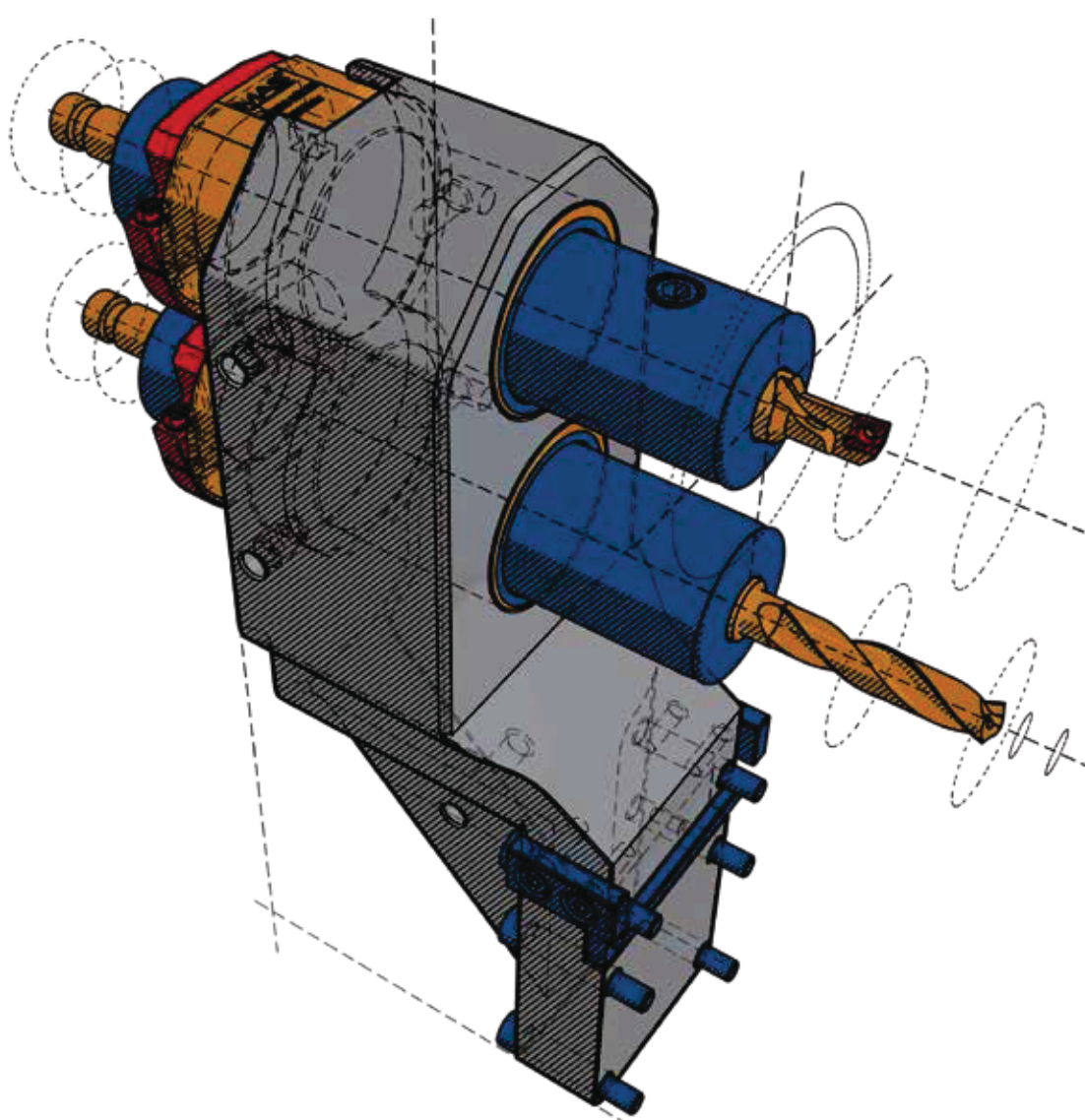




MEX- System Overview

Versione 02.2016



CM MARANGONI SRL

Viale dell'Industria 15/17

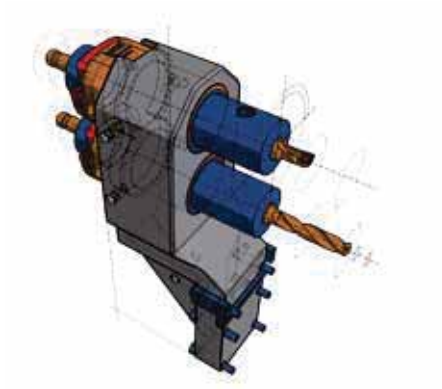
36057 Arcugnano VI

tel 0444.544087

fax 0444.320201

www.cmmarangoni.com

MAS
TOOLS & ENGINEERING



MEX© turn

More precise is impossible!

Vantaggi e funzionalità

Altezza centro velocemente registrabile entro 0,01mm con sistema eccentrico

Variazione altezza centro per molteplici scopi

Portautensili per vari tipi di torni: lineari, torrette, plurimandrini

Portautensili speciali su richiesta Cliente

Sistema presettabile

Refrigerazione interna

Smorzamento vibrazioni per maggiore durata utensili, migliore finitura

superficiale, grande rapporto diametro-lunghezza

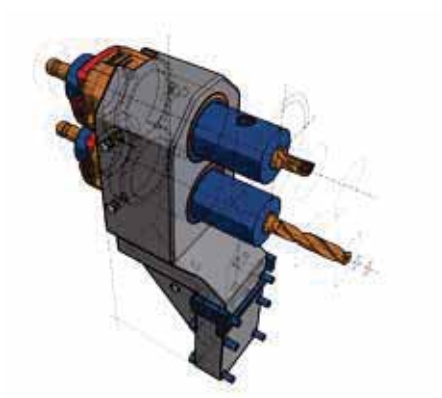
Minima sovrapposizione dello strumento

Bloccaggio utensile nel corpo di base

Alta flessibilità

Rapido set-up con regolazione altezza centro per multi-utensili

Possibilità serraggio mandrini ad alta frequenza Ø25,4 e Ø33 mm



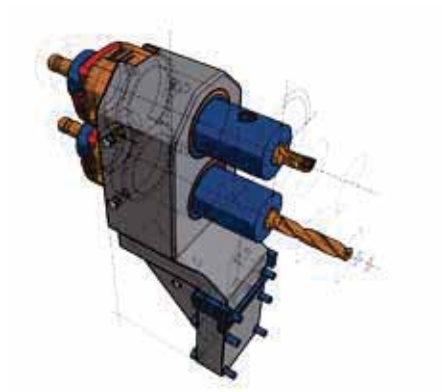
MEX© turn

La regolazione ed il settaggio di utensili di tornitura sono cose del passato!

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Torni Plurimandrino

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INDEX MS 22

MEX Portautensile triplo/serraggio- Ø 12mm

MEX12-MS22-3-S298H



Incluso refrigerazione interna

Cod. Art
MEX12-MS22-3-S298H

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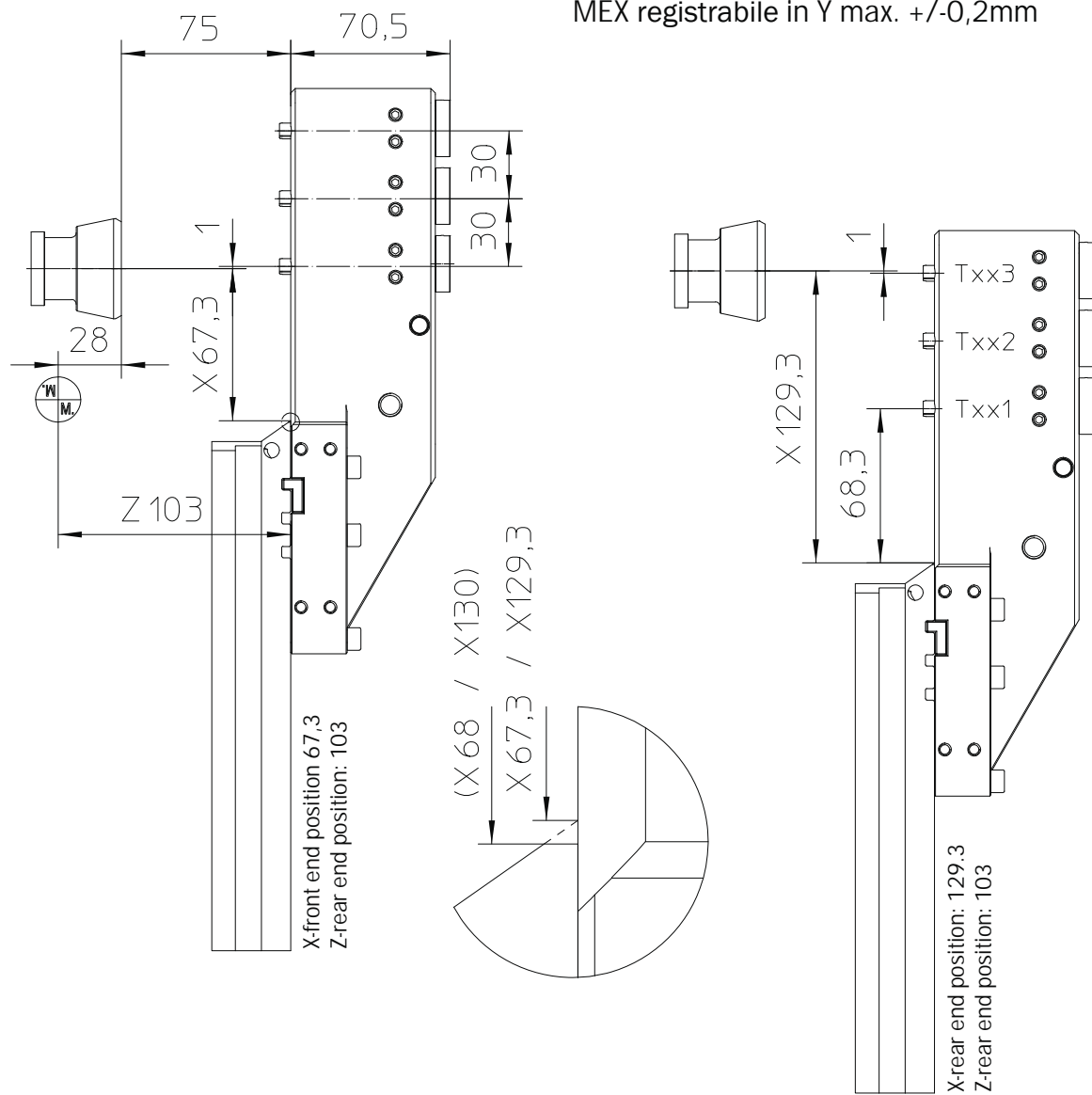
- Con limitazioni si può usare su INDEX MS18
- Corsa MS18: X=35mm / Z=85 mm
- Xfront/rear end position: VE=67,3 /HE=102,3
- Z-front/rear end position: VE=14 /HE=99

INDEX MS 22

MEX Portautensile triplo/serraggio-Ø 12mm

MEX12-MS22-3-S298H

MEX registrabile in Y max. +/-0,2mm



Setting dimensions MS22

Txx1: X68,3 / ZO Stroke in X: 62

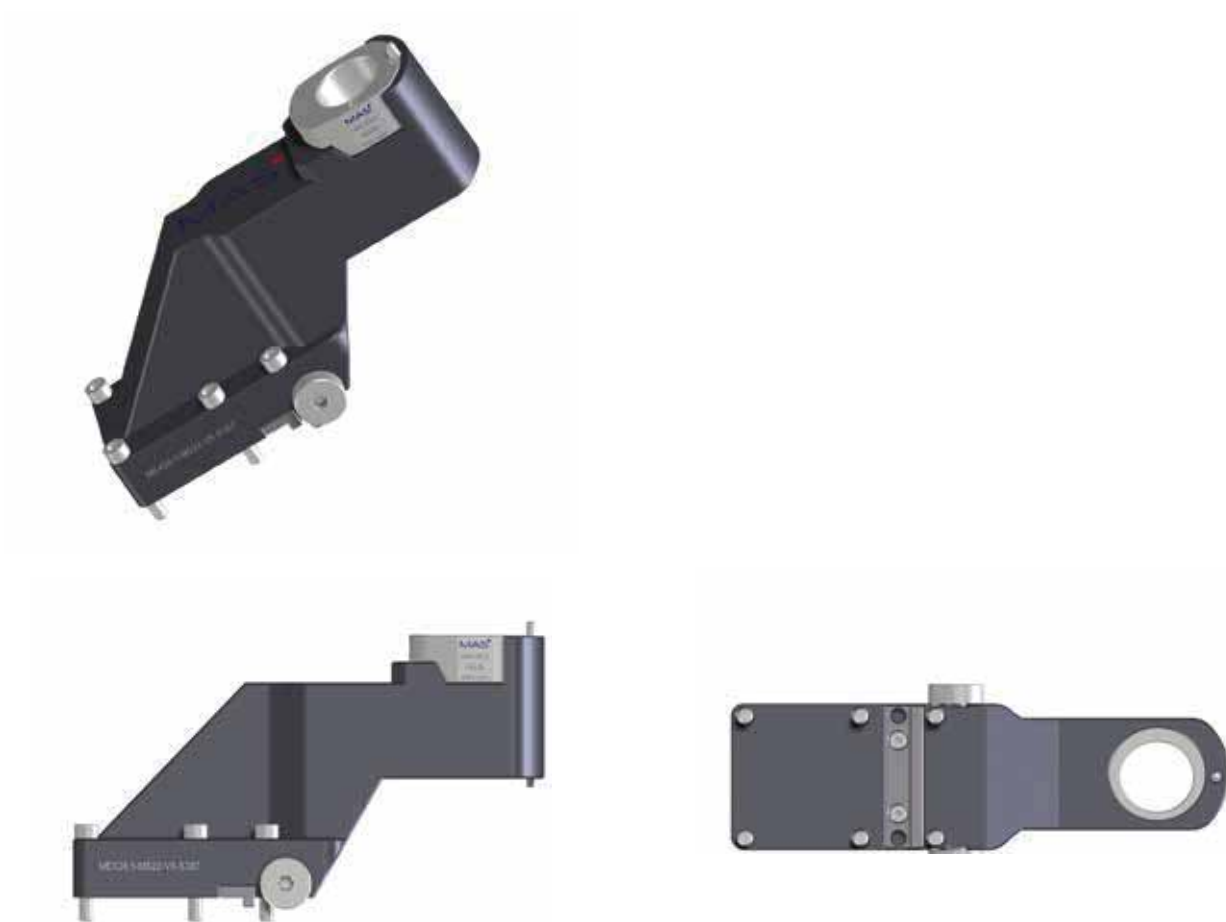
Txx2: X98,3 / ZO Stroke in Z: 85

Txx3: X128,3 / ZO

INDEX MS 22

MEX Portautensile singolo/serraggio Ø 28,5mm

MEX28.5-MS22-VX-S387H



For rigid slide 1.2 and 2.1 in the INDEX MS22.

Fine adjustment in X by MEX.

Fine adjustment in Y by dovetail.

