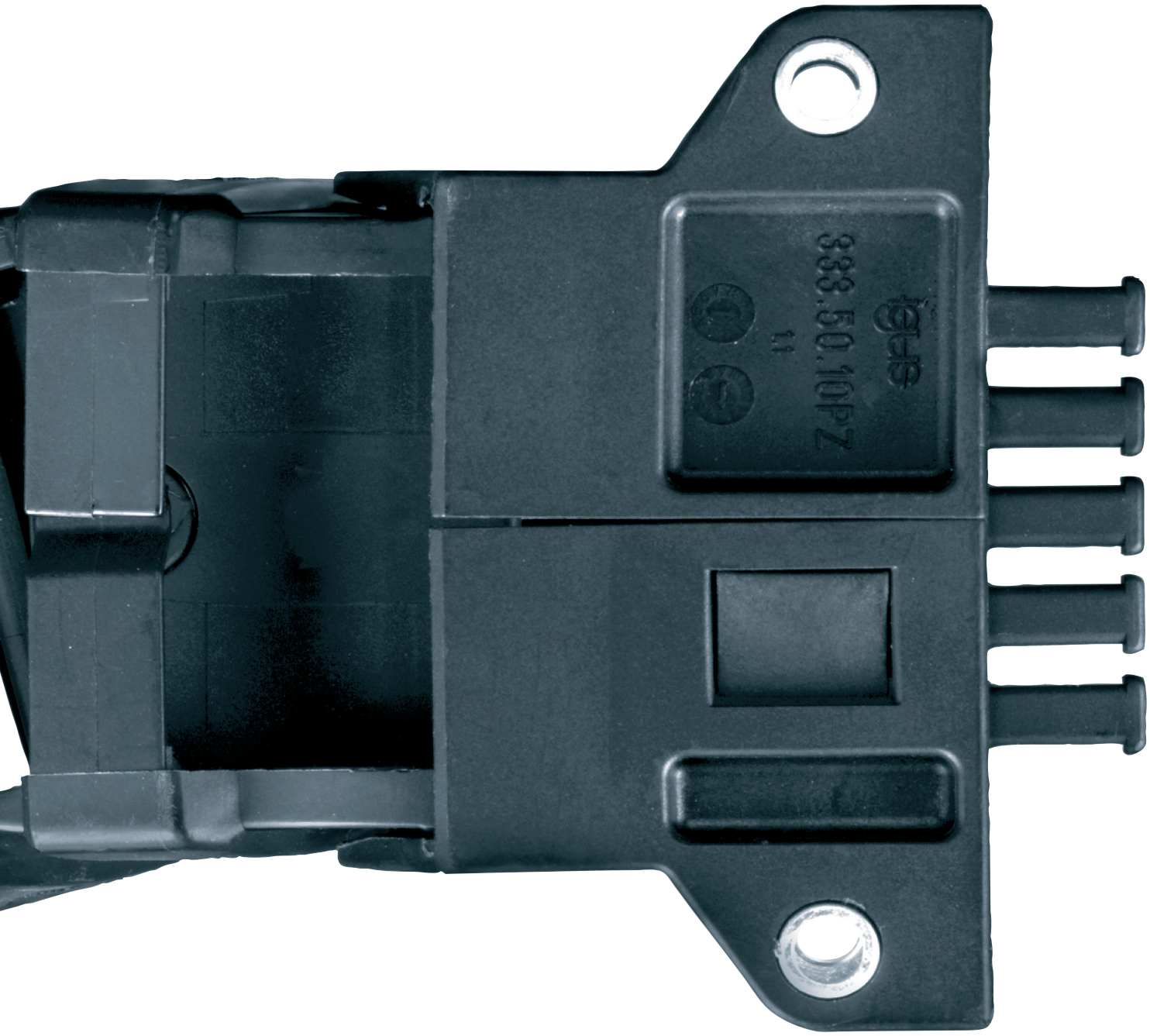


igus®
E-Z Triflex®

E-Z Triflex® - for 2D and 3D movements, easy access to cable from both sides

The Triflex® series has been developed to safely guide cables through a 3D movement. With E-Z Triflex®, the installation of cables and hoses is easy. Cables can be inserted into the E-Chain® from the top or bottom through an opening along the length of the chain. The unique modular design of Triflex® enables very complex movements through all three axes.

