



Pre-Engineered Products

Reels, Cable Track
and Festoons, Controls,
Automation Components



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Warranty

Gleason warrants for a period of twelve (12) months after date of shipment, all goods manufactured by it to be free from defects in material and workmanship. If, within such warranty period, any such goods are proved, to Gleason’s satisfaction, to be defective, such goods shall be repaired or, at Gleason’s option, replaced f.o.b. Gleason’s factory, without charge. Gleason’s obligation hereunder shall be confined to such repair or replacement and shall be further conditioned upon Gleason receiving written notice of any alleged defect within 10 days after its discovery and, at Gleason’s option, the return of the alleged defective goods to Gleason, f.o.b. its factory.

The foregoing warranty shall not apply to goods not manufactured by Gleason, or to goods which shall have been repaired or altered by others than Gleason so as to, in Gleason’s judgement, adversely affect the same, or which shall have been subject to other than normal use of service, negligence, accident, or improper maintenance care, or storage. With respect to goods furnished but not manufactured by Gleason, the warranty obligations of Gleason shall in all respects conform and be limited to the warranty extended to Gleason by the supplier. The foregoing warranty is in lieu of all other express or implied warranties (except of title) and of all other obligations of Gleason.

Hose Reels

Heavy Duty For Machines or E-Z Pull™ for Gentle Hand Pull

Heavy duty hose reels supply air or fluid to machines in applications where the machine supplies power to pull out the hose and the reel supplies the rewinding power. They are also widely used overhead where the hose is pulled down by hand. A ratchet lock is normally used in hand pull applications to keep the hose extended while in use.



Features

- 1/4", 3/8", or 1/2" (6, 9, 13mm) hose
- All welded solid steel construction
- Fully automatic; Machine mountable
- Heavy duty mounting bracket
- Safetychange® spring motor
- Weatherproof gasket on spring motor
- Positive ratchet lock with disengage
- Multi-position adjustable hose guide
- Orange polyester baked-on finish
- Adjustable hose stop included
- Optional 340° pivot base

Series "H" Application

- Connect machines to air/water supply
- Hand pull, with or without ratchet stop, ideal for fluids, compressed air
- Mount base up, down or to wall for vertical or horizontal hose travel
- Add optional 340° pivot; reel turns to follow hose pay-out

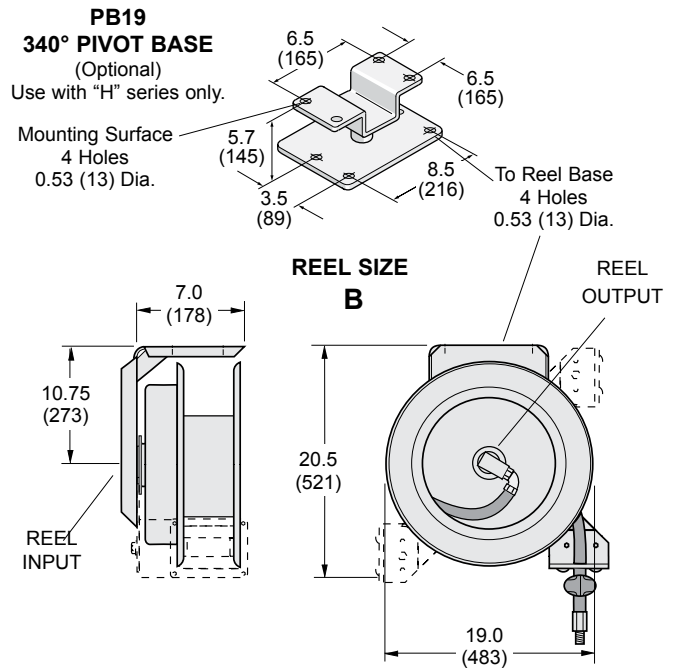
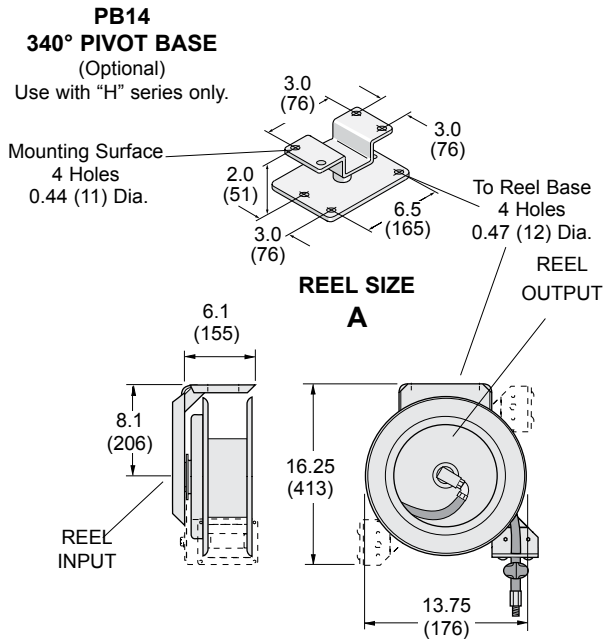
E-Z Pull Application

- Connect machines to air/water supply
- Hand pull, with or without ratchet stop, ideal for fluids, compressed air
- Mount base up, down or to wall for vertical or horizontal hose travel
- Add optional 340° pivot; reel turns to follow hose pay-out

Heavy Duty for Machines / E-Z Pull for Gentle Hand Pull

Hose Data						Machine Use or Overhead Mounted Hand Pull - Model No.	Reel Size	E-Z Pull for Horizontal Hand Pull Applications - Model No.	Reel Size	Net Weight		Hose Stop	340 Base (OPT)	
Inside Dia.		Input & Output Fittings	Max. Length		Max. Pressure					lbs.	(kg)			
in.	(mm)		ft.	(mm)	psi									(N/mm)
1/4	(6)	0.25 NPTF	25	(7.5)	315	(2.17)	HC2525	EZ4-2525	A	30	(13)	CP-2	PB-14	
			35	(10.5)			HC2535	EZ4-2535						
			50	(15.0)			HE2550	EZ9-2550						
3/8	(9)	0.38 NPTF	25	(7.5)			HC3825	EZ4-3825	A	30	(13)			
			35	(10.5)			HD3835	EZ4-3835						
			50	(15.0)			HF3850	EZ9-3850						
1/2	(13)	0.50 NPTF	25	(7.5)			HG5025	EZ9-5025	B	62	(28)	CR-3	PB-14	
			35	(10.5)			HG5035	EZ9-5035						
			50	(15.0)			HG5050	EZ9-5050						

Reel and Base Dimensions



Industrial Duty Hose Reels

Mount from ceiling, wall or under bench. Choose 1/4", 3/8", 1/2" or 3/4" PVC hose. Reels feature spring rewind and ratchet lock, multi-position four roller hose guide, and adjustable hose stop. Rugged steel construction. Steel components protected by durable baked polyester finish.



Frame Size GHA inches (mm)

A	B	C	D	E	F	G	H	J	K	L
12.88	11.25	8.00	9.88	12.12	5.50	2.50	2.50	4.00	5.09	8.38
(327)	(286)	(203)	(251)	(308)	(140)	(64)	(64)	(102)	(130)	(213)

Frame Size GHB inches (mm)

A	B	C	D	E	F	G	H	J	K	L
14.50	12.81	9.75	11.25	13.75	6.19	3.16	2.50	4.00	5.88	8.38
(368)	(325)	(248)	(286)	(349)	(157)	(80)	(64)	(102)	(149)	(213)

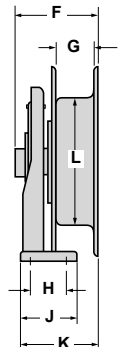
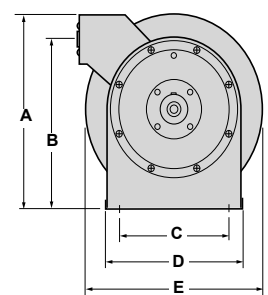
Frame Size GHC inches (mm)

A	B	C	D	E	F	G	H	J	K	L
17.50	15.63	9.75	11.25	16.50	6.19	3.16	2.50	4.00	5.88	10.25
(444)	(397)	(248)	(286)	(419)	(157)	(80)	(64)	(102)	(130)	(260)

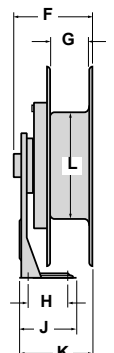
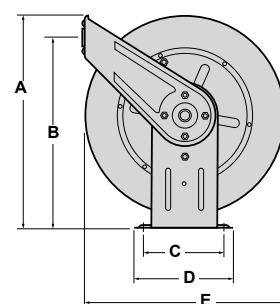
Frame Size GHE inches (mm)

A	B	C	D	E	F	G	H	J	K	L
20.38	18.12	7.88	9.45	19.00	6.63	3.35	3.86	5.44	6.10	11.00
(518)	(460)	(200)	(240)	(482)	(168)	(85)	(98)	(138)	(155)	(279)

Frame Size A, B, & C

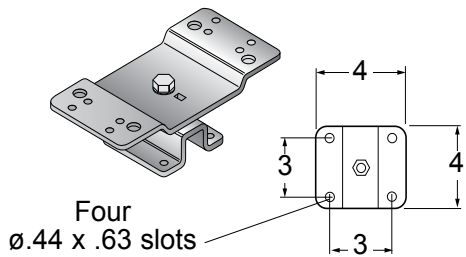


Frame Size E

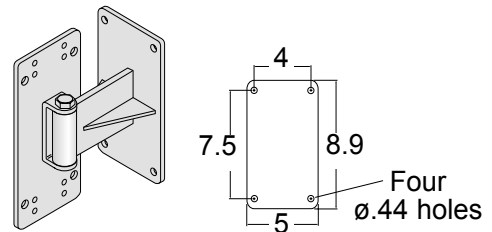


Hose Data

Description	Max. Pressure	I.D. (inch)	O.D. (inch)	Length (feet)	Application	Input Hose Fitting	Model Number	Weight (lb)
25' of low pressure 1/4" ID Hose	300 psi	1/4	0.51	25	Air/Water	1/4 NPTF	GHA2525-L	23
50' of low pressure 1/4" ID Hose	300 psi	1/4	0.51	35	Air/Water	1/4 NPTF	GHA2535-L	24
35' of low pressure 1/4" ID Hose	300 psi	1/4	0.51	50	Air/Water	1/4 NPTF	GHB2550-L	26
25' of low pressure 3/8" ID Hose	300 psi	3/8	0.65	25	Air/Water	3/8 NPTF	GHA3825-L	23
35' of low pressure 3/8" ID Hose	300 psi	3/8	0.65	35	Air/Water	3/8 NPTF	GHA3835-L	25
50' of low pressure 3/8" ID Hose	300 psi	3/8	0.65	50	Air/Water	3/8 NPTF	GHC3850-L	36
70' of low pressure 3/8" ID Hose	300 psi	3/8	0.65	70	Air/Water	3/8 NPTF	GHE23870-L	50
25' of low pressure 1/2" ID Hose	300 psi	1/2	0.77	25	Air/Water	1/2 NPTF	GHB5025-L	30
35' of low pressure 1/2" ID Hose	300 psi	1/2	0.77	35	Air/Water	1/2 NPTF	GHC5035-L	38
50' of low pressure 1/2" ID Hose	300 psi	1/2	0.77	50	Air/Water	1/2 NPTF	GHE5050-L	44
25' of low pressure 3/4" ID Hose	300 psi	3/4	1.19	25	Air/Water	3/4 NPTF	GHE7525-L	50



Optional 340° Pivot Base Model RC-PB-B
Reel follows activity for smoother operation,
reduced cord wear



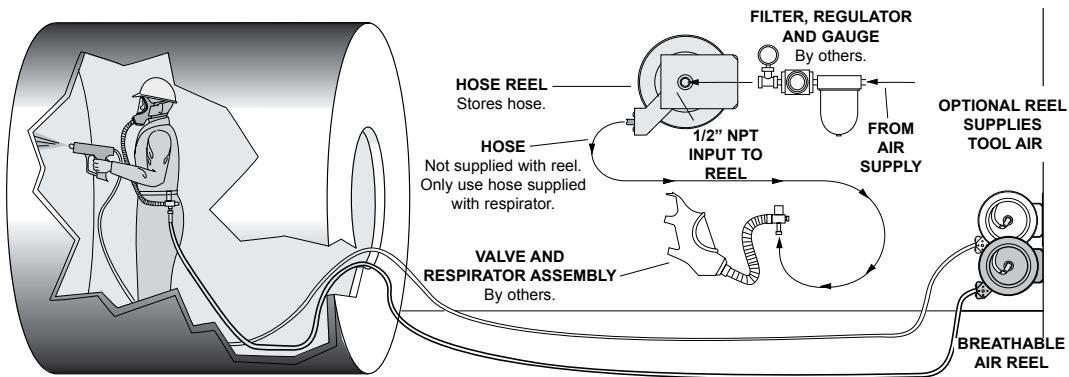
Optional Wall Mounted Pivot Base
Model RC-WP
Provides 180° pivot
NOTE: Either base fits all reel sizes

EZ-Pull Clean Air Hose Reels

E-Z PULL™ CLEAN AIR HOSE REELS are engineered to safely and efficiently store the hose from an airline respirator. Gone are loose coils that cause tangled hoses which can lead to dangerous kinks in the air line. User is in complete control. Soft rewind pull means that even if ratchet stop should accidentally be released, hose will not snap back. Reel designed for 50 ft. (15m) x 7/8" (22mm) O.D. neoprene hose supplied by others (MSA part number 455022 or equivalent). All air path parts are stainless steel.

E-Z PULL CLEAN AIR REELS include stainless steel air path. Also includes ball stop and ratchet lock. Finish is OSHA safety blue baked-on polyester. 3/4"-16 UNF fitting to fit MSA #455022 hose or equivalent. Does not include hose.

Typical Setup

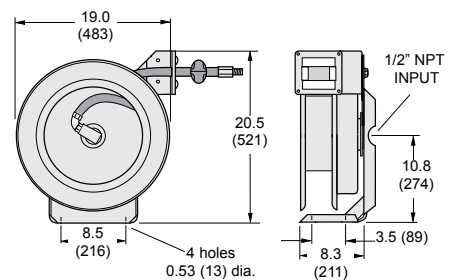


Hose Not Included

Hose Data						Model Number*	Reel Size
Outside Diameter		Length Max.		Weight Max.			
in.	(mm)	ft.	(mm)	lbs.	(kg)		
7/8"	(22)	50'	(15)	(15.0)	(6.8)	EZ9-5000-CA	EZ9

*Reel includes ball stop for hose and ratchet lock.

Dimensions



Electrical Cable Reels

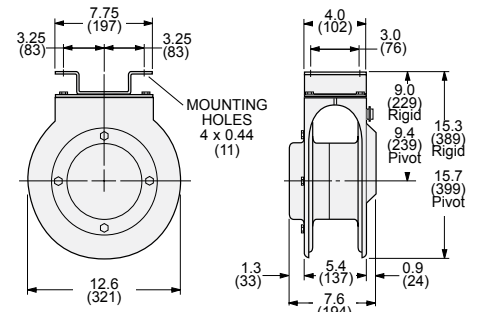
Locking cable reels; series ER for general purpose. Series ER includes cable, lock & rigid base.



Locking Cable Reels Series

Wiring Size (AWG)	Number of Cond.	Hose Data				Model Number
		Cable Length		Weight Complete		
		ft.	(mm)	lbs.	(kg)	
18	2	45	(13.5)	49	(22.1)	ER21845
18	3	45	(13.5)	49	(22.1)	ER23845
18	4	45	(13.5)	50	(22.5)	ER41845
16	2	45	(13.5)	49	(22.1)	ER21645
16	3	45	(13.5)	45	(20.3)	ER31645
16	4	40	(12.0)	46	(20.7)	ER41640
14	2	40	(12.0)	51	(22.1)	ER21440
14	3	35	(10.5)	47	(21.2)	ER31435
14	4	25	(7.5)	46	(20.7)	ER41425
12	2	25	(7.5)	50	(22.5)	ER21225
12	3	25	(7.5)	47	(21.2)	ER31225
12	4	25	(7.5)	48	(21.6)	ER41225

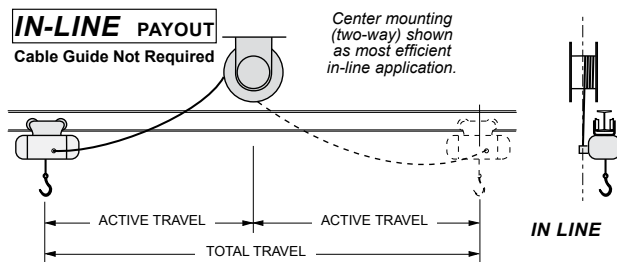
General Purpose Reels are ideal for hand pull or mounting on moving machinery



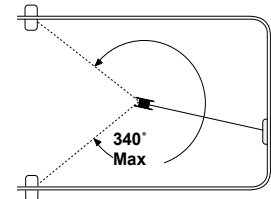
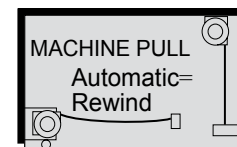
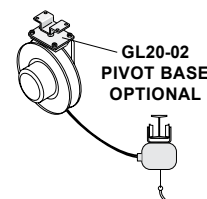
Optional Horizontal Guide GL15-09

Ampere Rating

Reels are derated to ampere rating of cable. Refer to the National Electric Code for ampere ratings and other details on each wire size, number of conductors and cable length.



OFF-LINE PAYOUT



Includes:

- Cable
- Rigid Mounting Base
- Ratchet Lock with "OFF"

Series "A" Cable Reels

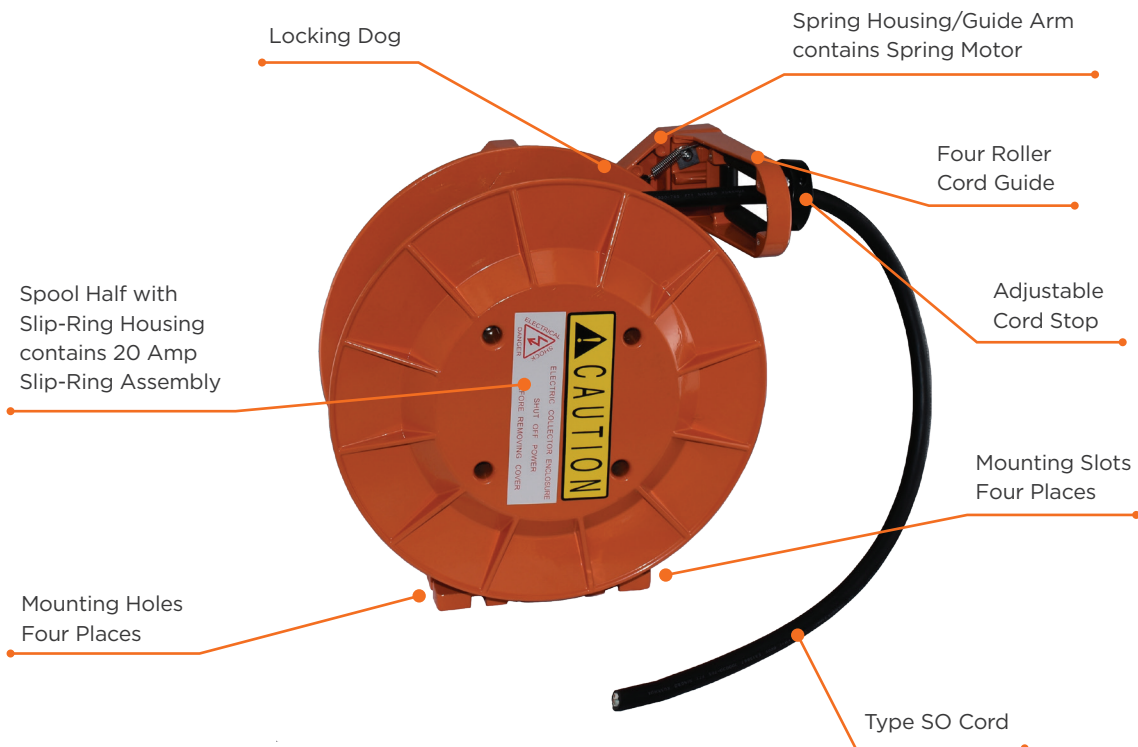
Features

- Cast aluminum construction
- Slip ring in gasketed enclosure
- Durable baked polyester powder paint finish
- Unitized 20 amp slip ring
- Easily accessible gasketed junction box
- Spool configuration prevents "lock-out"
- Field adjustable cord guide with four rollers
- Positive locking dog with field adjustable disengage feature
- Maintenance free enclosed power spring
- Type SO cable included on all reels
- Field adjustable cord stop

Application

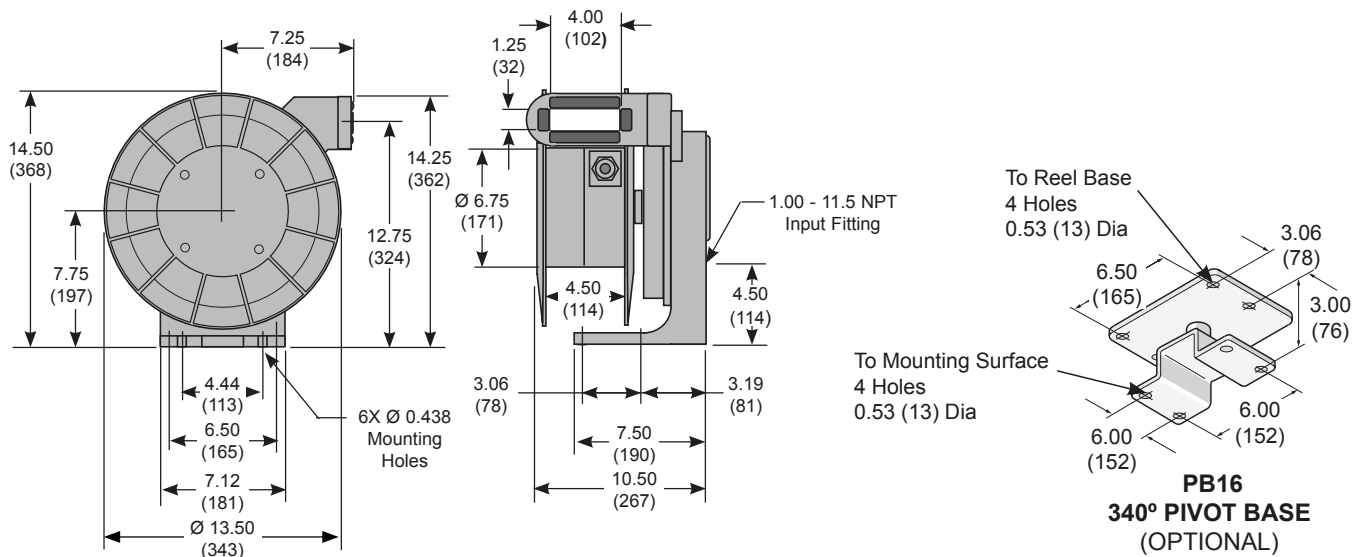
- Commercial / Industrial
- Ceiling mounted, wall or under bench

