

# Cable and Hose Carrier Design Guide



# www.gortrac.com







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# **Quick Selection Guide**

Bandtrac (Enclosed) Bandtrac (Openable) K00 K0 K02, K03, K04 K20, K30 KN SP KS	.60(15.24)-1.85(47.00) .60(15.24)-1.85(47.00) .28(7.00) .39(9.91) .40(10.24)	.70(17.78) - 1.95(49.53) .70(17.78) - 1.95(49.53) .28(7.00)	.64(16.26) -1.89(48.00) .64(16.26) -1.89(48.00)	.75(19.05) - 2.00(50.80)	N/A	
K00  K0  K02, K03, K04  K20, K30  KN  SP  KS	.28(7.00) .39(9.91)	, , , , ,	.64(16.26) -1.89(48.00)			
K0 K02, K03, K04 K20, K30 KN SP KS	.39(9.91)	.28(7.00)	, , , , , , , , , , , , , , , , , , , ,	.75(19.05) - 2.00(50.80)	N/A	
K02, K03, K04  K20, K30  KN  SP  KS	` '		.47(12.00)	.47(12.00)	.59(14.99)	
K20, K30 KN SP KS	.40(10.24)	.39(9.91)	.60(15.24)	.60(15.24)	.79(19.99)	
KN SP KS		.97(24.64) - 1.88(47.75)	.59(14.97)	1.48(37.59) - 2.38(60.45)	.79(19.99)	
SP KS	.71(18.00)	.99(25.15) - 1.50(38.10)	.87(22.00)	1.50(38.10) - 1.91(48.51)	1.18(30.00)	
KS	.40(10.24)	.97(24.64) - 1.88(47.75)	.59(14.97)	1.48(37.59) - 2.38(60.45)	.79(19.99)	
	.78(19.81)	.59(14.99) - 4.00(101.60)	1.05(26.67)	1.05(26.67) - 4.46(113.30)	1.20(30.48)	
	1.06(26.78)	1.00(25.40) - 4.00(101.60)	1.369(34.77)	1.56(39.62) - 4.56(115.82)	1.81(46.04)	
P	1.33(33.78)	1.25(31.75) - 4.00(101.60)	1.50(38.10)	1.72(43.69) - 4.47(113.51)	1.50(38.10)	
NP	1.54(39.17)	2.00(50.80) - 6.00(152.40)	2.00(50.80)	2.63(66.80) - 6.63(168.40)	2.17(54.99)	
KL	1.75(44.36)	3.00(76.20) - 7.00(177.80)	2.50(63.50)	3.75(95.25) - 7.75(196.85)	2.62(66.55)	
PC	1.33(33.77)	1.50(38.10) - 7.50(190.50)	1.97(50.04)	3.13(79.50) - 9.06(230.12)	2.56(65.02)	
PS	2.13(54.00)	3.50(88.90) - 11.30(289.05)	2.95(74.94)	5.38(136.65) - 13.23(336.04)	3.54(89.90)	
NSB	RB .75(19.05) / PR .63(16.00)*	Customer Specified	1.38(35.05)	Specified Width + .94(23.88)	1.97(50.40)	
NSC	RB 1.31(33.27) / PR 1.19(30.23) / AF 1.22(30.99)	Customer Specified	1.97(50.04)	Specified Width + 1.25(31.75)	2.95(74.93)	
TSC	1.65(41.90)	2.18(55.40) - 5.97(151.60)	2.30(58.40)	Specified Width + .85(21.59)	2.64(67.10)	
TSC Custom	RB 1.65(41.9) / PR 1.52(38.6) / AF 1.65(4.19)	Customer Specified	2.30(58.40)	Specified Width + .85(21.59)	2.64(67.10)	
TS Custom	, , , , , ,	· · · · · · · · · · · · · · · · · · ·	` '		` '	
	2.31(58.67)	2.93(74.42) - 13.57(344.68)	3.25(82.42)	4.45(113.03) - 15.09(383.29)	4.06(103.12)	
TS Custom	RB 2.38(60.43) / PR 2.29(58.13) / AF 2.31(58.74)	Customer Specified	3.25(82.42)	Specified Width + 1.52(38.61)	4.06(103.12)	
TL Overhaus	3.00(76.20)	3.93(99.82) - 13.63(346.20)	4.13(104.80)	5.87(149.10) - 15.57(395.48)	5.16(130.97	
TL Custom	RB 3.05(77.50) / PR 2.88(73.10) / AF 3.01(76.40)	Customer Specified	4.13(104.80)	Specified Width + 1.94(49.28)	5.16(130.98	
	RB 4.17(105.92) / PR 3.94(100.08) / AF 4.77(121.16)	Customer Specified	5.91(150.00)	Specified Width + 2.5(63.50)	7.38(187.45)	
K0E1	.39(9.91)	.95(24.13)	.59(14.99)	1.42(36.07)	.71(18.03)	
K0E3	.83(21.08)	1.34(34.04)	1.18(29.97)	1.97(50.04)	1.38(35.05)	
K0E4	1.18(29.97)	1.89(48.01)	1.58(40.13)	2.44(61.98)	1.77(44.95)	
K0E5	1.50(38.10	1.89(48.01)	1.97(50.04)	2.56(65.02)	2.17(55.11)	
K0E6	1.50(38.11	5.28(134.11)	1.97(50.04)	5.91(150.11)	2.17(55.11)	
N1, N2, N3	.90(22.86)	.90(22.86) - 2.48(62.99)	1.38(35.05)	1.38(35.05) - 1.97(50.04)	1.38(35.05)	
N4, N5, N6	1.34(34.04)	1.42(36.07) - 5.35(135.89)	1.97(50.04)	1.97(50.04) - 5.91(150.11)	1.97(50.03)	
N8	2.24(56.90)	5.28(134.11)	2.95(74.93)	5.91(150.11)	2.56(65.02)	
KLE	1.76(44.73)	3.00(76.20) - 7.00(177.80)	2.50(63.50)	3.75(95.25) - 7.75(196.85)	2.13(53.98)	
TSAP	2.34(59.51)	Customer Specified	3.25(82.42)	Specified Width + 1.52(38.61)	4.06(103.12)	
TLAP	2.89(73.40)	Customer Specified	4.13(104.80)	Specified Width + 1.94(49.28)	5.16(130.98	
NXLAP	4.16(105.60)	Customer Specified	5.91(150.00)	Specified Width + 2.5(63.50)	7.38(187.45)	
SB	RB .75(19.05) / PR .1.97(50.04)	Customer Specified	1.38(34.93)	Specified Width +.50(12.70)	2.00(50.80)	
SC	RB 1.38(34.93) / PR 1.21(30.81)	Customer Specified	2.00(50.80)	Specified Width +.50(12.70)	2.40(60.96	
MRC	RB 1.25(31.75) / PR 1.08(27.43) / AF 1.21(30.73)	Customer Specified	2.00(50.80)	Specified Width +.62(15.75)	3.00(76.20)	
GX	RB 1.57(39.88) / PR 1.51(38.35) / FB 1.70(43.18)	2.25(57.15) - 7.00(177.80)	2.00(50.80)	2.69(68.33) - 7.44(188.98)	2.50(63.50)	
SRC	RB 1.94(49.28) / PR 1.76(44.70) / AF 1.97(50.04)	Customer Specified	3.00(76.20)	Specified Width + .69(17.40)	4.00(101.60)	
LRC	RB 2.94(74.68) / PR 2.76(70.10) / AF 2.97(75.44)	Customer Specified	4.00(101.60)	Specified Width + .69(17.40)	5.00(127.00)	
SX	RB 1.94(49.28) / PR 1.76(44.70)	Customer Specified	2.50(63.50)	Specified Width + .36(9.14)	4.00(101.60)	
XL6	RB 4.08(103.63) / PR 3.83(97.28)	Customer Specified	5.91(150.11)	Specified Width + 1.50(38.10)	7.38(187.53)	
XL8	RB 6.14(155.95) / PR 5.89(149.61)	Customer Specified	7.87(199.90)	Specified Width + 1.50(38.10)	9.33(237.08)	
XL10	RB 8.11(205.99) / PR 7.86(199.64)	Customer Specified	9.84(249.94)	Specified Width + 1.50(38.10)	11.66(296.32)	
Gortube	.62(15.70) - 4.02(102.11)	.90(22.86) - 8.35(121.09)	.79(20.07) - 4.33(109.98)	1.18(29.97) - 8.66(219.96)	N/A	
SRCAP	1.76(44.70)	Customer Specified	3.00(76.20)	Specified Width + .69(17.40)	4.00(101.60)	
LRCAP	76(70.10)	Customer Specified	4.00(101.60)	Specified Width + .69(17.40)	5.00(127.00)	
XL6AP	AP 4.17(106.40)	Customer Specified	5.91(150.11)	Specified Width + 1.50(38.10)	7.38(187.53)	

<sup>\*</sup>Cross Bar Styles: AF = Aluminum Flat Bar AP = Armor Plate FB = Continuous Link RB = Aluminum Round Bar PR = Poly Roller MC = Machined Carrier For Model NS, NL, PCE, & PSE Please Visit www.Gortrac.com To See Complete Specifications.

Radius INCHES(mm)	Mounting Height Range INCHES(mm)	Max Unsupported Span (Ft)	Seps Available	Accessible	Custom Widths Available	Page #
1.50(38.10)	3.00(76.20) - 6.00(152.40)	2ft	N	N	N	17
3.00(76.20)	6.00(152.40) - 8.00(203.20)	3ft	N	Υ	N	17
.59(15.00)	1.57(15.00)	1.5ft	N	Υ	N	18-19
1.20(30.48)	3.00(76.20)	1.5ft	N	N	N	18-19
.70(17.78)-1.20(30.48)	2.00(50.80) - 3.00(76.00)	1.5ft	N	Υ	N	18-19
1.39(35.31) - 2.77(70.36)	3.75(95.25) - 6.00(152.40)	3ft	N	Υ	N	18-19
.70(17.78)-1.20(30.48)	2.00(50.80) - 3.00(76.00)	1.5ft	N	N	N	20-21
1.05(26.67) - 3.73(94.62)	3.15(80.01) - 8.50(215.90)	2.75ft	Υ	Y	N	22-23
2.02(51.31) - 5.87(149.10)	5.40(137.16) - 13.10(332.74)	3.8ft	Υ	Υ	N	24-25
1.75(44.45) / 4.25(107.95)	5.00(127.00) / 10.00(254.00)	3.5ft	N	Υ	N	26-27
2.50(63.50) - 7.87(199.90)	7.00(177.80) - 18.00(457.20)	5.5ft	Υ	Υ	N	28-29
3.00(76.20) - 11.75(298.45)	8.50(215.90) - 26.00(660.40)	7ft	Υ	Υ	N	30-31
2.95(74.93) - 7.87(199.90)	8.00(203.20) - 18.00(457.20)	11ft	Y	Y	N	32-33
3.94(100.08) - 11.80(299.72)	11.00(279.40) - 27.00(685.80)	16ft	Y	Υ	N	32-33
2.06(52.32) - 3.06(77.72)	5.50(139.70) - 7.50(190.50)	4ft	Y	Υ	Υ	36-37
2.75(69.85) - 7.50(190.50)	7.50(190.50) - 17.00(431.80)	6.5ft	Υ	Υ	Υ	36-37
2.95(75.00) - 13.78(350.00)	8.2(208.30) - 29.86(758.40)	7.5ft	Υ	Υ	See TSC Custom	38-39
2.95(75.00) - 13.78(350.00)	8.2(208.30) - 29.86(758.40)	7.5ft	Υ	Υ	Υ	38-39
3.88(98.55) - 16.13(409.70)	11.00(279.40) - 35.50(901.70)	12.5ft	Υ	Υ	See TS Custom	40-41
3.88(98.55) - 16.13(409.70)	11.00(279.40) - 35.50(901.70)	12.5ft	Y	Y	Υ	40-41
5.81(147.57) - 24.69(627.13)	15.75(400.05) - 53.50(1358.90)	14.75ft	Y	Υ	See TL Custom	42-43
5.81(147.57) - 24.69(627.13)	15.75(400.05) - 53.50(1358.90)	14.75ft	Y	Y	γ	42-43
9.05(229.87) - 27.05(687.07)	24.00(609.60) - 60(1524.00)	18ft	Y	Y	V	44-45
1.18(29.97) - 1.97(50.04)	3.00(76.20) - 4.50(114.30)	3ft	N	Y	N	48-49
2.36(59.94) - 3.94(100.08)	5.90(149.86) - 13.00(330.20)	6.6ft	N	Y	N N	48-49
2.95(74.93) - 5.91(150.11)	7.50(19.50) - 13.40(340.36)	7.5ft	N	Y	N N	48-49
3.94(100.80) - 5.91(150.11)	9.90(251.46) - 13.80(350.52)	9.2ft	N	Y	N N	48-49
3.94(100.80) - 5.91(150.11)	9.90(251.46) - 13.80(350.52)	9.2ft	N	Y	N N	48-49
 3.30(83.82) - 5.91(150.11)	8.00(203.20) - 13.20(335.28)		N	N		50-51
, , , , ,	, , , ,	2.9ft(N1, N2) /4ft(N4)	N N	N	N N	50-51
3.94(100.08) - 7.87(199.90)	9.80(248.92) - 17.70(449.58)	5ft 5ft				
5.91(150.11) - 11.81(299.97)	14.80(375.92) - 26.60(675.64)		N	N	N	50-51
3.75(95.25) - 11.75(298.45)	10.00(254.00) - 26.00(660.40)	7.9ft	Y	Y	N	52-53
3.88(98.55) - 16.13(409.70)	11.00(279.40) - 35.50(901.70)	12.5ft	Y	Y	Y	56-57
5.81(147.57) - 24.69(627.13)	15.75(400.05) - 53.50(1358.90)	14.75ft	Y	Y	Y	56-57
9.05(229.87) - 27.05(687.07)	24.00(609.60) - 60(1524.00)	18ft	Υ	Y	Y	56-57
2.06(52.32)	5.50(139.70)	7.6ft	Υ	Υ	Υ	60-61
2.75(69.85) - 5.62(142.75)	7.50(190.50) - 13.25(336.55)	10.8ft	Y	Y	Y	60-61
2.75(69.85) - 7.50(190.50)	7.50(190.50) - 17.00(431.80)	16.4ft	Y	Y	Y	62-63
2.00(50.80) - 5.63(143.00)	6.00(152.40) - 13.25(336.55)	10ft	N	Y	N	64-65
4.00(101.60) - 12.25(311.15)	11.00(279.40) - 27.50(698.50)	21ft	Y	Y	Y	66-67
5.50(139.70) - 24.25(615.95)	15.00(381.00) - 52.50(1333.50)	24ft	Y	Y	Y	66-67
3.47(88.14) - 12.06(306.32)	10.13(257.30) - 27.31(693.67)	20ft	Υ	Y	Υ	68-69
10.05(255.14) - 29.55(750.44)	26.00(660.40) - 65.00(1651.00)	30ft	Y	Υ	Υ	70-71
10.57(268.35) - 36.07(916.05)	29.00(736.60) - 80.00(2032.00)	35ft	Y	Y	Υ	70-71
19.08(484.63) - 35.08(891.03)	48.00(1219.20) - 80.00(2032.00)	40ft	Y	Υ	Υ	70-71
1.80(45.72) - 13.80(350.52)	4.40(111.76) - 30.70(779.78)	Varies	N	N	N	74-77
5.25(133.35) - 12.25(311.15)	13.50(342.90) - 27.50(698.50)	21ft	Y	Y	Y	78-79
8.00(203.20) - 24.25(615.95)	20.00(508.00) - 52.50(1333.50)	24ft	Y	Y	Y	78-79
10.05(255.14) - 29.55(750.44)	26.00(660.40) - 65.00(1651.00)	30ft	Υ	Υ	Υ	78-79

# The GORTRAC® Difference

# The GORTRAC® Division of A&A Manufacturing

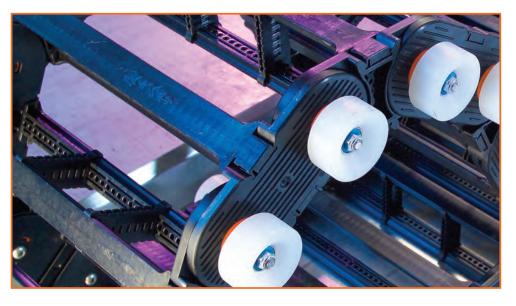
Company, Inc. produces custom-engineered and turnkey solutions for cable and hose carrier systems. GORTRAC was founded in New Berlin, Wisconsin, home of A&As' corporate headquarters and where our first steel products were developed and manufactured in the mid-1970's. Our modern 75,000 square foot GORTRAC manufacturing facility in Valparaiso, Indiana was opened to meet the growing demands of new regions and new industries. GORTRAC continues to grow, expanding our service and network of representatives throughout the globe.

GORTRAC has developed its product offerings into four standard lines:

- GORTRAC® open metal
- GORTUBE® enclosed metal
- NYLATRAC® open plastic
- NYLATUBE® enclosed plastic

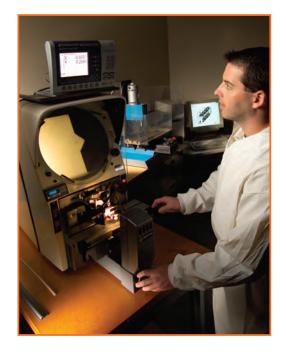
Many of these standard products can be modified to the requirements for your application. Your GORTRAC representative will assist you in selecting the right carrier system for your specific need. Discover the difference that a passion for quality and customer satisfaction, a proven track record of innovation and over 30 years of carrier manufacturing expertise can make.

**Discover the GORTRAC® Difference!** 



# **Design and Engineering**

GORTRAC employs a large staff of design engineers to develop your application. Whether you're looking for a cable carrier, or a complex engineered assembly, our design team has the knowledge, experience, and the state-of-the-art tools to deliver innovative solutions quickly and cost-effectively. Our application specialists use internally-developed automated application design and estimating programs to insure accuracy and quick turnaround time for proposals.





GORTRAC® Valparaiso, Indiana

# Call GORTRAC® to discuss your next application

GORTRAC has a centrally located North American factory and a worldwide network of sales and manufacturing partners.

Our dedicated staff of customer service and application specialists are trained to assist you every step of the way, and our factory-trained field representatives can provide on-site consultation and design assistance.

Our passion for quality and customer satisfaction, a track record of innovative designs, plus cellular manufacturing experience in a lean environment, make GORTRAC the only North American choice for turnkey cable and hose carriers, and value-added engineered assemblies.

More than just components... more than just solutions... GORTRAC offers you...





# **Assembly and Finishing**

We employ highly skilled craftsman to transform cut and formed pieces into a structure ready for assembly. Subassemblies are inspected, then sent for finishing operations such as buffing, painting, or plating. In the assembly departments, subcomponents are integrated into the final product, then shipped to your location or can be stocked at one of our facilities through an inventory management program.

# Value+



# **Manufacturing**

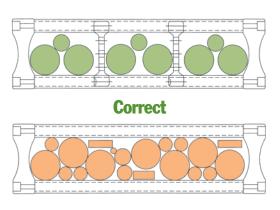
GORTRAC provides a full line of cable and hose carriers available in steel, plastic, and hybrid constructions designed for applications requiring unique features, reliable performance, and flexibility.

Experienced GORTRAC engineers and production technicians integrate innovative designs, a wide range of available manufacturing technologies, and cutting-edge processes to deliver systems quickly, correctly, and cost-effectively.



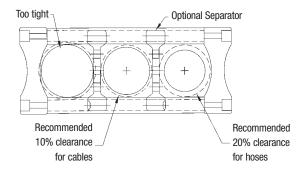
# **Design Guide Installation Instructions**

Special care and consideration should be taken while installing cables and hoses. The correct installation of cables and hoses is one of the most important aspects of the entire system. Proper installation will greatly affect the cable carrier system cycle life, as well as the cycle life of the cables and hoses. The following guidelines should be followed to maximize the life of the cables and cable carrier system.

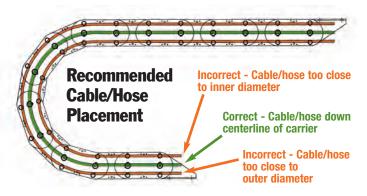


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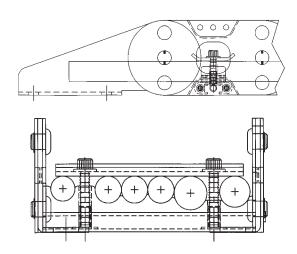
Stacking and side-by-side placement is not recommended. Cables or hoses that are round or flat should be positioned freely. The stacking or direct side-by-side placement of cables and hoses with large crosssectional differences is not recommended.



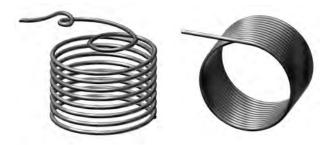
Gortrac recommends a minimal 10% clearance for each cable overall diameter and 20% clearance for each hose overall diameter.



The cables/hoses must not be twisted and should be free of kinks or other irregularities. When stacking cables/hoses, care should be taken to ensure enough slack has been provided to allow cables/ hoses to travel freely on top of one another.



All cables and hoses should be secured at both the fixed and moving ends. Please do not pinch the cables/hoses excessively while clamping the ends in place.



Make certain that the cable/hoses are laid into the carrier "twist-free." Cables/hoses supplied in rolls or on roll reels should be unrolled, not pulled sideways or off the top of the coil.

# **Design Guide Installation Instructions**

# **Types of Applications**



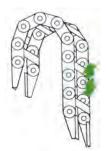
Horizontal lower-flange fixed



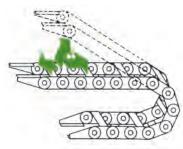
Horizontal upper-flange fixed



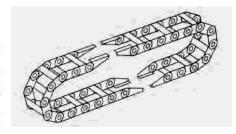
Vertical curve up



Vertical curve down



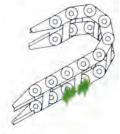
Combination vertical and horizontal



Double ended

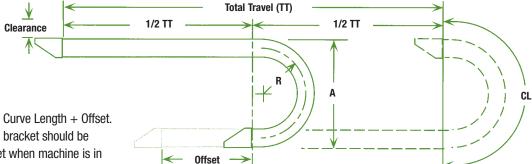


**Nested configuration** 



Side mounted

Please consult Gortrac when using the carrier in other than horizontal flange fixed. Gortrac will recommend proper support for your specific application.



**Carrier Length** = 1/2 Total Travel + Curve Length + Offset. For minimum carrier length, moving bracket should be mounted directly above fixed bracket when machine is in center of travel. Offset is the dimension between fixed and moving bracket at center of travel.

**Height (H)** - The overall height of the carrier at the loop. While (H) is the designed height at the loop, clearance should be provided above the carrier. This will be true of either metal or plastic carrier to account for built-in camber.

See Design Guide Specifications pages for recommended clearance. Please advise GORTRAC of any height clearance limitations.

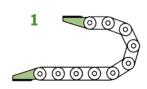
Carrier Radius (R) - For minimum carrier length, moving bracket should be mounted directly above fixed bracket when machine is in center of travel. Offset is the dimension between fixed and moving bracket at center of travel.

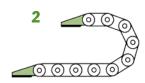
**Load** - The total weight of the cables and hoses within the carrier. This is usually called out in pounds per foot. If hoses will contain liquid, please include that weight.

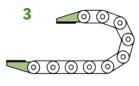
**Speed** - The maximum velocity of the machine during its movement. This is usually called out in feet per minute or inches per minute.

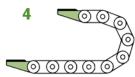
Metal vs. Non-Metallic Carriers - GORTRAC offers both metal and plastic carriers. Metal carriers work well in many applications, while others demand plastic. Here are some general guidelines: Use metal with loads over 15lbs./ft. Use plastic with speeds over 100 feet per minute. Metal carrier is most practical to 50 feet of travel - beyond that, plastic will be more economical.