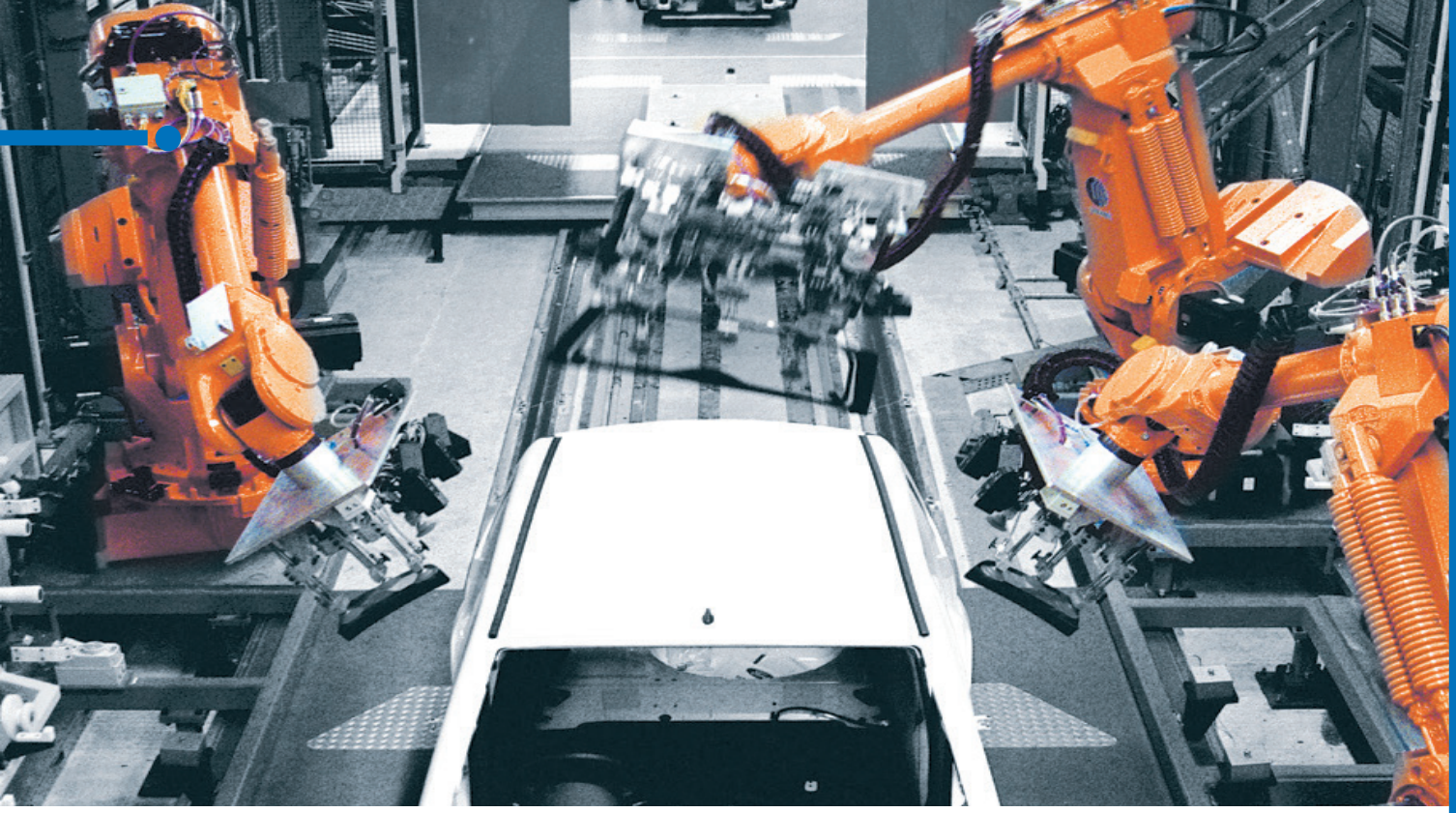
Typical industries and applications

- Machine Tools
- Robots
- Material handling
- Plastics machinery
- Construction machines
- Vehicles
- General machinery
- Medical equipment

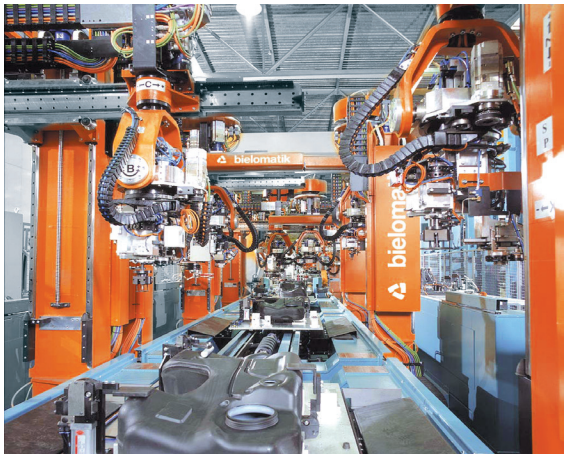
iF-Design awards for Easy Triflex®-design

Torsional motion possible

UL94-V2 classifications



Robots with igus® E-Z Triflex® E-Chains® on an assembly line



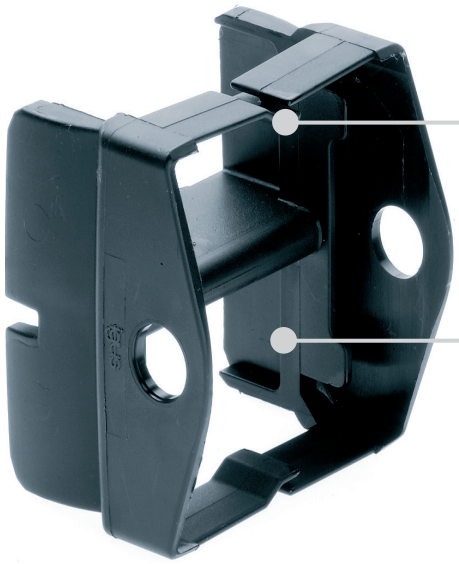
E-Z Triflex® E-Chains® for multi-dimensional movements on a production line

E-Z Triflex® E-Chains® also for easy applications - here an aesthetic application

E-Z Triflex® - The Solution for Your Office

Dangling lines are risky and unaesthetic. The new solution: E-Z Triflex® and Triflex® E-Chains® with special connector elements for your desk. They offer reliable, movable and elegant protection for lines, are quickly installed and are available in many variations. Naturally they can be installed at any time as retrofits. Simply press the lines from two sides. This is possible at any point desired.

