




Plastic tube clamps

Plastic tube clamps / Product overview

<p>Cross clamps</p>	<p>KS.P p. 2</p> 							
<p>Flanged clamps</p>	<p>FSZ.P p. 4</p> 							
<p>Base clamps</p>	<p>BS.P p. 6</p> 							
<p>Angle clamps</p>	<p>TS.P p. 8</p> 							
<p>Sleeve clamps</p>	<p>MS.P p. 10</p> 							
<p>Swivel clamps</p>	<p>LSF.P p. 12</p> 	<p>LST.P p. 14</p> 	<p>LSQ.P p. 16</p> 					
<p>Joint clamps</p>	<p>GSF.P p. 18</p> 	<p>GSFQ.P p. 20</p> 	<p>GST.P p. 22</p> 	<p>GSQ.P p. 24</p> 				
<p>Adapter bushings</p>	<p>RBS.P p. 26</p> 							
<p>Adjustable hand levers</p>	<p>HSK.P p. 28</p> 							



PRODUCT INFO

Cross clamps KS.P of glass fiber reinforced polyamide have slitted clamping points.

The bores of the clamping points are offset in the plane and arranged at an angle of 90°. They receive typically available construction tubes with full surface contact over the entire cross-section of the bore.

Adapter bushings RBS.P can be used to reduce the bore cross-sections to a smaller diameter.

At the screw points, hex socket cap screws or adjustable hand levers reduce the bore cross-section for clamping.

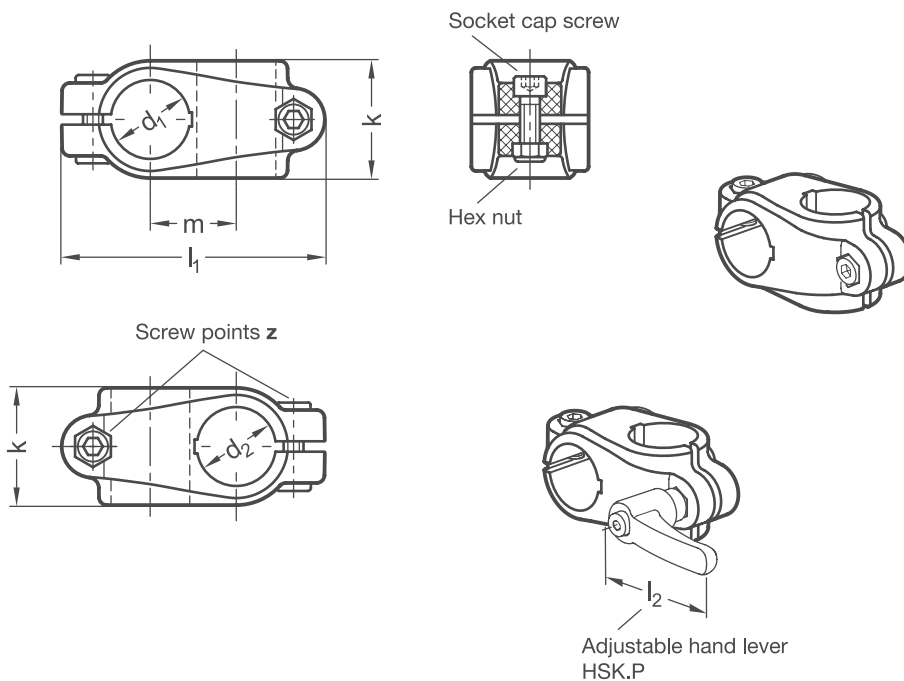
Adjustable hand levers are intended for repeated, tool-free clamping. Under the designation HSK.P, these are available separately for individual use and in other designs. Compared with the tool-operated hex socket cap screw, the clamping force achievable with an adjustable hand lever is lower due to the shorter lever length.

The plastic used in surface VB is made from blue, visually detectable and FDA-compliant plastic granulate as per FDA CFR.21 and EU 10/2011.

RoHS-compliant product



Original design TCC-CR



Clamping point 1	Clamping point 2	Clamping length k	l₁	m	Hex socket cap screws	Accessories recom. hand lever	
Bore d₁	Bore d₂					HSK.P for z lever length l₂	
B 18	B 18	29	65	19,8	M 6-18	44	63
B 30	B 30	45	100,5	34,6	M 8-25	63	78

Screw points

z	
2	Hex socket cap screw stainless steel DIN 912-A2-70 and lock nut stainless steel DIN 985-A2, glide coating

Surface

o	
2	Polyamide (PA), glass fiber reinforced, Black RAL 9005 matt, temperature resistant up to 100 °C
4	Polyamide (PA), glass fiber reinforced, Gray RAL 7040 matt, temperature resistant up to 100 °C
VB	Polyamide (PA), glass fiber reinforced, Blue RAL 5005 matt, temperature resistant up to 100 °C , FDA compliant plastic granulate, visually detectable

ORDER KEY

KS.P - d₁ - d₂ - k - z - o



ACCESSORIES

- Adapter bushings **RBS.P** see page 26
- Adjustable hand levers **HSK.P** see page 28



PRODUCT INFO

Flanged clamps FSZ.P of glass fiber reinforced polyamide have a slitted clamping point.

The flange with two bores serves as an interface or for fastening the clamp to the place of use. The bore at the clamping point is arranged in the plane parallel to the face of the flange. It receives typically available construction tubes with full surface contact over the entire cross-section of the bore.

Adapter bushings RBS.P can be used to reduce the bore cross-sections to a smaller diameter.

At the screw point, a hex socket cap screw or an adjustable hand lever reduces the bore cross-section for clamping.

Adjustable hand levers are intended for repeated, tool-free clamping. Under the designation HSK.P, these are available separately for individual use and in other designs. Compared with the tool-operated hex socket cap screw, the clamping force achievable with an adjustable hand lever is lower due to the shorter lever length.

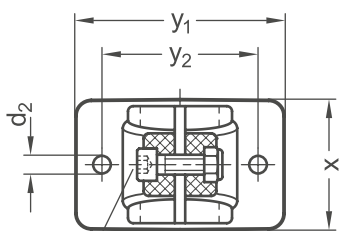
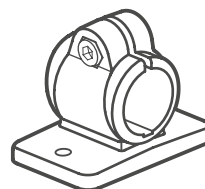
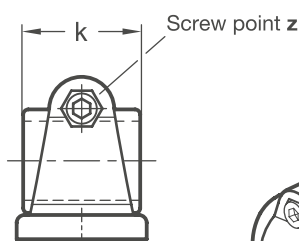
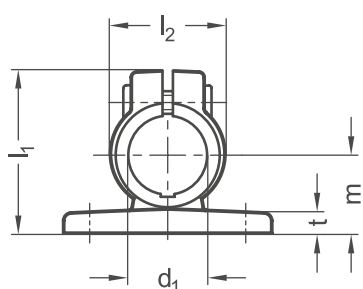
The plastic used in surface VB is made from blue, visually detectable and FDA-compliant plastic granulate as per FDA CFR.21 and EU 10/2011.

RoHS-compliant product

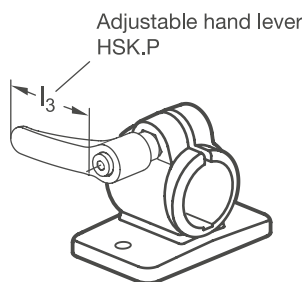


elesa

Original design TCC-TB



Socket cap screw /
Hex nut



Clamping point Bore d₁	Clamping length k	d₂	l₁	l₂	m	t	x	y₁	y₂	Hex socket cap screws	Accessories recom. hand lever	
											HSK.P for z lever length l₃	
B 18	29	5,3	41	29	18	5	34,5	52	40	M 6-18	44	63
B 30	45	6,5	61,5	44	30	8	49,5	80	60	M 8-25	63	78

Screw point

z	
2	Hex socket cap screw stainless steel DIN 912-A2-70 and lock nut stainless steel DIN 985-A2, glide coating

Surface

o	
2	Polyamide (PA), glass fiber reinforced, Black RAL 9005 matt, temperature resistant up to 100 °C
4	Polyamide (PA), glass fiber reinforced, Gray RAL 7040 matt, temperature resistant up to 100 °C
VB	Polyamide (PA), glass fiber reinforced, Blue RAL 5005 matt, temperature resistant up to 100 °C , FDA compliant plastic granulate, visually detectable

