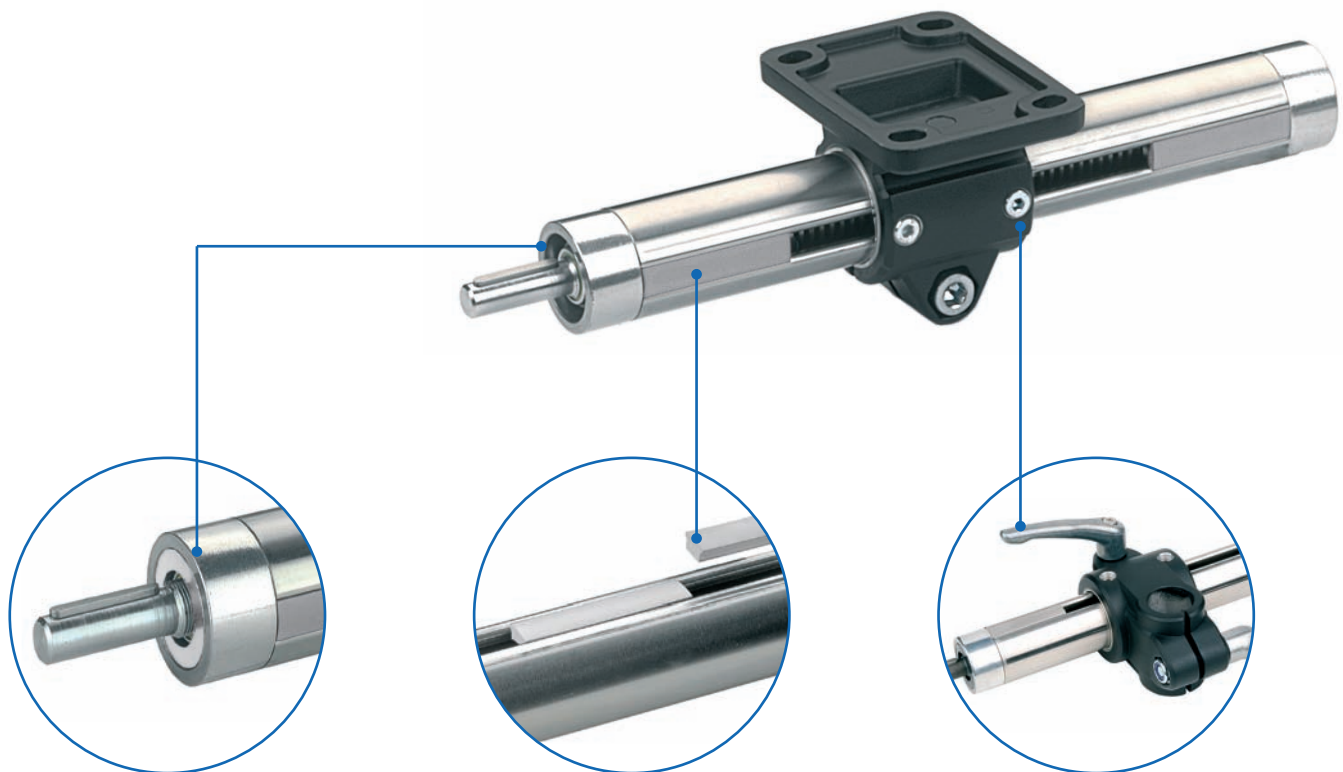


# Single tube actuator - E linear unit

Flexible all-rounder –  
with an unrivalled price-performance ratio



## Bearing cover

- ✓ Dust/spray protection on Type 30-60
- ✓ Option of screw with slide bearing (resistant to fine dust/abrasions)

## Cover clips

- ✓ Slot cover, as dust protection or stroke limitation

## Carriages/fixing elements

- ✓ Wide range of models facilitates connection to your designs
- ✓ Option of carriage with slide bushing (lower input torque, wear minimized)



## Features:

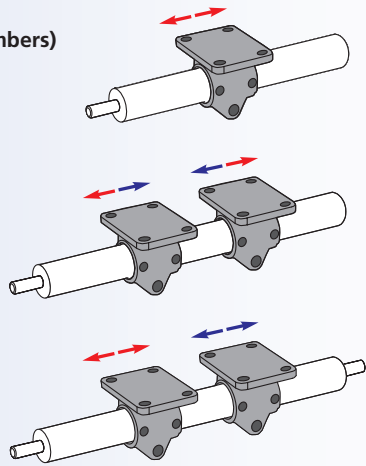
- Units for light to heavy moving applications
- Manual and motor-driven adjustments supported
- Different sizes can be combined
- Comprehensive range of accessories

## Options:

- Corrosion-protected units
- Second free-running carriage

**E linear unit - Table of contents**

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# E linear unit – Technical data

## General information/operating conditions

Design	Actuator with ACME screw in a slotted tube
Guide	Slide guide, optional carriage with slide guide available
Installation position	Any position
Positioning accuracy	± 0.2 mm/300 mm stroke
Self-locking	Yes
Ambient temperature	0°C to + 60°C

## Screw lead

Type	Screw lead [mm]	Speed with slide bearing 80 rpm [mm/s]	Speed with ball bearing 250 rpm [mm/s]
E 18	2	2,7	8,3
E-II 30	3	4	12,5
E-II 40	4	5,3	16,7
E-II 50	4	5,3	16,7
E-II 60	5	6,7	20,8
E 80	6	8	25

$$\text{Required screw speed* } n \text{ [rpm]} = \frac{\text{speed [m/min]} \times 1000}{\text{screw lead [mm]}}$$

Max. screw speed      with slide bearing 80 rpm  
                                  with ball bearing 250 rpm

## No-load torque

Type	Screw with slide bearing	Screw with ball bearing
E 18	–	0.20
E-II 30	0.45	0.35
E-II 40	0.65	0.50
E-II 50	1.20	0.90
E-II 60	–	1.10
E 80	–	0.90

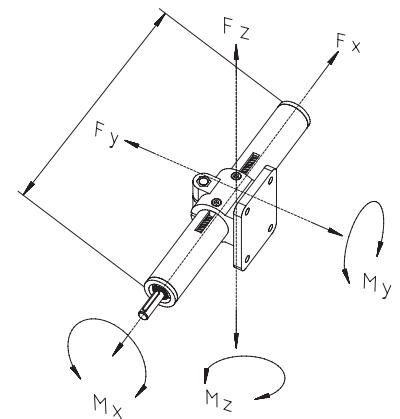
[Nm]



E linear unit - Technical data

Load data\*

- F Force [N]
- M Moment [Nm]
- I Geometric moment of inertia [cm<sup>4</sup>]



\* with reference to carriage (deflection of guide element f = 0.5 mm, static, end elements supported)

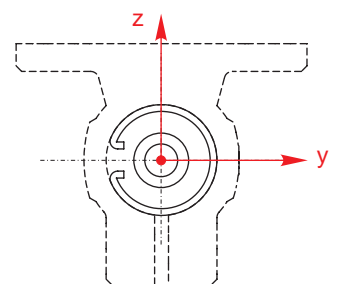
Total length [mm]	Fx		Fy		Fz			Mx	My	Mz
	500	500	1000	1500	500	1000	1500			
Type										
E 18	400	90	10	–	60	8	–	1.5	4	4
E-II 30	800	500	60	10	500	50	9	6	15	15
E-II 40	1000	2100	250	60	1900	140	50	14	40	40
E-II 50	1700	3000	600	140	3000	600	140	30	65	65
E-II 60	2500	4500	1500	380	4500	1300	320	45	120	120
E 80	4500	5500	2300	550	5650	2500	650	70	170	170

**Note:**  
Linear units that support higher torques available on request!

Geometric moment of inertia

Type	ly	lz
E 18	0.22	0.27
E-II 30	1.34	1.56
E-II 40	4.58	5.24
E-II 50	11.31	12.32
E-II 60	23.11	24.98
E 80	98.72	118.53

[cm<sup>4</sup>]



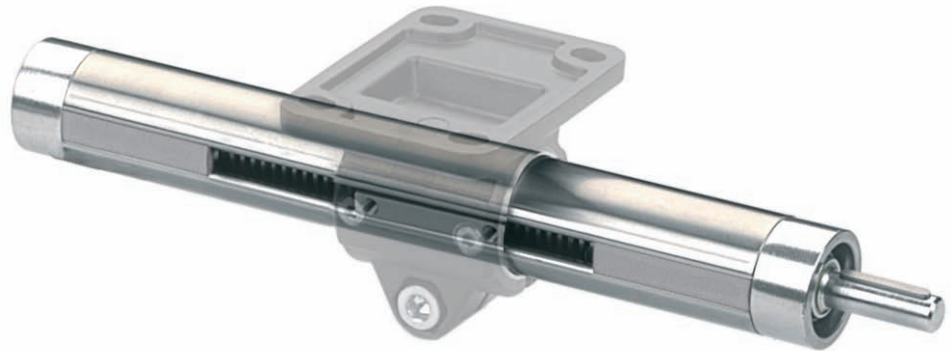
# E linear unit - Versions

## Order information:

- Choice of carriage - this must be ordered separately
- Different "R" dimensions available on request
- Corrosion-protected units available on request