Item number
MEX28.5-MS22-VX-S387H

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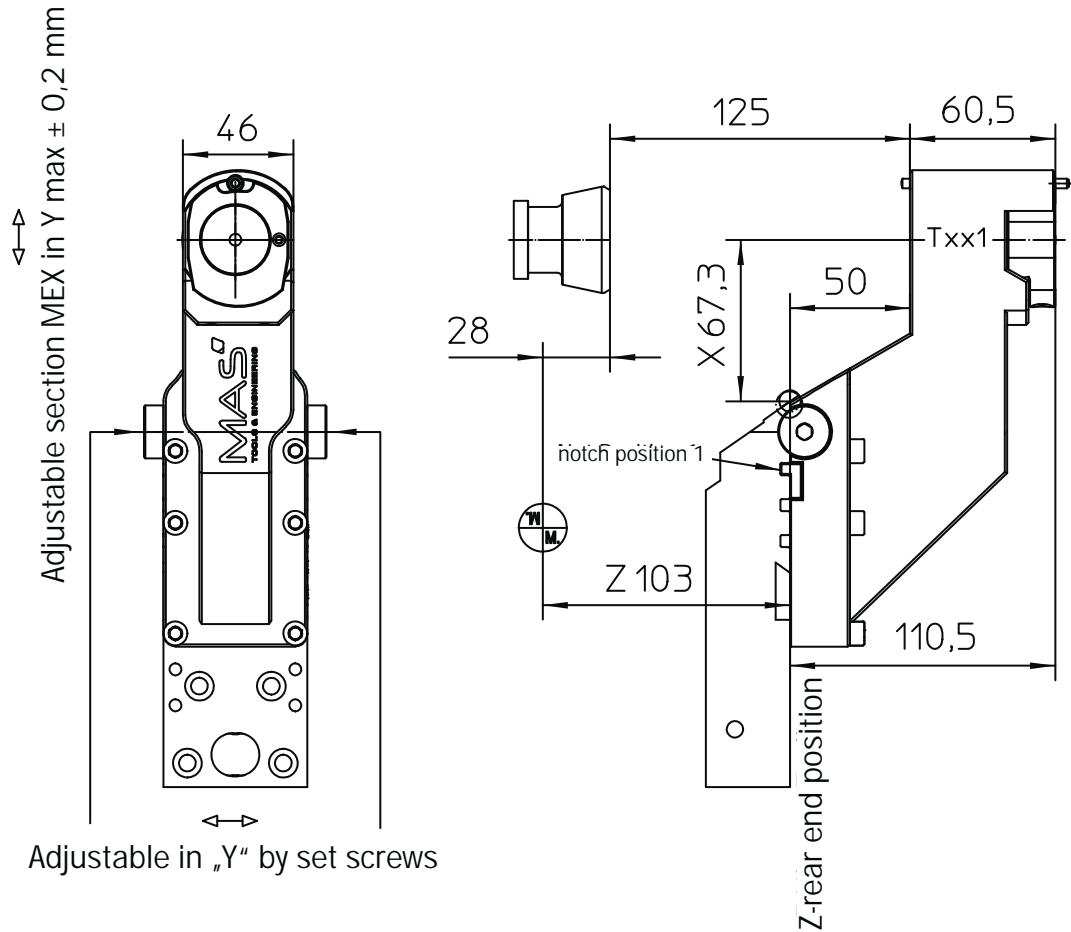


- With limitation the holder can be used on INDEX MS18
- MS18 travel: X=35mm / Z=85 mm
- X-front/rear end position: VE=67,3 / HE=102,3
- Z-front/rear end position: VE=14 / HE=99

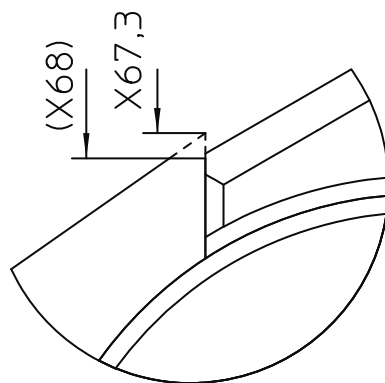
INDEX MS 22

MEX Portautensile singolo/serraggio $\varnothing 28,5\text{mm}$

MEX28.5-MS22-VX-S387H



Setting dimensions
Txx1: Z-110,5

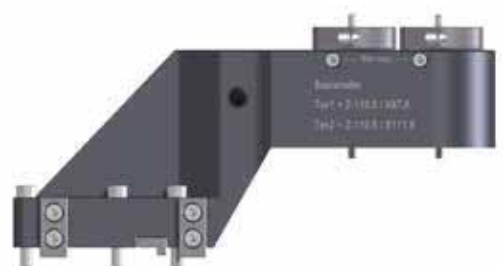


MS22 rigid 1.2 and 2.1:
Stroke in Z: 85

INDEX MS 22

MEX Portautensile doppio/serraggio Ø 28,5mm

MEX28.5-MS22-2-S299H



Item number
MEX28.5-MS22-2-S299H

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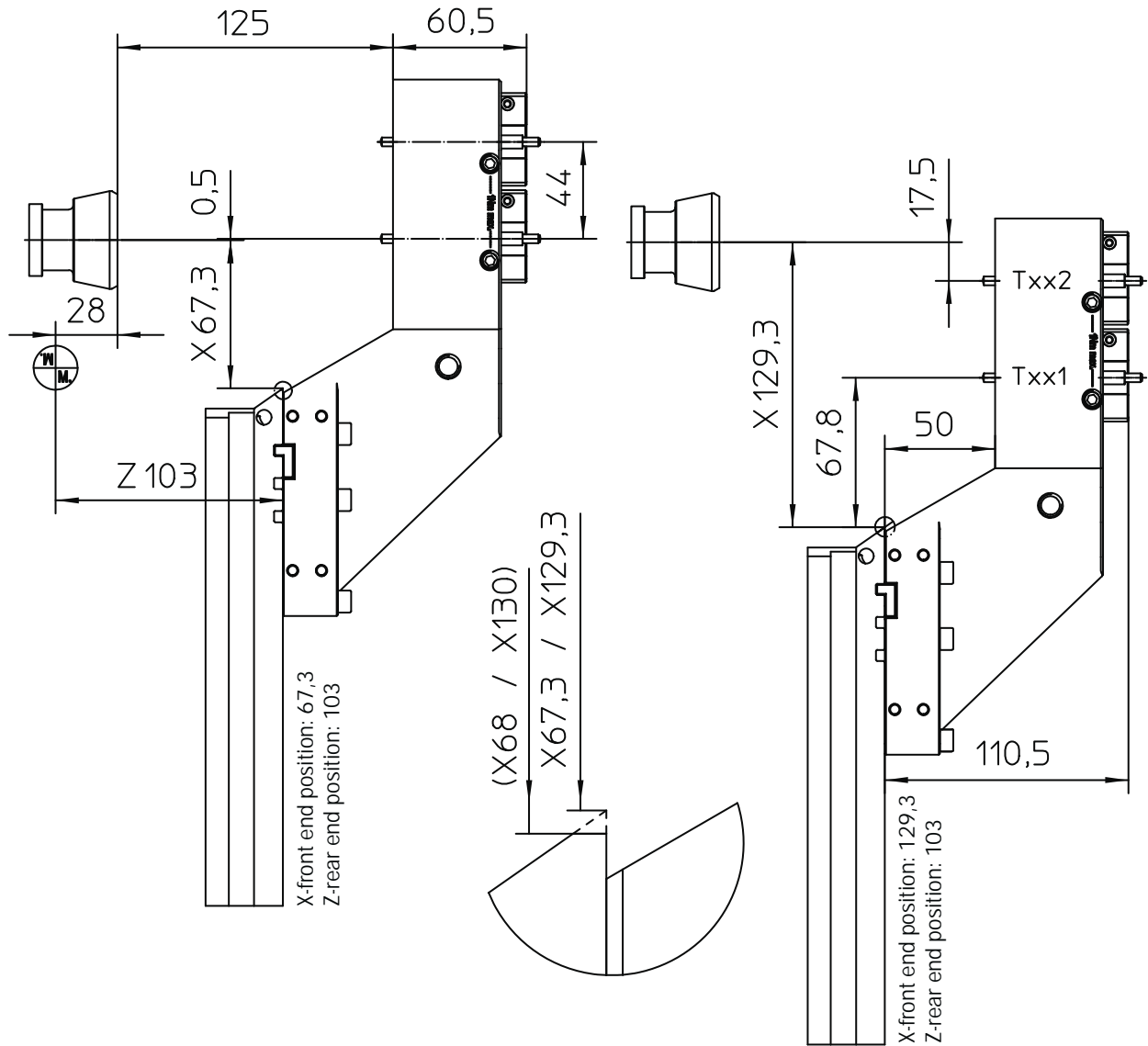
- With limitation the holder can be used on INDEX MS18
- MS18 travel: X=35mm / Z=85 mm
- X-front/rear end position: VE=67,3 / HE=102,3
- Z-front/rear end position: VE=14 / HE=99

INDEX MS 22

MEX Portautensile doppio/serraggio Ø 28,5mm

MEX28.5-MS22-2-S299H

Adjustable section MEX in Y max $\pm 0,2$ mm



Setting dimensions

Txx1: X67,8 / Z-110,5

Txx2: X111,8 / Z-110,5

MS22

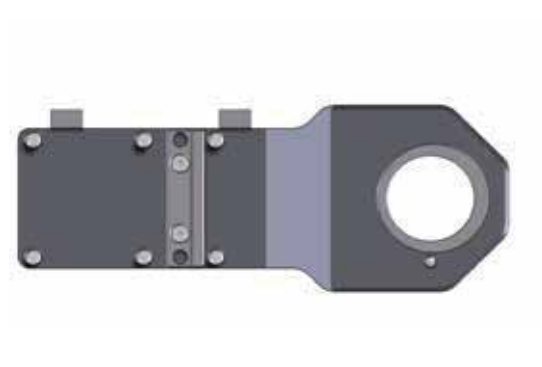
Stroke in X: 62

Stroke in Z: 85

INDEX MS 22

MEX Portautensile singolo/serraggio Ø 36mm

MEX36-MS22-1-S292H



Item number
MEX36-MS22-1-S292H

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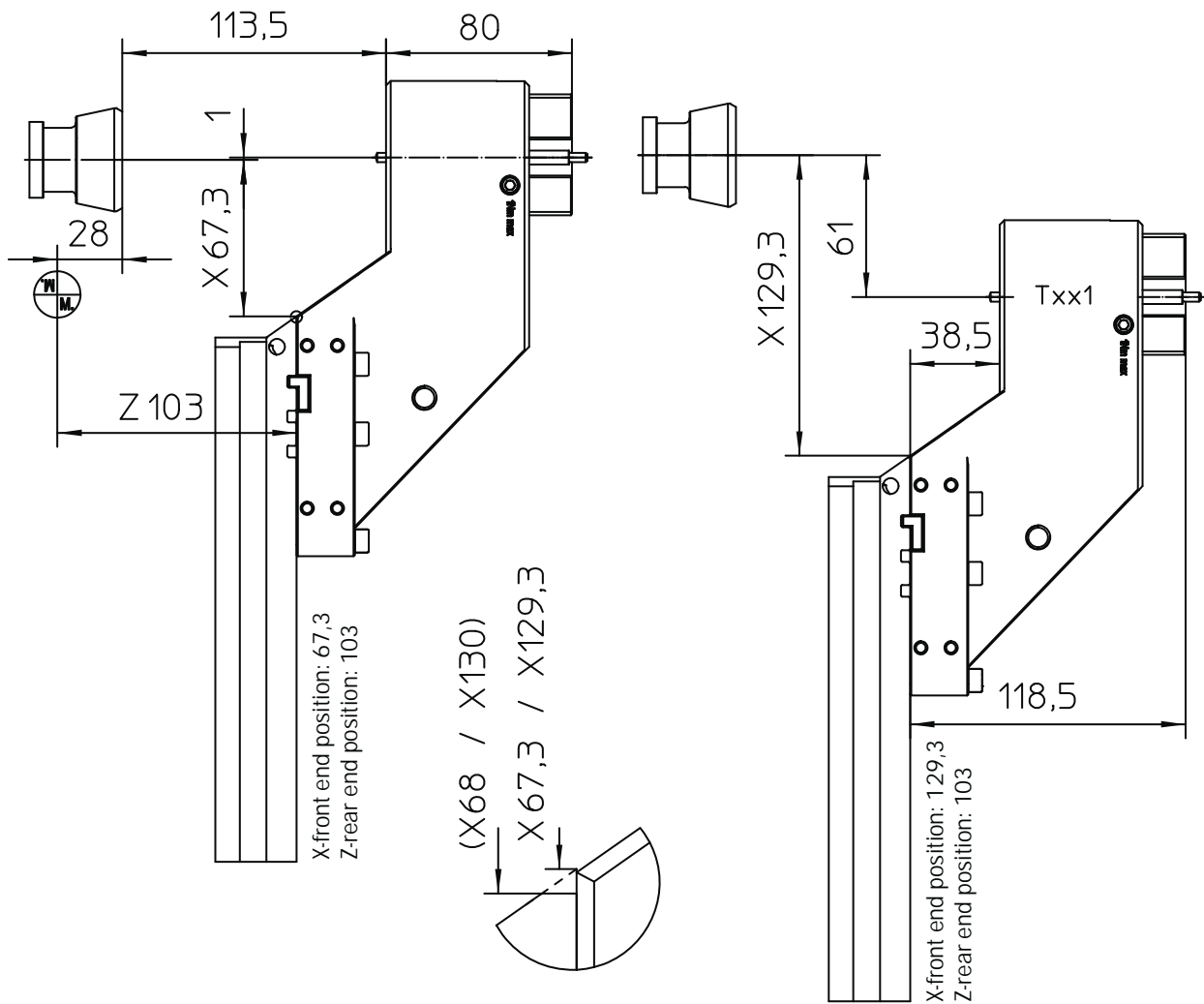
- With limitation the holder can be used on INDEX MS18
- MS18 travel: X=35mm / Z=85 mm
- X-front/rear end position: VE=67,3 / HE=102,3
- Z-front/rear end position: VE=14 / HE=99

INDEX MS 22

MEX Portautensile singolo/serraggio Ø 36mm

MEX36-MS22-1-S292H

Adjustable section MEX in Y max $\pm 0,2$ mm



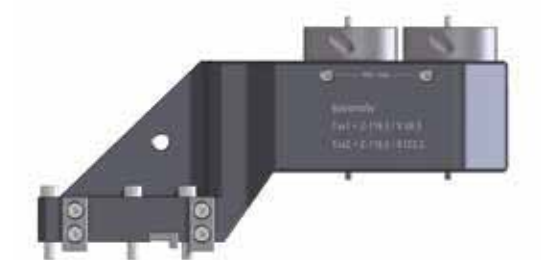
Setting dimensions
Txx1: X68,3 / Z-118,5

MS22
Stroke in X: 62
Stroke in Z: 85

INDEX MS 22

MEX portautensile doppio/serraggio Ø 36mm

MEX36-MS22-2-S297H



Item number
MEX36-MS22-2-S297H

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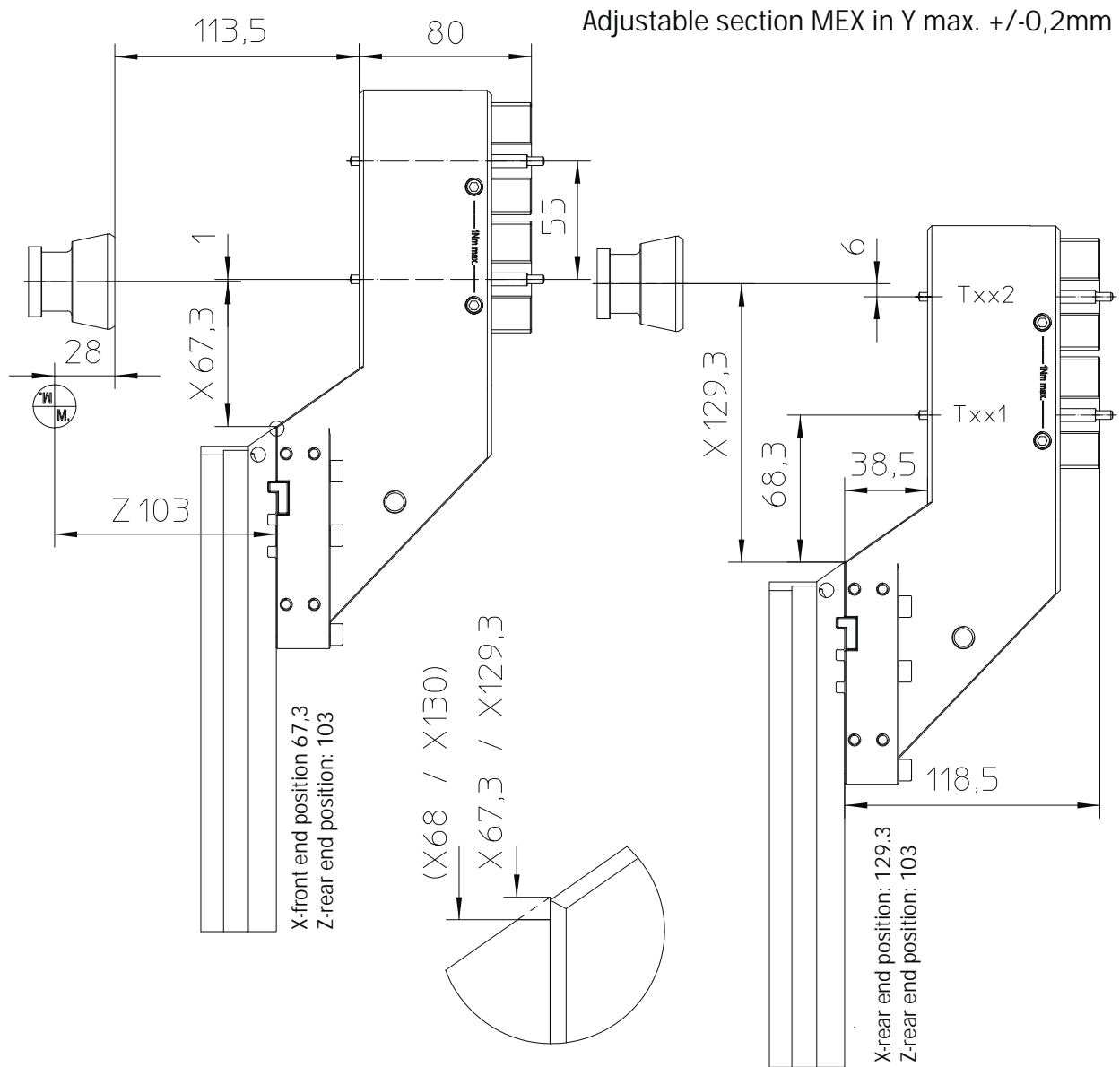