Approvals



Cable Data

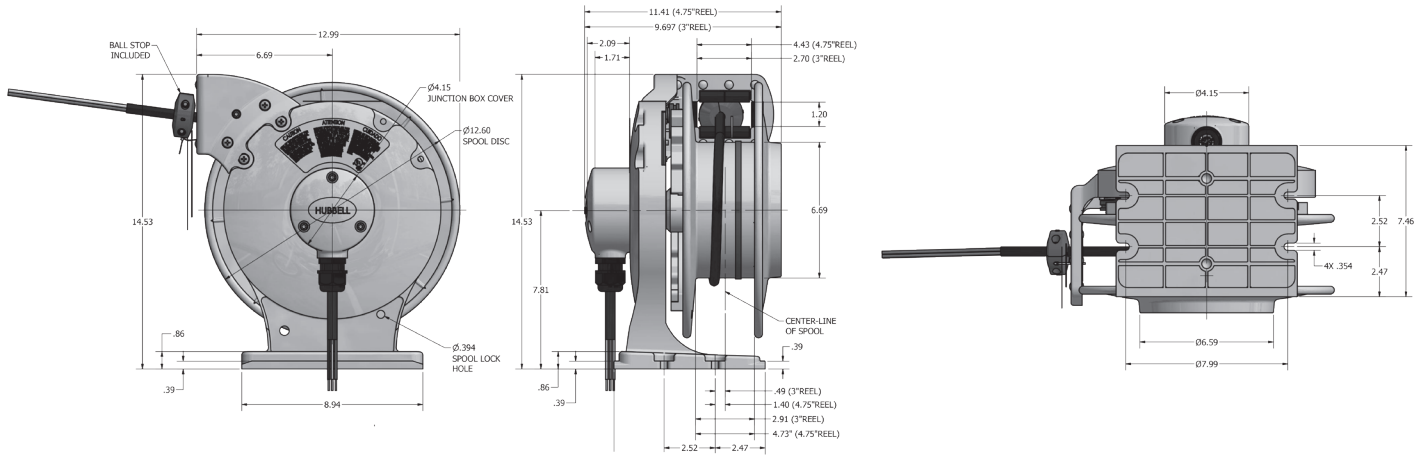
Amp Rating @ 600 VAC	AWG	No. Cond.	Length		Weight		Model Number*
			ft.	(mm)	lbs.	(kg)	
9	16	3	20	(6.1)	32.7	(14.7)	A-232B
9	16	3	30	(9.1)	33.9	(15.2)	A-224B
9	16	3	40	(12.2)	35.0	(15.7)	A-231B
9	16	3	50	(15.2)	36.1	(16.2)	A-228B
7	16	4	20	(6.1)	33.5	(15.1)	A-242B
7	16	4	30	(9.1)	35.0	(15.7)	A-234B
7	16	4	40	(12.2)	36.5	(16.4)	A-244B
7	16	4	50	(15.2)	38.0	(17.1)	A-238B
13	14	3	20	(6.1)	30.7	(13.8)	A-332C
13	14	3	30	(9.1)	36.1	(16.2)	A-233C
13	14	3	40	(12.2)	37.9	(17.1)	A-334C
13	14	3	50	(15.2)	39.8	(17.9)	A-358C
11	14	4	20	(6.1)	34.9	(15.7)	A-342C
11	14	4	30	(9.1)	37.1	(16.7)	A-343C
11	14	4	40	(12.2)	39.3	(17.7)	A-344C
11	14	4	45	(13.7)	41.5	(18.7)	A-367C
18	12	3	20	(6.1)	35.6	(16.0)	A-332D
18	12	3	30	(9.1)	38.1	(17.1)	A-333D
18	12	3	40	(12.2)	40.6	(18.3)	A-434D
18	12	3	50	(15.2)	43.1	(19.4)	A-435D
14	12	4	20	(6.1)	36.4	(16.4)	A-342D
14	12	4	30	(9.1)	39.4	(17.7)	A-394D
14	12	4	40	(12.2)	42.4	(19.1)	A-444D



Hubbell Industrial Duty Cord Reels

Open Spool Cord reels with fluorescent, LED or incandescent lamp, single or dual outlet or bare cord.

All reels include automatic spring rewind, a multi-position four roller cord guide, and a 48" pigtail with three prong plug. Ideal for a wide variety of industrial applications mounted on wall, ceiling or under work bench. Cord lengths from 25' to 70'. All reels include adjustable cord stop, spring rewind, and ratchet lock. Operator simply pulls cord off spool. Ratchet lock maintains desired cable length and, when task is completed, a slight pull releases the ratchet allowing the spring motor to rewind the cord. Fully gasketed steel Slip-ring housing - 300 Volt. Both hand lamps include on-off switch. Fluorescent lamp features directed light, polycarbonate outer tube and integral ballast. Twenty amp duplex box includes ground fault circuit interrupter (GFCI). Consult factory if installation height is greater than 16'.



WCA/ACA Mounting Accessories

Description	Weight lbs. (kg)	Model
Mounting bracket	2.5 (1.1)	HBLIMB
340° pivot base	3.5 (1.6)	HBLI340PB

*NOTE: Either base fits all reel sizes.

Model List - Cord Reels

Accessory	Amps	Cord Type SJOW-A/S/JO			Weight lbs. (kg)	Model Number
		AWG	Cond.	Length ft.(m)		
Incandescent	15	16	3	25 (8)	23.3 (10.6)	ACA16325-HL
Incandescent	10	16	3	35 (11)	24.2 (11.0)	ACA16335-HL
Incandescent	10	16	3	50 (15)	25.6 (11.6)	ACA16345-HL
Fluorescent	13W	16	3	25 (8)	23.8 (10.8)	ACA16325-FL
Fluorescent	13W	16	3	35 (11)	24.7 (11.2)	ACA16335-FL
Fluorescent	13W	16	3	50 (15)	26.0 (11.8)	ACA16345-FL
LED	13W	16	3	50 (21)	26.0 (11.8)	ACA16345-LED
Single Recept	10	16	3	25 (8)	22.8 (10.4)	ACA16325-SR15
Single Recept	10	16	3	35 (11)	23.7 (10.8)	ACA16335-SR15
Single Recept	10	16	3	50 (15)	25.0 (11.4)	ACA16345-SR15
Single Recept	15	14	3	25 (8)	24.5 (11.1)	ACA14325-SR15
Single Recept	15	14	3	35 (11)	26.1 (11.8)	ACA14335-SR15
Single Recept	15	14	3	50 (15)	28.5 (12.9)	ACA14345-SR15
Single Recept	20	12	3	25 (8)	23.7 (10.8)	ACA12325-SR20
Single Recept	20	12	3	35 (11)	25.0 (11.4)	ACA12335-SR20
Single Recept	20	12	3	45 (14)	26.9 (12.3)	ACA12345-SR20
Dual Recept	20	12	3	25 (8)	23.4 (10.6)	ACA12325-DR20
Dual Recept	20	12	3	35 (11)	24.7 (11.2)	ACA12335-DR20
Dual Recept	20	12	3	45 (14)	26.0 (11.8)	ACA12345-DR20
None	10	16	3	25 (8)	21.7 (9.9)	ACA16325-BC15
None	10	16	3	35 (11)	22.4 (10.2)	ACA16335-BC15
None	10	16	3	50 (15)	23.4 (10.6)	ACA16345-BC15
None	15	14	3	25 (8)	22.2 (10.1)	ACA14325-BC15
None	15	14	3	35 (11)	23.1 (10.5)	ACA14335-BC15
None	15	14	3	50 (15)	24.4 (11.1)	ACA14345-BC15
None	20	12	3	25 (8)	23.2 (10.6)	ACA12325-BC20
None	20	12	3	35 (11)	24.5 (11.1)	ACA12335-BC20
None	20	12	3	45 (14)	25.8 (11.7)	ACA12345-BC20

Model List - Cord Reels

Accessory	Amps	AWG	Cond.	Length ft. (m)	Weight lbs. (kg)	Model
None	10	16	3	45 (13.7)	23.6 (10.7)	WCA16345-BC
None	10	16	4	45 (13.7)	25.6 (11.6)	WCA16445-BC
None	15	14	3	45 (13.7)	28.2 (12.8)	WCA14345-BC
None	15	14	4	45 (13.7)	30.0 (13.6)	WCA14445-BC
None	20	12	3	45 (13.7)	31.3 (14.2)	WCA12345-BC
None	20	12	4	40 (12.2)	32.2 (14.6)	WCA12440-BC
None	30	10	3	40 (12.2)	33.3 (15.1)	WCA10340-BC
None	30	10	4	35 (10.7)	34.2 (15.5)	WCA10435-BC

Additional options from 10AWG to 16AWG are available. Contact Gleason Reel for more information.

NOTE: The above models are supplied without input or output end effectors.

For shorter cable lengths, modify length indication in catalog number (i.e. WCA123XX); 35ft & 25ft. Lengths available.

For white reels, add "W" suffix to end of model number.

Commercial Cord Reels

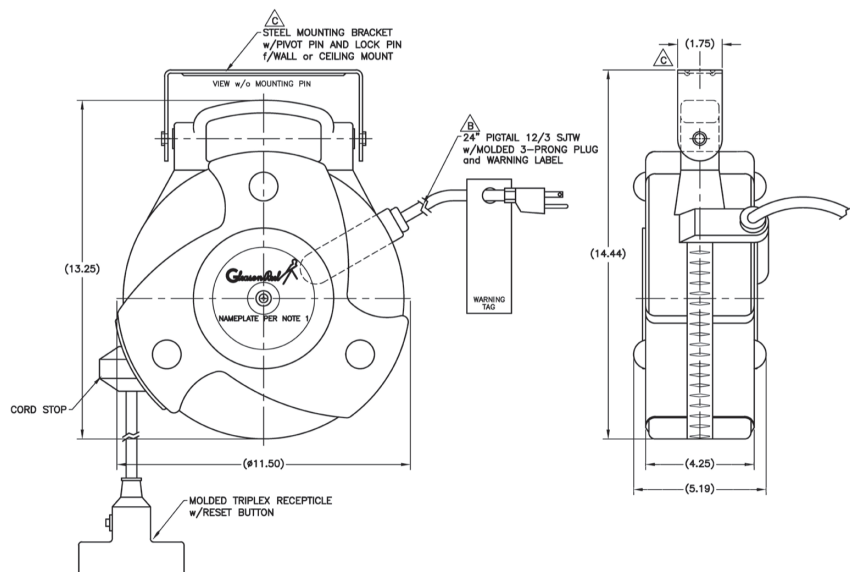
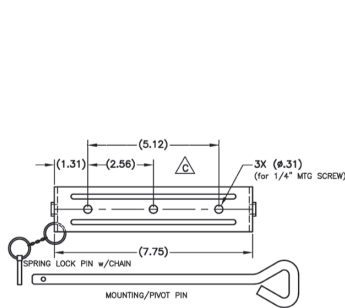
40' Power Supply Cord Reel

Features

- 40' 12/3 SJTW retracting cord with Triple Outlet
- 15-amp circuit breaker with reset button is located in the triple outlet
- 24" 12/3 power inlet cord with molded NEMA 5-15P grounded plug
- Adjustable ball stop allows user to set hang down height
- Wall/Ceiling Mounting Bracket is provided
- UL Listed



Description	Cable feet (m)	Cable Type	Watts (Max)	Amps	Volts AC	Weight lbs. (kg)	Catalog Number
Reel with triple tap outlet, black	40 (12)	12/3 SJTW	1,875	15	125	9 (4)	GR12340-TR



Note: Consult factory if mounting height is greater than 20'
Ratchet Lock not recommended to be disengaged

Compact Cord Reels

Indoor Model

Specifications

- Heavy gauge steel housing with white baked polyester finish
- Hardware for wall or ceiling mounting
- Positive ratchet lock and cord stop
- Designed for indoor use
- 24 inch (610mm) pigtail, included
- Plugs into standard outlet (available with bare wire)

Model GLED-1840

Reel with LED Light

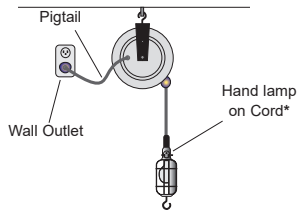
Features

- Two four-watt, high output LEDs.
- Provides 5,000K-color bright white light lasting up to 50,000 hrs.
- Comes with one-watt LED flashlight at the end of the fixture.
- Covered ON/OFF switch
- NOTE: ETL Listed. Not UL Listed



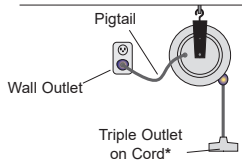
Compact Cord Reels

Indoor Model



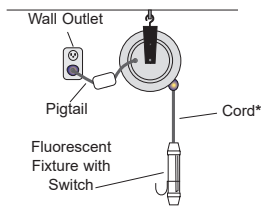
Model GL-1630

Reel w/ Incandescent Lamp*
Metal Guard/Reflector,
Convenience Receptacle in
Handle (10 Amp, ground pin),
Switch
*Lamp included in box for user
attachment



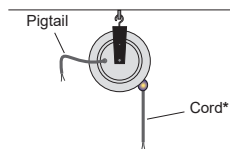
Model GP-1630

Reel w/ Triple Receptacle on
extendable cord, plug on pigtail
10 Amp Rating



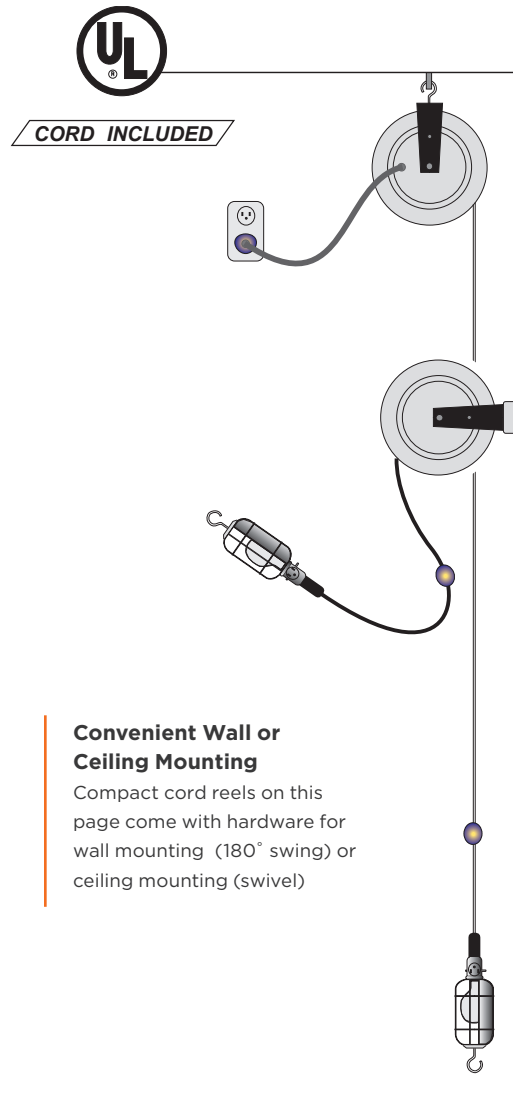
Model GF-1820 or GF-1840

Reel w/ Fluorescent Tube Twin
Lamp (13 watt), Switch



Model GN-1820

Reel w/ Bare cord ends for
hard wiring or attachment of
custom receptacles or lamps
NOTE: Not UL Listed



Convenient Wall or Ceiling Mounting

Compact cord reels on this page come with hardware for wall mounting (180° swing) or ceiling mounting (swivel)

Model Number	Fitting Included	Cord Type (2)	*tCord Length		Max. Amps	Pigtail Length		Pigtail Plug	Reel Design	Reel Size l x h x w	Weight	
			ft.	(m)		in.	(mm)			in. (mm)	lbs.	(kg)
GL-1630	Incandescent (1)	16/3 SJT	30	(9.0)	10	24	(610)	Yes	Compact	10 x 10 x 3 (254 x 254 x 76)	8.75	(3.9)
GP-1630	Triple Outlet	16/3 SJT	30	(9.0)	10	24	(610)	Yes	Compact	10 x 10 x 3 (254 x 254 x 76)	8.50	(3.8)
GF-1820	Fluorescent	18/2 SVT	20	(6.0)	-	24	(610)	Yes	Compact	7 x 7 x 2 (178 x 178 x 51)	5.50	(2.5)
GF-1840	Fluorescent	18/2 SJTOW-A	40	(12.0)	-	24	(610)	Yes	Compact	10 x 10 x 3 (254 x 254 x 76)	9.50	(4.3)
GLEED-1840	LED	18/2 SJTOW	40	(12.0)	.065	24	(610)	Yes	Compact	10 x 10 x 3 (254 x 254 x 76)	10.0	(4.5)
GN-1820	None (4)	18/3 SVT	20	(6.0)	7	24	(610)	Yes	Compact	7 x 7 x 2 (178 x 178 x 51)	3.00	(1.4)

(1) Convenience receptacle in handle. Incandescent bulb (75 watt max.) NOT included.
 (2) Cord stop included.
 (3) Single female receptacle on pigtail. Molded male plug on free cord. Not UL Listed.
 (4) Because cord ends are not terminated, these reels are not UL Listed.

Heavy Duty Electric Cable Reels

Indoor Model "G" Features General Purpose Models

Features

- Spring retractable
- Hand-pull applications
- All-welded solid steel construction
- 600 Volt slip rings in NEMA 4 enclosure
- Generously sized junction box
- Heavy duty mounting base
- Safetychange® Spring Motor with weatherproof gasket
- Positive ratchet lock with disengage
- Multi-position cable guide (field adjustable)
- Orange polyester baked-on finish
- Field adjustable cable stop included
- Optional 340° pivot vase
- Contact factory if mount height is more than 20 ft

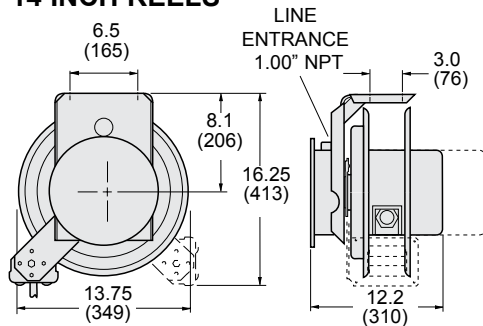


Outlet is optional, not installed with reel
See page 19

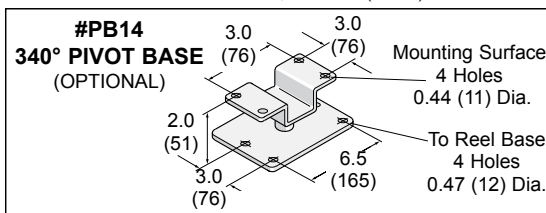


Models listed below are UL and CSA Listed

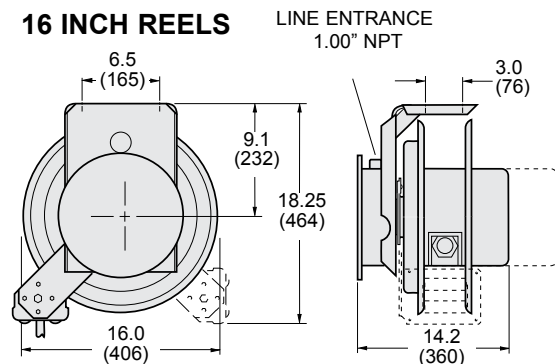
14 INCH REELS



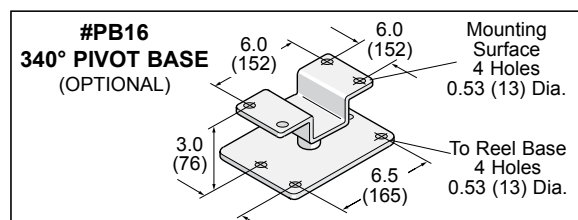
Length shown 3 or 4 conductor reel.
For 5 - 8 conductor, add 1.50" (38mm).
For 9 - 12 conductor, add 3.00" (76mm).



16 INCH REELS



Length shown 3 or 4 conductor reel.
For 5 - 8 conductor, add 1.50" (38mm).
For 9 - 12 conductor, add 3.00" (76mm).



