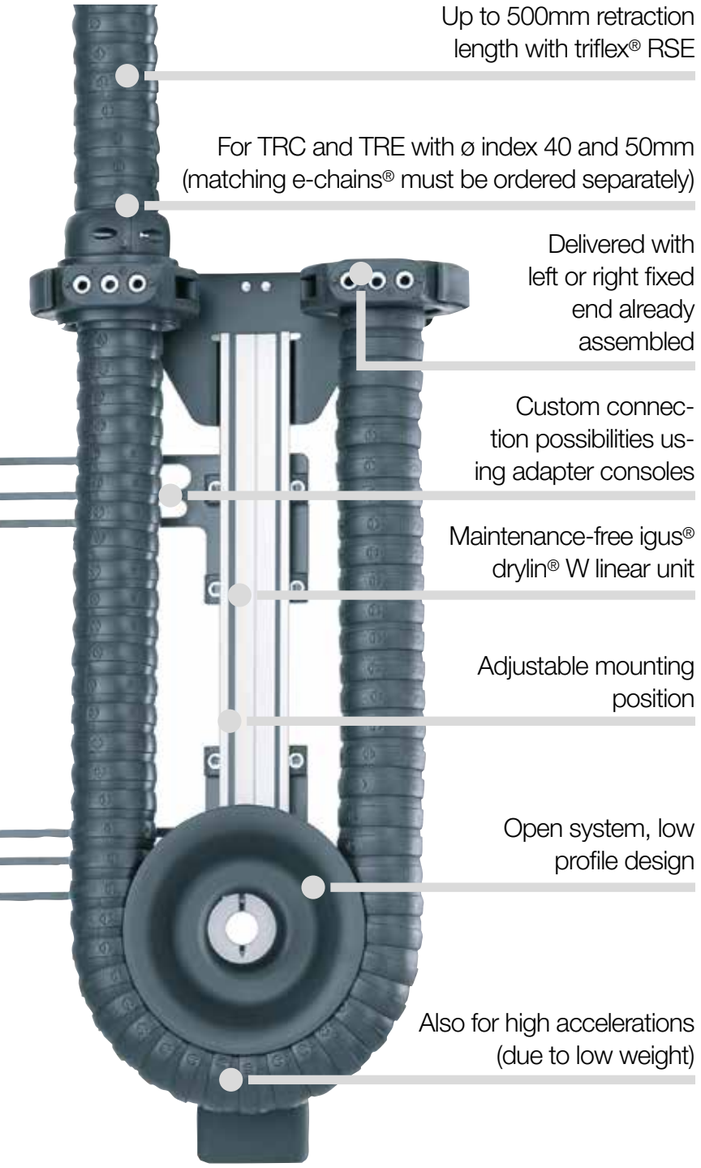
RSE retraction system

Cost-effective retraction system with deflection



Cost-effective retraction system with deflection for small robots - triflex® RSE

Specially developed for robots with small to medium cable and hose filling, the igus® triflex® RSE retraction system offers a way to prevent loop formation in the workspace of the robot, even in highly dynamic applications.

- For series TRC·TRE with ø index 40 and 50mm
- Extremely fast response, even in highly dynamic robot programs
- Low weight, very little reduction in robot handling capacity
- Universal adjustable installation brackets
- Maintenance and lubrication-free igus® drylin® W linear unit
- For maximum degrees of freedom
- For cable diameters up to 18.8mm

RSE applications

RSE - R(etraction) S(ystem) E(lastic)

Reliable and controlled energy supply, even in confined space with the igus® triflex® RSE retraction system

e-chain® is guided closely to the arm with a low profile

RSE retraction system

System design with matching e-chains®

Optional cover for additional installation space on the robot: **TR.RSE.XX.COVER**

Matching triflex® R e-chains® for RSE with integrated fibre-rods
TRC.RSE.XX.*R*.LLLL.0
TRE.RSE.XX.*R*.LLLL.0.B

e-chain® overall length =
additional length from the gliding feed-through **LLLL +**
the e-chain® length within the system

RSE system (e-chain® not included) **+**
Mounting bracket **+**
Gliding feed-through **=**
TR.RSE.(02).XX.L or
TR.RSE.(02).XX.R

Complete RSE retraction system with deflection, with fixed end on the right and TRC triflex® R series. Mounting bracket and gliding feed-through are included. Please order matching triflex® R e-chain® and optional cover separately.

