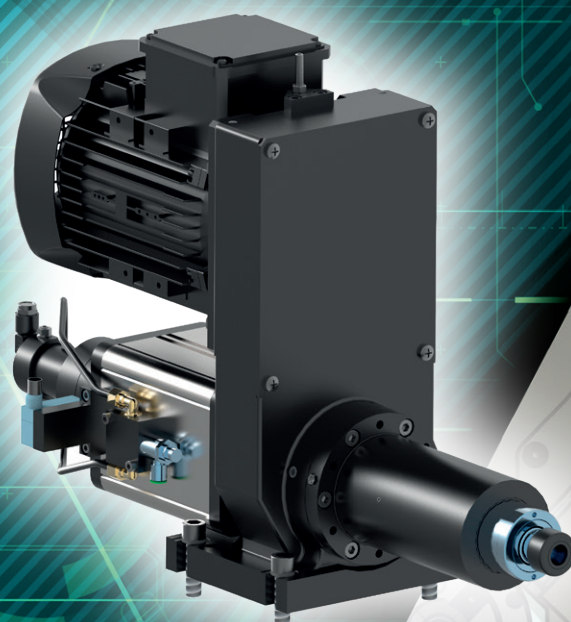
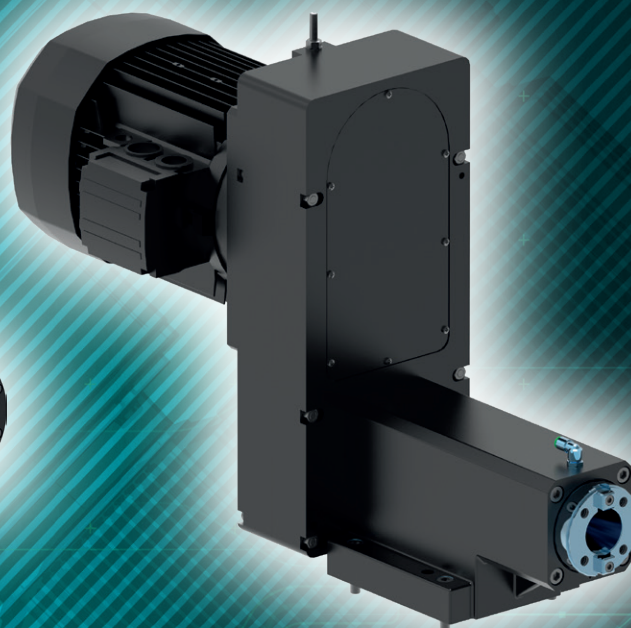


UNITS



MACHINING UNITS

ERLO GROUP

RELIABLE SOLUTIONS



Since it was founded in 1962, ERLO has distinguished itself as a leader in drilling and screw tapping technology. What began with the manufacture of conventional drills has evolved towards custom automated machining solutions, always with a firm commitment to innovation and technical excellence.

At present, **ERLO Group** consists of three specialised business units:

ERLO Drills: Conventional drills and tapping machines.

ERLO Solutions: Custom shaping and machining solutions.

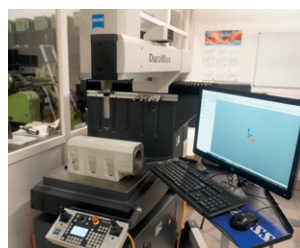
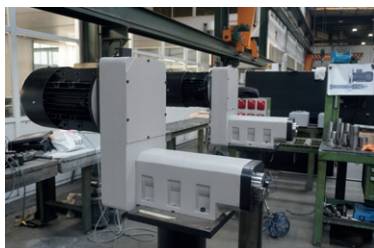
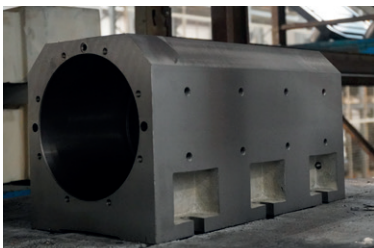
ERLO Units: High performance machining units.

ERLO Units began in 2003, making use of the accumulated experience of the divisions **ERLO Drills** and **ERLO Solutions**, as well as the group's advanced production facilities.

Thanks to its proprietary engineering, **ERLO** has developed an innovative range of machining units, fruit of decades of research and ongoing improvement and the constant launch of new products. Today, this business unit proudly presents its new portfolio.

This catalogue is designed to satisfy the needs of engineering companies and manufacturers of special machines that seek solutions for automating machining processes. It is also aimed at manufacturers of steel processing machinery. Leading companies in technologies such as plasma cutting, oxy-fuel cutting or combined saw and drill systems place their trust in **ERLO** machining units and integrate them into their solutions, bringing precision and efficiency to every project.

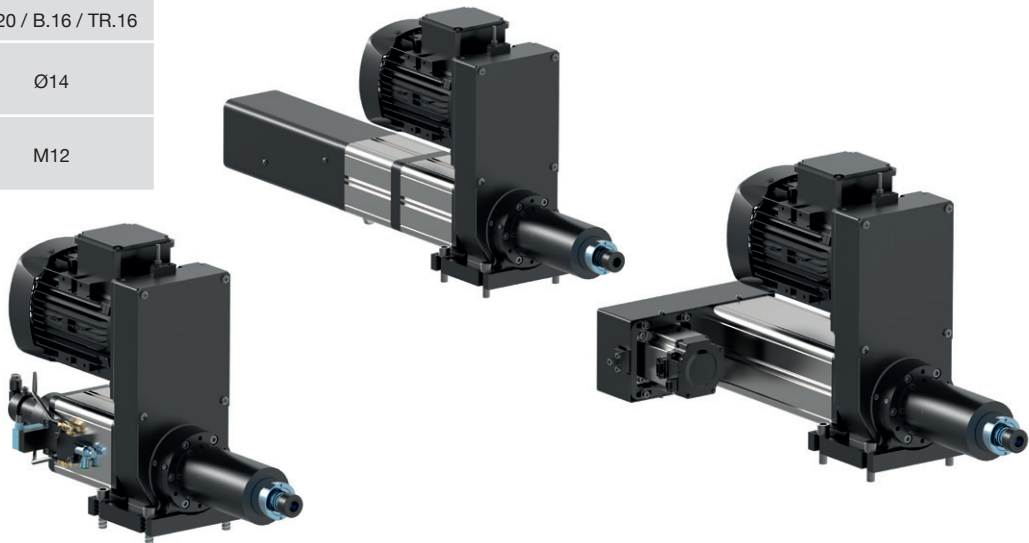
ERLO Units, your trusted partner for machining solutions.



