Technopolymer connecting clamps and hinged joints for tubes

STANDARD MACHINE ELEMENTS WORLDWIDE

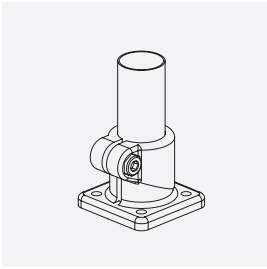
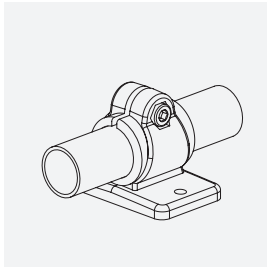
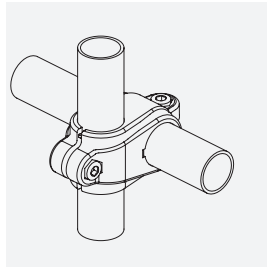
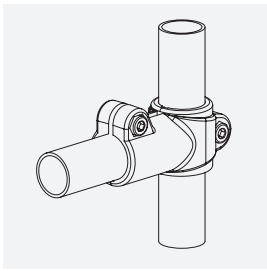
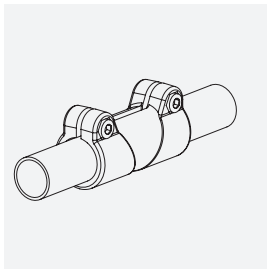
elesa®

Technopolymer connecting clamps and hinged joints for tubes

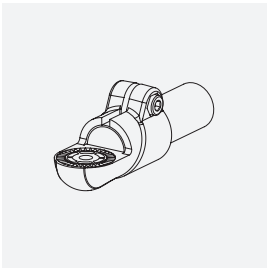
ELESA tube connectors are a complete range of components for the construction of tubular structures that have applications in many industrial sectors, e.g. the food industry, packaging, paint, laboratory equipment and monitor mounts, to mention just a few.

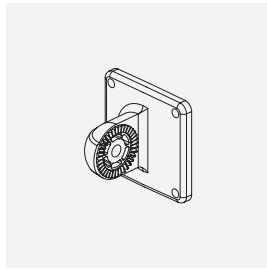
- Lightweight
- Corrosion resistance
- High mechanical strength
- Flexibility to adapt to different tube diameters due to the reduction sleeve
- Hinged joints to adapt the structure to all required angles
- AISI 304 stainless steel screws for outdoor applications and for greater resistance to corrosive agents
- Clamping kit for frequent adjustment
- Easy cleaning due to a design free from corners and edges with a smooth surface
- Resistance to tube rotation and pull-out guaranteed at tightening torque
- Compatible with all commercial tubes (diameter tolerance of ±0.2 mm)
- Black or grey colour

Connecting clamps for tubes

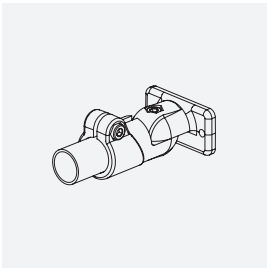
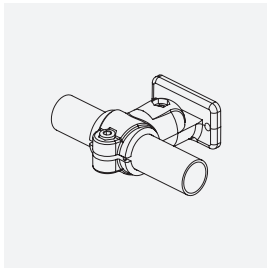
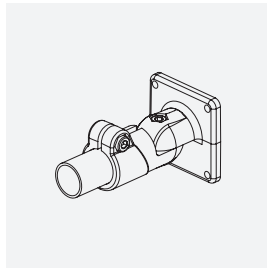
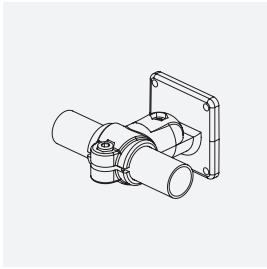
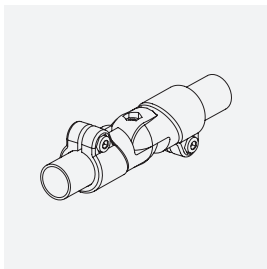
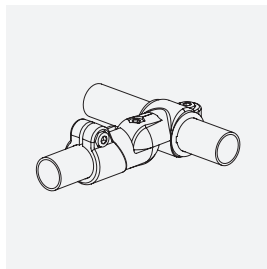






Clamps for hinged joints



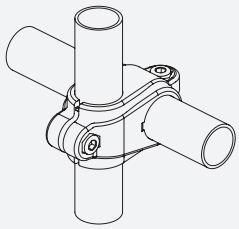


Hinged joints for tubes

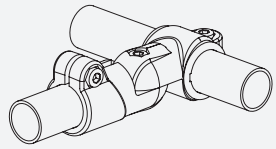







General information

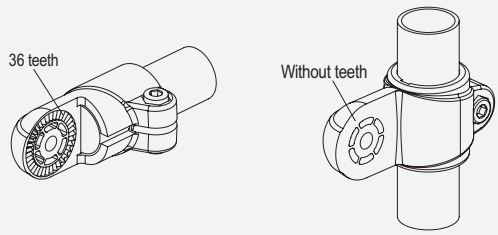
The range includes various items made entirely from glass-fibre reinforced polyamide based (PA) techno-polymer and includes **bases, connecting clamps with mounting plate and sleeve, T-shaped** and **two-way connecting clamps** that enable axial and perpendicular fitting of round tubes with 18 mm and 30 mm diameter.



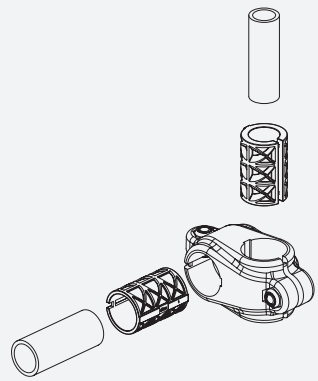
The range also includes **hinged joints** that allow the various parts of the structure to be connected at an angle. The angle is adjusted by joining two clamps or bases equipped with coaxial circular crowns that can be locked in the desired position.



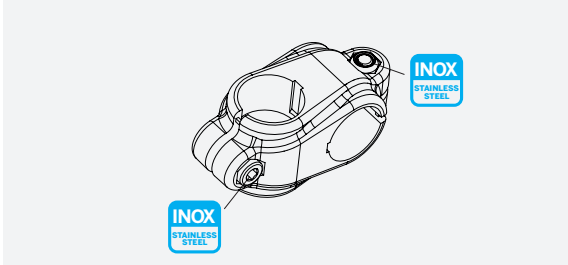
The **toothed version** (36 teeth) can be positioned at any angle with a 10° pitch with the joint having a high resistance value.
The **version without teeth** can be positioned at any angle. It has a lower resistance value but guarantees maximum flexibility, for example for sensor positioning.



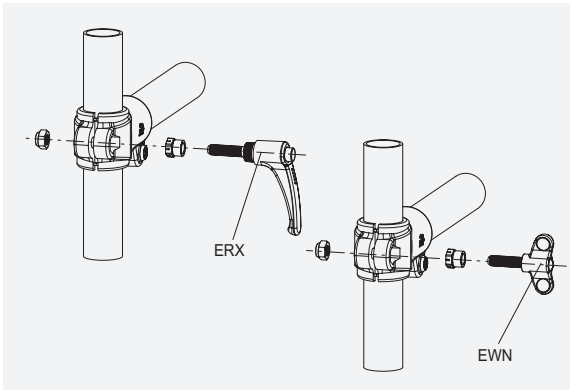
Reduction sleeve, equipped with a keyway that engages with the slot in the clamp on which it is mounted, allows the assembly with tubes with smaller diameters from 12 mm.



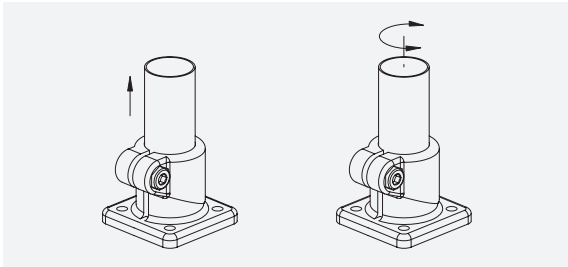
The clamps are supplied with **self-locking screws and nuts in AISI 304 stainless steel** to enable them to be used in outdoor applications or in environments where chemical agents are present (paints) or in the presence of humidity (beverage sector). The cylinder head screws with hexagon socket are supplied with **anti-seizure** treatment to facilitate repeated locking operations.



The **clamping kits** that complete the range comprise ELESA manual clamping parts (ERX adjustable handles or EWN wing nuts) that, using the distance bushings, can replace the screws supplied with the various elements so that the tube can be locked without using a hexagonal key. This solution speeds up the operation when frequent locking and unlocking is required.



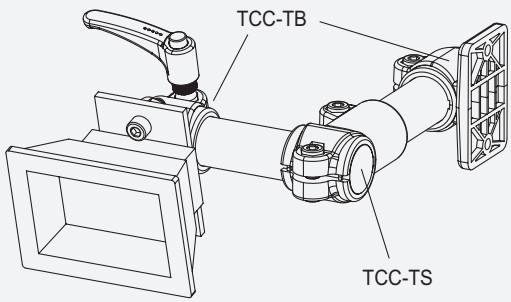
Particularly high **rotational and pull-out resistance** values are ensured by tightening the torque to the values indicated for the various versions.

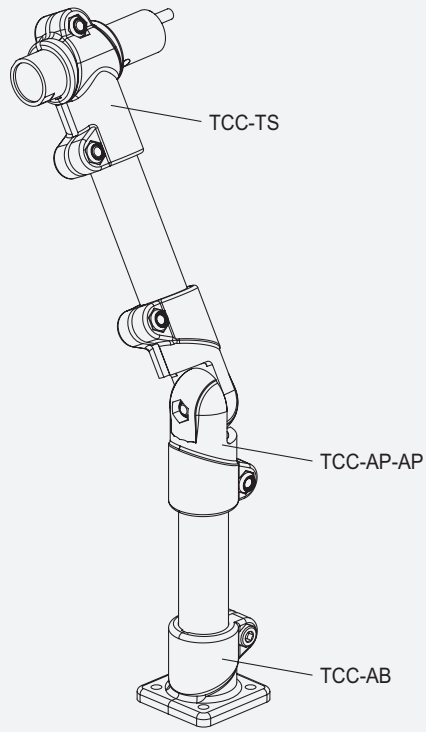


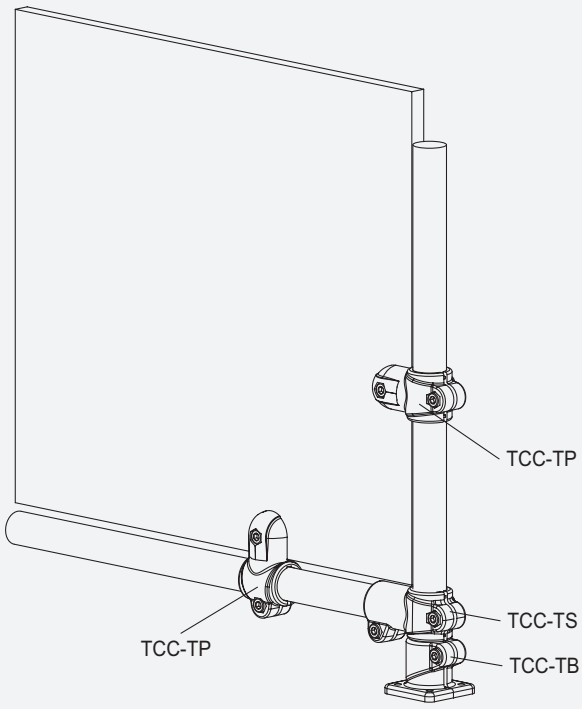
Elesa connecting clamps have been designed to guarantee the highest mechanical resistance, while their surface, free from no sharp corners, helps to maintain it clean, improves aesthetics and provides a **distinctive design.**
The tube connecting clamps are available in **black or grey** for better aesthetic matching with the natural aluminium colour.

