Up to 780 mm retraction length possible with TRC, TRE and TRCF e-chains® (please order matching e-chain® separately)

Increased protection against failure by optional end position monitoring

Standard pneumatic components for easy integration

Pressure compensation unit for an adjustable retraction force

Open system, low profile design

Custom connection possibilities using adapter consoles

Double retraction distance relative to the overall length

Pneumatic retraction system - triflex® RSP

triflex® RSP prevents creation of loops on the robot head, with a continuously adjustable retraction force. Extension lengths of up to 780 mm enable a secure guidance of the cables and hoses, even with large arm diameters and very complex movements. The retraction forces can be adjusted using a pneumatic cylinder. Whether light or heavy fill weights, long or short robot arms - with the igus® RSP retraction system the retraction force can always be adjusted to the individual application.

- Even larger e-chains® up to Ø 125 mm can be guided safely
- Almost constant force path over the complete travel, even with heavy fill weights
- The end position can be monitored and so damage can be prevented
- Larger retraction forces than RS system
- Mounting options for numerous robot models and manufacturers with adapter consoles
- For axis 3-6 on industrial robots
- Hardly any energy consumption due to integrated air reservoir

Optional accessories | RSP pneumatic retraction system

Adjustment unit - for accurate adjustment of the system position

**Adapter consoles** - for custom mounting options

Axis 6 clamp - for triflex® R mounting bracket

igus

RSP │ For series TRC·TRE·TRCF │ Application example

RSP - R(etraction) S(ystem) P(neumatic)


Pneumatic retraction system
triflex® RSP - prevents loops
in the robot's working area
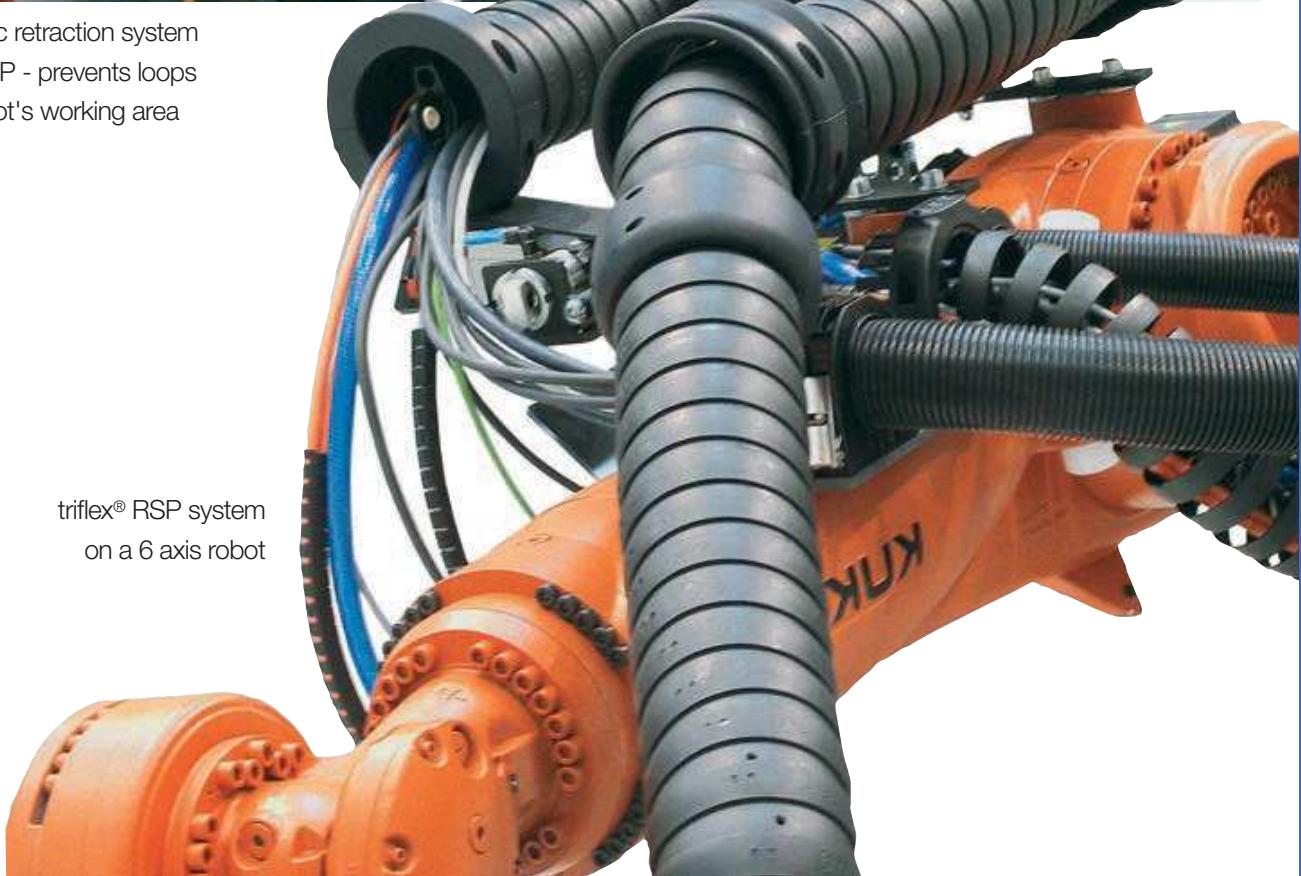
triflex® RSP system
on a 6 axis robot

