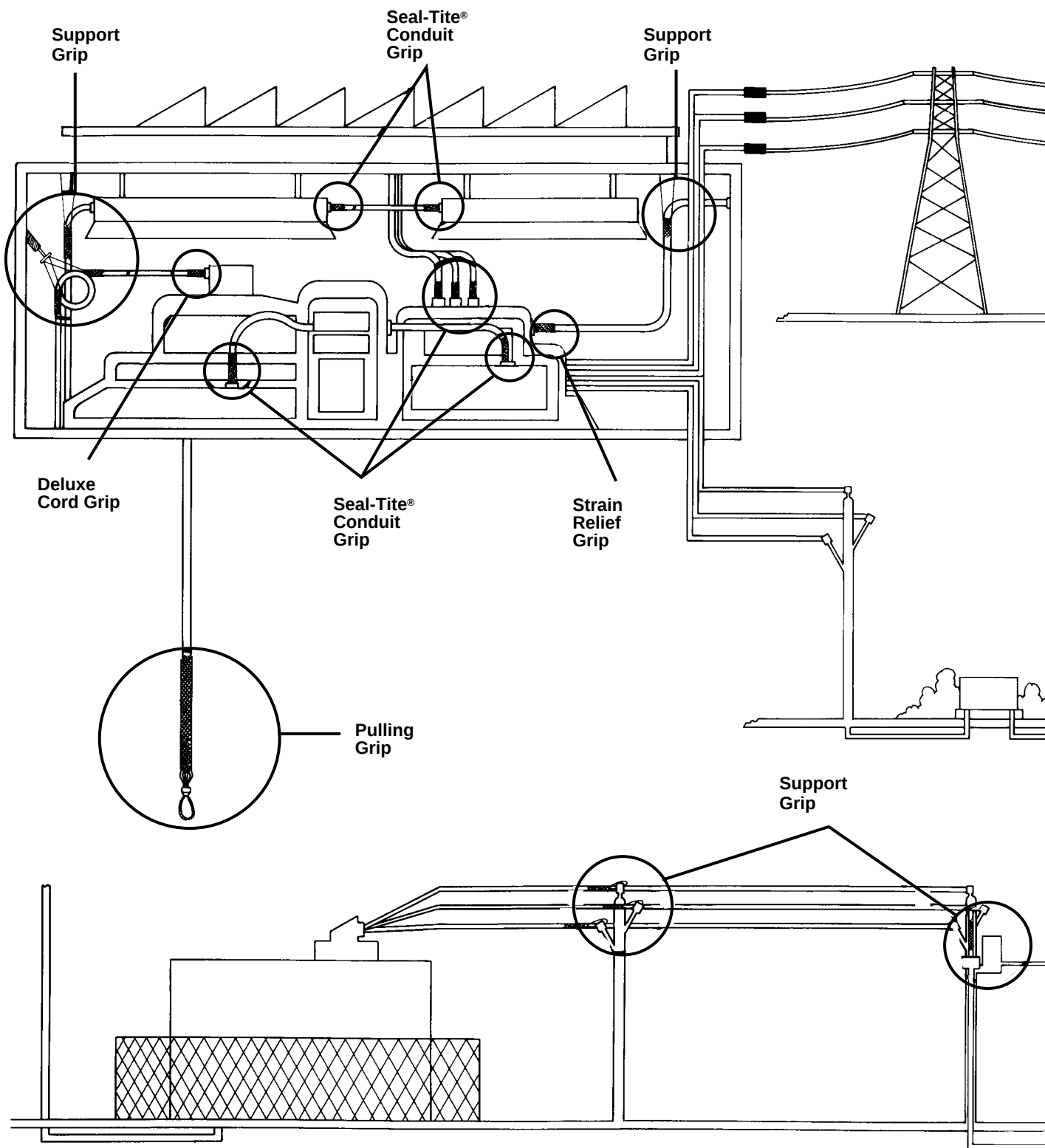


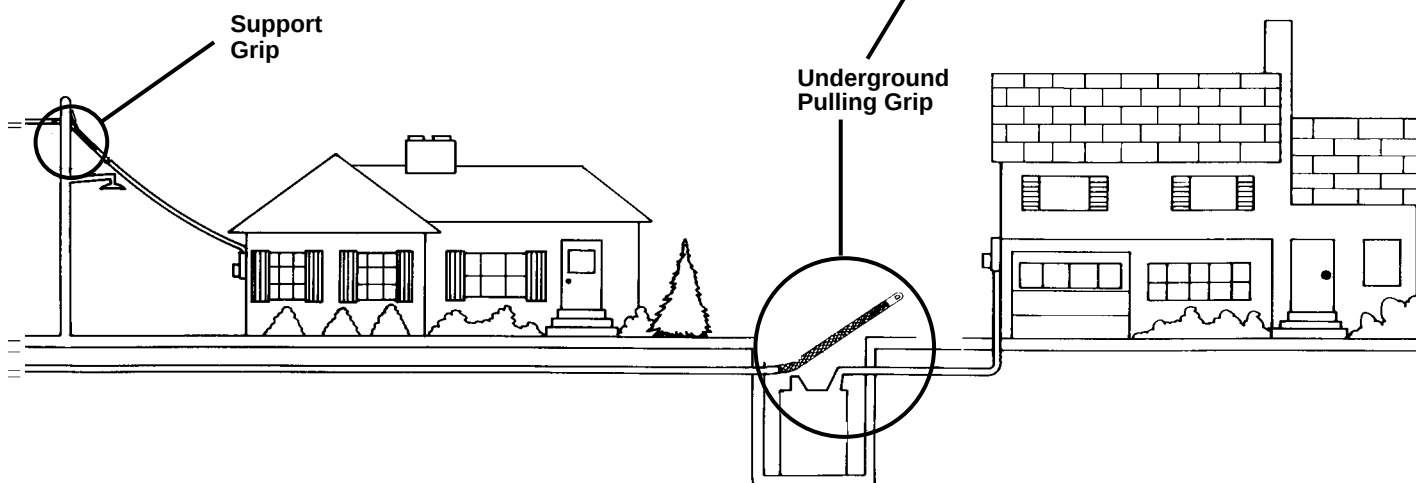
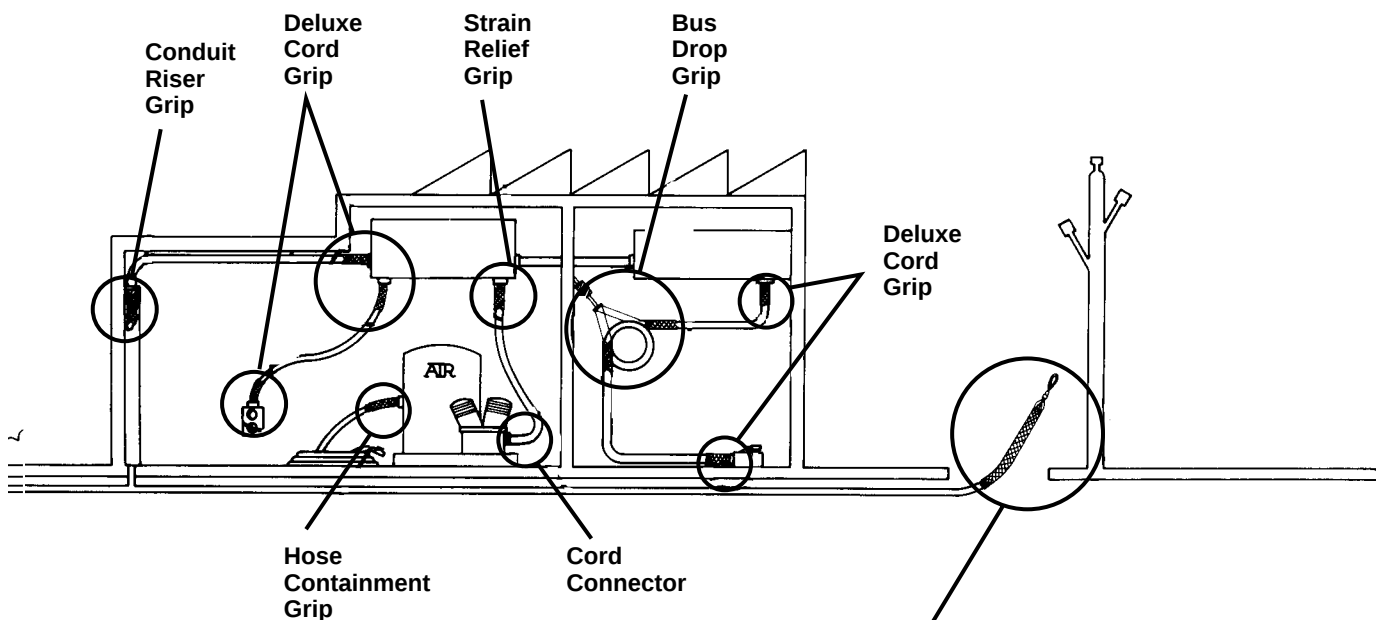
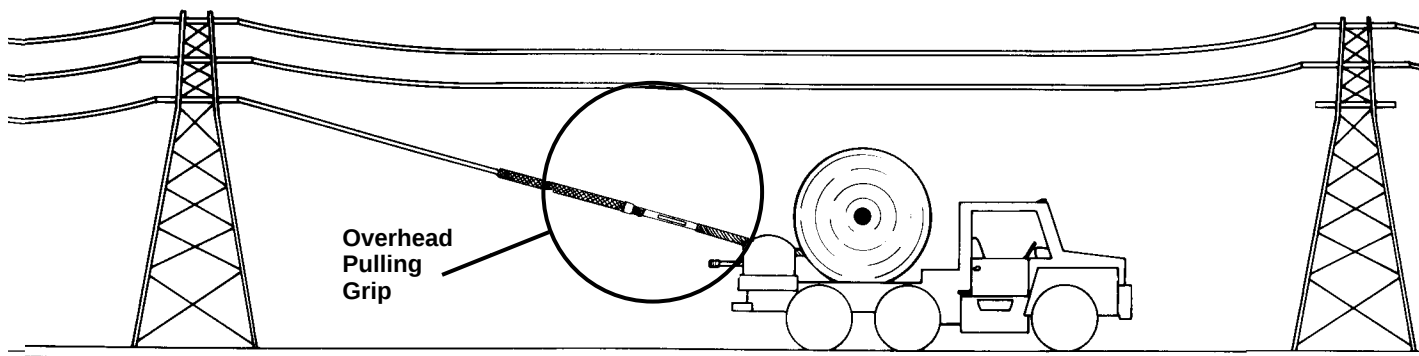
Section T

Wire Management Products

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Kellems® Pulling Grips
Overhead, Underground, Commercial Construction, Specialty



Kellems® Pulling Grips Overhead, Underground, Commercial Construction, Special

Flexible or rotating eyes will mate easily with line stringing swivels and links for attachment to pulling lines. They have great strength for trouble free pulling jobs.

Shoulder protectors contain the cable inside the grip and smooth the passage of the grip over line stringing blocks or conduit bends. They protect the leading edge of the grip from abrasion.

The galvanized steel mesh grip provides strength for secure pulling jobs and a slim profile with little build-up. It has flexibility to follow cable path.

The multiweave styles available add strength for big pulling jobs and provide positive gripping power.

Endless weave allows easy installation onto cable. It has a snag-free low profile. Reusable tool.



Pulling Grips

Overhead Pulling

Flexible Eye, Double Weave Mesh, Galvanized Steel

DUA-PULL® Grips

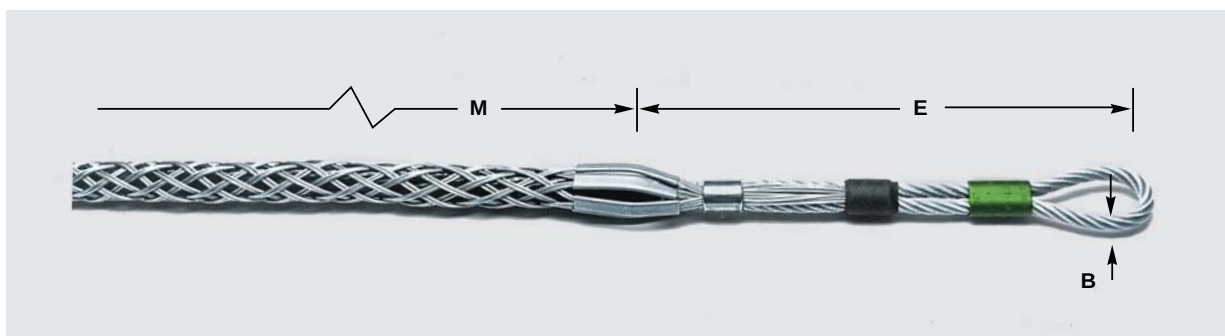


Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-17 through T-27.

DUA-PULL Grips

DUA-PULL Pulling Grips are the highest strength pulling grips manufactured for overhead transmission line stringing applications. They have a dual function, not provided by any other grip, of working with both bare and insulated conductors and synthetic rope.



DUA-PULL Grips

Conductor Diameter Inches (cm)	Diameter Range Rope* Diameter Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Eye B Diameter Inches (cm)	Diameter Over Cable & Grip** Inches (cm)	Color Code	Catalog Numbers
.19"-.37" (.48-.94)	.25"-.65" (.63-1.65)	6,500 (28,912)	10" (25.40)	24" (60.96)	.22" (.55)	.20" (.51)	Black	033271037
.38"-.62" (.97-1.57)	.50"-.90" (1.27-2.29)	14,000 (62,227)	12" (30.48)	36" (91.44)	.375" (.95)	.280" (.71)	Dark Green	033271038
.63"-.87" (1.60-2.21)	.75"-.110" (1.90-2.79)	20,000 (88,960)	13" (33.02)	48" (121.92)	.437" (1.11)	.360" (.91)	Red	033271039
.88"-.112" (2.24-2.84)	1.00"-.150" (2.54-3.81)	30,600 (136,109)	15" (38.10)	60" (152.40)	.500" (1.27)	.500" (1.27)	Dark Blue	033271040
1.13"-.137" (2.87-3.48)	1.25"-.170" (3.17-4.32)	46,800 (208,166)	18" (45.72)	76" (193.04)	.625" (1.59)	.625" (1.59)	Yellow	033271041
1.38"-.190" (3.51-4.38)	1.50"-.210" (3.81-5.33)	66,500 (245,792)	24" (60.96)	89" (226.06)	.750" (1.90)	.750" (1.90)	Aluminum	033271042

E- Eye length M-Mesh length at nominal diameter

*For rope, select smallest size grip which meets required work load.

**Add to cable or rope diameter.



DUA-PULL Feed Tube



For Use With DUA- PULL Grip	Rope Diameter Inches (cm)	Feed Tube Length Inches (cm)	Catalog Numbers
033271037	.25"-.65" (.63-1.65)	28" (71.12)	091061043
033271038	.50"-.90" (1.27-2.29)	40" (101.60)	091061044
033271039	.75"-.110" (1.90-2.79)	52" (132.08)	091061045
033271040	1.00"-.150" (2.54-3.81)	67" (170.18)	091061046
033271041	1.25"-.170" (3.17-4.32)	83" (210.82)	091061047
033271042	1.50"-.210" (3.81-5.33)	96" (243.84)	091061048

Pulling Grips

Overhead Pulling

Flexible or Rotating Eye, Triple, Double, Single Weave, Galvanized Steel

Multiple Strength Grips

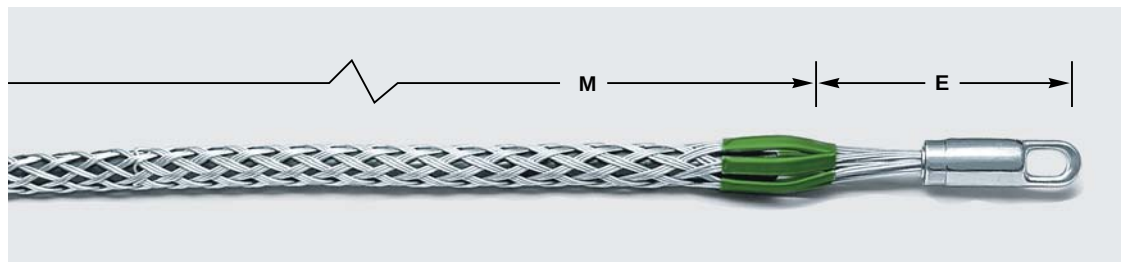


Multiple Strength Style Grips

Multiple Strength Pulling Grips are designed for pulling ACSR, aluminum or copper bare conductor, ground wires, messenger strands, wire rope and insulated cables.

Read This Data

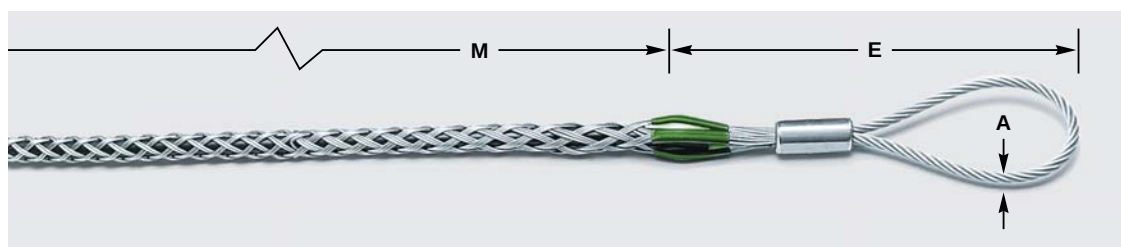
It is important that you read all breaking strength, safety and technical data relating to this product on pages T-17 through T-27.



Multiple Strength Grip-Rotating Eye

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Rotating Eye Diameter Inches (cm)	Color Code	Catalog Numbers
.25"-.49" (.63-1.24)	6,800 (20,567)	5" (12.70)	26" (66.04)	7/8" (2.22)	Dark Green	03302016
.50"-.74" (1.27-1.88)	10,000 (44,480)	6" (15.24)	32" (81.28)	1" (2.54)	Brown	03302018
.75"-.99" (1.90-2.51)	14,400 (64,051)	6" (15.24)	41" (104.14)	1" (2.54)	Light Blue	03302020
1.00"-1.24" (2.54-3.15)	24,600 (109,420)	8" (20.32)	52" (132.08)	1 3/8" (3.49)	Gold	03302022
1.25"-1.49" (3.17-3.78)	30,600 (136,109)	8" (20.32)	56" (142.24)	1 5/8" (4.13)	Black	03302024
1.50"-1.74" (3.81-4.42)	30,600 (136,109)	9" (22.86)	60" (152.40)	1 7/8" (4.76)	Red	03302026
1.75"-2.24" (4.44-5.69)	48,000 (213,504)	10" (25.40)	70" (177.80)	1 7/8" (4.76)	Dark Blue	03302028
2.00"-2.49" (5.08-6.32)	48,000 (213,504)	10" (25.40)	50" (127.00)	1 7/8" (4.76)	Yellow	03302066
2.50"-2.99" (6.35-7.59)	48,000 (213,504)	10" (25.40)	52" (132.08)	1 7/8" (4.76)	Orange	03302097
3.00"-3.49" (7.62-8.86)	48,000 (213,504)	10" (25.40)	54" (137.16)	1 7/8" (4.76)	Aluminum	033021030
3.50"-3.99" (8.89-10.13)	48,000 (213,504)	10" (25.40)	58" (142.24)	1 7/8" (4.76)	Light Green	033021031

E-Eye length M-Mesh length at nominal diameter



Multiple Strength Grip-Flexible Eye

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	A-Eye Diameter Inches (cm)	Color Code	Catalog Numbers
.25"-.49" (.63-1.24)	6,800 (20,567)	9" (22.86)	26" (66.04)	1/4" (.63)	Dark Green	03302044
.50"-.74" (1.27-1.88)	10,000 (44,480)	9" (22.86)	32" (81.28)	5/16" (.79)	Brown	03302046
.75"-.99" (1.90-2.51)	14,400 (64,051)	11" (27.94)	41" (104.14)	3/8" (.95)	Light Blue	03302048
1.00"-1.24" (2.54-3.15)	24,600 (109,420)	12" (30.48)	52" (132.08)	1/2" (1.27)	Gold	03302050
1.25"-1.49" (3.17-3.78)	30,600 (136,109)	12" (30.48)	56" (142.24)	1/2" (1.27)	Black	03302052
1.50"-1.74" (3.81-4.42)	30,600 (136,109)	12" (30.48)	60" (152.40)	1/2" (1.27)	Red	03302054
1.75"-2.24" (4.44-5.69)	48,000 (215,504)	18" (45.72)	70" (177.80)	5/8" (1.59)	Dark Blue	03302056
2.00"-2.49" (5.08-6.32)	48,000 (215,504)	18" (45.72)	50" (127.00)	5/8" (1.59)	Yellow	033021078
2.50"-2.99" (6.35-7.59)	48,000 (215,504)	18" (45.72)	52" (132.08)	5/8" (1.59)	Orange	033021079
3.00"-3.49" (7.62-8.86)	48,000 (215,504)	18" (45.72)	54" (137.16)	5/8" (1.59)	Aluminum	033021080
3.50"-3.99" (8.89-10.13)	48,000 (215,504)	18" (45.72)	58" (142.24)	5/8" (1.59)	Light Green	033021081

E-Eye length M-Mesh length at nominal diameter

Pulling Grips

Underground Pulling

Rotating Eye, Double Weave, Galvanized Steel

K-Type Grips

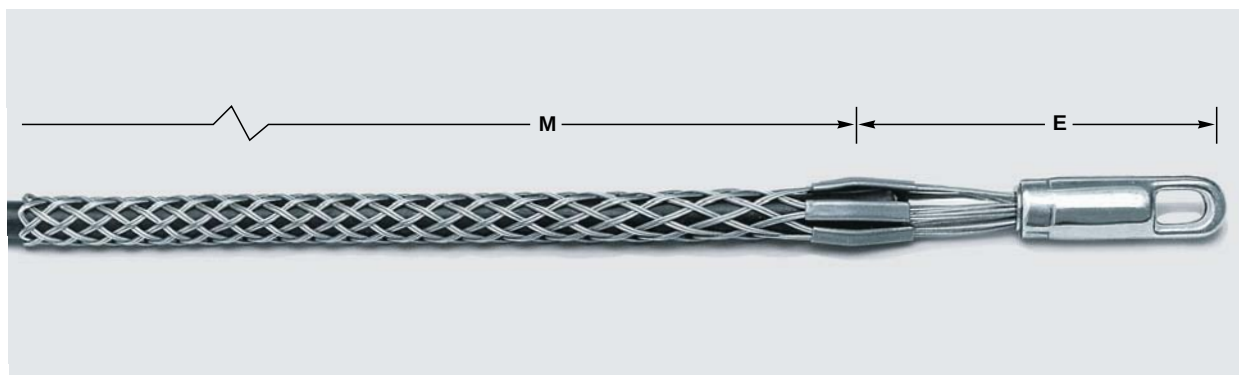


Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-17 through T-27.

K-Type Grips

Kellems® Rotating Eye, K-Type Pulling Grips are made of high strength galvanized steel strand. All Grips feature double weave mesh for greater strength and added mesh contact on the cable, to handle longer or heavier pulling jobs. The forged eye mates easily with a swivel or shackle.



K-Type Grips

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Rotating Eye Diameter Inches (cm)	Catalog Numbers
Short					
.50"-1.61" (.27-1.55)	5,600 (24,909)	5" (12.70)	11" (27.94)	$\frac{7}{8}$ " (2.22)	03301001
.62"-1.74" (1.57-1.88)	6,800 (30,246)	5" (12.70)	11" (27.94)	$\frac{7}{8}$ " (2.22)	03301002
.75"-1.99" (1.90-2.51)	6,800 (30,246)	6" (15.24)	20" (50.80)	1" (2.54)	03301013
1.00"-1.24" (2.54-3.15)	12,800 (56,934)	7" (17.78)	20" (50.80)	$1\frac{3}{8}$ " (3.94)	03301014
1.25"-1.49" (3.17-3.78)	12,800 (56,934)	7" (17.78)	21" (53.34)	$1\frac{3}{8}$ " (3.94)	03301016
1.50"-1.99" (3.81-5.05)	16,400 (72,941)	7" (17.78)	25" (63.50)	$1\frac{3}{8}$ " (3.94)	03301017
2.00"-2.49" (5.08-6.32)	27,200 (120,986)	8" (20.32)	26" (66.04)	$1\frac{5}{8}$ " (4.13)	03301018
2.50"-2.99" (6.35-7.59)	33,000 (146,784)	10" (25.40)	28" (71.12)	$1\frac{7}{8}$ " (4.76)	03301019
3.00"-3.49" (7.62-8.86)	41,000 (182,368)	10" (25.40)	30" (76.20)	$1\frac{7}{8}$ " (4.76)	03301020
3.50"-3.99" (8.89-10.13)	48,000 (213,504)	10" (25.40)	32" (81.28)	$1\frac{7}{8}$ " (4.76)	03301021
4.00"-4.49" (10.16-11.40)	48,000 (213,504)	10" (25.40)	33" (83.82)	$1\frac{7}{8}$ " (4.76)	033011017

Standard

.50"-1.61" (.27-1.55)	5,600 (24,909)	5" (12.70)	16" (40.64)	$\frac{7}{8}$ " (2.22)	03301011
.62"-1.74" (1.57-1.88)	6,800 (30,246)	5" (12.70)	16" (40.64)	$\frac{7}{8}$ " (2.22)	03301012
.75"-1.99" (1.90-2.51)	9,600 (42,700)	6" (15.24)	32" (81.28)	1" (2.54)	03301024
1.00"-1.49" (2.54-3.78)	16,400 (72,947)	7" (17.78)	33" (83.82)	$1\frac{3}{8}$ " (3.49)	03301025
1.50"-1.99" (3.81-5.05)	16,400 (72,947)	7" (17.78)	34" (86.36)	$1\frac{3}{8}$ " (3.49)	03301026
2.00"-2.49" (5.08-6.32)	27,200 (120,986)	9" (22.86)	36" (91.44)	$1\frac{5}{8}$ " (4.13)	03301027
2.50"-2.99" (6.35-7.59)	33,000 (146,784)	10" (25.40)	38" (96.52)	$1\frac{7}{8}$ " (4.76)	03301028
3.00"-3.49" (7.62-8.86)	41,000 (182,368)	10" (25.40)	39" (99.06)	$1\frac{7}{8}$ " (4.76)	03301029
3.50"-3.99" (8.89-10.13)	48,000 (213,504)	10" (25.40)	41" (104.14)	$1\frac{7}{8}$ " (4.76)	03301030
4.00"-4.49" (10.16-11.40)	48,000 (213,504)	10" (25.40)	42" (106.68)	$1\frac{7}{8}$ " (4.76)	03301031
4.50"-4.99" (11.43-12.67)	48,000 (213,504)	10" (25.40)	58" (147.32)	$1\frac{7}{8}$ " (4.76)	03301039
5.00"-5.99" (12.70-15.21)	48,000 (213,504)	10" (25.40)	60" (152.40)	$1\frac{7}{8}$ " (4.76)	03301047
6.00"-6.99" (15.24-17.75)	48,000 (213,504)	10" (25.40)	66" (167.64)	$1\frac{7}{8}$ " (4.76)	03301045

E-Eye length M-Mesh length at nominal diameter

Note: Refer to page T-26 for multiple cables in a single pulling grip.

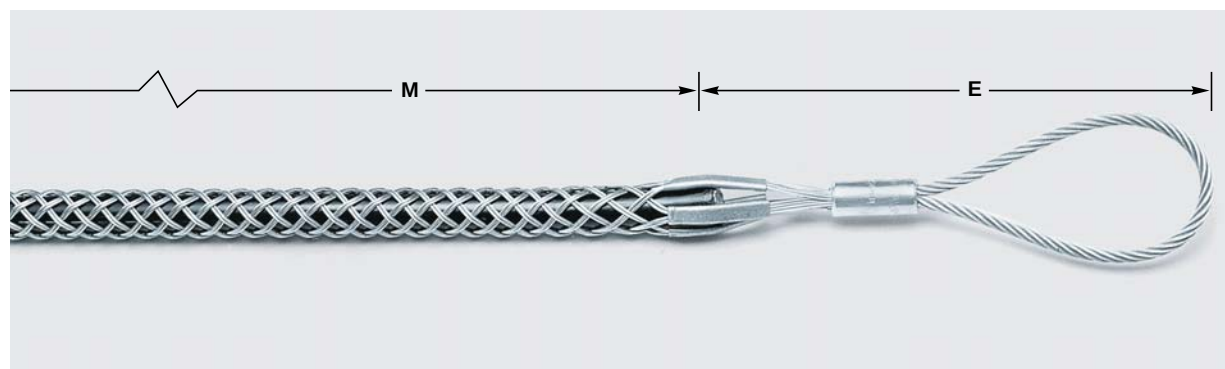
Pulling Grips

Underground Pulling*Flexible Eye, Double Weave, Galvanized Steel***T-Type Grips****T-Type Grips**

Kellems® Flexible T-Type Pulling Grips are made of high strength galvanized steel strand. They feature double weave mesh for positive holding power in medium to heavy pulling jobs. The grip eye will easily attach to a swivel.

Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-17 through T-27.

**T-Type Grips**

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
Short				
.50"- .61" (1.27-1.55)	4,500 (20,016)	8" (20.32)	21" (53.34)	033041082
.62"- .74" (1.57-1.88)	5,600 (24,909)	8" (20.32)	24" (60.96)	033041083
.75"- .99" (1.90-2.51)	6,800 (30,246)	9" (22.86)	24" (60.96)	033041084
1.00"-1.49" (2.54-3.78)	9,600 (42,701)	9" (22.86)	24" (60.96)	033041085
1.50"-1.99" (3.81-5.05)	16,400 (72,947)	11" (27.94)	24" (60.96)	033041086
2.00"-2.49" (5.08-6.32)	18,500 (82,288)	12" (30.48)	24" (60.96)	033041087
2.50"-2.99" (6.35-7.59)	24,500 (108,976)	12" (30.48)	24" (60.96)	033041088
3.00"-3.49" (7.62-8.86)	24,500 (108,976)	14" (35.56)	24" (60.96)	033041089
3.50"-3.99" (8.89-10.13)	31,000 (137,888)	14" (35.56)	26" (66.04)	033041090
Standard				
.75"- .99" (1.90-2.51)	6,800 (30,246)	9" (22.86)	36" (91.44)	033041091
1.00"-1.49" (2.54-3.78)	9,600 (42,701)	9" (22.86)	36" (91.44)	033041092
1.50"-1.99" (3.81-5.05)	16,400 (72,947)	11" (27.94)	36" (91.44)	033041093
2.00"-2.49" (5.08-6.32)	18,500 (82,788)	12" (30.48)	36" (91.44)	033041094
2.50"-2.99" (6.35-7.59)	24,500 (108,976)	12" (30.48)	36" (91.44)	033041095
3.00"-3.49" (7.62-8.86)	24,500 (108,976)	14" (35.56)	36" (91.44)	033041096
3.50"-3.99" (8.89-10.13)	31,000 (137,888)	14" (35.56)	40" (101.60)	033041097

E-Eye length M-Mesh length at nominal diameter

Note: Refer to page T-26 for multiple cables in a single pulling grip.

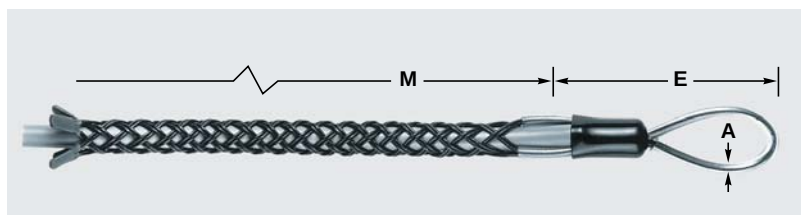
Pulling Grips Special Purpose



Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-17 through T-27.

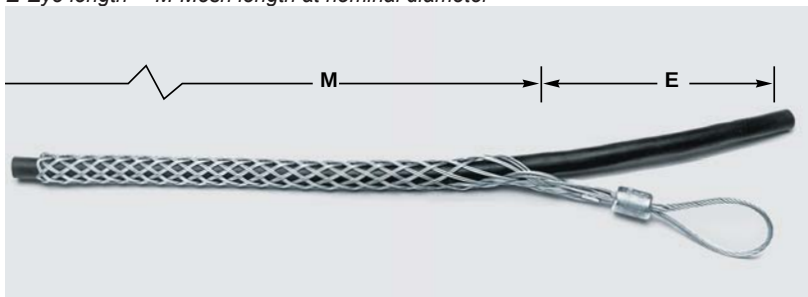
Kellems® Non-Conductive Pulling Grips, made of a high strength, non-conductive aramid fiber, are available for pulling single cable or cable bundles. Their braided double weave design adds strength and positive holding power.



Non-Conductive Grips, Single Eye, Double Weave, Non-Metallic

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	A Inches (cm)	Color Code	Catalog Numbers
.50"-.62" (1.27-1.57)	4,000 (17,782)	5.5" (13.97)	24" (60.96)	.44" (1.12)	Green	03628001
.63"-.74" (1.60-1.88)	5,000 (22,240)	5.5" (13.97)	26" (66.04)	.44" (1.12)	Yellow	03628002
.75"-.99" (1.90-2.51)	6,000 (26,688)	6.0" (15.24)	31" (78.74)	.63" (1.60)	Red	03628003
1.00"-1.24" (2.54-3.15)	6,000 (26,688)	6.5" (16.51)	36" (91.44)	.63" (1.60)	Blue	03628004
1.25"-1.49" (3.17-3.78)	6,000 (26,688)	6.7" (17.02)	41.5" (105.41)	.63" (1.60)	White	03628005

E-Eye length M-Mesh length at nominal diameter



Slack Pulling Grips are offered in three styles made of galvanized steel. The closed type is used when the cable end is accessible. When not, there are split lace and split rod closing styles. All grips feature a single offset eye for easy attachment to a pulling line.

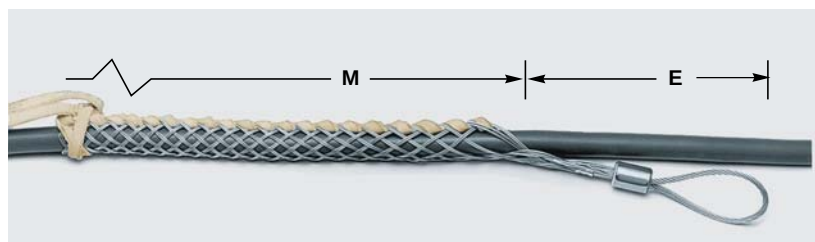
Slack Grip-Closed Mesh, Single Eye, Double Weave, Galvanized Steel

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
Standard				
.75"-.99" (1.90-2.51)	2,600 (11,565)	7" (17.78)	12" (30.48)	03308003
1.00"-1.24" (2.54-3.15)	4,000 (17,792)	8" (20.32)	15" (38.10)	03308004
1.25"-1.49" (3.17-3.78)	5,400 (24,109)	8" (20.32)	16" (40.46)	03308005
1.50"-1.74" (3.81-4.42)	6,600 (29,357)	8" (20.32)	20" (43.18)	03308006
1.75"-1.99" (4.44-5.05)	10,000 (44,480)	10" (25.40)	18" (45.72)	03308007
2.00"-2.49" (5.08-6.32)	11,000 (48,928)	10" (25.40)	19" (48.26)	03308008
2.50"-2.99" (6.35-7.59)	11,000 (48,928)	10" (25.40)	20" (50.80)	03308009
3.00"-3.49" (7.62-8.86)	14,500 (64,496)	12" (30.48)	21" (53.34)	03308010
3.50"-3.99" (8.89-10.13)	14,500 (64,496)	12" (30.48)	22" (55.88)	03308011

E-Eye length M-Mesh length at nominal diameter

Note: Refer to page T-26 for multiple cables in a single pulling grip.

Pulling Grips Special Purpose



Read This Data

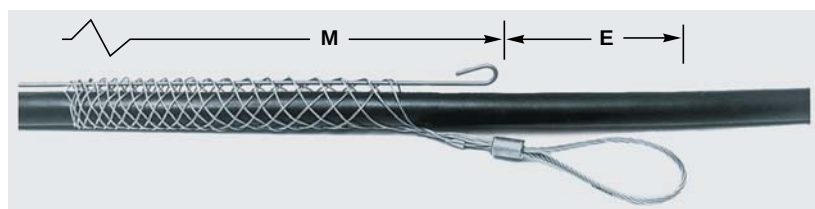
It is important that you read all breaking strength, safety and technical data relating to this product on pages T-17 through T-27.

Slack Grip-Split Mesh, Rawhide Lace Closing, Single Eye, Double Weave, Galvanized Steel

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
Standard				
.75"-1.99" (1.90-2.51)	2,500 (11,120)	7" (17.78)	12" (30.48)	03309003
1.00"-1.24" (2.54-3.15)	3,500 (15,568)	8" (20.32)	15" (38.10)	03309004
1.25"-1.49" (3.17-3.78)	4,000 (17,792)	8" (20.32)	16" (40.64)	03309005
1.50"-1.74" (3.81-4.42)	4,000 (17,792)	9" (22.86)	17" (43.18)	03309006
1.75"-1.99" (4.44-5.05)	4,000 (17,792)	10" (25.40)	18" (45.72)	03309007
2.00"-2.49" (5.08-6.32)	4,000 (17,792)	10" (25.40)	19" (48.26)	03309008
2.50"-2.99" (6.35-7.59)	4,000 (17,792)	10" (25.40)	20" (50.80)	03309009

Long

1.50"-1.99" (3.81-5.05)	4,000 (17,792)	9" (22.86)	25" (63.50)	03309015
2.00"-2.49" (5.08-6.32)	4,000 (17,792)	10" (25.40)	26" (66.04)	03309016
2.50"-2.99" (6.35-7.59)	4,000 (17,792)	10" (25.40)	29" (73.66)	03309017
3.00"-3.49" (7.62-8.86)	4,000 (17,792)	12" (30.48)	32" (81.28)	03309018
3.50"-3.99" (8.89-10.13)	4,000 (17,792)	12" (30.48)	35" (88.90)	03309019



Slack Grip-Split Mesh, Rod Closing, Single Eye, Single Weave, Galvanized Steel

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.50"-1.24" (1.27-3.15)	1,500 (6,672)	7" (17.78)	6" (15.24)	03310001
.62"-1.24" (1.57-3.15)	1,800 (8,006)	7" (17.78)	8" (20.32)	03310002
.75"-1.24" (1.90-3.15)	2,200 (9,786)	7" (17.78)	10" (25.40)	03310003
1.00"-1.24" (2.54-3.15)	3,400 (15,123)	8" (20.32)	12" (30.48)	03310004
1.25"-1.49" (3.17-3.78)	4,500 (20,016)	8" (20.32)	14" (35.56)	03310005
1.50"-1.74" (3.81-4.42)	5,800 (25,798)	9" (22.86)	15" (38.10)	03310006
1.75"-1.99" (4.44-5.05)	7,600 (33,805)	10" (25.40)	16" (40.64)	03310007
2.00"-2.49" (5.08-6.32)	9,000 (40,032)	10" (25.40)	19" (48.26)	03310008
2.50"-2.99" (6.35-7.59)	11,000 (48,928)	10" (25.40)	20" (50.80)	03310009
3.00"-3.49" (7.62-8.86)	12,000 (53,376)	12" (30.48)	21" (53.34)	03310010
3.50"-3.99" (8.89-10.13)	12,000 (53,376)	12" (30.48)	24" (60.96)	03310011

E-Eye length M-Mesh length at nominal diameter

Note: Refer to page T-26 for multiple cables in a single pulling grip.

Pulling Grips Low Tension

Flexible Eye, Single Weave, Galvanized Steel



Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-17 through T-27.

Light Duty Pulling Grips are made of galvanized steel in a single weave construction. They feature a flexible eye for easy attachment to a pulling line.

Junior Pulling Grips feature a strong galvanized steel, single weave mesh. A flexible eye easily attaches to a pulling line, snake or fish tape.

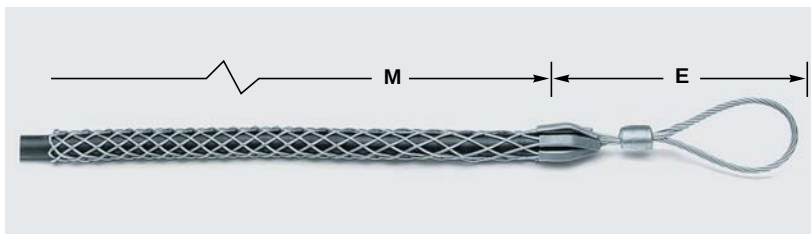
Junior Grip Kit

Junior Grip Kit contains 6 grips, one of each size. Catalog number **033051114**.



Note: Refer to page T-27 for building wire selection chart.

Note: Refer to page T-26 for multiple cables in a single pulling grip.

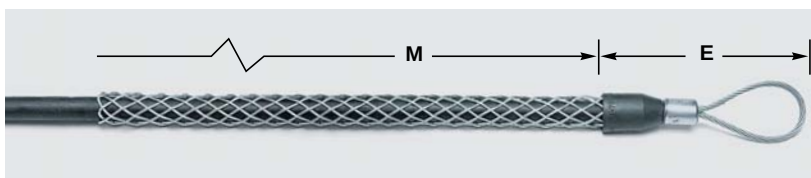


Light Duty Grips

Cable Diameter Range Inches (cm.)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
Short				
.50"- .61" (1.27-1.55)	2,800 (12,454)	5" (12.70)	11" (27.94)	03303001
.62"- .74" (1.57-1.88)	2,800 (12,454)	5" (12.70)	11" (27.94)	03303002
.75"- .99" (1.90-2.51)	4,000 (17,792)	6" (15.24)	12" (30.48)	03303003
1.00"-1.24" (2.54-3.15)	5,300 (23,574)	7" (17.78)	13" (33.02)	03303004
1.25"-1.49" (3.17-3.78)	5,300 (23,574)	7" (17.78)	14" (35.56)	03303005
1.50"-1.74" (3.81-4.42)	6,800 (30,246)	8" (20.32)	15" (38.10)	03303006
1.75"-1.99" (4.44-5.05)	8,500 (37,808)	9" (22.86)	17" (43.18)	03303007
2.00"-2.49" (5.08-6.32)	8,500 (37,808)	9" (22.86)	18" (45.72)	03303008

Standard

.50"- .61" (1.27-1.55)	2,800 (12,454)	5" (12.70)	16" (40.64)	03303010
.62"- .74" (1.57-1.88)	2,800 (12,454)	5" (12.70)	16" (40.64)	03303011
.75"- .99" (1.90-2.51)	4,000 (17,792)	6" (15.24)	20" (50.80)	03303012
1.00"-1.24" (2.54-3.15)	6,800 (30,246)	7" (17.78)	20" (50.80)	03303013
1.25"-1.49" (3.17-3.78)	6,800 (30,246)	7" (17.78)	21" (53.34)	03303015
1.50"-1.99" (3.81-5.05)	6,800 (30,246)	8" (20.32)	23" (58.42)	03303016
2.00"-2.49" (5.08-6.32)	8,500 (37,808)	9" (22.86)	25" (63.50)	03303017
2.50"-2.99" (6.35-7.59)	10,600 (47,149)	9" (22.86)	27" (68.58)	03303018
3.00"-3.49" (7.62-8.86)	14,700 (65,386)	10" (25.40)	30" (76.20)	03303019
3.50"-3.99" (8.89-10.13)	14,700 (65,386)	10" (25.40)	32" (81.28)	03303029



Junior Pulling Grips

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Model	Catalog Numbers
.19"- .24" (.48-.61)	400 (1,779)	3 1/4" (8.25)	4 1/4" (10.79)	J19	03305011*
.25"- .36" (.63-.91)	450 (2,002)	3 1/4" (8.25)	4 1/4" (10.79)	J25	03305001
.37"- .49" (.94-1.24)	900 (4,003)	3 3/4" (9.52)	7" (17.78)	J37	03305002
.50"- .61" (1.27-1.55)	1,300 (5,782)	4 1/4" (10.79)	8 1/2" (21.59)	J50	03305003
.62"- .74" (1.57-1.88)	1,950 (8,674)	5" (12.70)	10" (25.40)	J62	03305004
.75"- .99" (1.90-2.51)	2,800 (12,454)	5 3/4" (14.60)	10" (25.40)	J75	03305005
1.00"-1.24" (2.54-3.15)	3,900 (17,347)	6 1/2" (16.51)	11 1/2" (29.21)	J100	03305006

E-Eye length M-Mesh length at nominal diameter.

*Not included in Junior Grip Kit, 033051114.

Splicing Grips

Wire Rope Splicing

Triple, Double, Single Weave, Galvanized Steel



Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-17 through T-27.

Regular Wire Rope Grips

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	Approx. Length Of Grip Feet (m)	Catalog Numbers
$\frac{9}{16}$ " - $\frac{5}{8}$ " (1.43-1.59)	7,500 (33,360)	5.75 (1.75)	03316001
$\frac{3}{4}$ " - $\frac{7}{8}$ " (1.90-2.22)	12,500 (55,600)	6.75 (1.90)	03316002
1" - $1\frac{1}{8}$ " (2.54-2.86)	16,000 (71,168)	7.00 (2.13)	03316003
$1\frac{1}{4}$ " - $1\frac{3}{8}$ " (3.17-3.49)	20,000 (88,960)	8.00 (2.44)	03316004
$1\frac{3}{8}$ " - $1\frac{1}{2}$ " (3.49-3.81)	20,000 (88,960)	8.00 (2.44)	03316006

Kellems® Wire Rope Grips are made of high strength galvanized steel strand in a construction of triple, double and single weave for superior gripping ability. They are available with or without a rotating barrel which will help eliminate twist in the old rope from being transferred to the new rope.



Rotating Wire Rope Grips

Cable Diameter Range (cm)	Approx. Breaking Strength Lbs. (N)	Approx. Length Of Grip Feet (m)	Barrel Dimensions Lgth. x O.D. Inches (cm)	Catalog Numbers
$\frac{7}{16}$ " - $\frac{1}{2}$ " (1.11-1.27)	5,000 (22,240)	5.33 (1.63)	3.00" (7.62) x .87" (2.21)	03317001
$\frac{9}{16}$ " - $\frac{5}{8}$ " (1.43-1.59)	7,500 (33,360)	5.83 (1.78)	4.25" (10.79) x 1.00" (2.54)	03317002
$\frac{3}{4}$ " - $\frac{7}{8}$ " (1.90-2.22)	12,500 (55,600)	6.50 (1.98)	4.25" (10.79) x 1.00" (2.54)	03317003
1" - $1\frac{1}{8}$ " (2.54-2.86)	16,000 (71,169)	8.67 (2.64)	5.50" (13.97) x 1.37" (3.48)	03317004
$1\frac{1}{4}$ " - $1\frac{3}{8}$ " (3.17-3.49)	20,000 (88,960)	9.00 (2.74)	5.50" (13.97) x 1.37" (3.48)	03317005
$1\frac{1}{2}$ " - $1\frac{3}{4}$ " (3.81-4.44)	20,000 (88,960)	11.00 (3.35)	5.50" (13.97) x 1.37" (3.48)	03317006

Splicing Grips Cable Splicing

Double Weave, Galvanized Steel / Single Weave, Galvanized Steel

Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-17 through T-27.

Splicing Grip

Splicing Grips are made of galvanized steel in double weave mesh construction. They are available in various lengths and sizes to suit most applications.