RSE retraction system

Sample order of a retraction system including e-chain®

Sample order of a complete TR.RSE system, ø index 50, fixed end on the left, including cover and e-chain® (standard length: 500mm)

System	Insert Ø index / select fixed end **.L / .R**	**TR.RSE.50.L**
+ Cover	Insert Ø index (cover optional)	**TR.RSE.50.COVER**
+ e-chain®	Insert ø index / Insert bend radius ***R*** / Insert standard length **LLLL**	**TRC.RSE.50.080.0500.0**
Order text:	**TR.RSE.50.L + TR.RSE.50.COVER + TRC.RSE.50.080.0500.0**	

Retraction system order key

TR.RSE.50.L
TR.RSE.50.R

L = Fixed end right or
R = Fixed end left
ø index
Retraction system
Series

e-chains® order key

TRC.RSE.50.080.0500.0
TRE.RSE.50.080.0500.0.B

Default colour black
LLLL = Additional length
R Bend radius
ø index
Retraction system
e-chains® series

Optional accessories | RS modular retraction system

Cover
for additional installation space and complex movements
▶ **Page 94**

Adapter consoles
for custom mounting options
▶ **Page 123**

Axis 6 clamp
for triflex® R mounting bracket
▶ **Page 126**

RSE retraction system

Product range

Optional cover for additional installation space

Product range | RSE cost-effective retraction system with deflection

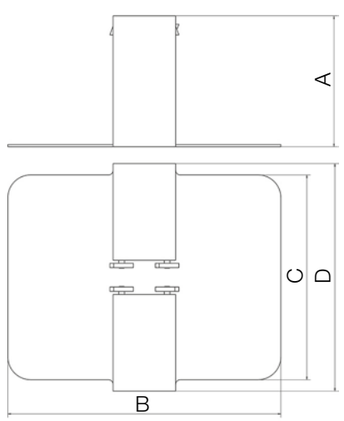
Ø Index		Part No. fixed end **left**	Part No. fixed end **right**	Retraction length[1] ≤ [mm]	A [mm]	B [mm]	C [mm]	D [mm]	Weight [kg]
30.	▶	–	–	–	–	–	–	–	–
40.	▶	**TR.RSE.02.40.L**	**TR.RSE.02.40.R**	500	440	220	110	64.7	1.6
50.	▶	**TR.RSE.50.L**	**TR.RSE.50.R**	500	497	275	132	79	2.1
60.	▶	–	–	–	–	–	–	–	–
65.	▶	–	–	–	–	–	–	–	–
65. (*R 200*)	▶	–	–	–	–	–	–	–	–
70.	▶	–	–	–	–	–	–	–	–
85.	▶	–	–	–	–	–	–	–	–
85. (*R 240*)	▶	–	–	–	–	–	–	–	–
100.	▶	–	–	–	–	–	–	–	–
125.	▶	–	–	–	–	–	–	–	–

Please order matching triflex® R e-chain® separately. 1) Max. retraction length.