- With limitation the holder can be used on INDEX MS18
- MS18 travel: X=35mm / Z=85 mm
- X-front/rear end position: VE=67,3 / HE=102,3
- Z-front/rear end position: VE=14 / HE=99

INDEX MS 22

MEX Portautensiole doppio/serraggio Ø 36mm

MEX36-MS22-2-S297H



Setting dimensions

Txx1: X68,3 / Z-118,5

Txx2: X123,3 / Z-118,5

MS22

Stroke in X: 62

Stroke in Z: 85

INDEX MS 32

MEX Portautensile triplo/serraggio Ø 12mm

MEX12-MS32-3-S259H



Incluso refrigerazione interna

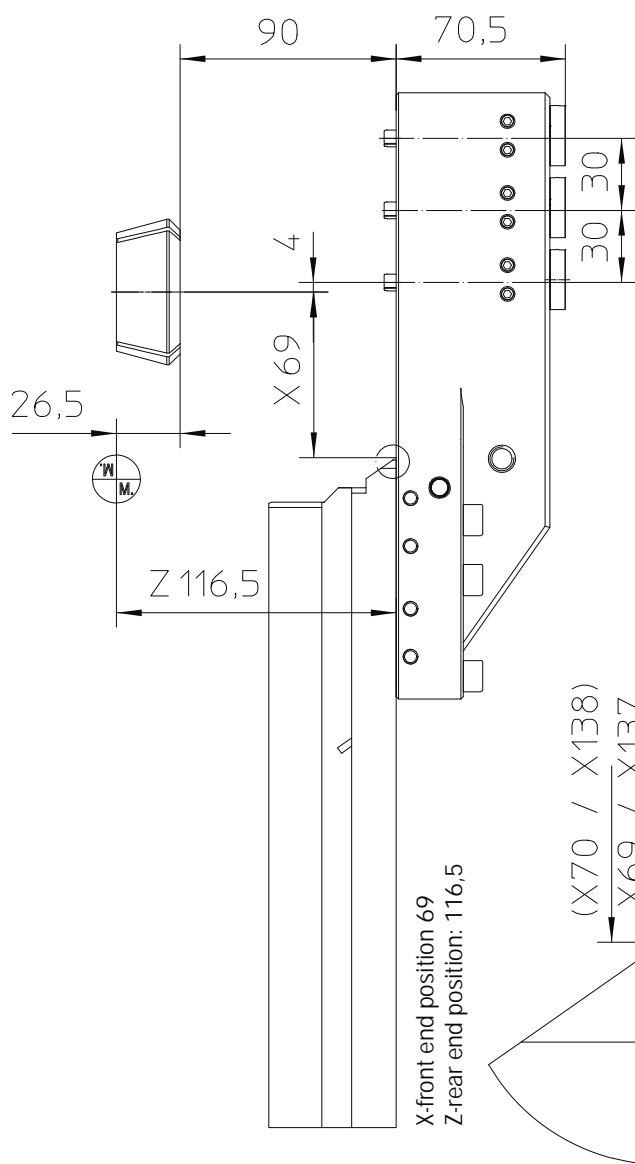
Item number
MEX12-MS32-3-S259H

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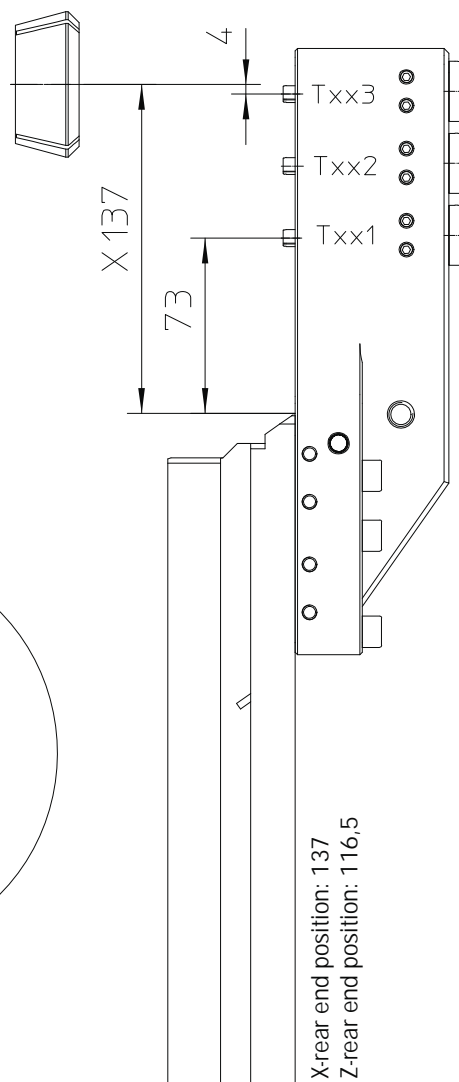
INDEX MS 32

MEX Portautensile triplo/serraggio Ø 12mm

MEX12-MS32-3-S259H



Adjustable section MEX in Y max. +/-0,2mm



Setting dimensions

Txx1: X73 / Z0

Txx2: X103 / Z0

Txx3: X133 / Z0

MS32

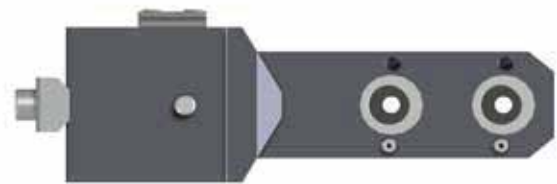
Stroke in X: 68

Stroke in Z: 100

INDEX MS 32

MEX Portautensile doppio/serraggio Ø 20mm

MEX20-MS32-2-S270H



Internal cooling by MEX20-sleeve (G1/8")

Item number
MEX20-MS32-2-73-S270H

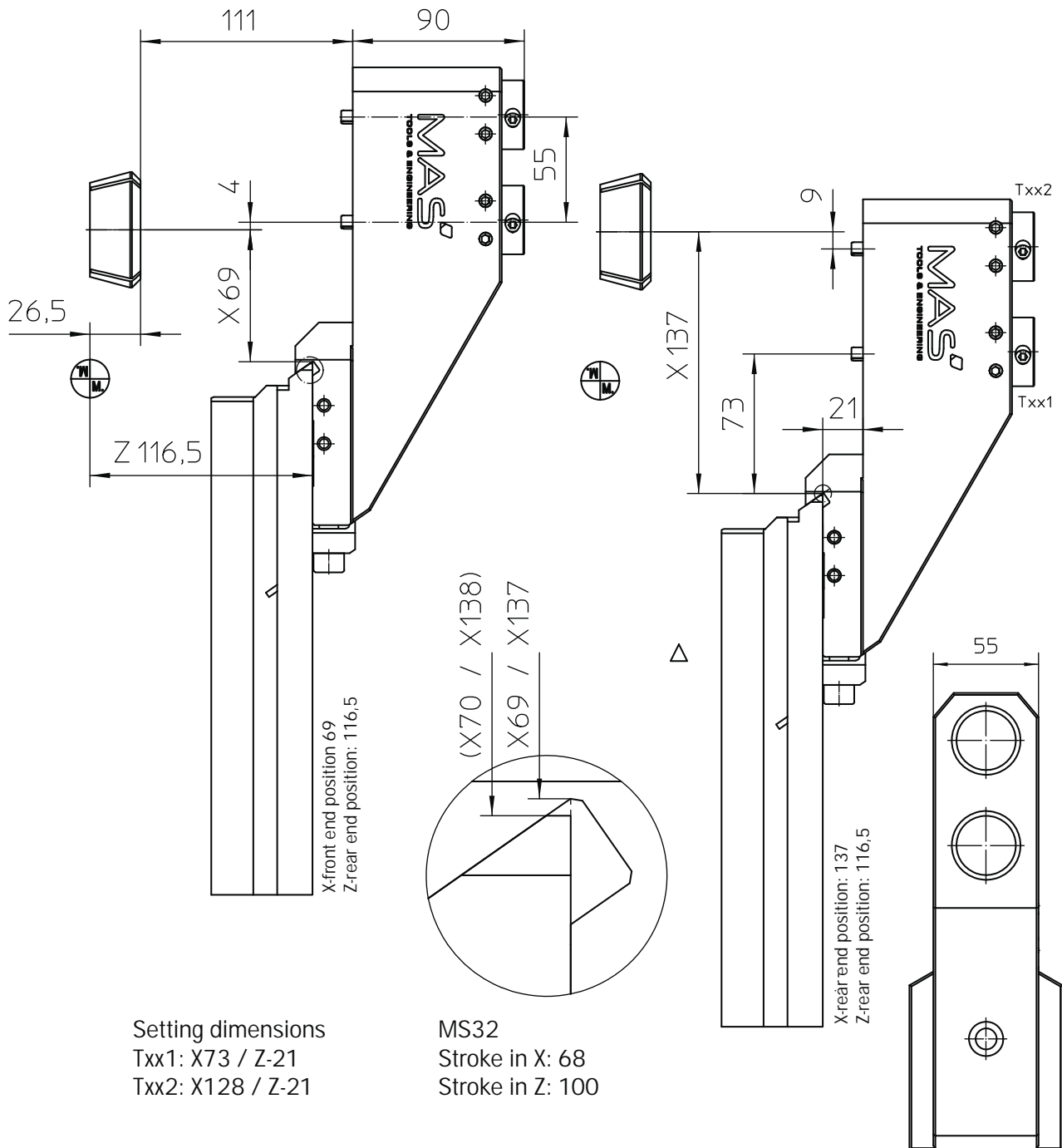
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INDEX MS 32

MEX Portautensile doppio/serraggio - \varnothing 20mm

MEX20-MS32-2-S270H

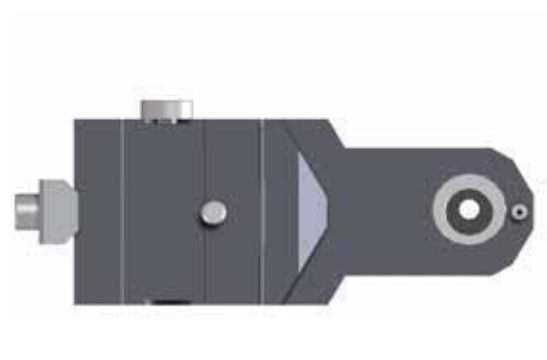
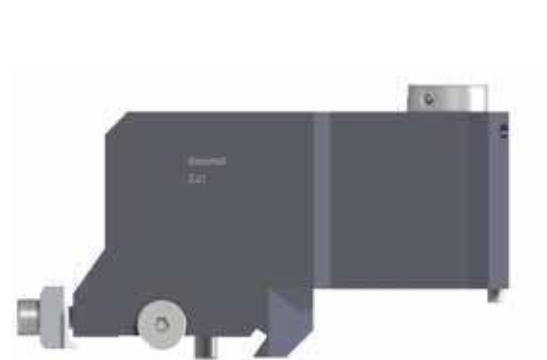
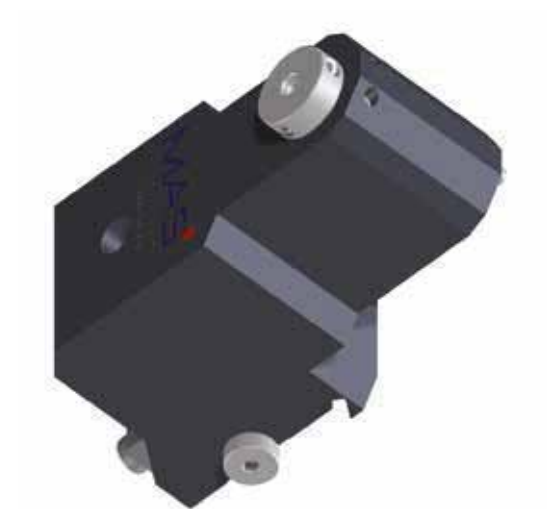
Adjustable section MEX in Y max. $\pm 0,2\text{mm}$



INDEX MS 32

MEX Portrautensile singolo/serraggio Ø 20mm

MEX20-MS32-VX-80.0H



For rigid slide 1.2 and 2.1 of the INDEX MS32C

Fine adjustment in X by MEX.

Fine adjustment in Y by dovetail

Internal cooling by MEX20-sleeve (G1/8")

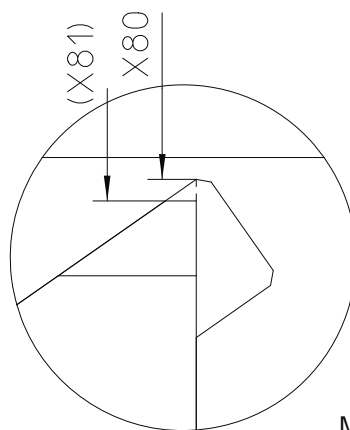
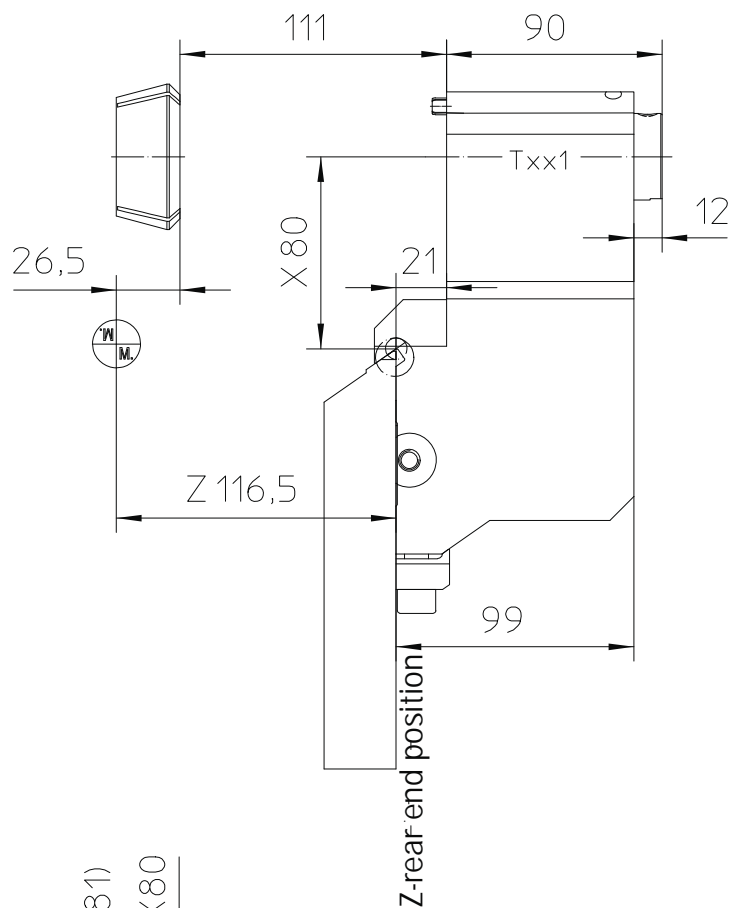
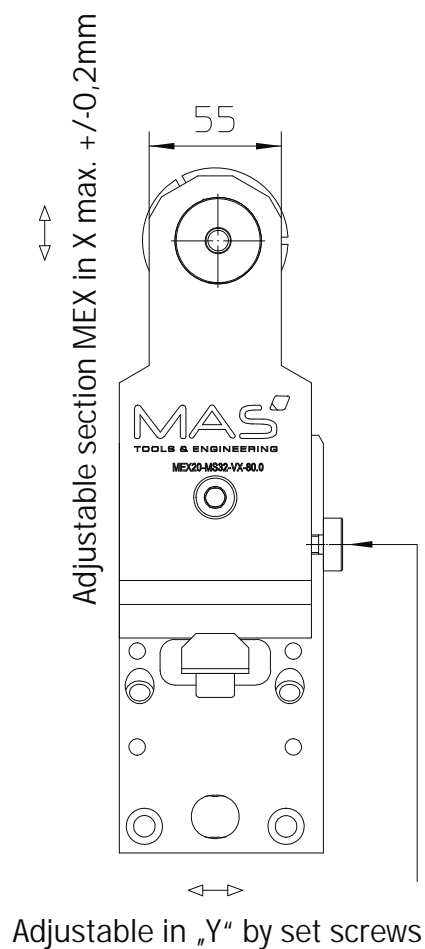
Item number
MEX20-MS32-VXH

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INDEX MS 32

MEX Portautensile singolo/serraggio \varnothing 20mm

MEX20-MS32-VX-80.0H



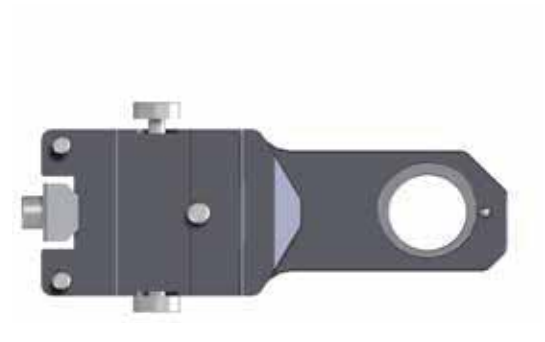
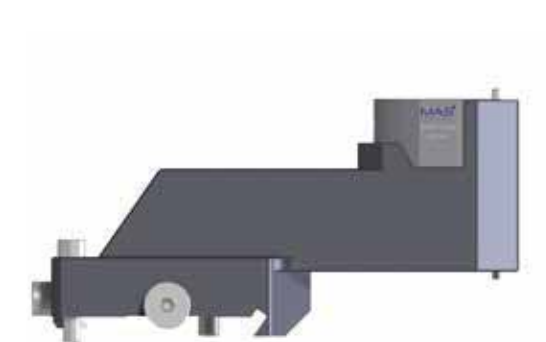
Setting dimensions
Txx1: Z-21