## Version

■ Right or lefthand thread



Type 30-60

**48 h**

ready for delivery

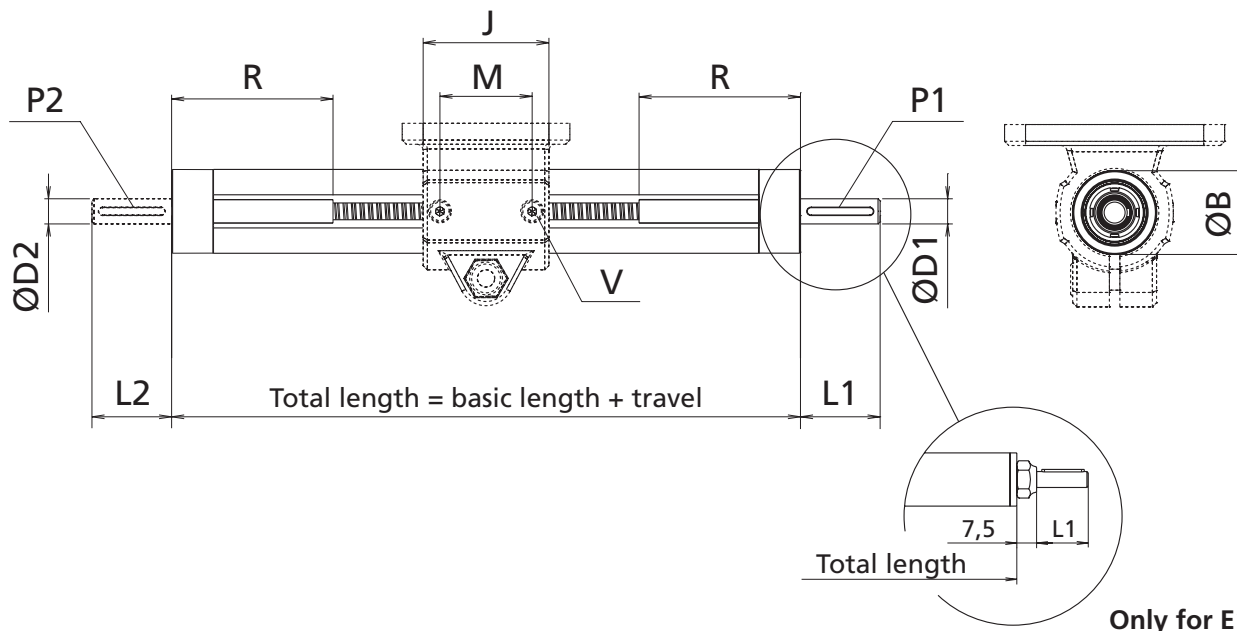


Code No.	Type	Screw	Basic length	B	D 1	D 2	J
70_181_1	18	10 x 2	155	18	6	-	24
70_183_1	18					6	
78_301_	30	14 x 3	200	30	8	-	38
78_303_	30					8	
78_401_	40	20 x 4	209	40	12	-	55
78_403_	40					12	
78_501_	50	20 x 4	235	50	12	-	63
78_503_	50					12	
78_601_1	60	24 x 5	280	60	14	-	78
78_603_1	60					14	
70_801_1	80	32 x 6	320	80	20	-	120
70_803_1	80					20	

----- Total length = basic length + travel [mm]

**Screw bearing:**  
 0 = screw with slide bearing  
 1 = screw with ball bearing

**Version:**  
 1 = righthand thread  
 2 = lefthand thread



[mm]

L 1	L 2	M	P 1	P 2	R	V	Max. travel	Mass [kg]	
								Basic length	per 100 mm travel
17	-	18	2 x 2 x 12	-	55*	M3 x 5	890	0.225	0.097
	17			2 x 2 x 12			870	0.229	0.097
26	-	28	2 x 2 x 20	-	80	M4 x 8	1650	0.610	0.212
	26			2 x 2 x 20			1620	0.620	0.212
38	-	44	4 x 4 x 32	-	77	M6 x 10	2740	1.305	0.432
	38			4 x 4 x 32			2700	1.336	0.432
38	-	44	4 x 4 x 32	-	85	M6 x 10	2740	1.955	0.539
	38			4 x 4 x 32			2700	1.990	0.539
38	-	50	5 x 5 x 32	-	100	M8 x 12	2690	3.211	0.764
	38			5 x 5 x 32			2650	3.257	0.764
31.5	-	70	6 x 6 x 22	-	100	M8 x 25	2600	10.00	1.940
	31.5			6 x 6 x 22			2565	10.10	1.940

\* For total lengths < 300 mm, dimension R = 25 mm

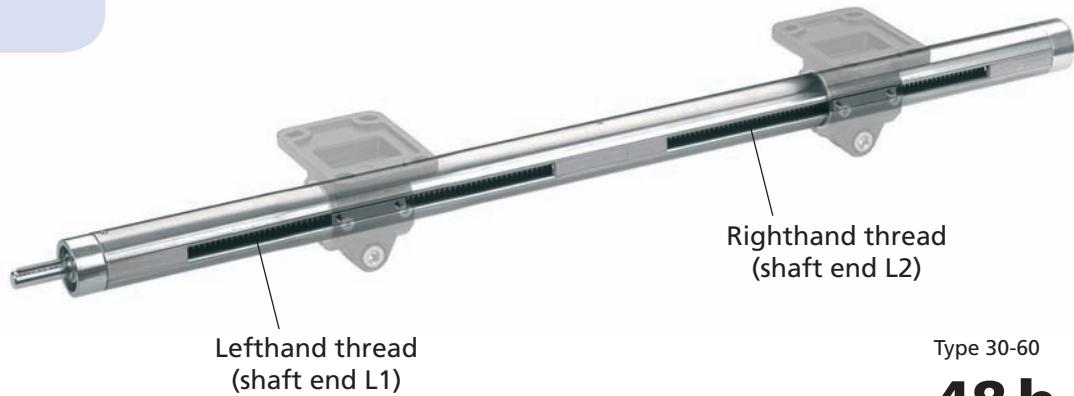
# E linear unit - Versions

## Order information:

- Choice of carriage - this must be ordered separately
- Please specify total travel when placing an order
- Different "R" dimensions available on request
- Corrosion-protected units available on request

## Version

- Right and lefthand thread



Type 30-60



Code No.	Type	Screw	Basic length	B	D1	D2	J
70318_1	18	10 x 2	195	18	6	6	24
78330_ _	30	14 x 3	265	30	8	8	38
78340_ _	40	20 x 4	269	40	12	12	55
78350_ _	50	20 x 4	325	50	12	12	63
78360_1	60	24 x 5	385	60	14	14	78
70380_1	80	32 x 6	420	80	20	20	120

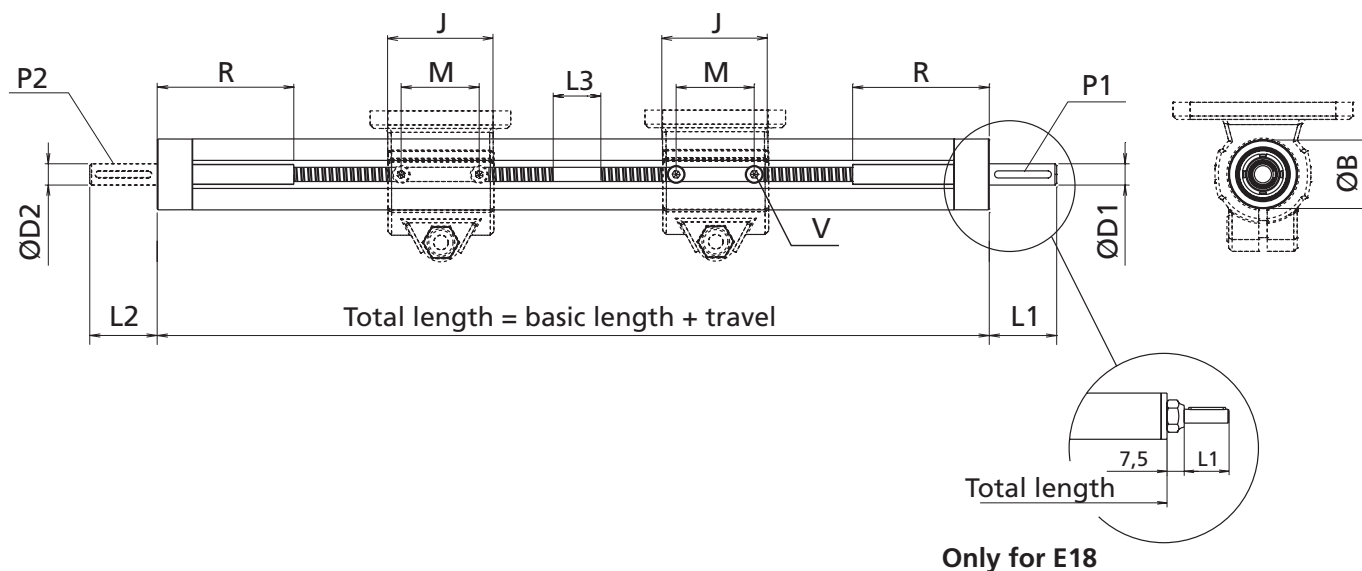
----- Total length = basic length + total travel [mm]

### Screw bearing:

- 0 = screw with slide bearing
- 1 = screw with ball bearing

### Version:

- 1 = 1 drive shaft at lefthand thread end
- 2 = 1 drive shaft at righthand thread end
- 3 = 2 drive shafts



[mm]

L 1	L 2	L 3**	M	P 1	P 2	R	V	Max. travel	Mass [kg]	
									Basic length	per 100 mm travel
17	17	37	18	2 x 2 x 12	2 x 2 x 12	55*	M3 x 5	1300	0.330	0.097
26	26	-	28	2 x 2 x 20	2 x 2 x 20	80	M4 x 8	1700	0.798	0.212
38	38	-	44	4 x 4 x 32	4 x 4 x 32	77	M6 x 10	2730	1.742	0.432
38	38	-	44	4 x 4 x 32	4 x 4 x 32	85	M6 x 10	2675	2.725	0.539
38	38	-	50	5 x 5 x 32	5 x 5 x 32	100	M8 x 12	2615	4.306	0.764
31.5	31.5	50	70	6 x 6 x 22	6 x 6 x 22	100	M8 x 25	2500	13.290	1.940

\* For total lengths < 300 mm, dimension R = 25 mm  
 \*\* From a total length of 1000 mm



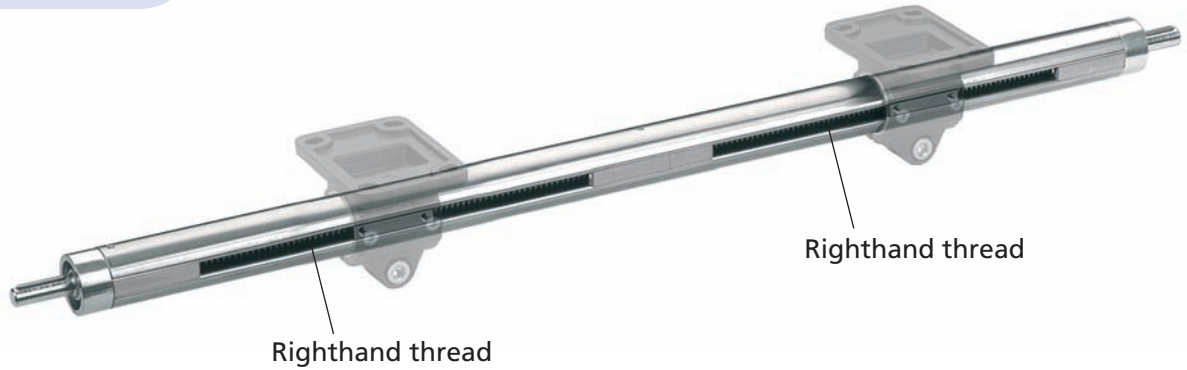
# E linear unit - Versions

## Order information:

- Choice of carriage - this must be ordered separately
- Please specify total travel when placing an order
- Different "R" dimensions available on request
- Corrosion protected units available on request

