PD3E | Precision double tube linear units with two independent single guide elements

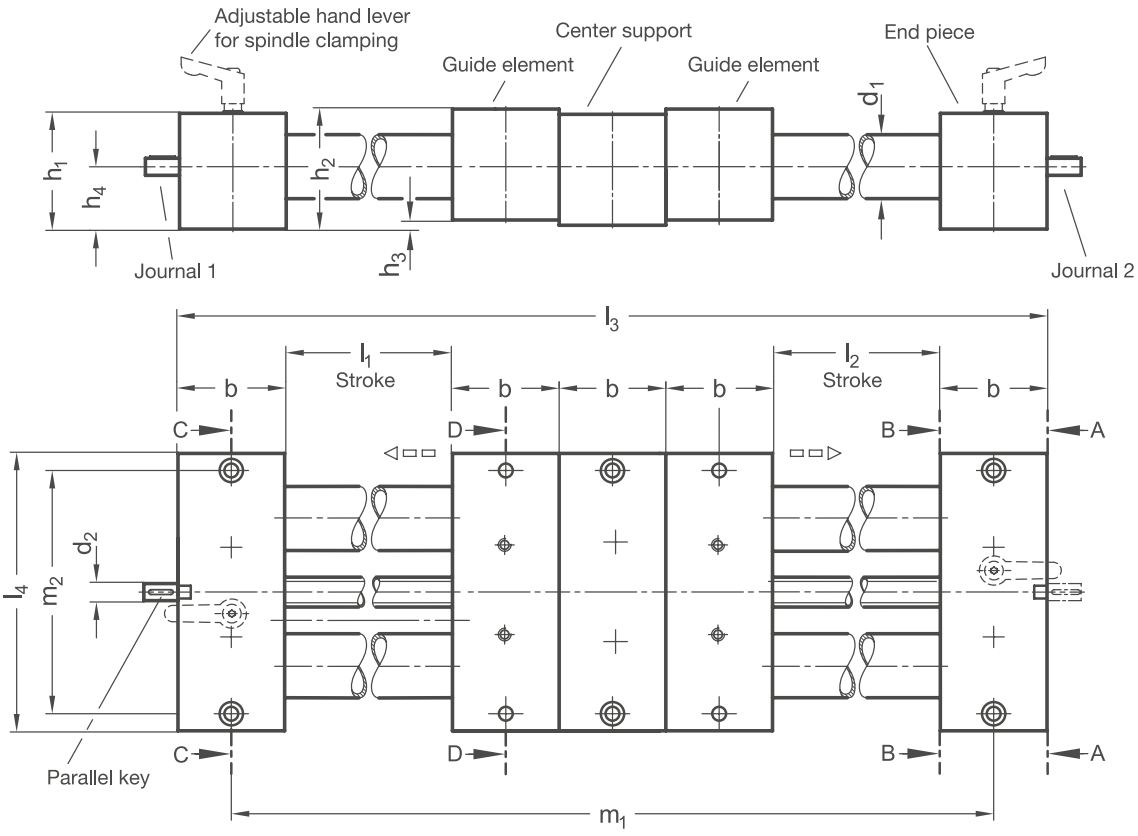
PRODUCT INFO

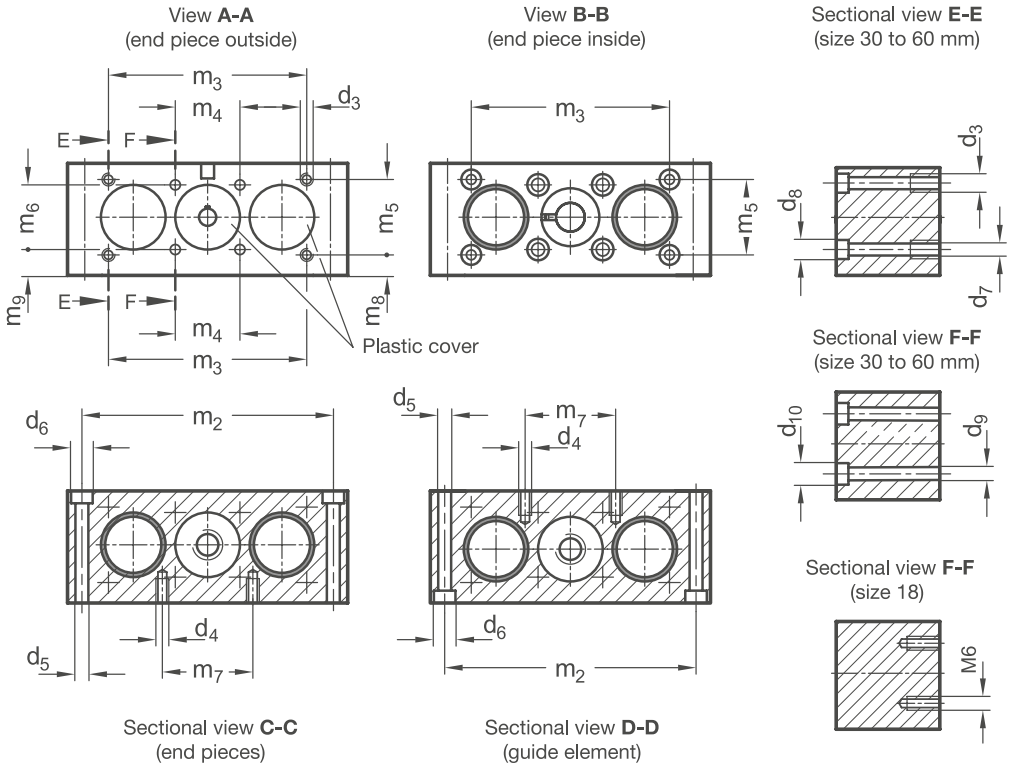
The round guides of the **precision double tube linear units PD3E** are available either as tubes or solid shafts. They are made of chrome-plated or hard-chrome-plated steel or polished stainless steel. The end pieces of aluminum connect the tubes or solid shafts and form a precise linear guide together with the guide elements. The centered independent spindles have trapezoidal or fine thread and ball bearings on both sides. The single guide elements are moved linearly along the spindle threads by the integrated spindle nuts – independently of the opposite side. The single guide elements have either a sliding or roller guide.