**Available Mounting Bracket Configurations** 









# **Design Guide Material Compatibility**

# **Chemical Resistance of Durethan® Polyamide Resins**

Unless otherwise noted, all data were determined at 73 °F (23 °C)

Media	Rating	Media	Rating	Media	Rating
Acetic Acid, 5%	0	Formic Acid, 30%	_	Potassium Carbonate (Potash), Saturated Solution	+
Acetic Acid, 30%	_	Formic Acid, Concentrated	_	Potassium Cyanide, Saturated Solution	+
Acetone	+	Freon** 11/12 Refrigerant (1/1),		Potassium Dichromate, Saturated Solution	0
Ammonia, 10%	+	Under Pressure at 73°F	+	Potassium Hexacyanoferrate (III), Saturated Solutio	n +
Ammonia, Conc.	+	Fuel Oil, Heavy	+	Potassium Metabisulfite, 40 g/l in Water	+
Ammonium Nitrate, Saturated Solution	+	Fuel Oil, Light	+	Potassium Perchlorate, 2% in Water	0
Ammonium Sulfate, Saturated Solution	+	Fuel Oil, Medium	+	Potassium Permanganate, 10% in Water	_
Amyl Acetate	+	Gasohol	0	Propane Gas	+
Aniline	0	Gasoline	+	Propyl Alcohol	+
Basic Chrome Sulfate, Conc.	+	Glycerol	+	Rapeseed Oil	+
Baysilone® Fluid M 1000	+	Glycol	+	Raspberry Juice (Sweetened), Commercial	+
Beer (Lager) at 32°F	+	Grapefruit Juice, Unsweetened at 35°F	+	Sea Water	+
Benzene	+	Hydrochloric Acid, 1%	_	Silicofluoric Acid, 30%	_
Benzyl Alcohol, 100%	_	Hydrochloric Acid, 10%	_	Silver Nitrate, 10%	+
Benzyl Benzoate, 100%	0	Hydrochloric Acid, Conc.	_	Sodium Bicarbonate (Soda), Saturated Solution	+
Blood (Ox Blood) at 35°F	+	Hydrofluoric Acid, 40%	_	Sodium Chloride (Table Salt), Saturated Solution	+
Borax*, Saturated Solution	+	Hydrogen Chloride Gas	_	Sodium Hypochlorite	_
Brake Fluid, AT	+	Hydrogen Peroxide, 10%	_	Sodium Soap Fat	+
Brandy, Commercial	+	Hydrogen Peroxide, 30%	_	Sodium Sulfide, Saturated Solution	+
Butane Gas	+	Hydrogen Sulfide	+	Sodium Thiosulfate (Fixing Bath), 200 g/l	+
Butanol, 100%	+	lodine, Tincture, Commercial	_	Soil Bacterial Culture (Anaerobic)	+
Butyric Acid, Conc.	0	Isopropyl Alcohol	+	Soil Mildew	+
Calcium Chloride, Saturated Solution in Water	+	Jet Fuel, 1P4	+	Spinning Bath Acid	_
Calcium Hydroxide (Suspension), 30%	+	Lactic Acid, 10% in Water	+	Stannous Chloride, Saturated Solution	_
Calcium Soap Fat, Pure	+	Laundry Soap Solution, 1% in Water at 158°F	+	Sugar Beet Syrup	+
Camphor Oil, 100%	+	Margarine	+	Sugar Solution, Saturated	+
Carbon Dioxide	+	Menthol, 90% in Denatured Alcohol	+	Sulfur Dioxide, Dry, Saturated Atmosphere	+
Carbon Disulfide	+	Mesamoll PVC Plasticizer	+	Sulfuric Acid, 10%	_
Carbon Tetrachloride	+	Metasystox*** Insecticide, 0.5% in Water	+	Sulfuric Acid, 30%	_
Caustic Soda Solution, 10%	+	Metasystox* Insecticide, Conc.	+	Sulfurous Acid, 10%	0
Caustic Soda Solution, Conc.	+	Methyl Alcohol, Pure	0	Tallow, Beef, Commercial	
Chlorine Gas, Dry – Chlorobenzene	+	Methyl Amine, 30% in Water	+	Tartaric Acid, 10% in Water	+
Chloroform	0	Methylene Chloride	0	Tetraethyl Lead, 5% in Aliphatic	Т
Citric Acid, 10%	+	Milk, Whole	+	Hydrocarbons, bp 212°–284°F	+
Coal Gas	+	Mineral Water, Commercial	+	Thionyl Chloride, 100%	_
Copper Sulfate, Saturated Solution	+	Naphthene Basic Oil (Lubricant)	+	Toluene	_
Cyclohexanol	+	Nekal**** BX Wetting Agent, 2% in Water	+	Trichloroethyl Phosphate	_
Cyclohexanone	+	Nitric Acid, 1%	_	Trichloroethylene	+
Dibutyl Phthalate		Nitric Acid, 170 Nitric Acid, 50%		Tricresyl Phosphate (Low Ortho Content)	
Diesel Oil	+	Oleic Acid, Commercial	_	Triethanolamine	+ 0
Dinonyl Phthalate	+	Oxalic Acid, 10% in Water	+ 0	Urea, Saturated Solution	
•	+	•	_	Urine	+
Dioctyl Phthalate	+	Oxygen (3 Bar) Ozone (at 2 x 10-6 Parts Ozone to 1 Part Air)			+
Ether	+	•	-	Vinyl Chloride, Under Pressure	
Ethyl Alcohol	+	Paraffin Basic Oil (Lubricant)	+	at Room Temperature	+
Ethylono Chlorido	+	Perchloric Acid, 10% in Water	-	Water (Distilled) at 158°F	+
Ethylene Chloride	+	Petroleum Ether	+	Water (Distilled) at 158°F	+
Ethylene Glycol	+	Petroleum Spirit (for Dry Cleaning), bp 212°–284°f		Water (Distilled) at 194°F	+
Ferric Chloride, Saturated Solution (Neutral)	+	Phenyl Ethyl Alcohol, 100%	0	Wine, Commercial	+
Fish Liver Oil	+	Phosphoric Acid, 10%	0	Wood Turpentine, bp 302°-338°F	+
Formaldehyde, 10% in Water	+	Phosphoric Acid, 30%	-		

Ratings + Resistant 0 Limited Resistance - Not Resistant

Durathan is a registered trademark of Bayer Polymers LLC

<sup>\*</sup> Borax is a registered trademark of U.S. Borax Inc.

<sup>\*\*</sup> Freon is a registered trademark of E.I. duPont de Nemours and Co.

<sup>\*\*\*</sup> Metasystox is a registered trademark of Chemagro Corporation.

<sup>\*\*\*\*</sup> Nekal is a registered trademark of I.G. Farbenindustrie Aktiengesellschaft.

# **Design Guide Material Properties**

PROPERTY	TEST METHOD U		VAI	LUE
FROFERII	IEST METHOD	UNITS	ENGLISH	(METRIC)
Mechanical Property				
Tensile strength at yield	D 638	PSI (Mpa)	26,227	(181)
Tensile elongation at yield	D 638	%	3	(3)
Flexural strength	D 790	PSI (Mpa)	40,600	(280)
Flexural modulus	D 790	PSI (Mpa)	1,204,000	(8,295)
Impact strength, Notched izod	D 256	ft-lb/in (J/m)	3	(160)
Flammability				
UL94 Flame class (0.059" thickness)	UL 94	HB (HB)	94	(94)
Electrical Property				
Surface resistivity	IEC 93	ohm	1.0E +14	(1.0E +14)
Volume resistivity	IEC 93	ohm-cm	3.9E +14	(1.0E +15)
General Physical Properties				
Specific gravity	D 792		1.36	(1.36)
Density	D 792	lb/cu in (kg/cu m)	0.049	1,356
Specific volume	D 792	cu in/lb (cu m/kg)	20.4	(7.4E -4)
Melting point	D 789	Deg F (Deg C)	500	(260)
Equilibrium moisture (73 deg F) @ 50 % RH		%	2.1	(2.1)
Saturation moisture		%	7.0	(7.0)

Standard color: Black

Admissible operating temperatures: -40 deg F to +250 deg F (-40 deg C to +121 deg C)

Short term temperature limit: +392 deg F (+200 deg C)

# **Design Guide Basic Carrier Sizing**

Step 1: List all cables and hoses.

Step 2: Determine B dimension (Inner Height) required by adding a safety factor (10% for cables, 20% for hoses) to the OD of the largest cable or hose.

Step 3: Determine A dimension (Inner Width) required by adding the ODs + appropriate safety factors (see Step 2) of all cables and hoses. If using vertical cavity separators (Page 13), add separator width. If using horizontal cavity dividers (Page 13), please consult with Gortrac at (800) 394-1547.

Step 4: Consult Sizing Index of the Quick Reference Guide (Pages 2-3) for appropriate series.

Step 5: Check C (Outer Width) and D (Outer Height) dimensions against potential space restrictions.

Cable/Hose Safety Factor: Cables: + 10% Hoses: + 20%

B = Cavity Height

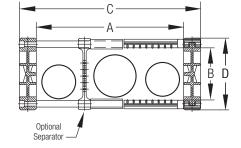
Determined by the OD of the largest cable/hose + safety factor

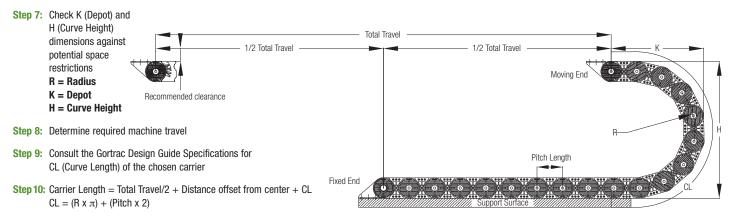
A = Cavity Width

Determined by adding the ODs of all cables/hoses (= safety factor and divider widths)

C = Outer Width D = Outer Height

Step 6: Select R (Minimum Bending Radius) by consulting cable/hose manufacturer's specifications





# **Design Guide Field Applications**



Plastic TL carrier on its side for long travel with rotation on a casino attraction in Las Vegas, Nevada.





Steel SRC carrier with window extenders on underground boring equipment.



Plastic TL carrier in lowered mounting height configuration for increased tow force capability in a long travel application.



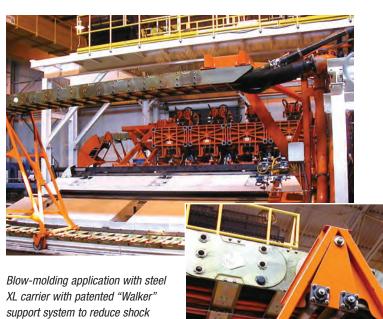
Gortrac designed high velocity Rolling Carriage with plastic TS carrier for long travel in a steel mill.





Nested steel XL systems used on large machining center for the Aerospace industry.





load by preventing link lock-out.



24" Steel XL carrier for paper converting application. XL side links are laser cut and can be provided in virtually any size.

# **Options/Accessories Crossbars**



#### **Aluminum Crossbars**

Available in both flat (pictured) and round construction, these bars offer an excellent, low friction, high strength alternative to standard plastic bars. Their bolt-in design offers maximum torsional stability, as well as quick and easy link access for installation and maintenance.



# **Drop Through**

An option for KS and KL, the drop through access feature allows quick, easy installation and removal of cables and hoses directly through a split, flexible crossbar, eliminating the need for tools or snap-open hinging bars. The Gortrac Drop Through design is unique; only the access bar itself is flexible. The rest of the link is manufactured from our standard 30% glass-filled plastic, resulting in higher strength and longer unsupported spans.



#### E-Z Out Crossbars

Utilizing an innovative, spring loaded pin design, E-Z Out combines the strength of aluminum bars, with a boltless, snap-out removal system for quick interior accessibility. Poly rollers can be incorporated for lower wear requirements.







#### **Plastic Crossbars**

Plastic cross bars are a lightweight, easily-removable, low-cost option. Quick link cavity access is accomplished with the tip of a screw driver. Many models are available in either top and/or bottom link access. Also available as **Snap-In** (pictured above right) on some modular carriers.



# **Poly Rollers**

Poly rollers provide a low friction, mechanical wear surface ideal for hoses and soft-jacketed cables. Easily incorporated into any carrier system utilizing round bars, poly rollers are a simple, cost-effective solution to many demanding applications. They can also be used as vertical separators and horizontal dividers.

Please consult with A&A for specifications.



#### **Machined Bars**

Machined bars are aluminum (pictured) or plastic block-style crossbars, custom-bored to your specific cable and hose diameters. Machined bars offer minimal wear, optimal placement, and ensure that each cable and hose rides the neutral axis of the carrier, prolonging jacket and conductor life.



When additional cavity height is required, window extenders are a quick and easy modification that provide extra interior space in many standard link sizes. Available in both standard and custom configurations, they utilize a variety of crossbar styles, including flat bar, round bar, and poly rollers (pictured).



Armor Plate® style aluminum lids offer maximum protection against hot chips and heavy debris. Available in both easy access snap-in and heavy-duty bolted construction, Armor Plate lids are ideal for severe and challenging applications, such as machine tools, mills, and foundries.



#### **Plastic Lids**

Plastic lids offer a lightweight, easy access, alternative to heavy duty aluminum Armor Plates. Available in a wide range of sizes, their aesthetically pleasing look and ease of access make plastic lids an excellent choice for applications where dust and debris are present.





# **Options/Accessories Separators**

# **Cavity Separation**

In applications with multiple cables and hoses, cavity separation is a simple, cost-effective method for preventing wear and entanglement. To achieve optimal separation, it is important that each individual compartment be less than twice the height of the cables/hoses inside. This will prevent them from crossing over each other and twisting. Proper separation reduces jacket wear and the potential for cables to corkscrew. Cavity separation can be achieved with simple, snap in vertical separators, or through a more sophisticated horizontal divider or shelving system that will optimize cavity space. The Gortrac Engineering Department can design a cavity separation system that is ideal for your specific application.



## **Vertical Separators**

Vertical separators snap into carrier cross bars to provide multiple compartments in a single link. Available in most carriers and in a variety of styles, including stationary and rolling designs, vertical separators can be installed every link, or staggered for economy. When sizing compartments, Gortrac recommends a safety factor of an additional 10% for cables and 20% for hoses.





# **Horizontal Dividers & Shelving Systems**

Horizontal Dividers or Shelving Systems are used to stack layers of cables/hoses in individual vertical compartments. These dividers prevent cross over and the resulting entanglement, decrease cavity width by utilizing allowable vertical space, and provide optimal organization of cables and hoses in a carrier system. Vertical dividers are available as snap-in components or as modular units that are bored to your specifications.





# **Options/Accessories Long Travel**

#### **Marathon**

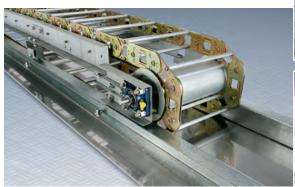
The Marathon Long Travel Support System was designed for applications requiring long travel, higher velocities and accelerations, and reduced tow forces. Unlike traditional systems where the carrier glides on itself, the Marathon utilizes a patented retractable roller system that rides on a simple rail system. Using the carrier's polygonal effect, the rollers are lifted from the guide rail and pulled inward as the links pass through the radius. On the return travel, the roller sets are pushed back out and sit down on the rail providing rolling support through the complete travel.

- Extremely long travels up to 2,000m
- Travel speed up to 5m/sec
- Reduction of Tow Force up to 90%
- No gliding friction on carrier links

# Rolling Carriage

A Rolling Carriage is a support system, originally designed for steel carriers with travels that exceed the limits available with fixed roller supports, or when there are heavy payloads and/or high velocities present. The carriage support system consists of rollers, conveyor supports, and a moving framework that supports the carrier throughout the complete length of travel. The entire system is guided by channels that ensure accuracy and dependability, even at extremely high loads and velocities. Gortrac has also developed carriage systems for plastic carriers that require long travel at high speeds and loads:

- Lightweight: Reduced tow forces vs. conventional carriage systems
- · Modular: Easy to add/remove length
- · Easy assembly: most components are bolted together
- · Quiet: Urethane wheels used for low noise
- Use with plastic or steel track
- Track drives/returns carriage without use of cable
- Self-guiding for travels under 50 feet. Guide channel required for travels over 50 feet











#### **Modular Sliders**

Modular sliders are a removable glide shoe, available on TSC, TS, TL, and NXL series carriers. Sliders are molded from low-friction materials, providing a replaceable, low-wear gliding surface in long travel applications to reduce tow forces and increase travel life. To add to your carrier, contact your Gortrac representative.



#### **Guide Trough**

Gortrac® Guide Troughs are an easy, cost-effective method for supporting plastic carrier systems in long travel applications.

- · Available from stock
- Fast, easy assembly
- Designed for center mount, offset mount, or opposed travel

# **Support Rollers**

Stationary support rollers increase travel capability in applications where a carrier's unsupported span is exceeded. These support rollers are heavy duty, height adjustable, and can increase travel up to 4x unsupported capability. One support roller will provide maximum travel 3x the recommended unsupported span. Two support rollers will provide maximum travel 4x the recommended unsupported span. Consult catalog load charts for unsupported span capabilities. Available for both plastic and metal carrier systems.





# **Options/Accessories**



#### **QT Series Quiet Track**™

A quiet carrier system doesn't have to be a quantum leap. The Gortrac® QT System is a line of standard carriers that have been modified for extremely quiet operation. This is accomplished by inserting molded elastomer torsion bearings at the link pivot points. As a result, the QT system delivers the reliability of proven carrier designs, with added benefits:

- Significant noise reduction over standard carriers
- Smoother operation
- Clean, cost-effective design
- Available in these Gortrac® standard sizes: SP • KS • NP • TS • TL

#### Allround™

#### **Multi Axis Carrier Systems**

The Allround Carrier System was designed for applications requiring multi axis travel. A standard carrier system is modified with molded elastomer links at alternating locations, allowing virtually unlimited ranges of motion. Lateral movement of 90°, plus axial rotary motion of 180,° are easily achieved in a carrier system that is quiet and offers minimal oscillation. Whether the application requires a slight lateral movement due to misalignment, or actual three-dimensional motion, the Allround System was designed to make it easier.



# **Cable/Hose Clamps**

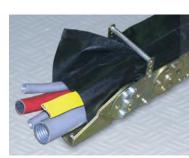
Cable/hose clamps are designed to extend cable and hose life by reducing strain relief in carrier applications. Gortrac standard and custom designs are available for fast and simple installation in virtually any application. Gortrac cable clamps can be integrated with cable carrier or used as stand alone for cable management. Clamps should be installed at both moving and stationary ends of a carrier (For high pressure hoses, please consult factory).



#### Cable/Hose Sleeves

Cable/hose sleeves are a simple, reliable and cost-effective method for protecting dynamic cables and hoses, either in a carrier or by themselves. Sleeves are available with zippers or hook and loop fasteners for accessibility, in a wide variety of materials for diverse application requirements. Gortrac cable/hose sleeves offer:

- Machine Operator Protection
- Hydraulic Hose Containment
- · Highly Sensitive Cable Protection
- Electrical Noise Interference
- Aesthetic Enhancement
- Resistance of Abrasive Elements (Ozone, Heat & Liquids)







# **Nylatrac**® **Open-Style Standard Plastic Carriers**

Clean, lightweight and cost-effective designs, a wide range of sizes, quick cavity access, and easy repair, make Nylatrac® Open-Style Standard Carriers the ideal all-plastic solution for light to medium duty applications. Standard sizes are available from stock. Their simple "snap-together" construction provides painless installation and maintenance.

The standard material of impact modified, glassreinforced plastic offers durability and high speed capability. Most carriers are also available in specialty materials for challenging applications with diverse demands, such as extremely low wear, severe temperatures and environments. unique chemical resistance, specialty flammability ratings and explosion proof requirements.



Bandtrac™ **KO Series KN Series SP Series KS Series P** Series **NP Series KL Series PS/PC Series** 



# Bandtrac<sup>™</sup> Patent Pending

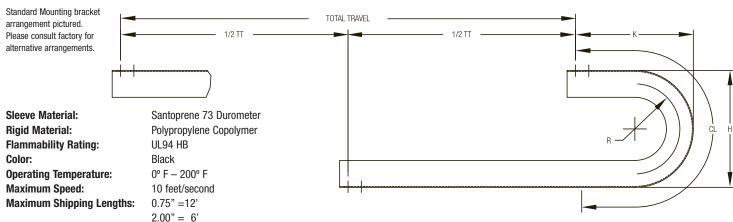
Innovations in co-extrusion technology have led to the development of Bandtrac. This carrier is:

• Quiet • Smooth • Clean • Low Wear • Accessible • Inexpensive

A single piece extrusion eliminates the noise, wear and vibration inherent to link-style systems. With the exception of a simple mounting bracket, Bandtrac requires no additional components, making it a surprisingly affordable solution to many demanding applications.



# **Specifications**

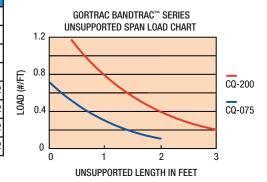


Model No.	A INCHES/mm	B INCHES/mm	C INCHES/mm	D INCHES/mm	Weight #/ft. / kg/m	Area IN2/mm2	Max. Travel
CQ075-6	0.70/17.78	0.60/15.24	0.75/19.05	0.64/16.26		0.20/129.0	
CQ075-3-E	0.70/17.78	0.60/15.24	0.75/19.05	0.64/16.26	0.03/0.01	0.20/129.0	4 ft. (1.2m)
CQ100-6*	0.95/24.13	0.85/21.60	1.00/25.40	0.89/22.61		0.38/246.2	
CQ100-3-E*	0.95/24.13	0.85/21.59	1.00/25.40	0.89/22.61		0.38/246.2	
CQ150-6*	1.45/36.83	1.35/34.29	1.50/38.10	1.39/35.31		1.40/905.8	
CQ150-3-E*	1.45/36.83	1.35/34.29	1.50/38.10	1.39/35.31		1.40/905.8	
CQ200-8	1.95/49.53	1.85/46.99	2.00/50.80	1.89/48.01	0.09/0.04	1.50/970.8	6 ft. (1.8m)
CQ200-6-E*	1.95/49.53	1.85/46.99	2.00/50.80	1.89/48.01		1.50/970.8	

								J J J J J J J J J J J J J J J J J J J
CQ075-3-E	0.70/17.78	0.60/15.24	0.75/19.05	0.64/16.26	0.03/0.01	0.20/129.0	4 ft. (1.2m)	
CQ100-6*	0.95/24.13	0.85/21.60	1.00/25.40	0.89/22.61		0.38/246.2		
CQ100-3-E*	0.95/24.13	0.85/21.59	1.00/25.40	0.89/22.61		0.38/246.2		M—————————————————————————————————————
CQ150-6*	1.45/36.83	1.35/34.29	1.50/38.10	1.39/35.31		1.40/905.8		
CQ150-3-E*	1.45/36.83	1.35/34.29	1.50/38.10	1.39/35.31		1.40/905.8		
CQ200-8	1.95/49.53	1.85/46.99	2.00/50.80	1.89/48.01	0.09/0.04	1.50/970.8	6 ft. (1.8m)	
CQ200-6-E*	1.95/49.53	1.85/46.99	2.00/50.80	1.89/48.01		1.50/970.8		
* Designates futu	re sizes.		-	-		-		A — A
								(OPENAL E TIPE
	R	н	K	CI	0 01	M	S	(OPENABLE TYPE)

Model No.	INCHES/mm	INCHES/mm	INCHES/mm	INCHES/mm	Q INCHES/mm	Q1 INCHES/mm	M INCHES/mm	Screw Size
	INCHES/IIIII	INCHES/IIIII	INCHES/IIIII	INCHES/IIIII	INCHES/IIIII	INCHES/IIIII	INCHES/IIIII	SCIEW SIZE
CQ075-6	3.00/76.20	6.00/152.40	4.00/101.60	11.42/290.19	0.25/6.35	0.50/12.70	0.17/4.37	#8-32 x 1/2
CQ075-3-E	1.50/38.10	3.00/76.20	2.50/63.50	6.71/170.50	0.25/6.35	0.50/12.70	0.17/4.37	#8-32 x 1/2
CQ100-6	3.00/76.20	6.00/152.40	4.00/101.60	11.42/290.19	0.25/6.35	0.50/12.70	0.17/4.37	#8-32 x 1/2
CQ100-3-E	1.50/38.10	3.00/76.20	2.50/63.50	6.71/170.50	0.25/6.35	0.50/12.70	0.17/4.37	#8-32 x 1/2
CQ150-6	3.00/76.20	6.00/152.40	4.00/101.60	11.42/290.19	0.38/9.65	0.75/19.05	0.28/7.11	1/4-20 x 1/2
CQ150-3-E	1.50/38.10	3.00/76.20	2.50/63.50	6.71/170.50	0.38/9.65	0.75/19.05	0.28/7.11	1/4-20 x 1/2
CQ200-8	4.00/101.60	8.00/203.20	5.00/127.00	14.57/370.00	0.38/9.65	0.75/19.05	0.28/7.11	1/4-20 x 1/2
CQ200-6-E	3.00/76.20	6.00/152.40	4.00/101.60	11.42/290.19	0.38/9.65	0.75/19.05	0.28/7.11	1/4-20 x 1/2





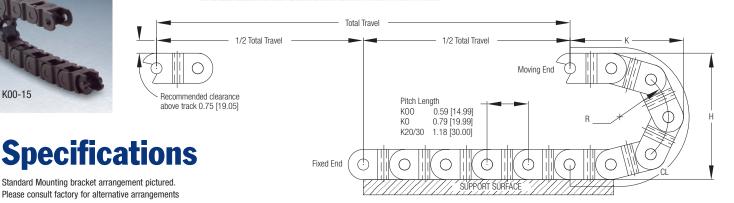




# The KO Series

The KO series is Gortrac's smallest standard link. Because most models feature mounting holes as part of the link, separate brackets may not be necessary. KO series carriers are excellent for robotics, pick-and-place and light industrial applications.





#### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

How To Create A Part Number: Model # - Height - Length"

Sample Part #: K02-2-14"

# KO, K20 and K30 Series Design Guide

	Α	C	Q	Weight	
Model#	INCHES/mm	INCHES/mm	INCHES/mm	#/ft./KG/m	
K00	0.28/7.00	0.47/12.00	0.47/12.00	0.04/0.06	
K0*	0.39/9.91	0.60/15.24	0.59/15.01	0.10/0.15	
K02	0.97/24.64	1.48/37.59	1.18/29.97	0.14/0.21	
K03	1.53/38.86	2.03/51.56	1.73/43.94	0.18/0.27	
K04	1.88/47.75	2.38/60.45	2.08/52.83	0.20/0.30	
K20	0.99/25.15	1.50/38.10	1.22/30.99	0.22/0.33	* Does not hinge open – requires plastic mounting brackets.
K30	1.50/38.10	1.91/48.51	1.61/40.89	0.25/0.37	(All other carriers have brackets built into links.)
Height	R	Н	K	CL	
<b>3</b>	INCHES/mm	INCHES/mm	INCHES/mm	INCHES/mm	
K00					
15	0.59/15.00	1.57/39.88	1.42/36.00	3.04/77.20	
K0*					
3	1.20/30.48	3.00/76.20	2.50/63.50	5.35/135.89	
	1.20/30.40	0.00/10.20	2.30/03.30	3.33/133.03	
K02/K03/K04	0.70/17.70	0.00/50.00	0.00/50.00	0.77/05.70	
2	0.70/17.78	2.00/50.80	2.00/50.80	3.77/95.76	
3	1.20/30.48	3.00/76.20	2.50/63.50	5.35/135.89	
K20/30					
4	1.57/39.88	3.75/95.25	3.25/82.55	7.29/85.17	
6	2.57/65.28	6.00/152.40	4.50/114.30	10.43/264.92	

# **Small, But Tough**

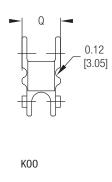
Rugged glass-reinforced plastic construction makes the KO series small, yet versatile carriers that can stand up to most light industrial or commercial environments. Their size and light weight makes them ideal for most small-scale applications. Contact an authorized Gortrac representative to find out which model will suit your needs best.

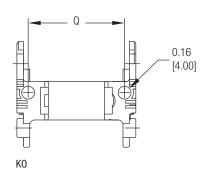


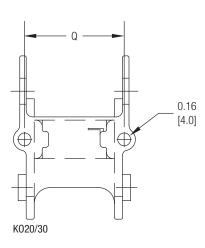




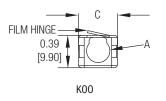
Top View Mounting Hole Dimensions

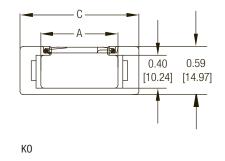


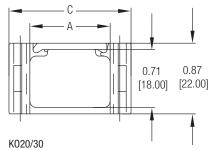


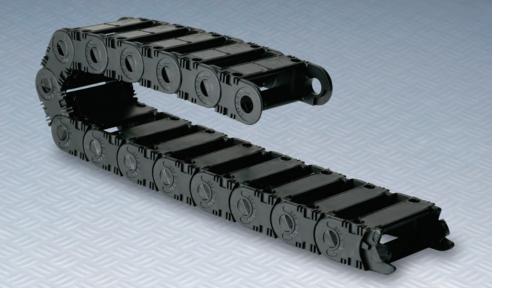


Carrier Cross Sectional View



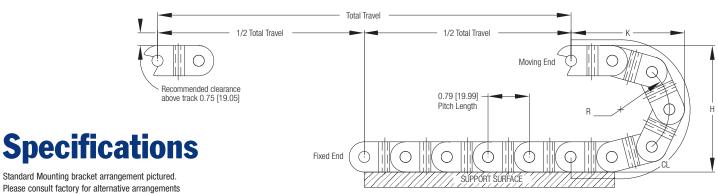






# The KN Series

The KN series is Gortrac's smallest standard link. Because most models feature mounting holes as part of the link, separate brackets may not be necessary. KN series carriers are excellent for robotics, pick-and-place and light industrial applications.



#### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

How To Create A Part Number: Model # - Height - Length"

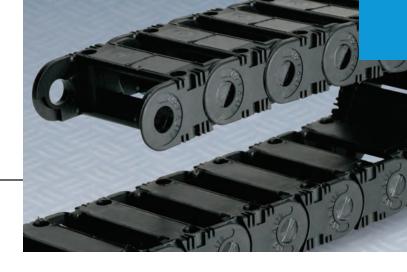
Sample Part #: **KN2-2-14**"

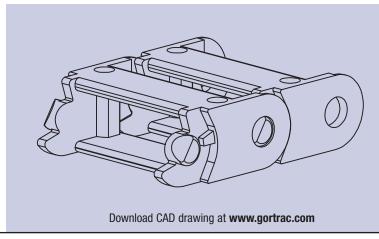
KN Series Des	sign Guide				
Model# KN2 KN3 KN4	A INCHES/mm 0.97/24.64 1.53/38.86 1.88/47.75	C INCHES/mm 1.48/37.59 2.03/51.56 2.38/60.45	Q INCHES/mm 1.18/29.97 1.73/43.94 2.08/52.83	Weight #/ft./KG/m 0.14/0.21 0.18/0.27 0.20/0.30	
Height KN2/KN3/KN4 2 3	R INCHES/mm 0.70/17.78 1.20/30.48	H INCHES/mm 2.00/50.80 3.00/76.20	K INCHES/mm 2.00/50.80 2.50/63.50	CL INCHES/mm 3.77/95.76 5.35/135.89	

# **Small, But Tough**

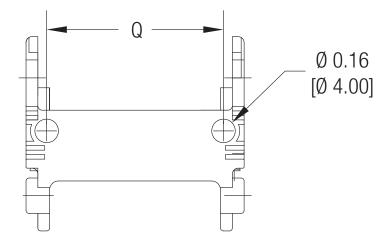
Rugged glass-reinforced plastic construction makes the KO series small, yet versatile carriers that can stand up to most light industrial or commercial environments. Their size and light weight makes them ideal for most small-scale applications. Contact an authorized Gortrac representative to find out which model will suit your needs best.



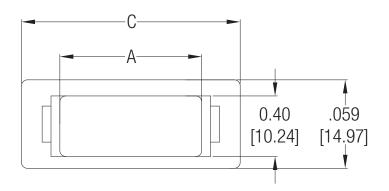


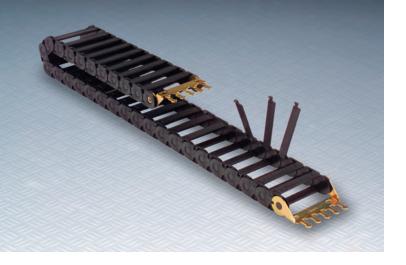


Top View Mounting Hole Dimensions



# Carrier Cross Sectional View

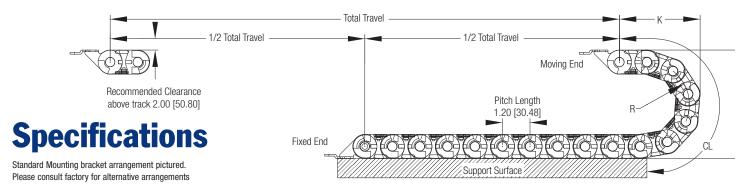




# The SP Series

The SP series is a small standard link cable carrier.

This carrier utilizes hinge bars that can open on the inner radius or the outer radius. The SP series is excellent for automation, robotics and light industrial applications.



#### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

How To Create A Part Number: Model # - Height - Number of Separators - Length"

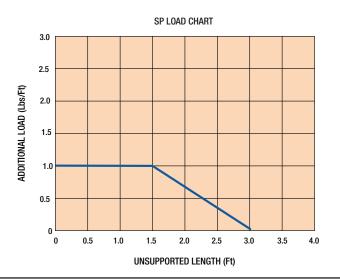
Sample Part #: **SP100-3-1-24**"

## SP Series Design Guide

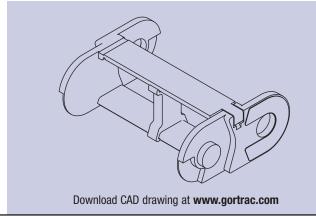
	Α	С	Q	Weight
Model#	INCHES/mm	INCHES/mm	INCHES/mm	#/Ft. KG/m
SP059	0.59/14.99	1.05/26.67	One slot	0.20/0.30
SP100	1.00/25.40	1.46/37.08	0.59/14.99	0.20/0.30
SP150	1.50/38.10	1.96/49.78	0.94/23.88	0.23/0.34
SP200	2.00/50.80	2.46/62.48	1.44/36.58	0.26/0.39
SP250	2.50/63.50	2.96/75.18	1.94/49.28	0.28/0.42
SP300	3.00/76.20	3.46/87.88	2.44/61.98	0.29/0.43
SP400	4.00/101.6	4.46/113.3	3.44/87.38	0.36/0.54
	R	Н	K	CL
Height	INCHES/mm	INCHES/mm	INCHES/mm	INCHES/mm
3	1.05/26.67	3.15/80.01	2.78/70.49	5.70/144.78
4	1.48/37.46	4.00/101.60	3.21/81.41	7.03/178.56
5	1.85/46.99	4.75/120.65	3.58/90.81	8.21/208.53
7	2.85/72.39	6.75/171.45	4.58/116.20	11.35/288.29
8.5	3.73/94.62	8.50/215.90	5.46/138.56	14.10/358.14

# **Vertical Separators**

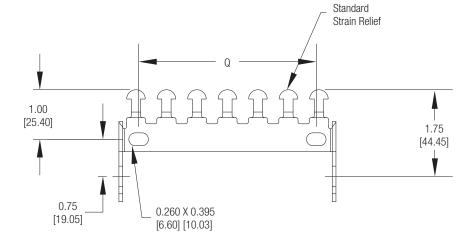
Vertical separators snap into carrier cross bars to provide multiple compartments in a single link. Available in most carriers and in a variety of styles, including stationary and rolling designs, vertical separators can be installed every link, or staggered for economy. When sizing compartments, Gortrac recommends a safety factor of an additional 10% for cables and 20% for hoses.



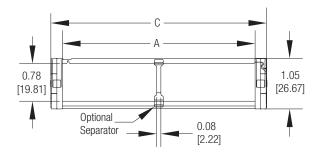




Top View Mounting Hole Dimensions



Carrier Cross Sectional View

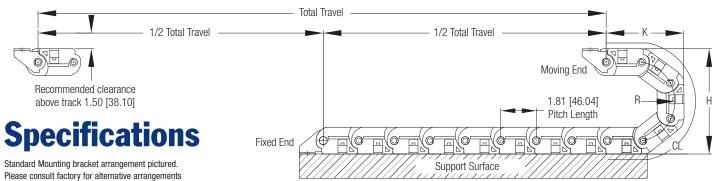




# The KS Series

The KS series is a medium size standard plastic carrier. A rugged design with hinge open bars on the outer radius, KS series carriers are an excellent choice for machine tool, mobile equipment and moderate industrial applications.

\*New sizes currently in development. Request bulletin KS-200 for more information. Please consult factory for availability and pricing.



#### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

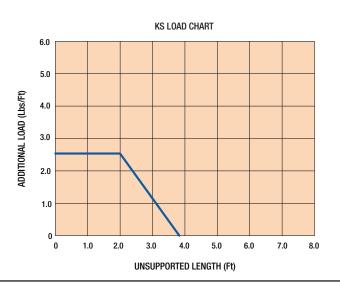
How To Create A Part Number: Model # - Height - Number of Separators - Length"
Sample Part #: KS1-5.4-1-28"

# **KS Series Design Guide**

Model# KS1 KS2 KS3 KS4 KS6	A INCHES/mm 1.00/25.40 1.50/38.10 2.25/57.15 3.00/76.20 4.00/101.60	C INCHES/mm 1.56/39.62 2.06/52.32 2.81/71.37 3.56/90.42 4.56/115.82	Q INCHES/mm 0.60/15.24 0.84/21.34 1.56/39.62 2.41/61.21 3.41/86.16	Weight #/Ft. KG/m 0.41/0.61 0.46/0.68 0.51/0.76 0.56/0.83 0.62/0.92	
Height 5.4 8.5 11	R INCHES/mm 2.02/51.31 3.57/90.68 4.87/123.70 5.87/149.10	H INCHES/mm 5.40/137.16 8.50/215.90 11.00/279.40 13.00/330.20	K INCHES/mm 4.13/104.90 5.67/144.02 7.00/177.80 8.00/203.20	CL INCHES/mm 10.88/276.35 14.50/368.30 19.94/506.48 21.75/552.45	
Model# KS150* KS300* KS400*	A INCHES/mm 1.50/38.10 3.00/76.20 4.00/101.60 * Hinging bars availa	C INCHES/mm 2.02/51.31 3.52/89.41 4.52/114.81 ble at inner or outer radius.	Q INCHES/mm 0.84/21.34 2.41/61.21 3.41/86.16 Please specify when orde	Weight #/Ft. KG/m 0.44/0.65 0.54/0.80 0.60/0.89	
Height 54	<b>R</b> INCHES/mm 2.01/51.12	<b>H</b> INCHES/mm 5.40/137.16	<b>K</b> INCHES/mm 4.13/104.90	<b>CL</b> INCHES/mm 10.88/276.35	

# **Drop Through**

Available as an option in the KS and KL sizes, the drop through access feature allows quick and easy installation and removal of cables and hoses directly through a split, flexible cross bar, eliminating the need for tools or snap-open hinging bars. The Gortrac Drop Through design is unique in that only the access bar itself is flexible. The rest of the link is manufactured from our standard 30% glass-filled plastic, resulting in higher strength and longer unsupported spans.

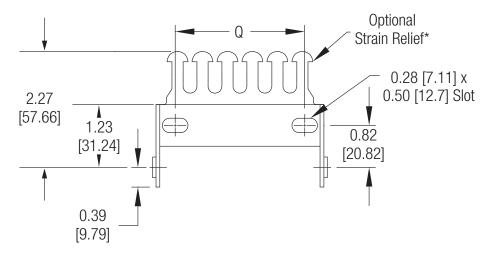




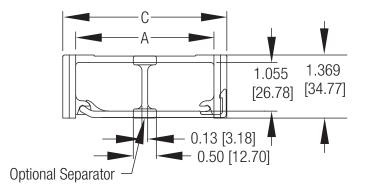


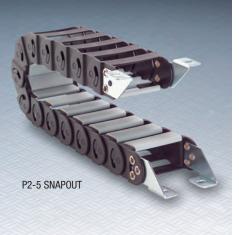
\* Mounting brackets available with or without Strain Relief.





# Carrier Cross Sectional View

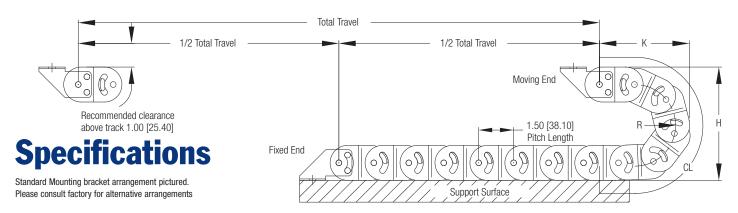






# The P Series

The P series is a medium size, lightweight standard link plastic carrier. Featuring a large window cavity relative to its overall dimensions, the P series is an economical solution to automation and light industrial applications.



#### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

How To Create A Part Number: Model # - Height - Length"

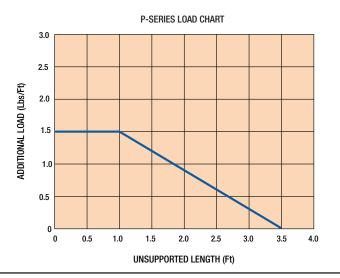
Sample Part #: **P1-5-18**"

# **P Series Design Guide**

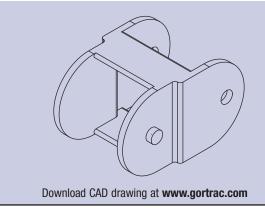
r correct pools, and a						
<b>Model#</b> P1 P2 P3	A INCHES/mm 1.25/31.75 2.50/63.50 4.00/101.60	C INCHES/mm 1.72/43.69 2.97/75.44 4.47/113.51	Weight #/ft./KG/m .35/0.52 .41/0.61 .49/0.73			
Height 5 10	R INCHES/mm 1.75/44.45 4.25/107.95	<b>H</b> INCHES/mm 5.00/127.00 10.00/254.00	K INCHES/mm 4.00/101.60 6.50/165.10	CL INCHES/mm 9.0/228.60 16.5/419.10		

#### **Plastic Crossbars**

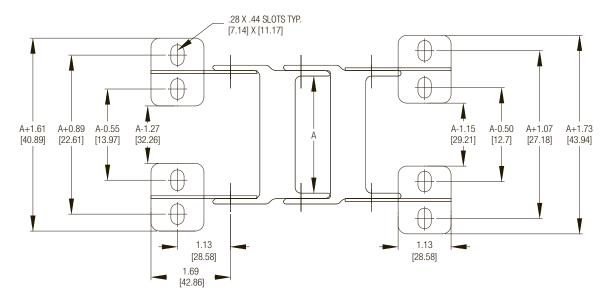
Plastic cross bars are a lightweight, easily-removable, low-cost option. Quick link cavity access is accomplished with the tip of a screw driver. Many models are available in either top and/or bottom link access.



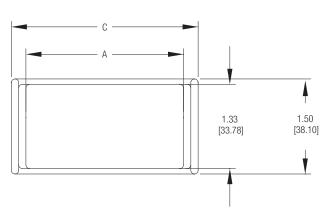




Top View Mounting Hole Dimensions



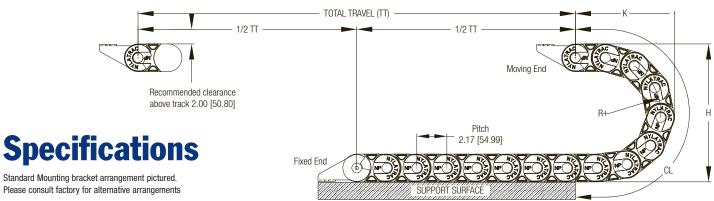
Carrier Cross Sectional View





# The NP Series

The NP series is a medium size standard link plastic carrier. NP features hinge-open crossbars that can open on either the inner or outer radius. The user friendly design is excellent for machine tool, industrial and long travel applications.



#### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

How To Create A Part Number: Model # - Height - Number of Separators - Length"

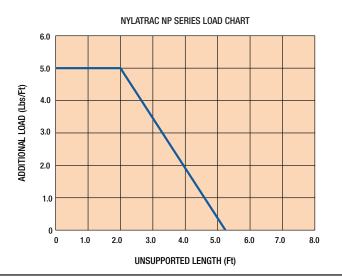
Sample Part #: NP200-7-1-36"

NP Series Design Guide					
	Α	С	Q	Weight	
Model#	INCHES/mm	INCHES/mm	INCHES/mm	#/Ft. KG/m	
NP200	2.00/50.80	2.63/66.80	1.19/30.18	0.72/1.07	
NP250	2.50/63.50	3.13/79.50	1.69/42.93	0.74/1.10	
NP300	3.00/76.20	3.63/92.20	2.19/55.58	0.78/1.15	
NP400	4.00/101.60	4.63/117.60	3.19/80.98	0.85/1.26	
NP500	5.00/127.00	5.63/143.00	4.19/106.38	0.95/1.41	
NP600	6.00/152.40	6.63/168.40	5.19/131.83	1.03/1.54	
	R	Н	K	CL	
Height	INCHES/mm	INCHES/mm	INCHES/mm	INCHES/mm	
7	2.50/63.50	7.00/177.80	5.67/143.89	12.18/309.37	
8	2.95/74.93	7.90/200.66	6.12/155.32	13.59/345.26	
10	3.94/100.08	9.88/250.95	7.11/180.47	16.70/424.22	
12	4.92/124.97	11.84/300.74	8.09/205.36	19.78/502.38	
14	5.91/149.99	13.82/350.77	9.07/230.38	22.87/580.94	
18	7.87/199.90	18.00/457.20	11.04/280.29	29.04/737.66	

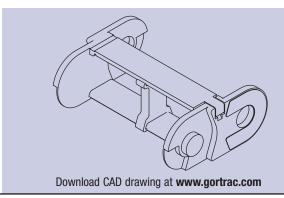
# **Hinged Crossbars, Vertical Separators**

Standard on the NP series, hinged crossbars provide optimum access to cables and hoses with the tip of a screwdriver. Crossbar openings are available on either the inner or outer radius.

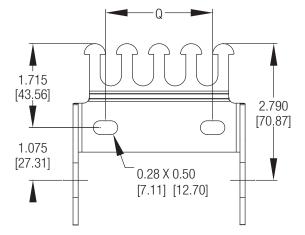
Vertical separators (also pictured) may also be added to better organize the carrier cavity space, thus avoiding cable or hose entanglement.



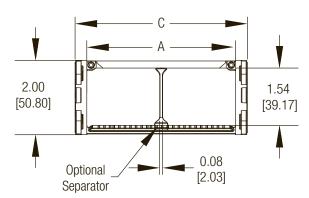


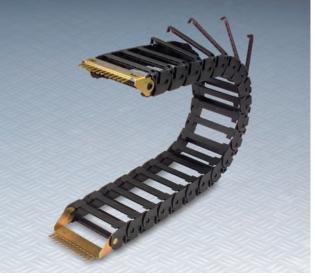


**Top View** Mounting Hole **Dimensions** 



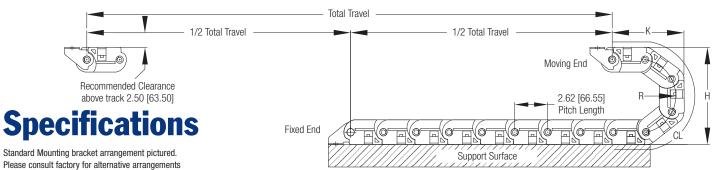
**Carrier Cross** Sectional View





# The KL Series

The KL series is a medium size standard plastic carrier. It has a rugged design with hinge open bars on the outer radius. The KL series is excellent for machine tool, mobile equipment and moderate industrial applications.



#### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

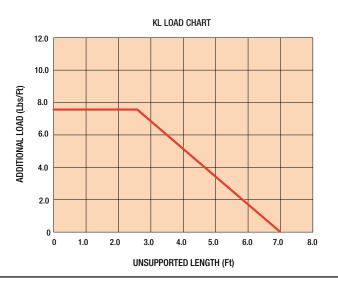
How To Create A Part Number: Model # - Height - Number of Separators - Length"

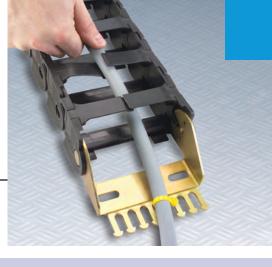
Sample Part #: KL1-8.5-1-60"

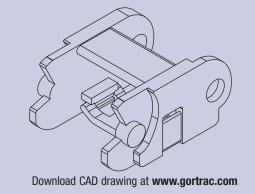
Model# KL1 KL2 KL3	A INCHES/mm 3.00/76.20 4.50/114.30 7.00/177.80	C INCHES/mm 3.75/95.25 5.25/133.35 7.75/196.85	Q INCHES/mm 1.88/47.75 3.38/85.85 5.88/149.35	<b>Weight</b> #/Ft. KG/m 0.98/1.46 1.11/1.65 1.48/2.20
Height 8.5 12 14 18 26	R	H	K	CL
	INCHES/mm	INCHES/mm	INCHES/mm	INCHES/mm
	3.00/76.20	8.50/215.90	6.88/174.75	14.68/372.87
	4.75/120.65	12.00/304.80	8.63/219.20	20.18/512.57
	5.75/146.05	14.00/355.60	9.63/244.40	23.31/592.07
	7.75/196.85	18.00/457.20	11.60/294.64	29.50/749.30
	11.75/298.45	26.00/660.40	15.60/396.24	42.18/1071.37

# **Drop Through**

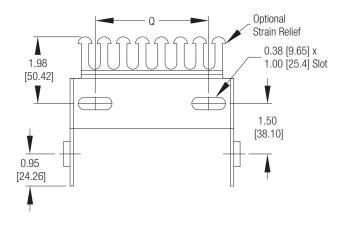
Available as an option in the KL and KS sizes, the drop through access feature allows quick and easy installation and removal of cables and hoses directly through a split, flexible cross bar, eliminating the need for tools or snap-open hinging bars. The Gortrac Drop Through design is unique in that only the access bar itself is flexible. The rest of the link is manufactured from our standard 30% glass-filled plastic, resulting in higher strength and longer unsupported spans.



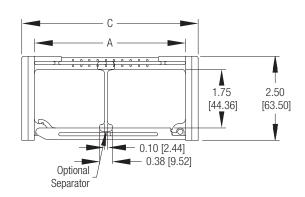




Top View Mounting Hole Dimensions



Carrier Cross Sectional View

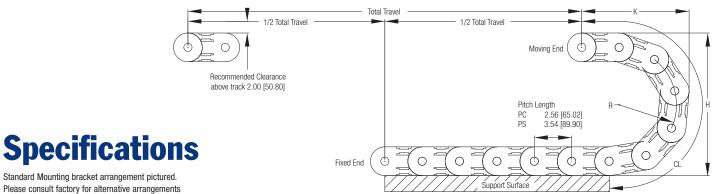




# The PC, PS Series

The PC and PS series are medium-size standard plastic link carriers. The extremely rugged design and many available options make this an excellent cable carrier for heavy duty and for long travel applications.

\*Also available as totally enclosed carriers with snap-open lids. Please consult factory for more information.



#### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

How To Create A Part Number: Model # - Height - Number of Separators - Length"

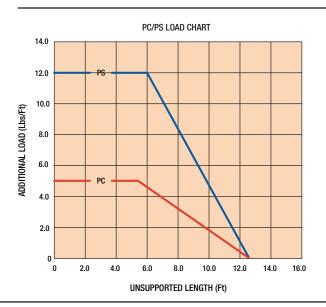
Sample Part #: PC150-8-1-72"

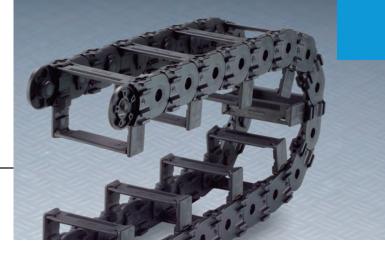
## PC, PS Series Design Guide

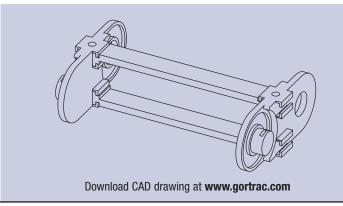
PC
PC150       1.50/38.10       3.13/79.50       2.36/59.94       0.86/1.28         PC350       3.50/88.90       5.13/130.30       4.33/109.98       0.95/1.41         PC750       7.50/190.50       9.06/230.12       8.26/209.80       1.14/1.70
PS         PS350       3.50/88.90       5.38/136.65       4.41/112.01       1.57/2.34         PS550       5.50/139.70       7.32/185.93       6.38/162.05       1.71/2.54         PS737       7.38/187.45       9.29/235.97       8.35/212.09       1.81/2.69         PS1137       11.38/289.05       13.23/336.04       12.31/312.67       2.12/3.15
R H K CL INCHES/mm INCHES/mm INCHES/mm
PC Height         8       2.95/74.93       8.00/203.20       6.50/165.10       14.30/363.22         10       3.93/99.82       10.00/254.00       7.50/190.50       17.50/444.50         18       7.87/199.90       18.00/457.20       11.40/289.56       29.80/756.92
PS Height         11       3.94/100.08       11.00/279.40       8.90/226.06       19.60/497.84         15       5.91/150.11       15.00/381.00       10.90/276.86       25.70/652.78

#### **Window Extenders**

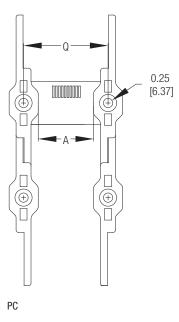
When additional cavity height is required, window extenders are a quick and easy modification that provide extra interior space in many standard link sizes. Available in both standard and custom configurations, they utilize a variety of crossbar styles, including flat bar (pictured), round bar, and poly rollers.



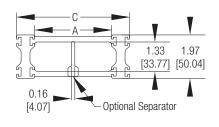




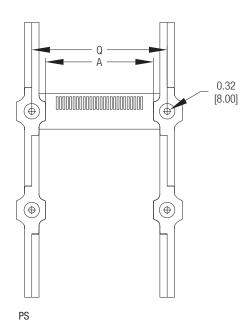
**Top View** Mounting Hole **Dimensions** 

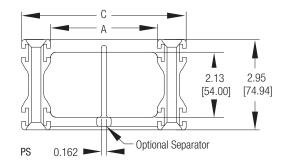






PC





### **Long Travel Considerations**

An important consideration for applications requiring plastic carriers in a guide trough is the bending moment that occurs at the moving end as the carrier is pushing, particularly when high velocities/accelerations and heavy fill weights are introduced.



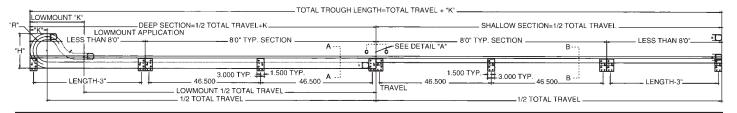
When the carrier performs under normal operation without sag, force is applied in a straight trajectory along the moving section.

As sag is introduced, the mass of the carrier falls below the force plane, creating a bending moment on the links at the moving end.

A potential solution for this problem is lowering the mounting height of the carrier, thereby reducing the bending moment. The mounting height is lowered so that the moving end begins gliding immediately as it by adding reverse

bending links, extending the "K" dimension of the carrier.

Gortrac® Engineering can run tow force calculations on an application to determine whether a lowered mounting height is advisable.



# **How to Order**

#### Travel/2 + Curve Length (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance

60% Maximum Fill

How To Create A Part Number: Model # - Height - Number of Separators - Length"
Sample Part #: KS1-5.4-1-40"

1. Determine Gortrac cross section desired. Allow	10% clearance over OD's of enclosed cable
and 20% over OD's of bases to prevent hinding	

- 2. Choose radius (Use manufacturer's suggested cable/hose radius).
- Determine total track length. See the formula above. If fixed flange is not mounted in center of travel, please send a sketch or drawing.

#### If Gortrac Part Number is known:

#### If carrier parameters are known:\*

If you are currently using another cable carrier, please specify:\*

Model #: \_\_\_\_\_ Length/# of Links: \_\_\_\_\_

#### Contact information:

Date: \_

Date Required: \_\_\_\_\_\_ Quantity: \_\_\_\_\_\_

Order Number: \_\_\_\_\_

Company Name: \_\_\_\_\_

Attention: \_\_\_\_\_

For Quotation Only:

City: \_\_\_\_\_ State/Prov: \_\_\_\_\_

Zip/Postal Code: \_\_\_\_\_

Telephone: \_\_\_\_\_\_

E-Mail:

Please fax this completed form to the number listed below.

 ${}^{\star}$ More information may be required. A Gortrac representative may contact you.

Environment:

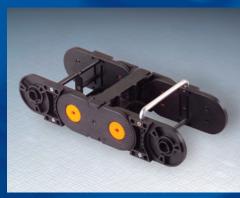
Nylatrac® Open-Style Modular Carriers are constructed from standard components that are easily modified to achieve high strength, customized, engineered carrier systems. Utilizing multiple lockout points, locking hubs, modular sliders, the widest range of cross-bar options, most available in custom widths, and many other innovative components, Nylatrac Modular carriers have performed successfully in the most demanding applications and industries. They are the ultimate solution for medium to heavy duty or unique projects that require a plastic carrier solution.





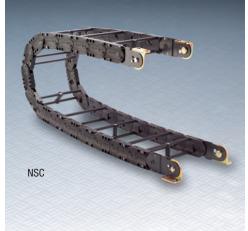






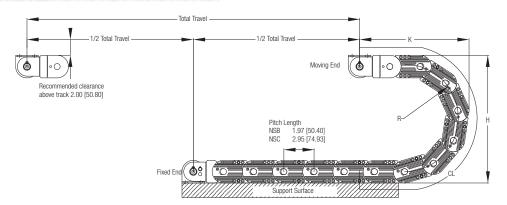






# The NSB/NSC **Series**

The NSB and NSC series carriers are small to medium size modular link plastic carriers. The tongue-and-groove design and the aluminum cross bars result in a nearly indestructible cable carrier. The NSB and NSC are excellent for heavyduty and long travel applications.



# **Specifications**

Standard Mounting bracket arrangement pictured. Please consult factory for alternative arrangements

### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

How To Create A Part Number: Model # - Bar Type - Bar Width - Height - Number of Separators - Length"

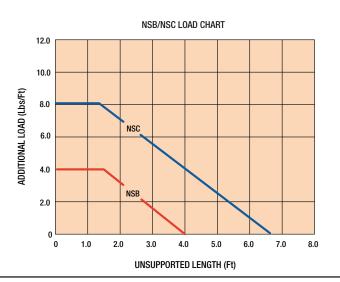
Sample Part #: NSB, NSC-RB-4"-55-1-42"

### **NSB/NSC Series Design Guide**

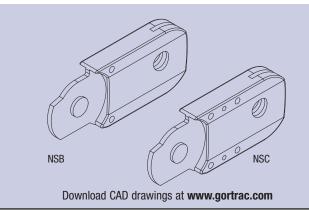
Model# NSB NSC	A INCHES/mm CUSTOMER SPECIFIED CUSTOMER SPECIFIED	C INCHES/mm A+0.94/23.88 A+1.25/31.75	<b>Weight</b> #/ft. KG/m 0.70/1.04 1.15/1.71	
Cross Bar Styles	PR = Poly Roller	Round Bar (Standa Flat Bar (NSC Only)	•	
Height NSB	R INCHES/mm	<b>H</b> INCHES/mm	<b>K</b> INCHES/mm	<b>CL</b> INCHES/mm
55 75	2.06/52.32 3.06/77.72	5.50/139.70 7.50/190.50	4.70/119.38 5.70/144.78	10.40/264.16 13.50/342.90
NSC				

### **Vertical Separators**

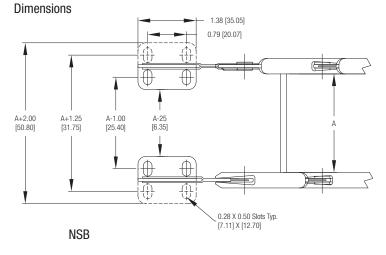
Vertical separators snap into carrier cross bars to provide multiple compartments in a single link. Available in most carriers and in a variety of styles, including stationary and rolling designs, vertical separators can be installed every link, or staggered for economy. When sizing compartments, Gortrac recommends a safety factor of an additional 10% for cables and 20% for hoses.

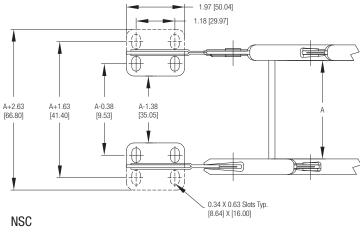




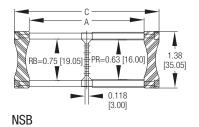


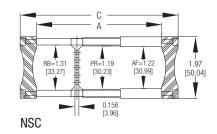
### **Top View** Mounting Hole

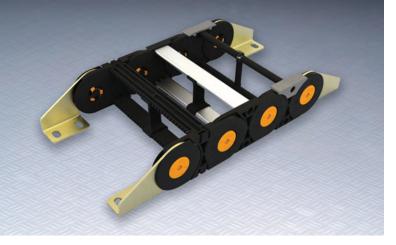




### **Carrier Cross** Sectional View

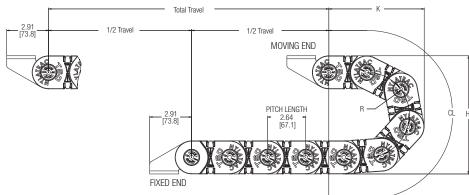






### The TSC Series

The TSC series is a medium size modular link plastic carrier. These user-friendly cable carriers may be ordered with a number of options, including snap-open or bolt-in bars and replaceable wear surfaces. The TSC series is excellent for robotics, long travel and heavy-duty industrial applications.



# **Specifications**

Standard Mounting bracket arrangement pictured. Please consult factory for alternative arrangements

### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

How To Create A Part Number: Model # - Height - Number of Separators - Length"

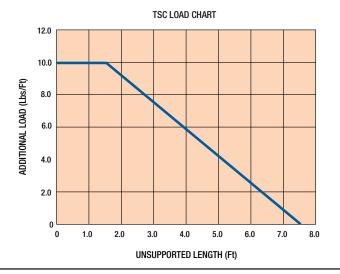
Sample Part #: TSC218F - 80-1-72"

### **TSC Series Design Guide**

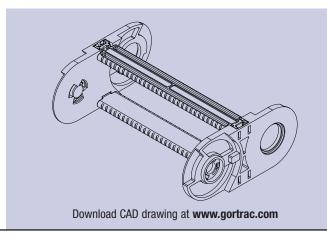
Model# TSC218F TSC317F TSC368F TSC513F TSC597F TSCPR TSCRB TSCAF	A INCHES/mm 2.18/55.40 3.17/80.50 3.68/93.50 5.13/130.30 5.97/151.60 CUSTOMER SPECIFIED CUSTOMER SPECIFIED CUSTOMER SPECIFIED	C INCHES/mm 3.03/77.00 4.02/102.10 4.53/115.10 5.98/151.90 6.82/173.20 A+0.85/21.59 A+0.85/21.59 A+0.85/21.59	CS INCHES/mm A+1.00/25.40 for Assemblies Equipped With Optional Sliders	Weight #/Ft. KG/m 1.09/1.62 1.12/1.67 1.14/1.70 1.19/1.77 1.20/1.79 0.88/1.31 0.82/1.22 1.15/1.71	
Cross Bar Styles (Top and Bottom)	F = Snap Out RB = Aluminum	Plastic Flat Bar Round Bar	PR = Poly Rol AF = Aluminu	ller over Bolted Aluminum Round Bar ım Flat Bar	
Height 80 100 115 120 140 160 180 200 220 260 300	R INCHES/mm 2.95/75.00 3.94/100.00 4.52/115.00 4.92/125.00 5.91/150.00 6.69/170.00 7.87/200.00 8.46/215.00 9.84/250.00 11.81/300.00 13.78/350.00	H INCHES/mm 8.20/208.30 10.18/258.60 11.34/288.00 12.14/308.40 14.12/358.60 15.68/398.30 18.04/458.20 19.22/488.20 21.98/558.30 25.92/658.40 29.86/758.40	K INCHES/mm 6.74/171.20 7.73/196.30 8.31/211.10 8.71/221.20 9.70/246.40 10.48/266.20 11.66/296.20 12.25/311.20 13.63/346.20 15.60/396.30 17.57/446.30	CL INCHES/mm 14.24/361.70 17.43/442.70 19.28/489.70 20.58/522.70 23.69/601.70 26.16/664.50 29.89/759.20 31.72/805.70 38.74/984.00 42.31/1074.70 48.51/1232.20	

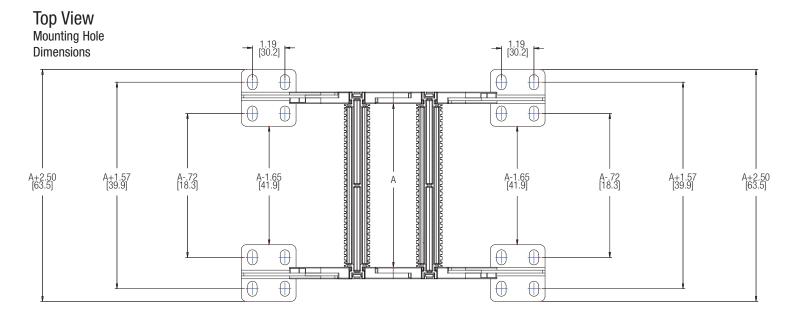
### **Modular Sliders**

Modular sliders are a removable glide shoe, available on TSC, TS, TL, and NXL series carriers. Sliders are molded from low-friction materials, providing an easily replaceable, low-wear gliding surface in long travel applications to reduce tow forces and increase travel life.

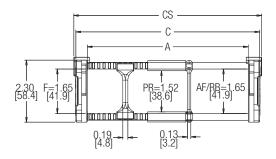


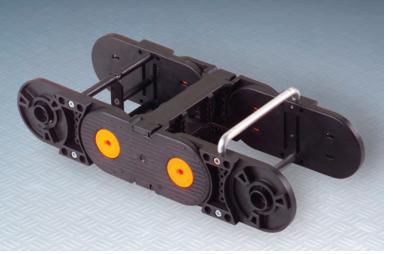






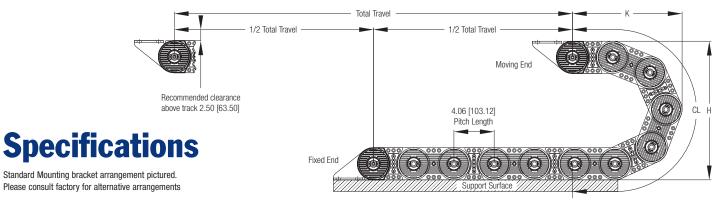
**Carrier Cross** Sectional View





### The TS Series

The TS series is a medium size modular link plastic carrier. A user-friendly cable carrier with many options including snap-open or bolt-in bars and replaceable wear surfaces, the TS series is excellent for robotics, long travel and heavy-duty industrial applications.



### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

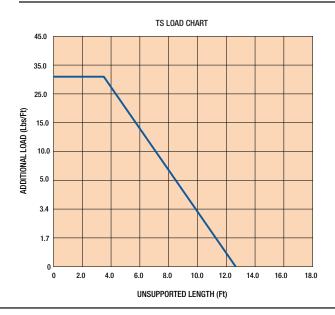
How To Create A Part Number: Model - Bar Width (PR, AF & RB Style Bars only) - Height - # of Separators - Length" Sample Part #s: TS480F-110-1-72" TSPR-8"-170-1-72"

### **TS Series Design Guide**

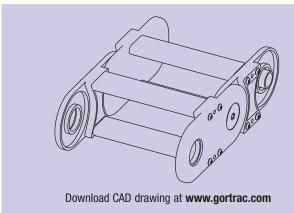
Model# TS293F TS387F TS480F TS638F TS762F TS980F TS1169F TS1357F TSPR	A INCHES/mm 2.93/74.42 3.87/98.30 4.80/121.92 6.36/161.54 7.62/193.55 9.79/248.67 11.68/296.67 13.57/344.68 CUSTOMER SPECIFIED	C INCHES/mm 4.45/113.03 5.35/135.89 6.33/160.78 7.89/200.41 9.14/232.16 11.32/287.53 13.21/335.53 15.09/383.29 A+1.52/38.61	Weight #/Ft. KG/m 2.40/3.57 2.50/3.72 2.60/3.87 2.70/4.02 2.80/4.17 2.90/4.32 3.00/4.46 3.10/4.61 2.80/4.17	
TSAF TSRB  Cross Bar Styles (Top and Bottom)	PR = Poly Roller	Flat Bar (Customer S	m Round Bar (Custor	mer Specified Width)
Height 110 140 170 200 245 275 360	R INCHES/mm 3.88/98.55 5.38/136.65 6.81/172.97 8.31/211.07 10.56/268.22 12.13/308.10 16.13/409.70	H INCHES/mm 11.00/279.40 14.00/355.60 16.88/428.75 19.88/504.95 24.38/619.25 27.50/698.50 35.50/901.70	K INCHES/mm 9.56/242.82 11.06/280.92 12.50/317.50 14.00/355.60 16.25/412.75 17.81/452.37 21.81/553.97	CL INCHES/mm 20.30/515.62 25.01/635.25 29.53/750.06 34.24/869.70 41.31/1049.27 46.22/1173.99 58.78/1493.01

### **Window Extenders**

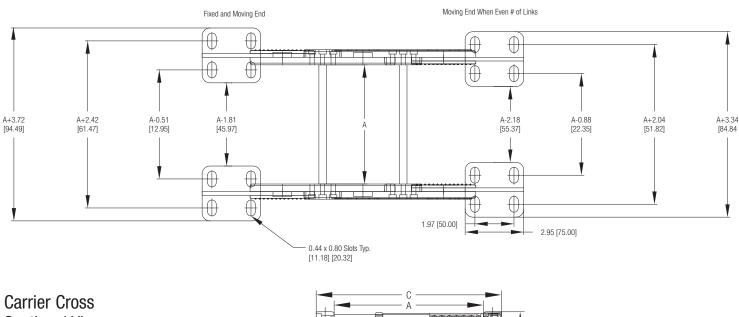
When additional cavity height is required, window extenders are a quick and easy modification that provide extra interior space in many standard link sizes. Available in both standard and custom configurations, they utilize a variety of crossbar styles, including flat bar, round bar, and poly rollers (pictured). To add to your carrier, contact your Gortrac representative.



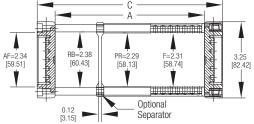




**Top View** . Mounting Hole **Dimensions** 



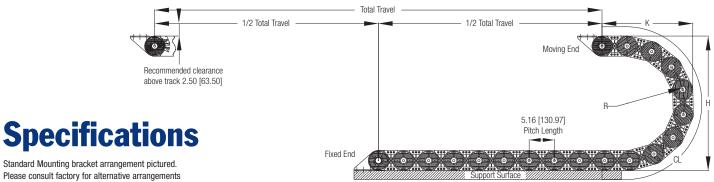
Sectional View





### The TL Series

The TL series is a large size modular link plastic carrier. These user-friendly cable carriers may be ordered with a number of options, including snap-open or bolt-in bars and replaceable wear surfaces. The TL series is excellent for robotics, long travel and heavy-duty industrial applications.



### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

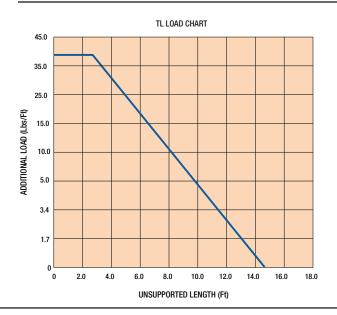
How To Create A Part Number: Model - Bar Width (PR, AF & RB Style Bars only) - Height - # of Separators - Length" Sample Part #s: TL466F-160-1-100" TLPR-8"-200-1-100"

### **TL Series Design Guide**

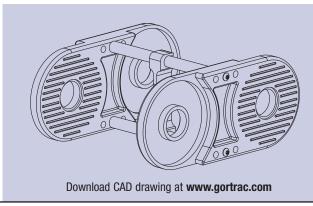
Model# TL394F TL466F TL573F TL789F TL968F TL1184F TL1363F TLPR TLAF TLAF	A INCHES/mm 3.93/99.82 4.65/118.11 5.73/145.54 7.88/200.15 9.68/245.87 11.84/300.48 13.63/346.20 CUSTOMER SPECIFIED CUSTOMER SPECIFIED	C INCHES/mm 5.87/149.10 6.59/167.39 7.67/194.82 9.82/249.43 11.62/295.15 13.77/349.76 15.57/395.48 A+1.94/49.28 A+1.94/49.28 A+1.94/49.28	Weight #/Ft. KG/m 2.80/4.17 2.85/4.24 2.90/4.32 2.95/4.39 3.00/4.46 3.05/4.54 3.10/4.61 2.90/4.32 2.90/4.32		
Cross Bar Styles (Top and Bottom)			um Round Bar		
Height 160 200 237 275 350 415 525	R INCHES/mm 5.81/147.57 7.94/201.68 9.81/249.17 11.75/298.45 15.63/397.00 18.94/481.08 24.69/627.13	H INCHES/mm 15.75/400.05 20.00/508.00 23.75/603.25 27.63/701.80 35.38/898.65 42.00/1066.80 53.50/1358.90	K INCHES/mm 14.50/368.30 16.70/424.18 18.50/469.90 20.50/520.70 24.40/619.76 27.70/703.58 33.40/848.36	CL INCHES/mm 28.25/717.55 35.25/895.35 41.00/1041.40 47.00/1193.80 59.00/1498.60 69.50/1765.30 87.50/2222.50	

### **Rollers**

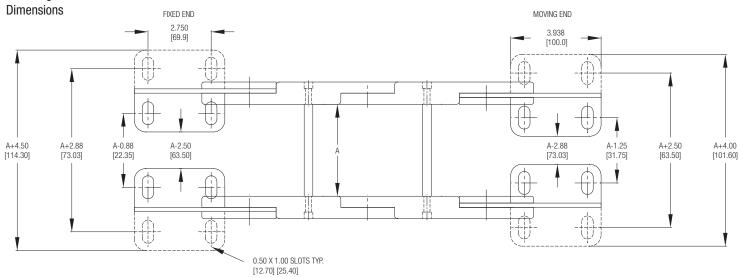
Poly rollers provide a low friction, mechanical wear surface ideal for hoses and soft-jacketed cables. Easily incorporated into any carrier system utilizing round bars, poly rollers are a simple, cost-effective solution to many demanding applications. They can also be used as vertical separators and horizontal dividers.



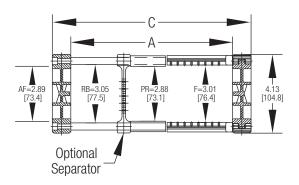








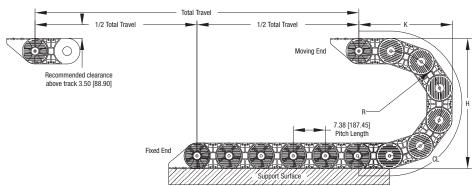
### **Carrier Cross** Sectional View





### The NXL Series

The NXL series is a large size modular link plastic carrier. This is a strong carrier with aluminum round bar or C-channel cross bars. The NXL series is excellent for large machine tools, long travel and many heavy-duty industrial applications.



# **Specifications**

Standard Mounting bracket arrangement pictured. Please consult factory for alternative arrangements

#### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

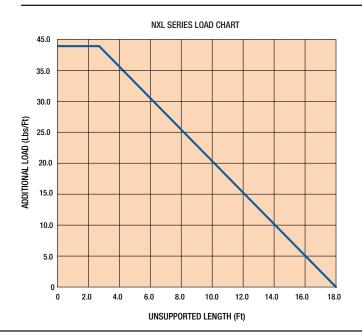
How To Create A Part Number: Model # - Bar Type - Bar Width - Height - Number of Separators - Length" Sample Part #: NXL-PR-10.00-375-6-140"

### **NXL Series Design Guide**

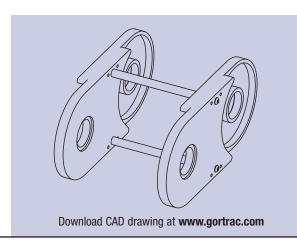
<b>Model#</b> NXL	A INCHES/mm CUSTOMER SPECIFIED		<b>C</b> HES/mm FIED + 2.50/63.50 MM	<b>Weight</b> #/Ft. KG/m 6.34/9.43	
Cross Bar Styles	AF = Aluminum RB = Aluminum PR = Poly Rolle CC = C-Channe	Round Bar			
Height 240 300 375 450	R INCHES/mm 9.05/609.60 12.05/306.07 15.80/401.32 19.55/496.57 27.05/687.07	H INCHES/mm 24.00/609.60 30.00/762.00 37.50/952.50 45.00/1143.00 60.00/1524.00	K INCHES/mm 19.50/495.30 22.50/571.50 26.50/673.10 30.00/762.00 37.50/952.50	CL INCHES/mm 43.00/1092.20 52.50/1333.50 64.50/1638.30 76.00/1930.40 100.00/2540.00	

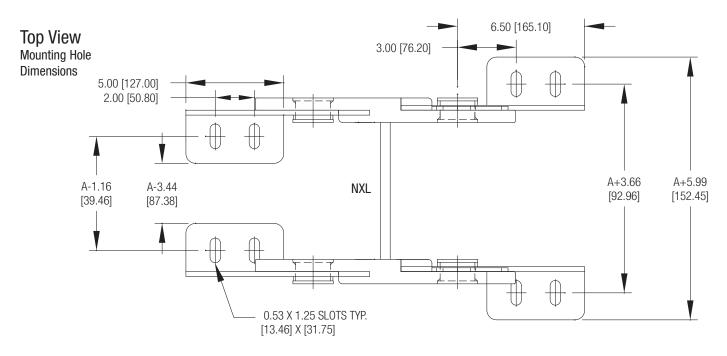
### **Aluminum Crossbars**

Available in both flat (pictured) and round construction, these bars offer an excellent, low-friction, high-strength alternative to standard plastic bars. Their bolt-in design offers maximum torsional stability, as well as quick and easy link access for installation and maintenance.

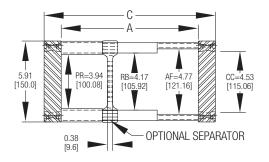


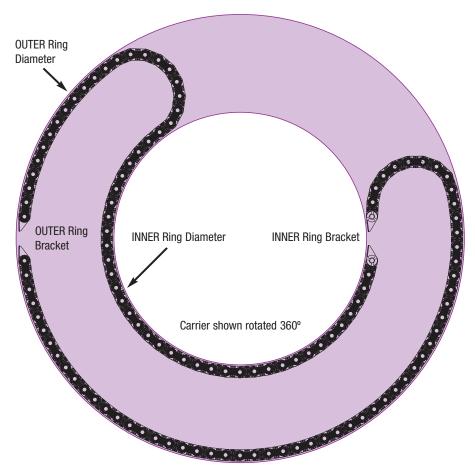












### **Rotational Application**

Rotary applications are achieved by running a carrier that has been modified for reverse bending movement on its side. The carrier is equipped with polymer slide blocks or casters for low-friction gliding. The reverse bend is achieved by insert molding or through machining at specific points along the travel to maintain maximum control of the carrier's travel path.

Please complete the information required below to design a rotary application.

Degree of Rotation:
Inner Ring Daimeter:
Outer Ring Diameter:
Velocity:
Duty Cycle:
Fill Package:
Please specify which bracket is rotating:
☐ INNER ☐ OUTER

## **How to Order**

Travel/2 + Curve Length (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

How To Create A Part Number: Model - Bar Width (PR, AF & RB Style Bars only) - Height - # of Separators - Length" Sample Part #s: Sample Part #s: TL466F-160-1-100" TLPR-8"-200-1-100"

<ol> <li>Determine Gortrac cross section desired. Allow 10% clearance over OD's of enclosed cable and 20% over OD's of hoses to prevent binding.</li> </ol>	Model #: Length/# of		
2. Choose radius (Use manufacturer's suggested cable/hose radius).	Contact information:	Longavii oi Eliiko	
<ol><li>Determine total track length. See the formula above. If fixed flange is not mounted in center of travel, please send a sketch or drawing.</li></ol>	Date:	For Quotation Only:	
If Gortrac Part Number is known:	Date Required:	Quantity:	
Gortrac Part #:	Order Number:		
Bracket Information (See Page 7 — Standard arrangement and orientation is 1 + IN)  Please check your arrangement andorientation selection below:	Company Name:		
□1 □ 2 □3 □4 □ IN □ OUT	Attention:		
If carrier parameters are known:*	Address:		
Carrier Radius Preferred:	City:	State/Pro	
Gortrac Model #:	Country:		
Acceleration: Feet/Sec. Maximum Machine Travel Speed: Feet/Sec.	Zip/Postal Code:		
Frequency of Travel: Cycles/Hour Total Machine Travel: Inches	Telephone:		
Gortrac Length (see the formula above):	Fax:		
Cable/Hose Load: Operating Temperature: ° F	E-Mail:		

Environment:

Please fax this completed form to the number listed below.

\*More information may be required. A Gortrac representative may contact you.

# Nylatube® Enclosed **Standard Plastic Carriers**

Nylatube Enclosed Style Standard Carriers are the ideal all-plastic solution for light to medium duty applications with environments that require an enclosed carrier system. Their aesthetically pleasing, fully enclosed designs offer protection from dirt, dust and debris. They are clean, lightweight and costeffective carriers that are easily repairable and available in a wide range of sizes, many with quick cavity access. Standard sizes are available from stock. Their simple "snaptogether" construction provides painless installation and maintenance.







The standard material of impact modified, glass-reinforced plastic offers durability and high speed capability. Most carriers are also available in specialty materials for challenging applications with diverse demands, such as extremely low wear, severe temperatures and environments, unique chemical resistance, special flammability ratings and explosion proof requirements.





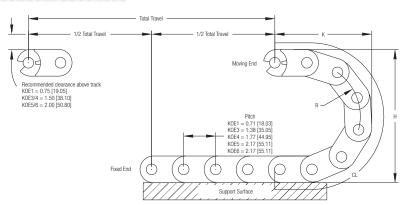
**KOE Series N Series KLE Series** 





## The KOE Series

The KOE series is a small to medium size range of standard enclosed plastic carrier. Mounting holes are part of each link and the lids on the outer radius of the carrier can hinge open. The KOE series is excellent for robotics, light industrial and heavy chip load applications.



# **Specifications**

Standard Mounting bracket arrangement pictured. Please consult factory for alternative arrangements

Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

Gortrac® Recommends:

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

How To Create A Part Number: Model # - Height - Length"

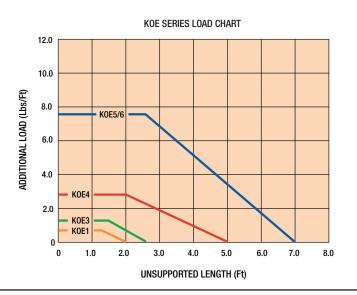
Sample Part #: **K0E1-30 -12"** 

### **TSC Series Design Guide**

Model# K0E1 K0E3 K0E4 K0E5 K0E6	A INCHES/mm 0.95/24.13 1.34/34.04 1.89/48.01 1.89/48.01 5.28/134.11	B INCHES/mm 0.39/9.91 0.83/21.08 1.18/29.97 1.50/38.10 1.50/38.10	C INCHES/mm 1.42/36.07 1.97/50.04 2.44/61.98 2.56/65.02 5.91/150.11	D INCHES/mm 0.59/14.99 1.18/29.97 1.58/40.13 1.97/50.04 1.97/50.04	Q INCHES/mm 1.18/29.97 1.60/40.64 2.13/54.10 2.17/55.12 5.51/139.95	M INCHES/mm 0.16/4.06 0.19/4.83 0.19/4.83 0.23/5.84 0.23/5.84	Weight #/ft./KG/m 0.19/0.28 0.44/0.65 0.61/0.91 0.87/1.29 1.28/1.90
Height KOE1 30 45	R INCHES/mm 1.18/29.97 1.97/50.04	<b>H</b> INCHES/mn 3.00/76.20 4.50/114.30	n INCHE 2.20/	55.88	<b>CL</b> INCHES/mm 5.10/129.54 7.60/193.04		
<b>K0E3</b> 60 90 130	2.36/59.94 2.95/74.93 3.94/100.08	5.90/149.80 9.10/231.10 13.00/330.2	4 4.90/1	24.46 1	0.20/259.08 2.00/304.80 5.10/383.54		
<b>K0E4</b> 75 95 135	2.95/74.93 3.94/100.08 5.91/150.11	7.50/190.50 9.50/241.30 13.40/340.3	0 6.50/1	65.10 1	2.80/325.12 5.90/403.86 2.10/561.34		
<b>KOE5</b> 10 14	3.94/100.08 5.91/150.11	9.90/251.4 13.80/350.5			6.70/424.18 2.90/581.66		
<b>K0E6</b> 10 14	3.94/100.08 5.91/150.11	9.90/251.4 13.80/350.5			6.70/424.18 2.90/581.66		

### **Plastic Crossbars**

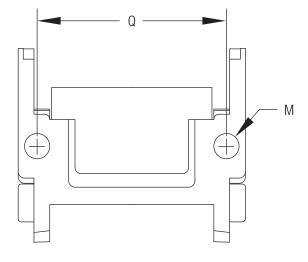
Plastic cross bars are a lightweight, easily-removable, low-cost option. Quick link cavity access is accomplished with the tip of a screw driver. Many models are available in either top and/or bottom link access. Also available as **Snap-In** (pictured, right) on some modular carriers.



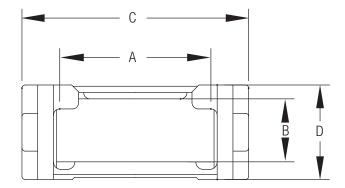




Top View Mounting Hole Dimensions



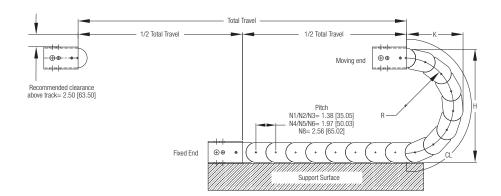
Carrier Cross Sectional View





### The N Series

The N series is a small to large size range of standard enclosed plastic carrier. It features a smooth appearance and a solid link design. The N series is excellent for machine tools, wash down applications and industrial applications.



# **Specifications**

Standard Mounting bracket arrangement pictured. Please consult factory for alternative arrangements

#### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

Gortrac® Recommends:

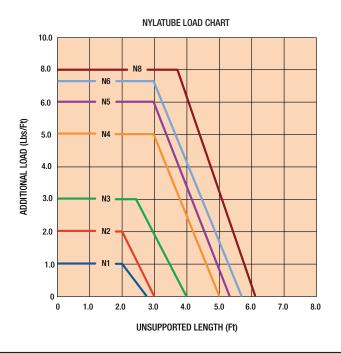
10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

How To Create A Part Number: Model # - Height - Length"

Sample Part #: N4-10-30"

### **N Series Design Guide**

Model# N1 N2 N3-D* N4 N5 N5-D* N6-D*	A INCHES/mm 0.90/22.86 1.34/34.04 2.48/62.99 1.42/36.07 3.39/86.11 3.39/86.11 5.352/135.89	B INCHES/mm 0.90/22.86 0.90/22.86 0.90/22.86 1.34/34.04 1.34/34.04 1.34/34.04	C INCHES/mm 1.38/35.05 1.97/50.04 2.95/74.93 1.97/50.04 3.94/100.08 3.94/100.08 5.91/150.11	F INCHES/mm 1.18/29.97 1.63/41.28 2.62/66.55	D INCHES/mm 1.38/35.05 1.38/35.05 1.38/35.05 1.97/50.04 1.97/50.04 1.97/50.04	Weight #/Ft. KG/m 0.50/0.74 0.60/0.89 0.80/1.19 0.80/1.19 1.20/1.79 1.20/1.79 1.70/2.53
N8 * Designates divided carrier	5.28/134.11	2.24/56.90	5.91/150.11	_	2.95/74.93	2.20/3.27
Height N1 8 13 N2 8 13 N3 8D* 13D* N4 10 18 N5 10 10D* 18 18D* N6 10D* 18D* N8 15 27 * Designates divided carrier	R INCHES/mm 3.30/83.82 5.91/150.11 3.30/83.82 5.91/150.11 3.30/83.82 5.91/150.11 3.94/100.08 7.87/199.90 3.94/100.08 7.87/199.90 7.87/199.90 3.94/100.08 7.87/199.90 5.91/150.11 11.81/299.97	H INCHES/mm 8.00/203.20 13.20/335.28 8.00/203.20 13.20/335.28 8.00/203.20 13.20/335.28 9.80/248.92 17.70/449.58 9.80/248.92 17.70/449.58 17.70/449.58 9.80/248.92 17.70/449.58 14.80/375.92 26.60/675.64	K INCHES/mm 5.40/137.16 8.00/203.20 5.40/137.16 8.00/203.20 5.40/137.16 8.00/203.20 7.00/177.80 10.70/271.78 7.00/177.80 10.70/271.78 10.70/271.78 7.00/177.80 10.70/271.78 10.70/271.78 10.70/271.78 10.70/271.78 10.90/177.80 10.70/271.78	CL INCHES/mm 13.20/335.28 21.30/541.02 13.20/335.28 21.30/541.02 13.20/335.28 21.30/541.02 16.30/414.02 28.70/728.98 16.30/414.02 28.70/728.98 28.70/728.98 16.30/414.02 28.70/728.98 28.70/728.98 28.70/728.98 28.70/728.98 28.70/728.98 42.20/1,071.88		

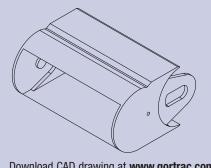




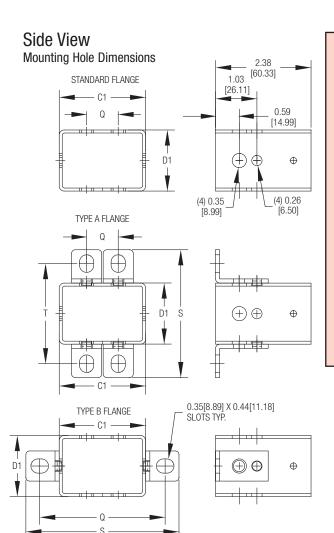
### **Flange Options**

The N-Series is available with three different types of flanges:

- · Standard, with no mounting bracket ears
- Type A, with top- and bottommounted bracket ears
- Type B, with side-mounted bracket ears

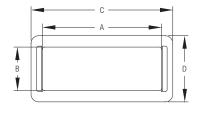


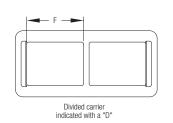
Download CAD drawing at www.gortrac.com



STANDARD	<b>C1</b> INCHES/mm	<b>D1</b> INCHES/mm	<b>Q</b> INCHES/mm	<b>T</b> INCHES/mm	<b>S</b> INCHES/mm
N1	1.59/40.39	1.54/39.12	1 HOLE/1 HOLE		_
N2	2.13/54.10	1.54/39.12	0.79/20.07	_	_
N3	3.11/78.99	1.54/39.12	1.77/44.96	_	_
N4	2.13/54.10	2.13/54.10	0.79/20.07	_	_
N5	4.09/103.89 6.06/153.92	2.13/54.10 2.13/54.10	2.76/70.10 4.72/119.89	_	_
N6 N8	6.06/153.92	3.11/78.99	4.72/119.89	_	_
TYPE A	INCHES/mm	INCHES/mm	INCHES/mm	INCHES/mm	INCHES/mm
N1	1.59/40.39	1.54/39.12	1 HOLE/1 HOLE	2.49/63.25	3.18/80.77
N2	2.13/54.10	1.54/39.12	0.79/20.07	2.49/63.25	3.18/80.77
N3	3.11/78.99	1.54/39.12	1.77/44.96	2.49/63.25	3.18/80.77
N4	2.13/54.10	2.13/54.10	0.79/20.07	3.09/78.51	3.78/95.99
N5	4.09/103.89	2.13/54.10	2.76/70.10	3.14/79.81	3.83/97.28
N6 N8	6.06/153.92 6.06/153.92	2.13/54.10 3.11/78.99	4.72/119.89 4.72/119.89	3.14/79.81 4.07/103.43	3.77/95.83 4.76/120.90
TYPE B	INCHES/mm	INCHES/mm	INCHES/mm	INCHES/mm	INCHES/mm
N1	1.59/40.39	1.54/39.12	2.49/63.25	_	3.18/80.77
N2	2.13/54.10	1.54/39.12	3.12/79.25	_	3.81/96.77
N3	3.11/78.99	1.54/39.12	4.14/105.16	_	4.83/122.68
N4 N5	2.13/54.10 4.09/103.89	2.13/54.10 2.13/54.10	3.09/78.49 5.09/129.29	_	3.78/96.01 5.78/146.81
N6	6.06/153.92	2.13/54.10	7.04/178.82	_	7.73/196.34
N8	6.06/153.92	3.11/78.99	7.05/179.07		7.71/195.83
			·		

### Carrier Cross Sectional View



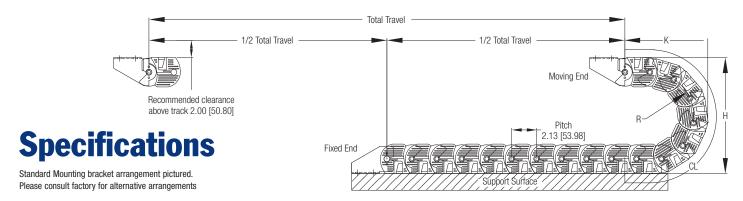






## The KLE Series

The KLE series is a medium size standard enclosed plastic carrier. A durable design with hinge open bars on the outer radius, the KLE series is excellent for machine tool, heavy duty and long travel applications.



### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

How To Create A Part Number: Model - Height - # of Separators - Length"

Sample Part #s: **KLE1-10-1-36**"

### **KLE Series Design Guide**

NLE Series D	esign Guide					
	Α	С	Q	F	G	Weight
Model#	INCHES/mm	INCHES/mm	INCHES/mm	INCHES/mm	INCHES/mm	#/Ft. KG/m
KLE1	3.00/76.20	3.75/95.25	1.19/30.23	4.09/103.89	4.92/124.97	1.25/1.86
KLE2	4.50/114.30	5.25/13.35	1.97/50.04	5.67/144.02	6.42/163.07	1.88/2.80
KLE3	7.00/177.80	7.75/196.85	3.94/100.08	8.03/203.96	8.92/226.57	2.92/4.34
	R	Н	K	CL		
Height	INCHES/mm	INCHES/mm	INCHES/mm	INCHES/mm		
10	3.75/95.25	10.00/254.00	7.13/181.10	14.88/377.95		
12	4.75/120.65	12.00/304.80	8.13/206.50	19.13/485.90		
14	5.75/146.05	14.00/355.60	9.13/231.90	21.25/539.75		
18	7.75/196.85	18.00/457.20	11.13/282.70	27.63/701.80		
26	11.75/298.45	26.00/660.40	15.13/384.30	40.38/1,025.65		

### **Vertical Separators**

KLE2

KLE3

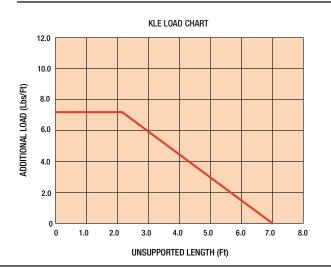
1.97/50.04

3.94/100.08

6.02/152.91

8.55/217.17

Vertical separators snap into carrier cross bars to provide multiple compartments in a single link. Available in most carriers and in a variety of styles, including stationary and rolling designs, vertical separators can be installed every link, or staggered for economy. When sizing compartments, Gortrac recommends a safety factor of an additional 10% for cables and 20% for hoses.