## Version

### ■ Split screw

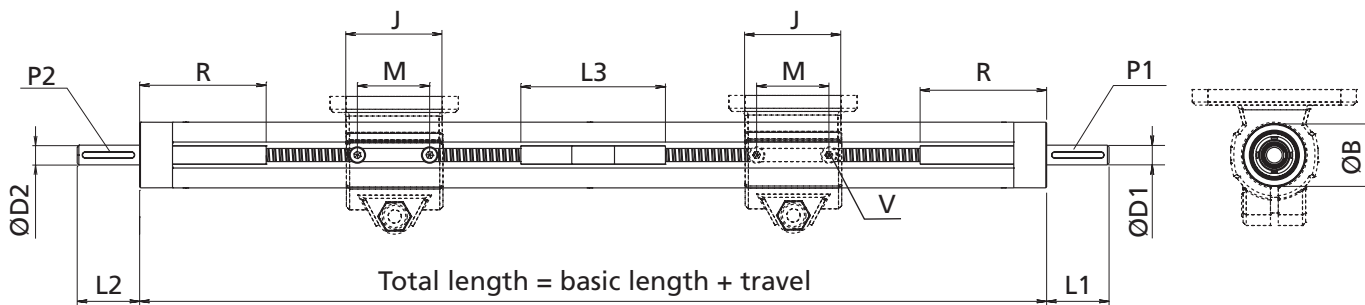


Type 30-60

**48 h**  
ready for delivery

Code No.	Type	Screw	Basic length	B	D1	D2	J
7843031	30	14 x 3	280	30	8	8	38
7844031	40	20 x 4	340	40	12	12	55
7845031	50	20 x 4	340	50	12	12	63
7846031	60	24 x 5	400	60	14	14	78
7048031	80	32 x 6	520	80	20	20	120

----- Total length = basic length + total travel [mm]



[mm]

L 1	L 2	L 3	M	P 1	P 2	R	V	Max. travel/end	Mass [kg]	
									Basic length	per 100 mm travel
26	26	44	28	2 x 2 x 20	2 x 2 x 20	80*	M4 x 8	1340	0.673	0.212
38	38	44	44	4 x 4 x 32	4 x 4 x 32	77	M6 x 10	1350	2.317	0.432
38	38	44	44	4 x 4 x 32	4 x 4 x 32	85	M6 x 10	1355	3.169	0.539
38	38	44	50	5 x 5 x 32	5 x 5 x 32	100	M8 x 12	1325	3.571	0.764
31.5	31.5	50	70	6 x 6 x 22	6 x 6 x 22	100	M8 x 25	1180	15.970	1.940

\* For total lengths < 300 mm, dimension R = 53 mm

# E linear units – Fixing

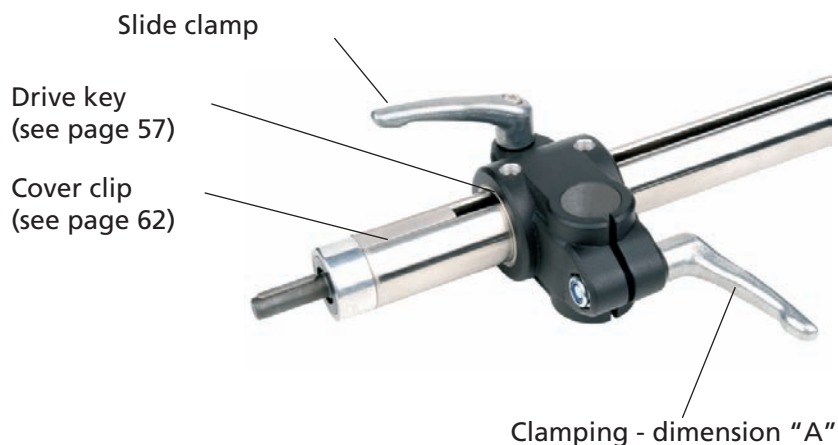
## Carriages

- A range of different versions facilitate mounting

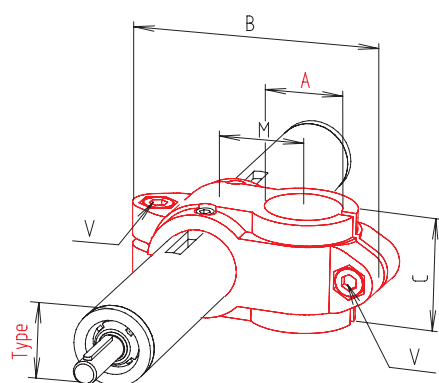
**Material:** Gk Al Si 12, black powder-coating

### Order information:

- Coloured powder-coating available on request.
- A rotation locking device (drive key) is included in the scope of delivery of the linear unit. Additional drive keys (e.g. for free-running carriages) can also be ordered as an optional extra
- For further dimensions, please refer to the catalogue "Connecting Technology"



## K\*



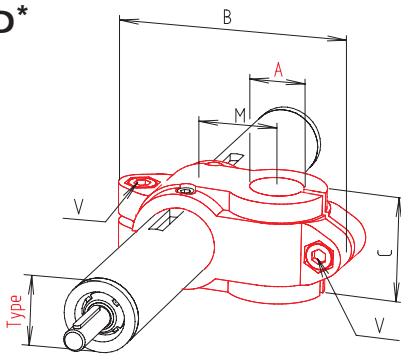
Code No.	Type	A	B	C	M	V
11801_...	18	18	66	25.5	20	M6 x 16
13093_...	30	20	99	40	33	M8 x 25
12501_...	30	25	99	40	33	M8 x 25
13001_...	30	30	99	40	33	M8 x 25
14001_...	40	40	137	60	45	M10 x 35
15003_...	50	40	154	70	53	M10 x 35
15001_...	50	50	154	70	53	M10 x 35
16001_...	60	60	190	80	65	M12 x 45
18001_...	80	80	255	120	90	M16 x 65

**Clamping A:**  
0 = screws  
1 = 1 lever

**Slide clamp (V):**  
0 = screws  
1 = 1 lever

0 = without slide bushing  
1 = with slide bushing

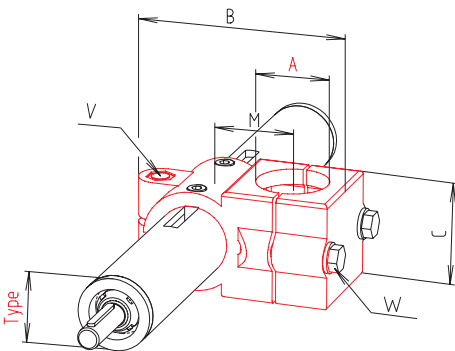
\* The external diameters of fixing plates are the same while the internal diameters of fixing holes may vary. Please also refer to KD range.

**E linear unit - Fixing**
**Carriages**
**KD\***


[mm]

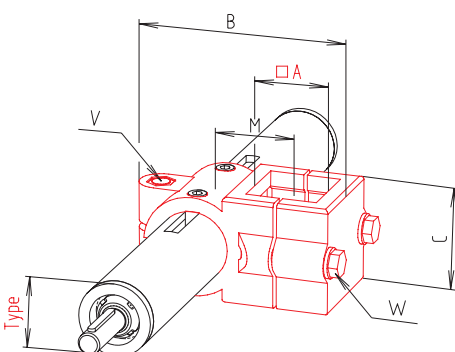
Code No.	Type	A	B	C	M	V1	V2
11803__	18	30	84	33	27	M6 x 16	M8 x 25
13003__	30	14	84	33	27	M8 x 25	M6 x 16
13004__	30	40	137.5	65	45	M10 x 35	M10 x 35
14003__	40	20	110	50	36	M10 x 35	M8 x 25
14004__	40	30	137.5	65	45	M10 x 35	M10 x 35
15004__	50	30	137.5	65	45	M10 x 35	M10 x 35
16004__	60	50	157	80	60	M12 x 45	M12 x 40

\* Different external diameters of the fixing plates and different internal diameters of fixing holes. Please also refer to K range.

**KR**


[mm]

Code No.	Type	A	B	C	M	V	W
13005__	30	30	86	45	33	M8 x 35	M8 x 35
14005__	40	40	117	60	47	M10 x 50	M8 x 45
25005__	50	50	126	86	53	M8 x 50	M8 x 50

**KVR**


[mm]

Code No.	Type	A	B	C	M	V	W
13006__	30	30	86	45	33	M8 x 35	M8 x 35
14006__	40	40	117	60	47	M10 x 50	M8 x 45
25006__	50	50	126	86	53	M8 x 50	M8 x 50

**Clamping A:**  
 0 = screws  
 1 = 1 lever

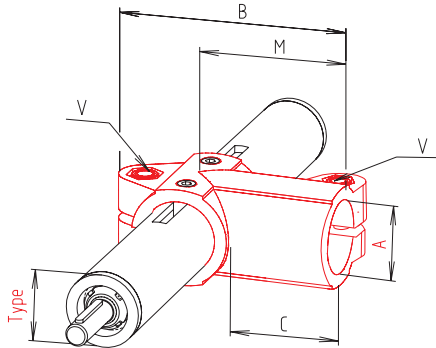
**Slide clamp (V):**  
 0 = screws  
 1 = 1 lever  
 2 = 2 levers

0 = without slide bushing  
 1 = with slide bushing

# E linear units – Fixing

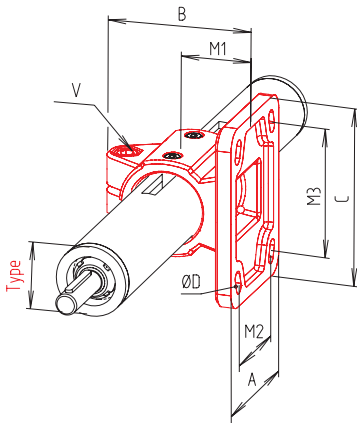
## Carriages

### W



Code No.	Type	A	B	C	M	V
11807_	18	18	67.5	30	43	M6 x 16
13007_	30	30	93	40	60	M8 x 25
14007_	40	40	134	60	88	M10 x 30
15007_	50	50	149	65	98	M10 x 35
16007_	60	60	183	80	120	M12 x 45
18007_	80	80	259	121.7	176.7	M16 x 65