E-Chain System®
E-Z Triflex® Series



Select this modular E-Chain System® for:

- 3-axis motions in all kinds of machinery
- Some robotics applications
- Very fast cable assembly with “E-Z” design
- Simple filling from two sides
- Where rectangular shapes fit better
- Combination of different bending radii and movement directions
- Lengthen and shorten anywhere
- KMA mounting brackets with integrated strain relief
- You can find more technical data about the material, chemical resistance, temperatures ➤ **Design, Chapter 1**

Selection table

Single-axis and double-axis movement:

Series	Inner Height *Bi 1/Bi 2*		Inner Width *Bi 3*		Outer height/Outer Width ☐ *Ba*		Bending Radii *R*	
	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)
E331-25	.51	(13)	.98	(25)	1.34	(34)	1.89 - 7.87	(048 - 200)
E331-32	.69	(17.5)	1.26	(32)	1.97	(50)	2.95 - 9.84	(075 - 250)
E331-50	1.02	(26)	1.97	(50)	2.68	(68)	3.94 - 9.84	(100 - 250)
E331-75	1.52	(38.5)	2.95	(75)	3.78	(96)	5.51 - 11.81	(140 - 300)

Single-axis and double-axis movement:

Series	Inner Height *Bi 1/Bi 2*		Inner Width *Bi 3*		Outer height/Outer Width ☐ *Ba*		Bending Radii *R*	
	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)
E332-25	.51	(13)	.98	(25)	1.34	(34)	1.89 - 7.87	(048 - 200)
E332-32	.69	(17.5)	1.26	(32)	1.97	(50)	2.95 - 9.84	(075 - 250)
E332-50	1.02	(26)	1.97	(50)	2.68	(68)	3.94 - 9.84	(100 - 250)
E332-75	1.52	(38.5)	2.95	(75)	3.78	(96)	5.51 - 11.81	(140 - 300)

Triple-axis movement

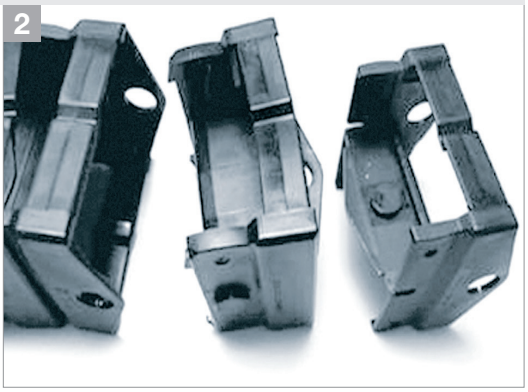
Series	Inner Height *Bi 1/Bi 2*		Inner Width *Bi 3*		Outer height/Outer Width ☐ *Ba*		Bending Radii *R*	
	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)
E333-25	.51	(13)	.98	(25)	1.34	(34)	1.89 - 7.87	(048 - 200)
E333-32	.69	(17.5)	1.26	(32)	1.97	(50)	2.95 - 9.84	(075 - 250)
E333-50	1.02	(26)	1.97	(50)	2.68	(68)	3.94 - 9.84	(100 - 250)
E333-75	1.52	(38.5)	2.95	(75)	3.78	(96)	5.51 - 11.81	(140 - 300)