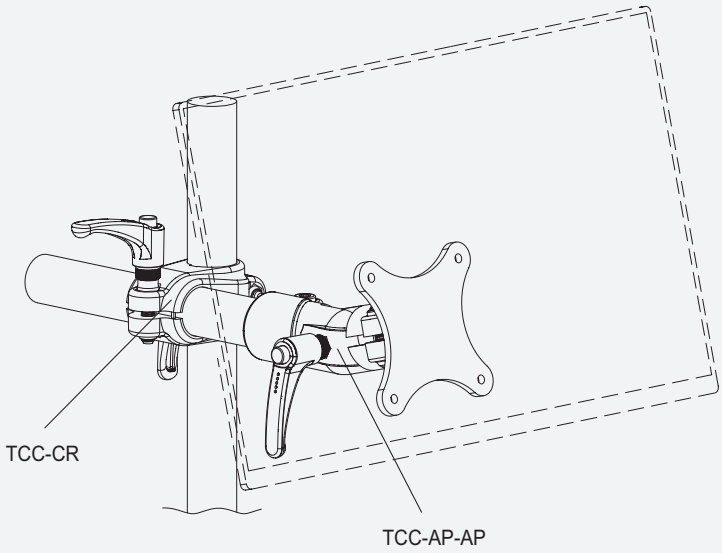
C9 RAL9005 **C33** RAL7040

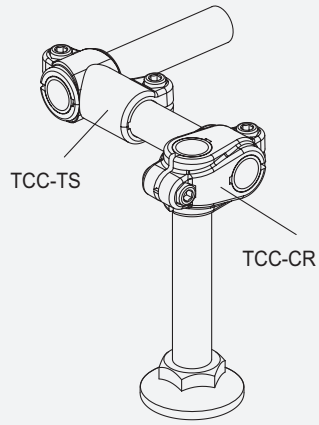
Application examples

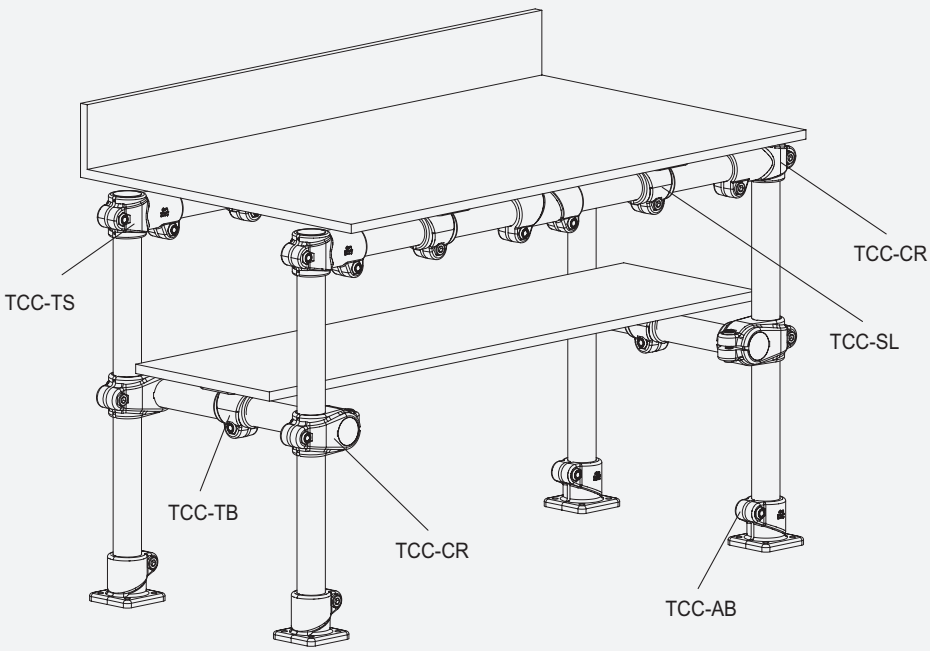












Photographic index

TCC-AB
Connecting clamps with mounting base
Technopolymer
page 9

TCC-TB
Connecting clamps with mounting plate
Technopolymer
page 10

TCC-CR
Two-way connecting clamps
Technopolymer
page 11

TCC-TS
T-shaped connecting clamps
Technopolymer
page 12

TCC-SL
Connecting clamps with sleeve
Technopolymer
page 13

TCC-PBF
Mounting base for hinged joints
Technopolymer
page 14

TCC-PB
Mounting base for hinged joints
Technopolymer
page 15

TCC-AP
Clamps for hinged joints
Technopolymer
page 16

TCC-TP
Clamps for hinged joints
Technopolymer
page 18

TCC-AP-PBF
Hinged joint with mounting base and clamp
Technopolymer
page 20

TCC-TP-PBF
Hinged joint with mounting base and clamp
Technopolymer
page 22

TCC-AP-PB
Hinged joint with mounting base and clamp
Technopolymer
page 24

TCC-TP-PB
Hinged joint with mounting base and clamp
Technopolymer
page 26

TCC-AP-AP
Hinged joints with clamps
Technopolymer
page 28

TCC-AP-TP
Hinged joints with clamps
Technopolymer
page 30

TCC-A
Hole reduction sleeve
for TCC clamps, technopolymer
page 32

TCC-KS
Clamping kit for TCC
Technopolymer
page 34

TCC-KV
Screws and nuts for TCC
Stainless steel
page 35

TCC-AB | Connecting clamps with mounting base

Technopolymer

CLAMP
Glass-fibre reinforced polyamide based (PA) technopolymer, RAL 9005 (C9) black colour or grey RAL 7040 (C33) colour, matte finish.

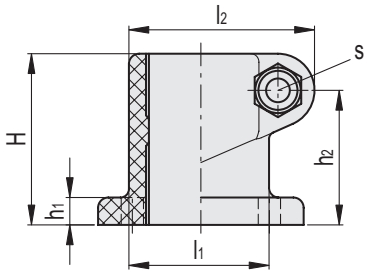
SCREW AND NUT *(SUPPLIED)*
Cylindrical-head screws with hexagon socket in AISI 304 stainless steel with anti-seizure treatment.
Self-locking nut in AISI 304 stainless steel.

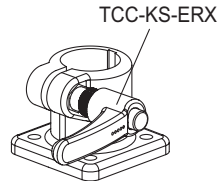
FEATURES
Clamps for tubes with a diameter of 18 ± 0.2 and 30 ± 0.2 mm.
For smaller diameter tubes, the hole reduction sleeves TCC-A can be used (ordered separately).
The "s" grub screw may be replaced by the kit TCC-KS.

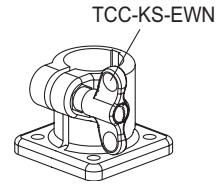
TECHNICAL DATA
The resistance values shown in the table were measured during laboratory tests at ambient temperature with the screws tightened to the maximum torque "C#".

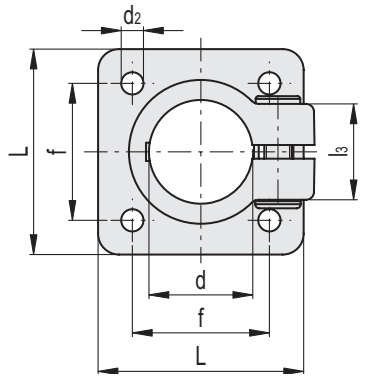
ACCESSORIES ON REQUEST (TO BE ORDERED SEPARATELY)
- TCC-A (see page 32): reduction sleeves.
- TCC-KS (see page 34): clamping kit.
- TCC-KV (see page 35): screws and clamping nuts.
- GN 990: connecting tubes.

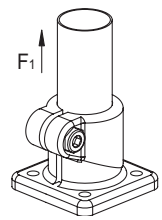
ELESA Original design

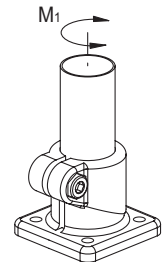












C9 RAL9005 C33 RAL7040

Code	Description	d	L	H	d2	f ±0.2	h1	h2	l1	l2	l3	s	C# [Nm]	F1* [N]	M1** [Nm]	⚖
600111-C9	TCC-AB-18-C9	18	45	34	5.3	30	5	25	26	36.5	20	M6	5	1050	8	29
600111-C33	TCC-AB-18-C33	18	45	34	5.3	30	5	25	26	36.5	20	M6	5	1050	8	29
600211-C9	TCC-AB-30-C9	30	60	50	6.5	40	8	40	40	53.5	27	M8	12	1650	33	75
600211-C33	TCC-AB-30-C33	30	60	50	6.5	40	8	40	40	53.5	27	M8	12	1650	33	75

Suggested torque for screw assembly.
* Resistance to tube pull out
** Resistance to tube rotation

TCC-TB | Connecting clamps with mounting plate

Technopolymer

CLAMP
Glass-fibre reinforced polyamide based (PA) technopolymer, RAL 9005 (C9) black colour or grey RAL 7040 (C33) colour, matte finish.

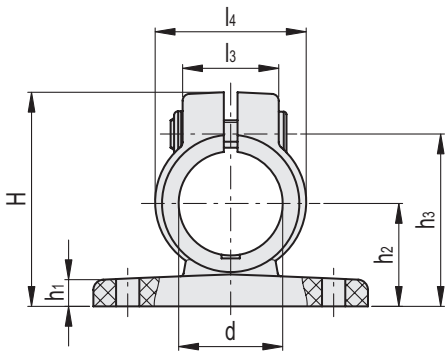
SCREW AND NUT *(SUPPLIED)*
Cylindrical-head screws with hexagon socket in AISI 304 stainless steel with anti-seizure treatment.
Self-locking nut in AISI 304 stainless steel.

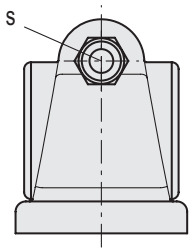
FEATURES
Clamps for tubes with a diameter of 18 ± 0.2 and 30 ± 0.2 mm.
For smaller diameter tubes, the hole reduction sleeve TCC-A can be used (ordered separately).
The "s" grub screw may be replaced by the kit TCC-KS.

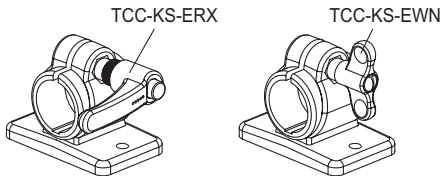
TECHNICAL DATA
The resistance values shown in the table were measured during laboratory tests at ambient temperature with the screws tightened to the maximum torque "C#".

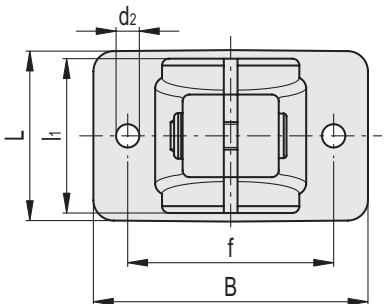
ACCESSORIES ON REQUEST (TO BE ORDERED SEPARATELY)
- TCC-A (see page 32): reduction sleeves.
- TCC-KS (see page 34): clamping kit.
- TCC-KV (see page 35): screws and clamping nuts.
- GN 990: connecting tubes.