### FK

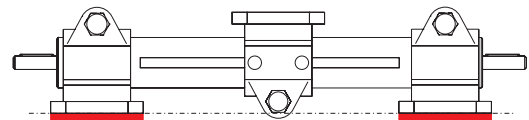


Code No.	Type	A	B	C	D	M1	M2*	M3*	V
11809_	18	37	42.5	50	5.5	18	-**	40	M6 x 16
13009_	30	55	63	78	6.5	30	-**	53-60	M8 x 25
13023_	30-4	55	63	78	6.5	30	35-40	53.60	M8 x 25
14009_	40	80	87	105	8.5	42	52-60	80-82	M10 x 30
15009_	50	90	98	128	10.5	50	60-62	98-100	M10 x 35
16009_	60	110	123	150	10.5	60	74-80	100-118	M12 x 45
18009_	80	164.7	162.4	180	17.5	80	120	140	M16 x 65

- Clamping A:**  
0 = screws  
1 = 1 lever
- Slide clamp (V):**  
0 = screws  
1 = 1 lever
- 0 = without slide bushing  
1 = with slide bushing

\* Type 30-60 with slot  
\*\* Type 18-30 with central holes

If using FK elements as carriages and fixing elements, spacers provide the necessary clearance.



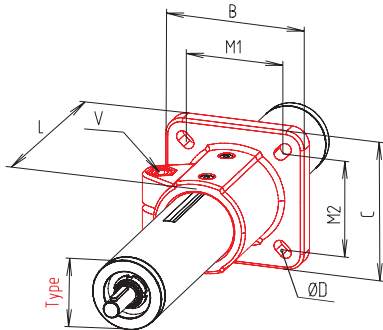
Code No.	Type	Spacer
96713	30	5 mm plate thickness, vibratory finished
96714	40	
96716	60	



E linear unit - Fixing

Carriages

FS

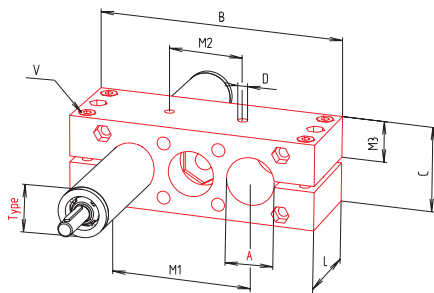


[mm]

Code No.	Type	B	C	D	L	M1*	M2*	V
11811 __	18	42	42	5.5	37	30	30	M6 x 16
13011 __	30	60	60	6.5	50	40-42	42-45	M8 x 25
14011 __	40	90	90	8.5	70	60-64	60-64	M10 x 30
15011 __	50	105	105	10.5	85	74-80	74-80	M10 x 35
16011 __	60	120	120	10.5	100	80-89	80-89	M12 x 45
18011 __	80	170	174.5	17.5	141.4	120	120	M16 x 65

\* Type 30-60 with slot

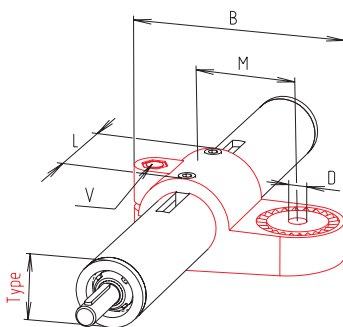
PB



[mm]

Code No.	Type	A	B	C	D	M1	M2	M3	L	V
11813 ___	18	18	82	28	M 5	40	18	14.5	28.5	M5 x 20
13013 ___	30	30	130	52	M 6	70	42	27	50	M6 x 45
14013 ___	40	40	180	62	M 8	90	62	32	61	M8 x 45
25013 ___	50	50	206	72	M 8	100	62	37	72	M8 x 60
26013 ___	60	60	240	86.5	M10	130	74	44	80	M8 x 75

LW



[mm]

Code No.	Type	B	D	L	M	V
11814 __	18	59	M 6	25	27	M6 x 25
13014 __	30	93.5	M 8	40	43	M8 x 35
14014 __	40	127	M10	56	60	M10 x 50
15014	50	148	M10	66	70	M10 x 60

**Clamping A:**

- 0 = screws
- 1 = 1 lever
- 2 = 2 levers

**Slide clamp (V):**

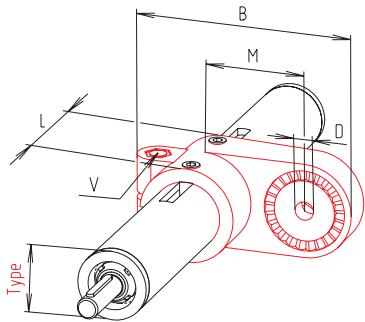
- 0 = screws
- 1 = 1 lever

- 0 = without slide bushing
- 1 = with slide bushing

# E linear units – Fixing

## Carriages

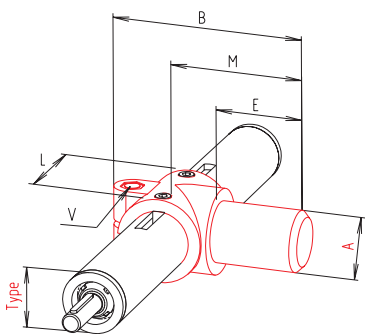
### LQ



[mm]

Code No.	Type	B	D	L	M	V
13015 __	30	93.5	M 8	45	43	M8 x 35
14015 __	40	128	M10	60	60	M10 x 50
15015 __	50	148	M10	70	70	M10 x 60

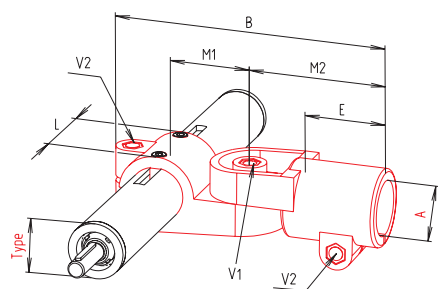
### S



[mm]

Code No.	Type	A	B	E	L	M	V
11818 __	18	18	72.5	33	32	48	M6 x 16
13018 __	30	30	100	42	45	67	M8 x 25
14018 __	40	40	135	57	60	88	M10 x 30
15018 __	50	50	148	67	70	103	M10 x 60
16018 __	60	60	188	82	85	125	M12 x 45

### GW



[mm]

Code No.	Type	A	B	E	L	M1	M2	V1	V2
11816 ___	18	18	90.5	25	25	27	44	M6 x 30	M6 x 25
13016 ___	30	30	146.5	45	40	43	73	M8 x 35	M8 x 35
14016 ___	40	40	200	60	56	60	100	M10 x 50	M10 x 50
15016 ___	50	50	230	70	66	70	115	M10 x 60	M10 x 60

**Clamping A:**

0 = screws  
1 = 1 lever

**Slide clamp (V):**

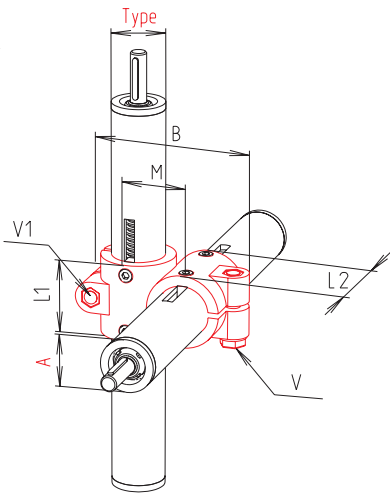
0 = screws  
1 = 1 lever

0 = without slide bushing  
1 = with slide bushing



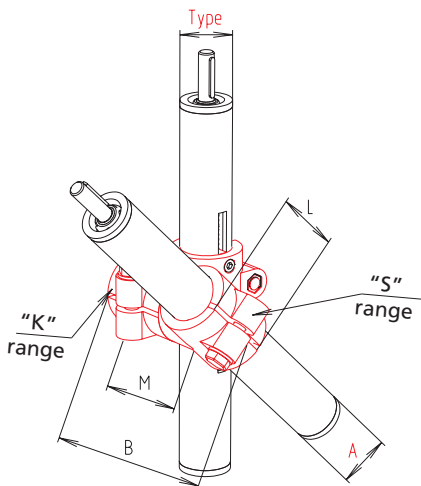
### Carriages

#### EK



Code No.	Type	A	B	L1	L2	M	V1	V2
11819 ___	18	18	66	25.5	25.5	20	M6 x 16	M6 x 16
13020 ___	30	18	84	40	30	27	M8 x 25	M6 x 16
13019 ___	30	30	99	40	40	33	M8 x 25	M8 x 25
14020 ___	40	30	137	65	65	45	M10 x 35	M10 x 35
14019 ___	40	40	137	60	60	45	M10 x 30	M10 x 30
15020 ___	50	40	137.5	65	65	45	M10 x 35	M10 x 35
15019 ___	50	50	137.5	65	65	45	M10 x 35	M10 x 35
16020 ___	60	50	180	80	50	60	M12 x 45	M12 x 40
16019 ___	60	60	190	80	80	65	M12 x 45	M12 x 45
18019 ___	80	80	255	120	120	90	M16 x 65	M16 x 65

#### EKS



Code No.	Type	A	B	L	M
13022 ___	30	18	65	25	29
13021 ___	30	30	94	45	43
14022 ___	40	30	119	45	56
14021 ___	40	40	132	60	61
15022 ___	50	40	169	60	64
15021 ___	50	50	169	70	69
16022 ___	60	50	151	70	76
16021 ___	60	60	186	85	65

- Clamping A:**  
0 = screws  
1 = 1 lever
- Slide clamp (V):**  
0 = screws  
1 = 1 lever
- 0 = without slide bushing  
1 = with slide bushing

#### Drive key for carriages

- Rotation locking for additional free-running carriages

**Note:** The order number of the linear unit includes a drive key



Code No.	Type	Installation length
95990	E 18	24
95987	E-II 30	38
95997	E-II 40	55
95998	E-II 40 x 20*	55
95988	E-II 50	60
95989	E-II 60	75
95996	E 80	100

\* For carriage KD 40 x 20



# E linear units – Fixing

## Fixing elements

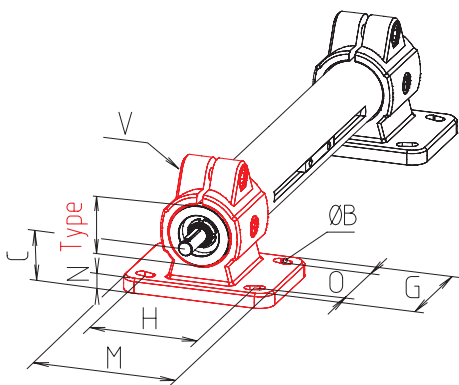
- Clamping elements for the simple fixing of E units
- For further elements, please refer to the catalogue "Connecting Technology"

**Material:** Gk Al Si 12, vibratory polished

Coloured powder-coatings available on request.