E-Z Triflex® Series - Assembling

1

Twist and snap in

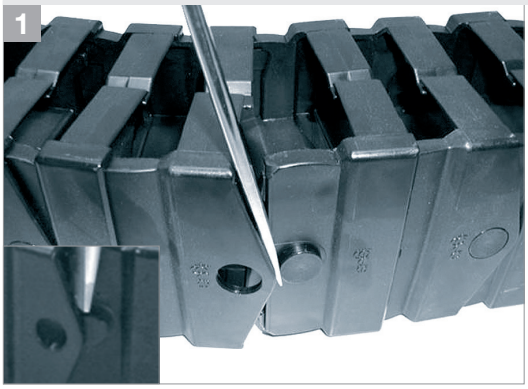
2



Shorten and lengthen
at any given point

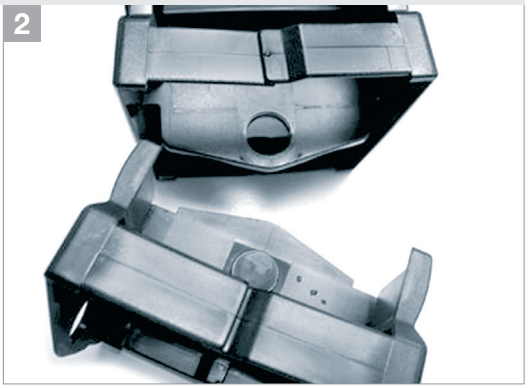
E-Z Triflex® Series - Separating

1



Lever the E-Z Triflex®
side link with screwdriver

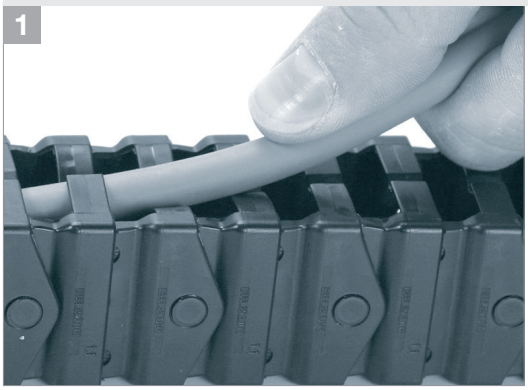
2



Twist and separate - For Series E333
you have to separate the “middle” pin

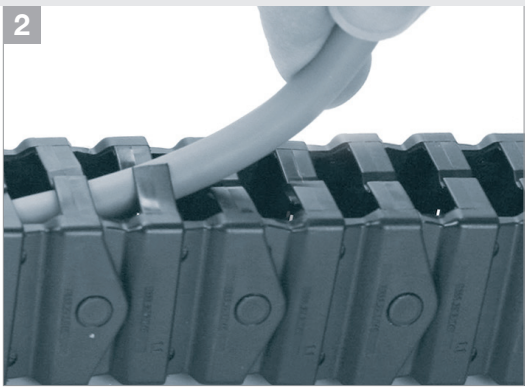
E-Z Triflex® Series - Filling

1



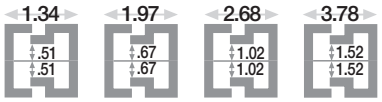
Easy to fill - simply press cables in...

2



...and easy to take the cables out

E-Chain System®
E-Z Triflex® Series



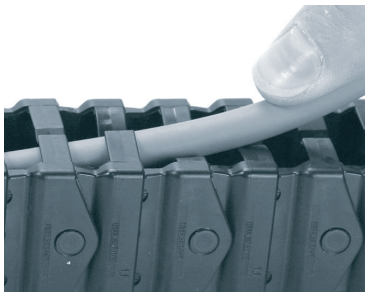
Price Index

Flammability Class
VDE 0304 IIC UL94 V2

Torsion motion possible

iF-Design Award Winner

Assembly Tips



Easy to fill - simply press cables in

- If simple cable installation is required with complex movements
- If simple cable installation from both sides with complex movements is required
- For repair and supplementation of existing Triflex® Systems

- For circular movements with high loads
  ➤ TwisterChain® System, from **Chapter 8**
- If chip protection is necessary
  ➤ Triflex® System, from **Chapter 8**

Features & Benefits

1. KMA split-open mounting bracket with integrated strain relief
2. Patented “push-button-design”
3. iF-Design Award Winner
4. Different bending radii and directions can be combined
5. Robotics applications possible
6. Shorten and lengthen at any given point
7. 3-Axis motions in machinery of all kinds
8. Simple filling from 2 sides “E-Z Chain®”-design - simply press in cable along the inner radius or the outer radius

Order Example: Complete E-Chain®

Please indicate chain length or number of links. Example:

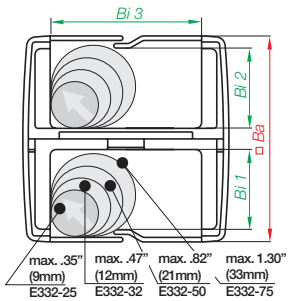
6.56 ft (2 m) **E333-50-100/100-0**	**E-Chain®**
1 Set **333-50-12PZ**	**Mounting Bracket**

Technical Data

Material - permitted temperature	igumid NB / -40°F (-40°C) up to +176°F (+80° C)
Flammability Class, igumid NB	VDE 0304 IIC UL94 V2

Details of material properties
➤ **Chapter 1**

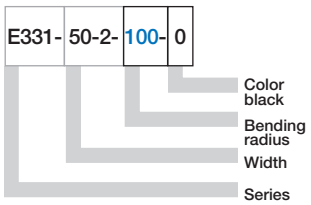
Single Axis Movement, Series E331



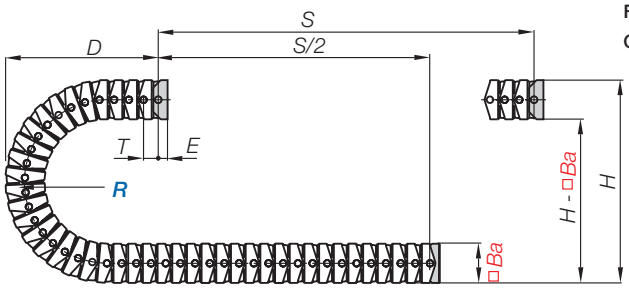
Part No.	Bi 1	Bi 2	Bi 3	□ Ba
E331-25-2-[ ]-0	.51 (13)	.51 (13)	.98 (25)	1.34 (34)
E331-32-2-[ ]-0	.69 (17.5)	.69 (17.5)	1.26 (32)	1.97 (50)
E331-50-2-[ ]-0	1.02 (26)	1.02 (26)	1.97 (50)	2.68 (68)
E331-75-2-[ ]-0	1.52 (38.5)	1.52 (38.5)	2.95 (75)	3.78 (96)

Supplement part number with required radius from below
for example E331-50-2-[100]-0

Part No. structure



Installation dimensions for single-axis movement



For center mount applications:
Chain length = $_{S}/_{2}$ + K

Legend

S = Length of travel
R = Bending radius
H = Nominal clearance height
D = Overlength E-Chain® radius in final position
K = π • *R* + *"safety buffer"*