ORDER KEY

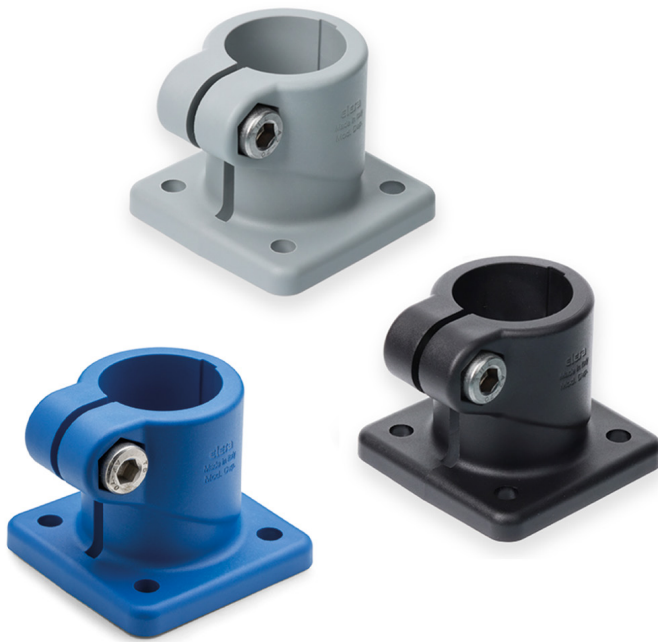
FSZ.P - d₁ - k - z - o



ACCESSORIES

- Adapter bushings **RBS.P** see page 26
- Adjustable hand levers **HSK.P** see page 28

2D
2C
2B
2A
1D
1C
1B
1A



PRODUCT INFO

Base clamps BS.P of glass fiber reinforced polyamide have a slitted clamping point.

The base flange with four bores serves as an interface or for fastening the clamp to the place of use.

The bore at the clamping point is arranged perpendicular to the face of the flange. It receives typically available construction tubes with full surface contact over the entire cross-section of the bore.

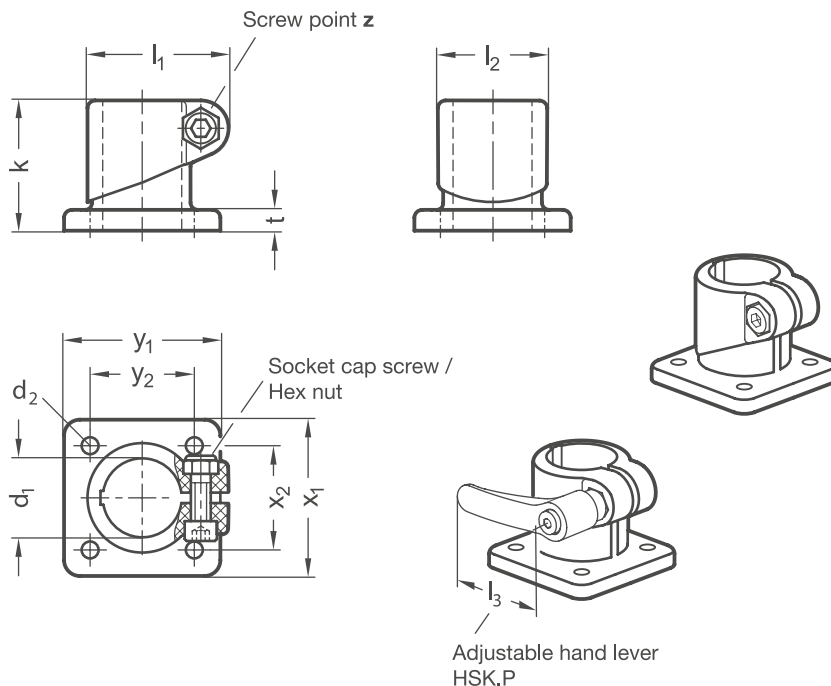
Adapter bushings RBS.P can be used to reduce the bore cross-sections to a smaller diameter.

At the screw point, a hex socket cap screw reduces the bore cross-section for clamping.

Adjustable hand levers are intended for repeated, tool-free clamping. Under the designation HSK.P, these are available separately for individual use and in other designs. Compared with the tool-operated hex socket cap screw, the clamping force achievable with an adjustable hand lever is lower due to the shorter lever length.

The plastic used in surface VB is made from blue, visually detectable and FDA-compliant plastic granulate as per FDA CFR.21 and EU 10/2011.

RoHS-compliant product



Clamping point Bore d₁	Clamping length k	d₂	l₁	l₂	t	x₁	x₂	y₁	y₂	Hex socket cap screws	Accessories recom. hand lever	
											HSK.P for z lever length l₃	
B 18	34	5,3	36,5	26	5	45	30	45	30	M 6-18	44	63
B 30	50	6,5	53,5	42	8	60	40	60	40	M 8-25	63	78

Screw point

z

2	Hex socket cap screw stainless steel DIN 912-A2-70 and lock nut stainless steel DIN 985-A2, glide coating
---	---

Surface

o

2	Polyamide (PA), glass fiber reinforced, Black RAL 9005 matt, temperature resistant up to 100 °C
4	Polyamide (PA), glass fiber reinforced, Gray RAL 7040 matt, temperature resistant up to 100 °C
VB	Polyamide (PA), glass fiber reinforced, Blue RAL 5005 matt, temperature resistant up to 100 °C , FDA compliant plastic granulate, visually detectable

ORDER KEY

BS.P - d₁ - k - z - o



ACCESSORIES

- Adapter bushings **RBS.P** see page 26
- Adjustable hand levers **HSK.P** see page 28

2D
2C
2B
2A
1D
1C
1B
1A

PRODUCT INFO

T-clamps TS.P of glass fiber reinforced polyamide have slitted clamping points.

The bores at the clamping points are situated in a plane and arranged in a T-shape. They receive typically available construction tubes with full surface contact over the entire cross-section of the bore.

Adapter bushings RBS.P can be used to reduce the bore cross-sections to a smaller diameter.

At the screw points, hex socket cap screws or adjustable hand levers reduce the bore cross-section for clamping.

Adjustable hand levers are intended for repeated, tool-free clamping. Under the designation HSK.P, these are available separately for individual use and in other designs. Compared with the tool-operated hex socket cap screw, the clamping force achievable with an adjustable hand lever is lower due to the shorter lever length.

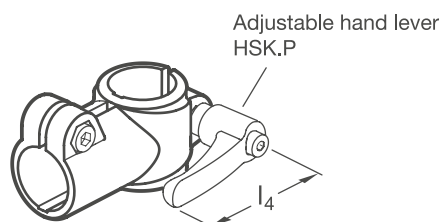
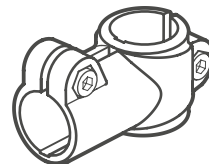
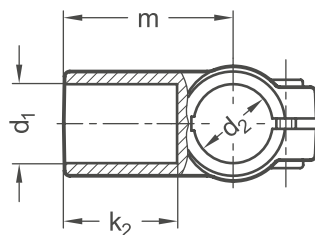
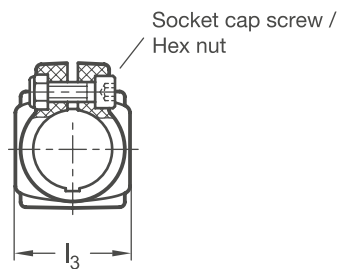
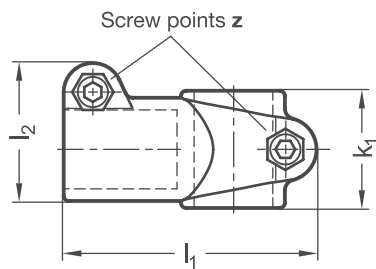
The plastic used in surface VB is made from blue, visually detectable and FDA-compliant plastic granulate as per FDA CFR.21 and EU 10/2011.

