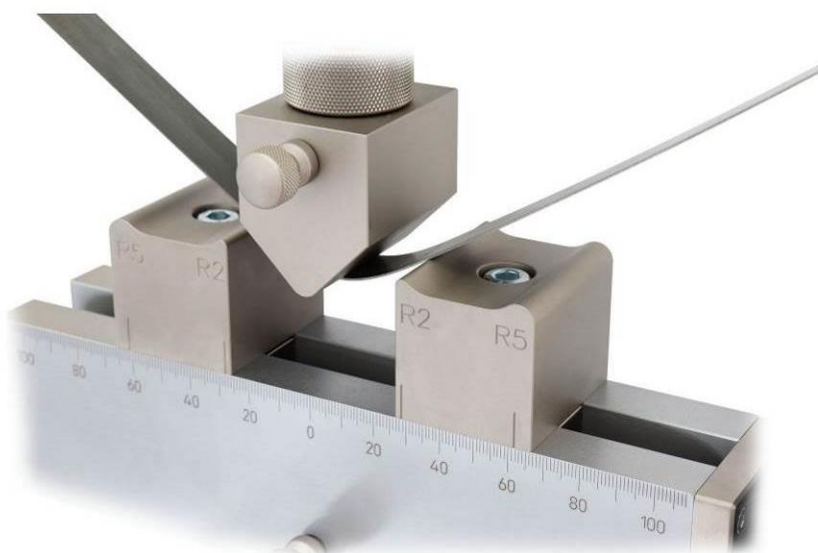


TH103 BEND TEST FIXTURE

Universal bend test fixture for measuring bending properties of various materials such as metals, plastics, wood, glass, etc.

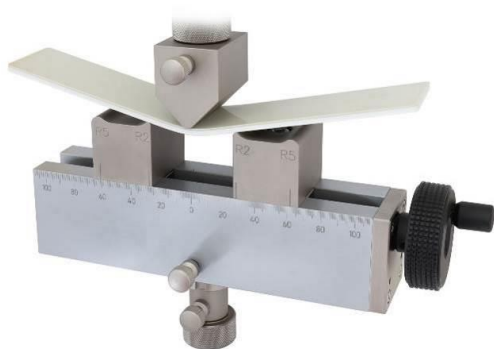


Max. load:	Max. 50 kN depending on coupling
Max. temperature range:	0 ... +70°C Further temperature ranges on request

Contents

Examples for combinations	2
Examples for TH103 according to test standards.....	3
Single parts.....	4
Bending bars	4
Adapters for TH103	6
Holder for extensometer	7
Guides.....	8
Lower and 3-point anvils.....	9
Examples for customized versions:	16

Examples for combinations



TH103-B220-AR2-5-oFR5-cgr-Af159

TH103-B220-ARa-b-oFRa-cgr-Afx

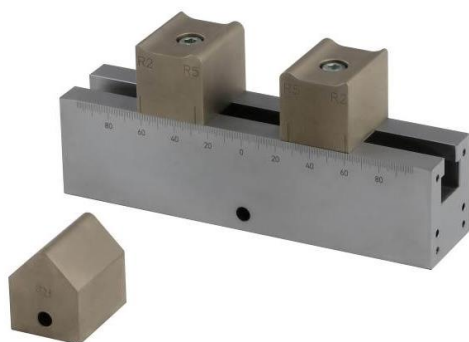
3-point bend test fixture

Bending bar, 220 mm, with a crank handle for centric gearing

ARa-b: 2 anvils with dual milled radii
a-b = 2-4, 2-5 or 3-5 mm

oFRa: 3-point anvil with milled radius
a = 2, 3 or 5 mm

Coupling Afx: Af159 or Af20



TH103-B220-AR2-5-oFR5-ok-Af159

TH103-B220-ARa-b-oFRa-ok-Afx

3-point bend test fixture

Bending bar, 220 mm

ARa-b: 2 anvils with dual milled radii
a-b = 2-4, 2-5 or 3-5 mm

oFRa: 3-point anvil with milled radius
a = 2, 3 or 5 mm

Coupling Afx: Af159 or Af20



TH103-4P-B220-AR2-5-oCR5-cgr-Af159

TH103-4P-B220-ARa-b-oCRa-cgr-Afx

4-point bend test fixture

Lower bar, 220 mm, with a crank handle for centric gearing

ARa-b: 2 anvils with dual milled radii
a-b = 2-4, 2-5 or 3-5 mm

Upper bar, 200 mm, including:
oCRa: 2 single anvils with milled radius
a = 1, 1.5, 2, 3, 3.2, 5 or 10 mm