CS-CR-CX.14

MAIN CONE	ER.20 / B.16 / TR.16
DRILLING CAPACITY (600 N/mm²)	Ø14
TAPPING CAPACITY (600 N/mm²)	M12

P. 4



CG.16

MAIN CONE	ISO 30
DRILLING CAPACITY (600 N/mm²)	Ø16
TAPPING CAPACITY (600 N/mm²)	M12

P. 6



CG.30

MAIN CONE	ISO 40 / BT 40
DRILLING CAPACITY (600 N/mm²)	Ø35
TAPPING CAPACITY (600 N/mm²)	M24

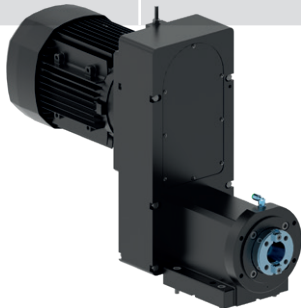
P. 8



CGCM.30

MAIN CONE	ISO 40
DRILLING CAPACITY (600 N/mm²)	Ø35
TAPPING CAPACITY (600 N/mm²)	M24

P. 10



CG.40

MAIN CONE	ISO 40 / BT 40 / HSK 63
DRILLING CAPACITY (600 N/mm²)	Ø50
TAPPING CAPACITY (600 N/mm²)	M33

P. 12



CG.50

MAIN CONE	ISO 50 / BT 50 / HSK 100
DRILLING CAPACITY (600 N/mm²)	Ø80
TAPPING CAPACITY (600 N/mm²)	M48

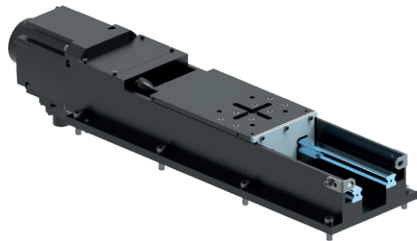
P. 14



CA.16

RANGE	200 mm
MAXIMUM THRUST FORCE	5400 N
MAXIMUM FEED SPEED	20 m/min

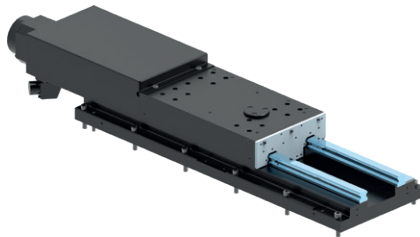
P. 16



CA.30

RANGE	250 mm
MAXIMUM THRUST FORCE	8000 N
MAXIMUM FEED SPEED	30 m/min

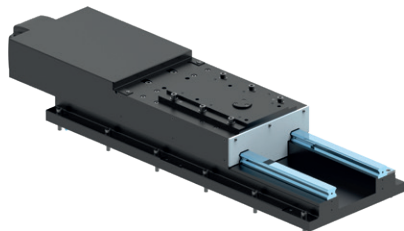
P. 18



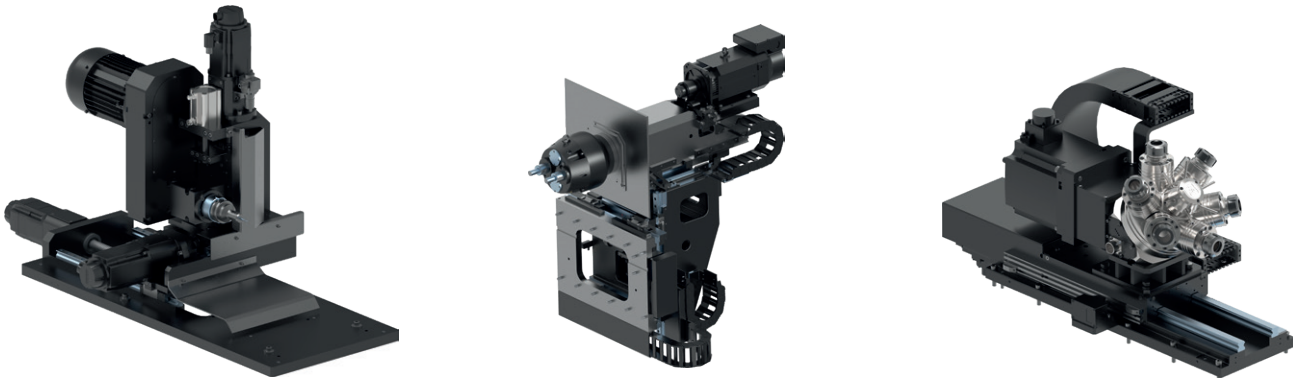
CA.40

RANGE	320/400 mm
MAXIMUM THRUST FORCE	24000 N
MAXIMUM FEED SPEED	40 m/min

P. 20



SPECIAL PROJECTS



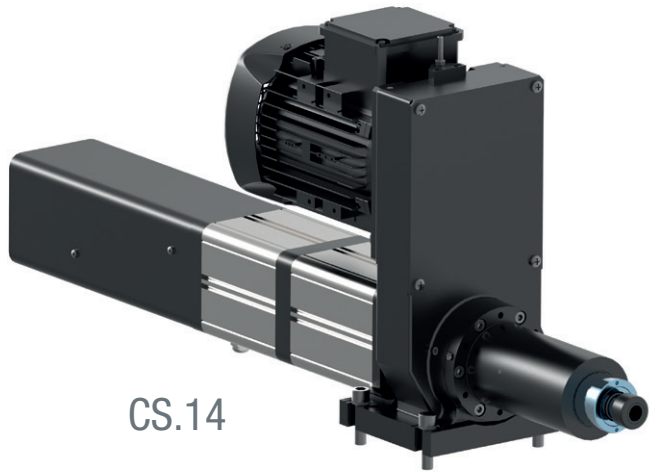
P. 22 / 23 / 24

CS-CR-CX.14

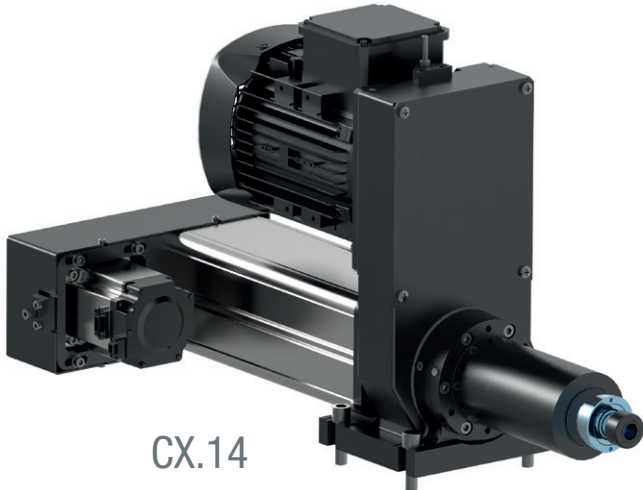
Machining unit
with quill



CR.14



CS.14



CX.14

TECHNICAL SPECIFICATIONS

MAIN CONE	ER.20 / B.16 / TR.16
DRILLING CAPACITY (600 N/mm ²)	Ø14
TAPPING CAPACITY (600 N/mm ²)	M12
DRILLING CAPACITY	NO
MAXIMUM REVOLUTIONS	7500 rpm
MAXIMUM ROTATIONAL TORQUE	50 Nm

AXIAL LOAD CAPACITY	2200 N
RADIAL LOAD CAPACITY	NO
BEARING LUBRICATION	GREASE (maintenance free)
CONCENTRICITY	0.01 mm
WEIGHT	55 KG

ACCESSORIES

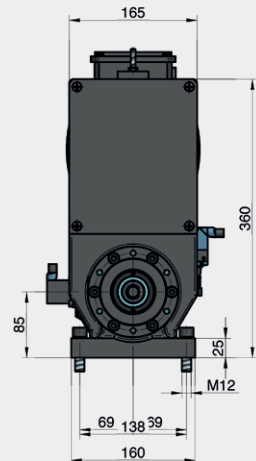
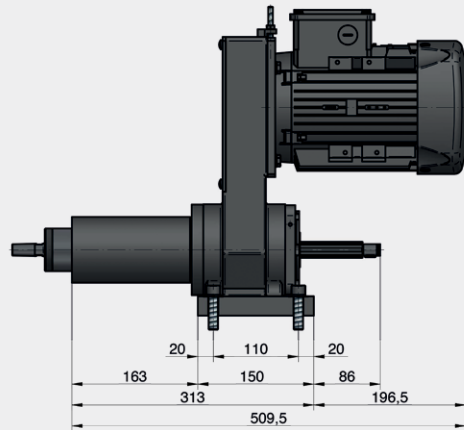


Tool holder

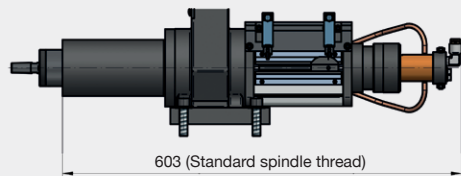


Head VH

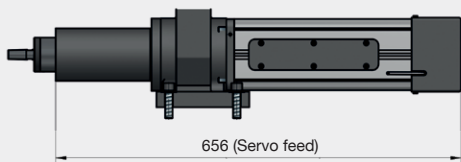
DIMENSIONS



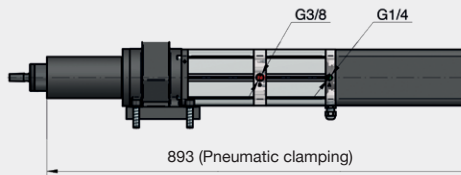
FEED ASSEMBLY DIMENSIONS



CR-14

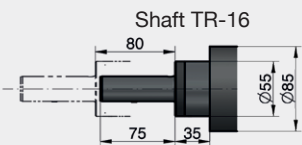


CX-14

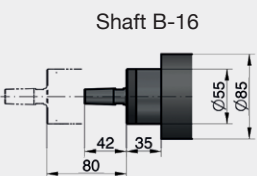


CS-14

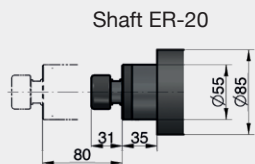
TOOL HOLDER SHAFT DIMENSIONS



Shaft TR-16



Shaft B-16



Shaft ER-20

CONFIGURATION SYSTEM

CS.14 514 0 - B 1

1 2 3 4 5

1 - Head

CS.14 (Pneumatic feed)

CR.14 (Standard spindle)

CX.14 (Servo feed)

2 - Transmission

	RPM	TORQUE (Nm)	Transmission	Motor
503	1450	14.4	1/2	2.2 kW 3000 rpm
504	1160	18	1/2.5	
505	928	22.5	1/3.1	
512	2900	7.2	1/1	
514	1827	11.4	1/1.6	
522	4603	4.5	1.6/1	
523	3625	5.8	1.25/1	
526	7250	2.9	2.5/1	1.5 kW 1500 rpm
527	5754	3.6	2/1	
533	725	20	1/2	
535	464	31.3	3.1/1	1.1 kW 1000 rpm
540	580	25	1/2.5	
546	2320	6.25	1.6/1	
564	380	28	2.5/1	
565	304	35	3.1/1	1.1 kW 1000 rpm
580	608	17.5	1/1.56	

* Consult us for other motor configurations or transmission ratios

3 - Tool holder

0: B-16

1: ER-20

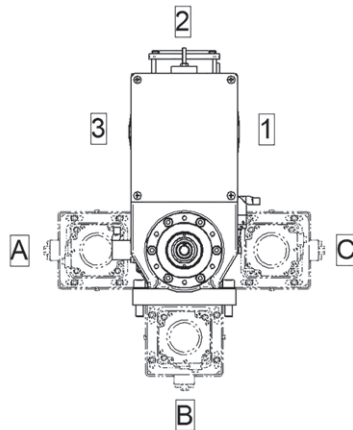
2: TR-16

4 - Feed assembly
orientation

A, B, C

5 - Orientation of the
motor junction box

1, 2, 3



Machining unit for modular assembly



TECHNICAL SPECIFICATIONS

MAIN CONE	ISO 30
DRILLING CAPACITY (600 N/mm²)	Ø16
TAPPING CAPACITY (600 N/mm²)	M12
DRILLING CAPACITY	NO
MAXIMUM REVOLUTIONS	10000 rpm
MAXIMUM ROTATIONAL TORQUE	50 Nm

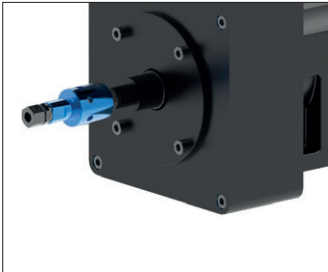
AXIAL LOAD CAPACITY	2900 N
RADIAL LOAD CAPACITY	NO
BEARING LUBRICATION	GREASE (maintenance free)
CONCENTRICITY	0.01 mm
WEIGHT	40 KG

ACCESSORIES

Rotary joint	1 channel for coolant (max. 60 µm)
	Coolant, oil, MQL
	Max. pressure 70 bar (MQL 10 bar)



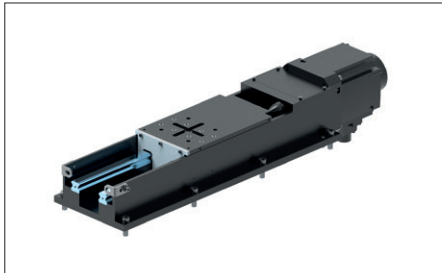
Tool holder



Rotary joint



Column SB

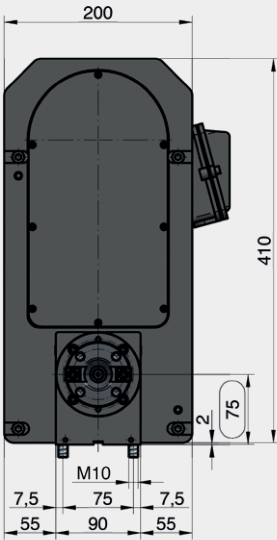
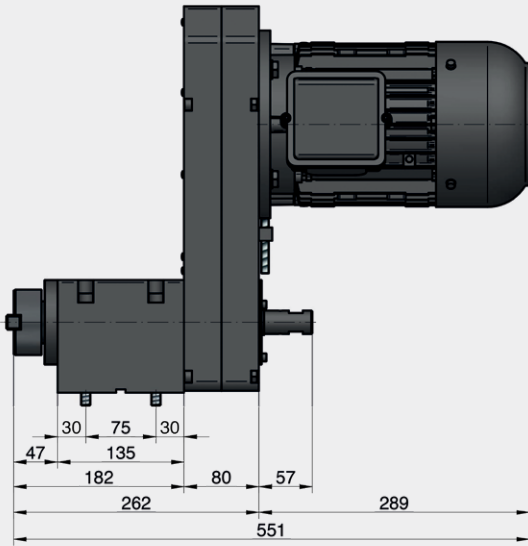