RoHS-compliant product



elesa

Original design TCC-TS



Clamping point 1	Clamping point 2	Clamping length k_1	Clamping length k_2	l_1	l_2	l_3	m	Hex socket cap screws	Accessories recom. hand lever	
Bore d_1	Bore d_2								HSK.P for z lever length l_4	
B 18	B 18	29	30,5	65	34	29	43,5	M 6-18	44	63
B 30	B 30	45	45,5	96	53	44	64,5	M 8-25	63	78

Screw points

z	
2	Hex socket cap screw stainless steel DIN 912-A2-70 and lock nut stainless steel DIN 985-A2, glide coating

Surface

o	
2	Polyamide (PA), glass fiber reinforced, Black RAL 9005 matt, temperature resistant up to
4	Polyamide (PA), glass fiber reinforced, Gray RAL 7040 matt, temperature resistant up to
VB	Polyamide (PA), glass fiber reinforced, Blue RAL 5005 matt, temperature resistant up to 100 °C , FDA compliant plastic granulate, visually detectable

ORDER KEY

TS.P - d_1 - d_2 - k_1 - z - o



ACCESSORIES

- Adapter bushings **RBS.P** see page 26
- Adjustable hand levers **HSK.P** see page 28

2D
2C
2B
2A
1D
1C
1B
1A

PRODUCT INFO

Sleeve clamps MS.P of glass fiber reinforced polyamide have slitted clamping points.

The clamping point bores are situated concentrically on an axis. They receive typically available construction tubes with full surface contact over the entire cross-section of the bore.

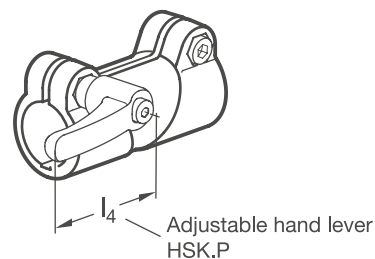
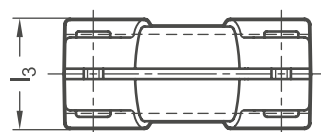
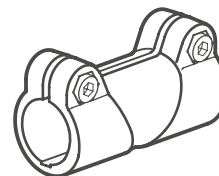
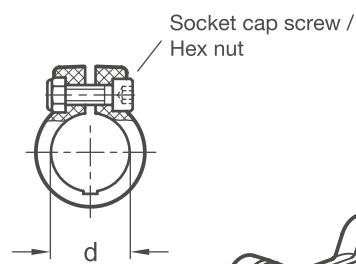
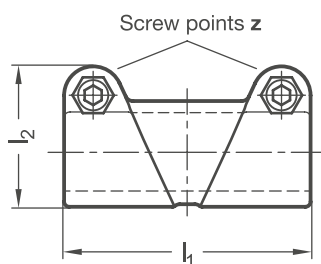
Adapter bushings RBS.P can be used to reduce the bore cross-sections to a smaller diameter.

At the screw points, hex socket cap screws or adjustable hand levers reduce the bore cross-section for clamping.

Adjustable hand levers are intended for repeated, tool-free clamping. Under the designation HSK.P, these are available separately for individual use and in other designs. Compared with the tool-operated hex socket cap screw, the clamping force achievable with an adjustable hand lever is lower due to the shorter lever length.

The plastic used in surface VB is made from blue, visually detectable and FDA-compliant plastic granulate as per FDA CFR.21 and EU 10/2011.

RoHS-compliant product



Clamping point					Accessories recom. hand lever	
Bore d₁	l₁	l₂	l₃	Hex socket cap screws	HSK.P for z lever length l₄	
B 18	64,5	35,5	29	M 6-18	44	63
B 30	94,5	53,5	42	M 8-25	63	78

Screw points

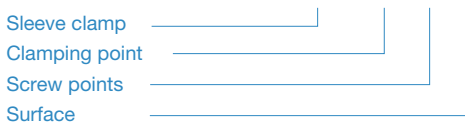
z	
2	Hex socket cap screw stainless steel DIN 912-A2-70 and lock nut stainless steel DIN 985-A2, glide coating

Surface

o	
2	Polyamide (PA), glass fiber reinforced, Black RAL 9005 matt, temperature resistant up to 100 °C
4	Polyamide (PA), glass fiber reinforced, Gray RAL 7040 matt, temperature resistant up to 100 °C
VB	Polyamide (PA), glass fiber reinforced, Blue RAL 5005 matt, temperature resistant up to 100 °C , FDA compliant plastic granulate, visually detectable

ORDER KEY

MS.P - d₁ - z - o



ACCESSORIES

- Adapter bushings **RBS.P** see page 26
- Adjustable hand levers **HSK.P** see page 28

2D
2C
2B
2A
1D
1C
1B
1A



PRODUCT INFO

Swivel clamps LSF.P of glass fiber reinforced polyamide have a fastening lug that is either smooth or with outer crown toothing.

The fastening lug is centered and situated at an angle of 90° to the flange face.

The flange with bores serves as an interface or for fastening the clamp to the place of use.

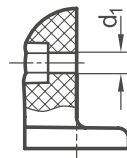
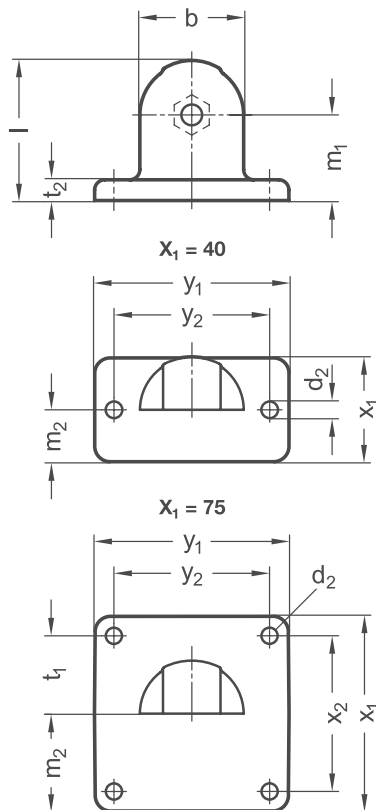
The screw point of the fastening lug receives a hex head or hex socket cap screw or a lock nut for fastening any additional parts.

By combining swivel clamps that have identical fastening lugs and corresponding centering ring toothing, it is possible to assemble any type of joint clamp.

RoHS-compliant product

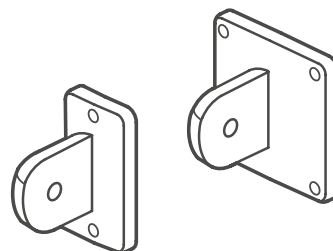
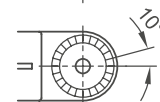
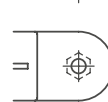
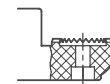
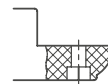


Original design TCC-PB / TCC-PBF



Type OZ

Type AV



Lug width													
b	x₁	d₁	d₂	Length l	m₁	m₂	t₁	t₂	s	x₂	y₁	y₂	
40	40	8,5	6,5	54	33	20	-	8	13,5	-	75	60	
40	75	8,5	6,5	54	33	37,5	30	8	13,5	60	75	60	

Type t	
OZ	Without centering step (smooth)
AV	With external serration

Surface o	
2	Polyamide (PA), glass fiber reinforced, Black RAL 9005 matt, temperature resistant up to 100 °C
4	Polyamide (PA), glass fiber reinforced, Gray RAL 7040 matt, temperature resistant up to 100 °C

ORDER KEY

LSF.P - b - x₁ - t - o





PRODUCT INFO

Swivel clamps LST.P of glass fiber reinforced polyamide have a slitted clamping point. The fastening lug is smooth, has a centering ring or has crown serration that may be countersunk or raised.

The fastening lug is centered and forms a T-shape relative to the axis of the bore, which receives typically available construction tubes with full contact over the entire cross-section.

Adapter bushings RBS.P can be used to reduce the bore cross-sections to a smaller diameter.

The screw point of the fastening lug receives a hex head or hex socket cap screw or a lock nut for fastening any additional parts. At the clamping point, a hex socket cap screw or an adjustable hand lever reduces the bore cross-section for clamping.