MS22 rigid 1.2 and 2.1:
Stroke in Z: 100

INDEX MS 32

MEX Portautensile singolo/serraggio-Ø 36mm

MEX36-MS32-VX-S384H



For rigid slide 1.2 and 2.1 of INDEX MS32C

Fine adjustment in X by MEX

Fine adjustment in Y by dovetail

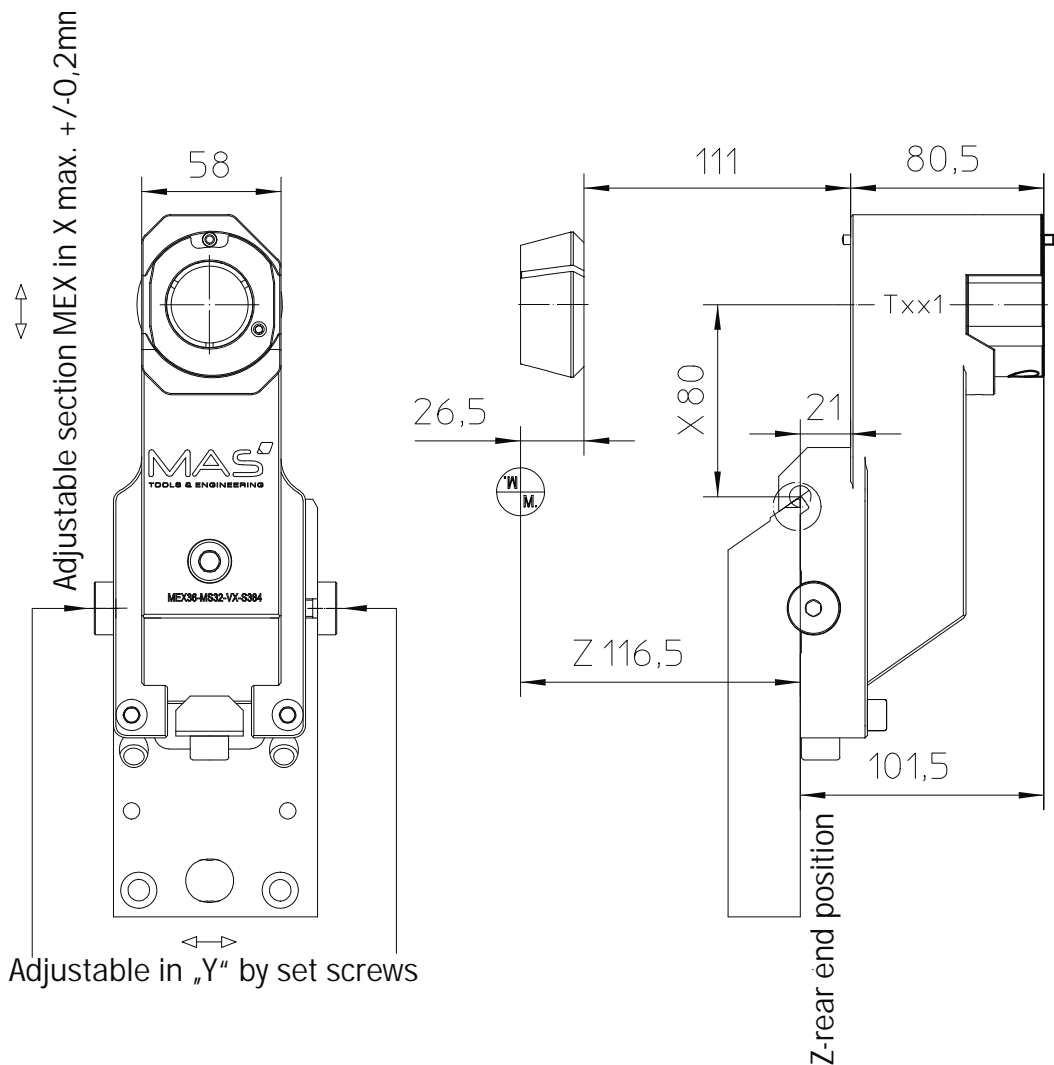
Item number
MEX36-MS32-VX-S384H

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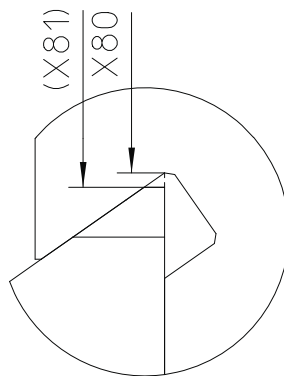
INDEX MS 32

MEX Portautensile singolo/serraggio-Ø 36mm

MEX36-MS32-VX-S384H



Setting dimensions
Txx1: Z-101,5

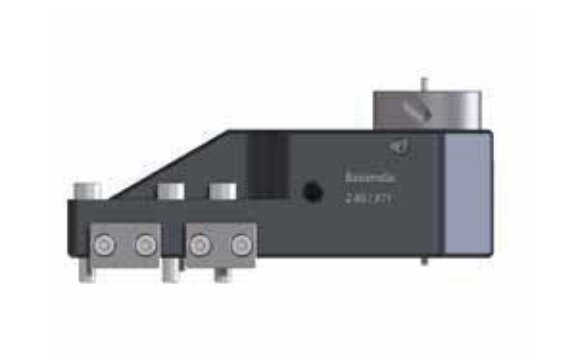


MS32 rigid 1.2 and 2.1
Stroke in Z: 100

INDEX MS 32

MEX Portautensile singolo/serraggio-Ø 36mm

MEX36-MS32-1-S410H



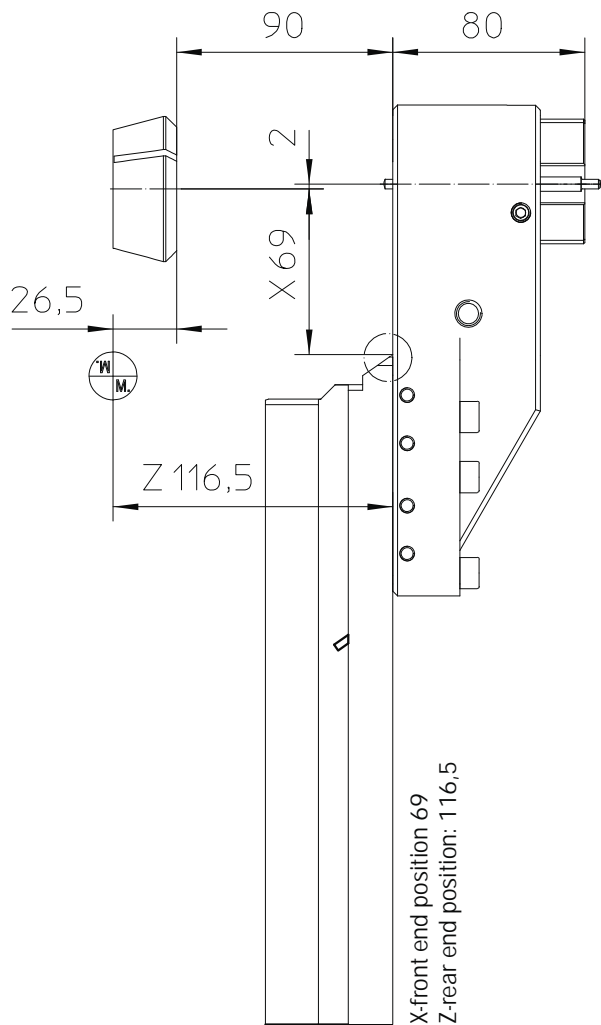
Item number
MEX36-MS32-1-S410H

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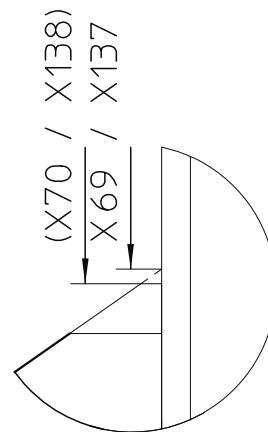
INDEX MS 32

MEX Portautensile singolo/serraggio-Ø 36mm

MEX36-MS32-1-S410H



Adjustable section MEX in Y max. $\pm 0,2\text{mm}$



Setting dimensions
Txx1: X71 / Z-80

MS52
Stroke in X: 68
Stroke in Z: 100

INDEX MS 32

MEX Portautensile doppio/serraggio-Ø 36mm

MEX36-MS32-2-S288H



Item number
MEX36-MS32-2-S288H

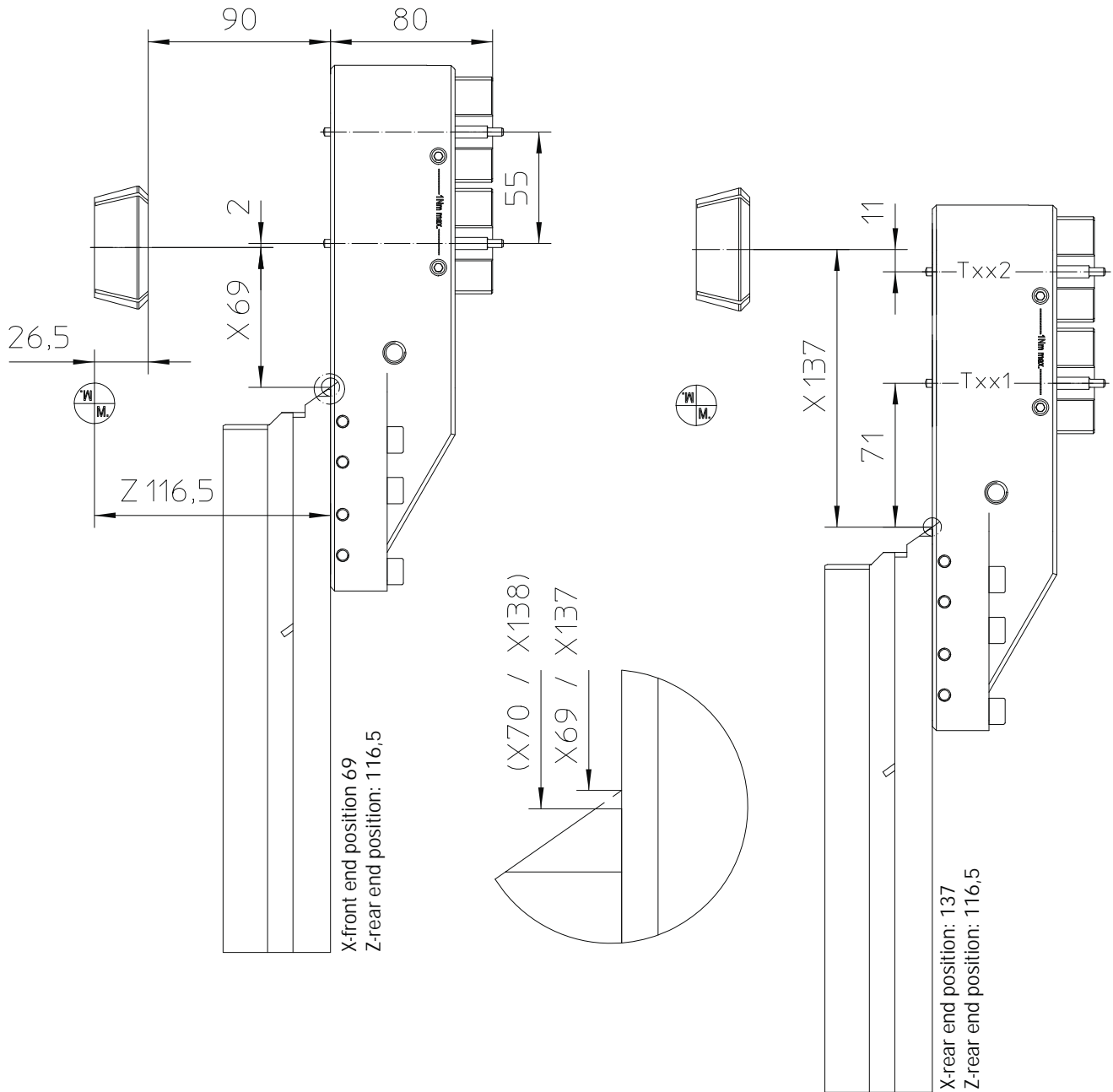
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INDEX MS 32

MEX Portautensile doppio/serraggio-Ø 36mm

MEX36-MS32-2-S288H

Adjustable section MEX in Y max. $\pm 0,2\text{mm}$



Setting dimensions

Txx1: X71 / Z-80

Txx2: X126 / Z-80

MS52

Stroke in X: 68

Stroke in Z: 100

INDEX MS 52

MEX Portautensile doppio/serraggio-Ø 12mm

MEX12-MS52-2-S365H



Inclusive internal cooling by slide

Item number
MEX12-MS52-2-S365H

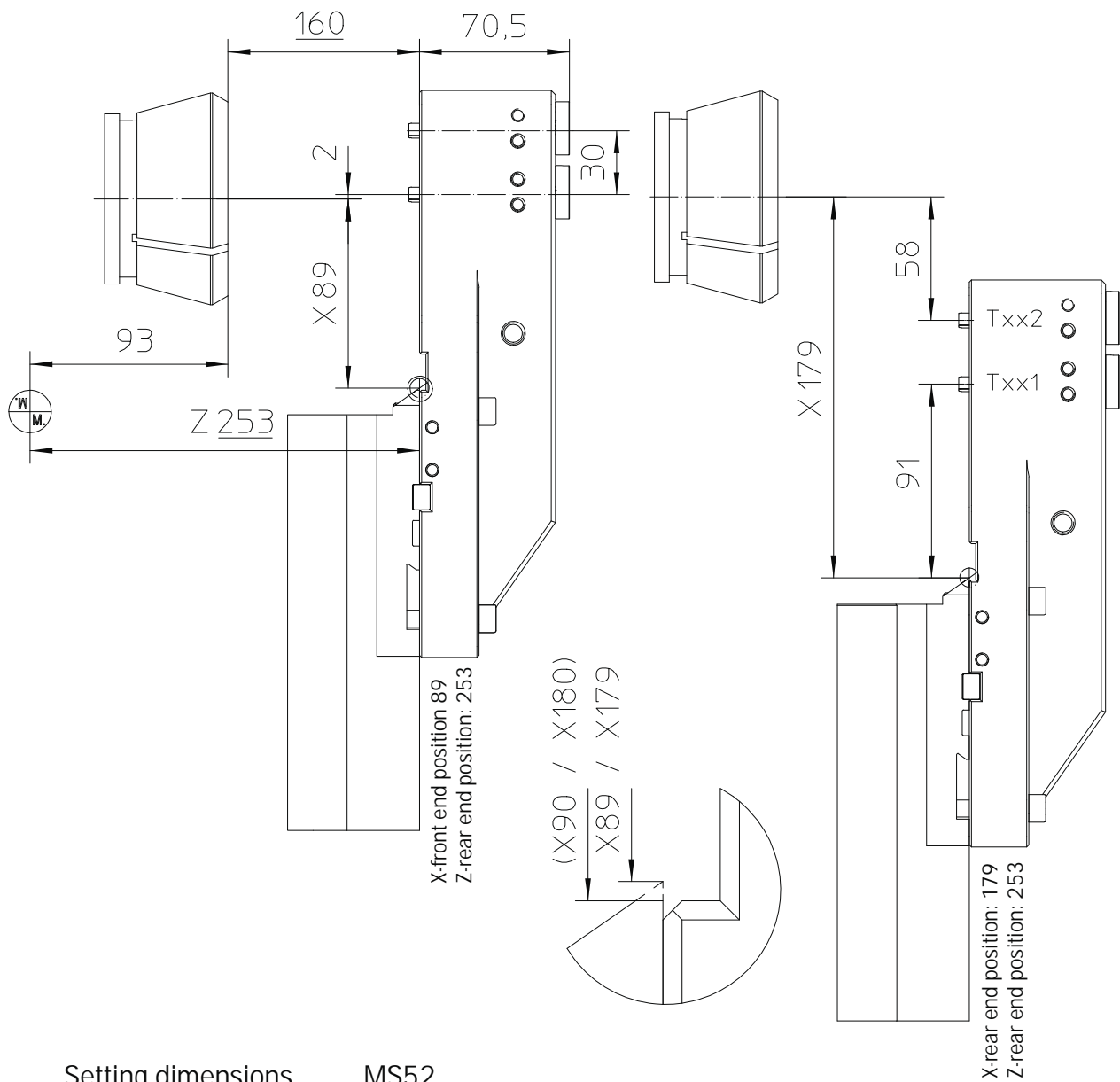
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INDEX MS52

