

Pre-Engineered Products

***REELS, CABLE TRAK & FESTOONS
CONTROL & AUTOMATION COMPONENTS***



Workplace Solutions

ED



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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 are designed for supplying air or fluid to machines in applications where the machine supplies the 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. In hand pull applications, a ratchet lock is usually employed to keep the hose extended while in use.

E-Z PULL™ REELS are designed to make hose handling safer and smoother and to minimize costly replacement caused by excessive rewind speeds. Rewind pull is kept to a minimum resulting in a reel that is gentle to pull out, yet very adequate to rewind the hose. In some situations, the rewind pull provided by E-Z PULL™ reels may require a gentle assist from the operator. E-Z PULL™ reels should be mounted a maximum 3 ft.(0.9m) above the floor so that the hose may be pulled horizontally. Typical mounting is under a workbench. **SERIES "H" APPLICATION:**

BOTH REELS FEATURE:

- 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



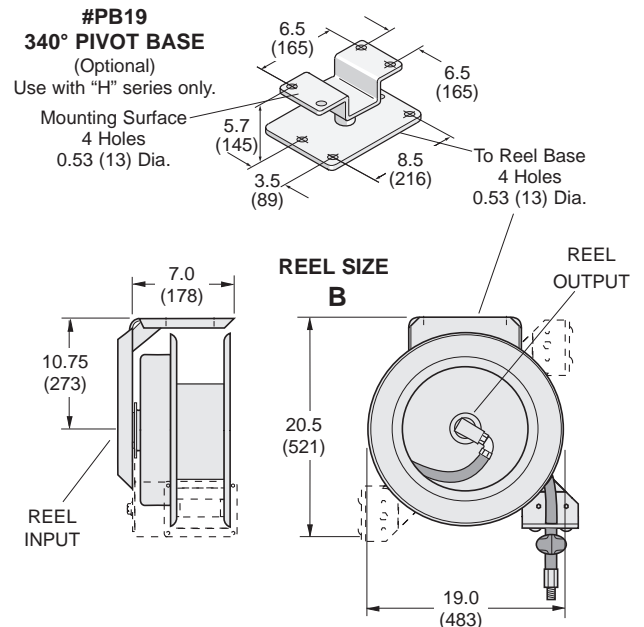
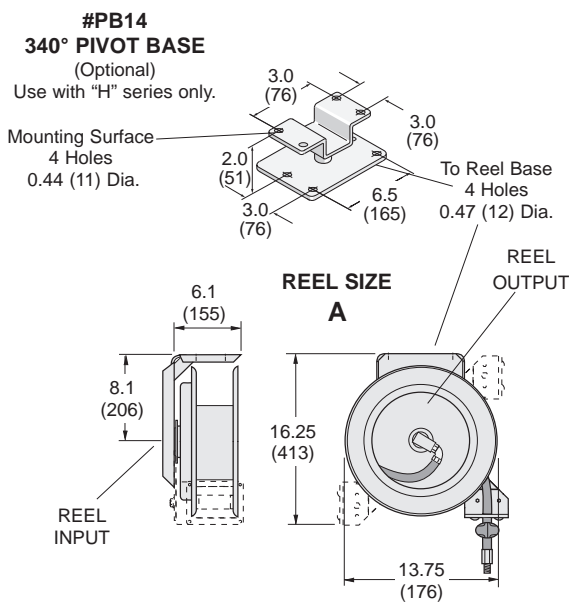
- Connect machines to air/water supply.
- Hand pull, with or without ratchet stop. Ideal for fluids, compressed air.
- Mount base up, down or to wall for vertical or horizontal hose travel.
- Add optional 340° pivot; reel turns to follow hose pay-out.

E-Z™ PULL APPLICATION:

- Mount under workbench or low on wall.
- Supply air to tools, compressed air for inflating or cleaning.
- Increase safety...hose does not "fly back" to reel.

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 lbs. (kg)	HOSE STOP	340° BASE (OPT)
INSIDE DIA. in. (mm)	INPUT & OUTPUT FITTINGS	MAX LENGTH ft. (m)	MAX PRES. psi (N/mm ²)							
1/4 (6)	0.25 NPTF	25 (7.5)	315 (2.17)	HC2525	A	EZ4-2525	A	30 (13)	CP-2	PB14
		35 (10.5)		HC2535		EZ4-2535				
		50 (15.0)		HE2550		EZ9-2550				
3/8 (9)	0.38 NPTF	25 (7.5)		HC3825		A	EZ4-3825			
		35 (10.5)		HD3835			EZ4-3835			
		50 (15.0)		HF3850			EZ9-3850			
1/2 (13)	0.50 NPTF	25 (7.5)		HG5025	B	EZ9-5025	B	62 (28)	CP-3	PB19
		35 (10.5)		HG5035		EZ9-5035				
		50 (15.0)		HG5050		EZ9-5050				

REEL AND BASE DIMENSIONS



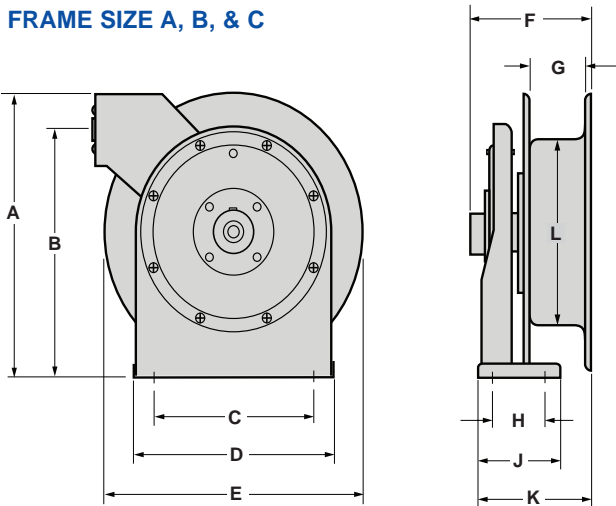
INDUSTRIAL DUTY HOSE REELS

Mount from ceiling, wall or under bench. Choose 1/4", 3/8" or 1/2" PVC hose. Full flow shaft and swivel assure maximum product delivery. Reels feature spring roller hose guide structure. Steel baked polyester reel input convenient 3' fitting on as output hose on reel spool.

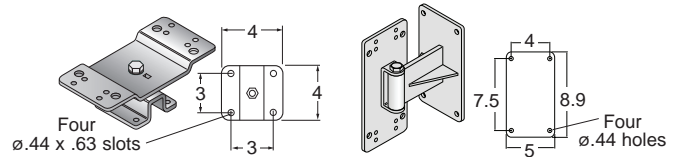


Description	Hose Specifications					Input Hose Fitting	Model
	Max. Pressure psi	I.D. in.	O.D. in.	Length ft.	Hose Material		
Reel-1/4" x 25' Hose	300	1/4	.50	25	PVC	1/4 NPTF	GHA2525
Reel-1/4" x 35' Hose	300	1/4	.50	35	PVC	1/4 NPTF	GHA2535
Reel-3/8" x 25' Hose	300	3/8	.64	25	PVC	3/8 NPTF	GHA3825
Reel-1/4" x 50' Hose	300	1/4	.50	50	PVC	1/4 NPTF	GHB2550
Reel-3/8" x 35' Hose	300	3/8	.64	35	PVC	3/8 NPTF	GHB3835
Reel-1/2" x 25' Hose	300	1/2	.78	25	PVC	1/2NPTF	GHB5025
Reel-3/8" x 50' Hose	300	3/8	.64	50	PVC	3/8 NPTF	GHC3850
Reel-1/2" x 35' Hose	300	1/2	.78	35	PVC	1/2 NPTF	GHC5035

FRAME SIZE A, B, & C



FRAME SIZE A in (mm)											
A	B	C	D	E	F	G	H	J	K	L	
12.875 (327)	11.25 (286)	8.00 (203)	9.875 (250)	12.125 (308)	5.50 (140)	2.50 (64)	2.50 (64)	4.00 (102)	5.09 (132)	8.375 (213)	
FRAME SIZE B in (mm)											
A	B	C	D	E	F	G	H	J	K	L	
14.50 (368)	12.813 (325)	9.75 (248)	11.25 (285)	13.75 (349)	6.188 (157)	3.156 (80)	2.50 (64)	4.00 (102)	5.875 (149)	8.375 (213)	
FRAME SIZE C in (mm)											
A	B	C	D	E	F	G	H	J	K	L	
17.50 (445)	15.625 (286)	9.75 (248)	11.25 (285)	16.50 (419)	6.186 (157)	3.156 (80)	2.50 (64)	4.00 (102)	5.875 (149)	10.25 (260)	



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

Optional Wall Mounted Pivot Base
Model RC-WP (right, above)
Provides 180° pivot.

NOTE: Either base fits all reel sizes.



**This page reserved
for new reel series
now being developed.**

INDUSTRIAL DUTY CORD REELS

Open Spool Cord reels with fluorescent or incandescent lamp, single or dual outlets. Reels are also available with bare cord end. All Reels include Automatic Spring Rewind and a Multi-position Four Roller Cord Guide and a 48" Supply Pigtail with Three Prong Plug.



**Reel with
FLUORESCENT LAMP**

These reels are ideal for a wide variety of industrial applications mounted from wall, ceiling or under work bench. These reels are available with your choice of single or dual outlet, incandescent hand lamp, fluorescent hand lamp or with bare cord. Cord lengths from 25' to 70'. All reels include an adjustable cord stop, automatic 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. Reels feature heavy steel frame with baked-on polyester finish. Collector housing is made from a non-conductive, hi-impact thermoplastic. Both hand lamps include an on-off switch. The Fluorescent Lamp features a directed light with a polycarbonate outer tube and an integral ballast. The Twenty amp Dual Outlet Box includes a ground fault circuit interrupter (GFCI). Consult factory if installation height is greater than 16'.



**Reel with
INCANDESCENT LAMP**



**Reel with
SINGLE OUTLET**



**Reel with
DUPLEX OUTLET BOX**

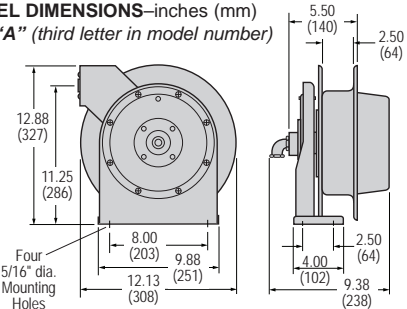
MODEL LIST—CORD REELS

Incl. Cord	Accessory	Amps	CORD DATA*			Weight lbs. (kg)	Model
			AWG	Cond.	Length ft. (m)		
Yes	Incandescent	15	16	3	25 (8)	23.3 (10.6)	GCA16325-HL
Yes	Incandescent	15	16	3	35 (11)	24.2 (11.0)	GCA16335-HL
Yes	Incandescent	15	16	3	50 (15)	25.6 (11.6)	GCA16350-HL
Yes	Incandescent	15	16	3	70 (21)	40.0 (18.2)	GCC16370-HL
Yes	Fluorescent	0.3	16	3	25 (8)	23.8 (10.8)	GCA16325-FL
Yes	Fluorescent	0.3	16	3	35 (11)	24.7 (11.2)	GCA16335-FL
Yes	Fluorescent	0.3	16	3	50 (15)	26.0 (11.8)	GCA16350-FL
Yes	Fluorescent	0.3	16	3	70 (21)	40.5 (18.4)	GCC16370-FL
Yes	Single Recept	15	16	3	25 (8)	22.8 (10.4)	GCA16325-SR
Yes	Single Recept	15	16	3	35 (11)	23.7 (10.8)	GCA16335-SR
Yes	Single Recept	15	16	3	50 (15)	25.0 (11.4)	GCA16350-SR
Yes	Single Recept	15	16	3	70 (21)	35.3 (16.1)	GCC16370-SR
Yes	Single Recept	15	14	3	25 (8)	24.5 (11.1)	GCA14325-SR
Yes	Single Recept	15	14	3	35 (11)	26.1 (11.8)	GCA14335-SR
Yes	Single Recept	15	14	3	50 (15)	28.5 (12.9)	GCA14350-SR
Yes	Single Recept	15	14	3	70 (21)	36.6 (16.6)	GCC14370-SR
Yes	Single Recept	20	12	3	25 (8)	23.7 (10.8)	GCA12325-SR
Yes	Single Recept	20	12	3	35 (11)	25.0 (11.4)	GCA12335-SR
Yes	Single Recept	20	12	3	45 (14)	26.9 (12.3)	GCA12345-SR
Yes	Single Recept	20	12	3	50 (15)	42.7 (19.4)	GCC12350-SR
Yes	Single Recept	20	12	3	70 (21)	47.6 (21.6)	GCC12370-SR
Yes	Dual Recept	20	12	3	25 (8)	23.4 (10.6)	GCA12325-DR
Yes	Dual Recept	20	12	3	35 (11)	24.7 (11.2)	GCA12335-DR
Yes	Dual Recept	20	12	3	45 (14)	26.0 (11.8)	GCA12345-DR
Yes	Dual Recept	20	12	3	50 (15)	44.2 (20.1)	GCC12350-DR
Yes	Dual Recept	20	12	3	70 (21)	49.1 (22.3)	GCC12370-DR
Yes	None	15	16	3	25 (8)	521.7 (9.9)	GCA16325-BC
Yes	None	15	16	3	35 (11)	22.4 (10.2)	GCA16335-BC
Yes	None	15	16	3	50 (15)	23.4 (10.6)	GCA16350-BC
Yes	None	15	16	3	70 (21)	34.8 (18.8)	GCC16370-BC
Yes	None	15	14	3	25 (8)	22.2 (10.1)	GCA14325-BC
Yes	None	15	14	3	35 (11)	23.1 (10.5)	GCA14335-BC
Yes	None	15	14	3	50 (15)	24.4 (11.1)	GCA14350-BC
Yes	None	15	14	3	70 (21)	36.2 (16.4)	GCC14370-BC
Yes	None	20	12	3	25 (8)	23.2 (10.6)	GCA12325-BC
Yes	None	20	12	3	35 (11)	24.5 (11.1)	GCA12335-BC
Yes	None	20	12	3	45 (14)	25.8 (11.7)	GCA12345-BC
Yes	None	20	12	3	50 (15)	42.2 (19.2)	GCC12350-BC
Yes	None	20	12	3	70 (21)	47.1 (21.4)	GCC12370-BC

* All cords Type SJOW-A/SJO.

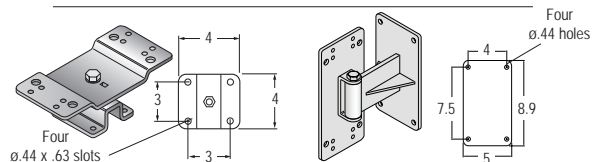
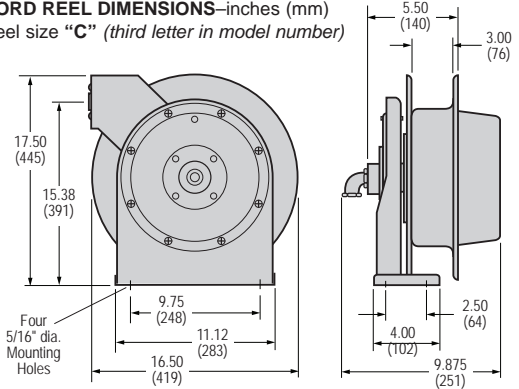
CORD REEL DIMENSIONS—inches (mm)

Reel size "A" (third letter in model number)



CORD REEL DIMENSIONS—inches (mm)

Reel size "C" (third letter in model number)



Optional 340° Pivot Base
Model RC-PB-B (left, above)

Reel follows activity for smoother operation, reduced cord wear.

Optional Wall Mounted Pivot Base
Model RC-WP (right, above)
Provides 180° pivot.

NOTE: Either base fits all reel sizes.

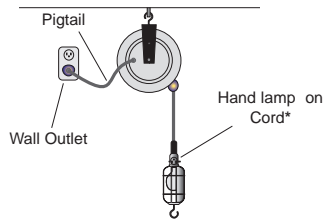


COMPACT CORD REELS

INDOOR Model

SPECIFICATIONS

Heavy gauge steel housing with white polyester baked-on finish, hardware for ceiling or wall mounting (swinging), positive ratchet lock and cord stop, designed for indoor use. 26 inch (660mm) pigtail, included. Plugs into standard outlet. Also available with bare wire.