triflex® R | RSP | For series TRC·TRE·TRCF | Accessories

Technical data

Dimensions | RSP pneumatic retraction system

| Fixed end left TR.RSP.XX.L | Fixed end right TR.RSP.XX.R | Pressure compensation unit |
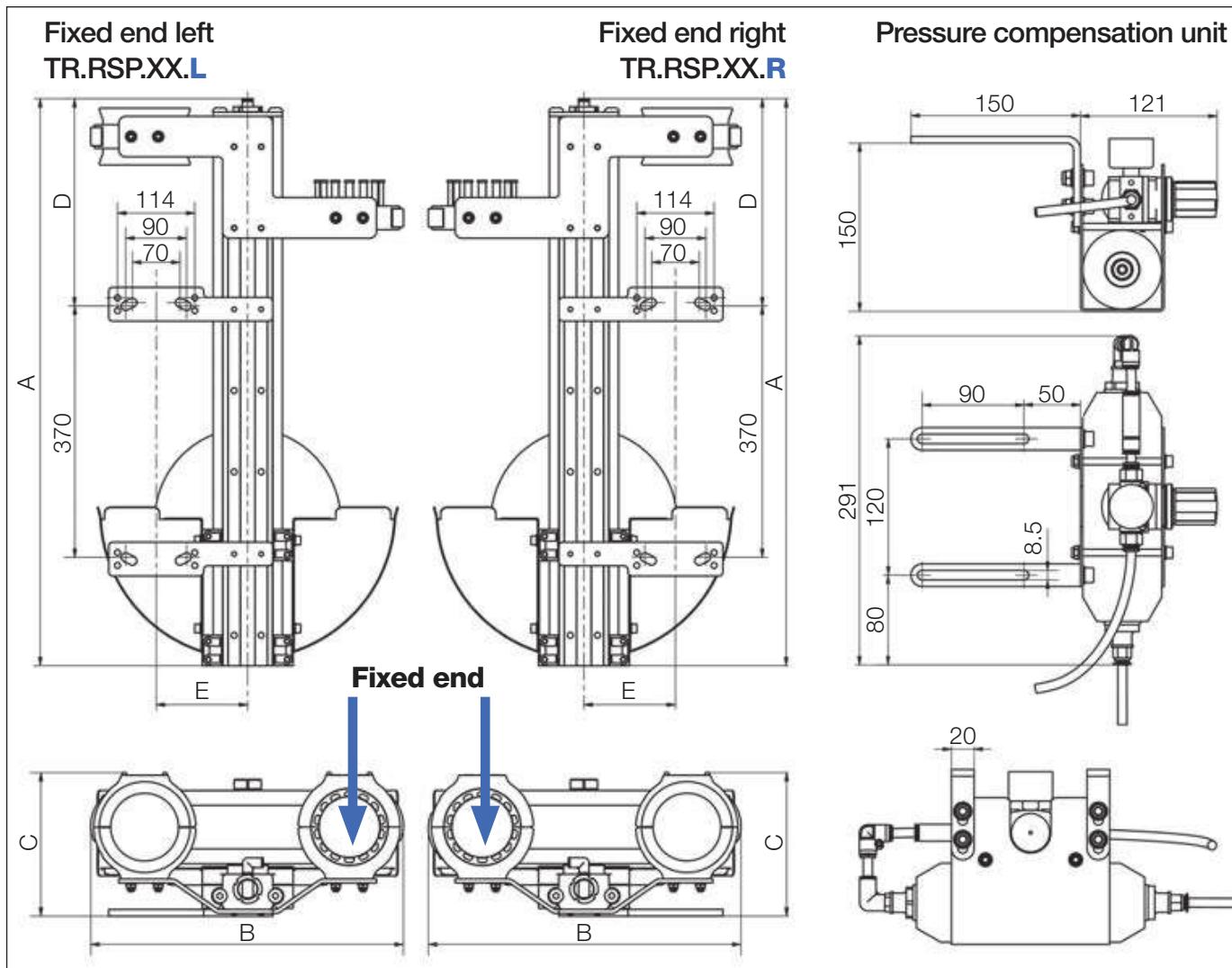
Fixed end

