






Plastic tube clamps

| | | | | | | | | |
|-------------------------------|--|---|--|--|--|--|--|--|
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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.

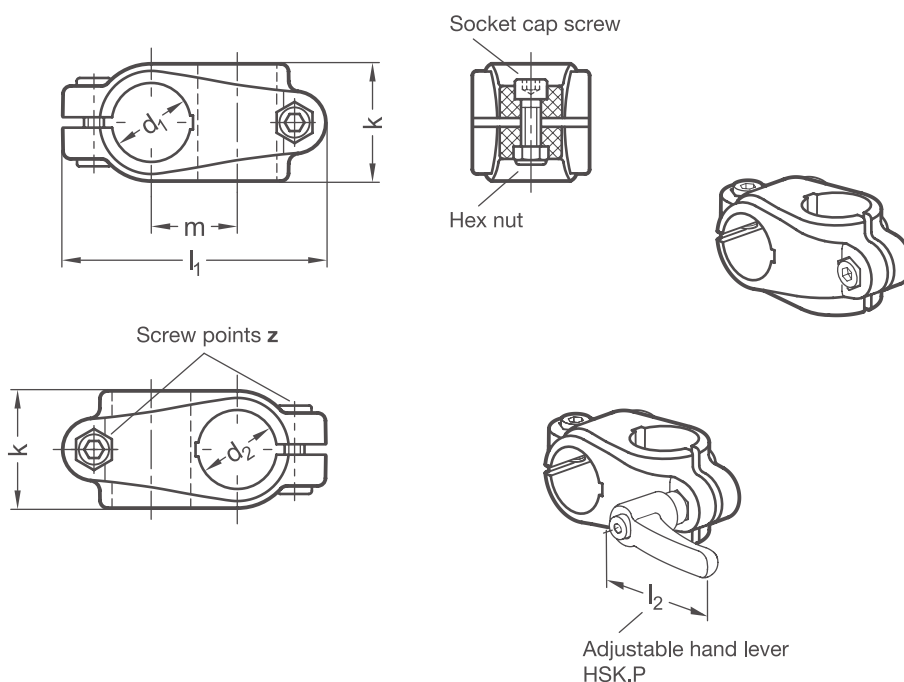
Adjustable hand levers are intended for repeated, tool-free clamping. Under the designation HSK.P, these are available separately for individual use and in other designs. Compared with the tool-operated hex socket cap screw, the clamping force achievable with an adjustable hand lever is lower due to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

RoHS-compliant product



elesa

Original design TCC-CR



| Clamping point 1 | Clamping point 2 | | | | | Accessories recom. hand lever | |
|------------------------------|------------------------------|-----------------------------|----------------------|----------|--------------------------|--|----|
| Bore d₁ | Bore d₂ | Clamping length k | l₁ | m | Hex socket cap screws | 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 |

ORDER KEY

KS.P - d₁ - d₂ - k - z - o

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

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.

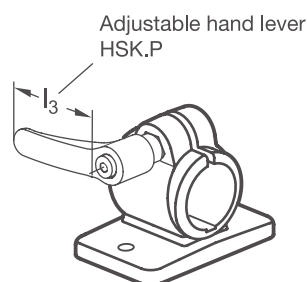
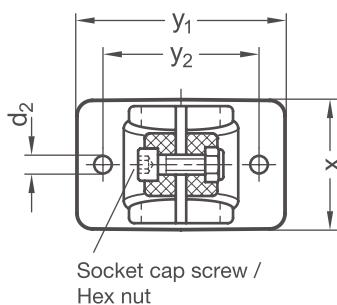
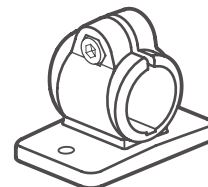
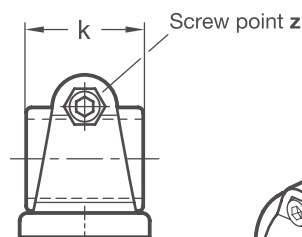
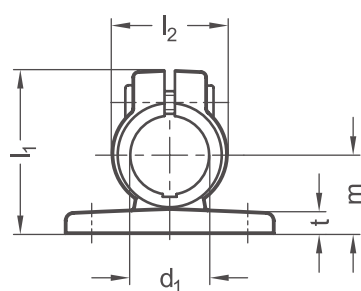
Adjustable hand levers are intended for repeated, tool-free clamping. Under the designation HSK.P, these are available separately for individual use and in other designs. Compared with the tool-operated hex socket cap screw, the clamping force achievable with an adjustable hand lever is lower due to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

RoHS-compliant product



elesa

Original design TCC-TB



| Clamping point | | | | | | | | | | | Accessories recom. hand lever | |
|------------------------------|--------------------------------|----------------------|----------------------|----------------------|----------|----------|----------|----------------------|----------------------|--------------------------|--|----|
| Bore d₁ | Clamping length k | d₂ | l₁ | l₂ | m | t | x | y₁ | y₂ | Hex socket cap screws | 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 |

ORDER KEY

FSZ.P - d₁ - k - z - o

| | |
|-----------------|-------|
| Flanged clamp | _____ |
| Clamping point | _____ |
| Clamping length | _____ |
| Screw point | _____ |
| Surface | _____ |

ACCESSORIES

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



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.