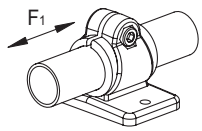
ELESA Original design

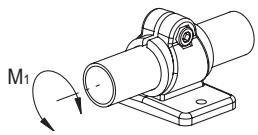












C9 RAL9005 C33 RAL7040

Code	Description	d	L	B	H	d2	f ±0.2	h1	h2	h3	l1	l3	l4	s	C# [Nm]	F1* [N]	M1** [Nm]	⚖
600141-C9	TCC-TB-18-C9	18	34.5	52	41	5.3	40	5	18	33.5	29	21	29	M6	5	1450	16	29
600141-C33	TCC-TB-18-C33	18	34.5	52	41	5.3	40	5	18	33.5	29	21	29	M6	5	1450	16	29
600241-C9	TCC-TB-30-C9	30	49.5	80	61.5	6.5	60	8	30	50	44.5	27	44	M8	12	1800	27	84
600241-C33	TCC-TB-30-C33	30	49.5	80	61.5	6.5	60	8	30	50	44.5	27	44	M8	12	1800	27	84

Suggested torque for screw assembly.
* Resistance to tube pull out
** Resistance to tube rotation

TCC-CR | Two-way connecting clamps

Technopolymer

CLAMP
Glass-fibre reinforced polyamide based (PA) technopolymer, RAL 9005 (C9) black colour or grey RAL 7040 (C33) colour, matte finish.

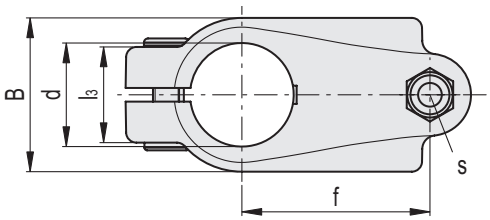
SCREWS AND NUTS *(SUPPLIED)*
Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment.
Self-locking nuts in AISI 304 stainless steel.

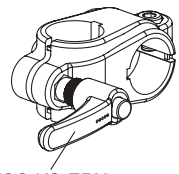
FEATURES
Clamps for tubes with a diameter of 18 ± 0.2 and 30 ± 0.2 mm.
For smaller diameter tubes, the hole reduction sleeve TCC-A can be used (ordered separately).
The "s" grub screws may be replaced by the kit TCC-KS.

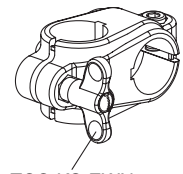
TECHNICAL DATA
The resistance values shown in the table were measured during laboratory tests at ambient temperature with the screws tightened to the maximum torque "C#".

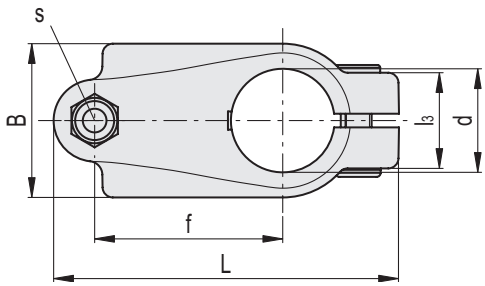
ACCESSORIES ON REQUEST (TO BE ORDERED SEPARATELY)
- TCC-A (see page 32): reduction sleeves.
- TCC-KS (see page 34): clamping kit.
- TCC-KV (see page 35): screws and clamping nuts.
- GN 990: connecting tubes.

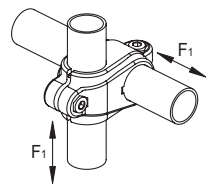
ELESA Original design

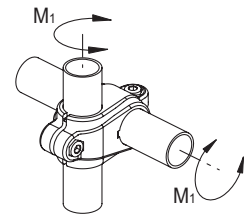



TCC-KS-ERX


TCC-KS-EWN







C9 RAL9005 C33 RAL7040

Code	Description	d	L	B	f	l3	s	C# [Nm]	F1* [N]	M1** [Nm]	⚖
600121-C9	TCC-CR-18-18-C9	18	65	29	34	21	M6	5	2150	17	41
600121-C33	TCC-CR-18-18-C33	18	65	29	34	21	M6	5	2150	17	41
600221-C9	TCC-CR-30-30-C9	30	100.5	45	54.5	27	M8	12	1350	21	123
600221-C33	TCC-CR-30-30-C33	30	100.5	45	54.5	27	M8	12	1350	21	123

Suggested torque for screw assembly.
* Resistance to tube pull out
** Resistance to tube rotation

TCC-TS | T-shaped connecting clamps

Technopolymer

CLAMP
Glass-fibre reinforced polyamide based (PA) technopolymer, RAL 9005 (C9) black colour or grey RAL 7040 (C33) colour, matte finish.

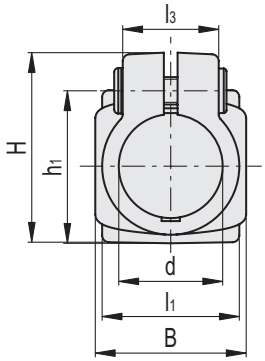
SCREWS AND NUTS *(SUPPLIED)*
Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment.
Self-locking nuts in AISI 304 stainless steel.

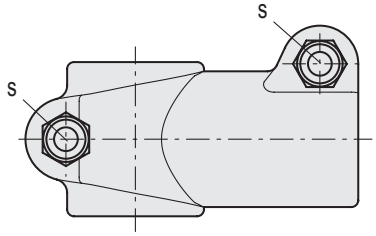
FEATURES
Clamps for tubes with a diameter of 18 ± 0.2 and 30 ± 0.2 mm.
For smaller diameter tubes, the hole reduction sleeve TCC-A can be used (ordered separately).
The "s" grub screws may be replaced by the kit TCC-KS.

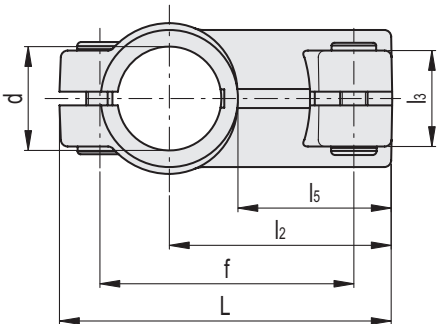
TECHNICAL DATA
The resistance values shown in the table were measured during laboratory tests at ambient temperature with the screws tightened to the maximum torque "C#".

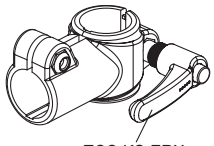
ACCESSORIES ON REQUEST (TO BE ORDERED SEPARATELY)
- TCC-A (see page 32): reduction sleeves.
- TCC-KS (see page 34): clamping kit.
- TCC-KV (see page 35): screws and clamping nuts.
- GN 990: connecting tubes.

ELESA Original design

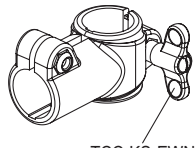




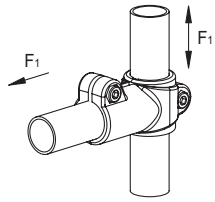


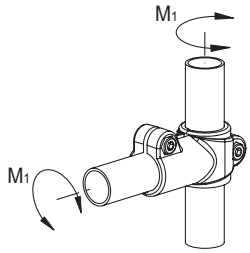


TCC-KS-ERX



TCC-KS-EWN





C9 RAL9005 C33 RAL7040

Code	Description	d	L	B	H	f	h1	l1	l2	l3	l5	s	C# [Nm]	F1* [N]	M1** [Nm]	⚖
600151-C9	TCC-TS-18-18-C9	18	65	29	35	49	27	26.5	43.5	20.5	30.5	M6	5	1450	14	42
600151-C33	TCC-TS-18-18-C33	18	65	29	35	49	27	26.5	43.5	20.5	30.5	M6	5	1450	14	42
600251-C9	TCC-TS-30-30-C9	30	96	44	55.5	74	44	40.5	64.5	28	45.5	M8	12	1650	17	113
600251-C33	TCC-TS-30-30-C33	30	96	44	55.5	74	44	40.5	64.5	28	45.5	M8	12	1650	17	113

Suggested torque for screw assembly.
* Resistance to tube pull out
** Resistance to tube rotation

TCC-SL | Connecting clamps with sleeve

Technopolymer

CLAMP
Glass-fibre reinforced polyamide based (PA) technopolymer, RAL 9005 (C9) black colour or grey RAL 7040 (C33) colour, matte finish.

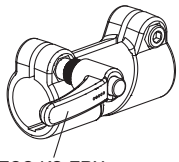
SCREWS AND NUTS *(SUPPLIED)*
Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment.
Self-locking nuts in AISI 304 stainless steel.

FEATURES
Clamps for tubes with a diameter of 18 ± 0.2 and 30 ± 0.2 mm.
For smaller diameter tubes, the hole reduction sleeve TCC-A can be used (ordered separately).
The "s" grub screws may be replaced by the kit TCC-KS.

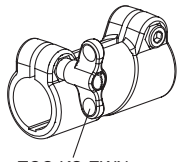
TECHNICAL DATA
The resistance values shown in the table were measured during laboratory tests at ambient temperature with the screws tightened to the maximum torque "C#".

ACCESSORIES ON REQUEST (TO BE ORDERED SEPARATELY)
- TCC-A (see page 32): reduction sleeves.
- TCC-KS (see page 34): clamping kit.
- TCC-KV (see page 35): screws and clamping nuts.
- GN 990: connecting tubes.

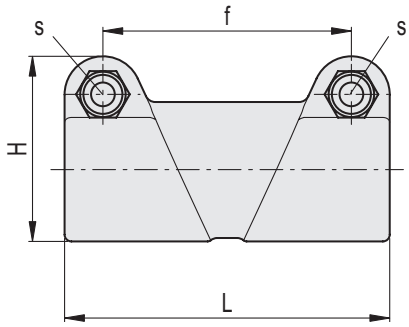
ELESA Original design

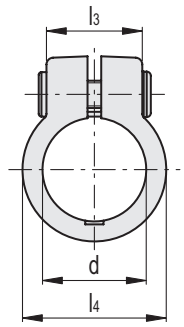


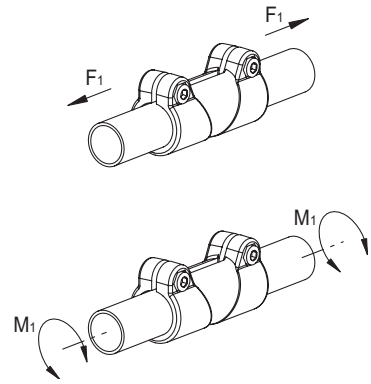
TCC-KS-ERX



TCC-KS-EWN







C9 RAL9005 C33 RAL7040

Code	Description	d	L	H	f	l3	l4	s	C# [Nm]	F1* [N]	M1** [Nm]	⚖
600131-C9	TCC-SL-18-18-C9	18	64.5	35.5	48	20.5	29	M6	5	1100	13	45
600131-C33	TCC-SL-18-18-C33	18	64.5	35.5	48	20.5	29	M6	5	1100	13	45
600231-C9	TCC-SL-30-30-C9	30	94.5	53.5	72	27	42	M8	12	1400	25	116
600231-C33	TCC-SL-30-30-C33	30	94.5	53.5	72	27	42	M8	12	1400	25	116

Suggested torque for screw assembly.
* Resistance to tube pull out
** Resistance to tube rotation

TCC-PBF | Mounting base for hinged joints

Technopolymer

BASE
Glass-fibre reinforced polyamide based (PA) technopolymer, RAL 9005 (C9) black colour or grey RAL 7040 (C33) colour, matte finish.

SCREW AND NUT *(SUPPLIED)*
Cylindrical-head screws with hexagon socket in AISI 304 stainless steel with anti-seizure treatment.
Self-locking nut in AISI 304 stainless steel.

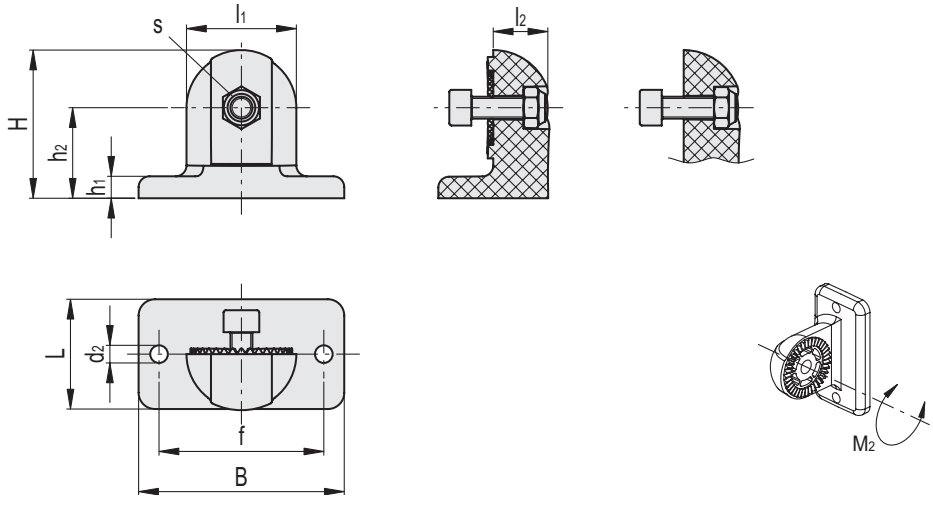
STANDARD EXECUTIONS
- **TCC-PBF-E**: external teeth.
- **TCC-PBF-S**: without teeth.

FEATURES
A base with external teeth can be joined to a clamp with internal teeth, or a base without teeth to a clamp without teeth, to create a hinged joint.
Joints comprising bases with external teeth and clamps with internal teeth (36 teeth) have a 10° adjustment angle.
Joints comprising bases and clamps without teeth can be positioned at any angle.
The "s" grub screw may be replaced by the kit TCC-KS.

TECHNICAL DATA
The resistance values shown in the table were measured during laboratory tests at ambient temperature with the screws tightened to the maximum torque "C#".

ACCESSORIES ON REQUEST (TO BE ORDERED SEPARATELY)
- TCC-KS (see page 34): clamping kit.
- TCC-KV (see page 35): screws and clamping nuts.

ELESA Original design



C9 RAL9005 C33 RAL7040

TCC-PBF-E

Code	Description	L	B	H	d2	f ±0.2	h1	h2	l1	l2	s	C# [Nm]	M2*** [Nm]	⚖
600431-C9	TCC-PBF-30-E-C9	40	75	54	6.5	60	8	33	40	20	M8	12	100	63
600431-C33	TCC-PBF-30-E-C33	40	75	54	6.5	60	8	33	40	20	M8	12	100	63
TCC-PBF-S														
600435-C9	TCC-PBF-30-S-C9	40	75	54	6.5	60	8	33	40	20	M8	12	7	58
600435-C33	TCC-PBF-30-S-C9	40	75	54	6.5	60	8	33	40	20	M8	12	7	58

Suggested torque for screw assembly.
*** Resistance to joint rotation.

TCC-PB | Mounting base for hinged joints

Technopolymer

INOX STAINLESS STEEL · RoHS · PA · +100° -20°

BASE

Glass-fibre reinforced polyamide based (PA) technopolymer, RAL 9005 (C9) black colour or grey RAL 7040 (C33) colour, matte finish.

SCREW AND NUT *(SUPPLIED)*

Cylindrical-head screws with hexagon socket in AISI 304 stainless steel with anti-seizure treatment.
Self-locking nut in AISI 304 stainless steel.

STANDARD EXECUTIONS

- **TCC-PB-E**: external teeth.
- **TCC-PB-S**: without teeth.

FEATURES

A base with external teeth can be joined to a clamp with internal teeth, or a base without teeth to a clamp without teeth, to create a hinged joint.
Joints comprising bases with external teeth and clamps with internal teeth (36 teeth) have a 10° adjustment angle.
Joints comprising bases and clamps without teeth can be positioned at any angle.
The "s" grub screw may be replaced by the kit TCC-KS.

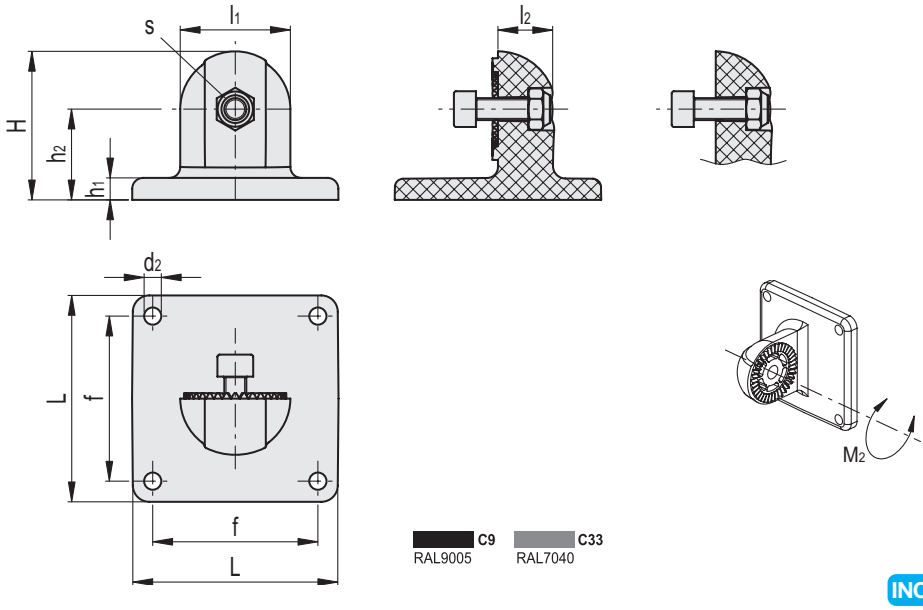
TECHNICAL DATA

The resistance values shown in the table were measured during laboratory tests at ambient temperature with the screws tightened to the maximum torque "C#".

ACCESSORIES ON REQUEST (TO BE ORDERED SEPARATELY)

- TCC-KS (see page 34): clamping kit.
- TCC-KV (see page 35): screws and clamping nuts.

ELESA Original design



TCC-PB-E

INOX STAINLESS STEEL

Code	Description	L	H	d2	f ±0.2	h1	h2	l1	l2	s	C# [Nm]	M2*** [Nm]	⚖
600421-C9	TCC-PB-30-E-C9	75	54	6.5	60	8	33	40	20	M8	12	100	78
600421-C33	TCC-PB-30-E-C33	75	54	6.5	60	8	33	40	20	M8	12	100	78
TCC-PB-S													
600425-C9	TCC-PB-30-S-C9	75	54	6.5	60	8	33	40	20	M8	12	7	73
600425-C33	TCC-PB-30-S-C33	75	54	6.5	60	8	33	40	20	M8	12	7	73

Suggested torque for screw assembly.
*** Resistance to joint rotation.

TCC-AP | Clamps for hinged joints

Technopolymer

INOX STAINLESS STEEL · RoHS · PA · +100° -20°

CLAMP

Glass-fibre reinforced polyamide based (PA) technopolymer, RAL 9005 (C9) black colour or grey RAL 7040 (C33) colour, matte finish.

SCREWS AND NUTS

Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment.
Self-locking nuts in AISI 304 stainless steel.
Supplied: two screws and two nuts for versions TCC-AP-E and TCC-AP-S, one screw and one nut for version TCC-AP-I

STANDARD EXECUTIONS

- **TCC-AP-E**: external teeth.
- **TCC-AP-I**: internal teeth.
- **TCC-AP-S**: without teeth.

FEATURES

Two clamps, one with external teeth and one with internal teeth or two without teeth, can be joined to create a hinged joint.
Joints comprising clamps with external/internal teeth (36 teeth) have a 10° adjustment angle.
Joints comprising clamps without teeth can be positioned at any angle.
Clamps for tubes with a diameter of 30 ± 0.2 mm.
For smaller diameter tubes, the hole reduction sleeve TCC-A can be used (ordered separately).
The "s" grub screws may be replaced by the kit TCC-KS.

TECHNICAL DATA

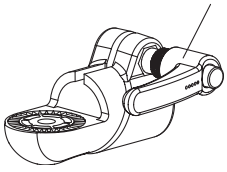
The resistance values shown in the table were measured during laboratory tests at ambient temperature with the screws tightened to the maximum torque "C#".

ACCESSORIES ON REQUEST (TO BE ORDERED SEPARATELY)

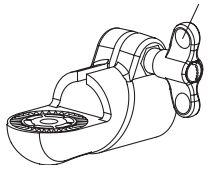
- TCC-A (see page 32): reduction sleeves.
- TCC-KS (see page 34): clamping kit.
- GN 197: monitor mounts.
- TCC-KV (see page 35): screws and clamping nuts.
- GN 990: connecting tubes.

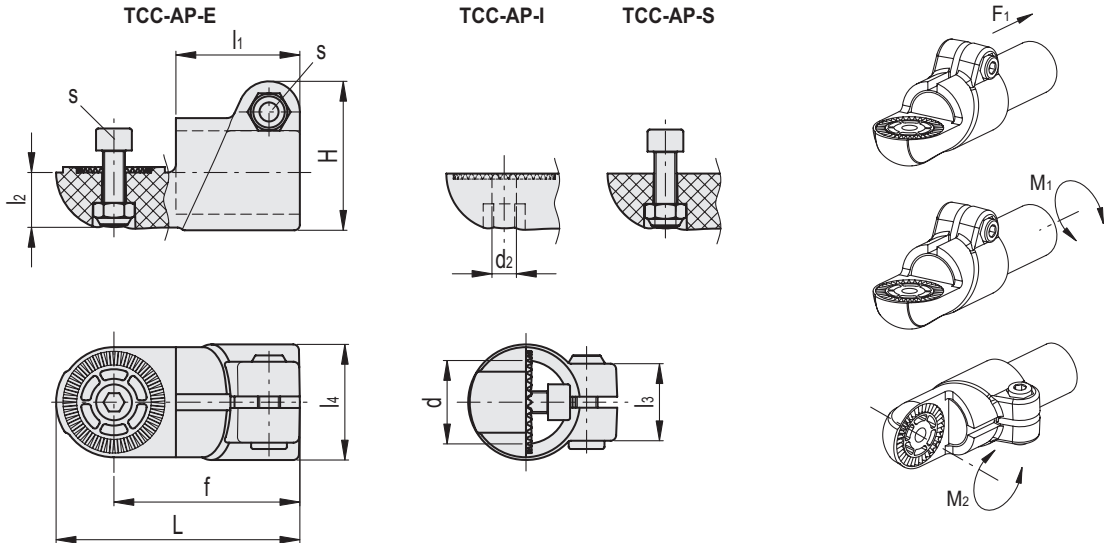
ELESA Original design

TCC-KS-ERX



TCC-KS-EWN





TCC-AP-E

Code	Description	d	L	H	f	l1	l2	l3	l4	s	C# [Nm]	F1* [N]	M1** [Nm]	M2*** [Nm]	⚖
600401-C9	TCC-AP-30-E-C9	30	88	54	67	45	16.5	27	42	M8	12	3300	33	140	80
600401-C33	TCC-AP-30-E-C33	30	88	54	67	45	16.5	27	42	M8	12	3300	33	140	80

TCC-AP-I

Code	Description	d	L	H	d2	f	l1	l2	l3	l4	s	C# [Nm]	F1* [N]	M1** [Nm]	M2*** [Nm]	⚖
600403-C9	TCC-AP-30-I-C9	30	88	54	8,1	67	45	16.5	27	42	M8	12	3300	33	140	79
600403-C33	TCC-AP-30-I-C33	30	88	54	8,1	67	45	16.5	27	42	M8	12	3300	33	140	79

TCC-AP-S

Code	Description	d	L	H	f	l1	l2	l3	l4	s	C# [Nm]	F1* [N]	M1** [Nm]	M2*** [Nm]	⚖
600405-C9	TCC-AP-30-S-C9	30	88	54	67	45	16.5	27	42	M8	12	3300	33	6	79
600405-C33	TCC-AP-30-S-C33	30	88	54	67	45	16.5	27	42	M8	12	3300	33	6	79

Suggested torque for screw assembly.
* Resistance to tube pull out
** Resistance to tube rotation
*** Resistance to joint rotation.

TCC-TP | Clamps for hinged joints

Technopolymer

INOX STAINLESS STEEL · RoHS · PA · +100° -20°

CLAMP

Glass-fibre reinforced polyamide based (PA) technopolymer, RAL 9005 (C9) black colour or grey RAL 7040 (C33) colour, matte finish.

SCREWS AND NUTS

Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment.
Self-locking nuts in AISI 304 stainless steel.
Supplied: two screws and two nuts for versions TCC-TP-E and TCC-TP-S, one screw and one nut for version TCC-TP-I

STANDARD EXECUTIONS

- **TCC-TP-E**: external teeth.
- **TCC-TP-I**: internal teeth.
- **TCC-TP-S**: without teeth.

FEATURES

Two clamps, one with external teeth and one with internal teeth or two without teeth, can be joined to create a hinged joint.
Joints comprising clamps with external/internal teeth (36 teeth) have a 10° adjustment angle.
Joints comprising clamps without teeth can be positioned at any angle.
Clamps for tubes with a diameter of 30 ± 0.2 mm.
For smaller diameter tubes, the hole reduction sleeve can be used TCC-A (to be ordered separately).
The "s" grub screws may be replaced by the kit TCC-KS.

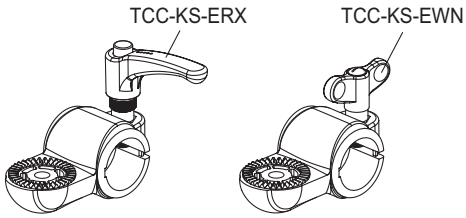
TECHNICAL DATA

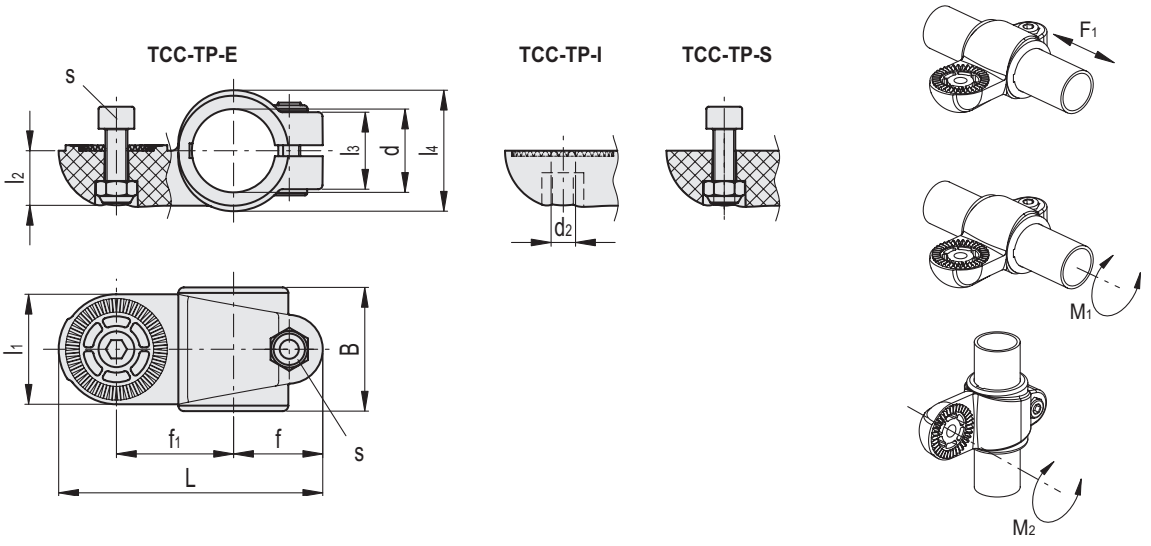
The resistance values shown in the table were measured during laboratory tests at ambient temperature with the screws tightened to the maximum torque "C#".

ACCESSORIES ON REQUEST (TO BE ORDERED SEPARATELY)

- TCC-A (see page 32): reduction sleeves.
- TCC-KS (see page 34): clamping kit.
- GN 197: monitor mounts.
- TCC-KV (see page 35): screws and clamping nuts.
- GN 990: connecting tubes.

ELESA Original design





C9 RAL9005 C33 RAL7040

TCC-TP-E

Code	Description	d	L	B	f	f1	l1	l2	l3	l4	s	C# [Nm]	F1* [N]	M1** [Nm]	M2*** [Nm]	⚖
600411-C9	TCC-TP-30-E-C9	30	95	44.5	32.5	42	40	16.5	27	44	M8	12	3000	33	120	83
600411-C33	TCC-TP-30-E-C33	30	95	44.5	32.5	42	40	16.5	27	44	M8	12	3000	33	120	83

TCC-TP-I

Code	Description	d	L	B	d2	f	f1	l1	l2	l3	l4	s	C# [Nm]	F1* [N]	M1** [Nm]	M2*** [Nm]	⚖
600413-C9	TCC-TP-30-I-C9	30	95	44.5	8,1	32.5	42	40	16.5	27	44	M8	12	3000	33	120	82
600413-C33	TCC-TP-30-I-C33	30	95	44.5	8,1	32.5	42	40	16.5	27	44	M8	12	3000	33	120	82

TCC-TP-S

Code	Description	d	L	B	f	f1	l1	l2	l3	l4	s	C# [Nm]	F1* [N]	M1** [Nm]	M2*** [Nm]	⚖
600415-C9	TCC-TP-30-S-C9	30	95	44.5	32.5	42	40	16.5	27	44	M8	12	3000	33	4	82
600415-C33	TCC-TP-30-S-C33	30	95	44.5	32.5	42	40	16.5	27	44	M8	12	3000	33	4	82

Suggested torque for screw assembly.
* Resistance to tube pull out
** Resistance to tube rotation
*** Resistance to joint rotation.

TCC-AP-PBF | Hinged joint with mounting base and clamp

Technopolymer

INOX STAINLESS STEEL | RoHS | PA | +100° -20°

CLAMP AND BASE
Glass-fibre reinforced polyamide based (PA) technopolymer, RAL 9005 (C9) black colour or grey RAL 7040 (C33) colour, matte finish.

SCREWS AND NUTS *(SUPPLIED)*
Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment.
Self-locking nuts in AISI 304 stainless steel.

STANDARD EXECUTIONS
- **TCC-AP-PBF-T**: with teeth.
- **TCC-AP-PBF-S**: without teeth.

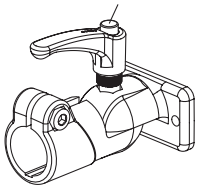
FEATURES
Joints comprising bases with external teeth and clamps with internal teeth (36 teeth) have a 10° adjustment angle.
Joints comprising bases and clamps without teeth can be positioned at any angle.
Clamps for tubes with a diameter of 30 ± 0.2 mm.
For smaller diameter tubes, the hole reduction sleeve can be used TCC-A (to be ordered separately).
The "s" grub screws may be replaced by the kit TCC-KS.

TECHNICAL DATA
The resistance values shown in the table were measured during laboratory tests at ambient temperature with the screws tightened to the maximum torque "C#".

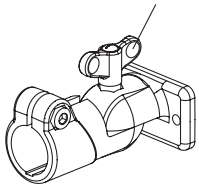
ACCESSORIES ON REQUEST (TO BE ORDERED SEPARATELY)
- TCC-A (see page 32): reduction sleeves.
- TCC-KS (see page 34): clamping kit.
- GN 197: monitor mounts.
- TCC-KV (see page 35): screws and clamping nuts.
- GN 990: connecting tubes.

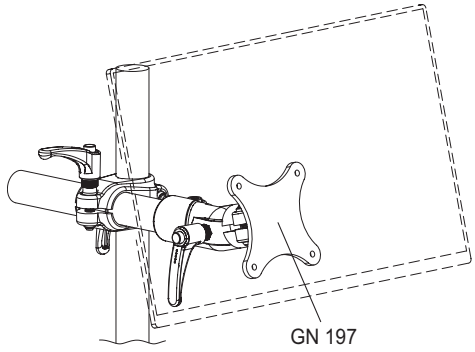
ELESA Original design

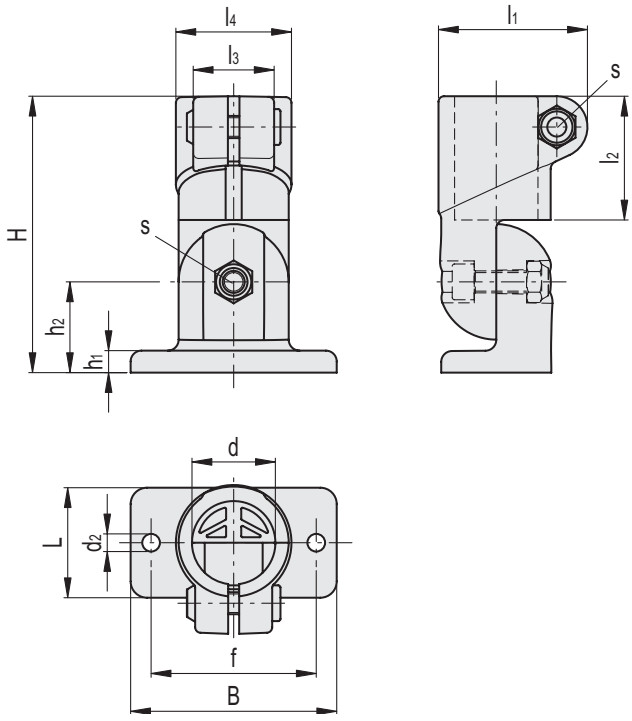
TCC-KS-ERX

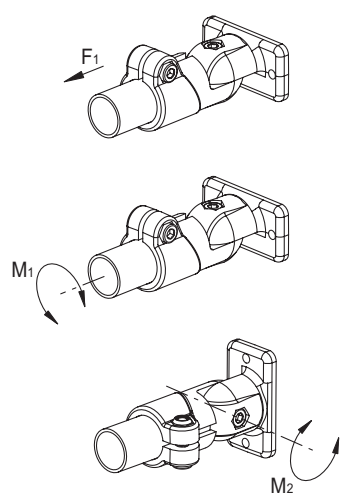


TCC-KS-EWN









C9 RAL9005 C33 RAL7040

TCC-AP-PBF-T

Code	Description	d	L	B	H	d2	f ±0.2	h1	h2	l1	l2	l3	l4	s	C# [Nm]	F1* [N]	M1** [Nm]	M2*** [Nm]	⚖
600831-C9	TCC-AP-PBF-30-T-C9	30	40	75	100	6.5	60	8	33	54	45	27	42	M8	12	3300	33	100	142
600831-C33	TCC-AP-PBF-30-T-C33	30	40	75	100	6.5	60	8	33	54	45	27	42	M8	12	3300	33	100	142

TCC-AP-PBF-S

Code	Description	d	L	B	H	d2	f ±0.2	h1	h2	l1	l2	l3	l4	s	C# [Nm]	F1* [N]	M1** [Nm]	M2*** [Nm]	⚖
600832-C9	TCC-AP-PBF-30-S-C9	30	40	75	100	6.5	60	8	33	54	45	27	42	M8	12	3300	33	6	142
600832-C33	TCC-AP-PBF-30-S-C33	30	40	75	100	6.5	60	8	33	54	45	27	42	M8	12	3300	33	6	142

Suggested torque for screw assembly.
* Resistance to tube pull out
** Resistance to tube rotation
*** Resistance to joint rotation.

TCC-TP-PBF | Hinged joint with mounting base and clamp

Technopolymer

CLAMP AND BASE
Glass-fibre reinforced polyamide based (PA) technopolymer, RAL 9005 (C9) black colour or grey RAL 7040 (C33) colour, matte finish.

SCREWS AND NUTS *(SUPPLIED)*
Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment.
Self-locking nuts in AISI 304 stainless steel.

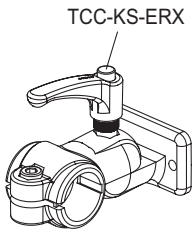
STANDARD EXECUTIONS
- **TCC-TP-PBF-T**: with teeth.
- **TCC-TP-PBF-S**: without teeth.

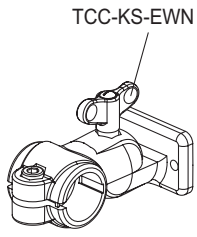
FEATURES
Joints comprising bases with external teeth and clamps with internal teeth (36 teeth) have a 10° adjustment angle.
Joints comprising bases and clamps without teeth can be positioned at any angle.
Clamps for tubes with a diameter of 30 ± 0.2 mm.
For smaller diameter tubes, the hole reduction sleeve can be used TCC-A (to be ordered separately).
The "s" grub screws may be replaced by the kit TCC-KS.

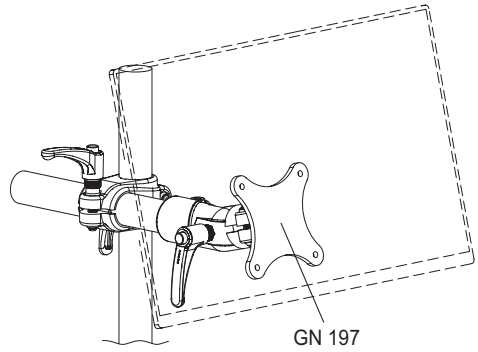
TECHNICAL DATA
The resistance values shown in the table were measured during laboratory tests at ambient temperature with the screws tightened to the maximum torque "C#".

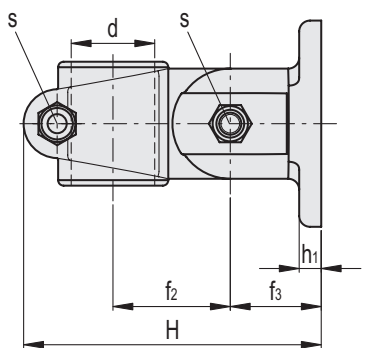
ACCESSORIES ON REQUEST (TO BE ORDERED SEPARATELY)
- TCC-A (see page 32): reduction sleeves.
- TCC-KS (see page 34): clamping kit.
- GN 197: monitor mounts.
- TCC-KV (see page 35): screws and clamping nuts.
- GN 990: connecting tubes.

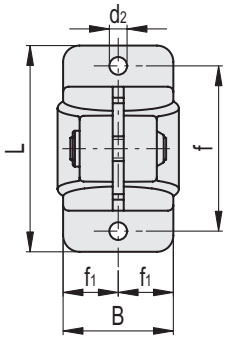
ELESA Original design

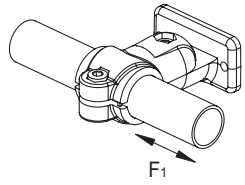


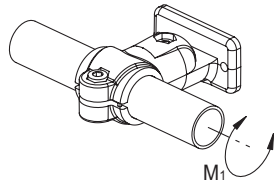


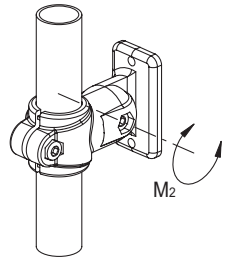












C9 RAL9005 C33 RAL7040

TCC-TP-PBF-T

INOX STAINLESS STEEL

Code	Description	d	L	B	H	d2	f ±0.2	f1	f2	f3	h1	s	C# [Nm]	F1* [N]	M1** [Nm]	M2*** [Nm]	⚖
600851-C9	TCC-TP-PBF-30-T-C9	30	75	40	108	6.5	60	20	42	33	8	M8	12	3000	33	100	145
600851-C33	TCC-TP-PBF-30-T-C33	30	75	40	108	6.5	60	20	42	33	8	M8	12	3000	33	100	145

TCC-TP-PBF-S

INOX STAINLESS STEEL

Code	Description	d	L	B	H	d2	f ±0.2	f1	f2	f3	h1	s	C# [Nm]	F1* [N]	M1** [Nm]	M2*** [Nm]	⚖
600852-C9	TCC-TP-PBF-30-S-C9	30	75	40	108	6.5	60	20	42	33	8	M8	12	3000	33	4	145
600852-C33	TCC-TP-PBF-30-S-C33	30	75	40	108	6.5	60	20	42	33	8	M8	12	3000	33	4	145

Suggested torque for screw assembly.
* Resistance to tube pull out
** Resistance to tube rotation
*** Resistance to joint rotation.

TCC-AP-PB | Hinged joint with mounting base and clamp

Technopolymer

CLAMP AND BASE
Glass-fibre reinforced polyamide based (PA) technopolymer, RAL 9005 (C9) black colour or grey RAL 7040 (C33) colour, matte finish.

SCREWS AND NUTS *(SUPPLIED)*
Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment.
Self-locking nuts in AISI 304 stainless steel.

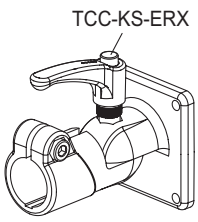
STANDARD EXECUTIONS
- **TCC-AP-PB-T**: with teeth.
- **TCC-AP-PB-S**: without teeth.

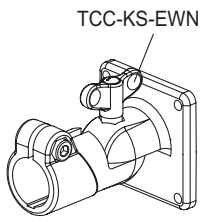
FEATURES
Joints comprising bases with external teeth and clamps with internal teeth (36 teeth) have a 10° adjustment angle.
Joints comprising bases and clamps without teeth can be positioned at any angle.
Clamps for tubes with a diameter of 30 ± 0.2 mm.
For smaller diameter tubes, the hole reduction sleeve can be used TCC-A (to be ordered separately).
The "s" grub screws may be replaced by the kit TCC-KS.

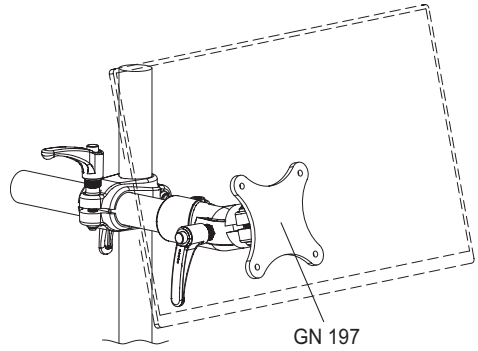
TECHNICAL DATA
The resistance values shown in the table were measured during laboratory tests at ambient temperature with the screws tightened to the maximum torque "C#".

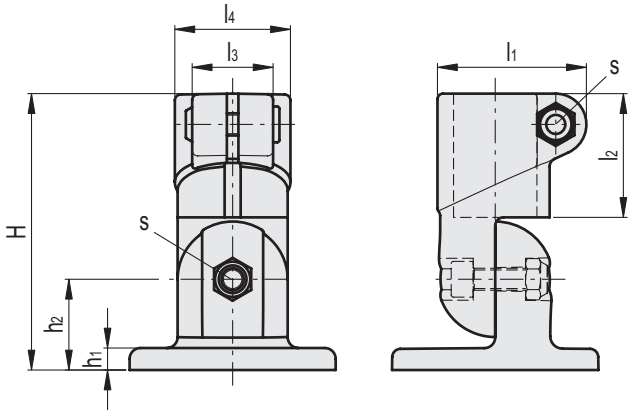
ACCESSORIES ON REQUEST (TO BE ORDERED SEPARATELY)
- TCC-A (see page 32): reduction sleeves.
- TCC-KS (see page 34): clamping kit.
- GN 197: monitor mounts.
- TCC-KV (see page 35): screws and clamping nuts.
- GN 990: connecting tubes.

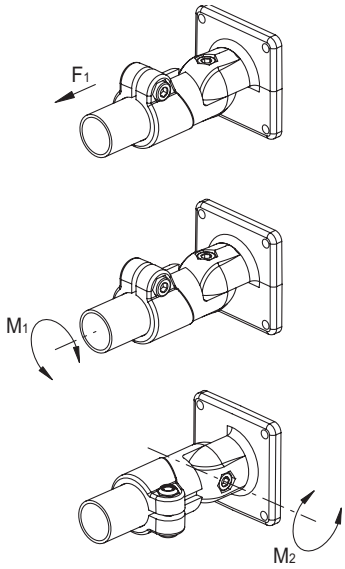
ELESA Original design











C9 RAL9005 C33 RAL7040

TCC-AP-PB-T

Code	Description	d	L	H	d2	f ±0.2	h1	h2	l1	l2	l3	l4	s	C# [Nm]	F1* [N]	M1** [Nm]	M2*** [Nm]	⚖
600821-C9	TCC-AP-PB-30-T-C9	30	75	100	6.5	60	8	33	54	45	27	42	M8	12	3300	33	100	157
600821-C33	TCC-AP-PB-30-T-C33	30	75	100	6.5	60	8	33	54	45	27	42	M8	12	3300	33	100	157

TCC-AP-PB-S

Code	Description	d	L	H	d2	f ±0.2	h1	h2	l1	l2	l3	l4	s	C# [Nm]	F1* [N]	M1** [Nm]	M2*** [Nm]	⚖
600822-C9	TCC-AP-PB-30-S-C9	30	75	100	6.5	60	8	33	54	45	27	42	M8	12	3300	33	6	157
600822-C33	TCC-AP-PB-30-S-C33	30	75	100	6.5	60	8	33	54	45	27	42	M8	12	3300	33	6	157

Suggested torque for screw assembly.
* Resistance to tube pull out
** Resistance to tube rotation
*** Resistance to joint rotation.

TCC-TP-PB | Hinged joint with mounting base and clamp

Technopolymer

CLAMP AND BASE
Glass-fibre reinforced polyamide based (PA) technopolymer, RAL 9005 (C9) black colour or grey RAL 7040 (C33) colour, matte finish.

SCREWS AND NUTS *(SUPPLIED)*
Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment.
Self-locking nuts in AISI 304 stainless steel.

STANDARD EXECUTIONS
- **TCC-TP-PB-T**: with teeth.
- **TCC-TP-PB-S**: without teeth.

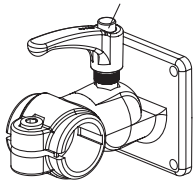
FEATURES
Joints comprising bases with external teeth and clamps with internal teeth (36 teeth) have a 10° adjustment angle.
Joints comprising bases and clamps without teeth can be positioned at any angle.
Clamps for tubes with a diameter of 30 ± 0.2 mm.
For smaller diameter tubes, the hole reduction sleeve can be used TCC-A (to be ordered separately).
The "s" grub screws may be replaced by the kit TCC-KS.

TECHNICAL DATA
The resistance values shown in the table were measured during laboratory tests at ambient temperature with the screws tightened to the maximum torque "C#".

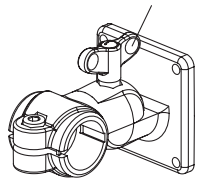
ACCESSORIES ON REQUEST (TO BE ORDERED SEPARATELY)
- TCC-A (see page 32): reduction sleeves.
- TCC-KS (see page 34): clamping kit.
- GN 197: monitor mounts.
- TCC-KV (see page 35): screws and clamping nuts.
- GN 990: connecting tubes.

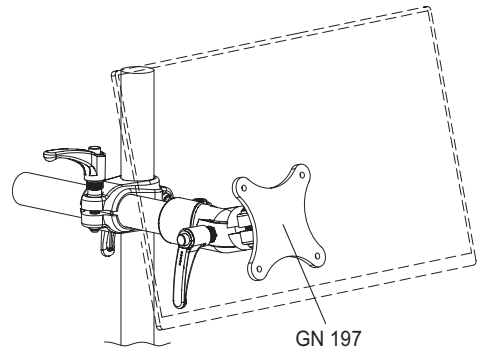
ELESA Original design

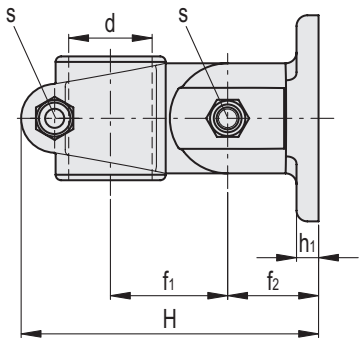
TCC-KS-ERX

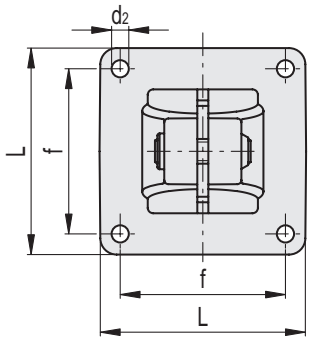


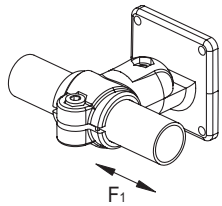
TCC-KS-EWN

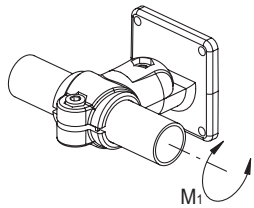


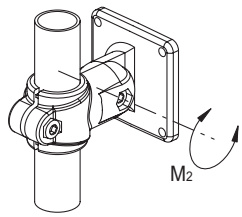












C9 RAL9005 C33 RAL7040

TCC-TP-PB-T

INOX STAINLESS STEEL

Code	Description	d	L	H	d2	f ±0.2	f1	f2	h1	s	C# [Nm]	F1* [N]	M1** [Nm]	M2*** [Nm]	⚖
600841-C9	TCC-TP-PB-30-T-C9	30	75	108	65	60	42	33	8	M8	12	3000	33	100	160
600841-C33	TCC-TP-PB-30-T-C33	30	75	108	65	60	42	33	8	M8	12	3000	33	100	160

TCC-TP-PB-S

INOX STAINLESS STEEL

Code	Description	d	L	H	d2	f ±0.2	f1	f2	h1	s	C# [Nm]	F1* [N]	M1** [Nm]	M2*** [Nm]	⚖
600842-C9	TCC-TP-PB-30-S-C9	30	75	108	65	60	42	33	8	M8	12	3000	33	4	160
600842-C33	TCC-TP-PB-30-S-C33	30	75	108	65	60	42	33	8	M8	12	3000	33	4	160

Suggested torque for screw assembly.
* Resistance to tube pull out
** Resistance to tube rotation
*** Resistance to joint rotation.

TCC-AP-AP | Hinged joints with clamps

Technopolymer

CLAMPS
Glass-fibre reinforced polyamide based (PA) technopolymer, RAL 9005 (C9) black colour or grey RAL 7040 (C33) colour, matte finish.

SCREWS AND NUTS *(SUPPLIED)*
Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment.
Self-locking nuts in AISI 304 stainless steel.

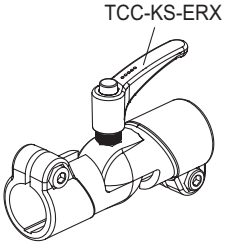
STANDARD EXECUTIONS
- **TCC-AP-AP-T**: with teeth.
- **TCC-AP-AP-S**: without teeth.

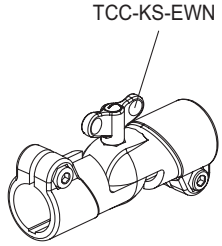
FEATURES
Joints comprising clamps with external/internal teeth (36 teeth) have a 10° adjustment angle.
Joints comprising clamps without teeth can be positioned at any angle.
Clamps for tubes with a diameter of 30 ± 0.2 mm.
For smaller diameter tubes, the hole reduction sleeve can be used TCC-A (to be ordered separately).
The "s" grub screws may be replaced by the kit TCC-KS.

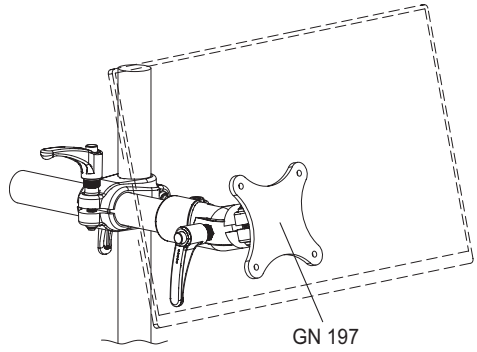
TECHNICAL DATA
The resistance values shown in the table were measured during laboratory tests at ambient temperature with the screws tightened to the maximum torque "C#".

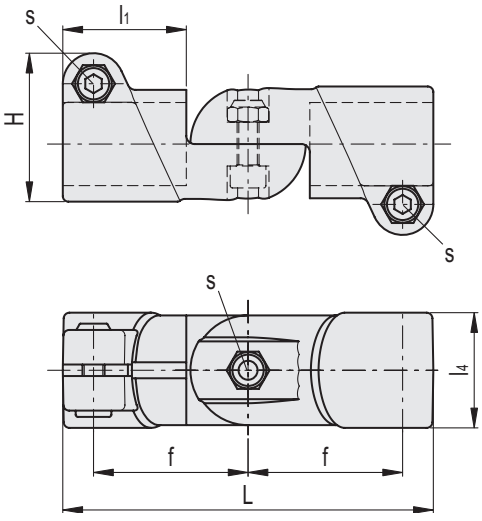
ACCESSORIES ON REQUEST (TO BE ORDERED SEPARATELY)
- TCC-A (see page 32): reduction sleeves.
- TCC-KS (see page 34): clamping kit.
- GN 197: monitor mounts.
- TCC-KV (see page 35): screws and clamping nuts.
- GN 990: connecting tubes.

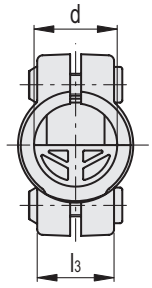
ELESA Original design

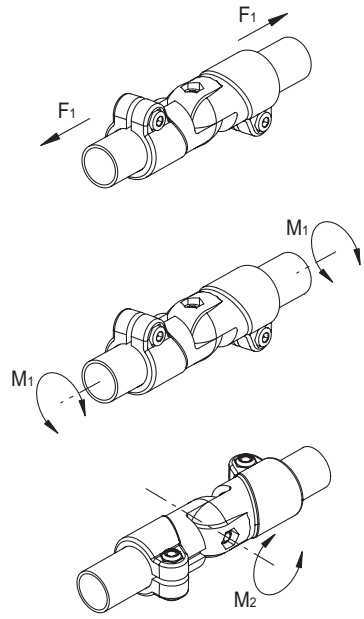












C9 RAL9005 C33 RAL7040

TCC-AP-AP-T

Code	Description	d	L	H	f	l1	l3	l4	s	C# [Nm]	F1* [N]	M1** [Nm]	M2*** [Nm]	⚖
600801-C9	TCC-AP-AP-30-T-C9	30	135	54	56	45	27	42	M8	12	3300	33	140	178
600801-C33	TCC-AP-AP-30-T-C33	30	135	54	56	45	27	42	M8	12	3300	33	140	178

TCC-AP-AP-S

Code	Description	d	L	H	f	l1	l3	l4	s	C# [Nm]	F1* [N]	M1** [Nm]	M2*** [Nm]	⚖
600802-C9	TCC-AP-AP-30-S-C9	30	135	54	56	45	27	42	M8	12	3300	33	6	178
600802-C33	TCC-AP-AP-30-S-C33	30	135	54	56	45	27	42	M8	12	3300	33	6	178

Suggested torque for screw assembly.
* Resistance to tube pull out
** Resistance to tube rotation
*** Resistance to joint rotation.

TCC-AP-TP | Hinged joints with clamps

Technopolymer

CLAMPS
Glass-fibre reinforced polyamide based (PA) technopolymer, RAL 9005 (C9) black colour or grey RAL 7040 (C33) colour, matte finish.

SCREWS AND NUTS *(SUPPLIED)*
Cylindrical-head screw with hexagon socket in AISI 304 stainless steel with anti-seizure treatment.
Self-locking nuts in AISI 304 stainless steel.

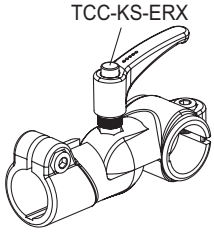
STANDARD EXECUTIONS
- **TCC-AP-TP-T**: with teeth.
- **TCC-AP-TP-S**: without teeth.

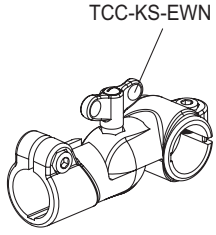
FEATURES
Joints comprising clamps with external/internal teeth (36 teeth) have a 10° adjustment angle.
Joints comprising clamps without teeth can be positioned at any angle.
Clamps for tubes with a diameter of 30 ± 0.2 mm.
For smaller diameter tubes, the hole reduction sleeve can be used TCC-A (to be ordered separately).
The "s" grub screws may be replaced by the kit TCC-KS.

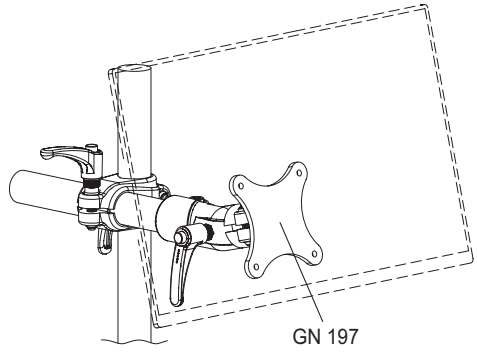
TECHNICAL DATA
The resistance values shown in the table were measured during laboratory tests at ambient temperature with the screws tightened to the maximum torque "C#".

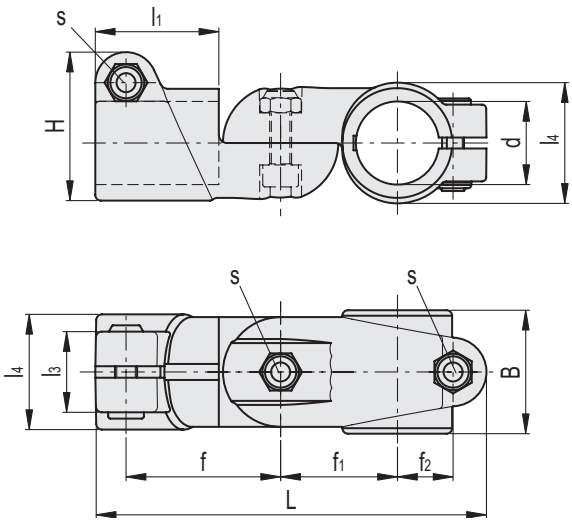
ACCESSORIES ON REQUEST (TO BE ORDERED SEPARATELY)
- TCC-A (see page 32): reduction sleeves.
- TCC-KS (see page 34): clamping kit.
- GN 197: monitor mounts.
- TCC-KV (see page 35): screws and clamping nuts.
- GN 990: connecting tubes.