Coupling Afx: Af159 or Af20



TH103-DF-CR5-Af159

TH103-DF-CRa-Afx

Additional upper bending bar, 200 mm, for 4-point

oCRa: 2 single anvils with dual milled radii
a = 1, 1.5, 2, 3, 3.2, 5 or 10 mm

Coupling Afx: Af159 or Af20

Examples for TH103 according to test standards



TH103-ASTM-D2344
See [Datasheet](#)



TH103-FV-VDA238-100
(VDA Standard 2010 + ISO7438 for smaller samples)
See [Datasheet](#)



TH103-B330-FTE-ASTM-D7774
See [Datasheet](#)



TH103-EN1170-4-5
See [Datasheet](#)



TH103-B220-CR3-5-oFR3-oFR12.5-ok-GDE-EN2563-EN2562



TH103-FV+oFR2,3,4,5-W70-Af6025-ASTM-A262-ISO3651-2



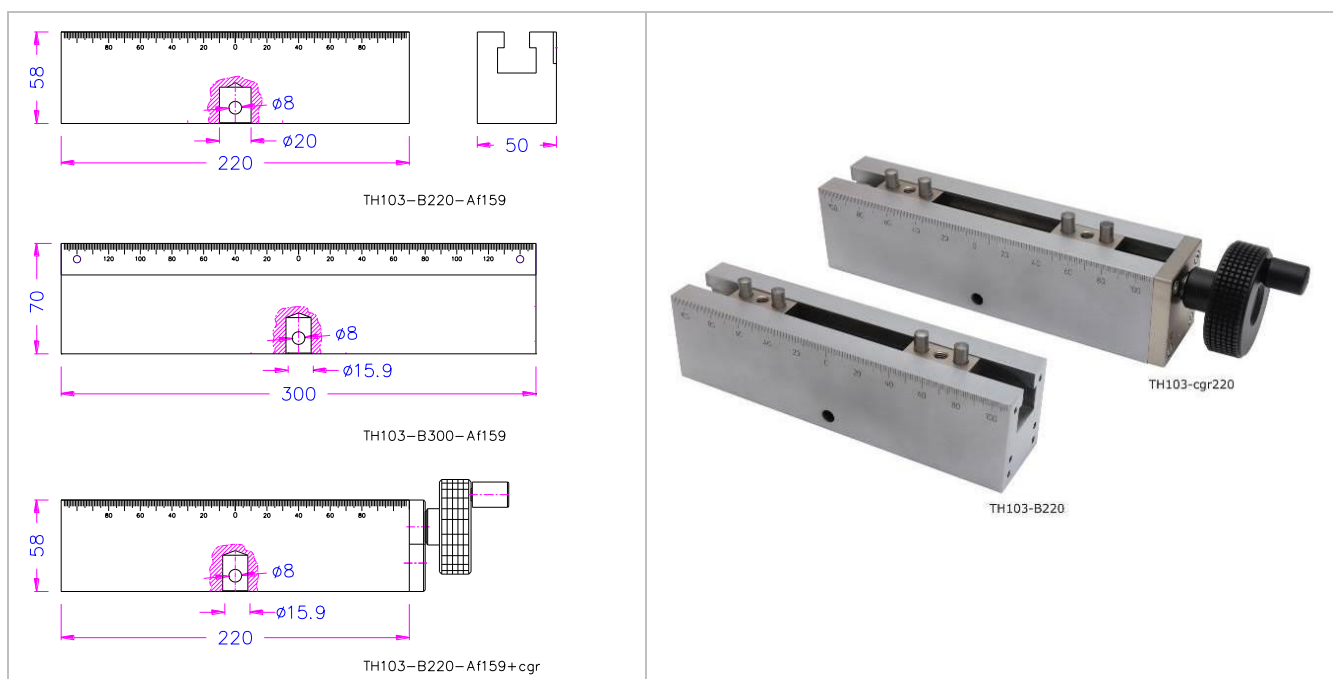
TH103-CL5-T120-Af20-ASTM-D6415

Single parts

Bending bars



Lower bending bars: for 3-point, 4-point and 5-point bend test fixtures



Length:	220 or 300 mm. Further bar lengths, e.g. 200 mm, 330 mm, on request.
Standard coupling:	Af159 and Af20. Further couplings with additional adapter, see page 6.
Bar material:	Steel
Scope of delivery:	1 bending bar, incl. TH103 slot nuts (TH103-04-li+re) + mounting pins