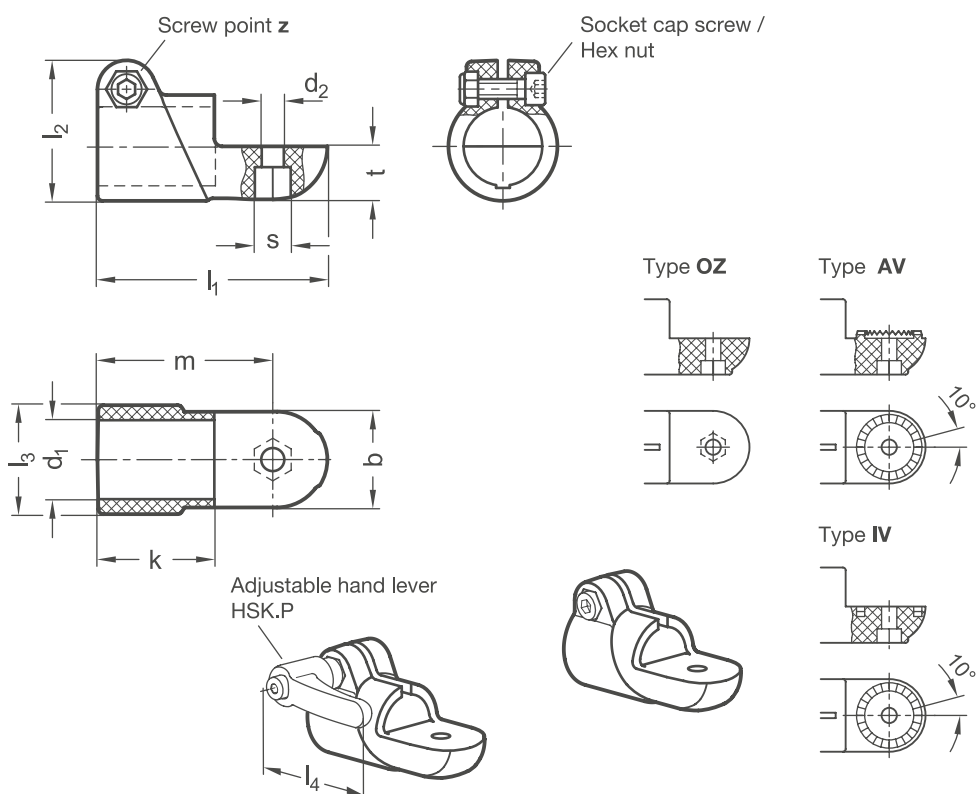
By combining swivel clamps that have identical fastening lugs and corresponding centering ring serration, it is possible to assemble any type of joint clamp.

Adjustable hand levers are intended for repeated, tool-free clamping. Under the designation HSK.P, these are available separately for individual use and in other designs. Compared with the tool-operated hex socket cap screw, the clamping force achievable with an adjustable hand lever is lower due to the shorter lever length.

RoHS-compliant product



Original design TCC-AP



Clamping point	Lug width b	d₂	k	l₁	l₂	l₃	m	s	t	Hex socket cap screws	Accessories recom. hand lever	
Bore d₁											HSK.P for z lever length l₄	
B 30	40	8,5	45	88,5	54	42	67,5	13,5	20	M 8-25	63	78

Type t	
OZ	Without centering step (smooth)
AV	With external serration
IV	With internal serration

Screw point z	
2	Hex socket cap screw stainless steel DIN 912-A2-70 and lock nut stainless steel DIN 985-A2, glide coating

Surface o	
2	Polyamide (PA), glass fiber reinforced, Black RAL 9005 matt, temperature resistant up to 100 °C
4	Polyamide (PA), glass fiber reinforced, Gray RAL 7040 matt, temperature resistant up to 100 °C

ORDER KEY

LST.P - d₁ - t - z - o



ACCESSORIES

- Adapter bushings **RBS.P** see page 26
- Adjustable hand levers **HSK.P** see page 28

2D
2C
2B
2A
1D
1C
1B
1A



PRODUCT INFO

Swivel clamps LSQ.P of glass fiber reinforced polyamide have a slitted clamping point. The fastening lug is smooth or has a crown serration that may be countersunk or raised.

The fastening lug is centered and perpendicular to the axis of the bore, which receives typically available construction tubes with full contact over the entire cross-section.

Adapter bushings RBS.P can be used to reduce the bore cross-sections to a smaller diameter.

The screw point of the fastening lug receives a hex head or hex socket cap screw or a lock nut for fastening any additional parts. At the clamping point, a hex socket cap screw or an adjustable hand lever reduces the bore cross-section for clamping.

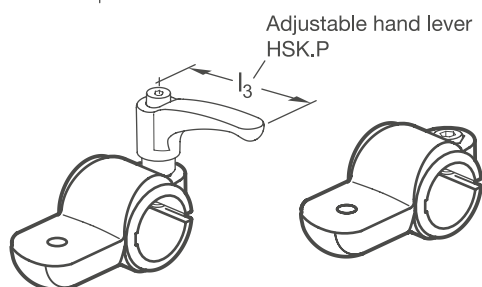
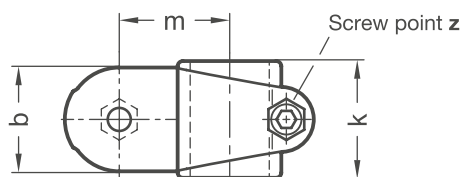
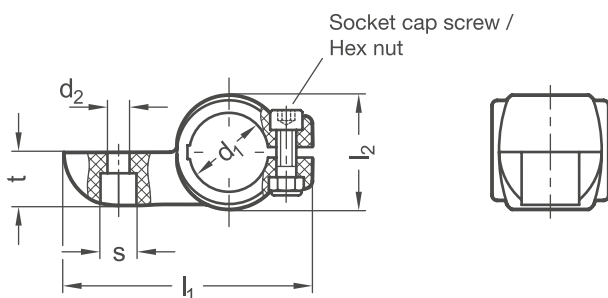
By combining swivel clamps that have identical fastening lugs and corresponding centering ring serration, it is possible to assemble any type of joint clamp.

Adjustable hand levers are intended for repeated, tool-free clamping. Under the designation HSK.P, these are available separately for individual use and in other designs. Compared with the tool-operated hex socket cap screw, the clamping force achievable with an adjustable hand lever is lower due to the shorter lever length.

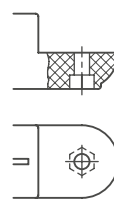
RoHS-compliant product



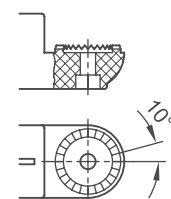
Original design TCC-TP



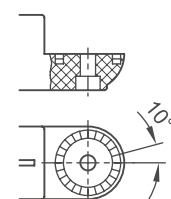
Type **OZ**



Type **AV**



Type **IV**



Clamping point										Hex socket cap screws	Accessories recom. hand lever	
Bore d_1	Lug width b	d_2	k	l_1	l_2	m	s	t			HSK.P for z lever length l_3	
B 30	40	8,5	44,5	95	44	42	13,5	20	M 8-25	63	78	

Type t	
OZ	Without centering step (smooth)
AV	With external serration
IV	With internal serration

Screw point z	
2	Hex socket cap screw stainless steel DIN 912-A2-70 and lock nut stainless steel DIN 985-A2, glide coating

Surface o	
2	Polyamide (PA), glass fiber reinforced, Black RAL 9005 matt, temperature resistant up to 100 °C
4	Polyamide (PA), glass fiber reinforced, Gray RAL 7040 matt, temperature resistant up to 100 °C

ORDER KEY

LSQ.P - d_1 - t - z - o



ACCESSORIES

- Adapter bushings **RBS.P** see page 26
- Adjustable hand levers **HSK.P** see page 28

2D
2C
2B
2A
1D
1C
1B
1A



PRODUCT INFO

Joint clamps GSF.P of glass fiber reinforced polyamide have a slitted clamping point. They are comprised of swivel clamps LSF.P and LST.P.

The clamping point bore is centered in the plane and can be rotated by $\pm 90^\circ$ perpendicular to the flange face. It receives typically available construction tubes with full surface contact over the entire cross-section of the bore.

Adapter bushings RBS.P can be used to reduce the bore cross-sections to a smaller diameter.

At the screw point, a hex socket cap screw reduces the bore cross-section for clamping. A hex socket cap screw or an adjustable hand lever at the clamping joint serves for locking the joint axis. The clamping joint can be adjusted either steplessly or based on the serration pattern.