Double Weave Tube

Cable Diameter Range Inches (cm)	.37"-.49" (.94-1.24)	.50"-.61" (1.27-1.55)	.62"-.74" (1.57-1.88)	.75"-.99" (1.90-2.51)	1.00"-1.49" (2.54-3.78)
Approx. Breaking Strength Lbs. (N)	3,500 (15,568)	3,500 (15,568)	4,400 (19,571)	7,500 (33,360)	10,000 (44,480)
Mesh Length Inches (cm)	Catalog Numbers				
18" (45.72)	013041330	01304064	01304009	•	•
24" (60.96)	•	01304011	01304013	01304010	01304015
36" (91.44)	•	•	013041234	01304054	01304055
48" (121.92)	•	•	•	01304017	01304029
72" (182.88)	•	•	•	01304037	013041333

Junior Splicing Grips, Single Weave

Junior Splicing Grips are made of galvanized steel and are designed for use in very light duty and small splicing jobs.



Junior Tube

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	Length @ Nom Diameter Inches (cm)	Catalog Numbers
.18"-.24" (.49-.61)	400 (1,779)	7" (17.78)	01301008
.25"-.36" (.63-.91)	400 (1,779)	8" (20.32)	01301013

Accessories
Tools and Bands

Punch-Lok® Bands

Punch-Lok Bands are applied over the tail of a grip to prevent the mesh from being tripped or pulled loose. Also, they assure full gripping action by locking the mesh of the tail in tight contact with the cable or rope.



Punch-Lok Bands

Grip Banding Range Inches (cm)	Band Width Inches (cm)	Band Inside Diameter Inches (cm)	Model	Catalog Numbers
1/4"-1 1/8" (.63-2.86)	3/8" (.95)	1 3/8" (3.49)	0-311	20320050
1 1/8"-1 5/8" (2.86-4.13)	3/8" (.95)	2" (5.08)	0-316	20320051
1 5/8"-2 1/4" (4.13-5.71)	5/8" (1.59)	2 1/2" (6.35)	0-10	20320052
2 1/4"-3 1/2" (5.71-8.89)	5/8" (1.59)	4" (10.16)	0-16	20320053
3 1/2"-5" (8.89-12.70)	5/8" (1.59)	6" (15.24)	0-24	20320054

Accessories

Punch-Lok Tools

Description	Catalog Numbers
P-1 Heavy Duty.	20320048
P-38 Light Duty.	20320047

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Accessories

Swivels and Links

Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-17 through T-27.

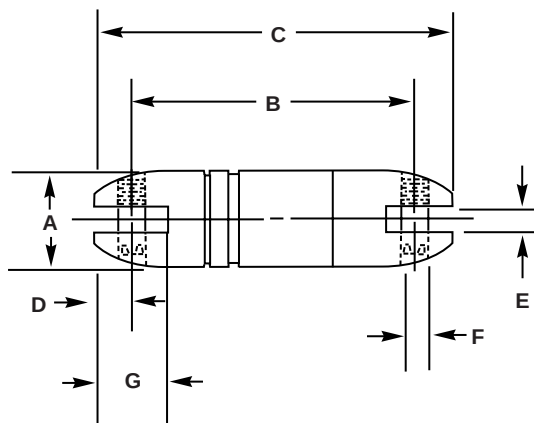
Swivels

Swivels are essential to the efficiency and safety of any high tension application. They are particularly important where continuous pulls develop higher and higher torque levels. Torque is intensified by the pull-resistance of the cable itself and the resistance of the high tension controlling equipment regulating line sag.

Ball bearing swivels release torque and prevent it from reaching dangerous levels that can damage the cable and obstruct the lines as it passes through sheaves, wheels or blocks.



20308001



Swivels

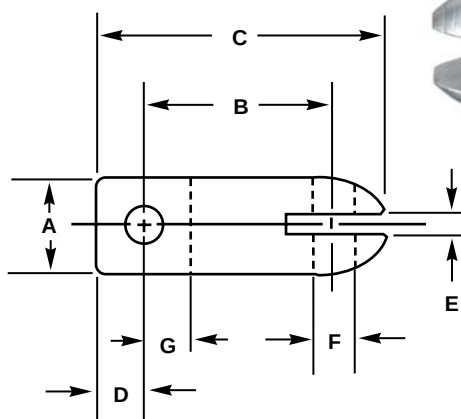
Approx. Breaking Strength Lbs. (N)	A	B	Dimensions in Inches (cm)					Catalog Model	Numbers
5,400 (24,019)	7/8" (2.22)	2 11/32" (5.95)	3 3/32" (7.86)	3/8" (.95)	5/16" (.79)	5/16" (.79)	15/32" (1.19)	A-13L	20308001
12,000 (53,376)	1 1/4" (3.17)	3 21/32" (9.29)	4 11/32" (9.29)	7/16" (1.11)	19/32" (1.51)	3/8" (.95)	11/16" (1.75)	BB-13L	20308002
22,500 (100,080)	1 7/16" (3.65)	4" (10.16)	5 1/8" (13.02)	9/16" (1.43)	19/32" (1.51)	7/16" (1.11)	13/16" (2.06)	B-13L	20308003
30,000 (133,440)	1 7/8" (4.76)	5 7/16" (13.81)	7 1/16" (17.94)	13/16" (2.06)	3/4" (1.90)	5/8" (1.59)	15/16" (2.38)	C-13L	20308004
48,000 (213,504)	2 7/16" (6.19)	7 7/8" (20.00)	10 3/16" (25.88)	1 1/8" (2.86)	1" (2.54)	7/8" (2.22)	1 9/16" (3.97)	D-13L	20308005

Links

The bullet nose Link, with clevises at 90°, provides a fast, economical method of connecting pulling lines.

The result is a reliable pulling line connector with adequate load ratings for the tensions employed in line stringing.

Because of its shorter length, the Link contoured bullet nose connector is able to pass through stringing sheaves smoothly and easily without damage.



093011037

Links

Approx. Breaking Strength Lbs. (N)	A	B	Dimensions in Inches (cm)					Catalog Model	Numbers
5,400 (24,019)	7/8" (2.22)	1 5/16" (3.33)	2 1/16" (3.33)	3/8" (.95)	5/16" (.79)	5/16" (.79)	15/32" (1.19)	PL-1/4	093011037
12,000 (53,376)	1 1/4" (3.17)	1 3/4" (4.44)	2 5/8" (6.67)	7/16" (1.11)	19/32" (1.51)	3/8" (.95)	11/16" (1.75)	PL-3/8	093011038

Kellems® Pulling Grips Technical Section

Kellems Pulling Grips are reusable tools for pulling electrical cable, bare conductor or rope. They are easy and fast to install, providing the user with a smooth, slim profile that allows for easy passage through ducts, conduit, blocks and sheaves. Kellems Pulling Grips are made of the highest quality galvanized steel strand which assures the user of a long lasting grip. There is a Kellems Pulling Grip for every pulling job.

Select The Correct Pulling Grip

Each Kellems Grip is designed to work on a specific range of cable diameters.

Step 1	Refer to the chart below to determine the style of grip best suited for your application.
Step 2	Determine your cable outside diameter.
Step 3	Find the grip size that encompasses your cable diameter.
Step 4	Estimate the tension to be put on the grip, establish the working load you require and compare this to the listed approximate breaking strength of the grip to insure that the grip will be strong enough. Refer to page T-18 for safety and working load factors.

Pulling Grip Selection Chart

Grip Style	Application	Page Numbers
DUA-PULL®, flexible eye	Extra high strength overhead transmission line stringing for bare or insulated conductor and synthetic rope.	T-6
Multiple strength, flexible eye	Normal overhead transmission and distribution line stringing, for bare or insulated conductor.	T-7
Multiple strength, forged eye	Normal overhead transmission and distribution line stringing, for bare or insulated conductor.	T-7
K-type grip, forged eye	Underground power cables and communication lines. Service lines into factories.	T-8
T-type grip, flexible eye	Underground power cables and communication lines. Service lines into factories.	T-9
Non-conductive flexible eye	Pull insulated distribution cable into place.	T-10
Universal slack, closed mesh	Remove underground cable. For pulling slack in final placement of new cable when end of cable is available.	T-10
Universal slack split mesh, rawhide lace closing	Remove underground cable. For pulling slack in final placement of new cable when end of cable is not available.	T-11
Universal slack, split mesh, rod closing	Remove underground cable. For pulling slack in final placement of new cable when end of cable is not available, with rod closing for quick installation.	T-11
Light duty, flexible eye	Light pulling, underground electrical construction. Industrial plant wiring and rewiring jobs.	T-12
Junior, flexible eye	Connect bundled insulated building wire to a pulling tape. Pull wire through conduit.	T-12
Regular and rotating wire rope	Restraining wire rope in cranes and oil rigs.	T-13
Splicing	Temporary splice for cable or wire rope.	T-14
Accessories	Tools, bands, swivels, links.	T-15, T-16
Fiber Optic Cable Pulling Grips	Pull fiber optic cable into place overhead, underground or through duct and conduit.	T-50, T-51, T-52

Kellems® Pulling Grips Technical Section

Safety And Working Load Factors For Wire Mesh Grips

The broad application of Kellems grips on a wide variety of objects requires that adequate safety factors be used to establish working loads. The approximate breaking strength of a Kellems grip represents an average calculation based on data established from actual direct tension testing done in our engineering laboratories.

It is impossible to catalog or guarantee a safety factor suitable for all applications as operating conditions are never the same. The tension, diameter, movement, number of objects gripped, gripping surface, and the attachments used are just some of the factors which vary with each application. These factors, together with the effects of abrasion, corrosion, prior use or abuse and any other variables of a specific application, must be considered by the user and the grip replaced as appropriate. Where the conditions of the

application are not well defined or known, or where risk of injury to persons or property is involved, a greater safety factor should be utilized.

Under normal conditions, Kellems' recommended factor of safety is five for catalog listed pulling grips, and ten for catalog listed support grips. The factory should be consulted for specific application recommendations where strength and holding power are important factors.

Any warranty as to quality, performance or fitness for use of grips is always premised on the condition that the published breaking strengths apply only to new, unused grips, and that such products are properly stored, handled, used, maintained and inspected by the user at a frequency appropriate for the use and condition of the grip.

Examples

Grip Style	Approx. Breaking Strength Lbs. (N)	Safety Factor	Max. Rec. Load Lbs. (N)	Catalog Numbers
Pulling Grips	27,200 (120,986)	5	5,440 (24,197)	03301027
Support Grips	1,610 (7,161)	10	161 (716)	02201018

The maximum recommended working load then is the tension to be exerted on the grip in application with a margin of safety to take care of unforeseen and unusual circumstances.

It is the end-user's decision to determine how much of a safety factor is acceptable to him.

The metric unit of measure (force) for breaking strength and load is newtons (N). To convert from newtons to the metric unit of weight (kilograms) the conversion factor is 9.808 newtons/kilogram.

Pulling Grip Materials

Material	Features	Product Group
Galvanized steel wire	High strength	Pulling Grip
	Not subject to continuous outside environment	Wire rope grips
		Splicing grips
Non-metallic strand	Superior flex life	Non-conductive pulling grips
	Non-conductive	
	Corrosion resistant	
	Moderate strength	

Approvals

CSA Certification is indicated on appropriate product catalog pages.

Kellems® Pulling Grips

Technical Section

Overhead Pulling DUA-PULL® Grips

DUA-PULL Pulling Grips are the highest strength pulling grips manufactured for overhead transmission line stringing applications. They have a dual function of working with both bare and insulated conductors and synthetic rope, not provided by any other grip.

Kellems' patented two-over, two-under weave design gives exceptional strength and gripping ability by putting more steel mesh in contact with the cable or rope surfaces.

THIS IS THE ONLY PULLING GRIP RECOMMENDED FOR USE ON SYNTHETIC ROPE.

Application

The DUA-PULL Grips are primarily used in overhead transmission line construction where loads and safety considerations require an extra high strength grip. They are most commonly used for attaching pulling lines to conductors, conductors to running boards and "double socking" for conductor-to-conductor connections. The DUA-PULL line accommodates ACSR, ACAR, all aluminum and copper conductors. Also, the grips accommodate ground wires, messenger strands, wire ropes and synthetic ropes.

Benefits

- Made of high strength galvanized steel strand.
- Recommended for pulling bare or insulated conductor, wire rope and synthetic rope.
- DUA-PULL mesh design offers the greatest holding power for all pulling applications.
- Each grip size is color coded for fast and accurate identification and selection.
- Will mate with swivels and link-type connectors. See page T-16.

Feed Tubes

The Kellems Feed Tube is used when assembling synthetic rope into the DUA-PULL Grip. It is required on the largest two sizes of DUA-PULL Grips.

Feed Tubes are available for use on all size DUA-PULL Grips.

Benefits

- Saves time, allowing fast, easy assembly.
- No special skills required.
- Completely reusable.

Notes: 1. Do not run grips or swivels over bullwheels while under tension.

2. Two Punch-Lok® bands should be firmly attached approximately one inch and two inches (2.54cm and 5.08cm) from the grip's tail. Banding is required to ensure maximum reliability and guard against accidental release. See page T-15.

3. Double braided rope, as 2-in-1 type, should be back spliced for approximately $\frac{2}{3}$ of the mesh length for best gripping results. Grip size should be selected by diameter of back splice.

Kellems® Pulling Grips

Technical Section

Overhead Pulling Multiple Strength Grips

Multiple Strength Pulling Grips are designed for pulling ACSR, aluminum or copper bare conductor, ground wires, messenger strands, wire rope and insulated cables. They are made of high strength galvanized steel strand and feature a multi-weave mesh construction of single, double and triple weave for firm holding power.

Application

Kellems Multiple Strength Grips are ideal for overhead transmission and distribution line stringing where moderate loading is anticipated. They are economical tools for attaching conductors to pulling lines and double socking for conductor-to-conductor connections.

Rotating Eye Feature

Multiple Strength Grips are available with a forged steel rotating eye which can be attached to a swivel. The forged eye is durable, compact and streamlined and will thread through blocks and sheaves without binding. The rotating eye is not a swivel and will not turn while under tension; It can turn to relieve pulling torque when tension is relaxed. If constant swivel action is required, a swivel should be used. For rotating eye dimensions, see page T-21. Swivels see page T-16.

Flexible Eye Feature

Multiple Strength Grips are also available with a flexible, patented wire rope eye. This compact eye will mate with a swivel, and pass through blocks and sheaves without binding.

Benefits

- Economical, high strength pulling tool.
- Multi-weave construction provides greater strength and holding power.
- Endless Weave Grip end lies flat on the cable and will not snag.

Notes: 1. Do not run grips or swivels over bullwheels while under tension.

- 2. Two Punch-Lok® bands should be firmly attached approximately one inch and two inches (2.54cm and 5.08cm) from the grip's tail. Banding is required to ensure maximum reliability and guard against accidental release. See page T-15.*

Kellems® Pulling Grips

Technical Section

Underground Pulling- K-Type and T-Type Grips

K-Type Application

Rotating Eye, K-Type Pulling Grips are specially designed for use in the installation of underground power cables, communication lines and service lines into factories, shopping centers, construction projects and general underground electrical construction.

Rotating Eye Feature

K-Type Grips come equipped with a forged steel rotating eye which can be attached to a swivel. The forged eye is durable, compact and streamlined, and will thread through blocks and sheaves without binding. The rotating eye is not a swivel and will not turn while under tension; it can turn to relieve pulling torque when the tension is relaxed. If constant swivel action is required, a swivel should be used. For swivels, see page T-16.

Benefits

- An economical tool for pulling cable.
- Safe, rugged and dependable.
- Equipped with a rotating eye for spin out of pulling torque after load release.
- Easily installed and removed.

Rotating Eye Dimensions

Rotating Eye Dimensions inches (cm)

	A	B	C	D	F
7/8" (2.22)	7/8" (2.22)	9/32" (2.06)	1/2" (1.27)	7/8" (2.22)	25/8" (6.67)
1" (2.54)	1" (2.54)	1/2" (1.27)	9/16" (1.43)	13/16" (2.06)	3 1/2" (8.89)
1 3/8" (3.49)	1 3/8" (3.49)	1/2" (1.27)	1 11/16" (1.75)	1" (2.54)	4 1/2" (11.43)
1 5/8" (4.13)	1 5/8" (4.13)	5/8" (1.59)	7/8" (2.22)	13/16" (3.02)	5 5/16" (13.49)
1 7/8" (4.76)	1 7/8" (4.76)	21/32" (1.67)	1" (2.54)	13/8" (3.49)	6 1/8" (15.56)

T-Type

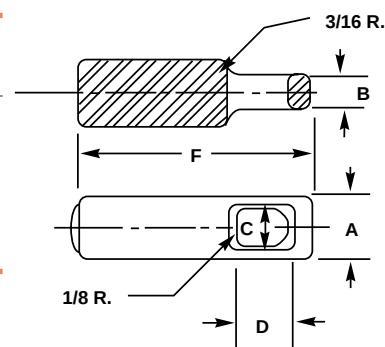
Kellems Flexible T-Type Pulling Grips are made of high strength galvanized steel strand. They feature double weave mesh for positive holding power in medium to heavy pulling jobs. The grip eye will easily attach to a swivel.

Application

T-Type Pulling Grips are used for the installation of underground power cables, communication lines and service lines into factories, construction projects and for general underground electrical construction. Available in two mesh lengths, short for medium pulls, and standard for general purpose pulling.

Benefits

- Will pull a single cable or cable bundles.
- Patented flexible eye design provides flexibility to follow line of pull.
- A dependable, reusable pulling tool.
- Easily installed and removed.
- Mates easily with a swivel. See page T-16.



Kellems® Pulling Grips

Technical Section

Special Purpose Grips

Non-Conductive Pulling Grips

Kellems Non-Conductive Pulling Grips, made of a high strength, non-conductive aramid fiber, are available for pulling single cable or cable bundles. Their braided double weave design adds strength and positive holding power.

Application

Kellems Non-Conductive Pulling Grips were developed for use by utilities for pulling overhead distribution lines in close proximity to energized lines and hardware.

Benefits

- Color coded for fast on-site selection.
- Extra flexibility for easy installation.
- Non-metallic mesh provides for safe pulls over “hot” areas.
- Pellethane jacketed aramid fiber mesh resists abrasion.
- Grips are corrosion resistant.

*Notes: Taping is required to guard against accidental release and to insure maximum reliability.
Apply vinyl plastic electrical tape starting 2" to 3" (5.08cm to 7.62cm) from the tail of the grip
onto 2" to 3" (5.08cm to 7.62cm) of cable.*

Slack Pulling Grips

Slack Pulling Grips are offered in three styles made of galvanized steel. The closed type is used when the cable end is accessible. When not, there are split lace and split rod closing styles. All grips feature single offset eye for easy attachment to a pulling line.

Application

Slack Grips are widely used in pulling slack for final placement of underground cable after it has been pulled in. They are also used for removing cable. Standard mesh lengths are generally used in restricted space for short pulls. Longer lengths are used for higher pulling loads where space is not restricted.

Benefits

- Easy attachment to pulling lines.
- Reusable rawhide lace for lace closure.
- Galvanized steel for strength.

*Notes: 1. Replacement rawhide lace. Catalog number 20920002.
2. See page T-47 for lace and rod closing instructions.*

Kellems® Pulling Grips

Technical Section

Commercial Construction/Light Duty Grips

Light Duty Pulling Grips

Light Duty Pulling Grips are made of galvanized steel in a single weave construction. They feature a flexible eye for easy attachment to a pulling line.

Application

Light duty grips are used in general underground electrical construction where pulling tensions are low. They are easy tools to use in wiring industrial plants and commercial buildings.

Benefits

- Perfect tools for light pulling jobs.
- Installs easily on cable.
- Strong, galvanized steel construction.

Junior Duty Pulling Grips

Junior Pulling Grips feature a strong galvanized steel, single weave mesh. A flexible eye easily attaches to a pulling line, snake or fish tape.

Application

Designed to pull building wire, Junior grips are safe tools to use in pulling wire at low tension through conduit during electrical construction.

Benefits

- Installs easily over building wire.
- Strong secure grip.
- Reusable.
- Pulls single cable or cable bundles.

Junior Grip Kit

Junior Grip Kit contains 6 grips, one of each size.
Catalog number **033051114**.

Note: Refer to page T-27 for building wire selection chart.

Kellems® Pulling Grips

Technical Section

Splicing Grips

Wire Rope Splicing

Kellems Wire Rope Grips are made of high strength galvanized steel strand in a construction of triple, double and single weave for superior gripping ability. They are available with or without a rotating barrel which will help eliminate twist in the old rope from being transferred to the new rope.

Application

Wire Rope Grips are used for changing wire rope on oil derricks, large cranes, overhead cranes and drag lines. It provides a quick, safe, inexpensive temporary splice. By installing the used wire rope in one end and the new rope in the other, the new wire rope can be pulled in as the old one is pulled out.

Benefits

- High strength for secure pulling.
- Easy installation.
- Flexible to pass through sheaves and blocks.

Notes: 1. During installation each end of the grip should be banded over the rope to insure smooth passage through sheaves and to guard against accidental release. See page T-15 for end bands.
2. The rotating barrel is not a swivel and will not turn while under tension. It can turn to relieve pulling torque when tension is relaxed.

Cable Splicing

Splicing Grips are made of galvanized steel in double or single weave mesh construction. They are available in various lengths and sizes to suit most applications.

Application

Splicing Grips are used as a temporary splice for rope, cable or wire rope. They can also be used as cable reinforcement, and can act as a shield to protect cables and hoses from abrasion.

Benefits

- Easily installed or removed.
- Galvanized steel construction for strength.
- Flexible to follow cable path.

Notes: 1. During installation, each end of the splicing grip should be taped down securely to the cable to insure smooth passage with the cable and guard against accidental release.
2. See page T-15 for end bands.

Kellems® Pulling Grips

Technical Section

Accessories

Punch-Lok® Bands

Punch-Lok Bands are applied over the tail of a grip to prevent the mesh from being tripped or pulled loose. Also, they assure full gripping action by locking the mesh of the tail in tight contact with the cable or rope.

When the tail of a grip is the leading end, the bands are particularly important to prevent accidental release caused by tripping on obstructions. A conductor-to-conductor (double-socking) pulling operation is a good example: where two grips connect two conductors to form a temporary splice. Bands should be applied to the ends of the grips as illustrated herein. It is also common practice to tape over the banded tail area to assure smooth passage through the sheaves.

The conductor should be installed in the grip up to the elbows of the aluminum shoulders in order to assure full and complete gripping action. The banding procedure is then followed as illustrated on page T-15.

Note: In all cases two Punch-Lok Bands should be double wrapped approximately one inch to two inches (2.54cm to 5.08cm) from the grip's tail. Banding is required to ensure maximum reliability and guard against accidental release.

Swivels

Swivels are essential to the efficiency and safety of any high tension application. They are particularly important where continuous pulls develop higher and higher torque levels. Torque is intensified by the pull-resistance of the cable itself and the resistance of the high tension controlling equipment regulating line sag.

Ball bearing swivels release torque and prevent it from reaching dangerous levels that can damage the cable and obstruct the lines as it passes through sheaves, wheels or blocks.

®Punch-Lok is a registered trademark of Punch-Lok Inc.

Kellems® Pulling Grips Technical Section

Multiple Cable Selection Charts for Cables of Equal Diameters

For Pulling Grips*

Caution: When a grip is used on multiple cables, the tail end of the grip should be banded or tightly taped after positioning on the cables.

For Cables of Equal Diameters

Under "Number of Cables in One Grip," find diameter of your single cable in vertical column. Read the grip diameter range to the right.

If your diameter is the maximum of the range shown, go to the next larger size for Split Grips, stay with the same size for Closed Grips.

Example: 3 cables, each with .89" (2.26cm) diameter, for a Closed Grip select the 1.50"-1.74" (3.81cm-4.42cm) range, for a Split Grip select the 1.75"-1.99" (4.44cm-5.05cm) range.

Number of Cables in One Grip

2	3	4	5	6 and 7	8	9	Grip Dia. Range Inches (cm)
.30-.38 (.76-.97)	.25-.31 (.63-.79)	.22-.27 (.56-.69)	.19-.24 (.48-.61)	.17-.22 (.43-.56)	.15-.19 (.38-.48)	.14-.18 (.36-.46)	.50-.61 (1.27-1.55)
.38-.44 (.97-1.12)	.31-.36 (.79-.91)	.27-.31 (.69-.79)	.24-.29 (.61-.74)	.22-.26 (.56-.66)	.19-.23 (.48-.56)	.18-.21 (.46-.53)	.62-.74 (1.57-1.88)
.44-.59 (1.12-1.50)	.36-.49 (.91-1.24)	.31-.42 (.79-1.07)	.29-.38 (.74-.97)	.26-.34 (.66-.86)	.23-.31 (.58-.79)	.21-.28 (.53-.71)	.75-.99 (1.90-2.51)
.59-.75 (1.50-1.90)	.49-.63 (1.24-1.60)	.42-.54 (1.07-1.37)	.38-.48 (.97-1.22)	.34-.43 (.86-1.09)	.31-.39 (.79-.99)	.28-.35 (.71-.89)	1.00-1.24 (2.54-3.15)
.75-.90 (1.90-2.29)	.63-.76 (1.60-1.93)	.54-.65 (1.37-1.65)	.48-.58 (1.22-1.47)	.43-.52 (1.09-1.32)	.39-.46 (.99-1.17)	.35-.42 (.89-1.07)	1.25-1.49 (3.17-3.78)
.90-1.07 (2.29-2.72)	.76-.89 (1.93-2.26)	.65-.77 (1.65-1.96)	.58-.67 (1.47-1.70)	.52-.60 (1.32-1.52)	.46-.54 (1.17-1.37)	.42-.49 (1.07-1.24)	1.50-1.74 (3.81-4.42)
1.07-1.22 (2.72-3.10)	.89-1.02 (2.26-2.59)	.77-.88 (1.96-2.24)	.67-.77 (1.70-1.96)	.60-.69 (1.52-1.75)	.54-.62 (1.37-1.57)	.49-.56 (1.24-1.42)	1.75-1.99 (4.44-5.05)
1.22-1.53 (3.10-3.89)	1.02-1.28 (2.59-3.25)	.88-1.10 (2.24-2.79)	.77-.96 (1.96-2.44)	.69-.86 (1.75-5.54)	.62-.77 (1.57-1.96)	.56-.71 (1.42-1.80)	2.00-2.49 (5.08-6.32)
1.53-1.83 (3.89-4.65)	1.28-1.53 (3.25-3.89)	1.10-1.32 (2.79-3.35)	.96-1.16 (2.44-2.95)	.86-1.03 (2.18-2.62)	.77-.93 (1.96-2.36)	.71-.85 (1.80-2.16)	2.50-2.99 (6.35-7.59)
1.83-2.14 (4.65-5.44)	1.53-1.79 (3.89-4.55)	1.32-1.54 (3.35-3.91)	1.16-1.35 (2.95-3.43)	1.03-1.20 (2.62-3.05)	.93-1.08 (2.36-2.74)	.85-.99 (2.16-2.51)	3.00-3.49 (7.62-8.86)
2.14-2.44 (5.44-6.20)	1.79-2.05 (4.55-5.21)	1.54-1.76 (3.91-4.47)	1.35-1.54 (3.43-3.91)	1.20-1.37 (3.05-3.48)	1.08-1.24 (2.74-3.15)	.99-1.13 (2.51-2.87)	3.50-3.99 (8.89-10.13)
2.44-2.75 (6.20-6.98)	2.05-2.30 (5.21-5.84)	1.76-1.98 (4.47-5.03)	1.54-1.74 (3.91-4.42)	1.37-1.55 (3.48-3.94)	1.24-1.39 (3.15-3.53)	1.13-1.27 (2.87-3.23)	4.00-4.49 (10.16-11.40)
2.75-3.06 (6.98-7.77)	2.30-2.56 (5.84-6.50)	1.98-2.20 (5.03-5.59)	1.74-1.93 (4.42-4.90)	1.55-1.72 (3.94-4.37)	1.39-1.55 (3.53-3.94)	1.27-1.41 (3.23-3.58)	4.50-4.99 (11.43-12.67)

*This chart is not to be used for Conduit Riser Grips. Refer to the chart for Conduit Riser multiple cable section.

Note: It is always recommended that, when multiple cables are installed in a pulling grip, the tail end be banded and tightly taped after installation on the cable bundle.

Kellems® Pulling Grips

Technical Section

Junior Pulling Grip Selection Chart

These charts are a general guide to assist in the selection of the correct Junior Pulling Grip for pulling various groupings of building wire. It is not intended to be restrictive inasmuch as the use of “dummy” wires (short pieces of wire used to fill out the Grip) or the tight taping of the wires into a compact bundle may increase or decrease the number of wires per Grip.

T.H.W.N., T.H.H.N., X.H.H.W. Building Wire

			#14	#12	#10	#8	#6	#4	#3	#2	#1	#1/0	
			19 Strand	19 Strand	19 Strand	19 Strand	19 Strand	19 Strand	19 Strand	19 Strand	37 Strand	37 Strand	
Desc.	Cable Dia. Range In. (cm)	Approx. Breaking Strength Lbs. (N)	Approximate Number Of Wires In One Grip										Catalog Numbers
J 25	.25-.36 (.63-.91)	450 (2,002)	4-8	3-6	2-3	2	1	1	1	•	•	•	03305001
J 37	.37-.49 (.94-1.24)	900 (4,003)	9-16	6-11	4-6	3	2	•	•	1	1	1	03305002
J 50	.50-.61 (1.27-1.55)	1,300 (5,782)	16-25	11-17	7-10	4-5	3-4	2	2	•	•	•	03305003
J 62	.62-.74 (1.57-1.88)	1,950 (8,674)	26-37	18-25	11-14	6-8	5-6	3	3	2	2	•	03305004
J 75	.75-.99 (1.90-2.51)	2,800 (12,454)	37-66	26-47	15-27	9-16	6-11	4-7	4-5	3-4	3	2-3	03305005
J 100	1.00-1.24 (2.54-3.15)	3,900 (17,347)	66-104	47-74	28-43	16-24	11-17	8-10	6-8	5-7	4-5	4	03305006

R.H.H., R.H., R.W. and R.H.W. Building Wire

			#14	#12	#10	#8	#6	#4	#2	#1	#1/0	
			7 Strand	7 Strand	7 Strand	7 Strand	7 Strand	7 Strand	7 Strand	19 Strand	19 Strand	
	Cable Dia. Range	Approx. Breaking Strength	Approximate Number Of Wires In One Grip									Catalog
Desc.	In. (cm)	Lbs. (N)										Numbers
J 25	.25-.36 (.63-.91)	450 (2,002)	2	2	1	1	•	•	•	•	•	03305001
J 37	.37-.49 (.94-1.24)	900 (4,003)	3	2-3	2	•	1	1	1	•	•	03305002
J 50	.50-.61 (1.27-1.55)	1,300 (5,782)	4-5	4-5	3-4	2	•	•	•	1	•	03305003
J 62	.62-.74 (1.57-1.88)	1,950 (8,674)	6-8	6-7	4-5	3	2	2	•	•	1	03305004
J 75	.75-.99 (1.90-2.51)	2,800 (12,454)	9-16	8-14	6-10	4-6	3-4	3-4	2-3	2	•	03305005
J 100	1.00-1.24 (2.54-3.15)	3,900 (17,347)	16-24	15-22	11-16	7-10	5-7	4-6	4	3	2-3	03305006

T.H.W. Building Wire

			#14 7 Strand	#12 7 Strand	#10 7 Strand	#8 7 Strand	#6 7 Strand	#4 7 Strand	#2 7 Strand	#1 7 Strand	#1/0 19 Strand	
Desc.	Cable Dia. Range In. (cm)	Approx. Breaking Strength Lbs. (kg)	Approximate Number Of Wires In One Grip									Catalog Numbers
J 25	.25-.36 (.63-.91)	450 (2,002)	2-4	2-3	2	1	1	1	•	•	•	03305001
J 37	.37-.49 (.94-1.24)	900 (4,003)	5-7	4-5	3-4	2	•	•	1	•	•	03305002
J 50	.50-.61 (1.27-1.55)	1,300 (5,782)	8-11	6-8	5-7	3-4	2	2	•	1	1	03305003
J 62	.62-.74 (1.57-1.88)	1,950 (8,674)	12-16	9-12	8-10	5-6	3-4	3	2	•	•	03305004
J 75	.75-.99 (1.90-2.51)	2,800 (12,454)	17-30	13-24	11-19	7-10	5-7	4-5	3-4	2	2	03305005
J 100	1.00-1.24 (2.54-3.15)	3,900 (17,347)	31-48	25-37	20-30	11-17	8-11	6-8	5-6	3-4	3	03305006

Kellems® Grips for Cable Support



Kellems® Grips for Cable Support

Heavy Duty, Standard Duty, Light Duty

Tin-Coated Bronze/Stainless Steel

Solid eye assemblies provide eye reinforcement at support hardware.

Four eye styles available: single (shown), double, universal, and offset.

Identification tag shows: catalog number, diameter range, agency approval, and bar code.

The strand equalizer positions wires for equal loading throughout the entire grip length.

The positive action mesh grip is designed for light duty up to heavy duty. Closed grips fit over the cable end, split grips wrap around the cable mid-span. The standard material is nonmagnetic, tin-coated bronze. Selected items are available in stainless steel. Contact the factory.

The endless weave provides easy installation onto cable, and can be easily repositioned.



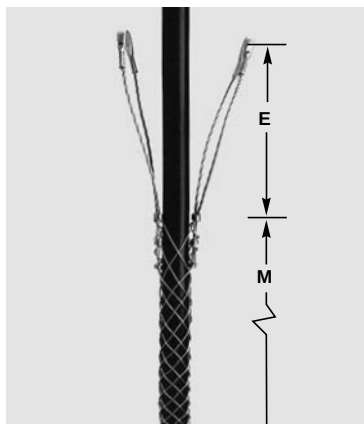
Support Grips

Standard Duty Support

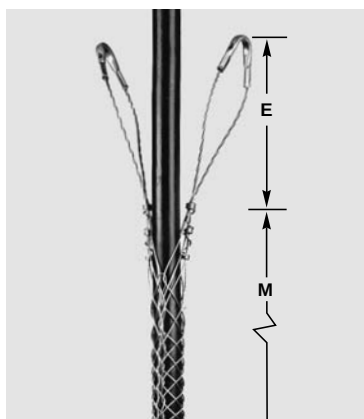
Double Eye, Single Weave, Tin-Coated Bronze

Read This Data

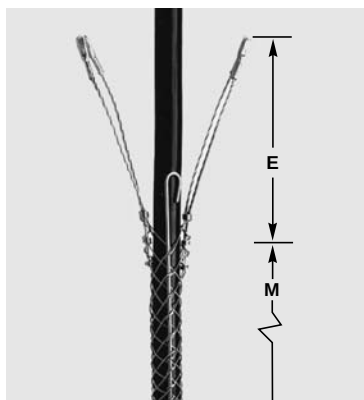
It is important that you read all breaking strength, safety and technical data relating to this product on pages T-43 through T-48.



Double Eye, Closed Mesh



Double Eye, Split Mesh, Lace Closing



Double Eye, Split Mesh, Rod Closing

Double Eye, Closed Mesh*

For permanent support when cable end is available to be installed through grip.

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.50"- .62" (1.27-1.57)	530 (2,357)	4" (10.16)	10" (25.40)	02201001
.63"- .74" (1.60-1.88)	790 (3,415)	4" (10.16)	10" (25.40)	02201002
.75"- .99" (1.90-2.51)	1,020 (4,537)	4" (10.16)	13" (33.02)	02201003
1.00"-1.24" (2.54-3.15)	1,610 (7,161)	5" (12.70)	14" (35.56)	02201005
1.25"-1.49" (3.17-3.78)	1,610 (7,161)	5" (12.70)	15" (38.10)	02201006
1.50"-1.74" (3.81-4.42)	1,610 (7,161)	5" (12.70)	17" (43.18)	02201007
1.75"-1.99" (4.44-5.05)	2,150 (9,563)	6" (15.24)	19" (48.26)	02201008
2.00"-2.49" (5.08-6.32)	3,260 (14,500)	6" (15.24)	21" (53.34)	02201009
2.50"-2.99" (6.35-7.59)	3,260 (14,500)	6" (15.24)	23" (58.42)	02201010
3.00"-3.49" (7.62-8.86)	4,900 (21,795)	8" (20.32)	25" (63.50)	02201011
3.50"-3.99" (8.89-10.13)	4,900 (21,795)	8" (20.32)	27" (68.58)	02201012

Double Eye, Split Mesh, Lace Closing*

For permanent support when cable end is not available.

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.50"- .62" (1.27-1.57)	530 (2,357)	4" (10.16)	10" (25.40)	02202001
.63"- .74" (1.60-1.88)	790 (3,415)	4" (10.16)	10" (25.40)	02202002
.75"- .99" (1.90-2.51)	1,020 (4,537)	4" (10.16)	13" (33.02)	02202003
1.00"-1.24" (2.54-3.15)	1,610 (7,161)	5" (12.70)	14" (35.56)	02202005
1.25"-1.49" (3.17-3.78)	1,610 (7,161)	5" (12.70)	15" (38.10)	02202006
1.50"-1.74" (3.81-4.42)	1,610 (7,161)	5" (12.70)	17" (43.18)	02202007
1.75"-1.99" (4.44-5.05)	2,150 (9,563)	6" (15.24)	19" (48.26)	02202008
2.00"-2.49" (5.08-6.32)	3,260 (14,500)	6" (15.24)	21" (53.34)	02202009
2.50"-2.99" (6.35-7.59)	3,260 (14,500)	6" (15.24)	23" (58.42)	02202010
3.00"-3.49" (7.62-8.86)	4,900 (21,795)	8" (20.32)	25" (63.50)	02202011
3.50"-3.99" (8.89-10.13)	4,900 (21,795)	8" (20.32)	27" (68.58)	02202012

Double Eye, Split Mesh, Rod Closing*

For support when cable end is not available.

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.50"- .62" (1.27-1.57)	790 (3,415)	4" (10.16)	8 1/2" (21.59)	02203001
.63"- .74" (1.60-1.88)	790 (3,415)	4" (10.16)	8 1/2" (21.59)	02203002
.75"- .99" (1.90-2.51)	1,020 (4,537)	4" (10.16)	10 1/2" (26.67)	02203003
1.00"-1.24" (2.54-3.15)	1,610 (7,161)	5" (12.70)	12 1/2" (31.75)	02203005
1.25"-1.49" (3.17-3.78)	1,610 (7,161)	5" (12.70)	14 1/2" (36.83)	02203006
1.50"-1.74" (3.81-4.42)	1,610 (7,161)	5" (12.70)	15 1/2" (39.37)	02203007
1.75"-1.99" (4.44-5.05)	2,150 (9,563)	6" (15.24)	16 1/2" (41.91)	02203008
2.00"-2.49" (5.08-6.32)	3,260 (14,500)	6" (15.24)	19 1/2" (49.53)	02203009
2.50"-2.99" (6.35-7.59)	3,260 (14,500)	6" (15.24)	21 1/2" (54.61)	02203010
3.00"-3.49" (7.62-8.86)	5,750 (25,576)	8" (20.32)	23 1/2" (59.69)	02203011
3.50"-3.99" (8.89-10.13)	5,750 (25,576)	8" (20.32)	25 1/2" (64.77)	02203012

E-Eye length M-Mesh length at nominal diameter

* Change catalog number from 022 to 024 for stainless steel. Consult factory for availability.

Support Grips

Standard Duty Support

Single Eye, Single Weave, Tin-Coated Bronze



Single Eye, Closed Mesh*

For permanent support when cable end is available to be installed through grip.

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.50"- .62" (1.27-1.57)	530 (2,357)	7" (17.78)	10" (25.40)	02201013
.63"- .74" (1.60-1.88)	790 (3,514)	8" (20.32)	10" (25.40)	02201014
.75"- .99" (1.90-2.51)	1,020 (4,537)	8" (20.32)	13" (33.02)	02201015
1.00"-1.24" (2.54-3.15)	1,610 (7,161)	9" (22.86)	14" (35.56)	02201017
1.25"-1.49" (3.17-3.78)	1,610 (7,161)	10" (25.40)	15" (38.10)	02201018
1.50"-1.74" (3.81-4.42)	1,610 (7,161)	12" (30.48)	17" (43.18)	02201019
1.75"-1.99" (4.44-5.05)	2,150 (9,563)	14" (35.56)	19" (48.26)	02201020
2.00"-2.49" (5.08-6.32)	3,260 (14,500)	16" (40.64)	21" (53.34)	02201021
2.50"-2.99" (6.35-7.59)	3,260 (14,500)	18" (45.72)	23" (58.42)	02201022
3.00"-3.49" (7.62-8.86)	4,900 (21,795)	21" (53.34)	25" (63.50)	02201023
3.50"-3.99" (8.89-10.13)	4,900 (21,795)	24" (60.96)	27" (68.58)	02201024

Single Eye, Split Mesh, Lace Closing*

For permanent support when cable end is not available.

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.50"- .62" (1.27-1.57)	530 (2,357)	7" (17.78)	10" (25.40)	02202013
.63"- .74" (1.60-1.88)	790 (3,514)	8" (20.32)	10" (25.40)	02202014
.75"- .99" (1.90-2.51)	1,020 (4,537)	8" (20.32)	13" (33.02)	02202015
1.00"-1.24" (2.54-3.15)	1,610 (7,161)	9" (22.86)	14" (35.56)	02202017
1.25"-1.49" (3.17-3.78)	1,610 (7,161)	10" (25.40)	15" (38.10)	02202018
1.50"-1.74" (3.81-4.42)	1,610 (7,161)	12" (30.48)	17" (43.18)	02202019
1.75"-1.99" (4.44-5.05)	2,150 (9,563)	14" (35.56)	19" (48.26)	02202020
2.00"-2.49" (5.08-6.32)	3,260 (14,500)	16" (40.64)	21" (53.34)	02202021
2.50"-2.99" (6.35-7.59)	3,260 (14,500)	18" (45.72)	23" (58.42)	02202022
3.00"-3.49" (7.62-8.86)	4,900 (21,795)	21" (53.34)	25" (63.50)	02202023
3.50"-3.99" (8.89-10.13)	4,900 (21,795)	24" (60.96)	27" (68.58)	02202024

Single Eye, Split Mesh, Rod Closing*

For support when cable end is not available.

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.50"- .62" (1.27-1.57)	790 (3,514)	7" (17.78)	8 1/2" (21.59)	02203013
.63"- .74" (1.60-1.88)	790 (3,514)	8" (20.32)	8 1/2" (21.59)	02203014
.75"- .99" (1.90-2.51)	1,020 (4,537)	8" (20.32)	10 1/2" (26.67)	02203015
1.00"-1.24" (2.54-3.15)	1,610 (7,161)	9" (22.86)	12 1/2" (31.75)	02203017
1.25"-1.49" (3.17-3.78)	1,610 (7,161)	10" (25.40)	14 1/2" (36.83)	02203018
1.50"-1.74" (3.81-4.42)	1,610 (7,161)	12" (30.48)	15 1/2" (39.37)	02203019
1.75"-1.99" (4.44-5.05)	2,150 (9,563)	14" (35.56)	16 1/2" (41.91)	02203020
2.00"-2.49" (5.08-6.32)	3,260 (14,500)	16" (40.64)	19 1/2" (49.53)	02203021
2.50"-2.99" (6.35-7.59)	3,260 (14,500)	18" (45.72)	21 1/2" (54.61)	02203022
3.00"-3.49" (7.62-8.86)	5,750 (25,576)	21" (53.34)	23 1/2" (59.69)	02203023
3.50"-3.99" (8.89-10.13)	5,750 (25,576)	24" (60.96)	25 1/2" (64.77)	02203024

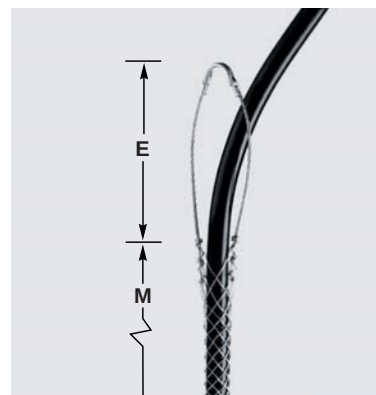
E-Eye length

M-Mesh length at nominal diameter

* Change catalog number from 022 to 024 for stainless steel. Consult factory for availability.

Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-43 through T-48.



Single Eye, Closed Mesh



Single Eye, Split Mesh, Lace Closing



Single Eye, Split Mesh, Rod Closing

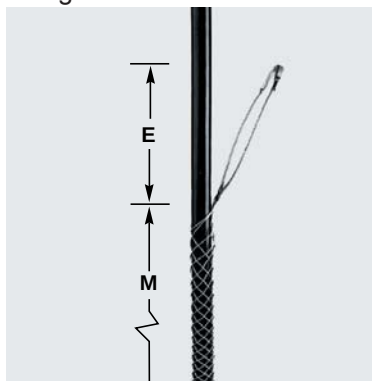
Support Grips Standard Duty Support

Offset Eye, Single Weave, Tin-Coated Bronze

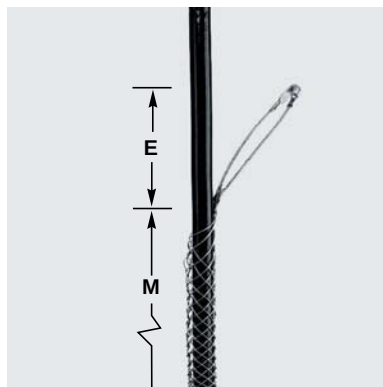


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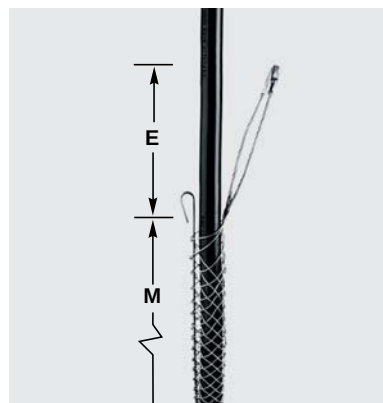
It is important that you read all breaking strength, safety and technical data relating to this product on pages T-43 through T-48.



Offset Eye, Closed Mesh



Offset Eye, Split Mesh, Lace Closing



Offset Eye, Split Mesh, Rod Closing

Offset Eye, Closed Mesh*

For permanent support when cable end is available to be installed through grip.

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.50"- .62" (1.27-1.57)	500 (2,724)	4" (10.16)	10" (25.40)	02201037
.63"- .74" (1.60-1.88)	750 (3,336)	4" (10.16)	10" (25.40)	02201038
.75"- .99" (1.90-2.51)	950 (4,226)	4" (10.16)	13" (33.02)	02201039
1.00"-1.24" (2.54-3.15)	1,500 (6,672)	5" (12.70)	14" (35.56)	02201041
1.25"-1.49" (3.17-3.78)	1,500 (6,672)	5" (12.70)	15" (38.10)	02201042
1.50"-1.74" (3.81-4.42)	1,500 (6,672)	5" (12.70)	17" (43.18)	02201043
1.75"-1.99" (4.44-5.05)	2,000 (8,896)	6" (15.24)	19" (48.26)	02201044
2.00"-2.49" (5.08-6.32)	3,100 (13,789)	9" (22.86)	21" (53.34)	02201045
2.50"-2.99" (6.35-7.59)	3,100 (13,789)	9" (22.86)	23" (58.42)	02201046
3.00"-3.49" (7.62-8.86)	3,800 (16,902)	11" (27.94)	25" (63.50)	02201047
3.50"-3.99" (8.89-10.13)	3,800 (16,902)	11" (27.94)	27" (68.58)	02201048

Offset Eye, Split Mesh, Lace Closing*

For permanent support when cable end is not available.