CA.16

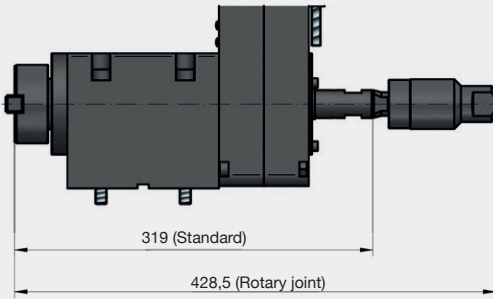


Head VH

DIMENSIONS



ACCESSORY DIMENSIONS



CONFIGURATION SYSTEM

CG.16 525 0 - B 1

1 2 3 4

1 - Transmission

	RPM	TORQUE (Nm)	Transmission	Motor
525	7213	2.9	2.5/1	2.2 kW 3000 rpm
527	4808	4.3	1.7/1	
528	3606	5.8	1.25/1	
529	2885	7.2	1/1	
530	2308	9	1/1.25	
531	9016	2.3	3.1/1	
533	6010	3.5	2/1	1.5 kW 1500 rpm
542	458	31.3	1/3.1	
548	572	25	1/2.5	
549	2145	6.7	1.5/1	
550	1716	8.3	1.2/1	
551	1430	10	1/1	
552	1073	13.3	1/1.3	
553	858	16.7	1/1.7	
554	686	20.8	1/2	
557	1907	7.5	1.3/1	
566	1144	13.3	1/1.25	0.55 kW 750 rpm
567	4469	3.2	3.1/1	
578	210	25	1/3.1	
579	819	6.4	1.25/1	
580	655	8	1/1	
581	546	9.6	1/1.25	
582	409	12.8	1/1.6	
583	328	16	1/2	
584	262	20	1/2.5	

* Consult us for other motor configurations or transmission ratios

2 - Internal cooling

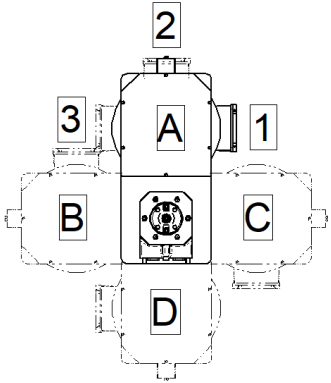
- 0: Head without internal cooling
1: Head with internal cooling

3 - Orientation of the box of pulleys

A, B, C, D

4 - Orientation of the motor junction box

1, 2, 3



Machining unit for modular assembly



TECHNICAL SPECIFICATIONS

MAIN CONE	ISO 40 / BT 40
DRILLING CAPACITY (600 N/mm²)	Ø35
TAPPING CAPACITY (600 N/mm²)	M24
DRILLING CAPACITY	YES
MAXIMUM REVOLUTIONS	6000 rpm
MAXIMUM ROTATIONAL TORQUE	200 Nm

AXIAL LOAD CAPACITY	5800 N
RADIAL LOAD CAPACITY	3200 N
BEARING LUBRICATION	GREASE (maintenance free)
CONCENTRICITY	0.01 mm
WEIGHT	65 KG

ACCESSORIES

Tool clamp automatic	Pneumatic release
	Min. release pressure 3.3 bar
	Tool grip force 12 KN (DIN 69871)
Rotary joint	Tool grip force 10.5 KN (MAS 403 BT 45°)
	1 channel for coolant (max. 60 µm)
	Coolant, oil, MQL
Encoder	Max. pressure 70 bar (MQL 10 bar)
	4096 pulses
	A+, B+, R+, A-, B-, R (zero pulse)



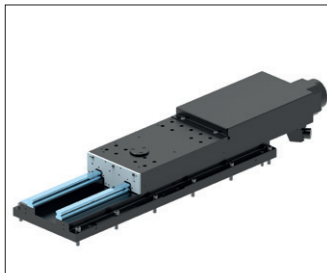
Tool holder



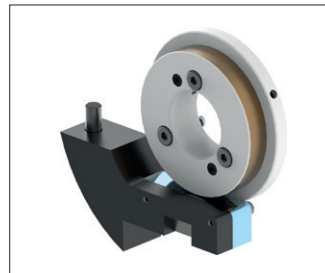
Rotary joint



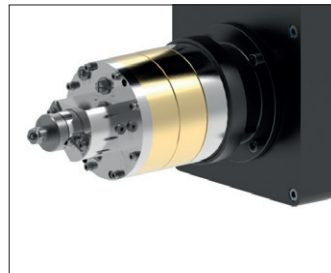
Column SB



CA.30

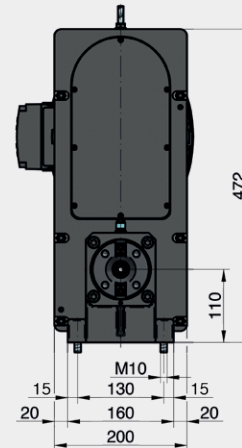
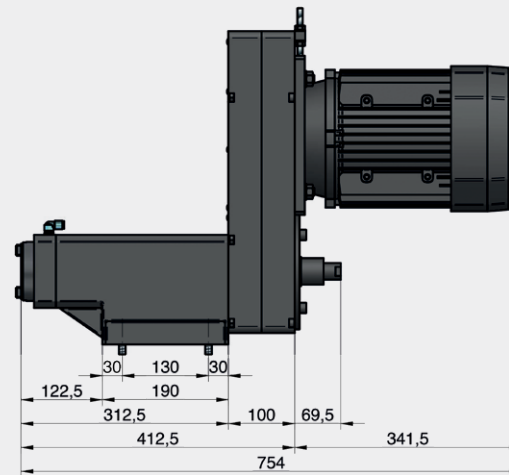


Encoder

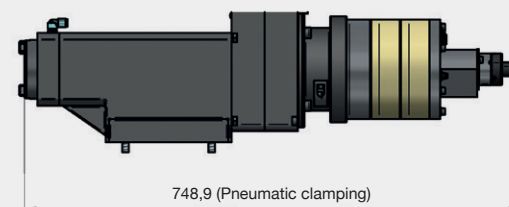
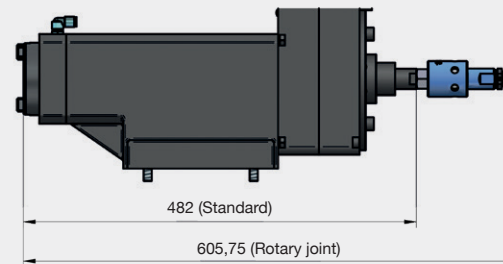


Pneumatic clamping

DIMENSIONS



ACCESSORY DIMENSIONS



CONFIGURATION SYSTEM

CG.30 AM 601 0 0 - B 1

1 2 3 4 5 6

1 - Tool clamp

AM: Mechanical clamping

AA: Pneumatic clamping MAS 403-1982 BT/PT2 (45°)

AB: Pneumatic clamping DIN 69871/69872

2 - Transmission

	RPM	TORQUE (Nm)	Transmission	Motor
601	927	16	1.3/1	1.5 kW 700 rpm
602	836	17	1.2/1	
603	700	21	1/1	
604	506	28	1/1.4	
605	471	31	1/1.5	
606	332	44	1/2.1	
607	1854	20	1.3/1	4 kW 1400 rpm
608	1673	22	1.2/1	
609	1400	27	1/1	
610	1026	36	1/1.4	
611	943	39	1/1.5	
612	665	56	1/2.1	
613	1218	17	1.3/1	2.2 kW 920 rpm
614	1100	18	1.2/1	
615	920	22	1/1	
616	674	30	1/1.4	
617	619	33	1/1.5	
618	437	46	1/2.1	
619	3800	10	1.3/1	4 kW 2870 rpm
620	3430	11	1.2/1	
621	2870	13	1/1	
622	2104	18	1/1.4	
623	1933	19	1/1.5	
624	1364	28	1/2.1	

* Consult us for other motor configurations or transmission ratios

3 - Encoder

0: Head without encoder

1: Head with encoder, voltage 5VDC±5%TTL/RS42

2: Head with encoder, voltage 10...30VDC, HTL/PP

*NOTE: Encoder not available for head with mechanical clamping

4 - Internal cooling

0: Head without internal cooling

1: Head with internal cooling

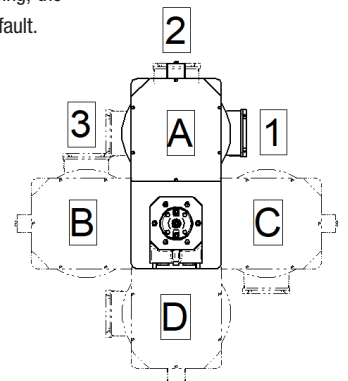
*NOTE: In the units with automatic tool clamping, the tool's internal cooling system is included by default.

5 - Orientation of the box of pulleys

A, B, C, D

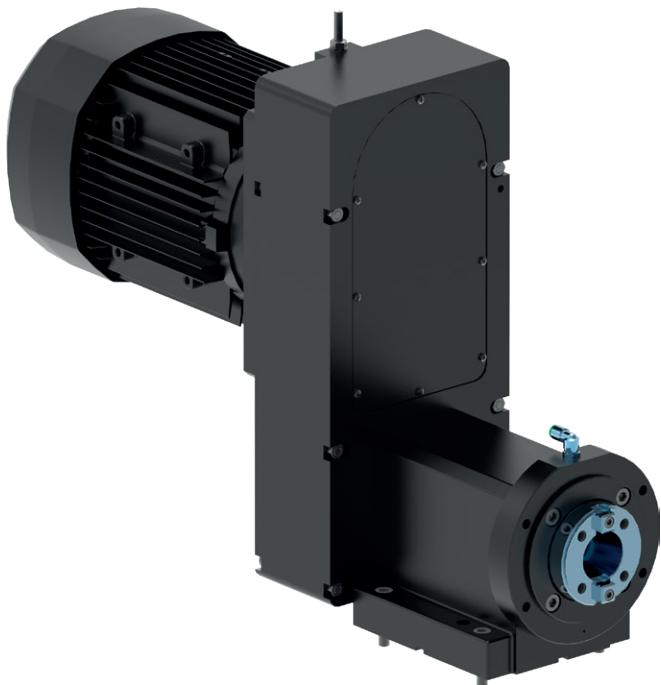
6 - Orientation of the motor junction box