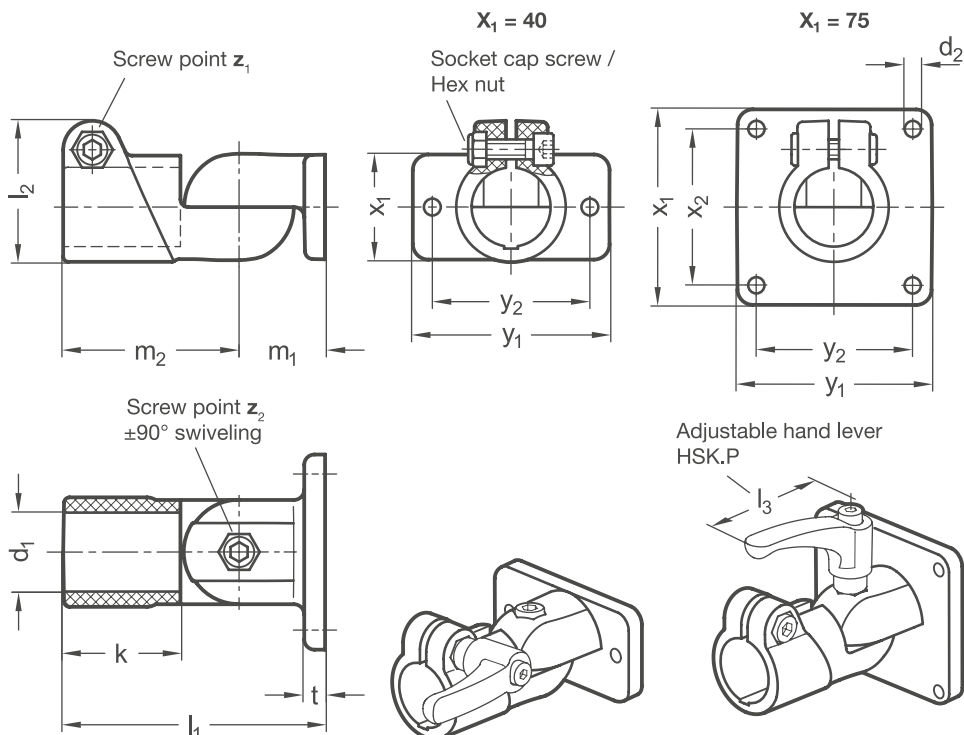
The flange with four or two bores serves as an interface or for fastening the clamp to the place of use.

Adjustable hand levers are intended for repeated, tool-free clamping. Under the designation HSK.P, these are available separately for individual use and in other designs. Compared with the tool-operated hex socket cap screw, the clamping force achievable with an adjustable hand lever is lower due to the shorter lever length.

RoHS-compliant product



Original design TCC-AP-PBF / -PB



Clamping point												Hex socket cap screws	Hex socket cap screws	Accessories recom. hand lever	
Bore d_1	x_1	d_2	k	l_1	l_2	m_1	m_2	t	x_2	y_1	y_2	Z_1	Z_2	HSK.P for z_1 / z_2 lever length l_3	
B 30	40	6,5	45	100	54	33	67	8	-	75	60	M 8-25	M 8-25	63	78
B 30	75	6,5	45	100	54	33	67	8	60	75	60	M 8-25	M 8-25	63	78

Type t	
S	Stepless adjustment
T	Adjustment with 10° division (serration)

Screw points Z	
2	Hex socket cap screw stainless steel DIN 912-A2-70 and lock nut stainless steel DIN 985-A2, glide coating

Surface o	
2	Polyamide (PA), glass fiber reinforced, Black RAL 9005 matt, temperature resistant up to 100 °C
4	Polyamide (PA), glass fiber reinforced, Gray RAL 7040 matt, temperature resistant up to 100 °C

ORDER KEY

GSF.P - d_1 - x_1 - t - Z - o



ACCESSORIES

- Adapter bushings **RBS.P** see page 26
- Adjustable hand levers **HSK.P** see page 28

2D
2C
2B
2A
1D
1C
1B
1A



PRODUCT INFO

Joint clamps GSFQ.P of glass fiber reinforced polyamide have a slitted clamping point. They are comprised of swivel clamps LSF.P and LSQ.P.

The clamping point bore is centered in the plane and parallel to the flange surface so that it can be swiveled by $\pm 90^\circ$. It receives typically available construction tubes with full surface contact over the entire cross-section of the bore.

Adapter bushings RBS.P can be used to reduce the bore cross-sections to a smaller diameter.

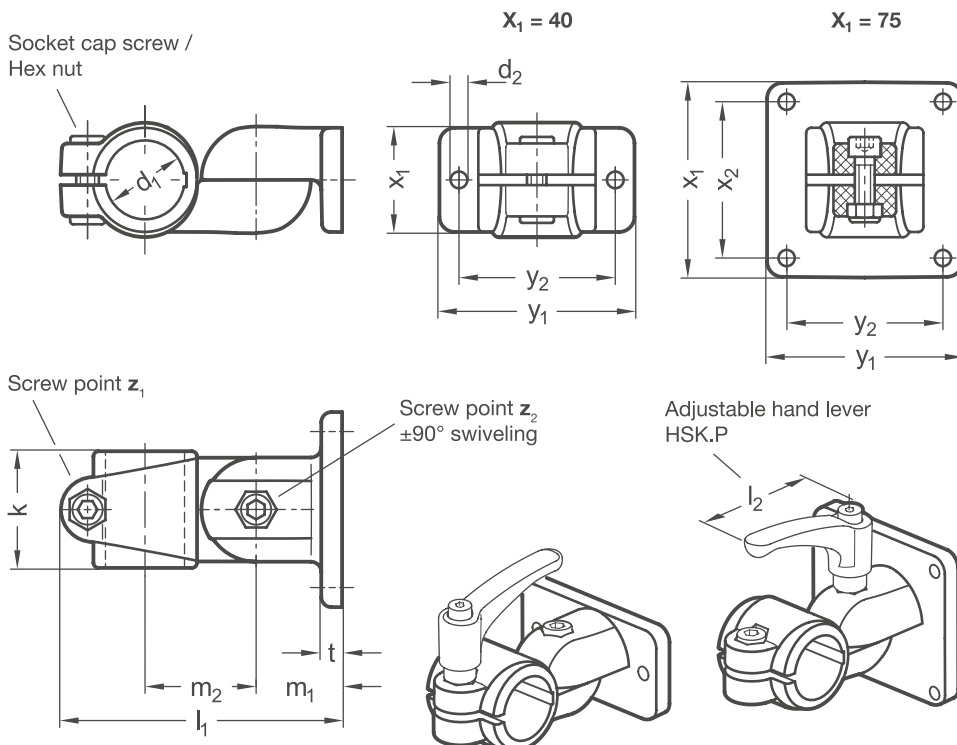
At the screw point, a hex socket cap screw or an adjustable hand lever reduces the bore cross-section for clamping. A hex socket cap screw or an adjustable hand lever at the clamping joint serves for locking the joint axis. The clamping joint can be adjusted either steplessly or based on the serration pattern. The flange with four or two bores serves as an interface or for fastening the clamp to the place of use.

Adjustable hand levers are intended for repeated, tool-free clamping. Under the designation HSK.P, these are available separately for individual use and in other designs. Compared with the tool-operated hex socket cap screw, the clamping force achievable with an adjustable hand lever is lower due to the shorter lever length.

RoHS-compliant product



Original design TCC-TP-PBF / -PB



Clamping point Bore d₁	x₁	d₂	k	l₁	m₁	m₂	t	x₂	y₁	y₂	Hex socket cap screws Z₁	Hex socket cap screws Z₂	Accessories recom. hand lever	
													HSK.P for z ₁ / z ₂ lever length l ₂	
B 30	40	6,5	44,5	106	33	42	8	-	75	60	M 8-25	M 8-25	63	78
B 30	75	6,5	44,5	106	33	42	8	60	75	60	M 8-25	M 8-25	63	78

Type t	
S	Stepless adjustment
T	Adjustment with 10° division (serration)

Screw points z	
2	Hex socket cap screw stainless steel DIN 912-A2-70 and lock nut stainless steel DIN 985-A2, glide coating

Surface o	
2	Polyamide (PA), glass fiber reinforced, Black RAL 9005 matt, temperature resistant up to 100 °C
4	Polyamide (PA), glass fiber reinforced, Gray RAL 7040 matt, temperature resistant up to 100 °C

ORDER KEY

GSFQ.P - d₁ - x₁ - t - z - o



ACCESSORIES

- Adapter bushings **RBS.P** see page 26
- Adjustable hand levers **HSK.P** see page 28

2D
2C
2B
2A
1D
1C
1B
1A



PRODUCT INFO

Joint clamps GST.P of glass fiber reinforced polyamide have slitted clamping points machined by cutting methods. They are comprised of two swivel clamps LST.P.