Item no.	Length [mm]	Coupling	Max. load [kN]	Height [mm]	Weight per 1 bar [kg]
TH103-B220-Af159	220	Af159	20	50	4
TH103-B220-Af20	220	Af20	20	50	3.9
TH103-B220-2xM8x60	220	2xM8x60	Max. 50*	50	4
TH103-B300-Af159	300	Af159	20	70	6.8
TH103-B300-Af20	300	Af20	20	70	6.7
TH103-B300-2xM8x60	300	2xM8x60	Max. 50*	70	6.8

*Max: 50 kN depending on adapter (see page 5)

Optional for TH103 bending bar: centering mechanism with a crank for easy movement of anvils.

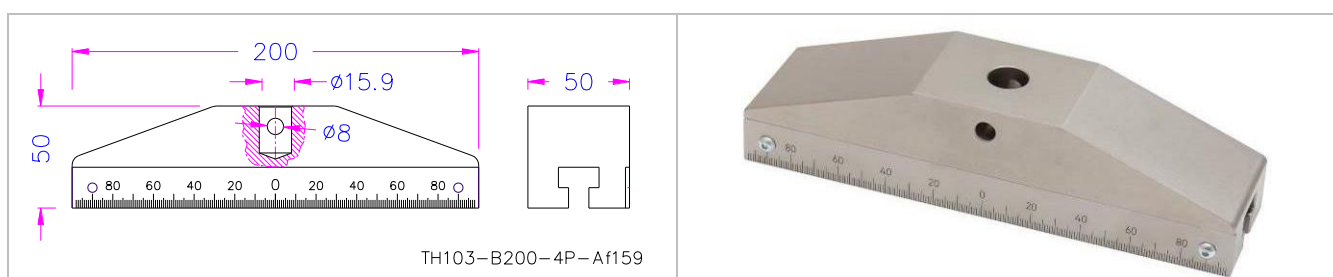
Scope of delivery: 1 centering crank set incl. cover plate.

Item no.	Crank	Weight [kg]
TH103-cgr220	For 220 mm bar	0.7
TH103-cgr300	For 300 mm bar	0.8

Upper bending bar

for 4-point and 5-point bend test fixtures

Length:	200 mm. Further lengths on request
Standard coupling:	Af159 and Af20. Further couplings with additional adapter, see page 5.
Bar material:	Steel, nickel-plated
Scope of delivery:	1 bending bar, incl. slot nuts + mounting pins (TH103-DF-02.1)

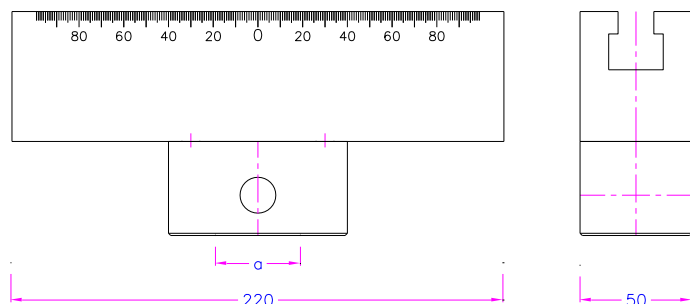


Item no.	Bar length [mm]	Coupling	Weight [kg]
TH103-B200-4P-Af159	200	Af159	2.7
TH103-B200-4P-Af20	200	Af20	2.6

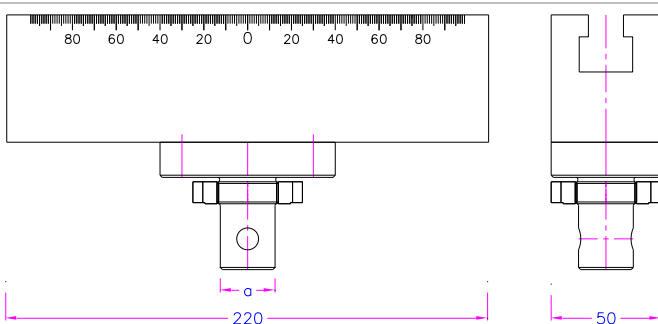
Adapters for TH103

Fixed adapters for lower bending bar

THS646-a-2xKm8x60-TH103



THS628-a-2xKm8x60-TH103



Material: steel, nickel-plated
Scope of delivery: 1 adapter

Item no.	Coupling	Max. load	Weight per adapter [kg]
THS646-191-2xKm8x60-TH103	Af191	20 kN	1.17
THS646-318-2xKm8x60-TH103	Af318	50 kN	0.98
THS628-317-2xKm8x60-TH103	Am317	50 kN	0.90