1, 2, 3



CGCM.30

Machining unit
special for multiple
heads



TECHNICAL SPECIFICATIONS

MAIN CONE	ISO 40
DRILLING CAPACITY (600 N/mm²)	Ø35
TAPPING CAPACITY (600 N/mm²)	M24
DRILLING CAPACITY	YES
MAXIMUM REVOLUTIONS	9000 rpm
MAXIMUM ROTATIONAL TORQUE	200 Nm

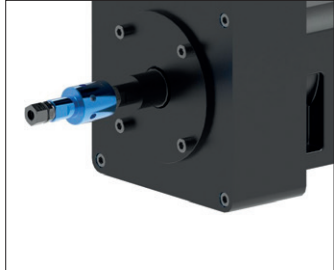
AXIAL LOAD CAPACITY	5800 N
RADIAL LOAD CAPACITY	3200 N
BEARING LUBRICATION	GREASE (maintenance free)
CONCENTRICITY	0.01 mm
WEIGHT	65 KG

ACCESSORIES

Rotary joint	1 channel for coolant (max. 60 µm)
	Coolant, oil, MQL
	Max. pressure 70 bar (MQL 10 bar)



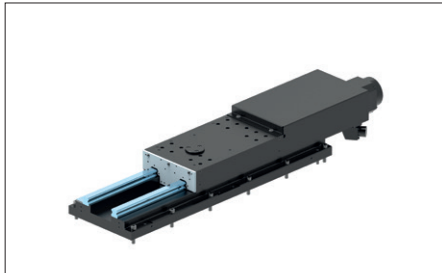
Tool holder



Rotary joint



Column SB

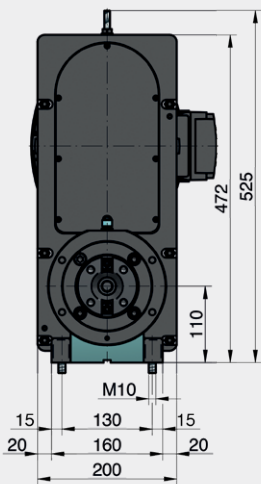
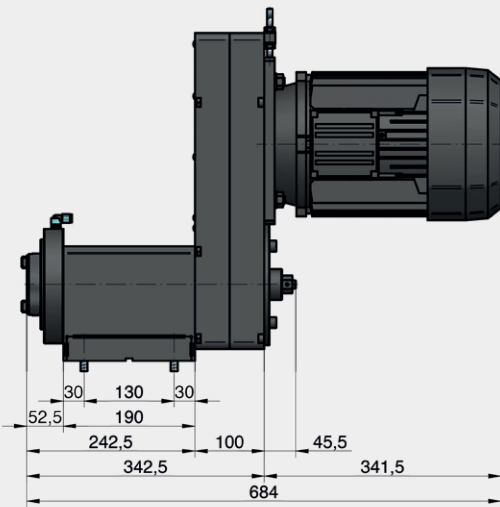


CA.30

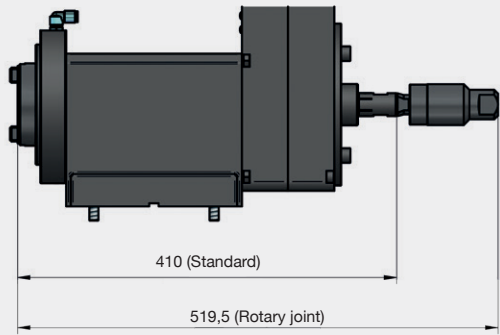


Head VH

DIMENSIONS



ACCESSORY DIMENSIONS



CONFIGURATION SYSTEM

CGCM.30 501 0 - B 1
1 2 3 4

1 - Transmission

	RPM	TORQUE (Nm)	Transmission	Motor
501	8883	4.2	3.1/1	4 kW 2870 rpm
502	7517	5	2.62/1	
503	6697	5.6	2.33/1	
504	5625	6.7	1.96/1	
505	4849	7.8	1.69/1	
507	3801	9.9	1.32/1	
508	3430	11	1.2/1	
509	3125	12	1.09/1	
511	2560	14.7	0.89/1	2.2 kW 920 rpm
516	1364	27.6	0.48/1	
537	2147	9.5	2.33/1	
542	1100	18.5	1.2/1	
543	1002	20.3	1.09/1	
544	920	22.1	1/1	
545	821	24.8	0.89/1	
548	544	37.3	0.59/1	4 kW 1400 rpm
549	485	41.9	0.53/1	
518	4333	8.6	3.1/1	
521	2744	13.5	2.62/1	
522	2366	15.7	2.33/1	
523	2079	17.8	1.96/1	
524	1854	20	1.69/1	
525	1673	22.2	1.32/1	
526	1524	24.3	1.2/1	1.5 kW 700 rpm
527	1400	26.5	1.09/1	
528	1249	29.7	0.89/1	
532	738	50.3	0.48/1	
534	625	59.4	2.33/1	
565	414	35	1.2/1	
566	369	39.3	1.09/1	
568	312	46.4	1/1	

* Consult us for other motor configurations or transmission ratios

2 - Internal cooling

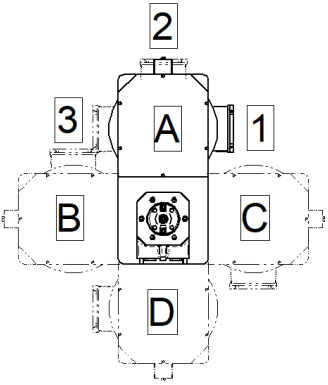
0: Head without internal cooling
1: Head with internal cooling

3 - Orientation of the box
of pulleys

A, B, C, D

4 - Orientation of the
motor junction box

1, 2, 3



Machining unit for modular assembly



TECHNICAL SPECIFICATIONS

MAIN CONE	ISO 40 / BT 40 / HSK 63
DRILLING CAPACITY (600 N/mm²)	Ø50
TAPPING CAPACITY (600 N/mm²)	M33
DRILLING CAPACITY	YES
MAXIMUM REVOLUTIONS	6000 rpm
MAXIMUM ROTATIONAL TORQUE	400 Nm

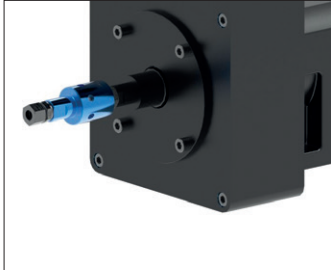
AXIAL LOAD CAPACITY	8400 N
RADIAL LOAD CAPACITY	4700 N
BEARING LUBRICATION	GREASE (maintenance free)
CONCENTRICITY	0.01 mm
WEIGHT	100 KG

ACCESSORIES

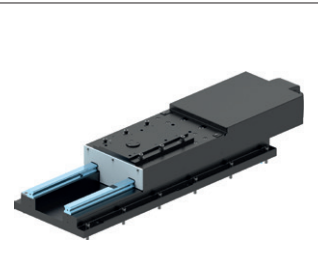
Tool clamp automatic	Pneumatic release
	Min. release pressure 3.3 bar
	Tool grip force 12 KN (DIN 69871)
Rotary joint	Tool grip force 10.5 KN (MAS 403 BT 45°)
	1 channel for coolant (max. 60 µm)
	Coolant, oil, MQL
Encoder	Max. pressure 70 bar (MQL 10 bar)
	4096 pulses
	A+, B+, R+, A-, B-, R (zero pulse)



Tool holder



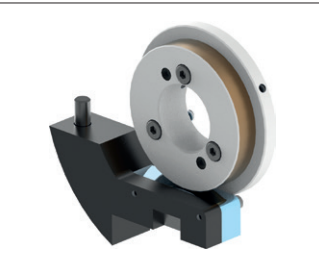
Rotary joint



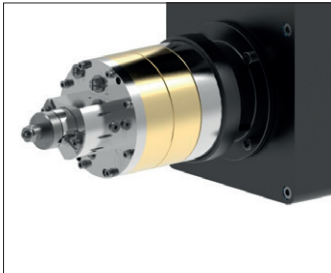
CA.40



Head VH

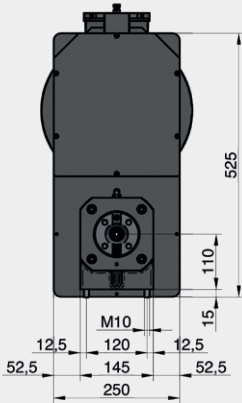
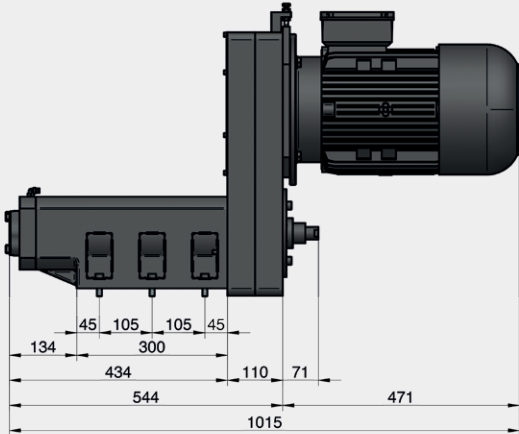


Encoder

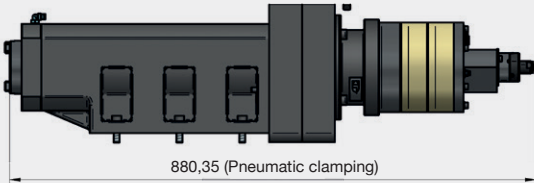
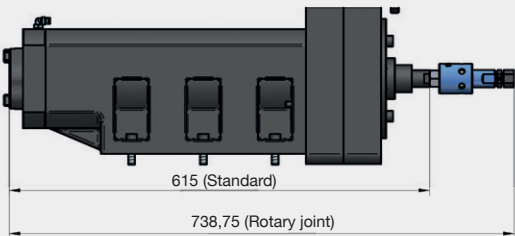


Pneumatic clamping

DIMENSIONS



ACCESSORY DIMENSIONS



CONFIGURATION SYSTEM

CG.40 AM 601 0 0 - B 1
1 2 3 4 5 6

1 - Tool clamp

AM: Mechanical clamping
AA: Pneumatic clamping MAS 403-1982 BT/PT2 (45°)
AB: Pneumatic clamping DIN 69871/69872

2 - Transmission

	RPM	TORQUE (Nm)	Transmission	Motor
601	322	163	1/3	5.5 kW 1000 rpm
602	483	109	1/2	
603	643	82	1/1.5	
604	965	54	1/1	
605	1448	36	1.5/1	
606	483	148	1/3	7.5 kW 1500 rpm
607	725	99	1/2	
608	967	74	1/1.5	
609	1450	49	1/1	
610	2175	33	1.5/1	11 kW 1500 rpm
611	483	225	1/3	
612	725	150	1/3	
613	967	113	1/1.5	
614	1450	75	1/1	
615	2175	50	1.5/1	

* Consult us for other motor configurations or transmission ratios

3 - Encoder

0: Head without encoder
1: Head with encoder, voltage 5VDC±5%TTL/RS42
2: Head with encoder, voltage 10...30VDC, HTL/PP
*NOTE: Encoder not available for head with mechanical clamping

4 - Internal cooling

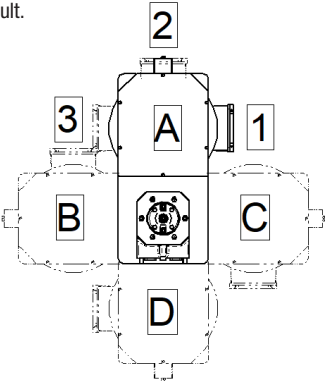
0: Head without internal cooling
1: Head with internal cooling
*NOTE: In the units with automatic tool clamping, the tool's internal cooling system is included by default.