The clamping point bores are situated in a plane and are connected by the clamping joint to swivel by $\pm 90^\circ$, from aligned orientation to perpendicular. They receive typically available construction tubes with full surface contact over the entire cross-section of the bore.

Adapter bushings RBS.P can be used to reduce the bore cross-sections to a smaller diameter.

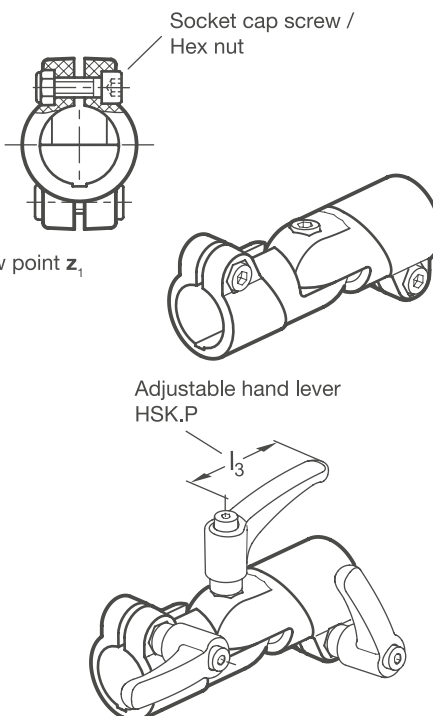
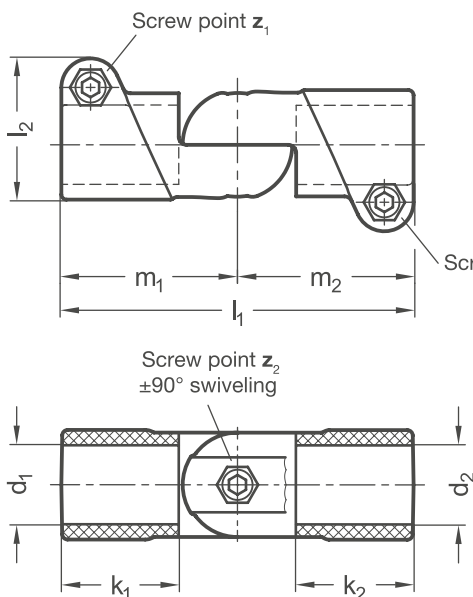
At the screw points, hex socket cap screws or adjustable hand levers reduce the bore cross-section for clamping. A hex socket cap screw or an adjustable hand lever at the clamping joint serves for locking the joint axis. The clamping joint can be adjusted either steplessly or based on the serration pattern.

Adjustable hand levers are intended for repeated, tool-free clamping. Under the designation HSK.P, these are available separately for individual use and in other designs. Compared with the tool-operated hex socket cap screw, the clamping force achievable with an adjustable hand lever is lower due to the shorter lever length.

RoHS-compliant product



Original design TCC-AP-AP



Clamping point 1	Clamping point 2							Hex socket cap screws	Hex socket cap screws	Accessories recom. hand lever	
Bore d_1	Bore d_2	k_1	k_2	l_1	l_2	m_1	m_2	z_1	z_2	HSK.P for z_1 / z_2 lever length l_3	
B 30	B 30	45	45	134	54	67	67	M 8-25	M 8-25	63	78

Type t	
S	Stepless adjustment
T	Adjustment with 10° division (serration)

Screw points z	
2	Hex socket cap screw stainless steel DIN 912-A2-70 and lock nut stainless steel DIN 985-A2, glide coating

Surface o	
2	Polyamide (PA), glass fiber reinforced, Black RAL 9005 matt, temperature resistant up to 100 °C
4	Polyamide (PA), glass fiber reinforced, Gray RAL 7040 matt, temperature resistant up to 100 °C

ORDER KEY

GST.P - d_1 - d_2 - t - z - o



ACCESSORIES

- Adapter bushings **RBS.P** see page 26
- Adjustable hand levers **HSK.P** see page 28

2D
2C
2B
2A
1D
1C
1B
1A

PRODUCT INFO

Joint clamps GSQ.P of glass fiber reinforced polyamide have a slitted clamping point. They are comprised of swivel clamps LST.P and LSQ.P.

The clamping point bores are situated in a plane and are connected by the clamping joint to swivel by $\pm 90^\circ$, from perpendicular to parallel. They receive typically available construction tubes with full surface contact over the entire cross-section of the bore.

Adapter bushings RBS.P can be used to reduce the bore cross-sections to a smaller diameter.

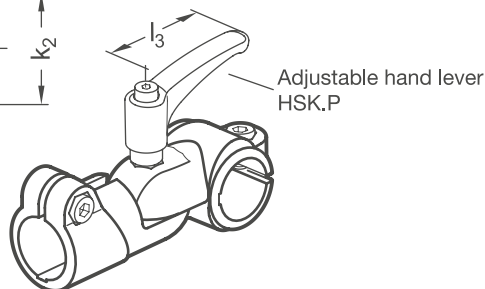
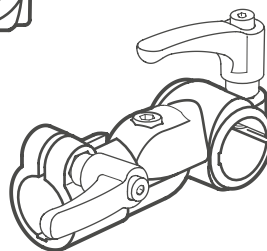
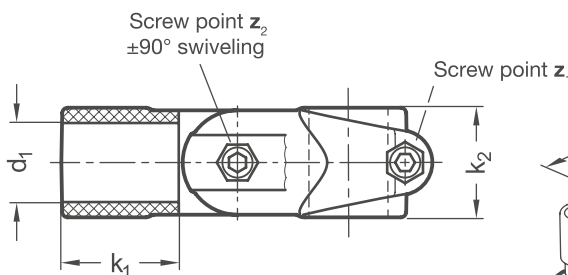
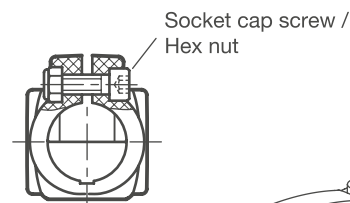
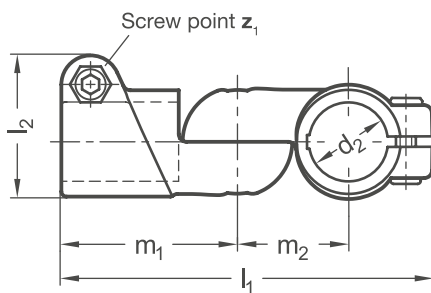
At the screw points, hex socket cap screws or adjustable hand levers reduce the bore cross-section for clamping. A hex socket cap screw or an adjustable hand lever at the clamping joint serves for locking the joint axis. The clamping joint can be adjusted either steplessly or based on the serration pattern.

Adjustable hand levers are intended for repeated, tool-free clamping. Under the designation HSK.P, these are available separately for individual use and in other designs. Compared with the tool-operated hex socket cap screw, the clamping force achievable with an adjustable hand lever is lower due to the shorter lever length.

RoHS-compliant product



Original design TCC-AP-TP



Clamping point 1	Clamping point 2							Hex socket cap screws	Hex socket cap screws	Accessories recom. hand lever	
Bore d_1	Bore d_2	k_1	k_2	l_1	l_2	m_1	m_2	z_1	z_2	HSK.P for z_1 / z_2 lever length l_3	
B 30	B 30	45	44,5	142	54	67	42	M 8-25	M 8-25	63	78

Type t	
S	Stepless adjustment
T	Adjustment with 10° division (serration)

Screw points z	
2	Hex socket cap screw stainless steel DIN 912-A2-70 and lock nut stainless steel DIN 985-A2, glide coating

Surface o	
2	Polyamide (PA), glass fiber reinforced, Black RAL 9005 matt, temperature resistant up to 100 °C
4	Polyamide (PA), glass fiber reinforced, Gray RAL 7040 matt, temperature resistant up to 100 °C

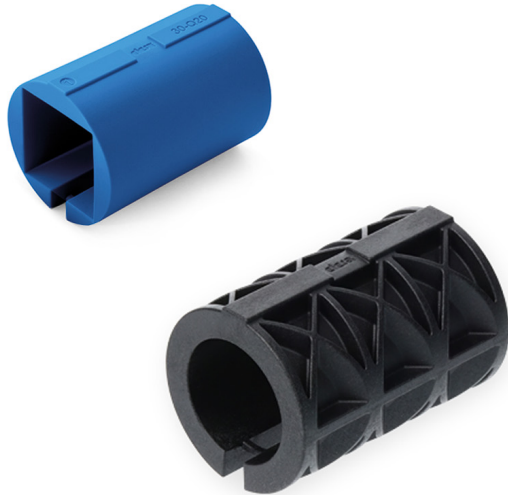
ORDER KEY GSQ.P - d_1 - d_2 - t - z - o



ACCESSORIES

- Adapter bushings **RBS.P** see page 26
- Adjustable hand levers **HSK.P** see page 28

2D
2C
2B
2A
1D
1C
1B
1A



PRODUCT INFO

Adapter bushings RBS.P are made of glass fiber reinforced polyamide.