Model GL-1630 (Above and right)

Reel w/Incandescent Lamp*

Metal Guard/Reflector, Convenience Receptacle in Handle (10 Amp, ground pin), Switch

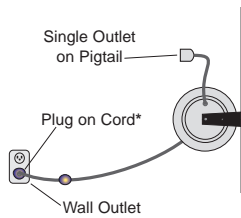
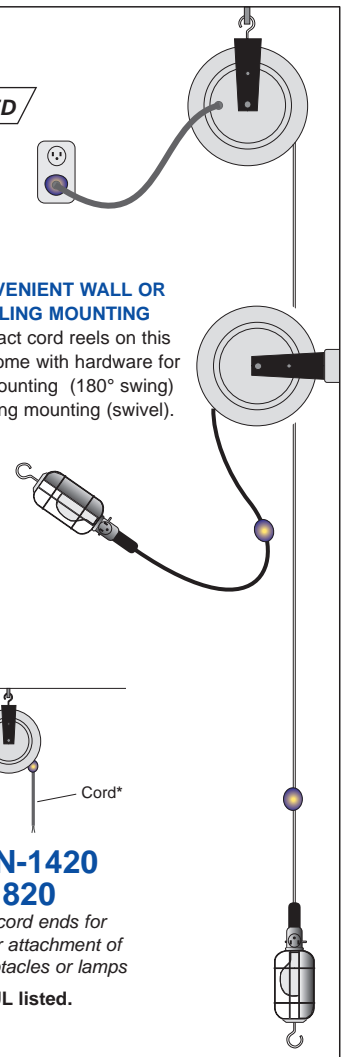
* Lamp included in box for user attachment.



CORD INCLUDED

CONVENIENT WALL OR CEILING MOUNTING

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

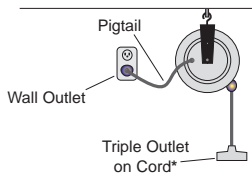


Model GN-1420-SPB

Designed for mounting on carts. Reel w/Single Receptacle on pigtail, plug on extendible cord.

10 Amp Rating

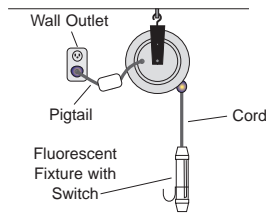
NOTE: Not UL listed.



Model GP-1630

Reel w/Triple Receptacle on extendible cord, plug on pigtail.

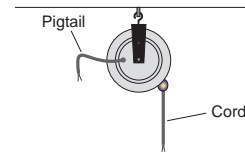
10 Amp Rating



Model GF-1820 or GF-1840

Reel w/Fluorescent Tube

Twin Lamp (13 watt), Switch



Model GN-1420 or GN-1820

Reel w/Bare cord ends for hard wiring or attachment of custom receptacles or lamps

NOTE: Not UL listed.

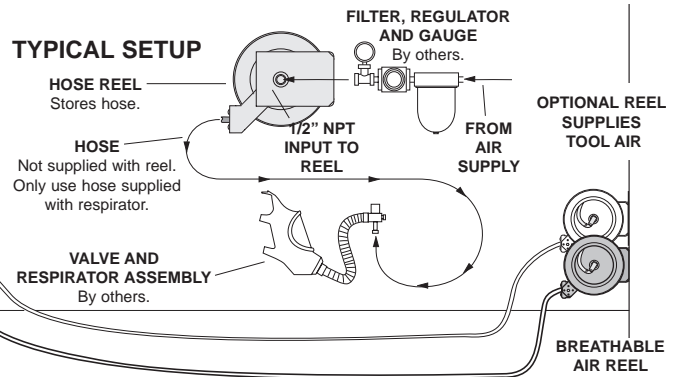
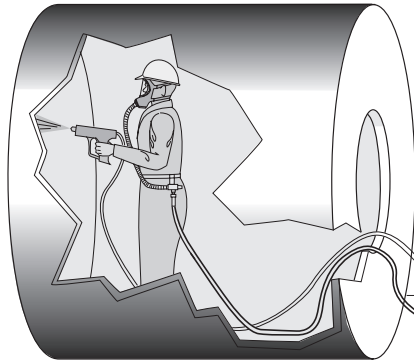
Selection Chart for Reels shown on this page

FITTING INCLUDED	CORD TYPE (2)	*CORD LENGTH ft. (m)	MAX AMPS	PIGTAIL LENGTH in. (mm)	PIGTAIL PLUG	REEL DESIGN	REEL SIZE l x h x w		WEIGHT lbs. (kg)	MODEL NUMBER
							in.	(mm)		
Incandescent(1)	16/3 SJT	30 (9.0)	10	26 (660)	Yes	Compact	10 x 10 x 3	(254 x 254 x 76)	8.75 (3.9)	GL-1630
Triple Outlet	16/3 SJT	30 (9.0)	10	26 (660)	Yes	Compact	10 x 10 x 3	(254 x 254 x 76)	8.50 (3.8)	GP-1630
Single Outlet(3)	14/3 SJT	20 (6.0)	13	26 (660)	Outlet	Compact	10 x 10 x 3	(254 x 254 x 76)	8.50 (3.8)	GN-1420-SPB
Fluorescent	18/2 SVT	20 (6.0)	-	26 (660)	Yes	Compact	7 x 7 x 2	(178 x 178 x 51)	5.50 (2.5)	GF-1820
Fluorescent	18/2 SJTOW-A	40 (12.0)	-	26 (660)	Yes	Compact	10 x 10 x 3	(254 x 254 x 76)	9.50 (4.3)	GF-1840
None(4)	14/3 SJTO	20 (6.0)	13	21 (533)	No	Compact	10 x 10 x 3	(254 x 254 x 76)	7.00 (3.2)	GN-1420
None(4)	18/3 SVT	20 (6.0)	7	21 (533)	No	Compact	7 x 7 x 2	(178 x 178 x 51)	3.00 (1.4)	GN-1820

- NOTES: (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.

CLEAN AIR HOSE REELS

EZ PULL™ CLEAN AIR HOSE REELS are engineered to safely and efficiently store the hose from an air line 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.

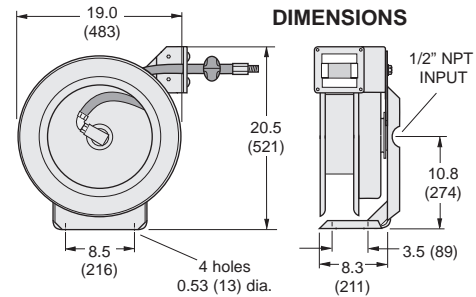


EZ PULL CLEAN AIR REELS include stainless steel air path. Also includes ball stop and ratchet lock. Finish is OSHA safety blue baked-on polyester. 3/4"-16 UNF fitting to fit MSA #455022 hose or equivalent. **Does not include hose.**

HOSE NOT INCLUDED

HOSE DATA*			MODEL NUMBER*	REEL SIZE
OUTSIDE DIAMETER in. (mm)	LENGTH MAX. ft. (m)	WEIGHT MAX. lbs. (kg)		
7/8" (22)	50 (15)	15.0 (6.8)	EZ9-5000-CA	EZ9

*Reel includes ball stop for hose and ratchet lock.



ELECTRIC CABLE REELS

Locking Cable Reels

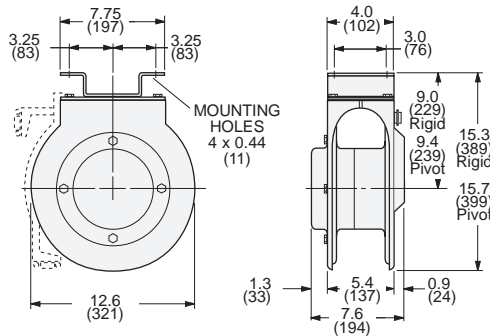
SERIES ER FOR GENERAL PURPOSE

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

Series "ER"

Includes Cable, Lock & Rigid Base

WIRE SIZE (AWG)	NO. OF COND.	CABLE LENGTH ft. (m)	WEIGHT COMPLETE lbs. (kg.)	MODEL NUMBER
18	2	45 (13.5)	49 (22.1)	ER21845
18	3	45 (13.5)	49 (22.1)	ER31845
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)	46 (20.7)	ER41640
14	2	40 (12)	51 (22.9)	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



INCLUDED:

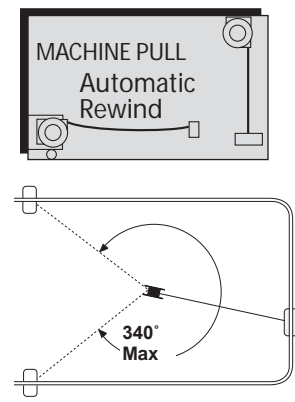
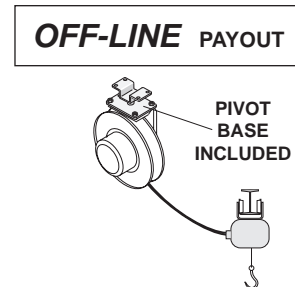
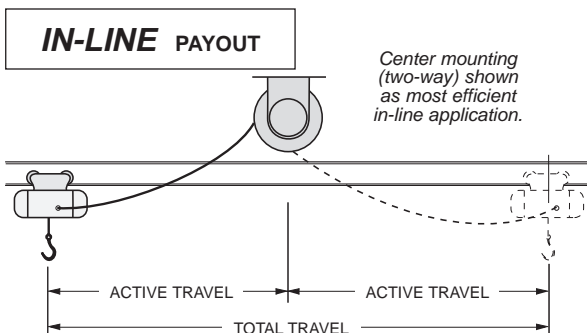
- Cable
- Rigid Mounting Base
- Ratchet Lock with "OFF"



General Purpose Reels are CSA listed.

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.





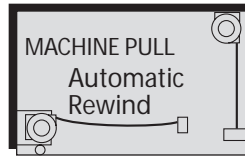
Workplace Solutions

REELS

Heavy Duty ELECTRIC CABLE REELS

SERIES "G" FEATURES GENERAL PURPOSE MODELS

- Fully Automatic; Machine Mountable
- All-Welded Solid Steel Construction
- Slip Rings in NEMA 4 Enclosure
- Generously Sized Junction Box
- Heavy Duty Mounting Base
- Safetychange® Spring Motor
- Weatherproof Gasket on Spring Motor
- Positive Ratchet Lock with Disengage
- Multi-position Cable Guide (Field Adjustable)
- Orange Polyester Baked-On Finish
- Cable Included
- Field Adjustable Cable Stop Included
- Optional 340° Pivot Base



Series "G" Model Chart

CABLE INCLUDED

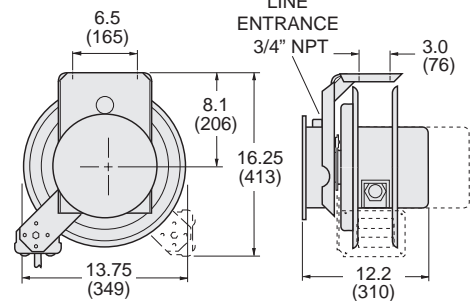
Models listed below are UL and CSA listed.



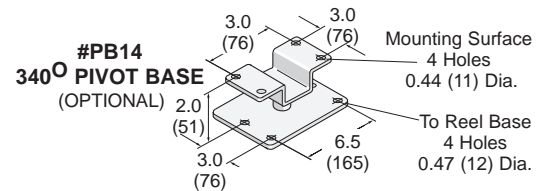
CABLE DATA				REEL CATALOG NUMBER	FLANGE DIA. in. (mm)	WEIGHT COMPLETE lbs. (kg)	340° BASE (OPTIONAL)	CABLE STOP (INCLUDED)	
RATING @600V	AWG	NO. COND.	LENGTH* ft. (m)						
10 Amp	16	3	20 (6.0)	G-232	14 (356)	39 (17.6)	PB14	CP-1	
			30 (9.0)	G-224		42 (18.9)			
			40 (12.0)	G-231		48 (21.6)			
			45 (13.5)	G-228		49 (22.0)			
			60 (18.0)	G-429		82 (36.9)			
8 Amp	16	4	20 (6.0)	G-233	14 (356)	40 (18.0)	PB14	CP-1	
			30 (9.0)	G-234		44 (19.8)			
			40 (12.0)	G-244		48 (21.6)			
			50 (15.0)	G-238		49 (22.0)			
	6	16	6	60 (18.0)	G-439	16 (406)	82 (36.9)		PB16
				45 (13.5)	G-206		54 (24.3)		
				50 (15.0)	G-26B		56 (25.2)		
				40 (12.0)	G-28B		56 (25.2)		
7 Amp	8	8	45 (13.5)	G-38B	14 (356)	56 (25.2)	PB14	CP-2	
			10	G-30B		54 (24.3)			
			12	G-32B		55 (24.8)			
15 Amp	14	3	20 (6.0)	G-331	14 (356)	40 (18.0)	PB14	CP-2	
			30 (9.0)	G-253		46 (20.7)			
			40 (12.0)	G-334		50 (22.5)			
12 Amp	14	4	50 (15.0)	G-358	16 (406)	54 (24.3)	PB16	CP-2	
			70 (21.0)	G-459		84 (37.8)			
			20 (6.0)	G-342		40 (18.0)			
			25 (7.5)	G-343		44 (19.8)			
	6	14	4	30 (9.0)	G-363	14 (356)	48 (21.6)		PB14
				40 (12.0)	G-344		52 (23.4)		
				50 (15.0)	G-367		56 (25.2)		
				65 (17.5)	G-469		86 (38.7)		
10 Amp	8	8	35 (10.5)	G-36C	16 (406)	52 (23.4)	PB14	CP-2	
			50 (15.0)	G-46C		92 (41.4)			
			25 (7.5)	G-38C		52 (23.4)			
20 Amp	12	3	30 (9.0)	G-48C	14 (356)	49 (22.1)	PB14	CP-3	
			20 (6.0)	G-40C		53 (23.9)			
			20 (6.0)	G-332		40 (18.0)			
			25 (7.5)	G-383		44 (19.8)			
			30 (9.0)	G-333		46 (20.7)			
	4	16	6	35 (10.5)	G-385	16 (406)	47 (21.2)		PB16
				45 (13.5)	G-435		55 (24.8)		
				50 (15.0)	G-436		69 (31.1)		
				60 (18.0)	G-430		85 (38.3)		
				20 (6.0)	G-346		40 (18.0)		
16 Amp	4	4	30 (9.0)	G-394	14 (356)	48 (21.6)	PB14		
			40 (12.0)	G-444		52 (23.4)			
			50 (15.0)	G-445		86 (38.7)			
14 Amp	6	8	60 (18.0)	G-446	16 (406)	89 (40.1)	PB16		
			25 (7.5)	G-463		51 (23.0)			
			20 (6.0)	G-482		52 (23.4)			
25 Amp	10	3	20 (6.0)	G-241	14 (356)	44 (19.8)	PB14	CP-2	
			25 (7.5)	G-242		46 (20.7)			
			30 (9.0)	G-433		48 (21.6)			
	4	16	6	40 (12.0)	G-434	16 (406)	50 (22.5)		PB16
				50 (15.0)	G-535		86 (28.7)		
				60 (18.0)	G-536		89 (40.1)		
20 Amp	6	4	20 (6.0)	G-452	14 (356)	49 (22.1)	PB14		
			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	6	20 (6.0)	G-462	14 (356)	52 (23.4)	PB14		
			30 (9.0)	G-564		80 (36.0)			

* Length of cable listed is for ACTIVE travel.

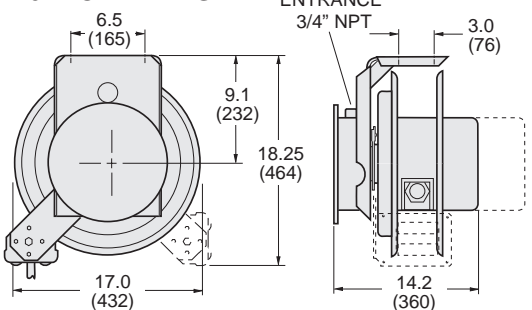
14 INCH REELS



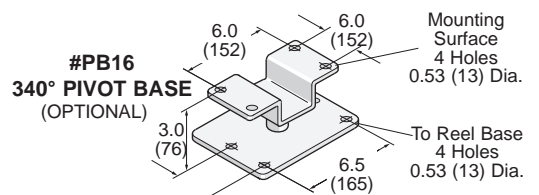
Length shown 3 or 4 conductor reel.
For 5 - 8 conductor, add 1.50" (38mm).
For 9 - 12 conductor, add 3.00" (76mm).



