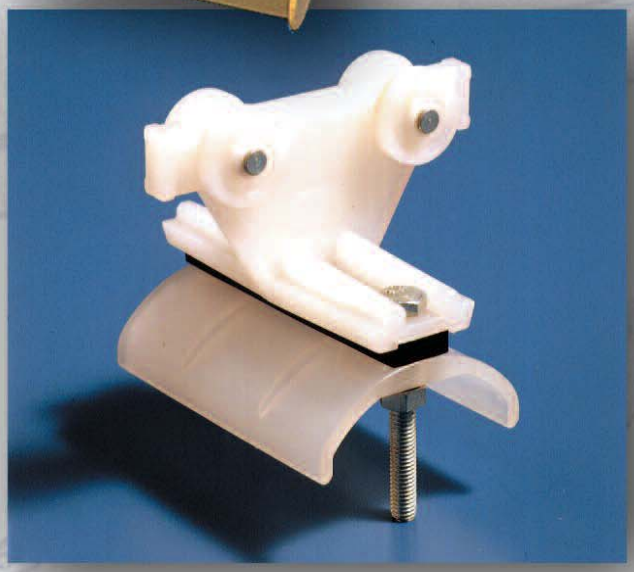


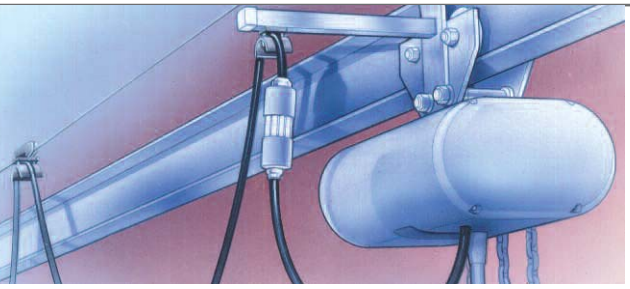
FESTOON SYSTEMS

Aero-Motive® Products

AERO-MOTIVE FESTOON SYSTEMS

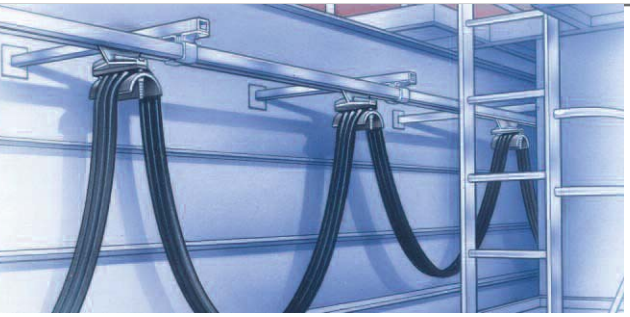
CABLE

Aero-Motive offers a large selection of round and flat cable as well as cable connectors to configure your festoon system. Flat cable is ideal for festoon applications and can be ordered with standard PVC and heavy duty Neoprene jacket material.



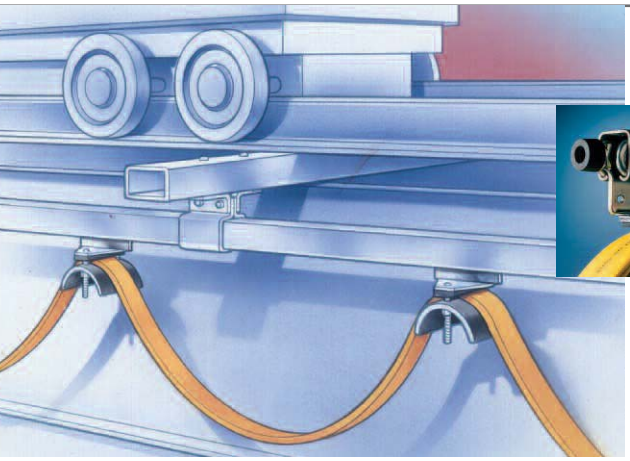
WIRE ROPE

Wire rope systems are used for short travel distances and light duty. This type of system is easy to install and requires only two end supports. Aero-Motive Company offers complete packaged systems or they can be bought as individual components.



VALUE PLUS BOX TRACK

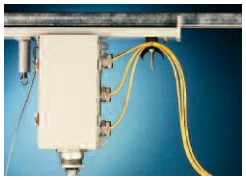
4200 and 4400 systems are used for heavier loads, higher travel speeds and longer travel distances than wire rope systems can handle. These economical systems are designed for small floor-operated cranes, monorail hoists and transfer equipment. Cars are available in all nylon, aluminum and steel body designs.

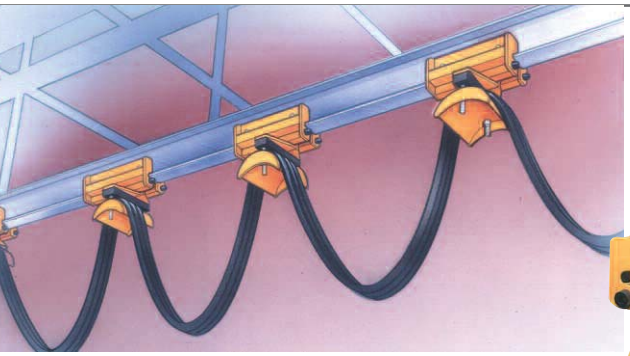


STANDARD BOX TRACK

Standard Box Track Systems offer premium features such as extra-strong rigid track and are perfect for more demanding applications. Systems can be purchased as pre-engineered packages or as individual components.

5200 and 5400 Series systems are also available with a special lead car designed for pendant support applications.





I-BEAM

Series 6000 I-beam systems are used when cable/hose weight and travel speed exceed the capacity of box track systems. I-beam systems may also be selected due to environmental conditions or simply because a suitable I-beam is already in place. These systems are purchased as individual components to be mounted on the customer's beam.

A new line of low-cost I-Beam festoon components provides more flexible options for smaller cable packages.

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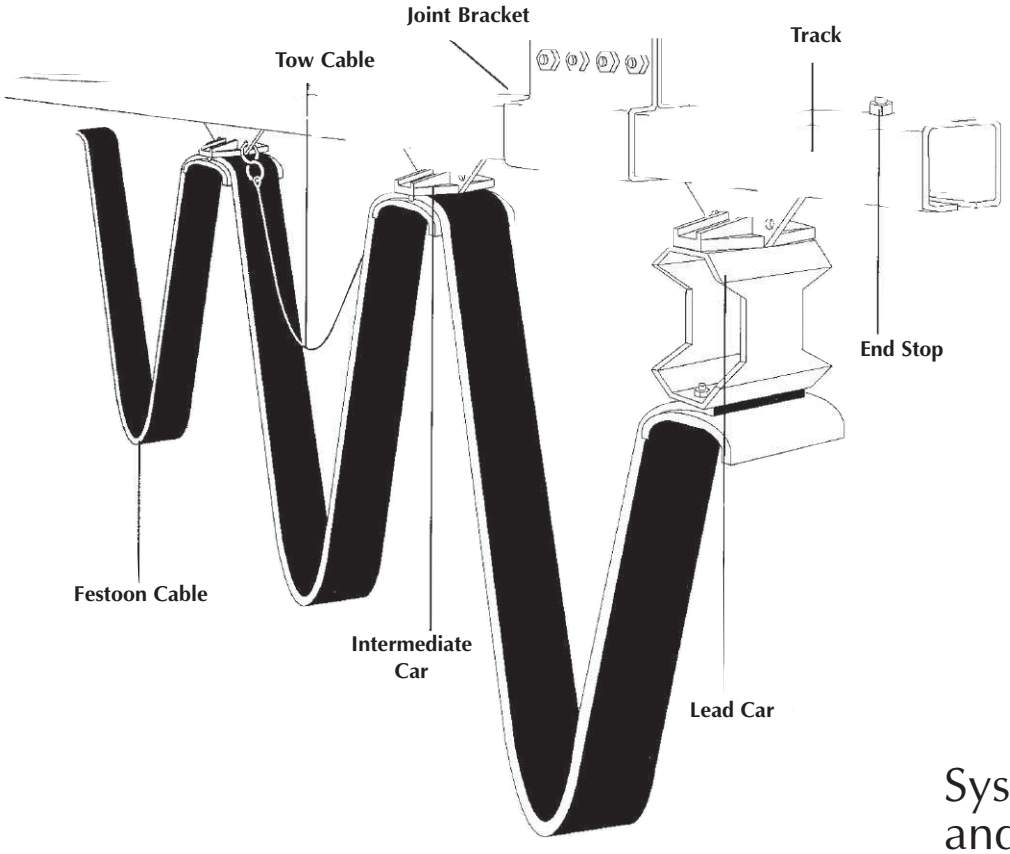
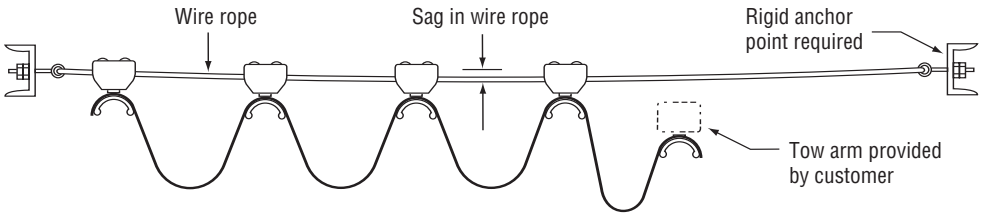
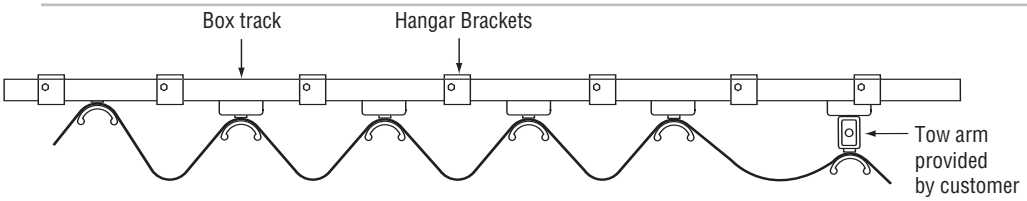


System Options and Considerations



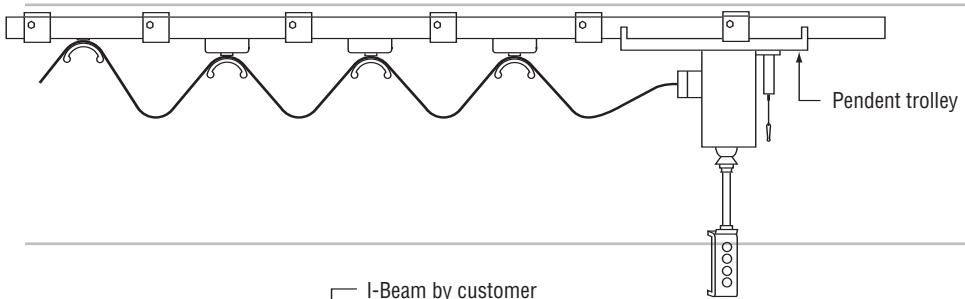
WIRE ROPE
Sturdy and rigid anchor points are important since a great deal of tension is applied to the wire to reduce sag in the system.

Sag will vary with the system length and the load applied. This must be taken into account when establishing the loop depth and location of the tow arm.

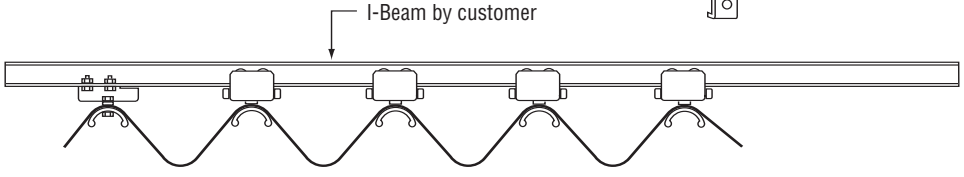


BOX TRACK
Hanger brackets are required to support the track. Mounting surfaces must be available.

A tow bar supplied by the customer fits through the opening in the lead car and is supported by the moving equipment.



BOX TRACK PENDANT SYSTEM
For use when an independently mobile control point is required. Box track systems are available with a special lead car designed to carry a pendant control station.

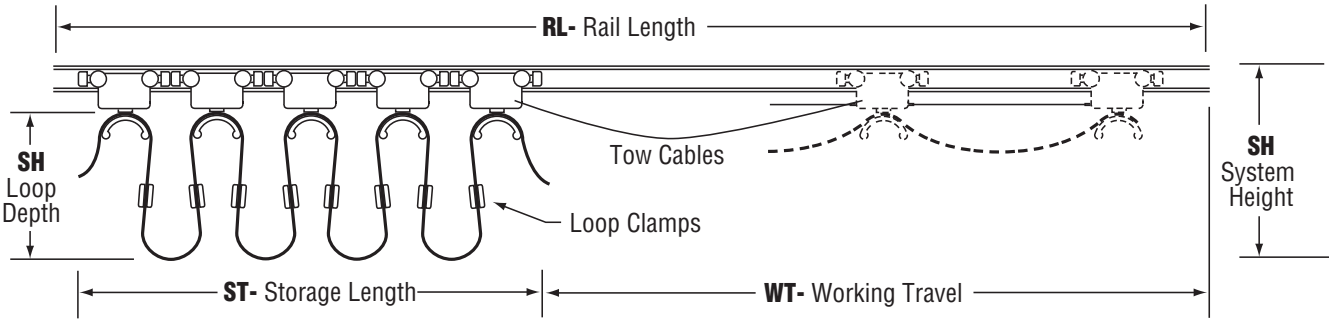


I-BEAM
All I-Beam systems are custom configured to customer specifications. Car selection is based on the cable/ hose package, the working travel, the system height, the I-Beam size and invironmental and performance factors.

System Terminology

Aero-Motive festoon systems are used to support electric cables and hoses providing power and/or control to moving equipment. Their use is normally restricted to straight, horizontal travel. Slight variations can be accomplished with engineering assistance from the factory.

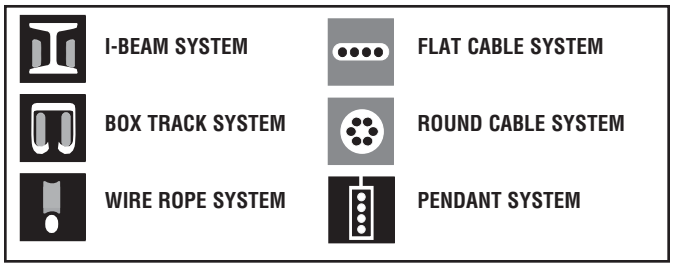
Festoon systems provide a simple, inexpensive method of handling cables and hoses, but have special space requirements which must be considered to select the proper system. The height of the system is determined by the loop depth and the required working travel. A system with a greater loop depth will require fewer cars and less storage than a system with a shorter loop depth.



Working travel is the actual movement required by the mobile equipment.

Storage length: When the moving equipment is in its starting position, space is required for the cable support cars to be parked end to end. This space can be quite large on a long system. The storage space can be minimized by using the longest possible loop depth. This reduces the number of cars required and consequently reduces the cost of the system. If this adjustment is not adequate, it may be possible to gain more space by relocating or redesigning the tow arm on the mobile equipment. If further assistance is needed, contact the factory.

Loop depth is the distance the loops are allowed to hang down when the cars are in the parked position. Maximizing the loop depth will minimize the storage space requirements and reduce the system cost. If the system is to travel at very high speeds, it may be necessary to limit the loop depth to prevent a violent pendulum action when accelerating and stopping.



Loop clamps are required on long loops with multiple cables or hoses to keep them organized and untangled. Requirements are dependent on the number and type of cables or hoses. They are especially important with round cables or hoses which have a tendency to twist and move out of position. These would not normally be required with wire rope supported systems. See clamp selection data in the system selection section for more detail.

Tow cables are used to relieve the tensile stress applied to the electric cables or hoses on heavy or fast systems with high acceleration rates. They are suggested on all systems with over 100 feet of working travel.

Electric cables should be selected carefully for the application. Flat festoon cables should be used whenever possible. The flat design minimizes the bend radius requirement for the saddle clamps on the immediate cars. This reduces the size and cost of the festoon system. Use a car with saddle radius appropriate for your maximum cable thickness or diameter. Multi-conductor round cables will have a shorter service life than flat cables. Flat cables will also hang straight down and not loop out to the sides as round cables will. See cable selection for more detail.

Systems Selection

Several factors are involved when specifying a festoon system. Each factor should be considered but some judgements may have to be made to determine the relative importance each to the specific application.

1. Cable Required

Determine the electric cable and/or hose requirements based on power and control needs.

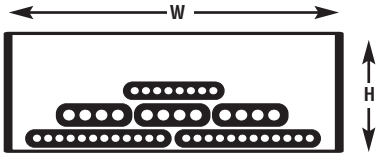
- Number of Cables or Hoses
- Cable or Hose Dimensions
- Cable or Hose Weight (lbs / ft or Kg / m)
  Technical data on flat festoon cables is provided on page 8. The sizes and weights of common round cables and hoses are provided on page 10
- Cable Shape (flat or round)
  Flat cable should be used whenever possible, as it will minimize the size of the intermediate car required thus reducing the cost and size of the system. Cable life will also be much greater because all wires in a flat cables are stressed equally.

2. Maximum Cable Thickness

What is the largest cable or hose that will be used on your system? Cable and hoses can bend only so far before they will kink and wear out prematurely. Consult the saddle chart on the opposite page to find the smallest system that will accommodate your largest cable or hose.

Some hoses such as high pressure and special cables may require a larger saddle radius to protect them from premature failure. If this is the case, select a model series with a larger Maximum Cable Thickness factor.

3. Window Opening



This is the rectangular space between the car saddle, the cable clamping pad and the bolts on each side of the clamp. The size and shape of this opening determines the maximum size cable or hose combination that can be used with any given car. When working with flat cable, an opening must first be selected that is wider than the widest cable in the package. The package of cables must be laid out to produce a stable stack of nearly uniform height across the top. Short pieces of cable can be used as shims to complete a package. Try to ensure that cables on both sides of a double saddle system are evenly distributed.

4. Target System Series

Using the information from the previous page on system types and the charts on the opposite page, you should be able to specify the minimum festoon series to handle your cable or hose. Other factors may influence you to consider a higher rated system. These are:

- Environmental considerations
- Duty cycle of the application
- Required working speed
- Expandability
- Existing I-Beams or rails
- Budget

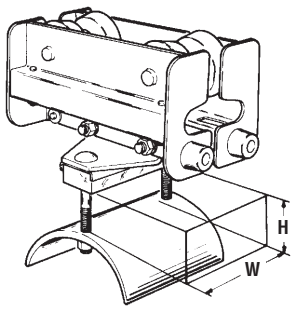
5. Loops and System Height

This step requires balancing two or three factors to specify the best configuration for your application. The fewer the number of loops, the less costly your system will be because fewer cars and shorter storage space will be required. However fewer loops mean longer loops, a taller system and more wear and tear on your cables. See the loop depth and travel charts for your targeted system series.

6. Weight Capacity

Double-check the weight capacity for your system. Determine the total weight of all of your cable across the entire system. Divide this by the number of carries to get the load on each car. This should not exceed the cars capacity. You can add cars, go to a shorter system height or upgrade to a higher series to meet capacity specifications.

Festoon Series	Weight per Car (lbs.)	Max. Speed (FPM)	Track Guage
5100	9		16
4200 Nylon Body	26	175	14
4200 Metal Body	44	260	14
4400	88	260	12
5200	33	175	16
5400	55	240	12
6000 Standard	175	400	NA
6000 Steel Wheels	350	400	NA



Flat Cable Single Saddle

Model	pg.	Max Thick	Window H"	Window W"
5110	12	.267	.88	2.38
42451	14	.25	.59	2.28
42461	14	.25	.50	2.28
42431	14	.40	.78	2.28
42421	14	.25	1.18	2.28
44101	18	.45	.98	2.56
44121	18	.56	1.06	2.56
5245	23	.22	.71	2.32
5242	23	.33	1.00	2.32
5410	31	.33	1.38	2.32
5412	31	.45	1.65	2.32
5414	31	.75	1.38	3.82
674X	40	.45	1.50	2.32
605X	40	.75	1.75	3.82
638X	40	1.00	2.00	6.00

Larger systems are available. If your cables do not fit on the systems listed above please contact the factory.

Round Cable

Model	pg.	Max Dia.
5120	12	.91
5130	12	1.25
5221	23	.91
5231	23	1.25
5421	31	.91
5431	31	1.25
4401-4112	18	.59
4401-4122	18	.96
4401-4132	18	1.40

NOTE:
A second clamp can be added if two cables or hoses are required.

Round Multiple Cable

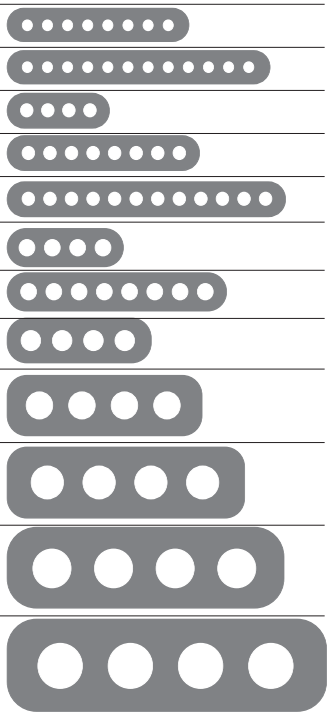
Model	pg.	Max Thick	Window H"	Window W"
639X	40	1.03	1.03	5.88

Flat Festoon Cable Selection

Select the cables needed to meet or exceed your electrical requirements. Make a list of the cables selected and refer to page 7for compatible systems. See Page 9 for connectors.

PVC Jacketed Cable

Cable Model	Conductors number	AWG	Dimensions (in.) Height	Width	Weight (lbs / ft)	Amps* 30° C
583000708	8	#16	.200	1.110	0.18	15
583000712	12	#16	.200	1.605	0.27	15
583000504	4	#14	.210	0.625	0.12	25
583000508	8	#14	.210	1.175	0.22	17
583000512	12	#14	.210	1.700	0.34	17
583000304	4	#12	.230	0.710	0.16	30
583000308	8	#12	.230	1.340	0.32	21
583104000	4	#10	.270	0.880	0.24	40
583804000	4	#8	.365	1.190	0.42	50
583604000	4	#6	.430	1.450	0.60	70
583404000	4	#4	.490	1.690	0.75	90
583204000	4	#2	.560	1.955	1.27	120

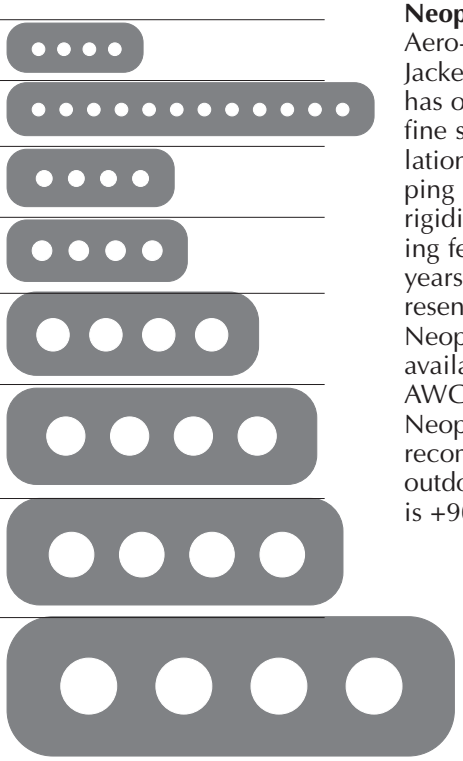


PVC Jacket (yellow)
Aero-Motive Pow-R-Belt 600V festoon cable is constructed with fine stranding and PVC thermoplastic insulation. The cable is free stripping, flexible, and the finest quality available. Pow-R-Belt cable is recommended for both indoor and outdoor operation. Temperature range is 105°C (+221°F) to -35°C (-31°F). PVC jacketed cables tend to stiffen at low temperatures, therefore, it may be preferable to use Neoprene cable when operating temperatures are below 0°C (32°F). Call factory for special quote.

* 48°C ambient - manufacturer rating for 25c x .82 derating. Best choice for most applications Assumes three conductors carrying full ampere loads. Refer to N.E.C. for derating of cables. Flat cable ratings are same as round cables even though more copper per conductor is generally used in the sizes listed. Other wire sizes, conductors, shielded cables, and UL listed cables are available. Consult factory.