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.50"- .62" (1.27-1.57)	500 (2,724)	4" (10.16)	10" (25.40)	02202037
.63"- .74" (1.60-1.88)	750 (3,336)	4" (10.16)	10" (25.40)	02202038
.75"- .99" (1.90-2.51)	950 (4,226)	4" (10.16)	13" (33.02)	02202039
1.00"-1.24" (2.54-3.15)	1,500 (6,672)	5" (12.70)	14" (35.56)	02202041
1.25"-1.49" (3.17-3.78)	1,500 (6,672)	5" (12.70)	15" (38.10)	02202042
1.50"-1.74" (3.81-4.42)	1,500 (6,672)	5" (12.70)	17" (43.18)	02202043
1.75"-1.99" (4.44-5.05)	2,000 (8,896)	6" (15.24)	19" (48.26)	02202044
2.00"-2.49" (5.08-6.32)	2,150 (9,563)	9" (22.86)	21" (53.34)	02202045
2.50"-2.99" (6.35-7.59)	2,150 (9,563)	9" (22.86)	23" (58.42)	02202046
3.00"-3.49" (7.62-8.86)	3,800 (16,902)	11" (27.94)	25" (63.50)	02202047
3.50"-3.99" (8.89-10.13)	3,800 (16,902)	11" (27.94)	27" (68.58)	02202048

Offset Eye, Split Mesh, Rod Closing*

For support when cable end is not available.

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.50"- .62" (1.27-1.57)	500 (2,724)	4" (10.16)	7" (17.78)	02203037
.63"- .74" (1.60-1.88)	750 (3,336)	4" (10.16)	9" (22.86)	02203038
.75"- .99" (1.90-2.51)	950 (4,226)	4" (10.16)	10" (25.40)	02203039
1.00"-1.24" (2.54-3.15)	1,500 (6,672)	5" (12.70)	12" (30.48)	02203041
1.25"-1.49" (3.17-3.78)	1,500 (6,672)	5" (12.70)	14" (35.56)	02203042
1.50"-1.74" (3.81-4.42)	1,500 (6,672)	5" (12.70)	15" (38.10)	02203043
1.75"-1.99" (4.44-5.05)	2,000 (8,896)	6" (15.24)	16" (40.64)	02203044
2.00"-2.49" (5.08-6.32)	3,100 (13,789)	9" (22.86)	19" (48.26)	02203045
2.50"-2.99" (6.35-7.59)	3,100 (13,789)	9" (22.86)	20" (50.80)	02203046
3.00"-3.49" (7.62-8.86)	4,300 (19,126)	11" (27.94)	21" (53.34)	02203047
3.50"-3.99" (8.89-10.13)	4,900 (21,795)	11" (27.94)	21" (53.34)	02203048

E-Eye length

M-Mesh length at nominal diameter

* Change catalog number from 022 to 024 for stainless steel. Consult factory for availability.

Support Grips

Standard Duty Support

Universal Eye, Single Weave, Tin-Coated Bronze



Universal Eye, Closed Mesh*

For permanent support when cable end is available to be installed through grip.

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.50"- .62" (1.27-1.57)	530 (2,357)	18" (45.72)	10" (25.40)	02201051
.63"- .74" (1.60-1.88)	790 (3,514)	18" (45.72)	10" (25.40)	02201052
.75"- .99" (1.90-2.51)	1,020 (4,537)	18" (45.72)	13" (33.02)	02201053
1.00"-1.24" (2.54-3.15)	1,610 (7,161)	18" (45.72)	14" (35.56)	02201050
1.25"-1.49" (3.17-3.78)	1,610 (7,161)	18" (45.72)	15" (38.10)	02201054
1.50"-1.74" (3.81-4.42)	1,610 (7,161)	18" (45.72)	17" (43.10)	02201055
1.75"-1.99" (4.44-5.05)	2,150 (9,563)	18" (45.72)	19" (48.26)	02201056
2.00"-2.49" (5.08-6.32)	3,260 (14,500)	18" (45.72)	21" (53.34)	02201057
2.50"-2.99" (6.35-7.59)	3,260 (14,500)	18" (45.72)	23" (58.42)	02201058

Universal Eye, Split Mesh, Lace Closing*

For permanent support when cable end is not available.

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.50"- .62" (1.27-1.57)	530 (2,357)	18" (45.72)	10" (25.40)	02202050
.63"- .74" (1.60-1.88)	790 (3,514)	18" (45.72)	10" (25.40)	02202051
.75"- .99" (1.90-2.51)	1,020 (4,537)	18" (45.72)	13" (33.02)	02202052
1.00"-1.24" (2.54-3.15)	1,610 (7,161)	18" (45.72)	14" (35.56)	02202054
1.25"-1.49" (3.17-3.78)	1,610 (7,161)	18" (45.72)	15" (38.10)	02202055
1.50"-1.74" (3.81-4.42)	1,610 (7,161)	18" (45.72)	17" (43.10)	02202056
1.75"-1.99" (4.44-5.05)	2,150 (9,563)	18" (45.72)	19" (48.26)	02202057
2.00"-2.49" (5.08-6.32)	3,260 (14,500)	18" (45.72)	21" (53.34)	02202058
2.50"-2.99" (6.35-7.59)	3,260 (14,500)	18" (45.72)	23" (58.42)	02202059
3.00"-3.49" (7.62-8.86)	4,900 (21,795)	18" (45.72)	25" (63.50)	02202060
3.50"-3.99" (8.89-10.13)	4,900 (21,795)	18" (45.72)	27" (68.58)	02202061

Universal Eye, Split Mesh, Rod Closing*

For support when cable end is not available.

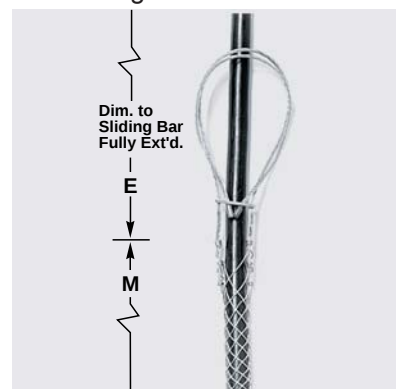
Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.50"- .62" (1.27-1.57)	790 (3,514)	18" (45.72)	8 1/2" (21.59)	02203064
.63"- .74" (1.60-1.88)	790 (3,514)	18" (45.72)	8 1/2" (21.59)	02203065
.75"- .99" (1.90-2.51)	1,020 (4,537)	18" (45.72)	10 1/2" (26.67)	02203066
1.00"-1.24" (2.54-3.15)	1,610 (7,161)	18" (45.72)	12 1/2" (31.75)	02203068
1.25"-1.49" (3.17-3.78)	1,610 (7,161)	18" (45.72)	14 1/2" (36.83)	02203069
1.50"-1.74" (3.81-4.42)	1,610 (7,161)	18" (45.72)	15 1/2" (39.37)	02203070
3.00"-3.49" (7.62-8.86)	5,750 (25,576)	18" (45.72)	23 1/2" (59.69)	02203074

E-Eye length M-Mesh length at nominal diameter

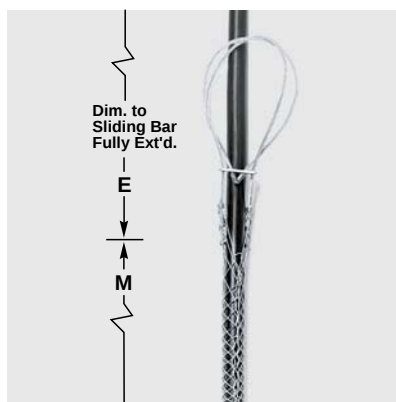
* Change catalog number from 022 to 024 for stainless steel. Consult factory for availability.

Read This Data

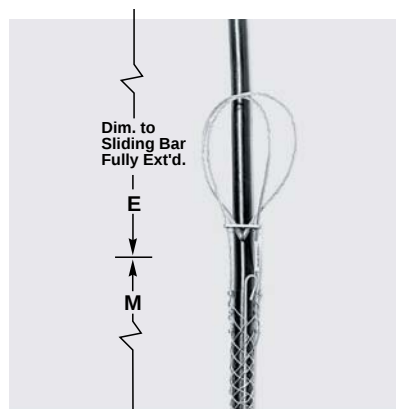
It is important that you read all breaking strength, safety and technical data relating to this product on pages T-43 through T-48.



Universal Eye, Closed Mesh



Universal Eye Split Mesh, Lace Closing

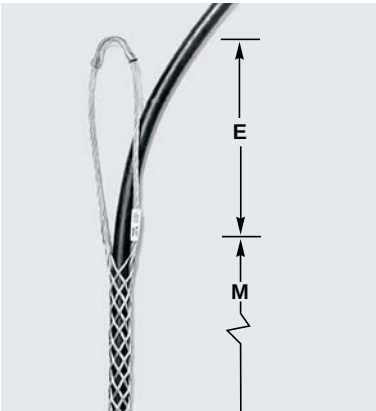


Universal Eye Split Mesh, Rod Closing

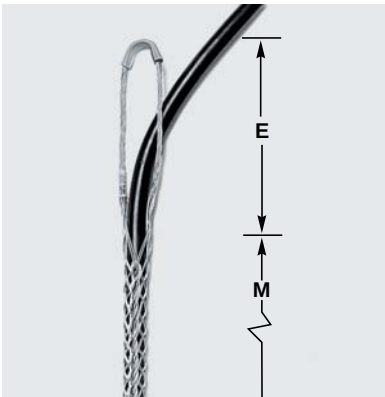
Support Grips
Heavy Duty Support
Single Eye, Double Weave, Tin-Coated Bronze



Read This Data
It is important that you read all breaking strength, safety and technical data relating to this product on pages T-43 through T-48.



Heavy Duty, Single Eye, Closed Mesh



Single Eye, Split Mesh, Lace Closing

Heavy Duty, Single Eye, Closed Mesh*				
For heavy duty permanent support when cable end is available to be installed through grip.				
Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.75"-.99" (1.90-2.51)	2,820 (12,543)	10" (25.40)	25" (63.50)	02206010
1.00"-1.24" (2.54-3.15)	4,280 (19,037)	12" (30.48)	28" (71.12)	02206011
1.25"-1.49" (3.17-3.78)	4,280 (19,037)	12" (30.48)	30" (76.20)	02206012
1.50"-1.99" (3.81-5.05)	4,280 (19,037)	12" (30.48)	34" (86.36)	02206013

Single Eye, Split Mesh, Lace Closing*				
For permanent support when cable end is not available to be installed through grip.				
Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.75"-.99" (1.90-2.51)	2,820 (12,543)	10" (25.40)	25" (63.50)	02207010
1.00"-1.24" (2.54-3.15)	4,280 (19,037)	12" (30.48)	28" (71.12)	02207011
1.25"-1.49" (3.17-3.78)	4,280 (19,037)	12" (30.48)	30" (76.20)	02207012
1.50"-1.99" (3.81-5.05)	4,280 (19,037)	12" (30.48)	34" (86.36)	02207013

E-Eye length M-Mesh length at nominal diameter
* Change catalog number from 022 to 024 for stainless steel. Consult factory for availability.



Support Grips

Heavy Duty Support

Double Eye, Double Weave, Tin-Coated Bronze



Double Eye, Closed Mesh*

For permanent support when cable end is not available to be installed through grip.

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.75"- .99" (1.90-2.51)	2,820 (12,543)	10" (25.40)	25" (63.50)	02206001
1.00"-1.24" (2.54-3.15)	4,280 (19,037)	10" (25.40)	28" (71.12)	02206002
1.25"-1.49" (3.17-3.78)	4,280 (19,037)	10" (25.40)	30" (76.20)	02206003
1.50"-1.99" (3.81-5.05)	4,280 (19,037)	10" (25.40)	34" (86.36)	02206004
2.00"-2.49" (5.08-6.32)	8,050 (35,806)	12" (30.48)	36" (91.44)	02206005
2.50"-2.99" (6.35-7.59)	8,050 (35,806)	12" (30.48)	38" (96.52)	02206006
3.00"-3.49" (7.62-8.86)	10,060 (44,747)	12" (30.48)	40" (101.62)	02206007
3.50"-3.99" (8.89-10.13)	12,070 (53,687)	12" (30.48)	44" (111.76)	02206008
4.00"-4.49" (10.16-11.40)	12,070 (53,687)	12" (30.48)	46" (116.84)	02206009
4.50"-4.99" (11.43-12.67)	12,070 (53,687)	12" (30.48)	68" (172.72)	02208009

Double Eye, Split Mesh, Lace Closing*

For support when cable end is not available.

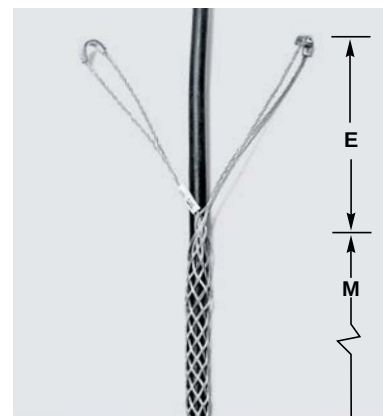
Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.75"- .99" (1.90-2.51)	2,820 (12,543)	10" (25.40)	25" (63.50)	02207001
1.00"-1.24" (2.54-3.15)	4,280 (19,037)	10" (25.40)	28" (71.12)	02207002
1.25"-1.49" (3.17-3.78)	4,280 (19,037)	10" (25.40)	30" (76.20)	02207003
1.50"-1.99" (3.81-5.05)	4,280 (19,037)	10" (25.40)	34" (86.36)	02207004
2.00"-2.49" (5.08-6.32)	8,050 (35,806)	12" (30.48)	36" (91.44)	02207005
2.50"-2.99" (6.35-7.59)	8,050 (35,806)	12" (30.48)	38" (96.52)	02207006
3.00"-3.49" (7.62-8.86)	10,060 (44,747)	12" (30.48)	40" (101.62)	02207007
3.50"-3.99" (8.89-10.13)	12,070 (53,687)	12" (30.48)	44" (111.76)	02207008
4.00"-4.49" (10.16-11.40)	12,070 (53,687)	12" (30.48)	46" (116.84)	02207009
4.50"-4.99" (11.43-12.67)	12,070 (53,687)	12" (30.48)	68" (172.72)	02209009

E-Eye length M-Mesh length at nominal diameter

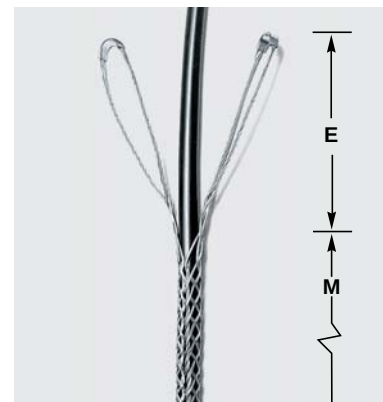
* Change catalog number from 022 to 024 for stainless steel. Consult factory for availability.

Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-43 through T-48.



Double Eye, Closed Mesh



Double Eye, Split Mesh, Lace Closing

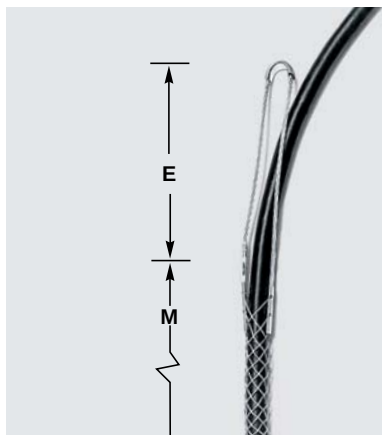
Support Grips Service Drop

Single Eye, Tin-Coated Bronze

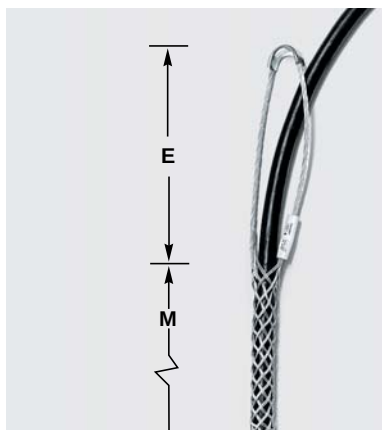


Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-43 through T-48.



Light Duty, Single Eye, Closed Mesh



Heavy Duty, Single Eye, Closed Mesh

Light Duty, Single Eye, Closed Mesh Single Weave*

For permanent support when cable end is available to be installed.

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.23"-.31" (.58-.79)	290 (1,290)	3" (7.62)	3 ³ / ₄ " (9.52)	02216001
.29"-.37" (.74-.94)	290 (1,290)	5" (12.70)	4 ¹ / ₄ " (10.79)	02216002
.35"-.44" (.89-1.12)	500 (2,224)	5.5" (13.97)	4 ³ / ₄ " (12.06)	02216003
.41"-.50" (1.04-1.27)	500 (2,224)	5.5" (13.97)	5" (12.70)	02216004
.46"-.56" (1.17-1.42)	660 (2,936)	6" (15.24)	5 ¹ / ₄ " (13.33)	02216005
.52"-.62" (1.32-1.57)	790 (3,514)	7" (17.78)	6 ¹ / ₄ " (15.87)	02216006
.58"-.68" (1.47-1.73)	790 (3,514)	7" (17.78)	6 ¹ / ₂ " (16.51)	02216007
.64"-.75" (1.63-1.90)	790 (3,514)	7" (17.78)	6 ³ / ₄ " (17.14)	02216008
.70"-.81" (1.78-2.06)	790 (3,514)	7" (17.78)	7 ¹ / ₄ " (18.41)	02216009
.75"-.87" (1.90-2.21)	1,020 (4,537)	8" (20.32)	8" (20.32)	02216010
.81"-.94" (2.06-2.39)	1,020 (4,537)	8" (20.32)	8 ¹ / ₄ " (20.95)	02216011
.87"-1.00" (2.21-2.54)	1,020 (4,537)	8" (20.32)	8 ³ / ₄ " (22.22)	02216012
.94"-1.06" (2.39-2.69)	1,020 (4,537)	9" (22.86)	9" (22.86)	02216013
1.00"-1.18" (2.54-3.00)	1,020 (4,537)	9" (22.86)	9 ¹ / ₂ " (24.13)	02216014
1.06"-1.25" (2.69-3.17)	1,020 (4,537)	9" (22.86)	9 ¹ / ₂ " (24.13)	02216015

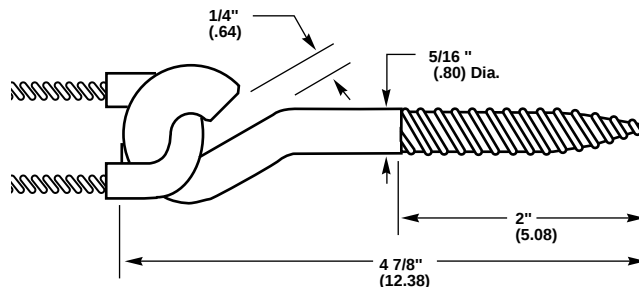
Heavy Duty, Single Eye, Closed Mesh Multi-Weave*

For permanent support when cable end is available to be installed.

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.23"-.31" (.58-.79)	500 (2,224)	5" (12.70)	4 ¹ / ₂ " (11.43)	02217001
.29"-.37" (.74-.94)	500 (2,224)	5" (12.70)	5 ¹ / ₂ " (13.97)	02217002
.35"-.44" (.89-1.12)	870 (3,870)	6" (15.24)	6 ¹ / ₂ " (16.51)	02217003
.41"-.50" (1.04-1.27)	870 (3,870)	6" (15.24)	7 ¹ / ₂ " (19.05)	02217004
.46"-.56" (1.17-1.42)	1,050 (4,670)	6" (15.24)	8" (20.32)	02217005
.52"-.62" (1.32-1.57)	1,050 (4,670)	7" (17.78)	8 ¹ / ₂ " (21.59)	02217006
.58"-.68" (1.47-1.73)	1,050 (4,670)	7" (17.78)	9 ¹ / ₂ " (24.13)	02217007
.64"-.75" (1.63-1.90)	1,390 (6,183)	7" (17.78)	9 ¹ / ₂ " (24.13)	02217008
.70"-.81" (1.78-2.06)	1,390 (6,183)	8" (20.32)	10 ¹ / ₂ " (26.67)	02217009
.75"-.87" (1.90-2.21)	1,390 (6,183)	8" (20.32)	10 ¹ / ₂ " (26.67)	02217010
.81"-.94" (2.06-2.39)	1,390 (6,183)	8" (20.32)	10 ¹ / ₂ " (26.67)	02217011
.87"-1.00" (2.21-2.54)	1,790 (7,962)	8" (20.32)	11 ¹ / ₂ " (29.21)	02217012
.94"-1.06" (2.39-2.69)	1,790 (7,962)	9" (22.86)	12 ¹ / ₂ " (31.75)	02217013
1.00"-1.18" (2.54-3.00)	1,790 (7,962)	9" (22.86)	13 ¹ / ₂ " (34.29)	02217014
1.06"-1.25" (2.69-3.17)	1,790 (7,962)	9" (22.86)	14 ¹ / ₂ " (36.83)	02217015

E-Eye length

M-Mesh length at nominal diameter



Screw Hook
No. 203-03-001
Yield Strength 900 lbs (4003)

* Change catalog number from 022 to 024 for stainless steel. Consult factory for availability..

Support Grips Service Drop

Universal Eye, Tin-Coated Bronze



Light Duty, Universal Eye, Closed Mesh, Single Weave*

For permanent support when cable end is available to be installed.

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.23"- .31" (.58-.79)	290 (1,290)	9" (22.86)	3 ³ / ₄ " (9.52)	02216016
.29"- .37" (.74-.94)	290 (1,290)	10" (25.40)	4 ¹ / ₄ " (10.79)	02216017
.35"- .44" (.89-1.12)	500 (2,224)	10" (25.40)	4 ³ / ₄ " (12.06)	02216018
.41"- .50" (1.04-1.27)	500 (2,224)	11" (27.94)	5" (12.70)	02216019
.46"- .56" (1.17-1.42)	660 (2,936)	12" (30.48)	5 ¹ / ₄ " (13.33)	02216020
.52"- .62" (1.32-1.57)	790 (3,514)	13" (33.02)	6 ¹ / ₄ " (15.87)	02216021
.58"- .68" (1.47-1.73)	790 (3,514)	13" (33.02)	6 ¹ / ₂ " (16.51)	02216022
.64"- .75" (1.63-1.90)	790 (3,514)	13" (33.02)	6 ³ / ₄ " (17.14)	02216023
.70"- .81" (1.78-2.06)	790 (3,514)	13" (33.02)	7 ¹ / ₄ " (18.41)	02216024
.75"- .87" (1.90-2.21)	1,020 (4,537)	14" (35.56)	8" (20.32)	02216025
.81"- .94" (2.06-2.39)	1,020 (4,537)	14" (35.56)	8 ¹ / ₄ " (20.95)	02216026
.87"-1.00" (2.21-2.54)	1,020 (4,537)	14" (35.56)	8 ³ / ₄ " (22.22)	02216027
.94"-1.06" (2.39-2.69)	1,020 (4,537)	15" (38.10)	9" (22.86)	02216028
1.00"-1.18" (2.54-3.00)	1,020 (4,537)	15" (38.10)	9 ¹ / ₂ " (24.13)	02216029
1.06"-1.25" (2.69-3.17)	1,020 (4,537)	15" (38.10)	9 ¹ / ₂ " (24.13)	02216030

Heavy Duty, Universal Eye, Closed Mesh, Multi-Weave*

For permanent support when cable end is available to be installed.

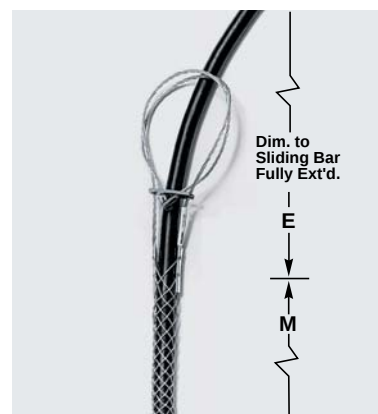
Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.23"- .31" (.58-.79)	500 (2,224)	11" (27.94)	4 ¹ / ₂ " (11.43)	02217016
.28"- .37" (.74-.94)	500 (2,224)	11" (27.94)	5 ¹ / ₂ " (13.97)	02217017
.35"- .44" (.89-1.12)	870 (3,870)	12" (30.48)	6 ¹ / ₂ " (16.51)	02217018
.41"- .50" (1.04-1.27)	870 (3,870)	12" (30.48)	7 ¹ / ₂ " (19.05)	02217019
.46"- .56" (1.17-1.42)	1,050 (4,670)	12" (30.48)	8" (20.32)	02217020
.52"- .62" (1.32-1.57)	1,050 (4,670)	13" (33.02)	8 ¹ / ₂ " (21.59)	02217021
.58"- .68" (1.47-1.73)	1,050 (4,670)	13" (33.02)	9 ¹ / ₂ " (24.13)	02217022
.64"- .75" (1.63-1.90)	1,390 (6,183)	13" (33.02)	9 ¹ / ₂ " (24.13)	02217023
.70"- .81" (1.78-2.06)	1,390 (6,183)	14" (35.56)	10 ¹ / ₂ " (26.67)	02217024
.75"- .87" (1.90-2.21)	1,390 (6,183)	14" (35.56)	10 ¹ / ₂ " (26.67)	02217025
.81"- .94" (2.06-2.39)	1,390 (6,183)	14" (35.56)	10 ¹ / ₂ " (26.67)	02217026
.87"-1.00" (2.21-2.54)	1,790 (7,962)	14" (35.56)	11 ¹ / ₂ " (29.10)	02217027
.94"-1.06" (2.39-2.69)	1,790 (7,962)	15" (38.10)	12 ¹ / ₂ " (31.75)	02217028
1.00"-1.18" (2.54-3.00)	1,790 (7,962)	15" (38.10)	13 ¹ / ₂ " (34.29)	02217029
1.06"-1.25" (2.69-3.17)	1,790 (7,962)	15" (38.10)	14 ¹ / ₂ " (36.83)	02217030

E-Eye length M-Mesh length at nominal diameter.

* Change catalog number from 022 to 024 for stainless steel. Consult factory for availability.

Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-43 through T-48.



Light Duty, Universal Eye,
Closed Mesh Single Weave



Heavy Duty, Universal Eye,
Closed Mesh, Multi-Weave

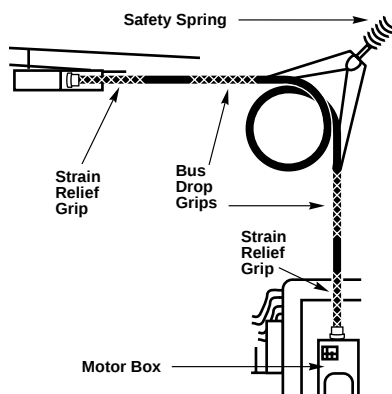
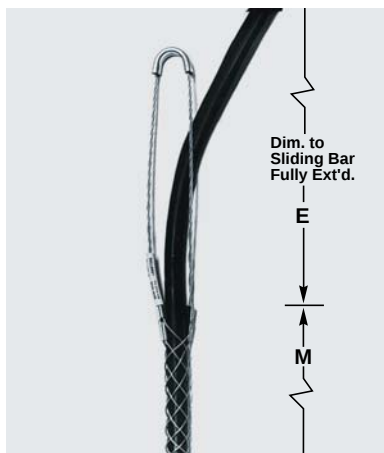
Support Grips

Bus Drop

Single Eye, Universal Eye, Galvanized Steel

**Read This Data**

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-43 through T-48.

**Safety Spring**

Maximum Deflection Inches/Lbs (cm/N)	Approx. Breaking Strength Lbs. (N)	Length* Inches (cm)	Diameter Inches (cm)	Model Lbs. (n)	Catalog Numbers
2 ³ / ₄ " at 40 lbs. (6.98 cm. at 178 N)	500 (2,224)	8 ¹ / ₄ " (20.95)	³ / ₄ " (1.90)	40 lb. spring (178)	20302001
3 ¹ / ₈ " at 80 lbs. (7.94 cm. at 356 N)	850 (3,781)	8 ¹ / ₄ " (20.95)	1" (2.54)	80 lb. spring (356)	20302002

Springs can be used with single eye grips by disassembling drawbar from coil, placing through eye and replacing drawbar.

**No load.*

Single Eye Wide Range

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.24"- .32" (.61-.81)	350 (1,557)	3" (7.62)	3 ¹ / ₂ " (8.89)	073041276
.32"- .43" (.81-1.09)	450 (2,002)	4" (10.16)	4" (10.16)	073041277
.43"- .56" (1.09-1.42)	550 (2,446)	6" (15.24)	4 ³ / ₄ " (12.06)	073041278
.56"- .73" (1.42-1.85)	1,000 (4,448)	7" (17.78)	6" (15.24)	073041279
.73"- .85" (1.85-2.16)	1,400 (6,227)	7" (17.78)	6 ³ / ₄ " (17.14)	073041280
.85"-1.00" (2.16-2.54)	1,400 (6,227)	8" (20.32)	8" (20.32)	073041281
1.00"-1.25" (2.54-3.17)	1,500 (6,672)	9" (22.86)	9 ¹ / ₂ " (24.13)	073041282

Universal Eye Wide Range

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.32"- .43" (.81-1.09)	450 (2,002)	10" (25.40)	4" (10.16)	073041284
.43"- .56" (1.09-1.42)	550 (2,446)	12" (30.48)	4 ³ / ₄ " (12.06)	073041285
.56"- .73" (1.42-1.85)	1,000 (4,448)	13" (33.02)	6" (15.24)	073041286
.73"- .85" (1.85-2.16)	1,400 (6,227)	13" (33.02)	6 ³ / ₄ " (17.14)	073041287
.85"-1.00" (2.16-2.54)	1,400 (6,227)	14" (35.56)	8" (20.32)	073041288
1.00"-1.25" (2.54-3.17)	1,500 (6,672)	15" (38.10)	9 ¹ / ₂ " (24.13)	073041289

E-Eye length

M-Mesh length at nominal diameter

Bus Drop Grips and Safety Springs

Kellems Bus Drop Grips are offered with either a single eye or universal bale attachment. The mesh is single weave galvanized steel with the patented wide range construction. They are suitable for indoor use only.

Application

Bus Drop Grips provide a safe, easy and economical method to support flexible cord or bus drop cable at bus duct and other industrial areas.

Benefits

- Easily installed.
- Absorb tension, vibration and pull with no cable damage.
- Patented mesh construction.

Safety Spring

Springs can be used with single eye grips by disassembling drawbar from coil, placing through eye and replacing drawbar.

Support Grips Conduit Riser

Ring Type, Single Weave, Tin-Coated Bronze



Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-43 through T-48.

Single Weave, Closed Mesh

Kellems® Conduit Riser Support Grips are available in closed mesh and in split mesh with lace or rod closures, to cover all applications including single cable or cable bundle support. Refer to technical section, T-43 for grip selection assistance for cable bundles. The standard material is tin-coated bronze strand. The grip is permanently fastened to a support ring, resulting in a one piece unit which will allow air ventilation within the conduit. This ring supported grip is ideal for supporting electrical cable at standard rigid conduit. The rings will fit schedule 40, standard rigid conduit. The rings will fit schedule 40, standard rigid conduit. See page T-42 for ring dimensions. For permanent support when cable end is available to be installed through the grip.



Suitable For Schedule 40 Conduit Only

Cable Sizes Inches (cm)	.50"-.62" (1.27-1.57)	.63"-.74" (1.60-1.88)	.75"-.99" (1.90-2.51)	1.00"-1.24" (2.54-3.15)	1.25"-1.49" (3.17-3.78)	1.50"-1.74" (3.81-4.42)	1.75"-1.99" (4.44-5.05)	2.00"-2.49" (5.08-6.32)	2.50"-2.99" (6.35-7.59)	3.00"-3.49" (7.62-8.86)	3.50"-3.99" (8.89-10.13)
Model	R050	R062	R075	R100	R125	R150	R175	R200	R250	R300	R350
Length Inches (cm)	8" (20.32)	9" (22.86)	11" (27.94)	12" (30.48)	12" (30.48)	14" (35.56)	15" (38.10)	17" (43.18)	18" (45.72)	20" (50.80)	21" (53.34)
Conduit Sizes Inches	Catalog Numbers Approx. Breaking Strength Lbs. (N)										
3/4"	02211106 530 (2,357)	•	•	•	•	•	•	•	•	•	•
1"	02211100 490 (2,179)	02211101 790 (3,514)	•	•	•	•	•	•	•	•	•
1 1/4"	02211001 450 (2,002)	02211002 740 (3,292)	02211003 1,030 (4,581)	•	•	•	•	•	•	•	•
1 1/2"	•	02211006 690 (3,069)	02211007 970 (4,315)	02211009 1,610 (7,161)	•	•	•	•	•	•	•
2"	02211110 370 (1,645)	02211107 640 (2,847)	02211010 920 (4,092)	02211012 1,520 (6,761)	02211013 1,610 (7,161)	•	•	•	•	•	•
2 1/2"	•	•	•	•	02211017 1,510 (6,716)	02211018 1,610 (7,161)	02211019 2,150 (9,563)	•	•	•	•
3"	•	•	•	02211022 1,340 (5,960)	02211023 1,400 (6,227)	02211024 1,490 (6,627)	02211025 1,990 (8,851)	02211026 3,260 (14,500)	•	•	•
3 1/2"	•	•	•	•	•	•	•	02211033 2,970 (13,211)	02211034 3,260 (14,500)	•	•
4"	•	•	•	•	•	•	02211040 1,670 (7,248)	02211041 2,680 (11,921)	02211042 2,890 (12,855)	02211043 4,080 (18,148)	•
4 1/2"	•	•	•	•	•	•	•	•	02211051 2,520 (11,208)	02211052 3,470 (15,434)	•
5"	•	•	•	•	•	•	•	•	02211061 2,150 (9,563)	02211062 2,860 (12,721)	02211063 3,130 (13,922)
6"	•	•	•	•	•	•	•	•	•	02211072 2,245 (9,986)	02211073 2,245 (9,986)

Note: Refer to page T-43 for multiple cables in a single conduit riser grip.

Support Grips Conduit Riser

Ring Type, Double Weave, Tin-Coated Bronze



Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-41 through T-46.

Double Weave, Split Mesh, Lace Closing

Kellems® Conduit Riser Support Grips will support cable runs in vertical or sloping standard rigid conduit. The grip is fastened to a support ring which seats on the rim of the conduit. The entire grip is supported by the conduit itself and no other hardware is required. See page T-40 for ring dimensions. The rings will fit schedule 40, standard rigid conduit. For permanent support when cable end is not available.

Suitable For Schedule 40 Conduit Only

Cable Sizes Inches (cm)	.75"-.99" (1.90-2.51)	1.00"-1.24" (2.54-3.15)	1.25"-1.49" (3.17-3.78)	1.50"-1.74" (3.81-4.42)	1.75"-1.99" (4.44-5.05)	2.00"-2.49" (5.08-6.32)	2.50"-2.99" (6.35-7.59)	3.00"-3.49" (7.62-8.86)	3.50"-3.99" (8.89-10.13)
Model	RS075	RS100	RS125	RS150	RS175	RS200	RS250	RS300	RS350
Length Inches (cm)	11" (27.94)	12" (30.48)	12" (30.48)	14" (35.56)	15" (38.10)	17" (43.18)	18" (45.72)	20" (50.80)	21" (53.34)
Conduit Sizes Inches	Catalog Numbers Approx. Breaking Strength Lbs. (N)								
1 1/4"	02212003 1,580 (7,028)	•	•	•	•	•	•	•	•
1 1/2"	02212007 1,500 (6,672)	02212009 2,040 (9,024)	•	•	•	•	•	•	•
2"	02212010 1,430 (6,361)	02212012 1,930 (8,585)	02212013 2,040 (9,074)	•	•	•	•	•	•
2 1/2"	•	•	02212017 1,910 (8,496)	02212018 2,040 (9,074)	02212019 2,730 (12,143)	•	•	•	•
3"	•	•	02212023 1,780 (7,917)	02212024 1,890 (8,407)	02212025 2,520 (11,209)	02212026 4,300 (19,126)	•	•	•
3 1/2"	•	•	•	•	•	02212033 3,910 (17,392)	02212034 4,300 (19,126)	•	•
4"	•	•	•	•	02212040 2,110 (9,385)	02212041 3,530 (15,701)	02212042 3,820 (16,991)	02212043 5,380 (23,930)	•
5"	•	•	•	•	•	•	02212061 2,860 (12,721)	02212062 3,760 (16,724)	02212063 4,170 (18,548)
6"	•	•	•	•	•	•	02212071 2,365 (10,519)	02212072 2,955 (13,144)	02212073 2,955 (13,144)

Note: Refer to page T-43 for multiple cables in a single conduit riser grip.

Support Grips Conduit Riser

Ring Type, Single Weave, Tin-Coated Bronze



Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-43 through T-48.

Single Weave, Split Mesh, Rod Closing Benefits

- Easy and fast to install.
- Will not damage electrical cable.
- Allows cable to expand or contract.
- Ideal way to hold cable in vertical conduit.
- Prevents cable creep in conduit.
- Helps prevent cable pullouts.
- The rings will fit schedule 40, standard rigid conduit.
- For support when cable end is not available.



Suitable For Schedule 40 Conduit Only

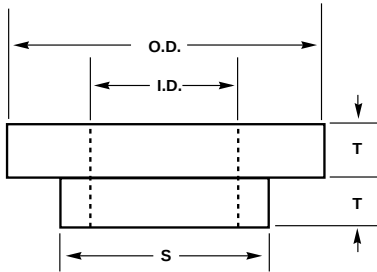
Cable Sizes Inches (cm)	.75"-.99" (1.90-2.51)	1.00"-1.24" (2.54-3.15)	1.25"-1.49" (3.17-3.78)	1.50"-1.74" (3.81-4.42)	1.75"-1.99" (4.44-5.05)	2.00"-2.49" (5.08-6.32)	2.50"-2.99" (6.35-7.59)	3.00"-3.49" (7.62-8.86)	3.50"-3.99" (8.89-10.13)
Model	RR075	RR100	RR125	RR150	RR175	RR200	RR250	RR300	RR350
Length Inches (cm)	11" (27.94)	12" (30.48)	13" (33.02)	14" (35.56)	15" (38.10)	16" (40.64)	18" (45.72)	19" (48.26)	21" (53.34)
Conduit Sizes Inches	Catalog Numbers Approx. Breaking Strength Lbs. (N)								
1 1/4"	02213003 1,020 (4,537)	•	•	•	•	•	•	•	•
1 1/2"	02213007 970 (4,315)	02213009 1,610 (7,161)	•	•	•	•	•	•	•
2"	•	02213012 1,520 (6,761)	02213013 1,610 (7,161)	•	•	•	•	•	•
2 1/2"	•	•	02213017 1,510 (6,716)	02213018 1,610 (7,161)	•	•	•	•	•
3"	•	•	02213023 1,400 (6,227)	02213024 1,490 (6,627)	02213025 1,990 (8,851)	02213026 3,260 (14,500)	•	•	•
3 1/2"	•	•	•	•	•	02213033 2,970 (13,211)	02213034 3,260 (14,500)	•	•
4"	•	•	•	•	•	02213041 2,680 (13,255)	02213042 2,890 (17,855)	•	•

Note: Refer to page T-43 for multiple cables in a single conduit riser grip.

Support Grips
Conduit Riser

Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-43 through T-48



Conduit Ring Dimensions

Ring dimensions are found in the chart below. The ring material is corrosion resistant. These rings will fit schedule 40, standard rigid conduit sizes only.

Conduit Size Inches	Ring Number	O.D. Inches (cm)	I.D. Inches (cm)	S Inches (cm)	T Inches (cm)
3/4"	C-3/4	.94" (2.39)	.62" (1.57)	•	.19" (.48)
1"	C-1	1.17" (2.97)	.80" (2.03)	•	.19" (.48)
1 1/4"	C-1 1/4	1.50" (3.81)	1.03" (2.62)	1.31" (3.33)	.16" (.41)
1 1/2"	C-1 1/2	1.76" (4.47)	1.23" (3.12)	1.52" (3.86)	.16" (.41)
2"	C-2	2.23" (5.66)	1.55" (3.94)	1.97" (5.00)	.16" (.41)
2 1/2"	C-2 1/2	2.67" (6.78)	2.05" (5.21)	2.40" (6.10)	.16" (.41)
3"	C-3	3.20" (8.13)	2.55" (6.48)	2.97" (7.54)	.22" (.56)
3 1/2"	C-3 1/2	3.80" (9.65)	3.05" (7.75)	3.47" (8.81)	.22" (.56)
4"	C-4	4.30" (10.92)	3.55" (9.02)	3.94" (10.01)	.22" (.56)
4 1/2"	C-4 1/2	4.80" (12.19)	4.03" (10.24)	4.45" (11.30)	.22" (.56)
5"	C-5	5.30" (13.46)	4.46" (11.33)	4.96" (12.60)	.22" (.56)
6"	C-6	6.30" (16.00)	5.36" (13.61)	5.96" (15.14)	.25" (.63)

Kellems® Grips For Cable Support

Technical Section

For Conduit Riser Grips Only†

For Cables of Equal Diameters

Under "Number of Cables in One Grip," find diameter of your single cable in vertical column. Read the grip diameter range to the right.

If your diameter is the maximum of the range shown, go to the next larger size for Split Grips, stay with the same size for Closed Grips.

Example: 3 cables, each with .85" (2.16cm) diameter, for a Closed Grip select the 1.50"-1.74" (3.81cm-4.42cm) range, for a Split Grip select the 1.75"-1.99" (4.44cm-5.05cm) range.

Number of Equal Diameter Cables in One Grip

2	3	4	5	6 and 7	8	9	Grip Dia. Range Inches (cm)
.29-.36 (.74-.91)	.24-.30 (.61-.76)	.21-.25 (.53-.63)	.18-.22 (.46-.56)	.16-.20 (.41-.51)	.15-.18 (.38-.46)	.14-.17 (.36-.43)	.50-.62 (1.27-1.57)
.37-.43 (.94-1.09)	.31-.36 (.79-.91)	.26-.30 (.66-.76)	.23-.27 (.58-.69)	.21-.24 (.53-.61)	.19-.22 (.48-.56)	.18-.20 (.46-.51)	.63-.74 (1.60-1.88)
.44-.58 (1.12-1.47)	.37-.48 (.94-1.22)	.31-.41 (.79-1.04)	.28-.36 (.71-.91)	.25-.32 (.63-.81)	.23-.29 (.58-.74)	.21-.27 (.53-.69)	.75-.99 (1.90-2.51)
.59-.72 (1.50-1.83)	.49-.60 (1.24-1.52)	.42-.51 (1.07-1.30)	.37-.45 (.94-1.14)	.33-.40 (.84-1.02)	.30-.36 (.76-.91)	.28-.34 (.71-.86)	1.00-1.34 (2.54-3.15)
.73-.87 (1.85-2.21)	.61-.72 (1.55-1.83)	.52-.61 (1.32-1.55)	.46-.54 (1.17-1.37)	.41-.48 (1.04-1.22)	.37-.43 (.94-1.09)	.35-.40 (.89-1.02)	1.25-1.49 (3.17-3.78)
.88-1.01 (2.24-2.57)	.73-.85 (1.85-2.16)	.62-.71 (1.57-1.80)	.55-.63 (1.40-1.60)	.49-.56 (1.24-1.42)	.44-.51 (1.12-1.30)	.41-.47 (1.04-1.19)	1.50-1.74 (3.81-4.42)
1.02-1.16 (2.59-2.95)	.86-.96 (2.18-2.44)	.72-.81 (1.83-2.06)	.64-.72 (1.63-1.83)	.57-.64 (1.45-1.63)	.52-.58 (1.32-1.49)	.48-.54 (1.22-1.37)	1.75-1.99 (4.44-5.05)
1.17-1.44 (2.97-3.66)	.97-1.20 (2.46-3.05)	.82-1.02 (2.08-2.59)	.73-.90 (1.85-2.29)	.65-.80 (1.65-2.03)	.59-.72 (1.50-1.83)	.55-.67 (1.40-1.70)	2.00-2.49 (5.08-6.32)
1.45-1.73 (3.68-4.39)	1.21-1.45 (3.07-3.68)	1.03-1.22 (2.62-3.10)	.91-1.08 (2.31-2.74)	.81-.96 (2.06-2.44)	.73-.87 (1.85-2.21)	.68-.81 (1.73-2.06)	2.50-2.99 (6.35-7.59)
1.74-2.02 (4.42-5.13)	1.46-1.69 (3.71-4.29)	1.23-1.43 (3.12-3.63)	1.09-1.26 (2.77-3.20)	.97-1.11 (2.46-2.82)	.83-1.01 (2.11-2.57)	.82-.94 (2.08-2.39)	3.00-3.49 (7.62-8.86)
2.03-2.31 (5.16-5.87)	1.70-1.93 (4.32-4.90)	1.44-1.63 (3.66-4.14)	1.27-1.44 (3.23-3.66)	1.12-1.27 (2.84-3.23)	1.02-1.15 (2.59-2.92)	.95-1.08 (2.41-2.74)	3.50-3.99 (8.89-10.13)

†This chart is to be used for determining grip size when multiple cables are held in a single conduit riser grip.

Select The Correct Support Grip

For Cables of Unequal Diameters

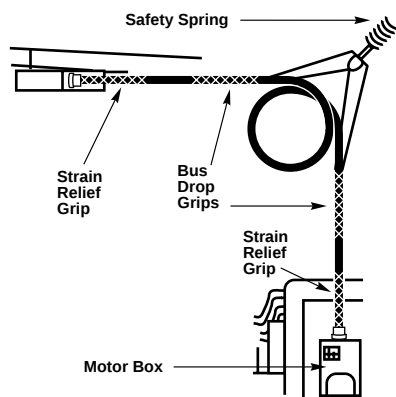
Step 1 Take circumference of cable bundle.

Step 2 Take circumference bundle divide by 3.1416 which equals approximate cable bundle diameter.

Step 3 Choose appropriate grip for application and desired breaking strength and use approximate diameter matched to the cable diameter in the catalog.

NOTE: It is always recommended that, when multiple cables are installed in a support grip, the tail end of the grip be banded or tightly taped after installation on the cable bundle.

Kellems® Grips For Cable Support

Technical Section*Bus Drop Grips***Bus Drop Grips and Safety Springs**

Kellems Bus Drop Grips are offered with either a single eye or universal bale attachment. The mesh is single weave galvanized steel with the patented wide range construction. They are suitable for indoor use only.

Application

Bus Drop Grips provide a safe, easy and economical method to support flexible cord or bus drop cable at bus duct and other industrial areas.

Benefits

- Easily installed.
- Absorb tension, vibration and pull with no cable damage.
- Patented mesh construction.

Safety Spring

Springs can be used with single eye grips by disassembling drawbar from coil, placing through eye and replacing drawbar.

Kellems® Grips For Cable Support Technical Section

Kellems Support Grips

Kellems Support Grips are used to hold the weight of electrical cable as it hangs in a vertical, sloping or horizontal position. Electrical cable must be supported, or its dead weight can cause excessive strain or pullout at the connections resulting in power failure. Support grips also absorb additional strain from flexure, vibration, expansion and contraction. Kellems Support Grips listed in this catalog are made of high grade, non-magnetic tin-coated bronze strand. Stainless steel grips, made of alloy 302–304 SST for severe service or unusual environmental conditions, are available on request.

Select the Correct Support Grip

Each Kellems grip is designed to work on a specific range of cable diameters.

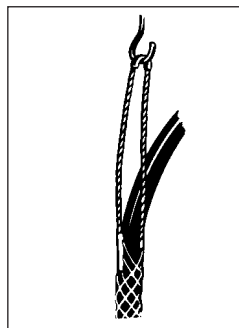
- Step 1** Refer to the Kellems chart below to determine the grip style best suited for your application.
- Step 2** Determine your cable outside diameter.
- Step 3** Find the grip size that encompasses your cable diameter.
- Step 4** Whenever possible, use a closed mesh that assembles over the cable end. If the cable end is not available, use a split mesh.
- Step 5** Where available, select an eye style that suits your needs.
- Step 6** Select the proper material—tinned bronze or stainless steel*.
- Step 7** Estimate the tension to be put on the grip, establish the working load you require and compare this to the listed approximate breaking strength of the grip to insure that the grip will be strong enough. Refer to page L-84 for safety and working load considerations.