Series E331-25-2-[XXX]-0

R	1.89 (048)	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)
H	5.12 (130)	7.28 (185)	9.25 (235)	11.22 (285)	13.19 (335)	15.15 (385)	17.13 (435)
D	3.74 (95)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	8.86 (225)	9.84 (250)
K	7.68 (195)	11.02 (280)	14.17 (360)	17.32 (440)	20.28 (515)	23.43 (595)	26.57 (675)

Pitch = .57 (14.5 mm)
Links/ft (m) = 21.03 (69)
Dimensions E = .39 (10 mm)
Ba = 1.34 (34 mm)

Series E331-32-2-[XXX]-0

R	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)	7.87 (200)	9.84 (250)
H	7.87 (200)	9.84 (250)	11.81 (300)	13.78 (350)	17.72 (450)	21.65 (550)
D	5.12 (130)	6.10 (155)	7.09 (180)	8.07 (205)	10.04 (255)	12.01 (305)
K	12.01 (305)	15.15 (385)	18.30 (465)	21.46 (545)	27.56 (700)	34.06 (865)

Pitch = .98 (25 mm)
Links/ft (m) = 12.24 (40)
Dimensions E = .79 (20 mm)
Ba = 1.97 (50 mm)

Series E331-50-2-[XXX]-0

R	3.94 (100)	4.92 (125)	5.91 (150)	7.87 (200)	9.84 (250)
H	10.63 (270)	12.60 (320)	14.76 (375)	18.50 (470)	22.44 (570)
D	7.68 (195)	8.66 (220)	9.65 (245)	11.61 (295)	13.58 (345)
K	17.13 (435)	20.47 (520)	23.23 (590)	29.53 (750)	35.83 (910)

Pitch = 1.18 (30 mm)
Links/ft (m) = 10.17 (34)
Dimensions E = .98 (25 mm)
Ba = 2.68 (68 mm)

Series E331-75-2-[XXX]-0

R	5.51 (140)	6.89 (175)	7.87 (200)	9.84 (250)	11.81 (300)
H	14.96 (380)	17.71 (450)	19.69 (500)	23.62 (600)	27.56 (700)
D	9.45 (240)	10.83 (275)	11.81 (300)	13.78 (350)	15.75 (400)
K	21.65 (550)	25.98 (660)	29.13 (740)	35.43 (900)	41.73 (1060)

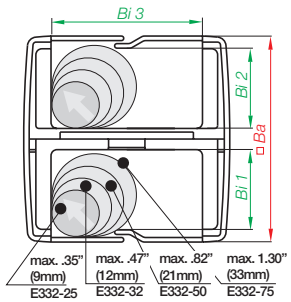
Pitch = 1.42 (36 mm)
Links/ft (m) = 8.45 (28)
Dimensions E = .98 (25 mm)
Ba = 3.78 (96 mm)

PDF: www.igus.com/e-chain-pdfs
Specs/CAD/RFQ: www.igus.com/e-chains
RoHS info: www.igus.com/RoHS

E-Chain System®
E-Z Triflex® Series - Double Axis Movement

igus® E-Chain System®
Telephone 1-800-521-2747
Fax 1-401-438-7270
Internet: http://www.igus.com
email: sales@igus.com
QuickSpec/RFQ: http://www.igus.com/quickspec

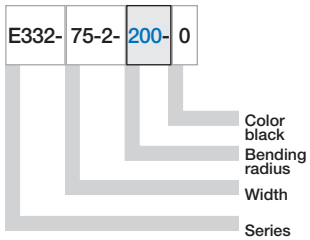
Double Axis Movement, Series E332



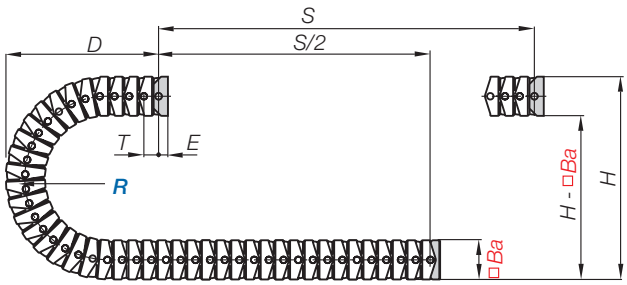
Part No.	Bi 1	Bi 2	Bi 3	□ Ba
E332-25-2-☐-0	.51 (13)	.51 (13)	.98 (25)	1.34 (34)
E332-32-2-☐-0	.69 (17.5)	.69 (17.5)	1.26 (32)	1.97 (50)
E332-50-2-☐-0	1.02 (26)	1.02 (26)	1.97 (50)	2.68 (68)
E332-75-2-☐-0	1.52 (38.5)	1.52 (38.5)	2.95 (75)	3.78 (96)

Supplement part number with required radius from below
for example, E332-75-2-200-0

Part No. structure



Installation dimensions for double-axis movement



For center mount applications:
Chain length = $S/2 + K$

Legend

S = Length of travel
R = Bending radius
H = Nominal clearance height
D = Overlength E-Chain® radius in final position
K = π • R + *"safety buffer"*