WDF swing adapter

Articulating fork adapter for upper bending bar

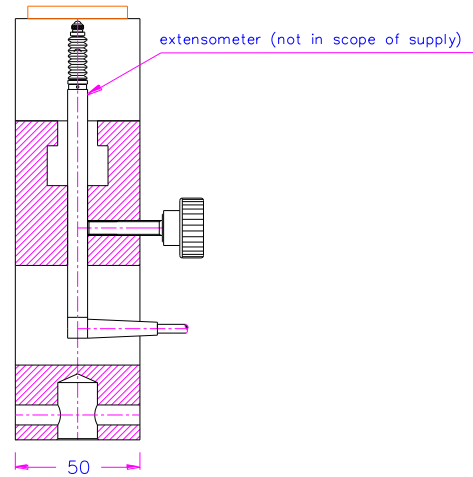
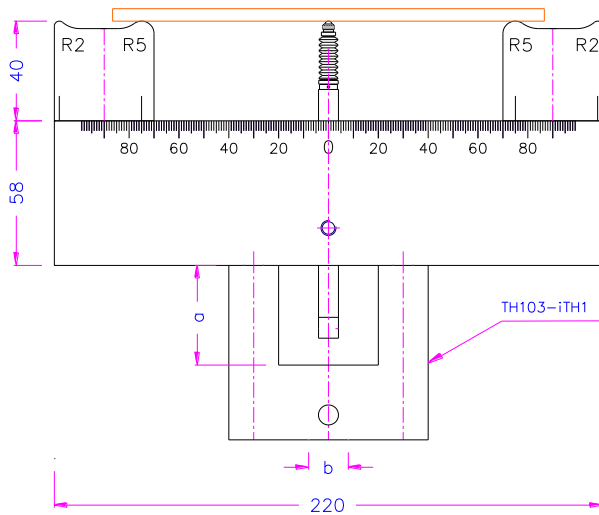
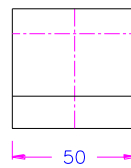
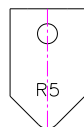


Item no.	Swivel angle	Coupling	Weight [kg]
TH103-WDF-Af159	±3°	Af159	0.25
TH103-WDF-Af20	±3°	Af20	0.25