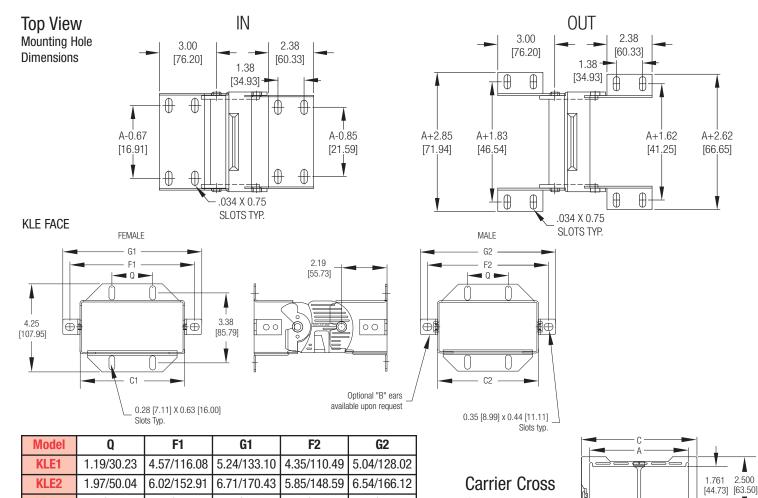






**Carrier Cross** 

Sectional View



6.54/166.12

9.04/229.62

0.140

Optional

6.71/170.43

9.24/234.70

5.85/148.59

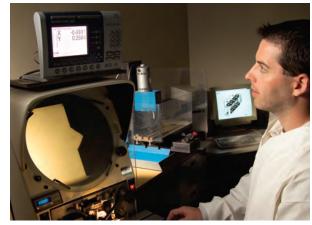
8.35/212.09



### **Research & Development**

Gortrac constantly engages in research and development. Our goal is continuous improvement in carrier design and manufacturing. Gortrac engineers and technicians employ various tests and research methods to further their knowledge and expertise:

- · Fatigue and life cycle testing
- Destructive testing
- · Optical comparison of components
- Rapid prototyping
- · Designs for special applications
- · Materials research and improvement



# **How to Order**

#### Travel/2 + Curve Length (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

How To Create A Part Number: Model - Height - Bar Width (PR & AF Style Bars only) - # of Separators - Length"
Sample Part #s: KLE1-10-1-36"

Determine Gortrac cross section desired. Allow 10% clearance over OD's of enclosed cable and 20% over OD's of hoses to prevent binding.	e If you are currently using another cable carrier, please specify:*  Model #: Length/# of Links:			
2. Choose radius (Use manufacturer's suggested cable/hose radius).	Contact information:			
3. Determine total track length. See the formula above. If fixed flange is not mounted in center of travel, please send a sketch or drawing.		For Quotation Only:		
lf Gortrac Part Number is known:	Date Required:	Quantity:		
Gortrac Part #:	Order Number:			
Bracket Information (See Page 7 — Standard arrangement and orientation is 1 + IN)  Please check your arrangement and	Company Name:			
□ 1 □ 2 □ 3 □ 4 □ IN □ OUT	Attention:			
If carrier parameters are known:*	Address:			
Carrier Radius Preferred:	City:	State/Prov:		
Gortrac Model #:	Country:			
Acceleration: Feet/Sec. <sup>2</sup> Maximum Machine Travel Speed: Feet/Sec.	Zip/Postal Code:			
Frequency of Travel: Cycles/Hour Total Machine Travel: Inches	Telephone:			
Gortrac Length (see the formula above):	Fax:			
Cable/Hose Load: Operating Temperature: ° F	E-Mail:			
Environment:	Please fax this completed form to the n *More information may be required. A Gortrac representa			

# **Nylatube® Enclosed Modular Plastic Carriers**

Nylatube Enclosed Style Modular Carriers are constructed from standard components that are easily modified to achieve high strength, customized, enclosed carrier systems. They are available with either snap-in or bolted aluminum lids for maximum strength and protection from red hot debris, or with snap-in plastic lids for lighter weight requirements. All lid options are available in custom widths. Utilizing multiple lockout points, locking hubs, modular sliders, and many other innovative components, they are the ultimate solution for medium to heavy duty or unique projects that require an enclosed plastic carrier solution.

The standard material of impact modified, glass reinforced plastic offers durability and high speed capability. Most carriers are also available in specialty materials for challenging applications with diverse demands, such as extremely low wear, severe temperatures and environments, unique chemical resistance, specialty flammability ratings and explosion proof requirements.

### TSAP/TLAP/NXLAP Series













### The TSAP, TLAP, NXLAP Series

TSAP, TLAP and NXLAP are large-scale modular enclosed plastic carriers constructed from standard components. This versatile product series features removable aluminum or plastic armor plates, available in custom widths. Tough but lightweight, the TSAP, TLAP and NXLAP Series carriers are an excellent choice for heavy duty as well as long travel applications.

# **Specifications**

See TS Series (pages 40-41) and TL Series (pages 42-43) and NXL Series (pages 44-45) for complete carrier specification guides.

#### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

How To Create A Part Number: Model # - Bar Width - Height - Number of Separators - Length"

Sample Part #: **TSAP-6"-5.4-1-60"** (Aluminum Lid) **TSPL-6"-5.4-1-60"** (Plastic Lid)

### TSAP/TLAP/NXLAP Series Design Guide

#### Model#

Aluminum Lid TSAP TLAP NXLAP

See TS Series (pages 40-41) for complete carrier specification guides. See TL Series (pages 42-43) for complete carrier specification guides. See NXL Series (pages 44-45) for complete carrier specification guides.

Plastic Lid TSPL TLPL NXLPL

See TS Series (pages 40-41) for complete carrier specification guides. See TL Series (pages 42-43) for complete carrier specification guides. See NXL Series (pages 44-45) for complete carrier specification guides.

#### Height

TSAP/TSPL TLAP/TLPL NXLAP/NXLPL See TS Series (pages 40-41) for complete carrier specification guides. See TL Series (pages 42-43) for complete carrier specification guides. See NXL Series (pages 44-45) for complete carrier specification guides.

Note: Armor plates are not available for TS110, TS140, TL160 and NXL240.

### **Aluminum Lids**

Armor plate style aluminum lids offer maximum protection against hot chips and heavy debris. Available in both easy access snap-in and heavy-duty bolted construction, Armor plate lids are ideal for severe and challenging applications, such as machine tools, mills, and foundries.

See TS Series (pages 40-41) for Load Charts. See TL Series (pages 42-43) for Load Charts. See NXL Series (pages 44-45) for Load Charts.

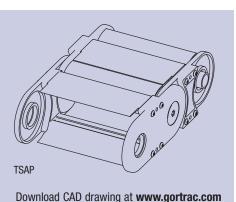


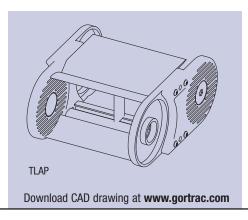


### **Plastic Lids**

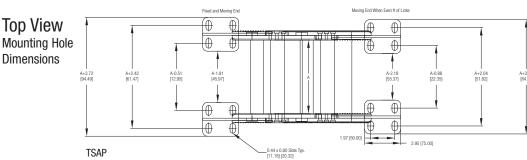
Plastic lids offer a lightweight, easy access alternative to heavy duty aluminum armor plates. Available in a wide range of sizes, their aesthetically pleasing look and ease of access make plastic lids an excellent choice for applications where dust and debris are present.

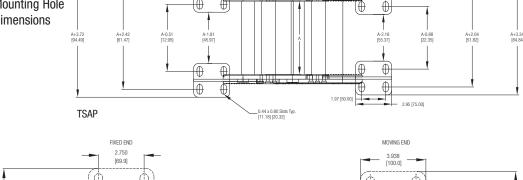


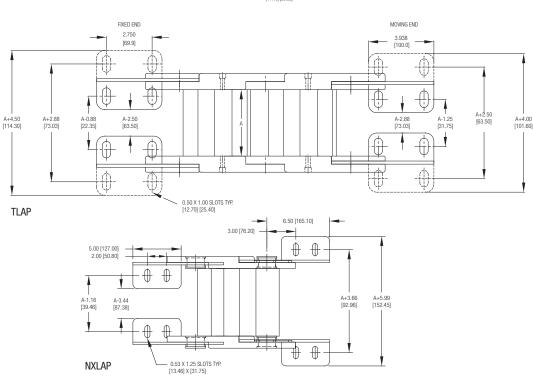




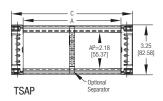


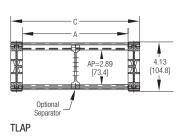


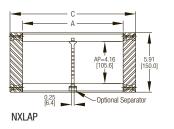




### **Carrier Cross** Sectional View











# **Armor Plate Options**

### **Aluminum Lids**

Armor plate style aluminum lids offer maximum protection against hot chips and heavy debris.

Available in both easy access snap-in and heavy-duty bolted construction, armor plate lids are ideal for severe and challenging applications, such as machine tools, mills, and foundries.



### **Plastic Lids**

Plastic lids offer a lightweight, easy access alternative to heavy-duty aluminum armor plates. Available in a wide range of sizes, their aesthetically pleasing look and ease of access make plastic lids an excellent choice for applications where dust and debris are present.

# **How to Order**

#### Travel/2 + Curve Length (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

How To Create A Part Number: Model # - Bar Width - Height - Number of Separators - Length"
Sample Part #: TSAP-6"-5.4-1-60"
TSPL-6"-5.4-1-60"

<ol> <li>Determine Gortrac cross section desired. Allow 10% clearance over OD's of enclosed cable and 20% over OD's of hoses to prevent binding.</li> </ol>	If you are currently using another of Model #:
2. Choose radius (Use manufacturer's suggested cable/hose radius).	Contact information:
<ol><li>Determine total track length. See the formula above. If fixed flange is not mounted in center of travel, please send a sketch or drawing.</li></ol>	Date:
If Gortrac Part Number is known:	Date Required:
Gortrac Part #:	Order Number:
Bracket Information (See Page 7 — Standard arrangement and orientation is 1 + IN)  Please check your arrangement andorientation selection below:	Company Name:
$\square_1$ $\square_2$ $\square_3$ $\square_4$ $\square_{IN}$ $\square_{OUT}$	Attention:
If carrier parameters are known:*	Address:
Carrier Radius Preferred:	City:
Gortrac Model #:	Country:
Acceleration: Feet/Sec.² Maximum Machine Travel Speed: Feet/Sec.	Zip/Postal Code:
Frequency of Travel: Cycles/Hour Total Machine Travel: Inches	Telephone:
Gortrac Length (see the formula above):	Fax:
Cable/Hose Load: Operating Temperature: ° F	E-Mail:

If you are currently using anoth	her cable carrier, please specify:*
Model #:	Length/# of Links:
Contact information:	
Date:	For Quotation Only:
Date Required:	Quantity:
Order Number:	
Company Name:	
Attention:	
Address:	
City:	State/Prov:
Country:	
Zip/Postal Code:	
Telephone:	
Fax:	
F-Mail·	

Please fax this completed form to the number listed below.

\*More information may be required. A Gortrac representative may contact you.

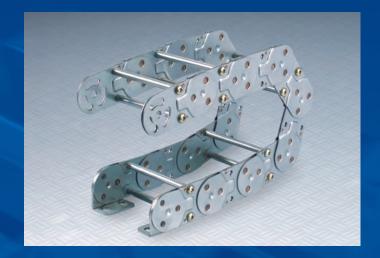
Environment:

# Gortrac® **Open-Style Metal Carriers**

Gortrac Open-Style carriers are constructed from steel for high strength and/or maximum unsupported spans. They are available in a wide range of sizes and styles for a broad range of applications, such as mobile construction equipment, mill and foundry duty heavy machinery, paper converting equipment, and refining equipment. Gortrac Open-Style Carriers are available with cavity heights ranging from 0.75" to over 24." Continuous design improvements have led to the development of lightweight, high strength steel carriers with significantly more strength, load capacity and longer unsupported spans than plastic systems.

Utilizing the widest range of custom width cross-bar options, and many other innovative components, including patented half shear technology to reduce parts and associated costs, Gortrac Open-Style Carriers have performed successfully in the most demanding applications and industries. They are the ultimate solution for heavy duty or unique projects that require a steel carrier solution.

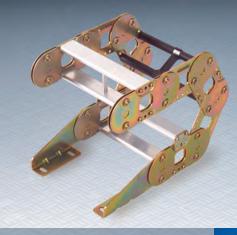


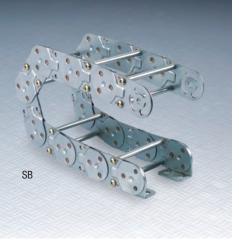


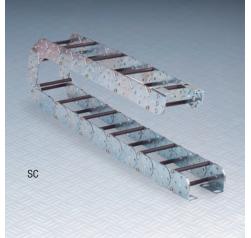
Gortrac Open Style Carriers are available in plated and/or stainless steel construction. Our Zinc Dichromate plating offers 70% better corrosion resistance than standard zinc plating. We also offer special plating options for exotic applications.

**SB/SC Series MRC Series GX Series SRC/MRC Series SX Series XL Series** 



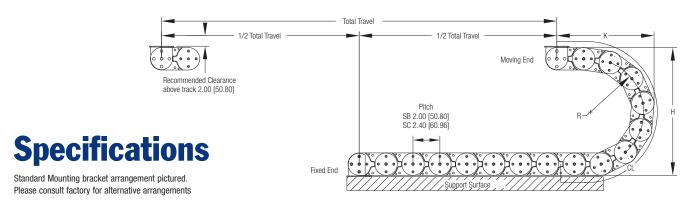






# The SB, SC Series

The SB and SC series are small metallic carriers. Made of Stainless Steel links with aluminum crossbars, the SB and SC carriers are lightweight and excellent choices for mobile construction equipment, machine tools, and medium duty industrial applications.



### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

How To Create A Part Number: Model # - Bar Type - Bar Width - Height - Number of Separators - Length"
Sample Part #: SB-RB-3.00-55-1-48"

### **SB/SC Series Design Guide**

Model# SB SC	A INCHES/mm CUSTOMER SPECIFIED CUSTOMER SPECIFIED	C INCHES/mm A+0.50/12.70 A+0.50/12.70	<b>Weight</b> #/ft./KG/m 1.08/161 1.72/256		
Cross Bar Styles	RB = Aluminum PR = Poly Roller				
SB Height 55 SC Height 75 115 1325	R INCHES/mm 2.06/52.32 2.75/69.85 4.75/120.65 5.62/142.75	H INCHES/mm 5.50/139.70 7.50/190.50 11.50/292.10 13.25/336.55	K INCHES/mm 4.75/120.65 6.75/171.45 8.75/222.25 9.63/244.60	CL INCHES/mm 10.50/266.70 14.50/368.30 21.00/533.40 24.00/609.60	

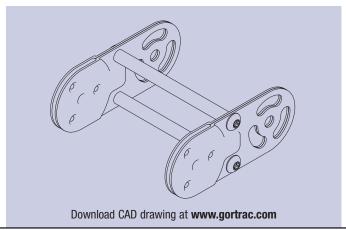
### **Poly Rollers**

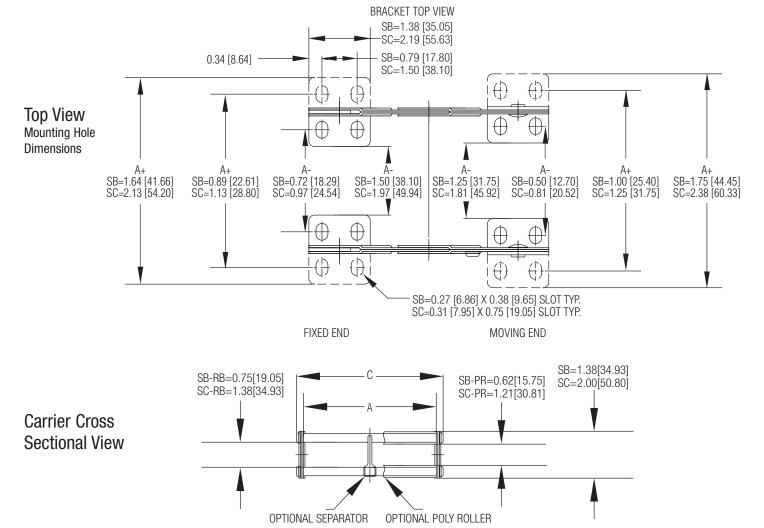
Poly rollers provide a low friction, mechanical wear surface ideal for hoses and soft-jacketed cables. Easily incorporated into any carrier system utilizing round bars, poly rollers are a simple, cost-effective solution to many demanding applications. They can also be used as vertical separators and horizontal dividers.

Please consult with Gortrac for specifications.





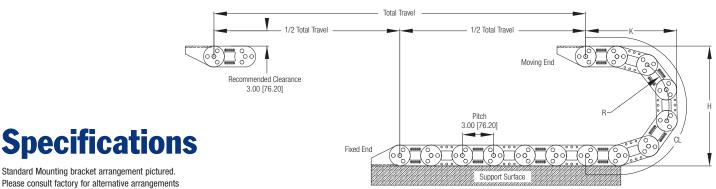






### The MRC Series

The MRC series is a medium size metallic carrier. This carrier is a heavy-duty yet lightweight carrier. The MRC series is excellent for mobile construction equipment, machine tools, and heavy-duty industrial applications.



### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

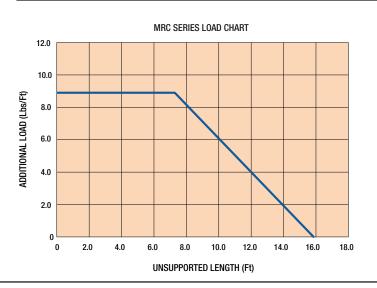
How To Create A Part Number: Model # - Bar Type - Bar Width - Height - Number of Separators - Length" Sample Part #: MRC-AF-4.00-75-1-90"

### **MRC Series Design Guide**

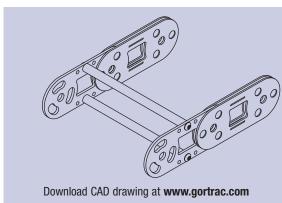
Model# MRC	A INCHES/mm CUSTOMER SPECIFIED	<b>C</b> INCHES/mm A+0.62/15.75	<b>Weight</b> #/ft./KG/m 2.95/4.39		
Cross Bar Styles	RB = Aluminum PR = Poly Roller AF = Aluminum				
Height 75 115 1325 170	R INCHES/mm 2.75/69.85 4.75/120.65 5.63/143.00 7.50/190.50	H INCHES/mm 7.50/190.50 11.50/292.10 13.25/336.55 17.00/431.80	K INCHES/mm 7.00/177.80 9.75/247.65 9.75/247.65 11.75/298.45	CL INCHES/mm 14.50/368.30 23.50/596.90 23.50/596.90 29.50/749.30	

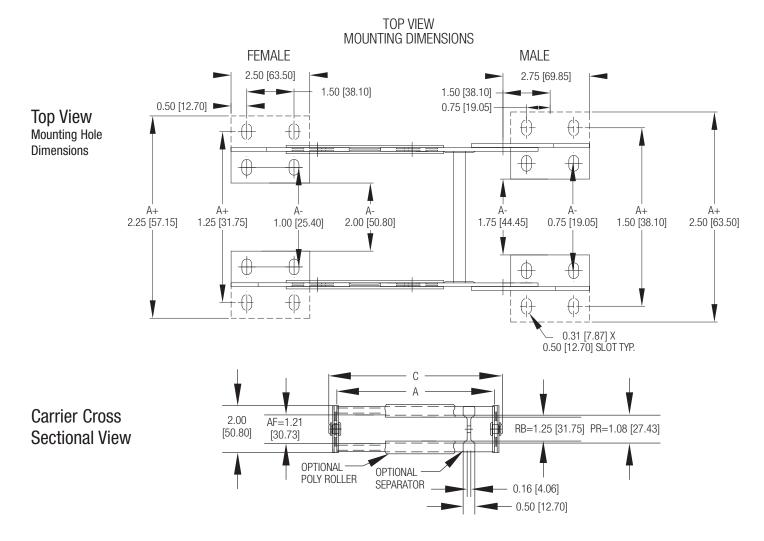
### **Vertical Separators**

Vertical separators snap into carrier cross bars to provide multiple compartments in a single link. Available in most carriers and in a variety of styles, including stationary and rolling designs, vertical separators can be installed every link, or staggered for economy. When sizing compartments, Gortrac recommends a safety factor of an additional 10% for cables and 20% for hoses.







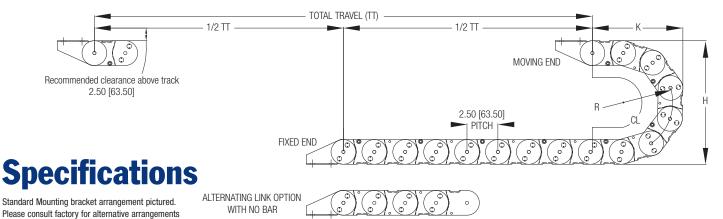






### The GX Series

The GX series is a medium size metallic carrier. An economical lightweight carrier that is available in specific widths. the GX series is excellent for mobile construction equipment and can replace plastic carriers in some applications.



Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

Gortrac® Recommends:

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

How To Create A Part Number: Model # - Bar Type - Height - Length" Sample Part #:GX225-FB-60-36"

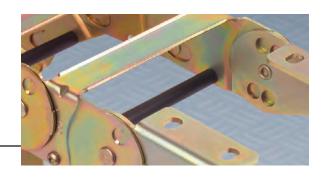
### **GX Series Design Guide**

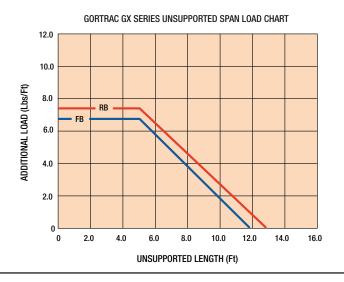
un Selles Des	oigii duide				
Model# GX225 GX300 GX450 GX550 GX700	2.25/57.15 3.00/76.20 4.50/114.30 5.50/139.70	INCHES/mm # 2.69/68.28 1 3.44/87.33 1 4.94/125/43 2 5.94/150.83 2	Weight /ft./KG/m .80/2.68 .90/2.83 2.00/2.98 2.10/3.12 2.20/3.27		
Cross Bar Styles	FB = Alternatin RB = Aluminum PR = Poly Rolle		1		
Height 60 75 100 1325	R INCHES/mm 2.00/50.80 2.75/69.85 4.00/101.60 5.63/143.00	H INCHES/mm 6.00/152.40 7.50/190.50 10.00/254.00 13.25/336.55	K INCHES/mm 5.50/139.70 6.25/158.75 7.50/190.50 9.13/231.90	CL INCHES/mm 11.28/286.51 13.64/346.46 17.57/446.28 22.69/576.33	

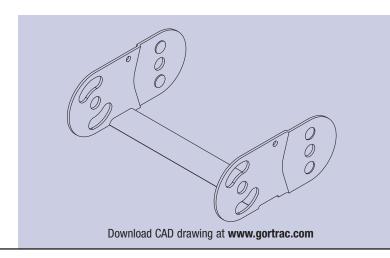
### **Poly Rollers**

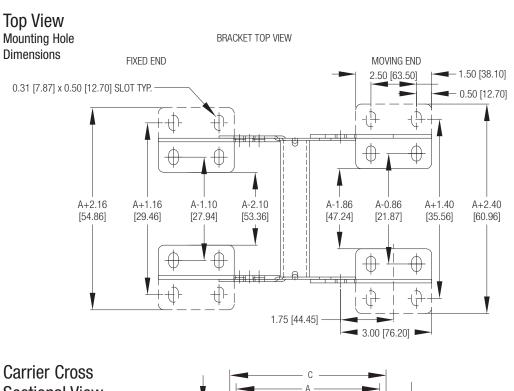
Poly rollers provide a low friction, mechanical wear surface ideal for hoses and soft-jacketed cables. Easily incorporated into any carrier system utilizing round bars, poly rollers are a simple, cost-effective solution to many demanding applications. They can also be used as vertical separators and horizontal dividers.