Double tube linear units have high torsional stiffness and can handle high weights and torques.

Accessory parts are listed in the tables and are already taken into account when selecting the linear units. This ensures, for example, that the lengths of the journals z_1 and z_2 are correct for attachment of the accessories. The accessories are not included with the linear units.

RoHS-compliant product





d_1	Stroke l_1	Stroke l_2	b	d_2	d_3	d_4	d_5	d_6	For screws DIN 912	d_7	d_8	For screws DIN 912	d_9	d_{10}	For screws DIN 912
18	...400	...400	28	6	-	M 5	5,5	10	M 5	-	-	-	-	-	-
25*	...750	...750	50	8	M 6	M 6	6,1	10,5	M 6	5,5	10	M 5	6,6	11	M 6
30	...750	...750	50	8	M 6	M 6	6,6	11	M 6	5,5	10	M 5	6,6	11	M 6
40	...1150	...1150	60	12	M 8	M 8	8,4* / 9	13,5* / 15	M 8	6,6	11	M 6	8,6	13,5	M 8
50	...1250	...1250	72	12	M 10	M 8	9	15	M 8	9	13,5	M 8	9	13,5	M 8
60	...1550	...1550	80	14	M 10	M 10	10,5	16,5	M 10	9	13,5	M 8	11	16,5	M 10

d_1	h_1	h_2	h_3	h_4	l_3	l_4	m_1	m_2	m_3	m_4	m_5	m_6
18	28	29	1	14,5	$5xb+l_1+l_2$	81	$4xb+l_1+l_2$	68	-	20	-	20
25*	52	54	2	27	$5xb+l_1+l_2$	130	$4xb+l_1+l_2$	114	97	30	35	30
30	52	54	2	27	$5xb+l_1+l_2$	130	$4xb+l_1+l_2$	114	92	30	35	30
40	60	63	3	31,5	$5xb+l_1+l_2$	180	$4xb+l_1+l_2$	160	138* / 132	39	38	39
50	72	76	4	38	$5xb+l_1+l_2$	206	$4xb+l_1+l_2$	184	150	46	50	46
60	86	90	4	45	$5xb+l_1+l_2$	240	$4xb+l_1+l_2$	216	185	55	60	55

d_1	m_7	m_8	m_9	Parallel key DIN 6885	**Accessories:** Torque support	Position indicator		Handwheel
18	18	-	4,5	A2x2x12	VZDD	VZPM	-	VZH
25*	42	9,5	12	A2x2x12	-	VZPM (only for stroke ≤ 1000 mm)	VZPE	VZH
30	42	9,5	12	A2x2x12	-	VZPM (only for stroke ≤ 1000 mm)	VZPE	VZH
40	52* / 62	12,5	12	A4x4x12	-	VZPM	VZPE	VZH
50	62	13	15	A4x4x12	-	VZPM	VZPE	VZH
60	74	15	17,5	A5x5x16	-	VZPM (only for trapezoidal thread)	VZPE	VZH

* Only for version a = 2ST / 2ED

2C

Version
a

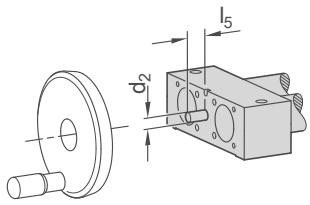
1ST	Double tube sliding guide / trapezoidal lead screw • Guide tubes: Steel, chrome-plated • End pieces / guide elements: Aluminum, bright. Assembly surfaces: Machined • Trapezoidal / fine thread spindle: Steel, with ball bearing	2ST	Double solid shaft roller slideway / trapezoidal lead screw (only for d_1 = 25 and d_1 = 40) • Solid guide shafts: Steel, polished and hard-chrome-plated • End pieces / guide elements: Aluminum, CNC-milled parts • Trapezoidal / fine thread spindle: Steel, with ball bearing
1ED	Double tube sliding guide / trapezoidal lead screw • Guide tubes: Stainless steel AISI 304, polished • End pieces / guide elements: Aluminum, bright. Assembly surfaces: Machined • Trapezoidal / fine thread spindle: Stainless steel AISI 303, with ball bearing	2ED	Double solid shaft roller slideway / trapezoidal lead screw (only for d_1 = 25 and d_1 = 40) • Solid guide shafts: Stainless steel, induction-hardened and polished • End pieces / guide elements: Aluminum, CNC-milled parts • Trapezoidal / fine thread spindle: Stainless steel AISI 303, with ball bearing

Spindle thread direction 1 **r_1**		Spindle thread direction 2 **r_2**	
RH	Right-hand thread	RH	Right-hand thread
RHK	Right-hand thread with clamping ring and hand lever for spindle clamping	RHK	Right-hand thread with clamping ring and hand lever for spindle clamping
LH	Left-hand thread	LH	Left-hand thread
LHK	Left-hand thread with clamping ring and hand lever for spindle clamping	LHK	Left-hand thread with clamping ring and hand lever for spindle clamping

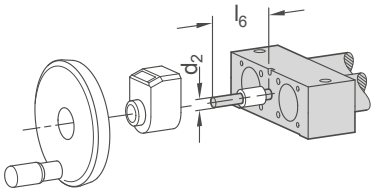
d_1	Spindle **Ø**	Spindle pitch **p_1**		Spindle pitch **p_2**		Journal-durchmesser **d_2**	Journal length B **l_5**	Journal length D **l_6**	Individual journal length **l_7**
		Trapezoidal thread	Fine thread, metric	Trapezoidal thread	Fine thread, metric				
18	10	3	1	3	1	6	16	46	16...46
25	14	4	1	4	1	8	16	52	16...67
30	14	4	1	4	1	8	16	52	16...67
40	20	4	1	4	1	12	17	59	17...74
50	20	4	1	4	1	12	18	60	18...75
60	24	5	1,5	5	1,5	14	19	61	19...76

Journal
z_1

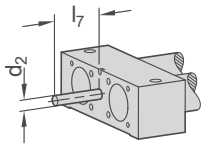
B	Journal for handwheel	D	Journal for position indicator and handwheel (torque support required for d_1 =18)	Gxx	Individual journal length with keyway (for xx, enter values from column l_7)



Journal length l_5

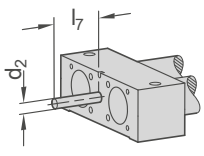


Journal length l_6



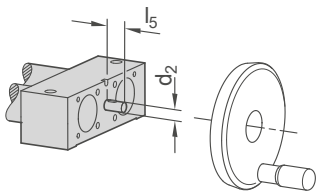
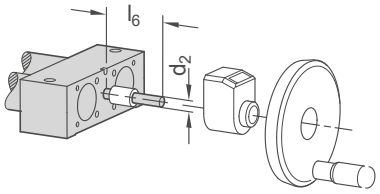
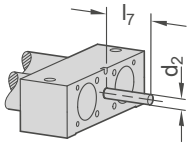
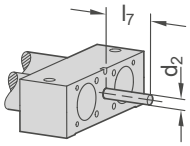
Journal length l_7

Hxx	Individual journal length without keyway (for xx, enter values from column l_7)



Journal length l_7

Journal
z_2

B	Journal for handwheel	D	Journal for position indicator and handwheel (torque support required for d_1 =18)	Gxx	Individual journal length with keyway (for xx, enter values from column l_7)
 Journal length l_5		 Journal length l_6		 Journal length l_7	
Hxx	Individual journal length without keyway (for xx, enter values from column l_7)				
 Journal length l_7					

ORDER KEY

Name key | Supplemental key

PD3E - d_1 - a - l_1 - l_2 - r_1 - p_1 - z_1 - r_2 - p_2 - z_2

- Double tube linear unit
- Tube diameter
- Version
- Stroke l_1
- Stroke l_2
- Thread direction r_1
- Spindle pitch p_1
- Journal z_1
- Thread direction r_2
- Spindle pitch p_2
- Journal z_2

ACCESSORIES

- Handwheels **VZH** → *see page 356*
- Position indicators **VZPM / VZPE** → *see page 358 / 360*
- Torque supports **VZDD** → *see page 368*
- Angle gears **YLD** → *see page 378*
- Transfer units **VA** → *see page 370*

ON REQUEST

- Additional following guide elements
- Guide element connector plates
- Multiple guide elements with scissors synchronization
- Bellows covers
- Complete linear unit of stainless steel