Support Grip Selection Chart

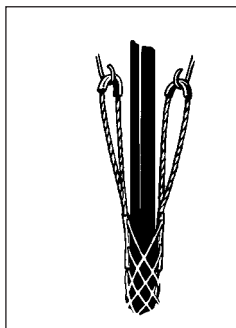
Grip Styles	Application	Page
Closed mesh	Standard, permanent support, cable end available.	T-30 to T-33
Split lace closing	Standard, permanent support, cable end unavailable.	T-30 to T-33
Split rod closing	Standard, temporary support, cable end unavailable. Tape or band tail end of wire mesh grip after positioning for permanent support.	T-30 to T-33
Material*	Tin-coated bronze standard or stainless steel by special request.	T-30 to T-42
Standard support grips	Support vertical runs to 99 ft. loads to 600 lbs.	T-30 to T-33
Heavy duty grips	Support vertical runs over 100 ft loads over 600 lbs.	T-34, T-35
Service drop	Light duty to support service entrance cable.	T-36, T-37
Bus drop	Light duty support, indoors only, on Bus drop cable.	T-38
Conduit riser	Support cable runs in rigid (Schedule 40) conduit.	T-39 to T-42
Fiber optic cable support grips	Support fiber optic cable.	T-53

*Most catalog listed support grips are made of tin-coated bronze strand. To order stainless steel support grips, change the first three catalog number digits from 022-XX-XXX to 024-XX-XXX. Consult factory for details.

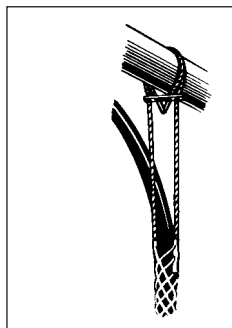
Eye Styles



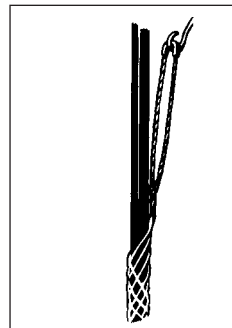
Single



Double



Universal



Offset

Kellems® Grips For Cable Support

Technical Section

Safety And Working Load Factors For Wire Mesh Grips

The broad application of Kellems grips on a wide variety of objects requires that adequate safety factors be used to establish working loads. The approximate breaking strength of a Kellems grip represents an average calculation based on data established from actual direct tension testing done in our engineering laboratories.

It is impossible to catalog or guarantee a safety factor suitable for all applications as operating conditions are never the same. The tension, diameter, movement, number of objects gripped, gripping surface, and the attachments used are just some of the factors which vary with each application. These factors, together with the effects of abrasion, corrosion, prior use or abuse and any other variables of a specific application, must be considered by the user and the grip replaced as appropriate. Where the conditions of the application are not well defined or known, or where risk of injury to

persons or property is involved, a greater safety factor should be utilized.

Under normal conditions, Kellems' recommended factor of safety is five for catalog listed pulling grips, and ten for catalog listed support grips. The factory should be consulted for specific application recommendations where strength and holding power are important factors.

Any warranty as to quality, performance or fitness for use of grips is always premised on the condition that the published breaking strengths apply only to new, unused grips, and that such products are properly stored, handled, used, maintained, and inspected by the user at a frequency appropriate for the use and condition of the grip.

Examples

Grip Style	Approx. Breaking Strength Lbs. (N)	Safety Factor	Max. Rec. Load Lbs. (N)	Catalog Numbers
Pulling Grips	27,200 (120,986)	5	5,440 (24,197)	03301027
Support	1,610 (7,161)	10	161 (716)	02202020

The maximum recommended working load then is the tension to be exerted on the grip in application with a margin of safety to take care of unforeseen and unusual circumstances.

It is the end-user's decision to determine how much of a safety factor is acceptable to him.

The metric unit of measure (force) for breaking strength and load is newtons (N). To convert from newtons to the metric unit of weight (kilograms) the conversion factor is 9.808 newtons/kilogram.

Support Grip Materials

Material	Feature	Grip Type
Tin-coated bronze wire	Corrosion resistant for normal outside areas	Support grips
	Non-magnetic	Service drop grips
	Moderate strength	Conduit riser grips
Stainless steel wire (302-304)	High strength	Support grips
	Corrosion resistant	Service drop grips
Galvanized steel wire	Slightly magnetic	Bus drop grips
	Not subject to continuous outside environment	Bus drop grips

Approvals

CSA Certifications are indicated on appropriate product catalog pages.

Note: It is always recommended that the tail end of the grip be banded after the installation on the cable to prevent accidental release of the mesh.

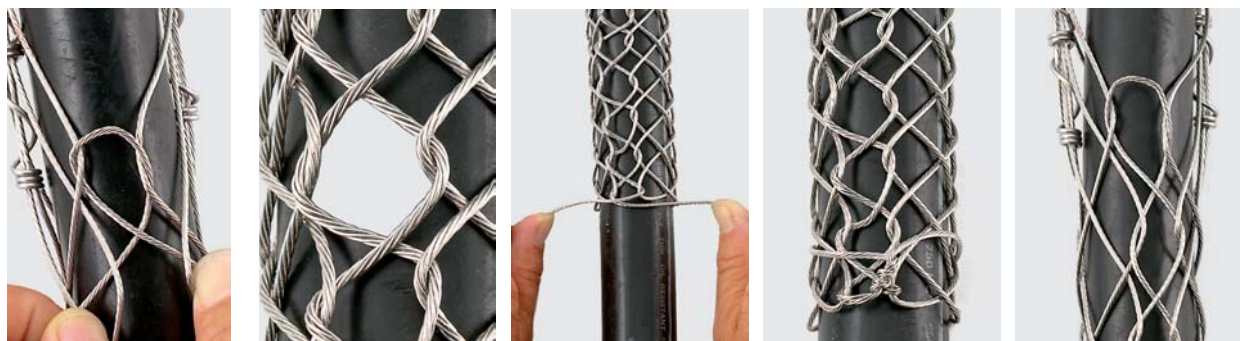
Kellems® Grips For Cable Support

Technical Section

Split Support Grip Lace Closing Instructions

Single Weave Grips should be laced with single strand lacing; double weave with double strand. Lacing strands should be the same material as the grip. Kellems supplies the appropriate lacing with each grip.

1. Start the lacing at the lead or anchoring end of the grip. Thread the lacings through the first two loops of the split and pull through until the lacings are centered at this point. Lace as you would your shoe, crossing the lacings before lacing the next two loops.
2. Don't pull lacing too tight. Leave a space between adjoining loops approximately equal to the width of one diamond of the mesh.
3. Twist the lacing strands tightly together at the tail end of the grip.
4. Wrap the ends of the lacings once or twice tightly around the tail of the grip, twisting the ends together securely. Excess lace can be cut off.



Split Support Grip Rod Closing Instructions

The stainless steel rod is a precise built-in feature which makes threading easy and fast. The strands of the mesh pass around the rod and match up with the strands from the opposite direction. The rod does not touch the cable at any point and therefore cannot cut the cable. Rod Closing Grips are reusable. They may be removed and reused as many times as desired.

1. **Fast to install**
Wrap the grip around the cable and thread the rod through the performed loops with a corkscrew motion, using the curved end of the rod to engage the loops.
2. The action required is a steady push and twist simultaneously. The fingers of the left hand are used to bring the loops together just ahead of the hook on the end of the rod.
3. To remove, simply pull the rod out.



Kellems® Grips For Cable Support

Technical Section

Multiple Cable Selection Charts for Cables of Equal Diameters For Standard Support Grips*

For Cables of Equal Diameters

Under "Number of Cables in One Grip," find diameter of your single cable in vertical column. Read the grip diameter range to the right.

Caution: When a grip is used on multiple cables, the tail end of the grip should be banded or tightly taped after positioning on the cables.

If your diameter is the maximum of the range shown, go to the next larger size for Split Grips, stay with the same size for Closed Grips.

Example: 3 cables, each with .85" (2.16cm) diameter, for a Closed Grip select the 1.50"-1.74" (3.81cm-4.42cm) range, for a Split Grip select the 1.75"-1.99" (4.44cm-5.05cm) range.

Number of Cables in One Grip

2	3	4	5	6 and 7	8	9	Grip Dia. Range Inches (cm)
.30-.38 (.76-.97)	.25-.31 (.63-.79)	.22-.27 (.56-.69)	.19-.24 (.48-.61)	.17-.22 (.43-.56)	.15-.19 (.38-.48)	.14-.18 (.36-.46)	.50-.61 (1.27-1.55)
.38-.44 (.97-1.12)	.31-.36 (.79-.91)	.27-.31 (.69-.79)	.24-.29 (.61-.74)	.22-.26 (.56-.66)	.19-.23 (.48-.56)	.18-.21 (.46-.53)	.62-.74 (1.57-1.88)
.44-.59 (1.12-1.50)	.36-.49 (.91-1.24)	.31-.42 (.79-1.07)	.29-.38 (.74-.97)	.26-.34 (.66-.86)	.23-.31 (.58-.79)	.21-.28 (.53-.71)	.75-.99 (1.90-2.51)
.59-.75 (1.50-1.90)	.49-.63 (1.24-1.60)	.42-.54 (1.07-1.37)	.38-.48 (.97-1.22)	.34-.43 (.86-1.09)	.31-.39 (.79-.99)	.28-.35 (.71-.89)	1.00-1.24 (2.54-3.15)
.75-.90 (1.90-2.29)	.63-.76 (1.60-1.93)	.54-.65 (1.37-1.65)	.48-.58 (1.22-1.47)	.43-.52 (1.09-1.32)	.39-.46 (.99-1.17)	.36-.42 (.89-1.07)	1.25-1.49 (3.17-3.78)
.90-1.07 (2.29-2.72)	.76-.89 (1.93-2.26)	.65-.77 (1.65-1.96)	.58-.67 (1.47-1.70)	.52-.60 (1.32-1.52)	.46-.54 (1.17-1.37)	.42-.49 (1.07-1.24)	1.50-1.74 (3.81-4.42)
1.07-1.22 (2.72-3.10)	.89-1.02 (2.26-2.59)	.77-.88 (1.96-2.24)	.67-.77 (1.70-1.96)	.60-.69 (1.52-1.75)	.54-.62 (1.37-1.57)	.49-.56 (1.24-1.42)	1.75-1.99 (4.44-5.05)
1.22-1.53 (3.10-3.89)	1.02-1.28 (2.59-3.25)	.88-1.10 (2.24-2.79)	.77-.96 (1.96-2.44)	.69-.86 (1.75-5.54)	.62-.77 (1.57-1.96)	.56-.71 (1.42-1.80)	2.00-2.49 (5.08-6.32)
1.53-1.83 (3.89-4.65)	1.28-1.53 (3.25-3.89)	1.10-1.32 (2.79-3.35)	.96-1.16 (2.44-2.95)	.86-1.03 (2.18-2.62)	.77-.93 (1.96-2.36)	.71-.85 (1.80-2.16)	2.50-2.99 (6.35-7.59)
1.83-2.14 (4.65-5.44)	1.53-1.79 (3.89-4.55)	1.32-1.54 (3.35-3.91)	1.16-1.35 (2.95-3.43)	1.03-1.20 (2.62-3.05)	.93-1.08 (2.36-2.74)	.85-.99 (2.16-2.51)	3.00-3.49 (7.62-8.86)
2.14-2.44 (5.44-6.20)	1.79-2.05 (4.55-5.21)	1.54-1.76 (3.91-4.47)	1.35-1.54 (3.43-3.91)	1.20-1.37 (3.05-3.48)	1.08-1.24 (2.74-3.15)	.99-1.13 (2.51-2.87)	3.50-3.99 (8.89-10.13)
2.44-2.75 (6.20-6.98)	2.05-2.30 (5.21-5.84)	1.76-1.98 (4.47-5.03)	1.54-1.74 (3.91-4.42)	1.37-1.55 (3.48-3.94)	1.24-1.39 (3.15-3.53)	1.13-1.27 (2.87-3.23)	4.00-4.49 (10.16-11.40)
2.75-3.06 (6.98-7.77)	2.30-2.56 (5.84-6.50)	1.98-2.20 (5.03-5.59)	1.74-1.93 (4.42-4.90)	1.55-1.72 (3.94-4.37)	1.39-1.55 (3.53-3.94)	1.27-1.41 (3.23-3.58)	4.50-4.99 (11.43-12.67)

*This chart is not to be used for Conduit Riser Grips. Refer to the chart for Conduit Riser multiple cable section.

Select The Correct Support Grip For Cables of Unequal Diameter

Step 1 Take circumference of cable bundle.

Step 2 Take circumference bundle divide by 3.1416 which equals approximate cable bundle diameter.

Step 3 Choose appropriate grip for application and desired breaking strength and use approximate diameter matched to the cable diameter in the catalog.

NOTE: It is always recommended that, when multiple cables are installed in a support grip, the tail end of the grip be banded or tightly taped after installation on the cable bundle.

Kellems® Products for Fiber Optic Cable

Pulling Tools, Support Devices

OPTISOK™ grip is a new and revolutionary tool to pull preterminated fiber optic cables. They will protect the connectors and guide the bundle through the pulling environment.



Pulling Grips are used for outside plant cable. They are easy to install and remove, reusable, and have a slim profile for small build up.



Grips for cable support are easy to install or position. They come in a closed style when the cable end is available, and a split rod style for mid-span installation. Will support the cable's weight as it hangs in vertical, sloping or horizontal position.



Pulling Grips

Fiber Optic Cable Grips

Special Purpose

Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-54 through T-57.

OPTISOK™ Non-metallic Fiber Optic Pulling Tool For Preterminated, Inside Plant Fiber Optic Cables and Bundles of Twisted Pair



OPTISOK™ Non-Metallic Fiber Optic Pulling Tool

Bundle/Size Range Inches (cm)	Approx. O/A Length Inches (cm)	Ring O.D. Inches (cm)	Ring Thickness Inches (cm)	Maximum Work Load lbs. (N)	Catalog Numbers
.125"-.562" (.318-1.427)	28" (71.12)	.71" (18.03)	.10" (2.54)	30 (133)	CCPS1
.250"-.750" (.635-1.905)	31" (78.74)	.71" (18.03)	.10" (2.54)	40 (178)	CCPS2
.750"-1.750" (19.05-44.50)	33" (83.82)	1.57" (39.88)	.16" (4.06)	50 (222)	CCPS3

Pulling Grip For Loose Tube Fiber Optic Cable, Galvanized Steel



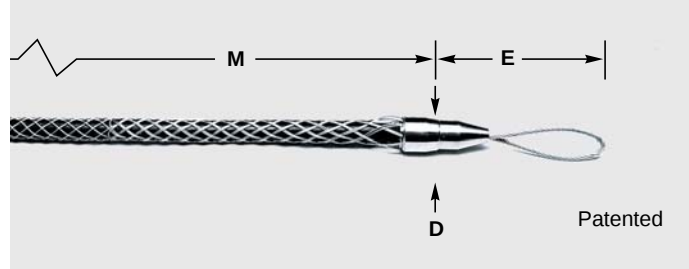
Pulling Grip For Loose Tube Fiber Optic Cable, Galvanized Steel

Diameter Range Inches (cm)	Mesh Length Inches (cm)	Eye Length Inches (cm)	Eye Diameter Inches (cm)	Lug Diameter Inches (cm)	Maximum Breaking Strength lbs. (N)	Catalog Number
.312"-.625" (.79-1.59)	22.5" (57.15)	6.3" (16.00)	.20" (.51)	.51" (1.30)	3,000 (13,344)	PFOLT312

Pulling Grips

Fiber Optic Cable Grips

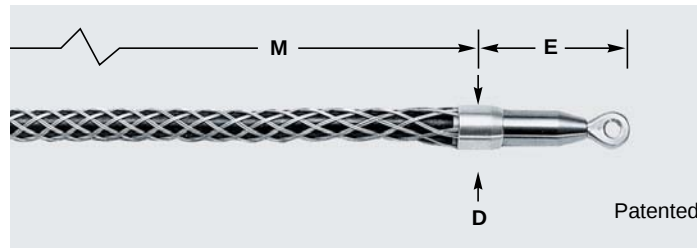
Double/Single Weave Mesh, Galvanized Steel, for Outside Plant Cable

**F-O Pulling Grip, Flexible Eye****Read This Data**

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-54 through T-57.

F-O Pulling Grip, Flexible Eye

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Approx. Inches (cm)	M Approx. Inches (cm)	D Approx. Inches (cm)	Catalog Numbers
.10"-.22" (.25-.56)	1,000 (4,448)	5.5" (14)	9" (23)	0.8" (2)	033291000
.21"-.35" (.53-.89)	1,500 (6,672)	5.5" (14)	14" (36)	0.8" (2)	033291001
.32"-.48" (.81-1.22)	2,200 (9,786)	6.0" (15)	18" (46)	0.9" (2.30)	033291002
.42"-.61" (1.07-1.55)	2,800 (12,454)	6.0" (15)	21" (53)	0.9" (2.30)	033291003
.53"-.74" (1.35-1.88)	3,300 (14,678)	6.5" (17)	24" (61)	1.3" (3.30)	033291004
.64"-.87" (1.63-2.21)	4,700 (20,906)	6.5" (17)	27" (69)	1.3" (3.30)	033291005

*E-Eye length**M-Mesh length at nominal diameter***F-O Pulling Grip, Swivel Eye****F-O Pulling Grip, Swivel Eye**

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Approx. Inches (cm)	M Approx. Inches (cm)	D Approx. Inches (cm)	Catalog Numbers
.10"-.22" (.25-.56)	1,000 (4,448)	4.0" (10.16)	9" (22.86)	0.9" (2.29)	033291007
.21"-.35" (.53-.89)	1,500 (6,672)	4.0" (10.16)	14" (35.56)	0.9" (2.29)	033291008
.32"-.48" (.81-1.22)	2,200 (9,786)	4.0" (10.16)	18" (45.72)	0.9" (2.29)	033291009
.42"-.61" (1.07-1.55)	2,800 (12,454)	4.0" (10.16)	21" (53.34)	0.9" (2.29)	033291010
.53"-.74" (1.35-1.88)	3,300 (14,678)	4.5" (11.43)	24" (60.96)	1.3" (1.3)	033291011
.64"-.87" (1.63-2.21)	4,700 (20,906)	4.5" (11.43)	27" (68.58)	1.3" (1.3)	033291012

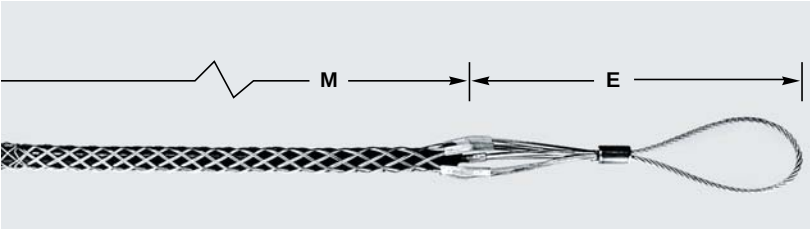
*E-Eye length**M-Mesh length at nominal diameter*

Pulling Grips
Fiber Optic Cable Grips
Galvanized Steel for Outside Plant Cable



Read This Data
It is important that you read all breaking strength, safety and technical data relating to this product on pages T-54 through T-57.

F-O Pulling Grip, Flexible Eye, Low Profile, Double/Single Weave Mesh

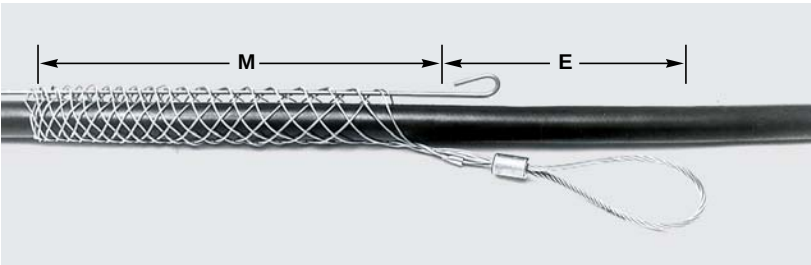


F-O Pulling Grip, Flexible Eye, Low Profile,

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Approx. Inches (cm)	M Approx. Inches (cm)	Catalog Numbers
.10"-.22 (.25-.56)	900 (4,003)	7.5" (19)	10" (25)	033291193
.21"-.35 (.53-.89)	1,400 (6,227)	7.5" (19)	14" (36)	033291194
.32"-.48 (.81-1.22)	2,000 (8,896)	8.5" (22)	19" (48)	033291195
.42"-.61 (1.07-1.55)	2,500 (11,120)	8.5" (22)	21" (53)	033291196
.53"-.74 (1.35-1.88)	3,000 (13,344)	8.5" (22)	23" (58)	033291197
.64"-.87 (1.63-2.21)	4,200 (18,862)	8.5" (22)	25" (64)	033291198
.75"-1.00 (1.90-2.54)	4,200 (18,862)	8.5" (22)	28" (71)	033291199

E-Eye length M-Mesh length at nominal diameter

F-O Pulling Grip, Single Weave Mesh



F-O Slack Pulling Grip, Split Mesh Rod Closing, Single Weave

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Approx. Inches (cm)	M Approx. Inches (cm)	Catalog Numbers
.25"-.37 (.63-.94)	300 (1,334)	3" (7.6)	4.7" (12)	033291015
.38"-.49 (.97-1.24)	800 (3,558)	3" (7.6)	5" (13)	033291016
.50"-.61 (1.27-1.55)	800 (3,558)	3" (7.6)	7.5" (19)	033291017
.62"-.74 (1.57-1.88)	1,200 (5,338)	3" (7.6)	8" (20)	033291018

E-Eye length M-Mesh length at nominal diameter

Support Grips

Fiber Optic Cable Grips

Single Weave, Tin-Coated Bronze



Single Eye, Closed Mesh Single Weave

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Approx. Inches (cm)	M Approx. Inches (cm)	Catalog Numbers
.18"-.25" (.46-.63)	300 (1,334)	3" (7.6)	1.7" (4.30)	022291000
.23"-.32" (.58-.81)	300 (1,334)	3" (7.6)	2.5" (6.40)	022291001
.30"-.39" (.76-.99)	300 (1,334)	4" (10)	2.5" (6.40)	022291002
.37"-.48" (.94-1.22)	300 (1,334)	5" (13)	4" (10)	022291003
.46"-.58" (1.17-1.47)	400 (1,779)	6" (15)	4" (10)	022291004
.56"-.71" (1.42-1.80)	600 (2,669)	7" (18)	5.5" (14)	022291005
.69"-.88" (1.75-2.24)	800 (3,558)	8" (20)	6" (15)	022291006

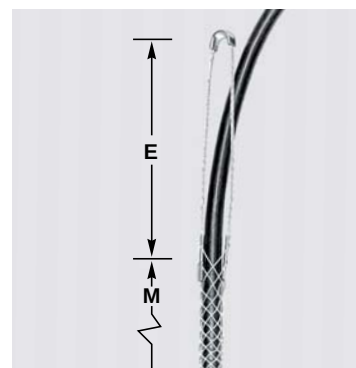
E-Eye length

M-Mesh length at nominal diameter

Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-54 through T-57.

For permanent support when cable end is available to be installed through grip.



Single Eye, Closed Mesh,
Single Weave

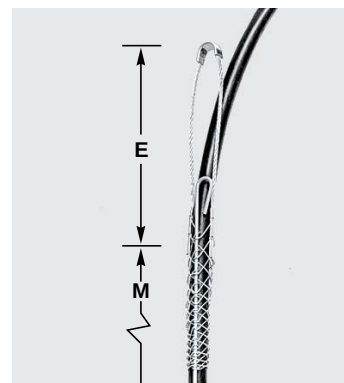
Single Eye, Split Mesh, Rod Closing Single Weave

Cable Diameter Range Inches (cm)	Approx. Breaking Strength Lbs. (N)	E Approx. Inches (cm)	M Approx. Inches (cm)	Catalog Numbers
.18"-.25" (.46-.63)	300 (1,334)	3" (7.60)	2.5" (6.40)	022291016
.23"-.32" (.58-.81)	300 (1,334)	3" (7.60)	2.5" (6.40)	022291017
.30"-.39" (.76-.99)	300 (1,334)	4" (10)	2.5" (6.40)	022291018
.37"-.48" (.94-1.22)	300 (1,334)	5" (13)	4" (10)	022291019
.46"-.58" (1.17-1.47)	400 (1,779)	6" (15)	5" (13)	022291020
.56"-.71" (1.42-1.80)	600 (2,669)	7" (18)	5" (13)	022291021
.69"-.88" (1.75-2.24)	800 (3,558)	8" (20)	6" (15)	022291022

E-Eye length

M-Mesh length at nominal diameter

For support when cable end not available.



Single Eye, Split Mesh,
Rod Closing, Single Weave

Kellems® Fiber Optic Cable Products Technical Section

Kellems has wide experience with grips for the new technology of fiber optic cable. As the industry leader in producing wire mesh grips for the stringent requirements of fiber optic applications, Kellems has developed several completely new series of grips for use with fiber optic communications cable.

These new grips include pulling grips with built in swivels, grips with steel ends to protect fragile cable ends, grips with low profiles to pull cables in tight places and the OPTISOK™ an effective tool to place preterminated cables. Also available are grips to support fiber optic cable.

Select the Correct Fiber Optic Grip

Each Kellems grip is designed to work on a specific range of cable diameters.

- | | |
|---------------|--|
| Step 1 | Determine your cable outside diameter. |
| Step 2 | Find the grip size that encompasses your cable diameter. |
| Step 3 | Whenever possible, use a closed mesh that assembles over the cable end. If the cable end is not available, use a split mesh. |
| Step 4 | Where available, select an eye style that suits your needs. |
| Step 5 | Estimate the tension to be put on the grip, establish the working load you require and compare this to the listed approximate breaking strength of the grip to insure that the grip will be strong enough. |

Safety And Working Load Factors For Wire Mesh Grips

The broad application of Kellems grips on a wide variety of objects requires that adequate safety factors be used to establish working loads. The approximate breaking strength of a Kellems grip represents an average calculation based on data established from actual direct tension testing done in our engineering laboratories.

It is impossible to catalog or guarantee a safety factor suitable for all applications as operating conditions are never the same. The tension, diameter, movement, number of objects gripped, gripping surface, and the attachments used are just some of the factors which vary with each application. These factors, together with the effects of abrasion, corrosion, prior use or abuse and any other variables of a specific application, must be considered by the user and the grip replaced as appropriate. Where the conditions of the application are not well defined or known or where risk of injury to persons or property is involved, a greater safety factor should be

utilized.

Under normal conditions, Kellems' recommended factor of safety is five for catalog listed pulling grips, and ten for catalog listed support grips. The factory should be consulted for specific application recommendations where strength and holding power are important factors.

Any warranty as to quality, performance or fitness for use of grips is always premised on the condition that the published breaking strengths apply only to new, unused grips, and that such products are properly stored, handled, used, maintained and inspected by the user at a frequency appropriate for the use and condition of the grip.

For grip applications on materials other than those that the grips have been specifically designed for, consult the factory.

Examples

Grip Style	Approx. Breaking Strength Lbs. (N)	Safety Factor	Max. Rec. Load Lbs. (N)	Catalog Numbers
Pulling	2,500 (11,120)	5	500 (2,224)	033291196
Support	400 (1,779)	10	40 (178)	022291004

The maximum recommended working load then is the tension to be exerted on the grip in application with a margin of safety to take care of unforeseen and unusual circumstances.

It is the end-user's decision to determine how much of a safety factor is acceptable to him.

Fiber Optic Grip Materials

Material	Features	Product Group
Galvanized steel wire	High strength	Pulling Grip
Tin-coated bronze wire	Not subject to continuous outside environment	Support grips
	Corrosion resistant for normal outside areas	
	Non-magnetic	
Non-metallic braid	Moderate strength	OPTISOK
	Superior flex life	
	Non-conductive	
	Corrosion resistant	
	Moderate strength	

Approvals

CSA Certification is indicated on appropriate product catalog pages.

Kellems® Fiber Optic Cable Products

Technical Section

Product Data

OPTISOK™

Kellems offers a unique and simple to use tool for the installation of preconnectorized fiber optic cables, jumpers and bundles of twisted pair communication cables - the OPTISOK.

The OPTISOK is a highly flexible and expandable nonmetallic sleeve open on one end and with a pulling ring on the other. It will expand to enclose the larger group of fiber optic connectors and grab the cable below the connector bundle by wrapping and taping to provide a gripping tool that will grab the cable(s) below the connectors. The pulling ring can be attached to a pulling line or fish tape and the OPTISOK will act as the pulling tool.

OPTISOK will contain and protect the connector bundle and save time and labor by making the pulling job easier, protecting the connectors from possible damage during the pull and facilitating the passage of the connector bundle through cramped and tight spaces. The OPTISOK can be used to pull cables through plenums, underfloor duct, office partitions, raised access floors and conduits. Three sizes are available for all applications.

How to Select OPTISOK

- Identify connector bundle diameter to be inserted into the OPTISOK.
- Choose appropriate catalog number based on size range.

Installation Information

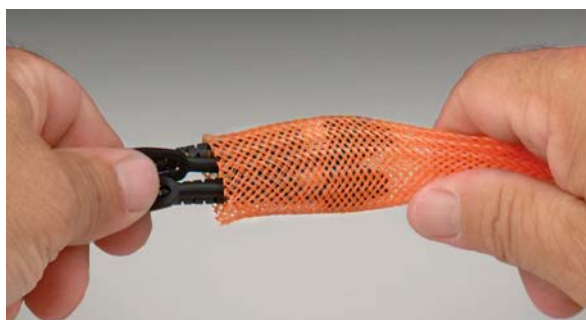
Step 1. Expand open end of OPTISOK and gently work in fiber optic connector bundle.

Step 2. Still gently, work connector bundle up to the forward section of the Optisok.

Step 3. Starting at approximately 6" from tail end of OPTISOK, tightly fold over the Optisok around cables and tape wrapped section 3" past tail end onto the bundle.

Step 4. Securely attach pulling line or tape to pulling ring.

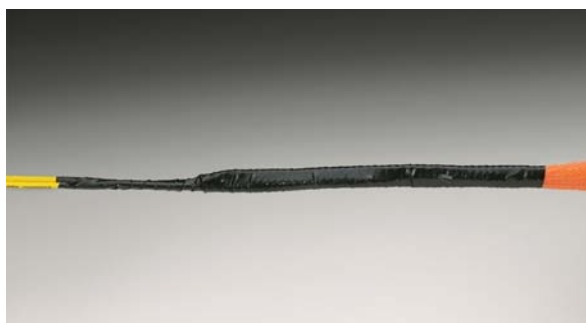
Note: To remove OPTISOK carefully unwrap tape and slide out cables and connectors or cut OPTISOK away without damaging connectors or cables.



1



2



3



4

Pulling Grip for Loose Tube Fiber Optic Cable

Kellems offers a wire mesh specifically designed to pull loose tube fiber optic cable and meet the special pulling requirements recommended by fiber optic cable manufacturers.

Many fiber optic cable manufacturers require special cable preparation prior to pulling where a short section of the outer jacket is stripped off exposing the aramid strength member. This creates two cable diameters, one including the jacket and a second smaller diameter at the strength member. Kellems new grip with its special weave will accommodate and securely grab both diameters, at the outside jacket and the internal aramid strength member.

Additionally, this galvanized steel mesh grip has longer leads at the pulling eye to facilitate pulling the cable up through the top, a very low profile lug and eye to slip through tight areas, and short shoulders to protect the cable while maintaining the slim profile.

The grip can be used to pull cable overhead as well as underground through conduit and duct. It easily mates with a swivel and has the necessary strength to securely make pulls.

Application Information

- Prior to pulling cable, follow cable manufacturers' cable preparation recommendations.
- Never exceed cable manufacturers' pulling tension recommendations.
- Never use grips to approximate breaking strength-factor of safety of 5 recommended.

Pulling Grips for Other Outside Plant Cables, Swivel Eye, Flexible Eye, Split Style, Low Profile

Kellems Pulling Grips for fiber optic cable are made of high strength galvanized steel strand. They feature a multiweave mesh, with one-half the mesh length double weave, and the second half single weave. This special weave provides positive holding power while allowing the grip to remain flexible with no damage to the cable jacket. Added features include a steel nose cone which protects the cable end and allows the grip to pass easily through conduit and enclosures. The eye connects easily to a swivel or a pulling line. Several grip sizes are available to accommodate all diameters of fiber optic cable.

Application

Kellems Flexible Eye Pulling Grips for fiber optic cable are used for the installation of fiber optic communication lines either underground, overhead, through conduit or through enclosures. They will fit single cables or cable bundles, are easily installed on the cable, and are reusable.

Benefits

- High strength multiweave mesh for positive holding power.
- Highly flexible mesh to follow the pulling path of the cable.
- Steel nose cone reduces snags and hang-ups and protects cable end.
- Easily installed and removed.
- A dependable, reusable pulling tool.

Technical Section

Product Data

Support Grips for Fiber Optic Cable

Kellems Support Grips for fiber optic cable are specially designed to hold the cable weight as it hangs in a vertical or horizontal position. Fiber optic cable must be supported and Kellems Grips provide the support easily and economically.

These grips are made of high grade, non-magnetic tin-coated bronze strand. They are offered in universal bale or single eye configurations and are available in either closed mesh (for use where the cable end is available) or in split mesh, rod closing (for installation on existing cable runs or at specific locations).

Split Support Grip Rod Closing Instructions

The stainless steel rod is a precise built-in feature which makes threading easy and fast. The strands of the mesh pass around the rod and match up with the strands from the opposite direction. The rod does not touch the cable at any point and therefore cannot cut the cable. Rod Closing Grips are reusable. They may be removed and reused as many times as desired.

Fast to Install

- Step 1.** Wrap the grip around the cable and thread the rod through the preformed loops with a corkscrew motion, using the curved end of the rod to engage the loops.
- Step 2.** The action required is a steady push and twist simultaneously. The fingers of the left hand are used to bring the loops together just ahead of the hook on the end of the rod.
- Step 3.** To remove, simply pull the rod out.



NOTES



Kellems® Grips for Strain Relief

Liquidtight, Dusttight

For Insulated Cables and Flexible, Liquidtight Conduits

Endless weave provides easy cable/flexible conduit installation.

Stainless steel mesh is corrosion resistant. Can be used inside or outside. It eliminates cable or flexible conduit pull out and reduces costly downtime.

Multiweave grip gives cable arc-of-bend control minimizing cable damage and extending cable life. It is the strongest strain relief device available. Meets and exceeds all code requirements. Prevents cable/conduit pull-out.

A liquidtight fitting is available with both cable and conduit fittings. Prevents liquids from running through the fitting into the enclosure.

An NPT and PG threaded body allows easy attachment to either threaded hub or knock-out in box.



Strain Relief Deluxe Cord Grips

Aluminum Fittings, Stainless Steel Mesh, Liquidtight, for Insulated Cables

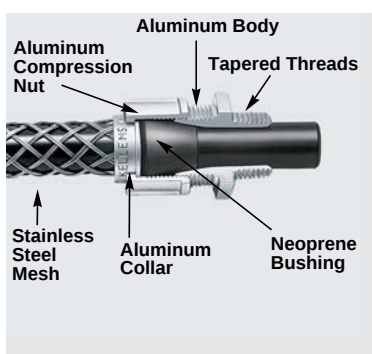


Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-68 through T-74.



Straight Male



Straight Male Thread

Grip Diameter Range Inches	(cm)	Thread Size N.P.T. (Inches)	Form Size	Catalog Numbers
.250"-.312"	(.63-.79)	3/8"	F1	07401001
.312"-.375"	(.79-.95)			07401002
.375"-.437"	(.95-1.11)			07401003
.187"-.250"	(.47-.63)	1/2"	F2	07401004
.250"-.375"	(.63-.95)			07401006
.375"-.500"	(.95-1.27)			07401008
.500"-.625"	(1.27-1.59)	1/2"	F3	07401010
.625"-.750"	(1.59-1.90)			074011247*
.750"-.875"	(1.90-2.22)			074011248*
.187"-.250"	(.47-.63)	3/4"	F2	07401011
.250"-.375"	(.63-.95)			07401013
.375"-.500"	(.95-1.27)			07401015
.500"-.625"	(1.27-1.59)	3/4"	F3	07401017
.625"-.750"	(1.59-1.90)			07401018
.750"-.875"	(1.90-2.22)			074011249*
.375"-.500"	(.95-1.27)	1"	F4	074011195
.500"-.625"	(1.27-1.59)			07401019
.625"-.750"	(1.59-1.90)			07401021
.750"-.875"	(1.90-2.22)	1"	F5	07401023
.875"-.1.000"	(2.22-2.54)			07401025
1.000"-.1.125"	(2.54-2.86)			074011250*
1.125"-.1.250"	(2.86-3.17)	1"	F5	074011028*
1.250"-.1.375"	(3.17-3.49)			074011029*
.750"-.875"	(1.90-2.22)	1 1/4"	F5	074011251
.875"-.1.000"	(2.22-2.54)			07401026
1.000"-.1.125"	(2.54-2.86)			07401027
1.125"-.1.250"	(2.86-3.17)	1 1/2"	F5	07401028
1.250"-.1.375"	(3.17-3.49)			074011178*
.750"-.875"	(1.90-2.22)	1 1/2"	F5	074011252
.875"-.1.000"	(2.22-2.54)			07401029
1.000"-.1.125"	(2.54-2.86)			07401030
1.125"-.1.250"	(2.86-3.17)	1 1/2"	F6	07401031
1.250"-.1.375"	(3.17-3.49)			07401032
1.312"-.1.437"	(3.33-3.65)			074011253
1.437"-.1.562"	(3.65-3.97)	1 1/2"	F6	074011254*
1.562"-.1.687"	(3.97-4.28)			074011255*
1.687"-.1.812"	(4.28-4.60)			074011256*
1.750"-.1.875"	(4.44-4.76)	2"	F6	074011257*
1.250"-.1.375"	(3.17-3.49)			074011258
1.312"-.1.437"	(3.33-3.65)			074011259
1.437"-.1.562"	(3.65-3.97)	2"	F7	07401033
1.562"-.1.687"	(3.97-4.28)			07401034
1.687"-.1.812"	(4.28-4.60)			07401035
1.750"-.1.875"	(4.44-4.76)	2"	F7	074011260
1.812"-.1.937"	(4.60-4.92)			074011261
1.937"-.2.062"	(4.92-5.24)			074011262*
2.062"-.2.187"	(5.24-5.55)	2 1/2"	F7	074011263*
2.187"-.2.312"	(5.55-5.87)			074011264*
2.312"-.2.437"	(5.87-6.19)			074011265*
1.688"-.1.812"	(4.29-4.60)	3"	F7	074011030
1.812"-.1.937"	(4.60-4.92)			074011031
1.937"-.2.062"	(4.92-5.24)			074011032
2.062"-.2.187"	(5.24-5.55)	3"	F8	074011033
2.187"-.2.312"	(5.55-5.87)			074011034
2.312"-.2.437"	(5.87-6.19)			074011266*
1.937"-.2.062"	(4.92-5.24)	3"	F7	074011036
2.062"-.2.187"	(5.24-5.55)			074011037
2.187"-.2.312"	(5.55-5.87)			074011038
2.312"-.2.437"	(5.87-6.19)	3"	F8	074011039
2.437"-.2.625"	(6.19-6.67)			074011186
2.625"-.2.812"	(6.67-7.14)			074011187
2.812"-.3.000"	(7.14-7.62)	3"	F8	074011188
3.000"-.3.250"	(7.62-8.25)			074011189*

*Cable jacket may have to be stripped to pass through connector body.

Kellems® Deluxe Cord Grips are suitable for use in hazardous locations per Class I Div. 2, Class II Div. 1 & 2, Class III Div. 1 & 2 of the National Electric Code Sections 501-4(b), 502-4(a), 502-4(b), 503-3(a) and 503 3(b).

Strain Relief Deluxe Cord Grips

Aluminum Fittings, Stainless Steel Mesh, Liquidtight, for Insulated Cables



90° Male Thread

Grip Diameter Range Inches (cm)	Thread Size N.P.T. (Inches)	Form Size	Catalog Numbers
.250"-.312" (.63-.79)	3/8"	F1	07401071
.312"-.375" (.79-.95)			07401072
.375"-.437" (.95-1.11)			07401073
.187"-.250" (.47-.63)	1/2"	F2	07401074
.250"-.375" (.63-.95)			07401076
.375"-.500" (.95-1.27)			07401078
.500"-.625" (1.27-1.59)			07401080*
.375"-.500" (.95-1.27)	3/4"	F3	07401081
.500"-.625" (1.27-1.59)			07401083
.625"-.750" (1.59-1.90)			07401084*
.750"-.875" (1.90-2.22)			074011275*
.500"-.625" (1.27-1.59)	1"	F4	07401085
.625"-.750" (1.59-1.90)			07401087
.750"-.875" (1.90-2.22)			07401089
.875"-.1.000" (2.22-2.54)			07401091*
1.000"-.1.125" (2.54-2.86)	1 1/4"	F5	074011229*
.750"-.875" (1.90-2.22)			074011230
.875"-.1.000" (2.22-2.54)			07401137
1.000"-.1.125" (2.54-2.86)			07401108
1.125"-.1.250" (2.86-3.17)	1 1/2"	F5	074011042*
1.000"-.1.125" (2.54-2.86)			074011045
1.125"-.1.250" (2.86-3.17)			074011046
1.250"-.1.375" (3.17-3.49)			074011047
1.312"-.1.437" (3.33-3.65)	2"	F6	074011233
1.437"-.1.562" (3.65-3.97)			074011244
1.687"-.1.812" (4.28-4.60)			074011246
1.750"-.1.875" (4.44-4.76)			074011234*

Female Thread

.375"-.500" (.95-1.27)	1/2"	F2	07401043
.500"-.625" (1.27-1.59)			07401045
.500"-.625" (1.27-1.59)	3/4"	F2	07401052
.625"-.750" (1.59-1.90)	3/4"	F4	07401053

45° Male Thread

.250"-.375" (.63-.95)	1/2"	F2	074011236
.375"-.500" (.95-1.27)			074011021
.500"-.625" (1.27-1.59)			074011237*
.500"-.625" (1.27-1.59)	3/4"	F3	074011049
.625"-.750" (1.59-1.90)			074011051*
.750"-.875" (1.90-2.22)			074011239*
.625"-.750" (1.59-1.90)	1"	F4	074011055
.750"-.875" (1.90-2.22)			074011057
.875"-.1.000" (2.22-2.54)			074011199*
1.000"-.1.125" (2.54-2.86)	1 1/4"	F5	074011059
1.125"-.1.250" (2.86-3.17)			074011060

Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-68 through T-74.



90°



Female



45°

*Cable jacket may have to be stripped to pass through connector body.

Strain Relief
Deluxe Cord Grips

Nylon Fittings, Stainless Steel Mesh, Liquidtight, for Insulated Cables



Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-68 through T-74.



Straight Male



90°

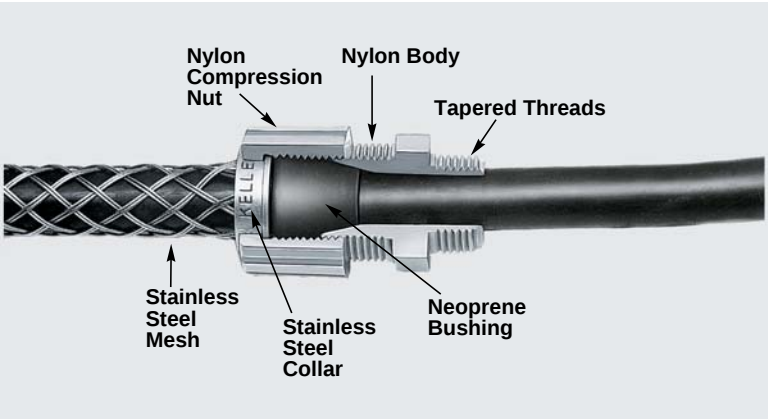
Straight Male Thread

Grip Diameter Range Inches	(cm)	Thread Size N.P.T. (Inches)	Form Size	Catalog Numbers
.187"-.250"	(.47-.63)	1/2"	F2	074011331
.250"-.375"	(.63-.95)			074011332
.375"-.500"	(.95-1.27)			074011333
.500"-.625"	(1.27-1.59)			074011334*
.375"-.500"	(.95-1.27)	3/4"	F3	074011335
.500"-.625"	(1.27-1.59)			074011336
.625"-.750"	(1.59-1.90)			074011337
.750"-.875"	(1.90-2.22)			074011338*
.625"-.750"	(1.59-1.90)	1"	F4	074011341
.750"-.875"	(1.90-2.22)			074011342
.875"-1.000"	(2.22-2.54)			074011343
1.000"-1.125"	(2.54-2.86)			074011344*

90° Male Thread

Grip Diameter Range Inches	(cm)	Thread Size N.P.T. (Inches)	Form Size	Catalog Numbers
.250"-.375"	(.63-.95)	1/2"	F2	074011346
.375"-.500"	(.95-1.27)			074011347
.500"-.625"	(1.27-1.59)			074011348*
.375"-.500"	(.95-1.27)	3/4"	F3	074011349
.500"-.625"	(1.27-1.59)			074011350
.625"-.750"	(1.59-1.90)			074011351*

*Cable jacket may have to be stripped to pass through connector body.



Strain Relief

Deluxe Cord Grips

*Nylon Fittings, Non-metallic Mesh, Liquidtight, for Insulated Cables and
Stainless Steel Fittings, Stainless Steel Mesh, Liquidtight, for
Insulated Cables*



Nylon Fittings Non-metallic Mesh, Liquidtight for Insulated Cables Straight Male Thread

Grip Diameter Range Inches (cm)	Thread Size N.P.T. (Inches)	Form Size	Catalog Numbers
.187"-.250" (.47-.63)	3/8"	F1	CG304NM
.250"-.312" (.63-.79)			CG305NM
.312"-.375" (.79-.95)			CG306NM
.187"-.250" (.47-.63)	1/2"	F2	CG404NM
.250"-.375" (.63-.95)			CG406NM
.375"-.500" (.95-1.27)			CG408NM
.375"-.500" (.95-1.27)	3/4"	F3	CG608NM
.500"-.625" (1.27-1.59)			CG610NM
.625"-.750" (1.59-1.90)			CG612NM
.500"-.625" (1.27-1.59)	1"	F4	CG810NM
.625"-.750" (1.59-1.90)			CG812NM
.750"-.875" (1.90-2.22)			CG814NM
.875"-.1.000" (2.22-2.54)			CG816NM

90° Male Thread

Grip Diameter Range Inches (cm)	Thread Size N.P.T. (Inches)	Form Size	Catalog Numbers
.250"-.375" (.63-.95)	1/2"	F2	CG40690NM
.375"-.500" (.95-1.27)			CG40890NM
.375"-.500" (.95-1.27)	3/4"	F3	CG60890NM
.500"-.625" (1.27-1.59)			CG61090NM
.625"-.750" (1.59-1.90)			CG61290NM*
.625"-.750" (1.59-1.90)	1"	F4	CG81290NM
.750"-.875" (1.90-2.22)			CG81490NM

Note: Non-metallic locknuts are available upon request. Refer to page L-99.

*Cable jacket may have to be stripped to pass through connector body.

