

e-chains® | Series E4.28 crossbars every link (crossbars removable along both radii)

e-tubes | Series R4.28 fully enclosed (hinged snap-open removable lids along outer radius)

Part No. e-chains® / e-tubes	<i>Bi</i> [mm]	<i>Ba</i> [mm]	E4.28 [kg/m]	R4.28 [kg/m]
E4. - 28. 040 . <i>R</i> .0	40	60	≈ 1,06	-
E4. R4. 28. 050 . <i>R</i> .0	50	70	≈ 1,11	≈ 2,20
E4. - 28. 052 . <i>R</i> .0	52	72	≈ 1,13	-
E4. - 28. 062 . <i>R</i> .0	62	82	≈ 1,17	-
E4. - 28. 070 . <i>R</i> .0	70	90	≈ 1,20	-
E4. R4. 28. 075 . <i>R</i> .0	75	95	≈ 1,23	≈ 2,32
E4. - 28. 087 . <i>R</i> .0	87	107	≈ 1,28	-
E4. R4. 28. 100 . <i>R</i> .0	100	120	≈ 1,37	≈ 2,54

Part No. e-chains® / e-tubes	<i>Bi</i> [mm]	<i>Ba</i> [mm]	E4.28 [kg/m]	R4.28 [kg/m]
E4. R4. 28. 125 . <i>R</i> .0	125	145	≈ 1,51	≈ 2,78
E4. R4. 28. 150 . <i>R</i> .0	150	170	≈ 1,61	≈ 3,02
E4. R4. 28. 175 . <i>R</i> .0	175	195	≈ 1,71	≈ 3,26
E4. R4. 28. 200 . <i>R</i> .0	200	220	≈ 1,84	≈ 3,50
E4. R4. 28. 225 . <i>R</i> .0	225	245	≈ 1,99	≈ 3,82
E4. R4. 28. 250 . <i>R</i> .0	250	270	≈ 2,14	≈ 3,98
E4. - 28. 275 . <i>R</i> .0	275	295	≈ 2,27	-
E4. R4. 28. 300 . <i>R</i> .0	300	320	≈ 2,39	≈ 4,46

*Radius not available for e-tubes

Available bending radii *R* [mm] **055*** | **063*** | **075** | **100** | **125** | **150** | **175** | **200** | **250**

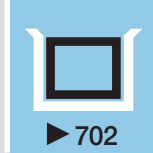
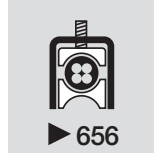
Supplement Part No. with required radius (*R*). Examples:

E4.28.100.100.0 = e-chain® with **crossbars every link**, inner width *Bi* **100** mm, radius *R* **100** mm, color black

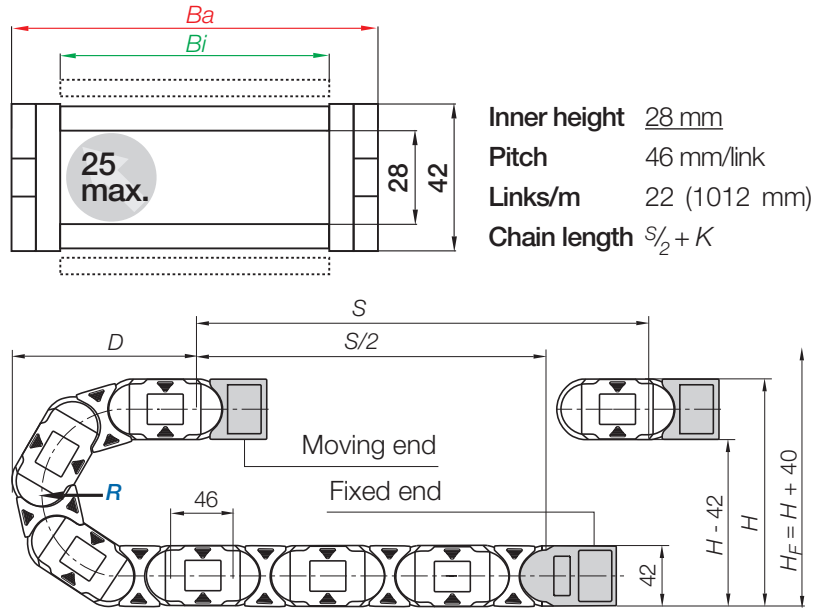
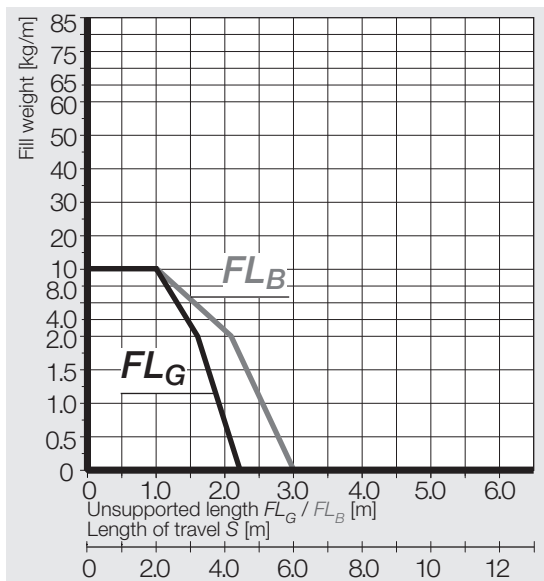
R4.28.100.100.0 = e-tube **fully enclosed**, inner width *Bi* **100** mm, radius *R* **100** mm, color black



ESD/ATEX permanently conductive e-chains® - E4.28 several widths with delivery from stock: Inner widths *Bi* **40 - 125**, radii *R* **55 - 125**. Full ESD delivery program ► www.igus.eu/ESD



Unsupported applications | Short travels



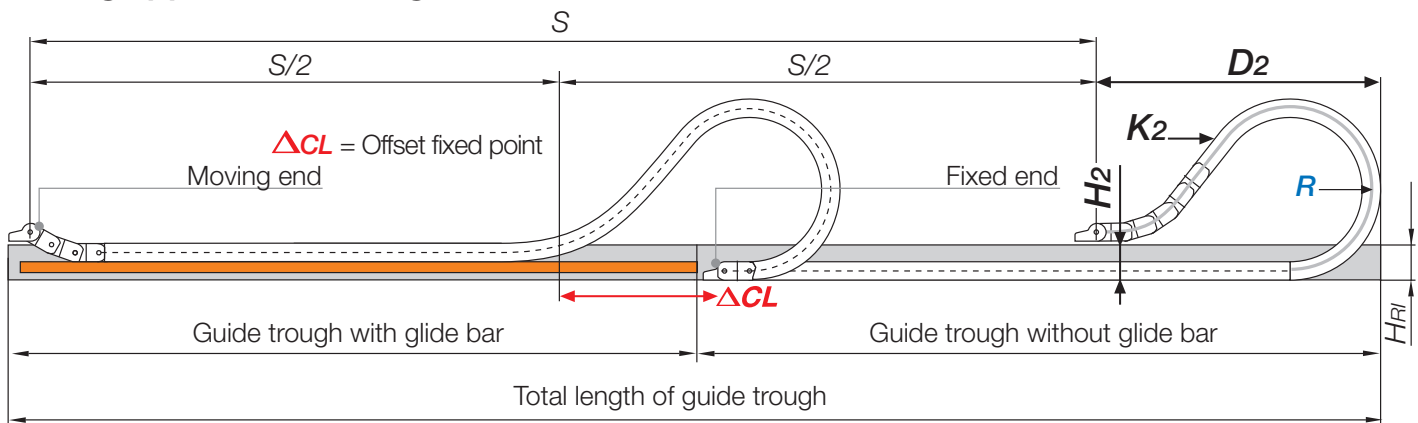
Inner height 28 mm
Pitch 46 mm/link
Links/m 22 (1012 mm)
Chain length $S/2 + K$

R	055*	063*	075	100	125	150	175	200	250
H	152	168	192	242	292	342	392	442	542
D	145	153	165	190	215	240	265	290	340
K	265	290	330	410	485	565	645	725	880

The required clearance height: $H_F = H + 40$ mm (with 1,0 kg/m fill weight)

*Radius not available for e-tubes

Gliding applications | Long travels from 10 m to max. 200 m



Note: For long travel applications we recommend to realize the engineering of such a plant by our technicians.

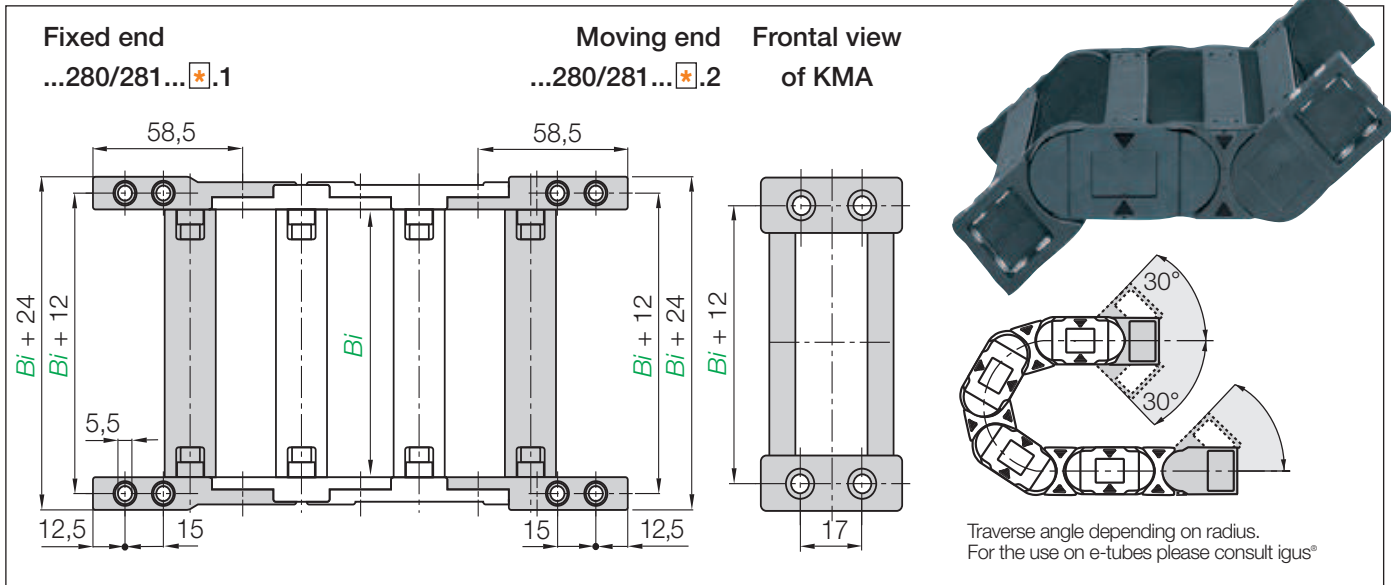
In case of travels between 5 and 10 m we recommend a longer unsupported length. Chain length $S/2 + K_2$

R	055*	063*	075	100	125	150	175	200	250
H ₂	110	126	150	158	158	158	158	158	158
D ₂ ⁺²⁵	122	130	142	350	490	530	665	730	935
K ₂	265	290	330	598	782	920	1104	1242	1610
ΔCL	-	-	-	150	270	300	400	450	600

*Radius not available for e-tubes

E4.1 | Series E4.28 | Accessories

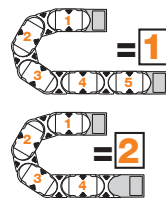
KMA mounting brackets | Attachment on all sides | pivoting | locking



KMA pivoting | Recommended for unsupported and gliding applications | **Standard KMA locking** | Recommended for vertical hanging and standing applications

Width Index	Standard	Part No. full set KMA pivoting:	Part No. full set KMA locking:	Bi [mm]	Width Index	Standard	Part No. full set KMA pivoting:	Part No. full set KMA locking:	Bi [mm]
040.	▶	E4. - 280.040. 1.12	E4. - 281.040. 1.12	40	125.	▶	E4. R4. 280.125. 1.12	E4. R4. 281.125. 1.12	125
050.	▶	E4. R4. 280.050. 1.12	E4. R4.281.050. 1.12	50	150.	▶	E4. R4. 280.150. 1.12	E4. R4. 281.150. 1.12	150
052.	▶	E4. - 280.052. 1.12	E4. - 281.052. 1.12	52	175.	▶	E4. R4. 280.175. 1.12	E4. R4. 281.175. 1.12	175
062.	▶	E4. - 280.062. 1.12	E4. - 281.062. 1.12	62	200.	▶	E4. R4. 280.200. 1.12	E4. R4. 281.200. 1.12	200
070.	▶	E4. - 280.070. 1.12	E4. - 281.070. 1.12	70	225.	▶	E4. R4. 280.225. 1.12	E4. R4. 281.225. 1.12	225
075.	▶	E4. R4. 280.075. 1.12	E4. R4.281.075. 1.12	75	250.	▶	E4. R4. 280.250. 1.12	E4. R4. 281.250. 1.12	250
087.	▶	E4. - 280.087. 1.12	E4. - 281.087. 1.12	87	275.	▶	E4. - 280.275. 1.12	E4. - 281.275. 1.12	275
100.	▶	E4. R4. 280.100. 1.12	E4. R4.281.100. 1.12	100	300.	▶	E4. R4. 280.300. 1.12	E4. R4. 281.300. 1.12	300

Note*: The E4.1 may end with either an inner or an outer side link. An outer side link always forms the first e-chain® link at the moving end. The Part No. depend on an even or odd numbers of links. Please insert: Index **1** (for odd) or **2** (for even). For the **preassembled** mode please add index **A**.



E4.280.100. 2.12A Part No. structure

A... must be indicated on preassembled configurations

Full set

Even numbers of links

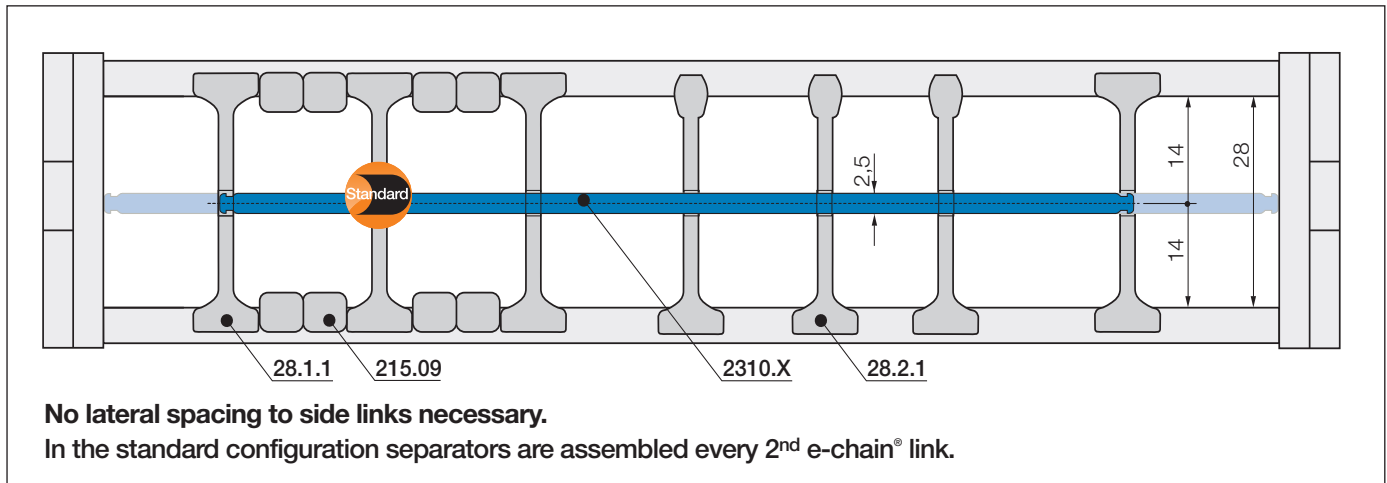

Width index

Series

Strain relief e.g. clamps, tiwrap plates, nuggets and plug-in clips are available from stock. The complete chainfix range with order options ▶ from page 656

Interior separation | New generation | Only for e-chains® (e-tubes ► next page)

Previous interior separation with optional elements ► www.igus.eu/E4.28





Standard separator, wide base

unassembled	28.1
assembled	28.1.1

Standard - for all applications

Separator with wide base for maximum locking strength and safe standing in e-chains®.




Separator, narrow head

unassembled	28.2
assembled	28.2.1

For even faster installation

Firm hold to one side with a wide base, narrow on opposed side for easy cable assembly (slight grip).




Spacer for e-chains®

unassembled	205.09
assembled	215.09

Spacer 205.09

Separators can be fixed in position by spacers. The available interior height is reduced by 2 mm per spacer (4 mm when spacers are fitted on both sides). To avoid this, the parts can also be installed from the outside on the opening crossbar. (not for long travel applications).



Full-width shelf, lockable

unassembled	2300.X
assembled	2310.X

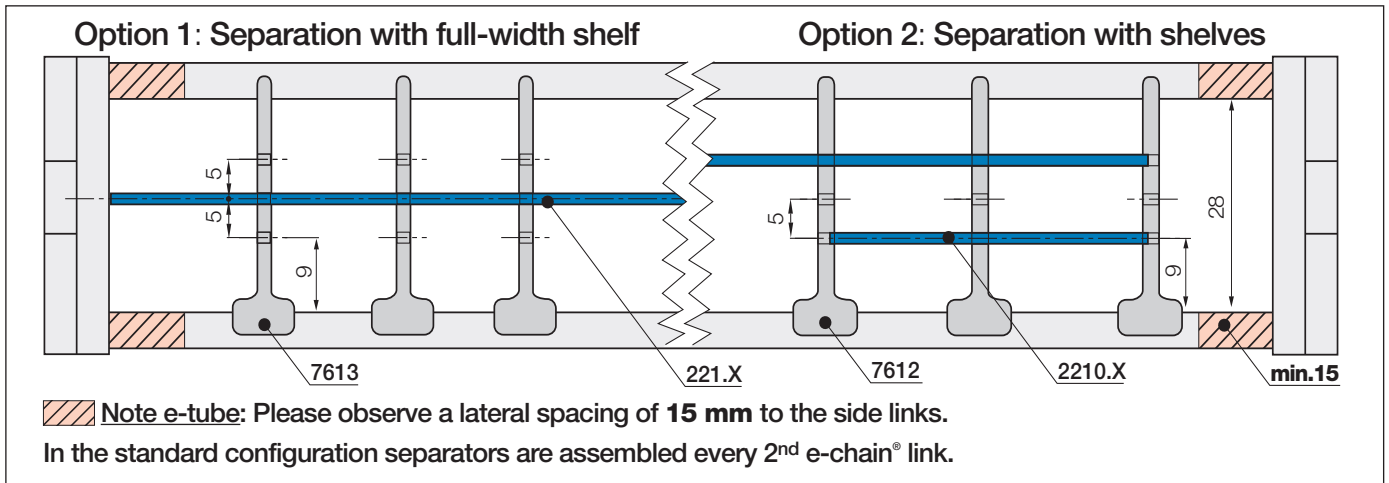
Horizontal separation

Full-width shelf locks safely into separators on both ends, fixed width possible. Separators can be moved freely over the shelf in horizontal direction. Can be used at one height.



Lockable full-width shelves - for the standard interior separation

Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled
015	2300.015	2310.015	060	2300.060	2310.060	087	2300.87	2310.087
025	2300.025	2310.025	062	2300.062	2310.062	090	2300.90	2310.090
030	2300.030	2310.030	065	2300.065	2310.065	100	2300.100	2310.100
038	2300.038	2310.038	070	2300.070	2310.070	103	2300.103	2310.103
040	2300.040	2310.040	075	2300.075	2310.075	110	2300.110	2310.110
050	2300.050	2310.050	077	2300.077	2310.077	120	2300.120	2310.120
057	2300.057	2310.057	080	2300.080	2310.080	125	2300.125	2310.125



Separator for e-tubes
unassembled **7603**
assembled **7613**

Separator 7603 (e-tubes only)

Is used when vertical separation is required. Due to its slot, it allows basic vertical/horizontal shelving arrangements.

Full-width shelf (40-200 mm)
unassembled **220.X**
assembled **221.X**

Full-width shelf 220.X

This option makes sense in applications with many thin cables with similar diameters. Full-width shelves can be arranged at 3 different heights (in 5 mm increments).

Full-width shelf

Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled
040	220.40	221.40	075	220.75	221.75	150	220.150	221.150
050	220.50	221.50	087	220.87	221.87	175	220.175	221.175
062	220.62	221.62	100	220.100	221.100	200	220.200	221.200
070	220.70	221.70	125	220.125	221.125			

Middle plate for e-tubes
unassembled **7602**
assembled **7612**

Middle plate 7602 (e-tubes only)

To achieve a modular shelving by shelf 2200.X arranged at 3 different heights (in 5 mm increments).

Shelf (18-149 mm)
unassembled **2200.X**
assembled **2210.X**

Shelf 2200.X

For horizontal separation. Shelves of various widths can be arranged at 3 different heights (in 5 mm increments).

Shelves

Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled	Width X [mm]	unassembled	assembled
018	2200.18	2210.18	043	2200.43	2210.43	088	2200.88	2210.088
023	2200.23	2210.23	048	2200.48	2210.48	099	2200.99	2210.099
028	2200.28	2210.28	058	2200.58	2210.58	124	2200.124	2210.124
033	2200.33	2210.33	068	2200.68	2210.68	149	2200.149	2210.149
038	2200.38	2210.38	073	2200.73	2210.73			

Separators with integrated strain relief

Strain relief separators Part No. 28.Z (e-chains®) and Part No. 28.ZT (e-tubes) can be integrated into the mounting bracket and can be placed there at any point of the e-chain®. It combines strain relief and interior separation, it can be installed on the first or last e-chain® link and is easy to assemble without any screws.

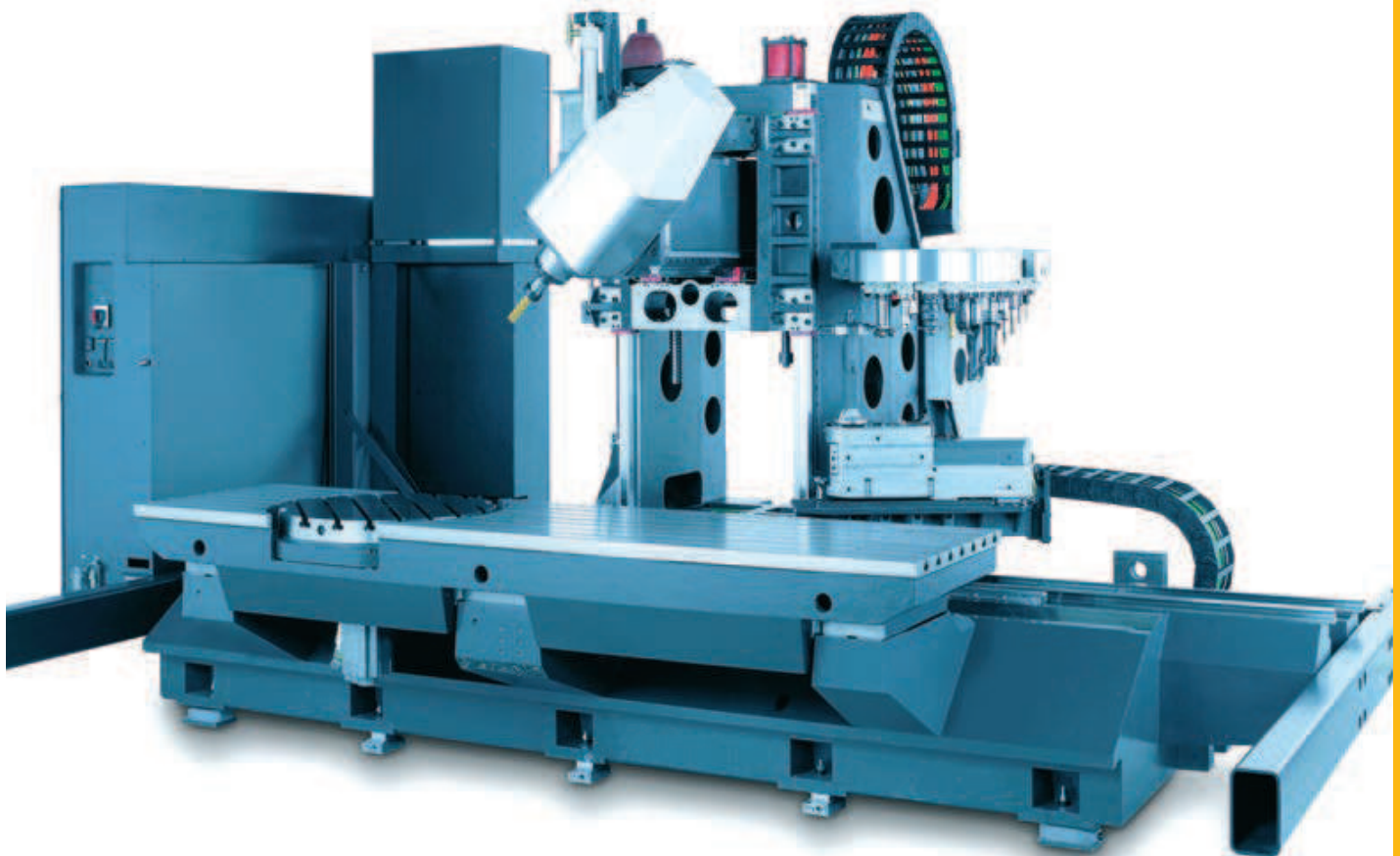
More information ► from page 676



Optional: Support tray tool kit. For support of the lower run.

Simple one-piece support trays according to your requirements and specification.

The complete range with order options ► from page 740



Due to the "undercut design" igus® E4.1 series feature high lateral stability.

High lateral accelerations of up to 8 m/s² can be managed on this milling machine for bicycles