5 - Orientation of the box of pulleys

A, B, C, D

6 - Orientation of the motor junction box

1, 2, 3



Machining unit for modular assembly



TECHNICAL SPECIFICATIONS

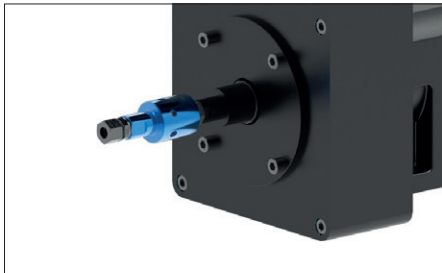
MAIN CONE	ISO 50 / BT 50 / HSK 100	AXIAL LOAD CAPACITY	22000 N
DRILLING CAPACITY (600 N/mm²)	Ø80	RADIAL LOAD CAPACITY	18500 N
TAPPING CAPACITY (600 N/mm²)	M48	BEARING LUBRICATION	GREASE (maintenance free)
DRILLING CAPACITY	YES	CONCENTRICITY	0.01 mm
MAXIMUM REVOLUTIONS	6000 rpm	WEIGHT	100 KG
MAXIMUM ROTATIONAL TORQUE	1500 Nm		

ACCESSORIES

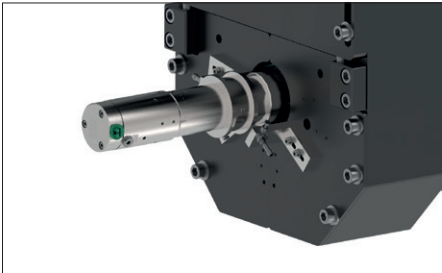
Tool clamp automatic	Hydraulic release
	Min. release pressure 120 bar
	Tool grip force 25 KN (DIN 69871/69872) Tool grip force 23 KN (MAS 403 BT 45°)
Rotary joint	1 channel for coolant (max. 60 µm)
	Coolant, oil, MQL
	Max. pressure 70 bar (MQL 10 bar)



Tool holder

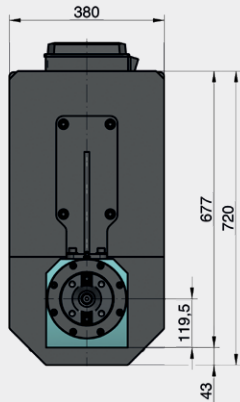
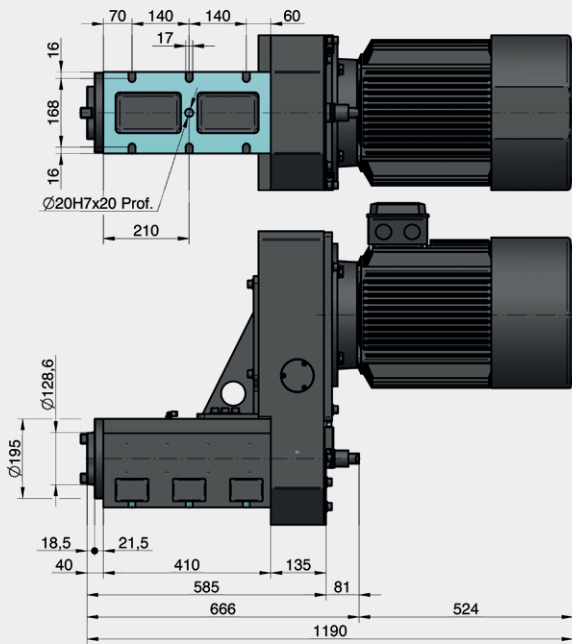


Rotary joint

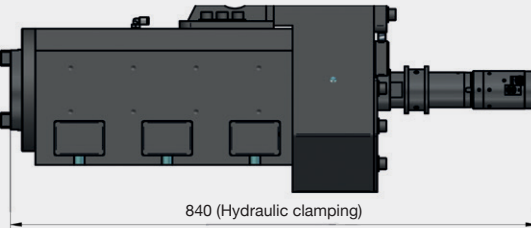
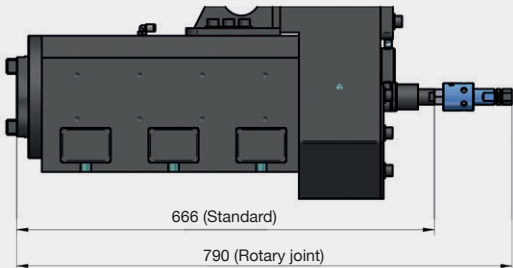


Hydraulic clamping

DIMENSIONS



ACCESSORY DIMENSIONS



CONFIGURATION SYSTEM

CG.50 AM 501 0 - 1

1 2 3 4

1 - Tool clamp

AM: Mechanical clamping DIN 2080
AA: Hydraulic clamping MAS-403 BT (45°)
AB: Hydraulic clamping DIN 69871/69872

2 - Transmission

	RPM	TORQUE (Nm)	Transmission	Motor
501	333	444	1/3	15 kW 1000 rpm
502	500	429	1/3	22 kW 1500 rpm
503	750	286	1/2	22 kW 1500 rpm
504	1000	213	1/1	15 kW 1000 rpm
505	1500	143	1/1	22 kW 1500 rpm
506	3000	71	1/1	22 kW 3000 rpm

* Consult us for other motor configurations or transmission ratios

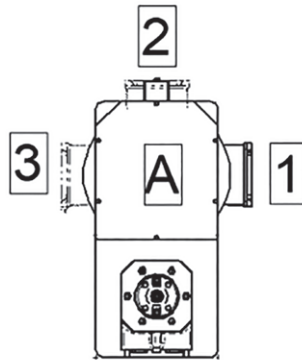
3 - Internal cooling

0: Head without internal cooling
1: Head with internal cooling

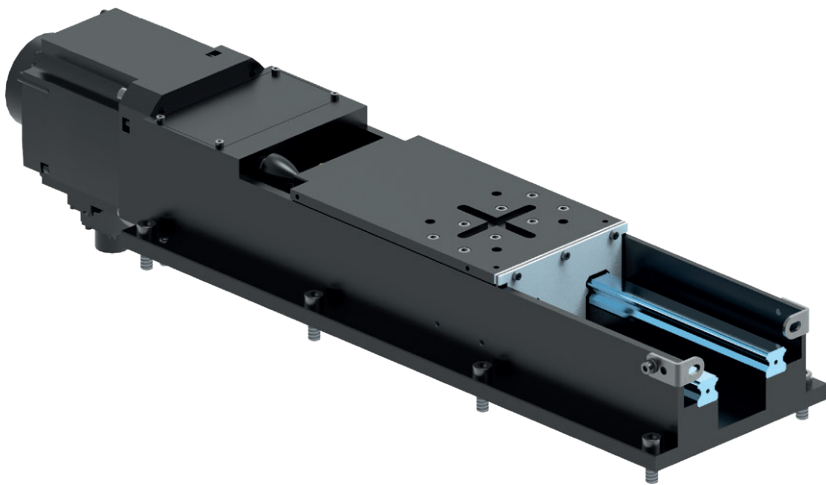
*NOTE: In the units with automatic tool clamping, the tool's internal cooling system is included by default.

4 - Orientation of the motor junction box

1, 2, 3



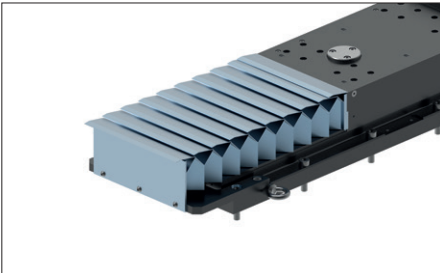
Feed slide



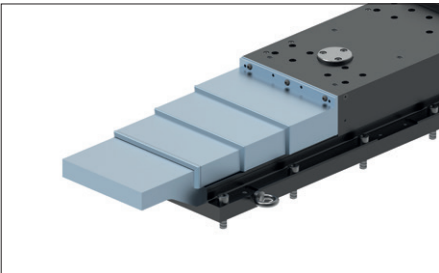
TECHNICAL SPECIFICATIONS

MAIN CONE	200 mm
MAXIMUM THRUST FORCE	5400 N
MAXIMUM FEED SPEED	20 m/min
MAXIMUM MOMENT (Mx)	840 Nm
MAXIMUM MOMENT (My)	660 Nm
SPINDLE	Ø25x5
WEIGHT	50 kg