Material: steel, nickel-plated
Scope of delivery: 1 adapter

Holder for extensometer

TH103-iTH1

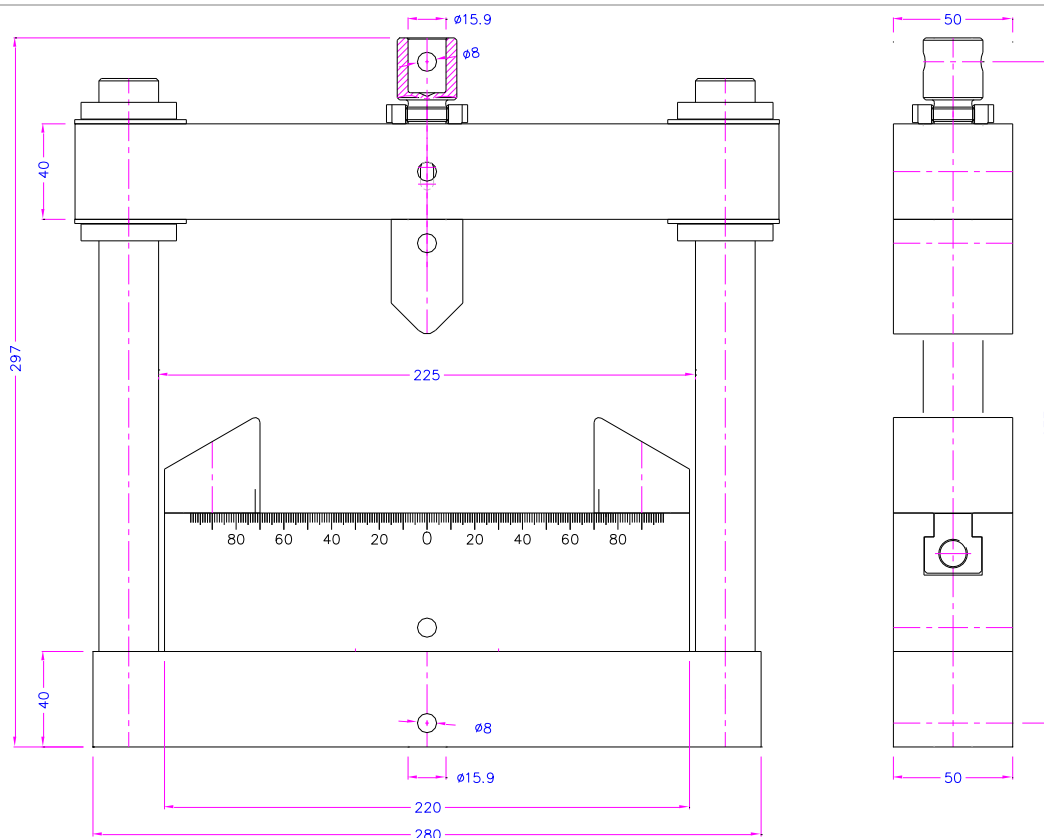


Item no.	Height [a]	Coupling [b]
TH103-iTH1-a-b	customized	customized

Material: steel, nickel-plated
 Scope of delivery: 1 holder

Guides

TH103-GDE-B220



Item no.	Coupling	Weight [kg]
TH103-GDE-B220-Af159	Af159	12
TH103-GDE-B220-Af20	Af20	12


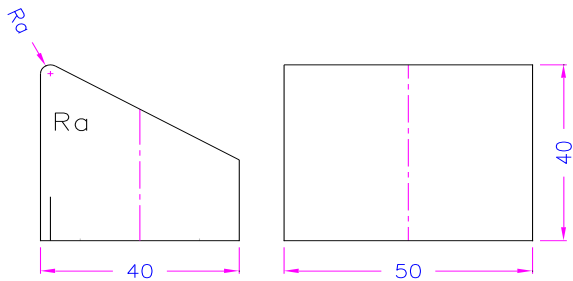
Material: steel, nickel-plated
 Scope of delivery: 1 guide set

Lower and 3-point anvils

Lower anvils

Anvils with milled radius

TH103-CRa


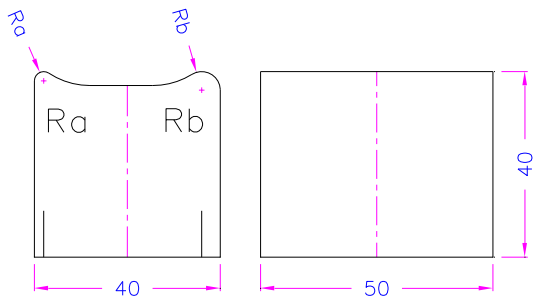
CR: Single anvil with milled radius

- For 3- and 4-point fixtures for lower and upper bending bars
- Support area: 50 mm long
- Height: 40 mm
- Material: steel, hardened, nickel-plated
- Scope of delivery: 1 pair

Item no.	Radius a [mm]	Weight per pair [kg]
TH103-CR1	1	0.83
TH103-CR1.5	1.5	0.84
TH103-CR2	2	0.86
TH103-CR3	3	0.88
TH103-CR3.2	3.2	0.89
TH103-CR5	5	0.92
TH103-CR10	10	1.20

Further radii on request

TH103-ARa-b


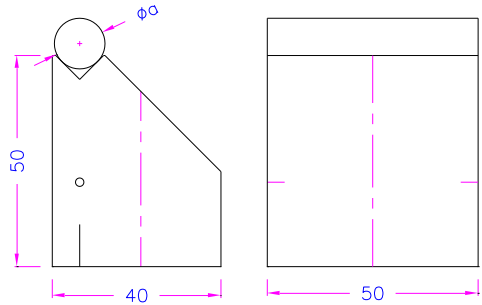
AR: Double anvils with milled radii


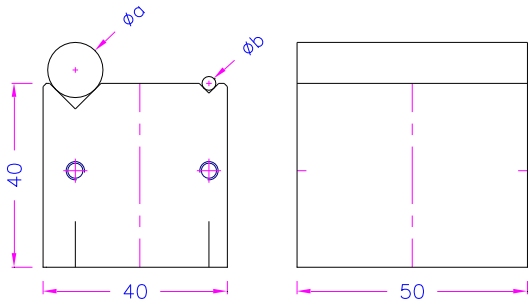
- For 3- and 4-point fixtures for lower bending bar
- Support area: 50 mm long
- Height: 40 mm
- Material: steel, hardened, nickel-plated
- Scope of delivery: 1 pair