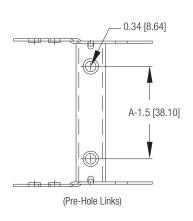
Please consult with Gortrac for specifications.



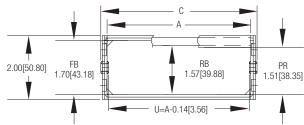


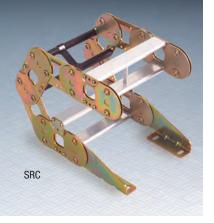






Sectional View

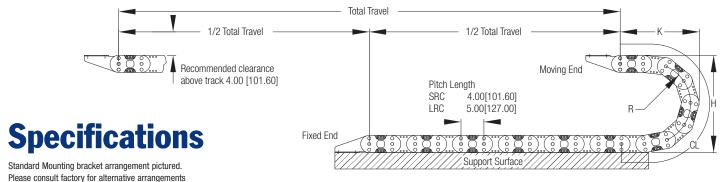






# The SRC, LRC Series

The SRC and LRC series are large size metallic carriers. These carriers feature a heavy duty design and can be constructed with many options including rollers and separators. The SRC and LRC series are excellent for machine tools, foundries, and mobile construction equipment.



#### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

How To Create A Part Number: Model # - Bar Type - Bar Width - Height - # of Separators - Length"

Sample Part #: SRC-RB-5.25-110-3-72" LRC-PR-6.00-200-4-100"

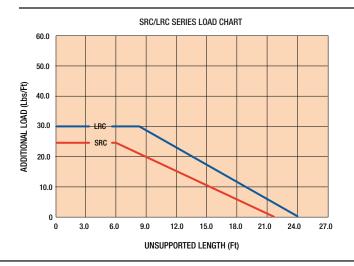
### **SRC LRC Series Design Guide**

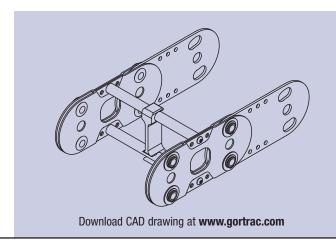
A INCHES/mm CUSTOMER SPECIFIED CUSTOMER SPECIFIED	C INCHES/mm A+0.69/17.40 A+0.69/17.40	U (Usable Width) INCHES/mm A-0.28/7.11 A-0.40/10.16	<b>Weight</b> #/ft. KG/m 5.00/7.44 6.00/8.93	
RB = Aluminum PR = Poly Roller	Round Bar			
R	Н	K	CL	
INCHES/mm	INCHES/mm	INCHES/mm	INCHES/mm	
4.00/101.60	11.00/279.40	9.50/241.30	20.56/522.22	
5.25/133.35	13.50/342.90	10.75/273.05	24.49/621.92	
7.00/177.80	17.00/431.80	12.50/317.50	29.98/761.49	
8.50/215.90	20.00/508.00	14.00/355.60	34.69/881.13	
12.25/311.15	27.50/698.50	17.75/450.85	46.47/1180.21	
5 50/139 70	15 00/381 00	12 50/317 50	27 27/692 66	
11.75/298.45		18.75/476.25	46.90/1191.13	
13.63/346.08	31.25/793.75	20.63/523.88	52.78/1340.68	
15.50/393.70	35.00/889.00	22.50/571.50	58.67/1490.22	
18.75/476.25	41.50/1054.10	25.75/654.05	68.88/1749.43	
24.25/615.95	52.50/1333.50	31.25/793.75	86.15/2188.08	
	INCHES/mm CUSTOMER SPECIFIED CUSTOMER SPECIFIED  AF = Aluminum RB = Aluminum PR = Poly Roller MC = Machined  R INCHES/mm 4.00/101.60 5.25/133.35 7.00/177.80 8.50/215.90 10.75/273.05 12.25/311.15  5.50/139.70 8.00/203.20 11.75/298.45 13.63/346.08 15.50/393.70 18.75/476.25	INCHES/mm CUSTOMER SPECIFIED CUSTOMER SPECIFIED CUSTOMER SPECIFIED A+0.69/17.40  AF = Aluminum Flat Bar (Standard) RB = Aluminum Round Bar PR = Poly Roller MC = Machined Carrier  R INCHES/mm 4.00/101.60 5.25/133.35 13.50/342.90 7.00/177.80 17.00/431.80 8.50/215.90 10.75/273.05 12.25/311.15 27.50/698.50  5.50/139.70 8.00/203.20 20.00/508.00 11.75/298.45 27.50/698.50  15.50/393.70 15.00/889.00 18.75/476.25 41.50/1054.10	INCHES/mm	INCHES/mm

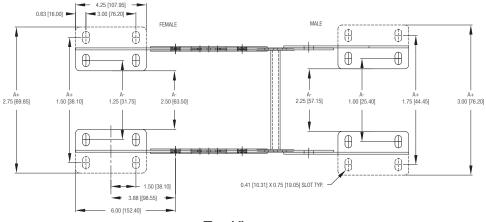
### **Vertical Separators**

Vertical separators snap into carrier cross bars to provide multiple compartments in a single link. Available in most carriers and in a variety of styles, including stationary and rolling designs, vertical separators can be installed every link, or staggered for economy. When sizing compartments, Gortrac recommends a safety factor of an additional 10% for cables and 20% for hoses.

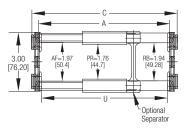






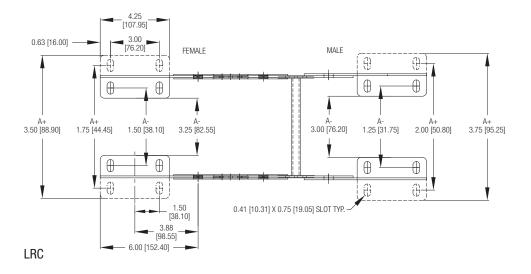


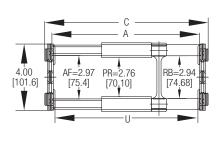
### Carrier Cross Sectional View



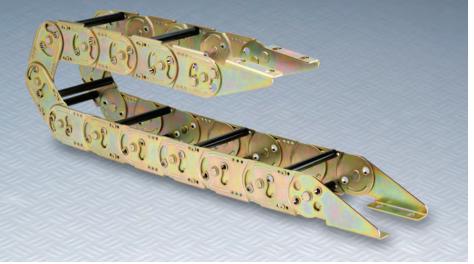
SRC Top View Mounting Hole Dimensions

SRC



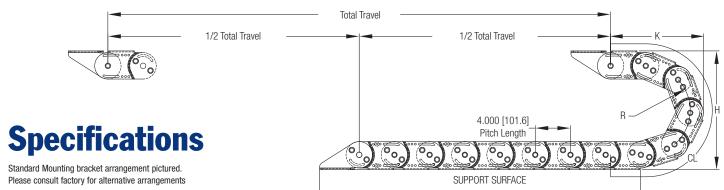


LRC



### The SX Series

The SX series is a large size metallic carrier. This carrier features a heavy duty design and can be constructed with many options including rollers and separators. The SX series is excellent for machine tools, foundries, and mobile construction equipment.



### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

**How To Create A Part Number: Model # - Bar Type - Bar Width - Height - Number of Separators - Length"**Sample Part #: **SX-RB-5.25-110-3-72**"

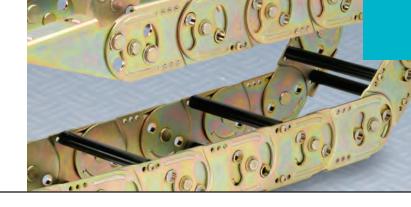
CV Carias Dasima Orda

Model# SX	A INCHES/mm CUSTOMER SPECIFIED	<b>C</b> INCHES/mm A+0.36/9.14	<b>U</b> INCHES/mm A-0.35/8.89	<b>Weight</b> #/ft./KG/m 4.60/6.85	
Cross Bar Styles	AF = Aluminum RB = Aluminum PR = Poly Roller MC = Machined	Round Bar (Standa	rd)		
SX Height 110 135 170 200 245 275	R INCHES/mm 3.47/88.14 4.87/123.70 6.78/172.21 8.34/211.84 10.59/268.99 12.06/306.32	H INCHES/mm 10.13/257.30 12.93/328.42 16.75/425.45 19.87/504.70 24.37/619.00 27.31/693.67	K INCHES/mm 9.16/232.66 10.56/268.22 12.47/316.74 14.03/356.36 16.28/413.51 17.75/450.85	CL INCHES/mm 18.90/479.95 23.29/591.61 29.29/743.95 34.19/868.37 41.25/1047.82 45.87/1165.06	

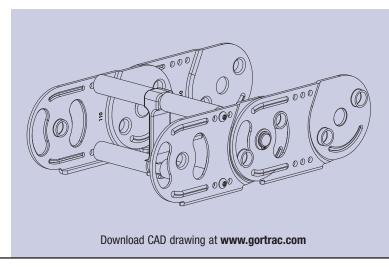
### **Poly Rollers**

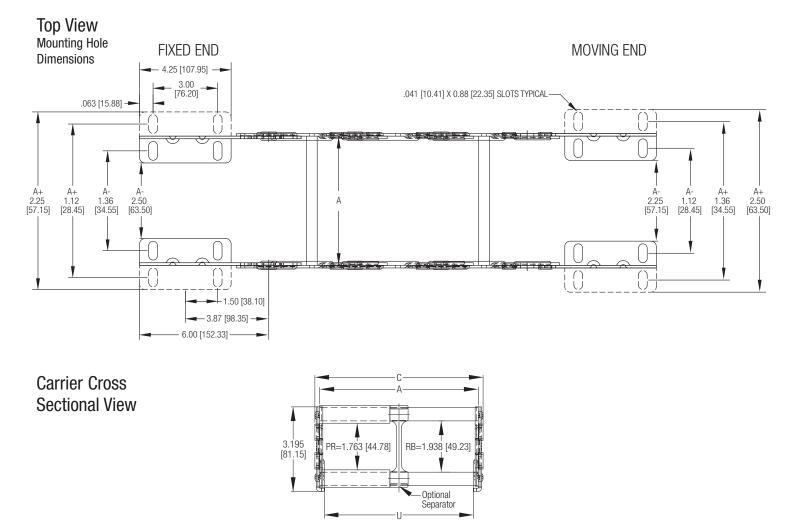
Poly rollers provide a low friction, mechanical wear surface ideal for hoses and soft-jacketed cables. Easily incorporated into any carrier system utilizing round bars, poly rollers are a simple, cost-effective solution to many demanding applications. They can also be used as vertical separators and horizontal dividers.

Please consult with Gortrac for specifications.





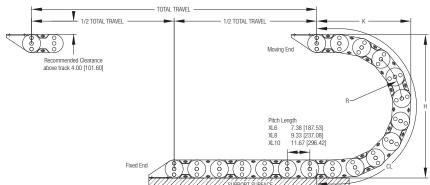






### The XL Series

The XL series is a large metallic carrier. Designed to handle heavy cable loads, it is constructed with crossbars made of aluminum. The XL series is excellent for oilfield equipment, foundry equipment and other heavy-duty industrial applications.



# **Specifications**

Standard Mounting bracket arrangement pictured. Please consult factory for alternative arrangements

### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

How To Create A Part Number: Model # - Bar Type - Bar Width - Height - Number of Separators - Length" Sample Part #:XL8-PR-8.00-290-5-180"

### **XL Series Design Guide**

Model# XL6 XL8 XL10	A INCHES/mm CUSTOMER SPECIFIED CUSTOMER SPECIFIED CUSTOMER SPECIFIED	C INCHES/mm A+1.25/31.75 A+1.25/31.75 A+1.25/31.75	U (Usable Width) INCHES/mm A-0.51/12.95 A-0.51/12.95 A-0.51/12.95	#/ft./KG/m 20.00/29.76 28.00/41.66 32.00/47.62
Cross Bar Styles	RB = Aluminum PR = Poly Roller	Round Bar (Standa	rd)	
XL6 Height 260 375 470 530 650	R INCHES/mm 10.05/255.14 15.80/401.19 20.55/521.84 23.55/598.04 29.55/750.44	H INCHES/mm 26.00/660.40 37.50/952.50 47.00/1193.80 53.00/1346.20 65.00/1651.00	K INCHES/mm 20.38/517.73 26.13/663.78 30.88/784.43 33.88/860.63 39.88/1013.03	CL INCHES/mm 46.31/1176.21 64.36/1634.80 79.28/2013.64 88.70/2252.91 107.54/2731.45
XL8 Height 290 330 470 540 800	10.57/268.35 12.57/319.15 19.57/496.95 23.07/585.85 36.07/916.05	29.00/736.60 33.00/838.20 47.00/1193.80 54.00/1371.60 80.00/2032.00	23.83/605.38 25.83/656.18 32.83/833.98 36.33/922.88 49.33/1253.08	51.84/1316.79 58.12/1476.30 10.10/2034.59 91.09/2313.74 131.91/3350.57
<b>XL10 Height</b> 80 600 800	19.08/484.63 25.08/637.03 35.08/891.03	48.00/1219.20 60.00/1524.00 80.00/2032.00	35.66/905.76 41.66/1058.16 51.66/1312.16	82.23/2114.07 102.07/2592.61 133.47/3390.17

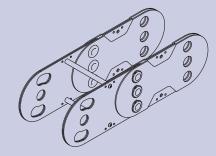
#### XL6, XL8, XL10 SERIES LOAD CHART 70.0 60.0 XL10 50.0 ADDITIONAL LOAD (Lbs/Ft) 40.0 30.0 20.0 10.0 5.0 10.0 20.0 25.0 45.0 **UNSUPPORTED LENGTH (Ft)**

## **Vertical Separators**

Vertical separators snap into carrier cross bars to provide multiple compartments in a single link. Available in most carriers and in a variety of styles, including stationary and rolling designs, vertical separators can be installed every link, or staggered for economy. When sizing compartments, Gortrac recommends a safety factor of an additional 10% for cables and 20% for hoses.

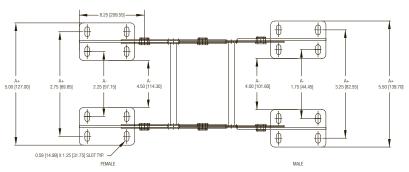




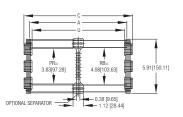


Download CAD drawing at www.gortrac.com

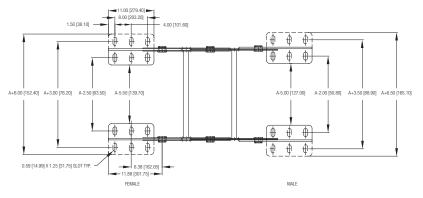


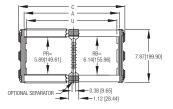


## Carrier Cross Sectional View

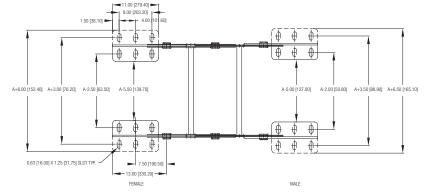


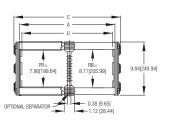
XL6





XL8





XL10

# **Long Travel**

#### **Rolling Carriage**

A Rolling Carriage is a support system, originally designed for steel carriers with travels that exceed the limits available with fixed roller supports, or when there are heavy payloads and/or high velocities present. The carriage system consists of rollers, conveyor supports, and a moving framework that supports the carrier throughout the complete length of travel. The entire system is guided by channels that ensure accuracy and dependability, even at extremely high loads and velocities. Gortrac has also developed carriage systems for plastic carriers that require long travel at high speeds and loads:

- Lightweight: Reduced tow forces vs. conventional carriage systems
- Modular: Easy to add/remove length
- · Easy assembly: most components are bolted together
- Quiet: Urethane wheels used for low noise
- Use with plastic or steel track
- · Track drives/returns carriage without use of cable
- Self-guiding for travels under 50 feet. Guide channel required for travels over 50 feet



#### **Support Rollers**

Stationary support rollers increase travel capability in applications where a carrier's unsupported span is exceeded. These support rollers are heavy duty, height adjustable, and can increase travel up to 4x unsupported capability. One support roller will provide maximum travel 3x the recommended unsupported span. Two support rollers will provide maximum travel 4x the recommended unsupported span. Consult catalog load charts for unsupported span capabilities. Available for both plastic and metal carrier systems.





# **How to Order**

#### Travel/2 + Curve Length (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

Operating Temperature: \_\_\_

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

How To Create A Part Number: Model # - Bar Type - Bar Width - Height - Number of Separators - Length" Sample Part #: SRC-RB-5.25-110-3-72" LRC-PR-6.00-200-4-100"

<ol> <li>Determine Gortrac cross section desired. Allow 10% clearance over OD's of enclosed cable and 20% over OD's of hoses to prevent binding.</li> </ol>						
2. Choose radius (Use manufacturer's suggested cable/hose radius).						
3. Determine total track length. See the formula above. If fixed flange is not mounted in center of travel, please send a sketch or drawing.						
If Gortrac Part Number is known:						
Gortrac Part #:						
Bracket Information (See Page 7 — Standard arrangement and orientation is 1 + IN)  Please check your arrangement and orientation selection below:						
□ 1 □ 2 □ 3 □ 4 □ IN □ OUT						
If carrier parameters are known:*						
Carrier Radius Preferred:						
Gortrac Model #:						
Acceleration: Feet/Sec.2 Maximum Machine Travel Speed: Feet/Sec.2						
Acceleration: Feet/Sec.² Maximum Machine Travel Speed: Feet/Sec.  Frequency of Travel: Cycles/Hour Total Machine Travel: Inches						

If you are currently using another cable carrier, please specify:*					
Model #:	Length/# of Links:				
Contact information:					
Date:	For Quotation Only:				
Date Required:	Quantity:				
Order Number:					
Company Name:					
Attention:					
Address:					
City:	State/Prov:				
Country:					
Zip/Postal Code:					
Telephone:					
E-Mail:					

Please fax this completed form to the number listed below.
\*More information may be required. A Gortrac representative may contact you.

Cable/Hose Load:

Environment:

# Gortube® and Gortrac® Enclosed Metal Carriers

Gortube enclosed-style carrier systems are the benchmark for fully enclosed dynamic cable and hose protection. With the exception of optional cavity separators, they feature all-metal construction.

Gortube helically-wound extrusions have been extensively used in machine tool applications for over 30 years. They provide smooth movement, are aesthetically pleasing, offer the best protection available from hot chips and fluids, and can be delivered in a wide range of sizes.

Gortrac link-style carriers utilize standard Gortrac link designs and removable armor plate style lids to offer rugged construction, accessibility, easy repair and length modification.

# Gortube® Series SRCAP/LRCAP/XLAP Series







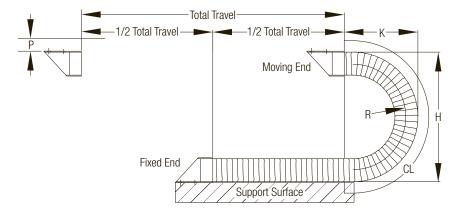




Riveted cinstruction shown\*\*

# The GORTUBE® Series

The Gortube series entails a range of sizes from small to large. A fully enclosed carrier design from conduit-style square tubing, the Gortube line is excellent for hot chip applications, smooth running operation and for aesthetic applications. Gortube is available in galvanized steel or black anodized finsihes.



# **Specifications**

Standard Mounting bracket arrangement pictured. Please consult factory for alternative arrangements

#### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

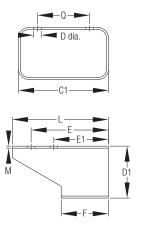
#### **How To Create A Part Number:**

Model # - Height - Flange Type (Standard/A/B, Applies Both Ends) - Construction Type (Riveted Only = RV) - Length" Sample Part #: C2-22-A/B-RV-36"

### **GORTUBE Series Design Guide**

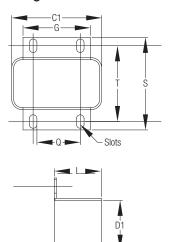
dolliobe oci	ica peaigii e	MIC			
	Α	В	C	D	Weight
Model#	INCHES/mm	INCHES/mm	INCHES/mm	INCHES/mm	#/ft./KG/m
CO	0.90/22.86	0.62/15.75	1.18/29.97	0.79/20.07	0.40/0.60
C1	1.71/43.43	0.90/22.86	1.97/50.04	1.18/29.97	0.90/1.34
C1A	1.78/45.21	1.78/45.21	1.97/50.04	1.97/50.04	0.90/1.34
C1B	1.98/50.29	1.58/40.13	2.17/55.12	1.77/44.96	0.90/1.34
C2	2.87/72.90	1.50/38.10	3.15/80.01	1.77/44.96	1.50/2.23
C2C	3.19/81.03	1.61/40.89	3.34/84.84	1.77/44.96	1.70/2.53
C2A	3.46/87.88	1.70/43.18	3.74/95.00	1.97/50.04	2.10/3.12
C2AA	3.16/80.26	2.17/55.12	3.35/85.09	2.36/59.94	2.10/3.12
	R	Н	K	CL	Р
Height	INCHES/mm	INCHES/mm	INCHES/mm	INCHES/mm	INCHES/mm
<b>CO</b> 4	1.80/45.72	4.40/111.76	3.20/81.28	6.50/165.10	1.00/25.40
<b>C1</b> 6	2.40/60.96	5.90/149.86	4.00/101.60	9.00/228.60	1.50/38.10
9	4.00/101.60	9.10/231.14	5.60/142.24	15.50/393.70	1.50/38.10
13	5.90/149.86	13.00/330.20	7.50/190.50	23.50/596.90	1.50/38.10
<b>C1A</b> 10	4.00/101.60	10.00/254.00	6.00/152.40	15.50/393.70	1.50/38.10
<b>C1B</b> 9	3.50/88.90	9.00/228.60	5.50/139.70	13.50/342.90	1.50/38.10
<b>C2</b> 10	4.00/101.60	9.70/246.38	5.90/149.86	14.50/368.30	2.00/50.80
175	7.90/200.66	17.50/444.50	9.80/248.92	30.00/762.00	2.00/50.80
22	9.90/251.46	21.50/546.10	11.80/299.72	33.50/850.90	2.00/50.80
<b>C2C</b> 11	4.50/114.30	10.80/274.32	6.40/162.56	17.00/431.80	2.00/50.80
<b>C2A</b> 12	4.90/124.46	11.90/302.26	7.00/177.80	17.50/444.50	2.50/63.50
<b>C2AA</b> 135	5.50/139.70	13.50/342.90	7.70/195.58	19.00/482.60	2.50/63.50
				2100, 10=100	