Stainless Steel Fittings, Stainless Steel Mesh, Liquidtight, for Insulated Cables Straight Male Thread

Grip Diameter Range Inches (cm)	Thread Size N.P.T. (Inches)	Form Size	Catalog Numbers
.187"-.250" (.47-.63)	1/2"	F2	CG404SST
.250"-.375" (.63-.95)			CG406SST
.375"-.500" (.95-1.27)			CG408SST
.500"-.625" (1.27-1.59)			CG410SST
.375"-.500" (.95-1.27)	3/4"	F3	CG608SST
.500"-.625" (1.27-1.59)			CG610SST
.625"-.750" (1.59-1.90)			CG612SST
.750"-.875" (1.90-2.22)			CG614SST
.500"-.625" (1.27-1.59)	1"	F4	CG810SST
.625"-.750" (1.59-1.90)			CG812SST
.750"-.875" (1.90-2.22)			CG814SST
.875"-.1.000" (2.22-2.54)			CG816SST

Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-68 through T-74.



Straight Male



90°



Straight Male

Strain Relief

PG Threaded Deluxe Cord Grip

Aluminum Fittings, Stainless Steel Mesh, Liquidtight, for Insulated Cables



Read This Data
It is important that you read all breaking strength, safety and technical data relating to this product on pages T-68 through T-74.



Straight Male

Straight Male Thread

Cord Diameter Range Inches (cm)	Hub Size	Catalog Numbers
.500"-.625" (1.27-1.59)	PG16	074PG16010
.500"-.625" (1.27-1.59)	PG21	074PG21010
.625"-.750" (1.59-1.90)	PG21	074PG211247
.750"-.875" (1.90-2.22)	PG21	074PG211248
.625"-.750" (1.59-1.90)	PG29	074PG29021
.750"-.875" (1.90-2.22)	PG29	074PG29023
.875"-1.000" (2.22-2.54)	PG29	074PG29025
1.125"-1.250" (2.86-3.17)	PG29	074PG291028*
1.125"-1.250" (2.86-3.17)	PG36	074PG36028*

*Cable jacket may have to be stripped to pass through connector body.

Specifications

Material	
Body	Aluminum
Mesh	Stainless Steel
Bushing	Neoprene
Operating Temperature	
-30° F to +225° F (-34° C to +107° C).	
Hazardous Locations	
Suitable for use in hazardous locations per Class 1, Div. 2, Class II, Div. 1 & 2, Class III, Div. 1 & 2.	
Flammability	
Mesh grip	Rated UL 94HB.
Fitting	Rated UL 94V-2.
Agency Approvals	
Underwriters Laboratories Inc.	Control numbers UL898D, UL899D.

Wet Locations
The products are suitable for use in wet locations when a listed sealing ring is used between box and fitting.



Strain Relief Adapters for Multi-Pin, Circular, Connectors

Aluminum

Adapters for Multi-Pin Connectors

Kellems Adapters are devices forming AN-MS connectors and other multi-pin connectors to Kellems grips with NPT threaded fittings. They are made of aluminum with internal threads and replace the connector cord clamp. These adapters permit the installation of Kellems Grips, to prevent cable or conduit pull-out and control arc-of-bend.

Applications

Adapters allow the installation of Kellems® Grips on multi-pin connectors at electrical consoles, mobile equipment, control switches, assembly equipment and testing machines.

Benefits

- Easy installation.
- Allows the use of Kellems grips.
- Extends connector and cable life.

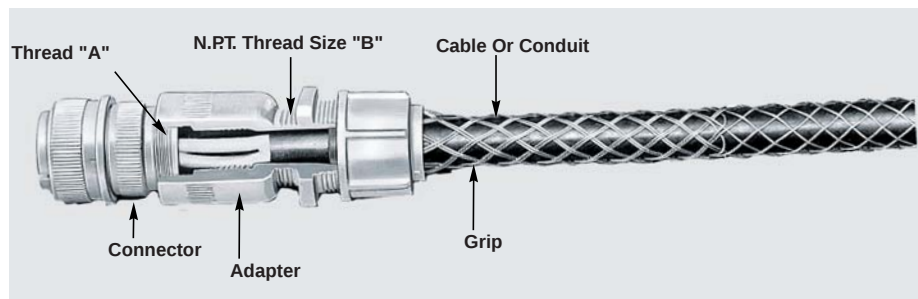
Liquidtight Adapters

Adapters				Deluxe Cord Grips		Strain Relief Grips		Liquidtight Conduit Grips (Insulated Throat)	
AN-MS Connector Size**	AN-MS Cable Clamp Number***	Thread Size A in.	N.P.T. Thread Size B in.	Catalog Numbers	Cable Diameter Range Inches (cm)	Catalog Numbers	Cable Diameter Range Inches (cm)	Catalog Numbers	Catalog Numbers
8S, 10S	3057-3	1/2" x 28	3/8"	091041000	.250"-.312" (.63-.79)	07401001			
10SL, 12, 12S	3057-4	5/8" x 24		091041001	.312"-.375" (.79-.95)	07401002			
14, 14S	3057-6	3/4" x 20		091041002	.375"-.437" (.95-1.11)	07401003			
14, 14S	3057-6	3/4" x 20	1/2"	091041003	.187"-.250" (.47-.63)	07401004	.24"-.32" (.61-.81)	073031200	—
16, 16S	3057-8	7/8" x 20		091041004	.250"-.375" (.63-.95)	07401006	.32"-.43" (.81-1.09)	073031201	074093512
18	3057-10	1" x 20		091041006	.375"-.500" (.95-1.27)	07401008	.43"-.54" (1.09-1.37)	073031202	—
					.500"-.625" (1.27-1.59)	07401010*			
16, 16S	3057-8	7/8" x 20	3/4"	091041005	.187"-.250" (.47-.63)	07401011			
18	3057-10	1" x 20		091041007	.250"-.375" (.63-.95)	07401013			
20, 22	3057-12	1 3/16" x 18		091041008	.375"-.500" (.95-1.27)	07401015	.54"-.74" (1.37-1.85)	073031203	074093513
					.500"-.625" (1.27-1.59)	07401017			
					.625"-.750" (1.59-1.90)	07401018			
20, 22	3057-12	1 3/16" x 18	1"	091041009	.375"-.500" (.95-1.27)	074011195			
24, 28	3057-16	1 7/16" x 18		091041010	.500"-.625" (1.27-1.59)	07401019			
32	3057-20	1 3/4" x 18		091041012	.625"-.750" (1.59-1.90)	07401021	.73"-.97" (1.85-2.46)	073031204	074093514
36	3057-24	2" x 18		091041015	.750"-.875" (1.90-2.22)	07401023			
					.875"-.1.000" (2.22-2.54)	07401025			
24, 28	3057-16	1 7/16" x 18	1 1/4"	091041011	.750"-.875" (1.90-2.22)	074011251			
32	3057-20	1 3/4" x 18		091041013	.875"-.1.000" (2.22-2.54)	07401026			
36	3057-24	2" x 18		091041016	1.000"-.1.125" (2.54-2.86)	07401027	.97"-.1.25" (2.46-3.17)	073031205	074093515
					1.125"-.1.375" (2.86-3.17)	07401028			
32	3057-20	1 3/4" x 18	1 1/2"	091041014	.875"-.1.000" (2.22-2.54)	07401029			
36	3057-24	2" x 18		091041017	1.000"-.1.125" (2.54-2.86)	07401030		—	074093516
40	3057-28	2 1/4" x 16		091041019	1.125"-.1.250" (2.86-3.17)	07401031			
					1.250"-.1.375" (3.17-3.49)	07401032			

* Cable jacket may have to be stripped to pass through connector body.

** No. stamped on connector shell.

*** No. stamped on clamp shell.



Strain Relief
I-Grips

Plastic-Coated, Galvanized Steel Mesh for Insulated Cables



Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-68 through T-74.

Application

Kellems® I-Grips will fit 2 wire, 3 wire, 4 wire and 5 wire Hubbell Insulgrip® plugs and connector bodies. The eye tabs fit under the nylon cord clamp and the screws slide through the eyelets, securing the grip in place.

These grips are for indoor use only.

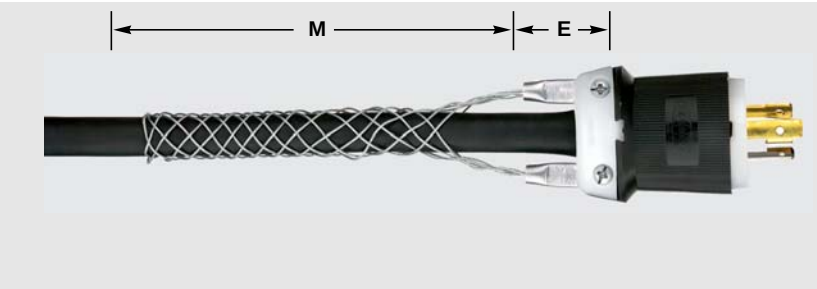
Benefits

- Easily attached to Insulgrip plugs and connector bodies.
- Controls cable arc-of-bend.
- Provides heavy-duty strain relief.
- Fits all sizes.

Note: I-Grips should not be used on Insulgrip devices when "Seal-Tite®" weatherproof covers are to be installed.

I-Grips

Cable Diameter Range Inches (cm)	E Inches (cm)	M Inches (cm)	Catalog Numbers
.32"-.43" (.81-1.09)	1.25" (3.17)	4" (10.16)	07310001
.43"-.56" (1.09-1.42)	1.25" (3.17)	4.75" (12.06)	07310002
.56"-.73" (1.42-1.85)	1.50" (3.81)	6" (15.24)	07310003
.73"-.85" (1.85-2.16)	1.50" (3.81)	6.5" (16.51)	07310004
.85"-1.00" (2.16-2.54)	1.50" (3.81)	8" (20.32)	07310005
1.00"-1.25" (2.54-3.17)	1.50" (3.81)	10" (25.40)	07310006
<i>E-Eye length M-Mesh length at nominal diameter Eyelet hole diameter .203 (.52)</i>			



Strain Relief

Dustight Strain Relief Grips*Aluminum Fittings, Galvanized Steel Mesh, for Insulated Cables***Non-Insulated** Wide Range Strain Relief

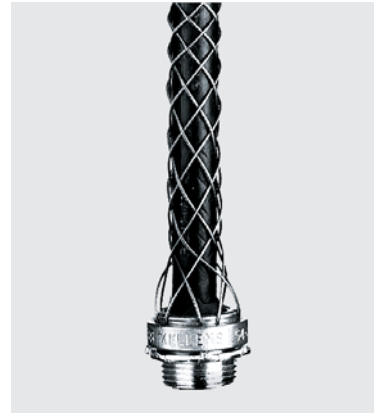
Cable Diameter Range Inches (cm.)	Thread Size N.P.T. (Inches)	Mesh Length @ Nom. Dia. Inches (cm)	Catalog Numbers
.24"-.32" (.61-.81)	1/2"	3 1/4" (8.25)	073031200
.32"-.43" (.81-1.09)	1/2"	3 3/4" (9.52)	073031201
.43"-.54" (1.09-1.37)	1/2"	4 3/4" (12.06)	073031202
.54"-.73" (1.37-1.85)	3/4"	6 1/2" (16.51)	073031203
.73"-.97" (1.85-2.46)	1"	7" (17.78)	073031204
.97"-1.25" (2.46-3.17)	1 1/4"	9" (22.86)	073031205
.73"-.97" (1.85-2.46)	PG29	7" (17.78)	073PG291204

Insulated Wide Range Strain Relief with Insulating Bushing

Cable Diameter Range In. (cm.)	Thread Size Inches	Mesh Length @ Nom. Dia. Inches (cm)	Dim. A In. (cm)	Min. Space Between Grips B In. (cm)	Catalog Numbers
.24"-.32" (.61-.81)	1/2" N.P.S.	3 1/4" (8.25)	1" (2.54)	1 1/4" (3.17)	073031206
.32"-.43" (.81-1.09)	1/2" N.P.S.	3 3/4" (9.52)	1" (2.54)	1 1/4" (3.17)	073031207
.43"-.54" (1.09-1.37)	1/2" N.P.S.	4 3/4" (12.06)	1" (2.54)	1 1/4" (3.17)	073031208
.54"-.73" (1.37-1.85)	3/4" N.P.S.	6 1/2" (16.51)	1" (2.54)	1 1/2" (3.81)	073031209
.73"-.97" (1.85-2.46)	1" N.P.S.	7" (17.78)	1 3/16" (3.02)	1 3/4" (4.44)	073031210
.97"-1.25" (2.46-3.17)	1 1/4" N.P.S.	9" (22.86)	1 3/16" (3.02)	2 1/4" (5.71)	073031211
1.25"-1.50" (3.17-3.81)	1 1/2" N.P.T.	11 3/4" (29.84)	1 3/16" (3.02)	2 1/2" (6.35)	073031212
1.50"-1.70" (3.81-4.32)	2" N.P.T.	13 1/4" (33.65)	1 3/8" (3.49)	3 1/4" (8.25)	073031213
1.70"-2.00" (4.32-5.08)	2 1/2" N.P.T.	13 1/2" (34.29)	1 1/2" (3.81)	3 5/8" (9.21)	073031214
2.00"-2.45" (5.08-6.22)	2 1/2" N.P.T.	13 3/4" (34.92)	1 1/2" (3.81)	3 5/8" (9.21)	073031215

Read This Data

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-68 through T-74.

**Non-Insulated****Insulated**

Kellems® Grips for Strain Relief

Technical Section

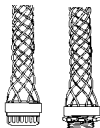
Kellems Strain Relief Grips are designed to prevent tension from being transmitted to joints and terminals on electrical cord, cable and conduit. In most applications, a Kellems grip for strain relief is stronger than the cable itself and gives much greater security than the use of a fitting alone. Kellems Grips for strain relief help make electrical systems safer, and save money by minimizing downtime from costly electrical failure due to cable pull-out. Kellems Grips also aid in compliance with the National Electric Code's terminal tension protection requirements (see NEC Section 400-10.).

Select the Correct Grip for Strain Relief

Kellems Grips for strain relief are designed to fit on electrical cord, cable or flexible conduit.

- | | |
|---------------|--|
| Step 1 | Refer to the chart below to determine the grip style best suited for your application. |
| Step 2 | Determine your cable outside diameter or conduit size. |
| Step 3 | Locate environment—indoors or outdoors. |
| Step 4 | Decide if a liquidtight seal is required. |
| Step 5 | Select N.P.T. size and fitting style. |

Strain Relief System Selection Chart

Grip Type		Application	Features	Cord or Conduit Range Inches (cm)	Type Fitting or Attachment	Page Number
Deluxe Cord Aluminum Fitting/ Stainless SteelGrip		Outdoors or indoors where subjected to moisture or splash. Examples are crane and hoist pendant drop stations, hand tools, pumps and processing equipment.	Aluminum fittings, stainless steel mesh, neoprene oil-and-watertight bushing. Double-single weave.	.187"-3.250" (.47-8.25)	PG, N.P.T. aluminum, male straight, 45° male, 90° male, female straight. Thread sizes 3/8"-3".	T-60, T-61, T-64
Deluxe Cord Nylon Fitting/ Stainless SteelGrip		Outdoors or indoors where subjected to moisture or splash. Examples are marine and food processing equipment.	Nylon fitting, stainless steel mesh, double-single weave, neoprene oil-and-watertight bushing.	.187"-1.125" (.47-2.86)	N.P.T. nylon, male straight, 90° male. Thread sizes 1/2"-1".	T-62
Deluxe Cord Nylon Fitting/ Non-metallic Grip		Indoor or outdoors. Provides liquidtight seal, where exposed to moisture. Excellent for oil refining and chemical processing.	Non-metallic grip is corrosion resistant, nonconductive and provides superior grip-ping and flexing benefits. Neoprene liquidtight bushing. Nylon fitting.	.187"-1.000" (.47-2.54)	N.P.T. nylon, straight male, thread sizes 3/8"-1" 90° male, thread sizes 1/2"-1".	T-63
Deluxe Cord Stainless SteelFitting And Grip		Indoor or outdoor use where exposed to moisture. Very strong for heavy abuse areas such as drilling platforms, steel mills and mines.	Stainless steel fitting and grip for strength. Neoprene liquidtight bushing. Double/single weave grip.	.187"-1.000" (.47-2.54)	Straight male Only with N.P.T. Thread sizes 1/2"-1".	T-63
Wide Range Strain Relief		Indoor use only for wiring of electrical enclosures, machine tools, portable power tools, bus drop cable systems.	Neoprene gasket—seals out cips, dirt, dust. One piece design with galvanized steel mesh. Insulating bushing available. Zinc-plated steel locknut.	.240"-2.450" (.61-6.22)	Straight male N.P.S. or N.P.T.	T-67
Non-metallic Flexible Conduit Grip (UL Type A)		Wiring or machine tools, electrical enclosures, motors and systems where conduit is subject to vibration and strain.	Stainless steel mesh, liquidtight fittings with "O" ring and locknut.	.375"-2.008" trade size male	N.P.T. steel, Hubbell fittings, straight male, 90° Thread sizes 1/2"-2".	T-100
Liquidtight, Flexible, Metal Conduit Grip		Wiring of machine tools, electrical enclosures, motors and systems where metallic liquidtight flexible conduit is subjected to vibration, flexure, motion or strain.	Stainless steel mesh, liquidtight fittings. Sealing "O" rings (optional). Choice of fittings.	.375"-4.000" trade sizes	N.P.T. 1/2"-4", Hubbell fittings, Male straight, 45° male, 90° male, female straight.	T-101

Kellems® Grips for Strain Relief

Technical Section

Safety And Working Load Factors For Wire Mesh Grips

The broad application of Kellems grips on a wide variety of objects requires that adequate safety factors be used to establish working loads. The approximate breaking strength of a Kellems grip represents an average calculation based on data established from actual direct tension testing done in our engineering laboratories.

It is impossible to catalog or guarantee a safety factor suitable for all applications as operating conditions are never the same. The tension, diameter, movement, number of objects gripped, gripping surface, and the attachments used are just some of the factors which vary with each application. These factors, together with the effects of abrasion, corrosion, prior use or abuse and any other variables of a specific application, must be considered by the user and the grip replaced as appropriate. Where the conditions of the application are not well defined or known or where risk of injury to persons or property is involved, a greater safety factor should be utilized. Should our opinion be needed, call the factory.

Under normal conditions, Kellems' recommended factor of safety is five for catalog listed pulling grips, and ten for catalog listed support grips. The factory should be consulted for specific application recommendations where strength and holding power are important factors.

Any warranty as to quality, performance or fitness for use of grips is always premised on the condition that the published breaking strengths apply only to new, unused grips, and that such products are properly stored, handled, used, maintained and inspected by the user at a frequency appropriate for the use and condition of the grip.

For grip applications on materials other than those that the grips have been specifically designed for, consult the factory.

Examples

Grip Style	Approx. Breaking Strength Lbs. (N)	Safety Factor	Max. Rec. Load Lbs. (N)	Catalog Numbers
Bus Drop	1,000 (4,448)	10	100 (448)	073041279

The maximum recommended working load then is the tension to be exerted on the grip in application with a margin of safety to take care of unforeseen and unusual circumstances.

It is the end-user's decision to determine how much of a safety factor is acceptable to him.

Wire Mesh Grip Materials

Material	Features	Product Group
Galvanized steel wire	High strength Not subject to continuous outside environment	Strain relief grips I-Grips
Stainless steel wire (302-304)	High strength	Deluxe cord grips
	Corrosion resistant	Liquidtight, flexible, metal conduit grips
	Slightly magnetic	UL type A conduit grips
		Hose containment grips
Non-metallic strand	Superior flex life	
	Non-conductive	Non-metallic deluxe cord grips
	Corrosion resistant	
	Moderate strength	

Kellems® Grips for Strain Relief

Technical Section

Operating Temperatures

Material	Temperature Range
Aluminum	–40°F to +300°F (–40°C to +149°C).
Nylon	–40°F to +225°F (–40°C to +107°C).
Stainless Steel	–60°F to +1000°F (–51°C to +537°C).
Neoprene (bushings)	–30°F to +240°F (–34°C to +115°C).

Due to the limiting factors of nylon and neoprene, any complete Deluxe Cord Grip, Form 1-5 will continuously perform in the range of –30°F to +225°F (–34°C to +107°C).

Hazardous Locations

	Product Categories
The product categories listed to the right are suitable for use in hazardous locations per Class I, Div. 2, Class II, Div. 1 & 2, Class III, Div. 1 & 2.	Deluxe cord grip, aluminum fitting; Deluxe cord grip, nylon fitting; Deluxe cord grip, non-metallic; Sealtite conduit grips; Dusttight strain relief grips.

Flammability

Non-metallic deluxe cord grips will not support combustion. Listed below are the ratings.

Component	Rating
Mesh grip	UL 94HB.
Fitting	UL 94V-2.

Approvals

UL Listing and CSA Certification are indicated on appropriate product catalog pages. File numbers are listed below.

Agency	Control Numbers
Underwriters Laboratories Inc.	UL 898 D, UL899D

Wet Locations

	Product Categories
The products noted to the right are suitable for use in wet locations when a listed sealing ring is used between box and fitting.	Deluxe cord grip, aluminum fitting; Deluxe sealing ring cord grip; Deluxe cord grip, non-metallic; Sealtite conduit grips; Hubbell non-metallic conduit grips; Cord connectors; Hubbell Juniors; PolyTuff® connectors; Hubbell sealtite conduit connectors.

Kellems® Grips for Strain Relief

Technical Section

Form Size Definition

The term “Form Size” refers to the physical mass or overall dimensions of a cord connector. Form 1 is the smallest size, Form 8 is the largest size.

Knockout Holes

N.P.T. Hub Size	Knockout Hole Recommended Min. to Max. Inches (cm)	
1/4"	.540" to .570"	(1.37-1.45)
3/8"	.671" to .701"	(1.70-1.78)
1/2"	.859" to .906"	(2.18-2.30)
3/4"	1.094 " to 1.141"	(2.78-2.90)
1"	1.359 " to 1.406"	(3.45-3.57)
1 1/4"	1.719" to 1.766"	(4.37-4.49)
1 1/2"	1.969" to 2.016"	(5.00-5.12)
2"	2.453" to 2.500"	(6.23-6.35)
2 1/2"	2.953 " to 3.000"	(7.50-7.62)
3"	3.578" to 3.625"	(9.09-9.21)

Product Data

Deluxe Cord Grips, Liquidtight for Insulated Cables

Deluxe Cord Grips completely eliminate pull tension on terminals, control cable arc-of-bend, prevent cord pull-out, and provide a liquidtight seal. They are offered with either aluminum, stainless steel or nylon fittings in a variety of configurations and N.P.T. thread sizes. Additionally, a completely non-metallic product is offered on page T-63.

Application

Deluxe Cord Grips are used indoors or outdoors to prevent cord pull-out, and where cables are subjected to moisture, splash or submersion. Specific uses are: wiring enclosures, pendant stations, hand tools, construction, processing and material handling equipment, pumps, motors and machine tools.

Benefits

- Prevents cable pull-out.
- Controls cable arc-of-bend.
- Provides a liquidtight seal.
- Corrosion resistant stainless steel mesh with aluminum collar.

Kellems® Grips for Strain Relief

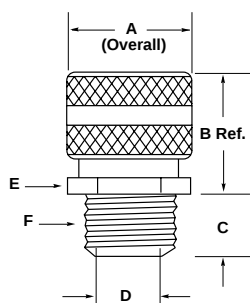
Technical Section

Deluxe Cord Grips Fitting Dimensions

Straight Hubbell Connectors

Aluminum, Inches (cm)							Nylon, Inches (cm)						Stainless Steel, Inches (cm)							
F N.P.T. Inches	Form	A	B	C	D Throat	E		A	B	C	D Throat	E		A		B	C	D Throat	E	
		Dia.	Ref.		Dia.	A/C*	A/F*	Dia.	Ref.		Dia.	A/C*	A/F*	A/C*	A/F			Dia.	A/C*	A/F*
3/8"-18	1	.88" (2.24)	.90" (2.29)	.46" (1.17)	.44" (1.12)	.99" (2.51)	.88" (2.24)	1.00" (2.54)	1.10" (2.79)	.43" (1.09)	.45" (1.14)	1.00" (2.54)	.93" (2.36)	1.01" (2.57)	.88" (2.24)	.90" (2.29)	.46" (1.17)	.45" (1.14)	.87" (2.21)	.75" (1.90)
1/2"-14	1	.88" (2.24)	.90" (2.29)	.46" (1.17)	.44" (1.12)	1.00" (2.54)	.88" (2.24)	1.00" (2.54)	1.10" (2.79)	.46" (1.17)	.45" (1.14)	1.00" (2.54)	.93" (2.36)	•	•	•	•	•	•	•
1/2"-14	2	1.13" (2.87)	1.10" (2.79)	.55" (1.40)	.64" (1.63)	1.11" (2.82)	1.00" (2.54)	1.32" (3.35)	1.50" (3.81)	.53" (1.35)	.58" (1.47)	1.25" (3.17)	1.12" (2.84)	1.30" (3.30)	1.13" (2.87)	1.10" (2.79)	.54" (1.37)	.63" (1.60)	1.16" (2.95)	1.00" (2.54)
1/2"-14	3	1.38" (3.51)	1.50" (3.81)	.55" (1.40)	.64" (1.63)	1.40" (3.56)	1.25" (3.17)	•	•	•	•	•	•	•	•	•	•	•	•	•
3/4"-14	2	1.13" (2.87)	1.10" (2.79)	.55" (1.40)	.64" (1.63)	1.29" (3.28)	1.13" (2.87)	•	•	•	•	•	•	•	•	•	•	•	•	•
3/4"-14	3	1.38" (3.51)	1.50" (3.81)	.55" (1.40)	.82" (2.08)	1.40" (3.56)	1.25" (3.17)	1.56" (3.96)	1.60" (4.06)	.55" (1.40)	.77" (1.96)	1.44" (3.66)	1.31" (3.33)	1.59" (4.04)	1.38" (3.51)	1.30" (3.30)	.56" (1.42)	.81" (2.06)	1.44" (3.66)	1.25" (3.17)
1"-11 1/2	3	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
1"-11 1/2	4	1.75" (4.44)	1.60" (4.06)	.71" (1.80)	1.02" (2.59)	1.81" (4.60)	1.62" (4.11)	1.88" (4.78)	1.75" (4.44)	.70" (1.78)	1.01" (2.57)	1.84" (4.67)	1.63" (4.14)	2.02" (5.13)	1.75" (4.44)	1.40" (3.56)	.70" (1.78)	1.03" (2.62)	1.88" (4.78)	1.63" (4.14)
1"-11 1/2	5	2.31" (5.87)	1.70" (4.32)	.66" (1.68)	1.01" (2.57)	2.28" (5.79)	2.00" (5.08)	•	•	•	•	•	•	•	•	•	•	•	•	•
1 1/4"-11 1/2	5	2.31" (5.87)	1.70" (4.32)	.74" (1.88)	1.26" (3.20)	2.28" (5.79)	2.12" (5.38)	•	•	•	•	•	•	•	•	•	•	•	•	•
1 1/2"-11	5	2.31" (5.87)	1.70" (4.32)	.74" (1.88)	1.38" (3.51)	2.28" (5.79)	2.12" (5.38)	•	•	•	•	•	•	•	•	•	•	•	•	•
1 1/2"-11 1/2	6	3.00" (7.62)	2.20" (5.59)	.75" (1.90)	1.50" (3.81)	2.97" (7.54)	2.75" (6.98)	•	•	•	•	•	•	•	•	•	•	•	•	•
2"-11 1/2	6	3.00" (7.62)	2.20" (5.59)	.80" (2.03)	1.92" (4.88)	3.24" (8.24)	3.00" (7.62)	•	•	•	•	•	•	•	•	•	•	•	•	•
2"-11 1/2	7	3.85" (9.78)	2.70" (6.86)	.88" (2.24)	1.94" (4.93)	4.05" (10.29)	3.75" (9.52)	•	•	•	•	•	•	•	•	•	•	•	•	•
2 1/2"-8	7	3.85" (9.78)	2.70" (6.86)	1.30" (3.30)	2.32" (5.89)	4.34" (11.02)	4.02" (10.21)	•	•	•	•	•	•	•	•	•	•	•	•	•
2 1/2"-8	8	4.75" (12.06)	2.70" (6.86)	1.25" (3.17)	2.38" (6.05)	4.86" (12.34)	4.50" (11.43)	•	•	•	•	•	•	•	•	•	•	•	•	•
3"-8	7	3.85" (9.78)	2.70" (6.86)	1.30" (3.30)	2.54" (6.45)	4.34" (11.02)	4.01" (10.21)	•	•	•	•	•	•	•	•	•	•	•	•	•
3"-8	8	4.50" (11.43)	2.70" (6.86)	1.38" (3.51)	3.00" (7.62)	4.86" (12.34)	4.50" (11.43)	•	•	•	•	•	•	•	•	•	•	•	•	•

*A/C— Across Corners; A/F—Across Flats



Dimensions shown are approximate and are subject to change without notice.

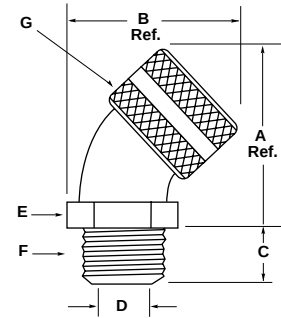
Kellems® Grips for Strain Relief

Technical Section

Deluxe Cord Grips Fitting Dimensions

45° Hubbell Connectors

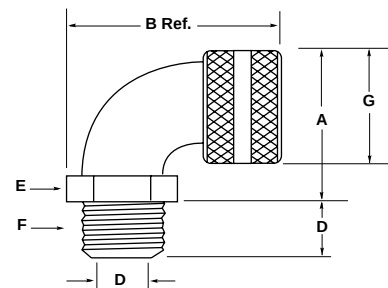
Aluminum, Inches (cm)								
F	A	B	C	D	E		G	
N.P.T.	Form	Ref	Ref	Throat Dia.	Across Corners	Across Flats	Dia.	
1/2"-14	2	2.00" (5.08)	1.90" (4.83)	.550" (1.40)	.560" (1.42)	1.270" (3.23)	1.110" (2.79)	1.125" (2.86)
3/4"-14	3	2.30" (5.84)	2.50" (6.53)	.560" (1.42)	.750" (1.90)	1.480" (3.76)	1.281" (3.25)	1.375" (3.49)
1"-11 1/2	4	2.60" (6.60)	2.80" (7.11)	.700" (1.78)	1.000" (2.54)	1.690" (4.29)	1.500" (3.81)	1.750" (4.44)
1 1/4"-11 1/2	5	3.90" (9.91)	3.90" (9.91)	.740" (1.88)	1.250" (3.17)	2.45" (6.22)	2.125" (5.40)	2.310" (5.87)
1 1/2"-11 1/2	5	3.90" (9.91)	3.90" (9.91)	.740" (1.88)	1.500" (3.81)	2.45" (6.22)	2.125" (5.40)	2.310" (5.87)



90° Hubbell Connectors

Aluminum, Inches (cm)								Nylon, Inches (cm)							
F	A	B	C	D	E		G	A	B	C	D	E		G	
N.P.T.	Form	Ref		Throat Dia.	A/C*	A/F*	Dia.		Ref	Throat	Dia.	A/C*	A/F	Dia.	
3/8"-18	1	1.27" (3.23)	2.00" (5.08)	.460" (1.17)	.440" (1.12)	1.15" (2.92)	1.10" (2.79)	.875" (2.22)	•	•	•	•	•	•	
1/2"-14	2	1.56" (3.96)	2.30" (5.84)	.500" (1.27)	.546" (1.39)	1.30" (3.30)	1.13" (2.87)	1.125" (2.86)	1.41" (3.58)	2.50" (6.35)	.550" (1.40)	.575" (1.46)	1.23" (3.12)	1.12" (2.82)	1.315" (3.34)
3/4"-14	3	1.79" (4.55)	2.80" (7.11)	.560" (1.42)	.765" (1.94)	1.49" (3.78)	1.31" (3.33)	1.375" (3.49)	1.65" (4.19)	2.81" (7.14)	.560" (1.42)	.765" (1.94)	1.42" (3.61)	1.29" (3.28)	1.560" (3.96)
1"-11 1/2	4	2.08" (5.28)	3.20" (8.13)	.700" (1.78)	1.000" (2.54)	1.70" (4.32)	1.50" (3.81)	1.750" (4.44)	1.99" (5.05)	3.30" (8.38)	.700" (1.78)	1.010" (2.57)	1.82" (4.62)	1.60" (4.06)	1.875" (4.76)
1 1/4"-11 1/2	5	3.18" (8.08)	4.30" (10.92)	.730" (1.85)	1.260" (3.20)	2.47" (6.27)	2.15" (5.46)	2.310" (5.87)	•	•	•	•	•	•	•
1 1/2"-11 1/2	5	3.18" (8.08)	4.30" (10.92)	.750" (1.92)	1.500" (3.81)	2.47" (6.27)	2.15" (5.46)	2.310" (5.87)	•	•	•	•	•	•	•
2"-11 1/2	6	3.51" (8.92)	5.50" (13.97)	.800" (2.03)	1.920" (4.88)	2.98" (7.57)	2.78" (7.06)	3.000" (7.62)	•	•	•	•	•	•	•

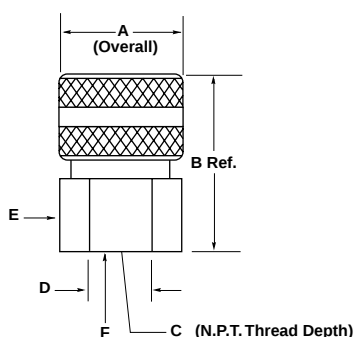
*A/C - Across Corners; A/F - Across Flats



Dimensions shown are approximate and are subject to change without notice.

Kellems® Grips for Strain Relief

Technical Section



Deluxe Cord Grips Fitting Dimensions

Female Hubbell Connectors

Aluminum Inches (cm)

F		A	B	C	D	E	
N.P.T.	Form	Dia.	Ref		Throat Dia.	Across Corners	Across Flats
3/8"-18	1	.88" (2.24)	1.40" (3.56)	.560" (1.42)	.44" (1.12)	.94" (2.39)	.81" (2.06)
1/2"-14	2	1.13" (2.87)	1.80" (4.57)	.560" (1.42)	.63" (1.60)	1.15" (2.92)	1.00" (2.54)
3/4"-14	2	1.13" (2.87)	2.10" (5.33)	.750" (1.90)	.63" (1.60)	1.44" (3.66)	1.25" (3.17)
1"-11 1/2	4	1.75" (4.44)	2.30" (5.84)	.880" (2.24)	1.10" (2.79)	1.88" (4.78)	1.63" (4.14)
1 1/4"-11 1/2	5	2.31" (5.87)	2.80" (7.11)	.950" (2.41)	1.43" (3.63)	2.64" (6.71)	2.29" (5.82)
1 1/2"-11 1/2	5	2.31" (5.87)	2.80" (7.11)	.950" (2.41)	1.43" (3.63)	2.64" (6.71)	2.29" (5.82)

Product Data

Dust Tight Strain Relief Grips for Insulated Cables

Kellems Strain Relief Grips connect flexible cord or bus drop cable to electrical enclosures. For indoor use only, they are available with either insulated or non-insulated aluminum fittings, and feature single weave, galvanized steel mesh grips with patented wide range mesh construction. They come with a locknut and a neoprene gasket that provides a dust tight seal.

Application

Used to connect electrical cable to power boxes, cabinets, panel boards, power centers, machine tools and with bus drop systems.

Benefits

- Prevents cord or cable pull-out.
- Provides a dust tight seal.
- Easy installation.
- Patented mesh construction.
- One piece design.

I-Grips for Insulated Cables

Kellems I-Grips are made of high strength, plastic coated galvanized steel strand. They are offered in six sizes to fit all cable diameters used with Hubbell Insulgrip®. Kellems I-Grips will control cable arc-of-bend and reduce high pull tensions from being transmitted to the wiring terminals.

Application

Kellems I-Grips will fit 2 wire, 3 wire, 4 wire and 5 wire Hubbell Insulgrip plugs and connector bodies. The eye tabs fit under the nylon cord clamp and the screws slide through the eyelets, securing the grip in place.

I-Grips can be used on any Insulgrip cord set which requires cable, arc-of-bend control or heavy duty strain relief. Cord sets used at indoor construction sites or for plant maintenance jobs are examples. These grips are for indoor use only.

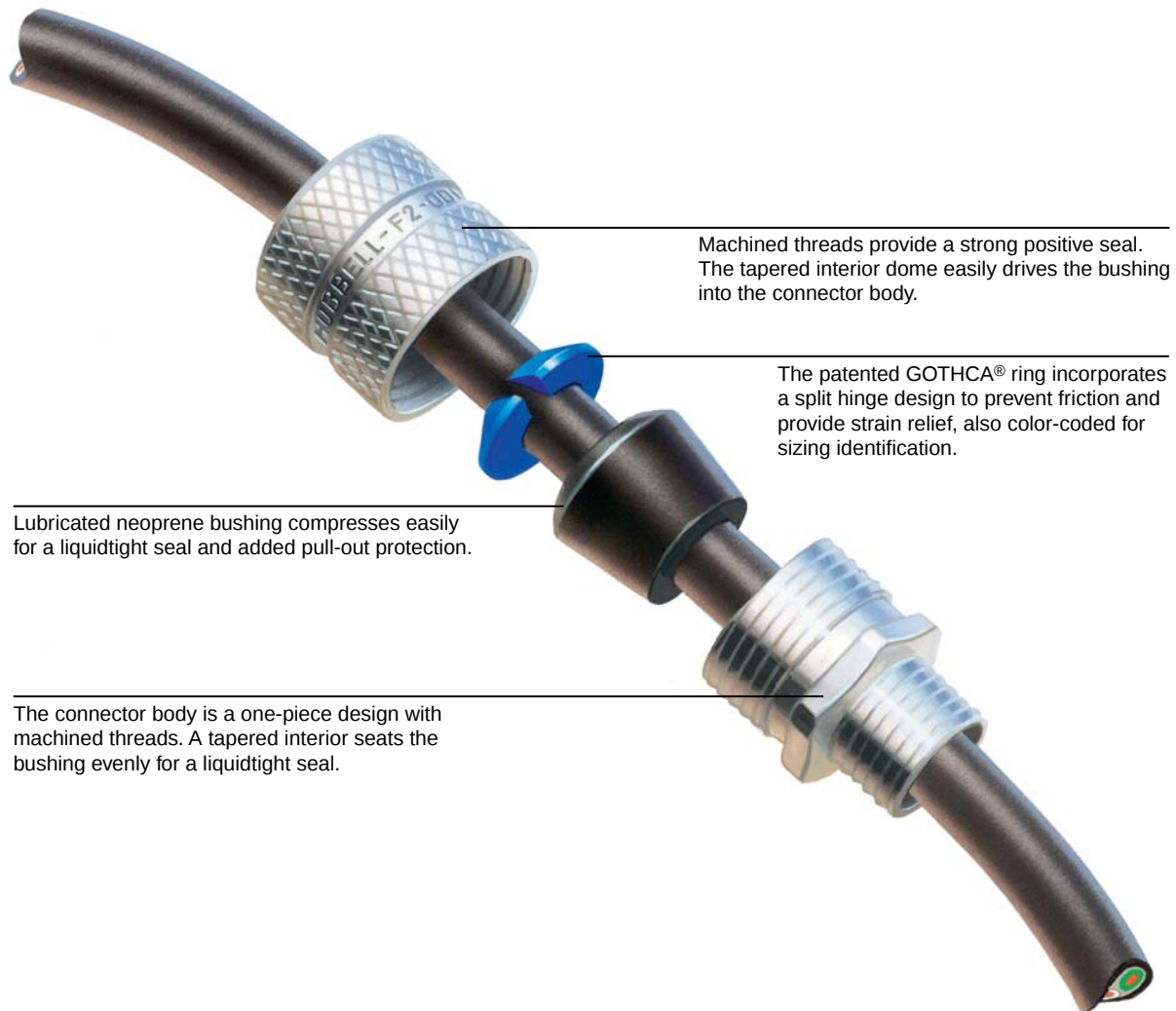
Benefits

- Easily attached to Insulgrip plugs and connector bodies.
- Fits all sizes.
- Provides heavy duty strain relief.
- Controls cable arc-of-bend.

Note: I-Grips should not be used on Insulgrip devices when "Seal-Tite®" weatherproof covers are to be installed.

Dimensions shown are approximate and are subject to change without notice.

Cord Connectors Features and Benefits



Machined threads provide a strong positive seal. The tapered interior dome easily drives the bushing into the connector body.

The patented GOTHCA® ring incorporates a split hinge design to prevent friction and provide strain relief, also color-coded for sizing identification.

Lubricated neoprene bushing compresses easily for a liquidtight seal and added pull-out protection.

The connector body is a one-piece design with machined threads. A tapered interior seats the bushing evenly for a liquidtight seal.

Hubbell has the broadest line and the widest choice of materials in the industry. N.P.T. hub sizes from $\frac{1}{4}$ " to 3" in straight male end, 90°, 45°, female and underground feed connectors. They are available in your choice of aluminum, plated steel, nylon and stainless steel.

Hubbell offers a full line of machined aluminum cord connectors in N.P.T. hub sizes $\frac{1}{4}$ " through 1" and cast aluminum 1" to 3". They provide durable performance and a clean attractive look without adding unwanted weight. N.P.T. hub sizes $\frac{1}{4}$ " to 1" feature an attractive knurled finish which makes them easy to handle and maintain a U.L. listing by hand tightening.

The zinc-plated steel cord connectors offers the strength of steel and the corrosion resistance of zinc-plating. These heavy-duty connectors hold up to most manufacturing chemicals including acid solutions, solvents and other corrosive materials.

Their machined steel nut and body allows for tightening the compression nut and N.P.T. hub without worrying about stripping the threads. For larger size cord, N.P.T. hub sizes 1" to 2", Hubbell utilizes malleable iron connectors which provide excellent holding and liquidtight performance.

Hubbell's nylon cord connectors resist most common industrial corrosives and provide highly effective pullout protection in a lightweight design. They are ideal for any application where weight, conductivity or corrosion may be an issue. They're available in N.P.T. hub sizes from $\frac{1}{4}$ " to 1".

Stainless steel cord connectors provide superior strength and corrosion resistance for industrial and military applications. They are machined from 300 series stainless steel and come in $\frac{1}{4}$ " through 1", N.P.T. hub sizes.

Cord Connectors

Straight Male

Form Size 1-4



**Machined
Aluminum**



**Machined
Zinc-Plated Steel**

UL Listed to Type 4, 4X, 12 and Type 13



IP66*
SUITABILITY

N.P.T. Hub Size	Cord Dia. Inches (mm)	Form Size	Color Code	Machined Aluminum	Machined Zinc-Plated Steel	Stainless Steel	Nylon Gray	Nylon Black
1/4"	.06"-.13" (1.6-3.2)	F1	Green	•	•	•	SHC1001CR	•
	.13"-.19" (3.2-4.7)		Orange	SHC1002	•	•	SHC1002CR	•
	.19"-.25" (4.7-6.3)		Red	SHC1003	•	SHC1003SS	SHC1003CR	•
	.25"-.31" (6.3-7.9)		Black	SHC1004	•	SHC1004SS	SHC1004CR	•
	.31"-.38" (7.9-9.5)		White	SHC1005**	•	•	SHC1005CR	SHC2005CR
	.38"-.44" (9.5-11)		Blue	•	•	•	SHC1006CR	•
3/8"	.06"-.13" (1.6-3.2)	F1	Green	SHC1007	•	•	•	•
	.13"-.19" (3.2-4.7)		Orange	SHC1008	SHC1008ZP	•	SHC1008CR	SHC2008CR
	.19"-.25" (4.7-6.3)		Red	SHC1009	•	SHC1009SS	SHC1009CR	•
	.25"-.31" (6.3-7.9)		Black	SHC1010	SHC1010ZP	•	SHC1010CR	SHC2010CR
	.31"-.38" (7.9-9.5)		White	SHC1011	•	SHC1011SS	SHC1011CR	SHC2011CR
	.38"-.44" (9.5-11.0)		Blue	SHC1012	SHC1012ZP	SHC1012SS	SHC1012CR	SHC2012CR
1/2"	.19"-.25" (4.7-6.3)	F1	Red	SHC1015	•	•	•	•
	.25"-.31" (6.3-7.9)		Black	SHC1016	•	•	•	•
	.31"-.38" (7.9-9.5)		White	SHC1017	•	•	•	•
	.38"-.44" (9.5-11.0)		Blue	SHC1018	•	•	•	•
1/2"	.06"-.13" (1.6-3.2)	F2	Green	SHC1019	•	•	SHC1019CR	•
	.13"-.19" (3.2-4.7)		Orange	SHC1020	SHC1020ZP	SHC1020SS	SHC1020CR	•
	.19"-.25" (4.7-6.3)		Red	SHC1021	SHC1021ZP	SHC1021SS	SHC1021CR	SHC2021CR
	.25"-.38" (6.3-9.7)		White	SHC1022	SHC1022ZP	SHC1022SS	SHC1022CR	SHC2022CR
	.38"-.50" (9.7-12.7)		Blue	SHC1023	SHC1023ZP	SHC1023SS	SHC1023CR	SHC2023CR
	.50"-.62" (12.7-15.9)		Brown	SHC1024	SHC1024ZP	SHC1024SS	SHC1024CR**	SHC2024CR**
1/2"	.38"-.50" (9.7-12.7)	F3	Blue	SHC1025	•	•	•	•
	.50"-.63" (12.7-15.9)		Brown	SHC1026	•	•	•	•
	.63"-.75" (15.9-19.0)		Yellow	SHC1027**	SHC1027ZP**	•	•	•
	.75"-.88" (19.0-22.2)		Orchid	SHC1028**	SHC1028ZP**	•	•	•

Note: See pages T-87 to T-98 for additional technical data and dimensional drawings.

*IP66 Suitability when used with optional metal clad O-ring shown on page T-83.

**Cable jacket may have to be stripped to pass through connector body.

Cord Connectors

Straight Male

Form Size 1-4

UL Listed to Type 4, 4X, 12 and Type 13


IP66*
 SUITABILITY

N.P.T. Hub Size	Cord Dia. Inches (mm)	Form Size	Color Code	Machined Aluminum	Machined Zinc-Plated Steel	Stainless Steel	Nylon Gray	Black
3/4"	.06"- .13" (1.6-3.2)	F2	Green	SHC1029	•	•	•	•
	.13"- .19" (3.2-4.7)		Orange	SHC1030	SHC1030ZP	•	•	•
	.19"- .25" (4.7-6.3)		Red	SHC1031	SHC1031ZP	•	•	•
	.25"- .38" (6.3-9.7)		White	SHC1032	SHC1032ZP	•	•	•
	.38"- .50" (9.7-12.7)		Blue	SHC1033	SHC1033ZP	•	•	•
	.50"- .63" (12.7-15.9)		Brown	SHC1034	SHC1034ZP	•	•	•
	.63"- .75" (15.9-19.0)		Orchid	SHC1038**	SHC1038ZP**	SHC1038SS**	SHC1038CR**	SHC2038CR**
1"	.50"- .63" (12.7-15.9)	F3	Brown	•	SHC1097ZP	•	•	•
	.63"- .75" (15.9-19.0)		Yellow	•	SHC1098ZP	•	•	•
	.75"- .88" (19.0-22.2)		Orchid	•	SHC1099ZP	•	•	•
1"	.38"- .50" (9.7-12.7)	F4	Blue	SHC1039	•	•	SHC1039CR	•
	.50"- .63" (12.7-15.9)		Brown	SHC1040	•	•	SHC1040CR	•
	.63"- .75" (15.9-19.0)		Yellow	SHC1041	•	SHC1041SS	SHC1041CR	SHC2041CR
	.75"- .88" (19.0-22.2)		Orchid	SHC1042	•	SHC1042SS	SHC1042CR	SHC2042CR
	.88"- 1.00" (22.2-25.4)		Gray	SHC1043	SHC1043ZP	•	SHC1043CR	SHC2043CR
	1.00"- 1.13" (25.4-28.6)		Pink	SHC1044**	•	SHC1044SS**	SHC1044CR**	SHC2044CR**



Stainless Steel



Gray Nylon



Black Nylon

Note: See pages T-87 to T-98 for additional technical data and dimensional drawings.