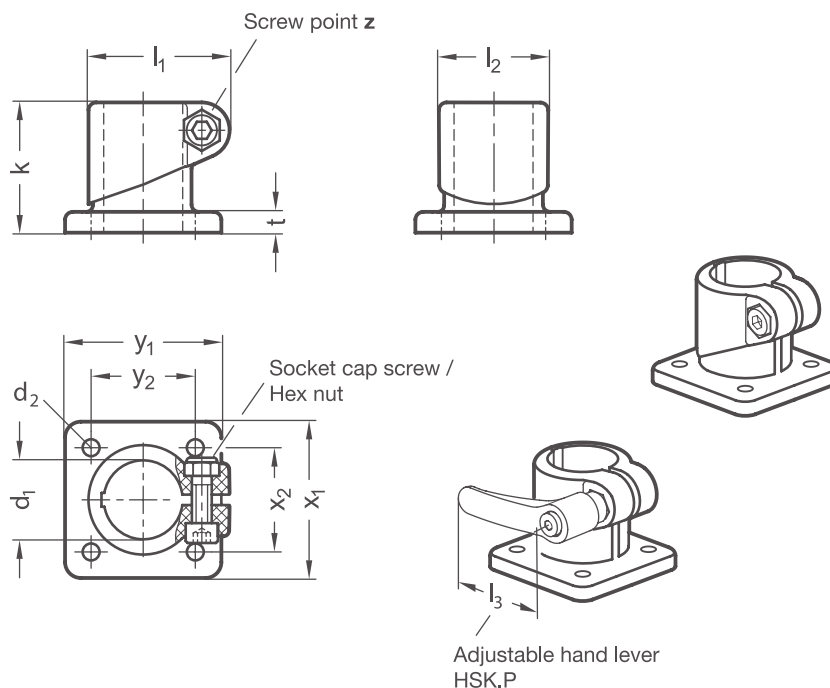
Adjustable hand levers are intended for repeated, tool-free clamping. Under the designation HSK.P, these are available separately for individual use and in other designs. Compared with the tool-operated hex socket cap screw, the clamping force achievable with an adjustable hand lever is lower due to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

RoHS-compliant product



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Original design TCC-AB



| Clamping point | Clamping length k | d₂ | l₁ | l₂ | t | x₁ | x₂ | y₁ | y₂ | Hex socket cap screws | Accessories recom. hand lever | |
|------------------------------|-----------------------------|----------------------|----------------------|----------------------|----------|----------------------|----------------------|----------------------|----------------------|-----------------------|--|----|
| Bore d₁ | | | | | | | | | | | 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 |

ORDER KEY

BS.P - d₁ - k - z - o

| | |
|-----------------|-------|
| Base clamp | _____ |
| Clamping point | _____ |
| Clamping length | _____ |
| Screw point | _____ |
| Surface | _____ |

ACCESSORIES

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



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.

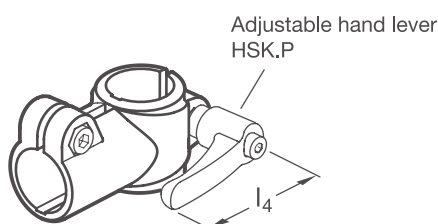
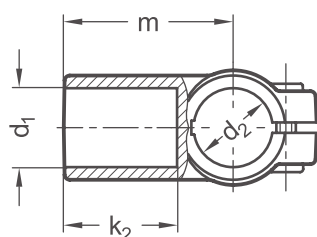
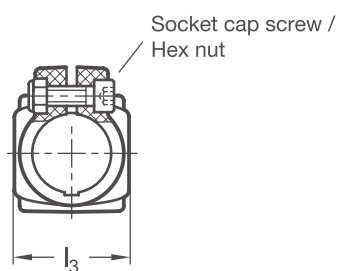
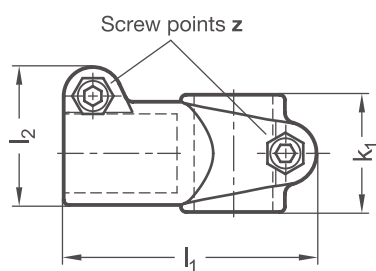
Adjustable hand levers are intended for repeated, tool-free clamping. Under the designation HSK.P, these are available separately for individual use and in other designs. Compared with the tool-operated hex socket cap screw, the clamping force achievable with an adjustable hand lever is lower due to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