MEX Portautensile doppio/serraggio-Ø 12mm

MEX12-MS52-2-S365H

Adjustable section MEX in Y max. +/-0,2mm



Setting dimensions

Txx1: X91 / Z0

Txx2: X121 / Z0

MS52

Stroke in X: 90

Stroke in Z: 160

INDEX MS 52

MEX Portautensile triplo/serraggio-Ø 12mm

MEX12-MS52-3-S366H



Inclusive internal cooling by slide

Item number
MEX12-MS52-3-S366H

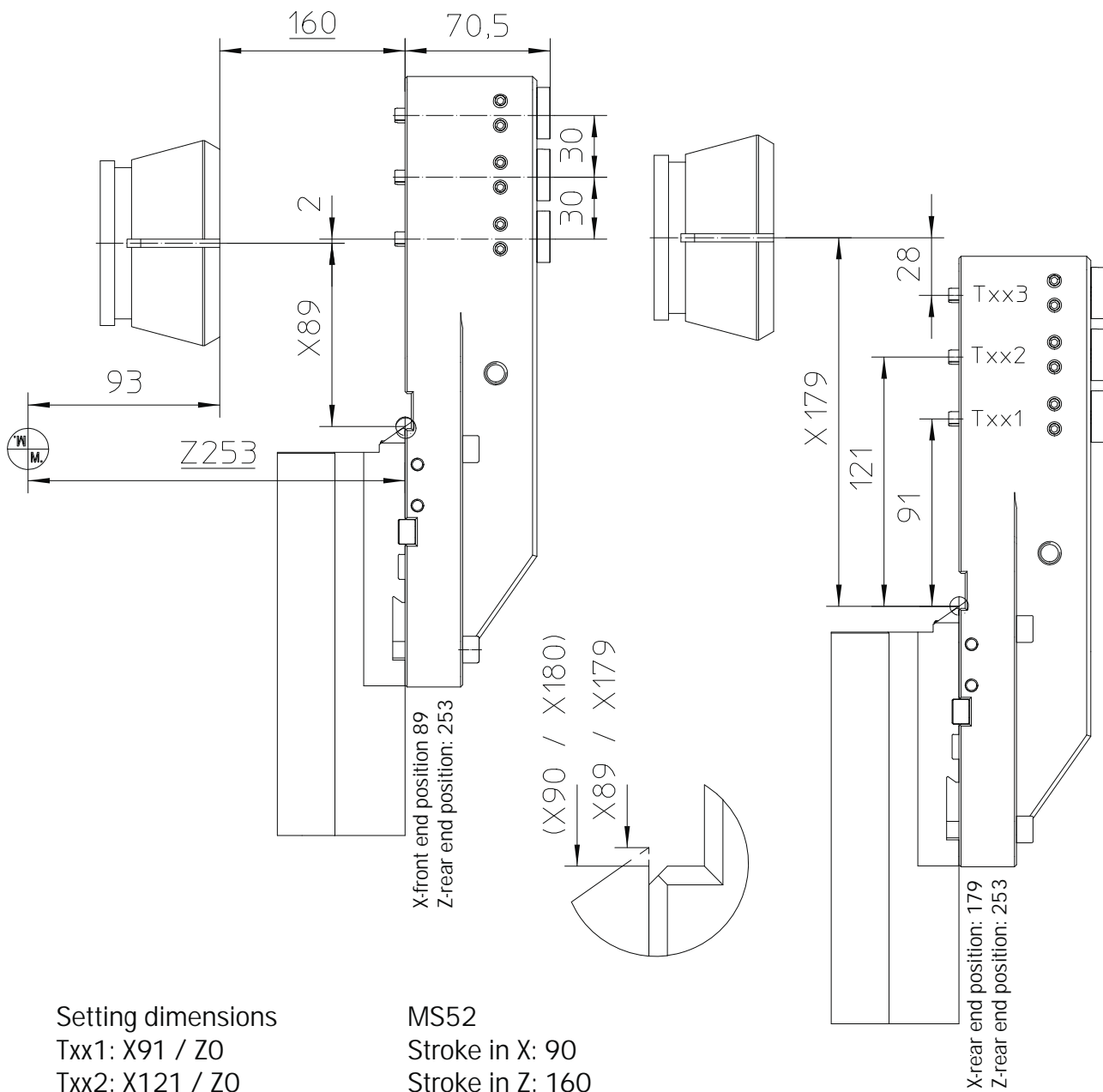
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INDEX MS52

MEX Portautensile triplo/serraggio-Ø 12mm

MEX12-MS52-3-S366H

Adjustable section MEX in Y max. $\pm 0,2\text{mm}$



Setting dimensions

Txx1: X91 / Z0

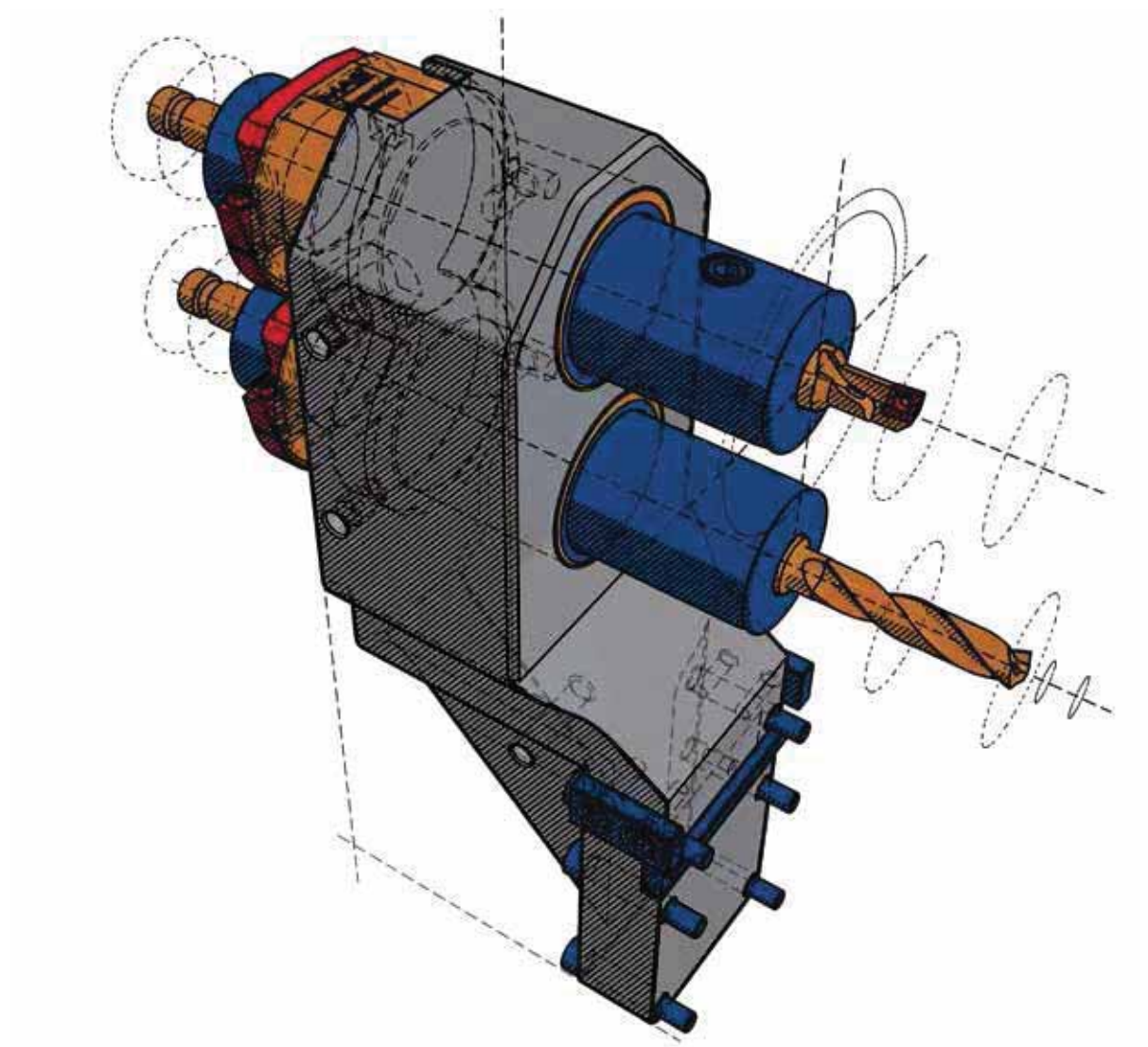
Txx2: X121 / Z0

Txx3: X151 / Z0

MS52

Stroke in X: 90

Stroke in Z: 160



INDEX Portautensile addizionale sul troncatore

Serraggio-Ø 20 mm
MEX20-1-S254H



Spacer plate
S254-2
(for INDEX cuttingholder W1235004)



Holder adapted for INDEX cutting unit W1235004



The spacer plate S254-2x will be individually adapted for your holder.

Internal cooling by MEX20-sleeve (G1 / 8")

Item number
MEX20-1-S254H

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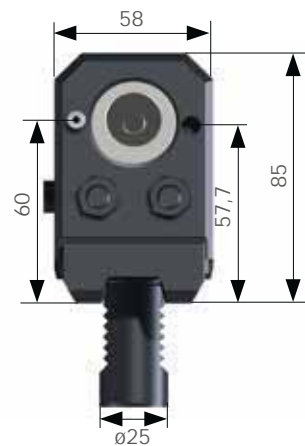
INDEX VDI25

MEX Portautensile singolo/serraggio- \varnothing 20 mm

MEX20-VDI25-1-S382H



Holder for internal and external cooling



Inclusive internal cooling and external cooling by holder

Item number
MEX20-VDI25-1-S382H

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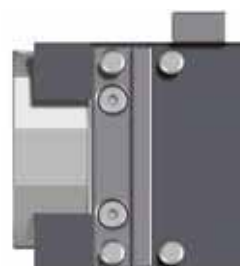


- Holder optional with internal and external cooling
- For better accessibility of the hydraulic clamping bolt the MEX-sleeve can be turned by 180°.
- X-dimension 1=60 mm or X-dimension 2=57,7 depending on position of the MEX-sleeve.
- V-slat
- Shank doubly geared

INDEX MS 22

Per mandrini alta frequenza con \varnothing 25.4mm

MEX25.4-MS22-1-S377H



Item number
MEX25.4-MS22-1-S377H

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INDEX

MEX20-V200-1-S35

MEX12-MS32P-3-S284

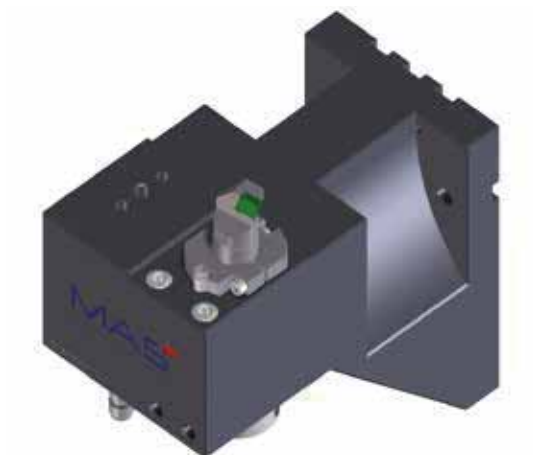


Fig. MEX20-V200-1-S351H

For INDEX V200

- Incl. 2 x external cooling
- Internal cooling by MEX20-sleeve

Item number
MEX20-V200-1-S351H

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Fig. MEX12-MS32P-3-S284H

For INDEX MS32P

- IC for both clamping points separately (High pressure/low pressure)
- 3. clamping point, cylindrical Ø25 for incorporating a live centre as support

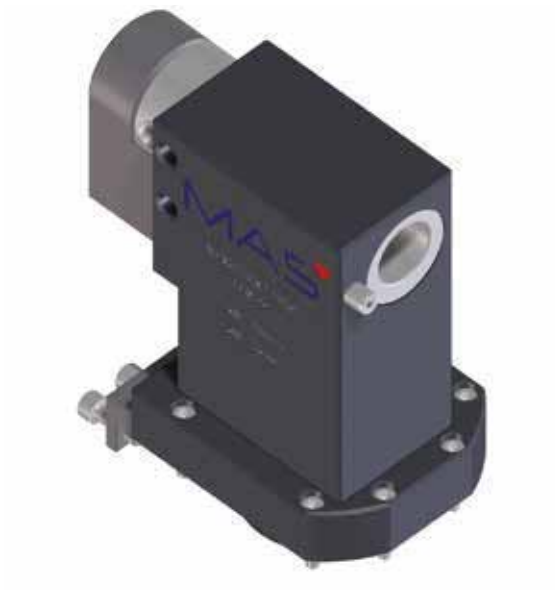
Item number
MEX20-MS32P-3-S284H

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Schütte SCX

MEX-Portautensile singolo/serraggio-Ø 20 mm

MEX20-SCX-1-S352H



Inclusive internal cooling through holder
For tool position P2

Item number
MEX20-SCX-1-S352H

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Schütte SCX

MEX-Portautensile singolo/serraggio-Ø 20 mm

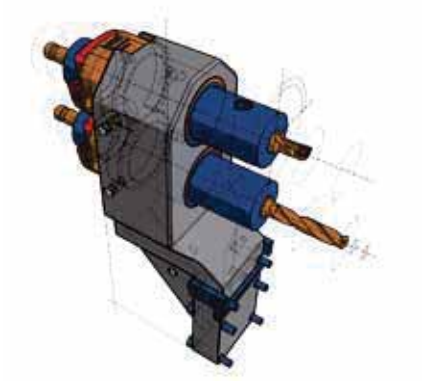
MEX20-SCX-1-S368H



Inclusive internal cooling through holder
For tool position P1 and P3

Item number
MEX20-SCX-1-S368H

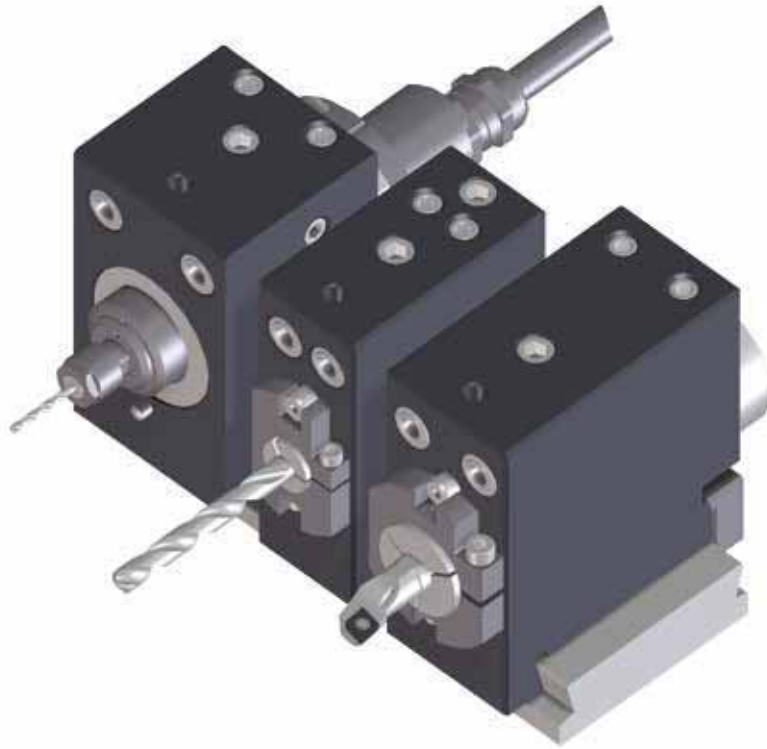
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MEX Spinner	MEX20-SP-1-S260H	49

MEX -portautensile universale lineare



The dovetail plate will be specially adjusted for your machine. This enables changing of the toolholder in most different linear machines and makers.

- Friendly to set up
- Inclusive internal cooling
- Inclusive external cooling
- Clamping of high-frequency spindles with Ø 25.4 mm
- Clamping of measuring sensors

MEX -portautensile universale lineare

MEX12-L-1-S316H



Center height without adapter plate: 32mm
Total center height, minimum: 45 mm

Inclusive internal and external
cooling by holder (G1/8")

Item number
MEX12-L-1-S316H

Accessories page 69

MEX portautensile universale lineare

MEX20-L-1-S314H



Center height without adapter plate: 32mm
Total center height, minimum: 45 mm



Inclusive internal cooling by MEX20-Sleeve (G1/8")
Inclusive external cooling by holder (G1/8")

Item number
MEX20-L-1-S314H

Accessories page 69

MEX portautensile universale lineare

MEX25.4-L-1-S380H



Center height without adapter plate: 32mm
Total center height, minimum: 45 mm

Inclusive external cooling by holder (G1 / 8")

Item number
MEX25.4-L-1-S380H

Measuring sensor holder S354

For BLUM measuring sensor
TC76



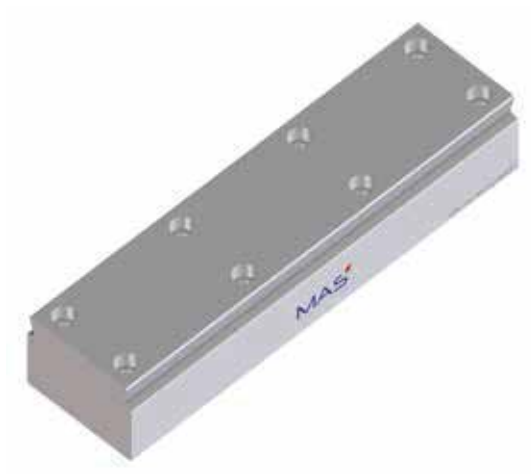
Item number
Messtasteraufnahme S354 (ohne Messtaster)

Accessories page 69

MEX portautensile universale lineare

Dovetail plates

Machine: Benzinger Go Future



The dovetail plate will be specially adjusted for your machine!