*IP66 Suitability when used with optional metal clad O-ring shown on page T-83.

**Cable jacket may have to be stripped to pass through connector body.

Form 4 aluminum and plated steel nuts are machined, bodies are cast aluminum.

Cord Connectors

Straight Male

Form Size 5-8



Cast Aluminum

Cast Aluminum
Malleable Iron

UL Listed to Type 4, 4X, 12 and Type 13

**IP66***
SUITABILITY

N.P.T. Hub Size	Cord Dia. Inches	(mm)	Form Size	Cast Aluminum	Malleable Iron†
1"	.88"-1.00"	(22.2-25.4)	F5	SHC1046	•
	1.00"-1.13"	(25.4-28.6)		SHC1047**	•
	1.13"-1.25"	(28.6-31.7)		SHC1048**	•
	1.25"-1.38"	(31.7-34.9)		SHC1049**	•
1 1/4"	.75"-.88"	(19.0-22.2)	F5	SHC1050	•
	.88"-1.00"	(22.2-25.4)		SHC1051	•
	1.00"-1.13"	(25.4-28.6)		SHC1052	SHC1052ZP
	1.13"-1.25"	(28.6-31.7)		SHC1053	SHC1053ZP
1 1/2"	1.25"-1.38"	(31.7-34.9)	F5	SHC1054**	SHC1054ZP
	.75"-.88"	(19.0-22.2)		SHC1055	•
	.88"-1.00"	(22.2-25.4)		SHC1056	•
	1.00"-1.13"	(25.4-28.6)		SHC1057	SHC1057ZP
1 1/2"	1.13"-1.25"	(28.6-31.7)	F5	SHC1058	SHC1058ZP
	1.25"-1.38"	(31.7-34.9)		SHC1059	SHC1059ZP
1 1/2"	1.38"-1.50"	(34.9-38.1)	F6	SHC1061	•
	1.50"-1.63"	(38.1-41.3)		SHC1062**	•
	1.63"-1.75"	(41.3-44.4)		SHC1063**	•
	1.75"-1.88"	(44.4-47.6)		SHC1064**	•
2"	1.25"-1.38"	(31.7-34.9)	F6	SHC1065	•
	1.38"-1.50"	(34.9-38.1)		SHC1066	•
	1.50"-1.63"	(38.1-41.3)		SHC1067	•
	1.63"-1.75"	(41.3-44.4)		SHC1068	•
2"	1.75"-1.88"	(44.4-47.6)	F6	SHC1069	•
	1.69"-1.81"	(42.9-46.0)	F7	SHC1070	•
	1.81"-1.94"	(46.0-49.2)		SHC1071	•
	1.94"-2.06"	(49.2-52.4)		SHC1072**	•
2"	2.06"-2.19"	(52.4-55.6)		SHC1073**	•
	2.19"-2.31"	(55.6-58.7)		SHC1074**	•
2 1/2"	1.69"-1.81"	(42.9-46.0)	F7	SHC1076	•
	1.81"-1.94"	(46.0-49.2)		SHC1077	•
	1.94"-2.06"	(49.2-52.4)		SHC1078	•
	2.06"-2.19"	(52.4-55.6)		SHC1079	•
2 1/2"	2.19"-2.31"	(55.6-58.7)	F7	SHC1080	•
	2.31"-2.44"	(58.7-61.9)		SHC1081**	•
3"	1.69"-1.81"	(42.9-46.0)	F7	SHC1086	•
	1.81"-1.94"	(46.0-49.2)		SHC1087	•
	1.94"-2.06"	(49.2-52.4)		SHC1088	•
	2.06"-2.19"	(52.4-55.6)		SHC1089	•
3"	2.19"-2.31"	(55.6-58.7)	F7	SHC1090	•
	2.31"-2.44"	(58.7-61.9)		SHC1091	•
3"	2.44"-2.63"	(61.9-66.7)	F8	SHC1092	•
	2.63"-2.81"	(66.7-71.4)		SHC1093	•
	2.81"-3.00"	(71.4-76.2)		SHC1094	•
	3.00"-3.25"	(76.2-82.5)		SHC1095**	•

Note: See pages T-87 to T-98 for additional technical data and dimensional drawings.

*IP66 Suitability when used with optional metal clad O-ring shown on page T-83.

**Cable jacket may have to be stripped to pass through connector body.

F5 and larger will not be color coded.

Cord Connectors

45° Male

Form Size 2-5

UL Listed to Type 4, 4X, 12 and Type 13


IP66*
 SUITABILITY
Form Size 1-5

N.P.T. Hub Size	Cord Dia. Inches	(mm)	Form Size	Color Code	Machined Aluminum†	Machined Zinc-Plated Steel♦	Cast Aluminum
1/2"	.19"-.25"	(4.7-6.3)	F2	Red	VHC1021	•	•
	.25"-.38"	(6.3-9.7)		White	VHC1022	VHC1022ZP	•
	.38"-.50"	(9.7-12.7)		Blue	VHC1023	VHC1023ZP	•
	.50"-.63"	(12.7-15.9)		Brown	VHC1024**	VHC1024ZP**	•
3/4"	.38"-.50"	(9.7-12.7)	F3	Blue	VHC1035	•	•
	.50"-.63"	(12.7-15.9)		Brown	VHC1036	•	•
	.63"-.75"	(15.9-19.0)		Yellow	VHC1037**	•	•
1"	.63"-.75"	(15.9-19.0)	F4	Yellow	VHC1041	•	•
	.75"-.88"	(19.0-22.2)		Orchid	VHC1042	•	•
1 1/4"	1.00"-1.13"	(25.4-28.6)	F5		•	•	VHC1052
	1.13"-1.25"	(28.6-31.7)			•	•	VHC1053**

Note: See pages T-87 to T-98 for additional technical data and dimensional drawings.

* IP66 Suitability when used with optional metal clad O-ring shown on page T-83.

** Cable jacket may have to be stripped to pass through connector body.

†Nuts are machined aluminum and bodies are cast aluminum.

♦Nuts are machined zinc-plated steel and bodies are malleable iron, cadmium plated.



Machined
Aluminum†



Machined
Zinc-Plated SteelΔ



Cast
Aluminum

Cord Connectors

90° Male

Form Size 1-6

UL Listed to Type 4, 4X, 12 and Type 13


IP66*
 SUITABILITY
Form 1-6

N.P.T. Hub Size	Cord Dia. Inches	(mm)	Form Size	Color Code	Machined Aluminum†	Machined Zinc-Plated Steel◆	Nylon Gray	Nylon Black	Cast Aluminum
3/8"	.25"-.31"	(6.3-7.9)	F1	Black	NHC1010	•	•	•	•
	.31"-.38"	(7.9-9.5)		White	NHC1011	•	•	•	•
	.38"-.44"	(9.5-11.0)		Blue	NHC1012	•	•	•	•
1/2"	.06"-.13"	(1.6-3.2)	F2	Green	•	•	•	•	•
	.13"-.19"	(3.2-4.7)		Orange	NHC1020	•	NHC1020CR	•	•
	.19"-.25"	(4.7-6.3)		Red	NHC1021	NHC1021ZP	NHC1021CR	•	•
	.25"-.38"	(6.3-9.7)		White	NHC1022	NHC1022ZP	NHC1022CR	NHC2022CR	•
	.38"-.50"	(9.7-12.7)		Blue	NHC1023	NHC1023ZP	NHC1023CR	NHC2023CR	•
	.50"-.63"	(12.7-15.9)		Brown	NHC1024**	NHC1024ZP**	NHC1024CR**	NHC2024CR**	•
3/4"	.38"-.50"	(9.7-12.7)	F3	Blue	NHC1035	NHC1035ZP	NHC1035CR	•	•
	.50"-.63"	(12.7-15.9)		Brown	NHC1036	NHC1036ZP	NHC1036CR	•	•
	.63"-.75"	(15.9-19.0)		Yellow	NHC1037	NHC1037ZP	NHC1037CR	•	•
	.75"-.88"	(19.0-22.2)		Orchid	NHC1038	NHC1038ZP	NHC1038CR	•	•
1"	.50"-.63"	(12.7-15.9)	F4	Brown	NHC1040	NHC1040ZP	•	•	•
	.63"-.75"	(15.9-19.0)		Yellow	NHC1041	NHC1041ZP	NHC1041CR	NHC2041CR	•
	.75"-.88"	(19.0-22.2)		Orchid	NHC1042	NHC1042ZP	NHC1042CR	NHC2042CR**	•
	.88"-1.00"	(22.2-25.4)		Gray	NHC1043**	•	NHC1043CR	NHC2043CR**	•
	1.00"-1.13"	(25.4-28.7)		Pink	NHC1044**	•	•	•	•
1 1/4"	.88"-1.00"	(22.2-25.4)	F5	•	•	•	•	•	NHC1051
	1.00"-1.13"	(25.4-28.6)		•	•	•	•	•	NHC1052
	1.13"-1.25"	(28.6-31.7)		•	•	•	•	•	NHC1053**
	1.25"-1.38"	(31.7-34.9)		•	•	•	•	•	NHC1054**
1 1/2"	1.00"-1.13"	(25.4-28.6)	F5	•	•	•	•	•	NHC1057
	1.13"-1.25"	(28.6-31.7)		•	•	•	•	•	•
	1.25"-1.38"	(31.7-34.9)		•	•	•	•	•	NHC1059
2"	1.38"-1.50"	(34.9-38.1)	F6	•	•	•	•	•	NHC1066

Note: See pages T-87 to T-98 for additional technical data and dimensional drawings.

* IP66 Suitability when used with optional metal clad O-ring shown on page T-83.

** Cable jacket may have to be stripped to pass through connector body.

† Nuts are machined aluminum and bodies are cast aluminum.

◆ Compression nuts are machined zinc-plated steel and bodies are zinc-plated malleable iron.



Machined
Aluminum†



Machined
Zinc-Plated Steel△



Gray Nylon



Black Nylon



Cast Aluminum

Cord Connectors

Straight Female and Underground Feeder



Form 1-4

N.P.T. Hub Size	Cord Dia. Inches	(mm)	Form Size	Color Code	Machined Aluminum
1/2"	.25"-.38"	(6.3-9.7)	F2	White	FHC1022
	.38"-.50"	(9.7-12.7)		Blue	FHC1023
3/4"	.38"-.50"	(9.7-12.7)	F2	Blue	FHC1033
	.50"-.63"	(12.7-15.9)		Brown	FHC1034
1"	.75"-.88"	(19.0-22.2)	F4	Orchid	FHC1042†
	.88"-1.00"	(22.2-25.4)		Gray	FHC1043†

Note: See pages T-87 to T-98 for additional technical data and dimensional drawings.

*Cable jacket may have to be stripped to pass through connector body.

†Nuts are machined aluminum and bodies are cast aluminum.



Machined Aluminum



IP66*
SUITABILITY

Underground Feeder Connectors

N.P.T. Hub Size	Diameter Inches	(mm)	UF** Wire Size	Machined Aluminum	Machined Zinc-Plated Steel	Nylon Gray	Nylon Black
1/2"	.2"x.4" min	(5.1 x 10.2)	2 # 14,	UFC0001	UFC0001ZP	UFC0001CR	UFC2001CR
	.25"-.55" max	(6.3 x 14.0)	2 # 12, 2 # 10.				
3/4"	.2"x.4" min	(5.1x10.2)	2 # 14,	UFC0002	•	•	•
	.25"-.55" max	(6.3x14.0)	2 # 12, 2 # 10.				
3/4"	.2"x.6" min	(5.1x15.2)	3 # 14,	UFC0003	•	UFC0003CR	UFC2003CR
	.26"x.78" max	(6.6x19.8)	3 # 12, 3 # 10.				

Note: See pages T-87 to T-98 for additional technical data and dimensional drawings.

*IP66 Suitability when used with optional metal clad O-ring shown below.

**Wire sizes vary among manufacturers.



Machined Aluminum



Zinc-Plated Steel



Gray Nylon



Black Nylon

Non-metallic Cord Connectors

Straight Male N.P.T. & PG Thread

Low Profile



SEC100B



SECP29G



LNPG29BPK25


IP68*
 SUITABILITY

Low Profile N.P.T. Cord Connectors

N.P.T. Hub Size	Cord Dia. Inches	(mm)	Color	Catalog Numbers
3/8"	.20"-.32"	(5.1-8.13)	Gray	SEC38G
3/8"	.20"-.32"	(5.1-8.13)	Black	SEC38B
1/2"	.24"-.47"	(6.1-12)	Gray	SEC50G
1/2"	.24"-.47"	(6.1-12)	Black	SEC50B
3/4"	.47"-.71"	(12-18)	Gray	SEC75G
3/4"	.47"-.71"	(12-18)	Black	SEC75B
1"	.67"-.98"	(17-25)	Gray	SEC100G
1"	.67"-.98"	(17-25)	Black	SEC100B

Note: See pages T-87 to T-91 for additional technical data and dimensional drawings.

Low Profile PG Cord Connectors

Hub Size	Cord Dia. Inches	(mm)	Color	Catalog Numbers
PG7	.18"-.26"	(4.5-6.6)	Gray	SECP7G
PG7	.18"-.26"	(4.5-6.6)	Black	SECP7B
PG9	.20"-.32"	(5.1-8.13)	Gray	SECP9G
PG9	.20"-.32"	(5.1-8.13)	Black	SECP9B
PG11	.22"-.39"	(5.6-9.9)	Gray	SECP11G
PG11	.22"-.39"	(5.6-9.9)	Black	SECP11B
PG13.5	.47"-.71"	(12-18)	Gray	SECP13G
PG13.5	.47"-.71"	(12-18)	Black	SECP13B
PG16	.32"-.55"	(8.13-14)	Gray	SECP16G
PG16	.32"-.55"	(8.13-14)	Black	SECP16B
PG21	.47"-.71"	(12-18)	Gray	SECP21G
PG21	.47"-.71"	(12-18)	Black	SECP21B
PG29	.67"-.98"	(17-25)	Gray	SECP29G
PG29	.67"-.98"	(17-25)	Black	SECP29B
PG36	.79"-1.26"	(20-32)	Gray	SECP36G
PG36	.79"-1.26"	(20-32)	Black	SECP36B

Note: See pages T-87 to T-91 for additional technical data and dimensional data.

PG Non-Metallic Locknuts

Hub Size	Color	Catalog Numbers
PG7	Black	LNPG7BPK100
PG9	Black	LNPG9BPK100
PG11	Black	LNPG11BPK100
PG13.5	Black	LNPG13BPK100
PG16	Black	LNPG16BPK100
PG21	Black	LNPG21BPK100
PG29	Black	LNPG29BPK25
PG36	Black	LNPG36BPK25

Notes: Catalog numbers above with "PK100" suffix, i.e. LNPG7BPK100, are bulk packed 100 per carton.

Catalog numbers above with "PK25" suffix, i.e. LNPG29BPK25, are bulk packed 25 per carton.

Cord Connectors Accessories

Cord Connector Parts					
N.P.T. Hub Size	Cord Dia. Inches	(mm)	Form Size	Bushing Catalog Numbers	GOTCHA® Ring Color Code Catalog Numbers
1/4", 3/8", 1/2"	.062"-.125"	(1.58-3.17)	F1	31518101BPK100	Green 31648035GPK100
	.125"-.187"	(3.17-4.76)		31518102BPK100	Orange 31648036GPK100
	.187"-.250"	(4.76-6.35)		31518103BPK100	Red 31648037GPK100
	.250"-.312"	(6.35-7.93)		31518104BPK100	Black 31648038GPK100
	.312"-.375"	(7.93-9.50)		31518105BPK100	White 31605010GPK100
	.375"-.437"	(9.50-11.1)		31518106BPK100	Blue 31648039GPK100
1/2", 3/4"	.062"-.125"	(1.58-3.17)	F2	-	Green -
	.125"-.187"	(3.17-4.76)		-	Orange -
	.187"-.250"	(4.76-6.35)		31518110BPK100	Red 31648042GPK100
	.250"-.375"	(6.35-9.50)		31518111BPK100	White 31605015G
	.375"-.500"	(9.50-12.7)		31518112BPK100	Blue 31648043GPK100
	.500"-.625"	(12.7-15.8)		31518113BPK100	Brown 31648044GPK100
1/2", 3/4"	.375"-.500"	(9.50-12.7)	F3	31518116BPK100	Blue 31648045GPK100
	.500"-.625"	(12.7-15.8)		31518117BPK100	Brown 31648046GPK100
	.625"-.750"	(15.8-19.0)		31518118BPK100	Yellow 31648047GPK100
	.750"-.875"	(19.0-22.2)		31518119BPK100	Orchid 31648048GPK100
1"	.375"-.500"	(9.50-12.7)	F4	-	Blue -
	.500"-.625"	(12.7-15.8)		31518123BPK100	Brown 31648050GPK100
	.625"-.750"	(15.87-19.0)		-	Yellow 31648051GPK100
	.750"-.875"	(19.0-22.2)		31518125BPK100	Orchid 31648052GPK100
	.875"-.1.00"	(22.2-25.4)		31518126BPK100	Gray 31648053GPK100
	1.00"-.1.125"	(25.4-28.5)		31518127BPK100	Pink 31648054GPK100

Note: Catalog numbers above with "PK100" suffix, i.e. 31518101BPK100, are bulk packed 100 per carton.

Locknuts — Steel and Non-metallic

N.P.T. Hub Size	Zinc-Plated Steel	Non-metallic
1/4"	•	31622001LPK50
3/8"	•	31622002LPK50
1/2"	00322001LPK50	31622003LPK50
3/4"	00322002LPK50	31622007LPK50
1"	00322003LPK50	31622008LPK50
1 1/4"	00322004LPK50	•
1 1/2"	00322005LPK50	•

Notes: Catalog numbers above with "PK50" suffix, i.e. 00322001LPK50, are bulk packed 50 per carton.
See page T-96 for additional technical data and dimensional drawings.



Zinc-Plated Steel Locknuts



Non-metallic Locknuts



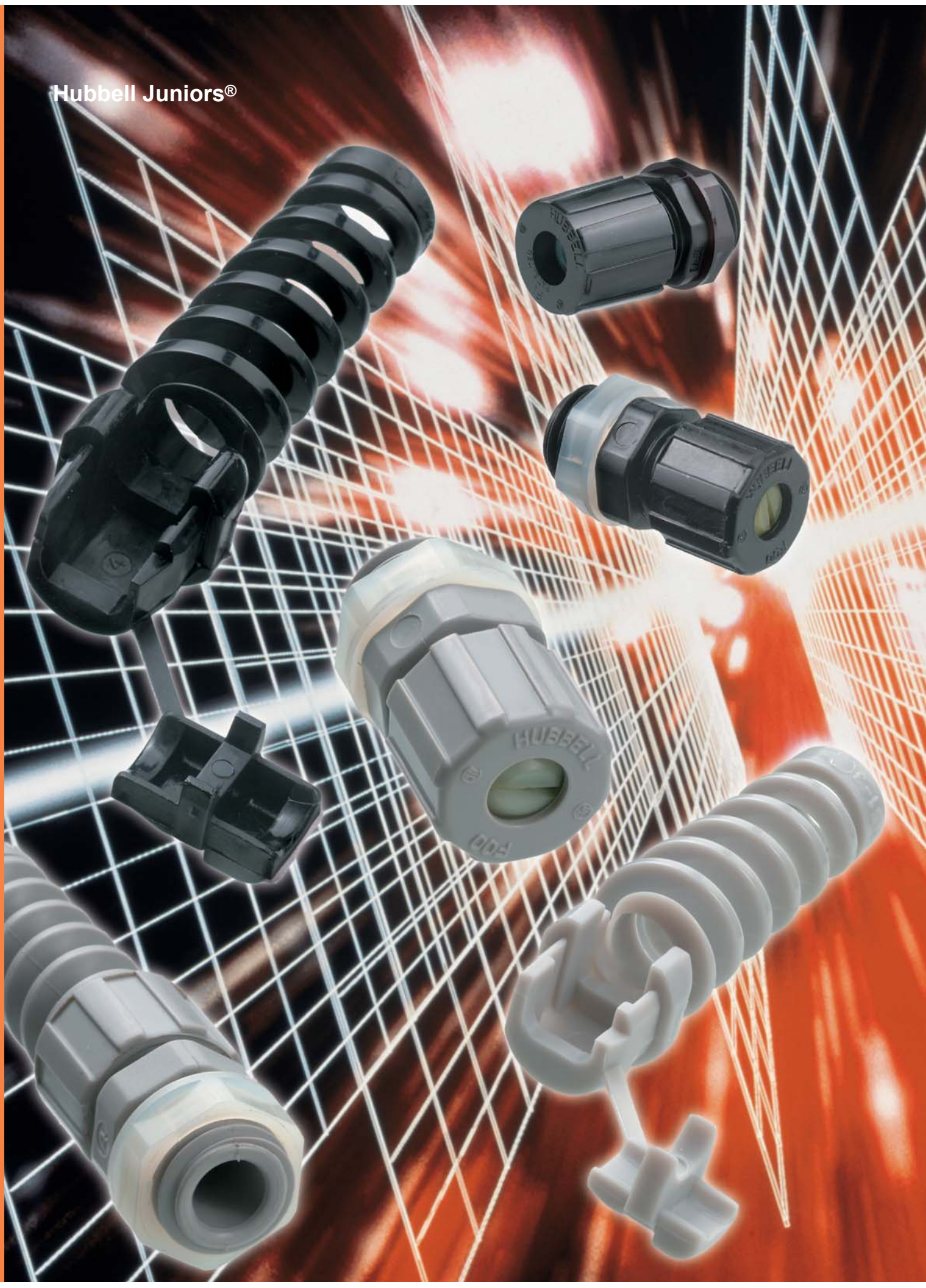
Metal Clad Sealing O-Rings

Metal Clad Sealing O-Rings

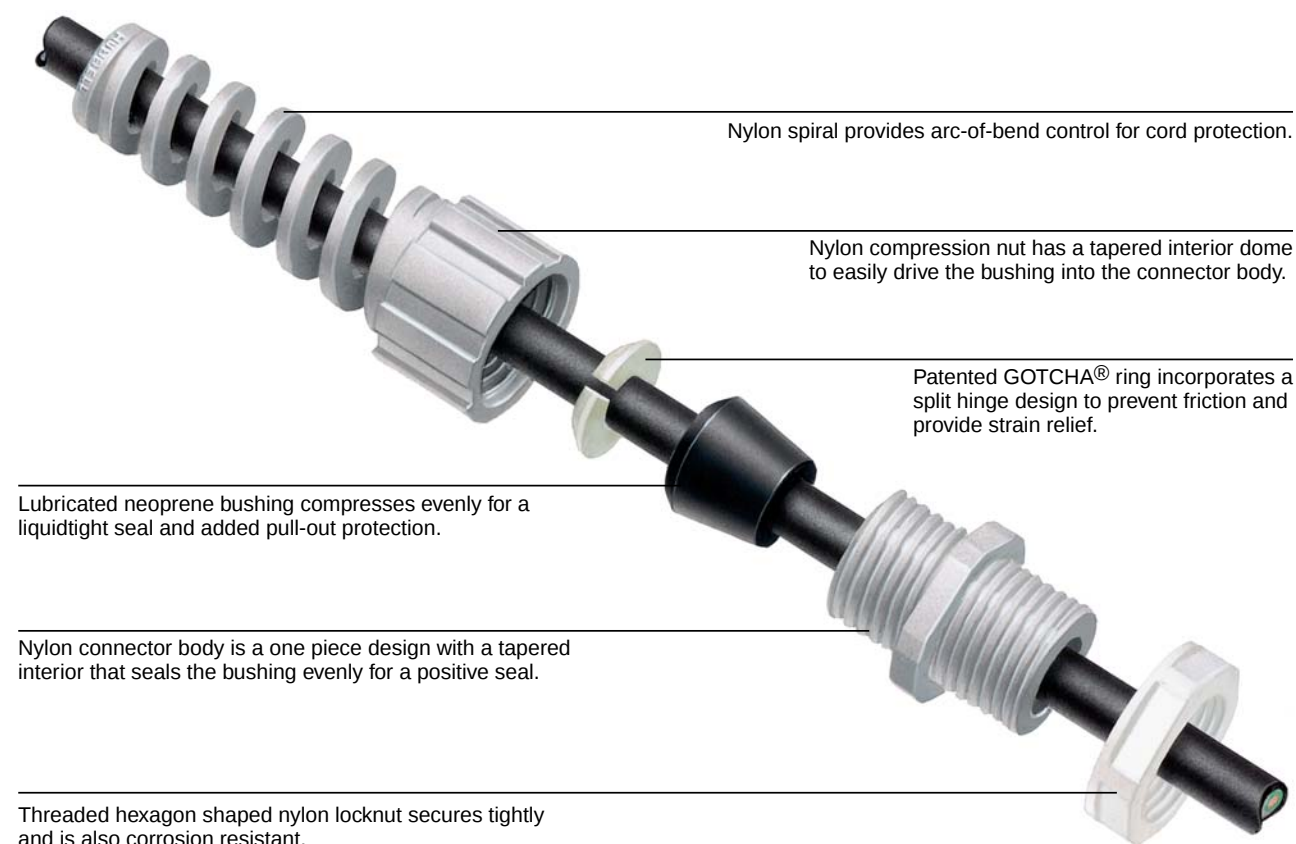
N.P.T. Hub Size	Catalog Numbers
1/2"	20509001
3/4"	20509002
1"	20509003
1 1/4"	20509004
1 1/2"	20509005
2"	20509006
2 1/2"	20509007
3"	20509008

Note: See page T-96 for additional technical data and dimensional drawings.

Hubbell Juniors®



Hubbell Juniors® Miniature Cord Connectors Features and Benefits



Hubbell Juniors are a miniature liquidtight version of the full-sized Hubbell cord connectors. They feature the same GOTCHA® ring technology and neoprene bushings. They also come with or without a nylon spiral for arc-of-bend control and longer cord life. They are available in 1/4", 3/8", and 1/2" N.P.T. sizes in both gray and black.

Miniature Nylon Cord Connectors

HUBBELL JUNIORS®



Gray Cord Connector



Black Cord Connector



Gray Cord Connector with Spiral



Black Cord Connector with Spiral

Gray Snap-In
Cord ConnectorBlack Snap-In
Cord Connector

Miniature Nylon Cord Connector

N.P.T. Hub Size	Cord Dia. Range Inches	(mm)	Gray	Black
1/4"	.08"-.14"	(1.9-3.4)	HJ1001GPK25	HJ1001BPK25
	.14"-.20"	(3.4-5.1)	HJ1002GPK25	HJ1002BPK25
	.20"-.27"	(5.1-6.7)	HJ1003GPK25	HJ1003BPK25
3/8"	.15"-.21"	(3.7-5.3)	HJ1004GPK25	HJ1004BPK25
	.21"-.28"	(5.3-7.0)	HJ1005GPK25	HJ1005BPK25
	.28"-.34"	(7.0-8.6)	HJ1006GPK25	HJ1006BPK25
1/2"	.06"-.13"	(1.6-3.2)	HJ1055GPK25	HJ1055BPK25
	.13"-.19"	(3.2-4.7)	HJ1056GPK25	HJ1056BPK25
	.19"-.25"	(4.7-6.3)	HJ1057GPK25	HJ1057BPK25
	.25"-.31"	(6.3-7.9)	HJ1058GPK25	HJ1058BPK25
	.31"-.38"	(7.9-9.5)	HJ1059GPK25	HJ1059BPK25
	.38"-.44"	(9.5-11.1)	HJ1060GPK25	HJ1060BPK25



Miniature Nylon Cord Connector with Spiral

N.P.T. Hub Size	Cord Dia. Range Inches	(mm)	Gray	Black
1/4"	.08"-.14"	(1.9-3.4)	HJ1010GPK25	HJ1010BPK25
	.14"-.20"	(3.4-5.1)	HJ1011GPK25	HJ1011BPK25
	.20"-.27"	(5.1-6.7)	HJ1012GPK25	HJ1012BPK25
3/8"	.15"-.21"	(3.7-5.3)	HJ1013GPK25	HJ1013BPK25
	.21"-.28"	(5.3-7.0)	HJ1014GPK25	HJ1014BPK25
	.28"-.34"	(7.0-8.6)	HJ1015GPK25	HJ1015BPK25
1/2"	.13"-.19"	(3.2-4.7)	HJ1038GPK25	HJ1038BPK25
	.19"-.25"	(4.7-6.3)	HJ1039GPK25	HJ1039BPK25
	.25"-.31"	(6.3-7.9)	HJ1040GPK25	HJ1040BPK25
	.31"-.38"	(7.9-9.5)	HJ1041GPK25	HJ1041BPK25
	.38"-.44"	(9.5-11.1)	HJ1042GPK25	HJ1042BPK25



Miniature Nylon Snap-In Cord Connector

Cord Diameter Range Inches (mm)	For Chassis Thickness	Gray	Black
.22"-.27" (5.6-6.9)	.10" (2.5) Max	HS1001GPK25	HS1001BPK25
.28"-.32" (7.1-8.1)	.10" (2.5) Max	HS1002GPK25	HS1002BPK25
.30"-.36" (7.6-9.1)	.13" (3.2) Max	HS1003GPK25	HS1003BPK25
.32"-.43" (8.1-10.9)	.13" (3.2) Max	HS1004GPK25	HS1004BPK25

Notes: Catalog numbers above with "PK25" suffix, i.e. HJ1001GPK25, are bulk packed 25 per carton.
See pages T-97 and T-98 for additional technical data and dimensional drawings.

Cord Connectors Technical Data

Operating Temperatures

Material	Temperature Range	
Aluminum	-40°F to +300°F	(-40°C to +149°C)
Nylon (connectors and GOTCHA® rings)	-40°F to +225°F	(-40°C to +107°C)
Plated steel*	-60°F to +1000°F	(-51°C to +537°C)
Stainless steel*	-60°F to +1000°F	(-51°C to +537°C)
Neoprene (bushings)	-30°F to +240°F	(-34°C to +115°C)

*Due to the limiting factors of nylon and neoprene, any complete cord connector with a GOTCHA ring, Form 1-5, will continuously perform in the range of -30°F to +225°F (-34°C to +107°C).

Cord connectors without GOTCHA rings, Form 6-8, will continuously operate in the range -30°F to +240°F (-34°C to +115°C) due to the limiting factor of neoprene.

Hazardous Locations

Hubbell cord connectors are suitable for use in hazardous locations per Class I Div. 2, Class II Div. 1 & 2, Class III Div. 1 & 2 NEC Reference 501-4(b), 502-4(a), 502-4(b), 503-3(a), and 503-3(b).

Flammability

Hubbell nylon cord connectors have a UL 94-V2 rating.

Approvals

Agency

UL Listed in accordance with Standard 514B.

CSA Certified.

United States Coast Guard Approved, Title 46-Part 111.

Form Size Definition

The term "Form Size" refers to the physical overall size of a cord connector.

Form 1 is the smallest size.

Form 8 is the largest size.

Knockout Holes

N.P.T. Hub Size	Knockout Hole Recommended	
	Min. to Max. Inches	(mm)
1/4"	.54"-.57"	(13.7-14.5)
3/8"	.67"-.70"	(17.0-17.8)
1/2"	.86"-.91"	(21.8-23.0)
3/4"	1.09"-1.14"	(27.8-29.0)
1"	1.36"-1.41"	(34.5-35.7)
1 1/4"	1.72"-1.77"	(43.7-44.9)
1 1/2"	1.97"-2.02"	(50.0-51.2)
2"	2.45"-2.50"	(62.3-63.5)
2 1/2"	2.95"-3.00"	(75.0-76.2)
3"	3.58"-3.63"	(90.9-92.1)

N.P.T - PG Thread Low Profile Connectors

Specifications

Material: Polyamide

Sealing Grommet: Neoprene

Temperature Range: -30°C to 100°C.

Cord Connectors are Halogen and Silicon free.

Protection Class: IP67.

Flame Retardant: UL 94V-0.

Listings/Certifications: UL 514B, VDE 0619, CSA C22.2 No. 18.



SECP29G

Cord Connectors

Technical Data

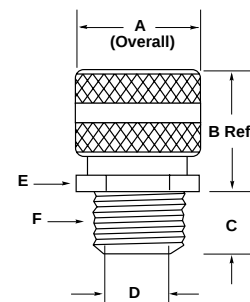
Dimensional Charts

Straight Hubbell Connectors

Aluminum Inches (mm)							Nylon Inches (mm)						
F		A	B	C	D	E	A	B	C	D	E		
N.P.T.	Form	Dia.	Ref.		Throat Dia.	A/C* A/F*	Dia.	Ref.		Throat Dia.	A/C* A/F*		
1/4"-18	1	.88" (22.4)	.90" (22.9)	.46" (11.7)	.32" (8.1)	.99" (25.1) .88" (22.4)	1.00" (25.4)	1.10" (27.9)	.43" (10.9)	.33" (8.4)	1.00" (25.4) .93" (23.6)		
3/8"-18	1	.88" (22.4)	.90" (22.9)	.46" (11.7)	.44" (11.2)	.99" (25.1) .88" (22.4)	1.00" (25.4)	1.10" (27.9)	.43" (10.9)	.45" (11.4)	1.00" (25.4) .93" (23.6)		
1/2"-14	1	.88" (22.4)	.90" (22.9)	.46" (11.7)	.44" (11.2)	1.00" (25.4) .88" (22.4)	1.00" (25.4)	1.10" (27.9)	.46" (11.7)	.45" (11.4)	1.00" (25.4) .93" (23.6)		
1/2"-14	2	1.13" (28.7)	1.10" (27.9)	.55" (14.0)	.64" (16.3)	1.11" (28.2) 1.00" (25.4)	1.32" (33.5)	1.50" (38.1)	.53" (13.5)	.58" (14.7)	1.25" (31.7) 1.12" (28.4)		
1/2"-14	3	1.38" (35.1)	1.50" (38.1)	.55" (14.0)	.64" (16.3)	1.40" (35.6) 1.25" (31.7)	•	•	•	•	•	•	•
3/4"-14	2	1.13" (28.7)	1.10" (27.9)	.55" (14.0)	.64" (16.3)	1.29" (32.8) 1.13" (28.7)	•	•	•	•	•	•	•
3/4"-14	3	1.38" (35.1)	1.50" (38.1)	.55" (14.0)	.82" (20.8)	1.40" (35.6) 1.25" (31.7)	1.56" (39.6)	1.60" (40.6)	.55" (14.0)	.77" (19.6)	1.44" (36.6) 1.31" (33.3)		
1"-11 1/2	4	1.75" (44.4)	1.60" (40.6)	.71" (18.0)	1.02" (25.9)	1.81" (46.0) 1.62" (41.1)	1.88" (47.8)	1.75" (44.4)	.70" (17.8)	1.01" (25.7)	1.84" (46.7) 1.63" (41.4)		
1"-11 1/2	5	2.31" (58.7)	1.70" (43.2)	.66" (16.8)	1.01" (25.7)	2.28" (57.9) 2.00" (50.8)	•	•	•	•	•	•	•
1 1/4"-11 1/2	5	2.31" (58.7)	1.70" (43.2)	.74" (18.8)	1.26" (32.0)	2.28" (57.9) 2.12" (53.8)	•	•	•	•	•	•	•
1 1/2"-11 1/2	5	2.31" (58.7)	1.70" (43.2)	.74" (18.8)	1.38" (35.1)	2.28" (57.9) 2.12" (53.8)	•	•	•	•	•	•	•
1 1/2"-11 1/2	6	3.00" (76.2)	2.20" (55.9)	.75" (19.0)	1.50" (38.1)	2.97" (75.4) 2.75" (69.8)	•	•	•	•	•	•	•
2"-11 1/2	6	3.00" (76.2)	2.20" (55.9)	.80" (20.3)	1.92" (48.8)	3.24" (82.4) 3.00" (76.2)	•	•	•	•	•	•	•
2"-11 1/2	7	3.85" (97.8)	2.70" (68.6)	.88" (22.4)	1.94" (49.3)	4.05" (102.9) 3.75" (95.2)	•	•	•	•	•	•	•
2 1/2"-8	7	3.85" (97.8)	2.70" (68.6)	1.30" (33.0)	2.32" (58.9)	4.34" (110.2) 4.02" (102.1)	•	•	•	•	•	•	•
2 1/2"-8	8	4.75" (120.6)	2.70" (68.6)	1.25" (31.7)	2.38" (60.5)	4.86" (123.4) 4.50" (114.3)	•	•	•	•	•	•	•
3"-8	7	3.85" (97.8)	2.70" (68.6)	1.30" (33.0)	2.54" (64.5)	4.34" (110.2) 4.02" (102.1)	•	•	•	•	•	•	•
3"-8	8	4.50" (114.3)	2.70" (68.6)	1.38" (35.1)	3.00" (76.2)	4.86" (123.4) 4.50" (114.3)	•	•	•	•	•	•	•

*A/C— Across Corners; A/F—Across Flats

Dimensions shown are approximate and are subject to change without notice.



Cord Connectors

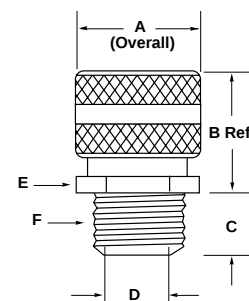
Technical Data

Dimensional Charts

Straight Hubbell Connectors

		Zinc-Plated Steel Inches (mm)							Stainless Steel Inches (mm)						
F		A		B	C	D	E		A		B	C	D	E	
		A/C*	A/F*	Ref.		Throat Dia.	A/C*	A/F*	A/C*	A/F*			Throat Dia.	A/C*	A/F*
1/4"-18	1	•	•	•	•	•	•	•	1.01"	.88"	.90"	.46"	.38"	.87"	.75"
		(24.9)	(22.4)	(22.9)	(10.7)	(11.4)	(25.1)	(22.4)	(25.7)	(22.4)	(22.9)	(11.7)	(9.7)	(22.1)	(19.0)
3/8"-18	1	.98"	.88"	.90"	.42"	.45"	.99"	.88"	1.01"	.88"	.90"	.46"	.45"	.87"	.75"
		(24.9)	(22.4)	(22.9)	(10.7)	(11.4)	(25.1)	(22.4)	(25.7)	(22.4)	(22.9)	(11.7)	(11.4)	(22.1)	(19.0)
1/2"-14	1	.98"	.88"	.90"	.55"	.45"	1.00"	.88"	•	•	•	•	•	•	•
		(24.9)	(22.4)	(22.9)	(14.0)	(11.4)	(25.4)	(22.4)							
1/2"-14	2	1.27"	1.13"	1.20"	.55"	.64"	1.10"	1.00"	1.30"	1.13"	1.10"	.54"	.63"	1.16"	1.00"
		(32.3)	(28.7)	(30.5)	(14.0)	(16.3)	(28.2)	(25.4)	(33.0)	(28.7)	(27.9)	(13.7)	(16.0)	(29.5)	(25.4)
1/2"-14	3	1.55"	1.38"	1.50"	.55"	.64"	1.40"	1.25"	•	•	•	•	•	•	•
		(39.4)	(35.1)	(38.1)	(14.0)	(16.3)	(35.6)	(31.7)							
3/4"-14	2	1.27"	1.13"	1.20"	.55"	.64"	1.29"	1.13"	•	•	•	•	•	•	•
		(32.3)	(28.7)	(30.5)	(14.0)	(16.3)	(32.8)	(28.7)							
3/4"-14	3	1.55"	1.38"	1.40"	.55"	.82"	1.40"	1.25"	1.59"	1.38"	1.30"	.56"	.81"	1.44"	1.25"
		(39.4)	(35.1)	(35.6)	(14.0)	(20.8)	(35.6)	(31.7)	(40.4)	(35.1)	(33.0)	(14.2)	(20.6)	(36.6)	(31.7)
1"-11 1/2	3	1.55"	1.38"	1.40"	.70"	.89"	1.54"	1.38"	•	•	•	•	•	•	•
		(39.4)	(35.1)	(35.6)	(17.8)	(22.6)	(39.1)	(35.1)							
1"-11 1/2	4	1.92"	1.69"	1.60"	.70"	1.02"	1.95"	1.69"	2.02"	1.75"	1.40"	.70"	1.03"	1.88"	1.63"
		(48.8)	(42.9)	(40.6)	(17.8)	(25.9)	(49.5)	(42.9)	(51.3)	(44.4)	(35.6)	(17.8)	(26.2)	(47.8)	(41.4)
1"-11 1/2	5	2.40"	•	1.70"	.70"	1.02"	2.46"	2.15"	•	•	•	•	•	•	•
		(61.0)		(43.2)	(17.8)	(25.9)	(62.5)	(54.6)							
1 1/4"-11 1/2	5	2.40"	•	1.70"	.73"	1.27"	2.48"	2.19"	•	•	•	•	•	•	•
		(61.0)		(43.2)	(18.5)	(32.3)	(63.0)	(55.6)							
1 1/2"-11 1/2	5	2.40"	•	1.70"	.74"	1.39"	2.48"	2.19"	•	•	•	•	•	•	•
		(61.0)		(43.2)	(18.8)	(35.3)	(63.0)	(55.6)							
1 1/2"-11 1/2	6	3.06"	•	2.20"	.75"	1.52"	3.04"	2.83"	•	•	•	•	•	•	•
		(77.7)		(55.9)	(19.0)	(38.6)	(77.2)	(71.9)							
2"-11 1/2	6	3.06"	•	2.20"	.78"	1.92"	3.32"	3.07"	•	•	•	•	•	•	•
		(77.7)		(55.9)	(19.8)	(48.8)	(84.3)	(78.0)							
2"-11 1/2	7	3.95"	•	2.70"	.78"	1.99"	4.18"	3.89"	•	•	•	•	•	•	•
		(100.3)		(68.6)	(19.8)	(50.5)	(106.2)	(98.8)							
2 1/2"-8	7	•	•	•	•	•	•	•	•	•	•	•	•	•	•
2 1/2"-8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
3"-8	7	•	•	•	•	•	•	•	•	•	•	•	•	•	•
3"-8	8	•	•	•	•	•	•	•	•	•	•	•	•	•	•

*A/C— Across Corners; A/F—Across Flats



Cord Connectors

Technical Data

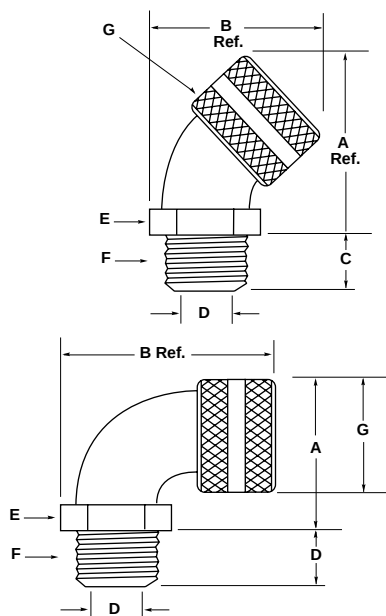
Dimensional Charts

45° Hubbell Connectors

Aluminum Inches (mm)									Zinc Plated Steel Inches (mm)							
F		A	B	C	D	E		G	A	B	C	D	E		G	
N.P.T.	Form	Ref.	Ref.		Throat Dia.	Across Corners	Across Flats	Dia.	Ref.	Ref.		Throat Dia.	Across Corners	Across Flats	Across Corners	Across Flats
1/2"-14	2	2.00" (50.8)	1.90" (48.3)	.55" (14.0)	.56" (14.2)	1.27" (32.3)	1.10" (27.9)	1.13" (28.6)	1.97" (50.0)	1.90" (48.3)	.55" (14.0)	.57" (14.4)	1.24" (31.5)	1.06" (26.9)	1.27" (32.3)	1.13" (28.6)
3/4"-14	3	2.30" (58.4)	2.50" (65.3)	.56" (14.2)	.75" (19.0)	1.48" (37.6)	1.28" (32.5)	1.38" (34.9)	•	•	•	•	•	•	•	•
1"-11 1/2	4	2.60" (66.0)	2.80" (71.1)	.70" (17.8)	1.00" (25.4)	1.69" (42.9)	1.50" (38.1)	1.75" (44.4)	•	•	•	•	•	•	•	•
1 1/2"-11 1/2	5	3.90" (99.1)	3.90" (9.91)	.74" (18.8)	1.25" (31.7)	2.45" (62.2)	2.13" (54.0)	2.31" (58.7)	•	•	•	•	•	•	•	•
1 1/2"-11 1/2	5	3.90" (99.1)	3.90" (99.1)	.74" (18.8)	1.50" (38.1)	2.45" (62.2)	2.13" (54.0)	2.31" (58.7)	•	•	•	•	•	•	•	•

90° Hubbell Connectors

Aluminum Inches (mm)									Zinc Plated Steel Inches (mm)							
F		A	B	C	D	E		G	A	B	C	D	E		G	
N.P.T.	Form	Ref.			Throat Dia.	Across Corners	Across Flats	Dia.			Ref.	Throat Dia.	Across Corners	Across Flats	Across Corners	Across Flats
3/8"-18	1	1.27" (32.3)	2.00" (50.8)	.46" (11.7)	.44" (11.2)	1.15" (29.2)	1.10" (27.9)	.88" (22.2)	•	•	•	•	•	•	•	•
1/2"-14	2	1.56" (39.6)	2.30" (58.4)	.50" (12.7)	.55" (13.9)	1.30" (33.0)	1.13" (28.7)	1.13" (28.6)	1.65" (41.9)	2.38" (60.5)	.55" (14.0)	.55" (13.8)	1.29" (32.8)	1.13" (28.7)	1.27" (32.3)	1.13" (28.6)
3/4"-14	3	1.79" (45.5)	2.80" (71.1)	.56" (14.2)	.77" (19.4)	1.49" (37.8)	1.31" (33.3)	1.38" (34.9)	1.88" (47.8)	2.90" (73.7)	.56" (14.2)	.77" (19.4)	1.52" (38.6)	1.33" (33.8)	1.55" (39.2)	1.38" (34.9)
1"-11 1/2	4	2.08" (52.8)	3.20" (81.3)	.70" (17.8)	1.00" (25.4)	1.70" (43.2)	1.50" (38.1)	1.75" (44.4)	2.16" (54.9)	3.20" (81.3)	.70" (17.8)	1.00" (25.4)	1.72" (43.7)	1.50" (38.1)	1.92" (48.8)	1.69" (42.8)
1 1/4"-11 1/2	5	3.18" (80.8)	4.30" (109.2)	.73" (18.5)	1.26" (32.0)	2.47" (62.7)	2.15" (54.6)	2.31" (58.7)	•	•	•	•	•	•	•	•
1 1/2"-11 1/2	5	3.18" (80.8)	4.30" (109.2)	.75" (19.2)	1.50" (38.1)	2.47" (62.7)	2.15" (54.6)	2.31" (58.7)	•	•	•	•	•	•	•	•
2"-11 1/2	6	3.51" (89.2)	5.50" (139.7)	.80" (20.3)	1.92" (48.8)	2.98" (75.7)	2.78" (70.6)	3.00" (76.2)	•	•	•	•	•	•	•	•



90° Hubbell Connectors

Nylon Inches (mm)							
F		A	B	C	D	E	
N.P.T.	Form	Ref.			Throat Dia.	Across Corners	Across Flats
3/8"-18	1	•	•	•	•	•	•
1/2"-14	2	1.41" (35.8)	2.50" (63.5)	.55" (14.0)	.58" (14.6)	1.23" (31.2)	1.12" (28.2)
3/4"-14	3	1.65" (41.9)	2.81" (71.4)	.56" (14.2)	.77" (19.4)	1.42" (36.1)	1.29" (32.8)
1"-11 1/2	4	1.99" (50.5)	3.30" (83.8)	.70" (17.8)	1.01" (25.7)	1.82" (46.2)	1.60" (40.6)

Dimensions shown are approximate and are subject to change without notice.