RoHS-compliant product



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Original design TCC-TS



| Clamping point 1 | Clamping point 2 | | | | | | | | Accessories recom. hand lever | |
|------------------------------|------------------------------|--|--|----------------------|----------------------|----------------------|----------|--------------------------|--|----|
| Bore d₁ | Bore d₂ | Clamping length k₁ | Clamping length k₂ | l₁ | l₂ | l₃ | m | Hex socket cap screws | HSK.P for z lever length l₄ | |
| 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 |

ORDER KEY

TS.P - d₁ - d₂ - k - z - o

| | |
|------------------|-------|
| T-clamp | _____ |
| Clamping point 1 | _____ |
| Clamping point 2 | _____ |
| Clamping length | _____ |
| Screw points | _____ |
| Surface | _____ |

ACCESSORIES

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



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.

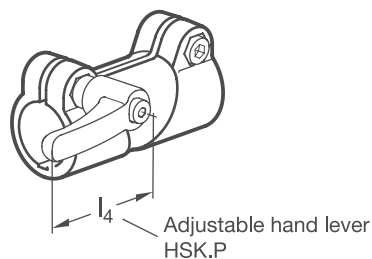
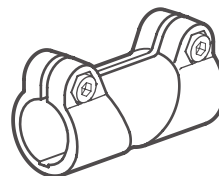
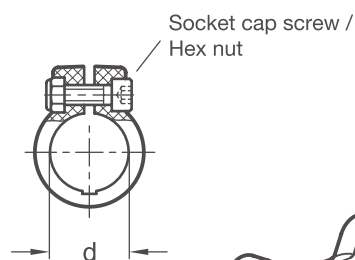
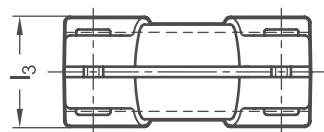
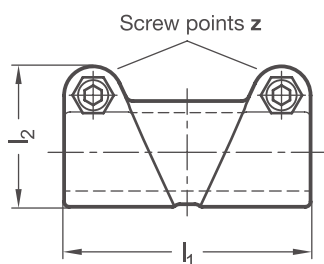
Adjustable hand levers are intended for repeated, tool-free clamping. Under the designation HSK.P, these are available separately for individual use and in other designs. Compared with the tool-operated hex socket cap screw, the clamping force achievable with an adjustable hand lever is lower due to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

RoHS-compliant product



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Original design TCC-SL



| 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 |

ORDER KEY

MS.P - d₁ - z - o

| | |
|----------------|-------|
| Sleeve clamp | _____ |
| Clamping point | _____ |
| Screw points | _____ |
| Surface | _____ |

ACCESSORIES

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



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.

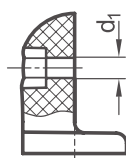
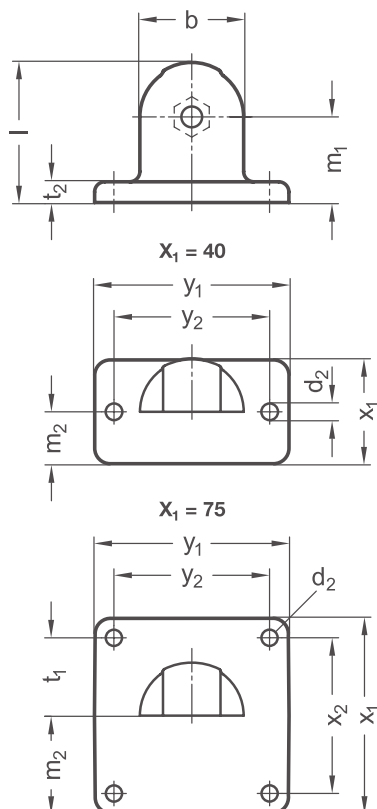
By combining swivel clamps that have identical fastening lugs and corresponding centering ring toothing, it is possible to assemble any type of joint clamp.