ACCESSORIES



Bellows protection

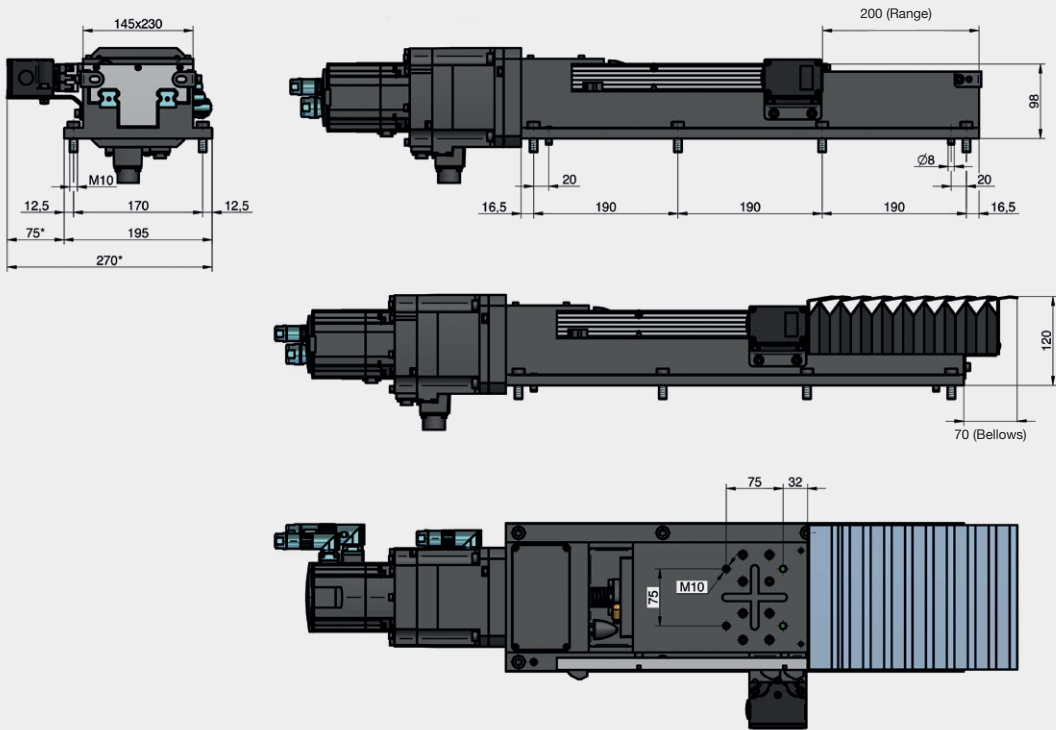


Telescopic protection



Micro rule

DIMENSIONS



CONFIGURATION SYSTEM

CA.16 PR 801 0
1 2 3

1 - Protection

PR: Guide protection with scraper (standard)	(SC-CA16-007)
PF: Guide protection with bellows	(SC-CA16-005)
PT: Guide protection with telescopic guard	(SC-CA16-004)

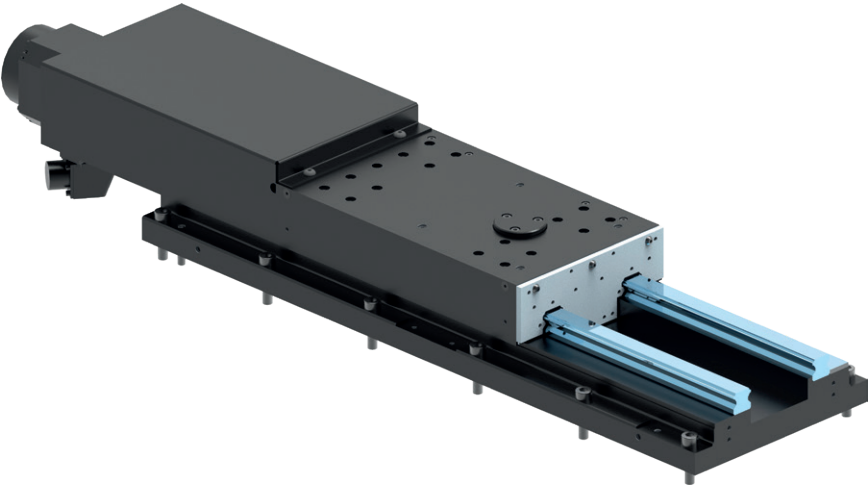
3 - Micro rule

0: Slide without micro rule	
R: Slide with micro rule on the right	(SC-CA30-006)
L: Slide with micro rule on the left	(SC-CA30-006)

2 - Motor support

	Ø Flange	Ø Shaft	Subassembly
801	Ø80	Ø14	SC-CA30-801
802	Ø80	Ø16	SC-CA30-802
803	Ø80	Ø19	SC-CA30-803
811	Ø90	Ø19	SC-CA30-811

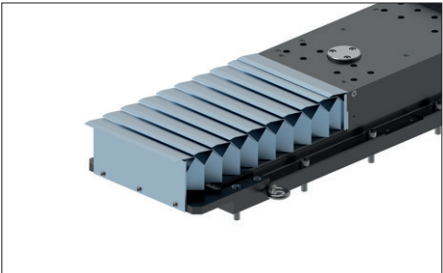
Feed slide



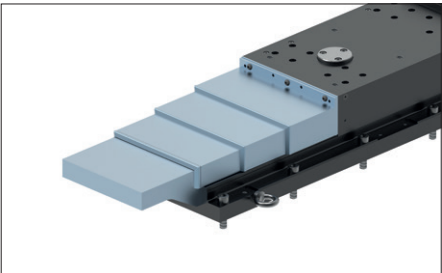
TECHNICAL SPECIFICATIONS

MAIN CONE	250 mm
MAXIMUM THRUST FORCE	8000 N
MAXIMUM FEED SPEED	30 m/min
MAXIMUM MOMENT (M _x)	840 Nm
MAXIMUM MOMENT (M _y)	660 Nm
SPINDLE	Ø25x5
WEIGHT	75 kg

ACCESSORIES



Bellows protection

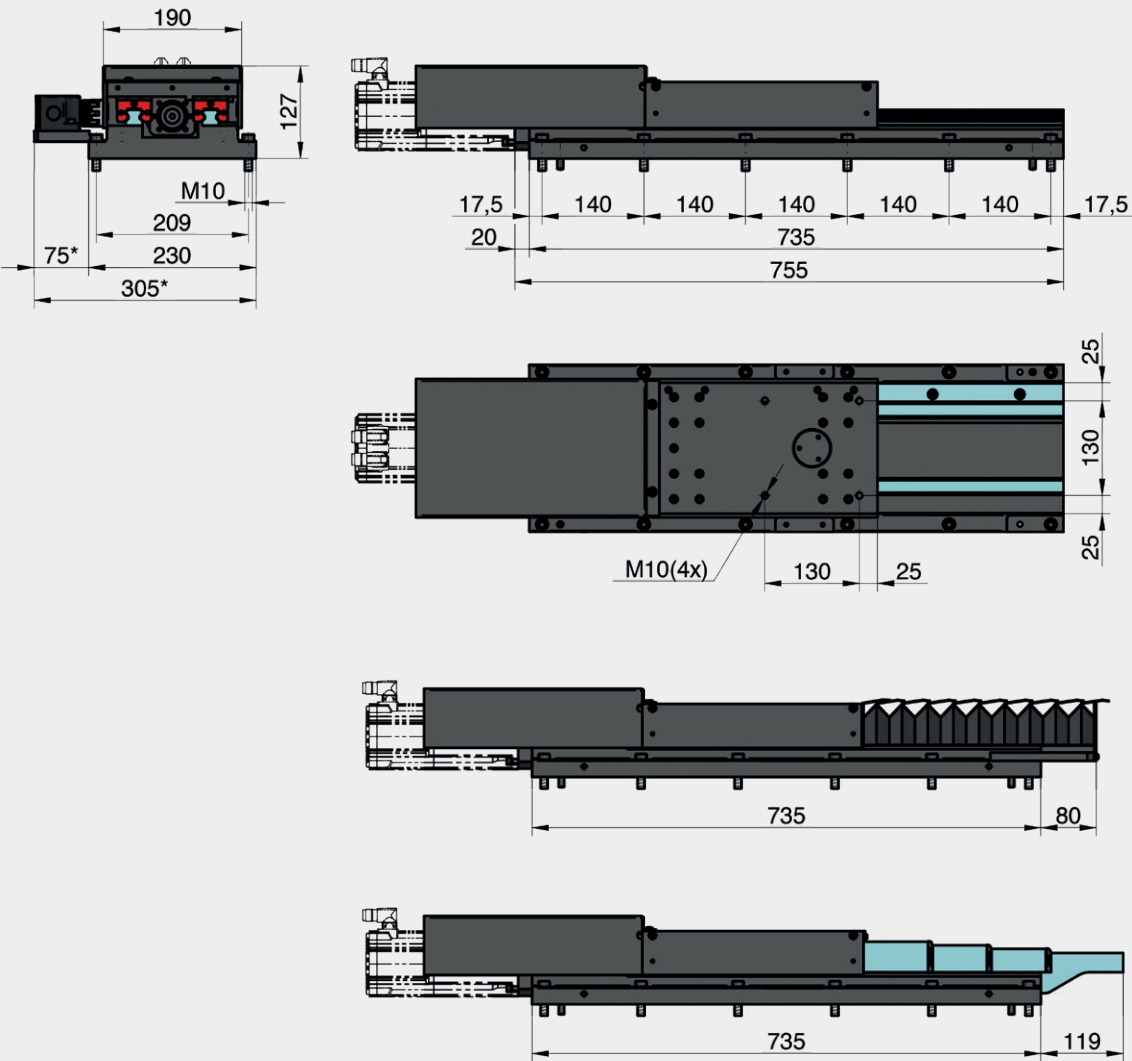


Telescopic protection



Micro rule

DIMENSIONS



CONFIGURATION SYSTEM

CA.30 PR 801 0

1 2 3

1 - Guide protection

PR: Guide protection with scraper (standard)
PF: Guide protection with bellows
PT: Guide protection with telescopic guard

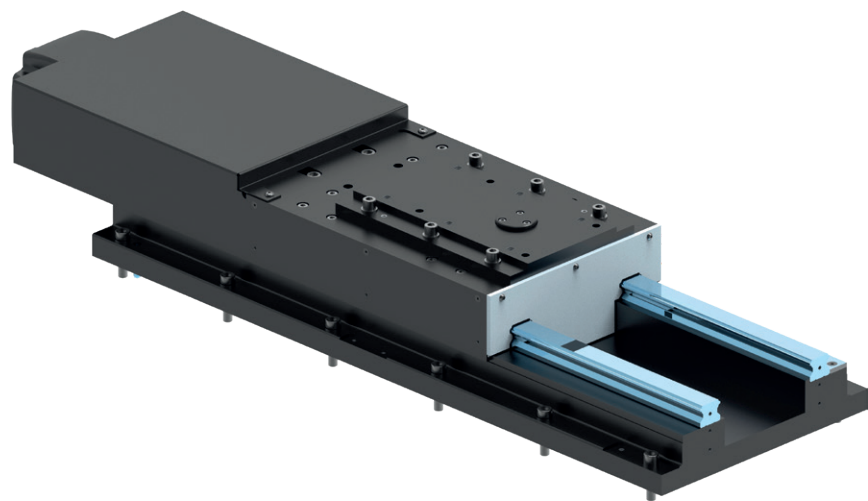
3 - Micro rule

Ø: Slide without micro rule
R: Slide with micro rule on the right
L: Slide with micro rule on the left

