

ROBOTRAX

3D multi-axis
3D cable carrier system
cable system
carrier



KABELSCHLEPP

Key Features:

- Perfect for 3D multi-axis movement applications. Maintains a pre-determined minimum bend radius
- Open-style design allows for easy installation, inspection and service of cables and hoses
- High tensile strength, braided steel wire rope core gives added strength
- Use in articulating arm robotic applications and for applications requiring 3D, swiveling, and rotating movements:
 - The same system can be used in robot base and robot arm locations
- Optimum protection for the longevity of your cables and/or hoses:
 - Minimum bend radius of cables and/or hoses is maintained
 - Cables and/or hoses can be properly partitioned into three separate compartments
- Easy installation: Cables/hoses can be easily pressed into the carrier system's cavity partitions
- Quick-opening mounting brackets: Easily attach any link of the ROBOTRAX system to any mounting point on the robot



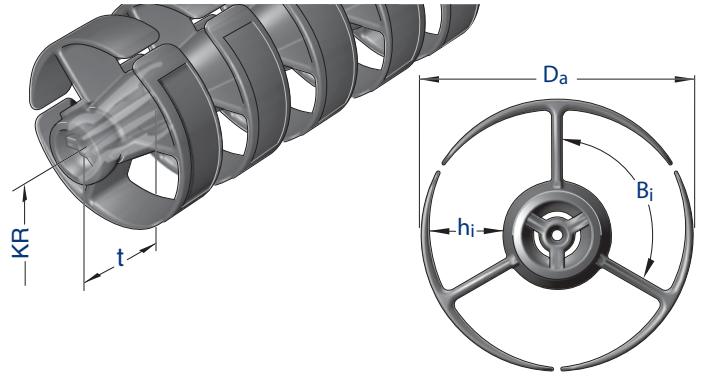
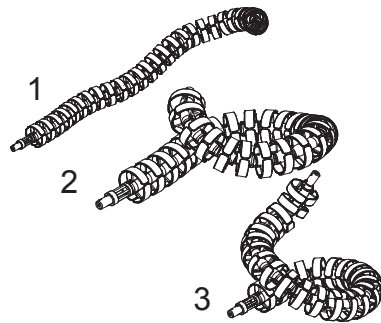
GENERAL DATA

| | |
|----------|----------------|
| E | CONOMIC |
| V | ALUE |
| A | DDED |
| 5 | |

A product group's EVA score is a general indicator that allows a customer to quickly and easily compare a product group's basic price, features, capabilities and value relative to other comparably sized products within the KS product range.

Download 3D CAD files, videos, updated product info & much more at:
www.kabelschlepp.com/robotrax.htm

Example of typical ROBOTRAX 3D articulation



Dimensions in inches (mm)

Technical Data

| | Bend Radius KR | Outer Link Diameter \varnothing Da | Inner Link Diameter \varnothing Bi | Cavity Height hi | Pitch Link Length t | Recommended Cable/Hose Diameters \varnothing |
|-------|--------------------------|--|--|----------------------------|-------------------------------|--|
| R 040 | 3.15 (80) | 1.57 (40) | 1.06 (27) | 0.39 (10) | 0.85 (21.5) | 0.08 to 0.33 (2) to (8.5) |
| R 056 | 4.53 (115) | 2.20 (56) | 1.54 (39) | 0.55 (14) | 1.26 (32) | 0.08 to 0.43 (2) to (11) |
| R 075 | 5.71 (145) | 2.95 (75) | 2.05 (52) | 0.87 (22) | 1.57 (40) | 0.12 to 0.71 (3) to (18) |
| R 085 | 6.89 (175) | 3.35 (85) | 2.13 (54) | 0.94 (24) | 1.57 (40) | 0.12 to .079 (3) to (20) |
| R 100 | 7.68 (195) | 3.94 (100) | 2.52 (64) | 1.22 (31) | 1.57 (40) | 0.12 to 1.06 (3) to (27) |

Typical ROBOTRAX System Components



Ordering a complete ROBOTRAX cable carrier system

ROBOTRAX carrier system; completely assembled with the required number of mounting brackets, steel wire and metal shim bolts.