Item number	Length	Center height, total
MEX-linear adapter plate-S353	230 mm	70.5 mm

Machine: Takamaz XD8



The dovetail plate will be specially adjusted for your machine!

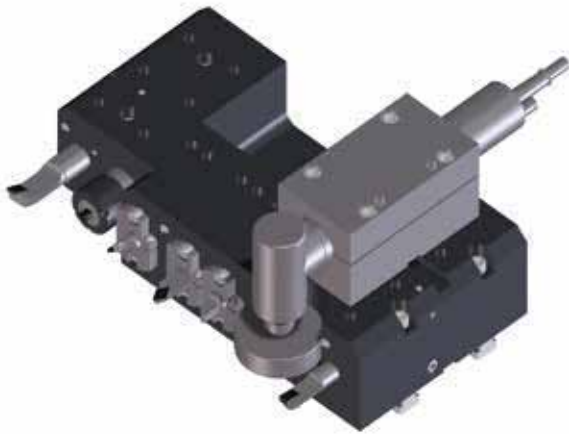
Item number	Length	Center height, total
MEX-linear adapter plate S326	300 mm	50 mm

MEX -versioni speciali Benzinger



For Benzinger GoFuture

- Multi holder incl. measuring sensor
- Clamping position
- Internal cooling by MEX20-sleeve



Kummer

MEX-Portautensile singolo/serraggio-Ø 20 mm

MEXKU20-1-SPH45.0-S405



Center height will be specially adjusted for your machine.
Inclusive internal cooling by MEX20-sleeve (G1/8")
Center height 45 mm.
Holder with original Kummer-gearing.

Item number
MEX20-KU-1-S405H

Accessories page 69
Different center height on demand!

Spinner

MEX-Portautensile singolo/serraggio-Ø 20 mm

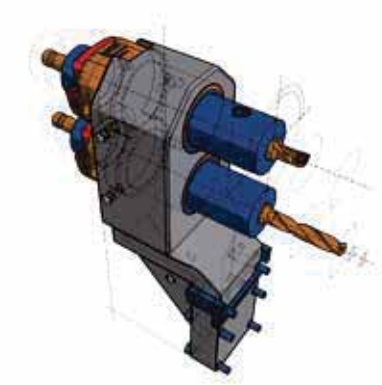


Center height 51,915 mm

Center height will be specially adjusted for your machine.
Inclusive internal cooling by MEX20-sleeve (G1/8")

Item number	Center height	Center height range
MEX20-SP-1-S272H	51.70	51.60 - 51.80
MEX20-SP-1-S498H	51.80	51.70 - 51.90
MEX20-SP-1-S401H	51.90	51.80 - 52.00
MEX20-SP-1-S400H	52.00	51.90 - 52.10

Accessories page 69



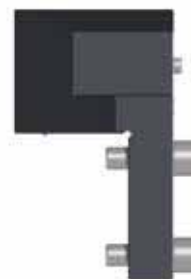
Indice torni a torretta

MEX Takamaz	XW50	MEX12-XW50REV-AXI-S328H	51
	XW50	MEX12-XW50REV-RAD-S327H	52
MEX Citizen	MS32	MEX12-M32-1-S367H	53
MEX Doosan	TT1800	MEX20-TT1800-1-S376H	54
MEX Hardinge	Quest 8/51	MEX20-HAR-REV-S329H	55

Takamaz XW50

MEX-Portautensile singolo/serraggio-Ø 12 mm

MEX12-XW50REV-AXI-S328H



Inclusive internal and external cooling by holder

Item number
MEX12-XW50REV-AXI-S328H

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Takamaz XW50

MEX-Portautensile singolo/serraggio-Ø 12 mm

MEX12-XW50REV-RAD-S327H



Inclusive internal and external cooling by holder

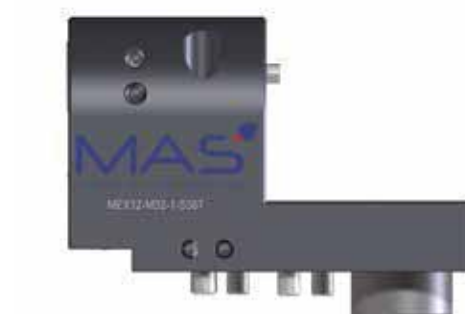
Item number
MEX12-XW50REV-RAD-S327H

Accessories page 69

Citizen M32

MEX-Portautensile singolo/serraggio-Ø 12 mm

MEX12-M32-1-S367H



Holder ideal for gun drill.

Height adjustment by MEX

Inclusive excenter adjustment inside the holder to compensate misalignment.

Inclusive internal cooling by holder.

Item number
MEX12-M32-1-S367H

Accessories page 69

Doosan TT 1 800

MEX-Portautensile singolo/serraggio-Ø 20 mm

MEX20-TT1800-1-S376H



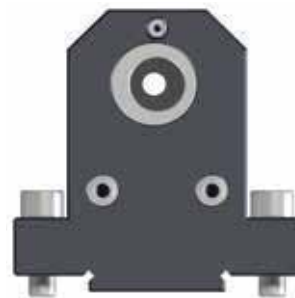
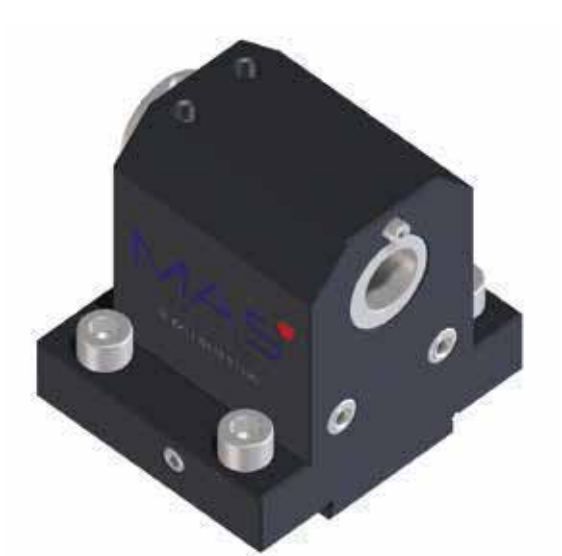
Inclusive internal and external cooling by holder

Item number
MEX20-TT1800-1-S376H

Accessories page 69

Hardinge Quest 8/51

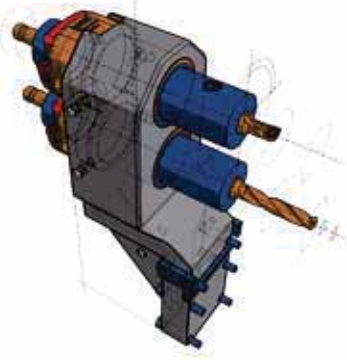
MEX20-HAR-REV-S329H



Inclusive internal cooling by MEX20-holder (G1/8")
Inclusive external cooling by holder

Item number
MEX20-HAR-REV-S329H

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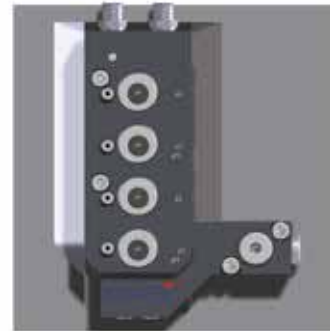
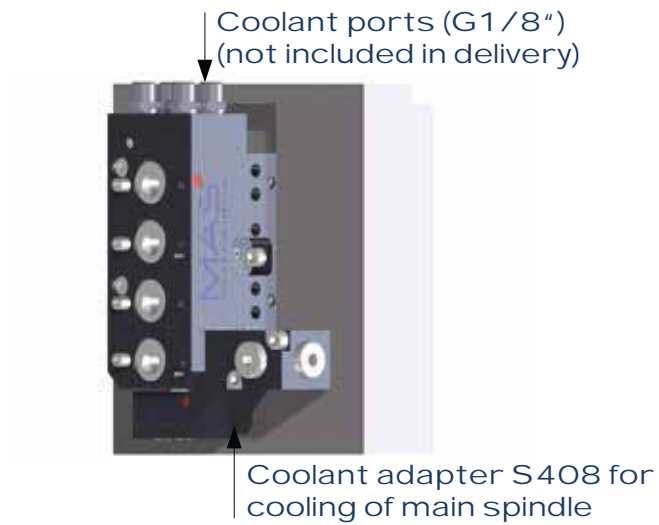
Indice torni a fantina mobile

MEX Tornos	DECO10	MEX12-DECO10-4-S369H	57
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Tornos DECO10

MEX-Portautensile quadruplo/serraggio-Ø 12 mm

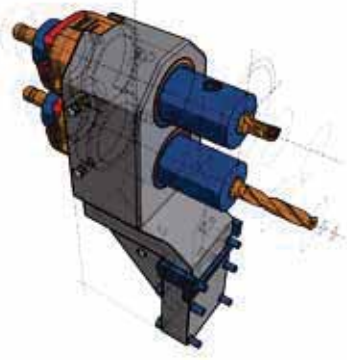
MEX12-DECO10-4-S369H



Inclusive internal cooling by holder

Item number
MEX12-DECO10-4-S369H

Accessories page 69



Presetting

MEX-presetting

Setting gauges for manual measuring und set up



Fig. MEX12-gauge-S287



Fig. MEX20-gauge-S289

Item number
MEX12-gauge-S287
MEX20-gauge-S289

HSK63 holder for presetters



Fig. MEX12-HSK63 holder



Fig. MEX20-HSK63 holder

Item number
MEX12-HSK63 holder
MEX20-HSK63 holder

MEX-presetting

SK50 holder for presetters



Fig. MEX12-SK50 holder

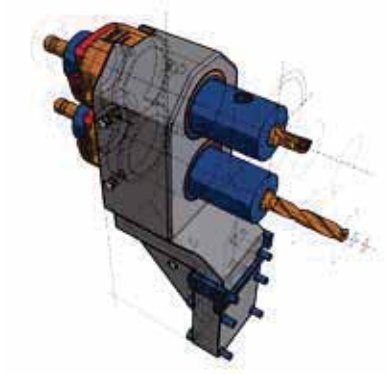
Item number
MEX12-SK50 holder
MEX20-SK50 holder

Holder similar to VDI80 for Zoller-presetter



Fig. MEX12-VDI80 holder

Item number
MEX12-VDI80 holder
MEX20-VDI80 holder



Indice serraggio idraulico

Hydraulic quill	Ø 28.5	62
Hydraulic quill	Ø 36	63
Hydraulic quill	Ø 51	64

Vantaggi

- Simple positioning of the quill in difficult accessible workspaces
- Vibration-cushioned clamping for better surfaces
- Very good tru run of tools
- Exact centric clamping
- Fast and proper tool change
- Eminently suitable for mould-, reamer- and subminiature tools

Serraggio idraulico Ø28.5

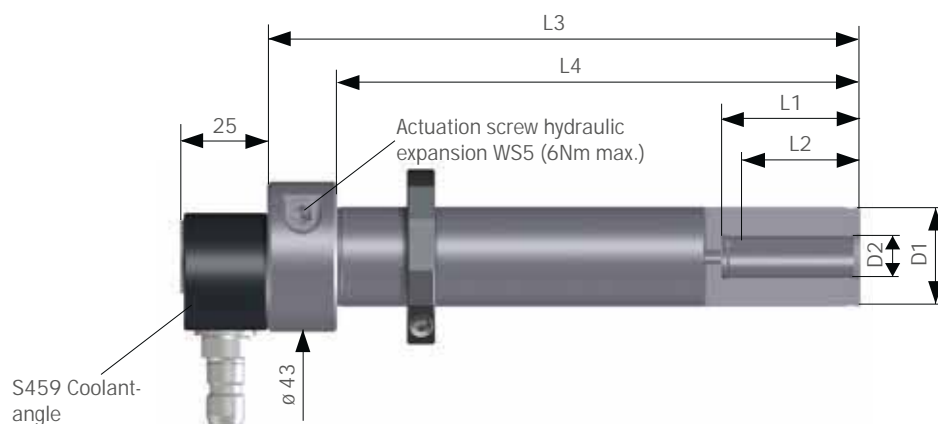


Fig. Hydraulic quill-28.5-12-S424

Inclusive S459 coolant-angle and quick clutch connection
Inclusive MEX28.5 ring

Item number	D1	D2	L1 ¹⁾	L2 ²⁾	L3	L4	Nm ³⁾	Shank shape
HP28.5-4-S424	28.5	4	20	15	170	150	6	HA
HP28.5-5-S424	28.5	5	37	31	170	150	6	HA
HP28.5-6-S424	28.5	6	40	30	170	150	6	HA
HP28.5-8-S424	28.5	8	40	30	170	150	17	HA
HP28.5-10-S424	28.5	10	40	37.5	170	150	38	HA
HP28.5-12-S424	28.5	12	40	37.5	170	150	60	HA,HB*,HE*
HP28.5-14-S424	28.5	14	55	52.5	170	150	120	HA,HB*,HE*
HP28.5-16-S424	28.5	16	55	52.5	170	150	155	HA,HB*,HE*

with shank tolerance h6

For shank shapes:
HA=smooth shank
HB=Weldon clamping surface
HE=Whistle notch

Run-out accuracy: max. 0.006 mm, measured at 3xD

1) Clamping length max.

2) Clamping length min.

3) Transferable torque



* Attention:
When using shank shapes HB and HE a loss of clamping power by around 30% will occur.



Attention:
In INDEX-twin holder Ø28,5 (W5190007) the use of quill is restricted! Centre distance of holders is only 34mm.

Serraggio idraulico Ø36

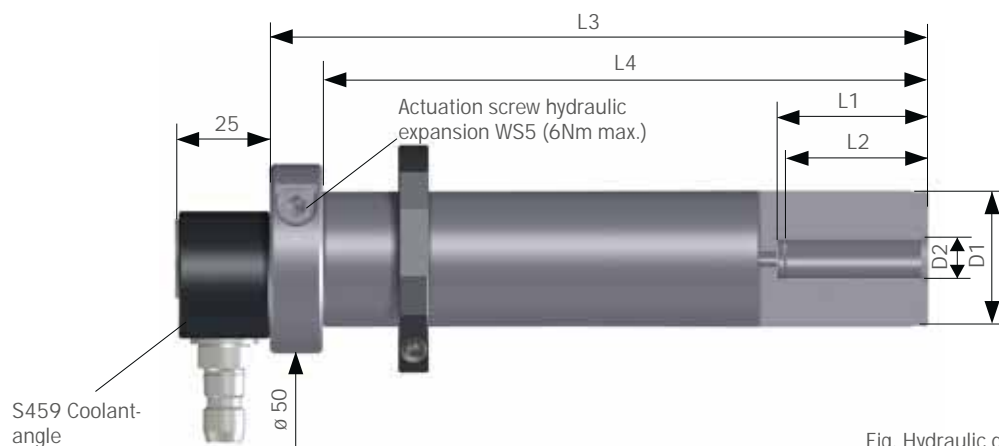


Fig. Hydraulic quill-36-10-S424

Inclusive S459 coolant-angle and quick clutch connection
Inclusive MEX36 ring

Item number	D1	D2	L1 ¹⁾	L2 ²⁾	L3	L4	Nm ³⁾	Shank shape
HP36-4-S424	36	4	20	15	172	160	6	HA
HP36-5-S424	36	5	37	31	172	160	6	HA
HP36-6-S424	36	6	40	30	174	160	6	HA
HP36-8-S424	36	8	40	30	174	160	17	HA
HP36-10-S424	36	10	40	37.5	174	160	38	HA
HP36-12-S424	36	12	40	37.5	174	160	60	HA,HB*,HE*
HP36-14-S424	36	14	55	52.5	174	160	120	HA,HB*,HE*
HP36-16-S424	36	16	55	52.5	174	160	155	HA,HB*,HE*
HP36-20-S424	36	20	55	52.5	174	160	260	HA,HB*,HE*

with shank tolerance h6

For shank shapes:
HA=smooth shank
HB=Weldon clamping surface
HE=Whistle notch



* Attention:
When using shank shapes HB and HE a loss of clampingpower by around 30% will occur.

Run-out accuracy: max. 0.006 mm, measured at 3xD

1) Clamping length max.

2) Clamping length min.