Series E332-25-2-XXX -0

R	1.89 (048)	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)
H	5.12 (130)	7.28 (185)	9.25 (235)	11.22 (285)	13.19 (335)	15.15 (385)	17.13 (435)
D	3.74 (95)	4.92 (125)	5.91 (150)	6.89 (175)	7.87 (200)	8.86 (225)	9.84 (250)
K	7.68 (195)	11.02 (280)	14.17 (360)	17.32 (440)	20.28 (515)	23.43 (595)	26.57 (675)

Pitch = .57 (14.5 mm)
Links/ft (m) = 21.03 (69)
Dimensions E = .39 (10 mm)
Ba = 1.34 (34 mm)

Series E332-32-2-XXX -0

R	2.95 (075)	3.94 (100)	4.92 (125)	5.91 (150)	7.87 (200)	9.84 (250)
H	7.87 (200)	9.84 (250)	11.81 (300)	13.78 (350)	17.72 (450)	21.65 (550)
D	5.12 (130)	6.10 (155)	7.09 (180)	8.07 (205)	10.04 (255)	12.01 (305)
K	12.01 (305)	15.15 (385)	18.30 (465)	21.46 (545)	27.56 (700)	34.06 (865)

Pitch = .98 (25 mm)
Links/ft (m) = 12.24 (40)
Dimensions E = .79 (20 mm)
Ba = 1.97 (50 mm)

Series E332-50-2-XXX -0

R	3.94 (100)	4.92 (125)	5.91 (150)	7.87 (200)	9.84 (250)
H	10.63 (270)	12.60 (320)	14.76 (375)	18.50 (470)	22.44 (570)
D	7.68 (195)	8.66 (220)	9.65 (245)	11.61 (295)	13.58 (345)
K	17.13 (435)	20.47 (520)	23.23 (590)	29.53 (750)	35.83 (910)

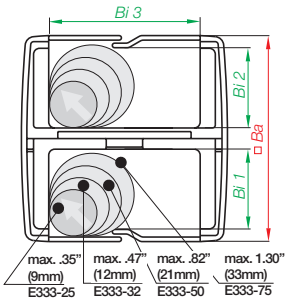
Pitch = 1.18 (30 mm)
Links/ft (m) = 10.17 (34)
Dimensions E = .98 (25 mm)
Ba = 2.68 (68 mm)

Series E332-75-2-XXX -0

R	5.51 (140)	6.89 (175)	7.87 (200)	9.84 (250)	11.81 (300)
H	14.96 (380)	17.71 (450)	19.69 (500)	23.62 (600)	27.56 (700)
D	9.45 (240)	10.83 (275)	11.81 (300)	13.78 (350)	15.75 (400)
K	21.65 (550)	25.98 (660)	29.13 (740)	35.43 (900)	41.73 (1060)

Pitch = 1.42 (36 mm)
Links/ft (m) = 8.45 (28)
Dimensions E = .98 (25 mm)
Ba = 3.78 (96 mm)

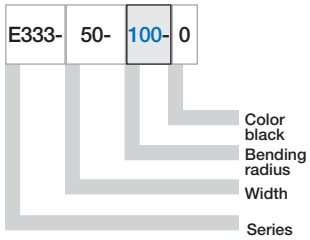
Triple Axis Movement, Series E333



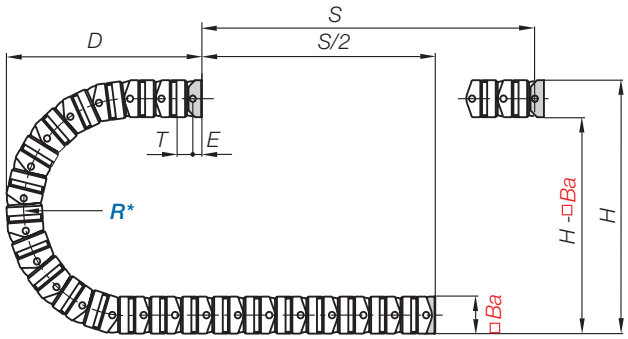
Part No.	Bi 1	Bi 2	Bi 3	□ Ba
E333-25-□-0	.51 (13)	.51 (13)	.98 (25)	1.34 (34)
E333-32-□-0	.69 (17.5)	.69 (17.5)	1.26 (32)	1.97 (50)
E333-50-□-0	1.02 (26)	1.02 (26)	1.97 (50)	2.68 (68)
E333-75-□-0	1.52 (38.5)	1.52 (38.5)	2.95 (75)	3.78 (96)

Supplement part number with required radius from above
for example, E333-32-100-0

Part No. structure



Installation dimensions for triple-axis movement



For center mount applications:
Chain length = $\frac{S}{2} + K$

* The bending radii are doubled in the case of the **Series E333** E-Chain®

Legend

S = Length of travel
R = Bending radius
H = Nominal clearance height
D = Overlength E-Chain® radius in final position
K = π • R + *"safety buffer"*

Series E333-25-XXX -0

R	3.78 (096)	5.91 (150)	7.87 (200)	9.84 (250)	11.81 (300)	13.78 (350)	15.75 (400)
H	9.06 (230)	13.19 (335)	17.13 (435)	21.06 (535)	25.00 (635)	28.94 (735)	32.87 (835)
D	5.71 (145)	7.87 (200)	9.84 (250)	11.81 (300)	13.78 (350)	15.75 (400)	17.72 (450)
K	13.78 (350)	20.28 (515)	26.57 (675)	32.68 (830)	38.98 (990)	45.28 (1150)	51.18 (1300)