For example: R 075 - 145 x 50 links + 4 mounting brackets

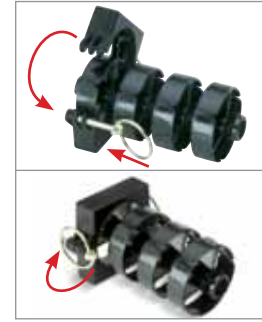
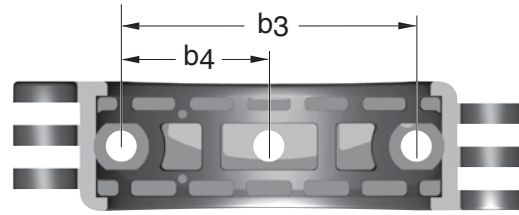
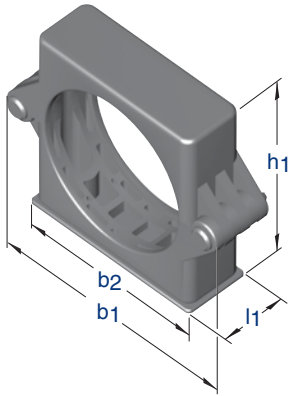
How To Order

1-800-443-4216



$$\begin{array}{ccccccc}
 \text{Number of} & \times & \text{Carrier} & + & \text{Bend} & \times & \text{Links in} & + & \text{Number of} \\
 \text{Systems Req.} & & \text{Type} & & \text{Radius} & & \text{Length} & & \text{Brackets} \\
 \downarrow & & \downarrow & & \downarrow & & \downarrow & & \downarrow \\
 10 & \times & R\ 075 & - & 145 & \times & 50\ \text{Links} & + & 4\ \text{Brackets}
 \end{array}$$

Specifications are subject to change without notice.
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Clam-shell closure with spring-clip locking pin

Dimensions for Hinged-Opening Mounting Brackets

inches (mm)

| Type | Overall Height h1 | Overall Depth l1 | Overall Width b1 | Mounting Width b2 | Outer Hole Offset b3 | Inner Hole Offset b4 | Fastening Bolt Types |
|-------|-------------------|------------------|------------------|-------------------|----------------------|----------------------|----------------------|
| R 40 | 2.13 (54) | 0.59 (15) | 3.23 (82) | 1.97 (50) | 1.42 (36) | 0.71 (18) | M4 Required |
| R 056 | 2.76 (70) | 0.87 (22) | 3.39 (86) | 2.48 (63) | 1.89 (48) | 0.94 (24) | M4 Required |
| R 075 | 3.39 (86) | 1.10 (28) | 4.33 (110) | 3.23 (82) | 2.52 (64) | 1.26 (32) | M6 Required |
| R 085 | 4.13 (105) | 1.18 (30) | 5.24 (133) | 3.78 (96) | 2.83 (72) | 1.42 (36) | M8 Required |
| R 100 | 4.72 (120) | 1.26 (32) | 5.91 (150) | 4.41 (112) | 2.76 (70) | 1.38 (35) | M8 Required |

ROBOTRAX

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ROBOTRAX Standard Components

| Type | Mounting Bracket Components 2 of each required per bracket set | | Metal Clamp Bolts 2 bolts required per system | Steel Wire please specify the total length of individual segments required | Strain Relief required to properly secure cables and hoses |
|-------|---|---------------|--|---|---|
| | Bracket Half (A) | Hinge Pin (B) | | | |
| R 040 | 60350 | 60591 | 60661 | 60583 Diameter Ø = 0.07 (1.8) | 60658 |
| R 056 | 60450 | 60591 | 60662 | 60580 Diameter Ø = 0.09 (2.38) | 60657 |
| R 075 | 60550 | 60590 | 60560 | 60580 Diameter Ø = 0.09 (2.38) | 60659 |
| R 085 | 60650 | 60590 | 60560 | 60580 Diameter Ø = 0.09 (2.38) | 60659 |
| R 100 | 60750 | 60590 | 60660 | 60581 Diameter Ø = 0.16 (4) | 60659 |

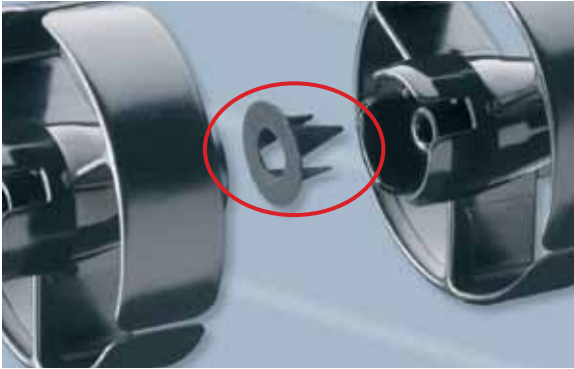
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ROBOTRAX Optional Accessories

Alternate Bend Radii Inserts for R 075, R 085, and R 100 Sizes

Dimensions in inches (mm)