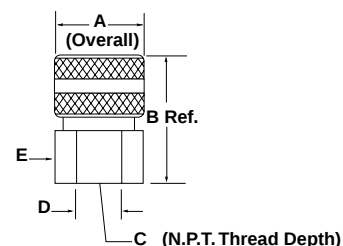
Cord Connectors

Technical Data

Dimensional Charts

Female Hubbell Connectors

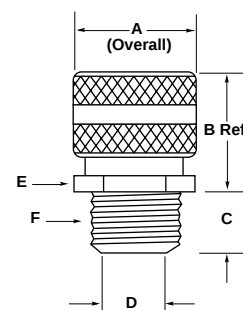
Aluminum		Inches (mm)					
F		A	B	C	D	E	
N.P.T.	Form	Dia.	Ref.		Throat Dia.	Across Corners	Across Flats
3/8"-18	1	.88" (22.4)	1.40" (35.6)	.56" (14.2)	.44" (11.2)	.94" (23.9)	.81" (20.6)
1/2"-14	2	1.13" (28.7)	1.80" (45.7)	.56" (14.2)	.63" (16.0)	1.15" (29.2)	1.00" (25.4)
3/4"-14	2	1.13" (28.7)	2.10" (53.3)	.75" (19.0)	.63" (16.0)	1.44" (36.6)	1.25" (31.7)
1"-11 1/2	4	1.75" (44.5)	2.30" (58.4)	.88" (22.4)	1.10" (27.9)	1.88" (47.8)	1.63" (41.4)
1 1/4"-11 1/2	5	2.31" (58.7)	2.80" (71.1)	.95" (24.1)	1.43" (36.3)	2.64" (67.1)	2.29" (58.2)
1 1/2"-11 1/2	5	2.31" (58.7)	2.80" (71.1)	.95" (24.1)	1.43" (36.3)	2.64" (67.1)	2.29" (58.2)



Underground Feeder Connectors

Aluminum Inches (mm)						Nylon Inches (mm)					Zinc-Plated Steel Inches (mm)				
F	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
N.P.T.	Form	Dia.	Ref.	Thrt. Dia.	A/C* A/F*	Dia.	Ref.	Thrt. Dia.	A/C* A/F*		A/C* A/F*	Ref.	Thrt. Dia.	A/C* A/F*	
1/2"-14	2	1.13" (28.7)	1.10" (27.9)	.55" (14.0)	.64" (16.3)	1.10" (27.9)	1.00" (25.4)	1.32" (33.5)	1.50" (38.1)	.55" (14.0)	.58" (14.7)	1.25" (31.7)	1.13" (28.7)	1.27" (32.3)	1.13" (28.7)
3/4"-14	2	1.13" (28.7)	1.10" (27.9)	.55" (14.0)	.64" (16.3)	1.29" (32.8)	1.13" (25.4)	•	•	•	•	•	•	1.27" (32.3)	1.13" (28.7)
3/4"-14	3	1.13" (28.7)	1.50" (38.1)	.55" (14.0)	.82" (20.8)	1.40" (35.6)	1.25" (31.7)	1.56" (39.6)	1.60" (40.6)	.56" (14.2)	.77" (19.6)	1.44" (36.6)	1.31" (33.3)	1.55" (39.4)	1.38" (35.1)

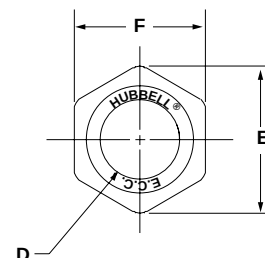
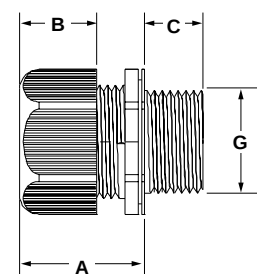
*A/C - Across Corners; A/F - Across Flats



Low Profile Non-Metallic N.P.T. and PG Thread Connectors

Nylon Inches (mm)						
N.P.T.	A	B	C	D	E	F
3/8"	.984" (25)	.591" (15)	.591" (15)	.33" (8.38)	.827" (21)	.748" (19)
1/2"	1.378" (35)	.787" (20)	.591" (15)	.47" (12)	1.063" (27)	.945" (24.23)
3/4"	1.417" (36)	.866" (22)	.591" (15)	.72" (18.3)	1.417" (36)	1.299" (33)
1"	1.654" (42)	.984" (25)	.984" (25)	1.00" (25.4)	1.850" (47)	1.654" (42)

PG Thread							
	A	B	C	D	E	F	G
PG7	.827" (21)	.472" (12)	.315" (8)	.26" (6.6)	.669" (17)	.591" (15)	.492" (12.5)
PG9	.984" (25)	.591" (15)	.315" (8)	.33" (8.38)	.827" (21)	.748" (19)	.598" (15.19)
PG11	1.181" (30)	.709" (18)	.315" (8)	.40" (10.16)	.984" (25)	.866" (22)	.732" (18.6)
PG13.5	1.378" (35)	.787" (20)	.354" (9)	.47" (12)	1.063" (27)	.945" (24)	.803" (20.4)
PG16	1.378" (35)	.827" (21)	.394" (10)	.55" (14)	1.181" (30)	1.063" (27)	.886" (22.5)
PG21	1.417" (36)	.866" (22)	.433" (11)	.72" (18.3)	1.417" (36)	1.299" (33)	1.114" (28.3)
PG29	1.653" (42)	.984" (25)	.433" (11)	1.46" (37)	1.85" (47)	1.654" (42)	1.457" (37)
PG36	1.811" (46)	1.181" (30)	.512" (13)	1.85" (47)	2.283" (58)	2.087" (53)	1.85" (47)



Cord Connectors Selection Chart

2 Conductors

		SVO, SV, SVT	SJ, SJO, SJT, SJTO				S, SO, ST, STO				
Cord Type		#18	#18	#16	#14	#18	#16	#14	#12	#10	#8
Approximate Diameter		.25" (6.2)	.31" (7.8)	.33" (8.4)	.37" (9.3)	.38" (9.7)	.40" (10.2)	.54" (13.7)	.62" (15.6)	.68" (17.1)	.81" (20.6)
N.P.T.	Form	Catalog Numbers*									
1/4"	1	HC1004	HC1004	HC1005	HC1005	HC1006	HC1006	•	•	•	•
3/8"	1	HC1010	HC1010	HC1011	HC1011	HC1012	HC1012	•	•	•	•
1/2"	1	HC1016	HC1016	HC1017	HC1017	HC1018	HC1018	•	•	•	•
1/2"	2	HC1022	HC1022	HC1022	HC1022	HC1023	HC1023	HC1024	HC1024	•	•
1/2"	3	•	•	•	•	HC1025	HC1025	HC1026	HC1026	HC1027	HC1028
3/4"	2	HC1032	HC1032	HC1032	HC1032	HC1033	HC1033	HC1034	HC1034	•	•
3/4"	3	•	•	•	•	HC1035	HC1035	HC1036	HC1036	HC1037	HC1038
1"	4	•	•	•	•	HC1039	HC1039	HC1040	HC1040	HC1041	HC1042
1"	5	•	•	•	•	•	•	•	•	•	HC1045
1 1/4"	5	•	•	•	•	•	•	•	•	•	HC1050
1 1/2"	5	•	•	•	•	•	•	•	•	•	HC1055
1 1/2"	6	•	•	•	•	•	•	•	•	•	•
2"	6	•	•	•	•	•	•	•	•	•	•
2"	7	•	•	•	•	•	•	•	•	•	•
2 1/2"	7	•	•	•	•	•	•	•	•	•	•
3"	7	•	•	•	•	•	•	•	•	•	•
Color		Black	Black	White	White	Blue	Blue	Brown	Brown	Yellow	Orchid

* Must add prefix, see Note 1; suffix, see Note 2, on page T-95.

3 Conductors

		SVO, SV, SVT	SJ, SJO, SJT, SJTO				S, SO, ST, STO				
Cord Type		#18	#18	#16	#14	#18	#16	#14	#12	#10	#8
Cord Size		.26" (6.5)	.33" (8.3)	.35" (8.9)	.39" (9.8)	.39" (9.9)	.42" (10.7)	.57" (14.4)	.65" (16.4)	.71" (18.0)	.85" (21.5)
N.P.T.	Form	Catalog Numbers*									
1/4"	1	HC1004	HC1005	HC1005	HC1006	HC1006	HC1006	•	•	•	•
3/8"	1	HC1010	HC1011	HC1011	HC1012	HC1012	HC1012	•	•	•	•
1/2"	1	HC1016	HC1017	HC1017	HC1018	HC1018	HC1018	•	•	•	•
1/2"	2	HC1022	HC1022	HC1022	HC1023	HC1023	HC1023	HC1024	•	•	•
1/2"	3	•	•	•	HC1025	HC1025	HC1025	HC1026	HC1027	HC1027	HC1028
3/4"	2	HC1032	HC1032	HC1032	HC1033	HC1033	HC1033	HC1034	•	•	•
3/4"	3	•	•	•	HC1035	HC1035	HC1035	HC1036	HC1037	HC1037	HC1038
1"	4	•	•	•	HC1039	HC1039	HC1039	HC1040	HC1041	HC1041	HC1042
1"	5	•	•	•	•	•	•	•	•	•	HC1045
1 1/4"	5	•	•	•	•	•	•	•	•	•	HC1050
1 1/2"	5	•	•	•	•	•	•	•	•	•	HC1055
1 1/2"	6	•	•	•	•	•	•	•	•	•	•
2"	6	•	•	•	•	•	•	•	•	•	•
2"	7	•	•	•	•	•	•	•	•	•	•
2 1/2"	7	•	•	•	•	•	•	•	•	•	•
3"	7	•	•	•	•	•	•	•	•	•	•
Color		Black	White	White	Blue	Blue	Blue	Brown	Yellow	Yellow	Orchid

* Must add prefix, see Note 1; suffix, see Note 2, on page T-95.

Cord Connectors Selection Chart

2 Conductors

CordType		SVO, SV, SVT	SJ, SJO, SJT, SJTO				S, SO, ST, STO				
Cord Size		#6	#4	#3	#2	#1	#1/0	#2/0	#3/0	#4/0	#250
Approx. Diameter		.94" (23.8)	1.08" (27.4)	1.17" (29.7)	1.27" (33.3)	1.44" (36.6)	1.52" (38.6)	1.65" (41.9)	1.77" (45.0)	1.92" (48.8)	2.16" (51.9)
N.P.T.	Form	Catalog Numbers*									
1/4"	1	•	•	•	•	•	•	•	•	•	•
3/8"	1	•	•	•	•	•	•	•	•	•	•
1/2"	1	•	•	•	•	•	•	•	•	•	•
1/2"	2	•	•	•	•	•	•	•	•	•	•
1/2"	3	•	•	•	•	•	•	•	•	•	•
3/4"	2	•	•	•	•	•	•	•	•	•	•
3/4"	3	•	•	•	•	•	•	•	•	•	•
1"	4	HC1043	HC1044	•	•	•	•	•	•	•	•
1"	5	HC1046	HC1047	HC1048	HC1049	•	•	•	•	•	•
1 1/4"	5	HC1051	HC1052	HC1053	HC1054	•	•	•	•	•	•
1 1/2"	5	HC1056	HC1057	HC1058	HC1059	•	•	•	•	•	•
1 1/2"	6	•	•	•	HC1060	HC1061	HC1062	HC1063	HC1064	•	•
2"	6	•	•	•	HC1065	HC1066	HC1067	HC1068	HC1069	•	•
2"	7	•	•	•	•	•	•	•	HC1070	HC1071	HC1073
2 1/2"	7	•	•	•	•	•	•	•	HC1076	HC1077	HC1079
3"	7	•	•	•	•	•	•	•	HC1086	HC1087	HC1089
Color		Gray‡	Pink‡	‡	‡	‡	‡	‡	‡	‡	‡

* Must add prefix, see Note 1; suffix, see Note 2, on page T-95.

‡ F5 and larger will not be color coded.

3 Conductors

CordType		SVO, SV, SVT	SJ, SJO, SJT, SJTO				S, SO, ST, STO				
Cord Size		#6	#4	#3	#2	#1	#1/0	#2/0	#3/0	#4/0	#250
Approx. Diameter		1.00" (25.4)	1.17" (29.7)	1.24" (31.5)	1.34" (34.0)	1.51" (38.4)	1.65" (41.9)	1.75" (44.5)	1.80" (48.0)	2.07" (52.6)	2.39" (60.7)
N.P.T.	Form	Catalog Numbers*									
1/4"	1	•	•	•	•	•	•	•	•	•	•
3/8"	1	•	•	•	•	•	•	•	•	•	•
1/2"	1	•	•	•	•	•	•	•	•	•	•
1/2"	2	•	•	•	•	•	•	•	•	•	•
1/2"	3	•	•	•	•	•	•	•	•	•	•
3/4"	2	•	•	•	•	•	•	•	•	•	•
3/4"	3	•	•	•	•	•	•	•	•	•	•
1"	4	HC1044	•	•	•	•	•	•	•	•	•
1"	5	HC1047	HC1048	HC1048	HC1049	•	•	•	•	•	•
1 1/4"	5	HC1052	HC1053	HC1053	HC1054	•	•	•	•	•	•
1 1/2"	5	HC1057	HC1058	HC1058	HC1059	•	•	•	•	•	•
1 1/2"	6	•	•	•	HC1060	HC1062	HC1063	HC1064	•	•	•
2"	6	•	•	•	HC1065	HC1067	HC1068	HC1069	•	•	•
2"	7	•	•	•	•	•	•	HC1070	HC1071	HC1073	HC1075
2 1/2"	7	•	•	•	•	•	•	HC1076	HC1077	HC1079	HC1081
3"	7	•	•	•	•	•	•	HC1086	HC1087	HC1089	HC1091
Color		Gray‡	‡	‡	‡	‡	‡	‡	‡	‡	‡

* Must add prefix, see Note 1; suffix, see Note 2, on page T-95.

‡ F5 and larger will not be color coded.

Dimensions in Inches (mm)

Cord Connectors Selection Chart

4 Conductors

Cord Type		SJ, SJO, SJT, SJTO			S, SO, ST, STO					
Cord Size		#18	#16	#14	#18	#16	#14	#12	#10	#8
Approx. Diameter		.36" (9.0)	.39" (9.8)	.43" (10.8)	.42" (10.7)	.45" (11.4)	.61" (15.5)	.70" (17.8)	.77" (19.4)	.97" (24.6)
N.P.T.	Form	Catalog Numbers*								
1/4"	1	HC1005	HC1006	HC1006	HC1006	•	•	•	•	•
3/8"	1	HC1011	HC1012	HC1012	HC1012	•	•	•	•	•
1/2"	1	HC1017	HC1018	HC1018	HC1018	•	•	•	•	•
1/2"	2	HC1022	HC1023	HC1023	HC1023	HC1023	HC1024	•	•	•
1/2"	3	•	HC1025	HC1025	HC1025	HC1025	HC1026	HC1027	HC1028	•
3/4"	2	•	HC1033	HC1033	HC1033	HC1033	HC1034	•	•	•
3/4"	3	•	HC1035	HC1035	HC1035	HC1035	HC1036	HC1037	HC1038	•
1"	4	•	HC1039	HC1039	HC1039	HC1039	HC1040	HC1041	HC1042	HC1043
1"	5	•	•	•	•	•	•	•	•	HC1046
1 1/4"	5	•	•	•	•	•	•	•	•	HC1051
1 1/2"	5	•	•	•	•	•	•	•	•	HC1056
1 1/2"	6	•	•	•	•	•	•	•	•	•
2"	6	•	•	•	•	•	•	•	•	•
2"	7	•	•	•	•	•	•	•	•	•
2 1/2"	7	•	•	•	•	•	•	•	•	•
3"	7	•	•	•	•	•	•	•	•	•
Color		White	Blue	Blue	Blue	Blue	Brown	Yellow	Orchid	Gray‡

* Must add prefix, see Note 1; suffix, see Note 2, on page T-95.

‡ F5 and larger will not be color coded.

5 Conductors

Cord Type		S, SO, ST, STO						
Cord Size		#18	#16	#14	#12	#10	#8	#6
Approx. Diameter		.50" (12.7)	.54" (13.7)	.70" (17.7)	.76" (19.3)	.83" (21.1)	1.06" (26.9)	1.18" (30.0)
N.P.T.	Form	Catalog Numbers*						
1/2"	2	HC1023	HC1024	•	•	•	•	•
1/2"	3	HC1025	HC1026	HC1027	HC1028	HC1028	•	•
3/4"	2	HC1033	HC1034	•	•	•	•	•
3/4"	3	HC1035	HC1036	HC1037	HC1038	HC1038	•	•
1"	4	HC1039	HC1040	HC1041	HC1042	HC1042	HC1044	•
1"	5	•	•	•	HC1045	HC1045	HC1047	HC1048
1 1/4"	5	•	•	•	HC1050	HC1050	HC1052	HC1053
1 1/2"	5	•	•	•	HC1055	HC1055	HC1057	HC1058
Color		Blue	Brown	Yellow	Orchid‡	Orchid‡	Pink	‡

* Must add prefix, see Note 1; suffix, see Note 2, on page T-95.

‡ F5 and larger will not be color coded.

Cord Connectors Selection Chart

4 Conductors

Cord Type		SJ, SJO, SJT, SJTO		S, SO, ST, STO						
Cord Size		#6	#4	#3	#2	#1	#1/0	#2/0	#3/0	#4/0
Approx. Diameter		.94" (23.8)	1.08" (27.4)	1.17" (29.7)	1.27" (33.3)	1.44" (36.6)	1.52" (38.6)	1.65" (41.9)	1.77" (45.0)	1.92" (48.8)
N.P.T.	Form	Catalog Numbers*								
1/4"	1	•	•	•	•	•	•	•	•	•
3/8"	1	•	•	•	•	•	•	•	•	•
1/2"	1	•	•	•	•	•	•	•	•	•
1/2"	2	•	•	•	•	•	•	•	•	•
1/2"	3	•	•	•	•	•	•	•	•	•
3/4"	2	•	•	•	•	•	•	•	•	•
3/4"	3	•	•	•	•	•	•	•	•	•
1"	4	HC1044	•	•	•	•	•	•	•	•
1"	5	HC1047	HC1049	HC1049	•	•	•	•	•	•
1 1/4"	5	HC1052	HC1054	HC1054	•	•	•	•	•	•
1 1/2"	5	HC1057	HC1059	HC1059	•	•	•	•	•	•
1 1/2"	6	•	HC1060	HC1060	HC1061	HC1063	HC1064	•	•	•
2"	6	•	HC1064	HC1065	HC1066	HC1068	HC1069	•	•	•
2"	7	•	•	•	•	•	HC1070	HC1071	HC1073	HC1074
2 1/2"	7	•	•	•	•	•	HC1076	HC1077	HC1079	HC1080
3"	7	•	•	•	•	•	HC1086	HC1087	HC1089	HC1090
Color		Pink‡	‡	‡	‡	‡	‡	‡	‡	‡

* Must add prefix, see Note 1; suffix, see Note 2, below.

‡ F5 and larger will not be color coded.

Notes

1. Add the proper prefix to the HC number to identify the type of connector desired:
SHC = Straight Hubbell Connector
NHC = 90° Hubbell Connector
FHC = Female Hubbell Connector
VHC = 45° Hubbell Connector

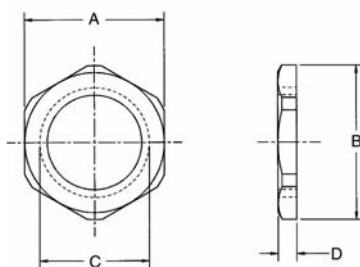
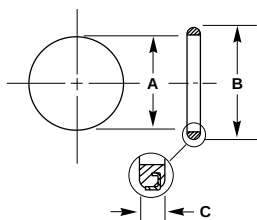
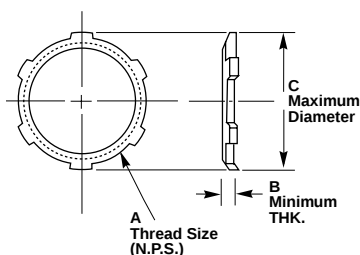
2. Add the proper suffix to identify material desired:
Aluminum = No suffix
Zinc-Plated Steel = ZP
Corrosion Resistant Nylon = CR
Stainless Steel = SS

3. This chart is a general guide to assist in the selection of Hubbell Cord Connectors for various cord sizes. The Hubbell Cord Connector catalog numbers selected, have been inserted into spaces which in our judgment represent the best cord connector which will fit the listed cord size. The diameters of the cords are approximate and may vary depending on the manufacturer. It is suggested that the appropriate cord manufacturer's dimension chart be consulted for exact dimensions.

4. *Cable jacket may have to be stripped to allow conductors to pass through connector body.

Locknuts and Sealing O-Rings

Technical Data



Locknuts – Sizes 1/2" - 3"

Carbon Steel with Commercial Bright Zinc Plate

Trade Size	A Thd. Size inch	B Min. Thk. inch (mm)	C Max. Dia. inch (mm)	Catalog Numbers
1/2"	1/2"-14	.09" (2.3)	1.14" (29.0)	00322001
3/4"	3/4"-14	.11" (2.8)	1.43" (36.3)	00322002
1"	1"-11 1/2	.13" (3.3)	1.77" (45.0)	00322003
1 1/4"	1 1/4"-11 1/2	.13" (3.3)	2.28" (57.9)	00322004
1 1/2"	1 1/2"-11 1/2	.13" (3.3)	2.60" (66.0)	00322005
2"	2"-11 1/2	.13" (3.3)	3.18" (80.8)	00322006
2 1/2"	2 1/2"-8	.18" (4.6)	3.56" (90.4)	00322007
3"	3"-8	.36" (9.1)	4.13" (104.9)	00322082

Metal Clad Sealing O-Rings – Sizes 1/2" - 4"

Zinc-Plated Steel with Neoprene Ring

N.P.T. Hub Size	A Inside Dia. inch (mm)	B Outside Dia. inch (mm)	C Thk. inch (mm)	Catalog Numbers
1/2"	.80" (20.3)	1.08" (27.4)	.16" (3.2)	20509001
3/4"	1.00" (25.4)	1.34" (34.0)	.16" (3.2)	20509002
1"	1.25" (31.6)	1.63" (41.4)	.16" (3.2)	20509003
1 1/4"	1.61" (40.9)	2.00" (50.8)	.16" (3.2)	20509004
1 1/2"	1.84" (46.7)	2.36" (59.9)	.16" (3.2)	20509005
2"	2.31" (58.7)	2.83" (71.9)	.16" (3.2)	20509006

Chrome Plated Steel with Neoprene Ring

2 1/2"	2.91" (73.9)	3.44" (87.4)	.24" (6.1)	20509007
3"	3.52" (89.4)	4.08" (103.6)	.24" (6.1)	20509008
4"	4.54" (115.3)	5.30" (134.6)	.29" (7.4)	20509009

Nylon PG Thread Locknuts

PG Thread Size	A inch (mm)	B inch (mm)	C inch (mm)	D inch (mm)	Catalog Numbers
PG7	.784" (20)	.828" (21)	.492 (12.5)	.197" (5)	LNPG7B
PG9	.866" (22)	.945" (24)	.598 (15.2)	.197" (5)	LNPG9B
PG11	.945" (24)	1.024" (26)	.732 (18.5)	.197" (5)	LNPG11B
PG13.5	1.06" (27)	1.142" (29)	.803 (20.4)	.236" (6)	LNPG13B
PG16	1.18" (30)	1.299" (33)	.886 (22.5)	.236" (6)	LNPG16B
PG21	1.417" (36)	1.535" (39)	1.114 (28.3)	.276" (7)	LNPG21B
PG29	1.811" (46)	1.969" (50)	1.457 (37)	.276" (7)	LNPG29B
PG36	2.362" (60)	2.598" (66)	1.850 (47)	.317" (8.05)	LNPG36B

Dimensions shown are approximate and are subject to change without notice.

HUBBELL JUNIORS® Miniature Nylon Cord Connectors

Technical Data

Hubbell Juniors

Operating Temperature Range

Nylon (connectors and GOTCHA® rings)	-40°F to +225°F (-40°C to +107°C)
Neoprene (bushings)	-30°F to +240°F (-34°C to +115°C)

Due to the limiting factors of nylon and neoprene, any complete liquidtight Hubbell Junior will continuously perform in the range of -30°F to +225°F (-34°C to +107°C).

Snap-In continuously performs -40°F to +225°F (-40°C to +107°C).

Flammability

Hubbell Juniors have a UL 94V-2 rating.

Certifications

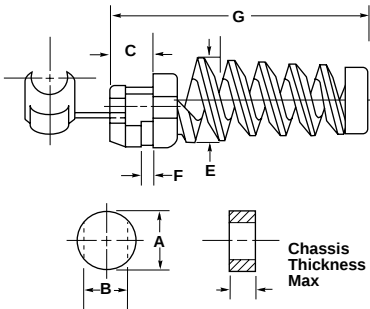
Product	Agency
Liquidtight and Liquidtight with Spiral	UL Listed CSA Certified
Snap-In	UL Recognized CSA Certified

Knockout Holes

N.P.T. Hub Size	Knockout Hole Recommended Min. to Max. inches (mm)	
1/4"	.54"-.57"	(13.7-14.5)
3/8"	.67"-.70"	(17.0-17.8)
1/2"	.86"-.91"	(21.8-23.1)

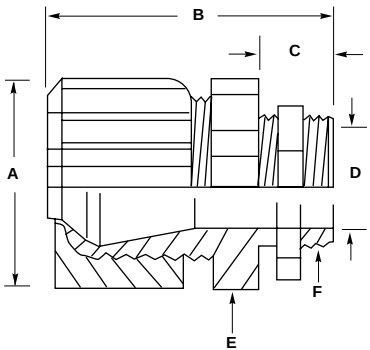
Dimensions shown are subject to change without notice.

HUBBELL JUNIORS® Miniature Nylon Cord Connectors
Technical Data



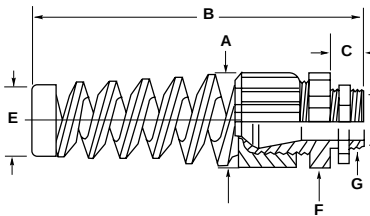
Snap-In

Dia. Range Inches (mm)	For Chas. Thk. (Max.) Inches (mm)	Required Hole Size		Dimensional Specifications				
		A Inches (mm)	B Inches (mm)	C Inches (mm)	D Inches (mm)	E Inches (mm)	F Inches (mm)	G Inches (mm)
.22"-.27" (5.6-6.9)	.10" (2.5)	.50" (12.7)	.45" (11.4)	.28" (7.1)	.28" (7.1)	.54" (13.7)	.12" (3.0)	1.84" (44.2)
.28"-.32" (7.1-8.1)	.10" (2.5)	.50" (12.7)	.47" (11.9)	.28" (7.1)	.33" (8.4)	.59" (15.0)	.12" (3.0)	1.84" (44.2)
.30"-.36" (7.6-9.1)	.13" (3.3)	.63" (16.0)	.55" (14.0)	.36" (9.1)	.37" (9.4)	.65" (16.5)	.14" (3.6)	2.18" (55.4)
.32"-.43" (8.1-10.9)	.13" (3.3)	.75" (19.0)	.66" (16.8)	.45" (11.4)	.44" (11.2)	.75" (19.1)	.14" (3.6)	2.60" (66.0)



Liquidtight

F	A	B	C	D	Across Corners Inches (mm)	E Across Flats Inches (mm)
N.P.T.	Dia. Inches (mm)	Ref. Inches (mm)	Inches (mm)	Throat Dia. Inches (mm)		
1/4"-18	.65" (16.5)	1.30" (33.0)	.40" (10.2)	.29" (7.4)	.65" (16.5)	.60" (15.2)
3/8"-18	.81" (20.6)	1.44" (36.6)	.41" (10.4)	.36" (9.1)	.81" (20.6)	.75" (19.1)
1/2"-14	1.00" (25.4)	1.56" (39.6)	.46" (11.7)	.45" (11.4)	.99" (25.1)	.92" (23.4)



Liquidtight with Spiral

G	A	B	C	E Throat Dia. Inches (mm)	E Inches (mm)	Across Corners Inches (mm)	F Across Flats Inches (mm)
N.P.T.	Dia. Inches (mm)	Ref. Inches (mm)	Inches (mm)				
1/4"-18	.65" (16.5)	2.55" (64.8)	.40" (10.2)	.29" (7.4)	.27" (6.9)	.65" (16.5)	.60" (15.2)
3/8"-18	.81" (20.6)	3.10" (78.7)	.41" (10.4)	.36" (9.1)	.35" (8.9)	.81" (20.6)	.75" (19.1)
1/2"-14	1.00" (25.4)	3.72" (94.5)	.46" (11.7)	.45" (11.4)	.45" (11.4)	.99" (25.1)	.92" (23.4)

Strain Relief

Flexible Non-Metallic Conduit Grips*Steel Fitting, Stainless Steel Mesh, Liquidtight, for UL Type A Conduit***Read This Data**

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-106 through T-107.

Straight Male Hubbell Fitting

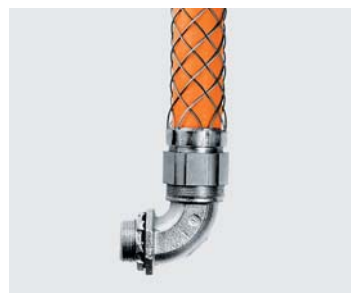
Conduit Trade Size (Inches)	Trade Size N.P.T. (Inches)	Mesh Length Inches (cm)	Catalog Numbers
3/8"	1/2"	3 3/4" (9.52)	H038CNK
1/2"	1/2"	4 1/2" (11.43)	H050CNK
3/4"	3/4"	6 1/4" (15.87)	H075CNK
1"	1"	7 1/2" (19.05)	H100CNK
1 1/4"	1 1/4"	9" (22.86)	H125CNK
1 1/2"	1 1/2"	13 1/2" (34.29)	H150CNK
2"	2"	14 1/2" (36.83)	H200CNK



Straight Male with Fitting

90° Male Hubbell Fitting

Conduit Trade Size (Inches)	Trade Size N.P.T. (Inches)	Mesh Length Inches (cm)	Catalog Numbers
3/8"	1/2"	3 3/4" (9.52)	H0389CNK
1/2"	1/2"	4 1/2" (11.43)	H0509CNK
3/4"	3/4"	6 1/4" (15.87)	H0759CNK
1"	1"	7 1/2" (19.05)	H1009CNK
1 1/4"	1 1/4"	9" (22.86)	H1259CNK
1 1/2"	1 1/2"	13 1/2" (34.29)	H1509CNK
2"	2"	14 1/2" (36.83)	H2009CNK



90° Angle

Strain Relief

Flexible Metallic Conduit Grips*Steel Fitting, Stainless Steel Mesh, Liquidtight, for Liquidtight Flexible Metal Conduit***Read This Data**

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-103 through T-105.

**Straight with Male Fitting****90° Angle with Male Fitting****Benefits**

- Prevents conduit pull-out and damage at the fitting.
- Reduces equipment downtime.

Straight With Male Fitting

Conduit Trade Size (Inches)	Trade Size N.P.T. (Inches)	Mesh Length Inches (cm)	Catalog Numbers (Insulated)	Catalog Numbers (Non-insulated)
3/8"	1/2"	3" (7.62)	074093511	074093401
1/2"	1/2"	3 1/2" (8.89)	074093512	074093402
3/4"	3/4"	4" (10.16)	074093513	074093403
1"	1"	5" (12.70)	074093514	074093404
1 1/4"	1 1/4"	6" (15.24)	074093515	074093405
1 1/2"	1 1/2"	6 3/4" (17.14)	074093516	074093406
2"	2"	8" (20.32)	074093518	074093408
2 1/2"	2 1/2"	9 3/4" (24.76)	074093520	074093410
3"	3"	11" (27.94)	074093522	074093412
4"	4"	14" (35.56)	074093526	•

90° Angle With Male Fitting

Conduit Trade Size (Inches)	Trade Size N.P.T. (Inches)	Mesh Length Inches (cm)	Catalog Numbers (Insulated)	Catalog Numbers (Non-insulated)
3/8"	1/2"	3" (7.62)	074093541	074093421
1/2"	1/2"	3 1/2" (8.89)	074093542	074093422
3/4"	3/4"	4" (10.16)	074093543	074093423
1"	1"	5" (12.70)	074093544	074093424
1 1/4"	1 1/4"	6" (15.24)	074093545	074093425
1 1/2"	1 1/2"	6 3/4" (17.14)	074093546	074093426
2"	2"	8" (20.32)	074093548	074093428
2 1/2"	2 1/2"	9 3/4" (24.76)	074093550	•
3"	3"	11" (35.56)	074093552	•

Strain Relief

Flexible Metallic Conduit Grips*Steel Fitting, Stainless Steel Mesh, Liquidtight, for Flexible Metal Liquidtight Conduit***45° Angle With Male Fitting**

Conduit Trade Size (Inches)	Trade Size N.P.T. (Inches)	Mesh Length Inches (cm)	Catalog Numbers (Insulated)	Catalog Numbers (Non-insulated)
3/8"	1/2"	3" (7.62)	074093561	074093441
1/2"	1/2"	3 1/2" (8.89)	074093562	074093442
3/4"	3/4"	4" (10.16)	074093563	074093443
1"	1"	5" (12.70)	074093564	074093444
1 1/4"	1 1/4"	6" (15.24)	074093565	074093445
1 1/2"	1 1/2"	6 3/4" (17.14)	074093566	074093446
2"	2"	8" (20.32)	074093568	074093448

*Note: Refer to page T-89 for fitting dimensions.***Read This Data**

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-103 through T-105.

**45° Angle with Male Fitting****Straight With Chase Fitting**

Conduit Trade Size (Inches)	Trade Size N.P.T. (Inches)	Mesh Length Inches (cm)	Catalog Numbers
1/2"	1/2"	3 1/2" (8.89)	07406079
3/4"	3/4"	4" (10.16)	07406080
1"	1"	5" (12.70)	07406081
1 1/4"	1 1/4"	6" (15.24)	07406082
1 1/2"	1 1/2"	6 3/4" (17.14)	07406083

**Straight with Chase Connector**

Strain Relief

Hose Containment Grips*Custom Designed Grips, for High Pressure Hose Restraint***Read This Data**

It is important that you read all breaking strength, safety and technical data relating to this product on pages T-68 through T-69.

**Types of Attachment**

The five attachment methods shown below provide unlimited flexibility of attachment to meet any condition.

Type E

Double Eye Grip, used where fastening is made with eyebolts or similar anchor terminations.

Type A

Single Eye Grip, used where fastening MUST be made from one point.

Type U

Universal Bale Grip, used to fasten around a structure or closed eye.

Type Y

Threaded bolt ($\frac{5}{16}$ -18 x 1 $\frac{1}{2}$ " long), used to fasten through drilled holes in plate.

Type F

Split fitting to fit AN-818 nuts. Fitting is positioned over nut and located with internal flange. A hose clamp is furnished and required to hold the fitting in correct position.

Note: It should be emphasized that Kellems® Hose Containment Grips are not to be used as a pressure reinforcing device for hose systems. These grips are custom made. To order Consult factory for details.

Kellems Hose Containment Grips are used on high pressure, flexible hose lines to prevent the hose from whipping violently in the event of hose failure at the fitting. These grips will prevent serious injury to personnel and damage to equipment by holding the hose in place in the event of hose failure.

Kellems patented Hose Containment Grips are made of stainless steel with double weave mesh construction for high strength and come complete with hose clamps.

Kellems Hose Containment Grips are supplied in diameters, length and attachments to meet individual requirements. Contact the Wiring Device-Kellems factory for specific information. These grips help meet OSHA Federal Register 1926-302 (b), 1926-603 (9), (10), JIC H-1-1973 (H13.11) and JIC P-1-1975 (P11.34) requirements.

Kellems® Grips for Strain Relief

Technical Section

Conduit Grips for Liquidtight Flexible Metal Conduit

Kellems Liquidtight, Flexible Metal Conduit Grips are offered with high quality Hubbell plated steel fittings in a wide variety of N.P.T. sizes and configurations, either insulated or non-insulated. The addition of a stainless steel mesh to these fittings makes them stronger than the conduit itself. Kellems Conduit Grips prevent conduit pull-out from the connecting fitting that is subject to stress, pull tension, vibration, motion or strain. They promote safe electrical systems and reduce equipment downtime.

Benefits

- Prevents conduit pull-out and damage at the fitting.
- Reduces equipment downtime.
- Liquidtight fittings.
- Easily installed.
- Stainless steel grip resists corrosion.

Kellems Conduit Grips are suitable for use in hazardous locations per Class I Div. 2, Class II Div. 1 & 2, Class III Div. 1 & 2 of the National Electric Code sections 501-4(b), 502-4(a), 502-4(b), 503-3(a) and 503-3(b).

Application

Kellems Conduit Grips are used in the wiring of machine tools, motors, molding equipment, transformers, weaving and paper machines, fans, lighting, bakeries, breweries, food processing, chemical plants, dairies, mines and any application that requires Liquidtight Conduit.

Safety And Working Load Factors For Wire Mesh Grips

The broad application of Kellems grips on a wide variety of objects requires that adequate safety factors be used to establish working loads. The approximate breaking strength of a Kellems grip represents an average calculation based on data established from actual direct tension testing done in our engineering laboratories.

It is impossible to catalog or guarantee a safety factor suitable for all applications as operating conditions are never the same. The tension, diameter, movement, number of objects gripped, gripping surface, and the attachments used are just some of the factors which vary with each application. These factors, together with the effects of abrasion, corrosion, prior use or abuse and any other variables of a specific application, must be considered by the user and the grip replaced as appropriate. Where the conditions of the application are not well defined or known or where risk of injury to persons or property is involved, a greater safety factor should be utilized. Should our opinion be needed, call the factory.

Under normal conditions, Kellems' recommended factor of safety is five for catalog listed pulling grips, and ten for catalog listed support grips. The factory should be consulted for specific application recommendations where strength and holding power are important factors.

Any warranty as to quality, performance or fitness for use of grips is always premised on the condition that the published breaking strengths apply only to new, unused grips, and that such products are properly stored, handled, used, maintained and inspected by the user at a frequency appropriate for the use and condition of the grip.

For grip applications on materials other than those that the grips have been specifically designed for, consult the factory.

Examples

Grip Style	Approx. Breaking Strength Lbs. (N)	Safety Factor	Max. Rec. Load Lbs. (N)	Catalog Numbers
Bus Drop	1,000 (4,448)	10	100 (448)	074093402

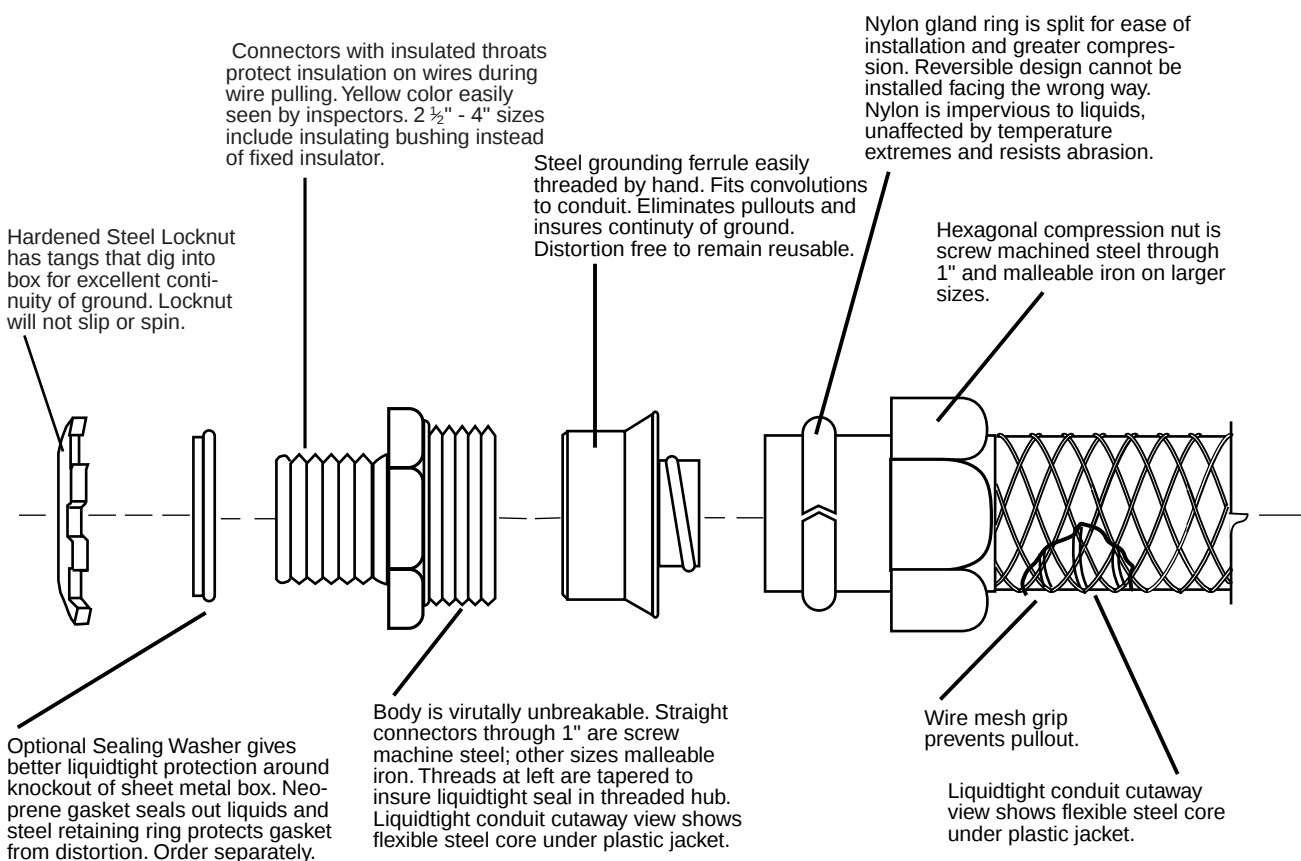
The maximum recommended working load then is the tension to be exerted on the grip in application with a margin of safety to take care of unforeseen and unusual circumstances.

It is the end-user's decision to determine how much of a safety factor is acceptable to him.

Kellems® Grips for Strain Relief

Technical Section

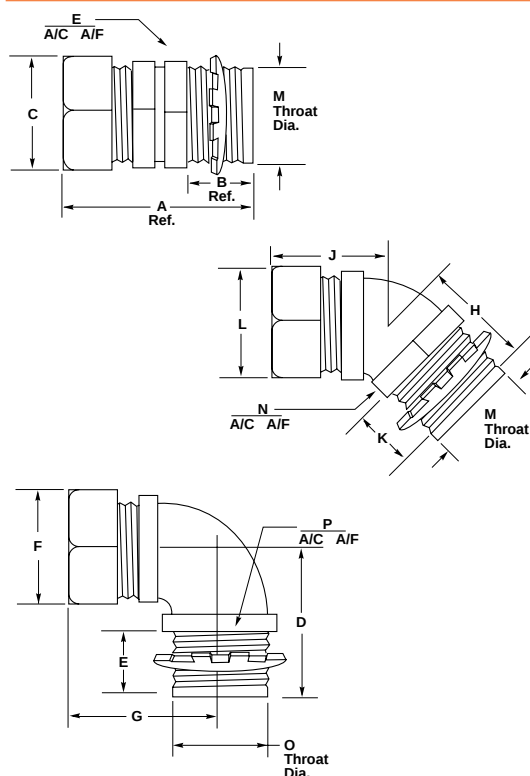
Conduit Grips for Liquidtight Flexible Metal Conduit



Kellems® Grips for Strain Relief

Technical Section

Liquidtight Flexible Metal Conduit Grip Fitting Dimensions-Inches



Straight with Male Fitting

Trade Size	Dimensions							Catalog Numbers
	A Ref.	B	C A/C*	A/F*	D Throat Dia.	E A/C*	A/F*	
3/8"	1.43"	.59"	1.20"	1.06"	.61"	1.07"	.93"	074093401
1/2"	1.43"	.59"	1.34"	1.19"	.61"	1.22"	1.06"	074093402
3/4"	1.56"	.59"	1.55"	1.37"	.84"	1.43"	1.25"	074093403
1"	1.68"	.66"	1.95"	1.69"	1.06"	1.73"	1.56"	074093404
1 1/4"	2.03"	.63"	2.39"	2.06"	1.37"	2.36"	2.08"	074093405
1 1/2"	2.21"	.63"	2.72"	2.38"	1.53"	2.79"	2.48"	074093406
2"	2.28"	.69"	3.08"	2.87"	2.06"	3.32"	2.90"	074093408

Straight with Male Fitting with Insulated Throat

Trade Size	Dimensions							Catalog Numbers
	A Ref.	B	C A/C*	A/F*	D Throat Dia.	E A/C*	A/F*	
3/8"	1.50"	.66"	1.20"	1.06"	.57"	1.07"	.93"	074093511
1/2"	1.50"	.66"	1.34"	1.19"	.57"	1.22"	1.06"	074093512
3/4"	1.62"	.66"	1.55"	1.38"	.78"	1.43"	1.25"	074093513
1"	1.75"	.72"	1.95"	1.69"	.98"	1.73"	1.56"	074093514
1 1/4"	2.09"	.69"	2.39"	2.06"	1.29"	2.36"	2.08"	074093515
1 1/2"	2.28"	.69"	2.72"	2.37"	1.53"	2.79"	2.48"	074093516
2"	2.34"	.75"	3.08"	2.87"	1.95"	3.32"	2.90"	074093518
2 1/2"	3.56"	1.06"	3.92"	3.62"	2.42"	3.85"	3.60"	074093520
3"	3.81"	1.06"	4.70"	4.31"	3.01"	4.65"	4.33"	074093522
4"	3.81"	1.06"	5.75"	5.31"	3.96"	5.75"	5.39"	074093526

45° Angle with Male Fitting

Dimensions									
Trade H Size	J Ref.	K	L		M Throat Dia.	N		Catalog Numbers	
			A/C*	A/F*		A/C*	A/F*		
3/8"	1.19"	1.28"	.59"	1.20"	1.06"	.60"	1.16"	1.02"	074093441
1/2"	1.19"	1.28"	.59"	1.34"	1.19"	.61"	1.21"	1.06"	074093442
3/4"	1.19"	1.43"	.59"	1.55"	1.45"	.84"	1.50"	1.32"	074093443
1"	1.38"	1.53"	.66"	1.95"	1.69"	1.05"	1.82"	1.59"	074093444
1 1/4"	1.42"	1.69"	.63"	2.39"	2.06"	1.37"	2.32"	2.03"	074093445
1 1/2"	1.66"	2.00"	.66"	2.72"	2.38"	1.60"	2.62"	2.29"	074093446
2"	1.69"	2.25"	.66"	3.08"	2.88"	2.05"	3.21"	2.80"	074093448

45° Angle with Male Fitting with Insulated Throat

Dimensions									
Trade Size	H	J Ref.	K	L		M Throat Dia.	N		Catalog Numbers
				A/C*	A/F*		A/C*	A/F*	
3/8"	1.25"	1.28"	.66"	1.20"	1.06"	.57"	1.16"	1.02"	074093561
1/2"	1.25"	1.28"	.66"	1.34"	1.19"	.57"	1.21"	1.06"	074093562
3/4"	1.25"	1.44"	.66"	1.55"	1.45"	.78"	1.50"	1.32"	074093563
1"	1.44"	1.53"	.72"	1.95"	1.69"	.98"	1.82"	1.59"	074093564
1 1/4"	1.48"	1.69"	.69"	2.39"	2.06"	1.29"	2.32"	2.03"	074093565
1 1/2"	1.72"	2.00"	.72"	2.72"	2.38"	1.53"	2.62"	2.29"	074093566
2"	1.75"	2.25"	.72"	3.08"	2.87"	1.95"	3.21"	2.80"	074093568

90° Angle with Male Fitting

Dimensions									
Trade Size	D	E	F		O	Throat Dia.	P		Catalog Numbers
			A/C*	A/F*	G Ref.		A/C*	A/F*	
3/8"	1.31"	.59"	1.20"	1.06"	1.44"	.60"	1.13"	.99"	074093421
1/2"	1.31"	.59"	1.34"	1.12"	1.44"	.61"	1.21"	1.00"	074093422
3/4"	1.44"	.59"	1.55"	1.45"	1.63"	.83"	1.48"	1.29"	074093423
1"	1.78"	.66"	1.95"	1.60"	2.19"	1.05"	1.80"	1.57"	074093424
1 1/4"	1.97"	.63"	2.39"	2.06"	2.50"	1.37"	2.32"	2.02"	074093425
1 1/2"	2.19"	.66"	2.72"	2.38"	2.69"	1.61"	2.58"	2.25"	074093426
2"	2.53"	.66"	3.08"	2.87"	3.25"	2.05"	3.14"	2.75"	074093428

90° Angle with Male Fitting with Insulated Throat

Trade D Size	E	Dimensions							Catalog Numbers
		F		G Ref.	O Throat Dia.	P			
		A/C*	A/F*			A/C*	A/F*		
3/8"	1.38"	.66"	1.20"	1.06"	1.44"	.60"	1.13"	.99"	074093541
1/2"	1.38"	.66"	1.34"	1.12"	1.44"	.57"	1.21"	1.00"	074093542
3/4"	1.50"	.66"	1.55"	1.45"	1.63"	.78"	1.48"	1.29"	074093543
1"	1.84"	.66"	1.95"	1.60"	2.19"	.98"	1.80"	1.57"	074093544
1 1/4"	2.03"	.69"	2.39"	2.06"	2.50"	1.29"	2.32"	2.02"	074093545
1 1/2"	2.25"	.69"	2.72"	2.38"	2.69"	1.53"	2.58"	2.20"	074093546
2"	2.59"	.72"	3.08"	2.87"	3.25"	1.95"	3.14"	2.75"	074093548
2 1/2"	3.44"	1.00"	3.92"	3.63"	4.25"	2.42"	3.78"	3.50"	074093550
3"	3.75"	1.00"	4.70"	4.31"	4.87"	3.01"	4.64"	4.30"	074093552

Dimensions shown are approximate and are subject to change without notice.