RSP pneumatic retraction system
Graph shows fixed end left

Pressure compensation unit, mounting bracket and gliding feed-through are included in the delivery. Please order matching triflex® R e-chain® separately.

Gliding feed-through

Mounting bracket with strain relief
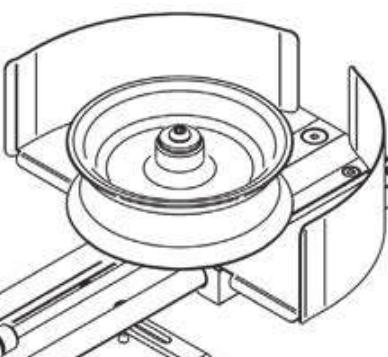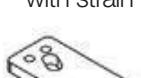
Pressure compensation unit - option for the RSP

Product range

Product range | RSP pneumatic retraction system

Ø Index		Part No. fixed end **left**	Part No. fixed end **right**	Retraction length[1] ≤ [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	Weight* [kg]
30.	▶	–	–	–	–	–	–	–	–	–
40.	▶	–	–	–	–	–	–	–	–	–
50.	▶	–	–	–	–	–	–	–	–	–
60.	▶	TR.RSP.60.L	TR.RSP.60.R	580	792	396	177	277	135	16.1
65.	▶	TR.RSP.65.L	TR.RSP.65.R	580	792	396	177	277	135	16.1
70.	▶	TR.RSP.70.L	TR.RSP.70.R	580	792	396	177	277	135	16.2
85.	▶	TR.RSP.85.L	TR.RSP.85.R	620	836	461	213	306	135	19.4
85. (R 240)	▶	–	–	–	–	–	–	–	–	–
100.	▶	TR.RSP.100.L	TR.RSP.100.R	620	845	467	213	306	135	19.5
125.	▶	TR.RSP.125.L	TR.RSP.125.R	780	1043	570	245	405	135	24.1

Pressure compensation unit, mounting bracket and gliding feed-through are included in the delivery. Please order matching triflex® R e-chain® separately.

1) These are the maximum values. In normal operation a filling of no more than 70% is advised.

*Plus 2.3 kg for pressure compensation unit

🔑 Order key

TR.RSP.XX.L / R

R = Fixed end right
L = Fixed end left
Ø Index
System
e-chains® series

RSP retraction system and matching e-chains®
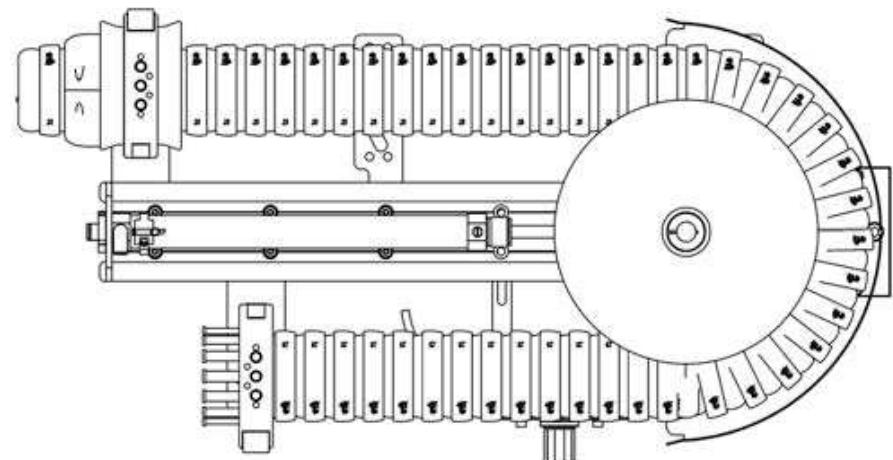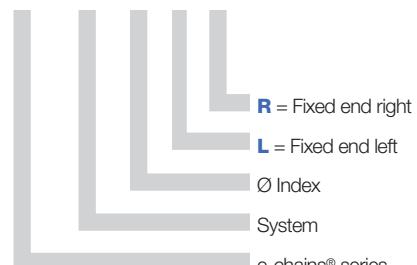
System design | RSP and matching e-chains®