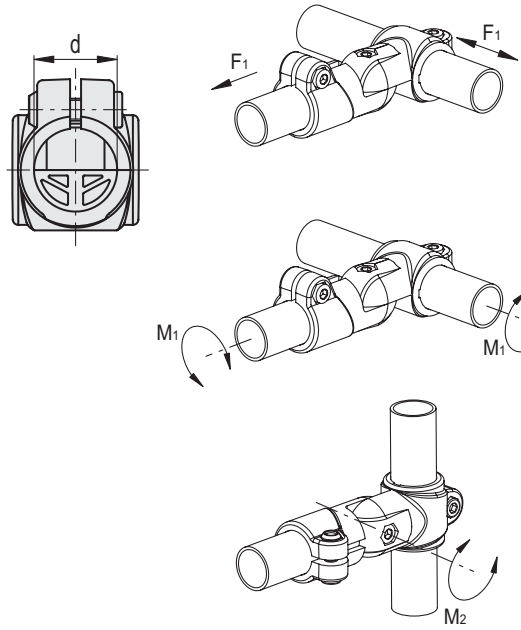
ELESA Original design











C9 RAL9005 C33 RAL7040

TCC-AP-TP-T

Code	Description	d	L	B	H	f	f1	f2	l1	l3	l4	s	C# [Nm]	F1* [N]	M1** [Nm]	M2*** [Nm]	⚖
600811-C9	TCC-AP-TP-30-T-C9	30	142	44.5	54	56	42	20.5	45	27	44	M8	12	3000	33	120	181
600811-C33	TCC-AP-TP-30-T-C33	30	142	44.5	54	56	42	20.5	45	27	44	M8	12	3000	33	120	181

TCC-AP-TP-S

Code	Description	d	L	B	H	f	f1	f2	l1	l3	l4	s	C# [Nm]	F1* [N]	M1** [Nm]	M2*** [Nm]	⚖
600812-C9	TCC-AP-TP-30-S-C9	30	142	44.5	54	56	42	20.5	45	27	44	M8	12	3000	33	4	181
600812-C33	TCC-AP-TP-30-S-C33	30	142	44.5	54	56	42	20.5	45	27	44	M8	12	3000	33	4	181

Suggested torque for screw assembly.
* Resistance to tube pull out
** Resistance to tube rotation
*** Resistance to joint rotation.

TCC-A | Hole reduction sleeve

for TCC clamps, technopolymer

RoHS PA +100° -20°

MATERIAL

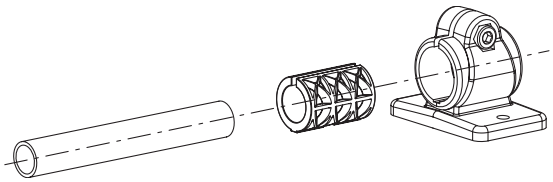
Glass-fibre reinforced polyamide based (PA) technopolymer, RAL 9005 (C9) black colour or grey RAL 7040 (C33) colour, matte finish.

FEATURES

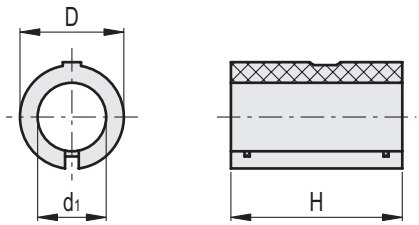
Hole reduction sleeve for tubes with diameter "d1" ± 0.2 mm.
The hole reduction sleeve fits into the housing hole of the TCC clamps so that smaller diameter tubes can be used.

TECHNICAL DATA

The resistance values shown in the table were measured during laboratory tests at ambient temperature with the screws tightened to the maximum torque of 5 Nm for TCC-A-18 and 12 Nm for TCC-A-30.



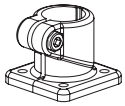
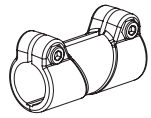
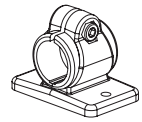
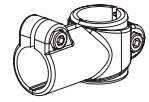
ELESA Original design

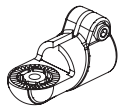
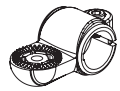
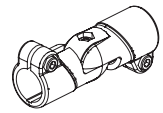
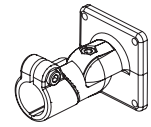


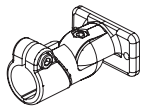
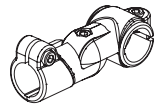
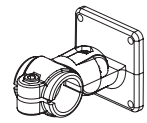
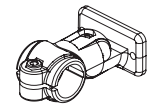
C9 RAL9005 C33 RAL7040

Code	Description	Code	Description	D	H	d1	⚖
600101-C9	TCC-A-18-12-C9	600101-C33	TCC-A-18-12-C33	18	29	12	5
600102-C9	TCC-A-18-14-C9	600102-C33	TCC-A-18-14-C33	18	29	14	4
600103-C9	TCC-A-18-15-C9	600103-C33	TCC-A-18-15-C33	18	29	15	4
600104-C9	TCC-A-18-16-C9	600104-C33	TCC-A-18-16-C33	18	29	16	3
600201-C9	TCC-A-30-20-C9	600201-C33	TCC-A-30-20-C33	30	45	20	15
600202-C9	TCC-A-30-25-C9	600202-C33	TCC-A-30-25-C33	30	45	25	10

Resistance to tube pull-out (F1) and rotation (M1) with the hole reduction sleeves inserted in the different types of clamps

	TCC-AB 		TCC-CR 		TCC-SL 		TCC-TB 		TCC-TS 	
	F1 [N]	M1 [Nm]	F1 [N]	M1 [Nm]	F1 [N]	M1 [Nm]	F1 [N]	M1 [Nm]	F1 [N]	M1 [Nm]
TCC-A-18-12	900	5	1250	5	900	5	900	5	900	5
TCC-A-18-14	1000	7	1650	10	1400	7	1050	8	1200	7
TCC-A-18-15	1000	7	1650	14	1400	10	1100	13	1200	11
TCC-A-18-16	1050	7	2000	14	1300	11	1200	14	1250	12
TCC-A-30-20	1000	8	1000	5	1000	6	1150	7	1000	6
TCC-A-30-25	1350	11	1300	7	1300	7	1600	7	1400	7

	TCC-AP 		TCC-TP 		TCC-AP-AP 		TCC-AP-PB 	
	F1 [N]	M1 [Nm]	F1 [N]	M1 [Nm]	F1 [N]	M1 [Nm]	F1 [N]	M1 [Nm]
TCC-A-30-20	1600	12	1600	12	1600	12	1600	12
TCC-A-30-25	2700	15	2700	15	2700	15	2700	15

	TCC-AP-PBF 		TCC-AP-TP 		TCC-TP-PB 		TCC-TP-PBF 	
	F1 [N]	M1 [Nm]	F1 [N]	M1 [Nm]	F1 [N]	M1 [Nm]	F1 [N]	M1 [Nm]
TCC-A-30-20	1600	12	1600	12	1600	12	1600	12
TCC-A-30-25	2700	15	2700	15	2700	15	2700	15

TCC-KS | Clamping kit for TCC

Technopolymer

INOX STAINLESS STEEL · RoHS · PA · +100° -20°

ADJUSTABLE HANDLE AND WING NUT
Glass-fibre reinforced polyamide based (PA) technopolymer, grey-black colour, matte finish.

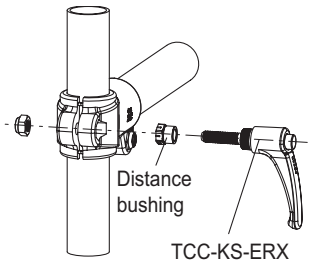
DISTANCE BUSHING
Glass-fibre reinforced polyamide based (PA) technopolymer, black colour, matte finish.

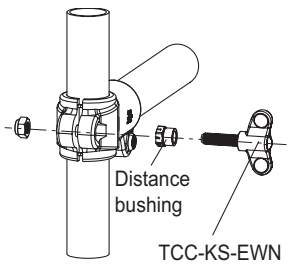
SELF-LOCKING NUT
AISI 304 stainless steel.

STANDARD EXECUTIONS
- **TCC-KS-ERX**: adjustable handle with AISI 303 stainless steel threaded stud, chamfered flat end UNI 947 : ISO 4753 (see Technical data on page A-11), with black push button.
- **TCC-KS-EWN**: wing nuts with AISI 303 stainless steel threaded stud, chamfered flat end UNI 947 : ISO 4753 (see Technical data on page A-11), with black cap.

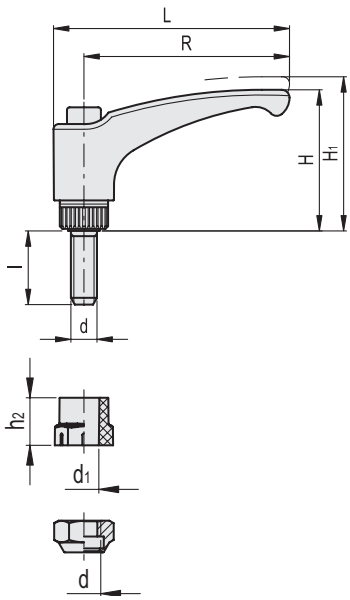
FEATURES AND APPLICATIONS
The clamping kit for TCC, comprising a distance bushing, an adjustable handle or a wing nut and nut, is used when clamping operations are required.

ELESA Original design

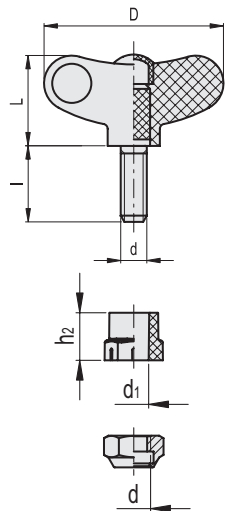




TCC-KS-ERX



TCC-KS-EWN



INOX STAINLESS STEEL

TCC-KS-ERX

Code	Description	d	R	L	H	H1	d1	h2	l	For TCC	⚖
600509-C1	TCC-KS-ERX.30-SST-p-M6x30-C1	M6	30	37.5	30	33.5	6,3	8	30	TCC-18	21
600519-C1	TCC-KS-ERX.44-SST-p-M6x30-C1	M6	44	52	32.5	36	6,3	8	30	TCC-18	23
600525-C1	TCC-KS-ERX.63-SST-p-M6x30-C1	M6	63	72.5	43	47	6,3	8	30	TCC-18	25
600541-C1	TCC-KS-ERX.63-SST-p-M8x40-C1	M8	63	72.5	43	47	8,3	12	40	TCC-30	47
600557-C1	TCC-KS-ERX.78-SST-p-M8x40-C1	M8	78	89.5	54	58	8,3	12	40	TCC-30	56

INOX STAINLESS STEEL

TCC-KS-EWN

Code	Description	d	D	L	d1	h2	l	For TCC	⚖
600607-C1	TCC-KS-EWN.48-SST-p-M6x30-C1	M6	47	24	6,3	8	30	TCC-18	18
600619-C1	TCC-KS-EWN.55-SST-p-M8x40-C1	M8	55	28	8,3	12	40	TCC-30	36

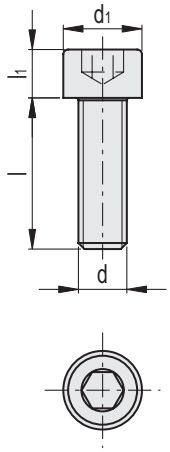
TCC-KV | Screws and nuts for TCC

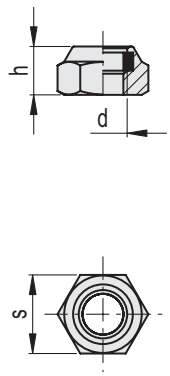
Stainless steel

MATERIAL
AISI 304 stainless steel.

STANDARD EXECUTION
Cylindrical-head screw with hexagon socket with anti-seizure treatment and self-locking nut.

ELESA Original design





Code	Description	d	d1	h	l	l1	s	⚖
600706	TCC-KV-M6	M6	10	6	18	6	10	8
600708	TCC-KV-M8	M8	13	8	25	8	13	19

ELESA. More and more...

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