Product range | RSE cover, optional

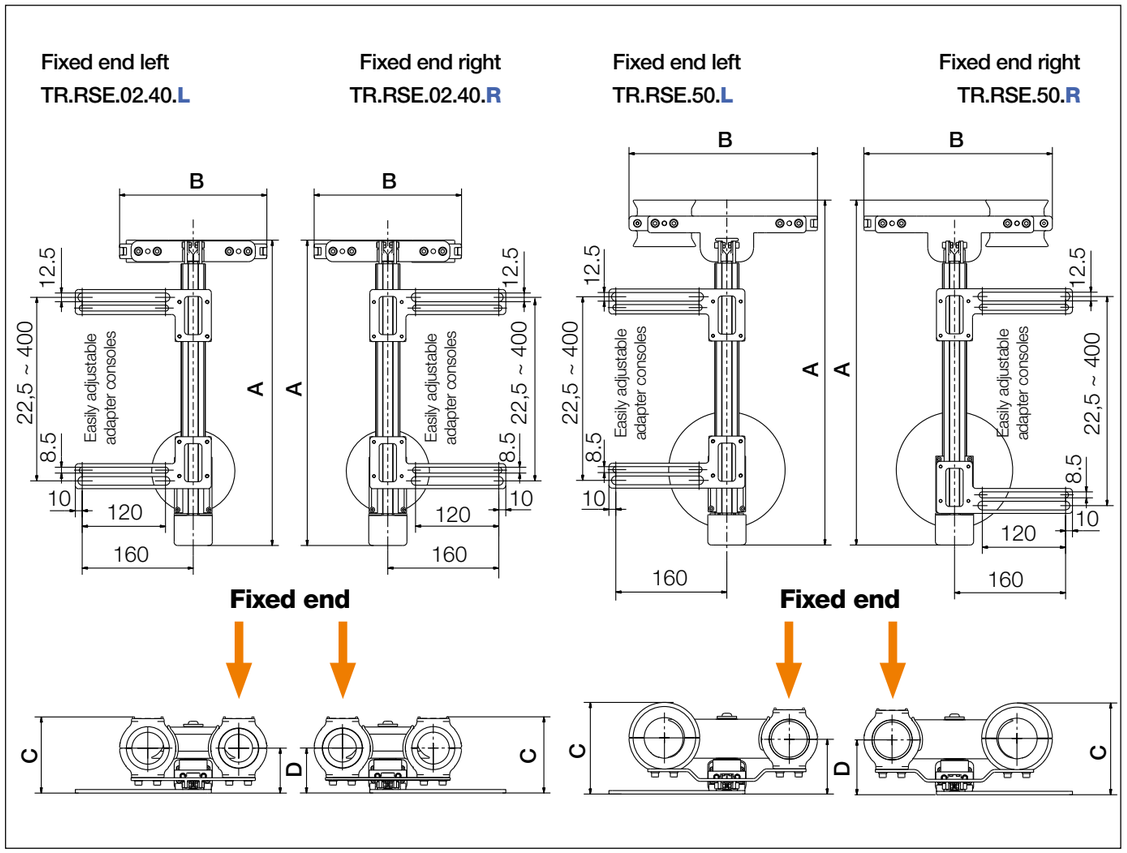
Ø Index		Optional cover retrofit kit	A [mm]	B [mm]	C [mm]	D [mm]	Load* ≤ [kg]	Weight [kg]
30.	▶		–	–	–	–	–	–
40.	▶	**TR.RSE.40.COVER**	115	240	180	200	1.5	1.1
50.	▶	**TR.RSE.50.COVER**	126	300	248	248	1.5	1.7
60.	▶		–	–	–	–	–	–
65.	▶		–	–	–	–	–	–
65. (*R 200*)	▶		–	–	–	–	–	–
70.	▶		–	–	–	–	–	–
85.	▶		–	–	–	–	–	–
85. (*R 240*)	▶		–	–	–	–	–	–
100.	▶		–	–	–	–	–	–
125.	▶		–	–	–	–	–	–