Pitch = .57 (14.5 mm)
Links/ft (m) = 21.03 (69)
Dimensions E = .39 (10 mm)
Ba = 1.34 (34 mm)

Series E333-32-XXX -0

R	5.91 (150)	7.87 (200)	9.84 (250)	11.81 (300)	15.75 (400)	19.69 (500)
H	13.78 (350)	17.72 (450)	21.65 (550)	25.59 (650)	33.46 (850)	41.33 (1050)
D	8.07 (205)	10.04 (255)	12.01 (305)	13.98 (355)	17.91 (455)	21.85 (555)
K	21.46 (545)	27.56 (700)	33.86 (860)	40.16 (1020)	51.18 (1300)	63.19 (1605)

Pitch = .98 (25 mm)
Links/ft (m) = 12.24 (40)
Dimensions E = .79 (20 mm)
Ba = 1.97 (50 mm)

Series E333-50-XXX -0

R	7.87 (200)	9.84 (250)	11.81 (300)	15.75 (400)	19.69 (500)
H	18.50 (470)	22.44 (570)	26.38 (670)	34.25 (870)	42.13 (1070)
D	11.61 (295)	13.58 (345)	15.55 (395)	19.49 (495)	23.42 (595)
K	29.53 (750)	35.83 (910)	42.13 (1070)	54.33 (1380)	66.54 (1690)

Pitch = 1.18 (30 mm)
Links/ft (m) = 10.17 (34)
Dimensions E = .98 (25 mm)
Ba = 2.68 (68 mm)

Series E333-75-XXX -0

R	11.02 (280)	13.78 (350)	15.75 (400)	19.69 (500)	23.62 (600)
H	25.98 (660)	31.50 (800)	35.43 (900)	43.31 (1100)	51.18 (1300)
D	14.96 (380)	17.72 (450)	19.69 (500)	23.62 (600)	27.56 (700)
K	38.98 (990)	47.64 (1210)	55.12 (1400)	66.93 (1700)	78.74 (2000)

Pitch = 1.42 (36 mm)
Links/ft (m) = 8.45 (28)
Dimensions E = .98 (25 mm)
Ba = 3.78 (96 mm)

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igus® E-Chain System®
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email: sales@igus.com
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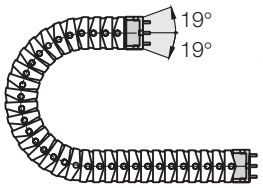
E-Chain System®
E-Z Triflex® Series

Mounting Brackets

Option 1: KMA

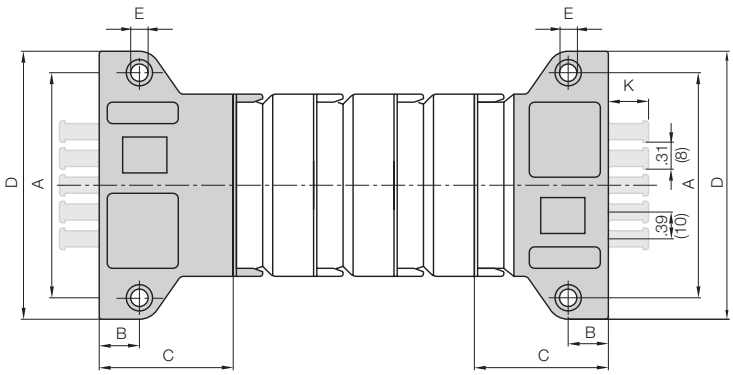
- Corrosion resistant
- Strain relief with tiewrap plate



333-50-1PZB
Moving end
with tiewrap plate

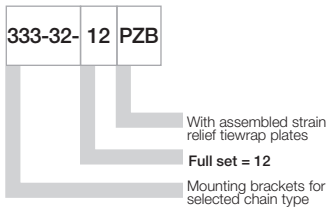
333-50-2PZB
Fixed end
(with tiewrap plate **333-50-ZB**)

333-50-1PZ **333-50-2PZB**



For high loads we recommend screwing the mounting brackets to the chain. If you have any questions, please give us a call.

Part No. structure



Full set, for both ends:
333- 32- 12 PZB +tiewrap plate

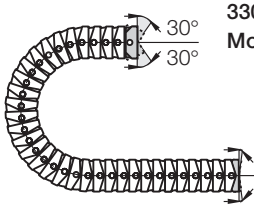
Single-part order:
333- 32- 1 PZB +tiewrap plate
Mounting bracket **with bore**
333- 32- 2 PZB +tiewrap plate
Mounting bracket **with pin**

Series	Part No. without tie-wrap plate	Part No. with tie-wrap plate	A	B	C	D	E	K	N No. of Teeth
E331-25/E332-25-2/E333-25	333-25-12PZ	333-25-12PZB	1.69 (43)	.28 (7)	.87 (22)	2.04 (52)	.18 (4.5)	–	–
E331-32/E332-32-2/E333-32	333-32-12PZ	333-32-12PZB	2.60 (66)	.59 (15)	1.81 (46)	3.23 (82)	.26 (6.5)	.59 (15)	3
E331-50/E332-50-2/E333-50	333-50-12PZ	333-50-12PZB	3.31 (84)	.59 (15)	1.97 (50)	3.94 (100)	.26 (6.5)	.59 (15)	5
E331-75/E332-75-2/E333-75	333-75-12PZ	333-75-12PZB	4.29 (109)	.59 (15)	2.17 (55)	4.92 (125)	.26 (6.5)	.59 (15)	7

Mounting Brackets

Option 2: flange

- Galvanized steel
- Electrically conductive
- Flush mounting

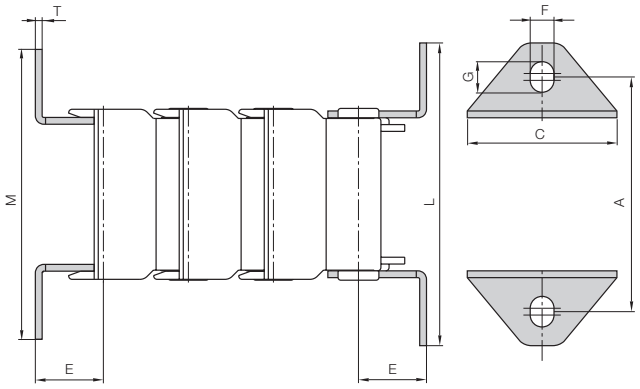


330-25-1 – 330-75-1
Moving end

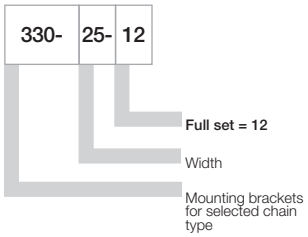
330-25-2 – 330-75-2
Fixed end

330-25-2 – 330-75-2

330-25-1 – 330-75-1



Part No. structure

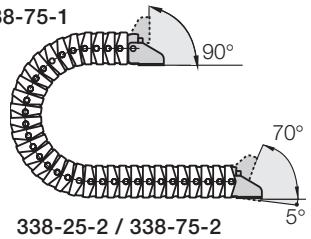


Full set, 4 parts
2 with pin / 2 with bore:
330-25-12
Single-part order:
330-25-1
Mounting bracket **with bore**
330-25-2
Mounting bracket **with pin**

Series	Part No.	A	M	C	L	T	E	F	G
E331-25/E332-25-2 /E333-25	330-25-12	1.73 (44)	2.17 (55)	1.14 (29)	2.17 (55)	.06 (1.5)	.41 (10.5)	.26 (6.5)	.35 (9)
E331-32/E332-32-2 /E333-32	330-32-12	2.60 (66)	3.31 (84)	1.73 (44)	3.46 (88)	.08 (2)	.79 (20)	.28 (7)	.35 (9)
E332-50/E332-50-2 /E333-50	330-50-12	3.31 (84)	4.02 (102)	2.44 (62)	4.17 (106)	.08 (2)	.98 (25)	.28 (7)	.35 (9)
E331-75/E332-75-2 /E333-75	330-75-12	4.29 (109)	5.00 (127)	3.54 (90)	5.16 (131)	.08 (2)	.98 (25)	.28 (7)	.35 (9)

Option 3: angle

- Galvanized steel
- Electrically conductive
- Can be attached to top or bottom of the machine

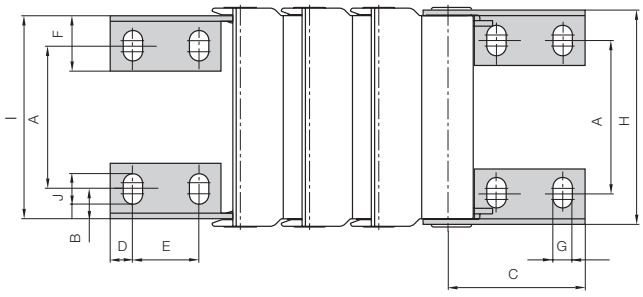


338-25-1/ 338-75-1
Moving end

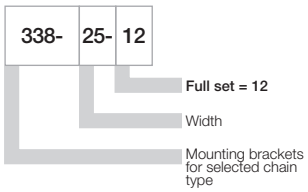
338-25-2 / 338-75-2
Fixed end

338-25-2 / 338-75-2

338-25-1 / 338-75-1



Part No. structure



Full set, 4 parts
2 with pin / 2 with bore:
338-25-12
Single-part order:
338-25-1
Mounting bracket **with bore**
338-25-2
Mounting bracket **with pin**

Series	Part No.	A	B	C	D	E	F	G	H	I	J
E331-25/E332-25-2/E333-25	338-25-12	.67 (17)	.25 (6.25)	1.10 (28)	.24 (6)	.63 (16)	.55 (14)	.22 (5.5)	1.33 (33.8)	1.22 (31)	.33 (8.5)
E331-25/E332-32-2/E333-32	338-32-12	.94 (24)	.22 (5.5)	1.85 (47)	.31 (8)	.94 (24)	.79 (20)	.28 (7)	1.93 (49)	1.77 (45)	.43 (11)
E331-25/E332-50-2/E333-50	338-50-12	1.65 (42)	.22 (5.5)	3.03 (77)	.47 (12)	1.38 (35)	.94 (24)	.35 (9)	2.64 (67)	2.44 (62)	.59 (15)
E331-25/E332-75-2/E333-75	338-75-12	2.56 (65)	.22 (5.5)	3.03 (77)	.47 (12)	1.38 (35)	.94 (24)	.35 (9)	3.74 (95)	3.54 (90)	.59 (15)

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