Neoprene Jacketed Cable

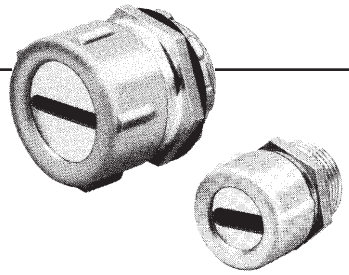
Cable Model	Conductors number	AWG	Dimensions (in.) Height	Width	Weight (lbs / ft)	Amps* 30° C
580000504	4	#14	.299	0.827	0.21	27
580000512	12	#14	.323	2.244	0.64	24
580000304	4	#12	.350	1.012	0.30	36
580104000	4	#10	.374	1.095	0.40	47
580604000	4	#6	.508	1.535	0.86	94
580404000	4	#4	.587	1.890	1.28	117
580204000	4	#2	.650	2.051	1.70	157
582004000	4	#2/0	.851	2.733	3.05	280



Neoprene Jacket (black)
Aero-Motive Neoprene Jacketed 600V festoon cable has oversize conductors*, extra fine stranding and rubber insulation. All sizes are free stripping and have superior lateral rigidity, important in fast moving festoon systems. Over 30 years of field experience is represented in the current design. Neoprene Jacketed cable is available in sizes up to 4/0 AWG on special order. Neoprene Jacketed cable is recommended for indoor and outdoor use. Temperature range is +90°C (140°F) to –40°C.

*Neoprene Jacketed cables have standard metric wire sizes which are slightly larger than comparable AWG sizes.

Cable Connectors



Connectors are matched to the cross sectional contour of the flat cables and provide a closure at the cable entrance in agreement with NEMA 12. The metal connector bodies are machined brass or aluminum. Compression nuts, pressure plates and contoured neoprene glands provide the cable seal. All connectors are complete with mounting nut and gasket.

PVC

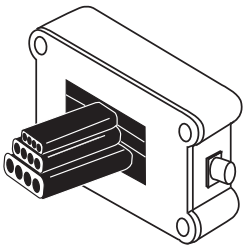
Cable Size	Metal Connector	Knockout Diameter	Thd. Size NPT. (PG)	Nylon Connector	Knockout Diameter	Thread Size
#16-8	29BC	1.50 (38.1)	(PG29)	1608NC	1.875 (47.6)	(PG36)
#16-12	42BC	2.125 (54.0)	(PG42)	1612NC	2.50 (63.5)	(PG48)
#14-4	21BC	1.18 (30.0)	(PG21)	1404NC	1.18 (30)	(PG21)
#14-8	29BC	1.50 (38.1)	(PG29)	1408NC	1.875 (47.6)	(PG36)
#14-12	42BC	2.125 (54.0)	(PG42)	1412NC	2.125 (54.0)	(PG42)
#12-4	21BC	1.18 (30.0)	(PG21)	1204NC	1.18 (30.0)	(PG21)
#12-8	36BC	1.875 (47.6)	(PG36)	1208NC	1.875 (47.6)	(PG36)
#10-4	29BC	1.50 (38.1)	(PG29)	1004NC	1.50 (38.1)	((PG29)
#8-4	36BC	1.875 (47.6)	(PG36)	0804NC	1.875 (47.6)	(PG36)
#6-4	36BC	1.875 (47.6)	(PG36)	0604NC	2.50 (63.5)	(PG48)
#4-4	42BC	2.125 (54.0)	(PG42)	0404NC	2.50 (63.5)	(PG48)
#2-4	-	-	-	0404NC	2.50 (63.5)	(PG48)

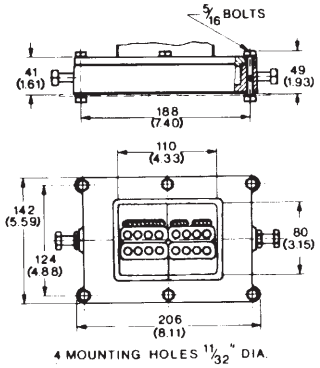
NEOPRENE

Cable Size	Metal Connector	Knockout Diameter	Thd. Size NPT. (PG)
#14-4	21BC	1.18 (30.0)	(PG21)
#14-12	512NC	3.00 (76.2)	2.5 NPT
#12-4	29BC	1.50 (38.1)	(PG29)
#10-4	29BC	1.50 (38.1)	(PG29)
#6-4	604NC	2.50 (63.2)	2.0 NPT
#4-4	404NC	3.00 (76.2)	2.5 NPT
#2-4	5607-00-998	NA	NA
#2/0-4	5607-00-998	NA	NA

Metric Dimensions are shown in brackets.

5607-00-998 - Group Connector



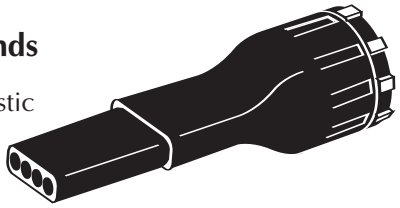


Group connectors are used to terminate large individual cables or groups of cables. Neoprene sealing blocks are cut to order. Group connectors come complete with mounting gaskets. The junction box must be cut for the entrance of the cables and four holes 9mm (0.38 inch) are required for mounting.

Please note that the maximum dimensions of a cable group may not exceed 80mm (3.15 inches) x 110mm (4.33 inches).

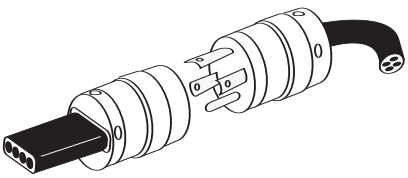
To order, specify quantity and model number. If Aero-Motive is to cut the sealing blocks, please supply sketch showing sizes and arrangement of cables in each group.

200SC - Sigma Flat to Round Connector Glands



High-strength structural plastic body with a heat-shrinkable extension which forms a permanent heat-shrunk grip. Recommended for use with round power and control cable. Also may be used to grip a bundle of flat Pow-R-Belt cables. For cable packages .65 inches to 1.7 inches.
Comes complete with gasket and nut. 1.6″ diameter head.

59990 - Flat to Round Cable Connectors



Catalog No.	Conductor	Amps.	Volts
59990-1	3	20	250
59990-2	4	20	480
59990-3	4	30	600

Round Cable/Hose Selection

Type SO cable - 600 volts

AWG	No. Cond.	Amps	Diameter In.	Diameter mm	Weight lbs/ ft	Weight Kg/ m
18	2	7.0	**0.39**	9.9	**0.08**	0.12
18	3	7.0	**0.41**	10.4	**0.10**	0.15
18	4	5.6	**0.44**	11.2	**0.12**	0.18
18	5	5.6	**0.50**	12.7	**0.14**	0.21
18	6	5.6	**0.53**	13.5	**0.16**	0.24
18	7	--	**0.57**	14.5	**0.18**	0.27
18	8	--	**0.60**	15.2	**0.20**	0.30
18	9	--	**0.64**	16.3	**0.22**	0.33
18	10	--	**0.64**	16.3	**0.23**	0.34
18	12	--	**0.66**	16.8	**0.25**	0.37
18	14	--	**0.72**	18.3	**0.30**	0.45
18	16	--	**0.76**	19.3	**0.34**	0.51
18	18	--	**0.80**	20.3	**0.38**	0.57
18	20	--	**0.84**	20.5	**0.42**	0.63
18	22	--	**0.87**	22.1	**0.45**	0.67
18	24	--	**0.91**	23.1	**0.48**	0.72
18	26	--	**0.91**	23.1	**0.50**	0.75
18	28	--	**1.00**	25.4	**0.58**	0.86
18	30	--	**1.00**	25.4	**0.60**	0.89
18	32	--	**1.03**	26.2	**0.64**	0.95
16	2	10.0	**0.41**	10.4	**0.09**	0.13
16	3	10.0	**0.43**	10.9	**0.11**	0.16
16	4	8.0	**0.49**	12.5	**0.15**	0.22
16	5	8.0	**0.53**	13.5	**0.17**	0.25
16	6	8.0	**0.57**	14.5	**0.19**	0.28
16	7	--	**0.61**	15.5	**0.22**	0.33
16	8	--	**0.65**	16.5	**0.24**	0.36
16	9	--	**0.72**	18.3	**0.29**	0.43
16	10	--	**0.72**	18.3	**0.31**	0.46
16	12	--	**0.74**	18.8	**0.34**	0.51
16	14	--	**0.78**	19.8	**0.38**	0.57
16	16	--	**0.83**	21.1	**0.42**	0.63
16	18	--	**0.86**	21.8	**0.47**	0.70
16	20	--	**0.90**	22.9	**0.51**	0.76
16	22	--	**0.94**	23.9	**0.56**	0.83
16	24	--	**1.02**	25.9	**0.63**	0.94
16	26	--	**1.02**	25.9	**0.66**	0.98
14	2	15.0	**0.53**	13.5	**0.15**	0.22
14	3	15.0	**0.56**	14.2	**0.19**	0.28
14	4	12.0	**0.61**	15.5	**0.22**	0.33
14	5	12.0	**0.69**	17.5	**0.29**	0.43
14	6	12.0	**0.74**	18.8	**0.33**	0.49
14	7	--	**0.80**	20.3	**0.36**	0.54
14	8	--	**0.85**	21.6	**0.41**	0.61
14	9	--	**0.91**	23.1	**0.46**	0.69
14	10	--	**0.91**	23.1	**0.48**	0.72
14	12	--	**0.93**	23.6	**0.53**	0.79
14	14	--	**0.98**	24.9	**0.61**	0.91
12	2	20.0	**0.61**	15.5	**0.21**	0.31
12	3	20.0	**0.64**	16.3	**0.25**	0.37
12	4	16.0	**0.67**	17.0	**0.30**	0.45
12	5	16.0	**0.73**	18.5	**0.35**	0.52
12	6	16.0	**0.80**	20.3	**0.41**	0.61
12	7	--	**0.86**	21.8	**0.47**	0.70
12	8	--	**0.92**	23.4	**0.52**	0.77
12	9	--	**1.02**	25.9	**0.60**	0.89
12	10	--	**1.02**	25.9	**0.63**	0.94
10	2	25.0	**0.65**	16.5	**0.24**	0.36
10	3	25.0	**0.70**	17.8	**0.31**	0.46
10	4	20.0	**0.75**	19.1	**0.39**	0.58
10	5	20.0	**0.82**	20.8	**0.46**	0.69
10	6	20.0	**0.88**	22.4	**0.53**	0.79
10	7	--	**0.98**	24.9	**0.65**	0.97

Type W cable - 600 volts

AWG	No. Cond.	Amps	Diameter In.	Diameter mm	Weight lbs/ ft	Weight Kg/ m
8	1	57.0	**0.44**	11.2	**0.13**	0.19
8	2	45.0	**0.81**	20.6	**0.41**	0.61
8	3	45.0	**0.90**	22.9	**0.53**	0.79
8	4	36.0	**0.99**	25.2	**0.69**	1.03
6	1	84.0	**0.51**	13.0	**0.19**	0.28
6	2	65.0	**0.93**	23.6	**0.58**	0.86
6	3	65.0	**0.99**	25.2	**0.78**	1.16
4	1	110.0	**0.57**	14.5	**0.26**	0.39
3	1	128.0	**0.63**	16.0	**0.32**	0.48
2	1	150.0	**0.66**	16.8	**0.36**	0.54
1	1	172.0	**0.74**	18.8	**0.45**	0.67
1/0	1	202.0	**0.77**	19.6	**0.53**	0.79
2/0	1	233.0	**0.82**	20.8	**0.65**	0.97
3/0	1	273.0	**0.87**	22.1	**0.78**	1.16
4/0	1	317.0	**0.93**	23.6	**0.92**	1.37

Type G cable - 600 volts

AWG	No. Cond.	Amps	Diameter In.	Diameter mm	Weight lbs/ ft	Weight Kg/ m
8	2	45.0	**0.81**	20.6	**0.44**	0.66
8	3	45.0	**0.91**	23.1	**0.57**	0.85
8	4	34.0	**0.99**	25.2	**0.74**	1.10
6	2	65.0	**0.93**	23.6	**0.65**	0.97
6	3	65.0	**1.01**	25.7	**0.84**	1.25

Diesel locomotive cable - 1000 volts

AWG	No. Cond.	Amps	Diameter In.	Diameter mm	Weight lbs/ ft	Weight Kg/ m
8	1	74.0	0.32	8.1	0.09	0.13
6	1	106.0	0.38	09.7	0.13	0.19
4	1	147.0	0.44	11.2	0.19	0.28
3	1	164.0	0.46	11.7	0.22	0.33
2	1	184.0	0.52	13.2	0.26	0.39
1	1	237.0	0.61	15.5	0.39	0.58
1/0	1	268.0	0.64	16.3	0.46	0.69
2/0	1	298.0	0.68	17.3	0.53	0.79
3/0	1	366.0	0.79	20.1	0.73	1.09
4/0	1	415.0	0.82	20.8	0.87	1.30
262mcm	1	461.0	0.93	23.6	1.03	1.53
313mcm	1	514.0	1.01	25.7	1.21	1.80

Standard Hose Ratings - oil-resisting, general purpose hose

Hose size ID In.	Hose size ID mm	Hose size OD In.	Hose size OD mm	Braid	Max PSI	Weight lbs/ft
0.250	6.35	**0.625**	15.88	1	250	0.17
0.375	9.53	**0.750**	19.05	1	200	0.23
0.500	12.70	**0.938**	23.83	1	200	0.33
0.750	19.05	**1.25**	31.75	2	225	0.52
1.000	25.40	**1.50**	38.10	2	200	0.65
1.250	31.75	**1.813**	46.05	2	150	0.86
1.500	38.10	**2.125**	53.97	2	150	1.00

Use the selection charts below to make a list of the cables/hose and diameters needed to meet your requirements. If the number of cables/hose you need is less than three, wire-rope-supported or box-track-supported festoon systems will probably meet your needs. For three or more cables/hose, or for applications where wire-supported or box-track-supported system are not appropriate, select from I-beam and box track round cable hose systems.

Round cable watertight connectors

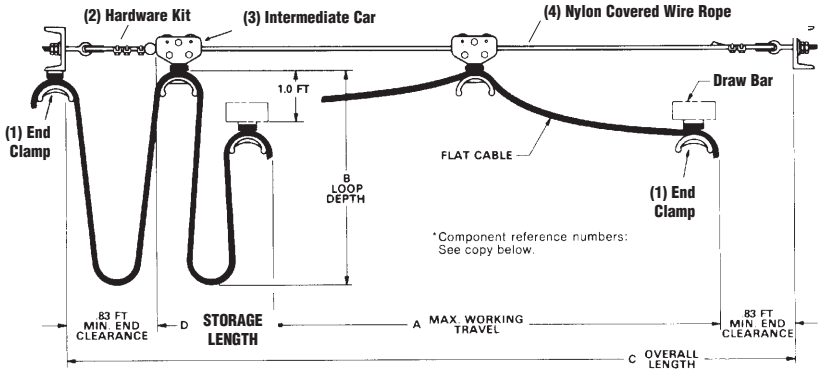
Catalog No.	Cable size, OD	Thread size, NPT
01151P0011	0.375 - 0.500	3/4
01151P0012	0.500 - 0.625	3/4
01151P0013	0.625 - 0.750	3/4
01151P0014	0.750 - 0.875	1
01151P0015	0.875 - 0.985	1
01151P0016	0.880 - 1.065	1 1/4
01151P0017	1.065 - 1.205	1 1/4
01151P0019	0.375 - 0.500	1
01151P0020	0.500 - 0.625	1
01151P0021	0.625 - 0.750	1

Loop Clamps / Organizers

Model No.	Compatible System
LC058	5200 / 5300 / 5410 / 5412 674X
LC115	5414 / 605X
LC150	638X / 639X / S7X2X S7X5X / S7X8X
LC250	631X / D7X1X / D7X4X / D7X7X
LC350	632X / D7X2X / D7X5X / D7X8X
LC500	633X / D7X3X / D7X6X / D7X9X

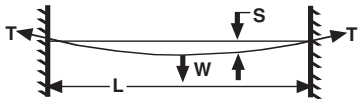
Series 5100
SPECIFICATIONS

Neoprene Clamp Pad
Concave Nylon Wheels
Nylon Body
Axles - zinc plated steel
Fasteners - galvanized steel.



HOW TO ORDER

Wire rope sag: Whey laying out a Pow-R-Tag® system, consideration should be given to the maximum carrying capacity and its sag under a given load. When determining clearance under cable loops, allowance must be made for sag in the wire rope supporting the system. The formula below can be used to determine the tension in the wire rope and the sag. Caution: Tension in the wire rope must not exceed 1050 pounds.



Tension in pounds = $\frac{\text{total weight (lbs) x length (ft)}}{8 \times \text{sag (ft)}}$

Series 5110
SPECIFICATIONS

Cable Size - for individual cables to 0.30 inches maximum thickness. (10:1saddle diameter to cable thickness ratio.)

Working Travel - 16 feet through 66 feet standard. For systems with longer working travel, consult factory.

Weight Capacity - 9 pounds per car.

Window Opening - 0.88" x 2.38".

Systems include:
(1) 2 end clamps; (2) 1 hardware kit consisting of 2 eye-bolts, 5 clamps and 1 ball stop; (3) intermediate cars-see specified quantity; (4) nylon covered rope, required length.

Clamping distance equals distance between two cars along path of cable or hose.

NOTE: Festoon cable and connectors NOT INCLUDED in system number. System requirements are: working travel of 25 feet, loop depth of not more than 42 inches. Cable required is 4 conductor/#12. Additional 5 feet of cable required on each end of system for hookup.

Systems Selection -Flat Cable

System No.	A Working travel (ft)	B Loop depth (in.)	C Overall length (ft)	Max. Combined cable Wt (lbs/ft)	D Storage space (ft)	Clamp distance (ft)	No. of of cars (item 3)	(CR) Cable required* (ft)
5110-02-025	16	36	18.7	1.44	1.05	6.25	2	20
	21	48	23.7	1.09	1.05	8.25	2	26
5110-04-045	27	36	30.5	1.44	1.75	6.25	4	33
	36	48	39.4	1.09	1.75	8.25	4	43
5110-06-060	38	36	42.2	1.44	2.45	6.25	6	46
	51	48	55.1	1.09	2.45	8.25	6	60
5110-08-075	50	36	54.8	1.44	3.15	6.25	8	60
	66	48	70.8	1.09	3.15	8.25	8	77

*Add for your hook-up(s) on each end.

Wire Rope Round Cable Systems

Series 5120/5130

SPECIFICATIONS

Cable/Hose Size for individual round cable or hose to 1.25 inches. Not recommended for hoses larger than ½" I.D. One additional cable or hose may be added by attaching saddle clamps 5122 or 5132 to the cable car.

Weight Capacity is 9 pounds per car.

Working Travel is 15 feet through 68 feet standard. For systems with longer working travel, consult factory.

Clamping Distance equal distance between two cars along path of cable or hose.

Systems include: (1) two end clamp assemblies; (2) one hardware kit consisting of two eye-bolts, five clamps, and one ball stop; (3) intermediate cars; (4) nylon covered wire rope, required length.

NOTE: Festoon cables/hose and connectors not included in system number.

Systems Selection - Round Cable or Hose (from 0.49″ to 0.91″)

System	A Working Travel (ft)	B Loop Depth (in)	C Overall Length (ft)	Maximum Combined Cable Wt (lbs/ft)	D Storage Length (ft)	Clamp Distance (ft)	No. of Cars (item 3)	(CR) Cable Required* (ft)
5120-02-025	15	36	17.5	1.38	0.84	6.52	2	19
	20	48	22.5	1.05	0.84	8.52	2	24
5120-04-040	26	36	29.1	1.38	1.40	6.52	4	31
	35	48	38.1	1.05	1.40	8.52	4	41
5120-06-055	37	36	40.7	1.38	1.97	6.52	6	44
	50	48	53.75	1.05	1.97	8.52	6	59
5120-08-075	48	36	52.2	1.38	2.53	6.52	8	57
	65	48	69.2	1.05	2.53	8.52	8	76

* Add for your hook up(s) on each end.

Systems Selection - Round Cable or Hose (from 0.91″ to 1.25″)

System	A Working Travel (ft)	B Loop Depth (in)	C Overall Length (ft)	Maximum Combined Cable Wt (lbs/ft)	D Storage Length (ft)	Clamp Distance (ft)	No. of Cars (item 3)	(CR) Cable Required* (ft)
5130-02-025	16	36	18.5	1.31	0.84	6.87	2	20
	21	48	23.5	1.01	0.84	8.87	2	25
5130-04-045	28	36	31.1	1.31	1.40	6.87	4	34
	37	48	40.1	1.01	1.40	8.87	4	44
5130-06-060	40	36	43.6	1.31	1.97	6.87	6	48
	52	48	55.6	1.01	1.97	8.87	6	61
5130-08-075	52	36	56.2	1.31	2.53	6.87	8	61
	68	48	72.2	1.01	2.53	8.87	8	79

* Add for your hook up(s) on each end.

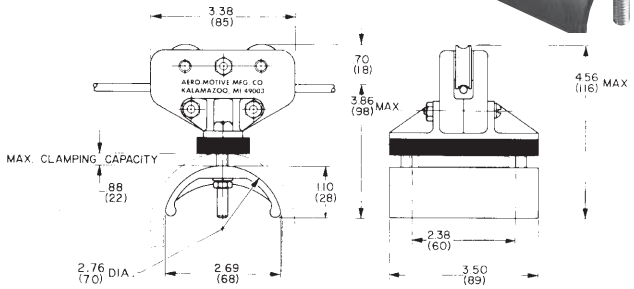
Wire Rope Systems

Series 5100

Aero-Motive Wire Rope Systems handle flat cable .30" maximum thickness and round cable or hose up to 1.25" diameter.

FLAT CABLE CAR

Model 5111
Flat Cable
Wt. 0.50 lbs.



WIRE ROPE HARDWARE

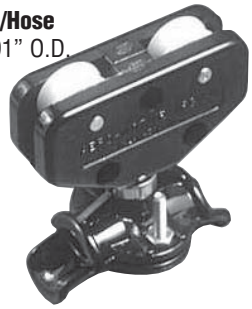
No. 5103 hardware kit includes: eye bolts, five cable clamps, ball stop and fasteners.

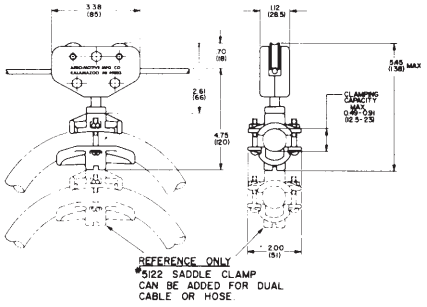
No. 5104-Xxx* nylon covered wire rope. Weight is 0.065 lb/ft. *Last three digits indicate required length in feet; e.g., 55 foot rope = catalog number 5104-55.

NOTE: Wire rope is 3/16 inch diameter nylon coated to 1/4 inch diameter. Wire rope must be nylon covered if supplied by customer.

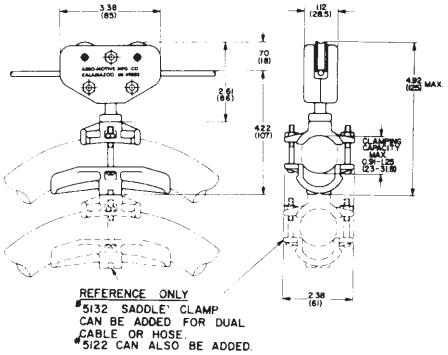
ROUND HOSE/CABLE CAR

Model 5121 Round Cable/Hose
Wt. 0.41 lbs. 0.49" to 0.91" O.D.



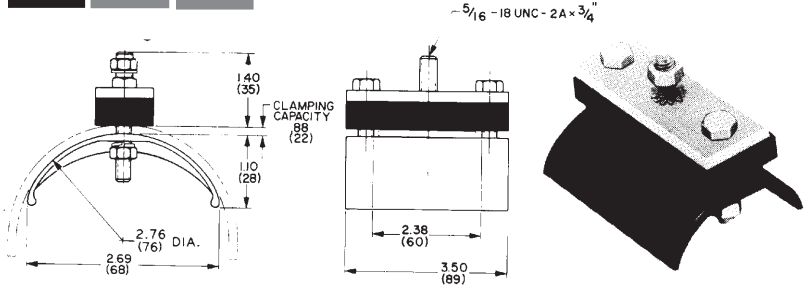


Model 5131Round Cable/Hose
Wt. 0.44 lbs. 0.91" to 1.25" O.D.

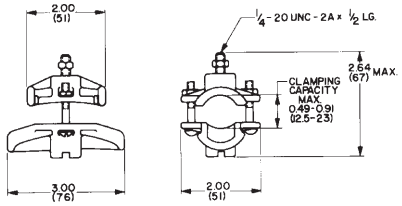


END CLAMPS

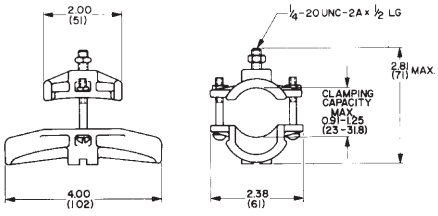
Model 5112 Wt. 0.62 lbs.



Model 5122
For round cable or hose 0.49" to 0.91" OD



Model 5132
For round cable or hose 0.91" to 1.25" OD



Value Plus Box Track for Flat Cable

Series 4200

SPECIFICATIONS

Construction - Nylon body, saddle and wheels on 4245 Series for durability and light weight.