Item no.	Radii a, b [mm]	Weight per pair [kg]
TH103-AR2-4	2 + 4	1.01
TH103-AR2-5	2 + 5	1.11
TH103-AR3-5	3 + 5	1.11

Further radii on request

Anvils for interchangeable rollers

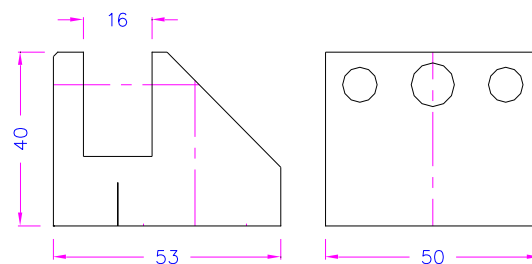
TH103-CXa			
			
<p>CX: Single anvil for interchangeable rollers</p> <ul style="list-style-type: none"> - For 3- and 4-point fixture for lower and upper bending bars - Support area for roller: 50 mm long - Height: 50 mm - Material: steel, nickel-plated - Scope of delivery: 1 pair 	Item no.	For rollers ϕ [mm]	Weight per pair [kg]
	TH103-CX1-2	1-2	0.94
	TH103-CX2-4	2-4	1.00
	TH103-CX4-8	4-8	1.10
	TH103-CX8-10	8-10	1.16
Further sizes on request			

TH103-AXa-b			
			
<p>AX: Double anvils for interchangeable rollers</p> <ul style="list-style-type: none"> - For 3- und 4-point fixtures for lower bending bar - Support area for roller: 50 mm long - Height: 40 mm - Material: steel, nickel-plated - Scope of delivery: 1 pair 	Item no.	For rollers ϕ [mm]	Weight per pair [kg]
	TH103-AX3-10	3-10	1.12
	Further sizes on request		

Articulating anvils

Carrier:

TH103-CWGT



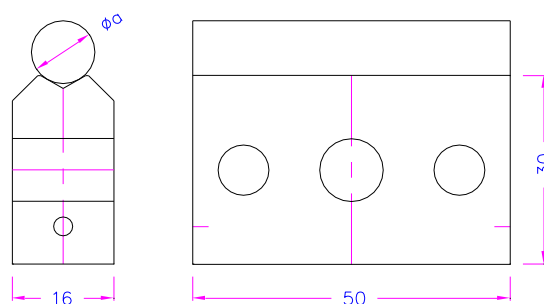
CWGT: Carrier

- For 3- and 4-point fixtures for lower and upper bending bars
- For EN and EX inserts
- Material: steel, nickel-plated
- Scope of delivery: 1 pair

Item no.	For inserts:	Weight per pair of carriers [kg]
TH103-CWGT	EN, EX	0.98

Inserts:

TH103-CWEXa



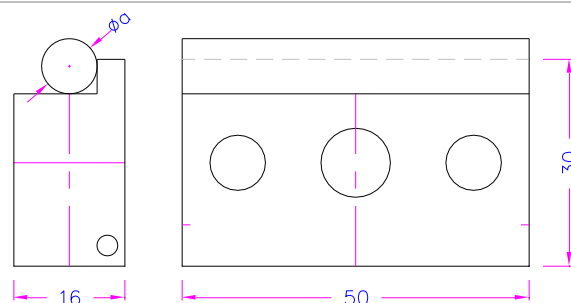
CWEXa: EX insert for CWGT carrier

- For 3- and 4-point fixtures
- Support area for roller: 50 mm long
- Height: 30 mm
- Material: steel, nickel-plated
- Scope of delivery: 1 pair