For further dimensions, please refer to the catalogue "Connecting Technology"

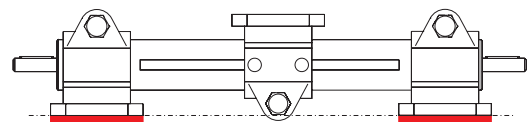
## FK



Code No.	Type	B	C	G	H*	M	N	O*	V
12180000020	18	5.5	18	37	40	50	5	–**	M6 x 16
12300000020	30	6.5	30	55	53-60	78	7	–**	M8 x 25
12300100020	30-4	6.5	30	55	53-60	78	7	35-40	M8 x 25
12400000020	40	8.5	42	80	80-82	105	10	52-60	M10 x 30
12500000020	50	10.5	50	90	98-100	128	14	60-62	M10 x 35
12600000020	60	10.5	60	110	100-118	150	15	74-80	M12 x 45
12800000020	80	17.5	80	164.7	140	180	20	120	M16 x 65

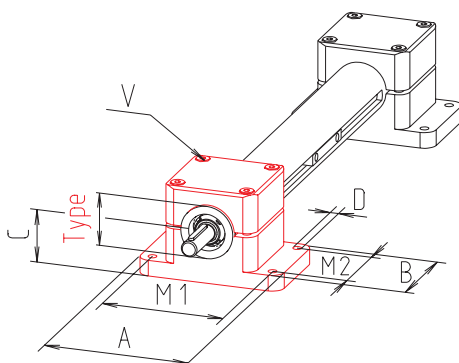
\* Type 30-60 with slot  
 \*\* Type 18-30 with central drill holes

If using FK elements as carriages and fixing elements, spacers provide the necessary clearance.



Code No.	Type	Spacer
96713	30	5 mm plate thickness, vibratory finished
96714	40	
96716	60	

## FKR



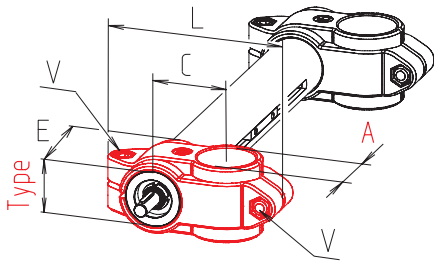
Code No.	Type	A	B	C	D	M1	M2	V
22300003026	30	100	60	30	6.5	82	42	M6 x 45
22400003026	40	110	70	40	6.5	92	52	M6 x 60
22500003026	50	125	125	50	8.5	98	98	M8 x 80
22600003026	60	144	100	60	8.5	122	78	M8 x 90



**E linear unit - Fixing**

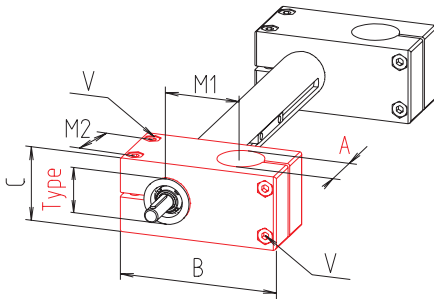
**Fixing elements**

**K**



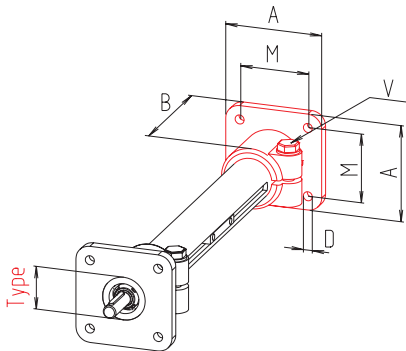
Code No.	Type	A	C	E	L	V
101800000200	18	18	20	25.5	66	M6 x 16
103000000200	30	30	33	40	99	M8 x 25
104000000200	40	40	45	60	137	M10 x 30
105000000200	50	50	53	70	154	M10 x 35
106000000200	60	60	65	80	190	M12 x 45
108000000200	80	80	90	120	255	M16 x 65

**KRR**



Code No.	Type	A	B	C	E	M1	M2	V
203000030266	30	30	82.5	45	63	37.5	44	M6 x 35
204000030266	40	40	110	60	75	50	53	M6 x 45
205000030266	50	50	149	86	86	70	65	M8 x 60
206000030266	60	60	170	100	100	80	78	M8 x 60

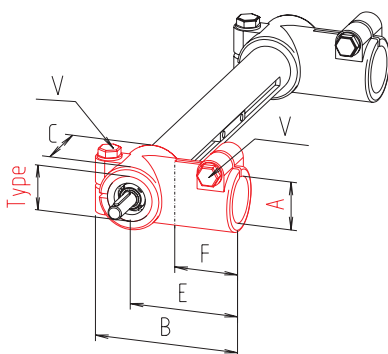
**FS**



Code No.	Type	D	M	B	A	V
13180000020	18	5.8	30	37	42	M6 x 16
13300000020	30	6.5	40-42	50	60	M8 x 25
13400000020	40	8.5	60-64	70	90	M10 x 30
13500000020	50	10.5	74-80	85	105	M10 x 35
13600000020	60	10.5	80	80	120	M12 x 45
13800000020	80	17.5	120	141.4	174.5	M16 x 65

\* Type 30-50 with slot

**W**

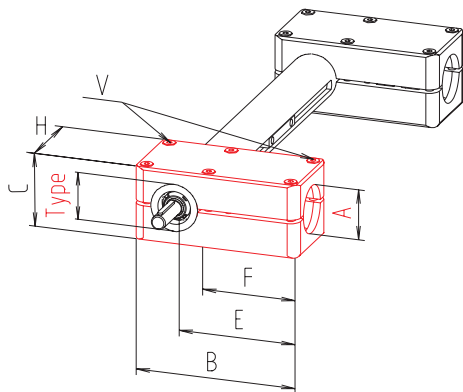


Code No.	Type	A	C	E	L	M	V
111800000200	18	18	30	32	67.5	43	M6 x 16
113000000200	30	30	40	45	93	60	M8 x 25
114000000200	40	40	60	60	134	88	M10 x 30
115000000200	50	50	65	70	149	98	M10 x 35
116000000200	60	60	80	80	183	120	M12 x 45
118000000200	80	80	121.7	123	259	176.8	M16 x 65

# E linear units – Fixing

## Fixing elements

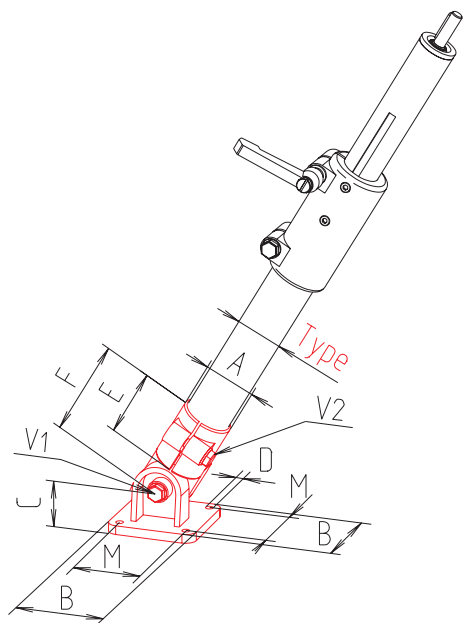
### WR



[mm]

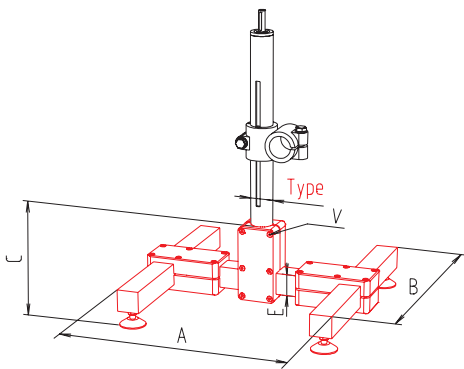
Code No.	Type	A	B	C	E	F	H	V
214000030266	40	40	140	62	105	70	70	M8 x 60
215000030266	50	50	161	79	118	85	86	M8 x 70
216000030266	60	60	190	90	140	100	100	M8 x 80

### GF



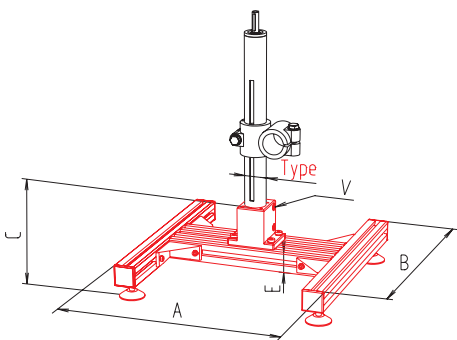
[mm]

Code No.	Type	A	B	C	D	E	F	M	V1	V2
18180002020	18	18	35 x 50	20	5.3	25	44	38	M6 x 16	M6 x 16
18250002020	25	25	75	32.5	6.5	45	73	57	M8 x 35	M8 x 35
18300002020	30	30	75	32.5	6.5	45	73	57	M8 x 35	M8 x 35
18320002020	32	32	100	44	8.5	60	100	76	M10 x 50	M10 x 50
18400002020	40	40	100	44	8.5	60	100	76	M10 x 50	M10 x 50
18500002020	50	50	125	52	8.5	70	115	98	M10 x 60	M10 x 60