When the minimum bend radius of the cables or hoses being placed inside the ROBOTRAX carrier is larger than the standard bend radius of the cable carrier, optional Bend Radii Inserts can be added to increase the bend radius (KR) of the carrier to a larger bend radius that is appropriate for the cables or hoses being used. (see chart for dimensions)

| Part Number | R 075 | R 085 | R 100 |
|--------------|-------------|-------------|-------------|
| 60830 | 6.30 (160) | 9.06 (230) | 11.02 (280) |
| 60831 | 7.48 (190) | 10.43 (265) | 12.20 (310) |
| 60832 | 8.66 (220) | 11.81 (300) | 13.39 (340) |
| 60833 | 9.84 (250) | 13.19 (335) | 14.57 (370) |
| 60834 | 11.02 (280) | 14.57 (370) | 15.75 (400) |
| 60835 | 12.20 (310) | 15.95 (405) | 16.93 (430) |
| 60836 | 13.39 (340) | 17.32 (440) | 18.11 (460) |
| 60837 | 14.57 (370) | 18.70 (475) | 19.29 (490) |
| 60838 | 15.75 (400) | 20.08 (510) | 20.47 (520) |
| 60839 | 16.93 (430) | 21.46 (545) | 21.65 (550) |



Tension Chucking Device

Makes setting the steel wire to the required tension quick and easy.

(Note: can not be used with standard Strain Relief Piece)

| Type | R 040 | R 056 | R 075 | R 085 | R 100 |
|--------------------|---------------|---------------|---------------|---------------|---------------|
| Part Number | 260430 | 260530 | 260230 | 260230 | 260330 |



Strain Relief

Allows cables/hoses to be easily secured using standard tie-wraps.

(Note: can not be used with Tension Chucking Device)

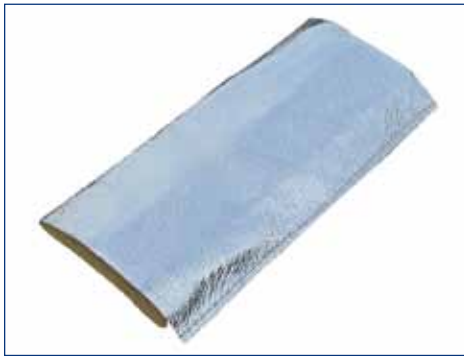
| Type | R 040 | R 056 | R 075 | R 085 | R 100 |
|--------------------|--------------|--------------|--------------|--------------|--------------|
| Part Number | 60658 | 60657 | 60659 | 60659 | 60659 |



Protective Sleeves

Protective Heat Sleeve: Constructed of textile fiber layered with aluminum, this sleeve protects the ROBOTRAX cable carrier and its contents from heat, sparks and other debris. Recommended for use with ROBOTRAX on applications such as welding robots.

Protective Dirt Sleeve: The layered polyester sleeve offers protection against aggressive cutting and hydraulic oils as well as fine dust particles and spray paints. (not pictured)



Ordering Protective Sleeves

Heat Sleeve see Part Number A
Dirt Sleeve see Part Number B (not pictured)

Please specify total length and/or individual segment lengths.

| Type | R 040 | R 056 | R 075 | R 085 | R 100 |
|---------------|-------|-------|-------|-------|-------|
| Part Number A | 60801 | 60802 | 60803 | 60804 | 60805 |
| Part Number B | 60806 | 60807 | 60808 | 60809 | 60810 |



Impact Protection

When a robot is in motion, ROBOTRAX may come in hard contact with parts of the robot. To soften the impact, use these link protection parts. These parts are made of elastomer plastic and can be easily installed on each link using a cable tie.



Ordering Impact Protection

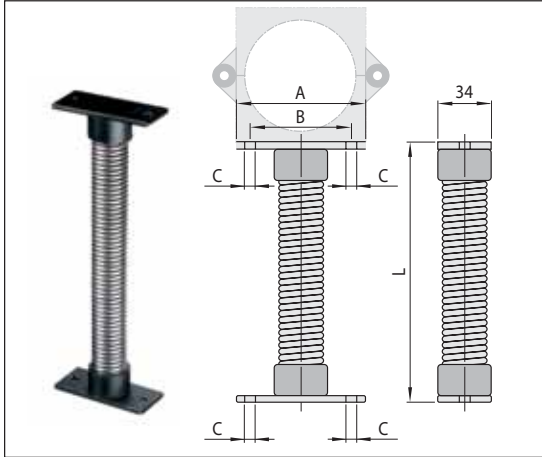
Packaged in kits: 5 pieces
 Consists of: 10 semi-circular half shells and 5 tie-wraps

| Type | R 075 | R 085 | R 100 |
|-------------|--------|--------|--------|
| Part Number | 260120 | 260240 | 260340 |