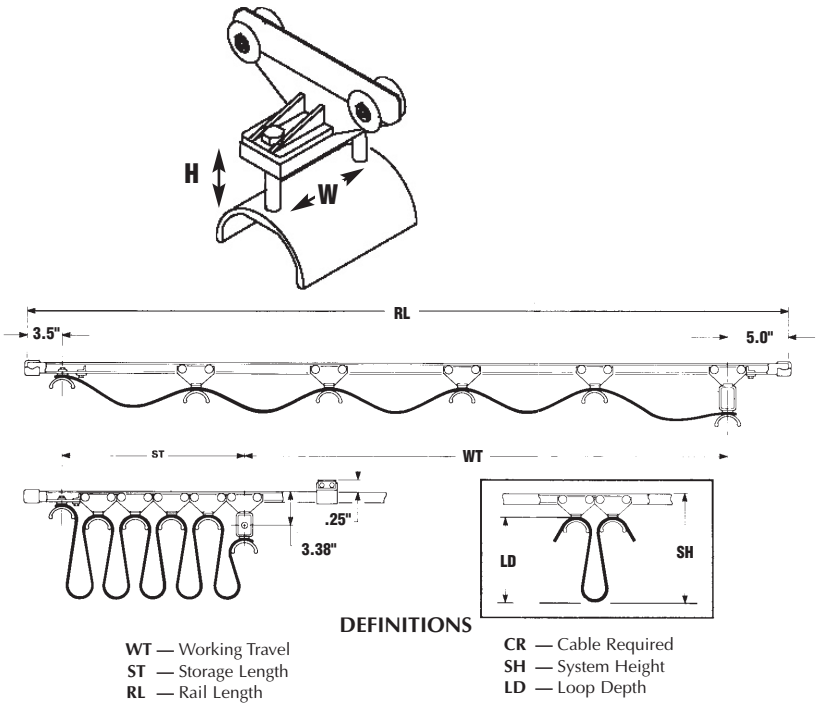
Metal car bodies and sealed ball bearing wheels on 4242, 42461 and 42431 series for long life.

Nylon saddles with contoured edges to protect cables. (42431 use galvanized steel saddle)

Neoprene clamp pads - compensates for uneven cable stacking up to 1/8″

Pendant Control Car - Steel car with steel ball bearing wheels. Includes junction box with terminal strip and single flat cable connector. Swinging mount allows maximum freedom of movement. Replaces lead car. (see page 22)

Mount Track as straight and level as possible. Series 4200HB hanger brackets are mounted on 5 ft centers. The 4400USB universal support bracket option allows quick and easy mounting to adjacent beam. After a few hours of operation all fasteners should be checked and tightened.



Series	Dim. H	Dim. W	Max. Cable Thickness	Load Capacity	Intermediate	Tow Car	End Clamp	Pendant Option
4245	.59 in.	2.28 in.	.27 in.	26 lbs./ Car	42451	42423	42422	4200PC
4246	.50 in.	2.28 in.	.27 in.	44 lbs./ Car	42461	42423	42422	4200PC
4242	1.18 in.	2.28 in.	.27 in.	44 lbs./ Car	42421	42423	42422	4200PC
4243	.78 in.	2.28 in.	.43 in.	44 lbs./ Car	42431	42433	42432	4200PC

HOW TO ORDER HARDWARE

- Select cables required referencing data on page 8 & 10
- See chart above to select intermediate car series based on:
  Maximum Thickness - Based on the bend radius required of largest cable that you have selected.
  Window Opening - The height (Dim.H) and width (Dim. W) that will accommodate the total cable package.
- Determine the Working Travel and Loop Depth combination from the component charts on the opposite page. The loop depth must clear all adjacent equipment and personnel in your application. Most systems use loops varying from 3 to 6 feet. Loops of more that 6 feet require special attention on higher speed applications.
- Double check the load capacity of your car. Calculating the total weight of the cable in your system and divide by the number of loops.

SYSTEM COMPONENTS

Each order should include:

Intermediate Car - see chart “cars” for number required

Tow Car or Pendant Car - 42423 or 42433 Tow Car or 4200PC Pendant Car (see page 22) one / system

End Clamp - 42422 or 42432. one / system

End Stop - 4200ES. one / system

Track - 420010 10 ft. sections. See chart for quantity

Joint Brackets - 4200JB. See chart for quantity

Hanging Brackets - 4200HB. See chart for quantity

Cable - See chart for length. Add 10 - 20 ft. extra for hook-up.

Connectors - Two per cable. See pages 9 & 10

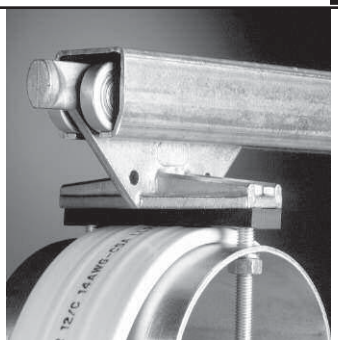
■ **Options**

Loop Clamps - LC058. One per loop. For loops over 48″ use two per loop.

Universal Support Bracket - 4400USB & 4200HC Allows easy mounting of rail from existing beam. See chart for quantity.

Value Plus Box Track for Flat Cable

Series 4200 Component Charts



Loop Depth 24 inches						4400USB	
WT (ft.)	ST (ft.)	loops	Cars	420010 Rail	4200JB Bracket	4200HB 4200HC	Cable (ft.)*
7.0	.8	2	1	1	0	3	8.6
10.6	1.2	3	2	2	1	5	13.0
14.1	1.6	4	3	2	1	5	17.3
17.6	2.1	5	4	3	2	7	21.6
21.1	2.5	6	5	3	2	7	25.9
24.6	2.9	7	6	3	2	7	30.2
28.1	3.3	8	7	4	3	9	34.6
31.7	3.7	9	8	4	3	9	38.9
35.2	4.1	10	9	5	4	11	43.2
38.7	4.5	11	10	5	4	11	47.5
42.2	4.9	12	11	5	4	11	51.8
45.7	5.3	13	12	6	5	13	56.2
49.2	5.7	14	13	6	5	13	60.5
52.8	6.2	15	14	7	6	15	64.8
56.3	6.6	16	15	7	6	15	69.1
59.8	7.0	17	16	7	6	15	73.4
63.3	7.4	18	17	8	7	17	77.8
66.8	7.8	19	18	8	7	17	82.1
70.3	8.2	20	19	9	8	19	86.4

Loop Depth 36 inches						4400USB	
WT (ft.)	ST (ft.)	loops	Cars	420010 Rail	4200JB Bracket	4200HB 4200HC	Cable (ft.)*
10.7	.8	2	1	2	1	5	12.6
16.0	1.2	3	2	2	1	5	19.0
21.3	1.6	4	3	3	2	7	25.3
26.7	2.1	5	4	4	3	9	31.6
32.0	2.5	6	5	4	3	9	37.9
37.3	2.9	7	6	5	4	11	44.2
42.7	3.3	8	7	5	4	11	50.6
48.0	3.7	9	8	6	5	13	56.9
53.4	4.1	10	9	6	5	13	63.2
58.7	4.5	11	10	7	6	15	69.5
64.0	4.9	12	11	8	7	17	75.8
69.4	5.3	13	12	8	7	17	82.2
74.7	5.7	14	13	9	8	19	88.5
80.0	6.2	15	14	9	8	19	94.8
85.4	6.6	16	15	10	9	21	101.1
90.7	7.0	17	16	10	9	21	107.4
96.0	7.4	18	17	11	10	23	113.8
101.4	7.8	19	18	12	11	25	120.1
106.7	8.2	20	19	12	11	25	126.4

Loop Depth 48 inches						4400USB	
WT (ft.)	ST (ft.)	loops	Cars	420010 Rail	4200JB Bracket	4200HB 4200HC	Cable (ft.)*
14.3	.8	2	1	2	1	5	16.6
21.5	1.2	3	2	3	2	7	25.0
28.6	1.6	4	3	4	3	9	33.3
35.8	2.1	5	4	4	3	9	41.6
42.9	2.5	6	5	5	4	11	49.9
50.1	2.9	7	6	6	5	13	58.2
57.2	3.3	8	7	7	6	15	66.6
64.4	3.7	9	8	8	7	17	74.9
71.5	4.1	10	9	8	7	17	83.2
78.7	4.5	11	10	9	8	19	91.5
85.8	4.9	12	11	10	9	21	99.8
93.0	5.3	13	12	11	10	23	108.2
100.2	5.7	14	13	11	10	23	116.5
107.3	6.2	15	14	12	11	25	124.8
114.5	6.6	16	15	13	12	27	133.1
121.6	7.0	17	16	14	13	29	141.4
128.8	7.4	18	17	14	13	29	149.8
135.9	7.8	19	18	15	14	31	158.1
143.1	8.2	20	19	16	15	33	166.4

Loop Depth 60 inches						4400USB	
WT (ft.)	ST (ft.)	loops	Cars	420010 Rail	4200JB Bracket	4200HB 4200HC	Cable (ft.)*
17.9	.8	2	1	3	2	7	20.6
26.9	1.2	3	2	4	3	9	31.0
35.9	1.6	4	3	4	3	9	41.3
44.9	2.1	5	4	5	4	11	51.6
53.8	2.5	6	5	6	5	13	61.9
62.8	2.9	7	6	7	6	15	72.2
71.8	3.3	8	7	8	7	17	82.6
80.7	3.7	9	8	9	8	19	92.9
89.7	4.1	10	9	10	9	21	103.2
98.7	4.5	11	10	11	10	23	113.5
107.7	4.9	12	11	12	11	25	123.8
116.6	5.3	13	12	13	12	27	134.2
125.6	5.7	14	13	14	13	29	144.5
134.6	6.2	15	14	15	14	31	154.8
143.5	6.6	16	15	16	15	33	165.1
152.5	7.0	17	16	17	16	35	175.4
161.5	7.4	18	17	18	17	37	185.8
170.5	7.8	19	18	19	18	39	196.1
179.4	8.2	20	19	19	18	39	206.4

Loop Depth 72 inches						4400USB	
WT (ft.)	ST (ft.)	loops	Cars	420010 Rail	4200JB Bracket	4200HB 4200HC	Cable (ft.)*
21.6	.8	2	1	3	2	7	24.6
32.4	1.2	3	2	4	3	9	37.0
43.2	1.6	4	3	5	4	11	49.3
54.0	2.1	5	4	6	5	13	61.6
64.7	2.5	6	5	7	6	15	73.9
75.5	2.9	7	6	9	8	19	86.2
86.3	3.3	8	7	10	9	21	98.6
97.1	3.7	9	8	11	10	23	110.9
107.9	4.1	10	9	12	11	25	123.2
118.7	4.5	11	10	13	12	27	135.5
129.5	4.9	12	11	14	13	29	147.8
140.3	5.3	13	12	15	14	31	160.2
151.1	5.7	14	13	16	15	33	172.5
161.9	6.2	15	14	17	16	35	184.8
172.6	6.6	16	15	19	18	39	197.1
183.4	7	17	16	20	19	41	209.4
194.2	7.4	18	17	21	20	43	221.8
205.0	7.8	19	18	22	21	45	234.1
215.8	8.2	20	19	23	22	47	246.4

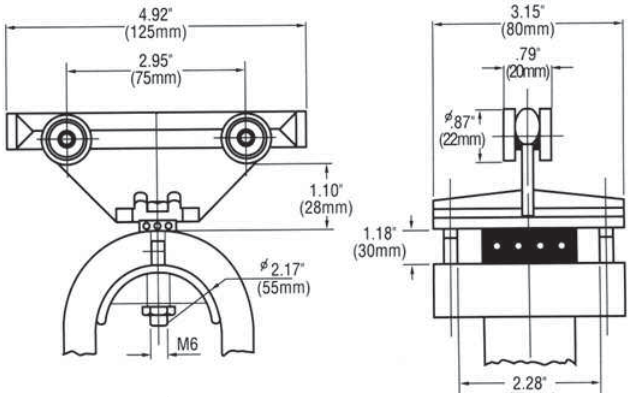
*Add extra cable for hook-up

Value Plus Box Track for Flat Cable

4242 Car

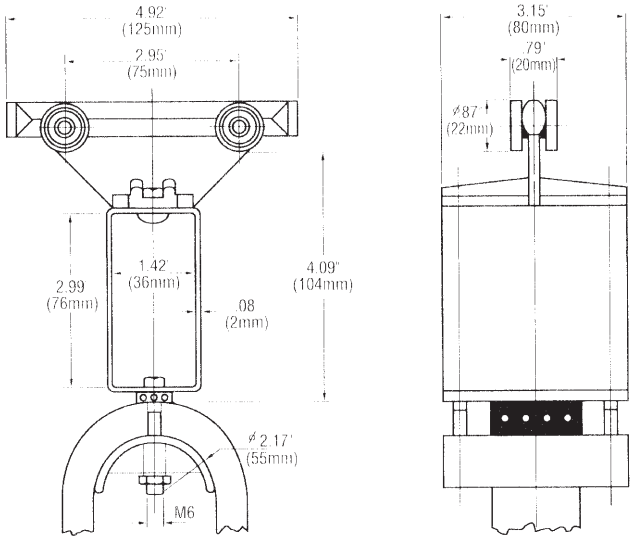
42421 Intermediate Car

- Load Limit 44 lbs. (20 kg)
- Aluminum Body
- Nylon Saddle - 2.17 Radius
- Steel Ball Bearing Wheels



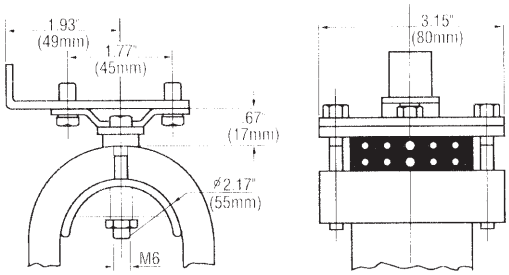
42423 Tow Car

- Use with 42421, 42451 & 42461



42422 End Clamp

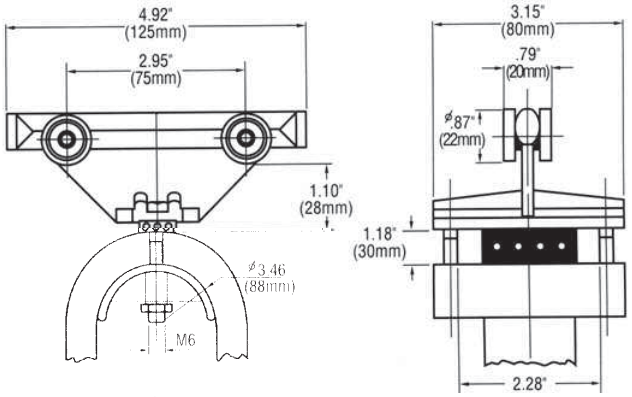
- Use with 42421, 42451 & 42461



4243 Car

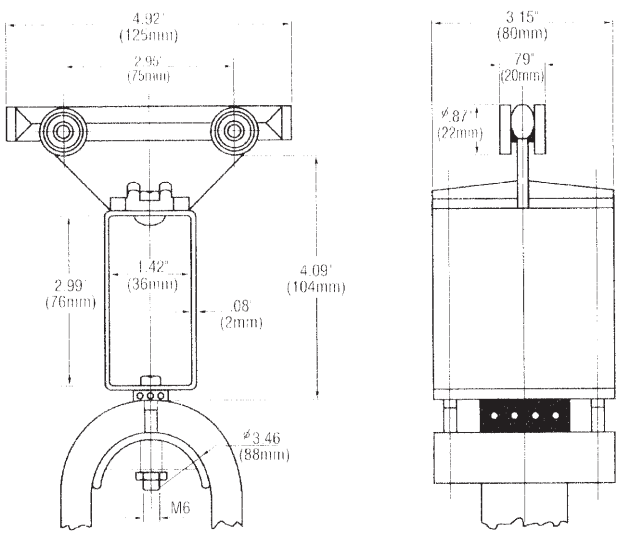
42431 Intermediate Car

- Load Limit 44 lbs. (20 kg)
- Aluminum Body
- Nylon Saddle - 3.46 Radius
- Steel Ball Bearing Wheels



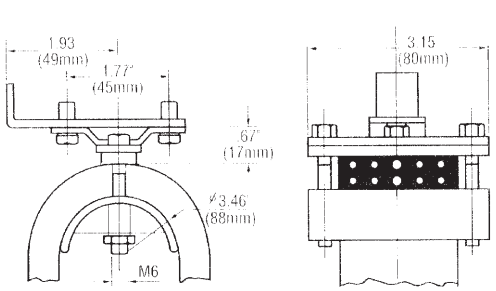
42433 Tow Car

- Use with 42431



42432 End Clamp

- Use with 42431

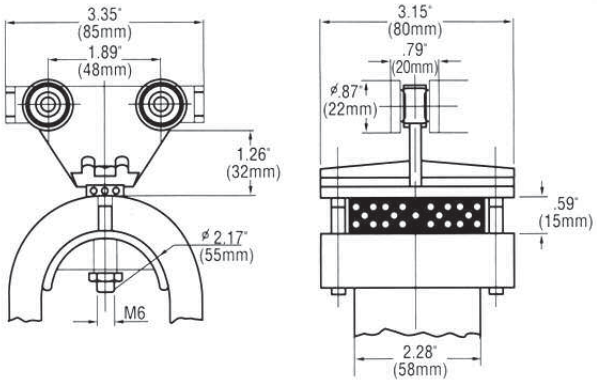


Value Plus Box Track for Flat Cable

4245 Car

42451 Intermediate Car

- Load Limit 26 lbs. (12 kg)
- Nylon Body
- Nylon Saddle - 3.46 Radius
- Nylon Wheels

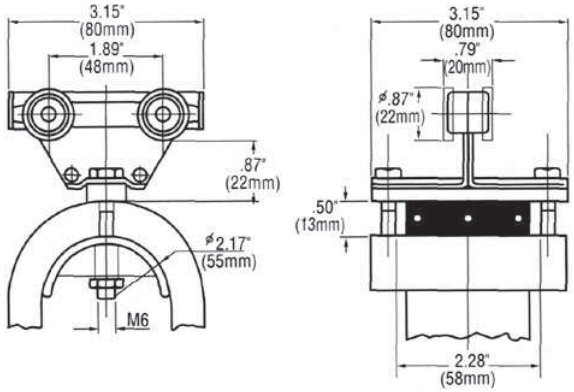


- Use 42423 Tow Car and 42422 End Clamp

4246 Car

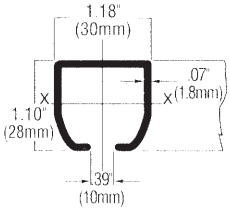
42461 Intermediate Car

- Load Limit 44 lbs. (20 kg)
- Galvanized Steel Body
- Nylon Saddle - 2.17 Radius
- Steel Ball Bearing Wheels



- Use 42423 Tow Car and 42422 End Clamp

Track



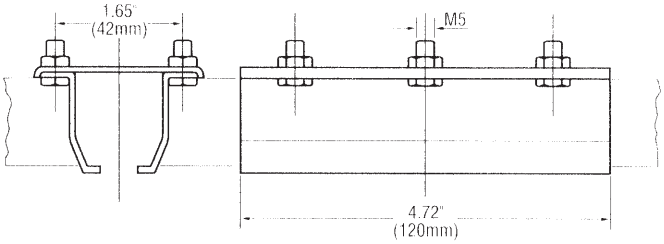
420010 Track

- Galvanized Steel Construction
- Engineered contour provides maximum section stiffness and gravity centering of wheels in the raceway
- Sold in 10 ft. (3.05m) section

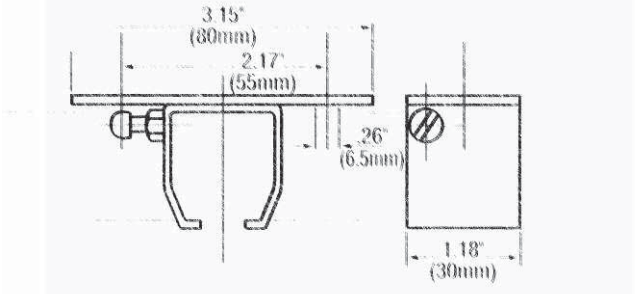
Joint Bracket

4200JB Joint Bracket

- Galvanized Steel Construction
- Zinc Plated Steel Hardware



Hanging Bracket

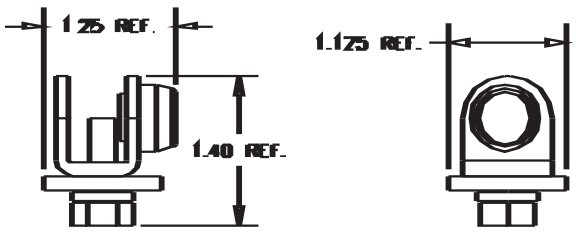


4200HB Hanger Bracket

- Galvanized Steel Construction
- Zinc Plated Steel Hardware

- See page 22 for optional universal hanging bracket

End Stop



4200ES End Stop

- Locate between track clamp and last intermediate car
- Zinc Plated Steel

Economy Box Track for Flat or Round Cable

Series 4400

SPECIFICATIONS

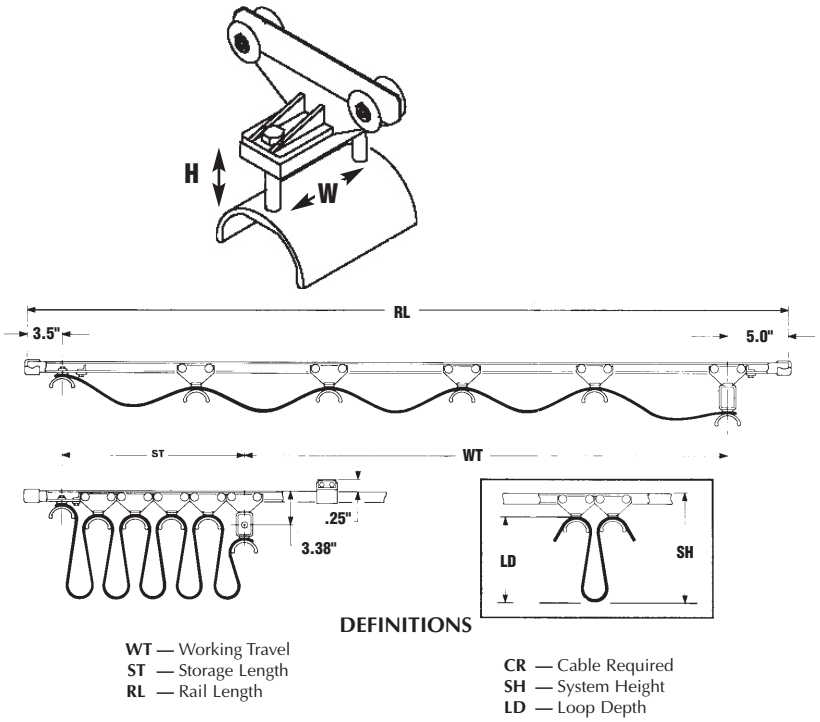
Construction - Galvanized steel saddles and body for durability.

Round cable cars come with rugged cast aluminum saddles with pivoting mount to resist hose kinking.

Neoprene clamp pads - compensates for uneven cable stacking up to 1/8″

Pendant Control Car -Steel car with steel ball bearing wheels. Includes junction box with terminal strip and single flat cable connector. Swinging mount allows maximum freedom of movement. Replaces lead car. (see page 22)

Mount Track as straight and level as possible. Series 4400HB hanger brackets are mounted on 5 ft centers. The 4400USB universal support bracket option allows quick and easy mounting to adjacent beam. After a few hours of operation all fasteners should be checked and tightened.



DEFINITIONS

WT — Working Travel
ST — Storage Length
RL — Rail Length

CR — Cable Required
SH — System Height
LD — Loop Depth

Series	Dim. H	Dim. W	Max. Cable Thickness	Load Capacity	Intermediate	Tow Car	End Clamp	Pendant Option
4410	.98 in.	2.56 in.	.45 in.	88 lbs./ Car	44101	44123	44122	4400PC
4412	1.06 in.	3.59 in.	.56 in.	88 lbs./ Car	44121	44123	44122	4400PC

Series	Diameter Range	Load Capacity	Intermediate	Saddle	Tow Car	End Clamp	Pendant Option
4401-4112	.31in. to .59 in dia.	88 lbs./ Car	44011	4112	44013	44012	NA
4401-4122	.60in. to .96 in dia.	88 lbs./ Car	44011	4122	44013	44012	NA
4401-4132	.97in. to 1.40 in dia.	88 lbs./ Car	44011	4132	44013	44012	NA

HOW TO ORDER HARDWARE

- Select cables required referencing data on page 8 & 10
- See chart above to select intermediate car series based on:
  Maximum Thickness - Based on the bend radius required of largest cable that you have selected.
  Window Opening /Diameter Range - The height (Dim.H), width (Dim. W) or diameter that will accommodate the total cable package.
- Determine the Working Travel and Loop Depth combination from the component charts on page 19 or 21. The loop depth must clear all adjacent equipment and personnel in your application. Most systems use loops varying from 3 to 6 feet. Loops of more that 6 feet require special attention on higher speed applications.
- Double check the load capacity of your car. Calculating the total weight of the cable in your system and divide by the number of loops.

SYSTEM COMPONENTS

Each order should include:

Intermediate Cars - see chart “cars” for number required

Tow Car or Pendant Car - 44123, 44013 Tow Car or 4400PC Pendant Car (see page 22). one / system.

End Clamp - 44122. one / system

End Stop - 4400ES. one / system

Track - 440010. 10 ft. sections. See chart for quantity

Joint Brackets - 4400JB. See chart for quantity

Hanging Brackets - 4400HB. See chart for quantity

Cable - See chart for length. Add 10 - 20 ft. extra for hook-up.

Connectors - Two per cable. See pages 9 & 10

■ **Options**

Loop Clamps - LC058 for cable package widths up to 2.2″. LC115 for widths up to 4.5″.One per loop. For loops over 48″ use two per loop.

Universal Support Bracket - 4400USB & 4400HC. Allows easy mounting of rail from existing beam. See chart for quantity.

Economy Box Track Flat Cable

Series 4400 Component Charts

Loop Depth 24 inches						4400HC	
WT (ft.)	ST (ft.)	loops	Cars	440010 Rail	4400JB Bracket	4400USB 4400HB	Cable (ft.)*
6.9	1.1	2	1	2	1	5	8.9
10.4	1.7	3	2	2	1	5	13.3
13.9	2.3	4	3	2	1	5	17.8
17.3	2.9	5	4	3	2	7	22.2
20.8	3.4	6	5	3	2	7	26.6
24.3	4.0	7	6	4	3	9	31.1
27.7	4.6	8	7	4	3	9	35.5
31.2	5.1	9	8	4	3	9	40.0
34.7	5.7	10	9	5	4	11	44.4
38.1	6.3	11	10	5	4	11	48.8
41.6	6.8	12	11	6	5	13	53.3
45.1	7.4	13	12	6	5	13	57.7
48.5	8.0	14	13	6	5	13	62.2
52	8.6	15	14	7	6	15	66.6
55.5	9.1	16	15	7	6	15	71.0
58.9	9.7	17	16	8	7	17	75.5
62.4	10.3	18	17	8	7	17	79.9
65.9	10.8	19	18	8	7	17	84.4
69.3	11.4	20	19	9	8	19	88.1

*Add extra cable for hook-up

Loop Depth 36 inches						4400HC	
WT (ft.)	ST (ft.)	loops	Cars	440010 Rail	4400JB Bracket	4400USB 4400HB	Cable (ft.)*
10.6	1.1	2	1	2	1	5	12.9
15.9	1.7	3	2	2	1	5	19.3
21.1	2.3	4	3	3	2	7	25.8
26.4	2.9	5	4	4	3	9	32.2
31.7	3.4	6	5	4	3	9	38.6
37.0	4.0	7	6	5	4	11	45.1
42.3	4.6	8	7	5	4	11	51.5
47.6	5.1	9	8	6	5	13	58.0
52.8	5.7	10	9	7	6	15	64.4
58.1	6.3	11	10	7	6	15	70.8
63.4	6.8	12	11	8	7	17	77.3
68.7	7.4	13	12	8	7	17	83.7
74.0	8.0	14	13	9	8	19	90.2
79.3	8.6	15	14	9	8	19	96.6
84.6	9.1	16	15	10	9	21	103.0
89.8	9.7	17	16	11	10	23	109.5
95.1	10.3	18	17	11	10	23	115.9
100.4	10.8	19	18	12	11	25	122.4
105.7	11.4	20	19	12	11	25	128.8

Loop Depth 48 inches						4400HC	
WT (ft.)	ST (ft.)	loops	Cars	440010 Rail	4400JB Bracket	4400USB 4400HB	Cable (ft.)*
14.2	1.1	2	1	2	1	5	16.9
21.3	1.7	3	2	3	2	7	25.3
28.4	2.3	4	3	4	3	9	33.8
35.5	2.9	5	4	5	4	11	42.2
42.6	3.4	6	5	5	4	11	50.6
49.7	4.0	7	6	6	5	13	59.1
56.8	4.6	8	7	7	6	15	67.5
63.9	5.1	9	8	8	7	17	76.0
71.0	5.7	10	9	8	7	17	84.4
78.1	6.3	11	10	9	8	19	92.8
85.2	6.8	12	11	10	9	21	101.3
92.3	7.4	13	12	11	10	23	109.7
99.4	8.0	14	13	11	10	23	118.2
106.5	8.6	15	14	12	11	25	126.6
113.6	9.1	16	15	13	12	27	135.0
120.7	9.7	17	16	14	13	29	143.5
127.8	10.3	18	17	15	14	31	151.9
135.0	10.8	19	18	15	14	31	160.4
142.1	11.4	20	19	16	15	33	168.8

Loop Depth 60 inches						4400HC	
WT (ft.)	ST (ft.)	loops	Cars	440010 Rail	4400JB Bracket	4400USB 4400HB	Cable (ft.)*
17.8	1.1	2	1	3	2	7	20.9
26.8	1.7	3	2	4	3	9	31.3
35.7	2.3	4	3	4	3	9	41.8
44.6	2.9	5	4	5	4	11	52.2
53.5	3.4	6	5	6	5	13	62.6
62.4	4	7	6	7	6	15	73.1
71.4	4.6	8	7	8	7	17	83.5
80.3	5.1	9	8	9	8	19	94.0
89.2	5.7	10	9	10	9	21	104.4
98.1	6.3	11	10	11	10	23	114.8
107.1	6.8	12	11	12	11	25	125.3
116.0	7.4	13	12	13	12	27	135.7
124.9	8.0	14	13	14	13	29	146.2
133.8	8.6	15	14	15	14	31	156.6
142.7	9.1	16	15	16	15	33	167.0
151.7	9.7	17	16	17	16	35	177.5
160.6	10.3	18	17	18	17	37	187.9
169.5	10.8	19	18	19	18	39	198.4
178.4	11.4	20	19	20	19	41	208.8

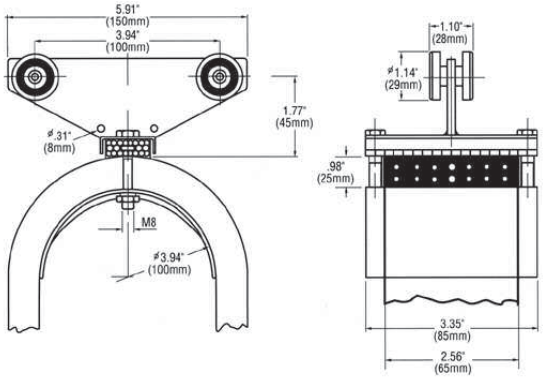
Loop Depth 72 inches						4400HC	
WT (ft.)	ST (ft.)	loops	Cars	440010 Rail	4400JB Bracket	4400USB 4400HB	Cable (ft.)*
21.5	1.1	2	1	3	2	7	24.9
32.2	1.7	3	2	4	3	9	37.3
43	2.3	4	3	5	4	11	49.8
53.7	2.9	5	4	6	5	13	62.2
64.4	3.4	6	5	7	6	15	74.6
75.2	4.0	7	6	9	8	19	87.1
85.9	4.6	8	7	10	9	21	99.5
96.7	5.1	9	8	11	10	23	112.0
107.4	5.7	10	9	12	11	25	124.4
118.1	6.3	11	10	13	12	27	136.8
128.9	6.8	12	11	14	13	29	149.3
139.6	7.4	13	12	15	14	31	161.7
150.3	8.0	14	13	17	16	35	174.2
161.1	8.6	15	14	18	17	37	186.6
171.8	9.1	16	15	19	18	39	199.0
182.6	9.7	17	16	20	19	41	211.5
193.3	10.3	18	17	21	20	43	223.9
204.0	10.8	19	18	22	21	45	236.4
214.8	11.4	20	19	23	22	47	248.8

Economy Box Track Flat Cable

44101 Car

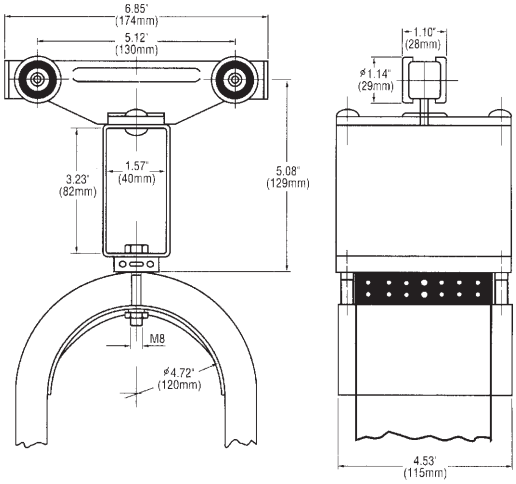
44101 Intermediate Car

- Load Limit 88 lbs. (40 kg)
- Galvanized Steel Body
- Galvanized Steel Saddle - 3.94 Radius
- Steel Ball Bearing Wheels



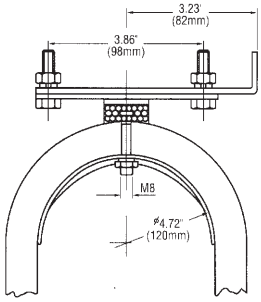
44123 Tow Car

- Use with 44101 & 44121



44122 End Clamp

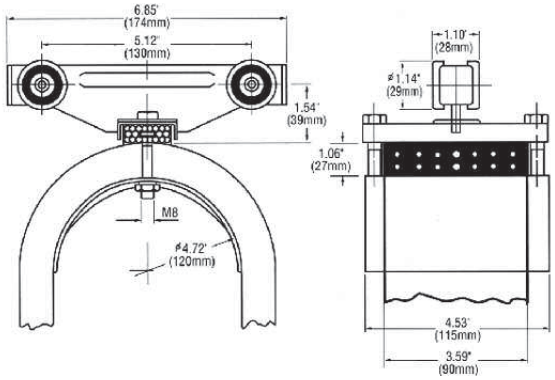
- Use with 44101 & 44121



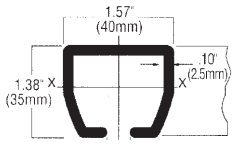
44121 Car

44121 Intermediate Car

- Load Limit 88 lbs. (40 kg)
- Galvanized Steel
- Galvanized Steel Saddle - 4.72 Radius
- Steel Ball Bearing Wheels



Track Components

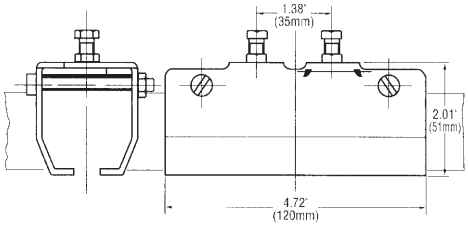


440010 Track

- Galvanized Steel
- Special contour for stiffness and gravity centering of wheels on in the track
- Steel Ball Bearing Wheels

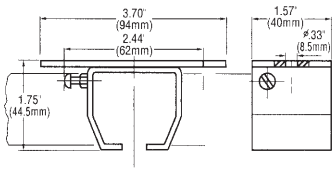
4400ES End Stop

- Zinc Plated Steel
- Locate between the track clamp and last intermediate car



4400JB Joint Bracket

- Zinc Plated and Galvanized Steel



4400HB Hanging Bracket

- Zinc Plated and Galvanized Steel

See also Universal Hanging Bracket 4000USB on page 22

Economy Box Track Round Cable

Loop Depth 24 inches						4400USB	
WT (ft.)	ST (ft.)	loops	Cars	440010 Rail	4400JB Bracket	4400HB 4400HC	Cable (ft.)*
6.1	1	2	1	1	0	3	7.7
9.1	1.5	3	2	2	1	5	11.6
12.1	2.0	4	3	2	1	5	15.5
15.2	2.5	5	4	2	1	5	19.4
18.2	2.9	6	5	3	2	7	23.2
21.2	3.4	7	6	3	2	7	27.1
24.2	3.9	8	7	4	3	9	31.0
27.3	4.4	9	8	4	3	9	34.8
30.3	4.9	10	9	4	3	9	38.7
33.3	5.4	11	10	5	4	11	42.6
36.4	5.9	12	11	5	4	11	46.5
39.4	6.4	13	12	5	4	11	50.3
42.4	6.9	14	13	6	5	13	54.2
45.5	7.4	15	14	6	5	13	58.1
48.5	7.8	16	15	6	5	13	62.0
51.5	8.3	17	16	7	6	15	65.8
54.5	8.8	18	17	7	6	15	69.7
57.6	9.3	19	18	7	6	15	73.6
60.6	9.8	20	19	8	7	17	77.4

Loop Depth 36 inches						4400USB	
WT (ft.)	ST (ft.)	loops	Cars	440010 Rail	4400JB Bracket	4400HB 4400HC	Cable (ft.)*
9.3	1.0	2	1	2	1	5	11.3
13.9	1.5	3	2	2	1	5	16.9
18.5	2.0	4	3	3	2	7	22.5
23.2	2.5	5	4	3	2	7	28.2
27.8	2.9	6	5	4	3	9	33.8
32.4	3.4	7	6	4	3	9	39.4
37.0	3.9	8	7	5	4	11	45.1
41.7	4.4	9	8	5	4	11	50.7
46.3	4.9	10	9	6	5	13	56.3
50.9	5.4	11	10	6	5	13	62.0
55.6	5.9	12	11	7	6	15	67.6
60.2	6.4	13	12	7	6	15	73.2
64.8	6.9	14	13	8	7	17	78.8
69.5	7.4	15	14	8	7	17	84.5
74.1	7.8	16	15	9	8	19	90.1
78.7	8.3	17	16	9	8	19	95.7
83.3	8.8	18	17	10	9	21	101.4
88.0	9.3	19	18	10	9	21	107.0
92.6	9.8	20	19	11	10	23	112.6

Loop Depth 48 inches						4400USB	
WT (ft.)	ST (ft.)	loops	Cars	440010 Rail	4400JB Bracket	4400HB 4400HC	Cable (ft.)*
12.5	1.0	2	1	2	1	5	14.8
18.7	1.5	3	2	3	2	7	22.2
24.9	2.0	4	3	3	2	7	29.6
31.2	2.5	5	4	4	3	9	37.0
37.4	2.9	6	5	5	4	11	44.4
43.6	3.4	7	6	5	4	11	51.7
49.8	3.9	8	7	6	5	13	59.1
56.1	4.4	9	8	7	6	15	66.5
62.3	4.9	10	9	7	6	15	73.9
68.5	5.4	11	10	8	7	17	81.3
74.8	5.9	12	11	9	8	19	88.7
81.0	6.4	13	12	9	8	19	96.1
87.2	6.9	14	13	10	9	21	103.5
93.5	7.4	15	14	11	10	23	110.9
99.7	7.8	16	15	11	10	23	118.3
105.9	8.3	17	16	12	11	25	125.7
112.1	8.8	18	17	13	12	27	133.1
118.4	9.3	19	18	13	12	27	140.4
124.6	9.8	20	19	14	13	29	147.8

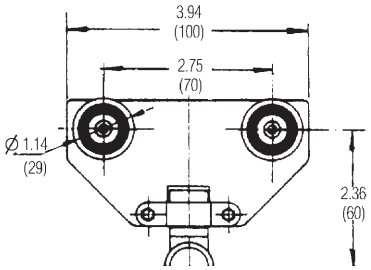
Loop Depth 60 inches						4400USB	
WT (ft.)	ST (ft.)	loops	Cars	440010 Rail	4400JB Bracket	4400HB 4400HC	Cable (ft.)*
15.7	1.5	2	1	2	1	5	18.3
23.5	1.5	3	2	3	2	7	27.5
31.3	2	4	3	4	3	9	36.6
39.2	2.5	5	4	5	4	11	45.8
47.5	2.9	6	5	6	5	13	54.9
54.8	3.4	7	6	7	6	15	64.1
62.6	3.9	8	7	7	6	15	73.2
70.5	4.4	9	8	8	7	17	82.4
78.3	4.9	10	9	9	8	19	91.5
86.1	5.4	11	10	10	9	21	100.7
94.5	5.9	12	11	11	10	23	109.8
101.8	6.4	13	12	12	11	25	119.5
109.6	6.9	14	13	12	11	25	128.1
117.5	7.4	15	14	13	12	27	137.3
125.3	7.8	16	15	14	13	29	146.4
133.1	8.3	17	16	15	14	31	155.6
140.9	8.8	18	17	16	15	33	164.7
148.8	9.3	19	18	17	16	35	173.9
156.6	9.8	20	19	17	16	35	183.5

Loop Depth 72 inches						4400USB	
WT (ft.)	ST (ft.)	loops	Cars	440010 Rail	4400JB Bracket	4400HB 4400HC	Cable (ft.)*
18.9	1.0	2	1	3	2	7	21.8
28.3	1.5	3	2	4	3	9	32.7
37.7	2.0	4	3	5	4	11	43.6
47.2	2.5	5	4	6	5	13	54.6
56.6	2.9	6	5	7	6	15	65.5
66.0	3.4	7	6	8	7	17	76.4
75.4	3.9	8	7	9	8	19	87.3
84.9	4.4	9	8	10	9	21	98.2
94.3	4.9	10	9	11	10	23	109.1
103.7	5.4	11	10	12	11	25	120.0
113.2	5.9	12	11	13	12	27	130.9
122.6	6.4	13	12	14	13	29	141.9
132.0	6.9	14	13	15	14	31	152.8
141.5	7.4	15	14	16	15	33	163.7
150.9	7.8	16	15	17	16	35	174.6
160.3	8.3	17	16	18	17	37	185.5
169.7	8.8	18	17	19	18	39	196.4
179.2	9.3	19	18	20	19	41	207.3
188.6	9.8	20	19	21	20	43	218.2

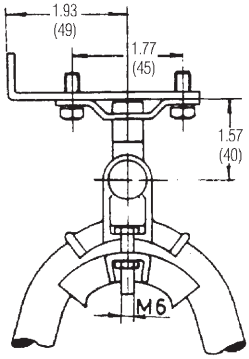
*Add extra cable for hook-up

Economy Box Track Round Cable

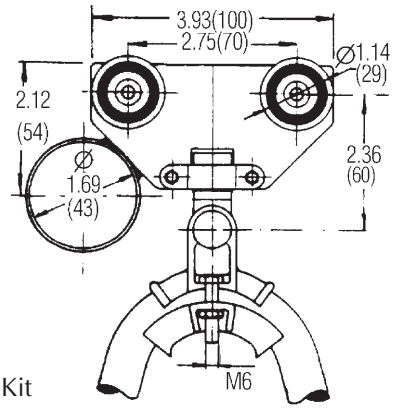
4401 Car



44011 Intermediate Car
- Load Limit 88 lbs. (40 kg)
- Galvanized Steel Body
- Add Appropriate Saddle Kit
- Steel Ball Bearing Wheels



44012 End Clamp
- Use with 44011 Car
- Add Appropriate Saddle Kit



44013 Tow Car
- Use with 44011 Car
- Add Appropriate Saddle Kit

Saddle Kits

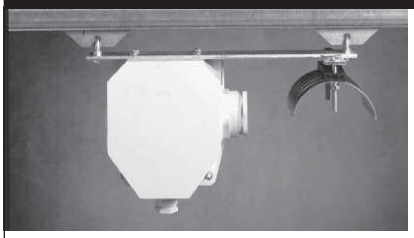
Add saddle kits to each intermediate car, tow car and end clamp. Select the proper size to accommodate your cable.

4112 - .31″ to .59″ OD diameter
4122 - .60″ to .96″ OD diameter
4132 - .97″ to 1.40″ OD diameter

4400UC - **Universal Coupling**
Double and triple tier saddle combinations are possible. Add a Universal Coupling to each saddle including the tow car and end clamp to join saddles.

Economy Box Track Accessories

Pendant Car

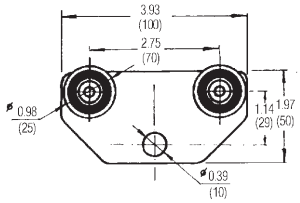


Pendant Control Car - Steel car with steel ball bearing wheels. Includes junction box with terminal strip and single flat cable connector. Swing mount for maximum freedom of movement. Replaces lead car.

4200PC - Pendant Control Car for 4200 Series

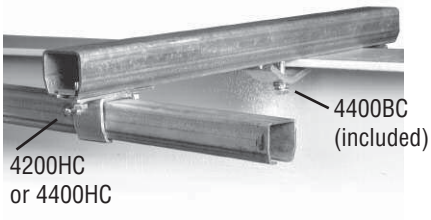
4400PC - Pendant Control Car for 4400 Series

Support Car



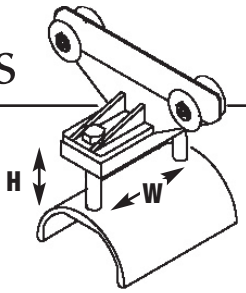
4411-12 Support Car
- Maximum load will be 50 lbs
- Suitable for hanging small retractors. (RB, RF, F & BF)
- For use with 440010 track only
- Includes hanging clevis

Universal Support Bracket



4400USB - Universal Support Bracket to attach 4200 or 4400 series track to most overhead beams. 23.6″ (600mm) length
- For 4200 Series use 4200HB Hanging Brackets and 4200HC Clips to secure track
- For 4400 Series use 4400HB Hanging Brackets and 4400HC Clips to secure track

Standard Box Track Systems



Series 5200 / 5300

SPECIFICATIONS

Contoured Delrin Wheels - for proper alignment in the track during travel. (Steel option available)

Structural Nylon Body - for durability, light weight and corrosion resistance. (Steel option available)

Stainless Steel Axles - ground and polished.

Bronze Bearings - lubricated for life.

Neoprene Clamp Pad - to accept uneven cable stacking up to 1/8 inch.

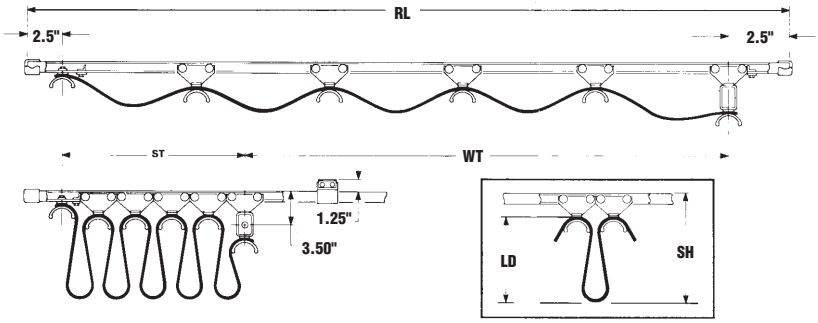
Nylon Saddle Clamp - with contoured edges to protect cables or hoses.

Optional Steel Car - Zinc plated steel body and steel ball bearing wheels. Add prefix "S" to system or component number.

Pendant control Car (5300 Series) - Steel car with steel ball bearing wheels.

Series 5200 and 5300 festoon hardware can be purchased as complete pre-engineered systems which are identified with a single catalog number and include all of the components required to install your system except the cable or hose. These systems can also be selected by individual components if your requirements fall outside the range covered by pre-engineered systems or if you have special needs of some type.

Series	Dim. H	Dim. W	Max. cbl.dia,/thk.
5245 (Flat)	.71 in.	2.32 in.	.22 in.
5242 (Flat)	1.00 in.	2.32 in.	.33 in.
5221 (Round)	N/A	N/A	.91 in. dia.
5231 (Round)	N/A	N/A	1.25 in. dia.



DEFINITIONS

WT — Working Travel
ST — Storage Length
RL — Rail Length
CR — Cable Required
SH — System Height
LD — Loop Depth

REPLACEMENTS

Aero-Motive 5200 Series can be used as upgrade/ replacement for other manufacturer's systems

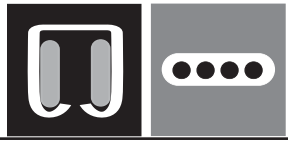
Insul – 8	DuctoWire	Wamphler	Electromotive
Series 28614-82616	Series FCTRT1	Series 230	Series FCC3
P/n 22168	Series FCTR1	Track Series 230	Series FCC5
P/n 21991	Track FC-CH1A-10		Track F-CT
P/n 21641	Track FC-CH1A-20		
P/n 21957			
Track 22209			
Track 21909			

HOW TO ORDER HARDWARE

- Select cables and/or hoses required. Reference cable and hose data pages 8-10.
- Select intermediate car series or size based on bend radius of largest cable or hose and available window opening to accommodate the total package.
- Determine the maximum allowable system height (SH) that can be used.

PRE-ENGINEERED SYSTEMS

- Refer to selection charts for the intermediate car series selected above.
- Based on the selected loop depth and required active travel distance, select system number from right hand column.
- If the optional steel car system is required add the suffix S to the system number.
- Pre-engineered system includes all hardware required i.e., track, hanger brackets, joint brackets, end stops, end clamps, intermediate cars, and lead cars.