REELS

Indoor Model "G" Series

Cable Data					Reel Catalog Number	Flange Dia.		Weight Complete		340° Base (Optional)	Cable Stop (Included)		
Type SOOW Cord						in.	(mm)	lbs.	(kg.)				
Rating @600V	AWG	No. Cond	Length*										
			ft.	(m)									
10 Amp	16	3	20	(6.0)	G-232	14	(356)	39	(17.6)	PB14	CP-2		
			30	(9.0)	G-224			42	(18.9)				
			40	(12.0)	G-231			48	(21.6)				
			45	(13.5)	G-228			49	(22.0)				
			60	(18.0)	G-429			16	(406)			82	(36.9)
8 Amp		4	20	(6.0)	G-233	14	(356)	40	(18.0)	PB14			
			30	(9.0)	G-234			44	(19.8)				
			40	(12.0)	G-244			48	(21.6)				
			50	(15.0)	G-238			49	(22.0)				
			60	(18.0)	G-439			16	(406)			82	(36.9)
7 Amp	6	8	45	(13.5)	G-206	14	(356)	54	(24.3)	PB14			
			50	(15.0)	G-26B			56	(25.2)				
			40	(12.0)	G-28B			56	(25.2)				
			45	(13.5)	G-38B			56	(25.2)				
			10	(10.5)	G-30B			54	(24.3)				
15 Amp	14	3	35	(10.5)	G-32B	16	(406)	55	(24.8)	PB16			
			20	(6.0)	G-331			40	(18.0)				
			30	(9.0)	G-253			46	(20.7)				
			40	(12.0)	G-334			50	(22.5)				
			50	(15.0)	G-358			54	(24.3)				
12 Amp		4	70	(21.0)	G-459	14	(356)	84	(37.8)	PB14			
			20	(6.0)	G-342			40	(18.0)				
			25	(7.5)	G-343			44	(19.8)				
			30	(9.0)	G-363			48	(21.6)				
			40	(12.0)	G-344			52	(23.4)				
10 Amp	6	8	50	(15.0)	G-367	16	(406)	56	(25.2)	PB16			
			65	(17.5)	G-469			86	(38.7)				
			35	(10.5)	G-36C			14	(356)		52	(23.4)	PB14
			50	(15.0)	G-46C			16	(406)		92	(41.4)	PB16
			25	(7.5)	G-38C			14	(356)		52	(23.4)	PB14
30	(9.0)	G-48C	49	(22.1)									
10	(6.0)	G-40C	53	(23.9)									
20	(6.0)	G-332	40	(18.0)									
25	(7.5)	G-383	44	(19.8)									
20 Amp	12	3	30	(9.0)	G-333	16	(406)	46	(20.7)	PB16			
			35	(10.5)	G-385			47	(21.2)				
			45	(13.5)	G-435			55	(24.8)				
			50	(15.0)	G-436			69	(31.1)				
			60	(18.0)	G-430			85	(38.3)				
16 Amp		4	20	(6.0)	G-346	14	(356)	40	(18.0)	PB14			
			30	(9.0)	G-394			48	(21.6)				
			40	(12.0)	G-444			52	(23.4)				
			50	(15.0)	G-445			86	(38.7)				
			60	(18.0)	G-446			89	(40.1)				
14 Amp	6	25	(7.5)	G-463	16	(406)	51	(23.0)	PB16				
		8	(6.0)	G-482			52	(23.4)					
25 Amp	10	3	20	(6.0)	G-241	14	(356)	44	(19.8)	PB14			
			25	(7.5)	G-242			46	(20.7)				
			30	(9.0)	G-433			48	(21.6)				
			40	(12.0)	G-434			50	(22.5)				
			50	(15.0)	G-535			86	(38.7)				
20 Amp		4	60	(18.0)	G-536	16	(406)	89	(40.1)	PB16			
			20	(6.0)	G-452			49	(22.1)				
			30	(9.0)	G-443			52	(23.4)				
			40	(12.0)	G-447			88	(39.6)				
			50	(15.0)	G-545			92	(41.4)				
20 Amp	6	20	(6.0)	G-462	14	(356)	52	(23.4)	PB14				
		30	(9.0)	G-564			16	(406)		80	(36.0)	PB16	

Outlets and Lights



Model EHL-120

Hubbell® Brand



Hand lamp includes: plastic grip, switch, metal guard/reflector, receptacle

Hand lamp only; does not include reel



Model LED-120-A

Hubbell® Brand



LED lamp includes: cushioned hand cap with internal ballast, covered ON/OFF switch in handle, clear polycarbonate lens with reflector label and cushioned outer ring, produces 920 lumens, 1/2 watt LED's rated @ 50,000 hours, one-watt LED flashlight at the end of the fixture, 120 volt, 0.65 amps, 50-60 Hz.

LED Lamp only; does not include reel



Model DR-GFCI

Hubbell® Brand



High impact plastic box with hinged cover, NEMA 3R 20 amp receptacle, cord grip, 20 amp ground fault module, gasketed cover plates

Duplex receptacle only; does not include reel



Model SR-15A

Hubbell® Brand



Single Outlet, 15 Amp

Receptacle only; does not include reel



Model SR-20A

Hubbell® Brand



Single Outlet, 20 Amp

Receptacle only; does not include reel

Lock 'N Roll

Parts slide together, lock automatically and the trolley is ready to roll. No fasteners to drop or lose. Removal or replacement is just as easy. Pre-engineered kits take the mystery out of festooning. Each kit includes everything you need, just add cable or hose. Also available with tool hanger.

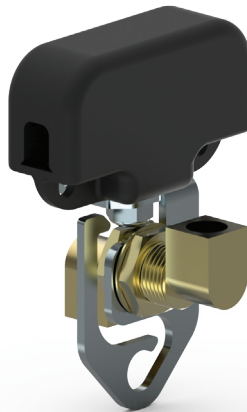
All Lock-n-Roll Trolleys have a 15lb. weight capacity



WRS-01
Single Hook Trolley

Includes steel labyrinth tool hook.

Molded nylon trolley is 3.25" (83mm) long. Wheels are molded Delrin thermoplastic. Includes one steel labyrinth hook for tool mounting. Trolley may be installed on existing wire rope through 3/8" (9mm) O.D. without unhooking and restretching rope. Weight: 4 oz (0.1kg).



WRS-02
Single Hook Trolley with
Hose Connector

Wire rope, tool balancer and air hose not included.

Same as #WRS-01 trolley plus longer tool hook and 1/4" air hose connector. Weight: 11 oz (0.15kg).



FRT-04

For round cable or hose, 0.31" thru 0.59" (7-15mm) O.D. Fits 0.25" (6mm) I.D. hose, 600v cable #16/2-6, #14/2-4 or #12/2



FRT-05

For round cable or hose, 0.60" thru 0.94" (15-24mm) O.D. 0.38"-0.50" (10-13mm) I.D. hose, 600v cable #16/7-12, #14/5-12, #12/3-8, #10/2-6



FRT-06

For round cable or hose, 0.95" - 1.25" (24-32mm) O.D. Fits 0.75" (19mm) I.D. hose. Special consideration should be given to large cable/hose applications.



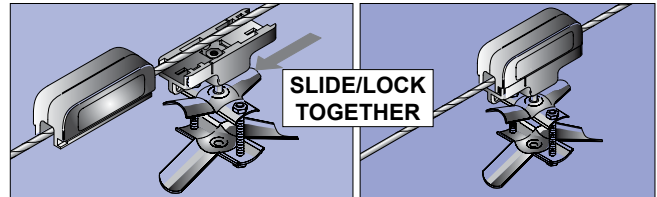
FFT-08

For flat cable to 2.1" x 0.66" (54 x 17mm) PVC jacketed cable #16/4-12, #14/4-12, #12/4-8, #10/4, #8/4, #6/4, and #4/4

Lock 'N Roll - Installation

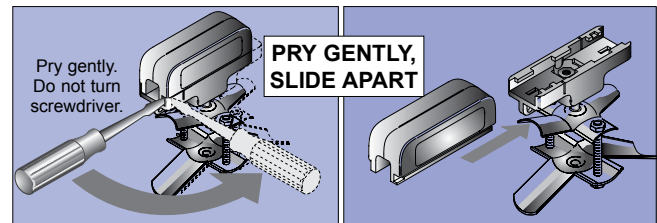


Install Quickly



To install trolley - Place top section in position on wire rope. Slide sections together until they snap (lock) in place. NOTE: Sections may be assembled in only one way. Slide "un-blocked" end into "un-blocked" end. Do not force.

Remove Easily



To remove - Insert straight bladed screwdriver into slot beside cable opening (not slit on side of trolley) and pry gently as shown above. Do not turn screwdriver. Slide apart.

No Fasteners Required

Fits standard Wire Rope from 3/16"(5mm) ● thru 3/8"(9mm) ●

Nylon Trolley

Kits include trolleys and all necessary wire rope and hardware for complete festoon system. Cable or hose not included and must be ordered separately to suit application. Wire rope supplied for 48" loop depth plus extra for fastening at both ends.

Kit Selection Procedure: You Must Know

1. CABLE or HOSE: Use appropriate model chart for type (round or flat) cable/hose. If round, choose correct saddle size (FR04, FR05 or FR06)*.
2. LOOP DEPTH (LD): 30" loop and 48" loop shown for planning purposes. Final loop depth should be between these two examples. With a given number of trolleys, longer loop depth = longer travel. However, loop depth is often dictated by available clearance beneath wire rope.
3. ACTIVE TRAVEL (AT): Select kit which best fulfills requirements. If your system length must be longer than system length specified for active travel length you require, order by system length so wire rope supplied with kit will not be too short.

***NOTE: Cable or hose are NOT INCLUDED. Order, separately, footage shown on model chart plus length needed at each end for hook-up.**

Flat Cable Kits

Active Travel AT		Kit No.	System Length SL		Storage Distance SD Minimum May be greater with stiff cable or short loop.	⁽¹⁾ Minimum Cable Required	
Loop Depth For planning purposes (2)			Loop Depth For planning purposes (2)			Loop Depth For planning purposes (2)	
30"	48"	Maximum Cable Size: 0.65" x 2.0" (17 x 51mm)	30"	48"		30"	48"
12'	20'		FF08-02	14'		23'	21"
16'	27'	FF08-03	19'	30'	25"	25'	32'
20'	33'	FF08-04	23'	37'	28"	28'	39'
24'	40'	FF08-05	27'	44'	32"	32'	47'
28'	47'	FF08-06	32'	51'	35"	35'	55'
32'	54'	FF08-07	36'	58'	39"	39'	63'
36'	60'	FF08-08	40'	65'	42"	42'	70'

Round Cable and Hose Kits

Active Travel (AT)		Kit No.	System Length (SL)		Storage Distance (SD) Minimum May be greater with stiff cable or short loop.	⁽¹⁾ Minimum Cable Required	
Loop Depth For planning purposes (2)			Loop Depth For planning purposes (2)			Loop Depth For planning purposes (2)	
30"	48"	Maximum Cable Size: 0.65" x 2.0" (17 x 51mm)	30"	48"		30"	48"
10'	18'		FR04-02	13'		21'	21"
14'	24'	FR04-03	17'	27'	25"	22'	34'
17'	30'	FR04-04	21'	34'	28"	24'	42'
21'	37'	FR04-05	25'	40'	32"	27'	50'
25'	43'	FR04-06	28'	47'	35"	32'	58'
28'	49'	FR04-07	32'	53'	39"	33'	67'
32'	55'	FR04-08	36'	60'	42"	48'	75'

(1) MINIMUM CABLE REQUIRED length listed in chart is enough for ACTIVE TRAVEL only, measured centerline to centerline; see diagrams on page 24. ADD cable or hose to each end as required for hook-up to your system.

(2) ACTIVE TRAVEL, SYSTEM LENGTH and MINIMUM CABLE values on charts are for 30" or 48" loop depths and are provided as planning guide only. Kits include necessary components for festoon system with 48" loop depth at system length shown. Loop depth may be varied to suit application.

Nylon Trolley

Kit Number Explanation
Example Part Number: **FF08-03**

FF	08	-03
Type	Saddle size	Number Trolleys
(Flat cable)	(0.65" h x 2.0" w)	(Three)

Kit Number Explanation
Example: **FR04-03**

FR	04*	-03
Type	Saddle size	Number Trolleys
(Round Cable/Hose)	(0.31" - 0.59" dia.)	(Three)

* Saddle sizes: Models shown on chart above are for 0.3"-0.59" dia. cable only. For larger diameters, use "05" or "06" at end of number, as shown here.

FR04 = 0.31" to 0.59" (7-15mm) OD cable/hose.
FR05 = 0.60" to 0.94" (15-24mm) OD cable/hose.
FR06 = 0.95" to 1.25" (24-32mm) OD cable/hose.

Definitions

- AT = Active Travel: Distance moving end must travel to do job.
- SL = System Length: Anchor-point to anchor-point of wire rope.
- SD = Storage Distance: Wire rope hardware and trolleys butted together.
- LD = Loop Depth: Maximum height of loop formed by cable or hose.

Kit Components

- 1 Wire Rope, length to suit SL
- 2 Hardware as required
- 3 Intermediate trolleys, by model
- 4 End Clamp (1)
- 5 Tow Clamp/Clip (1)
- 6 Bumper Stop (2)
- 7 Tension Bracket, optional
- 8 Tow arm bracket, optional

Steel Trolley

The quickest way to select a Tag Line festoon system is to use kits. For single cables or hoses, select the number of trolleys (middle two digits) for your travel - all the necessary parts come in the box. Add exact cable/hose for your job and it's finished. Steel Trolleys fit wire rope up to 1/4" diameter max.



- STEP 1** Determine Active Travel (AT) required and choose the appropriate kit from either the Flat Cable (WF) or Round Cable/hose (WR) table.
- STEP 2** Loop depth is assumed at 36" for all kits. Adjust to suit. Longer loop depth provides greater Active Travel, shorter loop depth provides less Active Travel. NOTE: Wire rope in kits is sufficient for System Length (SL) shown plus amount needed for securing at each end. If longer loop depth is to be used, order longer kit.
- STEP 3** Cable/hose NOT INCLUDED. Order separately length shown on table plus amount needed at each end for hook up to your system.

Flat Cable Kits

Kit Number	Active Travel (AT)	Cable/Hose MIN.*	Storage Length (SD)	System Length (SL)
WF-03-36	20'	24'	25"	23' 0"
WF-04-36	24'	29'	28"	27' 3"
WF-05-36	29'	35'	32"	32' 9"
WF-06-36	34'	41'	35"	38' 0"
WF-07-36	39'	47'	39"	43' 4"
WF-08-36	44'	52'	42"	48' 7"
WF-09-36	49'	58'	45"	53' 10"
WF-10-36	54'	60'	51"	59' 4"

Round Cable & Hose Kits**

Kit Number	Active Travel (AT)	Cable/Hose MIN.*	Storage Length (SD)	System Length (SL)
WR-03-36	17'	26'	25"	20' 0"
WR-04-36	22'	32'	28"	25' 5"
WR-05-36	26'	38'	32"	29' 9"
WR-06-36	31'	45'	35"	35' 0"
WR-07-36	35'	51'	39"	39' 4"
WR-08-36	39'	60'	42"	43' 7"

Kit Number Explanation

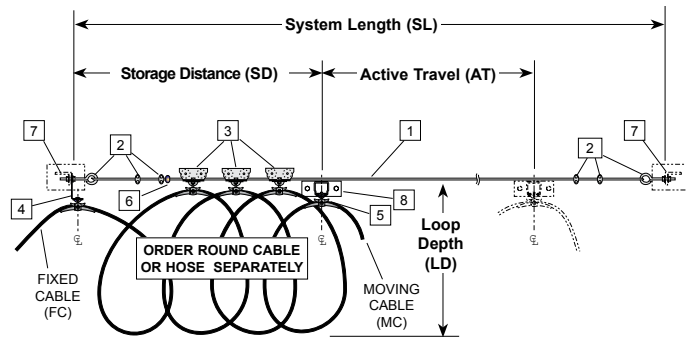
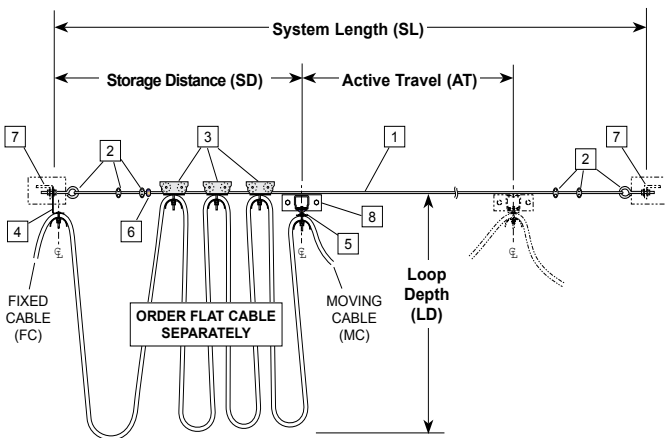
Example Part Number: **WR-03-36**

WR Type (Flat cable) **03** Number of Trolleys (Three) **36** Loop Depth (36")

Kit Number Explanation

Example Part Number: **WF-03-36**

WF Type (Flat cable) **03** Number of Trolleys (Three) **36** Loop Depth (36")



* Minimum length of cable/ hose listed in charts above is enough for travel only.

Add length needed at each end for hook-up to your system.

** WR trolleys have saddles to handle cable or hose up to 0.94" O.D. (3/8" I.D. hose).

* Minimum length of cable/ hose listed in charts above is enough for travel only.

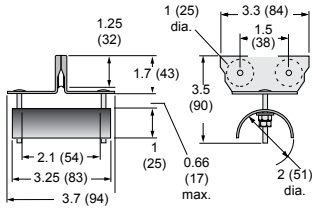
Add length needed at each end for hook-up to your system.

See Page 24 for Definitions and Kit Components

Add to Festoon Kits or Build from Scratch

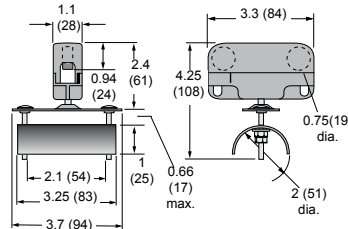
Steel or Lock 'N Roll Trolleys

Flat Cable Festoon Components



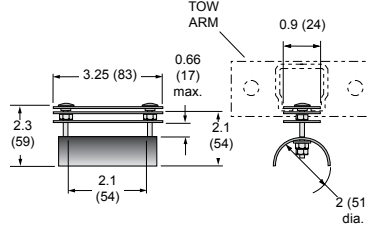
Steel Trolley
W25-FC-32

Description: Zinc plated steel with dual nylon wheels.
Zinc plated steel cable clamp



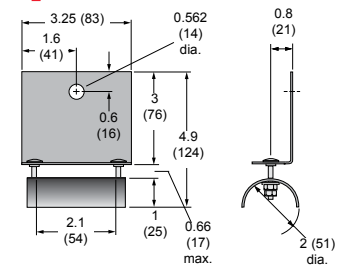
Lock 'N Roll Trolley
FFT-08

Description: Fiberglass reinforced molded nylon with zinc plated steel cable clamp



Tow Clamp
W25-FT-02

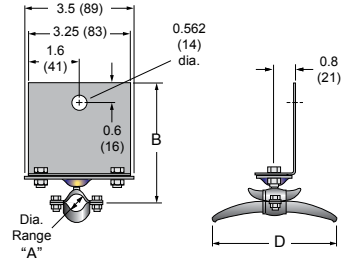
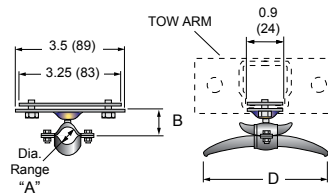
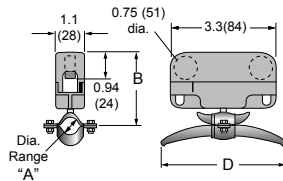
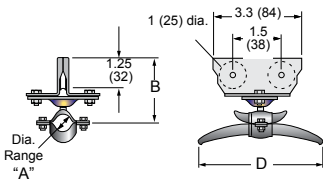
Description: Steel with zinc plating



End Clamp
W25-FE-02

Description: Steel with zinc plating

Round Cable & Hose Festoon Components



Steel Trolley

Model Number	*Cable O.D. "A" in. (mm)	"B" in. (mm)	"D" in. (mm)
W25-RC-11	0.31-0.59 (7-15)	2.75 (70)	2.75 (70)
W25-RC-12	0.60-0.94 (15-24)	2.94 (75)	3.86 (98)
W25-RC-13	0.95-1.25 (24-32)	3.2 (81)	5.0 (127)

Description: Zinc plated steel with dual nylon wheels.
Zinc plated steel cable clamp.

Lock 'N Roll Trolley

Model Number	*Cable O.D. "A" in. (mm)	"B" in. (mm)	"D" in. (mm)
FRT-04	0.31-0.59 (7-15)	2.4 (61)	2.75 (70)
FRT-05	0.60-0.94 (15-24)	2.6 (66)	3.86 (98)
FRT-06	0.95-1.25 (24-32)	2.9 (74)	5.0 (127)

Description: Fiberglass reinforced molded nylon with zinc plated steel cable clamp.