*Maximum fill weight to be used with the cover



RSE retraction system

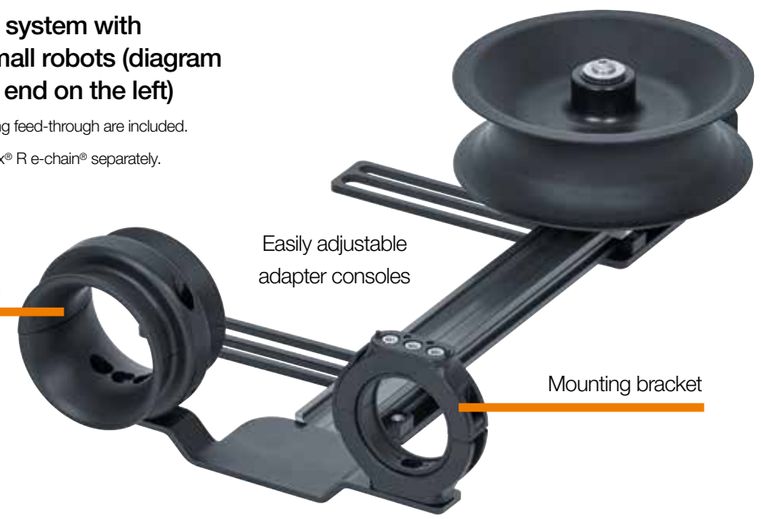
Installation dimensions



RSE - retraction system with deflection for small robots (diagram shows the fixed end on the left)

Mounting bracket and gliding feed-through are included.

Please order matching triflex® R e-chain® separately.



RSE e-chains®

Product range

Product range | Matching e-chains® for RSE

Ø Index	Part No. **TRC** enclosed	Part No. **TRE** "easy" design
30.	–	–
40.	**TRC.RSE.40.058.LLLL.0**	**TRE.RSE.40.058.LLLL.0.B**
50.	**TRC.RSE.50.080.LLLL.0**	**TRE.RSE.50.080.LLLL.0.B**
60.	–	–
65.	–	–
65. (*R 200*)	–	–
70.	–	–
85.	–	–
85. (*R 240*)	–	–
100.	–	–
125.	–	–

*Standard lengths from the gliding feed-through outside the system - special lengths upon request.

e-chains® standard lengths*

LLLL [mm] | **0500** | **0750** | **1000** | **1250** |

Part No. with **LLLL** standard length value (measured from the gliding feed-through) corresponds to the robot arm length from axis 3. For example: **TRC.RSE.40.058.0500.0**

RSE e-chains®

Cable length calculation

Calculation of the e-chain® total length | RSE e-chain®

Ø Index	Bend radius *R* [mm]	e-chain® length* [mm]	Number of e-chains® links	e-chain® overall length [mm]
30.	–	–	–	–
40.	058	904	65	**LLLL** + 904
50.	080	1,044	60	**LLLL** + 1,044
60.	–	–	–	–
65.	–	–	–	–
65. (*R 200*)	–	–	–	–
70.	–	–	–	–
85.	–	–	–	–
85. (*R 240*)	–	–	–	–
100.	–	–	–	–
125.	–	–	–	–

*Values are related to the e-chain® length within the system

To calculate the total e-chain® length: please add the e-chain® length* within the system to the **LLLL** standard additional length (measured from the gliding feed-through)

e-chain® overall length =
additional length from the gliding feed-through **LLLL** +
the e-chain® length within the system

More information and installation dimensions | RSE e-chains®

- **TRC series** - closed design, chip protection, smooth outer contour ▶ **From page 28**
- **TRE series** - "easy" design, very easy to fill, simply press cables in ▶ **From page 30**