Series 5242
Pre-Engineered Sets

Cable Size for individual cables to 0.33 inches maximum thickness (10:1 saddle diameter to cable thickness ratio).

Working Travel is 6.25 feet through 196.25 feet standard. For systems with longer working travel, consult factory.

Travel Speed is 175 FPM maximum.

Weight Capacity is 33 pounds per car.

Window Opening is 1.00" x 2.32".

Optional Steel Car Systems - For system with all steel cars, use S prefix S5242-36-016.

System Includes: Track, hanger brackets, joint brackets, cars, end straps, end caps and end clamps.

System Height 24 inches Loop Depth 22 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
6.25	10.50	7.50	9	5242-24-002
9.25	15.75	11.00	13	5242-24-003
12.25	21.00	14.50	17	5242-24-004
15.25	26.00	18.00	21	5242-24-005
18.50	31.25	21.50	24	5242-24-006
21.50	36.50	25.00	28	5242-24-007
24.50	41.75	28.50	32	5242-24-008
27.50	46.75	31.75	36	5242-24-009
30.50	52.00	35.25	40	5242-24-010
33.75	57.25	38.75	43	5242-24-011
36.75	62.50	42.25	47	5242-24-012
39.75	67.50	45.75	51	5242-24-013
42.75	72.75	49.29	55	5242-24-014
45.75	78.00	52.75	59	5242-24-015
48.75	83.25	56.25	63	5242-24-016
52.00	88.25	59.75	66	5242-24-017
55.00	93.50	63.25	70	5242-24-018
58.00	98.75	66.50	74	5242-24-019

System Height 36 inches Loop Depth 34 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
9.75	10.50	11.25	13	5242-36-002
14.75	15.75	16.50	19	5242-36-003
19.50	21.00	21.75	25	5242-36-004
24.50	26.00	27.00	30	5242-36-005
29.25	31.25	32.25	36	5242-36-006
34.25	36.50	37.75	42	5242-36-007
39.00	41.75	43.00	48	5242-36-008
44.00	46.75	48.75	54	5242-36-009
48.75	52.00	53.50	60	5242-36-010
53.50	57.25	58.75	65	5242-36-011
58.50	62.50	64.00	71	5242-36-012
63.25	67.50	69.50	77	5242-36-013
68.25	72.75	74.75	83	5242-36-014
73.00	78.00	80.00	89	5242-36-015
78.00	83.25	85.75	95	5242-36-016
82.75	88.25	90.50	100	5242-36-017
87.75	93.50	96.00	106	5242-36-018
92.50	98.75	101.00	112	5242-36-019

System Height 60 inches Loop Depth 58 inches

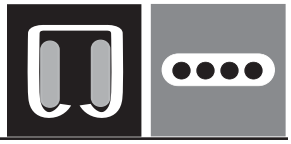
WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
17.25	10.50	18.50	21	5242-60-002
25.75	15.75	27.25	31	5242-60-003
34.25	21.00	36.25	41	5242-60-004
42.75	26.00	45.25	51	5242-60-005
51.00	31.25	54.25	60	5242-60-006
59.50	36.50	63.00	70	5242-60-007
68.00	41.75	72.00	80	5242-60-008
76.50	46.75	81.00	90	5242-60-009
85.00	52.00	90.00	100	5242-60-010
93.50	57.25	98.75	109	5242-60-011
102.00	62.50	107.75	119	5242-60-012
110.50	67.50	116.75	129	5242-60-013
119.00	72.75	125.50	139	5242-60-014
127.50	78.00	134.50	149	5242-60-015
136.00	83.25	143.50	158	5242-60-016
144.50	88.25	152.50	168	5242-60-017
153.00	93.50	161.25	178	5242-60-018
161.50	98.75	170.25	180	5242-60-019

System Height 48 inches Loop Depth 46 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
13.50	10.50	14.75	17	5242-48-002
20.25	15.75	22.00	25	5242-48-003
26.75	21.00	29.00	33	5242-48-004
33.50	26.00	36.25	41	5242-48-005
40.25	31.25	43.25	48	5242-48-006
47.00	36.50	52.25	56	5242-48-007
53.50	41.75	57.50	64	5242-48-008
60.25	46.75	64.50	72	5242-48-009
67.00	52.00	71.75	80	5242-48-010
73.50	57.25	78.75	87	5242-48-011
80.25	62.50	86.00	95	5242-48-012
87.00	67.50	93.00	103	5242-48-013
93.75	72.75	100.25	111	5242-48-014
100.25	78.00	107.25	119	5242-48-015
107.00	83.25	114.50	126	5242-48-016
113.75	88.25	121.50	134	5242-48-017
120.50	93.50	128.50	142	5242-48-018
127.00	98.75	135.75	150	5242-48-019

System Height 72 inches Loop Depth 70 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
20.75	10.50	22.00	25	5242-72-002
31.00	15.75	32.75	37	5242-72-003
41.50	21.00	43.50	49	5242-72-004
51.75	26.00	54.25	61	5242-72-005
62.00	31.25	65.00	72	5242-72-006
72.25	36.50	75.75	84	5242-72-007
82.75	41.75	86.50	96	5242-72-008
93.00	46.75	97.25	108	5242-72-009
103.25	52.00	108.00	120	5242-72-010
113.75	57.25	118.75	131	5242-72-011
124.00	62.50	129.50	143	5242-72-012
134.25	67.50	140.25	155	5242-72-013
144.50	72.75	150.75	167	5242-72-014
155.00	78.00	161.50	179	5242-72-015
165.25	83.25	172.25	191	5242-72-016
175.50	88.25	183.00	202	5242-72-017
185.75	93.50	193.75	214	5242-72-018
196.25	98.75	204.50	226	5242-72-019



Series 5245
Pre-Engineered Sets

Cable Size for individual cables to 0.22 inches maximum (10:1 saddle diameter to cable thickness ratio).

Working Travel is 6.50 feet through 198.25 feet standard. For systems with longer working travel, consult factory.

Travel Speed is 175 FPM maximum.

Weight Capacity is 33 pounds per car.

Window Opening is 0.71" x 2.32".

Optional Steel Car Systems - For system with all steel cars use **S** prefix: **S**5245-48-015.

System Includes: Track, hanger brackets, joint brackets, cars, end straps, end caps and end clamps.

System Height 24 inches Loop Depth 22 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
6.50	7.50	7.25	9	5245-24-002
9.50	11.25	10.75	13	5245-24-003
12.75	15.00	14.25	17	5245-24-004
16.00	18.75	20.75	23	5245-24-005
19.00	22.50	24.75	28	5425-24-006
22.25	26.25	28.75	32	5245-24-007
25.50	30.00	32.75	37	5245-24-008
28.50	33.75	37.00	41	5245-24-009
31.75	37.50	41.00	46	5245-24-010
35.00	41.25	45.00	50	5245-24-011
38.00	45.00	49.00	55	5245-24-012
41.25	48.75	53.00	59	5245-24-013
44.25	52.50	57.25	63	5245-24-014
47.50	56.25	61.25	68	5245-24-015
50.75	60.00	65.25	72	5245-24-016
5375	63.75	69.25	77	5245-24-017
57.00	67.50	73.25	81	5245-24-018
60.25	71.25	77.50	86	5245-24-019

System Height 36 inches Loop Depth 34 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
10.00	7.50	11.00	13	5245-36-002
15.00	11.25	16.25	19	5245-36-003
20.00	15.00	21.50	24	5245-36-004
25.00	18.75	26.75	30	5245-36-005
30.00	22.50	32.25	36	5245-36-006
35.00	26.25	37.50	42	5245-36-007
40.00	30.00	42.75	48	5245-36-008
45.00	33.75	48.00	53	5245-36-009
50.00	37.50	53.25	59	5245-36-010
55.00	41.25	58.50	65	5245-36-011
59.75	45.00	64.00	71	5245-36-012
64.75	48.75	69.25	77	5245-36-013
69.75	52.50	74.50	83	5245-36-014
74.75	56.25	79.75	88	5245-36-015
79.75	60.00	85.00	94	5245-36-016
84.75	63.75	90.25	100	5245-36-017
89.75	67.50	95.75	106	5245-36-018
94.75	71.25	101.00	112	5245-36-019

System Height 60 inches Loop Depth 58 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
17.25	7.50	18.25	21	5245-60-002
26.00	11.25	27.25	31	5245-60-003
34.50	15.00	36.25	41	5245-60-004
43.25	18.75	45.00	50	5245-60-005
51.75	22.50	54.00	60	5245-60-006
60.50	26.25	63.00	70	5245-60-007
69.00	30.00	71.75	80	5245-60-008
77.75	33.75	80.75	90	5245-60-009
86.25	37.50	89.75	99	5245-60-010
94.75	41.25	98.50	109	5245-60-011
103.50	45.00	107.50	119	5245-60-012
112.00	48.75	116.50	129	5245-60-013
120.75	52.50	125.50	139	5245-60-014
129.25	56.25	134.25	148	5245-60-015
138.00	60.00	143.25	158	5245-60-016
146.50	63.75	152.25	168	5245-60-017
155.25	67.50	161.00	178	5245-60-018
163.75	71.25	170.00	188	5245-60-019

System Height 48 inches Loop Depth 46 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
13.75	7.50	14.75	17	5245-48-002
20.50	11.25	21.75	25	5245-48-003
27.25	15.00	28.75	32	5245-48-004
34.00	18.75	36.00	40	5245-48-005
41.00	22.50	43.00	48	5245-48-006
47.75	26.25	50.25	56	5245-48-007
5450	30.00	57.25	64	5245-48-008
61.25	33.75	64.50	71	5245-48-009
68.00	37.50	71.50	79	5245-48-010
75.00	41.25	78.50	87	5245-48-011
81.75	45.00	85.75	95	5245-48-012
88.50	48.75	92.75	103	5245-48-013
94.25	52.50	100.00	110	5245-48-014
102.00	56.25	107.00	118	5245-48-015
108.75	60.00	114.25	126	5245-48-016
115.75	63.75	121.25	134	5245-48-017
122.50	67.50	128.25	145	5245-48-018
129.25	71.25	135.50	150	5245-48-019

System Height 72 inches Loop Depth 70 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
21.00	7.50	22.00	25	5245-72-002
31.50	11.25	32.75	37	5245-72-003
41.75	15.00	43.50	48	5245-72-004
52.25	18.75	53.50	59	5245-72-005
62.75	22.50	65.00	72	5245-72-006
73.25	26.25	75.75	84	5245-72-007
83.50	30.00	86.50	96	5245-72-008
94.00	33.75	97.50	108	5245-72-009
104.50	37.50	107.75	119	5245-72-010
115.00	41.25	118.50	131	5245-72-011
125.25	45.00	129.25	143	5245-72-012
135.75	48.75	140.00	155	5245-72-013
146.25	52.50	150.75	166	5245-72-014
156.50	56.25	161.50	178	5245-72-015
167.00	60.00	172.25	190	5245-72-016
177.50	63.75	183.00	202	5245-72-017
188.00	67.50	193.75	214	5245-72-018
198.25	71.25	204.50	226	5245-72-019

Series 5221 / 5231
Pre-Engineered Sets

Cable/Hose Size for individual cable or hose. System 5221- .49-.91 diameter, System 5231- .91-1.25 diameter. One additional cable or hose may be added by attaching saddle clamps 5122 or 5132 to cable car.

Working Travel is 6.25 feet through 196.25 feet standard. For systems with longer working travel, consult factory.

Travel Speed is 175 FPM.

Weight Capacity is 33 pounds per car.

NOTE: Not recommended for hoses larger than ½ inch ID, high speeds or other demanding applications.

System Includes: Track, hanger brackets, joint brackets, cars, end straps, end caps and end clamps.

System Height 24 inches Loop Depth 22 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
6.25	10.50	7.50	11	52x1-24-002
9.25	15.75	11.00	15	52x1-24-003
12.25	21.00	14.50	20	52x1-24-004
15.25	26.00	18.00	24	52x1-24-005
18.50	31.25	21.50	29	52x1-24-006
21.50	36.50	25.00	33	52x1-24-007
24.50	41.75	28.50	38	52x1-24-008
27.50	46.75	31.75	42	52x1-24-009
30.50	52.00	35.25	47	52x1-24-010
33.75	57.25	38.75	51	52x1-24-011
36.75	62.50	42.25	56	52x1-24-012
39.75	67.50	45.75	60	52x1-24-013
42.75	72.75	49.25	65	52x1-24-014
45.75	78.00	52.75	69	52x1-24-015
48.75	83.25	56.25	74	52x1-24-016
52.00	88.25	59.75	78	52x1-24-017
55.00	93.50	63.25	83	52x1-24-018
58.00	98.75	66.50	87	52x1-24-019

System Height 36 inches Loop Depth 34 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
9.75	10.50	11.25	15	52x1-36-002
14.75	15.75	16.50	22	52x1-36-003
19.50	21.00	21.75	29	52x1-36-004
24.50	26.00	27.00	36	52x1-36-005
29.25	31.25	32.25	43	52x1-36-006
34.25	36.50	37.75	50	52x1-36-007
39.00	41.75	43.00	57	52x1-36-008
44.00	46.75	48.25	63	52x1-36-009
48.75	52.00	53.50	70	52x1-36-010
53.50	57.25	58.75	77	52x1-36-011
58.50	62.50	64.00	84	52x1-36-012
63.25	67.50	69.50	91	52x1-36-013
68.25	72.75	74.75	98	52x1-36-014
73.00	78.00	80.00	105	52x1-36-015
78.00	83.25	85.75	112	52x1-36-016
82.75	88.25	90.50	119	52x1-36-017
87.75	93.50	96.00	125	52x1-36-018
92.50	98.75	101.00	132	52x1-36-019

System Height 60 inches Loop Depth 58 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
17.25	10.50	18.50	25	52x1-60-002
25.75	15.75	27.25	36	52x1-60-003
34.25	21.00	36.25	48	52x1-60-004
42.75	26.00	45.25	60	52x1-60-005
51.00	31.25	54.25	71	52x1-60-006
59.50	36.50	63.00	83	52x1-60-007
68.00	41.75	72.00	94	52x1-60-008
76.50	46.75	81.00	106	52x1-60-009
85.00	52.00	90.00	118	52x1-60-010
93.50	57.25	98.75	129	52x1-60-011
102.00	62.50	107.75	141	52x1-60-012
110.50	67.50	116.75	152	52x1-60-013
119.00	72.75	125.50	164	52x1-60-014
127.50	78.00	134.50	176	52x1-60-015
136.00	83.25	143.50	187	52x1-60-016
144.50	88.25	152.50	199	52x1-60-017
153.00	93.50	161.25	210	52x1-60-018
161.50	98.75	170.25	222	52x1-60-019

System Height 48 inches Loop Depth 46 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
13.50	10.50	14.75	20	52x1-48-002
20.25	15.75	22.00	39	52x1-48-003
26.75	21.00	29.00	38	52x1-48-004
33.50	26.00	36.25	48	52x1-48-005
40.25	31.25	43.25	57	52x1-48-006
47.00	36.50	50.25	66	52x1-48-007
53.50	41.75	57.50	75	52x1-48-008
60.25	46.75	64.50	85	52x1-48-009
67.00	52.00	71.75	94	52x1-48-010
73.50	57.25	78.75	103	52x1-48-011
80.25	62.50	85.00	112	52x1-48-012
87.00	67.50	93.00	122	52x1-48-013
93.75	72.75	100.25	131	52x1-48-014
100.25	78.00	107.25	140	52x1-48-015
107.00	83.25	114.50	149	52x1-48-016
113.75	88.25	121.50	159	52x1-48-017
120.50	93.50	128.50	168	52x1-48-018
127.00	98.75	138.75	177	52x1-48-019

System Height 72 inches Loop Depth 70 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
20.75	10.50	22.00	29	52x1-72-002
31.00	15.75	32.75	43	52x1-72-003
41.50	21.00	43.50	57	52x1-72-004
51.75	26.00	54.25	71	52x1-72-005
62.00	31.25	65.00	85	52x1-72-006
72.25	36.50	75.75	99	52x1-72-007
82.75	41.75	86.50	113	52x1-72-008
93.00	46.75	97.25	127	52x1-72-009
103.25	52.00	108.00	141	52x1-72-010
113.75	57.25	118.75	155	52x1-72-011
124.00	62.50	129.50	169	52x1-72-012
134.25	67.50	140.25	183	52x1-72-013
144.50	72.75	150.75	197	52x1-72-014
155.00	78.00	161.50	211	52x1-72-015
165.25	83.25	172.25	225	52x1-72-016
175.50	88.25	183.00	239	52x1-72-017
185.75	93.50	193.75	253	52x1-72-018
196.25	98.75	204.50	267	52x1-72-019

Box Track Flat Cable Pendant System

Series 5342
Pre-Engineered Sets

Cable Size for individual cables to 0.33 inches maximum thickness (10:1 saddle diameter to cable thickness ratio).

Working Travel 6.25 feet through 196.25 feet standard. For systems with longer working travel, consult factory.

Weight Capacity 50 pounds push button/cable capacity (33 pounds per intermediate car).

Window Opening 1.00" x 2.32".

System Includes: Track, hanger brackets, joint brackets, cars, end straps, end caps and end clamps.

System Height 24 inches Loop Depth 22 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
6.25	13.00	9.25	12	5342-24-002
9.25	18.25	12.75	16	5342-24-003
12.25	23.25	16.25	20	5342-24-004
15.25	28.50	19.75	23	5342-24-005
18.50	33.75	23.25	27	5342-24-006
21.50	39.00	26.75	31	5342-24-007
24.50	44.00	30.25	35	5342-24-008
27.50	49.25	33.75	39	5342-24-009
30.50	54.50	37.25	43	5324-24-010
33.75	59.75	40.75	46	5342-24-011
36.75	65.00	44.25	50	5342-24-012
39.75	70.00	47.50	54	5342-24-013
42.75	75.25	51.00	58	5342-24-014
45.75	80.50	54.50	62	5342-24-015
48.75	85.75	58.00	66	5342-24-016
52.00	90.75	61.50	69	5342-24-017
55.00	96.00	65.00	73	5342-24-018
58.00	101.25	68.50	77	5342-24-019

System Height 36 inches Loop Depth 34 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
9.75	13.00	13.00	16	5342-36-002
14.75	18.25	18.25	22	5342-36-003
19.50	23.25	23.50	28	5342-36-004
24.50	28.50	29.00	33	5342-36-005
29.25	33.75	34.25	39	5342-36-006
34.25	39.00	39.50	45	5342-36-007
39.00	44.00	44.75	51	5342-36-008
44.00	49.25	50.00	57	5342-36-009
48.75	54.50	55.25	63	5342-36-010
53.50	59.75	60.75	68	5342-36-011
58.50	65.00	66.00	74	5342-36-012
63.25	70.00	71.25	80	5342-36-013
68.25	75.25	76.50	86	5342-36-014
73.00	80.50	81.75	92	5342-36-015
78.00	85.75	87.25	98	5342-36-016
82.75	90.75	92.50	103	5342-36-017
87.75	96.00	97.75	109	5342-36-018
92.50	101.25	103.00	115	5342-36-019

System Height 60 inches Loop Depth 58 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
17.25	13.00	20.25	24	5342-60-002
25.75	18.25	29.25	34	5342-60-003
34.25	23.25	38.25	44	5342-60-004
42.75	28.50	47.00	53	5342-60-005
51.00	33.75	56.00	63	5342-60-006
59.50	39.00	65.00	73	5342-60-007
68.00	44.00	73.75	83	5342-60-008
76.50	49.25	82.75	93	5342-60-009
85.00	54.50	91.75	102	5342-60-010
93.50	59.75	100.75	112	5342-60-011
102.00	65.00	109.50	123	5342-60-012
110.50	70.00	118.50	132	5342-60-013
119.00	75.25	127.50	142	5342-60-014
127.50	80.50	136.25	152	5342-60-015
136.00	85.75	145.25	162	5342-60-016
144.50	90.75	154.25	171	5342-60-017
153.00	96.00	163.25	181	5342-60-018
161.50	101.25	172.00	191	5342-60-019

System Height 48 inches Loop Depth 46 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
13.50	13.00	16.50	20	5342-48-002
20.25	18.25	37.25	28	5342-48-003
26.75	23.25	30.75	36	5342-48-004
33.50	28.50	38.00	43	5342-48-005
40.25	33.75	45.00	51	5342-48-006
47.00	39.00	52.25	59	5342-48-007
53.50	44.00	59.25	67	5342-48-008
60.25	49.25	66.50	75	5342-48-009
67.00	54.50	73.50	83	5342-48-010
73.50	59.75	880.75	91	5342-48-011
80.25	65.00	87.75	98	5342-48-012
87.00	70.00	94.75	106	5342-48-013
93.75	75.25	102.00	114	5342-48-014
100.25	80.50	109.00	122	5342-48-015
107.00	85.75	116.25	129	5342-48-016
113.75	90.75	123.25	137	5342-48-017
120.50	96.00	130.50	145	5342-48-018
127.00	101.25	137.50	153	5342-48-019

System Height 72 inches Loop Depth 70 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
20.75	13.00	24.00	28	5342-72-002
31.00	18.25	34.75	40	5342-72-003
4150	23.25	45.50	52	5342-72-004
51.75	28.50	56.25	63	5342-72-005
62.00	33.75	67.00	75	5342-72-006
72.25	39.00	77.75	87	5342-72-007
82.75	44.00	88.50	99	5342-72-008
93.00	49.25	99.25	111	5342-72-009
103.25	54.50	110.00	123	5342-72-010
113.75	59.75	120. 75	134	5342-72-011
124.00	65.00	131.50	146	5342-72-012
134.25	70.00	142.25	158	5342-72-013
144.50	75.25	153.00	170	5342-72-014
155.00	80.25	163.75	182	5342-72-015
165.25	85.75	174.50	193	5342-72-016
175.50	90.75	185.25	205	5342-72-017
185.75	96.00	196.00	217	5342-72-018
196.25	101.25	206.75	229	5342-72-019

Series 5200/5300

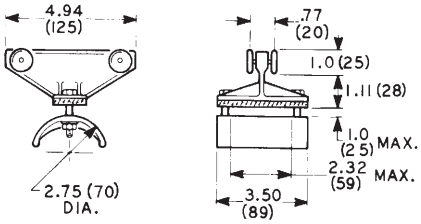
Use 5200 and 5300 Series Components to design your own Festoon System or add on to a Pre-Engineered System.

NYLON CAR

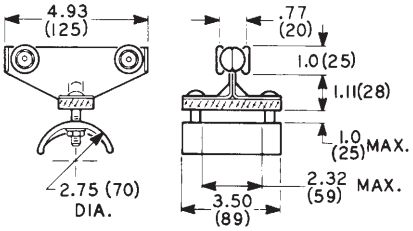
STEEL CAR

INTERMEDIATE CARS

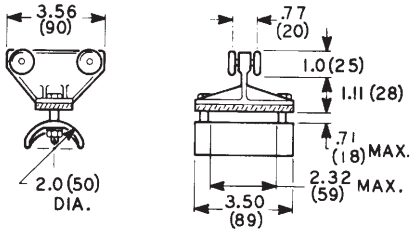
Model 5242-1
(Nylon) for cables to 0.33" thick



Model S5242-1
(Steel) for cables to 0.33" thick

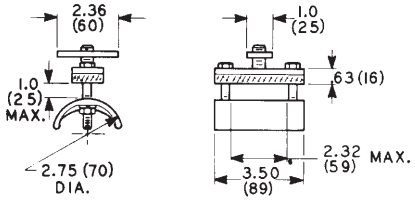


Model 5245-1
(Nylon) for cables to 0.22" thick



END CLAMPS

Model 5242-2

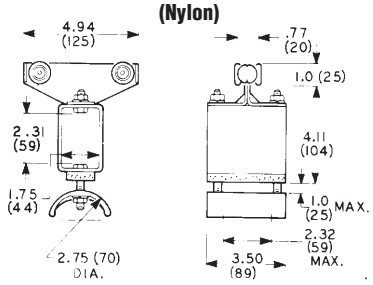


Use
Model 5242-2
(Nylon)

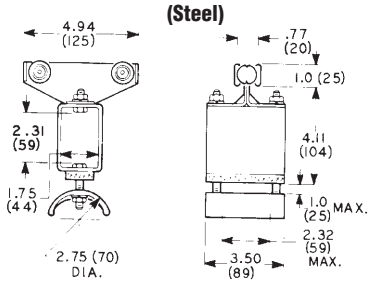
clamp
Model 5242-2
(Nylon)

LEAD CARS

Model 5242-3
(Nylon)

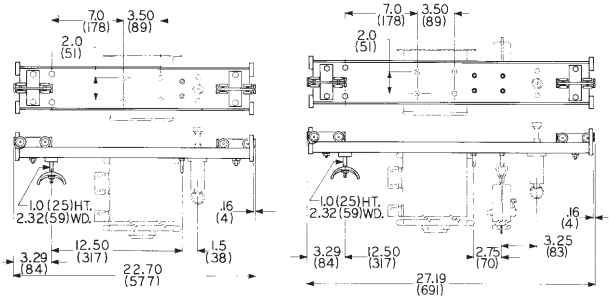


Model S5242-3
(Steel)



Use standard lead car
Model 5242-3
(Nylon)

PENDANT CARS



STOP BRACKET

5400 - SB
(for series 5400)

BRAKE

Model 5341-7
Model 5510-7

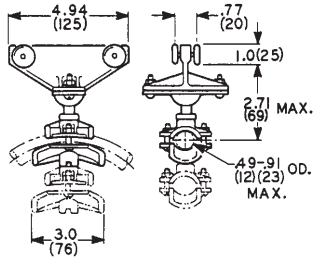
Box Track Round Cable Systems

Series 5200

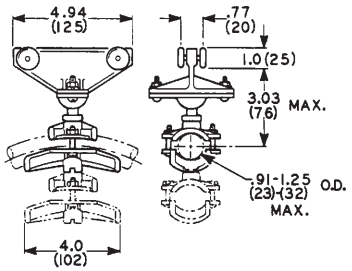
Use 5200 Series Components to design your own Festoon System or add to a Pre-Engineered system.

INTERMEDIATE CARS

Model 5221-1
(Nylon)
For round cable or hose 0.49" to 0.91" OD

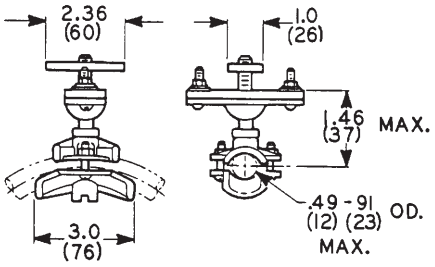


Model 5231-1
(Nylon) For round cable or hose 0.91" to 1.25" OD

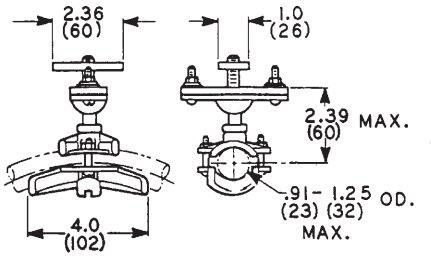


END CLAMPS

Model 5221-2
(Nylon)

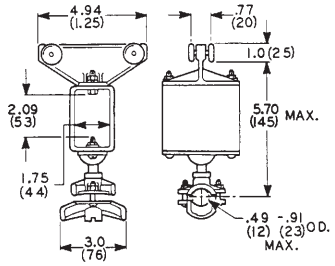


Model 5231-2
(Nylon)

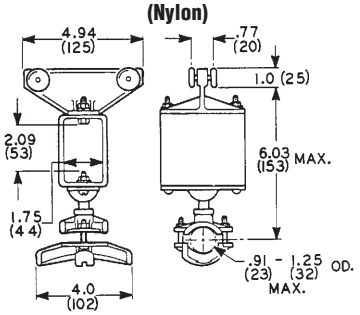


LEAD CARS

Model 5221-3
(Nylon)

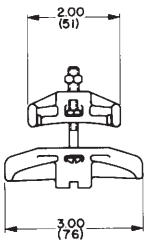


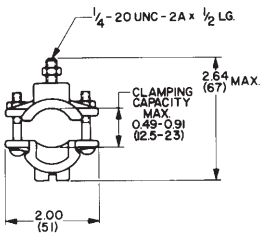
Model 5231-3
(Nylon)

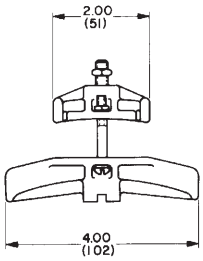


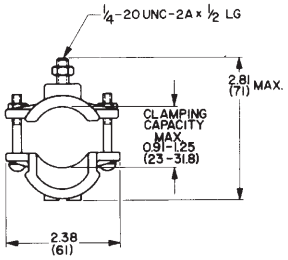
EXTRA SADDLES

Model 5122
For round cable or hose 0.49" to 0.91" OD









Model 5132
For round cable or hose 0.91" to 1.25" OD

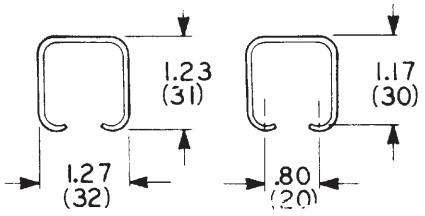
Box Track Components

Series 5200

Mounting Track should be mounted as straight and level as possible. 5200HB hanger brackets are mounted on 60" centers. End brackets should be cross-drilled and a 5/16" bolt fastened through both bracket and track to minimize track movement. After a few hours of operation, fasteners should be checked and tightened.

TRACK

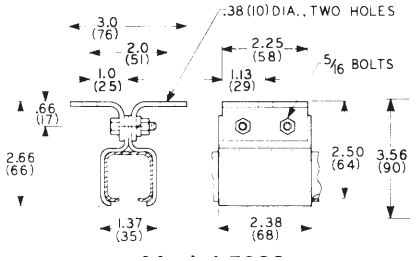
Model 5200-6 (6 ft.)
Model 5200-12 (12 ft.)



#14 Guage

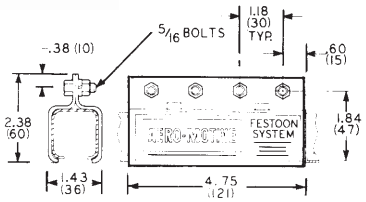
HANGER BRACKET

Model 5200HB



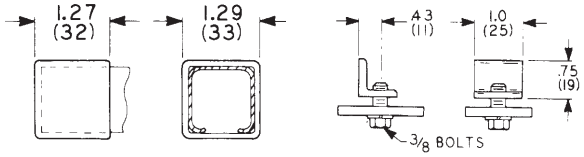
JOINT BRACKET

Model 5200 JB



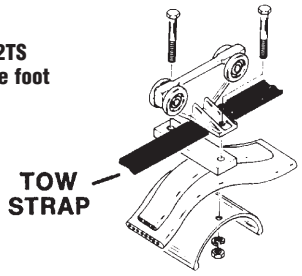
END CAP & END STOP

Model 5200 EC **Model 5200 ES**

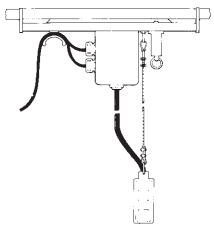


TOW STRAPS

Model 52TS
Order by the foot

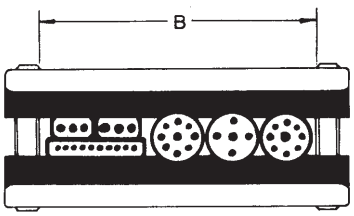


STRAIN RELIEF CABLES



Model	Selection Description
6287400001	Strain relief cable 15'
6287400002	Strain relief cable 25'
6287400003	Strain relief cable 50'

LOOP CLAMPS



Loop Organizers clamp the cable package loops together. It is important to use the loop clamps when application conditions like high travel speed and/or winds, destabilize the cable package, causing some of the smaller cables to wrap around the loop and break. Loop depths up to 5 ft. need one clamp, longer systems require at least two clamps.

Model No.	Compatible System
LC058	5245 / 5242 / 5342

Box Track

Series 5400/5500

SPECIFICATIONS

Contoured Steel Wheels with sealed ball bearings, for assured alignment in the track.

Intermediate Car Body - Zinc plated steel.

Nylon Cable Saddle - Nylon (5410) Aluminum (5412 & 5414) with contoured edges to protect the cables.

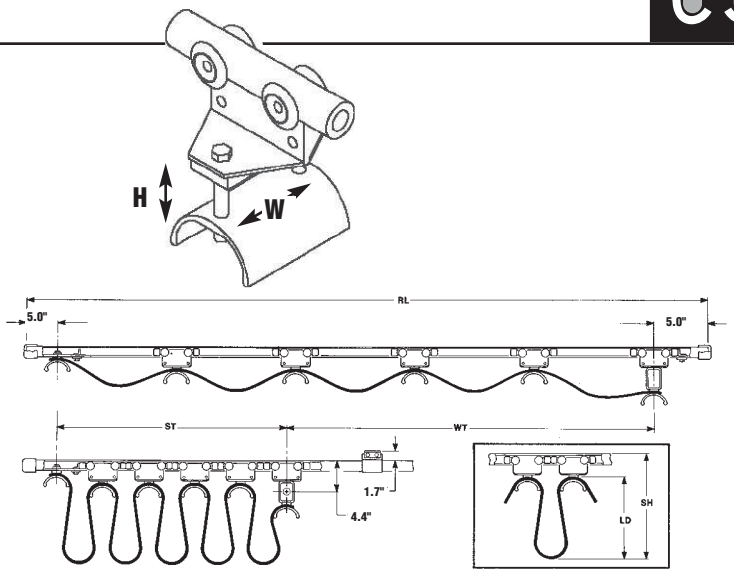
Neoprene Bumpers

Neoprene Clamp Pad - to prevent uneven cable stacking up to 1/8 inch.

Steel Pendant Control Car with steel ball bearing wheels.

Hardware can be purchased as pre-engineered systems which are identified with a single catalog number and include all of the components required except the cable or hose. These systems can also be selected by individual components if your requirements fall outside the range covered by pre-engineered systems or if you have special needs.

Mounting Track should be mounted as straight and level as possible. Hanger brackets (page 38) are installed at 80 inch enters. End brackets should be cross-drilled and a 5/16" bolt fastened through both bracket and track to minimize any track movement. After a few hours of operation, all fasteners should be checked and tightened.



DEFINITIONS

WT — Working Travel
ST — Storage Length
RL — Rail Length
CR — Cable Required
SH — System Height
LD — Loop Depth

Series	Dim. H	Dim.W	Max. cbl.dia./thk.
5410 (Flat)	1.38 in.	2.32 in.	.33 in.
5412 (Flat)	1.65 in.	2.32 in.	.45 in.
5414 (Flat)	1.38 in.	3.82 in.	.75 in.
5421 (Round)	NA	NA	.91 in. ø
5431 (Round)	NA	NA	1.25 in. ø

HOW TO ORDER HARDWARE

- Select cables and/or hoses required. Reference cable and hose data pages 9-11.
- Select car series or size based on bend radius of the largest cable or hose and available window opening to accommodate the total cable package.
- Determine the maximum allowable system height (SH) that can be used.

PRE-ENGINEERED SYSTEMS

- Refer to selection charts for the intermediate car series selected above.
- Based on the selected loop depth and required active travel distance, select system number from right hand column.
- Pre-engineered system includes all hardware required i.e., track, hanger brackets, joint brackets, end stops, end clamps, intermediate cars, and lead cars. Cables must be ordered separately.

HOW TO ORDER CABLE & CONNECTORS

- Determine minimum cable length by multiplying the system length (RL) by 1.1 and adding the length needed for hook up on each end.
- Select cable connectors for each cable (one for each end) from the selection charts on pages 9-11.

TO SELECT INDIVIDUAL COMPONENTS

- Determine the number of active loops required to reach the desired travel distance based on the system height (SH) you have selected. Use the charts on page 39.
- The number of intermediate cars required will be one less than the number of loops.
- Select one end clamp and one lead car or pendant control car to match the intermediate car you have selected.
- Determine the storage space (ST) required for the cars in the collapsed position by multiplying the length of the intermediate car by the number of intermediate cars plus 2. (If 12 intermediate cars are required multiply by 14).
- Determine the minimum overall track length (RL) by adding the storage space (ST) to the active travel distance (WT). For 5500 Series add 24 inches more.
- Determine the number of track sections required by dividing (RL) the minimum length (in feet) by 12 and rounding up to the next whole number.
- Determine the number of hanger brackets required by multiplying the number of track sections by 2.
- The number of joint clamps required will be one less than the number of track sections.
- One end stop and two end caps will be required.
- If a pendant control car is used, a 5400-SB stop bracket will also be required.

Series 5410
Pre-Engineered Sets

Cable Size for individual cables to 0.33 inches maximum thickness (10:1 saddle diameter to cable thickness ratio).

Working Travel is 5.75 feet through 192.00 feet standard. For system with longer working travel, consult factory.

Travel Speed is 250 FPM.

Weight Capacity is 55 pounds per car.

Window Opening is 1.38" x 2.32".

System Height 36 inches Loop Depth 34 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
9.50	12.00	11.25	13	5410-36-002
14.00	18.00	16.25	19	5410-36-003
18.75	24.00	21.50	24	5410-36-004
23.50	30.00	36.25	30	5410-36-005
28.00	36.00	31.75	36	5410-36-006
32.75	42.00	37.00	41	5410-36-007
37.25	48.00	42.00	47	5410-36-008
42.00	53.75	47.25	53	5410-36-009
46.50	59.75	52.25	58	5410-36-010
51.25	65.75	57.50	64	5410-36-011
56.00	71.75	62.75	70	5410-36-012
60.50	77.75	67.75	75	5410-36-013
65.25	83.75	73.00	81	5410-36-014
69.75	89.75	78.00	87	5410-36-015
74.50	95.75	83.25	92	5410-36-016
79.25	101.50	88.25	98	5410-36-017
83.75	107.50	93.50	104	5410-36-018
88.50	113.50	98.75	109	5410-36-019

System Height 48 inches Loop Depth 46 inches

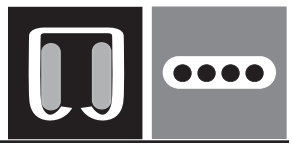
WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
13.00	12.00	14.75	17	5410-48-002
19.50	18.00	21.75	25	5410-48-003
26.00	24.00	28.75	32	5410-48-004
32.50	30.00	35.75	40	5410-48-005
39.00	36.00	42.75	48	5410-48-006
45.50	42.00	49.50	55	5410-48-007
51.75	48.00	56.50	63	5410-48-008
58.25	53.75	63.50	71	5410-48-009
64.75	59.75	70.50	78	5410-48-010
71.25	65.75	77.50	86	5410-48-011
77.75	71.75	84.50	94	5410-48-012
84.25	77.75	91.50	101	5410-48-013
90.75	83.75	98.50	109	5410-48-014
97.25	89.75	105.25	117	5410-48-015
103.50	95.75	112.25	124	5410-48-016
110.00	101.50	119.25	132	5410-48-017
116.50	107.50	126.25	140	5410-48-018
123.00	113.50	113.25	147	5410-48-019

System Height 60 inches Loop Depth 58 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
16.75	12.00	18.50	21	5410-60-002
25.00	18.00	27.525	31	5410-60-003
33.25	24.00	36.00	40	5410-60-004
41.50	30.00	44.75	50	5410-60-005
49.75	36.00	53.50	60	5410-60-006
58.25	42.00	62.50	70	5410-60-007
66.50	48.00	71.25	79	5410-60-008
74.75	53.75	80.00	89	5410-60-009
83.00	59.75	88.75	98	5410-60-010
91.25	65.75	97.50	108	5410-60-011
99.50	71.75	106.25	118	5410-60-012
107.75	77.75	115.00	127	5410-60-013
116.00	83.75	123.75	137	5410-60-014
124.50	89.75	132.50	147	5410-60-015
132.75	95.75	141.50	156	5410-60-016
141.00	101.50	150.25	166	5410-60-017
149.50	107.50	159.00	176	5410-60-018
157.50	113.50	167.75	185	5410-60-019

System Height 72 inches Loop Depth 70 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
20.25	12.00	22.00	25	5410-72-002
30.50	18.00	32.75	37	5410-72-003
40.50	24.00	43.25	48	5410-72-004
50.75	30.00	54.00	60	5410-72-005
60.75	36.00	64.50	72	5410-72-006
70.75	42.00	75.00	83	5410-72-007
81.00	48.00	85.75	95	5410-72-008
91.00	53.75	96.25	107	5410-72-009
101.25	59.75	107.00	118	5410-72-010
111.25	65.75	117.50	130	5410-72-011
121.50	71.75	128.00	142	5410-72-012
131.50	77.75	138.75	153	5410-72-013
141.50	83.75	149.25	165	5410-72-014
151.75	89.75	160.00	177	5410-72-015
161.75	95.75	170.50	188	5410-72-016
172.00	101.50	181.00	200	5410-72-017
182.00	107.50	191.75	212	5410-72-018
192.00	113.50	202.25	223	5410-72-019



Series 5412
Pre-Engineered Sets

Cable Size for individual cables to 0.45 inches maximum thickness (10:1 saddle diameter to cable thickness ratio).

Working Travel is 5.75 feet through 191.00 feet standard. For systems with longer working travel, consult factory.

T**ravel Speed** is 250 FPM.

Weight Capacity is 55 pounds per car.

Window Opening is 1.65" x 2.32".

System Height 36 inches Loop Depth 33 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
9.25	16.25	11.50	13	5412-36-002
14.00	24.25	16.75	19	5412-36-003
18.50	32.50	22.00	25	5412-36-004
23.00	40.50	27.25	31	5412-36-005
27.75	48.50	32.50	37	5412-36-006
31.25	56.50	37.75	42	5412-36-007
36.75	64.75	43.00	48	5412-36-008
41.50	72.75	48.25	54	5412-36-009
46.00	80.75	53.50	60	5412-36-010
50.75	89.00	58.75	66	5412-36-011
55.25	97.00	64.25	71	5412-36-012
59.75	105.00	69.50	77	5412-36-013
64.50	113.00	74.75	83	5412-36-014
69.00	121.25	80.00	89	5412-36-015
73.50	129.25	82.25	94	5412-36-016
78.25	137.25	90.50	100	5412-36-017
84.75	145.50	95.75	106	5412-36-018
87.25	153.50	101.00	112	5412-36-019

System Height 48 inches Loop Depth 45 inches

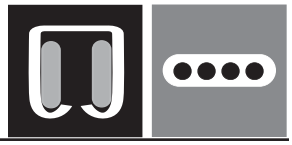
WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
13.00	16.25	15.25	17	5412-48-002
19.25	24.25	22.25	25	5412-48-003
25.75	32.50	29.25	33	5412-48-004
32.25	40.50	36.50	41	5412-48-005
38.50	48.50	43.50	49	5412-48-006
45.00	56.50	50.50	56	5412-48-007
51.50	64.75	57.50	64	5412-48-008
57.75	72.75	64.75	72	5412-48-009
64.25	80.75	71.75	80	5412-48-010
70.75	89.00	78.75	88	5412-48-011
77.00	97.00	86.00	95	5412-48-012
83.50	105.00	93.00	103	5412-48-013
89.75	113.00	100.00	111	5412-48-014
96.25	121.25	107.25	119	5412-48-015
102.75	129.25	114.25	126	5412-48-016
109.00	137.25	121.25	134	5412-48-017
115.50	145.50	128.50	142	5412-48-018
122.00	153.50	135.50	150	5412-48-019

System Height 60 inches Loop Depth 57 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
16.50	16.25	18.75	21	5412-60-002
24.75	24.25	27.75	31	5412-60-003
33.00	32.50	36.50	41	5412-60-004
41.50	40.50	45.75	51	5412-60-005
49.50	48.50	54.50	61	5412-60-006
57.75	56.50	63.25	70	5412-60-007
66.00	64.75	72.25	80	5412-60-008
74.25	72.75	81.00	90	5412-60-009
82.50	80.75	90.00	100	5412-60-010
90.75	89.00	99.00	110	5412-60-011
98.75	97.00	107.75	119	5412-60-012
107.00	105.00	116.75	129	5412-60-013
115.25	113.00	125.50	139	5412-60-014
123.50	121.25	134.50	149	5412-60-015
131.75	129.25	143.50	158	5412-60-016
140.00	137.25	152.25	168	5412-60-017
148.25	145.50	161.25	178	5412-60-018
156.50	153.50	170.00	188	5412-60-019

System Height 72 inches Loop Depth 69 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
20.25	16.25	22.50	25	5412-72-002
30.25	24.25	33.25	37	5412-72-003
40.25	32.50	43.75	49	5412-72-004
50.25	40.50	54.50	61	5412-72-005
60.50	48.50	65.25	73	5412-72-006
70.50	56.50	76.00	84	5412-72-007
80.50	64.75	86.75	96	5412-72-008
90.50	72.75	97.25	108	5412-72-009
100.50	80.75	108.25	120	5412-72-010
110.75	89.00	119.00	132	5412-72-011
120.75	97.00	129.50	143	5412-72-012
130.75	105.00	140.25	155	5412-72-013
140.75	113.00	151.00	167	5412-72-014
150.75	121.25	161.75	179	5412-72-015
160.75	129.25	172.50	190	5412-72-016
171.00	137.25	183.25	202	5412-72-017
181.00	145.50	194.00	214	5412-72-018
191.00	153.50	204.50	226	5412-72-019



Series 5414
Pre-Engineered Sets

Cable Size for individual cable to 0.75 inches maximum thickness (10:1 saddle diameter to cable thickness ratio).

Working Travel is 5.50 feet through 190.25 feet standard. For systems with longer working travel, consult factory.

Travel Speed is 250 FPM.

Weight Capacity is 55 pounds per car.

Window Opening is 1.38" x 3.82".

System Height 36 inches Loop Depth 35 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
9.25	19.25	11.75	14	5414-36-002
13.75	29.00	17.00	19	5414-36-003
18.25	38.50	22.25	25	5414-36-004
23.00	48.25	27.75	31	5414-36-005
27.50	57.75	33.00	37	5414-36-006
32.00	67.50	38.50	43	5414-36-007
36.50	77.00	43.75	49	5414-36-008
41.00	86.50	49.00	55	5414-36-009
45.75	96.25	54.50	61	5414-36-010
50.25	105.75	59.75	67	5414-36-011
54.75	115.50	65.25	72	5414-36-012
59.25	125.00	70.50	78	5414-36-013
63.75	135.75	75.75	84	5414-36-014
68.50	144.25	81.25	90	5414-36-015
73.00	154.00	86.50	96	5414-36-016
77.50	163.50	92.00	102	5414-36-017
82.00	173.00	97.25	108	5414-36-018
86.50	182.75	102.50	114	5414-36-019

System Height 48 inches Loop Depth 47 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
12.75	19.25	15.25	18	5414-48-002
19.25	29.00	22.50	25	5414-48-003
25.50	38.50	29.50	33	5414-48-004
32.00	48.25	36.75	41	5414-48-005
38.25	57.75	44.00	49	5414-48-006
44.75	67.50	51.00	57	5414-48-007
51.00	77.00	58.25	65	5414-48-008
57.50	86.50	65.50	73	5414-48-009
63.75	96.25	72.50	81	5414-48-010
70.25	105.75	79.75	89	5414-48-011
76.50	115.50	87.00	96	5414-48-012
83.00	125.00	94.25	104	5414-48-013
89.25	134.75	101.25	112	5414-48-014
95.75	144.25	108.50	120	5414-48-015
102.00	154.00	115.75	128	5414-48-016
108.50	163.50	122.75	136	5414-48-017
114.75	173.00	130.00	144	5414-48-018
121.25	182.75	137.25	152	5414-48-019

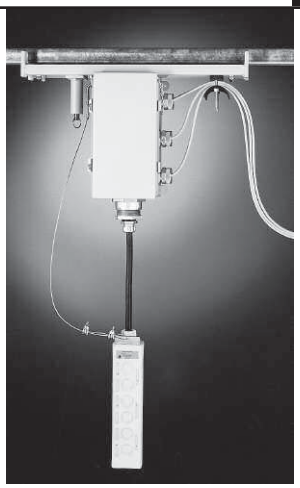
System Height 60 inches Loop Depth 59 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
16.50	19.25	19.00	22	5414-60-002
24.75	29.00	28.00	31	5414-60-003
32.75	38.50	36.75	41	5414-60-004
41.00	48.25	45.75	51	5414-60-005
49.25	57.75	54.75	61	5414-60-006
57.50	67.50	63.75	71	5414-60-007
65.50	77.00	72.75	81	5414-60-008
73.75	86.50	81.75	91	5414-60-009
82.00	96.25	90.75	101	5414-60-010
90.25	105.75	99.75	111	5414-60-011
98.25	115.50	108.75	120	5414-60-012
106.50	125.00	117.75	130	5414-60-013
114.75	134.75	126.75	140	5414-60-014
123.00	144.25	135.75	150	5414-60-015
131.00	154.00	144.75	160	5414-60-016
139.25	163.50	153.75	170	5414-60-017
147.50	173.00	162.75	180	5414-60-018
155.75	182.75	171.75	190	5414-60-019

System Height 72 inches Loop Depth 71 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
20.25	19.25	22.50	26	5414-72-002
30.25	29.00	33.25	37	5414-72-003
40.25	38.50	44.25	49	5414-72-004
50.25	48.25	55.00	61	5414-72-005
60.25	57.75	75.75	73	5414-72-006
70.25	67.50	76.50	85	5414-72-007
80.25	77.00	87.50	97	5414-72-008
90.25	86.50	98.25	109	5414-72-009
100.25	96.25	109.00	121	5414-72-010
110.25	105.75	119.75	133	5414-72-011
120.25	115.50	130.50	144	5414-72-012
130.25	125.00	141.50	156	5414-72-013
140.25	134.75	152.25	168	5414-72-014
150.25	144.25	163.00	180	5414-72-015
160.25	154.00	173.75	192	5414-72-016
175.25	163.50	184.75	204	5414-72-017
180.25	173.00	195.50	216	5414-72-018
190.25	182.75	206.25	228	5414-72-019

Series 5510
Pre-Engineered Sets



Cable Size for individual cable to 0.33 inches maximum thickness (10:1 saddle diameter to cable thickness ratio).

Working Travel is 5.75 feet through 192.00 feet standard. For systems with longer working travel, consult factory.

Travel Speed is 250 FPM.

Weight Capacity is 100 pounds push button/cable capacity (55 pounds per intermediate car).

Window Opening is 1.38" x 2.32".

System Height 36 inches Loop Depth 33 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
9.50	16.75	12.75	16	5510-36-002
14.00	22.50	18.00	22	5510-36-003
18.75	28.50	23.25	27	5510-36-004
23.50	34.50	28.25	33	5510-36-005
28.00	40.50	33.50	39	5510-36-006
32.75	46.50	38.50	44	5510-36-007
37.25	52.50	43.75	50	5510-36-008
42.00	58.50	49.00	55	5510-36-009
46.50	64.50	54.00	61	5510-36-010
51.25	70.50	59.25	67	5510-36-011
56.00	76.25	64.25	73	5510-36-012
60.50	82.25	69.50	78	5510-36-013
65.25	88.25	74.75	84	5510-36-014
69.75	94.25	79.75	90	5510-36-015
74.50	100.25	85.00	95	5510-36-016
79.25	106.25	90.00	101	5510-36-017
83.75	112.25	95.25	107	5510-36-018
88.50	118.25	100.25	112	5510-36-019

System Height 48 inches Loop Depth 45 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
13.00	16.75	16.50	20	5510-48-002
19.50	22.50	23.50	28	5510-48-003
26.00	28.50	30.50	35	5510-48-004
32.50	34.50	37.50	43	5510-48-005
39.00	40.50	44.25	51	5510-48-006
45.50	46.50	51.25	58	5510-48-007
51.75	52.50	58.25	66	5510-48-008
58.25	58.50	65.25	74	5510-48-009
64.75	64.50	72.25	81	5510-48-010
71.25	70.50	79.25	89	5510-48-011
77.75	76.25	86.25	97	5510-48-012
84.25	82.25	93.00	104	5510-48-013
90.75	88.25	100.00	112	5510-48-014
97.25	94.25	107.00	120	5510-48-015
103.50	100.25	114.00	127	5510-48-016
110.00	106.25	121.00	135	5510-48-017
116.50	112.25	128.00	143	5510-48-018
123.00	118.25	135.00	148	5510-48-019

System Height 60 inches Loop Depth 57 inches

WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
16.75	16.75	20.25	24	5510-60-002
25.00	22.50	29.00	34	5510-60-003
33.25	28.50	37.75	43	5510-60-004
41.50	34.50	56.50	53	5510-60-005
49.75	40.50	55.25	63	5510-60-006
58.25	46.50	64.00	72	5510-60-007
66.50	42.50	72.75	82	5510-60-008
74.75	58.50	81.50	92	5510-60-009
83.00	64.50	90.50	101	5510-60-010
91.25	70.50	99.25	111	5510-60-011
99.50	76.25	108.00	121	5510-60-012
107.75	82.25	116.75	130	5510-60-013
116.00	88.25	125.50	140	5510-60-014
124.50	94.25	134.25	150	5510-60-015
132.75	100.25	143.00	159	5510-60-016
141.00	106.25	152.00	169	5510-60-017
149.25	112.25	160.75	179	5510-60-018
157.50	118.25	169.50	188	5510-60-019

System Height 72 inches Loop Depth 69 inches

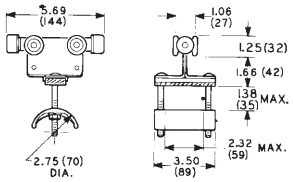
WT (ft.)	ST (in.)	RL (ft.)	CR (ft.)	Catalog No.
20.25	16.75	25.50	28	5510-72-002
30.50	22.50	36.50	40	5510-72-003
40.50	28.50	47.75	51	5510-72-004
50.75	34.50	58.75	63	5510-72-005
60.75	40.50	70.00	75	5510-72-006
70.75	46.50	81.00	86	5510-72-007
81.00	52.50	92.00	98	5510-72-008
91.00	58.50	103.25	110	5510-72-009
101.25	64.50	114.25	121	5510-72-010
111.25	70.50	125.50	133	5510-72-011
121.50	76.25	136.50	145	5510-72-012
131.50	82.25	147.50	156	5510-72-013
141.50	88.25	158.75	168	5510-72-014
151.75	94.25	169.75	180	5510-72-015
161.75	100.25	181.00	191	5510-72-016
172.00	106.25	192.00	203	5510-72-017
182.00	112.25	203.00	215	5510-72-018
192.00	118.25	214.25	226	5510-72-019

Series 5400

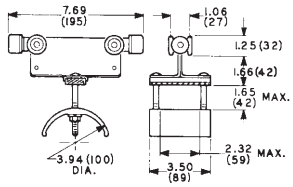
Use 5400 Series Components to design your own Festoon System or add on to a Pre-Engineered System

INTERMEDIATE CARS

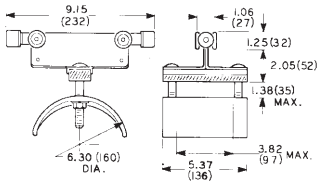
Model 5410-1
For cables to 0.33î thick



Model 5412-1
For cables to 0.45î thick

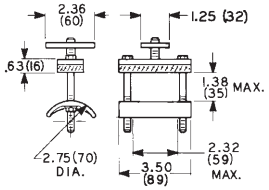


Model 5414-1
For cables to 0.75î thick

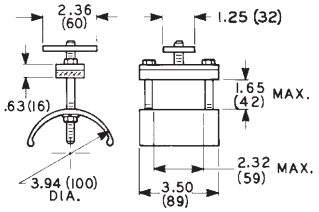


END CLAMPS

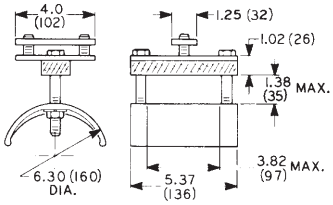
Model 5410-2



Model 5412-2

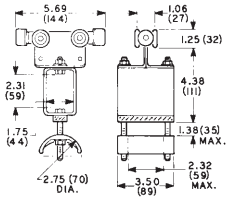


Model 5414-2

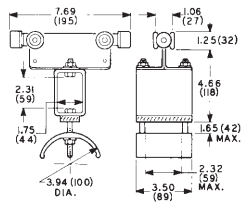


LEAD CARS

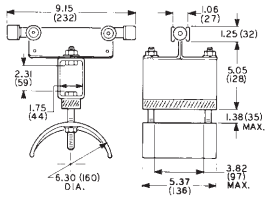
Model 5410-3



Model 5412-3

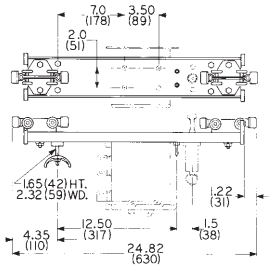


Model 5414-3

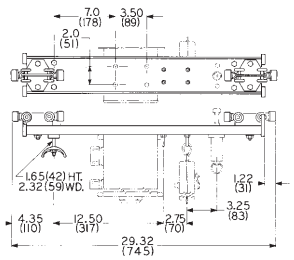


PENDANT CARS FOR FLAT CABLE

Model S5510-3

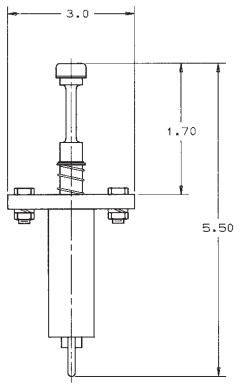


Model S5510-39



BRAKE

Model 5510-7
(for pendant car)



STOP BRACKET

5400 - SB
(for series 5400)

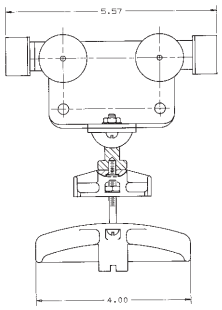
Use as end stop for pendant car (above)

Series 5400

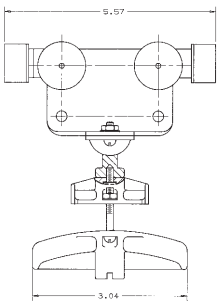
Use Series 5400 Components to create your own Festoon System or add on as a Pre-Engineered System.

INTERMEDIATE CARS

Model S5421-1
.49" - .91" OD

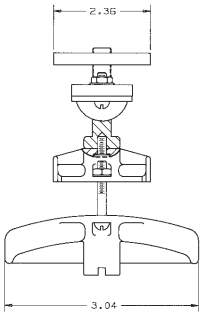


Model S5431-1
.92" - 1.25" OD

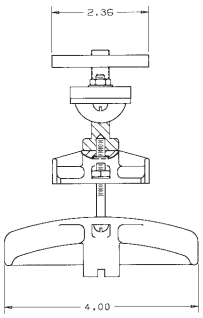


END CLAMPS

Model 5421-2

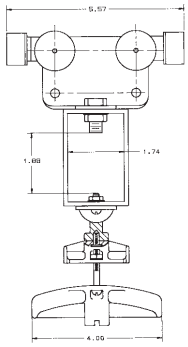


Model 5431-2

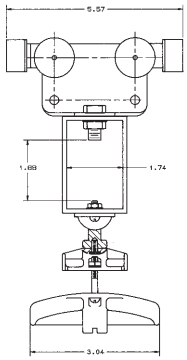


LEAD CARS

Model S5421-3

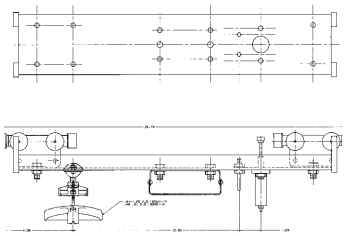


Model S5431-3

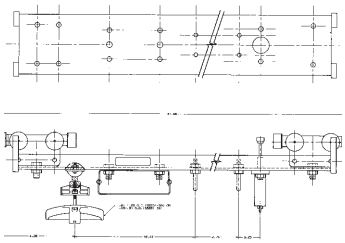


PENDANT CARS

Model S5531-3
Model S5521-3

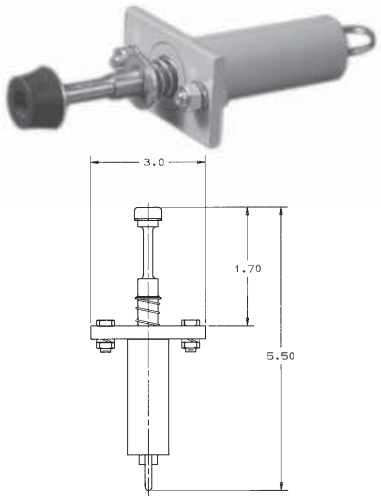


Model S5531-39
Model S5521-39



BRAKE

Model 55107
(for pendant car)

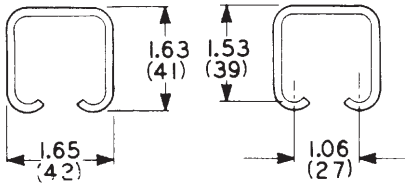


Box Track Components

Series 5400

TRACK

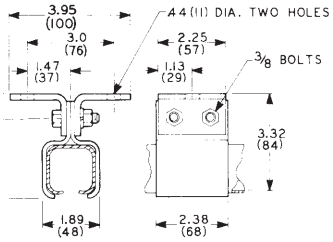
Model 5400-12 12 ft. length
Model 5400-6 6 ft. length



#12 Gauge

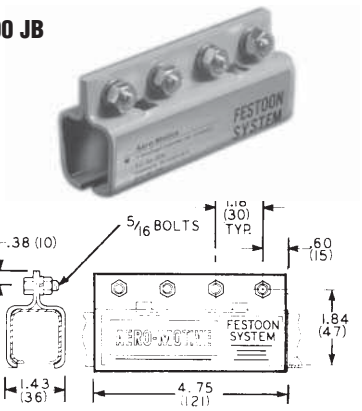
HANGER BRACKET

Model 5400 HB



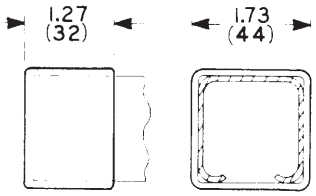
JOINT BRACKET

Model 5400 JB

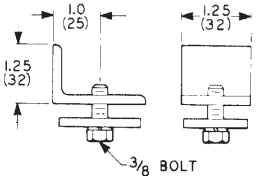


END CAP & END STOP

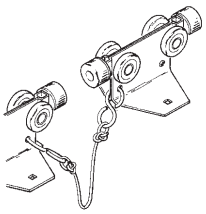
Model 5400 EC



Model 5400 ES

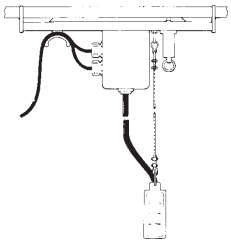


TOW ROPES



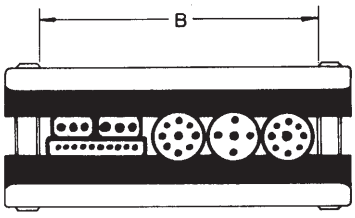
Model Number	Description
5400-TR	Tow rope, Order by the foot
5400-H10	"S" hooks, pkg of 10

STRAIN RELIEF CABLES



Model	Selection Description
6287400001	Strain relief cable 15'
6287400002	Strain relief cable 25'
6287400003	Strain relief cable 50'

LOOP CLAMPS



Loop Organizers clamp the cable package loops together. It is important to use the loop clamps when application conditions like high travel speed and/or winds, destabilize the cable package, causing some of the smaller cables to wrap around the loop and break. Loop depths up to 5 ft. need one clamp, longer systems require at least two clamps.

Model No.	CompatibleSystem
LC058	5410 / 5412
LC115	5414

Box Track Loop Chart

For Series 5200, 5300, 5400, and 5500 Systems

Follow the steps below to determine the number of loops required for your festoon system.

- Select the proper festoon car.
- From the charts below, choose the chart with the largest system height your application will permit—the greater the system height, the fewer the cars, thus a cost reduction for you.
- Find the row of the festoon car you chose and read across the chart until you reach or surpass the working travel you need. The number at this intersection is the number of loops you need.

Example: You have selected the 5242 car. The working travel you need is 63 feet and you have determined that the 36 inch system height is the largest permissible. Simply locate the 5242 car on the left and read across until you meet or surpass 63 feet. In this case, you have hit 63 feet exactly with 13 loops.

For system height of 36 inches

Intermediate car model	Number of Loops 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
5245	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	89	94	99	104	109	114	119	124
5242	9	14	19	24	29	34	39	44	48	53	58	63	68	73	78	82	87	92	97	102	107	112	117	122
5410	9	14	18	23	28	32	37	42	46	51	56	60	65	69	74	79	83	88	93	97	102	107	112	116
5412	9	14	18	23	27	31	36	41	46	50	55	59	64	69	73	78	82	87	91	96	101	105	110	114
5414	9	13	18	23	27	32	36	41	45	50	54	59	63	68	73	77	82	86	91	94	99	103	108	112
5221	9	14	19	24	29	34	39	44	48	53	58	63	68	73	78	82	87	92	97	102	107	112	117	122
5231	9	14	19	24	29	34	39	44	48	53	58	63	68	73	78	82	87	92	97	102	107	112	117	122

For system height of 48 inches

Intermediate car model	Number of Loops 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
5245	13	20	27	34	41	47	54	61	68	75	81	88	94	102	108	115	122	129	135	142	149	155	162	169
5242	13	20	26	33	40	47	53	60	67	73	80	87	93	100	107	113	120	1227	132	139	146	152	159	166
5410	13	19	26	32	39	45	51	58	64	71	77	84	90	97	104	110	116	123	129	136	142	149	155	162
5412	13	19	25	32	38	45	51	57	64	70	77	83	89	96	102	109	115	122	128	135	141	148	154	161
5414	12	19	25	32	38	44	51	57	63	70	76	83	89	95	102	108	114	121	127	133	140	146	152	159
5221	13	20	26	33	40	47	53	60	67	73	80	87	93	100	107	113	120	127	132	139	146	152	159	166
5231	13	20	26	33	40	47	53	60	67	73	80	87	93	100	107	113	120	127	132	139	146	152	159	166

For system height of 60 inches

Intermediate car model	Number of Loops 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
5245	17	26	34	43	51	60	69	77	86	94	103	112	120	129	138	146	155	163	171	179	188	196	204	212
5242	17	25	34	42	51	59	68	76	85	93	102	110	119	127	136	144	153	161	169	178	187	195	203	211
5410	16	25	33	41	49	58	66	74	83	91	99	107	116	124	132	141	149	157	166	174	182	191	200	208
5412	16	24	33	41	49	57	66	74	82	90	98	107	115	123	131	140	148	156	165	173	181	190	198	206
5414	16	24	32	41	49	57	65	73	82	90	98	106	114	123	131	139	147	155	164	172	180	189	197	205
5221	17	25	34	42	51	59	68	76	85	93	102	110	119	127	136	144	153	161	169	178	187	195	203	211
5231	17	25	34	42	51	59	68	76	85	93	102	110	119	127	136	144	153	161	169	178	187	195	203	211

For system height of 72 inches

Intermediate car model	Number of Loops 2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
5245	21	31	41	52	62	73	83	94	104	115	125	135	146	156	167	177	188	198	208	218	229	239	250	260
5242	20	31	41	51	62	72	82	93	103	113	124	134	144	155	165	175	185	196	206	216	226	236	247	257
5410	20	30	40	50	60	70	81	91	101	111	121	131	141	151	161	172	182	192	202	212	222	233	243	253
5412	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	171	181	191	201	211	221	231	241	251
5414	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250
5221	20	31	41	51	62	72	82	93	103	113	124	134	144	155	165	175	185	196	206	216	226	236	247	257
5231	20	31	41	51	62	72	82	93	103	113	124	134	144	155	165	175	185	196	206	216	226	236	247	257

Series 6000

SPECIFICATIONS

Standard polyurethane wheels-steel wheel optional

Steel Body

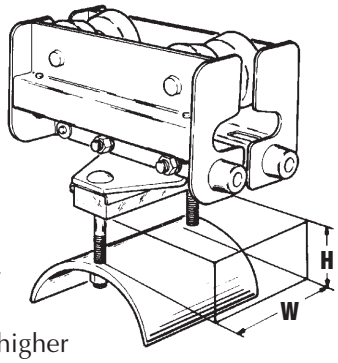
Polyurethane side rollers

Steel anti-kick up rollers

Aluminum cable saddle

Neoprene bumpers

Neoprene clamp pad



Travel Speed - 400 fpm. Tow cables may be required above 200 FPM. For speeds higher than 400 FPM consult factory.

Weight Capacity - 175 lbs. with standard urethane wheels. 350 lbs. with optional steel wheels.

Lead Car - Same construction as intermediate car with addition of tow bar opening and anti kick up wheels.

Environment - Indoor or outdoor.

Beam Sizes - S4 x 7.7, S5 x 10 and S6 x 12.5 I-Beams or 3.25 Patented Rail. Consult factory for other beam sizes.

Flat Cable Systems

Series	Dim. H	Dim. W	Max. cable thickness
674X	1.50	2.32	.45
605X	1.75	3.82	.75
638X	2.00	6.00	1.00

Round Cable Systems

Series	Dim. H	Dim. W	Max. cable diameter
639X	1.03	5.88	1.03

Each order should include:

Lead Car - one per system
End Clamp - one per system
Intermediate Cars - one less than the number of loops
Tow Cable - one per loop
Loop Clamp - one per loop (two per loop for loops over 48″)
Cables/Hoses - see next page for length calculation
Cable Connectors - to match cable requirements for both ends.

SERIES 6000

DEFINITIONS

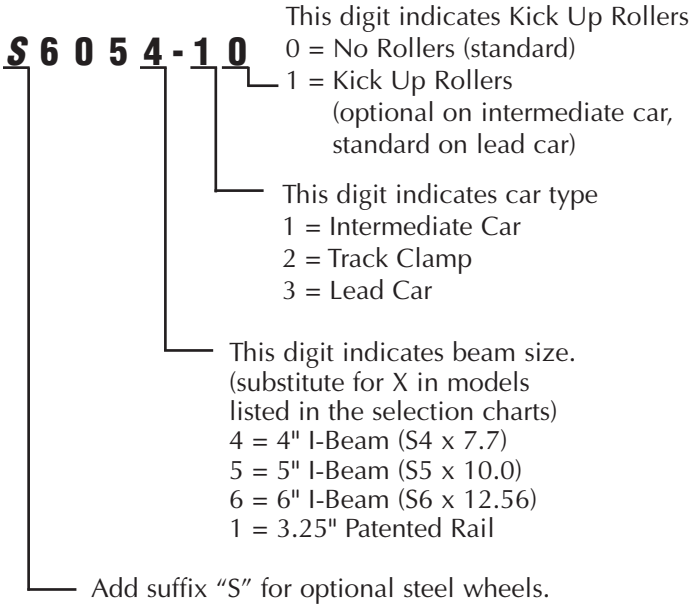
WT—Working Travel
ST —Storage Length
RL —Rail Length
SH —System Height
LD —Loop Depth
CR —Cable Required (less hook-up)
LM—Loop Mark
LP —Loop Pitch

HOW TO ORDER

1. Select cables and hoses required. Reference Cable and hose data pages 8-10

2. Select car series or size based on bend radius of largest cable or hose and available window opening to accommodate total cable package. Reference page 7

3. Complete car model number.
Example:



4. Select the lead car. After the proper intermediate car has been selected, the lead car (one per system) is indicated changing the last two digits to "31". **Example:** 6054 - 31

5. Select the track clamp. After the proper intermediate car has been selected, the track clamp (one per system) is indicated by changing the last two digits to "20". **Example:** 6054 - 20

6. Determine the number of intermediate cars required. Select the maximum system height which can be used ("SH" in illustration), and determine the number of cable loops required to reach your working travel distance ("WT" in the system illustration) using the charts on page 42-43. The number of intermediate Cars required is **one less than** the total number of loops.

Example: A system to travel 150 ft. with a system height of 60" using the 6054-10 car will require 19 loops or 18 intermediate cars based on the charts on page 42-43.

7. Determine the storage required for the system in the fully retracted position ("ST" on system illustration). Multiply the length of the intermediate car by the number of loops required.Dimensions for cars are shown on page 44-46.

Example: Car #6054-10 is 10" long. 19 X 10" = 190" or 15.8 ft. If there isn't sufficient space for the car storage, increasing the length of the cable loops will reduce it. If this doesn't provide enough space other methods can be used, consult factory.

8. Determine overall system or beam length. Add the working travel "WT" distance to the storage space "ST".

Example: 150' + 15.8' = 168.8'. Add to this, one car length (10") and anything required for your connection space or mounting requirements to determine minimum beam length.(Beam supplied by customer)

9 Determine cable or hose length. Multiply 1.1 times the sum of the working travel and storage space plus the length required for hook up on each end. Total cable length = 1.1 x (WT + ST) + hook up.

Example: 1.1 x (150 + 15.8) + 20 = 202.4 ft.

10. Determine loop mark (LM) or distance between clamping points on the cars. Divide the working cable (total cable length minus the hook up) by loops. LM = (WT+ST) / loops.

Example: 1.1 x (150 + 15.8)/19 = 9.6 ft.

6000 Series Loop Chart

Follow the steps below to determine the number of loops required for your festoon system.

■ After selecting the proper festoon car, choose the chart with the largest system height your application will permit—the greater the system height, the fewer the cars, thus a cost reduction for you.

■ Find the row of the festoon car you chose and read across the chart until you reach or surpass the working travel you need. The number at this intersection is the number of loops you need.

Example: You have selected the 674x car. The working travel you need is 100 feet and you have determined that the 36 inch system height is the largest permissible. Simply locate the 674x car on the left and read across until you meet or surpass 100 feet. In this case, you have hit 100 feet exactly with 21 loops.

For system height of 36"

Loops.....	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
flat cable series																								
674x	10	14	19	24	29	33	38	43	48	52	57	62	67	72	76	81	86	91	95	100	105	110	115	119
605x	9	14	19	23	28	33	37	42	46	51	56	60	65	70	74	79	84	88	93	98	102	107	112	116
638x	9	14	18	23	28	32	37	41	46	51	55	60	64	69	74	78	83	88	92	97	101	106	111	115
round cable series																								
639x	9	14	18	23	28	32	37	41	46	51	55	60	64	69	74	78	83	88	92	97	101	106	111	115
D63xx	9	14	18	23	28	32	37	41	46	51	55	60	64	69	74	78	83	88	92	97	101	106	110	115

For system height of 42"

Loops.....2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
flat cable series																							
674x	11	17	23	28	34	40	45	51	57	62	68	74	80	85	91	97	102	108	114	119	125	131	136	142
605x	11	17	22	28	33	39	44	50	56	61	67	72	78	83	89	94	100	106	111	117	122	128	133	139
638x	11	17	22	28	33	39	44	50	55	61	66	72	77	83	88	94	99	105	110	116	121	127	132	138
round cable series																								
639x	11	17	22	28	33	39	44	50	55	61	66	72	77	83	88	94	99	105	110	116	121	127	132	138
D63xx	11	17	22	28	33	39	44	50	55	61	66	72	77	83	88	94	99	105	110	116	121	127	132	138

For system height of 48"

Loops.....2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
For flat cable																							
674x	13	20	26	33	40	46	53	59	66	72	79	86	92	99	105	112	119	125	132	138	145	152	158	165
605x	13	19	36	32	39	45	52	58	65	71	78	84	91	97	103	110	116	123	129	136	142	149	155	162
638x	13	19	36	32	39	45	51	58	64	71	77	84	90	96	103	109	116	122	128	135	141	148	154	161
round cable series																								
639x	13	19	26	32	39	45	51	58	64	71	77	84	90	96	103	109	116	122	128	135	141	148	154	161
D63xx	13	19	26	32	39	45	51	58	64	71	77	84	90	96	103	109	116	122	128	135	141	148	154	161

For system height of 54"

Loops.....2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
flat cable series																							
674x	15	22	30	37	45	52	60	67	75	82	90	97	105	112	120	127	135	142	150	157	165	172	180	187
605x	15	22	30	37	44	52	59	66	74	81	89	96	103	111	118	125	133	140	148	155	162	170	177	184
638x	15	22	29	37	44	51	59	66	73	81	88	95	103	110	117	125	132	139	147	154	161	169	176	183
round cable series																								
639x	15	22	29	37	44	51	59	66	73	81	88	95	103	110	117	125	132	139	147	154	161	169	176	183
D63xx	15	22	29	37	44	51	59	66	73	81	88	95	103	110	117	125	132	139	147	154	161	169	176	183

For system height of 60"

Loops.....2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
flat cable series																							
674x	17	25	34	42	50	59	67	76	84	92	101	109	118	126	135	143	151	160	168	177	185	193	202	210
605x	17	25	33	41	50	58	66	75	83	91	99	108	116	124	133	141	149	157	166	174	182	191	199	207
638x	16	25	33	41	49	58	66	74	82	91	99	107	115	124	132	140	148	157	165	173	181	190	198	206
round cable series																								
639x	16	25	33	41	49	58	66	74	82	91	99	107	115	124	132	140	148	157	165	173	181	190	198	206
D63xx	16	25	33	41	49	58	66	74	82	91	99	107	115	124	132	140	148	157	165	173	181	190	198	206

6000 Series Loop Chart

For system height of 66"

Loops.....2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
flat cable series																							
674x	19	28	37	47	56	65	75	84	93	102	112	121	130	140	149	158	168	177	186	196	205	214	224	233
605x	18	28	37	46	55	64	74	83	92	101	110	120	129	138	147	156	165	175	184	193	202	211	221	230
638x	18	27	37	46	55	64	73	82	92	101	110	119	128	137	146	156	165	174	183	192	201	210	220	229
round cable series																							
639x	18	27	37	46	55	64	73	82	92	101	110	119	128	137	146	156	165	174	183	192	201	210	220	229
D63xx	18	27	37	46	55	64	73	82	92	101	110	119	128	137	146	156	165	174	183	192	201	210	220	229

For system height of 72"

Loops.....2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
flat cable series																							
674x	20	31	41	51	61	72	82	92	102	112	123	133	143	153	164	174	184	194	205	215	225	235	245	256
605x	20	30	40	51	61	71	81	91	101	111	121	131	141	152	162	172	182	192	202	212	222	232	242	253
638x	20	30	40	50	60	70	80	91	101	111	121	131	141	151	161	171	181	191	201	211	221	231	241	252
round cable series																							
639x	20	30	40	50	60	70	80	91	101	111	121	131	141	151	161	171	181	191	201	211	221	231	241	252
D63xx	20	30	40	50	60	70	80	91	101	111	121	131	141	151	161	171	181	191	201	211	221	231	241	252

For system height of 78"

Loops.....2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
flat cable series																							
674x	22	33	45	56	67	78	89	100	111	122	134	145	156	167	178	189	200	212	223	234	245	256	267	278
605x	22	33	44	55	66	77	88	99	110	121	132	143	154	165	176	187	198	209	220	231	242	253	264	275
638x	22	33	44	55	66	77	88	99	110	121	132	143	154	165	176	186	197	208	219	230	241	252	263	274
round cable series																							
639x	20	30	40	50	60	70	80	91	101	111	121	131	141	151	161	171	181	191	201	211	221	231	241	252
D63xx	20	30	40	50	60	70	80	91	101	111	121	131	141	151	161	171	181	191	201	211	221	231	241	252

For system height of 84"

Loops.....2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
flat cable series																							
674x	24	36	48	60	72	84	96	108	120	132	145	157	169	181	193	205	217	229	241	253	265	277	289	301
605x	24	36	48	60	72	83	95	107	119	131	143	155	167	179	191	203	215	226	238	250	262	274	286	298
638x	24	36	48	59	71	83	95	107	119	131	143	154	166	178	190	202	214	226	238	249	261	273	285	297
round cable series																							
639x	24	36	48	59	71	83	95	107	119	131	143	154	166	178	190	202	214	226	238	249	261	273	285	297
D63xx	24	36	48	59	71	83	95	107	119	131	143	154	166	178	190	202	214	226	238	249	261	273	285	297

For system height of 90"

Loops.....2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
flat cable series																							
674x	26	39	52	65	78	91	104	117	130	142	155	168	181	194	207	220	233	246	259	272	285	298	311	324
605x	26	38	51	64	77	90	103	115	128	141	154	167	180	192	205	218	231	244	257	269	282	295	308	321
638x	26	38	51	64	77	90	102	115	128	141	153	166	179	192	205	217	230	243	256	269	281	294	307	320
round cable series																							
639x	26	38	51	64	77	90	102	115	128	141	153	166	179	192	205	217	230	243	256	269	281	294	307	320
D63xx	26	38	51	64	77	90	102	115	128	141	153	166	179	192	205	217	230	243	256	269	281	294	307	320

For system height of 96" number of loops in system

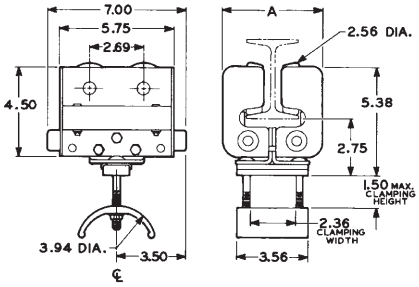
Loops.....2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
flat cable series																							
674x	28	42	55	69	83	97	111	125	139	152	166	180	194	208	222	236	250	263	277	291	305	319	333	347
605x	27	41	55	69	82	96	110	124	137	151	165	179	192	206	220	234	247	261	275	289	302	316	330	343
638x	27	41	55	68	82	96	110	123	137	151	164	178	192	205	219	233	247	260	274	288	301	315	329	342
round cable series																							
639x	27	41	55	68	82	96	110	123	137	151	164	178	192	205	219	233	247	260	274	288	301	315	329	342
D63xx	27	41	55	68	82	96	110	123	137	151	164	178	192	205	219	233	247	260	274	288	301	315	329	342

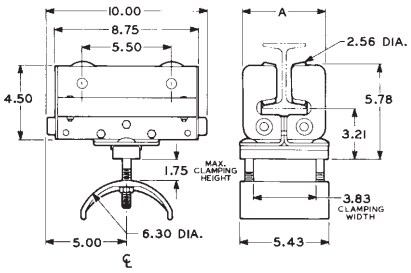
INTERMEDIATE CARS

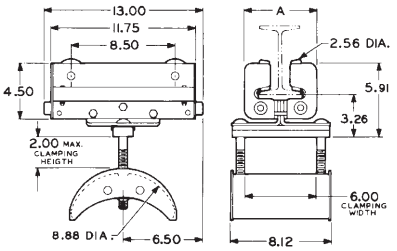
674x-11
Model 674x-10
Intermediate Car

605x-11
Model 605x-10
Intermediate Car

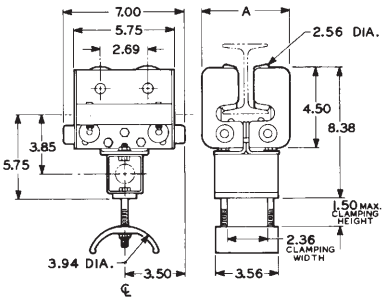
638x-11
Model 638x-10
Intermediate Car



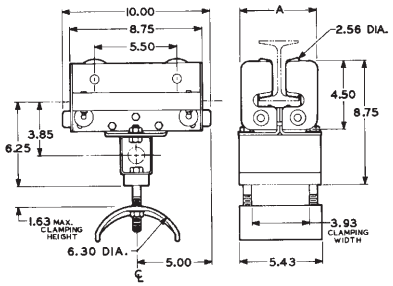




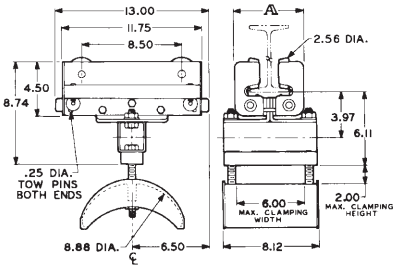
LEAD CARS



Model 674x-31
Lead Car

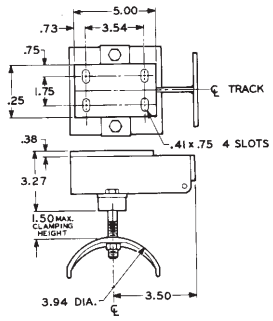


Model 605x-31
Lead Car

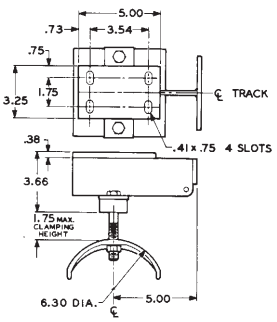


Model 638x-31
Lead Car

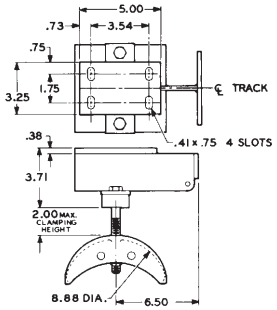
END CLAMPS



Model 6740-20

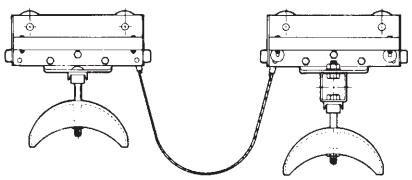


Model 6050-20



Model 6380-20

TOW CABLES



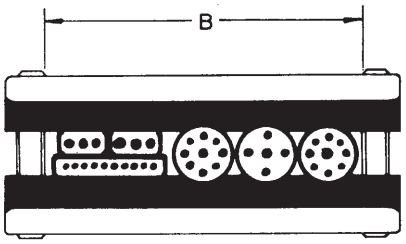
$$\text{Length (in.)} = \frac{\text{WT} \times 12.6}{\text{\# Of Cable Loops}} + 2.5$$

WT = Working Travel (ft.)

Tow Cables. Recommended for systems over 100 feet long and/or travel speeds above 260 FPM. Tow cables are used between cars and are slightly shorter than the electric cables or hoses to prevent undue tension in long and/or fast moving systems. The tow cables are 3/16" diameter stranded steel aircraft cable with loops on each end to attach to the anchor pins in the cars. One Tow Cable is normally required for each loop in the system however, in some conditions it may only be necessary for the first 33% of the system following the lead car. Consult factory.

To order specify quantity and Part Number **62270-xxx-B**. The three digit suffix is the length in inches.To determine the beam size (B) see page 41.
To determine length use the following formula: $\left(\frac{\text{WT x } 12.6}{\text{\#of Loops}}\right) + 2.5$

LOOP CLAMPS



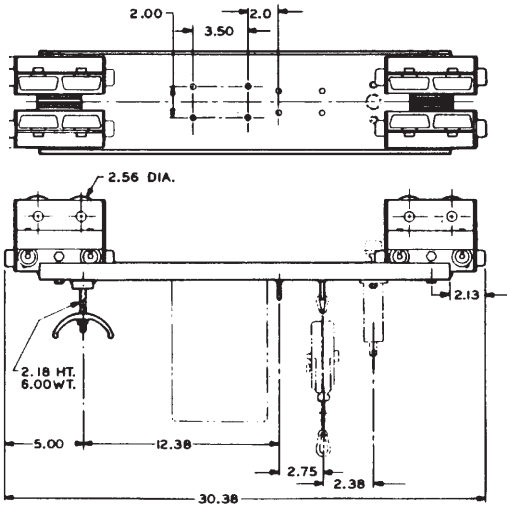
Loop Clamp/Organizers. Loop Clamps are used with flat cables to prevent multiple cables from separating and becoming entangled on adjacent equipment. For loop depths up to 4 ft. one clamp is required at the bottom of the loop. For longer loops use two clamps. One on each side approx. 2/3 of the way down from the top.

For round cables or hoses, loop organizers are used to control the twisting characteristics which will cause cables or hoses to tangle with each other and swing out in wide loops to the sides of the festoon system.

SERIES 6000

Model No.	Compatible System
LC058	674x
LC115	605x
LC150	638x / 639x
LC255	D631x
LC350	D632x
LC500	D633x

PENDANT CONTROL



Pendant control cars may be substituted for lead cars. Add 25.38 in. to minimum beam length.

Car includes: support frame with wheels, cable saddle clamp for flat cables up to .45" thick, bumpers, and junction box. Pendant, drop cable and cable connectors are not included. Customer must provide an end stop to prevent the car from being pulled farther along the beam than planned.

Model	Rail Size	Maximum Capacity
0600400051	4" I-Beam	300 lbs.
0600500051	5" I-Beam	300 lbs.
0600600051	6" I-Beam	300 lbs.
0600100051	3-¼" Pot. Rail	300 lbs.

Economy I-Beam Systems

SPECIFICATIONS

Tapered Nylon Flanged Wheels center car on beam

Galvanized steel body and axles with adjustable side plates for quick field adjustment to fit S3-S8 beams

Nylon saddles with contoured edges to protect cables.

Neoprene clamp pads - compensates for uneven cable stacking up to 1/8"

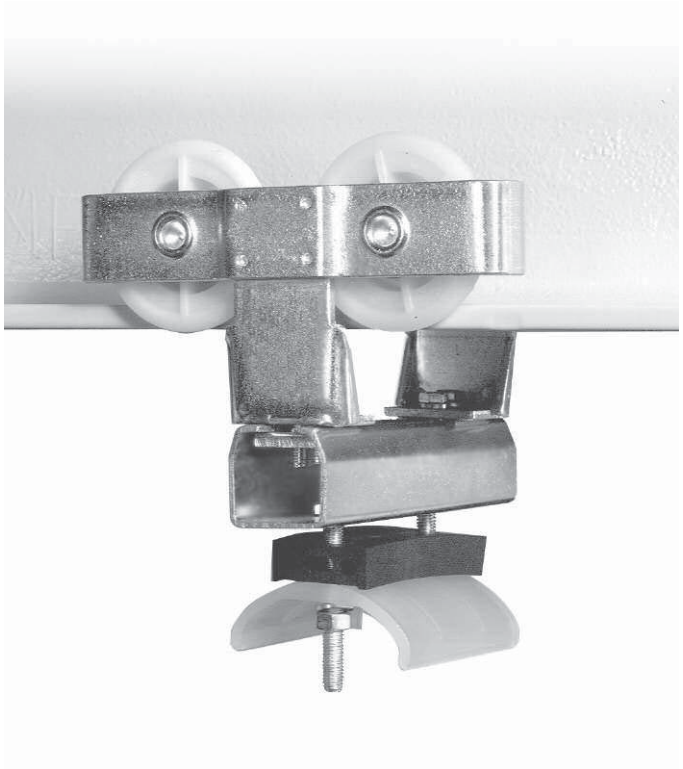
Maximum Travel Speed - 100 FPM

Environment - Only for dry and clean indoor locations.

Maximum Load 26 lbs. per car.

Beam Sizes - Standard car adjustable for S3x5.7 to S8x18.4 beams.

Series	Dim. H	Dim. W	Max. cable thickness
6530	.78 in.	2.28 in.	.27 in.



HOW TO ORDER HARDWARE

- Select cables required referencing data on page 8 & 10
- Make sure the 6530 car conforms to the specifications on the chart above:
  Maximum Thickness - Based on the bend radius required of largest cable that you have selected.
  Window Opening - The height (Dim.H) and width (Dim. W) that will accommodate the total cable package.
- Determine the Working Travel and Loop Depth combination from the component charts on page 48. The loop depth must clear all adjacent equipment and personnel in your application. Most systems use loops varying from 3 to 6 feet. Loops of more that 6 feet require special attention on higher speed applications.
- Double check the load capacity of your car. Calculating the total weight of the cable in your system and divide by the number of loops.

SYSTEM COMPONENTS

From the component charts, determine the number of items required. Each order should include:

6530-30 Lead Car - one per system

6530-20 End Clamp - one per system

6530-10 Intermediate Car - determined by travel distance, see selection chart

Cables - As required

Cable Connectors - two for each cable length

Series 6530 Component Charts

Loop Depth 24 inches

WT (ft.)	ST (ft.)	loops	Cars	Cable (ft.)*
6.4	.8	2	1	8
9.6	1.3	3	2	11.9
12.8	1.7	4	3	15.9
16	2.1	5	4	19.9
19.2	2.5	6	5	23.9
22.4	2.9	7	6	27.9
25.6	3.4	8	7	31.9
28.8	3.8	9	8	35.8
32	4.2	10	9	39.8
35.2	4.6	11	10	43.8
38.4	5	12	11	47.8
41.6	5.5	13	12	51.8
44.8	5.9	14	13	55.7
48	6.3	15	14	59.7
51.2	6.7	16	15	63.7
54.4	7.1	17	16	67.7
57.6	7.6	18	17	71.7
60.8	8	19	18	75.7
64	8.4	20	19	79.6

Loop Depth 36 inches

WT (ft.)	ST (ft.)	loops	Cars	Cable (ft.)*
9.6	.8	2	1	11.5
14.4	1.3	3	2	17.2
19.2	1.7	4	3	23.0
24.0	2.1	5	4	28.7
28.8	2.5	6	5	34.5
33.6	2.9	7	6	40.2
38.4	3.4	8	7	45.9
43.2	3.8	9	8	51.7
48.0	4.2	10	9	57.4
52.8	4.6	11	10	63.2
57.6	5.0	12	11	68.9
62.4	5.5	13	12	74.6
67.2	5.9	14	13	80.4
72.0	6.3	15	14	86.1
76.8	6.7	16	15	91.9
81.6	7.1	17	16	97.6
86.4	7.6	18	17	103.4
91.2	8.0	19	18	109.1
96.0	8.4	20	19	114.8

Loop Depth 48 inches

WT (ft.)	ST (ft.)	loops	Cars	Cable (ft.)*
12.8	.8	2	1	15.0
19.2	1.3	3	2	22.5
25.6	1.7	4	3	30.0
32.0	2.1	5	4	37.5
38.4	2.5	6	5	45.0
44.8	2.9	7	6	52.5
51.2	3.4	8	7	60.0
57.6	3.8	9	8	67.5
64.0	4.2	10	9	75.0
70.4	4.6	11	10	82.5
76.8	5.0	12	11	90.0
83.2	5.5	13	12	97.5
89.6	5.9	14	13	105.0
96.0	6.3	15	14	112.5

Loop Depth 60 inches

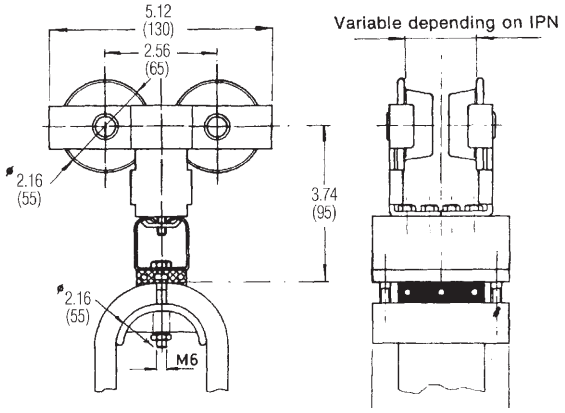
WT (ft.)	ST (ft.)	loops	Cars	Cable (ft.)*
16.0	.8	2	1	18.5
24.0	1.3	3	2	27.8
32.0	1.7	4	3	37.0
40.0	2.1	5	4	46.3
48.0	2.5	6	5	55.6
56.0	2.9	7	6	64.8
64.0	3.4	8	7	74.1
72.0	3.8	9	8	83.4
80.0	4.2	10	9	92.6
88.0	4.6	11	10	101.9
96.0	5.0	12	11	111.1

Loop Depth 72 inches

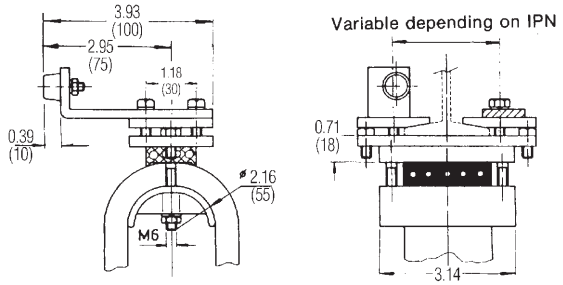
WT (ft.)	ST (ft.)	loops	Cars	Cable (ft.)*
19.2	.8	2	1	22.0
28.8	1.3	3	2	33.1
38.4	1.7	4	3	44.1
48.0	2.1	5	4	55.1
57.6	2.5	6	5	66.1
67.2	2.9	7	6	77.2
76.8	3.4	8	7	88.2
86.4	3.8	9	8	99.2
96.0	4.2	10	9	110.2

*Add extra cable for hook-up

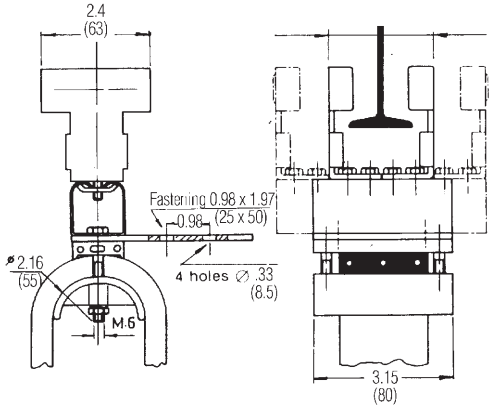
Model 6530-10
Lead Car



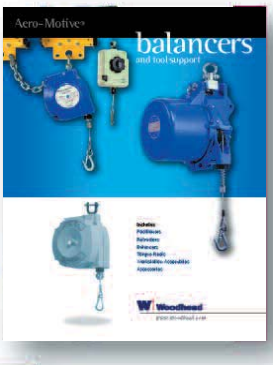
Model 6530-20
End Clamp

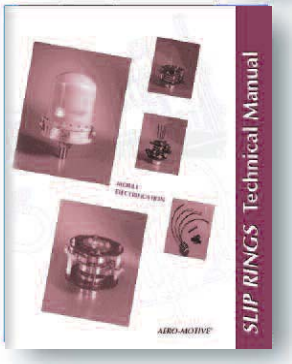


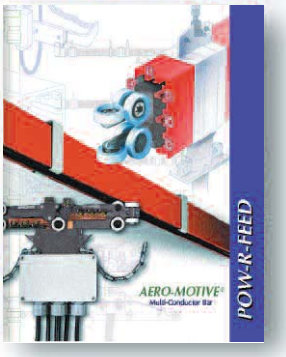
Model 6530-30
Lead Car

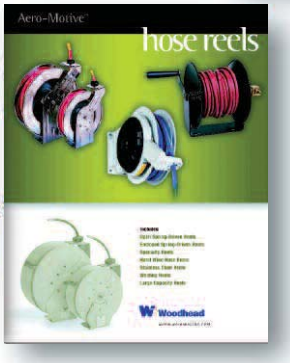


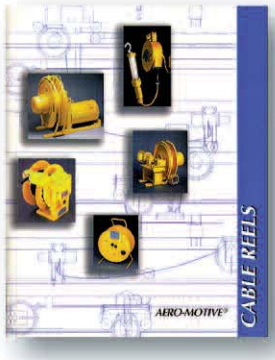
AERO-MOTIVE®











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