# Standard Flange



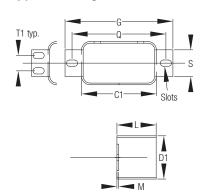
Standard	C1	D1	Q	D	E	E1	F	L	М
MODEL#	INCHES/ mm								
CO	1.40/35.56	0.92/23.37	0.50/12.70	0.22/5.54	1.63/41.40	_	1.25/31.75	2.00/50.80	0.06/1.52
C1	2.12/53.85	1.28/32.51	0.88/22.35	0.28/7.14	1.75/44.45	_	1.18/29.97	2.38/60.45	0.06/1.52
C1A	2.09/53.09	2.09/53.09	0.88/22.35	0.38/9.53	1.68/42.67	_	1.18/29.97	2.38/60.45	0.06/1.52
C1B	2.32/58.93	1.91/48.51	0.88/22.35	0.28/7.14	1.75/44.45	_	1.18/29.97	2.38/60.45	0.06/1.52
C2	3.34/84.84	1.91/48.51	1.94/49.28	0.28/7.14	2.68/68.07	_	1.75/44.45	3.56/90.42	0.07/1.78
C2C	3.56/90.42	1.99/50.55	1.94/49.28	0.28/7.14	3.06/77.72	2.18/55.39	1.75/44.45	3.52/89.41	0.06/1.52
C2A	3.94/100.08	2.12/53.85	2.50/63.50	0.34/8.74	3.25/82.55	_	2.06/52.32	4.18/106.17	0.07/1.78
C2AA	3.53/89.66	2.53/64.26	1.94/49.28	0.38/9.53	3.43/87.12	2.18/55.37	1.75/44.45	4.12/104.65	0.07/1.78

# Type A Flange

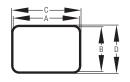


Type A	C1 INCHES/	D1	Q INCHES/	Slots	G INCHES/	S INCHES/	T	L	M
MODEL#	mm	INCHES/ mm	mm	INCHES/ mm	mm	mm	INCHES/ mm	INCHES/ mm	INCHES/ mm
CO	1.40/35.56	0.92/23.37	0.38/9.65	0.22 X 0.38/5.59 X 9.65	0.75/19.05	1.80/45.72	1.30/33.02	1.25/31.75	0.06/1.52
C1	2.08/52.83	1.28/32.51	0.68/17.27	0.28 X 0.50/7.11 X 12.70	1.38/35.05	2.80/71.12	2.11/53.59	1.56/39.62	0.06/1.52
C1A	2.09/53.09	2.09/53.09	0.68/17.27	0.38 X 0.63/9.65 X 16.00	1.38/35.05	4.00/101.60	3.16/80.26	2.38/60.45	0.06/1.52
C1B	2.32/58.93	1.91/48.51	0.68/17.27	0.38 X 0.63/9.65 X 16.00	1.38/35.05	3.75/95.25	2.94/74.68	2.38/60.40	0.06/1.52
C2	3.34/84.84	1.91/48.51	1.75/44.45	0.28 X 0.50/7.11 X 12.70	2.50/63.50	3.50/88.90	2.88/73.15	1.75/44.45	0.07/1.78
C2C	3.56/90.42	1.99/50.55	1.75/44.45	0.28 X 0.50/7.11 X 12.70	2.56/65.02	3.56/90.42	2.81/71.37	1.75/44.45	0.07/1.78
C2A	3.94/100.08	2.12/53.85	2.00/50.80	0.34 X 0.50/8.64 X 12.70	2.75/69.85	3.75/95.25	2.94/74.68	2.13/54.10	0.07/1.78
C2AA	3.53/89.66	2.53/64.26	1.75/44.45	0.41 X 0.68/10.41 X 17.27	2.50/63.50	4.31/109.47	3.42/86.87	3.53/89.66	0.07/1.78

# Type B Flange



## Carrier Cross Sectional View



Type B	C1	D1	Q	Slots	G	S	T1	L	M
	INCHES/	INCHES/	INCHES/	INCHES/	INCHES/	INCHES/	INCHES/	INCHES/	
MODEL#	mm	mm	mm	mm	mm	mm	mm	mm	mm
CO	1.40/35.56	0.92/23.37	1.88/47.75	0.22 X 0.38/5.59 X 9.65	2.31/58.67	0.50/12.70	_	1.25/31.75	0.06/1.52
C1	2.12/53.85	1.28/32.51	3.00/76.20	0.28 X 0.50/7.11 X 12.70	3.68/93.47	0.56/14.22	_	1.18/29.97	0.06/1.52
C1A	2.09/53.08	2.13/54.10	3.13/79.50	0.38 X 0.63/9.65 X 16.00	4.00/101.60	1.53/38.86	0.69/17.52	2.38/60.45	0.06/1.52
C1B	2.32/58.93	1.91/48.51	3.40/86.36	0.38 X 0.63/9.65 X 16.00	4.24/107.70	1.38/35.05	0.69/17.52	2.38/60.45	0.06/1.52
C2	3.34/84.84	1.91/48.51	4.19/106.43	0.28 X 0.50/7.11 X 12.70	4.81/122.17	1.18/29.97	_	1.75/44.45	0.07/1.78
C2C	3.56/90.42	1.99/50.55	4.19/106.43	0.28 X 0.50/7.11 X 12.70	4.81/122.17	1.18/29.97	_	1.75/44.45	0.06/1.52
C2A	3.94/100.08	2.12/53.85	4.88/123.95	0.34 X 0.50/8.64 X 12.70	5.75/146.05	1.00/25.40	_	2.06/52.32	0.07/1.78
C2AA	3.53/89.66	2.53/64.26	4.62/117.35	0.41 X 0.68/10.41 X 17.27	5.50/139.70	1.72/43.69	1.12/28.45	3.53/89.66	0.07/1.78

<sup>\*</sup>Flange not available (see other flange types).

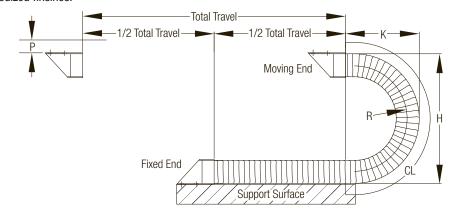
<sup>\*\*</sup>Galvanized steel is standard. Black Oxide finish is available upon request with extended lead times. Please consult Gortrac for availability.



Black oxide finish shown\*\*

# The GORTUBE® Series

The Gortube series entails a range of sizes from small to large. A fully enclosed carrier design from conduit-style square tubing, the Gortube line is excellent for hot chip applications, smooth running operation and for aesthetic applications. Gortube is available in galvanized steel or black anodized finsihes.



# **Specifications**

Standard Mounting bracket arrangement pictured. Please consult factory for alternative arrangements

#### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

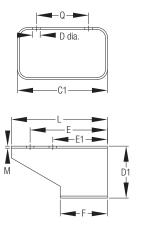
#### **How To Create A Part Number:**

Model # - Height - Bracket Arrangement (Fixed End/Moving End) - Construction Type (Riveted Only = RV) - Length" Sample Part #: C3-20-A/B-RV-36"

#### **GORTUBE Series Design Guide**

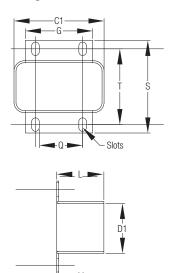
Model# C3 C3A C3AA C3C C4 C5	A	B	C	D	Weight
	INCHES/mm	INCHES/mm	INCHES/mm	INCHES/mm	#/ft./KG/m
	4.01/101.85	2.05/52.07	4.33/109.98	2.36/59.94	2.40/3.57
	4.30/109.22	2.92/74.17	4.53/115.06	3.15/80.01	2.40/3.57
	4.34/110.24	2.16/54.86	4.52/114.81	2.36/59.94	2.80/4.17
	5.31/134.87	3.32/84.58	5.51/139.95	3.54/89.92	3.50/5.21
	6.38/162.05	2.83/71.88	6.69/169.93	3.15/79.88	3.80/5.65
	6.38/162.05	3.23/82.04	6.69/169.93	3.54/89.92	4.00/5.95
	7.56/192.02	3.62/91.95	7.87/199.90	3.93/99.82	4.10/6.10
	8.35/212.09	4.02/102.11	8.66/219.96	4.33/109.98	4.60/6.84
Height C3 135 20 26	R	H	K	CL	P
	INCHES/mm	INCHES/mm	INCHES/mm	INCHES/mm	INCHES/mm
	5.50/139.70	13.50/342.90	7.70/195.58	19.00/482.60	2.50/63.50
	8.90/226.06	20.10/510.54	11.10/281.94	32.50/825.50	3.00/76.20
	11.80/299.72	26.00/660.40	14.00/355.60	44.50/1,130.30	3.00/76.20
C3A 18	7.30/185.42	17.70/449.58	9.90/251.46	25.00/635.00	3.00/76.20
C3AA 13	5.00/127.00	12.50/317.50	7.30/185.42	19.60/497.84	3.00/76.20
C3C 18	7.00/177.80	18.00/457.20	10.00/254.00	28.30/718.82	3.00/76.20
C4 18 23 31 C5 22 C6 23	7.30/185.42	17.80/452.12	9.90/251.46	25.00/635.00	3.00/76.20
	9.90/251.46	22.80/579.12	12.50/317.50	35.50/901.70	3.00/76.20
	13.80/350.52	30.70/779.78	16.40/416.56	51.00/1,295.40	3.00/76.20
	9.10/231.14	21.70/551.18	11.90/302.26	36.50/927.10	3.00/76.20
	9.50/241.30	22.80/579.12	12.50/317.50	38.00/965.20	3.00/76.20
<b>C7</b> 24	9.90/251.46	24.00/609.60	13.00/330.20	39.50/1,003.30	3.00/76.20

# Standard Flange



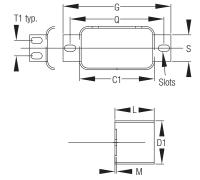
Standard	C1	D1	Q	D	E	E1	F	L	M
MODEL#	INCHES/ mm								
C3	4.59/116.59	2.66/67.56	2.75/69.85	0.34/8.74	3.56/90.42	2.50/63.50	2.50/63.50	4.75/120.65	0.10/2.54
C3A	4.84/122.94	3.41/86.61	2.75/69.85	0.41/10.31	3.50/88.90	_	2.38/60.45	4.75/120.65	0.10/2.54
C3AA	4.74/120.40	2.67/67.81	2.75/69.85	0.38/9.53	4.67/118.67	3.42/86.87	3.00/76.20	5.36/136.44	0.10/2.54
C3C	5.75/146.05	3.73/94.74	3.50/88.90	0.38/9.53	5.80/147.32	3.68/93.47	3.50/88.90	6.25/158.75	0.10/2.54
C4	6.97/177.04	3.42/86.87	3.94/100.08	0.34/8.71	4.75/120.65	3.50/88.90	3.12/79.25	6.31/160.27	0.10/2.54
C5	6.97/177.04	4.03/102.36	4.00/101.60	0.34/8.71	6.18/156.97	5.00/127.00	3.68/93.47	7.31/185.67	0.10/2.54
C6	8.16/207.26	4.25/107.95	4.75/120.65	0.41/10.31	6.68/169.67	5.38/136.65	3.94/100.08	8.12/206.25	0.10/2.54
C7	9.00/228.60	4.67/118.62	5.50/139.70	0.41/10.31	7.38/187.45	5.88/149.35	4.15/105.41	8.75/222.25	0.10/2.54

# Type A Flange



Type A	C1	D1	Q	Slots	G	S	Т	L	М
	INCHES/	INCHES/	INCHES/	INCHES/	INCHES/	INCHES/	INCHES/	INCHES/	
MODEL#	mm	mm	mm	mm	mm	mm	mm	mm	mm
C3	4.59/116.59	2.53/64.26	2.38/60.45	0.34 X 0.50/8.64 X 12.70	3.12/79.25	4.31/109.47	3.50/88.90	2.38/60.45	0.10/2.54
C3A	4.84/122.94	3.41/86.61	2.38/60.45	0.34 X 0.50/8.64 X 12.70	3.25/82.55	5.12/130.05	4.38/111.25	4.56/115.82	0.10/2.54
C3AA	4.74/120.40	2.58/65.53	2.37/60.20	0.34 X 0.50/8.64 X 12.70	3.50/88.90	4.39/111.51	3.50/88.90	3.00/76.20	0.10/2.54
C3C	5.73/145.54	3.79/96.27	3.25/82.55	0.38 X 0.56/9.65 X 14.22	4.25/107.95	5.53/140.46	4.75/120.65	3.50/88.90	0.10/2.54
C4	6.97/177.04	3.42/86.87	3.75/95.25	0.34 X 0.50/8.64 X 12.70	4.75/120.65	5.12/130.05	4.31/109.47	3.12/79.25	0.10/2.54
C5	6.97/177.04	4.03/102.36	3.75/95.25	0.34 X 0.75/8.64 X 19.05	4.75/120.65	6.06/153.92	5.00/127.00	3.68/93.47	0.10/2.54
C6	8.16/207.26	4.25/107.95	4.00/101.60	0.41 X 0.75/10.41 X 19.05	5.50/139.70	6.22/158.00	5.16/131.06	3.94/100.08	0.10/2.54
C7	9.00/228.60	4.67/118.62	4.50/114.30	0.41 X 0.75/10.41 X 19.05	6.06/153.92	6.81/172.97	5.81/147.57	4.38/111.25	0.10/2.54

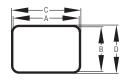
## Type B Flange



Type B	C1 Inches/	D1 INCHES/	Q INCHES/	Slots INCHES/	G INCHES/	S INCHES/	T1 INCHES/	L INCHES/	M INCHES/
MODEL#	mm	mm	mm	mm	mm	mm	mm	mm	mm
C3	4.59/116.59	2.53/64.26	5.56/141.22	0.34 X 0.50/8.64 X 12.70	6.38/162.05	1.38/35.05	_	2.38/60.45	0.12/3.05
C3A	4.84/122.94	3.41/86.61	5.56/141.22	0.38 X 0.50/9.65 X 12.70	6.38/162.05	2.25/57.15	1.50/38.10	5.14/130.56	0.12/3.05
C3AA	4.74/120.40	2.58/65.53	5.56/141.22	0.34 X 0.50/8.64 X 12.70	6.37/161.80	1.38/35.05	0.88/22.35	3.00/76.20	0.07/1.78
C3C	5.73/145.54	3.76/95.50	6.91/175.51	0.38 X 0.56/9.65 X 14.22	7.80/198.12	2.75/69.85	2.00/50.80	3.50/88.90	0.10/5.54
C4	6.97/177.04	3.39/86.11	7.88/200.15	0.34 X 0.50/8.64 X 12.70	8.68/220.47	1.56/39.62	_	3.12/79.25	0.12/3.05
C5*	_	_	_	_	_	_	_	_	_
C6*	_	_	_	_	_	_	_	_	_
C7	9.00/228.60	4.67/118.62	10.10/256.54	0.38 X 0.63/9.65 X 16.00	10.80/274.32	3.00/76.20	2.25/57.15	4.38/111.25	0.12/3.05

<sup>\*</sup>Flange not available (see other flange types).

## Carrier Cross Sectional View



<sup>\*\*</sup>Galvanized steel is standard. Black Oxide finish is available upon request with extended lead times. Please consult Gortrac for availability.







# The Gortrac® SRCAP, LRCAP, **XLAP Series**

The SRCAP, LRCAP and XLAP series are enclosed metallic link-style carriers. Large in size, they utilize an aluminum armor plate to resist heavy debris load and heavy flying parts. With their rugged construction, accessibility, ease of repair and length modification, SRCAP, LRCAP and XLAP metallic carriers are excellent choices for heavy-duty machines, as well as heavy industrial and foundry applications.

# **Specifications**

See SRC and LRC Series (pages 68-69) and XL (pages 72-73) for complete carrier specification guides.

#### Travel/2 + CL (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

How To Create A Part Number: Model # - Bar Width - Height - Number of Separators - Length" Sample Part #: SRCAP-5.25-275-3-80" LRCAP-6.00-350-4-100" XL6AP-8.00-375-5-120"

#### SRCAP, LRCAP, XLAP Series Design Guide

SRCAP LRCAP XL6AP*	See SRC and LRC Series (pages 68-69) and XL (pages 72-73) for complete carrier specification guides. See SRC and LRC Series (pages 68-69) and XL (pages 72-73) for complete carrier specification guides. See SRC and LRC Series (pages 68-69) and XL (pages 72-73) for complete carrier specification guides.
Height:	
SRCAP	See SRC and LRC Series (pages 68-69) and XL (pages 72-73) for complete carrier specification guides.
LRCAP	See SRC and LRC Series (pages 68-69) and XL (pages 72-73) for complete carrier specification guides.
XLAP*	See SRC and LRC Series (pages 68-69) and XL (pages 72-73) for complete carrier specification guides.

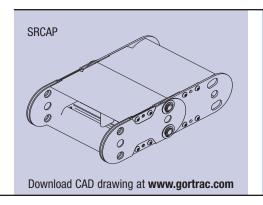
\*NOTE: Armor plates are not available for Model# SRC-110, LRC-150 and XL6-260.

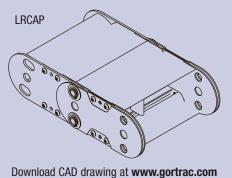
Model#

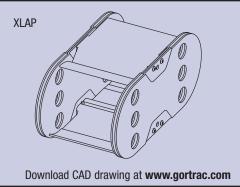
#### **Aluminum Lids**

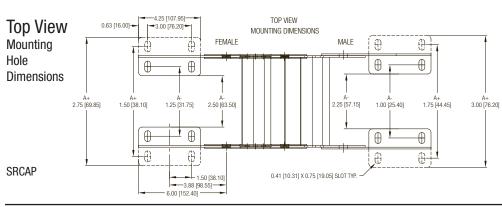
Armor plate style aluminum lids offer maximum protection against hot chips and heavy debris. Available in both easy access snap-in and heavy-duty bolted construction, armor plate lids are ideal for severe and challenging applications, such as machine tools, mills, and foundries.



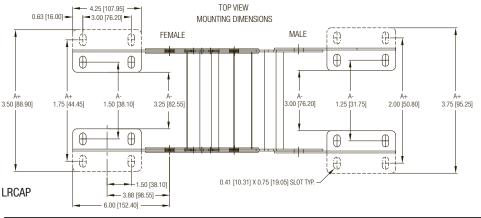


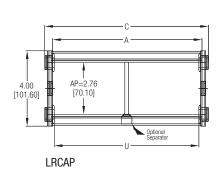


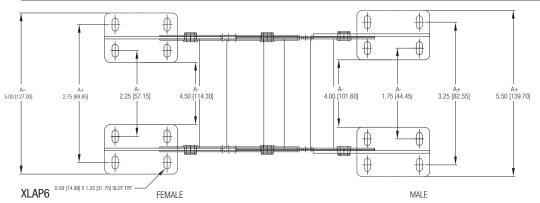




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# **Armor Plate Options**

#### **Aluminum Lids**

Armor plate style aluminum lids offer maximum protection against hot chips and heavy debris. Available in both easy access snap-in and heavyduty bolted construction, armor plate lids are ideal for severe and challenging applications, such as machine tools, mills, and foundries.



# **How to Order**

Travel/2 + Curve Length (+ Offset Distance From Center\*) = Length

\* Gortrac recommends mounting the stationary end of the carrier at the center of travel, minimizing the required length. In cases where center mounting is not possible, add the distance offset from center to the carrier length calculation.

**Gortrac® Recommends:** 

10% Cable Clearance 20% Hose Clearance 60% Maximum Fill

**How To Create a GORTUBE® Part Number:** 

Model # - Height - Flange Type (Standard/A/B, Applies Both Ends) - Construction Type (Riveted Only = RV) - Length" Sample Part #: C2-22-A/B-RV-36"

**How To Create an SRCAP/LRCAP/XLAP Part Number:** 

Model # - Bar Width - Height - Number of Separators - Length"

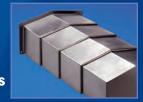
Sample Part #: SRCAP-5.25-275-2-80" LRCAP-6.00-350-3-100" XL6AP-8.00-375-3-120"

1. Determine Gortrac cross section desired. Allow 10% clearance over OD's of enclosed cable and 20% over OD's of hoses to prevent binding.	If you are currently using another cable carrier, please specify:*  Model #: Length/# of Links:				
2. Choose radius (Use manufacturer's suggested cable/hose radius).	Contact information:				
3. Determine total track length. See the formula above. If fixed flange is not mounted in center of travel, please send a sketch or drawing.	Date: For Quotation Only:				
If Gortrac Part Number is known:	Date Required: Quantity:				
Gortrac Part #:	Order Number:				
Bracket Information (See Page 7 — Standard arrangement and orientation is 1 + IN)  Please check your arrangement andorientation selection below:	Company Name:				
□1 □2 □3 □4 □ IN □ OUT	Attention:				
If carrier parameters are known:*	Address:				
Carrier Radius Preferred:	City: State/Prov:				
Gortrac Model #:	Country:				
Acceleration: Feet/Sec.² Maximum Machine Travel Speed: Feet/Sec.	Zip/Postal Code:				
Frequency of Travel: Cycles/Hour Total Machine Travel: Inches	Telephone:				
Gortrac Length (see the formula above):	Fax:				
Cable/Hose Load: Operating Temperature: o F	E-Mail:				
Environment:	Please fax this completed form to the number listed below. *More information may be required. A Cortrac representative may contact you.				

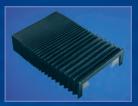


# More Quality A&A Products

#### Telaflex® Metal Telescopic Way Covers



Bellows Way Covers



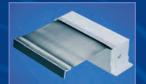
Round Bellows



Way Wipers



Roll Up Covers



Face Shields



Steelflex® Walk On Covers



NT Automatic Door Openers



#### **Gortite® Weld Curtains**

Weld on the move — set up and break down in seconds! Protect against the effects of near UV and UV radiation emitted during arc welding. Aids in containing sawdust or other light debris. Weld curtains can also be used for work cell separation, as a privacy wall, or to block distracting views to increase employee productivity.

- · Most portable weld curtain on the market
- · Easy to use, transport and set-up
- Base length: 80.5" Shade Width: 74.5" Height (extended): 72.0"
- · Retracts to only 4" high for easy storage
- Suitable for MIG, TIG and stick welding
- Steel outriggers create a stable base
- High-visibility safety finish
- Smooth, durable roller wheels



#### **Gortite® Roll Up Doors**

Manufactured from strong, lightweight anodized aluminum extrusions, Roll Up Doors keep personnel safe by allowing closer access to the vehicle and eliminate the damage linked with swing-out doors. Fast opening and closing, Gortite Roll-Up doors provide a full view of a compartment and easy acces to equipment.

Available in custom finishes and colors to match any truck: satin anodized, wet painted or powder coated.



- Fire trucks
- · Emergency vehicles
- Ambulances
- Utility vehicles
- Racing trailers
- Lubrication trucks



SUPPORT - SERVIC

# value-

# **Design and Engineering**



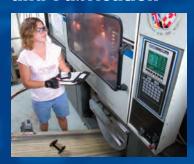
Our experience and manufacturing capabilities provide you with a wide range of value-added services. We can integrate our standard products into turnkey assemblies that include mounting hardware and structural framework, tow arms, electrical and fluid power distribution boxes and manifolds, plus high-velocity guidance systems. A&A also designs, manufactures, and delivers custom assemblies, including: enclosures, motorized doors and door openers, and various other engineered systems used in a wide variety of applications and industries.

# **Assembly and Finishing**



For over 50 years, A&A Manufacturing has been committed to providing quality products made in the United States for an incredibly diverse customer base. The Gortite® Division produces a wide range of metal and fabric protective covers. The Gortrac® Division manufactures a complete line of plastic and metal cable and hose carriers, as well as roll-up doors used on emergency and commercial vehicles.

# Manufacturing and Fabrication



Our manufacturing capabilities include:

- + Laser Cutting
- + Water Jet Cutting
- Punching
- + Vertical Machining
- + Horizontal Machining
- Stamping
- + Precision Bending
- + Turning
- + Automotive-Grade Painting
- + Injection Molding
- + Thermoset Extruding
- + Pour Molding
- + Welding (Metal & Plastic)
- + Sewing
- Refurbishing
- + Buffing/Polishing
- Assembly
- + Expert Spring Winding

Put our team to work on your next application and discover the benefits of **value**+ from A&A.



Gortrac® Division A&A Manufacturing Company, Inc.

2300 South Calhoun Road New Berlin, WI 53151

TEL: (262) 786-1500 FAX: (262) 786-3280 TOLL FREE: 800-394-1547

E-MAIL: sales@gortrac.com www.gortrac.com