RoHS-compliant product



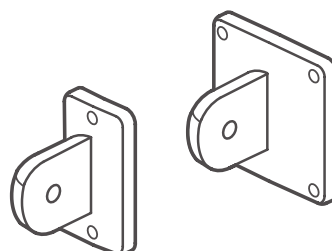
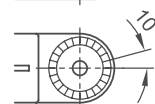
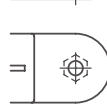
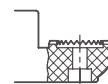
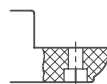
elesa

Original design TCC-PB / TCC-PBF



Type **OZ**

Type **AV**



| Lug width | | | | | | | | | | | | |
|-----------|----------------|----------------|----------------|-------------|----------------|----------------|----------------|----------------|------|----------------|----------------|----------------|
| b | x ₁ | d ₁ | d ₂ | Length l | m ₁ | m ₂ | t ₁ | t ₂ | s | x ₂ | y ₁ | y ₂ |
| 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

Swivel clamp

Lug width

Height

Type

Surface



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.

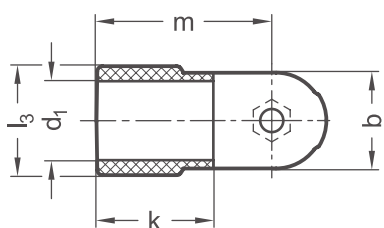
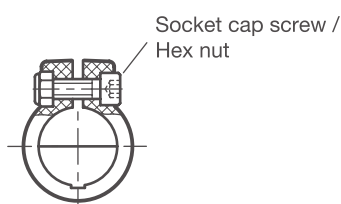
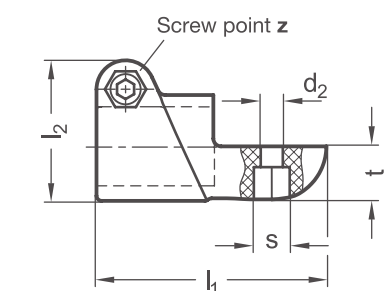
By combining swivel clamps that have identical fastening lugs and corresponding centering ring serration, it is possible to assemble any type of joint clamp.

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.

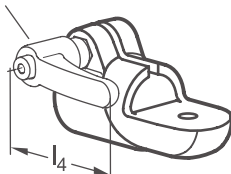
RoHS-compliant product



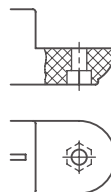
elesa
Original design TCC-AP



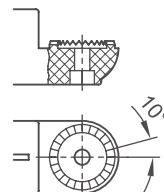
Adjustable hand lever
HSK.P



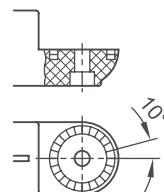
Type **OZ**



Type **AV**



Type **IV**



| Clamping point | | | | | | | | | | | Accessories recom. hand lever |
|------------------------------|-----------------------|----------------------|----------|----------------------|----------------------|----------------------|----------|----------|----------|--------------------------|--|
| Bore d₁ | Lug width b | d₂ | k | l₁ | l₂ | l₃ | m | s | t | Hex socket cap screws | 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

| | |
|----------------|-------|
| Swivel clamp | _____ |
| Clamping point | _____ |
| Type | _____ |
| Screw point | _____ |
| Surface | _____ |

ACCESSORIES

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



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.

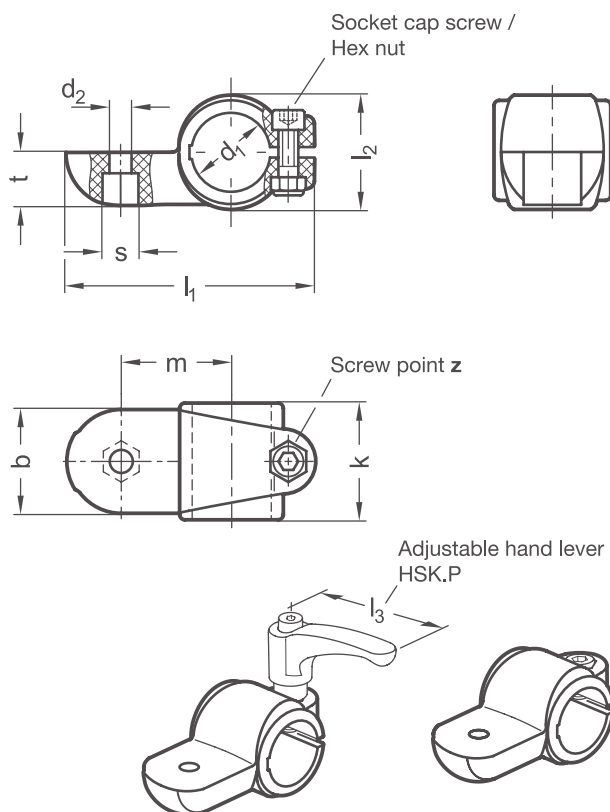
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RoHS-compliant product