* For type of hose or cable included in each O.D. range, refer to previous pages or "CABLE & HOSE DATA"

Add to Festoon Kits or Build from Scratch

Steel or Lock 'N Roll Trolleys

Tow Clamp

Model Number	*Cable O.D. "A" in. (mm)	"B" in. (mm)	"D" in. (mm)
W25-RT-11	0.31-0.59 (7-15)	1.25 (32)	2.75 (70)
W25-RT-12	0.60-0.94 (15-24)	1.44 (37)	3.86 (98)
W25-RT-13	0.95-1.25 (24-32)	1.7 (4.3)	5.0 (127)

Description: Steel with zinc plating

End Clamp

Model Number	*Cable O.D. "A" in. (mm)	"B" in. (mm)	"D" in. (mm)
W25-RE-11	0.31-0.59 (7-15)	4.06 (103)	2.75 (70)
W25-RE-12	0.60-0.94 (15-24)	4.25 (108)	3.86 (98)
W25-RE-13	0.95-1.25 (24-32)	4.5 (114)	5.0 (127)

Description: Steel with zinc plating

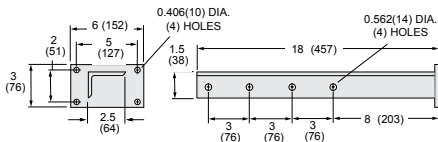
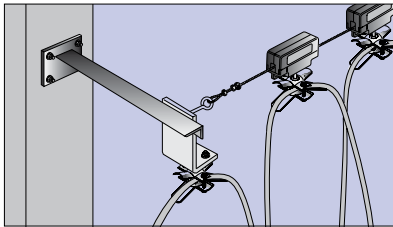
* For type of hose or cable included in each O.D. range, refer to previous pages or "CABLE & HOSE DATA"

Optional Components

Flat Cable, Round Cable, Hose, Connectors: see "CABLE & HOSE DATA"

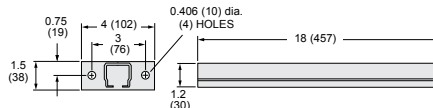
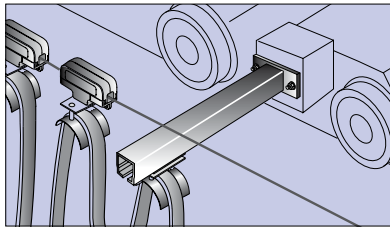
Tension Bracket W25-BR-01

Anchor ends of wire rope and fixed end of festoon



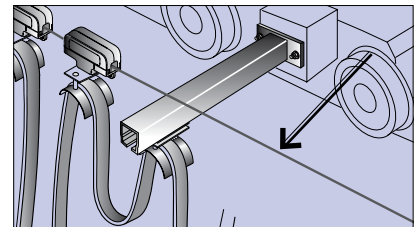
Tow Arm W25-TA-01

Use on moving end of festoon with Tow Clamp (above)



Wire Rope W25-WR-01

.25" OD Nylon-coated Wire Rope; wt. .086 lbs/ft

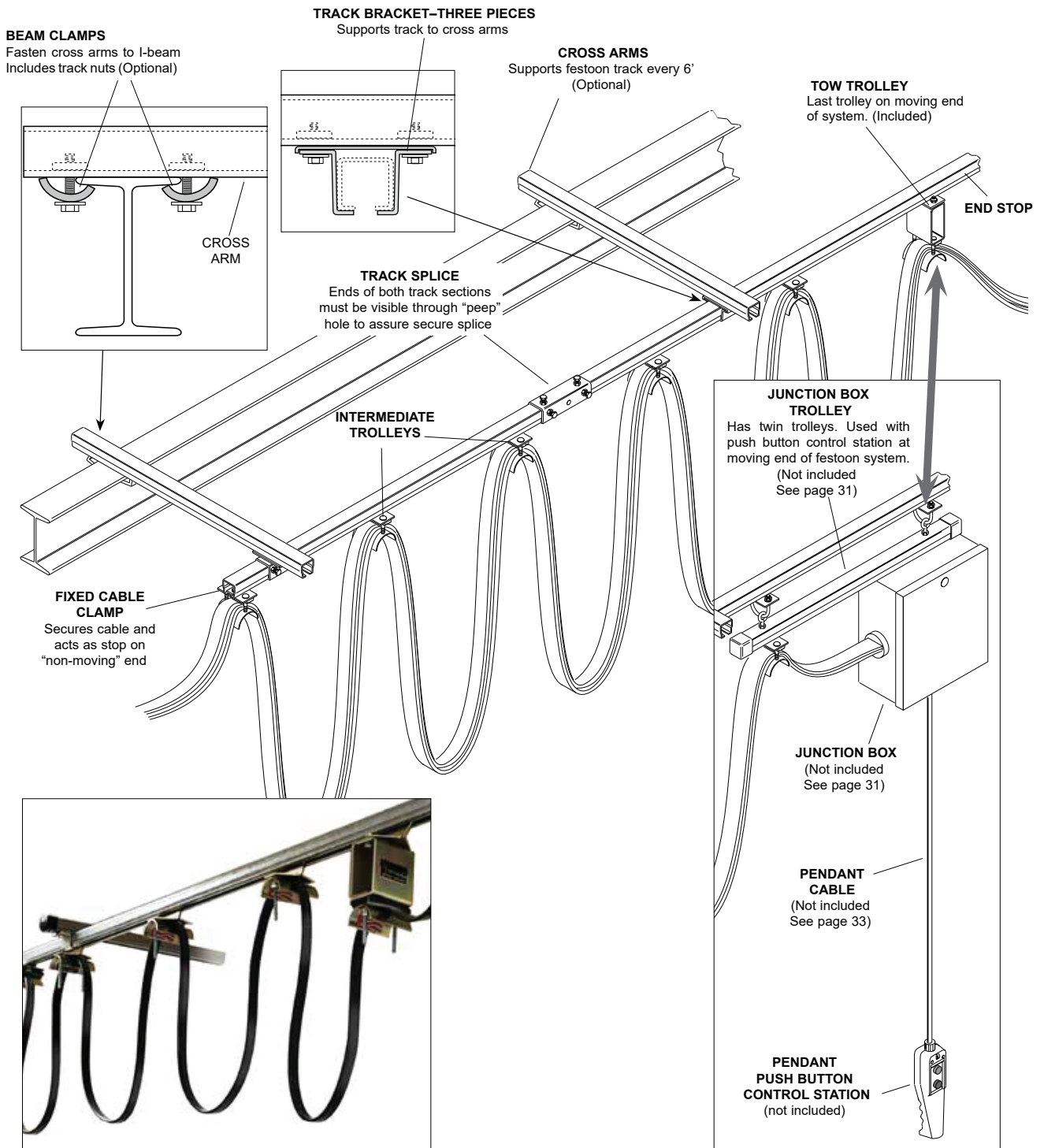


Hardware Kit W25-HW-01

Includes: (2) 1" ID x 6" lg x .500" body eye bolts w/ hex nuts, (2) galv. steel thimbles, (4) galv. steel clips, (2) bumper stops (neoprene rubber); wt. 2.5 lbs.

Steel Track Festoon System Kits

Install a high speed, smooth operating festoon system on an overhead crane or similar application. Kits include all required parts: track, trolleys, and mounting clamps. Refer to model charts on following pages for system lengths and cables available.



C-Rail Festoon Kits

STEP 1 Choose a kit number below, considering the active travel distance you require (AT) and allowable loop depth (30, etc.).

STEP 2 To complete kit number, add loop depth (LD) (and cable O.D. code for Type "CR" round kits).

STEP 3 Order optional components, including flat round cable.

Series "CF" Kits for Flat Cable

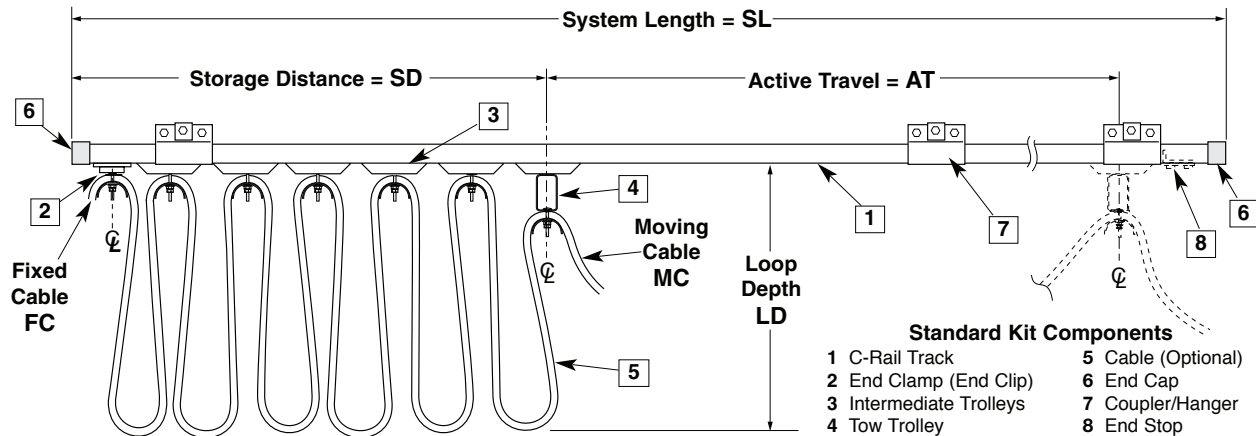
Kit Number	30 Loop Depth (Inches)				36 Loop Depth (Inches)				42 Loop Depth (Inches)				48 Loop Depth (Inches)			
	AT ft-in	SD ft-in	SL* ft-in	Active Cable ft.**	AT ft-in	SD ft-in	SL* ft-in	Active Cable ft.**	AT ft-in	SD ft-in	SL* ft-in	Active Cable ft.**	AT ft-in	SD ft-in	SL* ft-in	Active Cable ft.**
CF-02- ____	12 - 1	1 - 4	13 - 10	15	14 - 10	1 - 4	16 - 7	18	17 - 6	1 - 4	19 - 4	21	20 - 3	1 - 4	22 - 1	24
CF-03- ____	16 - 1	1 - 7	18 - 2	19	19 - 9	1 - 7	21 - 10	23	23 - 4	1 - 7	25 - 5	27	27 - 0	1 - 7	29 - 4	31
CF-04- ____	20 - 2	1 - 11	22 - 6	24	24 - 8	1 - 11	27 - 0	29	29 - 3	1 - 11	31 - 7	34	33 - 9	1 - 11	36 - 1	39
CF-05- ____	24 - 2	2 - 2	26 - 9	29	29 - 8	2 - 2	32 - 3	35	35 - 1	2 - 2	37 - 8	41	40 - 6	2 - 2	43 - 2	47
CF-06- ____	28 - 3	2 - 5	31 - 1	34	34 - 7	2 - 5	37 - 5	41	40 - 11	2 - 5	43 - 10	48	47 - 4	2 - 5	50 - 2	55
CF-07- ____	32 - 3	2 - 8	35 - 5	38	39 - 6	2 - 8	42 - 8	46	46 - 9	2 - 8	49 - 11	54	54 - 1	2 - 8	57 - 3	62
CF-08- ____	36 - 3	3 - 0	39 - 8	43	44 - 6	3 - 0	47 - 11	52	52 - 8	3 - 0	56 - 1	61	60 - 10	3 - 0	64 - 3	70
CF-09- ____	40 - 4	3 - 3	44 - 0	48	49 - 5	3 - 3	53 - 1	58	58 - 6	3 - 3	62 - 2	68	67 - 7	3 - 3	71 - 3	78
CF-10- ____	44 - 4	3 - 6	48 - 4	53	54 - 4	3 - 6	58 - 4	64	64 - 4	3 - 6	68 - 4	75	74 - 4	3 - 6	78 - 4	86
CF-11- ____	48 - 5	3 - 9	52 - 7	57	59 - 4	3 - 9	63 - 6	69	70 - 2	3 - 9	74 - 5	81				
CF-12- ____	52 - 5	4 - 1	56 - 11	62	64 - 3	4 - 1	68 - 9	75								
CF-13- ____	56 - 6	4 - 4	61 - 3	67	69 - 2	4 - 4	74 - 0	81								
CF-14- ____	60 - 6	4 - 7	65 - 6	72	74 - 2	4 - 7	79 - 2	87								
CF-15- ____	64 - 6	4 - 10	69 - 10	76												
CF-16- ____	68 - 7	5 - 2	74 - 2	81												
CF-17- ____	72 - 7	5 - 5	78 - 6	86												

Need More?
 Longer travel or larger cables? Systems designed for pendant controls or workstations?
 Additional systems are available. Consult your local distributor for details.

Add Loop Depth (LD)
 Flat kit number example
 CF - 04 - 30

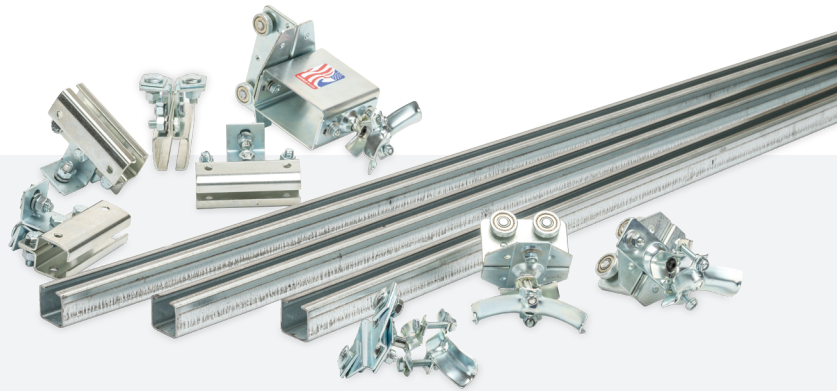
*System Length (SL) = Storage Distance (SD) + Active Travel (AT) + 4"-6" for End Stop, End Caps, etc. System Length shown above is achieved using indicated loop depth and active cable length. System length may be increased by lengthening Active Cable and (1) decreasing loop depth or (2) increasing number of trolleys. C-rail track included in kit is in 6' lengths only and must be field cut to desired System Length.

**Lengths listed are for ACTIVE cable only. If you need hookup cable at fixed end (FC) or moving end (MC) you MUST ADD it when ordering or cutting cable.



C-Rail Festoon Kits

Features and Specifications



Trolley body, Saddles & Clips

- Wheels: zinc-plated steel, smooth running ball bearing
- Axles: zinc-plated steel
- C-Rail Track: roll-formed galvanized steel
- Hardware: zinc-plated steel
- Active Travel: up to 72 ft (21.6m)*
- Trolley Loads: up to 45 lbs/trolley (20.25kg)**
- Speed: up to 250 fpm (75mpm)

*Additional kits are available for longer travel. Consult factory for details

**Designed for cable loads only

Kits are boxed for parcel delivery shipment and are complete with C-Rail Track, all components and hardware. Includes: C-Rail, Coupler Hangers, Trolleys, Tow Trolley, End Stop, End Clamp and End Caps. Cable NOT included.

Series "CR" Kits for Round Cable

Kit Number	30				36				42				48			
	AT ft-in	SD ft-in	SL* ft-in	Active Cable ft.**	AT ft-in	SD ft-in	SL* ft-in	Active Cable ft.**	AT ft-in	SD ft-in	SL* ft-in	Active Cable ft.**	AT ft-in	SD ft-in	SL* ft-in	Active Cable ft.**
CR-02-__-2	10 - 10	1 - 4	12 - 8	17	13 - 6	1 - 4	15 - 3	20	16 - 1	1 - 4	17 - 10	23	18 - 8	1 - 4	20 - 6	26
CR-03-__-2	14 - 6	1 - 7	16 - 7	22	18 - 0	1 - 7	20 - 0	26	21 - 5	1 - 7	23 - 6	30	24 - 11	1 - 7	27 - 0	34
CR-04-__-2	18 - 2	1 - 11	20 - 6	27	22 - 6	1 - 11	24 - 10	32	26 - 10	1 - 11	29 - 2	37	31 - 2	1 - 11	33 - 6	42
CR-05-__-2	21 - 9	2 - 2	24 - 4	33	27 - 0	2 - 2	29 - 7	39	32 - 2	2 - 2	34 - 9	45	37 - 5	2 - 2	40 - 0	51
CR-06-__-2	25 - 5	2 - 5	28 - 3	38	31 - 6	2 - 5	34 - 4	45	37 - 7	2 - 5	40 - 5	52	43 - 8	2 - 5	46 - 6	59
CR-07-__-2	29 - 0	2 - 8	32 - 2	43	36 - 0	2 - 8	39 - 1	51	42 - 11	2 - 8	46 - 1	59	49 - 10	2 - 8	53 - 0	67
CR-08-__-2	32 - 8	3 - 0	36 - 1	49	40 - 6	3 - 0	43 - 11	58	48 - 3	3 - 0	51 - 8	67	56 - 1	3 - 0	59 - 6	76
CR-09-__-2	36 - 4	3 - 3	40 - 0	54	45 - 0	3 - 3	48 - 8	64	53 - 8	3 - 3	57 - 4	74	62 - 4	3 - 3	66 - 0	84
CR-10-__-2	39 - 11	3 - 6	43 - 11	59	49 - 6	3 - 6	53 - 5	70	59 - 0	3 - 6	63 - 0	81	68 - 7	3 - 6	72 - 7	92
CR-11-__-2	43 - 7	3 - 9	47 - 10	65	54 - 0	3 - 9	58 - 2	77	64 - 5	3 - 9	68 - 8	89	74 - 10	3 - 9	79 - 1	101
CR-12-__-2	47 - 2	4 - 1	51 - 8	70	58 - 6	4 - 1	63 - 0	83	69 - 9	4 - 1	74 - 3	96				
CR-13-__-2	50 - 10	4 - 4	55 - 7	75	63 - 0	4 - 4	67 - 9	89	75 - 2	4 - 4	79 - 11	103				
CR-14-__-2	54 - 6	4 - 7	69 - 6	81	67 - 6	4 - 7	72 - 6	96								
CR-15-__-2	58 - 1	4 - 10	63 - 5	86	72 - 0	4 - 10	77 - 4	102								
CR-16-__-2	61 - 9	5 - 2	67 - 4	91												
CR-17-__-2	65 - 4	5 - 5	71 - 3	97												
CR-18-__-2	69 - 0	5 - 8	75 - 1	102												
CR-19-__-2	72 - 8	5 - 11	79 - 0	108												

Need More?
 Longer travel or larger cables? Systems designed for pendant controls or workstations?
 Additional systems are available. Consult your local distributor for details.

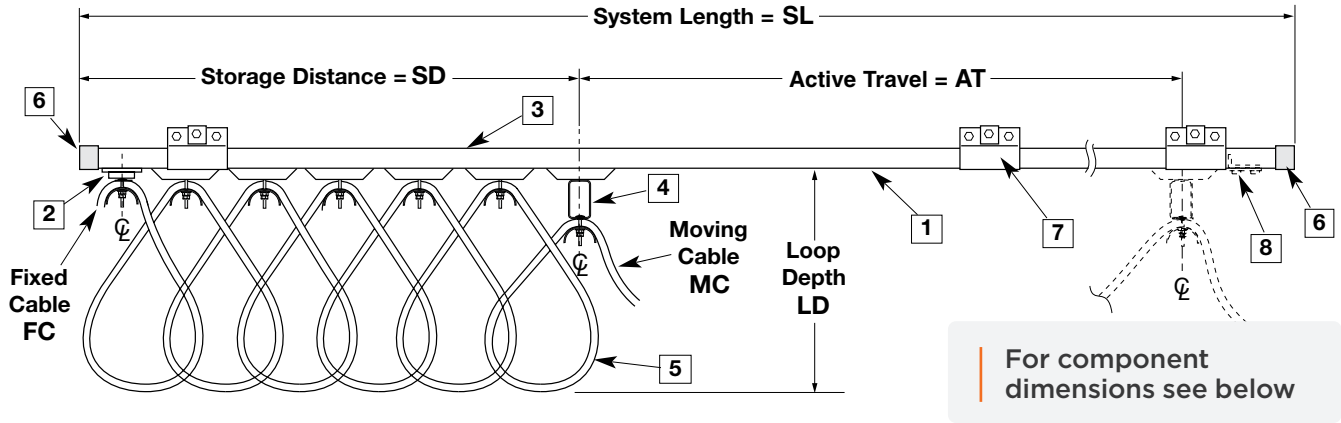
Add Loop Depth (LD)
 Round kit
 number example
 CR - 04 - 30 - 2

Standard Series CR Kits have saddle for O.D. range 0.60" - 0.94" (typical 3/8" I.D. hose). If optional saddle with O.D. range of 0.31" - 0.59" is desired, substitute "1" for "2" as last digit of model number. Example: CR-2-30-1

*System Length (SL) = Storage Distance (SD) + Active Travel (AT) + 4"-6" for End Stop, End Caps, Etc. C-rail track included in kit is in 6' lengths only and must be field cut to desired System Length.

**Lengths listed are for ACTIVE cable only.

If you need hookup cable at fixed end (FC) or moving end (MC) you MUST ADD it when ordering or cutting cable.

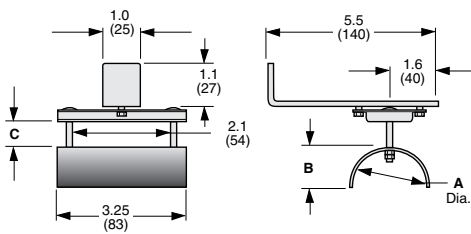


C-Rail Festoon Kits

Components Dimensions - Add to C-Rail Kits (See Previous Pages)

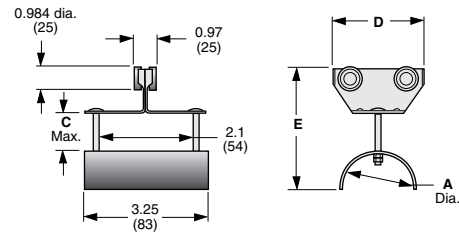
For Flat Cable

Flat Cable End Clamp



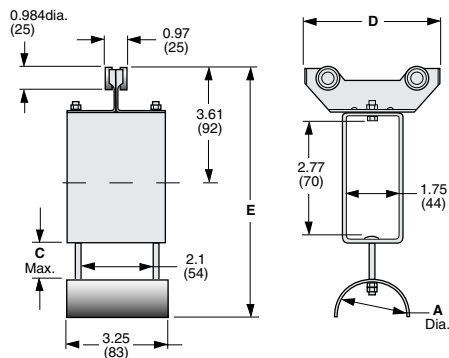
Model No.	A in. (mm)	B in. (mm)	C in. (mm)	Wt. lbs. (Kg)
C35-FE-02	2.00 (51)	1.00 (25)	1.50 (38)	1.46 (66)
C35-FE-03	3.12 (80)	1.56 (40)	0.94 (24)	1.63 (73)

Flat Cable Intermediate Trolleys



Model No.	A in. (mm)	C in. (mm)	D in. (mm)	E in. (mm)	Wt. lbs. (Kg)
C35-FC-32	2.00 (51)	0.56 (14)	3.12 (79)	3.72 (94)	0.84 (.38)
C35-FC-52	2.00 (51)	1.50 (39)	5.00 (127)	4.76 (121)	0.94 (.42)
C35-FC-53	3.12 (80)	0.94 (24)	5.00 (127)	4.31 (109)	1.11 (.50)

Flat Cable Tow Trolleys



Model No.	A in. (mm)	C in. (mm)	D in. (mm)	E in. (mm)	Wt. lbs. (Kg)
C35-FT-52	2.00 (51)	1.00 (38)	5.00 (127)	8.18 (208)	2.38 (1.07)
C35-FT-53	3.12 (80)	0.94 (24)	5.00 (127)	8.18 (208)	2.45(1.10)

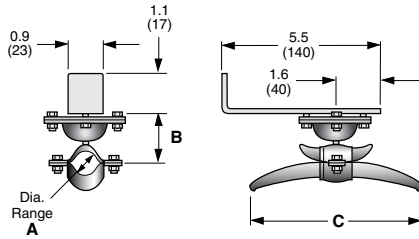
For Round Cable or Hose see following page

C-Rail Festoon Kits

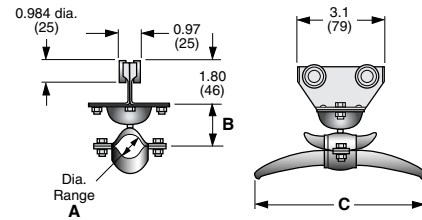
Components Dimensions - Add to C-Rail Kits

For Round Cable or Hose

Round Cable/Hose End Clamp



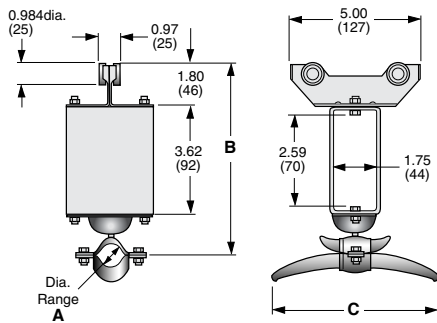
Round Cable/Hose Intermediate Trolley



Model No.	A in. (mm)	B in. (mm)	C in. (mm)	Wt. lbs. (Kg)
C35-RE-11	0.31 - 0.59 (8-15)	1.10 (28)	2.75 (70)	1.41 (.63)
C35-RE-12	0.60 - 0.94 (15-24)	1.25 (32)	3.86 (98)	1.53 (.69)
C35-RE-13	0.95 - 1.25 (24 - 32)	1.47 (37)	5.59 (142)	1.85 (.83)

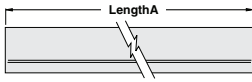
Model No.	A in. (mm)	B in. (mm)	C in. (mm)	Wt. lbs. (Kg)
C35-RC-11	0.31 - 0.59 (8-15)	1.10 (28)	2.75 (70)	1.41 (.63)
C35-RC-12	0.60 - 0.94 (15-24)	1.25 (32)	3.86 (98)	1.53 (.69)
C35-RC-13	0.95 - 1.25 (24 - 32)	1.47 (37)	5.59 (142)	1.85 (.83)

Round Cable/Hose Tow Trolley



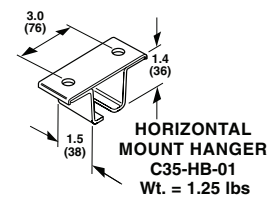
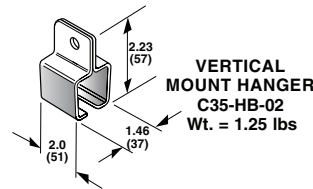
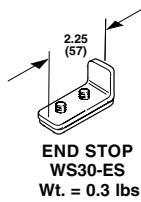
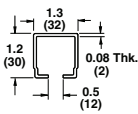
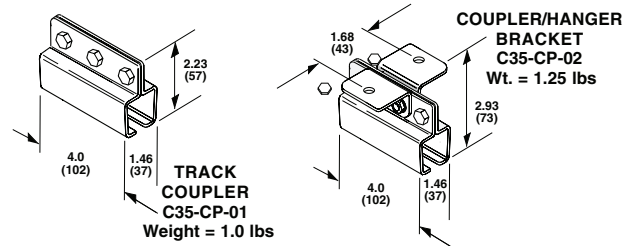
Model No.	A in. (mm)	B in. (mm)	C in. (mm)	Wt. lbs. (Kg)
C35-RT-11	0.31 - 0.59 (8-15)	6.50 (165)	2.75 (70)	2.33 (1.05)
C35-RT-12	0.60 - 0.94 (15-24)	6.70 (170)	3.86 (98)	2.45 (1.10)
C35-RT-13	0.95 - 1.25 (24 - 32)	6.92 (176)	5.59 (142)	2.77 (1.25)

C-Rail Accessories



C-Rail Track-Galvanized

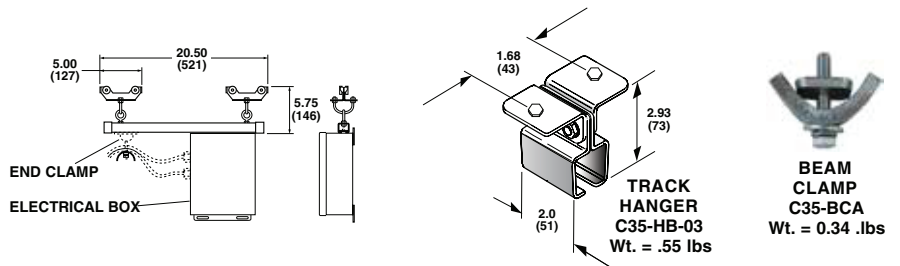
Model No.	A in. (mm)	Wt. lbs. (Kg)
C35-TR-06	0.31 - 0.59 (8-15)	1.41 (.63)
C35-TR-12	0.60 - 0.94 (15-24)	1.53 (.69)
C35-TR-18	0.95 - 1.25 (24 - 32)	1.85 (.83)



Control Unit Assembly with 2 Trolleys

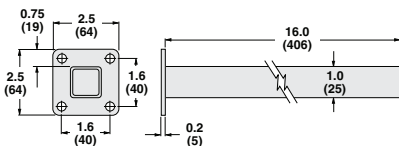
Model No.	Wt. lbs. (Kg)
C35-UN-01	4.00 (1.8)
C35-UN-02	8.00 (3.6)

Order End Clamps and Glands separately.



Tow Arm

Attaches to your machine and inserts into Tow Trolley to tow the system.



Description	Wt. lbs. (Kg)	Model No.
Tow Arm	13 (59)	CTA-01

Flat-to-Round Cable Connector set

Go quickly and safely from flat to round cable. Consists of one each male and female plugs designed to accept flat or round cable and lock together securely. Plugs are 3-pole, 4-wire plus ground and will accommodate round cable sizes #14 AWG through #10 AWG; flat cable up to 1.00" wide.

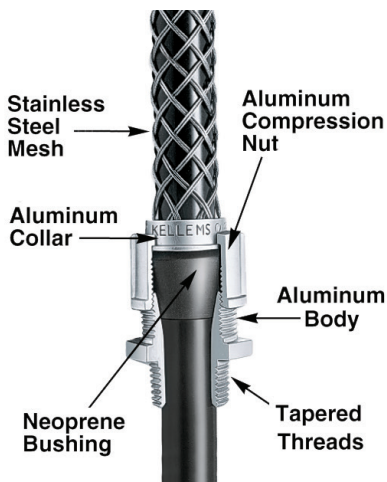


Description	Model No.
Set of 2 Locking Plugs	LC-01

Ratings: 20 amp, 480 volt, 3 phase. NEMA configuration #L16-20. Plugs are double-insulated plastic and resist impact, corrosion and most chemicals.

KELLEMS® Deluxe Cord Grips for Strain Relief

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



Grimp Diameter Range		Thread Size NPT in.	Model Form Size	Model No.
in.	(cm)			
0.250-0.312	(.63-.79)	3/8"	F1	CGD-1001
0.312-0.375	(.79-.95)			CGD-1002
0.375-0.437	(.95-1.11)			CGD-1003
0.187-0.250	(.47-.63)	1/2"	F2	CGD-1004
0.250-0.375	(.63-.95)			CGD-1006
0.375-0.500	(.95-1.27)			CGD-1008
0.500-0.625	(1.27-1.59)			CGD-1010
0.625-0.750	(1.59-1.90)	1/2"	F3	CGD-11247
0.750-0.875	(1.90-2.22)			CGD-11248
0.187-0.250	(.47-.63)	3/4"	F2	CGD-1011
0.250-0.375	(.63-.95)			CGD-1013
0.375-0.500	(.95-1.27)			CGD-1015
0.500-0.625	(1.27-1.59)			CGD-1017
0.625-0.750	(1.59-1.90)	3/4"	F3	CGD-1018
0.750-0.875	(1.90-2.22)			CGD-11249
0.375-0.500	(.95-1.27)	1"	F4	CGD-11195
0.500-0.625	(1.27-1.59)			CGD-1019
0.625-0.750	(1.59-1.90)			CGD-1021
0.750-0.875	(1.90-2.22)			CGD-1023
0.875-1.000	(2.22-2.54)			CGD-1025
1.000-1.125	(2.54-2.86)			CGD-11250
1.125-1.250	(2.86-3.17)	1"	F5	CGD-11028
1.250-1.375	(3.17-3.49)			CGD-11029
0.750-0.875	(1.90-2.22)	1 1/4"	F5	CGD-11251
0.875-1.000	(2.22-2.54)			CGD-1026
1.000-1.125	(2.54-2.86)			CGD-1027
1.125-1.250	(2.86-3.17)			CGD-1028
1.250-1.375	(3.17-3.49)			CGD-11178
0.750-0.875	(1.90-2.22)	1 1/2"	F5	CGD-11252
0.875-1.000	(2.22-2.54)			CGD-1029
1.000-1.125	(2.54-2.86)			CGD-1030
1.125-1.250	(2.86-3.17)			CGD-1031
1.250-1.375	(3.17-3.49)			CGD-1032
1.312-1.437	(3.33-3.65)	1 1/2"	F6	CGD-11253
1.437-1.562	(3.65-3.97)			CGD-11254
1.562-1.687	(3.97-4.28)			CGD-11255
1.687-1.812	(4.28-4.60)			CGD-11256
1.750-1.875	(4.44-4.76)			CGD-11257

Note:

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 501.10(b)(2), 502.10(a)(2), 502.10(b)(2), 503.10(a)(2) and 503.10(b).

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

KELLEMS® Support Grips

Festoon Accessories



Permanent support when cable end is available for grip installation



Service Drop-Light Duty, Single Eye, Closed Mesh

Cable Diameter Range - inches (mm)	Approx. Breaking Strength lbs. (N)	E in. (mm)	M in. (mm)	Model No.
0.23-0.31 (6-8)	290 (1,290)	3 (76)	3.75 (95)	CG-16001
0.29-0.37 (7-9)	290 (1,290)	4 (102)	4.25 (108)	CG-16002
0.35-0.44 (9-11)	500 (2,224)	4 (102)	4.75 (121)	CG-16003
0.41-0.50 (10-13)	500 (2,224)	5 (127)	5.00 (127)	CG-16004
0.46-0.56 (12-14)	660 (2,936)	6 (152)	5.25 (133)	CG-16005
0.52-0.62 (13-16)	790 (3,514)	7 (178)	6.25 (159)	CG-16006
0.58-0.68 (15-17)	790 (3,514)	7 (178)	6.50 (165)	CG-16007
0.64-0.75 (16-19)	790 (3,514)	7 (178)	6.75 (171)	CG-16008
0.70-0.81 (18-21)	790 (3,514)	7 (178)	7.25 (184)	CG-16009
0.75-0.87 19-22)	1,020 (4,537)	8 (203)	8.00 (203)	CG-16010
0.81-0.94 (21-24)	1,020 (4,537)	8 (203)	8.25 (210)	CG-16011
0.87-1.00 (22-25)	1,020 (4,537)	8 (203)	8.75 (222)	CG-16012
0.94-1.06 (24-27)	1,020 (4,537)	9 (229)	9.00 (229)	CG-16013
1.00-1.18 (25-30)	1,020 (4,537)	9 (229)	9.50 (241)	CG-16014
1.06-1.25 (27-32)	1,020 (4,537)	9 (229)	9.50 (241)	CG-16015



Service Drop-Heavy Duty, Single Eye, Closed Mesh

Cable Diameter Range - inches (mm)	Approx. Breaking Strength lbs. (N)	E in. (mm)	M in. (mm)	Model No.
0.23-0.31 (6-8)	500 (2,224)	5 (127)	4.50 (114)	CG-17001
0.29-0.37 (7-9)	500 (2,224)	5 (127)	5.50 (140)	CG-17002
0.35-0.44 (9-11)	870 (3,870)	6 (152)	6.50 (165)	CG-17003
0.41-0.50 (10-13)	870 (3,870)	6 (152)	7.50 (191)	CG-17004
0.46-0.56 (12-14)	1,050 (4,670)	6 (152)	8.00 (203)	CG-17005
0.52-0.62 (13-16)	1,050 (4,670)	7 (178)	8.50 (216)	CG-17006
0.58-0.68 (15-17)	1,050 (4,670)	7 (178)	9.50 (241)	CG-17007
0.64-0.75 (16-19)	1,390 (6,183)	7 (178)	9.50 (241)	CG-17008
0.70-0.81 (18-21)	1,390 (6,183)	8 (203)	10.50 (267)	CG-17009
0.75-0.87 19-22)	1,390 (6,183)	8 (203)	10.50 (267)	CG-17010
0.81-0.94 (21-24)	1,390 (6,183)	8 (203)	10.50 (267)	CG-17011
0.87-1.00 (22-25)	1,790 (7,962)	8 (203)	11.50 (292)	CG-17012
0.94-1.06 (24-27)	1,790 (7,962)	9 (229)	12.50 (318)	CG-17013
1.00-1.18 (25-30)	1,790 (7,962)	9 (229)	13.50 (343)	CG-17014
1.06-1.25 (27-32)	1,790 (7,962)	9 (229)	14.50 (368)	CG-17015



Support-Standard Duty, Single Eye, Closed Mesh

Cable Diameter Range - inches (mm)	Approx. Breaking Strength lbs. (N)	E in. (mm)	M in. (mm)	Model No.
0.50-0.62 (13-16)	530 (2,357)	7 (178)	10 (254)	CG-01013
0.63-0.74 (16-19)	790 (3,514)	8 (203)	10 (254)	CG-01014
0.75-0.99 (19-25)	1,020 (4,537)	8 (203)	13 (330)	CG-01015
1.00-1.24 (25-32)	1,610 (7,161)	9 (229)	14 (356)	CG-01017
1.25-1.49 (32-38)	1,610 (7,161)	10 (254)	15 (381)	CG-01018
1.50-1.74 (38-44)	1,610 (7,161)	12 (305)	17 (432)	CG-01019
1.75-1.99 (44-51)	2,150 (9,563)	14 (356)	19 (483)	CG-01020

Support-Heavy Duty, Single Eye, Closed Mesh

Cable Diameter Range - inches (mm)	Approx. Breaking Strength lbs. (N)	E in. (mm)	M in. (mm)	Model No.
0.75-0.99 (19-25)	2,820 (12,543)	10 (254)	25 (635)	CG-06010
1.00-1.24 (25-32)	4,280 (19,037)	10 (254)	28 (711)	CG-06011
1.25-1.49 (32-38)	4,280 (19,037)	10 (254)	30 (762)	CG-06012
1.50-1.99 (38-51)	4,280 (19,037)	10 (254)	34 (864)	CG-06013

KELLEMS® Support Grips

Festoon Accessories



Permanent support when cable end is available for grip installation

Support-Standard Duty, Offset Eye, Closed Mesh

Cable Diameter Range - inches (mm)	Approx. Breaking Strength lbs. (N)	E in. (mm)	M in. (mm)	Model No.
0.50-0.62 (13-16)	500 (2,224)	4 (102)	10 (254)	CG-01037
0.63-0.74 (16-19)	750 (3,336)	4 (102)	10 (254)	CG-01038
0.75-0.99 (19-25)	950 (4,226)	4 (102)	13 (330)	CG-01039
1.00-1.24 (25-32)	1,500 (6,672)	5 (127)	14 (356)	CG-01041
1.25-1.49 (32-38)	1,500 (6,672)	5 (127)	15 (381)	CG-01042
1.50-1.74 (38-44)	1,500 (6,672)	5 (127)	17 (432)	CG-01043
1.75-1.99 (44-51)	2,000 (8,896)	6 (152)	19 (483)	CG-01044

NEMA 12 Electrical Boxes

Festoon Accessories

Continuous hinge. Provides protection from dirt, dust, oil and water.



Construction

- Heavy 14 gauge steel
- Continuously welded seams
- Closed-cell neoprene gasket
- External mounting feet
- Panel included
- Weldnuts provided for mounting panel
- External screw clamps are quick and easy to operate
- Grounding kit provided
- Furnished without knockouts

Finish

ANSI-61 gray polyester powder inside and out over phosphatized surfaces
 Panels are painted white polyester powder

Listings

- UL 50 Listed, Types 12 & 13
- CSA Certified, Types 12 & 13
- Meets NEMA/EEMAC Type 12 & 13 requirements
- JIC EL - 1 - 71

Application: Designed for use as instrument housings, electrical control enclosures, terminal wiring boxes or electrical junction boxes.

Consult factory for other sizes and configurations.



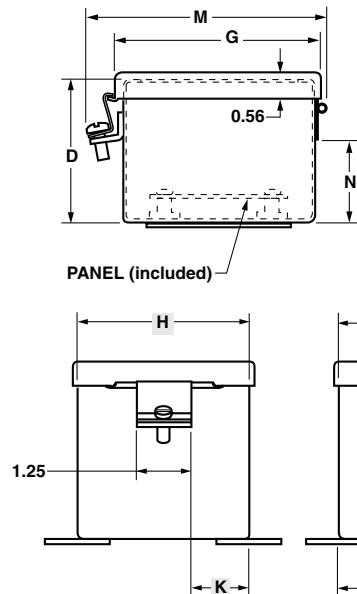
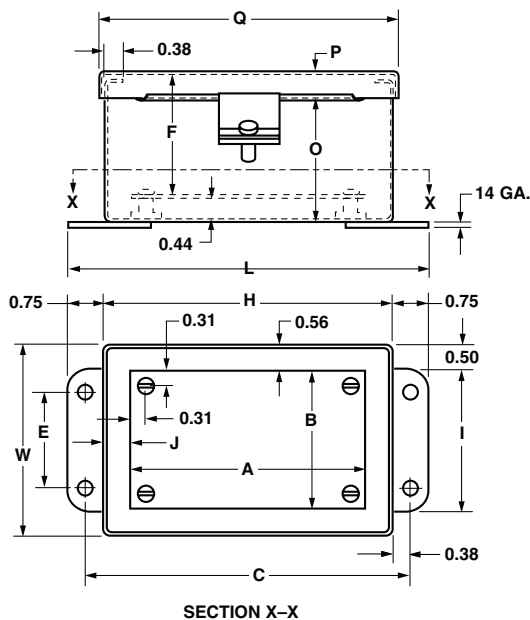
NEMA 12 Electrical Boxes

Festoon Accessories

Continuous hinge. Provides protection from dirt, dust, oil and water.

Box Model No.	Enclosure Size H x W x D	Panel Size A x B	Mounting C x E	Overall L x M
ENC-060604	6.00X6.00X4.00 (152X152X102)	4.88x4.88 (124x124)	6.75x4.00 (171x102)	7.50x7.00 (191x178)
ENC-080804	8.00X8.00X4.00 (203X203X102)	6.88x6.88 (175x175)	8.75x6.00 (222x152)	9.50x9.00 (241x229)
ENC-100804	10.00X8.00X4.00 (254X203X102)	8.88x6.88 (225x175)	10.75x6.00 (273x152)	11.50x9.00 (292x229)
ENC-101006	10.00X10.00X6.00 (254X254X152)	8.88x8.88 (225x225)	10.75x8.00 (273x203)	11.50x11.00 (292x279)
ENC-121206	12.00X12.00X6.00 (305X305X152)	10.88x10.88 (276x276)	12.75x10.00 (324x254)	13.50x13.00 (343x330)
ENC-141206	14.00X12.00X6.00 (356X305X152)	12.88x10.88 (327x276)	14.75x10.00 (375x254)	15.50x13.00 (394x330)
ENC-161006	16.00X10.00X6.00 (406X254X152)	14.88x8.88 (378x226)	16.75x8.00 (425x203)	17.50x11.00 (445x279)

F	G	I	J	K	N	O	P	Q
3.53 (101)	6.31 (160)	5.00 (127)	0.56 (14)	2.38 (60)	2.78 (71)	3.53 (90)	0.63 (16)	6.31 (160)
3.53 (101)	8.31 (211)	7.00 (178)	0.56 (14)	1.00 (25)	2.78 (71)	3.53 (90)	0.63 (16)	8.31 (211)
3.53 (101)	10.31 (262)	7.00 (178)	0.56 (14)	1.00 (25)	2.78 (71)	3.53 (90)	0.63 (16)	10.31 (262)
5.53 (152)	12.31 (313)	9.00 (229)	0.56 (14)	1.00 (25)	4.78 (121)	5.53 (141)	0.63 (16)	10.31 (262)
5.53 (152)	12.31 (313)	11.00 (279)	0.56 (14)	1.00 (25)	4.78 (121)	5.53 (141)	0.63 (16)	12.31 (313)
5.53 (152)	10.31 (262)	11.00 (279)	0.56 (14)	1.00 (25)	4.78 (121)	5.53 (141)	0.63 (16)	14.31 (364)
5.53 (152)	3.53 (101)	9.00 (229)	0.56 (14)	1.00 (25)	4.78 (121)	5.53 (141)	0.63 (16)	16.31 (414)



- Notes:**
1. Panels (included) are 14 Ga. Steel
 2. Panel Screws are #10-32 Pan Hd
 3. Two Cover Clamps are used if H = 8.00" or more See below

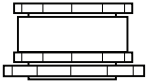
View showing clamp position when "H" is less than 8".

View showing position of clamps when "H" is 8" or more.

Connectors

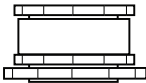
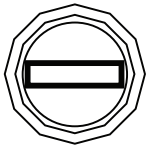
Festoon Accessories

For Round Cable



Brass Models	Cable O.D. Range (in.)	Hole Required in. (mm)	Plastic Models	Cable O.D. Range (in.)	Hole Required in. (mm)
CBR-01	0.275 - 0.492	0.750 (19)	CPR-11	0.231 - 0.394	0.750 (19)
CBR-02	0.275 - 0.590	0.812 (21)	CPR-12	0.270 - 0.480	0.812 (21)
CBR-03	0.315 - 0.630	0.906 (23)	CPR-13	0.428 - 0.546	0.906 (23)
CBR-04	0.433 - 0.866	1.125 (29)	CPR-14	0.545 - 0.709	1.125 (29)
CBR-05	0.748 - 1.220	1.469 (37)	CPR-15	0.709 - 1.000	1.469 (37)

For Flat Cable



Brass Models	Cable Thick Range (in.)	Cable Width Range (in.)	Clearance Hole Required in. (mm)	Plastic Models	Cable Thick Range (in.)	Cable Width Range (in.)	Clearance Hole Required in. (mm)
CBF-21	0.16 - 0.45	0.55 - 1.18	1.469 (37)	CPF-31	0.16 - 0.45	0.59 - 1.06	1.469 (37)
CBF-22	0.16 - 0.45	0.94 - 1.57	1.875 (48)	CPF-32	0.16 - 0.45	0.94 - 1.34	1.875 (48)
CBF-23	0.20 - 0.47	1.14 - 1.77	2.140 (54)	CPF-33	0.20 - 0.47	1.18 - 1.58	2.140 (54)
CBF-24	0.20 - 0.47	1.34 - 1.97	2.375 (60)	CPF-34	0.20 - 0.47	1.38 - 1.77	2.375 (60)

Round Cable Type SO 600 Volt

Use the information below as a guide to cable or hose sizes and weights. Refer to the National Electrical Code for ampere ratings and other details.

16 AWG			14 AWG			12 AWG		
No. Cond.	Dia. in. (mm)	Weight/ft. lbs. (kg)	No. Cond.	Dia. in. (mm)	Weight/ft. lbs. (kg)	No. Cond.	Dia. in. (mm)	Weight/ft. lbs. (kg)
2	0.374 (9)	0.094 (0.04)	2	0.512 (13)	0.158 (0.07)	2	0.586 (15)	0.204 (0.09)
3	0.393 (10)	0.110 (0.05)	3	0.538 (14)	0.184 (0.08)	3	0.616 (16)	0.244 (0.11)
4	0.427 (11)	0.144 (0.06)	4	0.584 (15)	0.224 (0.10)	4	0.668 (17)	0.282 (0.13)
5	0.510 (13)	0.156 (0.07)	5	0.665 (17)	0.160 (0.12)	5	0.725 (18)	0.322 (0.14)
6	0.565 (14)	0.178 (0.08)	6	0.710 (18)	0.302 (0.14)	6	0.805 (20)	0.380 (0.17)
7	0.605 (15)	0.202 (0.09)	7	0.710 (18)	0.329 (0.15)	7	0.865 (22)	0.435 (0.20)
8	0.645 (16)	0.222 (0.10)	8	0.770 (20)	0.373 (0.17)	8	0.920 (23)	0.475 (0.21)
9	0.720 (18)	0.268 (0.12)	9	0.820 (21)	0.414 (0.19)			
10	0.720 (18)	0.278 (0.13)	10	0.885 (22)	0.434 (0.20)			
12	0.740 (19)	0.305 (0.14)						

10 AWG

No. Cond.	Dia. in. (mm)	Weight/ft. lbs. (kg)
2	0.638 (16)	0.250 (0.11)
3	0.671 (17)	0.310 (0.14)
4	0.730 (19)	0.371 (0.17)
5	0.796 (20)	0.425 (0.19)
6	0.883 (22)	0.485 (0.22)

Connectors

Festoon Accessories

Round Cable Type W 600 Volt

8 AWG			6 AWG			4 AWG		
No. Cond.	Dia. in. (mm)	Weight/ft. lbs. (kg)	No. Cond.	Dia. in. (mm)	Weight lbs. (kg)	No. Cond.	Dia. in. (mm)	Weight/ft. lbs. (kg)
2	0.788 (20)	0.328 (.015)	2	0.872 (22)	0.425 (0.19)	2	0.980 (25)	0.575 (.026)
3	0.894 (23)	0.470 (0.21)	3	0.983 (25)	0.614 (0.28)	3	1.068 (27)	0.797 (0.36)
4	0.966 (25)	0.583 (0.26)	4	1.068 (27)	0.769 (0.35)	4	1.166 (30)	1.019 (0.46)

Flat Cable

Neoprene Jacketed

AWG Size	No. Cond.	Thick x Wide in. (mm)	Weight/ft. lbs. (kg)
14	4	0.275 (7) X 0.785 (20)	0.181 (.08)
	12	0.295 (7) X 2.165 (55)	0.557 (.25)
12	4	0.335 (9) X 0.945 (24)	0.268 (.12)
10	4	0.335 (9) X 1.045 (27)	0.335 (.15)
6	4	0.490 (12) X 1.495 (38)	0.739 (.33)
4	4	0.550 (14) X 1.810 (46)	1.061 (.48)

PVC Jacketed

AWG Size	No. Cond.	Thick x Wide in. (mm)	Weight/ft. lbs. (kg)
16	8	0.275 (7) X 0.785 (20)	0.181 (.08)
	12	0.295 (7) X 2.165 (55)	0.595 (.27)
14	4	0.23 (6) X 0.66 (17)	0.12 (.05)
	8	0.23 (6) X 1.23 (31)	0.22 (.10)
12	12	0.23 (6) X 1.75 (44)	0.34 (.15)
	4	0.25 (6) X 0.74 (19)	0.16 (.07)
10	8	0.25 (6) X 1.39 (35)	0.32 (.14)
	4	0.335 (9) X 0.945 (24)	0.24 (.12)
8	4	0.335 (9) X 1.045 (27)	0.42 (.15)
6	4	0.490 (12) X 1.495 (38)	0.60 (.33)
4	4	0.550 (14) X 1.810 (46)	0.75 (.48)

Hose

General Purpose

I.D. in. (mm)	Braid	O.D. in. (mm)	Max. Pressure psi	Weight/ft. lbs. (kg)
0.25 (6)	2	0.57 (14)	315	0.12 (.05)
0.38 (10)	2	0.73 (19)	315	0.18 (.08)
0.50 (13)	2	0.88 (22)	315	0.24 (.11)
0.75 (19)	2	1.16 (29)	250	0.37 (.17)
1.00 (25)	2	1.50 (38)	150	0.64 (.29)
1.25 (32)	2	1.75 (44)	150	1.01 (.45)
1.50 (38)	2	2.00 (51)	150	1.06 (.48)

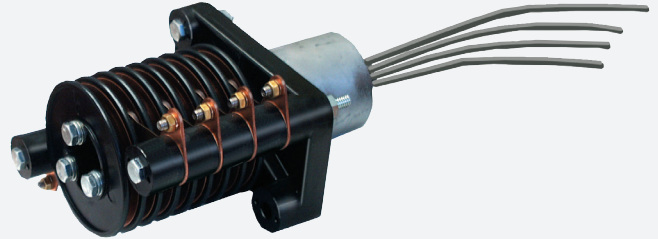
Single Hydraulic

I.D. in. (mm)	Braid	O.D. in. (mm)	Max. Pressure psi	Weight/ft. lbs. (kg)
0.25 (6)	2	0.59 (15)	250	0.13 (.06)
0.38 (10)	2	0.72 (18)	250	0.18 (.08)
0.50 (13)	2	0.84 (21)	250	0.24 (.11)
0.75 (19)	2	1.16 (29)	250	0.37 (.17)
1.00 (25)	2	1.50 (38)	150	0.64 (.29)
1.25 (32)	2	1.75 (44)	150	1.01 (.45)

Compact, 60-Volt Slip Rings Series "DR"

Features

- Fits most standard applications
- Mounts in minimum space
- Mounts vertical or horizontal
- Nylatron/Durez bearings
- Lead wires connect to slip ring lead wires at junction box, NOT at the slip ring or inside the mounting shaft
- Available in 2 through 10 pole models
- Special models available
- Rotation speeds to 40 rpm
- 600 Volt rating



How to Select a Slip Ring:

Electrical considerations:

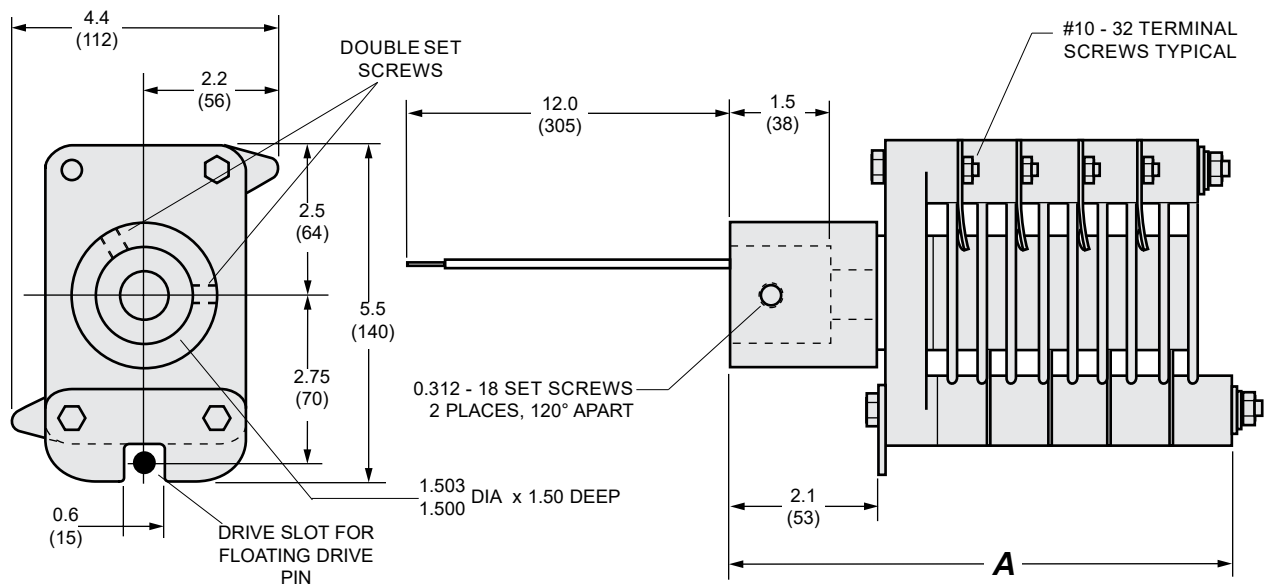
STEP 1: Select a 30- or 50-amp slip ring model from the charts below. The model you choose should have the same number of poles as the number of circuits you are connecting, including ground. Standard slip rings are rated at 600 volts.

Physical requirements:

STEP 2: Check your clearance requirements against dimensional data below. Note that your mounting shaft must be no larger than 1.50" O.D. in order to connect with the slip ring drive collar. See dimensional data and diagram below.

30 Amp Slip Rings

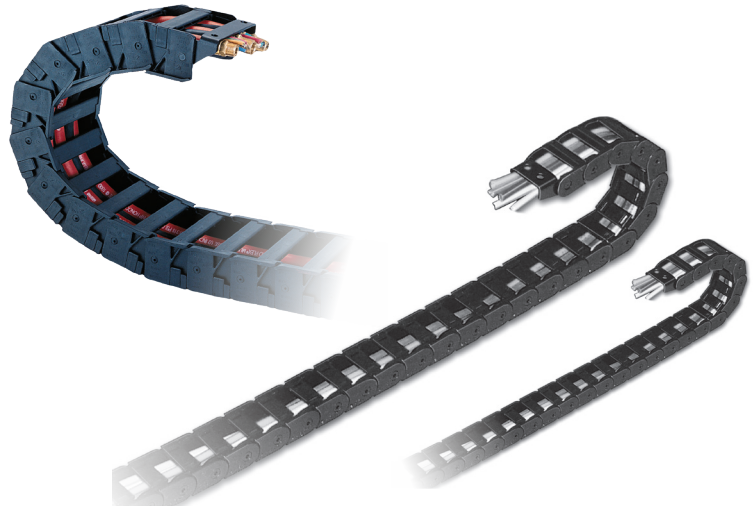
Slip Ring Model No.	No. Poles	Length (A) Slip Ring In. (mm)	AWG Lead*
DR030-02	2	4.9 (124)	#12
DR030-04	4	5.9 (150)	#12
DR030-06	6	6.6 (168)	#12
DR030-08	8	7.4 (188)	#12
DR030-10	10	8.1 (206)	#12
DR030-12	12	8.8 (224)	#12



Modular Carrier Trak

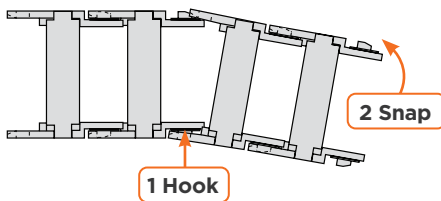
Protect cables and hoses on reciprocating machinery. Safety and reliability are increased when cables and hoses are kept together, away from moving components and operators. Durable links are molded from fiber-reinforced virgin nylon which is highly wear-resistant, self lubricating and not damaged by salt, hard water and lubricating oils or hydrocarbons such as fuels.

Modular Trak is available in a wide variety of configurations and sizes to handle cable or hose up to 1.676" dia. Larger sizes are available with standard closed tops, flip-tops to facilitate cable/hose installation, or completely enclosed models designed to protect cables and hoses from dirt, chips, etc. Kits of all styles facilitate application and purchasing. Standard and flip-top configurations are also available in bulk which is especially attractive to OEM and other high volume users. Refer to following pages for details.

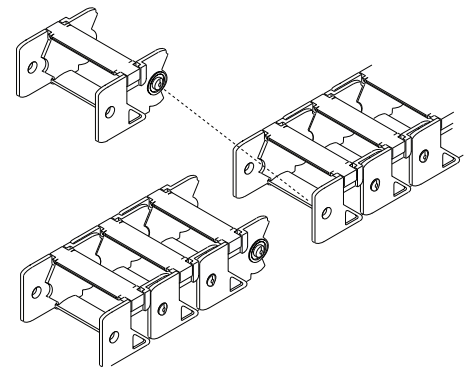


Easy to assemble kits or bulk trak

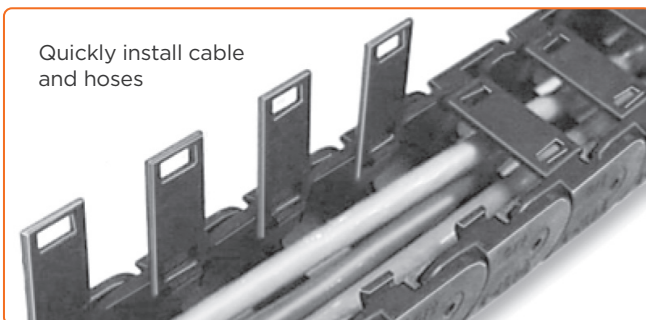
Extenders or bulk sections snap easily into place. Each Extender provides one foot additional travel with end mounting, two feet additional travel with center mounting. Individual links may be removed to arrive at exact length.



Flip top



Snap-in Separators
(Optional for P16 and P25)



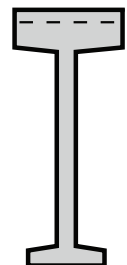
Quickly install cable and hoses

Cables and Hoses

OPTIONAL Snap-in Separators (see dimension "N") may be ordered for Types P16 and P25: Simple field installation

Pkg. of 12 P16 separators:
Model No. P16SP

Pkg. of 12 P25 separators:
Model No. P25SP



Kits and Bulk

Basic Kits (C) include enough trak to form the curve and provide for three ft. of machine travel (standard mounting) or six ft. of machine travel (center mounting). Mounting hardware included.

Extender (D) include one foot of trak only - no hardware. Extenders are inserted into the BASIC KIT to provide additional travel and required overall length. Links snap together. Individual links can be easily removed with a screwdriver to provide custom length.

Bulk Trak is ideal for high volume users. Shipped in 10' lengths packed in 12" x 12" x 12" cartons or 3" lengths packed in 12.5" x 12.5" x 40" cartons. Bulk trak does NOT include brackets. Order brackets (sets of 6 only) separately.

A Max. Height Largest O.D. Hose/Cable in. (mm)	B Max. Width Hose/Cable Bundle in. (mm)	C Basic Kit 3 ft. Travel (with brackets) Model No.	D Extender 1 ft. Travel (No Brackets) Model No.	Bulk Trak 3 ft. Lengths Brackets NOT Included Model No.	A Max. Height Largest O.D. Hose/Cable in. (mm)	A Max. Height Largest O.D. Hose/Cable in. (mm)
0.286 (7)	0.531 (13)	P10-1-1.4-3.0	EP10-1-1.4-1.0	BP10-1-1.4	318	BB10-1
0.286 (7)	0.900 (23)	P10-2-1.4-3.0	EP10-2-1.4-1.0	BP10-2-1.4	264	BB10-2
0.382 (9)	0.900 (23)	P10-2-1.9-3.0	EP10-2-1.9-1.0	BP10-2-1.9	264	BB10-2
0.410 (10)	1.350 (34)	P13-1-2.0-3.0	EP13-1-2.0-1.0	BP13-1-2.0	120	BB13-1
0.740 (19)	1.350 (34)	P13-1-3.7-3.0	EP13-1-3.7-1.0	BP13-1-3.7	120	BB13-1
0.410 (10)	2.052 (52)	P13-2-2.0-3.0	EP13-2-2.0-1.0	BP13-2-2.0	96	BB13-2
0.740 (19)	2.052 (52)	P13-2-3.7-3.0	EP13-2-3.7-1.0	BP13-2-3.7	96	BB13-2
0.410 (10)	2.772 (70)	P13-3-2.0-3.0	EP13-3-2.0-1.0	BP13-3-2.0	72	BB13-3
0.740 (19)	2.772 (70)	P13-3-3.7-3.0	EP13-3-3.7-1.0	BP13-3-3.7	72	BB13-3
0.382 (9)	1.350 (34)	P16-1-1.9-3.0	EP16-1-1.9-1.0	BP16-1-1.9	90	BB16-1
0.688 (17)	1.350 (34)	P16-1-3.4-3.0	EP16-1-3.4-1.0	BP16-1-3.4	90	BB16-1
0.382 (9)	2.052 (52)	P16-2-1.9-3.0	EP16-2-1.9-1.0	BP16-2-1.9	84	BB16-2
0.688 (17)	2.052 (52)	P16-2-3.4-3.0	EP16-2-3.4-1.0	BP16-2-3.4	84	BB16-2
0.382 (9)	2.772 (70)	P16-3-1.9-3.0	EP16-3-1.9-1.0	BP16-3-1.9	63	BB16-3
0.688 (17)	2.772 (70)	P16-3-3.4-3.0	EP16-3-3.4-1.0	BP16-3-3.4	63	BB16-3
0.382 (9)	3.654 (93)	P16-4-1.9-3.0	EP16-4-1.9-1.0	BP16-4-1.9	42	BB16-4
0.688 (17)	3.654 (93)	P16-4-3.4-3.0	EP16-4-3.4-1.0	BP16-4-3.4	42	BB16-4
0.680 (17)	2.340 (59)	P16-1-3.4-3.0	EP25-1-3.4-1.0	BP25-1-3.4	36	BB25-1
0.680 (17)	3.825 (97)	P25-1-3.4-3.0	EP25-2-3.4-1.0	BP25-2-3.4	24	BB25-2
0.956 (24)	3.825 (97)	P25-2-4.7-3.0	EP25-2-4.7-1.0	BP25-2-4.7	24	BB25-2
1.546 (39)	3.825 (97)	P25-2-7.7-3.0	EP25-2-7.7-1.0	BP25-2-7.7	24	BB25-2
1.575 (40)	3.825 (97)	P25-2-11.6-3.0	EP25-2-11.6-1.0	BP25-2-11.6	24	BB25-2
0.956 (24)	5.940 (151)	P25-3-4.7-3.0	EP25-3-4.7-1.0	BP25-3-4.7	18	BB25-3
1.546 (39)	5.940 (151)	P25-3-7.7-3.0	EP25-3-7.7-1.0	BP25-3-7.7	18	BB25-3
0.468 (12)	1.350 (34)	T0815-2.3-3.0	ET0815-2.3-1.0	-	-	-
0.650 (16)	1.800 (82)	T1020-3.2-3.0	ET1020-3.2-1.0	-	-	-
0.900 (23)	1.800 (82)	T1020-5.8-3.0	ET1020-5.8-1.0	-	-	-
0.824 (21)	2.700 (69)	T1530-4.1-3.0	ET1530-4.1-1.0	-	-	-
1.350 (34)	2.700 (69)	T1530-7.7-3.0	ET1530-7.7-1.0	-	-	-
1.176 (30)	4.050 (103)	T2045-5.8-3.0	ET2045-5.8-1.0	-	-	-
1.676 (43)	4.050 (103)	T2045-8.3-3.0	ET2045-8.3-1.0	-	-	-



Standard



Flip-Top



Enclosed

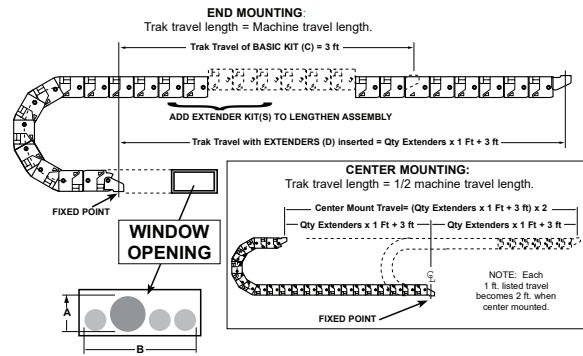
Selection

1. **WINDOW** See columns A & B (page 42).
Select trak that accommodates height and width of hose/cable bundle.
2. **TRAVEL** Measure machine travel. Determine if fixed point of trak is to be at end (standard mount) or in center of machine travel.

| See drawings at right

3. ORDER TRAK

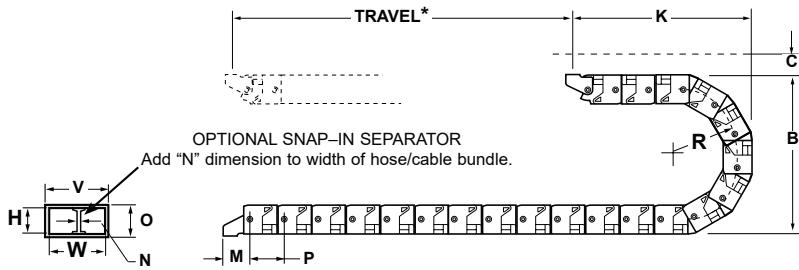
- A. BASIC KIT (C) provides 3' travel (standard mount), up to 6' for center mount.
- B. BASIC KIT (D) Provide 1' travel. Order as many as needed for travel.



Formula: Trak travel (ft) minus 3 (rounded to next highest number) equals extender kits required.

NOTE: Individual links may be removed to obtain exact length. See DIMENSIONS page for length (pitch) of each size link.

Modular Trak Dimensions



Notes:

***Mounting:** End Mounted trak travel equals machine travel.

Center Mounted trak travel equals 1/2 machine travel.

****WEIGHT:** per foot of trak only. Add weight per foot of hose/cable bundle.

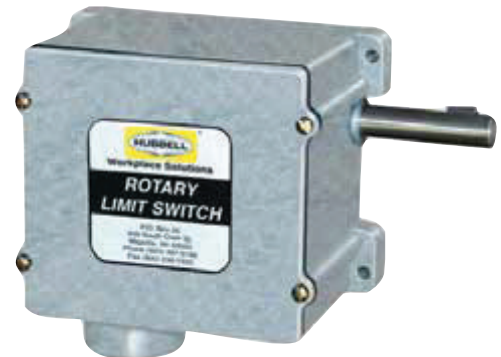
Series	W	H	R	Weight** (lbs/ft.)	B	Clearance C	Overall O	K	M	Separation N	Pitch P	Overall V
P10-1-1.4-...	0.59	0.75	1.43	0.20	3.86	2.00	1.00	5.68	1.33	-	1.250	1.03
P10-2-1.4-...	1.00	0.75	1.43	0.25	3.86	2.00	1.00	5.68	1.33	-	1.250	1.44
P10-2-1.9-...	1.00	0.75	1.91	0.25	4.82	2.00	1.00	5.41	1.33	-	1.250	1.44
P13-1-2.0-...	1.50	0.98	2.05	0.44	5.44	3.00	1.34	5.50	1.19	-	1.812	2.12
P13-1-3.7-...	1.50	0.98	3.70	0.44	8.74	3.00	1.34	7.56	1.19	-	1.812	2.12
P13-2-2.0-...	2.28	0.98	2.05	0.48	5.44	3.00	1.34	5.50	1.19	-	1.812	2.91
P13-2-3.7-...	2.28	0.98	3.70	0.48	8.74	3.00	1.34	7.56	1.19	-	1.812	2.91
P13-3-2.0-...	3.08	0.98	2.05	0.54	5.44	3.00	1.34	5.50	1.19	-	1.812	3.70
P13-3-3.7-...	3.08	0.98	3.70	0.54	8.74	3.00	1.34	7.56	1.19	-	1.812	3.70
P16-1-1.9-...	1.50	1.00	1.91	0.55	5.44	3.00	1.62	5.72	1.19	0.14 ①	1.812	2.12
P16-1-3.4-...	1.50	1.00	3.44	0.55	8.50	3.00	1.62	7.85	1.19	0.14 ①	1.812	2.12
P16-2-1.9-...	2.28	1.00	1.91	0.64	5.44	3.00	1.62	5.72	1.19	0.14 ①	1.812	2.91
P16-2-3.4-...	2.28	1.00	3.44	0.64	8.50	3.00	1.62	7.85	1.19	0.14 ①	1.812	2.91
P16-3-1.9-...	3.08	1.00	1.91	0.74	5.44	3.00	1.62	5.72	1.19	0.14 ①	1.812	3.70
P16-3-3.4-...	3.08	1.00	3.44	0.74	8.50	3.00	1.62	7.85	1.19	0.14 ①	1.812	3.70
P16-4-1.9-...	4.06	1.00	1.91	0.84	5.44	3.00	1.62	5.72	1.19	0.14 ①	1.812	4.69
P16-4-3.4-...	4.06	1.00	3.44	0.84	8.50	3.00	1.62	7.85	1.19	0.15 ①	1.812	4.69
P25-1-3.4-...	2.60	1.75	3.40	1.00	9.30	3.00	2.50	8.31	1.19	0.15 ①	2.500	3.70
P25-2-3.4-...	4.25	1.75	3.40	1.20	9.30	3.00	2.50	8.31	1.19	0.15 ①	2.500	5.36
P25-2-4.7-...	4.25	1.75	4.78	1.20	12.06	3.00	2.50	10.52	1.19	0.15 ①	2.500	5.36
P25-2-7.7-...	4.25	1.75	7.73	1.20	17.96	3.00	2.50	11.84	1.19	0.15 ①	2.500	5.36
P25-2-11.6-...	4.25	1.75	11.67	1.20	25.84	3.00	2.50	15.59	1.19	0.15 ①	2.500	5.36
P25-3-4.7-...	6.60	1.75	4.78	1.50	12.06	3.00	2.50	10.52	1.19	0.15 ①	2.500	7.70
P25-3-7.7-...	6.60	1.75	7.73	1.50	17.96	3.00	2.50	11.84	1.19	0.15 ①	2.500	7.70
T0815-2.3-...	1.50	0.81	2.34	0.62	6.34	2.75	1.31	5.32	2.56	-	1.125	2.20
T1020-3.2-...	2.00	1.00	3.25	0.83	8.34	2.75	1.50	7.89	2.81	-	1.375	2.76
T1020-5.8-...	2.00	1.00	5.88	0.83	13.61	2.75	1.50	9.39	2.81	-	1.375	2.76
T1530-4.1-...	3.00	1.50	4.12	1.48	10.92	2.75	2.25	10.77	4.00	-	2.000	3.93
T1530-7.7-...	3.00	1.50	7.75	1.48	18.18	2.75	2.25	14.70	4.00	-	2.000	3.93
T2045-5.8-...	4.50	2.00	5.88	2.20	14.94	2.75	2.75	13.02	4.75	-	2.562	5.55
T2045-8.3-...	4.50	2.00	8.38	2.20	19.94	2.75	2.75	17.59	4.75	-	2.562	5.55

① Brackets for BP16 and BP25 (bulk) shipped six male and six female per box. Brackets included with 3 ft. basic (non-bulk) kits.

Series 54 Rotary Limit Switches

Limit Switches

Limit the travel of electrically operated doors, conveyors, hoists, machine tool work tables and similar devices. Equipment having rotating mechanisms, or linear motion which can be translated into rotational motion, can be controlled by these versatile switches. Series 54 switches can be mounted in any position and are easy to wire and adjust.

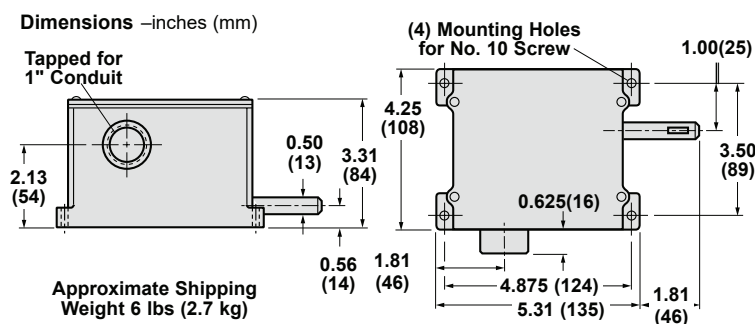


Features

- Four gear ratios
- Standard, long dwell or fine adjustment cams
- Right or left hand shaft
- Easy to wire and adjust
- Mount in any position
- Rugged die-cast aluminum housing
- Available for NEMA 1, NEMA 4, and NEMA 12 applications
- Multi-use shaft - attach drive sprocket using Woodruff key, pin or setscrew
- The series 54 is UL listed and CSA certified.
- Operating temperature range is -20F to +150F
- Humidity up to 90% is acceptable
- Ambient pressure of -0.5 to +2.0 psig is acceptable (where 0 psig equals 14.7 psi atmospheric)

Application

- Series 54 switches are designed to serve as pilot controls for magnetic reversing starters and contactors which in turn make and break full voltage between line and load. Contacts in the switch are operated when the external shaft is rotated. For the switch to perform a pilot control function, the contact must be wired in series with the coil circuit of a magnetic reversing starter or contactor.
- The shaft may rotate in either direction. When tripped, if rotation direction is reversed, the contacts will reset in 1/4 to 1 1/2 turns, depending on shaft-to-cam ratio. Switches with long dwell cams are available. These cams provides for the contacts to be actuated for a longer period of time as might be required in hoist or similar applications.
- Fine adjustment cams are also available. This feature increases accuracy in setting the number of turns to cause the contact to operate.



ROTARY LIMIT SWITCHES

Models - Series 54

Model numbers are for the RIGHT HAND SHAFT.

For left hand shaft add L to model number.

Gear Ratio	Turns of Drive Shaft to Trip Contacts				Contact Blocks	Circuits		NEMA 1 & 12 Industrial Use Model No.	NEMA 4 Watertight Model No
	Max.	Min.	Overtravel	Reset		NO	NC		
Standard Cams									
18 to 1	16	1	1.75	0.25	2	2	2	54BB23FE	54BB23EE
					3	3	3	54BB33FE	54BB33EE
					4	4	4	54BB43FE	54BB43EE
36 to 1	32	1	3.5	0.5	2	2	2	54BB23FB	54BB23EB
					3	3	3	54BB33FB	54BB33EB
					4	4	4	54BB43FB	54BB43EB
72 to 1	64	1.5	7.5	1	2	2	2	54BB23FC	54BB23EC
					3	3	3	54BB33FC	54BB33EC
					4	4	4	54BB43FC	54BB43EC
108 to 1	96	2	11	1.5	2	2	2	54BB23FD	54BB23ED
					3	3	3	54BB33FD	54BB33ED
					4	4	4	54BB43FD	54BB43ED
Long Dwell Cams									
18 to 1	15	1	2.5	0.5	2	2	2	54EB23FE	54EB23EE
					3	3	3	54EB33FE	54EB33EE
					4	4	4	54EB43FE	54EB43EE
36 to 1	30	1	5	1	2	2	2	54EB23FB	54EB23EB
					3	3	3	54EB33FB	54EB33EB
					4	4	4	54EB43FB	54EB43EB
72 to 1	60	2	10	1.5	2	2	2	54EB23FC	54EB23EC
					3	3	3	54EB33FC	54EB33EC
					4	4	4	54EB43FC	54EB43EC
108 to 1	90	2	15	3	2	2	2	54EB23FD	54EB23ED
					3	3	3	54EB33FD	54EB33ED
					4	4	4	54EB43FD	54EB43ED
Fine Adjustment									
18 to 1	16	1	1.75	0.25	2	2	2	54BB73FE	54BB73EE
36 to 1	32	1.5	3.5	0.5	2	2	2	54BB73FB	54BB73EB
72 to 1	64	1.5	7.5	1	2	2	2	54BB73FC	54BB73EC
18 to 1	96	2	11	1.5	2	2	2	54BB73FD	54BB73ED

Field Modifications

Contact Block Kit (1 NO 1 NC)	Cat. No.
Standard Cam	54BBGB
Long Dwell Cam	54EBGB
Contact Block Kit (2 NO 2 NC)	Cat. No.
Standard Cam	54BBGD
Long Dwell Cam	54EBGD
Accessories	Cat. No.
Adjustment Tool	D27760001

Kits include switch block, cam and mounting hardware

Contact Block Specifications

15 Amp 120, 240, 480 or 600 VAC

1/2 H.P. 120 VAC, 1.0 H.P. 240 VAC

0.8 Amp 115 VDC, 0.4 Amp 230 VDC

Pilot Duty 600 VAC Max.



Series 55 Rotary Limit Switches

Direct replacement for GE Series CR1155E Switches

Limit the travel of electrically operated doors, conveyors, hoists, machine tool work tables and similar devices. Equipment having rotating mechanisms, or linear motion which can be translated into rotational motion, can be controlled by these versatile switches. Available with up to four SPDT or DPDT switch blocks for control of multiple functions.



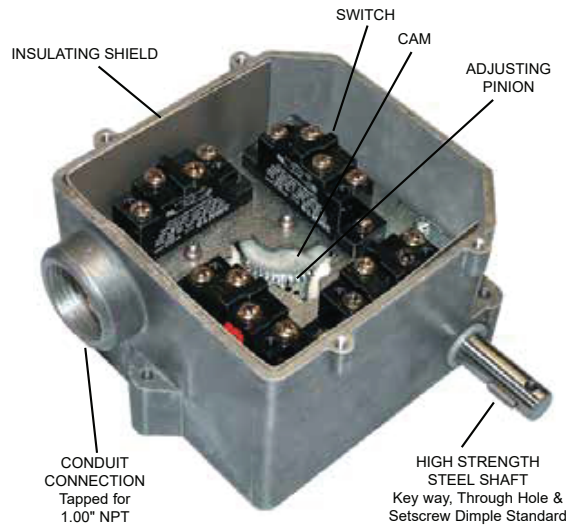
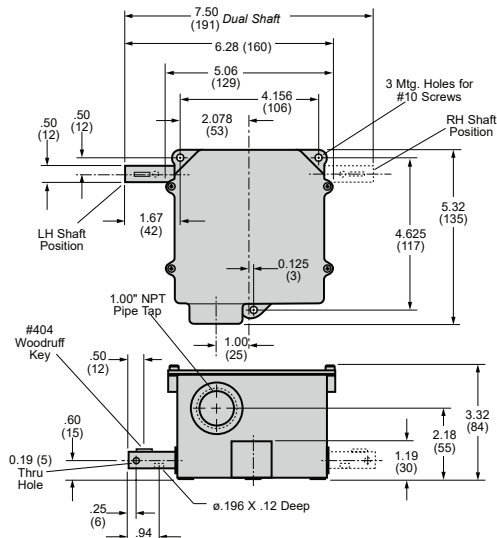
Features

- 9 gear ratios
- Right hand, left hand or dual shaft models (RH shown in photos)
- Two, three or four switches
- Mount in any position
- Easy to wire
- Rugged die cast enclosures
- NEMA 4 and 7/9 construction (Exceeds requirements of NEMA 1 and NEMA 12)
- High strength steel multi-use input shaft; #404 Woodruff key slot, 0.19 dia. hole and setscrew dimple
- Switch terminal screws for quick wiring
- Extended Dwell cams available in NEMA 4
- Easy, precision timing adjustment using standard screwdriver and provided tool
- Industrial grade oil-impregnated bronze bearings
- Industrial duty SPDT or DPDT snap switches are UL  Recognized and CSA Listed 
- Operating temperature range is -20F to +150F
- Humidity up to 90% is acceptable
- Ambient pressure of -0.5 to +2.0 psig is acceptable (where 0 psig equals 14.7 psi atmospheric)

Series 55 Rotary Limit Switches

Direct replacement for GE Series CR1155E Switches

NEMA 4 Dimensions—inches (mm). LH model shown in gray.



Geared rotary limit switches for overtravel protection and other uses on material handling equipment, hoists, cranes, valves, compacting equipment, machine tool lead screws, packaging machinery, stage curtains, powered doors, gates and windows, etc.

Mounting and shaft location allows direct replacement of GE Series CR115 switches.

Contact Block Specifications

- 15 Amp 120, 240, 480 or 600 VAC.
- 1/2 H.P. 120 VAC, 1.0 H.P. 240 VAC
- 0.8 Amp 115 VDC, 0.4 Amp 230 VDC
- Pilot Duty 600 VAC Max.

Series 55 Rotary Limit Switches

Models - Series 55 NEMA 4

Gear Ratio	Turns of Drive Shaft to Trip Contacts				Contact Blocks	Circuits		Right Hand Shaft NEMA 4	Left Hand Shaft NEMA 4	Dual Shaft NEMA 4
	Max.	Min.	Overtravel	Reset		NO	NC	Model No.*	Model No.*	Model No.*
Standard Cams										
20.5 to 1	18	1	2.5	0.5	2	2	2	55-4E-2SP-WR-20	55-4E-2SP-WL-20	55-4E-2SP-WB-20
					3	3	3	55-4E-3SP-WR-20	55-4E-3SP-WL-20	55-4E-3SP-WB-20
					4	4	4	55-4E-4SP-WR-20	55-4E-4SP-WL-20	55-4E-4SP-WB-20
42.5 to 1	36.5	1	6	0.5	2	2	2	55-4E-2SP-WR-40	55-4E-2SP-WL-40	55-4E-2SP-WB-40
					3	3	3	55-4E-3SP-WR-40	55-4E-3SP-WL-40	55-4E-3SP-WB-40
					4	4	4	55-4E-4SP-WR-40	55-4E-4SP-WL-40	55-4E-4SP-WB-40
80 to 1	68	1.5	12	0.75	2	2	2	55-4E-2SP-WR-80	55-4E-2SP-WL-80	55-4E-2SP-WB-80
					3	3	3	55-4E-3SP-WR-80	55-4E-3SP-WL-80	55-4E-3SP-WB-80
					4	4	4	55-4E-4SP-WR-80	55-4E-4SP-WL-80	55-4E-4SP-WB-80
111 to 1	97	2	14	1.25	2	2	2	55-4E-2SP-WR-111	55-4E-2SP-WL-111	55-4E-2SP-WB-111
					3	3	3	55-4E-3SP-WR-111	55-4E-3SP-WL-111	55-4E-3SP-WB-111
					4	4	4	55-4E-4SP-WR-111	55-4E-4SP-WL-111	55-4E-4SP-WB-111
222 to 1	192	3	30	2.5	2	2	2	55-4E-2SP-WR-222	55-4E-2SP-WL-222	55-4E-2SP-WB-222
					3	3	3	55-4E-3SP-WR-222	55-4E-3SP-WL-222	55-4E-3SP-WB-222
					4	4	4	55-4E-4SP-WR-222	55-4E-4SP-WL-222	55-4E-4SP-WB-222
333 to 1	265	4	48	3.5	2	2	2	55-4E-2SP-WR-333	55-4E-2SP-WL-333	55-4E-2SP-WB-333
					3	3	3	55-4E-3SP-WR-333	55-4E-3SP-WL-333	55-4E-3SP-WB-333
					4	4	4	55-4E-4SP-WR-333	55-4E-4SP-WL-333	55-4E-4SP-WB-333
444 to 1	381	4	63	4.5	2	2	2	55-4E-2SP-WR-444	55-4E-2SP-WL-444	55-4E-2SP-WB-444
					3	3	3	55-4E-3SP-WR-444	55-4E-3SP-WL-444	55-4E-3SP-WB-444
					4	4	4	55-4E-4SP-WR-444	55-4E-4SP-WL-444	55-4E-4SP-WB-444
640 to 1	550	8	90	7	2	2	2	55-4E-2SP-WR-640	55-4E-2SP-WL-640	55-4E-2SP-WB-640
					3	3	3	55-4E-3SP-WR-640	55-4E-3SP-WL-640	55-4E-3SP-WB-640
					4	4	4	55-4E-4SP-WR-640	55-4E-4SP-WL-640	55-4E-4SP-WB-640
1280 to 1	1095	24	185	23.5	2	2	2	55-4E-2SP-WR-1280	55-4E-2SP-WL-1280	55-4E-2SP-WB-1280
					3	3	3	55-4E-3SP-WR-1280	55-4E-3SP-WL-1280	55-4E-3SP-WB-1280
					4	4	4	55-4E-4SP-WR-1280	55-4E-4SP-WL-1280	55-4E-4SP-WB-1280
Extended Dwell Cams										
20.5 to 1	17	1	3.25	0.25	2	2	2	55-4E-2SP-WR-20-LD	55-4E-2SP-WL-20-LD	55-4E-2SP-WB-20-LD
					3	3	3	55-4E-3SP-WR-20-LD	55-4E-3SP-WL-20-LD	55-4E-3SP-WB-20-LD
					4	4	4	55-4E-4SP-WR-20-LD	55-4E-4SP-WL-20-LD	55-4E-4SP-WB-20-LD
42.5 to 1	3.5	1.5	7.5	0.75	2	2	2	55-4E-2SP-WR-40-LD	55-4E-2SP-WL-40-LD	55-4E-2SP-WB-40-LD
					3	3	3	55-4E-3SP-WR-40-LD	55-4E-3SP-WL-40-LD	55-4E-3SP-WB-40-LD
					4	4	4	55-4E-4SP-WR-40-LD	55-4E-4SP-WL-40-LD	55-4E-4SP-WB-40-LD
80 to 1	66	2	14	1.25	2	2	2	55-4E-2SP-WR-80-LD	55-4E-2SP-WL-80-LD	55-4E-2SP-WB-80-LD
					3	3	3	55-4E-3SP-WR-80-LD	55-4E-3SP-WL-80-LD	55-4E-3SP-WB-80-LD
					4	4	4	55-4E-4SP-WR-80-LD	55-4E-4SP-WL-80-LD	55-4E-4SP-WB-80-LD
111 to 1	90	3	21	2.5	2	2	2	55-4E-2SP-WR-111LD	55-4E-2SP-WL-111LD	55-4E-2SP-WB-111LD
					3	3	3	55-4E-3SP-WR-111LD	55-4E-3SP-WL-111LD	55-4E-3SP-WB-111LD
					4	4	4	55-4E-4SP-WR-111LD	55-4E-4SP-WL-111LD	55-4E-4SP-WB-111LD
222 to 1	182	4	40	4	2	2	2	55-4E-2SP-WR-222LD	55-4E-2SP-WL-222LD	55-4E-2SP-WB-222LD
					3	3	3	55-4E-3SP-WR-222LD	55-4E-3SP-WL-222LD	55-4E-3SP-WB-222LD
					4	4	4	55-4E-4SP-WR-222LD	55-4E-4SP-WL-222LD	55-4E-4SP-WB-222LD
333 to 1	275.0	5.0	58.0	6.0	2	2	2	55-4E-2SP-WR-333LD	55-4E-2SP-WB-333LD	55-4E-2SP-WL-333LD
					3	3	3	55-4E-3SP-WR-333LD	55-4E-3SP-WB-333LD	55-4E-3SP-WL-333LD
					4	4	4	55-4E-4SP-WR-333LD	55-4E-4SP-WB-333LD	55-4E-4SP-WL-333LD

New! Higher Gear Ratios

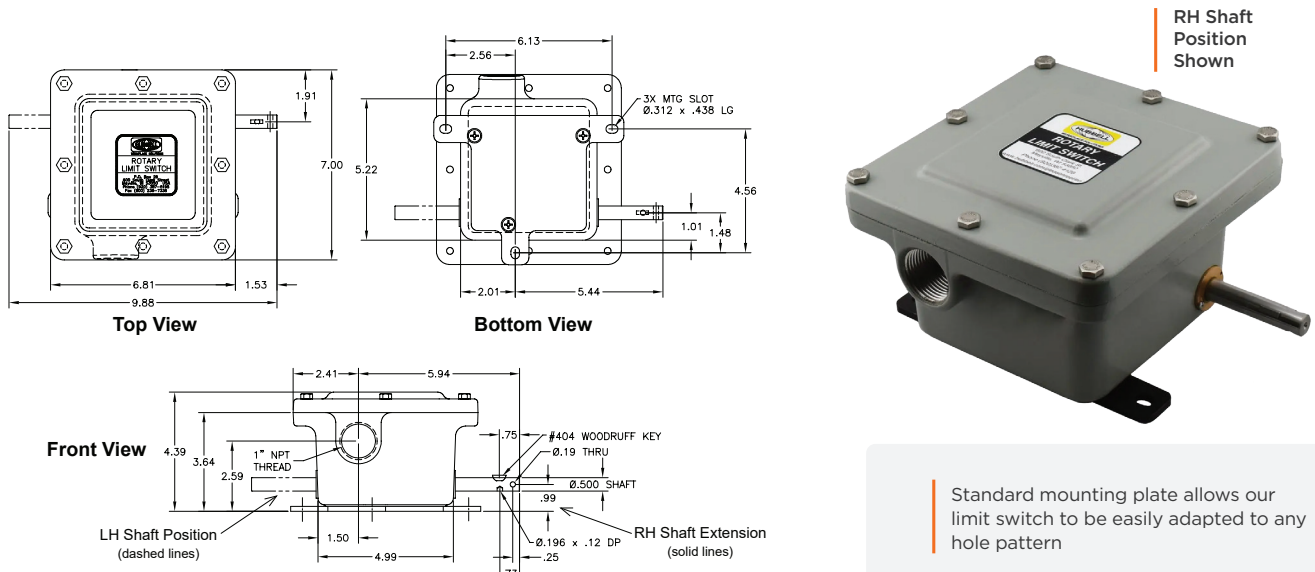
*SPDT switches shown. To order DPDT switches, substitute DP for SP in model number.
 Example: Model Number 55-4E-3SP-WR-111-LD=SPDT switch. Model number 55-4E-3DP-WR-111-LD=DPDT switch.

Series 55 Rotary Limit Switches

Models - Series 55 NEMA 7/9 Explosion proof

Gear Ratio	Turns of Drive Shaft to Trip Contacts				Contact Blocks	Circuits		Right Hand Shaft NEMA 7/9	Left Hand Shaft NEMA 7/9	Dual Shaft NEMA 7/9
	Max.	Min.	Overtravel	Reset		NO	NC	Model No.*	Model No.*	Model No.*
Standard Cams										
20.5 to 1	18	1	2.5	0.5	2	2	2	55-7E-2SP-WR-20	55-7E-2SP-WL-20	55-7E-2SP-WB-20
					3	3	3	55-7E-3SP-WR-20	55-7E-3SP-WL-20	55-7E-3SP-WB-20
					4	4	4	55-7E-4SP-WR-20	55-7E-4SP-WL-20	55-7E-4SP-WB-20
42.5 to 1	36.5	1	6	0.5	2	2	2	55-7E-2SP-WR-40	55-7E-2SP-WL-40	55-7E-2SP-WB-40
					3	3	3	55-7E-3SP-WR-40	55-7E-3SP-WL-40	55-7E-3SP-WB-40
					4	4	4	55-7E-4SP-WR-40	55-7E-4SP-WL-40	55-7E-4SP-WB-40
80 to 1	68	1.5	12	0.75	2	2	2	55-7E-2SP-WR-80	55-7E-2SP-WL-80	55-7E-2SP-WB-80
					3	3	3	55-7E-3SP-WR-80	55-7E-3SP-WL-80	55-7E-3SP-WB-80
					4	4	4	55-7E-4SP-WR-80	55-7E-4SP-WL-80	55-7E-4SP-WB-80
111 to 1	97	2	14	1.25	2	2	2	55-4E-2SP-WR-111	55-4E-2SP-WL-111	55-4E-2SP-WB-111
					3	3	3	55-4E-3SP-WR-111	55-4E-3SP-WL-111	55-4E-3SP-WB-111
					4	4	4	55-4E-4SP-WR-111	55-4E-4SP-WL-111	55-4E-4SP-WB-111
222 to 1	192	3	30	2.5	2	2	2	55-7E-2SP-WR-222	55-7E-2SP-WL-222	55-7E-2SP-WB-222
					3	3	3	55-7E-3SP-WR-222	55-7E-3SP-WL-222	55-7E-3SP-WB-222
					4	4	4	55-7E-4SP-WR-222	55-7E-4SP-WL-222	55-7E-4SP-WB-222
333 to 1	265	4	48	3.5	2	2	2	55-7E-2SP-WR-333	55-7E-2SP-WL-333	55-7E-2SP-WB-333
					3	3	3	55-7E-3SP-WR-333	55-7E-3SP-WL-333	55-7E-3SP-WB-333
					4	4	4	55-7E-4SP-WR-333	55-7E-4SP-WL-333	55-7E-4SP-WB-333
444 to 1	381	4	63	4.5	2	2	2	55-7E-2SP-WR-444	55-7E-2SP-WL-444	55-7E-2SP-WB-444
					3	3	3	55-7E-3SP-WR-444	55-7E-3SP-WL-444	55-7E-3SP-WB-444
					4	4	4	55-7E-4SP-WR-444	55-7E-4SP-WL-444	55-7E-4SP-WB-444
640 to 1	550	8	90	7	2	2	2	55-7E-2SP-WR-640	55-7E-2SP-WL-640	55-7E-2SP-WB-640
					3	3	3	55-7E-3SP-WR-640	55-7E-3SP-WL-640	55-7E-3SP-WB-640
					4	4	4	55-7E-4SP-WR-640	55-7E-4SP-WL-640	55-7E-4SP-WB-640

* SPDT switches shown. To order DPDT switches, substitute DP for SP in model number.
 Example: Model Number 55-7E-3SP-WR-111-LD=SPDT switch. Model number 55-7E-3DP-WR-111-LD=DPDT switch.



Series 55 Rotary Limit Switches

Crossover Replacement for GE Series CR115E

Gear Ratio	Contact Blocks	GE Series CR115E NEMA 1 Model No.	HWS Series 55 NEMA 4 Model No.	GE Series CR115E NEMA 7/9 Model No.	HWS Series 55 NEMA 7/9 Model No.
Right Hand Shaft-Standard Dwell Cams					
20.5 to 1	2	CR115E121102	55-4E-2SP-WR-20	CR115E721102	55-7E-2SP-WB-20
42.5 to 1	2	CR115E122102	55-4E-2SP-WR-40	CR115E722102	55-7E-2SP-WB-40
80 to 1	2	CR115E123102	55-4E-2SP-WR-80	CR115E723102	55-7E-2SP-WB-80
111 to 1	2	CR115E124102	55-4E-2SP-WR-111	CR115E724102	55-7E-2SP-WB-111
222 to 1	2	CR115E125102	55-4E-2SP-WR-222	CR115E725102	55-7E-2SP-WB-222
333 to 1	2	CR115E126102	55-4E-2SP-WR-333	CR115E726102	55-7E-2SP-WB-333
444 to 1	2	CR115E127102	55-4E-2SP-WR-444	CR115E727102	55-7E-2SP-WB-444
640 to 1	2	CR115E128102	55-4E-2SP-WR-640	CR115E728102	55-7E-2SP-WB-640
1280 to 1	2	CR115E129102	55-4E-2SP-WR-1280	CR115E729102	Not available
20.5 to 1	4	CR115E141102	55-4E-4SP-WR-20	CR115E741102	55-7E-4SP-WB-20
42.5 to 1	4	CR115E142102	55-4E-4SP-WR-40	CR115E742102	55-7E-4SP-WB-40
80 to 1	4	CR115E143102	55-4E-4SP-WR-80	CR115E743102	55-7E-4SP-WB-80
111 to 1	4	CR115E144102	55-4E-4SP-WR-111	CR115E744102	55-7E-4SP-WB-111
222 to 1	4	CR115E145102	55-4E-4SP-WR-222	CR115E745102	55-7E-4SP-WB-222
333 to 1	4	CR115E146102	55-4E-4SP-WR-333	CR115E746102	55-7E-4SP-WB-333
444 to 1	4	CR115E147102	55-4E-4SP-WR-444	CR115E747102	55-7E-4SP-WB-444
640 to 1	4	CR115E148102	55-4E-4SP-WR-640	CR115E748102	55-7E-4SP-WB-640
1280 to 1	4	CR115E149102	55-4E-4SP-WR-1280	CR115E749102	Not available
Left Hand Shaft-Standard Dwell Cams					
20.5 to 1	2	CR115E121112	55-4E-2SP-WL-20	CR115E721112	55-7E-2SP-WL-20
42.5 to 1	2	CR115E122112	55-4E-2SP-WL-40	CR115E722112	55-7E-2SP-WL-40
80 to 1	2	CR115E123112	55-4E-2SP-WL-80	CR115E723112	55-7E-2SP-WL-80
111 to 1	2	CR115E124112	55-4E-2SP-WL-111	CR115E724112	55-7E-2SP-WL-111
222 to 1	2	CR115E125112	55-4E-2SP-WL-222	CR115E725112	55-7E-2SP-WL-222
333 to 1	2	CR115E126112	55-4E-2SP-WL-333	CR115E726112	55-7E-2SP-WL-333
444 to 1	2	CR115E127112	55-4E-2SP-WL-444	CR115E727112	55-7E-2SP-WL-444
640 to 1	2	CR115E128112	55-4E-2SP-WL-640	CR115E728112	55-7E-2SP-WL-640
1280 to 1	2	CR115E129112	55-4E-2SP-WL-1280	CR115E729112	Not available
20.5 to 1	4	CR115E141112	55-4E-4SP-WL-20	CR115E741112	55-7E-4SP-WL-20
42.5 to 1	4	CR115E142112	55-4E-4SP-WL-40	CR115E742112	55-7E-4SP-WL-40
80 to 1	4	CR115E143112	55-4E-4SP-WL-80	CR115E743112	55-7E-4SP-WL-80
111 to 1	4	CR115E144112	55-4E-4SP-WL-111	CR115E744112	55-7E-4SP-WL-111
222 to 1	4	CR115E145112	55-4E-4SP-WL-222	CR115E745112	55-7E-4SP-WL-222
333 to 1	4	CR115E146112	55-4E-4SP-WL-333	CR115E746112	55-7E-4SP-WL-333
444 to 1	4	CR115E147112	55-4E-4SP-WL-444	CR115E747112	55-7E-4SP-WL-444
640 to 1	4	CR115E148112	55-4E-4SP-WL-640	CR115E748112	55-7E-4SP-WL-640
1280 to 1	4	CR115E149112	55-4E-4SP-WL-1280	CR115E749112	Not available
Dual Shaft-Standard Dwell Cams					
20.5 to 1	2	CR115E121122	55-4E-2SP-WB-20	CR115E721122	55-7E-2SP-WB-20
42.5 to 1	2	CR115E122122	55-4E-2SP-WB-40	CR115E722122	55-7E-2SP-WB-40
80 to 1	2	CR115E123122	55-4E-2SP-WB-80	CR115E723122	55-7E-2SP-WB-80
111 to 1	2	CR115E124122	55-4E-2SP-WB-111	CR115E724122	55-7E-2SP-WB-111
222 to 1	2	CR115E125122	55-4E-2SP-WB-222	CR115E725122	55-7E-2SP-WB-222
333 to 1	2	CR115E126122	55-4E-2SP-WB-333	CR115E726122	55-7E-2SP-WB-333
444 to 1	2	CR115E127122	55-4E-2SP-WB-444	CR115E727122	55-7E-2SP-WB-444
640 to 1	2	CR115E128122	55-4E-2SP-WB-640	CR115E728122	55-7E-2SP-WB-640
1280 to 1	2	CR115E129122	55-4E-2SP-WB-1280	CR115E729122	Not available
20.5 to 1	4	CR115E141122	55-4E-4SP-WB-20	CR115E741122	55-7E-4SP-WB-20
42.5 to 1	4	CR115E142122	55-4E-4SP-WB-40	CR115E742122	55-7E-4SP-WB-40
80 to 1	4	CR115E143122	55-4E-4SP-WB-80	CR115E743122	55-7E-4SP-WB-80
111 to 1	4	CR115E144122	55-4E-4SP-WB-111	CR115E744122	55-7E-4SP-WB-111
222 to 1	4	CR115E145122	55-4E-4SP-WB-222	CR115E745122	55-7E-4SP-WB-222
333 to 1	4	CR115E146122	55-4E-4SP-WB-333	CR115E746122	55-7E-4SP-WB-333
444 to 1	4	CR115E147122	55-4E-4SP-WB-444	CR115E747122	55-7E-4SP-WB-444
640 to 1	4	CR115E148122	55-4E-4SP-WB-640	CR115E748122	55-7E-4SP-WB-640
1280 to 1	4	CR115E149122	55-4E-4SP-WB-1280	CR115E749122	Not available

Grounding and Bonding Cables

Antistatic Cables prevent sparks from static electricity generated by movement and flow of flammable liquids. Bonding between containers during liquid transfer and connecting drums to an earth ground are required by Federal and local codes. Various clamps and terminals allow a wide variety of uses. All cables are 7 x 19 stranded steel. Insulated cables have Safety Orange jacket.

- Available in several lengths, insulated or non-insulated
- Five types of end connectors available on all cables lengths and types
- For longer reach or “Y”, connect several cables with 1/4” terminal ends
- Stranded cable for maximum flexibility and conductivity

Alligator Clip & C-Clamp

Model No.	Cable Description
GCSP-AC-03	3' Flexible Steel
GCSP-AC-05	5' Flexible Steel
GCSP-AC-10	10' Flexible Steel
GCSI-AC-03	3' Insulated Steel
GCSI-AC-05	5' Insulated Steel
GCSI-AC-10	10' Insulated Steel



Two Hand Clamps

Model No.	Cable Description
GCSP-HH-03	3' Flexible Steel
GCSP-HH-05	5' Flexible Steel
GCSP-HH-10	10' Flexible Steel
GCSI-HH-03	3' Insulated Steel
GCSI-HH-05	5' Insulated Steel
GCSI-HH-10	10' Insulated Steel



Hand Clamp & 1/4" Terminal

Model No.	Cable Description
GCSP-HE-03	3' Flexible Steel
GCSP-HE-05	5' Flexible Steel
GCSP-HE-10	10' Flexible Steel
GCSI-HE-03	3' Insulated Steel
GCSI-HE-05	5' Insulated Steel
GCSI-HE-10	10' Insulated Steel



Hand Clamp & Alligator Clip

Model No.	Cable Description
GCSP-AH-03	3' Flexible Steel
GCSP-AH-05	5' Flexible Steel
GCSP-AH-10	10' Flexible Steel
GCSI-AH-03	3' Insulated Steel
GCSI-AH-05	5' Insulated Steel
GCSI-AH-10	10' Insulated Steel



Hand Clamp & C-Clamp

Model No.	Cable Description
GCSP-HC-03	3' Flexible Steel
GCSP-HC-05	5' Flexible Steel
GCSP-HC-10	10' Flexible Steel
GCSI-HC-03	3' Insulated Steel
GCSI-HC-05	5' Insulated Steel
GCSI-HC-10	10' Insulated Steel



Two Alligator Clips

Model No.	Cable Description
GCSP-AA-03	3' Flexible Steel
GCSP-AA-05	5' Flexible Steel
GCSP-AA-10	10' Flexible Steel
GCSI-AA-03	3' Insulated Steel
GCSI-AA-05	5' Insulated Steel
GCSI-AA-10	10' Insulated Steel



Two 1/4" Terminals

Model No.	Cable Description
GCSP-EE-03	3' Flexible Steel
GCSP-EE-05	5' Flexible Steel
GCSP-EE-10	10' Flexible Steel
GCSI-EE-03	3' Insulated Steel
GCSI-EE-05	5' Insulated Steel
GCSI-EE-10	10' Insulated Steel



Individual Connectors & Accessories available on the following page

Individual Connectors and Accessories



**Ground Clamp
.5" to 1"
Model No. GC-CL**
UL & CSA Listed,
RoHS Compliant

Bulk Wire Rope - Galvanized

Model No.	Cable Description
GCB-NY-050	50' 1/8" OD Clear
GCB-NY-075	75' 1/8" OD Clear
GCB-NY-100	100' 1/8" OD Clear
GCB-PL-050	50' 3/32" OD Plain
GCB-PL-075	75' 3/32" OD Plain
GCB-PL-100	100' 3/32" OD Plain

Bulk Wire Rope - Stainless Steel

Model No.	Cable Description
GCB-OR-050	50' 1/8" OD Orange
GCB-OR-075	75' 1/8" OD Orange
GCB-OR-100	100' 1/8" OD Orange
GCB-YL-050	50' 5/32" OD Yellow
GCB-YL-075	75' 5/32" OD Yellow
GCB-YL-100	100' 5/32" OD Yellow



**C-Clamp
Model No. GC-CEE**



**100 Amp
Alligator Clip
Model No. GL-ALG**
FEDERAL SPEC
CID AA59466-010



**Hand Clamp
Model No. GC-PLR**



**Aircraft Clamp
Model No. AGC-MOD**
MIL-SPEC
M83413/7-1



**Round Grounding
Plug
Model No. GC-GCEEAGP-01**
MIL-SPEC M83413/1



**Studbug®
Grounding Stud
Model No. SDS-STD**

Static Discharge Reels

Ideal for a wide variety of grounding applications. Available with your choice of cable length and connector. Open Spool Reels include spring rewind, centrifugal brake and ratchet lock (permanent ratchet lock, no on/off switch). **Cable is 7 x 7 stranded stainless steel with yellow polyester elastomer cover, 5/32" OD. Reel has safety orange baked polyester finish.

Heavy-duty Open Spool Series (OSD)

- Open spool design
- Cable lengths to 100 ft.
- Spring rewind with centrifugal brake
- Rugged steel construction
- Choice of grounding clamps and plugs



Static Discharge Reel with Hand Clamp

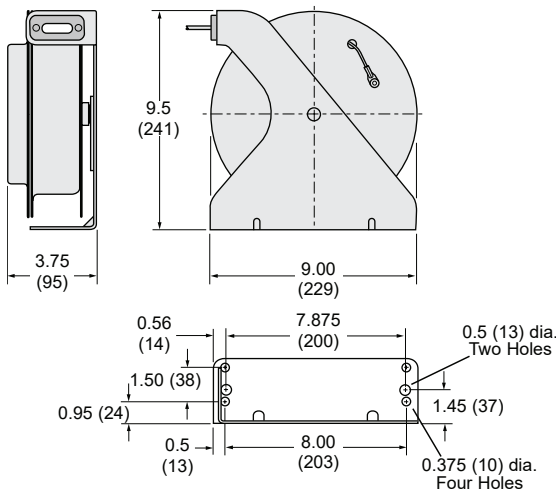


Static Discharge Reel with 100 amp Alligator Clip



Static Discharge Reel with Round Grounding Plug MIL-SPEC M83413/1

Unpainted surfaces on mounting plate used for grounding



Series OSD - ** Includes cable installed on reel

Cable Length	Connector	Model Number
50'	Hand Clamp	OSD050-SS-YL-SG-C1
50'	Aircraft Clamp	OSD050-SS-YL-SG-C2
50'	Alligator Clip	OSD050-SS-YL-SG-AL
50'	Round Grounding Plug	OSD050-SS-YL-SG-P1
75'	Hand Clamp	OSD075-SS-YL-SG-C1
75'	Aircraft Clamp	OSD075-SS-YL-SG-C2
75'	Alligator Clip	OSD075-SS-YL-SG-AL
75'	Round Grounding Plug	OSD075-SS-YL-SG-P1
100'	Hand Clamp	OSD100-SS-YL-SG-C1
100'	Aircraft Clamp	OSD100-SS-YL-SG-C2
100'	Alligator Clip	OSD100-SS-YL-SG-AL
100'	Round Grounding Plug	OSD100-SS-YL-SG-P1

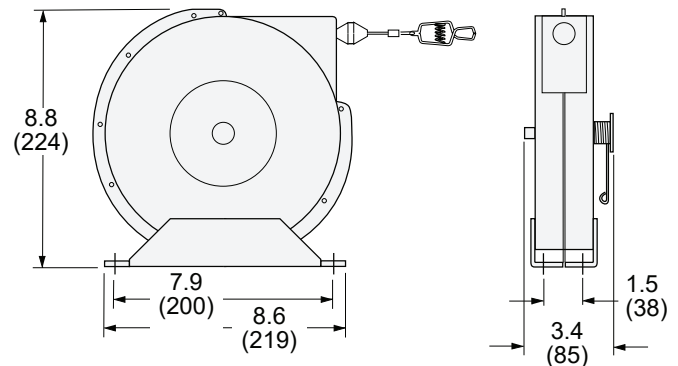
**Meets Federal Grounding Spec: RR-W-410

Static Discharge Reels

Ideal for a wide variety of grounding applications. Reel has enclosed spool and safety orange baked polyester finish. See table for various cable and connector options.

Enclosed Spool Series (SD)

- Automatic E-Z PULL™ rewinding
- Rugged steel construction
- Compact enclosed design
- Positive ratchet lock with On/Off switch
- Steel cable installed
- Safety orange baked polyester finish



Series SD

Series SD	Cable Length ft.	Cable Material	Cable Cover	End Options
SD-2030 ¹	30	Galvanized	none	Alligator Clip
SD-2030-C1	30	Galvanized	none	Hand Clamp
SD-2030-C2	30	Galvanized	none	Aircraft Clamp
SD-2030-P1	30	Galvanized	none	Aircraft Plug, Rnd
SD-2050 ¹	50	Galvanized	none	Alligator Clip
SD-2050-C1	50	Galvanized	none	Hand Clamp
SD-2050-C2	50	Galvanized	none	Aircraft Clamp
SD-2050-P1	50	Galvanized	none	Aircraft Plug, Rnd
SD-2050-OS ³	50	Stainless	Orange	Alligator Clip
SD-2050-OS-C1 ³	50	Stainless	Orange	Hand Clamp
SD-2050-OS-C2 ³	50	Stainless	Orange	Aircraft Clamp
SD-2050-OS-P1 ³	50	Stainless	Orange	Aircraft Plug, Rnd
SD-2050N ²	50	Galvanized	Clear	Alligator Clip
SD-2050N-C1	50	Galvanized	Clear	Hand Clamp
SD-2050N-C2	50	Galvanized	Clear	Aircraft Clamp
SD-2050N-P1	50	Galvanized	Clear	Aircraft Plug, Rnd
SD-2050Y ¹	50+	Galvanized	none	Alligator Clip
SD-2050-YL-AL	50	Stainless	Yellow	Alligator Clip
SD-2050-YL-C1	50	Stainless	Yellow	Hand Clamp
SD-2050-YL-C2	50	Stainless	Yellow	Aircraft Clamp
SD-2050-YL-P1	50	Stainless	Yellow	Aircraft Plug, Rnd



100 Amp Alligator Clip
Model No. GL-ALG
FEDERAL SPEC
CID AA59466-010



Hand Clamp
Model No. GC-PLR



Aircraft Clamp
Model No. AGC-MOD
MIL-SPEC
M83413/7-1



Round Grounding Plug
Model No. GC-GCEEAGP-01
MIL-SPEC M83413/1

¹ Static discharge reels are supplied complete with 3/32" OD steel aircraft cable. The electrical resistance between the end effector and the mounting surface shall not exceed 10-Ohms.

² Nylon covered cable (1/8" OD) is an optional extra. The electrical resistance between the end effector and the mounting surface shall not exceed 10-Ohms.

³ Stainless Steel cable covered with Orange or Yellow Nylon jacket to 1/8" OD. The electrical resistance between the end effector and the mounting surface shall not exceed 10-Ohms.

Unpainted surfaces on mounting plate used for grounding



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HHI-GR-BR-EN-2023-00585 | REV 11/2023