3) Transferable torque

Serraggio idraulico ø51

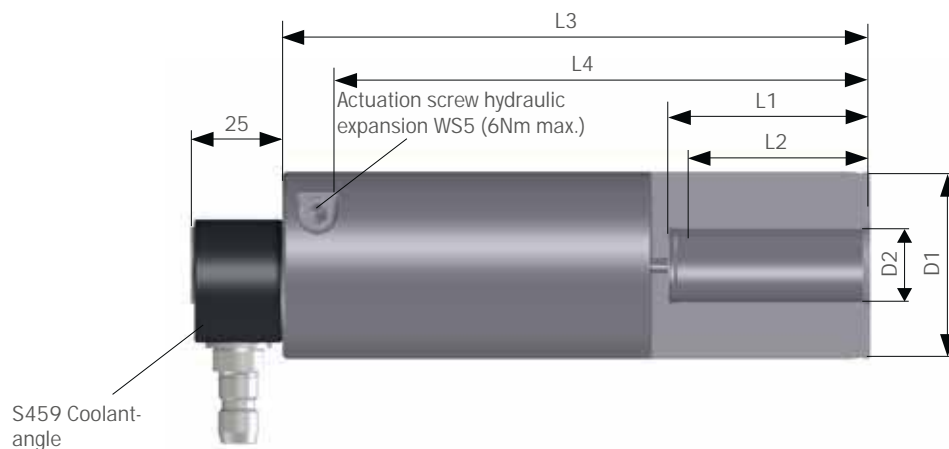


Fig. Hydraulic quill-51-20-S424

Inclusive S459 coolant-angle and quick clutch connection,
No clamping ring available

Item number	D1	D2	L1 ¹⁾	L2 ²⁾	L3	L4	Nm ³⁾	Shank shape
HP51-6-S424	51	6	40	30	160	145	6	HA
HP51-8-S424	51	8	40	30	160	145	17	HA
HP51-10-S424	51	10	40	37.5	160	145	38	HA
HP51-12-S424	51	12	40	37.5	160	145	60	HA,HB*,HE*
HP51-14-S424	51	14	55	52.5	160	145	120	HA,HB*,HE*
HP51-16-S424	51	16	55	52.5	160	145	155	HA,HB*,HE*
HP51-20-S424	51	20	55	52.5	160	145	260	HA,HB*,HE*

with shank tolerance h6

For shank shapes:
HA=smooth shank
HB=Weldon clamping surface
HE=Whistle notch



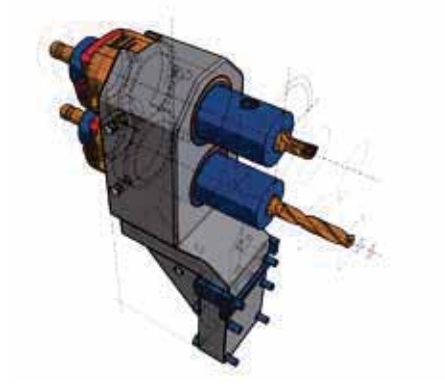
* Attention:
When using shank shapes HB and HE a loss of clampingpower by around 30% will occur.

Run-out accuracy: max. 0.006 mm, measured at 3xD

1) Clamping length max.

2) Clamping length min.

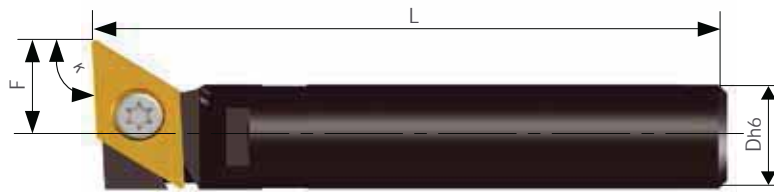
3) Transferable torque



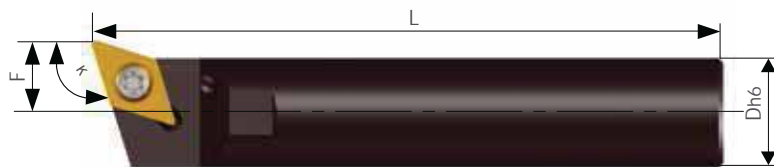
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MEX20 stelo tornitura esterna	68
MEX12 stelo tornitura interna	68

MEX 1 2 Steli tornitura esterna



MEX12-SDUCL11L70.9F11.15H25377



SDQCL-RD12X-07-H25470



SDUCL-RD12X-07-H25504

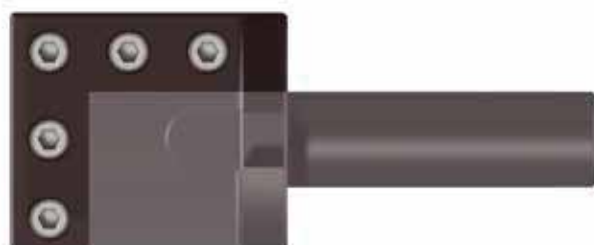


Item number	F	L	κ	Dh6	plate	Nm	IK	re/li/n	material
MEX12-SDUCL11L70.9F11.15H25377	11.15	70,9	93°	12	DC..11T3..		x	left	steel
SDQCL-RD12X-07-H25470	8	70	107.5°	12	DC..0702..	1-1.2	x	left	steel
SDUCL-RD12X-07-H25504	8	70	93°	12	DC..0702..	1-1.2	x	left	steel

MEX 1 2 Bareni



SCLCL-RD12X-06-H25505



MEX12 10X10 ADAPTER H25506

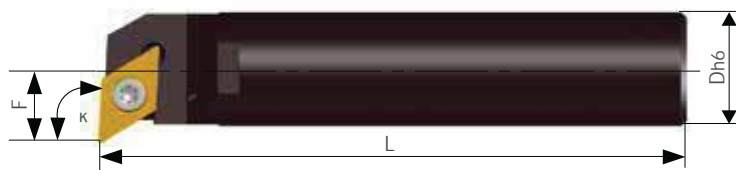


MEX12-2XDC07-H30196



Item number	F	L	κ	Dh6	plate	Nm	IK	re/li/n	material
SCLCL-RD12X-06-H25505	8	70	95°	12	CC..0602..	1-1.2	x	left	steel
MEX12 10X10 ADAPTER H25506									
MEX12-2XDC07-H30196				12	DC..0702..(2x)		x	left	steel

MEX 20 Steli tornitura esterna

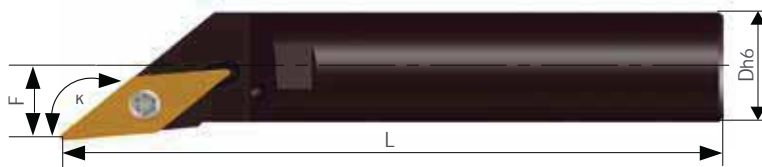


SDUCR-RD20H-11-H28631



Item number	F	L	κ	Dh6	plate	Nm	IK	re/li/n	material
SDUCR-RD20H-11-H28631	13	100	93°	20	DC..11T3..		x	right	steel

MEX 1 2 Steli tornitura interna



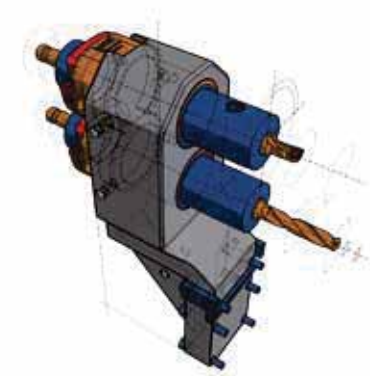
MEX12-SVOCR11 H25469



SDQCL-RD12X-11-H27944



Item number	F	L	κ	Dh6	plate	Nm	IK	re/li/n	Dmin	material
MEX12-SVOCR11 H25469	8	70	140°	12	VC..1103..		x	right		steel
SDQCL-RD12X-11-H27944	9	70	107.5°	12	DC..11T3..		x	left	20	steel



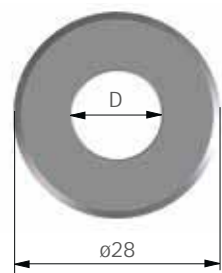
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Anello serraggio S 4 20



Fig. clamping ring S420-12



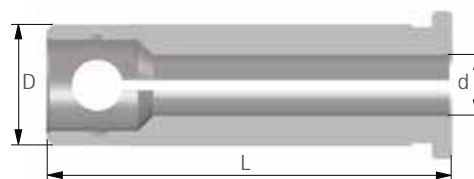
Item number	D (mm)
S420-6	6
S420-8	8
S420-10	10
S420-12	12
S420-14	14
S420-16	16
S420-20	20

Intermediate sizes and special sizes available on demand!

MEX -Bussole riduzione non sigillate



Fig. Red12-6KM



Item number	D (mm)	d	L
RED12-2KM	12	2	40
RED12-3KM	12	3	40
RED12-4KM	12	4	40
RED12-5KM	12	5	40
RED12-6KM	12	6	40
RED12-7KM	12	7	40
RED12-8KM	12	8	40
RED12-9KM	12	9	40
RED12-10KM	12	10	40

Intermediate sizes and special sizes available on demand!

Item number	D (mm)	d	L
RED16-3KM	16	3	50
RED16-4KM	16	4	50
RED16-5KM	16	5	50
RED16-6KM	16	6	50
RED16-8KM	16	8	50
RED16-10KM	16	10	50
RED16-12KM	16	12	50

Intermediate sizes and special sizes available on demand!

Item number	D (mm)	d	L
RED20-3KM 192003000 F26762	20	3	54
RED20-4KM 192004000 F26762	20	4	54
RED20-5KM 192005000 F26762	20	5	54
RED20-6KM 192006000 F26762	20	6	54
RED20-7KM 192007000 F26762	20	7	54
RED20-8KM 192008000 F26762	20	8	54
RED20-10KM	20	10	53
RED20-12KM	20	12	53
RED20-14KM	20	14	53
RED20-16KM	20	16	53
RED20-18KM	20	18	53

Intermediate sizes and special sizes available on demand!

MEX -Bussole riduzione sigillate

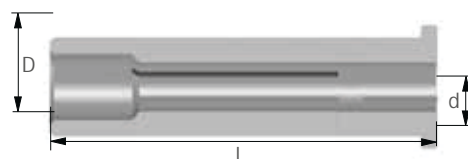


Fig. Red12-6GD

Item number	D (mm)	d	L
RED12-3GD	12	3	47
RED12-4GD	12	4	47
RED12-5GD	12	5	47
RED12-6GD	12	6	47
RED12-8GD	12	8	47
RED12-10GD	12	10	47

Intermediate sizes and special sizes available on demand!

Item number	D (mm)	d	L
RED16-3GD	16	3	55
RED16-4GD	16	4	55
RED16-5GD	16	5	55
RED16-6GD	16	6	55
RED16-8GD	16	8	55
RED16-10GD	16	10	55
RED16-12GD	16	12	55
RED16-14GD	16	14	55

Intermediate sizes and special sizes available on demand!

Item number	D (mm)	d	L
RED20-3GD	20	3	62
RED20-4GD	20	4	62
RED20-5GD	20	5	62
RED20-6GD	20	6	62
RED20-8GD	20	8	62
RED20-10GD	20	10	62
RED20-12GD	20	12	62
RED20-14GD	20	14	62
RED20-16GD	20	16	62
RED20-18GD	20	18	62

Intermediate sizes and special sizes available on demand!

MEX -bussole



Minimum clamping length: 34 mm

Minimum clamping length: 48 mm

Item number	D (mm)	Transferable torque (Nm)	Max. clamping depth (mm)
MEX12-sleeve	12	60	40
MEX12R-H-E1151	12	80	40
MEX20-sleeve	20	110	60



Item number	D (mm)	Transferable torque (Nm)	Max. clamping depth (mm)
MEX25,4-sleeve*high frequency	25.4	50	-
MEX28,5-sleeve	28.5	250	-

*Torque designed for HFS



Item number	D (mm)	Transferable torque (Nm)	Max. clamping depth (mm)
MEX33-sleeve*high frequency	33	75	-
MEX36-sleeve	36	300	-

*Torque designed for HFS

MEX -porta pinza

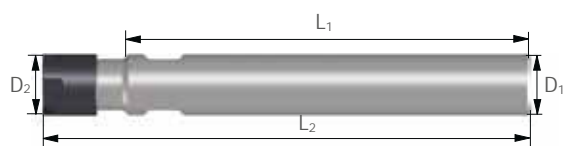


Fig. S398 collet toolholder ER8M



Fig. S399 collet toolholder ER16M



Fig. S403 collet toolholder ER16

Item number	L ₁	L ₂	D (mm)	D ₂ (mm)
S398 collet toolholder ER8M	80	97.1	12	12
S398 collet toolholder ER16M	155	181.5	20	22
S403 collet toolholder ER16	50	80.5	20	28
Wrench				
E8M 7113.08000 ER8				
E16P 7112.16010 ER16				
E16M 7113.16000 ER16				



Fig. collet ER8

Item number	Ø
ER8	Ø1mm - 2.5mm
ER8	Ø3mm - 5mm
ER16	Ø1mm - 2.5mm
ER16	Ø3mm - 10mm
ER16	Ø3.5mm - 9.5mm
Ultra-precision	
ER8 UP*	Ø1mm - 2.5mm
ER8 UP*	Ø3mm - 5mm
ER16 UP*	Ø1mm - 2.5mm
ER16 UP*	Ø3mm - 10mm
ER16 UP*	Ø3.5mm - 9.5mm

* Graded in steps of 0,5mm

MEX -anelli

For MEX12 and MEX20 sleeves



Fig. MEX12-ring

Item number	D	B	T	1	2
MEX12-ring	12	26.5	6	M3x12 DIN912/12.9	M3x5 DIN912/8.8
MEX20-ring	20	37.2	8	M4x16 DIN912/12.9	M3x5 DIN912/8.8

For quills and high frequency spindles



Fig. MEX28.5-ring

Item number	D	B	T	1
MEX25,4-ring	25.4	39.7	8	M4x12 DIN912/12.9
MEX28,5-ring	28.5	39.7	8	M4x12 DIN912/12.9
MEX33-ring	33	49.7	8	M4x12 DIN912/12.9
MEX36-ring	36	49.7	8	M4x12 DIN912/12.9

MEX IN©turn barre barenatura

Fig. MEX12-IN4 H25452

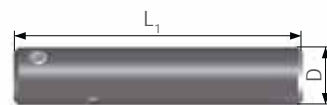


Fig. MEX12-IN5 H30316
Inclusive alignment face

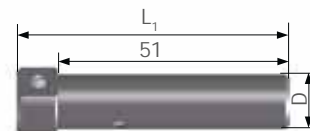


Fig. MEX12-IN6 H25451

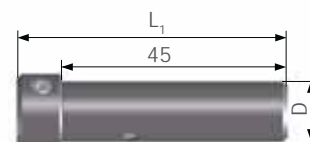


Fig. MEX20-IN4 H21707

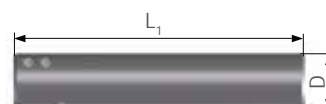


Fig. MEX20-IN6 H19845
Inclusive alignment face



Item number	L ₁ (mm)	D (mm)	Clamping-Ø (mm)
MEX12-IN4 H25452	60	12	4
MEX12-IN5 H30316	60	12	5
MEX12-IN6 H25451	54	12	6
MEX20-IN4 H21707	100	20	4
MEX20-IN6 H19845	68	20	6

MEX IN©turn barre barenatura



Fig. MEX20-IN6.20HA-H18783

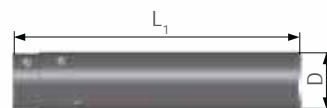
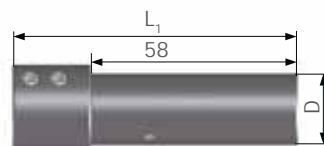


Fig. MEX20-IN10.20HA-H33574



Item number	L ₁ (mm)	D (mm)	Clamping-Ø (mm)
MEX20-IN6.20HA-H18783	100	20	6
MEX20-IN10.20HA-H33574	80	20	10

Upcharge IC=49,60 €



Fig. MEX20-IN4-HD-E4316

Item number
MEX20-IN4-HD-E4316
MEX20-IN6-HD-E949
MEX20-IN8-HD-E4315
MEX20-IN6-HD-E5020 (left tools only)

calibri settaggio

MEX IN©turn per allineamento barre barenatura



Fig. IN4-gauge



Fig. IN6-gauge



Fig. IN8-gauge

Item number
IN4-gauge
IN6-gauge
IN8-gauge

VHM-Spine cilindriche

Per presetting MEX



Fig. H01002-10H6x100 mm

Item number	D (mm)	L (mm)
H01002-4H6x80mm	4	80
H01002-5H6x80mm	5	80
H01002-6H6x80mm	6	80
H01002-8H6x80mm	8	80
H01002-10H6x100mm	10	100
H01002-12H6x100mm	12	100
H01002-12H6x140mm	12	140
H01002-16H6x100mm	16	100
H01002-20H6x140mm	20	140

Special length and diameter available on demand.