Flexible Spring Extension for ROBOTRAX Mounting Brackets

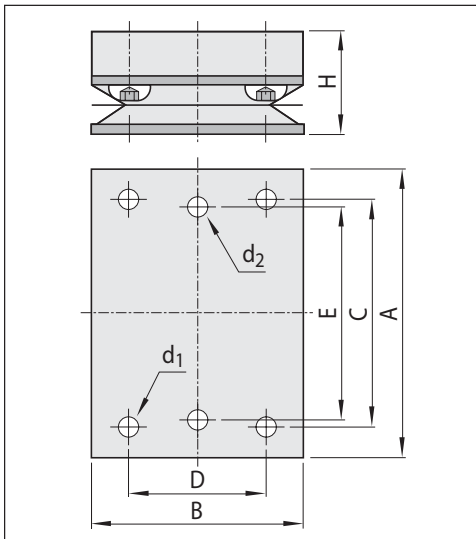
The Flexible Spring Extension allows ROBOTRAX brackets to be mounted away from the machine and the ability to flex in all directions for three dimensional movement.



| Type | R 075 | R 085 | R 100 |
|-------------------------------|--------------|--------------|--------------|
| A | 3.23 (82) | 3.78 (96) | 4.41 (112) |
| B | 2.52 (64) | 2.83 (72) | 2.76 (70) |
| C | 0.26 (6.5) | 0.33 (8.5) | 0.33 (8.5) |
| Length L = 6.50 (165) | 60816 | 60820 | 60824 |
| Length L = 9.06 (230) | 60817 | 60821 | 60825 |
| Length L = 12.40 (315) | 60818 | 60822 | 60826 |
| Length L = 18.31 (465) | 60819 | 60823 | 60827 |

Swivel Base for ROBOTRAX Mounting Brackets

The Swivel Base option allows the mounting bracket to swivel at the attachment points to accommodate more complex robot movements.



| Type | R 075 | R 085 | R 100 |
|----------------------|---------------|---------------|---------------|
| A | 3.23 (82) | 3.78 (96) | 4.41 (112) |
| B | 2.24 (57) | 2.76 (70) | 2.76 (70) |
| C | 1.69 (43) | 2.95 (75) | 2.95 (75) |
| D | 1.69 (43) | 1.77 (45) | 1.77 (45) |
| E | 2.52 (64) | 2.83 (72) | 2.76 (70) |
| H | 0.98 (25) | 1.34 (34) | 1.34 (34) |
| d₁ | M6 | M6 | M6 |
| d₂ | M6 | M8 | M8 |
| Part Number | 260550 | 260560 | 260570 |

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ROBOTRAX

- Benchmark patented design
- Innovative system for 3D and multi-axis movements
- Easy press-in cable/hose installation and replacement
- Easy to inspect system contents with optional covers available
- Extremely high system tensile strength for high speed and high stress 3D movements

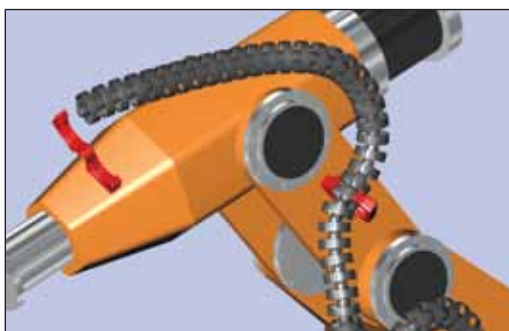


The first of its kind ROBOTRAX cable and hose management system has been designed from the ground up to be the ultimate in long-term protection for your continuously moving cables and hoses attached to machinery requiring multi-axis or 3D movement.



Since ROBOTRAX is a true three dimensional cable and hose carrier system, only one ROBOTRAX carrier system is typically required for swiveling and rotating movements that would normally require separate chain systems for each axis.

The truly ingenious design of the ROBOTRAX system combines the traits of ultimate flexibility, strength and content organization into one system. The patented steel rope core provides extremely high tensile strength. The adjustable minimum bend radius, critical in maintaining cable and hose operating longevity, is maintained and cables and/or hoses can be properly partitioned in three separate compartments.



Installing and/or replacing individual cables or hoses: Completely harnessed (with connectors and fittings) cables or hoses are simply pressed into the ROBOTRAX system cavity partition and can be easily inspected or individually replaced whenever necessary.

Whenever required, the complete ROBOTRAX system can be replaced in just minutes – no time consuming screwing and no replacement of cable ties. Just open the quick-connect mounting brackets, take out the entire system and install a new one – it's that easy, saving time and money!

KABELSCHLEPP

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