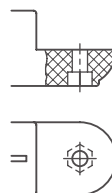


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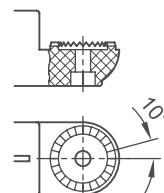
Original design TCC-TP



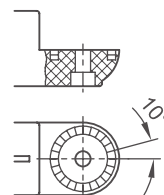
Type **OZ**



Type **AV**



Type **IV**



| Clamping point | | | | | | | | | | Accessories recom. hand lever |
|------------------------------|-----------------------|----------------------|----------|----------------------|----------------------|----------|----------|----------|--------------------------|--|
| Bore d₁ | Lug width b | d₂ | k | l₁ | l₂ | m | s | t | Hex socket cap screws | HSK.P for z lever length l₃ |
| 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 - d₁ - t - z - o

| | |
|----------------|-------|
| Swivel clamp | _____ |
| Clamping point | _____ |
| Type | _____ |
| Screw point | _____ |
| Surface | _____ |

ACCESSORIES

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



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.

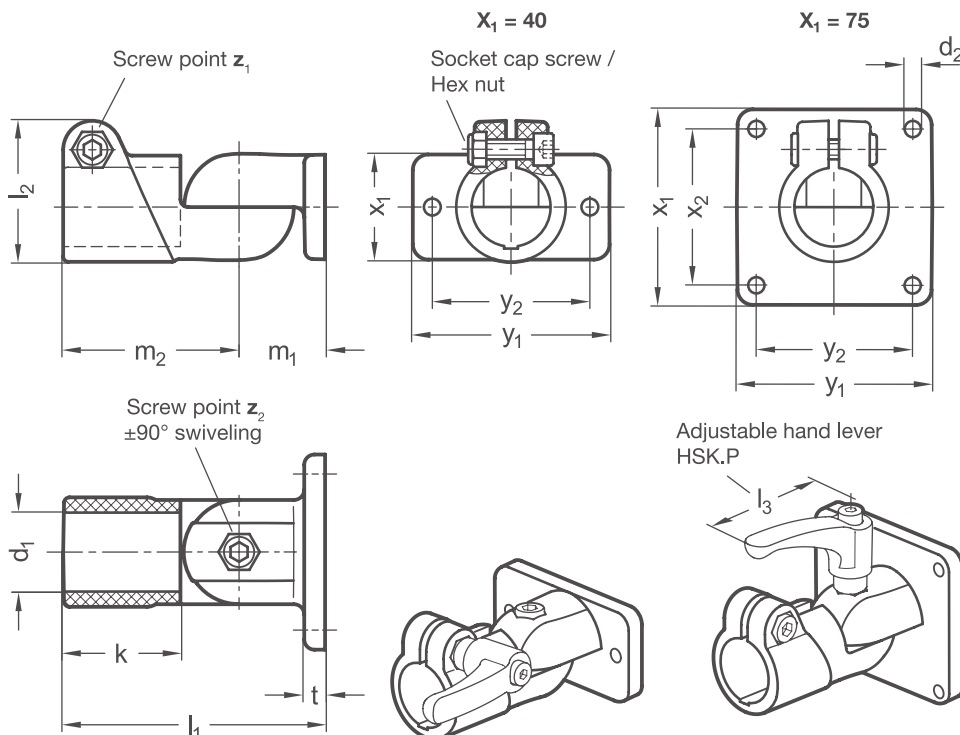
Adjustable hand levers are intended for repeated, tool-free clamping. Under the designation HSK.P, these are available separately for individual use and in other designs. Compared with the tool-operated hex socket cap screw, the clamping force achievable with an adjustable hand lever is lower due to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

RoHS-compliant product



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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

| | |
|----------------|-------|
| Joint clamp | _____ |
| Clamping point | _____ |
| Height | _____ |
| Type | _____ |
| Screw points | _____ |
| Surface | _____ |

ACCESSORIES

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



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.