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).





OUTLETS and LIGHTS



Model FL-120
Fluorescent Hand Lamp Only.
Does not include reel.

Protected switch, Cushioned end cap.
Polycarbonate outer tube and end lens.
Directed Light...from one side plus magnified from end.
Integral Ballast. 13 watt, 900 lumen PLS-13 lamp (included).



Model DR-GFCI
Duplex Receptacle Only.
Does not include reel.

All Metal Box with Hinged Cover,
NEMA #5-20R Receptacles, Cord Grip,
Ground Fault Circuit Interrupter



Model SR-15A
Receptacle Only.
Does not include reel.
Single Outlet, 15 Amp



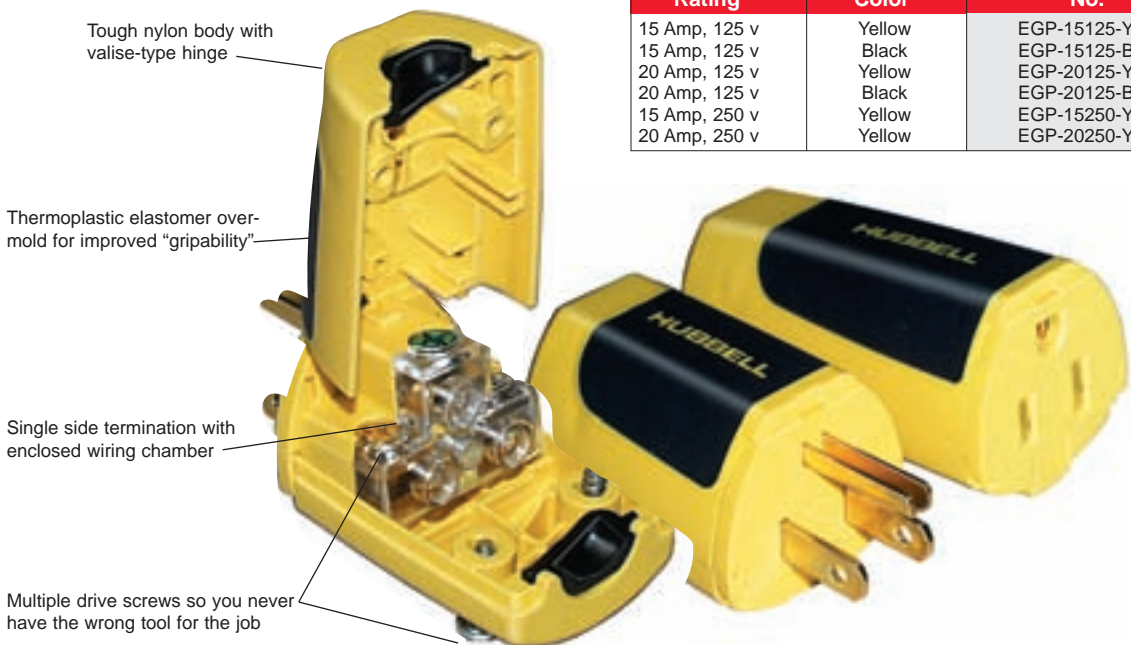
Model EHL-120
Hand Lamp Only.
Does not include reel.

Plastic Grip, Switch,
Metal Guard/Reflector,
Receptacle



Hubbell ERGO Grip Plugs and Connectors are new inside and outside. On the outside, the unique rounded shape perfectly fits the hand while the exclusive thermoplastic elastomer overmold provides a superior gripping surface. On the inside, a single side wiring system saves time, money and effort. Simply insert the three conductors into the clear polycarbonate retainer, tighten the screws, close and secure the housing, and the plug or connector is ready for work. Other highly salable features include: tough nylon body with valise-type hinge, integral cord grip, multiple drive screws (accommodate slotted, Phillips and Robertson type drivers), enclosed clear polycarbonate wiring chamber which inhibits entry of contaminants while allowing visual inspection of terminals. Available in 15 and 20 amp, 125 and 250 volt configurations, the plugs and connectors are offered in either safety yellow or black which is widely used in the entertainment industry.

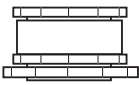
Rating	Color	Plug No.	Connector No.
15 Amp, 125 v	Yellow	EGP-15125-Y	EGC-15125-Y
15 Amp, 125 v	Black	EGP-15125-B	EGC-15125-B
20 Amp, 125 v	Yellow	EGP-20125-Y	EGC-20125-Y
20 Amp, 125 v	Black	EGP-20125-B	EGC-20125-B
15 Amp, 250 v	Yellow	EGP-15250-Y	EGC-15250-Y
20 Amp, 250 v	Yellow	EGP-20250-Y	EGC-20250-Y





CONNECTORS

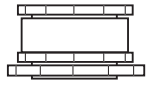
for
**ROUND
CABLE**



BRASS MODELS	CABLE O.D. RANGE in.	CLEARANCE HOLE REQ'D in. (mm)
CBR-01	0.275 - 0.492	0.750 (19)
CBR-02	0.275 - 0.590	0.812 (21)
CBR-03	0.315 - 0.630	0.906 (23)
CBR-04	0.433 - 0.866	1.125 (29)
CBR-05	0.748 - 1.220	1.469 (37)

PLASTIC MODELS	CABLE O.D. RANGE in.	CLEARANCE HOLE REQ'D in. (mm)
CPR-11	0.231 - 0.394	0.750 (19)
CPR-12	0.270 - 0.480	0.812 (21)
CPR-13	0.428 - 0.546	0.906 (23)
CPR-14	0.545 - 0.709	1.125 (29)
CPR-15	0.709 - 1.000	1.469 (37)

for
**FLAT
CABLE**



BRASS MODELS	CABLE THICK RANGE in.	CABLE WIDTH RANGE in.	CLEARANCE HOLE REQ'D in. (mm)
CBF-21	0.16 - 0.45	0.55 - 1.18	1.469 (37)
CBF-22	0.16 - 0.45	0.94 - 1.57	1.875 (48)
CBF-23	0.20 - 0.47	1.14 - 1.77	2.125 (54)
CBF-24	0.20 - 0.47	1.34 - 1.97	2.375 (60)

PLASTIC MODELS	CABLE THICK RANGE in.	CABLE WIDTH RANGE in.	CLEARANCE HOLE REQ'D in. (mm)
CPF-31	0.16 - 0.45	0.55 - 1.02	1.469 (37)
CPF-32	0.16 - 0.45	0.94 - 1.34	1.875 (48)
CPF-33	0.20 - 0.47	1.14 - 1.57	2.125 (54)
CPF-34	0.20 - 0.47	1.14 - 1.77	2.375 (60)

CABLE & HOSE

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.

Type SO -600 VOLT

16 AWG.			14 AWG.			12 AWG.			10 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)	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)	2	0.638 (16)	0.250 (0.11)
3	0.393 (10)	0.110 (0.05)	3	0.538 (14)	0.184 (0.08)	3	0.616 (16)	0.244 (0.11)	3	0.671 (17)	0.310 (0.14)
4	0.427 (11)	0.144 (0.06)	4	0.584 (15)	0.224 (0.10)	4	0.668 (17)	0.282 (0.13)	4	0.730 (19)	0.371 (0.17)
5	0.510 (13)	0.156 (0.07)	5	0.665 (17)	0.160 (0.12)	5	0.725 (18)	0.322 (0.14)	5	0.796 (20)	0.425 (0.19)
6	0.565 (14)	0.178 (0.08)	6	0.710 (18)	0.302 (0.14)	6	0.805 (20)	0.380 (0.17)	6	0.883 (22)	0.485 (0.22)
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)									

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/ft. lbs. (kg)	NO. COND.	DIA. in. (mm)	WEIGHT/ft. lbs. (kg)
2	0.788 (20)	0.328 (0.15)	2	0.872 (22)	0.425 (0.19)	2	0.980 (25)	0.575 (0.26)
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	0.22(6) x 1.16(29)	0.18 (.08)
	12	0.22(6) x 1.66(42)	0.27 (.12)
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	0.29(7) x 0.91(23)	0.24 (.11)
8	4	0.39(9) x 1.24(31)	0.42 (.19)
6	4	0.45(11) x 1.50(38)	0.60 (.27)
4	4	0.52(13) x 1.74(44)	0.75 (.34)

Hose

GENERAL PURPOSE

I.D. in. (mm)	BRAID	O.D. in. (mm)	MAX PRES 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)

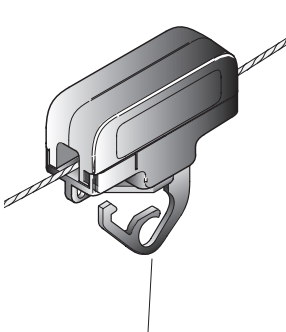
SINGLE HYDRAULIC

I.D. in. (mm)	BRAID	O.D. in. (mm)	MAX PRES 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	0.23 (.10)
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)

Lock 'n Roll

FESTOON TROLLEYS

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.



**#WRS-01
MOLDED NYLON
TROLLEY**

Includes steel Labyrinth hook.



WRS-02 TROLLEY with CONNECTOR

Wire rope, tool balancer and air hose not included.

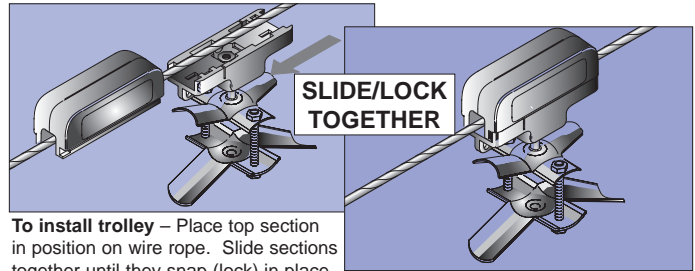
#WRS-01 SINGLE HOOK TROLLEY

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 is 4 oz(0.1kg).

#WRS-02 SINGLE HOOK TROLLEY with HOSE CONNECTOR

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

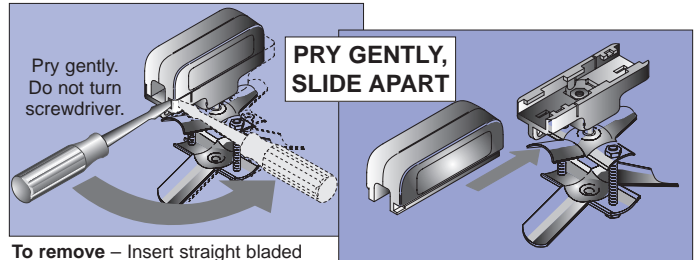
• INSTALL QUICKLY •



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)



#FRT-04

For round cable or hose, 0.31" thru 0.59"

(7 – 15mm) OD.

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) OD.

Fits 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) OD.

Fits 0.75" (19mm) I.D. hose. Special consideration should be given 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.



FESTOON KITS—WIRE ROPE

Kits feature **Lock'n Roll** trolleys and include 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

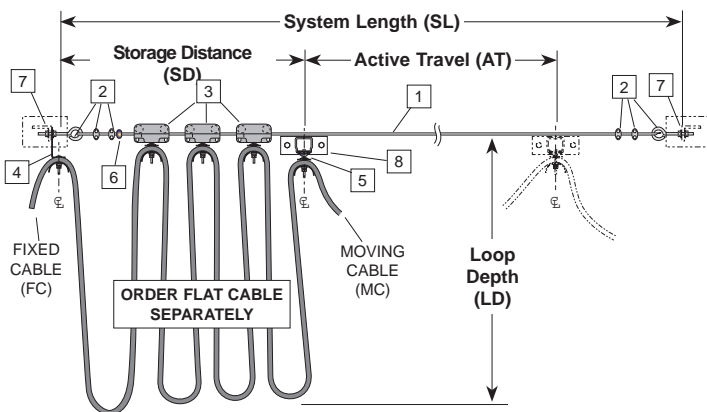
ACTIVE TRAVEL "AT"		KIT NO.	SYSTEM LENGTH "SL"		STORAGE DISTANCE "SD"		⁽¹⁾ MINIMUM CABLE REQUIRED	
LOOP DEPTH For planning purposes. ⁽²⁾ 30" 48"			LOOP DEPTH For planning purposes. ⁽²⁾ 30" 48"		MINIMUM. May be greater with stiff cable or short loop.		LOOP DEPTH For planning purposes. ⁽²⁾ 30" 48"	
12'	20'	FF08-02	14'	23'	21"	15'	24'	
16'	27'	FF08-03	19'	30'	25"	20'	32'	
20'	33'	FF08-04	23'	37'	28"	24'	39'	
24'	40'	FF08-05	27'	44'	32"	29'	47'	
28'	47'	FF08-06	32'	51'	35"	34'	55'	
32'	54'	FF08-07	36'	58'	39"	39'	63'	
36'	60'	FF08-08	40'	65'	42"	43'	70'	

⁽¹⁾ **MINIMUM CABLE REQUIRED** length listed in chart is enough for **ACTIVE TRAVEL** only, measured centerline to centerline; see diagrams below. **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.

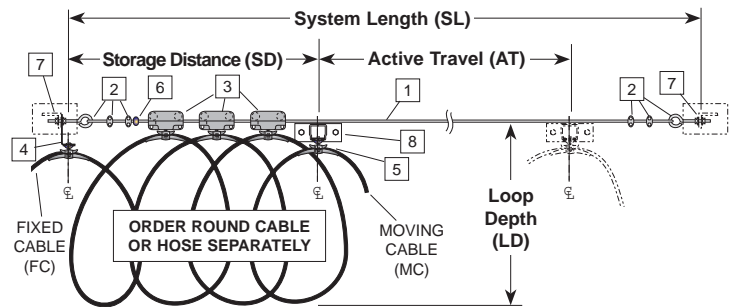
ROUND CABLE & HOSE KITS

ACTIVE TRAVEL "AT"		KIT NO.	SYSTEM LENGTH "SL"		STORAGE DISTANCE "SD"		⁽¹⁾ MINIMUM CABLE/HOSE REQUIRED	
LOOP DEPTH For planning purposes. ⁽²⁾ 30" 48"			LOOP DEPTH For planning purposes. ⁽²⁾ 30" 48"		MINIMUM. May be greater with stiff cable or short loop.		LOOP DEPTH For planning purposes. ⁽²⁾ 30" 48"	
10'	18'	FR04*-02	13'	21'	21"	16'	25'	
14'	24'	FR04*-03	17'	27'	25"	22'	34'	
17'	30'	FR04*-04	21'	34'	28"	27'	42'	
21'	37'	FR04*-05	25'	40'	32"	32'	50'	
25'	43'	FR04*-06	28'	47'	35"	38'	58'	
28'	49'	FR04*-07	32'	53'	39"	43'	67'	
32'	55'	FR04*-08	36'	60'	42"	48'	75'	



KIT NUMBER EXPLANATION

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

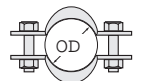


KIT NUMBER EXPLANATION

Example: **FR** **04*** - **03**
 Type Saddle size Number Trolleys
 (Round cable/hose) (0.30" - 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 = 0.30" 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
- 5 Tow Clamp/Clip (1)
- 6 Bumper Stop (2)
- 7 Tension Bracket, optional. Tow arm bracket, optional.

STEEL TROLLEY

FESTOON KITS—WIRE ROPE

The quickest way to select a Tag-Line festoon system is to use kits. For single cables/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.

SELECTING A KIT:

STEP 1 Determine Active Travel (AT) required and choose the appropriate kit from either the Flat Cable (WF) or Round Cable/hose (WR) table.