Kellems® Grips for Strain Relief

Technical Section

Conduit Grips for (UL Type A) Non-metallic, Flexible, Liquidtight Conduit

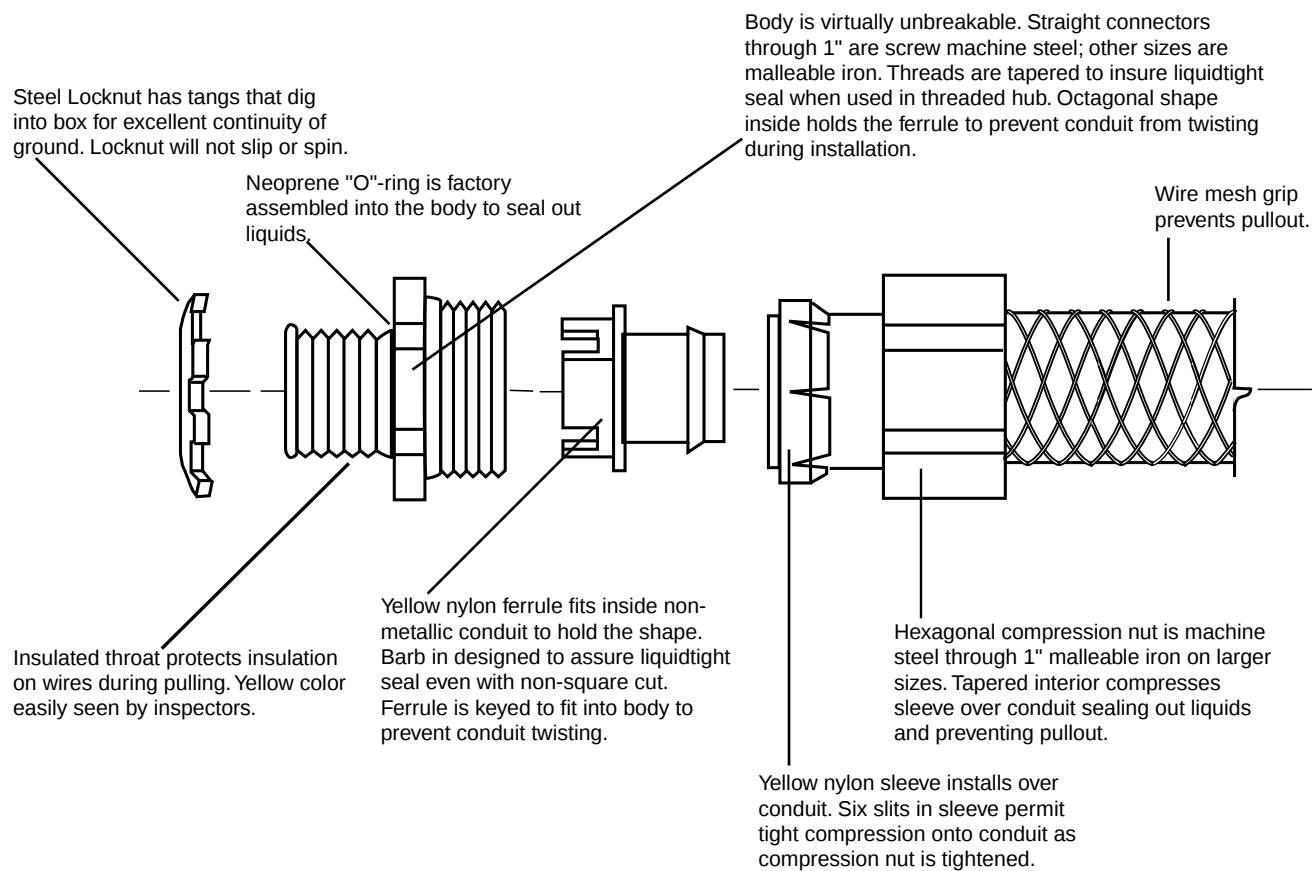
Kellems Grips for UL Type A, non-metallic, flexible, liquidtight conduit are available in straight and 90° male and feature a high quality Hubbell plated steel or malleable iron fitting, complete with a sealing O-ring, lock nut and stainless steel mesh. These grips increase the retention of the conduit in the fitting, control its arc-of-bend and provide a liquidtight seal.

Application

These grips are used on UL Type A non-metallic conduit connections at limit switches, motor boxes, panel boards, control stations and on all types of machinery and machine tools.

Benefits

- Provides a liquidtight seal.
- Helps prevent conduit pull-out.
- Reduces conduit cutting, kinking, fraying and splitting at the fitting.
- Easily installed.



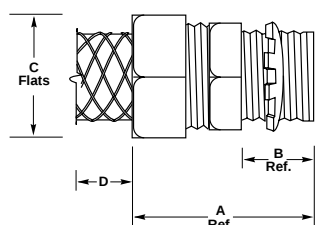
Kellems® Grips for Strain Relief

Technical Section

Dimensional Charts For (UL Type A) Non-metallic, Liquiddtight, Conduit Grip Fittings

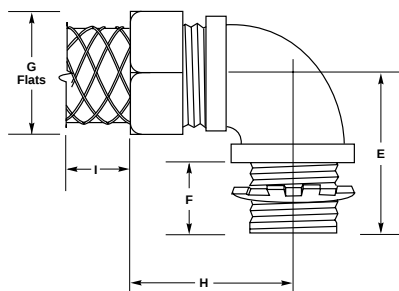
Straight with Male Fitting with Insulated Throat

Trade Size N.P.T. Inches	A	Dimensions Inches (cm) B	C	D	Catalog Numbers
3/8"	1.875" (4.76)	.547" (1.39)	1.156" (2.94)	3.75" (9.52)	H038CNK
1/2"	1.875" (4.76)	.547" (1.39)	1.250" (3.17)	4.50" (11.43)	H050CNK
3/4"	2.000" (5.08)	.578" (1.47)	1.500" (3.81)	6.25" (15.87)	H075CNK
1"	2.125" (5.40)	.687" (1.74)	1.844" (4.68)	7.50" (19.05)	H100CNK
1 1/4"	2.125" (5.40)	.656" (1.67)	2.312" (5.87)	9.00" (22.86)	H125CNK
1 1/2"	2.250" (5.71)	.656" (1.67)	2.578" (6.55)	13.50" (34.29)	H150CNK
2"	2.312" (5.87)	.656" (1.67)	3.187" (8.09)	14.50" (36.83)	H200CNK



90° Angle with Male Fitting with Insulated Throat

Trade Size N.P.T. Inches	E	Dimensions Inches (cm) F	G	H	I	Catalog Numbers
3/8"	1.875" (4.76)	.547" (1.39)	1.156" (2.94)	1.453" (3.69)	3.75" (9.52)	H0389CNK
1/2"	1.875" (4.76)	.547" (1.39)	1.250" (3.17)	1.453" (3.69)	4.50" (11.43)	H0509CNK
3/4"	2.016" (5.12)	.578" (1.47)	1.500" (3.81)	1.000" (2.54)	6.25" (15.87)	H0759CNK
1"	2.375" (6.03)	.687" (1.74)	1.894" (4.81)	2.125" (5.40)	7.50" (19.05)	H1009CNK
1 1/4"	2.281" (5.79)	.656" (1.67)	2.312" (5.87)	2.344" (5.95)	9.00" (22.86)	H1259CNK
1 1/2"	2.562" (6.51)	.656" (1.67)	2.578" (6.55)	2.500" (6.35)	13.50" (34.29)	H1509CNK
2"	2.937" (7.46)	.656" (1.67)	3.187" (8.09)	2.781" (7.06)	14.50" (36.83)	H2009CNK



Dimensions shown are approximate and are subject to change without notice.

Non-metallic Liquidtight Conduit
Product Features and Benefits
POLYTUFF® Liquidtight Conduit

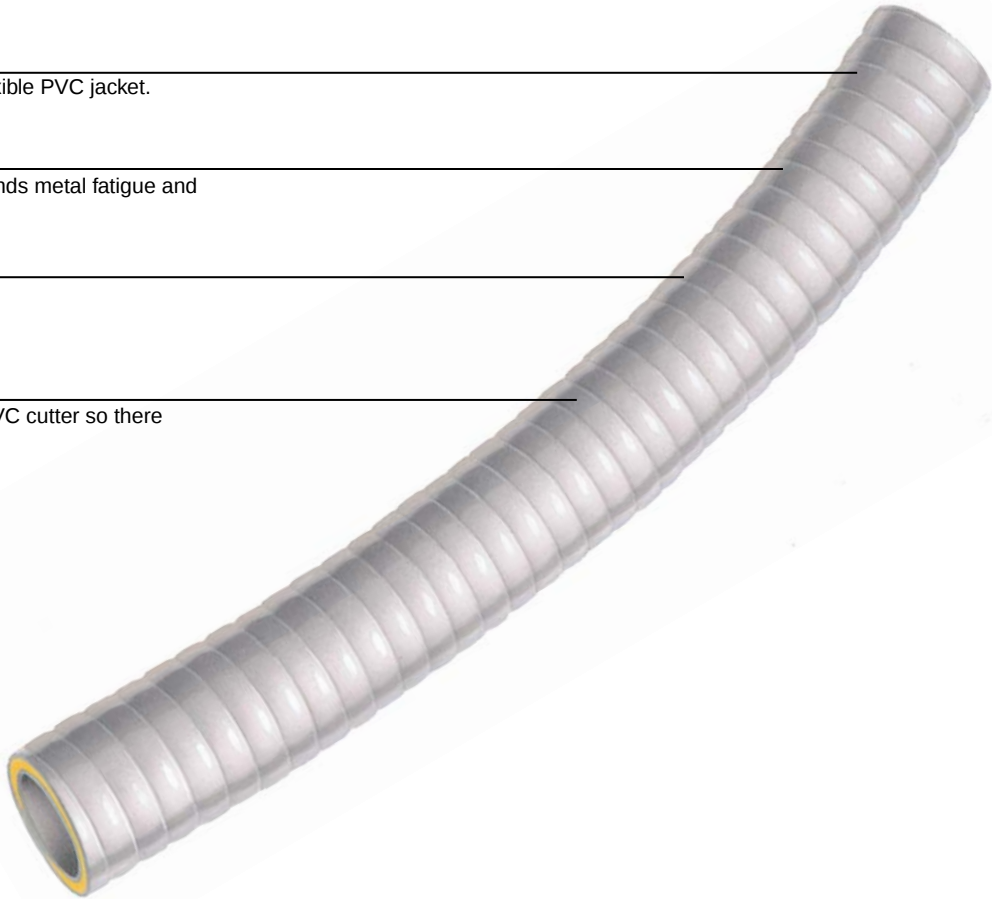
PolyTuff I Conduit–Gray

Rigid PVC core bonded to flexible PVC jacket.

All nonmetallic construction ends metal fatigue and separation problems.

UL Listed and CSA Certified.

Cuts cleanly with a knife or PVC cutter so there are no jagged metal edges.



IP66
SUITABILITY

PolyTuff I Conduit

Trade Size (metric designator)	Catalog Numbers	Feet (m)
3/8" (12)	G1038	100 (30.5)
1/2" (16)	G1050	100 (30.5)
3/4" (21)	G1075	100 (30.5)
1" (27)	G1100	100 (30.5)
1 1/4" (35)	G1125	100 (30.5)
1 1/2" (41)	G1150	50 (15.2)
2" (53)	G1200	50 (15.2)

Note: See pages T-114 to T-115 for additional technical data and dimensional drawings.



Non-metallic Liquidtight Tubing
Product Features and Benefits
POLYTUFF® Liquidtight Conduit

PolyTuff II Tubing–Black

PVC core with corrugated walls bonded to PVC jacket.

Handles twists, turns, bends, switchbacks and straightaways with ease.

All nonmetallic construction ends fatigue and separation problems.

Can be cut with a knife or PVC cutters.

UL Recognized and CSA Certified.



IP66
SUITABILITY

PolyTuff II Tubing

Trade Size (metric designator)	Catalog Numbers	Feet (m)
1/4 (10)	B2025	100 (30.5)
3/8 (12)	B2038	100 (30.5)
1/2 (16)	B2050	100 (30.5)
3/4 (21)	B2075	100 (30.5)
1 (27)	B2100	100 (30.5)
1 1/4 (35)	B2125	100 (30.5)
1 1/2 (41)	B2150	50 (15.2)
2 (53)	B2200	50 (15.2)

Note: See pages T-114 to T-115 for additional technical data and dimensional drawings.



Nonmetallic Liquidtight Connectors

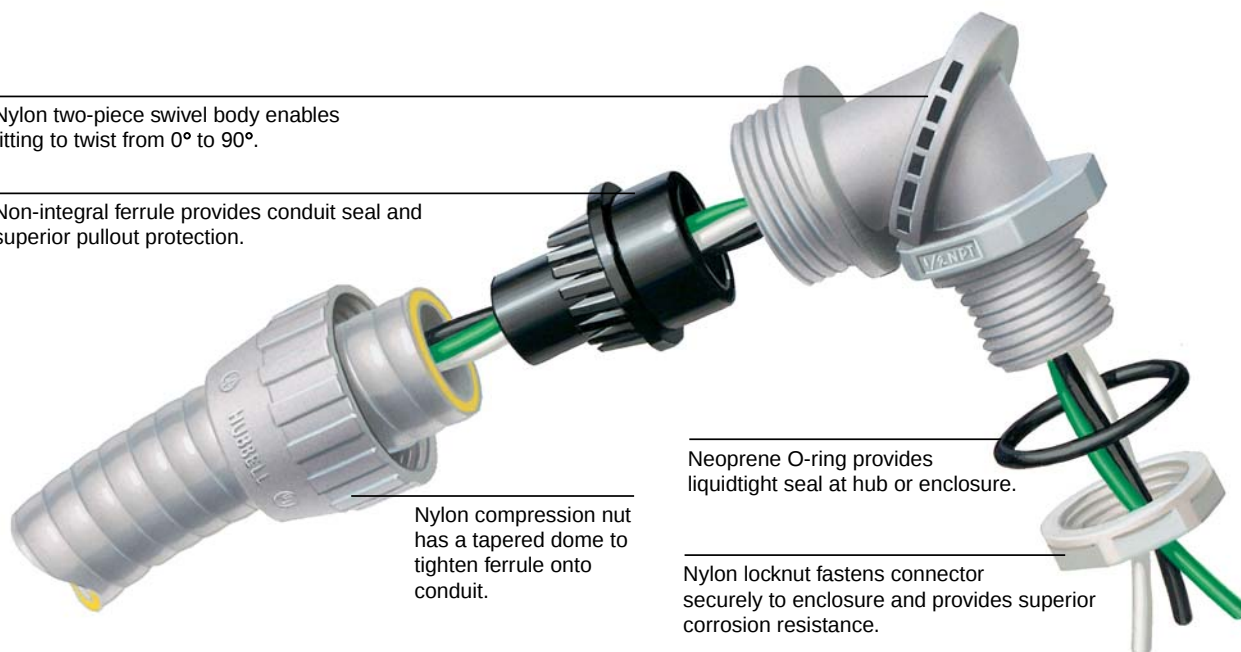
Product Features and Benefits

POLYTUFF® Nonmetallic Connectors



Nylon two-piece swivel body enables fitting to twist from 0° to 90°.

Non-integral ferrule provides conduit seal and superior pullout protection.



Nylon compression nut has a tapered dome to tighten ferrule onto conduit.

Neoprene O-ring provides liquidtight seal at hub or enclosure.

Nylon locknut fastens connector securely to enclosure and provides superior corrosion resistance.

Non-metallic Liquidtight Connectors

Flexible Non-metallic Conduit and Tubing Fittings

POLYTUFF® Non-metallic Fittings

Type 4X, 12 and 13



Straight with Male Non-Metallic Liquidtight Fittings

Trade Size (metric designator)	Black Catalog Numbers	Gray Catalog Numbers
3/8" (12)	P038NBKA	P038NGYA
1/2" (16)	P050NBKA	P050NGYA
3/4" (21)	P075NBKA	P075NGYA
1" (27)	P100NBKA	P100NGYA
1 1/4" (10)	F2025	—
1 1/4" (35)	P125NBK	P125NGY
1 1/2" (41)	P150NBK	P150NGY
2" (53)	P200NBK	P200NGY

Note: See pages T-116 and T-117 for additional technical data and dimensional drawings.



P075NGYA



P125NGY



PSO509NGY - SwivelLok



PSO509NGY - SwivelLok



SwivelLok® Multi-Position with Male Non-Metallic Liquidtight Fittings

Trade Size (metric designator)	Black Catalog Numbers	Gray Catalog Numbers
3/8" (12)	PS0389NBK	PS0389NGY
1/2" (16)	PS0509NBK	PS0509NGY
3/4" (21)	PS0759NBK	PS0759NGY
1" (27)	PS1009NBK	PS1009NGY

Note: See pages T-116 and T-117 for additional technical data and dimensional drawings.



90° Angle with Male Non-Metallic Liquidtight Fittings

Trade Size (metric designator)	Black Catalog Numbers	Gray Catalog Numbers
1/4" (10)	F20259	—
1 1/4" (35)	P1259NBK	P1259NGY

Note: See pages T-116 and T-117 for additional technical data and dimensional drawings.



P1259NGY



PS05GYKIT



SwivelLok Flexible Conduit Kit

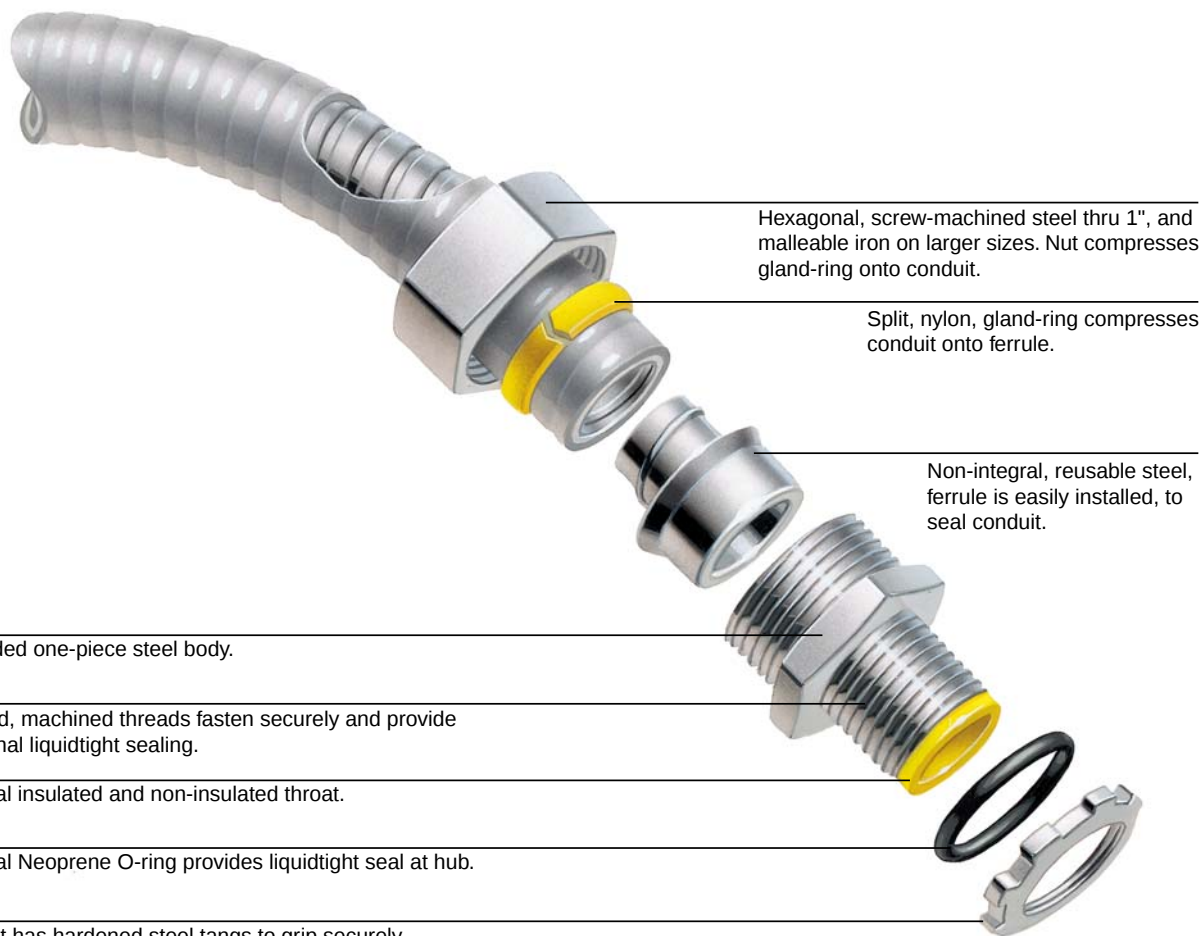
Trade Size (metric designator)	Fitting and Conduit	Catalog Numbers
1/2" (16)	2 PS0509NGY, 6' G1050	PS05GYKIT
3/4" (21)	2 PS0759NGY, 6' G1075	PS07GYKIT

Note: See pages T-116 and T-117 for additional technical data and dimensional drawings.

Metallic Liquidtight Fittings

Product Features and Benefits

Flexible Metallic, Liquidtight Conduit Fittings



Hexagonal, screw-machined steel thru 1", and malleable iron on larger sizes. Nut compresses gland-ring onto conduit.

Split, nylon, gland-ring compresses conduit onto ferrule.

Non-integral, reusable steel, ferrule is easily installed, to seal conduit.

Threaded one-piece steel body.

Tapered, machined threads fasten securely and provide additional liquidtight sealing.

Optional insulated and non-insulated throat.

Optional Neoprene O-ring provides liquidtight seal at hub.

Locknut has hardened steel tangs to grip securely.

Metallic Liquidtight Fittings

Flexible Metallic Conduit Fittings



Straight Conduit Fitting

Trade Size (metric designator)	Insulated	Non-Insulated
3/8" (12)	H0381	H038
1/2" (16)	H0501	H050
3/4" (21)	H0751	H075
1" (27)	H1001	H100
1 1/4" (35)	H1251	H125
1 1/2" (41)	H1501	H150
2" (53)	H2001	H200
2 1/2" (63)	H2501	—
3" (78)	H3001	—

Note: See page T-118 for additional technical data.



Straight with Male
Hubbell Conduit
Fitting
H0501



45° Conduit Fitting

Trade Size (metric designator)	Insulated	Non-Insulated
3/8" (12)	H03841	H0384
1/2" (16)	H05041	H0504
3/4" (21)	H07541	H0754
1" (27)	H10041	H1004
1 1/4" (35)	H12541	H1254
1 1/2" (41)	H15041	H1504
2" (53)	H20041	H2004

Note: See page T-118 for additional technical data.



45° Angle with Male
Hubbell Conduit
Fitting
H05041



90° Conduit Fitting

Trade Size (metric designator)	Insulated	Non-Insulated
3/8" (12)	H03891	H0389
1/2" (16)	H05091	H0509
3/4" (21)	H07591	H0759
1" (27)	H10091	H1009
1 1/4" (35)	H12591	H1259
1 1/2" (41)	H15091	H1509
2" (53)	H20091	H2009

Note: See page T-118 for additional technical data.



90° Angle with Male
Hubbell Conduit
Fitting
H0509

Non-metallic Liquidtight Conduit and Tubing

Technical Data

POLYTUFF®

PolyTuff I Conduit**Operating Temperature Range**

Wet environment	0°F to +140°F (-18°C to +60°C)
Oil environment	0°F to +158°F (-18°C to +70°C)
Dry environment	0°F to +176°F (-18°C to +80°C)

Certifications

UL Listed,	UL Standard 1660.
CSA Certified	Sunlight resistant approved for outdoor use, direct burial. Meets requirements of NEC Article 351-B

Voltage Rating

Maximum	600V
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Material

Conduit	Co-extruded rigid and flexible PVC.
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PolyTuff II Tubing**Operating Temperature Range**

Operating Environment	0°F to +140°F (-18°C to +60°C)
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Certifications

UL Recognized
CSA Certified

Voltage Rating

Maximum	Same as wire insulation rating.
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Material

Tubing	Co-extruded rigid and flexible PVC.
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PolyTuff I Conduit

Trade Size (metric designator)	Conduit ID/OD Inches (mm)	Bend Radius Inches (mm)
3/8" (12)	.49"/.70" (12.6/17.8)	2.00" (50.8)
1/2" (16)	.63"/.83" (16.1/21.1)	3.00" (76.2)
3/4" (21)	.83"/1.04" (21.1/26.4)	4.00" (101.6)
1" (27)	1.05"/1.30" (26.0/33.1)	5.00" (127.0)
1 1/4" (35)	1.40"/1.65" (35.4/41.8)	6.30" (158.8)
1 1/2" (41)	1.59"/1.88" (40.3/47.8)	7.50" (190.5)
2" (53)	2.03"/2.36" (51.6/59.9)	10.00" (254.0)

PolyTuff II Tubing

Trade Size (metric designator)	Conduit ID/OD Inches (mm)	Bend Radius Inches (mm)
1/4" (10)	.36"/.57" (9.3/14.5)	1.50" (38.1)
3/8" (12)	.49"/.70" (12.6/17.8)	2.00" (50.8)
1/2" (16)	.63"/.83" (16.1/21.1)	2.00" (50.8)
3/4" (21)	.83"/1.04" (21.1/26.4)	3.00" (76.2)
1" (27)	1.05"/1.30" (26.0/33.1)	3.00" (76.2)
1 1/4" (35)	1.40"/1.65" (35.4/41.8)	5.00" (127.0)
1 1/2" (41)	1.59"/1.88" (40.3/47.8)	5.00" (127.0)
2" (53)	2.03"/2.36" (51.6/59.9)	5.00" (127.0)

Non-metallic Liquidtight Conduit and Tubing

Technical Data

POLYTUFF®

PolyTuff I and II Conduit/Tubing; PVC Chemical Resistance

Chemical	Temp.		Chemical	Temp.		Chemical	Conc*	Temp.	
	Conc*	70°F 21°C	150°F 66°C	Conc*	70°F 21°C	150°F 66°C		70°F 21°C	150°F 66°C
Acetate Solvents	D	D	Coconut Oil	C	D	Lubricating Oils		A	A
Acetic Acid	B	C	Corn Oil	A	B	Magnesium Chloride		A	A
Acetic Acid (Glacial)	C	D	Cottonseed Oil	C	D	Magnesium Hydroxide		A	A
Acetone	D	D	Creosote	D	D	Magnesium Sulfate		A	A
Acrylonitrile	A	B	Cresol	C	D	Malathion 50 in Aromatics		D	D
Alcohols (Aliphatic)	C	C	Crylic Acid	D	D	Malic Acid		A	A
Aluminum Chloride	A	A	Cyclohexane	B	C	Methyl Acetate		D	D
Aluminum Sulfate (Alums)	A	A	DDT Weed Killer	A	C	Methyl Alcohol		C	C
Ammonia			Dibutyl Phthalate	D	D	Methyl Bromide		D	D
(Anhydrous Liquids)	D	D	Diesel Oils	C	D	Methyl Ethyl Ketone		D	D
Ammonia (Aqueous)	A	A	Diethylene Glycol	B	C	Methylene Chloride		D	D
Ammoniated Latex	A	C	Diethyl Ether	A	C	Mineral Oil			
Ammonium Chloride	A	A	Di-isodecyl Phthalate	D	D	Monochlorobenzene		A	A
Ammonium Hydroxide	A	A	Diocetyl Phthalate	D	D	Muriatic Acid			
Amyl Acetate	D	D	Dow General Weed Killer (Phenol)	D	D	(see Hydrochloric Acid)			
Aniline Oils	D	D	Dow General Weed Killer (H ₂ O)	B	C	Naphtha		C	D
Aromatic Hydrocarbons	D	D	Ethyl Alcohol	C	C	Naphthalene		D	D
Asphalt	D	D	Ethylene Dichloride	D	D	Nitric Acid	10%	A	B
ASTM Fuel A	C	C	Ethylene Glycol	B	C	Nitric Acid	35%	A	C
ASTM Fuel B	D	D	Ferric Chloride	A	A	Nitric Acid	70%	D	D
ASTM #1 Oil	B	C	Ferric Sulfate	A	A	Oleic Acid		A	C
ASTM #3 Oil	C	D	Ferrous Chloride	A	A	Oleum		D	D
Barium Chloride	A	A	Ferrous Sulfate	A	A	Oxalic Acid		A	A
Barium Sulfide	A	A	Formaldehyde	D	D	Pentachlorophenol in Oil		B	C
Barium Hydroxide	A	A	Fuel Oil	B	C	Pentane		C	D
Benzene (Benzol)	D	D	Furfural	C	C	Perchloroethylene		B	C
Benzine (Petroleum Ether)	C	C	Gallic Acid	A	A	Petroleum Ether		C	C
Black Liquor	A	A	Gasoline (Hi Test)	C	D	Phenol		A	A
Bordeaux Mixture	A	A	Glycerine	A	A	Phosphoric Acid	10%	A	A
Boric Acid	A	A	Grease	A	C	Pitch	50%	A	B
Butyl Acetate	D	D	Green Sulfate Liquor	A	A	Potassium Hydroxide		C	D
Butyl Alcohol	B	C	Heptachlor in			Sodium Cyanide		A	A
Calcium Hydroxide	A	A	Petroleum Solvents	A	C	Stoddard Solvent		D	D
Calcium Hypochlorite	A	A	Heptane	C	D	Styrene		D	D
Carbolic Acid (Phenol)	B	C	Hexane	C	D	Sulfur Dioxide (liquid)		D	D
Carbon Dioxide	A	A	Hydrobromic Acid	A	A	Sulfuric Acid	50%	A	B
Carbon Disulfide	D	D	Hydrochloric Acid	10%	A	Sulfuric Acid	98%	D	D
Carbon Tetrachloride	D	D	Hydrochloric Acid	40%	C	Sulfurous Acid		B	C
Carbonic Acid	A	A	Hydrofluoric Acid	70%	D	Tall Oil		D	D
Casein	A	C	Hydrofluorosilicic Acid	A	A	Tannic Acid		A	A
Caustic Soda	A	B	Hydrofluorosilicic Acid	10%	A	Toluene		D	D
Chlorine Gas (wet)	D	D	Hydrogen Peroxide	A	B	Trichlorethylene		D	D
Chlorine Gas (dry)	D	D	Iso-Octane	C	C	Triethanol Amine		C	D
Chlorine (water solution)	C	D	Isopropyl Acetate	D	D	Tricresyl Phosphate (Skydrol)		D	D
Chlorobenzene	D	D	Isopropyl Acid	B	C	Turpentine		C	D
Chlorinated Hydrocarbons	D	D	Jet Fuels (JP-3, and 5)	C	D	Vinegar		A	B
Chromic Acid	B	C	Kerosene	C	C	Vinyl Chloride		D	D
Citric Acid	A	A	Ketones	D	D	Water		A	A
Coal Tar	D	D	Linseed Oil	A	A	White Liquor		A	A
						Xylene		D	D
						Zinc Chloride		A	A
						Zinc Sulfate		A	A

(All ratings apply to concentrated or saturated solutions unless otherwise specified.)

Chemical resistance ratings are based upon information supplied by the raw material manufacturers. Use as a general guide only – samples should be tested by user under actual conditions.

*Conc. - Concentration

Rating Code

A-Excellent service

No harmful effect to reduce service life. Suitable for continuous service.

B-Good service life.

Moderate to minor effect. Good for intermittent service. Generally suitable for continuous service.

C-Fair or limited service.

Depends on operating conditions. Generally suitable for intermittent service. Not recommended for continuous service.

D-Unsatisfactory service.

Not recommended.

Non-metallic Liquidtight Fittings

Technical Data

POLYTUFF® Fittings

PolyTuff Fittings**Operating Temperature***

Nylon (Body, Nut, Gripping Ring and Locknut)	–40°F to +225°F (–40°C to +107°C).
Neoprene (Sealing Ring)	–30°F to +240°F (–34°C to +116°C).

Flammability

Fire Gas Toxicity Product Testing	Nylon PolyTuff Fittings have a UL 94V-2 rating.
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Certifications

UL Listed	UL50 Type 4X, 12 and 13
CSA Certified	PolyTuff I Fittings, Poly Tuff II Fittings.

Liquidtight Fittings**Operating Temperature****

Steel/Malleable Iron (Nut, Body, Ferrule)	–60°F to +1000°F (–51°C to +538°C).
Nylon (Gland Ring)	–40°F to +225°F (–40°C to +107°C).

Hazardous Locations

	NEC Reference
Class I, Div. 2	501-4b
Class II, Div. 1	502-4a2
Class II, Div. 2	502-4b2
Class III, Div. 1	503-3a2
Class III, Div. 2	503-3b

Certifications

UL Listed
CSA Certified

*Due to the limiting factors of nylon and neoprene, PolyTuff Fittings will continuously perform in the range –30°F to +225°F (–34°C to +107°C).

**Due to the limiting factors of nylon, metallic liquidtight flexible conduit fittings will continuously perform in the range of –40°F to +225°F (–40°C to +107°C).

Non-metallic Liquidtight Fittings

Technical Data

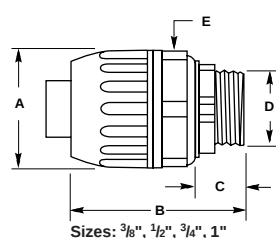
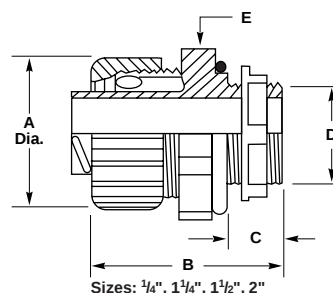
POLYTUFF® Fittings

Straight with Male Non-Metallic Liquidtight Fittings

Trade Size (md**)	A	B	C	D Throat Dia.	E	
					A/C*	A/F*
1/4" (10)	.93" (23.6)	1.45" (36.8)	.39" (9.9)	.32" (8.1)	.86" (Dia.) (21.8)	
3/8" (12)	1.14" (29.0)	1.63" (41.4)	.57" (14.5)	.42" (10.7)	1.41" (35.8)	1.30" (33.0)
1/2" (16)	1.30" (33.0)	2.14" (54.4)	.57" (14.5)	.55" (14.0)	1.41" (35.8)	1.30" (33.0)
3/4" (21)	1.53" (38.9)	2.22" (56.4)	.58" (14.7)	.74" (18.8)	1.85" (47.0)	1.53" (38.9)
1" (27)	1.80" (45.7)	2.32" (58.9)	.72" (18.3)	.96" (24.4)	1.94" (49.3)	1.80" (45.7)
1 1/4" (35)	2.20" (55.9)	2.15" (54.6)	.74" (18.8)	1.30" (33.0)	2.38" (60.5)	2.18" (55.4)
1 1/2" (41)	2.49" (63.2)	2.35" (59.7)	.76" (19.3)	1.46" (37.1)	2.63" (66.8)	2.43" (61.7)
2" (53)	3.05" (77.4)	2.51" (63.6)	.79" (20.1)	1.90" (48.3)	3.13" (79.5)	2.93" (74.4)

*A/C = Across Corners A/F = Across Flats

**md = metric designator

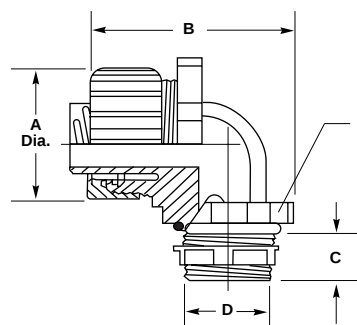


90° with Male Non-Metallic Liquidtight Fittings

Trade Size (md**)	A	B	C	D Throat Dia.	E	
					A/C*	A/F*
1/4" (10)	.93" (23.6)	1.88" (47.8)	.39" (9.9)	.32" (8.1)	.86" (Dia.) (21.8)	
1 1/4" (35)	2.21" (56.1)	3.57" (90.7)	.74" (18.9)	1.30" (33.0)	2.38" (60.5)	2.18" (55.4)

*A/C = Across Corners A/F = Across Flats

**md = metric designator

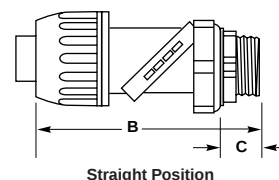
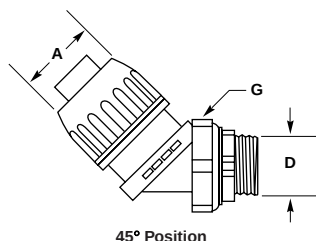
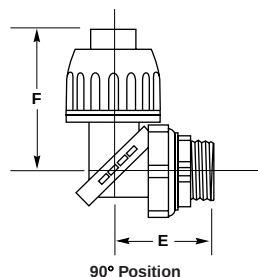


SwivelLok® Multi-Position Liquidtight Fittings

Trade Size (md**)	A	B	C	D	E	F	G	
							A/C*	A/F*
3/8" (12)	1.30" (33.0)	3.27" (83.1)	.57" (14.5)	.55" (14.0)	1.43" (36.3)	2.00" (50.8)	1.41" (35.8)	1.30" (33.0)
1/2" (16)	1.30" (33.0)	3.27" (83.1)	.57" (14.5)	.55" (14.0)	1.43" (36.3)	2.00" (50.8)	1.41" (35.8)	1.30" (33.0)
3/4" (21)	1.53" (38.9)	3.66" (93.0)	.58" (15.7)	.74" (18.8)	1.59" (40.4)	2.23" (56.6)	1.65" (41.9)	1.53" (38.9)
1" (27)	1.80" (45.7)	4.00" (101.6)	.72" (18.3)	.96" (24.4)	1.84" (46.7)	2.30" (58.4)	1.94" (49.3)	1.80" (45.7)

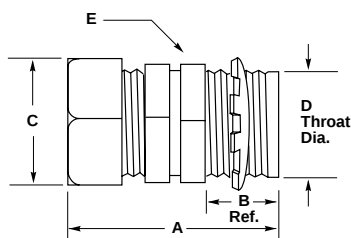
*A/C = Across Corners A/F = Across Flats

**md = metric designator



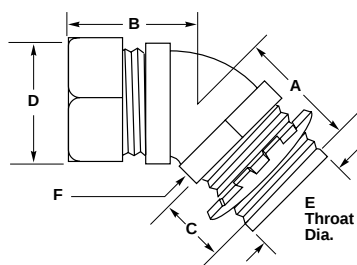
Metallic Liquidtight Conduit Fittings

Technical Data



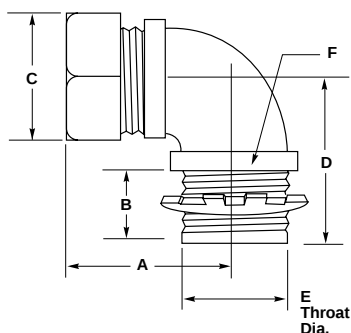
Straight with Male Metallic Metal Fitting

Trade Size (md**)	A	B	C		D Throat Dia.	E	
	Ref.		A/C*	A/F*		A/C*	A/F*
3/8" (12)	1.43" (36.3)	.59" (15.0)	1.20" (30.0)	1.06" (26.9)	.61" (15.5)	1.07" (27.2)	.93" (23.6)
1/2" (16)	1.43" (36.3)	.59" (15.0)	1.34" (34.0)	1.19" (30.2)	.61" (15.5)	1.22" (31.0)	1.06" (26.9)
3/4" (21)	1.56" (39.6)	.59" (15.0)	1.55" (39.0)	1.37" (34.8)	.84" (21.3)	1.43" (36.3)	1.25" (31.8)
1" (27)	1.68" (42.7)	.66" (16.8)	1.95" (50.0)	1.69" (42.9)	1.06" (26.9)	1.73" (43.9)	1.56" (39.6)
1 1/4" (35)	2.03" (51.6)	.63" (16.8)	2.39" (61.0)	2.06" (52.3)	1.37" (34.8)	2.36" (59.9)	2.08" (52.8)
1 1/2" (41)	2.21" (56.1)	.63" (16.8)	2.72" (69.0)	2.38" (60.5)	1.53" (38.9)	2.79" (70.9)	2.48" (63.0)
2" (53)	2.28" (57.9)	.69" (17.5)	3.08" (78.0)	2.87" (72.9)	2.06" (52.3)	3.32" (84.3)	2.90" (73.7)
2 1/2" (63)	3.56" (90.4)	1.06" (26.9)	3.92" (100.0)	3.62" (91.9)	2.42" (61.5)	3.85" (97.8)	3.60" (91.4)
3" (78)	3.81" (96.8)	1.06" (26.9)	4.70" (119.0)	4.31" (109.5)	3.01" (76.5)	4.65" (118.1)	4.33" (110.0)
3 1/2" (91)	3.81" (96.8)	1.06" (26.9)	5.29" (134.0)	4.81" (122.2)	3.49" (88.6)	5.18" (131.6)	4.82" (122.4)
4" (103)	3.81" (96.8)	1.06" (26.9)	5.75" (146.0)	5.31" (134.9)	3.96" (100.6)	5.75" (146.1)	5.39" (136.9)



45° with Male Metallic Metal Fitting

Trade Size (md**)	A	B	C	D		E Throat Dia.	F	
				A/C*	A/F*		A/C*	A/F*
3/8" (12)	1.19" (30.2)	1.28" (32.5)	.59" (15.0)	1.20" (30.5)	1.06" (26.9)	.60" (15.2)	1.16" (29.5)	1.02" (25.9)
1/2" (16)	1.19" (30.2)	1.28" (32.5)	.59" (15.0)	1.34" (34.0)	1.19" (30.2)	.61" (15.2)	1.21" (30.7)	1.06" (26.9)
3/4" (21)	1.19" (30.2)	1.43" (36.3)	.59" (15.0)	1.55" (39.4)	1.45" (36.8)	.84" (21.3)	1.50" (38.1)	1.32" (33.5)
1" (27)	1.38" (35.1)	1.53" (38.9)	.66" (16.8)	1.95" (49.5)	1.69" (42.9)	1.05" (26.7)	1.82" (46.2)	1.59" (40.4)
1 1/4" (35)	1.42" (36.1)	1.69" (42.9)	.63" (16.0)	2.39" (60.7)	2.06" (52.3)	1.37" (34.8)	2.32" (58.9)	2.03" (51.6)
1 1/2" (41)	1.66" (42.2)	2.00" (50.8)	.66" (16.8)	2.72" (69.1)	2.38" (60.5)	1.60" (40.6)	2.62" (66.5)	2.29" (58.2)
2" (53)	1.69" (42.9)	2.25" (57.2)	.66" (16.8)	3.08" (78.2)	2.88" (73.2)	2.05" (52.1)	3.21" (81.5)	2.80" (71.1)



90° with Male Metallic Metal Fitting

Trade Size (md**)	A	B	C		D	E Throat Dia.	F	
			A/C*	A/F*	Ref.		A/C*	A/F*
3/8" (12)	1.31" (33.3)	.59" (15.0)	1.20" (30.5)	1.06" (26.9)	1.44" (36.6)	.60" (15.2)	1.13" (29.0)	.99" (25.1)
1/2" (16)	1.31" (33.3)	.59" (15.0)	1.34" (34.0)	1.12" (28.4)	1.44" (36.6)	.61" (15.5)	1.12" (28.0)	1.00" (25.4)
3/4" (21)	1.44" (36.6)	.59" (15.0)	1.55" (39.4)	1.45" (36.8)	1.63" (41.4)	.83" (21.1)	1.48" (38.0)	1.29" (32.8)
1" (27)	1.78" (45.2)	.59" (15.0)	1.95" (49.5)	1.60" (40.6)	2.19" (55.6)	1.05" (26.7)	1.80" (46.0)	1.57" (39.9)
1 1/4" (35)	1.97" (50.0)	.63" (16.0)	2.39" (60.7)	2.06" (52.3)	2.50" (63.5)	1.36" (34.5)	2.32" (59.0)	2.02" (51.3)
1 1/2" (41)	2.19" (55.6)	.63" (16.0)	2.72" (69.1)	2.38" (60.5)	2.69" (68.3)	1.61" (40.9)	2.58" (66.0)	2.25" (57.2)
2" (53)	2.53" (64.3)	.66" (16.8)	3.08" (78.2)	2.87" (72.9)	3.25" (82.6)	2.05" (52.1)	3.14" (80.0)	2.75" (69.9)
2 1/2" (63)	3.44" (87.4)	1.00" (25.4)	3.92" (99.6)	3.63" (92.2)	4.25" (108.0)	2.42" (61.5)	3.78" (96.0)	3.50" (88.9)
3" (78)	3.75" (95.3)	1.00" (25.4)	4.70" (119.4)	4.31" (109.5)	4.87" (123.7)	3.01" (76.5)	4.64" (118.0)	4.30" (109.2)
4" (103)	4.25" (108.0)	1.00" (25.4)	5.75" (146.1)	5.31" (134.9)	5.63" (143.0)	3.96" (100.6)	5.76" (146.0)	5.38" (136.7)

*A/C = Across Corners A/F = Across Flats

**md = metric designator