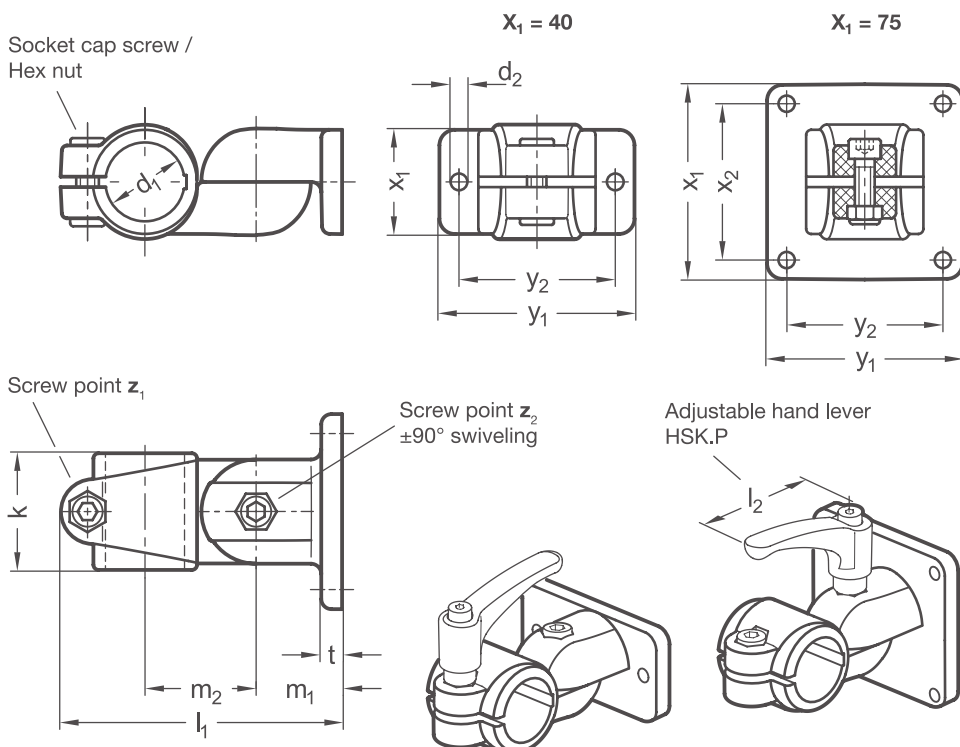
Adjustable hand levers are intended for repeated, tool-free clamping. Under the designation HSK.P, these are available separately for individual use and in other designs. Compared with the tool-operated hex socket cap screw, the clamping force achievable with an adjustable hand lever is lower due to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

RoHS-compliant product



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Original design TCC-TP-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 | 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 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

Joint clamp

Clamping point

Height

Type

Screw points

Surface

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



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.

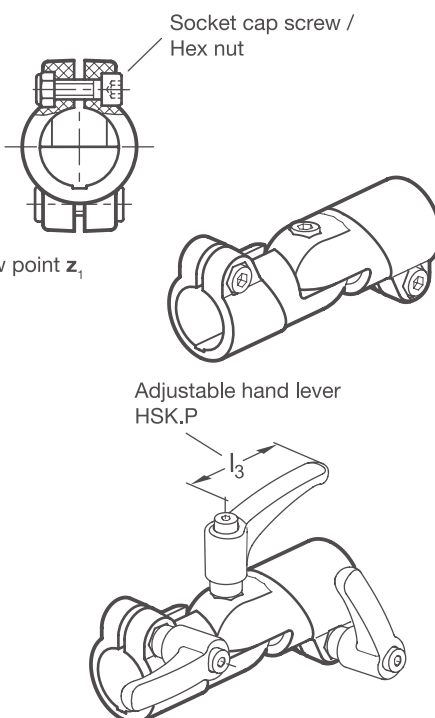
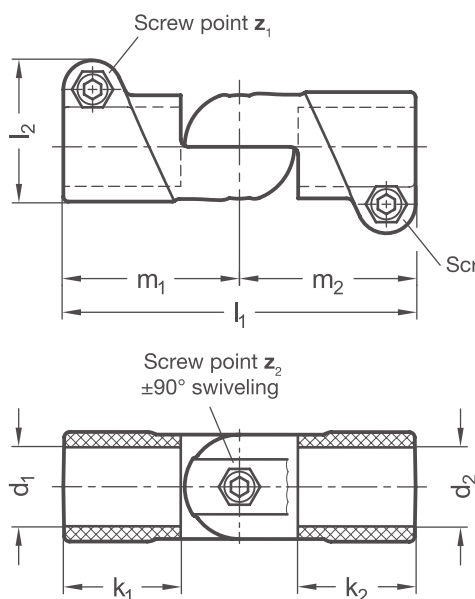
Adjustable hand levers are intended for repeated, tool-free clamping. Under the designation HSK.P, these are available separately for individual use and in other designs. Compared with the tool-operated hex socket cap screw, the clamping force achievable with an adjustable hand lever is lower due to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

RoHS-compliant product



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Original design TCC-AP-AP



| Clamping point 1 | Clamping point 2 | | | | | | | Hex socket cap screws | Hex socket cap screws | Accessories recom. hand lever | |
|------------------------------|------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-----------------------|-----------------------|--|----|
| Bore d₁ | Bore d₂ | k₁ | k₂ | l₁ | l₂ | m₁ | m₂ | z₁ | z₂ | HSK.P for z ₁ / z ₂ lever length l₃ | |
| 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 - d₁ - d₂ - t - z - o

| | |
|------------------|-------|
| Joint clamp | _____ |
| Clamping point 1 | _____ |
| Clamping point 2 | _____ |
| Type | _____ |
| Screw points | _____ |
| Surface | _____ |

ACCESSORIES

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

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.