RSE·RSEC linear

Compact retraction system, linear

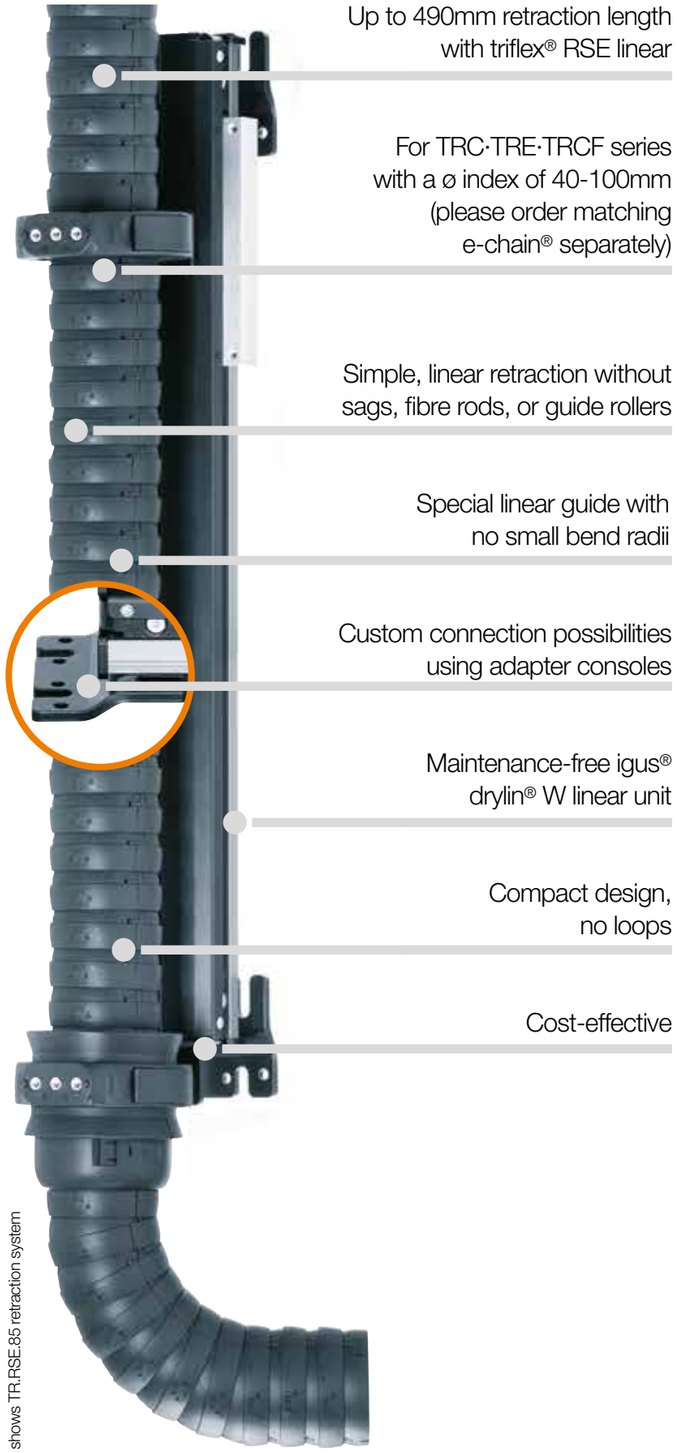


Illustration shows TR.RSE.85 retraction system

Compact retraction system - triflex® RSE and RSEC linear

It is increasingly the case that not only electric power and fluids have to be supplied to production robots; but also laser cables and supply hoses for rivets, pins and screws. As these often cannot function with small bend radii, the new triflex® RSE and RSEC relies on very easy linear retraction without loops and spring rods or deflection rollers. The purpose of the triflex® RSE and RSEC retraction system is to hold the e-chain® as closely as possible to the robot arm in order to prevent the e-chain® from intruding upon or blocking the robot's movements.

- Simple, linear retraction without sags, fibre rods, or guide rollers
- For series TRC·TRE·TRCF with ø-index 40-100mm
- Special linear guide with no small bend radii
- Up to 490mm retraction length
- Space-saving and cost-effective
- Maintenance-free drylin® W linear unit

RSE·RSEC linear

RSE linear - R(etraction) S(ystem) E(lastic) linear
RSEC linear - R(etraction) S(ystem) E(lastic) C(ompact) linear

igus® TR.RSE system on test robot

Lightweight, linear retraction system for small robots. RSE·RSEC linear for sizes TR.RSE.40, TR.RSE.50, TR.RSEC.60, TR.RSEC.65 and TR.RSEC.65.200 ► **From page 102**

Linear retraction system with attachment brackets for a wide variety of robot models. RSE linear sizes TR.RSE.60 up to TR.RSE.100 ► **From page 104**