The adapter bushings can be used to reduce the bore diameters of plastic tube clamps for clamping smaller diameters or square cross-sections.

Due to the affixed swivel limiting stop, the adapter bushing cannot rotate or slide inside the tube clamp.

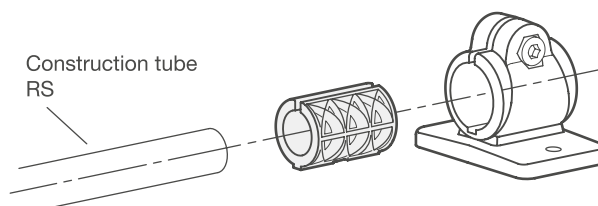
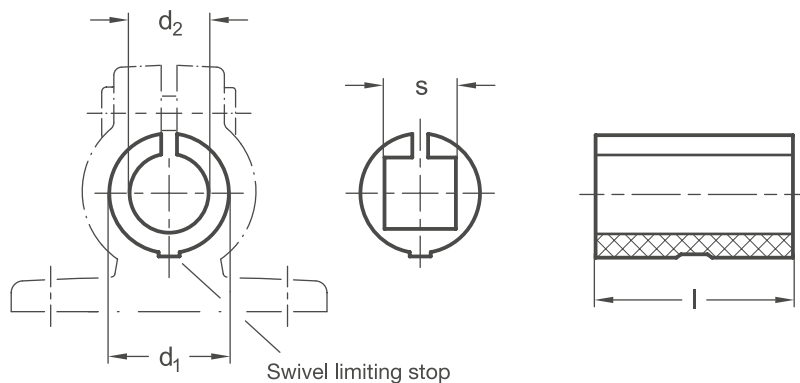
The plastic used in surface VB is made from blue, visually detectable and FDA-compliant plastic granulate as per FDA CFR.21 and EU 10/2011.

RoHS-compliant product



elera

Original design TCC-A / TCC-A-Q



Bore of the clamp d₁	Bore d₂				Square s		Length l
18	B 12	B 14	B 15	B 16	V 10	V 12	29
30	B 20	B 25	-	-	V 20	-	45

Surface o	
2	Polyamide (PA), glass fiber reinforced, Black RAL 9005 matt, temperature resistant up to 100 °C
4	Polyamide (PA), glass fiber reinforced, Gray RAL 7040 matt, temperature resistant up to 100 °C
VB	Polyamide (PA), glass fiber reinforced, Blue RAL 5005 matt, temperature resistant up to 100 °C , FDA compliant plastic granulate, visually detectable

ORDER KEY

RBS.P - d₁ - d₂ - l - o





PRODUCT INFO

Adjustable hand levers HSK.P are made of glass fiber reinforced polyamide. The screw inserts installed here are made of turned stainless steel and have a rolled thread.

Adjustable hand levers HSK.P are specially designed as accessories for use at the screw points of plastic tube clamps. They replace the hex socket cap screws DIN 912 and are used where repeated tool-free clamping is required.

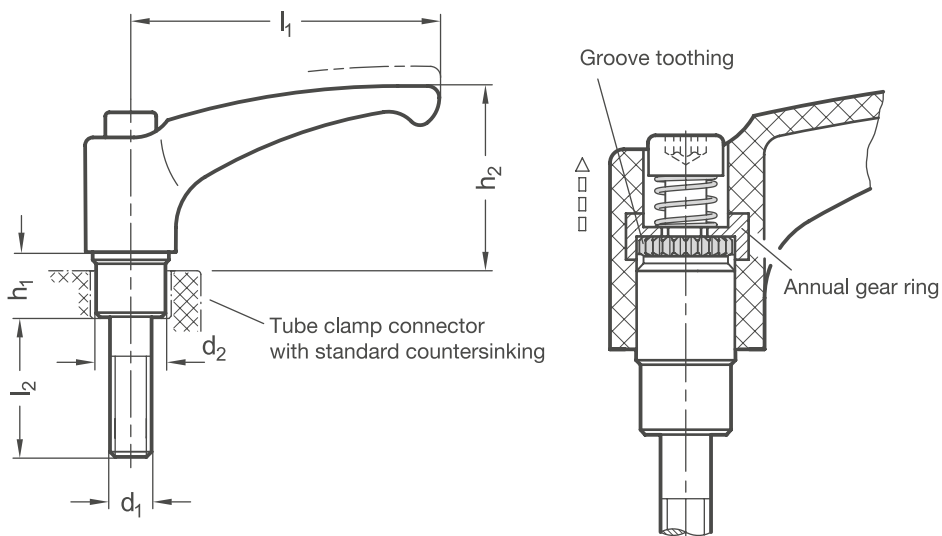
The threaded insert is connected to the handle by groove tothing such that it can be disengaged. Lifting the lever releases the engagement, and the hand lever can be swiveled to a favorable position.

The clamping force achievable with an adjustable hand lever is lower than with tool-operated hex socket cap screws due to the shorter lever length.

The tables for the respective clamps contain the appropriate hand lever sizes for each thread dimension.

The plastic used in surface VB is made from blue, visually detectable and FDA-compliant plastic granulate as per FDA CFR.21 and EU 10/2011.

RoHS-compliant product



l_1	d_1	l_2	d_2	h_1	$h_2 \approx$
44	M 6	20	10	8,5	32
63	M 6	20	10	9	40
63	M 8	25	13	13,5	44
78	M 8	25	13	14,5	52

* This size is only available in version 2.

Surface

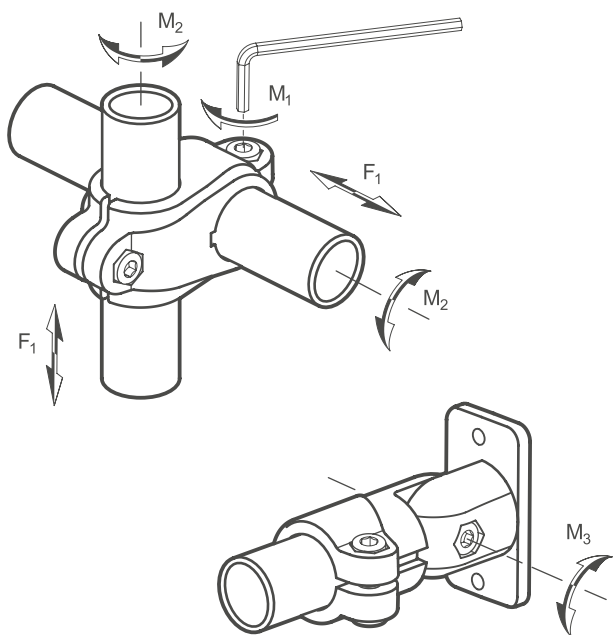
\circ	
2	Polyamide (PA), glass fiber reinforced, Black-gray RAL 7021 matt, temperature resistant up to 130 °C / threaded insert stainless steel AISI 303 (A1)
VB	Polyamide (PA), glass fiber reinforced, Blue RAL 5005 matt, temperature resistant up to 100 °C , FDA compliant plastic granulate, visually detectable

ORDER KEY

HSK.P - l_1 - d_1 - l_2 - \circ



Appendix / Load rating of plastic tube clamps with and without adapter bushings



The load values of the plastic tube clamps are listed in the tables below.

If the bore diameters of the tube clamp are reduced with adapter bushings RBS.P, this has an influence on the displacement force and the twisting moment.

For joint clamps, the maximum torque of the joint axis is also indicated.