**E linear unit - Fixing**
**Fixing elements**
**FHR\***


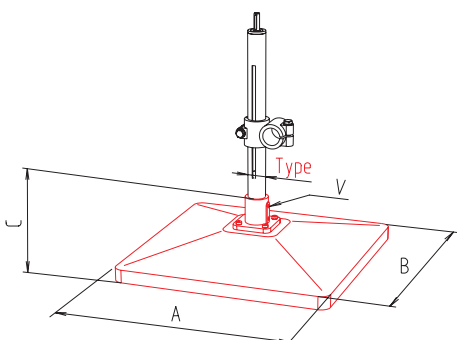
Code No.*	Type	A	B	C	E	V
2330002002 __	30	350	350	120	30	M6 x 40
2340002002 __	40	400	400	140	40	M6 x 55
2350002002 __	50	500	500	161	50	M8 x 70
2360002002 __	60	600	600	190	60	M8 x 80

[mm]

**FHNR\***


Code No.*	Type	A	B	C	E	V
2330002202 __	30	350	350	90	40	M8 x 25
2340002202 __	40	400	400	110	40	M8 x 45
2350002202 __	50	500	500	145	60	M10 x 35
2360002202 __	60	600	600	190	60	M12 x 45

[mm]

**FPFS\***


Code No.*	Type	A	B	C	V
1330001202 __	30	500	500	130	M8 x 25
1332001202 __	32	500	500	150	M10 x 30
1340001202 __	40	500	500	150	M10 x 30
1350001202 __	50	500	500	165	M10 x 35
1360001202 __	60	500	500	180	M12 x 45

[mm]

\* For versions, please also refer to the catalogue "Connecting Technology"

# E linear units – Fixing

## Cover clips

- Slot covers, can be used as dust protection or stroke limitation
- Can be shortened or lengthened if required

**Material:** Stainless steel  
**Scope of delivery:** Pack of 2 cover strips or as bar material



The cover clips are available as a pack of two, or as bar material.



The linear unit comes with two cover clips for the bearing seats.



Additional clips can be inserted in the guide slot.

Code No.	Type	Length [mm]
Cover clips, pack of 2		
90440	30	63
90441	40	57
90442	50	60
90443	60	74
Cover, bar material		
90445	30	2010
90446	40	3010
90447	50	3010
90448	60	3010



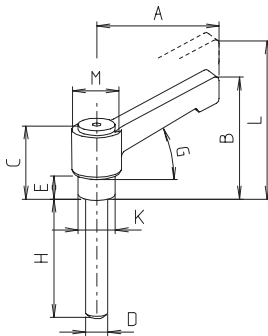
**E linear unit - Fixing**

**Clamping lever**

- For the equipping of fixing elements and carriages

**Material:** Zinc die cast handle  
Steel parts galvanised

Stainless steel lever available on request.



Lever for slide clamp



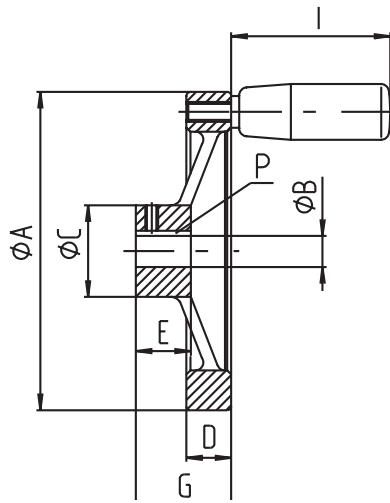
Lever for component clamp

[mm]

Code No.	Type	Type	A	B	C	D	E	G	H	O	L	M
90210	M6 x 16	18	40	30	25	M6	6.5	20°	16	10	33.5	13.5
90209	M6 x 18	18	40	30	25	M6	6.5	20°	18	10	33.5	13.5
90249	M6 x 20	18	40	30	25	M6	6.5	20°	20	10	33.5	13.5
90213	M6 x 35	30	40	30	25	M6	6.5	20°	35	10	33.5	13.5
90214	M6 x 40	40	40	30	25	M6	6.5	20°	40	10	33.5	13.5
90215	M6 x 45	40	65	41.5	28.5	M6	6.5	20°	45	13.5	45.5	19.5
90216	M6 x 55	40	65	41.5	28.5	M6	6.5	20°	55	13.5	45.5	19.5
90217	M6 x 60	40	65	41.5	28.5	M6	6.5	20°	60	13.5	45.5	19.5
90222	M8 x 25	30	65	41.5	28.5	M8	8.5	20°	25	13.5	45.5	19.5
90224	M8 x 35	30	65	41.5	28.5	M8	8.5	20°	35	13.5	45.5	19.5
90225	M8 x 45	40	65	41.5	28.5	M8	8.5	20°	45	13.5	45.5	19.5
90226	M8 x 50	40	65	41.5	28.5	M8	8.5	20°	50	13.5	45.5	19.5
90227	M8 x 55	50	65	41.5	28.5	M8	8.5	20°	55	13.5	45.5	19.5
90228	M8 x 60	50	65	41.5	28.5	M8	8.5	20°	60	13.5	45.5	19.5
90229	M8 x 70	50	80	53.5	37	M8	8.5	20°	70	16	58	23
90230	M8 x 80	60	80	53.5	37	M8	8.5	20°	80	16	58	23
90231	M8 x 90	60	80	53.5	37	M8	8.5	20°	90	16	58	23
90250	M10 x 30	40	80	53.5	37	M10	10	20°	30	16	58	23
90251	M10 x 35	50	80	53.5	37	M10	10	20°	35	16	58	23
90243	M10 x 50	40	80	53.5	37	M10	10	20°	50	16	58	23
90244	M10 x 60	30	95	61	43	M10	10	20°	60	16	66	23.5
90255	M12 x 40	60	95	61	43	M12	13.5	20°	40	18	66	27.5
90253	M12 x 45	60	95	61	43	M12	13.5	20°	45	18	66	27.5
90271	M16 x 65	80	126	72	57.5	M16	19	20°	65	23	77	33
90270	M16 x 72	80	126	72	57.5	M16	19	20°	72	23	77	33

# E linear units – Drive

## Handwheel



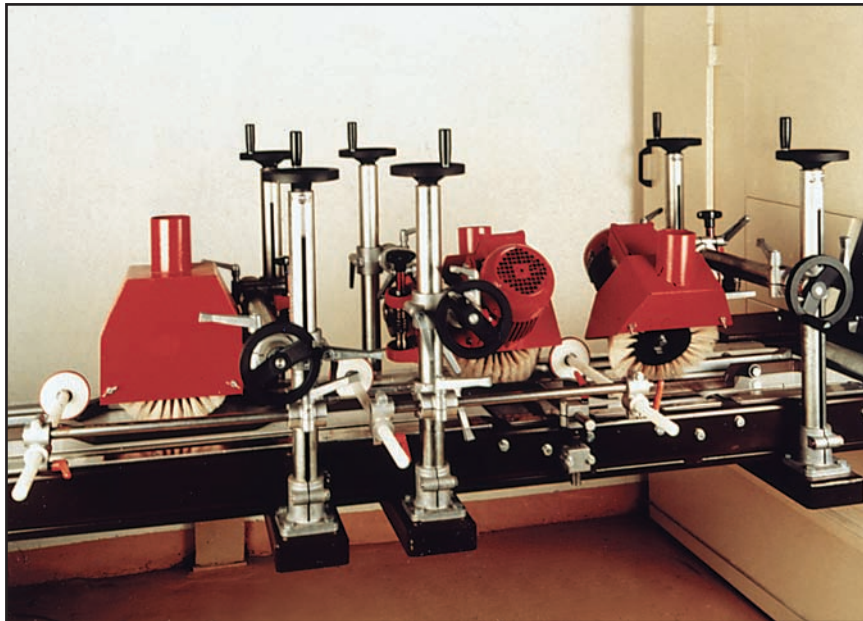
Diam. 60-100

Diam. 140-200

**Material:** Die-cast aluminium  
black powder-coating

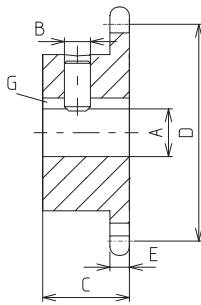
[mm]

Code No.	Type	Diam. A	B	C	D	E	G	P	I
90901	18	60	6	18	13	16	22	2 x 2	28
90913	30	100	8	28	14	17	30	2 x 2	52
90915	40-50	100	12	28	14	17	30	4 x 4	52
90905	40-50	140	12	36	16.5	19.5	36	4 x 4	66
90906	60	140	14	36	16.5	19.5	36	5 x 5	66
90918	60	160	14	36	18	20	39	5 x 5	80
90929	80	200	20	42	20.5	24	45	6 x 6	80



**Chain wheel**

■ Other sizes on request

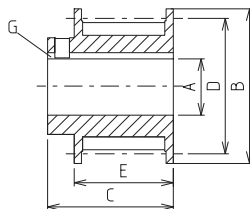
**Material:** Steel, 500 N/mm<sup>2</sup> min


[mm]

Code No.	Type	A	B	C	D	E	G	No. of teeth	Size
91703	30	8	M6	18	41.1	4.5	2 x 2	10	1/2 x 3/16"
91704	40	12	M6	20	53	4.5	4 x 4	13	1/2 x 3/16"
91705	50	12	M6	20	61	4.5	4 x 4	15	1/2 x 3/16"
91706	60	14	M6	25	85	4.5	5 x 5	21	1/2 x 3/16"
91708	80	20	M6	25	85	4.5	6 x 6	21	1/2 x 3/16"

**HTD timing-belt pulley**

- Suitable for maintenance-free continuous operation
- Excellent accuracy and zero backlash during change of direction
- Can be clamped on feather key

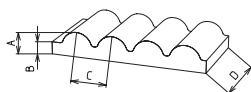
**Material:** Steel


[mm]

Code No.	Type	A	B	C	D	E	G	Pull force	Pitch
92103	30	8	23	20	19.09	14.5	2 x 2	220 N	5
92105	40/50	12	32	26	28.65	20.5	4 x 4	330 N	5
92106	60	14	32	26	28.65	20.5	5 x 5	330 N	5
92108	80	on request							

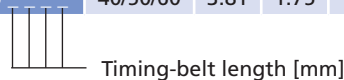
**Timing-belt (endless)**

- HTD timing-belt with steel insert For pull force, see pulley. Other lengths available on request.



[mm]

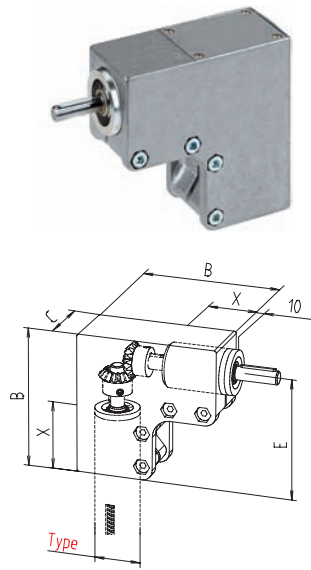
Code No.	Type	A	B	C	D	Timing-belt length			
92204	30	3.81	1.75	5	9	305	550	750	1000
92205	40/50/60	3.81	1.75	5	15	305	565	800	900





# E linear units – Drive

## Angular drive

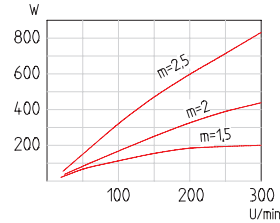


- If angular drives are fitted, the linear units are delivered exclusively with ball bearings

**Scope of delivery:** Housing, bevel gear set and transmission unit

**Material:** Angular drive housing made of die cast aluminium  
Steel parts galvanised

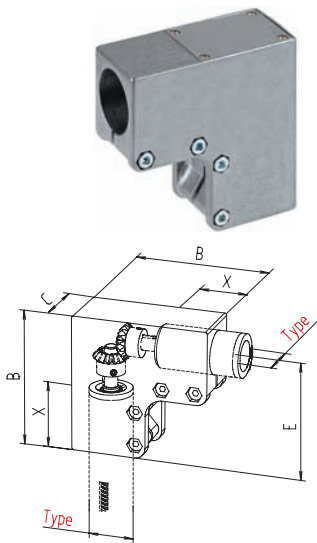
Power transmission of bevel gears



Code No.	Type	i	Mod- ule	No. of teeth	Dia- meter	B	C	E	X
91523	30	1:1	1.5	16	8	96	42	75	43
91504	40	1:1	2	16	12	128	54	100	55
91555	50	1:1	2.5	16	12	148	65	115	68
91506	60	1:1	2.5	16	14	170	80	130	80

[mm]

## Angular drive housing



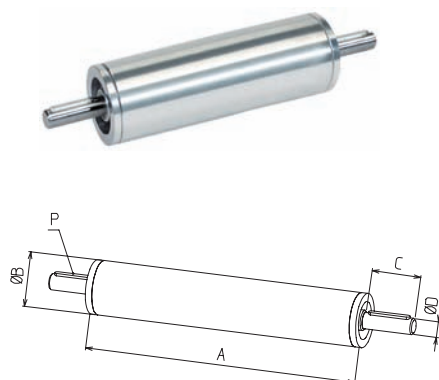
- For plug-in angular drive connection of 2 E linear units fitted with bevel gears.

**Material:** Angular drive housing, die cast aluminium. Steel parts, galvanised

Code No.	Type	B	C	E	X
213000090266	30	96	42	75	43
214000090266	40	128	54	100	55
215000090266	50	148	65	115	68
216000090266	60	170	80	130	80

[mm]

## Transmission unit



- For torque transmission with parallel linear units

**Material:** Tube and bearing elements galvanised steel,  
Shaft bright

Code No.	Type	A (basic length)	B	C	D	P
92523	30	53	30	26	8	2 x 2 x 20
92544	40	65	40	38	12	4 x 4 x 32
92555	50	78	50	38	12	4 x 4 x 32
92506	60	90	60	38	14	5 x 5 x 32

[mm]

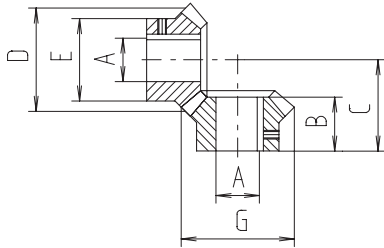




### E linear unit - Drive

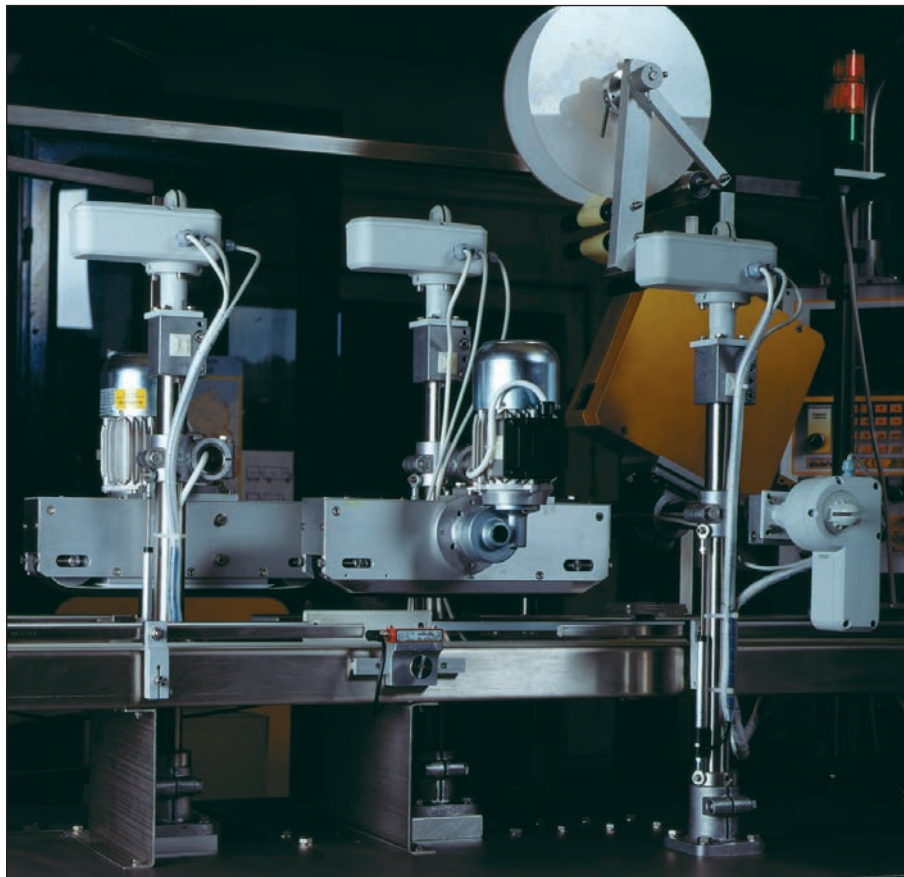
#### Bevel gear set

- Straight toothed
- Pressure angle 20°
- Shaft angle 90°
- Crowned tooth flanks



[mm]

Code No.	Type	A	B	C	D	E	G	No. of teeth	Module
91603	Set 30	8	15	24	24	18	26.11	16	1.5
91623	Single component 30	8	15	24	24	18	26.11	16	1.5
91604	Set 40	12	19	31	32	26	35	16	2
91664	Single component 40	12	19	31	32	26	35	16	2
91605	Set 50	12	22	37	40	32	44	16	2.5
91625	Single component 50	12	22	37	40	32	44	16	2.5
91606	Set 60	14	22	37	40	32	44	16	2.5
91666	Single component 60	14	22	37	40	32	44	16	2.5



# E linear units – Drive

## Selection table - motor adaptor/coupling

Type	Three-phase motor		EHL electr. handwheel	Drive unit	
	90/120 W	180/250 W		LZ S	LZ P
E 30	949983	–	92663	949700	949701
	9109200812	–	–	9109200810	9109200810
E 40	949984	–	92664	949702	949703
	9114301212	–	–	9114301012	9114301012
E 50	949985	–	92665	949704	949705
	9114301212	–	–	9114301012	9114301012
E 60	–	949606	949666	949706	–
	–	9119401414	–	9114301014	–
E 80	–	950001	92682	on request	–
	–	9119401420	–	9119401020	–

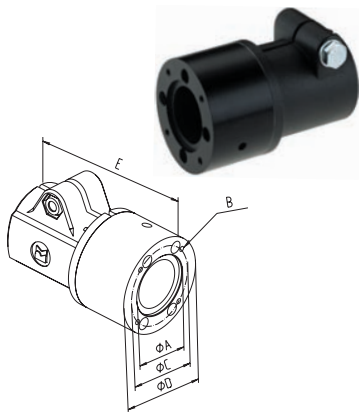
↓

Code No. Motor adaptor:  
**950001**

Code No. Coupling with  
specification of shaft  
diameter  
1st end = 12 mm  
2nd end = 12 mm:  
**9114301212**

**Note:**  
For further details on motor versions,  
please refer to the chapter "Motors and  
controls"

### Motor adaptor for three-phase motor



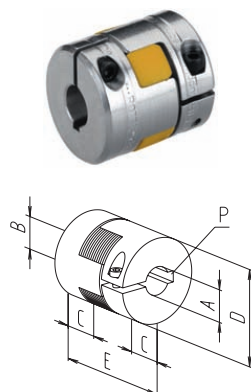
- Clampable adaptor
- Flange surface machined

**Material:** Die-cast aluminium

Code No.	Type	A	B	C	D	E
949983	30	50	M5	65	80	102.5
949984	40	50	M5	65	80	128
949985	50	50	M5	65	80	128
949606	60	80	M6	100	120	136
950001	80	80	M6	100	120	199.5

[mm]

### Coupling



- Small size
- Shaft connection without backlash
- Maintenance-free
- Easy plug-in assembly

**Material:** Hub – aluminium  
Spider ring – polyurethane

To ensure proper function of the  
coupling, a clearance of **D + 3 mm**  
is required.

Code No.	Type	A	B	C	D	E	P	Torque [Nm]	
								with feather key	without feather key
9109200812	30	8	12	10	22	30	2 x 2/4 x 4	5	3
9114301212	40/50	12	12	11	30	35	4 x 4/4 x 4	12	6
9119401414	60	14	14	25	40	65	5 x 5/5 x 5	17	10
9119401420	80	14	20	25	40	65	5 x 5/6 x 6	17	10

[mm]



**E linear unit - Drive**

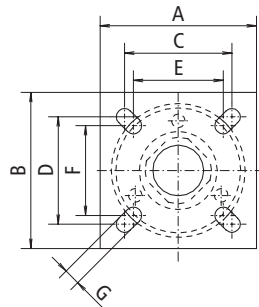
**Motor adaptor for EHL electronic handwheel**

- Clampable adaptor
- Incl. coupling

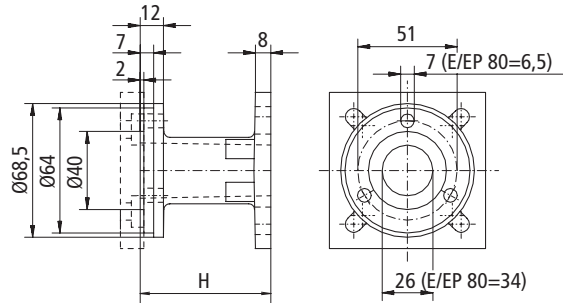
**Note:** To mount the motor adaptor on a Type E linear unit, a sleeve clamp is required (this is included with the adaptor). Please note that the stroke may be limited.

Further adaptors available on request

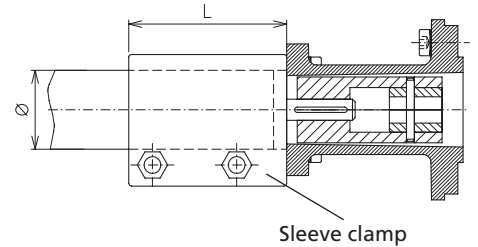
Linear unit connection



EHL connection



Only for linear unit Type E

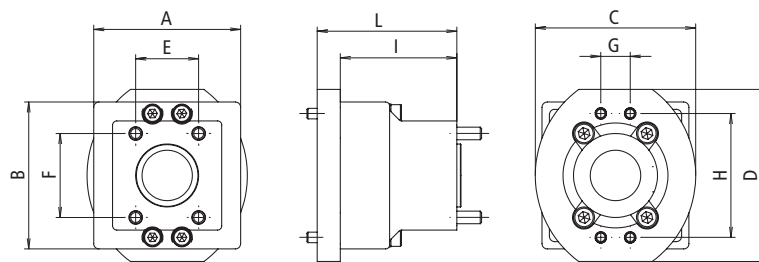


[mm]

Code No.	for linear unit	Shaft diam. unit	A	B	C	D	E	F	G	H	L	Diameter
92663	E 30	8	50	50	30	40	30	30	6	67	60	30
92664	E 40	12	60	60	46	46	36	36	7	67	75	40
92665	E 50	12	65	65	46	46	-	-	9	67	90	60
949666	E 60	14	80	80	55	55	46	46	9	67	110	60
92682	E 80	20	80	80	70	70	-	-	6.2	59		80

**Motor adaptor for LZ S/P drive unit**

- Clampable adaptor



[mm]

Linear unit	LZ S Code No.	LZ P Code No.	Coupling Code No.	A	B	C	D	E	F	G	H	I	L
E 30	949700	949701	9109200810	56	74	76.4	82	-	-	56.5	39.6	65	134
E 40	949702	949703	9114301012	89.2	66	76.4	82	-	-	56.5	39.6	78	129
E 50	949704	949705	9114301012	66	84	76.4	82	-	-	56.5	39.6	78	129
E 60	949706	-	9114301014	80	103	76.4	82	-	-	52.3	52.3	92	143
E 80	on request		9119401020	on request									

# E linear units – Position determination

## Scale

- Self-adhesive
- Width: 10 mm
- 4 mm high figures

**Material:** High-performance film, transparent

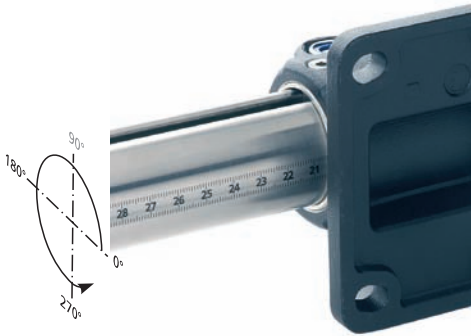


Image shows scale mounted at 0°, to be read from right to left. Standard mounting at 270° (Type 30-60: 90° not technically possible, Type 80: (90° and 180° not technically possible))

[mm]

Code No.	Type	Can be read from	Length	Version
92047	30-60*	left to right	0-2000	fitted
92048		right to left	0-2000	fitted

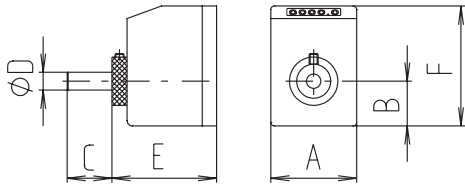
\* Type 18 and 80 available on request.





**E Linear units - Position determination**

**Positioning indicator**



- Max ambient temperature +80°C
- Figure height 6 mm
- Reading accuracy ± 0.1 mm
- If positioning indicators are fitted, the linear units are delivered exclusively with ball bearings

**Material:** Housing polyamide 6 Orange RAL 2004, Steel parts, corrosion protected

**Scope of delivery:** Positioning indicator, clamping ring, shaft extension and fastenings

**Note:** "rising" and "falling" versions refer to the clockwise rotation of the drive shaft.

[mm]



Installation position: horizontal

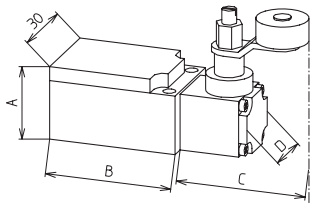


Installation position: vertical

Type	Installation position	Code No.	Version	Code No.	Version	A	B	C	D	E	F
18	Horizontal	91001	2 mm rising	910129	4 mm rising	48	29	17	6	60	67
18		91011	2 mm falling	910130	4 mm falling	48	29	17	6	60	67
18	Vertical	91021	2 mm rising	910131	4 mm rising	48	29	17	6	60	67
18		91031	2 mm falling	910132	4 mm falling	48	29	17	6	60	67
30	Horizontal	91043	3 mm rising	91010	6 mm rising	48	25	26	8	59	67
30		91053	3 mm falling	91029	6 mm falling	48	25	26	8	59	67
30	Vertical	91063	3 mm rising	91020	6 mm rising	48	25	26	8	59	67
30		91073	3 mm falling	91019	6 mm falling	48	25	26	8	59	67
40	Horizontal	91004	4 mm rising	91030	8 mm rising	48	25	38	12	59	67
40		91014	4 mm falling	91039	8 mm falling	48	25	38	12	59	67
40	Vertical	91024	4 mm rising	91040	8 mm rising	48	25	38	12	59	67
40		91034	4 mm falling	91041	8 mm falling	48	25	38	12	59	67
50	Horizontal	91045	4 mm rising	91046	8 mm rising	48	25	38	12	59	75
50		91055	4 mm falling	91047	8 mm falling	48	25	38	12	59	75
50	Vertical	91065	4 mm rising	91048	8 mm rising	48	25	38	12	59	75
50		91075	4 mm falling	91049	8 mm falling	48	25	38	12	59	75
60	Horizontal	91006	5 mm rising	91056	10 mm rising	48	25	38	14	60	81
60		91016	5 mm falling	91057	10 mm falling	48	25	38	14	60	81
60	Vertical	91026	5 mm rising	91058	10 mm rising	48	25	38	14	60	81
60		91036	5 mm falling	91059	10 mm falling	48	25	38	14	60	81
80	Horizontal	91101	6 mm rising	910133	12 mm rising	64	29	31	20	60	94
80		91102	6 mm falling	910134	12 mm falling	64	29	31	20	60	94
80	Vertical	91103	6 mm rising	910135	12 mm rising	64	29	31	20	60	94
80		91104	6 mm falling	910136	12 mm falling	64	29	31	20	60	94

# E linear units – Position determination

## Mechanical limit switch



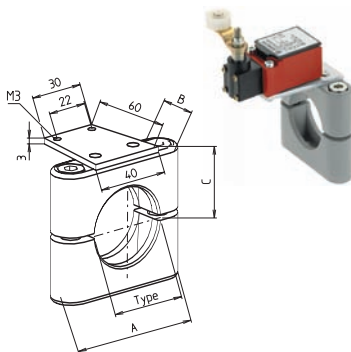
**Material:**  
Thermoplastic, fully insulated

Type	18-60	80
Max. voltage	250 V AC	230 V AC
Max. switching current	6 A	4 A
Max. starting current	16 A	–
Operating frequency	Max. 6000/h	Max. 5000/h
Mechanical lifetime	10 million switching cycles	20 million switching cycles
Axis lever adjustment	locking at 10° increments	
Protection class	IP 65	IP 67
Ambient temperature	-30°C to +80°C	

[mm]

Code No.	Type	Switching function	A	B	C	D
91905	18-60	NC/NO	26.5	45	45.5	21
91908	80	NC/NO	30	58.5	46	20

## E limit switch holder



■ Limit switch can be moved and fixed axially

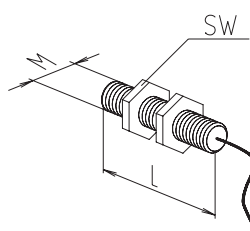
**Scope of delivery:** Holder with limit switch

**Material:** Aluminium

[mm]

Code No.	Type	A	B	C	D	E	F	G	H
92764	30	60	16	28	M4	3	30	60	40
92766	40	75	20	37	M4	3	30	60	40
92768	50	85	20	42.5	M4	3	30	60	40
92769	60	100	22	48	M4	3	30	60	40
927101	80	130	30	71	M4	10	70	70	70

## Inductive limit switch



■ Maintenance-free

**Material:** Housing - brass, chrome-plated

Type	18-60	80
Voltage	10-30 V DC	10-30 V DC
Max. switching current	200 mA	200 mA
Max. starting current	2 A for approx. 2 ms	–
Operating frequency	700 Hz acc. to DIN EN 50010	1000 Hz acc. to DIN EN 50010
Mechanical lifetime	independent of operating cycles	
Operating distance	4 mm for steel	2 mm for steel
Protection class	IP 67	IP 67
Ambient temperature	-25°C to +80°C	

[mm]

Code No.	Type	Switching function	L	M	A/F
92805	18-60	Normally closed contact	37	12 x 1	18
92815	18-60	Normally open contact	37	12 x 1	18
92816	80	Normally closed contact	32	8 x 1	13
92817	80	Normally open contact	32	8 x 1	13



Positioning of a labelling machine via a crossing E tubular linear unit