Item no.	For rollers ϕ [mm]	Weight per pair [kg]
TH103-CWEX4-10	4-10	0.35

Further sizes on request

TH103-CWENa




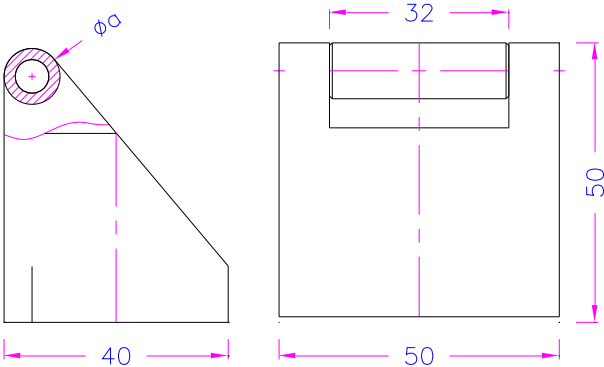
CWENa: EN insert for CWGT carrier


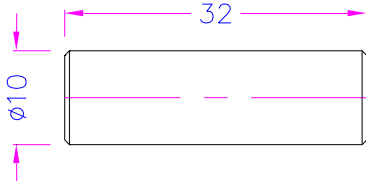
- For 3- and 4-point fixtures
- Support area for roller: 50 mm long
- Height: 30 mm
- Material: steel, nickel-plated
- Scope of delivery: 1 pair

Item no.	For rollers ϕ [mm]	Weight per pair [kg]
TH103-CWEN6-10	6-10	0.28

Further sizes on request

Anvil with rotating roller

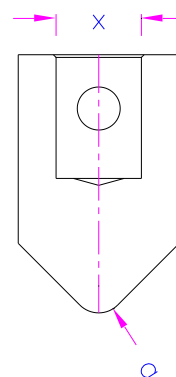
TH103-CLa									
									
<p>CL: Single anvil with rotating roller:</p> <ul style="list-style-type: none"> - For 3- and 4-point fixtures for lower and upper bending bars - Roller support area: 32 mm - Height: 50 mm - Material: steel, nickel-plated - Scope of delivery: 1 pair 		<table border="1"> <thead> <tr> <th>Item no.</th> <th>Roller ϕ [mm]</th> <th>Weight per pair [kg]</th> </tr> </thead> <tbody> <tr> <td>TH103-CL10</td> <td>10</td> <td>0.84</td> </tr> </tbody> </table>	Item no.	Roller ϕ [mm]	Weight per pair [kg]	TH103-CL10	10	0.84	<p>Further sizes on request</p>
Item no.	Roller ϕ [mm]	Weight per pair [kg]							
TH103-CL10	10	0.84							

TH103-CL-Daxb									
									
<p>Rotating roller for TH103-CL:</p> <ul style="list-style-type: none"> - Support area: 32 mm - Material: steel, hardened, nickel-plated - Scope of delivery: 1 pair 		<table border="1"> <thead> <tr> <th>Item no.</th> <th>Roller ϕ [mm]</th> <th>Weight per pair [kg]</th> </tr> </thead> <tbody> <tr> <td>TH103-CL-D10x32</td> <td>10</td> <td>0.024</td> </tr> </tbody> </table>	Item no.	Roller ϕ [mm]	Weight per pair [kg]	TH103-CL-D10x32	10	0.024	<p>Further sizes on request</p>
Item no.	Roller ϕ [mm]	Weight per pair [kg]							
TH103-CL-D10x32	10	0.024							

3-point anvils

Anvil with milled radius

TH103-oFRa



OFR: 3-point anvil with milled radius

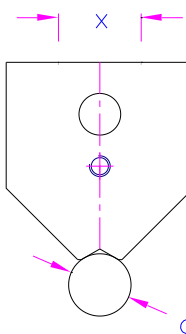
- Upper anvil for 3-point fixture
- Support area: 50 mm long
- Height: 48 mm
- Standard couplings [x]*: Af159 or Af20
- Material: steel, nickel-plated, hardened
- Scope of delivery: 1 anvil

Item no.	Radius a [mm]	Weight per pair [kg]
TH103-oFR1.5-Afx	1.5	0.44
TH103-oFR2-Afx	2	0.58
TH103-oFR3-Afx	3	0.43
TH103-oFR5-Afx	5	0.45
TH103-oFR10-Afx	10	0.57
TH103-oFR12.5-Afx	12.5	0.61
Further radii on request		

*Further couplings with additional adapter possible, e.g. with TH187 adapter

Anvil with interchangeable roller

TH103-oFXa-b



oFX: 3-point anvil with interchangeable roller

- Upper anvil for 3-point fixture
- Support area for roller: 50 mm long
- Height: 45 mm
- Standard couplings [x]*: Af159, Af191 or Af20
- Material: steel, nickel-plated
- Scope of delivery: 1 anvil