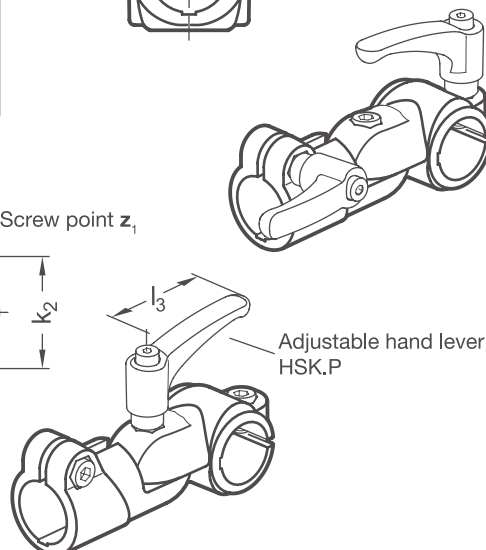
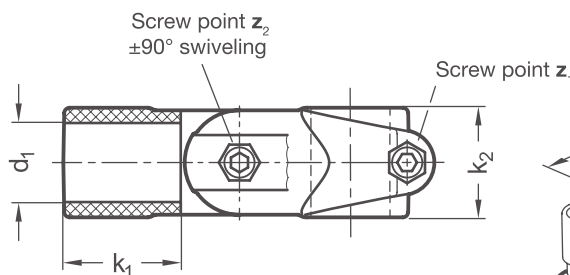
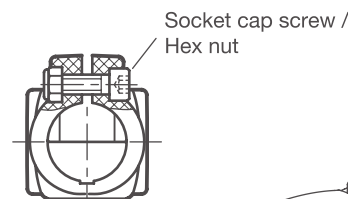
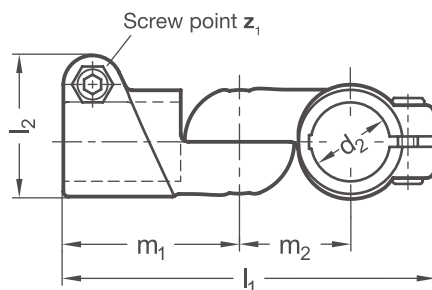
Adjustable hand levers are intended for repeated, tool-free clamping. Under the designation HSK.P, these are available separately for individual use and in other designs. Compared with the tool-operated hex socket cap screw, the clamping force achievable with an adjustable hand lever is lower due to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

RoHS-compliant product



elesa

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 - d₁ - d₂ - t - z - o

Joint clamp

Clamping point 1

Clamping point 2

Type

Screw points

Surface

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

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.

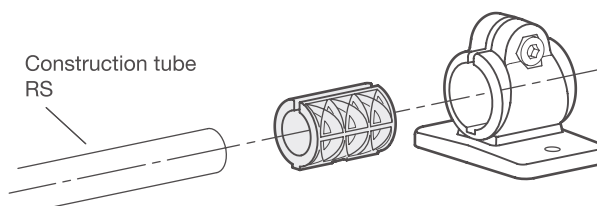
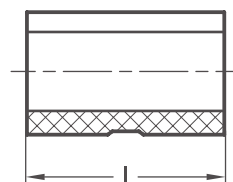
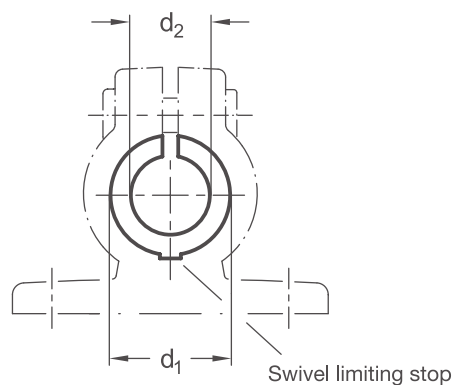
Due to the affixed swivel limiting stop, the adapter bushing cannot rotate or slide inside the tube clamp.

RoHS-compliant product



elisa

Original design TCC-A



| Bore of the clamp d ₁ | Bore d ₂ | | | | Length l |
|--|------------------------|------|------|------|-------------|
| 18 | B 12 | B 14 | B 15 | B 16 | 29 |
| 30 | B 20 | B 25 | - | - | 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 |

ORDER KEY

RBS.P - d₁ - d₂ - l - o

Adapter bushing

Bore of the clamp

Bore

Length

Surface



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.

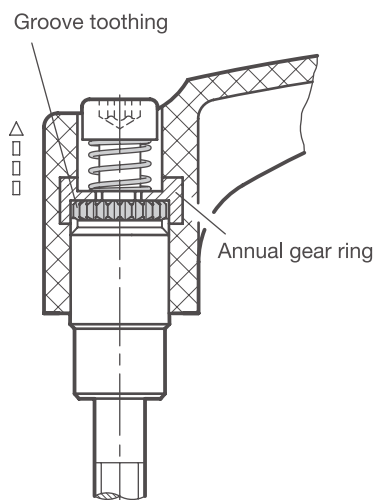
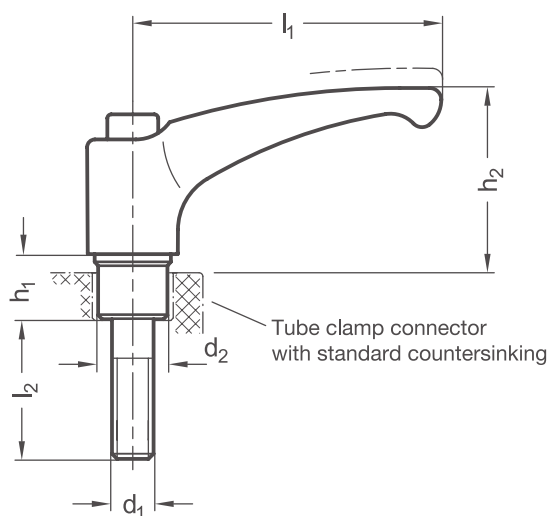
Adjustable hand levers HSK.P are specially designed as accessories for use at the screw points of plastic tube clamps. They replace the hex socket cap screws DIN 912 and are used where repeated tool-free clamping is required.

The threaded insert is connected to the handle by groove toothing 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.

RoHS-compliant product



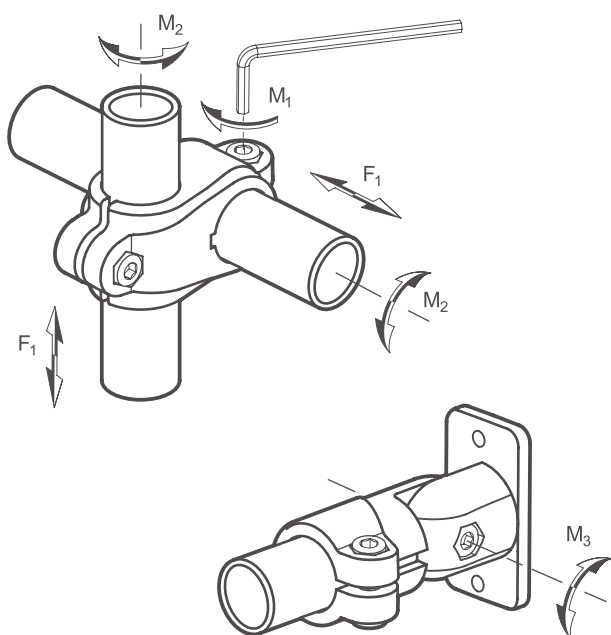
| l_1 | d_1 | l_2 | d_2 | h_1 | $h_2 \approx$ |
|-------|-------|-------|-------|-------|---------------|
| 44 | M 6 | 20 | 10 | 8,5 | 32 |
| 63 | M 6 | 20 | 10 | 9 | 40 |
| 63 | M 8 | 25 | 13 | 13,5 | 44 |
| 78 | M 8 | 25 | 13 | 14,5 | 52 |

| Surface | |
|---------|--|
| o | |
| 2 | Polyamide (PA), glass fiber reinforced, Black-gray RAL 7021 matt, temperature resistant up to 130 °C / threaded insert stainless steel AISI 303 (A1) |

ORDER KEY

HSK.P - l_1 - d_1 - l_2 - o





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.

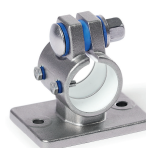
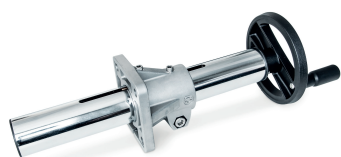
| Standard | Bore of the tube clamp | Order key Adapter bushing used | Screw point tightening torque M_1 in Nm | Displacement force F_1 in N | Twisting moment M_2 in Nm |
|----------------------|------------------------|--------------------------------|---|-------------------------------|-----------------------------|
| 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 |

Innovative assembly components



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