The values were determined using tubes with a tolerance of ± 0.2 mm.

NOTE

The load values given are non-binding guide values to the exclusion of any liability. In general, they do not constitute a commitment to quality.

The user must determine whether a product is suitable for the intended use in each individual case. Environmental influences and aging may affect the specified values.

Standard	Bore of the tube clamp	Order key Adapter bushing used	Screw point tightening torque M_1 in Nm	Displacement force F_1 in N	Twisting moment M_2 in Nm
KS.P p. 2	B12	RBS.P-18-B12-29-*	5	1250	5
	B14	RBS.P-18-B14-29-*	5	1650	10
	B15	RBS.P-18-B15-29-*	5	1650	14
	B16	RBS.P-18-B16-29-*	5	2000	14
	B18	-	5	2150	17
	B20	RBS.P-30-B20-45-*	12	1000	5
	B25	RBS.P-30-B25-45-*	12	1300	7
	B30	-	12	1350	21
FSZ.P p. 4	B12	RBS.P-18-B12-29-*	5	900	5
	B14	RBS.P-18-B14-29-*	5	1050	8
	B15	RBS.P-18-B15-29-*	5	1100	13
	B16	RBS.P-18-B16-29-*	5	1200	14
	B18	-	5	1450	16
	B20	RBS.P-30-B20-45-*	12	1150	7
	B25	RBS.P-30-B25-45-*	12	1600	7
	B30	-	12	1800	27
BS.P p. 6	B12	RBS.P-18-B12-29-*	5	900	5
	B14	RBS.P-18-B14-29-*	5	1000	7
	B15	RBS.P-18-B15-29-*	5	1000	7
	B16	RBS.P-18-B16-29-*	5	1050	7
	B18	-	5	1050	8
	B20	RBS.P-30-B20-45-*	12	1000	8
	B25	RBS.P-30-B25-45-*	12	1350	11
	B30	-	12	1650	33

Appendix / Load rating of plastic tube clamps with and without adapter bushings

Standard	Bore of the tube clamp	Order key Adapter bushing used	Screw point tightening torque M_1 in Nm	Displacement force F_1 in N	Twisting moment M_2 in Nm
TS.P <i>p. 8</i>	B12	RBS.P-18-B12-29-*	5	900	5
	B14	RBS.P-18-B14-29-*	5	1200	7
	B15	RBS.P-18-B15-29-*	5	1200	11
	B16	RBS.P-18-B16-29-*	5	1250	12
	B18	-	5	1450	14
	B20	RBS.P-30-B20-45-*	12	1000	6
	B25	RBS.P-30-B25-45-*	12	1400	7
	B30	-	12	1650	17
MS.P <i>p. 10</i>	B12	RBS.P-18-B12-29-*	5	900	5
	B14	RBS.P-18-B14-29-*	5	1400	7
	B15	RBS.P-18-B15-29-*	5	1400	10
	B16	RBS.P-18-B16-29-*	5	1300	11
	B18	-	5	1100	13
	B20	RBS.P-30-B20-45-*	12	1000	6
	B25	RBS.P-30-B25-45-*	12	1300	7
	B30	-	12	1400	25

Standard	Bore of the tube clamp	Order key Adapter bushing used	Screw point tightening torque M_1 in Nm	Displacement force F_1 in N	Twisting moment M_2 in Nm	Joint axis twisting moment M_3 in Nm	
						Type S	Type T
LST.P <i>p. 14</i>	B20	RBS.P-30-B20-45-*	12	1600	12	-	-
	B25	RBS.P-30-B25-45-*	12	2700	15	-	-
	B30	-	12	3300	33	-	-
LSQ.P <i>p. 16</i>	B20	RBS.P-30-B20-45-*	12	1600	12	-	-
	B25	RBS.P-30-B25-45-*	12	2700	15	-	-
	B30	-	12	3000	33	-	-
GSF.P <i>p. 18</i>	B20	RBS.P-30-B20-45-*	12	1600	12	6	100
	B25	RBS.P-30-B25-45-*	12	2700	15	6	100
	B30	-	12	3300	33	6	100
GSFQ.P <i>p. 20</i>	B20	RBS.P-30-B20-45-*	12	1600	12	4	100
	B25	RBS.P-30-B25-45-*	12	2700	15	4	100
	B30	-	12	3000	33	4	100
GST.P <i>p. 22</i>	B20	RBS.P-30-B20-45-*	12	1600	12	6	140
	B25	RBS.P-30-B25-45-*	12	2700	15	6	140
	B30	-	12	3300	33	6	140
GSQ.P <i>p. 24</i>	B20	RBS.P-30-B20-45-*	12	1600	12	4	120
	B25	RBS.P-30-B25-45-*	12	2700	15	4	120
	B30	-	12	3000	33	4	120

The new catalog is here!

Our 400-page catalog offers you everything you need to order quickly.

Request now for free!

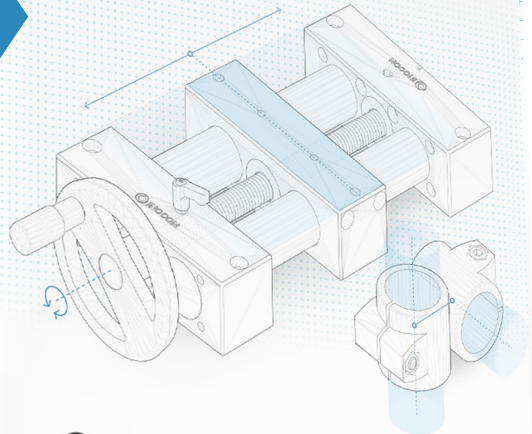
Request your free copy now!
Just send a short e-mail to info@inocon.de.

NEW

Connecting and Positioning

Edition 20.0

INOCON



Connecting and Positioning

Tube connection systems
Linear units

inocon.de

KS Cross clamps, aluminum

PRODUCT INFO

Cross clamps KS of series aluminum have standard clamping points installed by default.

The bases of the clamping points are offset in the same and opposite directions of 18°.

At the screw points, the adjust cap screws or adjustment nuts must be rotated the bottom counter-clockwise for clamping.

Adjustment nuts must not be rotated for mounting. After the mounting, rotate the adjustment nuts, bases or adjuster caps clockwise for clamping and after clamping, rotate the bases and adjuster caps counter-clockwise for the next operation. The adjuster caps screw, the clamping force adjustment cap and adjustment nuts have a screw cap to the clamping force length.

Basic clamping product

Clamping point	Clamping point 1	Clamping point 2	Clamping length	L_1	L_2	mm	Accessories
K 20	20	20	30	30	30	20	KS-20-30
K 25	25	25	30	30	30	25	KS-25-30
K 30	30	30	30	30	30	30	KS-30-30
K 35	35	35	30	30	30	35	KS-35-30
K 40	40	40	30	30	30	40	KS-40-30
K 45	45	45	30	30	30	45	KS-45-30
K 50	50	50	30	30	30	50	KS-50-30
K 60	60	60	30	30	30	60	KS-60-30
K 70	70	70	30	30	30	70	KS-70-30
K 80	80	80	30	30	30	80	KS-80-30
K 90	90	90	30	30	30	90	KS-90-30
K 100	100	100	30	30	30	100	KS-100-30

ORDER KEY KS - d₁ - d₂ - k - z - o

ON REQUEST

- Clamping points with different diameters d₁ and d₂ as specified elsewhere
- Adjuster caps
- Adjuster caps with different diameters d₁ and d₂ as specified elsewhere
- Adjuster caps with different diameters d₁ and d₂ as specified elsewhere
- Adjuster caps with different diameters d₁ and d₂ as specified elsewhere
- Adjuster caps with different diameters d₁ and d₂ as specified elsewhere

ORDER KEY

KS - d₁ - d₂ - k - z - o

- Cross clamp
- Clamping point 1
- Clamping point 2
- Clamping length
- Screw points
- Surface

INOCON

The data sheet contains detailed information on the product.

The order key shows you how to compile your individual order number from the different table values.

inocon.de



In addition to all product information, you will also find free CAD data for all products and further information about Inocon.

A convenient online configurator is available for adjustment and linear units.

Innovative assembly components



INOCON GmbH
Industriestraße 31
53359 Rheinbach
Germany

Tel. +49 2226-90987-0
Fax +49 2226-90987-99
info@inocon.de

inocon.de