Istruzioni uso

Pulizia

Please, pay attention to tidiness of toolholder bore and tool shank.

Serraggio

Minimum clamping length in hydraulic expansion (*) arbor to be attended. Clamping of the shank by turning of the clamping bolt untill stop. **No clamping without a tool!**

Serraggio steli

Only smooth shanks and tool shanks according DIN 1835 form A and B (up to 12mm) as well as boring bars with clamping surfaces to be clamped with reducing sleeves.

Temperatura

The optimal temperature scope is between 10 + 50°. Do not operate above 80°.

Magazzino

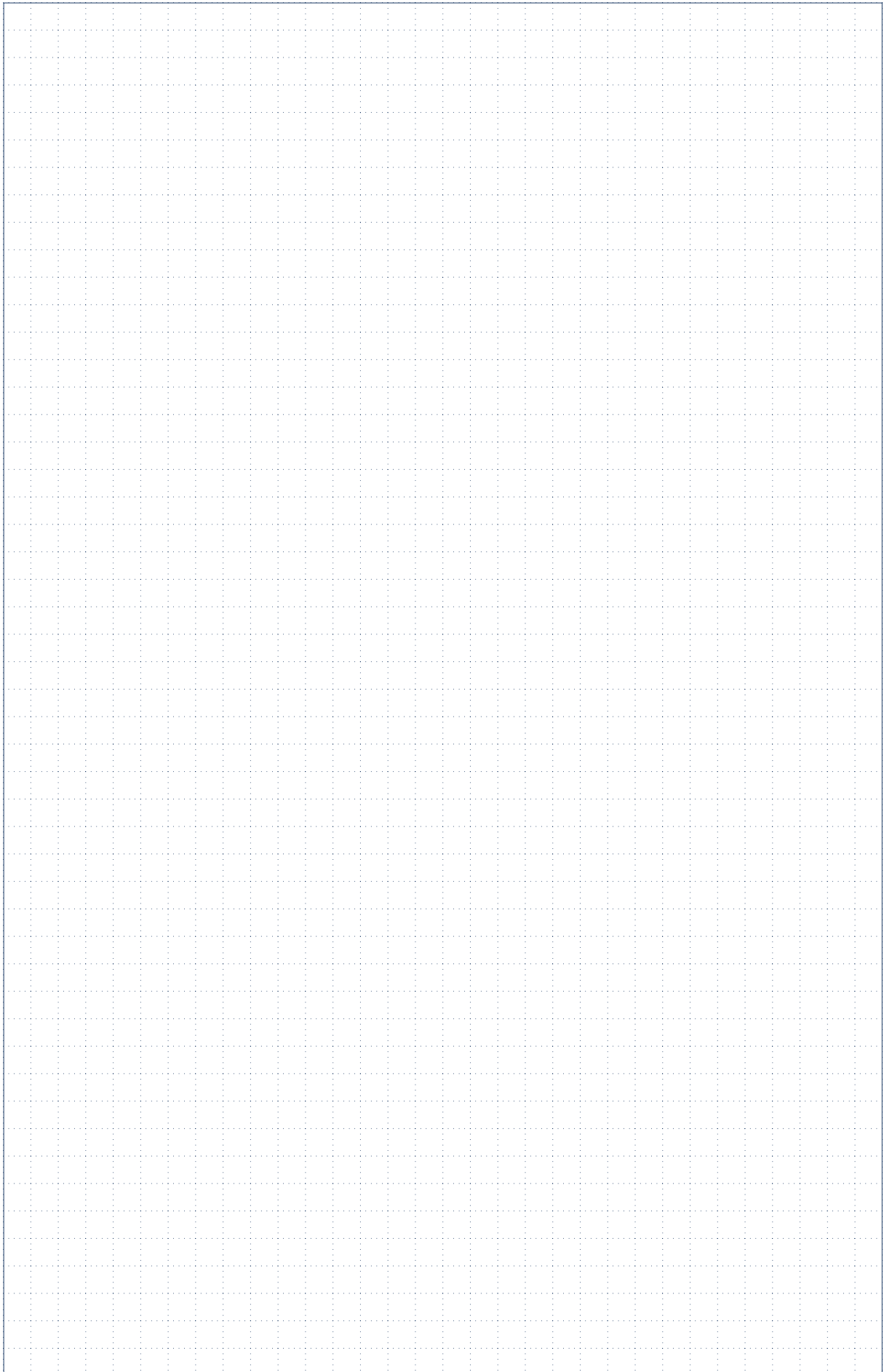
Hydraulic expansion shucks to be stored in unclamped, cleaned und slightly oiled way.

We would like to send you our product portfolio. Please visit our website.

www.mas-tools.de



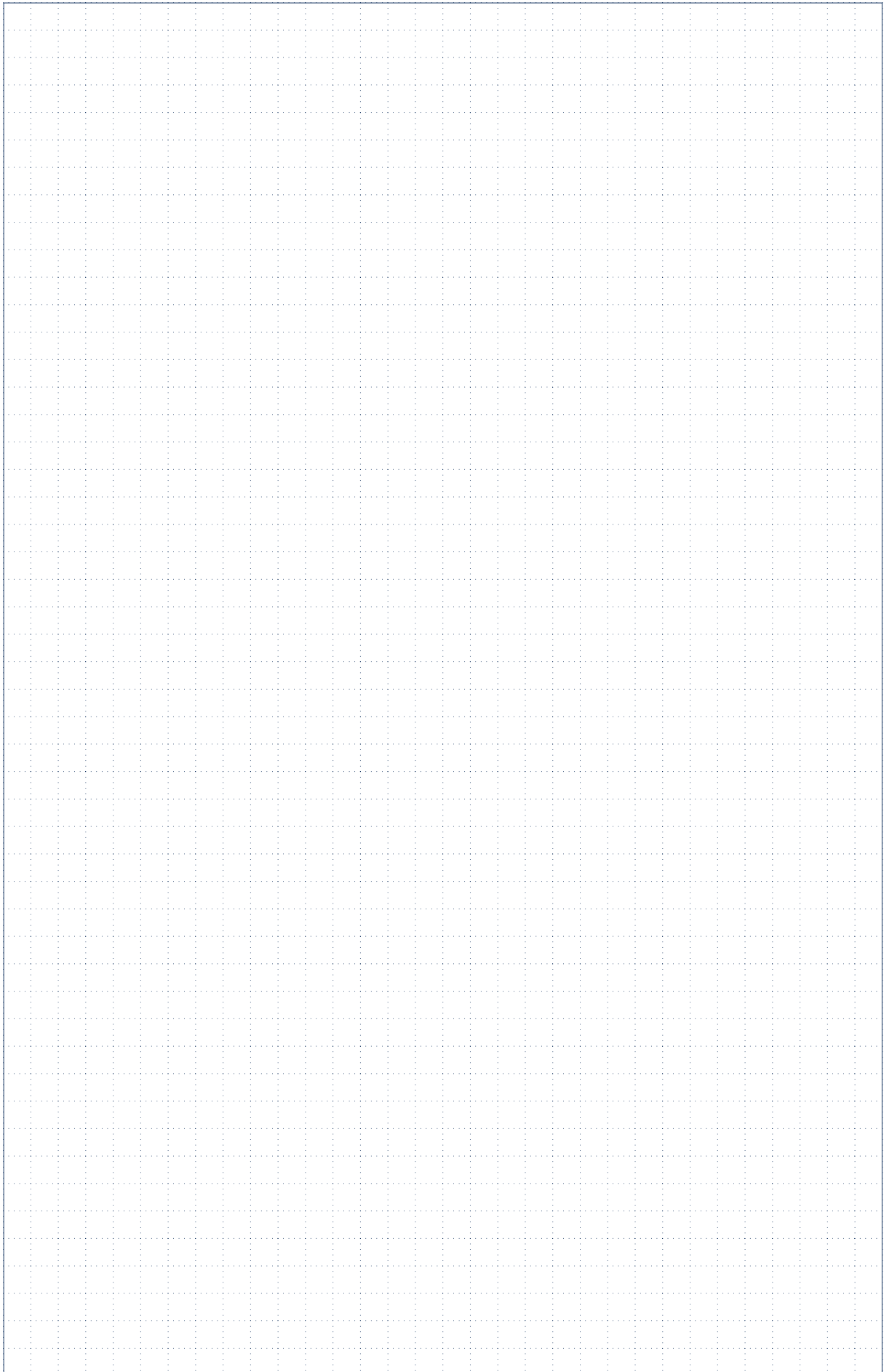
Notes



Notes

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Notes



Terms and Conditions of MAS GmbH for foreign companies

1. Validity

These terms apply to deliveries to customers not domiciled in Germany. Deviating or additional terms of the purchaser are not binding on us, even if we do not contradict the terms in each individual case, unless we explicitly acknowledge them. In this case, they shall only be valid for the individual contract. Special agreements between the customer and us shall remain unaffected by this paragraph.

2. Conclusion of Contract

2.1. Our offers are subject to change.

2.2. Orders are only accepted by us when we have provided confirmation. The receipt of a delivery note or invoice by the purchaser as well as the execution of delivery or performance shall be considered as confirmation.

2.3. The contract is subject to self-supply. This does not apply if we are responsible for non-delivery, in particular if we have not concluded a corresponding cover purchase. We will inform the purchaser immediately about the unavailability of the product and refund any rendered payments without delay.

3. Prices and Payment Terms

3.1. Our prices are based on the list price as at the date of conclusion of the contract plus Sales Tax and do not include packaging and transport costs from the factory. Additional costs shall be calculated on production of supporting documentation.

3.2. We are entitled to increase prices when delivery is to take place more than four months after the conclusion of the contract, or may increase prices for reasons for which the purchaser is responsible. For a delivery more than six weeks after the conclusion of the contract, we are entitled to a reasonable price increase if our costs increase, in particular material prices, energy costs, negotiated wages, statutory and collectively agreed social security benefits and shipping costs if these costs are not offset by other cost reductions.

3.3. Payment in full is due upon delivery of the goods to the purchaser and payable in Euro.

3.4. We reserve the right to accept bills of exchange and cheques. Bills of exchange and cheques shall be accepted only on account of payment taking into account all costs and expenses and without warranty for timely presentation and protest.

3.5. The purchaser is entitled to offset a claim against payment only if its claim is legally established or undisputed. Provided however that the offset may only apply in respect of the particular contract in which the claim arise and not in respect of a separate contract.

4. Delivery and Transfer of Risk

4.1. Information as to the delivery time is not binding, unless a delivery date has been expressly agreed upon.

4.2. We have the right to make partial deliveries - provided the same is reasonable for the purchaser - and may invoice each delivery separately.

4.3. The delivery of 10 % more or less than the amount ordered shall be prepared as the minimum (and shall not constitute a breach)

4.4. Our deliveries are made through EX WORKS - EXW (Incoterms 2010), unless otherwise agreed. When the shipment of the goods is agreed, the risk of accidental loss and accidental deterioration of the product transfers to the purchaser upon dispatchment of the product from our factory or warehouse, even if we make the delivery, pay the shipping costs or perform the installation of the product. The shipment method, route and packaging shall be chosen at our discretion in the absence of written instructions from the purchaser. In the case of export the purchaser is obliged to provide us with all necessary information and documents in a timely manner. Transport insurance will only be taken out at the request, and in the name of the purchaser.

4.5. The purchaser must immediately notify the transportation company of any visible damage occurring during transportation by noting the same on the bill, shipping order or delivery note and signing it. If this is not possible, the purchaser must file a damage report.

4.6. If delivery is delayed due to circumstances for which the purchaser is responsible, the risk passes to the purchaser from the date the shipment is ready to be dispatched. In this case, we are entitled to store the goods at our discretion at the expense and risk of the purchaser and to demand payment of the agreed price.

5. Retention of title and security interests

5.1. We retain ownership of our goods („Reserved Goods“) until full payment on all current and future amounts arising from the business relationship, including all ancillary claims have been paid. For open accounts, the most recently delivered goods shall be considered as security for the outstanding balance.

5.2. The purchaser is entitled to sell the goods in the ordinary course of its business operations. The purchaser hereby assigns all his rights arising from the sale, including subject to our retention of title claim all ancillary rights, to us. We accept this assignment.

5.3. The purchaser shall not pledge or provide as security the goods subject to our retention of title claim. Seizure of goods subject to paragraph 5.2 by Third Parties, in particular garnishments, is to be notified to us in writing by the purchaser. In

the event of third party seizures of the goods subject to reservation of title, the purchaser shall be obliged to reject immediately the seizure by referencing our ownership rights.

5.4. Application petition for insolvency proceedings in respect the assets shall entitle us to withdraw from the contract and demand the immediate return of the goods.

5.5. We shall waive our rights concerning the reserved goods and claims under paragraph 5.2 insofar as far as the realisable value of the collateral exceeds 110% of the secured debt. The waiver shall occur as a result of transfer or reassignment.

5.6. The purchaser shall bear the cost of the return and processing of the goods. The cost is a flat rate of 5% of the liquidation proceeds, including Sales Tax, unless we establish higher costs or the purchaser establishes lower costs.

6. Claims for defects

6.1. In case of defects we shall, at our sole discretion, remedy the defect or make a new delivery (subsequent performance). In case of failure, unreasonable

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6. Claims for defects

6.1. In case of defects we shall, at our sole discretion, remedy the defect or make a new delivery (subsequent performance). In case of failure, unreasonableness or refusal of the subsequent performance, the purchaser may reduce the price or, only when the defects are not minor, withdraw from the contract or demand compensation pursuant to Article 7.

6.2. The purchaser is obliged to promptly inspect the goods and promptly issue a notification of defect within seven business days.

6.3. Only in the context of an appropriate written agreement shall we cover expenses in connection with the rectification when arising from the fact that the goods being transported to a place other than the place of delivery.

6.4. The purchaser shall not be entitled to assign defect-related claims.

7. Liability for damages and expenses

7.1. We have unlimited liability for personal injury, as well as for intent and gross negligence and for the lack of guaranteed properties. We do not accept liability for ordinary negligence, including infringement of obligations under the contract or in tort, unless we have broken a material contractual obligation (for example, the obligation to a defect free and timely delivery). In this case, our liability is limited to the usual contractual damages, which, in the circumstances known to us, we could expect as arising from the contract.

7.2. Damages of up to 25,000 € are considered as usual and predictable arising from a contract.

7.3. In determining the amount of compensation to be paid by us, our economic situation, the nature, scope and duration of the business relationship, possible cause and/or fault on the part of the purchaser and particularly unfavourable installation situations of the goods shall be resolved in our favour. In particular damages, costs and expenses that we are to bear shall be proportionate to the value of the goods.

7.4. The above rules shall apply to our liability for reimbursement of futile expenses.

8. Limitation period of defect and compensation claims

8.1. The limitation period for claims arising out of a defect is one year. This does not apply to damages or compensation claims that are based on damage to health or damages based on a deliberate act or gross negligence.

8.2. The limitation period for claims of the purchaser for damages and expenses that are not based on a defect in the goods is one year. This does not affect the statutory limitation for claims due to a deliberate act or gross negligence or injury to body or health and claims under the Product Liability Act.

9. Reservation of performance

9.1. The performance of this contract is subject to the proviso that there are no obstacles in German, US and other applicable national, EU or international foreign trade laws and that no conflicting custom embargoes or sanctions are present.

9.2. The purchaser is obliged to provide all the information and documents required for the export, transfer or import.

10. Final provisions

10.1. Our domicile shall be the place of jurisdiction for all disputes arising in connection with the contractual relationship. However, we are also entitled to sue in the domicile of the purchaser.

10.2. Swiss law shall apply.

10.3. If any provision of these conditions is or becomes invalid, the validity of the remaining provisions shall not be affected.

As of 02/2016



PEOPLE
Cooperation in a fair
partnership

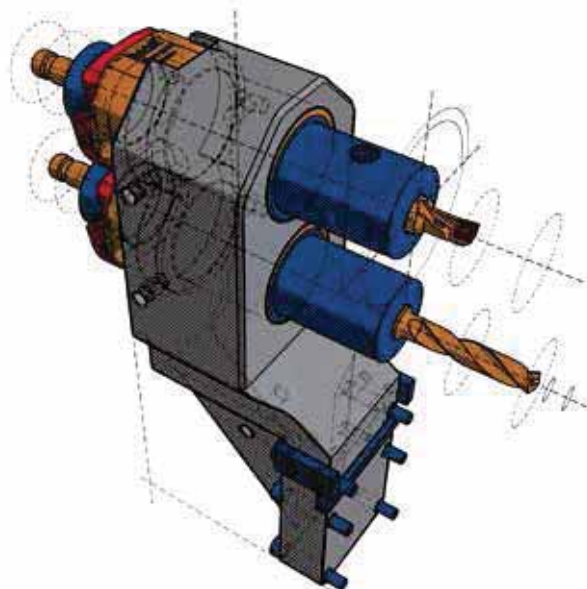


AMBITION
Question yesterday's, in order
to develop new solutions for
today and tomorrow



SYNERGY
Share our
strengths

MEX-System Overview



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TOOLS & ENGINEERING

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Changes / Errors excepted