2 - Motor support

	Ø Flange	Ø Shaft
801	Ø80	Ø14
802	Ø80	Ø16
803	Ø80	Ø19
811	Ø90	Ø19

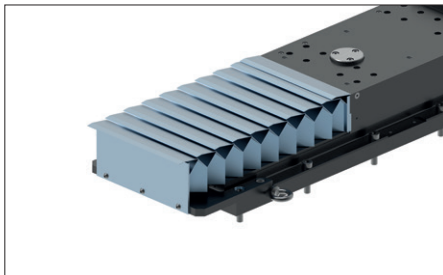
Feed slide



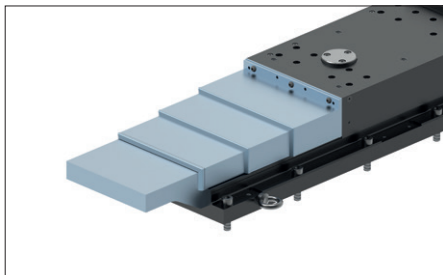
TECHNICAL SPECIFICATIONS

MAIN CONE	320/400 mm
MAXIMUM THRUST FORCE	24000 N
MAXIMUM FEED SPEED	40 m/min
MAXIMUM MOMENT (Mx)	2320 Nm
MAXIMUM MOMENT (My)	1620 Nm
SPINDLE	Ø32x10
WEIGHT	250 kg

ACCESSORIES



Bellows protection

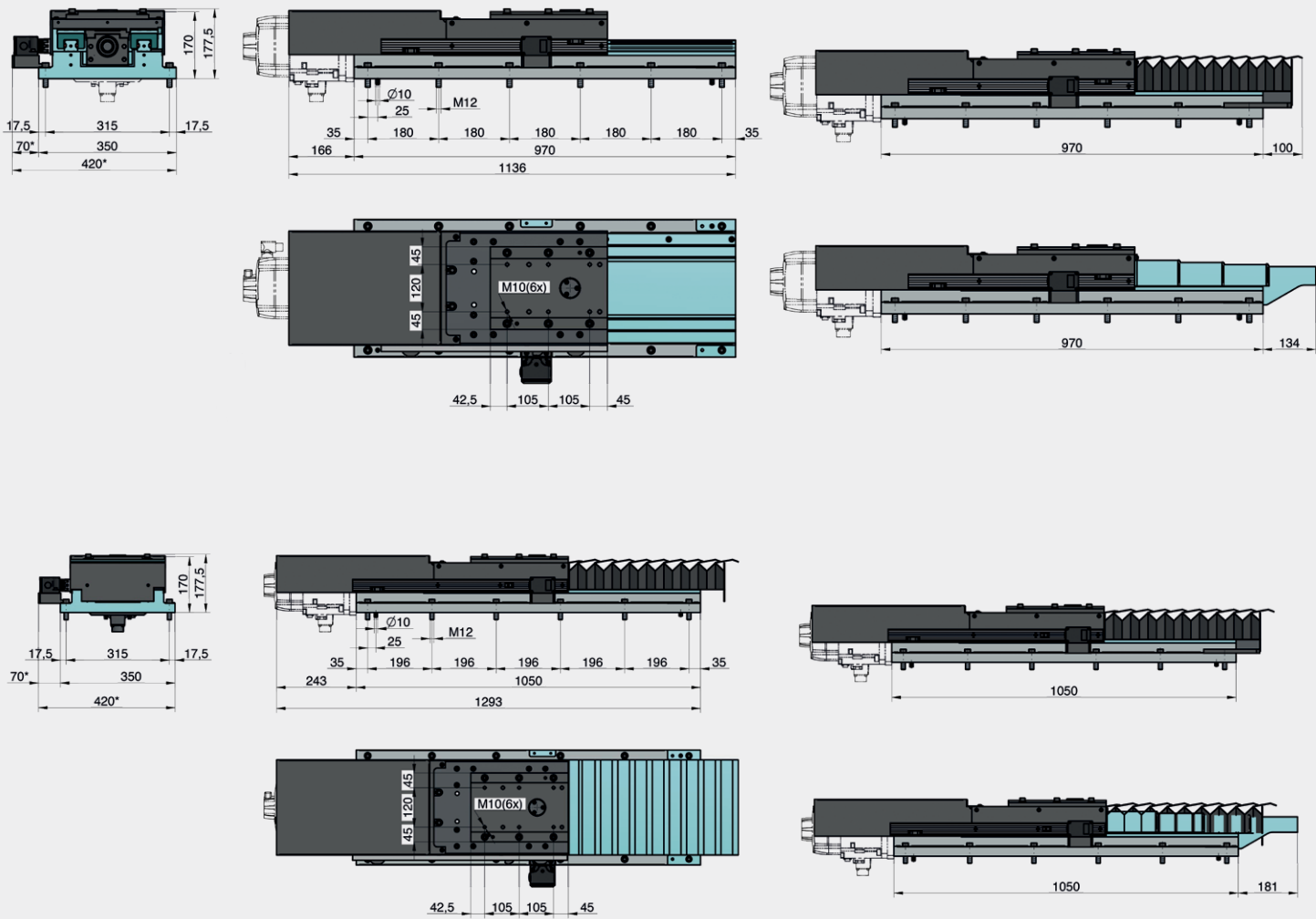


Telescopic protection



Micro rule

DIMENSIONS



CONFIGURATION SYSTEM

CA.40 S PR 700 0

1 2 3 4

1 - Range

S: Range 320 mm
L: Range 400 mm

2 - Protection

PR: Protection with scraper
PF: Protection with bellows
PT: Protection with telescopic guard
NOTE: Protection with scraper not available
for slide with range 400 mm.

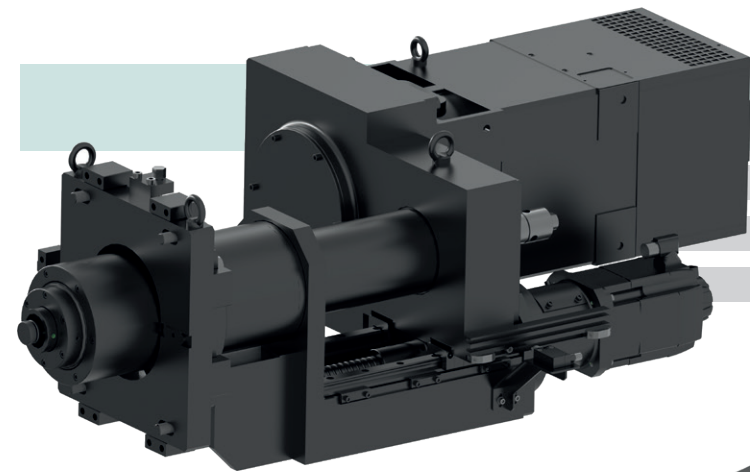
3 - Motor support

	Ø Flange	Ø Shaft
700	Ø95	Ø24-Ø19
800	Ø114.3	Ø35-Ø24
900	Ø130	Ø32-Ø24

4 - Micro rule

O: Slide without micro rule
R: Slide with micro rule on the right
L: Slide with micro rule on the left

SPECIAL PROJECTS



Quill feed unit

HSK 63

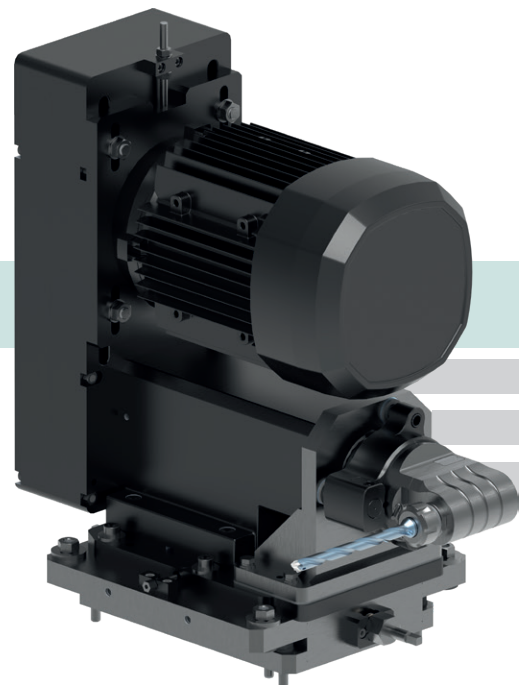
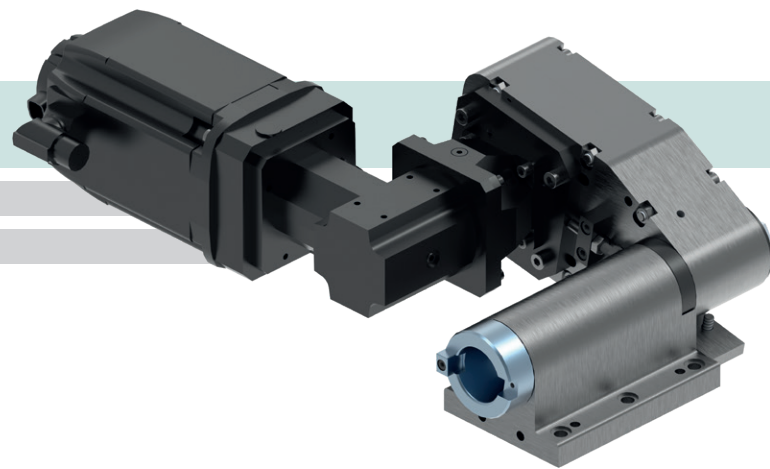
20 kW

M39x4

Reduced head

ISO 40

Ø40



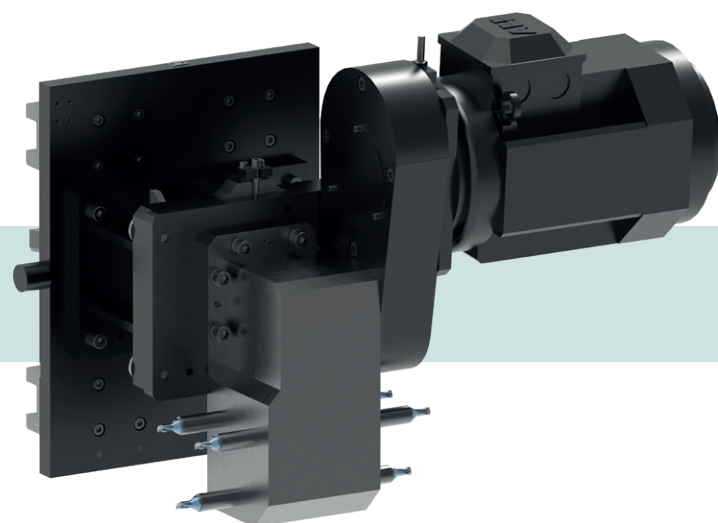
CG.30 + angular head

Ø13

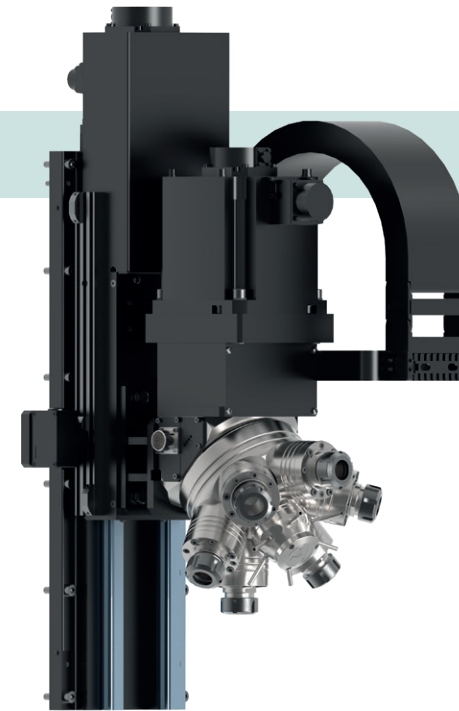
M10

4.1 kW

**Special multiple head
with 6 feeds (3 + 3)**



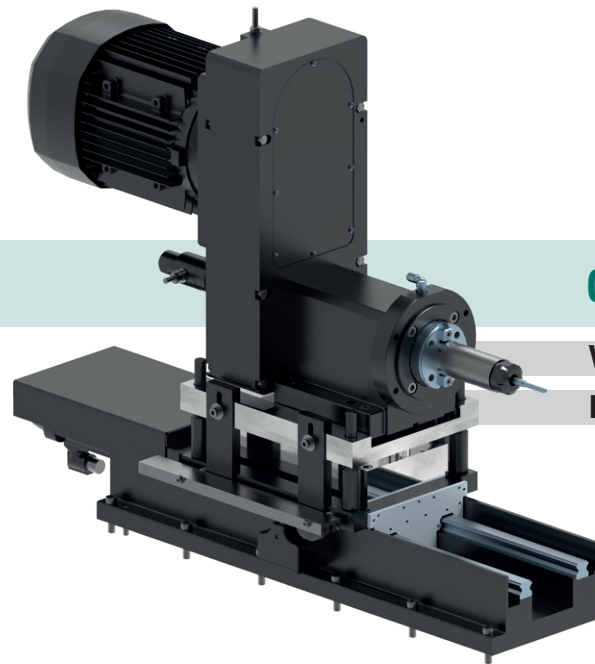
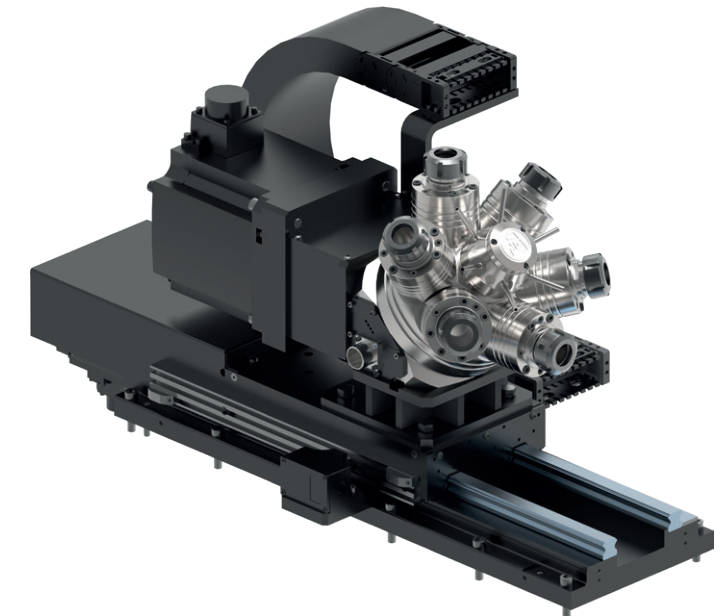
SPECIAL PROJECTS



CA.30 + revolving head

Up to 6 tools

With automatic tool change



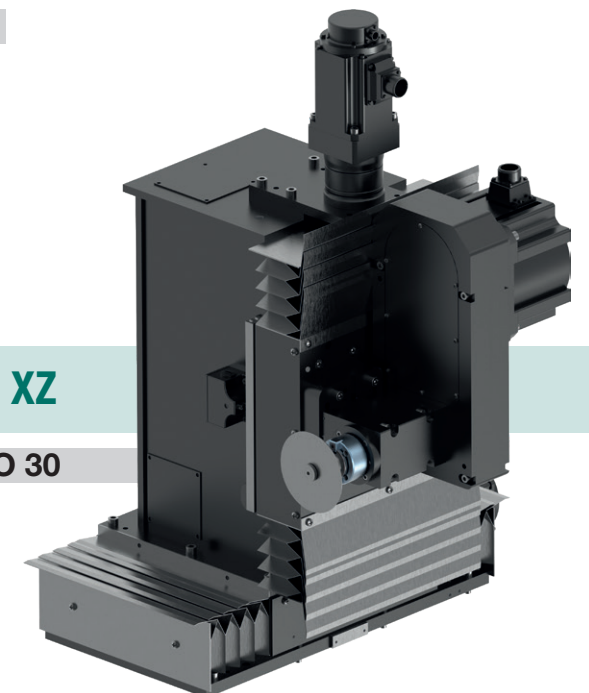
CA.30 + CG30

With height regulation

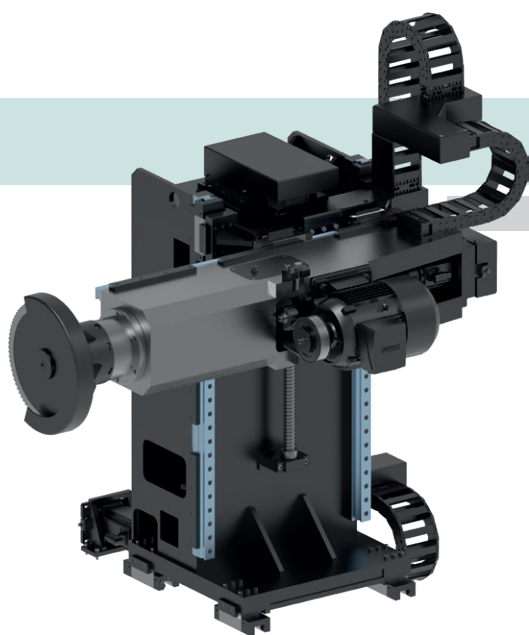
ISO 40

Assembly XZ

ISO 30

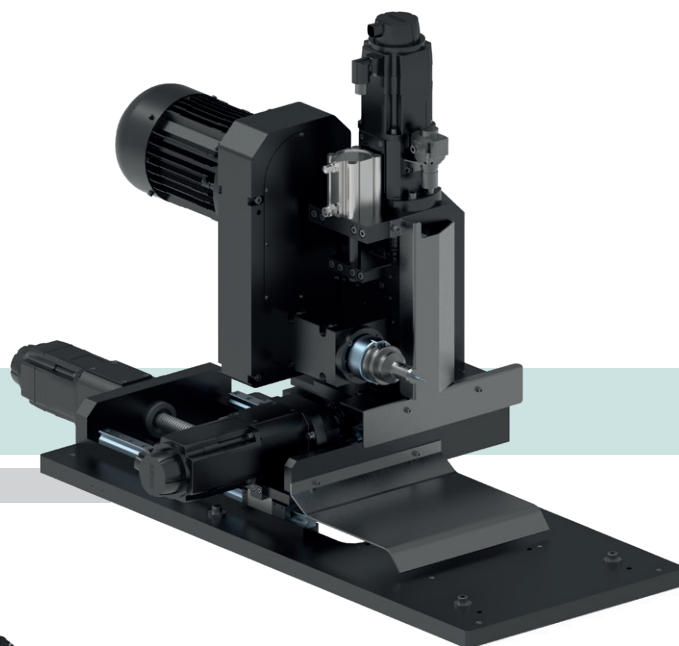


SPECIAL PROJECTS



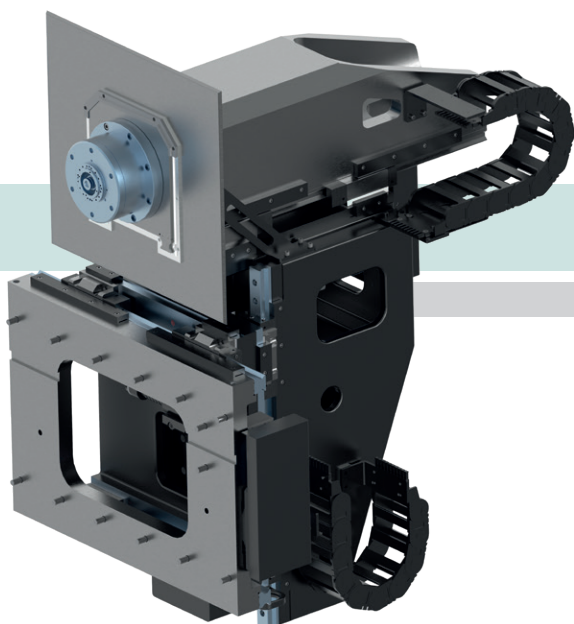
Assembly XYZ

ISO 40



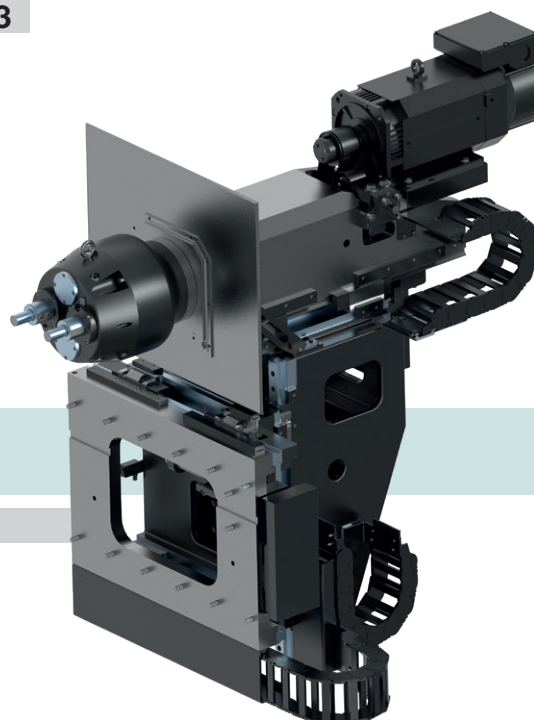
Assembly XYZ

ISO 30



Assembly XYZ

HSK 63



Assembly XYZ

With multiple head