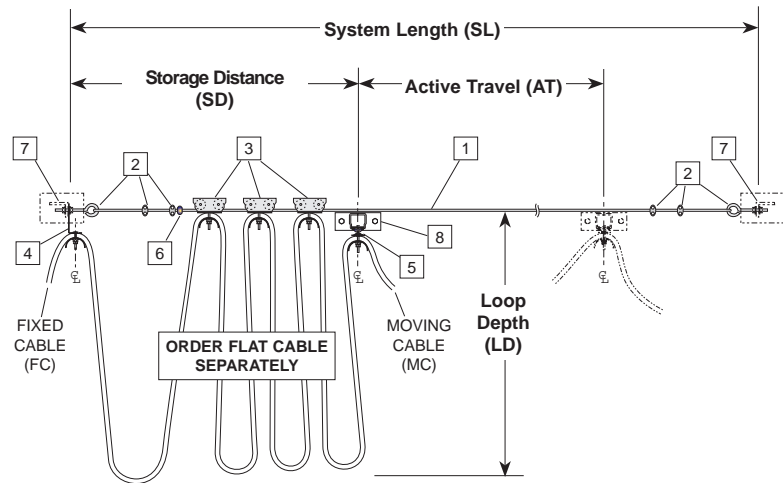
STEP 2 Loop depth is assumed at 36" for all kits. Adjust to suit. Longer loop depth provides greater Active Travel...shorter loop depth provides less Active Travel. NOTE: Wire rope in kits is sufficient for System Length (SL) shown plus amount needed for securing at each end. If longer loop depth is 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	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"



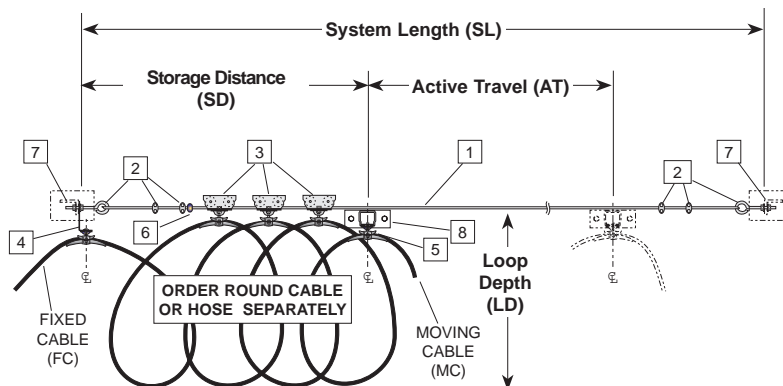
KIT NUMBER EXPLANATION

Example: **WF** **03** - **36**
 Type Number Trolleys Loop Depth
 (Flat cable) (Three) - (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.

ROUND CABLE & HOSE KITS

KIT NUMBER	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: **WR** **03** - **36**
 Type Number Trolleys Loop Depth
 (Round cable) (Three) - (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).

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

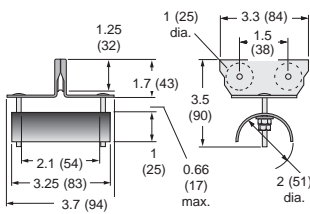
- 1 Wire Rope, length to suit SL
- 2 Hardware as required
- 3 Intermediate trolleys, by model
- 4 End Clamp (1)
- 5 Tow Clamp/Clip (1)
- 6 Bumper Stop (2)
- 7 Tension Bracket, optional.
- 8 Tow arm bracket, optional.



**ADD TO FESTOON KITS OR BUILD FROM SCRATCH.
STEEL OR *Lock 'n Roll* TROLLEYS.**

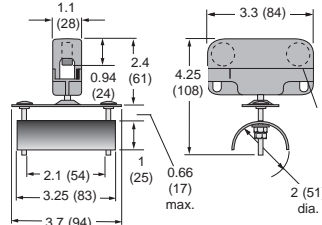
COMPONENTS – Wire Rope Festoon

FLAT CABLE FESTOON COMPONENTS



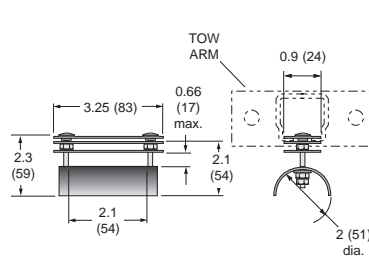
**STEEL TROLLEY
#W25-FC-32**

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



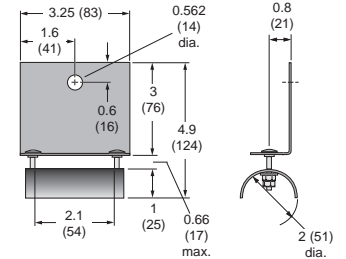
**Lock 'n Roll TROLLEY
#FFT-08**

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



**TOW CLAMP
#W25-FT-02**

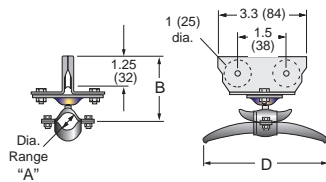
Description: Steel with zinc plating.



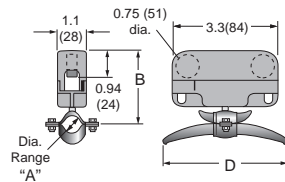
**END CLAMP
#W25-FE-02**

Description: Steel with zinc plating.

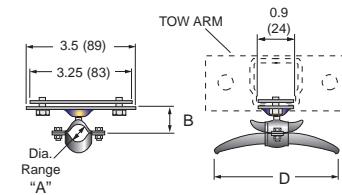
ROUND CABLE & HOSE FESTOON COMPONENTS



STEEL TROLLEY

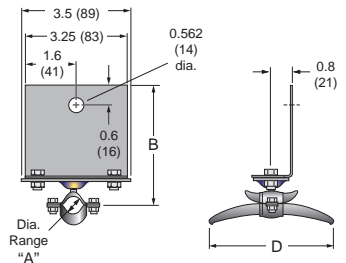


Lock 'n Roll TROLLEY



TOW CLAMP

Description: Steel with zinc plating.



END CLAMP

Description: Steel with zinc plating.

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.

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.

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.

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.

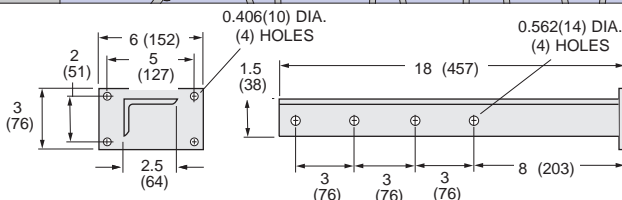
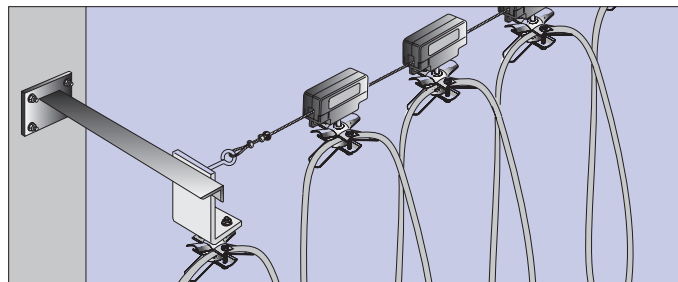
* For type of hose or cable included in each O.D. range, refer to previous pages or "CABLE & HOSE DATA".

OPTIONAL Components

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

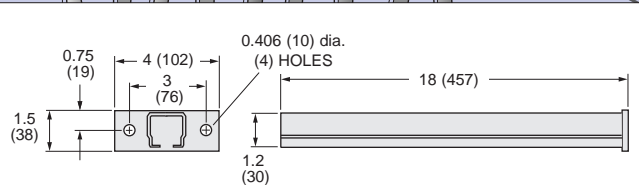
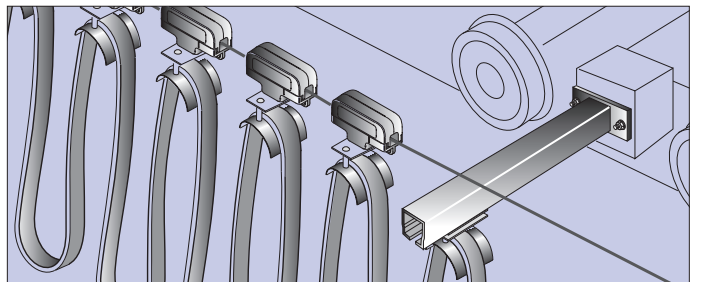
Tension Bracket #W25-BR-01

Anchor ends of wire rope and fixed end of festoon.



Tow Arm #W25-TA-01

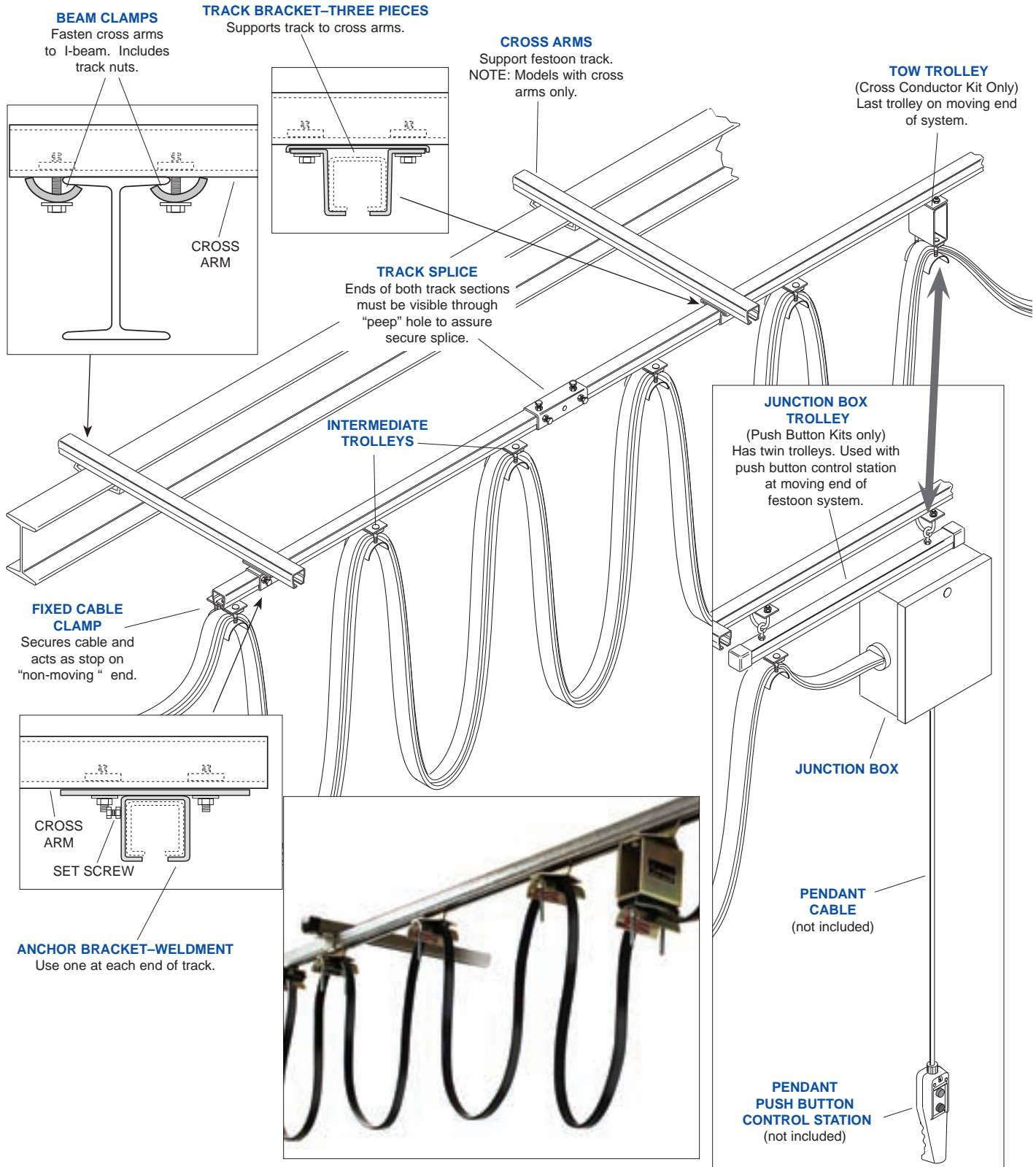
Use on moving end of festoon with Tow Clamp (above).



SPECIALLY DESIGNED FOR OVERHEAD CRANES

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 and trolleys, mounting clamps, cross support arms, even electrical cable which has been pre-installed on the trolleys. To install, clamp cross arms to beam or other support, affix track to support beams, roll trolleys into track and make electrical connections on each end. It's that simple. It's that fool-proof. Kits also available without cross arms and with spark resistant trolleys. Refer to model charts on following pages for system lengths and cables available.





14 Gauge Track Festooned Push Button (less pendant)
16 Conductor Flat Cables (#16-8C & #16-8C)

CRANE SPAN	10'	20'	30'	40'	50'	60'	70'	80'	90'	100'
W/cross arms	HNA13141	HNA14241	HNA14341	HNA14441	HNA14541	HNA14641	HNA14741	HNA14841	HNA14941	HNA15041
W/O cross arms*	HNA13142	HNA14242	HNA14342	HNA14442	HNA14542	HNA14642	HNA14742	HNA14842	HNA14942	HNA15042
Spark resistant**, W/cross arms	HNA21141	HNA21241	HNA21341	HNA21441	HNA21541	HNA21641	HNA21741	HNA21841	HNA21941	HNA22041
Spark Resistant**, W/O crossarms*	HNA21142	HNA21242	HNA21342	HNA21442	HNA21542	HNA21642	HNA21742	HNA21842	HNA21942	HNA22042

SYSTEM INCLUDES:

Roller Track (10 foot sections)	1	2	3	4	5	6	7	8	9	10
Track Splice	0	1	2	3	4	5	6	7	8	9
Track Bracket*	0	2	4	6	8	10	12	14	16	18
Anchor Bracket*	2	2	2	2	2	2	2	2	2	2
Cross Arms (30")*	2	4	6	8	10	12	14	16	18	20
Locking Beam Clamp	4	8	12	16	20	24	28	32	36	40
End Stop	1	1	1	1	1	1	1	1	1	1
Fixed Cable Clamp	1	1	1	1	1	1	1	1	1	1
Control Trolley	1	1	1	1	1	1	1	1	1	1
Intermediate Trolley	2	3	5	6	8	10	12	14	16	18
Control Cable #16-8c (length = system + hook-up)	2	2	2	2	2	2	2	2	2	2
Flat Cable Connector	2	2	2	2	2	2	2	2	2	2
Junction Box Assembly	1	1	1	1	1	1	1	1	1	1

14 Gauge Track Cross Conductors

12 Conductor Flat Cables (#14-4C & #16-8C)

CRANE SPAN	10'	20'	30'	40'	50'	60'	70'	80'	90'	100'
W/cross arms	HNA15141	HNA15241	HNA15341	HNA15441	HNA15541	HNA15641	HNA15741	HNA15841	HNA15941	HNA16041
W/O cross arms*	HNA15142	HNA15242	HNA15342	HNA15442	HNA15542	HNA15642	HNA15742	HNA15842	HNA15942	HNA16042
Spark resistant**, W/cross arms	HNA22141	HNA22241	HNA22341	HNA22441	HNA22541	HNA22641	HNA22741	HNA22841	HNA22941	HNA23041
Spark Resistant**, W/O crossarms*	HNA22142	HNA22242	HNA22342	HNA22442	HNA22542	HNA22642	HNA22742	HNA22842	HNA22942	HNA23042

SYSTEM INCLUDES:

Roller Track (10 foot sections)	1	2	3	4	5	6	7	8	9	10
Track Splice	0	1	2	3	4	5	6	7	8	9
Track Bracket*	0	2	4	6	8	10	12	14	16	18
Anchor Bracket*	2	2	2	2	2	2	2	2	2	2
Cross Arms (30")*	2	4	6	8	10	12	14	16	18	20
Locking Beam Clamp	4	8	12	16	20	24	28	32	36	40
End Stop	1	1	1	1	1	1	1	1	1	1
Fixed Cable Clamp	1	1	1	1	1	1	1	1	1	1
Tow Trolley	1	1	1	1	1	1	1	1	1	1
Intermediate Trolley	2	3	5	6	8	10	12	14	16	18
Power Cable #14-4C (length = system + hook-up)	1	1	1	1	1	1	1	1	1	1
Control Cable #16-8c (length = system + hook-up)	1	1	1	1	1	1	1	1	1	1
Flat Cable Connector	2	2	2	2	2	2	2	2	2	2

14 Gauge Track Cross Conductors

12 Conductor Flat Cables (#12-4C & #16-8C)

CRANE SPAN	10'	20'	30'	40'	50'	60'	70'	80'	90'	100'
W/cross arms	HNA18141	HNA18241	HNA18341	HNA18441	HNA18541	HNA18641	HNA18741	HNA18841	HNA18941	HNA19041
W/O cross arms*	HNA18142	HNA18242	HNA18342	HNA18442	HNA18542	HNA18642	HNA18742	HNA18842	HNA18942	HNA19042
Spark resistant**, W/cross arms	HNA23141	HNA23241	HNA23341	HNA23441	HNA23541	HNA23641	HNA23741	HNA23841	HNA23941	HNA24041
Spark Resistant**, W/O crossarms*	HNA23142	HNA23242	HNA23342	HNA23442	HNA23542	HNA23642	HNA23742	HNA23842	HNA23942	HNA24042

SYSTEM INCLUDES:

Roller Track (10 foot sections)	1	2	3	4	5	6	7	8	9	10
Track Splice	0	1	2	3	4	5	6	7	8	9
Track Bracket*	0	2	4	6	8	10	12	14	16	18
Anchor Bracket*	2	2	2	2	2	2	2	2	2	2
Cross Arms (30")*	2	4	6	8	10	12	14	16	18	20
Locking Beam Clamp	4	8	12	16	20	24	28	32	36	40
End Stop	1	1	1	1	1	1	1	1	1	1
Fixed Cable Clamp	1	1	1	1	1	1	1	1	1	1
Tow Trolley	1	1	1	1	1	1	1	1	1	1
Intermediate Trolley	2	3	5	6	8	10	12	14	16	18
Power Cable #12-4C (length = system + hook-up)	1	1	1	1	1	1	1	1	1	1
Control Cable #16-8c (length = system + hook-up)	1	1	1	1	1	1	1	1	1	1
Flat Cable Connector	4	4	4	4	4	4	4	4	4	4

* Cross arms, track brackets and anchor brackets not included. ** Spark resistant systems may be identified by brass wheels on trolleys.

14 Gauge Track Cross Conductors

12 Conductor Flat Cables (#10-4C & #16-8C)

HNA26042 CRANE SPAN	10'	20'	30'	40'	50'	60'	70'	80'	90'	100'
W/cross arms	HNA19141	HNA19241	HNA19341	HNA19441	HNA19541	HNA19641	HNA19741	HNA19841	HNA19941	HNA20041
W/O cross arms*	HNA19142	HNA19242	HNA19342	HNA19442	HNA19542	HNA19642	HNA19742	HNA19842	HNA19942	HNA20042
Spark resistant**, W/cross arms	HNA24141	HNA24241	HNA24341	HNA24441	HNA24541	HNA24641	HNA24741	HNA24841	HNA24941	HNA25041
Spark Resistant**, W/O crossarms*	HNA24142	HNA24242	HNA24342	HNA24442	HNA24542	HNA24642	HNA24742	HNA24842	HNA24942	HNA25042

SYSTEM INCLUDES:

Roller Track (10 foot sections)	1	2	3	4	5	6	7	8	9	10
Track Splice	0	1	2	3	4	5	6	7	8	9
Track Bracket*	0	2	4	6	8	10	12	14	16	18
Anchor Bracket*	2	2	2	2	2	2	2	2	2	2
Cross Arms (30")*	2	4	6	8	10	12	14	16	18	20
Locking Beam Clamp	4	8	12	16	20	24	28	32	36	40
End Stop	1	1	1	1	1	1	1	1	1	1
Fixed Cable Clamp	1	1	1	1	1	1	1	1	1	1
Tow Trolley	1	1	1	1	1	1	1	1	1	1
Intermediate Trolley	2	3	5	6	8	10	12	14	16	18
Power Cable #10-4C (length = system + hook-up)	1	1	1	1	1	1	1	1	1	1
Control Cable #16-8c (length = system + hook-up)	1	1	1	1	1	1	1	1	1	1
Flat Cable Connector	4	4	4	4	4	4	4	4	4	4

14 Gauge Track Cross Conductors

12 Conductor Flat Cables (#8-4C & #16-8C)

CRANE SPAN	10'	20'	30'	40'	50'	60'	70'	80'	90'	100'
W/cross arms	HNA20141	HNA20241	HNA20341	HNA20441	HNA20541	HNA20641	HNA20741	HNA20841	HNA20941	HNA21041
W/O cross arms*	HNA20142	HNA20242	HNA20342	HNA20442	HNA20542	HNA20642	HNA20742	HNA20842	HNA20942	HNA21042
Spark resistant**, W/cross arms	HNA25141	HNA25241	HNA25341	HNA25441	HNA25541	HNA25641	HNA25741	HNA25841	HNA25941	HNA26041
Spark Resistant**, W/O crossarms*	HNA25142	HNA25242	HNA25342	HNA25442	HNA25542	HNA25642	HNA25742	HNA25842	HNA25942	HNA26042

SYSTEM INCLUDES:

Roller Track (10 foot sections)	1	2	3	4	5	6	7	8	9	10
Track Splice	0	1	2	3	4	5	6	7	8	9
Track Bracket*	0	2	4	6	8	10	12	14	16	18
Anchor Bracket*	2	2	2	2	2	2	2	2	2	2
Cross Arms (30")*	2	4	6	8	10	12	14	16	18	20
Locking Beam Clamp	4	8	12	16	20	24	28	32	36	40
End Stop	1	1	1	1	1	1	1	1	1	1
Fixed Cable Clamp	1	1	1	1	1	1	1	1	1	1
Tow Trolley	1	1	1	1	1	1	1	1	1	1
Intermediate Trolley	2	3	5	6	8	10	12	14	16	18
Power Cable #8-4C (length = system + hook-up)	1	1	1	1	1	1	1	1	1	1
Control Cable #16-8c (length = system + hook-up)	1	1	1	1	1	1	1	1	1	1
Flat Cable Connector	4	4	4	4	4	4	4	4	4	4

14 Gauge Track Cross Conductors

4 Conductor Flat Cables (#14-4C)

CRANE SPAN	10'	20'	30'	40'	50'	60'	70'	80'	90'	100'
W/cross arms	HNA15143	HNA15243	HNA15343	HNA15443	HNA15543	HNA15643	HNA15743	HNA15843	HNA15943	HNA13443
W/O cross arms*	HNA15144	HNA15244	HNA15344	HNA15444	HNA15544	HNA15644	HNA15744	HNA15844	HNA15944	HNA13444
Spark resistant**, W/cross arms	HNA22143	HNA22243	HNA22343	HNA22443	HNA22543	HNA22643	HNA22743	HNA22843	HNA22943	HNA23043
Spark Resistant**, W/O crossarms*	HNA22144	HNA22244	HNA22344	HNA22444	HNA22544	HNA22644	HNA22744	HNA22844	HNA22944	HNA23044

SYSTEM INCLUDES:

Roller Track (10 foot sections)	1	2	3	4	5	6	7	8	9	10
Track Splice	0	1	2	3	4	5	6	7	8	9
Track Bracket*	0	2	4	6	8	10	12	14	16	18
Anchor Bracket*	2	2	2	2	2	2	2	2	2	2
Cross Arms (30")*	2	4	6	8	10	12	14	16	18	20
Locking Beam Clamp	4	8	12	16	20	24	28	32	36	40
End Stop	1	1	1	1	1	1	1	1	1	1
Fixed Cable Clamp	1	1	1	1	1	1	1	1	1	1
Tow Trolley	1	1	1	1	1	1	1	1	1	1
Intermediate Trolley	2	3	5	6	8	10	12	14	16	18
Power Cable #14-4C (length = system + hook-up)	1	1	1	1	1	1	1	1	1	1
Flat Cable Connector	2	2	2	2	2	2	2	2	2	2

* Cross arms, track brackets and anchor brackets not included. ** Spark resistant systems may be identified by brass wheels on trolleys.



14 Gauge Track Cross Conductors

4 Conductor Flat Cables (#12-4C)

CRANE SPAN	10'	20'	30'	40'	50'	60'	70'	80'	90'	100'
W/cross arms	HNA18143	HNA18243	HNA18343	HNA18443	HNA18543	HNA18643	HNA18743	HNA18843	HNA18943	HNA19043
W/O cross arms*	HNA18144	HNA18244	HNA18344	HNA18444	HNA18544	HNA18644	HNA18744	HNA18844	HNA18944	HNA19044
Spark resistant**, W/cross arms	HNA23143	HNA23243	HNA23343	HNA23443	HNA23543	HNA23643	HNA23743	HNA23843	HNA23943	HNA24043
Spark Resistant**, W/O crossarms*	HNA23144	HNA23244	HNA23344	HNA23444	HNA23544	HNA23644	HNA23744	HNA23844	HNA23944	HNA24044

SYSTEM INCLUDES:

Roller Track (10 foot sections)	1	2	3	4	5	6	7	8	9	10
Track Splice	0	1	2	3	4	5	6	7	8	9
Track Bracket*	0	2	4	6	8	10	12	14	16	18
Anchor Bracket*	2	2	2	2	2	2	2	2	2	2
Cross Arms (30")*	2	4	6	8	10	12	14	16	18	20
Locking Beam Clamp	4	8	12	16	20	24	28	32	36	40
End Stop	1	1	1	1	1	1	1	1	1	1
Fixed Cable Clamp	1	1	1	1	1	1	1	1	1	1
Tow Trolley	1	1	1	1	1	1	1	1	1	1
Intermediate Trolley	2	3	5	6	8	10	12	14	16	18
Power Cable #12-4C (length = system + hook-up)	1	1	1	1	1	1	1	1	1	1
Flat Cable Connector	2	2	2	2	2	2	2	2	2	2

14 Gauge Track Cross Conductors

4 Conductor Flat Cables (#10-4C)

CRANE SPAN	10'	20'	30'	40'	50'	60'	70'	80'	90'	100'
W/cross arms	HNA19143	HNA19243	HNA19343	HNA19443	HNA19543	HNA19643	HNA19743	HNA19843	HNA19943	HNA20043
W/O cross arms*	HNA19144	HNA19244	HNA19344	HNA19444	HNA19544	HNA19644	HNA19744	HNA19844	HNA19944	HNA20044
Spark resistant**, W/cross arms	HNA24143	HNA24243	HNA24343	HNA24443	HNA24543	HNA24643	HNA24743	HNA24843	HNA24943	HNA25043
Spark Resistant**, W/O crossarms*	HNA24144	HNA24244	HNA24344	HNA24444	HNA24544	HNA24644	HNA24744	HNA24844	HNA24944	HNA25044

SYSTEM INCLUDES:

Roller Track (10 foot sections)	1	2	3	4	5	6	7	8	9	10
Track Splice	0	1	2	3	4	5	6	7	8	9
Track Bracket*	0	2	4	6	8	10	12	14	16	18
Anchor Bracket*	2	2	2	2	2	2	2	2	2	2
Cross Arms (30")*	2	4	6	8	10	12	14	16	18	20
Locking Beam Clamp	4	8	12	16	20	24	28	32	36	40
End Stop	1	1	1	1	1	1	1	1	1	1
Fixed Cable Clamp	1	1	1	1	1	1	1	1	1	1
Tow Trolley	1	1	1	1	1	1	1	1	1	1
Intermediate Trolley	2	3	5	6	8	10	12	14	16	18
Power Cable #10-4C (length = system + hook-up)	1	1	1	1	1	1	1	1	1	1
Flat Cable Connector	2	2	2	2	2	2	2	2	2	2

14 Gauge Track Cross Conductors

4 Conductor Flat Cables (#8-4C)

CRANE SPAN	10'	20'	30'	40'	50'	60'	70'	80'	90'	100'
W/cross arms	HNA20143	HNA20243	HNA20343	HNA20443	HNA20543	HNA20643	HNA20743	HNA20843	HNA20943	HNA21043
W/O cross arms*	HNA20144	HNA20244	HNA20344	HNA20444	HNA20544	HNA20644	HNA20744	HNA20844	HNA20944	HNA21044
Spark resistant**, W/cross arms	HNA25143	HNA25243	HNA25343	HNA25443	HNA25543	HNA25643	HNA25743	HNA25843	HNA25943	HNA26043
Spark Resistant**, W/O crossarms*	HNA25144	HNA25244	HNA25344	HNA25444	HNA25544	HNA25644	HNA25744	HNA25844	HNA25944	HNA26044

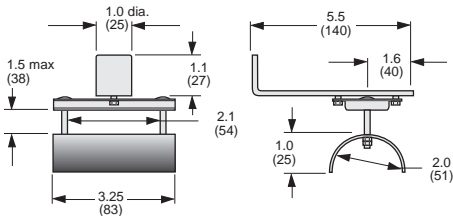
SYSTEM INCLUDES:

Roller Track (10 foot sections)	1	2	3	4	5	6	7	8	9	10
Track Splice	0	1	2	3	4	5	6	7	8	9
Track Bracket*	0	2	4	6	8	10	12	14	16	18
Anchor Bracket*	2	2	2	2	2	2	2	2	2	2
Cross Arms (30")*	2	4	6	8	10	12	14	16	18	20
Locking Beam Clamp	4	8	12	16	20	24	28	32	36	40
End Stop	1	1	1	1	1	1	1	1	1	1
Fixed Cable Clamp	1	1	1	1	1	1	1	1	1	1
Tow Trolley	1	1	1	1	1	1	1	1	1	1
Intermediate Trolley	2	3	5	6	8	10	12	14	16	18
Power Cable #8-4C (length = system + hook-up)	1	1	1	1	1	1	1	1	1	1
Flat Cable Connector	2	2	2	2	2	2	2	2	2	2

* Cross arms, track brackets and anchor brackets not included.
 ** Spark resistant systems may be identified by brass wheels on trolleys.

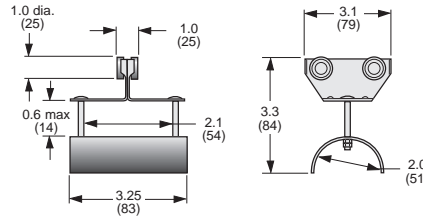
COMPONENTS – C-Rail Festoon

Series “CF” for FLAT Cable



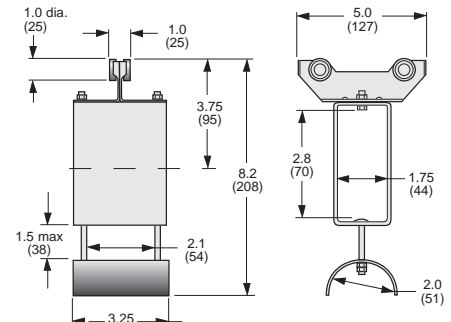
FLAT CABLE END CLAMP #C35-FE-02

Trolley Weight = 1.46 lbs



FLAT CABLE TROLLEY #C35-FC-32

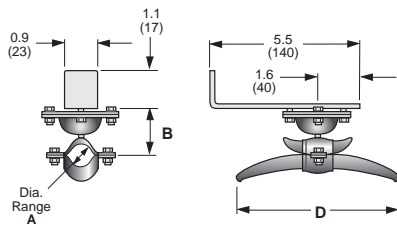
Trolley Weight = 0.84 lbs



FLAT CABLE TOW TROLLEY #C35-FT-52

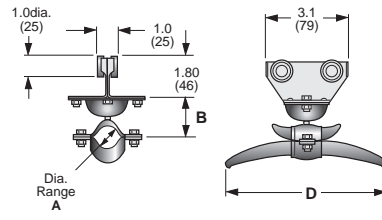
Trolley Weight = 2.28 lbs

Series “CR” for ROUND Cable or Hose



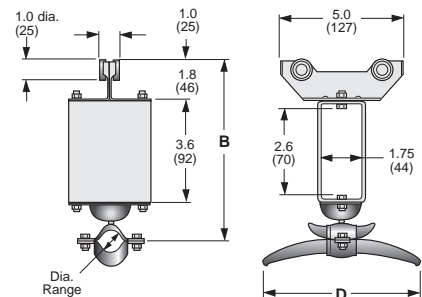
ROUND CABLE END CLIP

1 = #C35-RE-11 & 2 = #C35-RE-12



ROUND CABLE TROLLEY

1 = #C35-RC-11 & 2 = #C35-RC-12



ROUND CABLE TOW TROLLEY

1 = #C35-RT-11 & 2 = #C35-RT-12

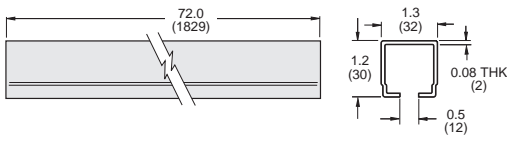
O.D. CODE*	CABLE O.D. RANGE A in. (mm)	B in. (mm)	D in. (mm)	WGT lb. (kg)
1	0.31 to 0.59 (8 - 15)	1.25 (32)	2.75 (70)	1.4 (.63)
2	0.60 to 0.94 (15 - 24)	1.4 (37)	3.9 (98)	1.5 (.69)

O.D. CODE*	CABLE O.D. RANGE A in. (mm)	B in. (mm)	D in. (mm)	WGT lb. (kg)
1	0.31 to 0.59 (8 - 15)	1.1 (27)	2.75 (70)	0.9 (.40)
2	0.60 to 0.94 (15 - 24)	1.25 (32)	3.9 (98)	1.0 (.46)

O.D. CODE*	CABLE O.D. RANGE A in. (mm)	B in. (mm)	D in. (mm)	WGT lb. (kg)
1	0.31 to 0.59 (8 - 15)	6.5 (165)	2.75 (70)	2.3 (1.05)
2	0.60 to 0.94 (15 - 24)	6.7 (170)	3.9 (98)	2.5 (1.10)

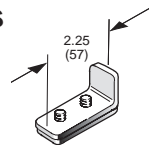
* Standard Round Kits include Trolleys & Clips with O.D. Code “2” (fits std. 3/8 in. I.D. hose).

Accessories for Flat and Round Kits



C-RAIL TRACK SECTIONS — GALVANIZED

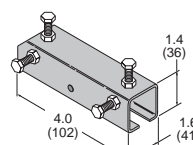
#C35-TR-06 Weight = 6.3 lbs



END STOP

#WS30-ES

Weight = 0.3 lbs



NOTCHED COUPLER/HANGER

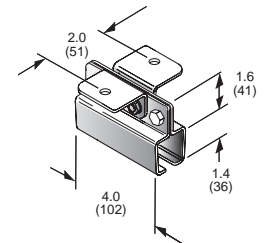
#C35-CP-01

Weight = 1.0 lbs

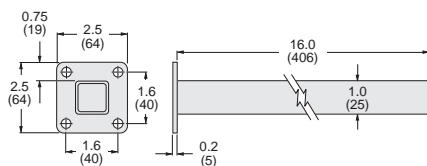
COUPLER/HANGER BRACKET

#C35-CP-02

Weight = 1.25 lbs



OPTIONAL Components Flat and Round Kits



TOW ARM

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

DESCRIPTION	WGT lb. (kg)	CATALOG NUMBER
TOW ARM	1.3 (59)	CTA-01

FLAT -TO-ROUND CABLE CONNECTOR SET

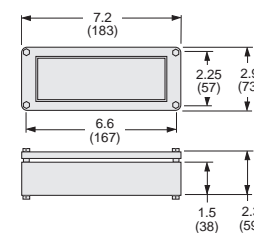


DESCRIPTION	MODEL NUMBER
Set of 2 Locking Plugs	LC-01

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

MULTIPLE CABLE CONNECTOR

Aluminum cast connector provides a weather-tight connection between multiple cables (flat and/or round) and junction box. Order un-cut (blank) model and machine fiber-board stiffener and rubber insert to suit, OR order a pre-cut connector by providing cutting pattern.



DESCRIPTION	MODEL NUMBER
Blank Connector	MCC-1U
Pre-cut Connector	MCC-1C

*Please provide cutting pattern for #MCC-1C.



Compact, 600-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 – contact your distributor.
- Rotation speeds to 40 rpm
- 600 Volt rating



HOW TO SELECT A SLIP RING:

Electrical considerations:

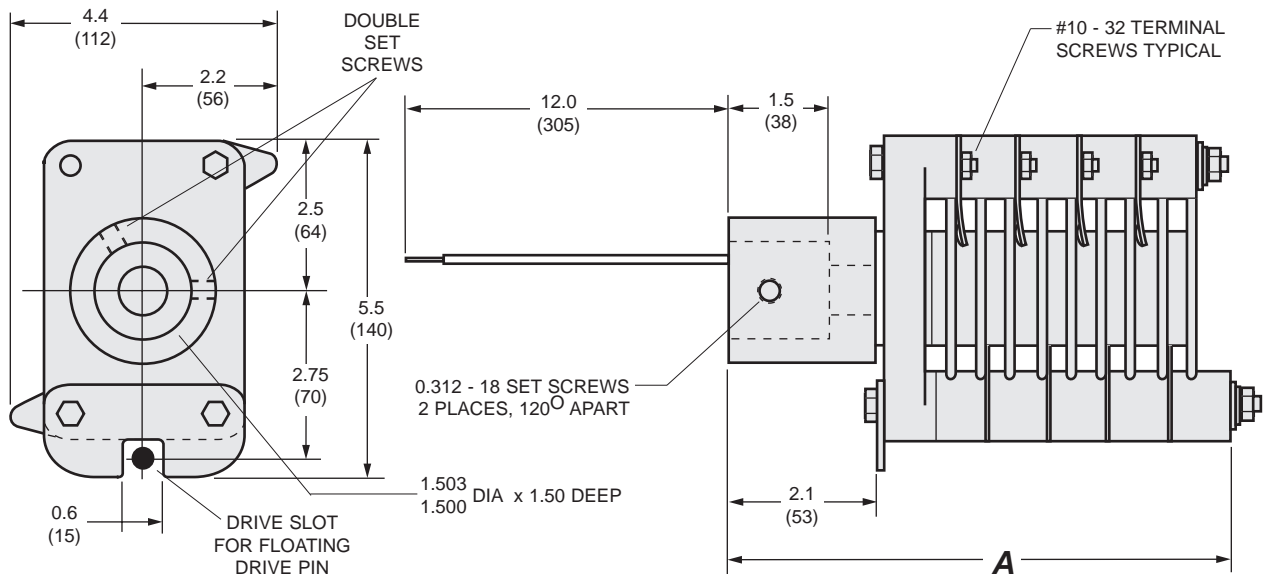
STEP ⌚ Select a 30- or 55-amp slip ring model from the charts below. The model you choose should have the same number of poles as the number of circuits you are connecting, including ground. Standard slip rings are rated at 600 volts.

Physical requirements:

STEP ○ 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

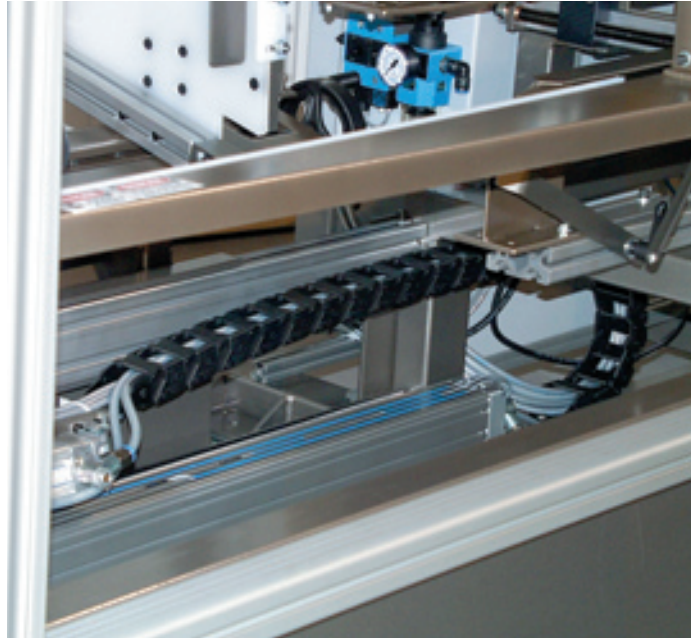


MODULAR CARRIER TRAK



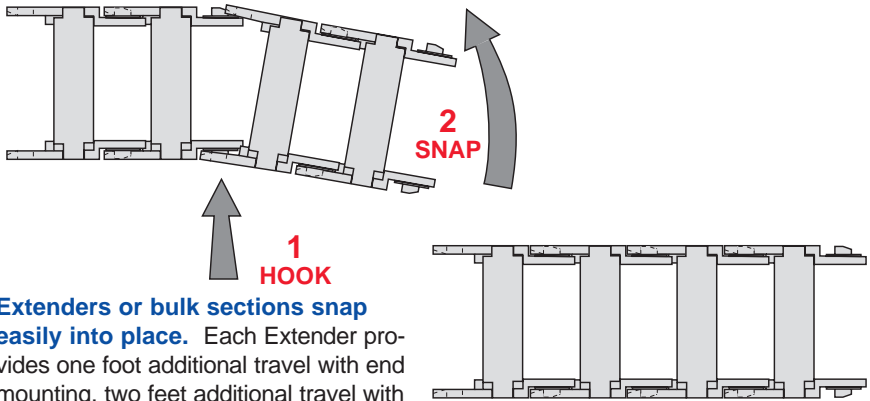
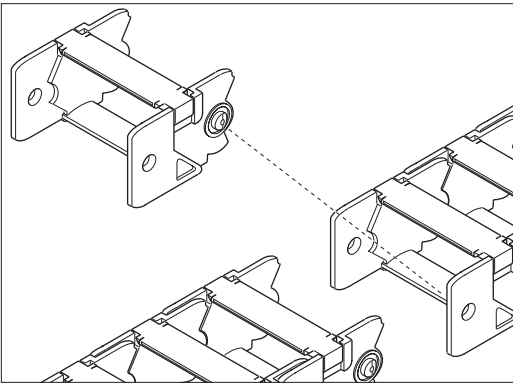
Non-metallic Cable/Hose Carriers

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, 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. Most 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.

Easy Assembly of Kits or Bulk Trak



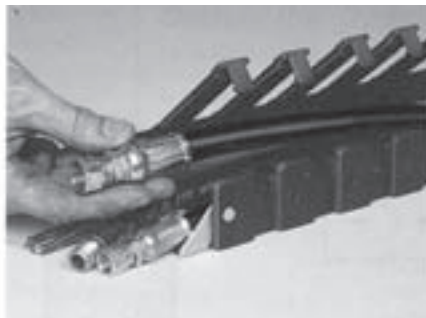
Extenders or bulk sections snap easily into place. Each Extender provides one foot additional travel with end mounting, two feet additional travel with center mounting. Individual links may be removed to arrive at exact length.

Quick, Easy-loading Flip-Tops Pivot and Lock from Either Side.

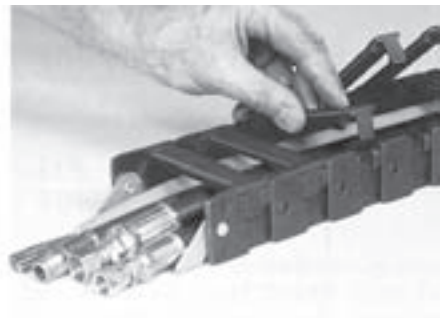
Unlock Tab...



Access Cables/Hoses



Lock Tab.



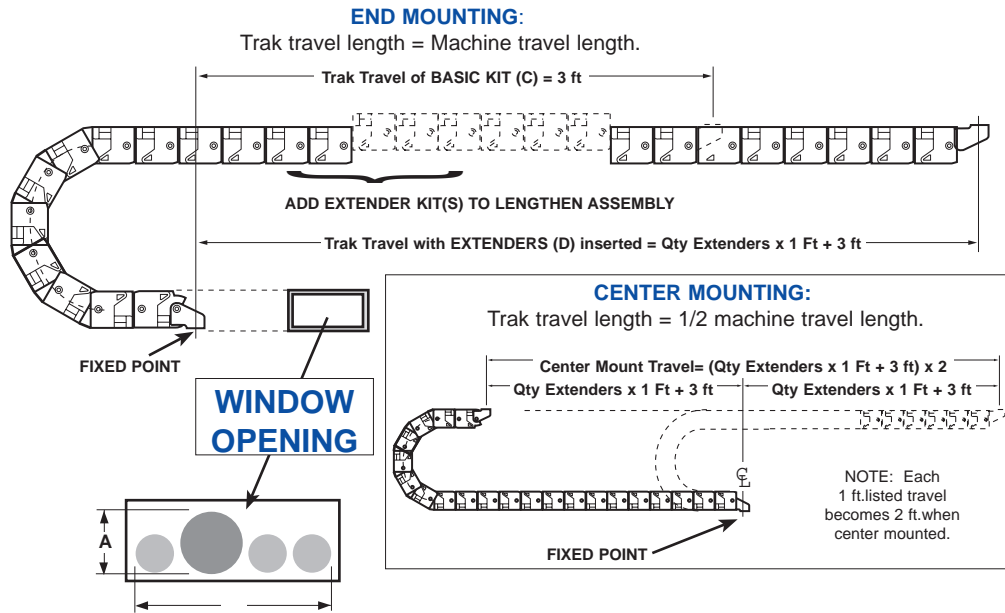


MODULAR TRAK-KITS & BULK

SELECTION

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.
 EXTENDERS (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 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.

- 1. WINDOW.** See columns A & B below. 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, left.
 - 3. ORDER TRAK.**
 - A. BASIC KIT (C)** provides 3' travel (standard mount), up to 6' for center mount.
 - B. EXTENDER KITS (D)** Provide 1' additional travel. Order as many as needed for total travel.
- Formula:** *Trak travel (ft) minus 3 (rounded to next highest number) equals extender kits required.*

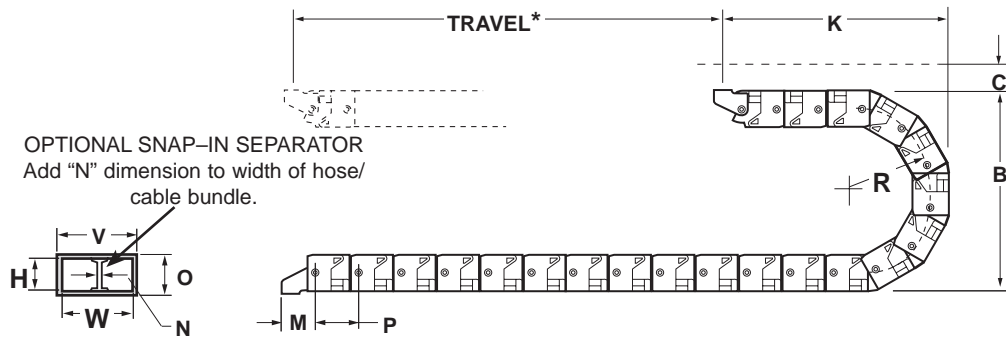


NOTE:
 Individual links may be removed to obtain exact length. See DIMENSIONS page for length (pitch) of each size link.

A		B		C	D	Bulk Trak	Bulk Trak	Brackets
Max. Height	Largest O.D.	Max. Width	Hose/Cable Bundle	Basic Kit	Extender	3 Ft. Lengths.	Only.	Male & Female
in.	(mm)	in.	(mm)	3 Ft. Travel	1 Ft. Travel	Brackets NOT	Total Length	6 sets
				(With brackets)	(No brackets)	included.	in Carton.	
				Model No.	Model No.	Model No.	ft.	Model No.
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)	P25-1-3.4-3.0	EP25-1-3.4-1.0	BP25-1-3.4	36	BB25-1
0.680	(17)	3.825	(97)	P25-2-3.4-3.0	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	-	-	-



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	WGT** (lbs/ft.)	B	CLEARANCE C	OVERALL O	K	M	SEPARATOR 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	1.812	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	1.812	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	1.812	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	1.812	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	1.812	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	1.812	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	1.812	4.69
P16-4-3.4-...	4.06	1.00	3.44	0.84	8.50	3.00	1.62	7.85	1.19	0.14	1.812	4.69
P25-1-3.4-...	2.60	1.75	3.40	1.00	9.30	3.00	2.50	8.31	1.75	0.15	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	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	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	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	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	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	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

■ Dimension indicates thickness of separator. Add this dimension to cable/hose package width.



**Completely Enclosed
"T" models Protect
Cable/Hoses**

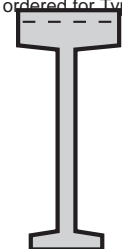
Snap-In Separators
(Optional for P16 and P25)

Group 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**





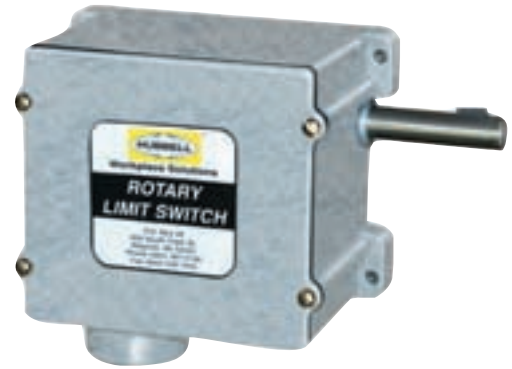
Workplace Solutions

Furnas Brand Series 54 Rotary 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. Furnas Series 54 switches can be mounted in any position and are easy to wire and adjust.

Switches Feature

- 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



Application

Furnas 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 1/2 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.

MODELS—Series 54

Model numbers are for 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		
					4	4	4		
36 to 1	32	1	3.5	0.5	2	2	2	54BB23FB	54BB23EB
					3	3	3		
					4	4	4		
72 to 1	64	1.5	7.5	1	2	2	2	54BB23FC	54BB23EC
					3	3	3		
					4	4	4		
108 to 1	96	2	11	1.5	2	2	2	54BB23FD	54BB23ED
					3	3	3		
					4	4	4		
Long Dwell Cams									
18 to 1	15	1	2.5	0.5	2	2	2	54EB23FE	54EB23EE
					3	3	3		
					4	4	4		
36 to 1	30	1.5	5	1	2	2	2	54EB23FB	54EB23EB
					3	3	3		
					4	4	4		
72 to 1	60	2	10	1.5	2	2	2	54EB23FC	54EB23EC
					3	3	3		
					4	4	4		
108 to 1	90	3	15	3	2	2	2	54EB23FD	54EB23ED
					3	3	3		
					4	4	4		
Fine Adjustment									
18 to 1	16	1	1.75	0.25	2	2	2	54BB73FE	54BB73EE
36 to 1	32	1	3.5	0.5	2	2	2	54BB73FB	54BB73EB
72 to 1	64	1.5	7.5	1	2	2	2	54BB73FC	54BB73EC
108 to 1	96	2	11	1.5	2	2	2	54BB73FD	54BB73ED

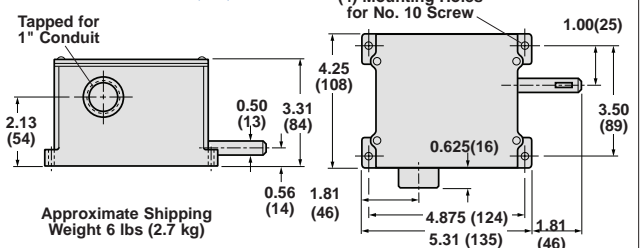
Field Modifications	
Contact Block Kit (1 NO 1 NC)	Cat No.
Standard Cam	54BBGB
Long Dwell Cam	54EBGB
Contact Block Kit (2 NO 2 NC)	
Standard Cam	54BBGD
Long Dwell Cam	54EBGD
Accessories	
Adjustment Tool	D27760001

Kits include switch block, cam and mounting hardware

Operating Temperature Range:
-40°F (-40°C) to +185°F (+85°C)

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.

Dimensions—Inches (mm)





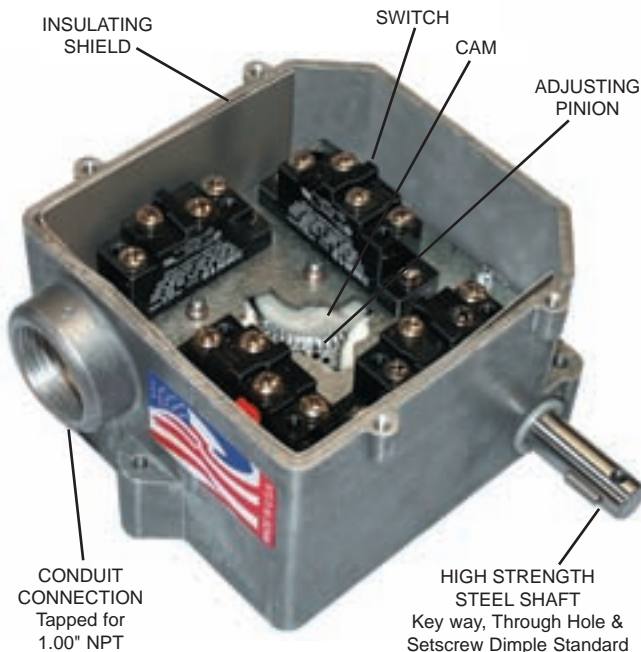
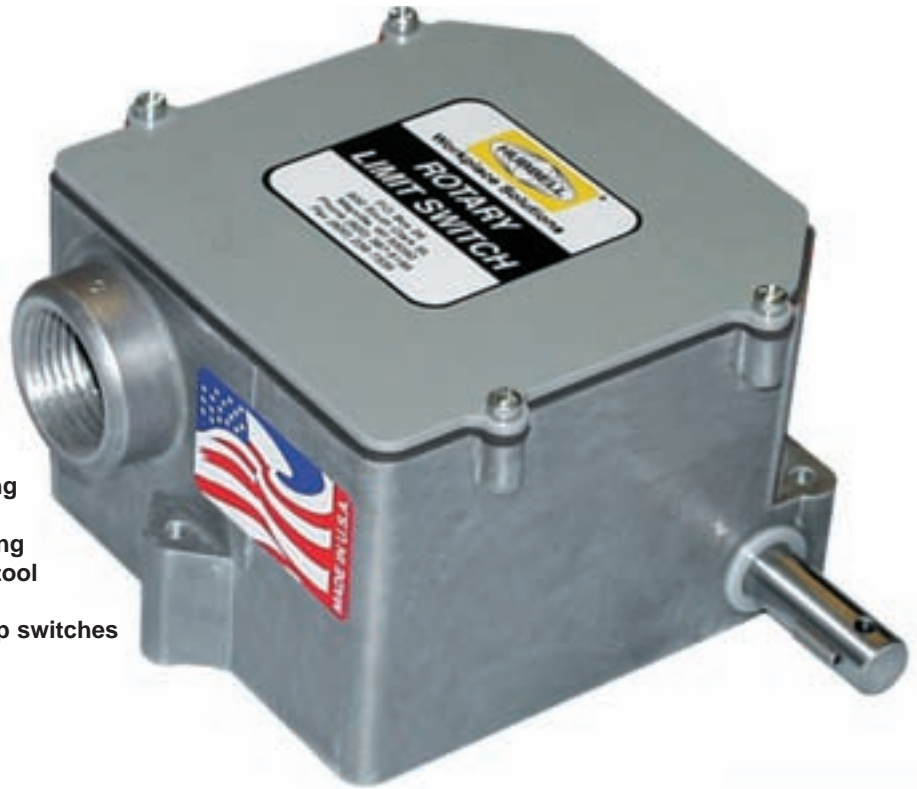
Series 55 Rotary Limit Switches

Direct replacement for HWS Series 15 and G.E. Series CR115 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 S.P.D.T. or D.P.D.T. switch blocks for control of multiple functions.

Switches Feature

- Six 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 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
- Standard or Extended Dwell cams
- Easy, precision timing adjustment using standard screwdriver and provided tool
- Industrial grade bearings
- Industrial duty S.P.D.T. or D.P.D.T. snap switches are  and  listed



Right Hand Shaft—Four Switch Model

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, powered doors, gates and windows, etc.

Mounting and shaft location allows direct replacement of HWS Series 15 and G.E. Series CR115 switches.

Operating Temperature Range: -40°F (-40°C) to +185°F (+85°C)

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.



Workplace Solutions

LIMIT SWITCHES

Series 55 Rotary Limit Switches

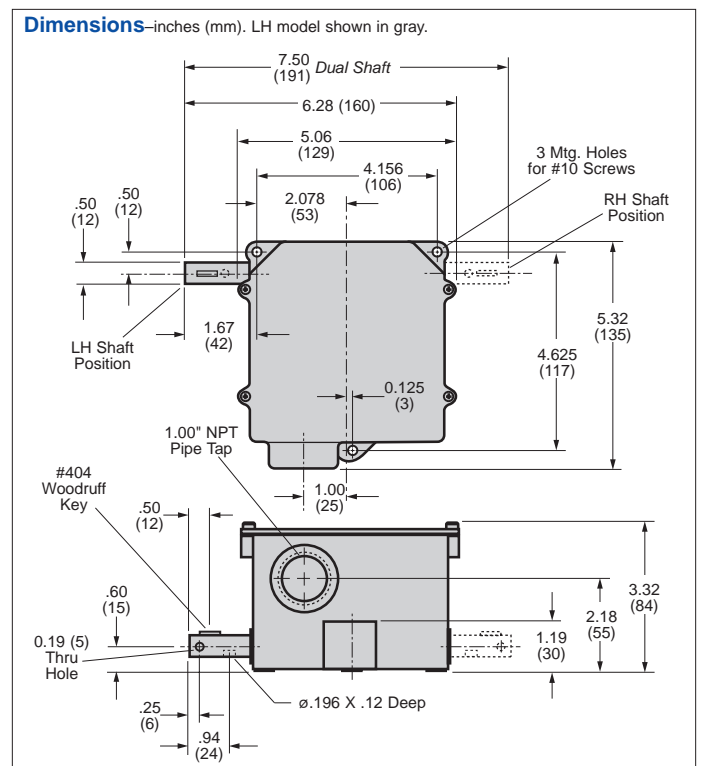
MODELS—Series 55

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	18.0	1.0	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	1.0	6.0	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	68.0	1.5	12.0	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	97.0	2.0	14.0	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	192.0	3.0	30.0	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	285.0	4.0	48.0	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
Extended Dwell Cams										
20.5 to 1	17.0	1.0	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	35.0	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	66.0	2.0	14.0	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	90.0	3.0	21.0	2.5	2	2	2	55-4E-2SP-WR-111-LD	55-4E-2SP-WL-111-LD	55-4E-2SP-WB-111-LD
					3	3	3	55-4E-3SP-WR-111-LD	55-4E-3SP-WL-111-LD	55-4E-3SP-WB-111-LD
					4	4	4	55-4E-4SP-WR-111-LD	55-4E-4SP-WL-111-LD	55-4E-4SP-WB-111-LD
222 to 1	182.0	4.0	40.0	4.0	2	2	2	55-4E-2SP-WR-222-LD	55-4E-2SP-WL-222-LD	55-4E-2SP-WB-222-LD
					3	3	3	55-4E-3SP-WR-222-LD	55-4E-3SP-WL-222-LD	55-4E-3SP-WB-222-LD
					4	4	4	55-4E-4SP-WR-222-LD	55-4E-4SP-WL-222-LD	55-4E-4SP-WB-222-LD
333 to 1	275.0	5.0	58.0	6.0	2	2	2	55-4E-2SP-WR-333-LD	55-4E-2SP-WL-333-LD	55-4E-2SP-WB-333-LD
					3	3	3	55-4E-3SP-WR-333-LD	55-4E-3SP-WL-333-LD	55-4E-3SP-WB-333-LD
					4	4	4	55-4E-4SP-WR-333-LD	55-4E-4SP-WL-333-LD	55-4E-4SP-WB-333-LD

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

Gear Ratio	Contact Blocks	HWS Series 15 Model No.	G.E. Series CR115 Model No.	HWS Series 55 Model No.
Right Hand Shaft—Standard Dwell Cams				
20.5 to 1	2	ES15-4211	CR115E121102	55-4E-2SP-WR-20
42.5 to 1	2	ES15-4221	CR115E122102	55-4E-2SP-WR-40
80 to 1	2	ES15-4231	CR115E123102	55-4E-2SP-WR-80
111 to 1	2	ES15-4241	CR115E124102	55-4E-2SP-WR-111
222 to 1	2	ES15-4251	CR115E125102	55-4E-2SP-WR-222
333 to 1	2	ES15-4261	CR115E126102	55-4E-2SP-WR-333
20.5 to 1	4	ES15-4411	CR115E141102	55-4E-4SP-WR-20
42.5 to 1	4	ES15-4421	CR115E142102	55-4E-4SP-WR-40
80 to 1	4	ES15-4431	CR115E143102	55-4E-4SP-WR-80
111 to 1	4	ES15-4441	CR115E144102	55-4E-4SP-WR-111
222 to 1	4	ES15-4451	CR115E145102	55-4E-4SP-WR-222
333 to 1	4	ES15-4461	CR115E146102	55-4E-4SP-WR-333
Left Hand Shaft—Standard Dwell Cams				
20.5 to 1	2	No Equivalent	CR115E121112	55-4E-2SP-WL-20
42.5 to 1	2	No Equivalent	CR115E122112	55-4E-2SP-WL-40
80 to 1	2	No Equivalent	CR115E123112	55-4E-2SP-WL-80
111 to 1	2	No Equivalent	CR115E124112	55-4E-2SP-WL-111
222 to 1	2	No Equivalent	CR115E125112	55-4E-2SP-WL-222
333 to 1	2	No Equivalent	CR115E126112	55-4E-2SP-WL-333
20.5 to 1	4	No Equivalent	CR115E141112	55-4E-4SP-WL-20
42.5 to 1	4	No Equivalent	CR115E142112	55-4E-4SP-WL-40
80 to 1	4	No Equivalent	CR115E143112	55-4E-4SP-WL-80
111 to 1	4	No Equivalent	CR115E144112	55-4E-4SP-WL-111
222 to 1	4	No Equivalent	CR115E145112	55-4E-4SP-WL-222
333 to 1	4	No Equivalent	CR115E146112	55-4E-4SP-WL-333
Dual Shaft—Standard Dwell Cams				
20.5 to 1	2	No Equivalent	CR115E121122	55-4E-2SP-WB-20
42.5 to 1	2	No Equivalent	CR115E122122	55-4E-2SP-WB-40
80 to 1	2	No Equivalent	CR115E123122	55-4E-2SP-WB-80
111 to 1	2	No Equivalent	CR115E124122	55-4E-2SP-WB-111
222 to 1	2	No Equivalent	CR115E125122	55-4E-2SP-WB-222
333 to 1	2	No Equivalent	CR115E126122	55-4E-2SP-WB-333
20.5 to 1	4	No Equivalent	CR115E141122	55-4E-4SP-WB-20
42.5 to 1	4	No Equivalent	CR115E142122	55-4E-4SP-WB-40
80 to 1	4	No Equivalent	CR115E143122	55-4E-4SP-WB-80
111 to 1	4	No Equivalent	CR115E144122	55-4E-4SP-WB-111
222 to 1	4	No Equivalent	CR115E145122	55-4E-4SP-WB-222
333 to 1	4	No Equivalent	CR115E146122	55-4E-4SP-WB-333

For replacement of HWS series 15 and G.E. series CR115 switches, please refer to Cross Reference chart at left.



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.

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



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



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 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



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



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



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



C-Clamp only
Model. No. GC-CEE



100 Amp Alligator Clip only
Model. No. GC-ALG



Hand Clamp only
Model. No. GC-PLR



Aircraft Clamp only
Model. No. AGC-MOD



Round Grounding Plug only
Model. No. AGP-01



Workplace Solutions

GROUNDING

STATIC DISCHARGE REELS

Heavy-duty Static

- OPEN SPOOL DESIGN...CABLES TO 100' • SPRING REWIND with CENTRIFUGAL BRAKE
- RUGGED STEEL CONSTRUCTION • CHOICE OF GROUNDING CLAMPS AND PLUGS



Ideal for a wide variety of grounding applications. Available with your choice of cable length and connector, all reels include spring rewind, centrifugal brake and ratchet lock. Cable is 7 x 7 stranded stainless steel with yellow polyester elastomer cover, 5/32" o.d. Reel has safety orange baked polyester finish.



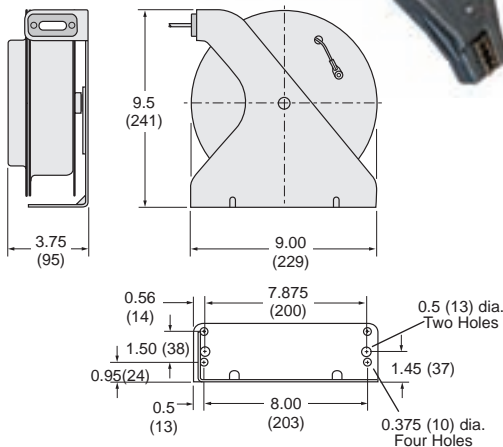
Static discharge reel equipped with HAND CLAMP



Static discharge reel equipped with 100 amp ALLIGATOR CLIP



Static discharge reel with GROUNDING PLUG (two styles)
MIL Specs (plugs only)
Round-M83413/4-1
Hex-MS3493-3



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
50'	Hex Grounding Plug	OSD050-SS-YL-SG-P2
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
75'	Hex Grounding Plug	OSD075-SS-YL-SG-P2
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
100'	Hex Grounding Plug	OSD100-SS-YL-SG-P2

Enclosed Spool Series "SD"

SERIES "SD" FEATURES

- Automatic PULL™ Rewinding
- Rugged Steel Construction
- Compact Enclosed Design
- Positive Ratchet Lock
- Lock On/Lock Off Switch
- Steel Cable Installed
- 100 Amp Universal Jaw-Type Grounding Clamp
- Safety Orange Polyester Baked-On Finish

Series "SD"

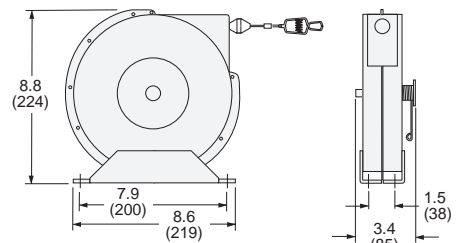
Includes Cable Installed on Reel

CABLE LENGTH ft. (m)	CABLE NOTES...	"Y" ft. (m)	WEIGHT COMPLETE lbs. (kg)	MODEL NUMBER
30 (9.0)	Single 7 x 7 Stranded Steel*	n/a	11 (5.0)	SD-2030
50 (15.0)	Single 7 x 7 Stranded Steel*	n/a	12 (5.4)	SD-2050
35 (10.5)	35' plus dual 15' for "Y" *	2 @ 15 (4.5)	13 (5.9)	SD-2050Y
50 (15.0)	Nylon Covered Cable**	n/a	12 (5.4)	SD-2050N
50 (15.0)	Orange, S.S. Cable***	n/a	12 (5.4)	SD-2050OS

* Static discharge reels are supplied complete with 3/32" OD steel aircraft cable. DC resistance is approximately one ohm per 50 ft of steel cable.

** Nylon covered cable (1/8" OD) is an optional extra.

*** Stainless Steel cable covered with Orange Nylon jacket to 1/8" OD. Meets Military Grounding Spec. of 6.67 Ohms resistance per 75 ft. of cable.



TOOL BALANCE REELS

For tools from 0.5 to 23 pounds

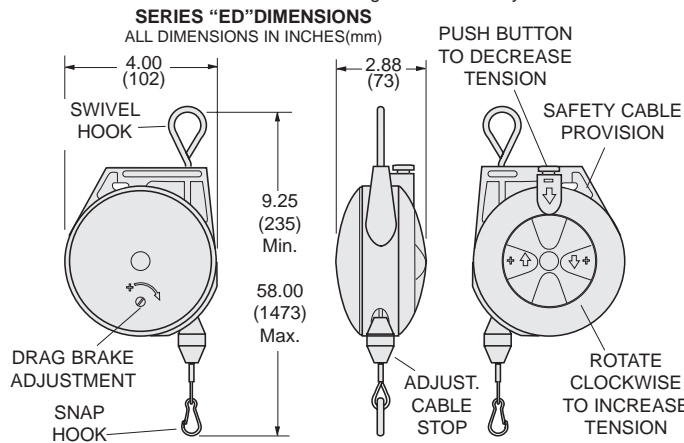


Workplace Solutions

RELIABLE & ECONOMICAL SERIES "ED"

SERIES "ED" TOOL BALANCERS are the economical choice for balancing tools weighing up to 5 lbs.(2.3kg). Molded ABS housing has a smooth exterior with rounded edges designed for maximum ergonomic appeal. Series "ED" balancers are the most modern, easiest to adjust, and reliable available. Each balancer incorporates all of the important functions expected of a world class product.

- SEVEN WAYS BETTER:**
- 1- Hand-windable spring tension adjustment knob is flush with the housing.
 - 2- Push-button tension release simplifies decrease of spring tension.
 - 3- Rugged steel upper swivel hook with secondary safety cable provision.
 - 4- Over-sized cable opening with direct in-line pull to reduce cable wear.
 - 5- 270 lb(121.5kg) test 0.047"(1.2mm) dia. 7 x 7 strand galvanized steel aircraft cable nylon covered to 0.063"(1.6mm) O.D.
 - 6- Adjustable cable stop and lower safety hook.
 - 7- Matte black finish to minimize reflected light and reduce eye strain.



SELECTION CHART

MIN - MAX LOAD lbs. (kg.)	CABLE LENGTH* ft. (m.)	REEL WEIGHT lbs. (kg.)	MODEL NUMBER
0.5 - 1.5 (0.2 - 0.7)	6 (1.8)	1.2 (0.5)	ED-01
1.5 - 3.0 (0.5 - 1.4)	6 (1.8)	1.3 (0.6)	ED-03
3.0 - 5.0 (1.4 - 2.3)	6 (1.8)	1.5 (0.7)	ED-05

*Cable lengths listed are for "active" or "working" cable. Includes cable stop and safety hook.

BALANCER ACCESSORIES

#ESTC-01 SAFETY CLIP
Bright zinc plated steel safety latch for tool attachment and other uses. Measures 2.375"(60mm) long. One included with each EG reel. Rated capacity-70 lbs.

CLEVIS HANGERS
Galvanized forged steel hangers for mounting balancers, torque reels, etc. Measure 0.50" (13mm) between jaws. One #ECVF-01 straight clevis included with each "EG" & "EQ" reel. #ECVF-11 swivel clevis is optional extra. Pins included. Rated capacity-500 lbs.



ADJUSTABLE

CABLE SADDLE

Hangs from balancer cable above tool to provide strain relief for electrical cable or air hose. Available

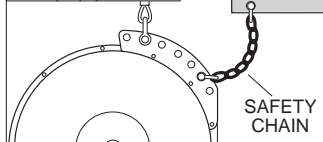


CABLE DIAMETER in. (mm)	MODEL NO.
0.3 - 0.59 (7 - 14)	ECS-F1
0.6 - 0.94 (15 - 23)	ECS-F2
0.95 - 1.25 (24 - 31)	ECS-F3

SAFETY CABLE/CHAIN

Strongly recommended, secondary steel cable or steel link chain. Prevents balancer from accidental fall. Balancers have extra holes for cable or chain.

LENGTH ft. (m)	MODEL NO.
1.0 (0.3)	SC-ED1*
1.0 (0.3)	SC-EG1**
2.0 (0.6)	SC-EG2**
3.0 (0.9)	SC-EG3**

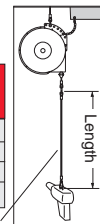


*Nylon covered steel cable.
**Steel link chain.

OVERHANG CABLE

Nylon covered steel cable with safety clip. Brings tool closer to work area without unwinding cable from reel or mounting reel at a lower height.

LENGTH ft. (m)	MODEL NO.
3 (0.9)	FOC-03
5 (1.5)	FOC-05
10 (3.0)	FOC-10
15 (4.6)	FOC-15



"SHOCK STOP" SHOCK ABSORBER

Minimize cable damage often caused by over-tensioning tool balancers. "Shock Stop" kit is easily installed. Can be used on any Series EG balancer. Kit includes spring, cable stops, all hardware.

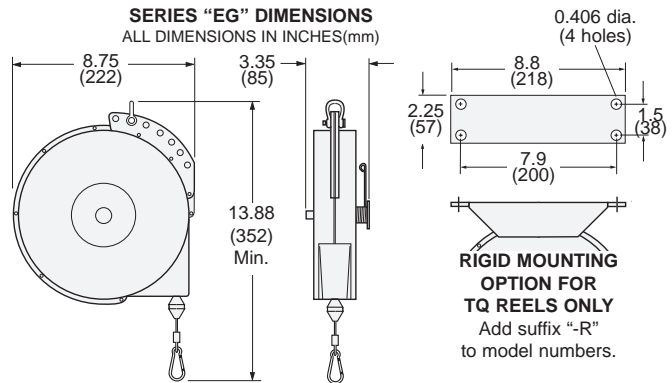


HEAVY DUTY SERIES "EG"

SERIES "EG" reels feature rugged steel construction with black polyester baked finish, reinforced hanging bracket with forged clevis for ceiling mounting and extra holes for safety chain attachment. Spring is permanently lubricated and provides constant tension, adjustable for balancing tool in normal working zone (6 - 18 in. [152-457mm]). Cable is 920 lb.(414kg) test 0.09"(2.3mm) dia. 7 x 7 strand galvanized steel aircraft cable nylon covered to 0.12"(3.0mm) O.D. Includes safety tool clip and adjustable cable stop.



LOCKING MODELS include all features listed above plus a positive ratchet lock mechanism to allow locking of the cable at a specific height. A slight pull on the cable releases the lock which functions like a window shade. Lock feature may be disengaged externally when constant tension is required.



SELECTION CHART

MIN - MAX LOAD lbs. (kg.)	CABLE LENGTH* ft. (m.)	RATCHET LOCK	REEL WEIGHT lbs. (kg.)	MODEL NUMBER
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BALANCERS (CONSTANT PULL REELS)
May be adjusted to balance through 6-18 in. (152-457mm) range.

3 - 7 (1.4 - 3.2)	8 (2.4)	No	10.0 (4.5)	EG-03
5 - 10 (2.3 - 4.5)	8 (2.4)	No	10.0 (4.5)	EG-07
8 - 12 (3.6 - 5.4)	8 (2.4)	No	10.0 (4.5)	EG-10
10 - 15 (4.5 - 6.8)	8 (2.4)	No	10.0 (4.5)	EG-15
16 - 23 (7.2 - 10.4)	8 (2.4)	No	10.0 (4.5)	EG-20
16 - 23 (7.2 - 10.4)	8 (2.4)	No	10.0 (4.5)	EG-20SH**
22 - 27 (9.9 - 12.2)	8 (2.4)	No	10.0 (4.5)	EG-25

RETRACTORS (RATCHET LOCK)
Retract tool upward when manually released.

3 - 7 (1.4 - 3.2)	8 (2.4)	Yes	10.0 (4.5)	EG-03-L
5 - 10 (2.3 - 4.5)	8 (2.4)	Yes	10.0 (4.5)	EG-07-L
8 - 12 (3.6 - 5.4)	8 (2.4)	Yes	10.0 (4.5)	EG-10-L
10 - 15 (4.5 - 6.8)	8 (2.4)	Yes	10.0 (4.5)	EG-15-L
16 - 23 (7.2 - 10.4)	8 (2.4)	Yes	10.0 (4.5)	EG-20-L
16 - 23 (7.2 - 10.4)	8 (2.4)	Yes	10.0 (4.5)	EG-20-LSH**
22 - 27 (9.9 - 12.2)	8 (2.4)	Yes	10.0 (4.5)	EG-25-L

TORQUE REELS (RATCHET LOCK AND LONGER CABLE)

3 - 7 (1.4 - 3.2)	15.0 (4.5)	Yes	12.0 (5.4)	EO1507***
5 - 10 (2.3 - 4.5)	15.0 (4.5)	Yes	12.0 (5.4)	EO1510***
10 - 15 (4.5 - 6.8)	15.0 (4.5)	Yes	12.0 (5.4)	EO1515***

*Cable lengths listed are "active" or "working" cable.
**Includes EG-SH "Shock Stop". See Below.
***Clevis mount. For rigid mount add "-R" to model number.



Workplace Solutions

TOOL BALANCE REELS

For tools from 1.1 to 187 pounds

Tapered drum compensates for changing spring rate. Direct spring powered...no motors or expensive gear trains to break or wear out. Heavy-duty construction.

Series "EH" Tapered Drum tool balancers keep tools within reach and reduce damage to tools by suspending them out of the way above the work surface. Risk of repetitive motion injury is reduced because only a light, downward force is required to place the tool in proper operating position. As the tool is lowered, and the spring is wound more tightly, the effective drum diameter increases to compensate for the increased force. Thus, when properly adjusted, the tapered drum keeps the tool at the positioned height.

Features include:

- Rugged die cast aluminum housing.
- Both top and bottom hooks have spring-loaded safety latches.
- Heavy duty steel wire rope.
- Automatic safety catch...prevents free-spooling if springs fail (not available on EH-02/EH-05).
- Easy adjustment with everyday tools from outside housing.



Series "EH-02" through "EH-05"



Series "EH-09" through "EH-70"

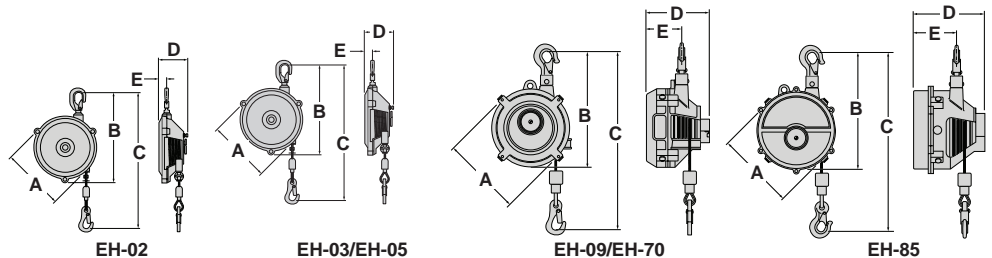


Series "EH-85"

Selection Chart

For Tool Weighing*	Cable Travel	Shipping Weight	Model Number
1.1 – 4.4 lbs.	3.3 ft.	2.2 lbs.	EH-02
2.2 – 6.6 lbs.	4.3 ft.	2.8 lbs.	EH-03
5.5 – 11 lbs.	4.3 ft.	3.3 lbs.	EH-05
9 – 20 lbs.	3.9 ft.	13.4 lbs.	EH-09
20 – 33 lbs.	3.9 ft.	13.4 lbs.	EH-15
33 – 48 lbs.	4.5 ft.	22.6 lbs.	EH-22
48 – 66 lbs.	4.5 ft.	22.6 lbs.	FH-30
66 – 88 lbs.	4.5 ft.	27.0 lbs.	FH-40
88 – 110 lbs.	4.5 ft.	27.0 lbs.	EH-50
110 – 132 lbs.	4.5 ft.	31.4 lbs.	FH-60
132 – 154 lbs.	4.5 ft.	31.4 lbs.	EH-70
154 – 187 lbs.	4.5 ft.	58.4 lbs.	EH-85

* Tool weight includes hose or cord and other attachments which must be supported by balancer.



Dimensional Chart

Models	A	B	C**	D	E
EH-02	5.00 in.	7.25 in.	11.25 in. min.	1.81 in.	0.81 in.
EH-03/EH-05	5.83 in.	8.25 in.	12.50 in. min.	2.72 in.	1.44 in.
EH-09/EH-15	7.00 in.	10.00 in.	13.00 in. min.	5.50 in.	2.88 in.
EH-22/EH-70	8.60 in.	12.60 in.	17.00 in. min.	6.40 in.	3.19 in.
EH-85	9.50 in.	14.00 in.	20.00 in. min.	9.75 in.	5.38 in.

** Minimum height fully retracted, inside of hook to inside of hook.

Safety Chain (recommended)

Description	Shipping Weight	Model Number
2.0 ft. Steel Link Chain w/ Clevises	1.5 lbs.	SC-EH2
3.0 ft. Steel Link Chain w/ Clevises	2.0 lbs.	SC-EH3