Matching triflex® R e-chains® for RSP
TRC .RSP.XX.*R*.**LLLL**.0
TRE .RSP.XX.*R*.**LLLL**.0.B
TRCF.RSP.XX.*R*.**LLLL**.0

Overall length =
additional length from the gliding feed-through
LLLL + the chain length within the system

RSP-System (without e-chain®) **+**
Pressure compensation unit **+**
Mounting bracket **+**
Gliding feed-through **=**
TR.RSP.XX.L or **TR.RSP.XX.R**

🛒 **Sample order of a complete TR.RSP system, ø-Index 60, fixed end on the left, and e-chain® (standard length: 500 mm)**

System	Insert Ø index **XX** / select fixed end **.L / .R**	**TR.RSP.XX.L**
+ e-chain®	Insert ø-index **XX** / Insert bend radius **R** / Insert standard length **LLLL**	**TRC.RSP.60.087.500.0**
Order text:	**TR.RSP.60.L + TRC.RSP.60.087.500.0**	

🔑 **Order key e-chains®**

TRC .RSP.XX.*R*.**LLLL**.0
TRE .RSP.XX.*R*.**LLLL**.0.B
TRCF.RSP.XX.*R*.**LLLL**.0

Default colour black
Additional length
R Bend radius
Ø Index
System
e-chains® series

igus
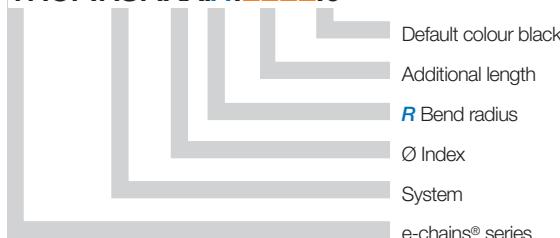
RSP e-chains® and cable length calculation

Product range | Matching e-chains® for RSP

Ø Index		Part No. **TRC** enclosed	Part No. **TRE** "easy" design	Part No. **TRCF** with snap lock mechanism
30.	▶	–	–	–
40.	▶	–	–	–
50.	▶	–	–	–
60.	▶	TRC.RSP.60.087.LLLL.0	TRE.RSP.60.087.LLLL.0.B	–
65.	▶	–	–	TRCF.RSP.65.100.LLLL.0
70.	▶	TRC.RSP.70.110.LLLL.0	TRE.RSP.70.110.LLLL.0.B	–
85.	▶	TRC.RSP.85.135.LLLL.0	TRE.RSP.85.135.LLLL.0.B	TRCF.RSP.85.135.LLLL.0
85. (*R 240*)	▶	–	–	–
100.	▶	TRC.RSP.100.145.LLLL.0	TRE.RSP.100.145.LLLL.0.B/C [1]	TRCF.RSP.100.145.LLLL.0
125.	▶	TRC.RSP.125.182.LLLL.0	TRE.RSP.125.182.LLLL.0.B	–

1) Available for B- and C-versions

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

e-chains® standard lengths*

LLLL [mm] | **500** | **1000** | **1500** | **2000** |

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.RSP.60.087.500.0**

Calculating the overall chain length | RSP e-chains®

Ø Index		Bend radius **R** [mm]	Chain length* [mm]	Number of e-chain® links	Total e-chain® length [mm]
30.	▶	–	–	–	–
40.	▶	–	–	–	–
50.	▶	–	–	–	–
60.	▶	087	1489	73	**LLLL** + 1489
65.	▶	100	1432	62	**LLLL** + 1432
70.	▶	110	1484	58	**LLLL** + 1484
85.	▶	135	1622	53	**LLLL** + 1622
85. (*R 240*)	▶	–	–	–	–
100.	▶	145	1656	48	**LLLL** + 1656
125.	▶	182	1940	44	**LLLL** + 1962

*Values are related to the chain length within the system

Please add the chain length within the system to the standard length **LLLL**

(measured from the gliding feed-through) to get the **overall chain length**