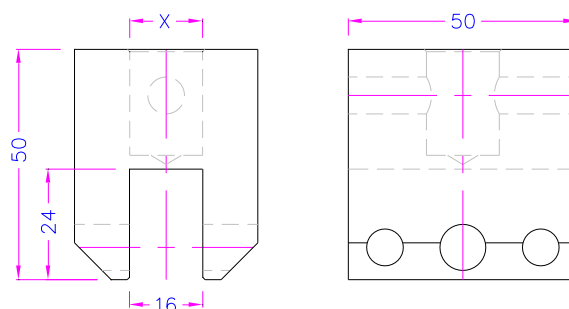
Item no.	Radius a [mm]	Weight per pair [kg]
TH103-oFX3-10-Afx	3 - 10	0.40
Further radii on request		

*Further couplings with additional adapter possible, e.g. with TH187 adapter

**3-point articulating anvil for interchangeable rollers
TH103-oFWEXa**

Carrier:

TH103-oWGT



oWGT: Carrier

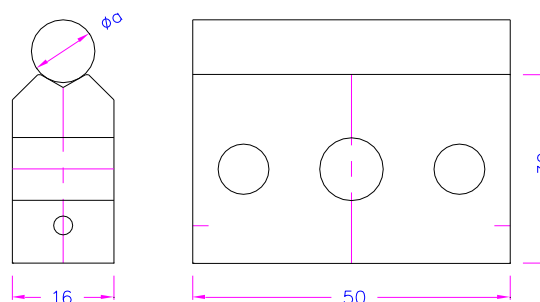
- Carrier for 3-point anvil
- For EX inserts
- Standard coupling [x]*: Af159 or Af20
- Material: steel, nickel-plated
- Scope of delivery: 1 piece

Item no.	For insert:	Weight per piece [kg]
TH103-oWGT-Afx	EX	0,6

*Further couplings with additional adapters possible, e.g. TH187

Insert:

TH103-CWEXa



oWEXa: Insert EX prism

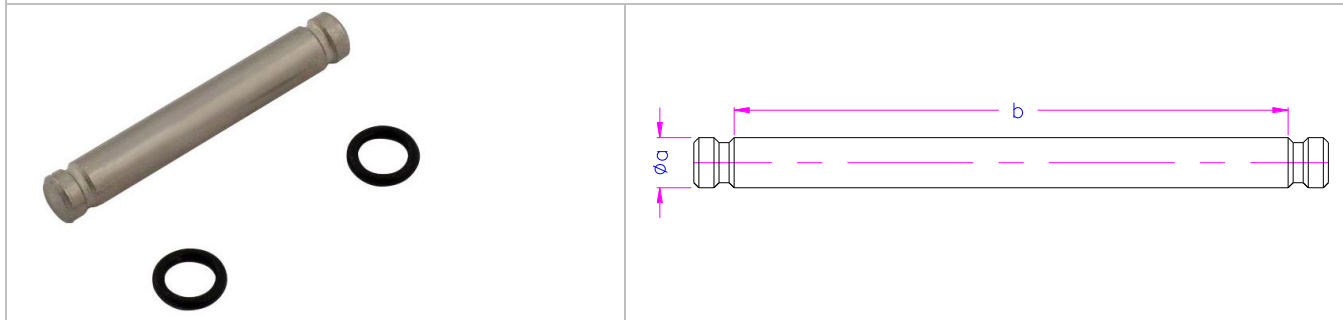
- For 3-point bending bar
- Roller support surface: 50 mm
- Height: 30 mm
- Material: steel, nickel-plated
- Scope of delivery: 1 piece without rollers (for rollers see TH103-D, page 15)

Item no.	For rollers ϕ [mm]	Weight per piece [kg]
TH103-CWEX4-10	4-10	0.18

Further sizes on request

Rollers

TH103-Daxb



Item no.	Ø a [mm]	Length of support area b [mm]	Weight per 1 roller [kg]
TH103-D3x55	3	55	0.002
TH103-D4x55	4	55	0.003
TH103-D5x55	5	55	0.009
TH103-D6x55	6	55	0.012
TH103-D8x55	8	55	0.024
TH103-D10x55	10	55	0.032
Further sizes on request			

Material: steel
 Scope of delivery: 1 roller

Examples for customized versions:

