High speed

CATALOGUE

ELTE®

High speed precision spindles

High speed precision spindles

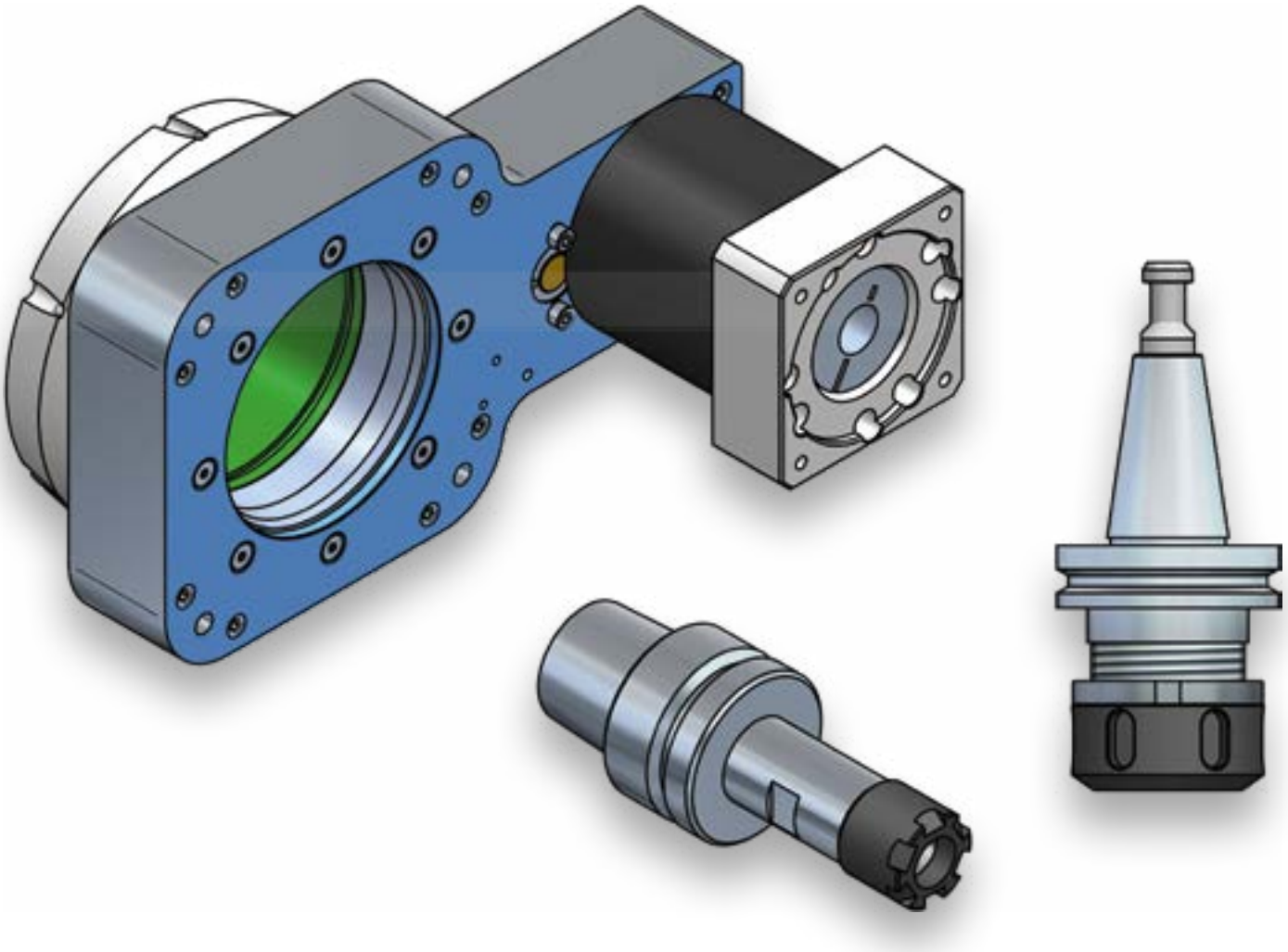
CATALOGUE

ELTE

High speed precision spindles

DATASHEET

ACCESSORIES AND SPARE PARTS Series



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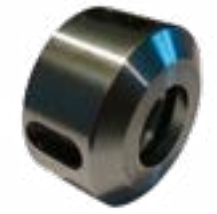
Accessories

ELTE S.r.l. offers a wide range of high quality accessories for its electric spindles such as: ring nuts balanced for high speeds, elastic clamps, keys and tool holders.

ELTE S.r.l. recommends the use of balanced tools to ensure longer bearing life.

For the choice of other accessories, please request the drawings with the relative measurements.
Executions other than the standard for fixing systems are possible.

BALANCED RING NUTS	MODEL	DIAMETER mm	EXPANSION mm
	ER11	DA 1,0 A 7	0,5
	ER16	DA 0,5 A 2,0 - DA 2,0 A 10	0,5 - 1
	ER20	DA 1,0 A 3	0,5
	ER20	DA 4,0 A 13	1
	ER25	DA 1,0 A 3	0,5
	ER25	DA 3,0 A 16	1
	ER32	DA 1,0 A 20	1
	ER40	DA 3,0 A 30	1

COLLETS	MODEL
	ER11
	ER16
	ER20
	ER25
	ER32
	ER40

PIN WRENCH	MODEL
	ER11
	ER16
	ER20
	ER25
	ER32
	ER40

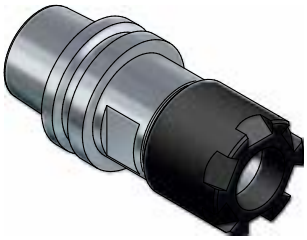
TOOL HOLDER	MODEL
	ISO10
	ISO15
	ISO20
	ISO25
	ISO30
	ISO40
	ISO50

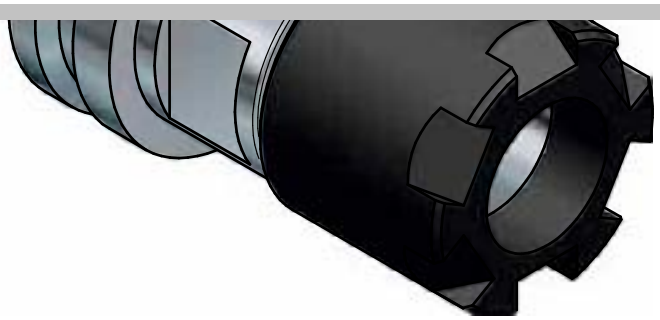
TOOL HOLDER	MODEL
	HSK E25
	HSK E32
	HSK E40
	HSK E50
	HSK E63
	HSK F63
	HSK F80

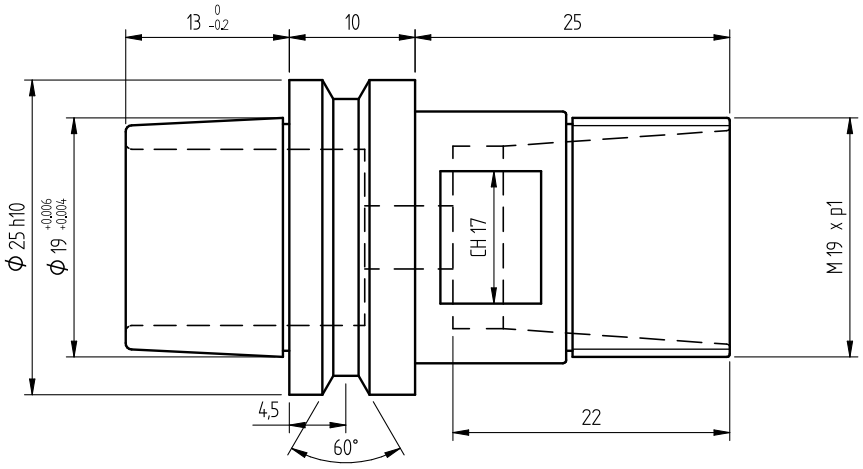
Tapers

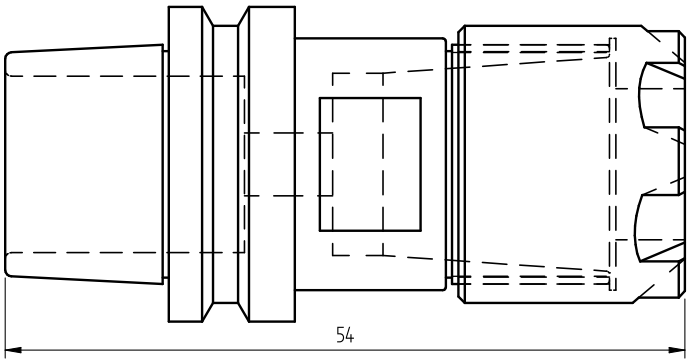
HSK E25 TAPER
HSK E32 TAPER
HSK E40 TAPER
HSK E50 TAPER
HSK E63 TAPER
HSK F63 TAPER
HSK B80 TAPER
ISO 10 TAPER
ISO 15 TAPER
ISO 20 TAPER
ISO 25APER
ISO 30 TAPER
ISO 40 SLITS TAPER
ISO 40 TAPER
ISO 50 SLITS TAPER
ISO 50 TAPER

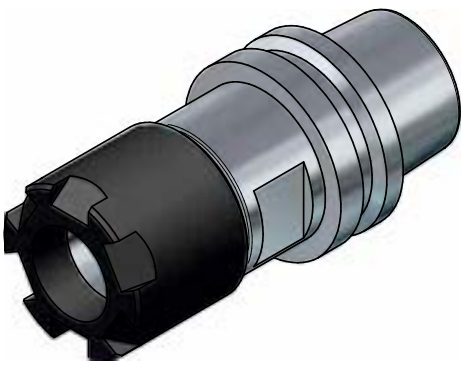
HSK E25 TAPER











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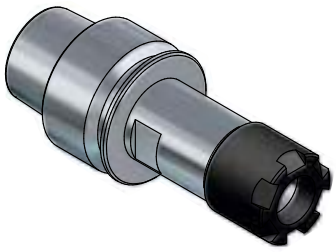

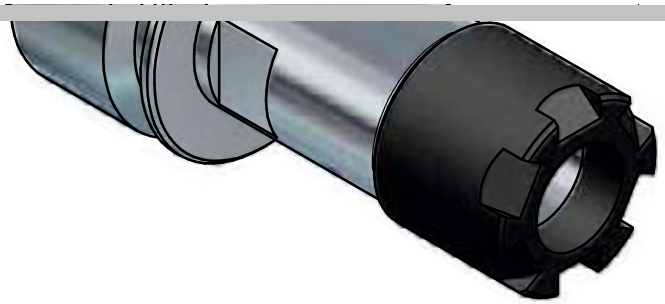

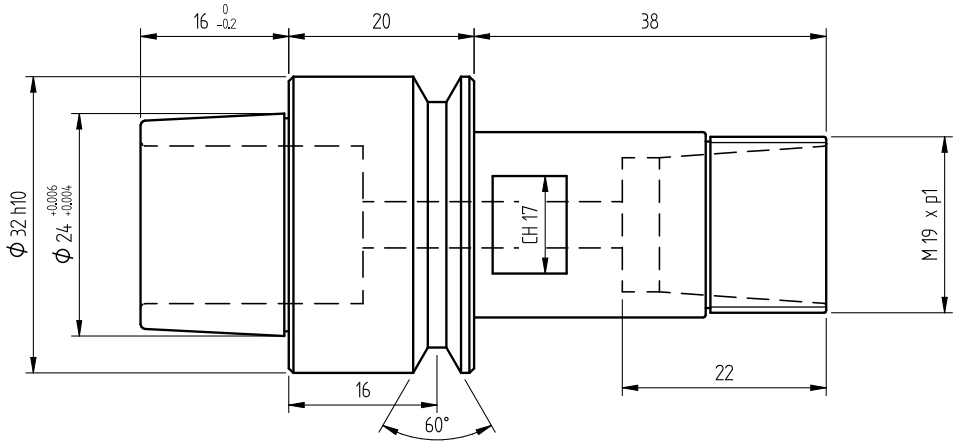

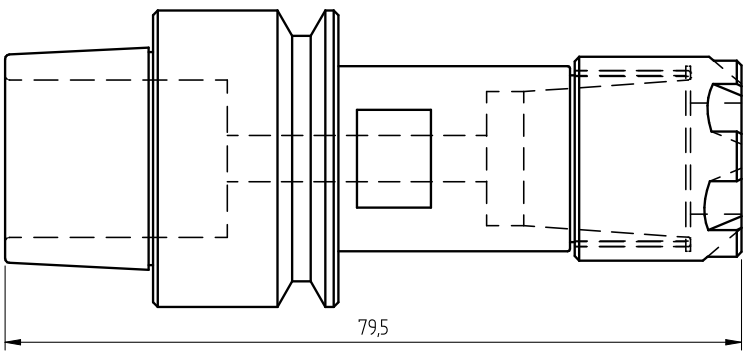

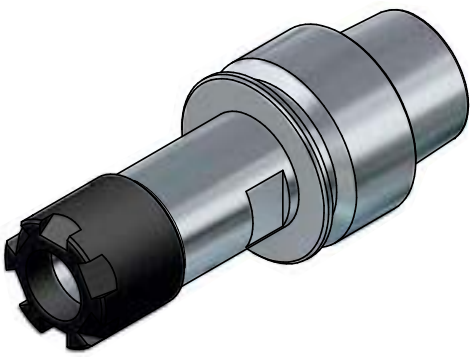

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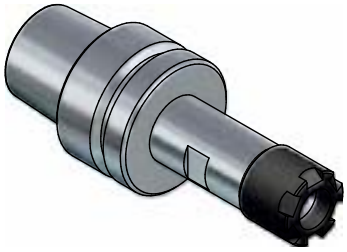

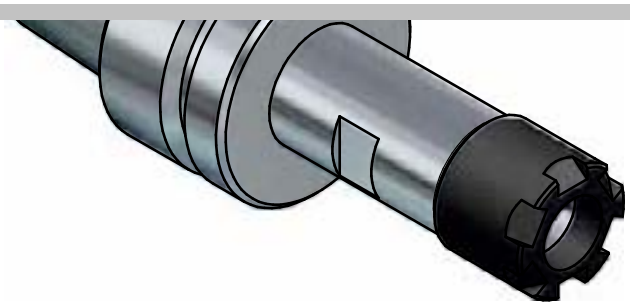

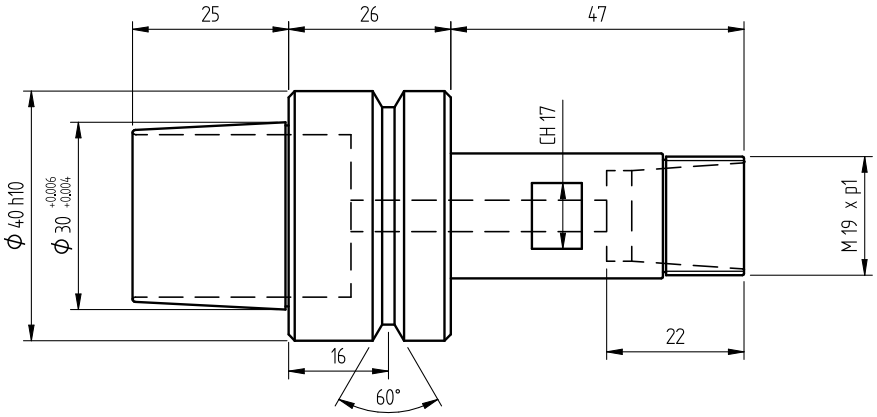

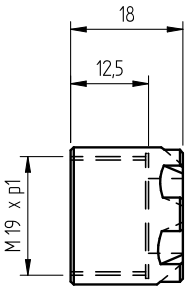

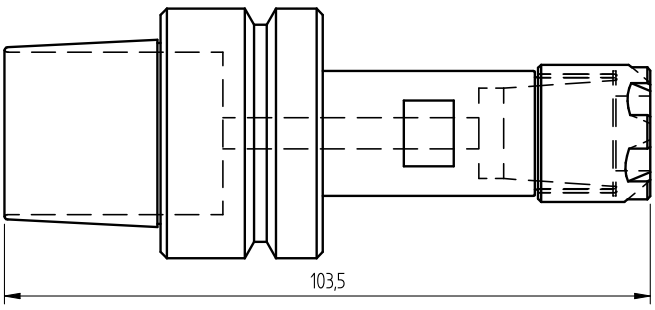

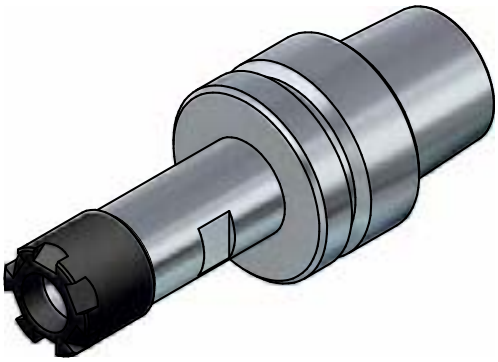

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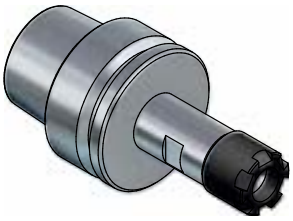

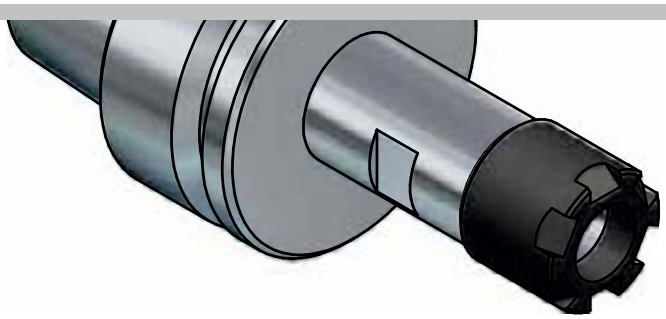

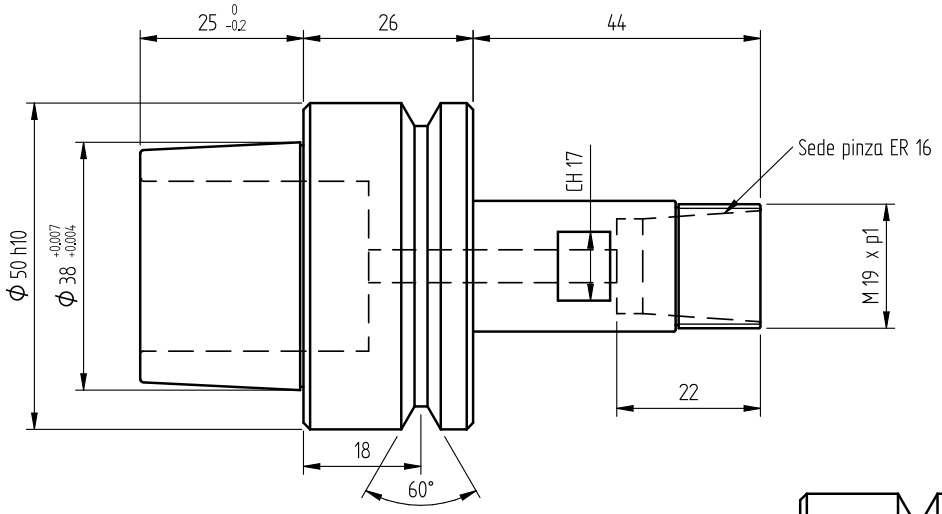

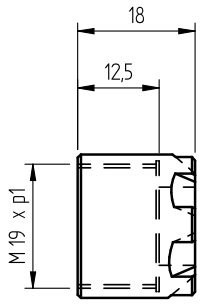

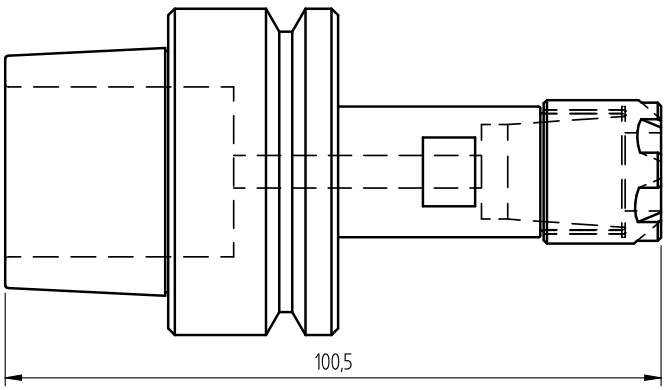

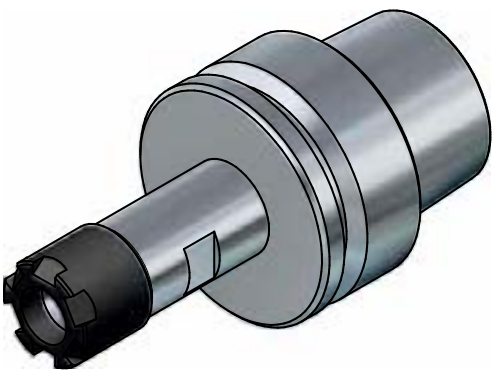

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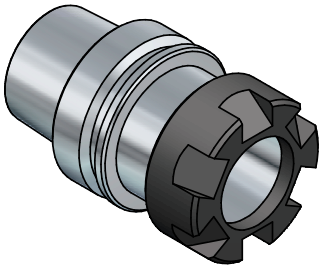

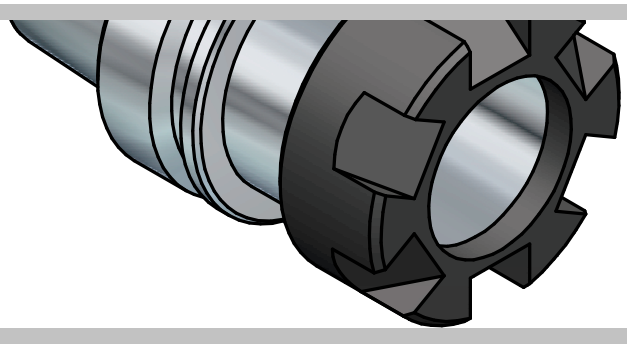

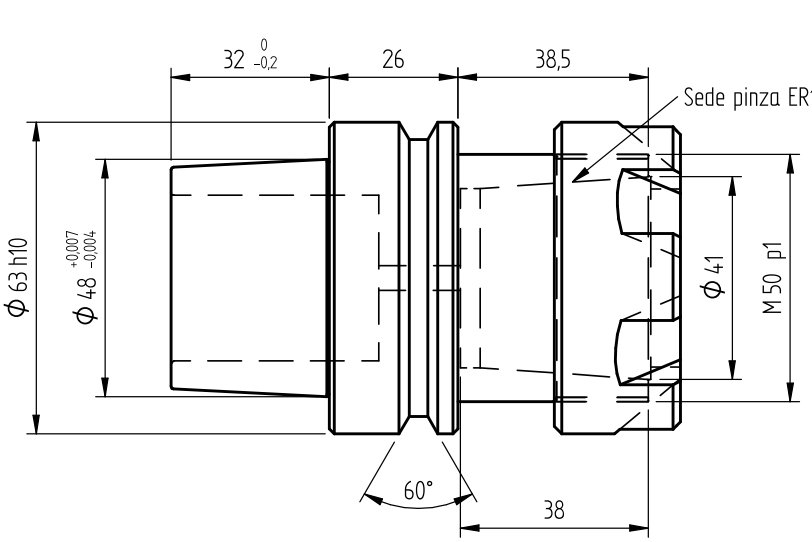

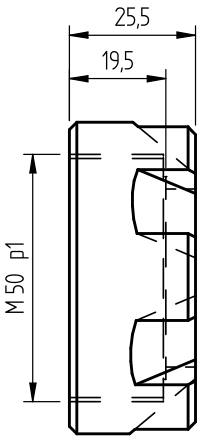

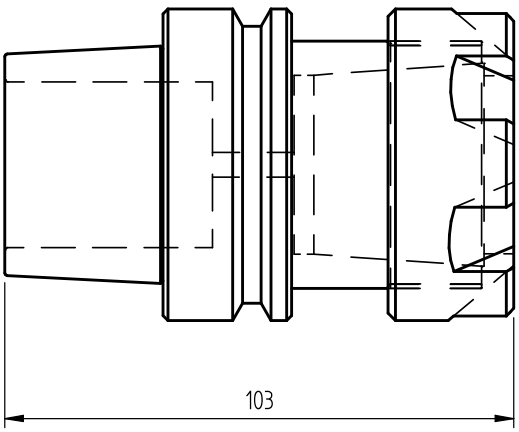

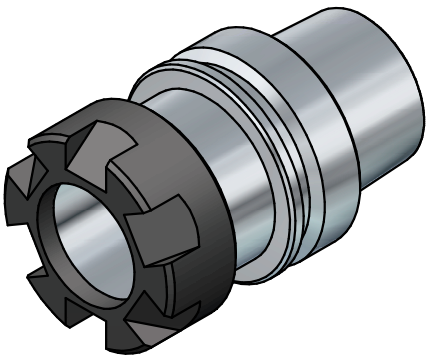

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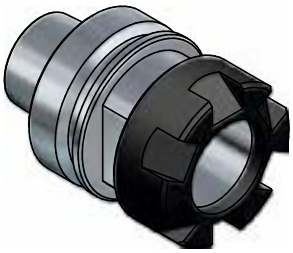

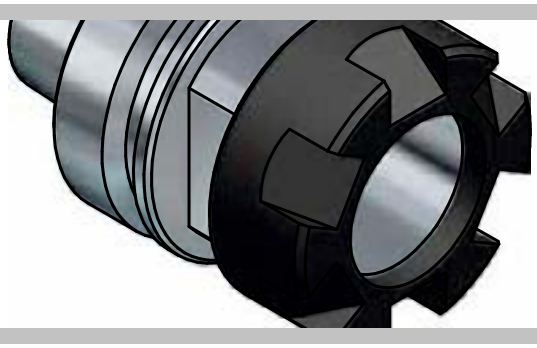

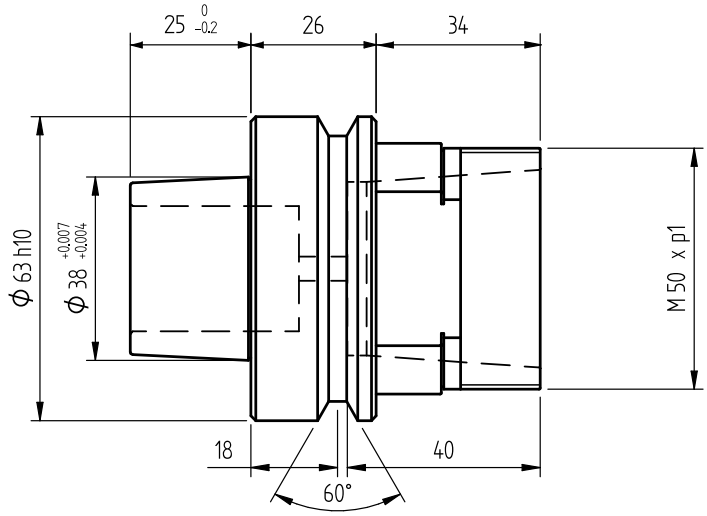

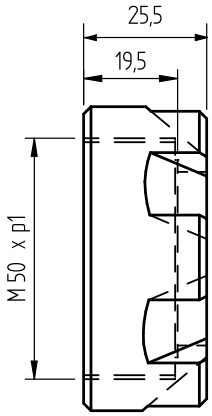

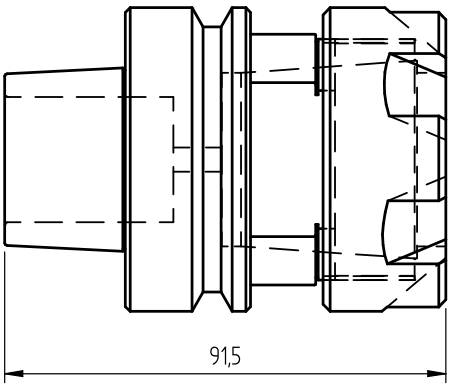

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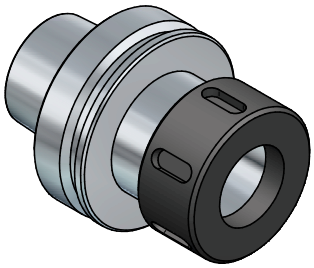
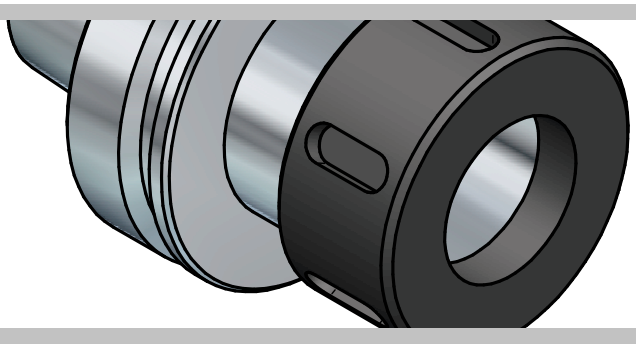
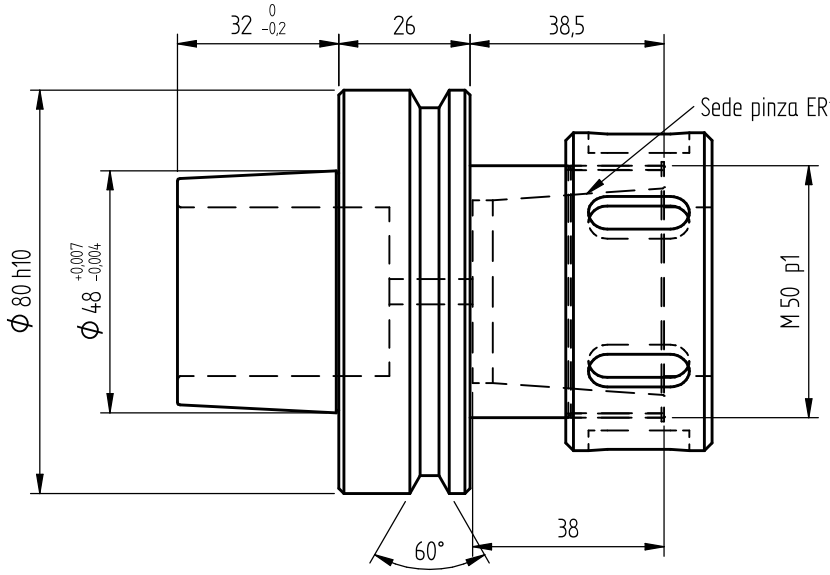
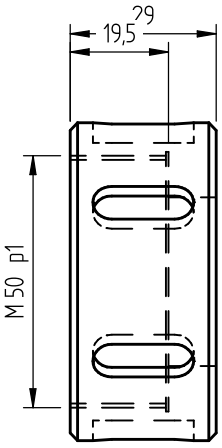
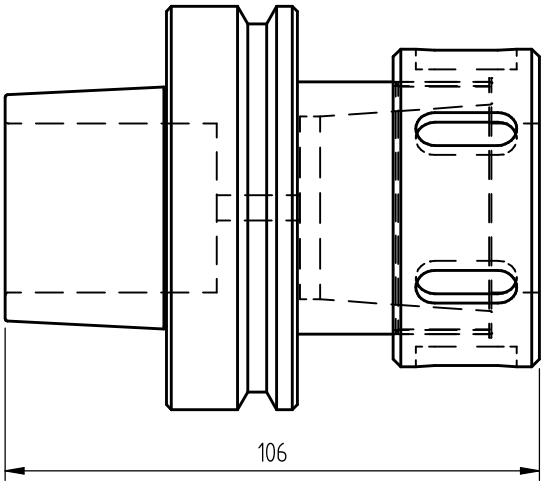
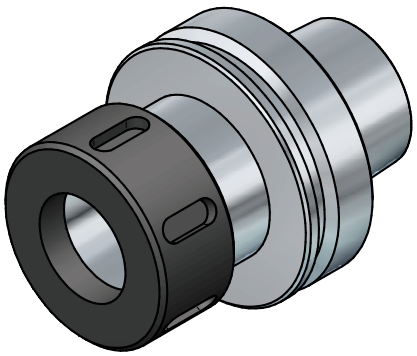




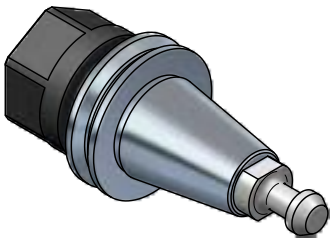


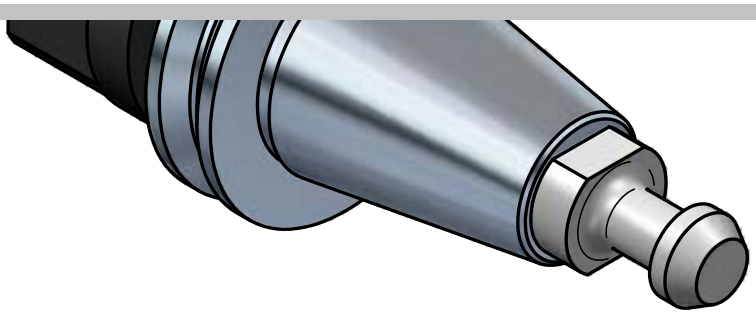


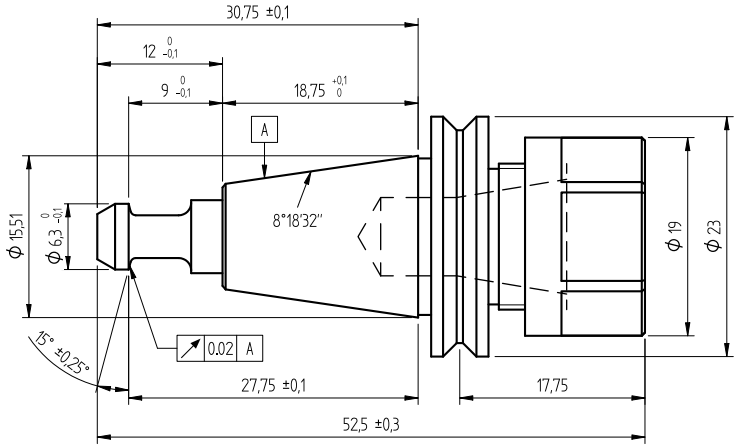


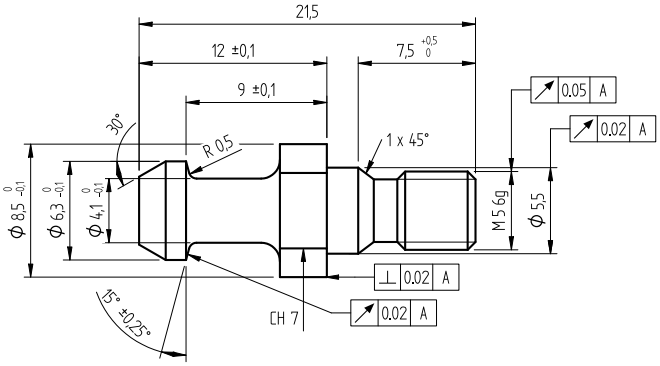


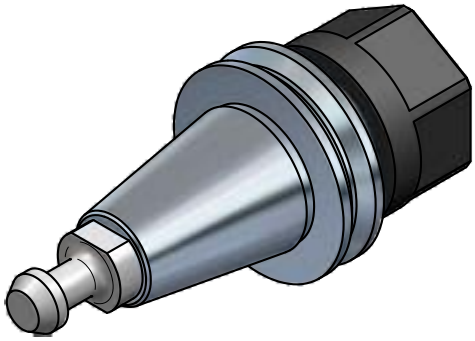
ISO 10 TAPER



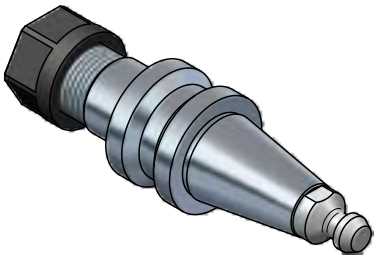


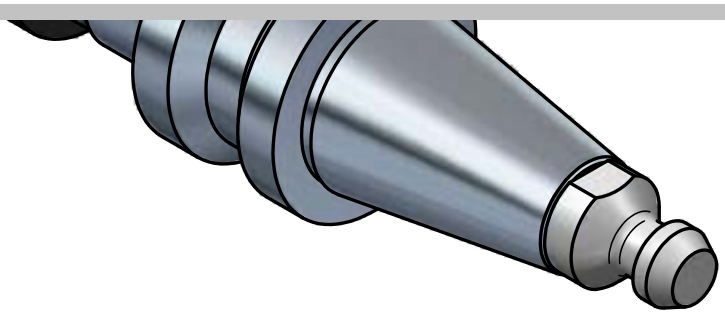

30,75 ±0,1
12 0 -0,1
9 0 -0,1
18,75 +0,1 0
A
8°18'32"
ϕ 15,51
ϕ 6,3 0 -0,1
ϕ 19
ϕ 23
15° ±0,25°
0.02 A
27,75 ±0,1
17,75
52,5 ±0,3

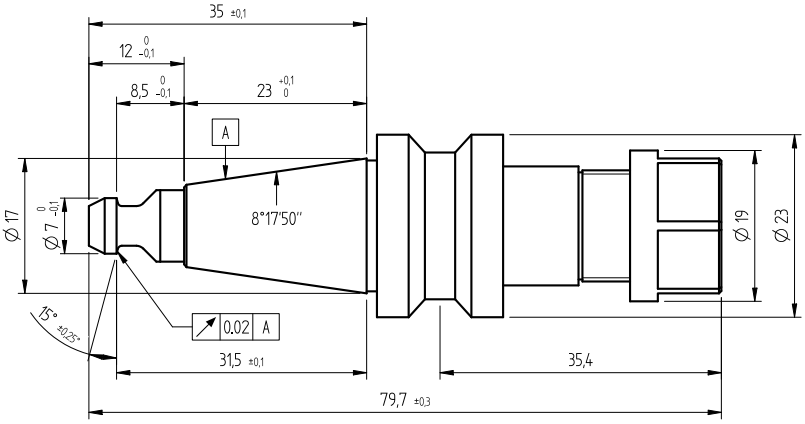

21,5
12 ±0,1
7,5 +0,5 0
9 ±0,1
30°
R 0,5
1 x 45°
0.05 A
0.02 A
ϕ 8,5 0 -0,1
ϕ 6,3 0 -0,1
ϕ 4,1 0 -0,1
M 5 6g
ϕ 5,5
⊥ 0.02 A
CH 7
0.02 A
15° ±0,25°

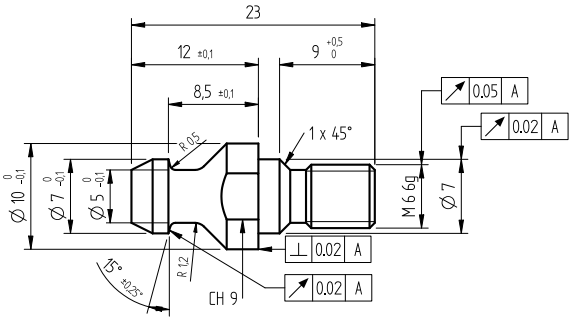


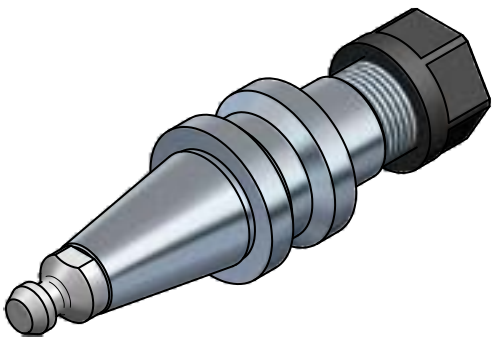
ISO 15 TAPER






35 ±0,1
12 0 -0,1
8,5 0 -0,1
23 +0,1 0
A
8°17'50"
Ø 17
Ø 7 0 -0,1
Ø 19
Ø 23
15° ±0,25°
0.02 A
31,5 ±0,1
35,4
79,7 ±0,3


23
12 ±0,1
9 +0,5 0
8,5 ±0,1
R 0,3
1 x 45°
0.05 A
0.02 A
Ø 10 0 -0,1
Ø 7 0 -0,1
Ø 5 0 -0,1
M 6 6g
Ø 7
⊥ 0.02 A
15° ±0,25°
R 1,2
CH 9
0.02 A



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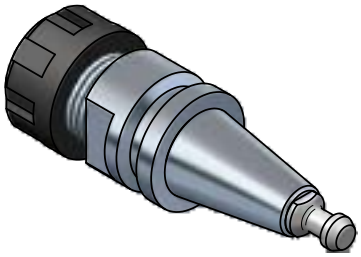
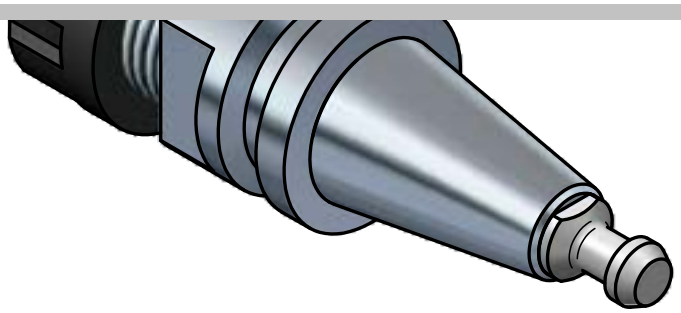
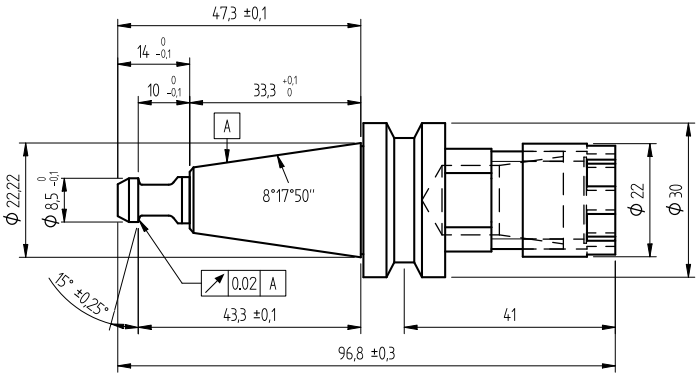
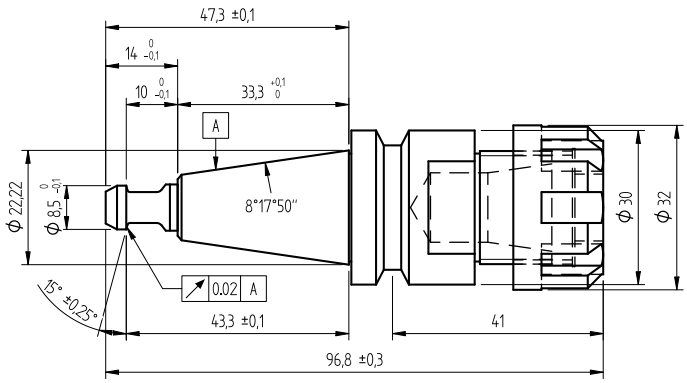


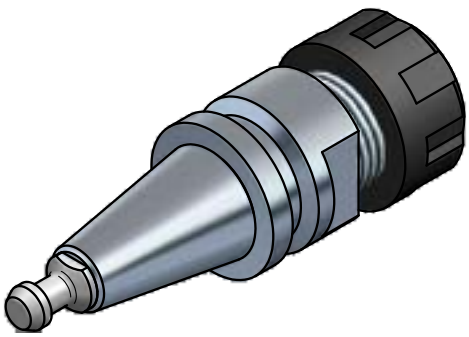


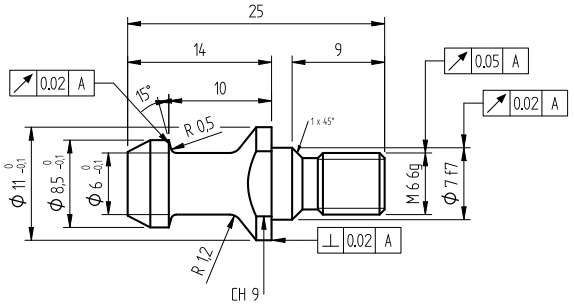
CONO ISO 20 ER16 MINI



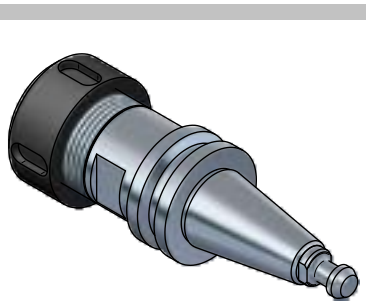
CONO ISO 20 ER16

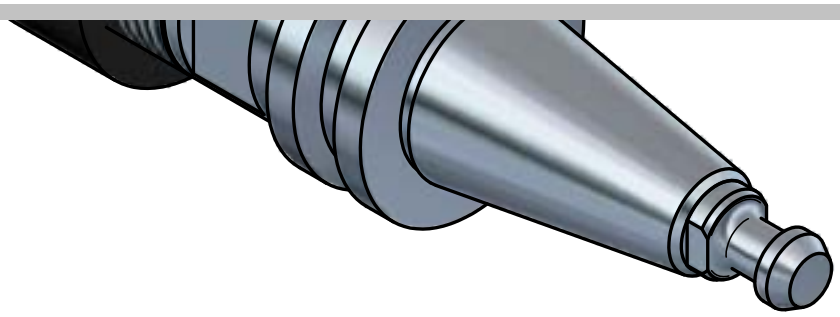


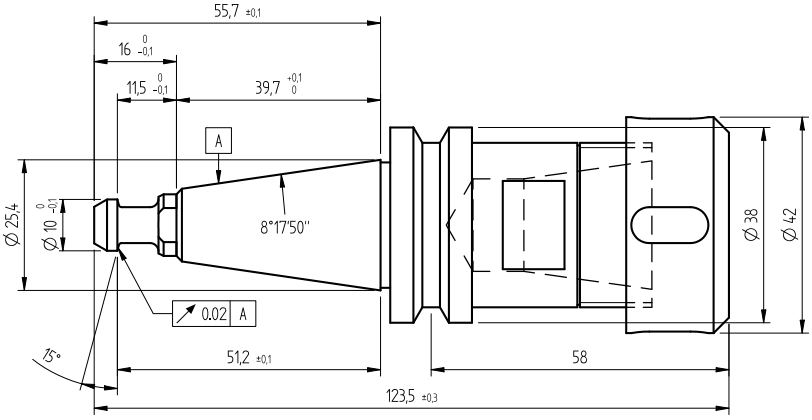




ISO 25 TAPER



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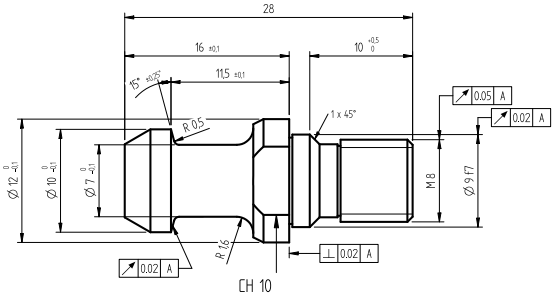
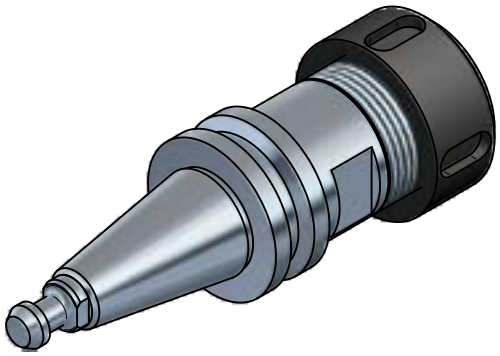
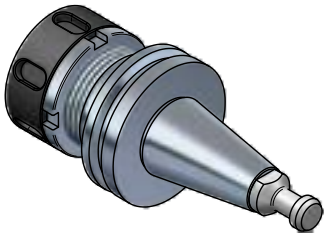
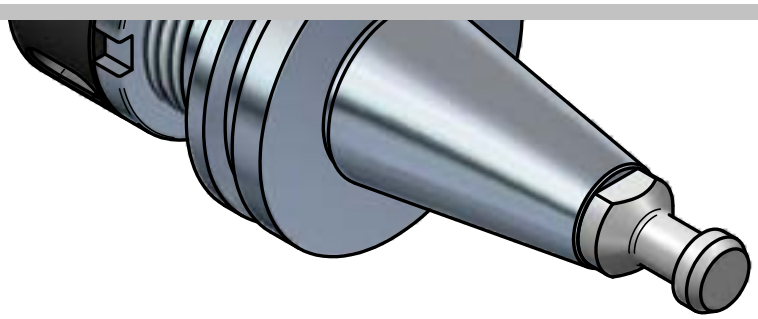
16 0 -0,1
11,5 0 -0,1
39,7 +0,1 0
A
Ø 25,4
Ø 10 0 -0,1
8°17'50"
0.02 A
15°
51,2 ±0,1
58
123,5 ±0,3
Ø 38
Ø 42

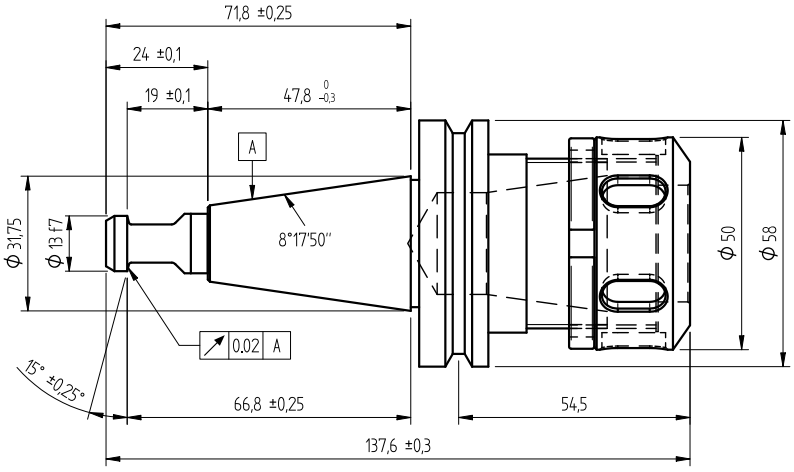

28
16 ±0,1
10 +0,5 0
11,5 ±0,1
15° ±0,5°
R 0,5
1 x 45°
0.05 A
0.02 A
Ø 12 0 -0,1
Ø 10 0 -0,1
Ø 7 0 -0,1
M 8
Ø 9 f7
R 1,6
0.02 A
⊥ 0.02 A
CH 10



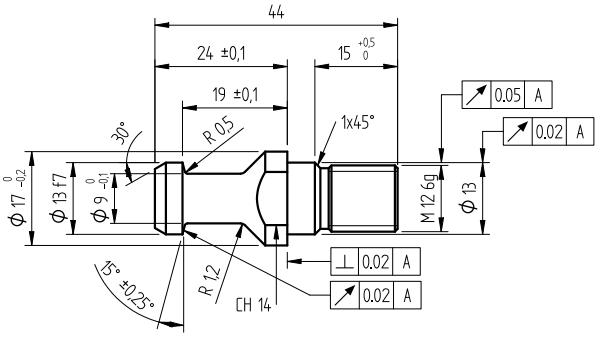
ISO 30 TAPER



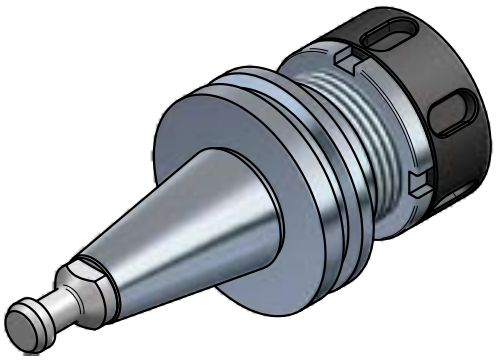




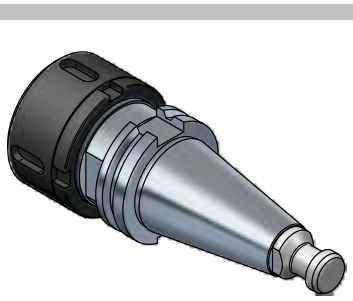
DIN 69871 / 1

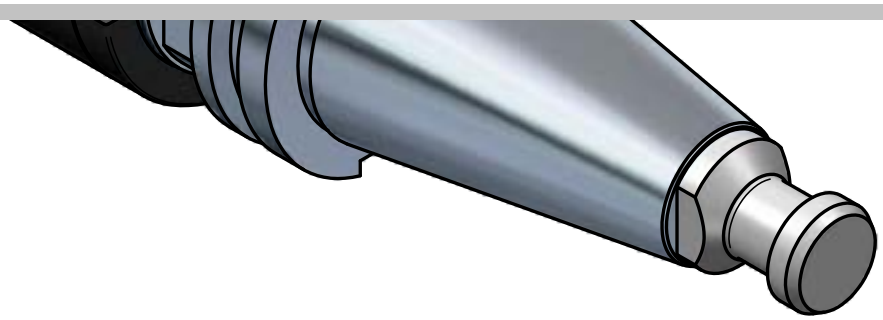


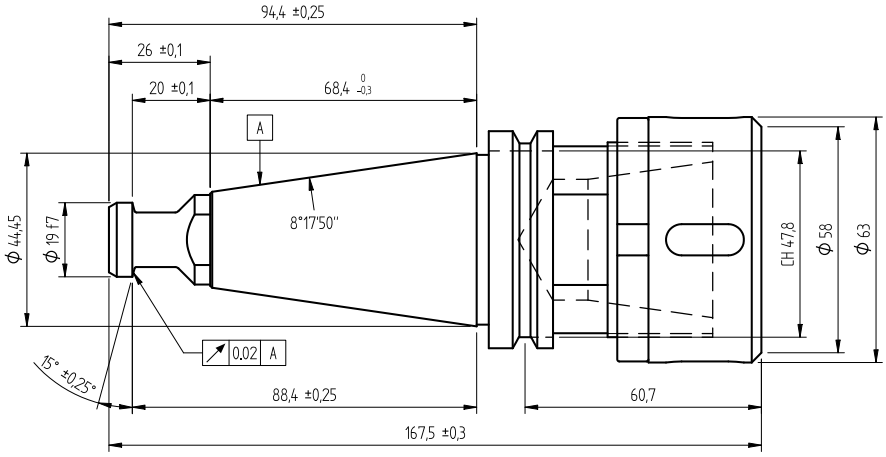
DIN 69872 A



ISO 40 SLITS TAPER







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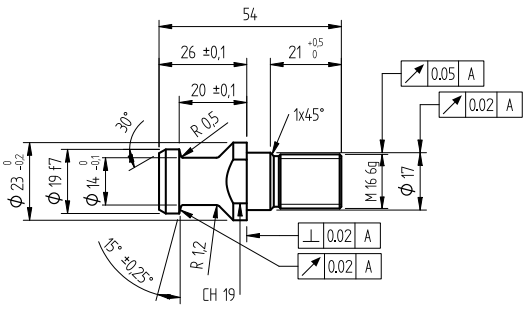

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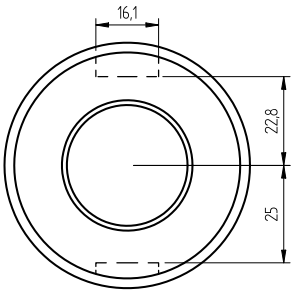
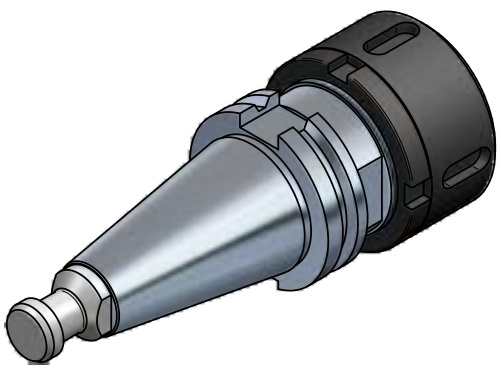
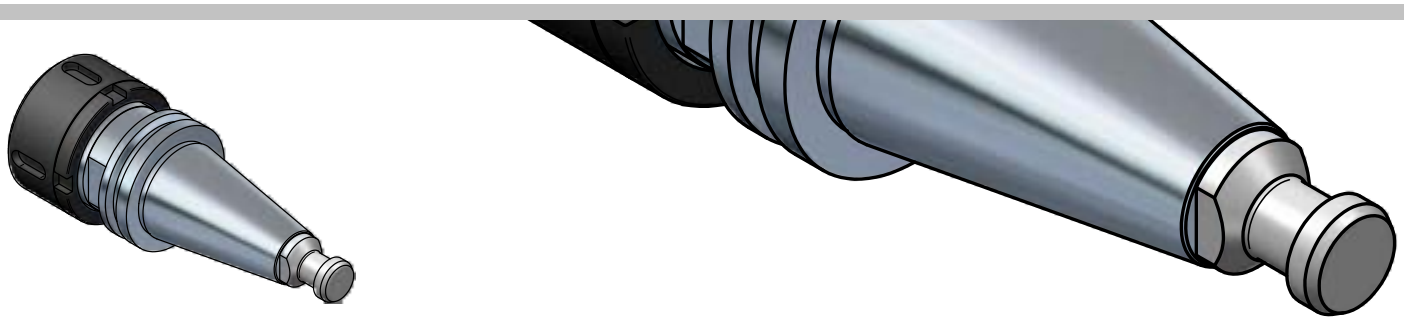
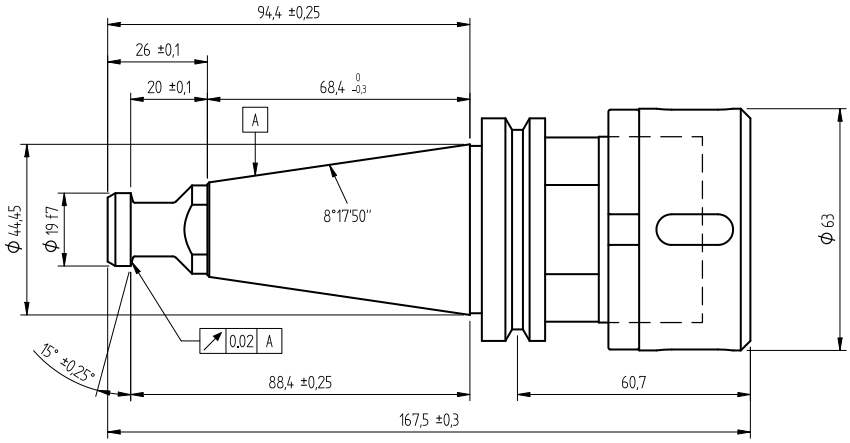




ISO 40 TAPER





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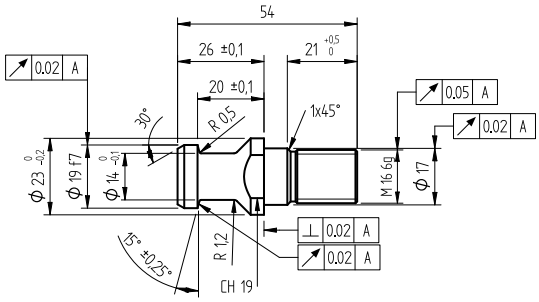

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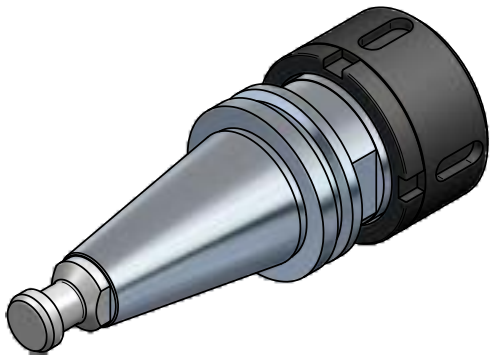

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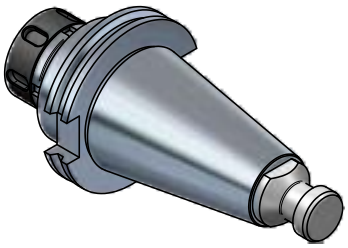

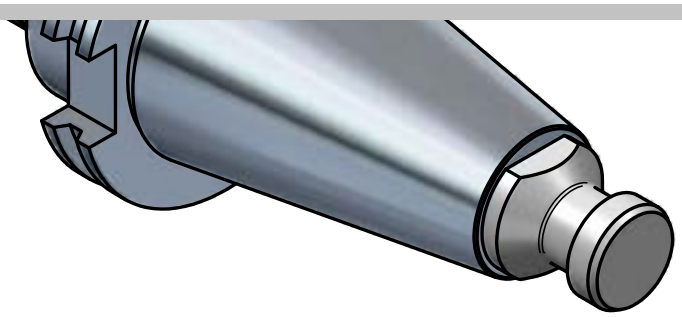

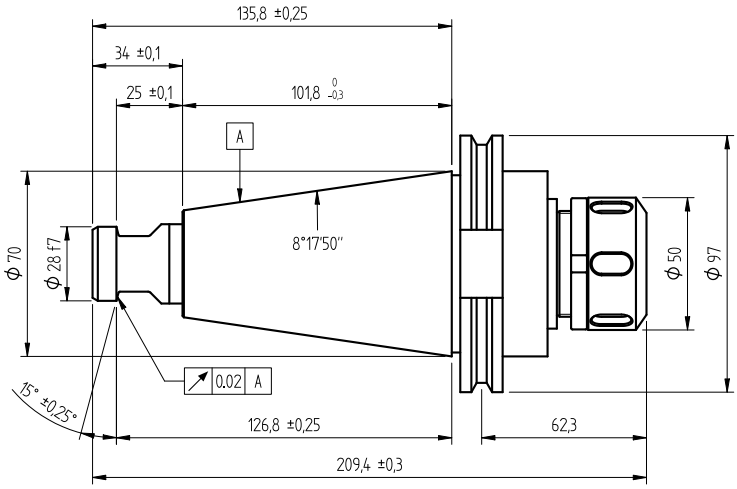

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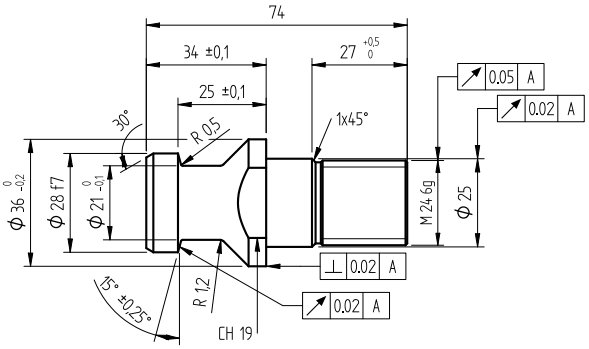

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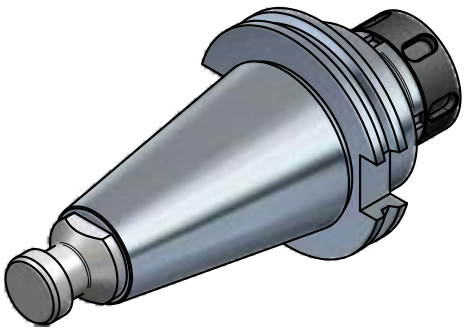

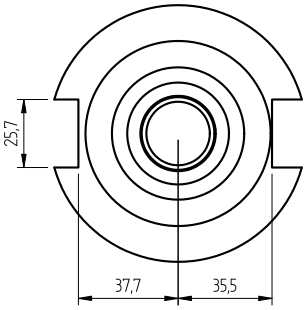

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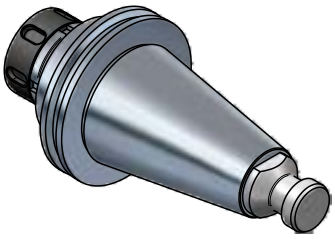

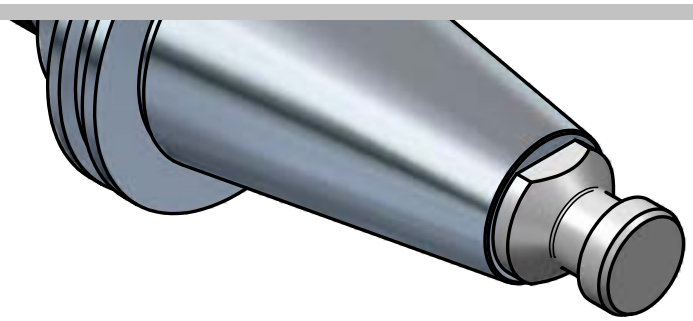

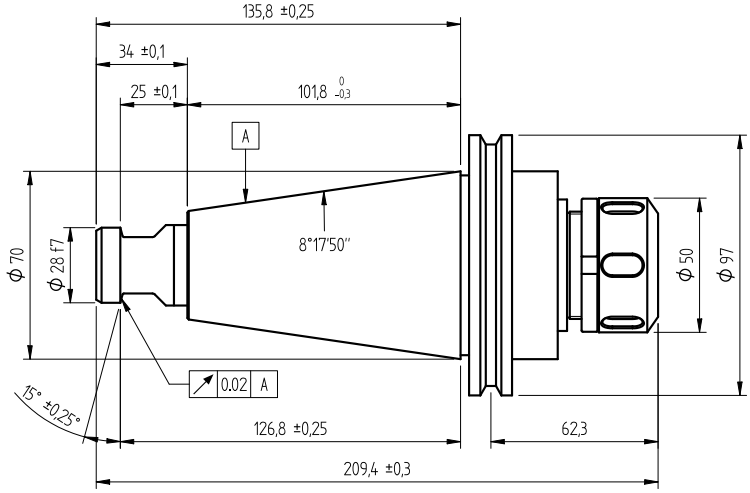

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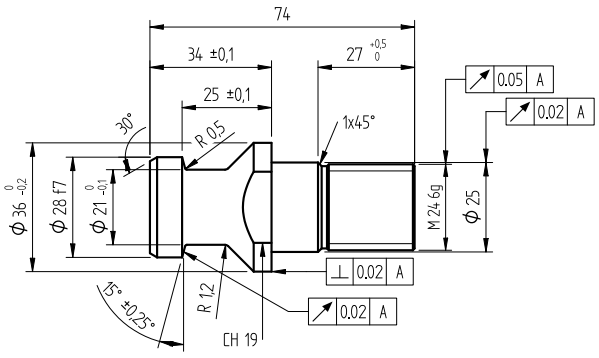

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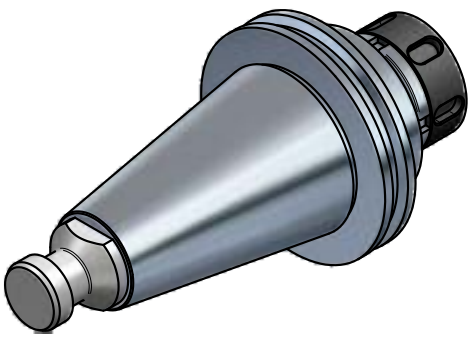
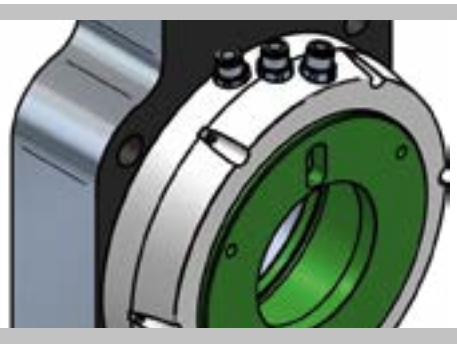
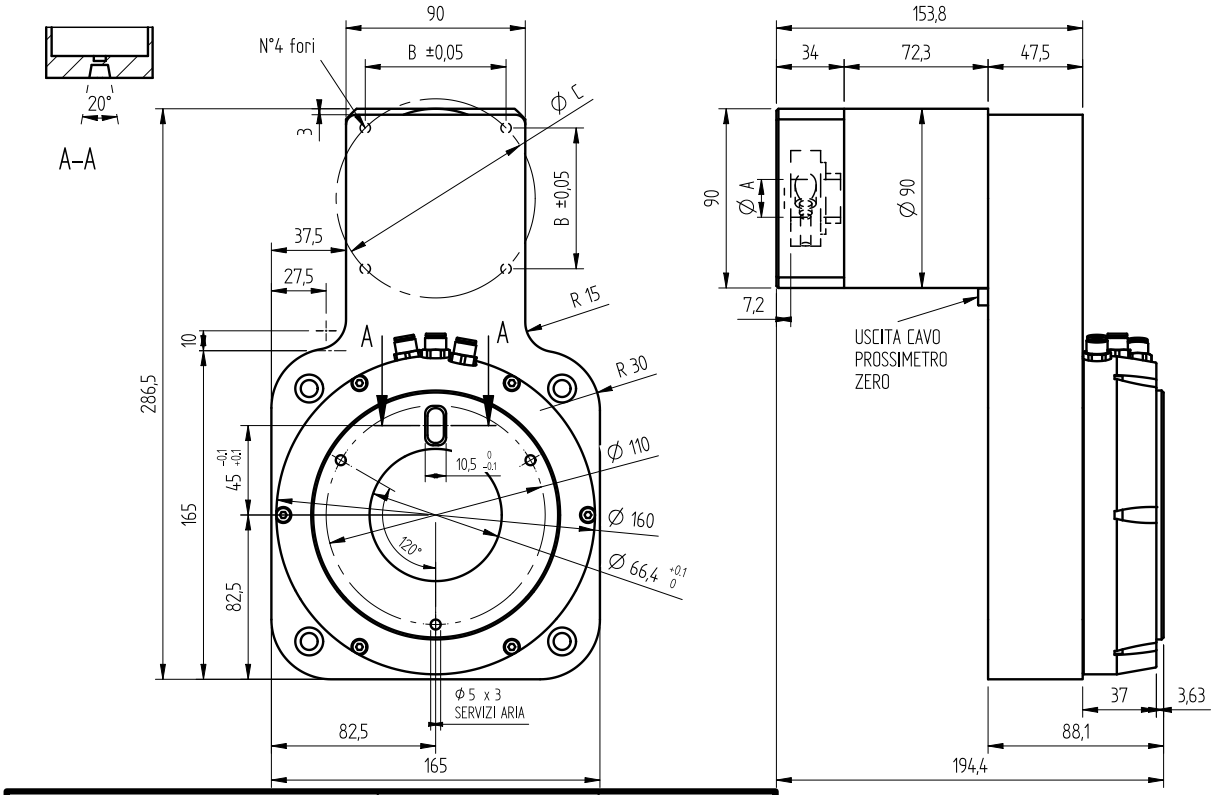


C Axis

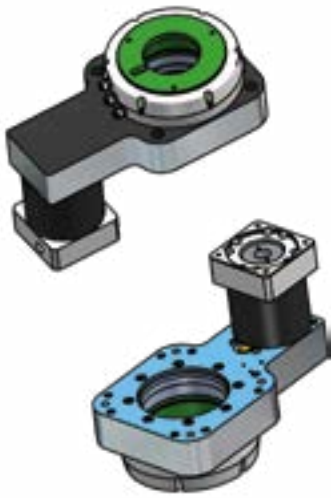
C AXIS





ITA	ING	
Peso	Weight	13 Kg
Lubrificazioni ingranaggi	Lubrification gear	ISOFLEX TOPAS NB52
Rapporto di riduzione totale	Total reduction ratio	1:50
Coppia nominale in ingresso al riduttore	Ingoing nominal torque	2.5 Nm
Coppia di spunto in ingresso al riduttore	Ingoing starting torque	7.2 Nm
Velocità massima in ingresso	Ingoing maxl speed	6000 min
Velocità nominale in ingresso	Ingoing nominal speed	4000 min

TIPO	A	B	C	D	E	RAPPORTO TRASMISSIONE
SERVOMOTORE Φ14	14	49.5	70	M5 x 12	50	1:8
SERVOMOTORE Φ19	19	70.71	100	M6 x 15	80	1:10

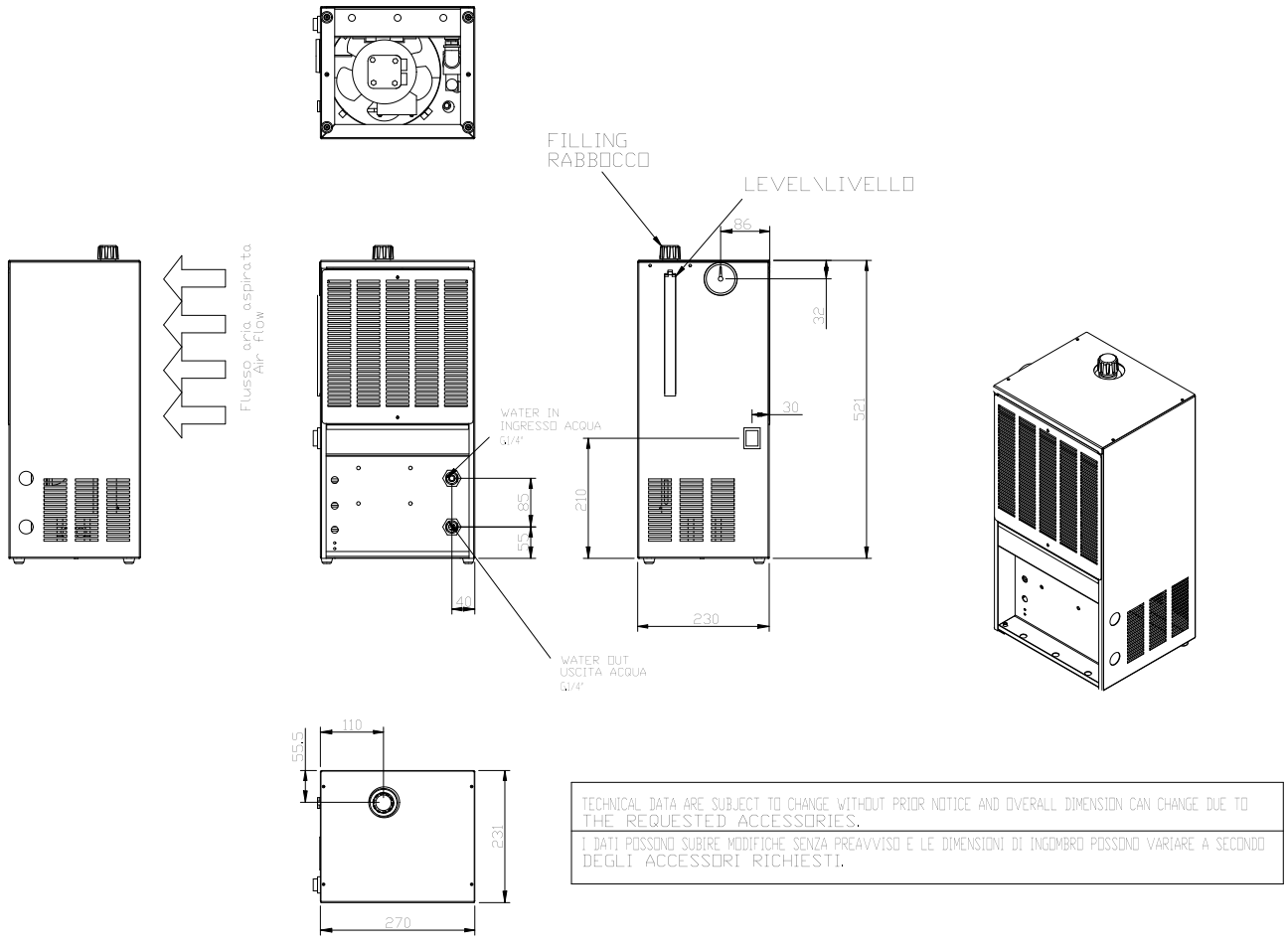


Cooling Units

AIR-WATER HEAT EXCHANGER AWEX 6
AIR-WATER HEAT EXCHANGER AWEX 7.5
WATER CHILLER WITH TANK AND PUMP ELT 12

Air-Water HEAT EXCHANGER - AWEX 6.5

AF60 - AF80 - AF80 CU (9/2)

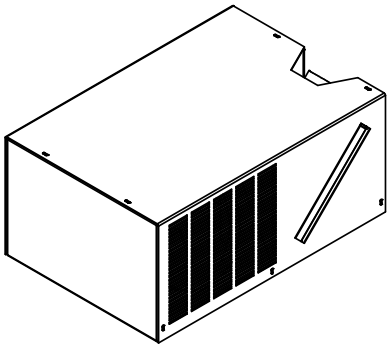


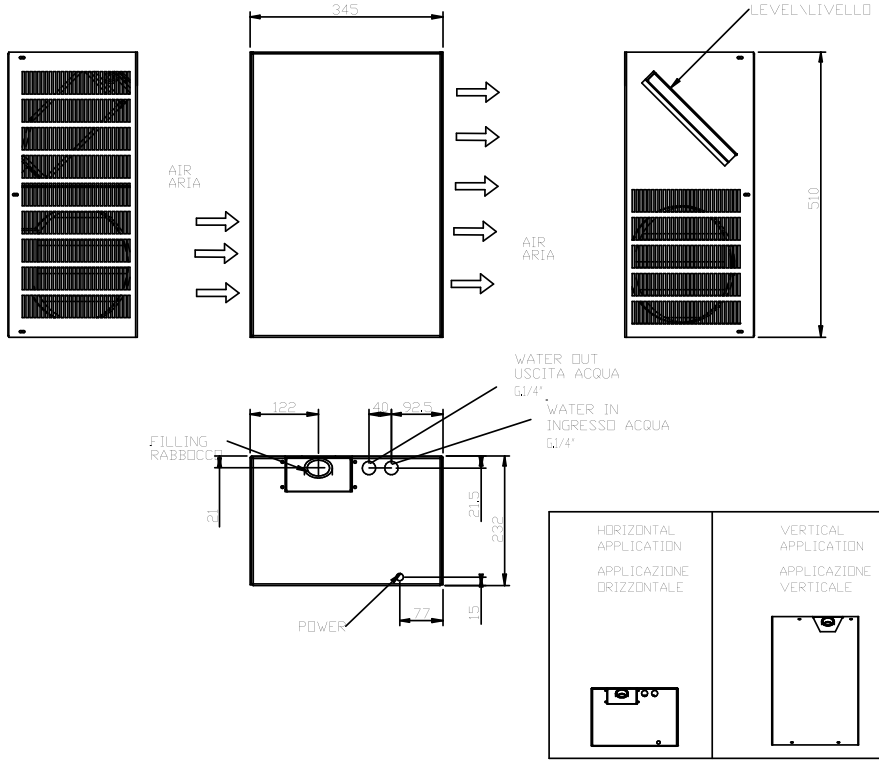
TECHNICAL DATA ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE AND OVERALL DIMENSION CAN CHANGE DUE TO THE REQUESTED ACCESSORIES.

I DATI POSSONO SUBIRE MODIFICHE SENZA PREAVVISO E LE DIMENSIONI DI INGOMBRO POSSONO VARIARE A SECONDO DEGLI ACCESSORI RICHIESTI.

Air-Water HEAT EXCHANGER - AWEX 7.5

AF100 - AF80 CU (7/2) - AF 100 CU





**** Potenzialita' nominale con aria a +32 °C - temp. acqua a + 40 ° C : 1.080 W***
Nominal cooling capacity with air +32 °C - temperature liquid a + 40 ° C : 1.080 W
**** Potenzialita' nominale con aria a +32 °C - temp. acqua a + 50 ° C : 2.450 W***
Nominal cooling capacity with air +32 °C - temperature liquid a + 50 ° C : 1.080 W
**** Potenza installata : 300 W***
Installed power : 300 W
**** Alimentazione : 230 V/1/50-60 Hz***
Power : 230 V/1/50-60 Hz
**** Alimentazione elettrica : 230V - 1ph - 50/60 Hz***
Power supply : 230V - 1ph - 50/60 Hz
**** Scambiatore di calore : Scambiatore in rame / alluminio , raffr. ad aria***
Heat exchanger : Air/coole heat exchanger (copper/aluminium)
**** Attacchi idraulici : 1/4" gas***
Hydraulic fittings : 1/4" gas
**** Serbatoio : 5 l***
Tank : 5l
**** Struttura in lamiera di acciaio : Verniciatura RAL 9005***
Steel frame : Epoxy paint powder RAL 9005
**** Massima temperatura di utilizzo : + 60 °C***
Max working temperature : +60 °C
**** Pompa : Portata : 0.25 - 8 l/min***
: Prevalenza : 3.5 - 0.5 bar
Pump : Flow rate : 0.25 - 8 l/min
: Head : 3.5 - 0.5 bar
**** Peso : 12.8 Kg***
Weight : 12.8 Kg

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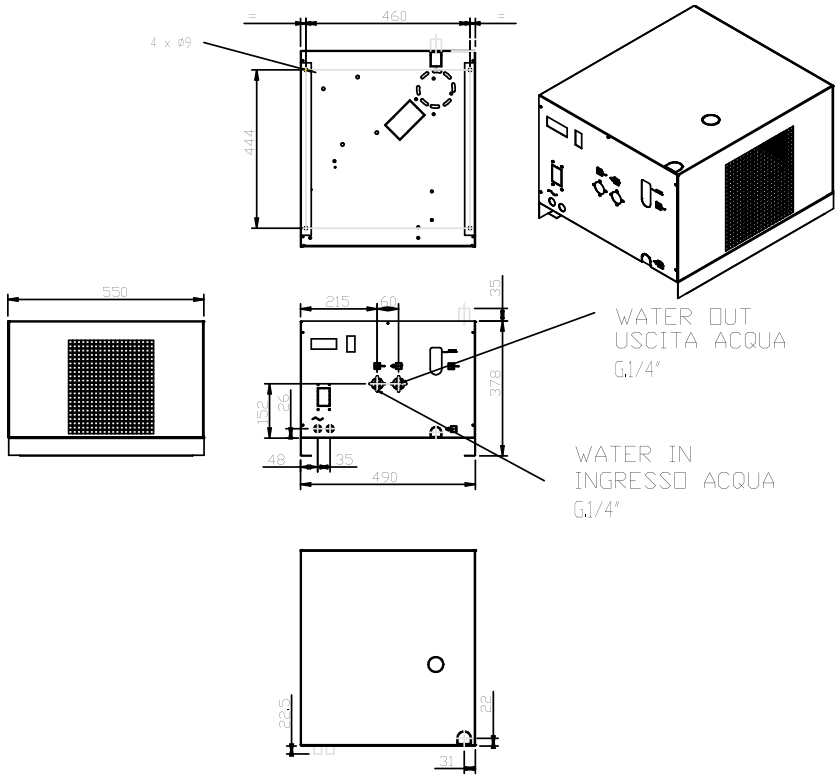
I DATI POSSONO SUBIRE MODIFICHE SENZA PREAVVISO E LE DIMENSIONI DI INGOMBRO POSSONO VARIARE A SECONDO DEGLI ACCESSORI RICHIESTI.

WATER CHILLER with TANK and PUMP - ELT 12



* Potenzialita' nominale / Nominal cooling capacity
  : 1.651 Kcal/h (50 Hz) aria/air 32 °C
  : 1.920 W (50 Hz) liquido/liquid 40 °C
* Alimentazione elettrica / Power supply : 230 V – 1 – 50/60 Hz
* Compressore / Compressor : 1038 W (60 Hz)
* Ventilatore / Electric fan : 84 W (60 Hz)
* Diametro ventola /fan diameter : Φ 250 mm
* Scambiatore di calore / Heat exchanger :
  Raffr. ad aria, batteria rame/alluminio / Air – cooled heat exchanger (copper–aluminium)
* Evaporatore / Evaporator : Allagato, in rame
* Termoregolatore elettr. a doppio set / : Controllo temperatura acqua regolabile tra +15 e +27 °C, allarme alta temperatura acqua
  Electric temperature controller. dual set /: Temperature control adjustable water between +15 and +27 ° C, high temperature alarm water
* Pompa di circolazione / Circulation pump
  Portata / Flow rate : 8 – 30 l/min
  Prevalenza / Head : 3 – 0.4 bar
  Potenza assorbita / Power Consumption : 690 w (60 Hz)
* Serbatoio / Tank : 5.5 l
* Struttura : Carenatura autoportante in acciaio elettrozincato verniciatura a polvere epossidica
  Structure : Self–supporting galvanized steel casing A powder–coated
* Rumorosità / noisiness : 55 db (A)
* Peso / weight : 42 Kg

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I DATI POSSONO SUBIRE MODIFICHE SENZA PREAVVISO E LE DIMENSIONI DI INGOMBRO POSSONO VARIARE A SECONDO DEGLI ACCESSORI RICHIESTI.

Inverter

INVERTER V1000 YASKAWA
ONE FOR ALL - MANY APPLICATIONS

Easy and cost- saving

This extremely compact and powerful drive sets standards in terms of user friendliness and process orientation. It was developed for efficient production and better maintainability with major focus on performance and reliability.

Functional safety integrated

The V1000 has a built in two-channel Safe Torque Off (STO) function (SIL2, PL-d, IEC 61800-5-2). Safe Torque Off minimizes downtime for applications requiring occasional intervention and it helps to reduce the number of installed components in your system.

Cold Plate type

YASKAWA has as one of the first manufacturers promoted the development of Cold Plate type inverters for the European and international markets. Consequently the V1000 is available as Cold Plate version for applications with an external cooling system. Cold Plate means also no fans inside the drive, which makes the V1000 the preferred solution for hazardous environments.

Features

- Functional Safety built in, STO according to ISO 13849-1 Cat 3, PL-d and IEC 61800-5-2, SIL2
- Worldwide specification: CE, UL, cUL, RoHS
- 150% inverter overload performance for excellent starting torque
- Induction Motor (IM) and Permanent Magnet (PM) motor control for highly efficient applications
- Dynamic braking: The unique High Flux Braking method reduces the stopping time by up to 50% compared to conventional methods without braking resistor
- Protection class: IP20/Open-Chassis, NEMA Type 1, or IP66. The IP66 units are available with or without LED keypad
- Optional high output frequency version for spindles and other high speed applications
- V/f and open-loop current vector control
- Predictive maintenance function
- Compact space saving design ready for side-by-side mounting
- Cooling fan replacement without tools
- Icon-based programming
- Designed for 10 years of maintenance-free operation

INVERTER V1000 YASKAWA
ONE FOR ALL - MANY APPLICATIONS

Easy installation

The YASKAWA V1000 reduces installation time and costs.

- One of the smallest AC drives in the world. Saves mounting space and cost by side-by-side mounting
- Application parameter presets to shorten commissioning time
- Same handling and parameter structure for all YASKAWA AC drives
- DriveWorksEZ icon-based programming tool. Simply drag and drop icons to customize your drive. Create customized sequences without an external PLC

Reliable operation

The V1000 continues the tradition of YASKAWA by being the reliable link in your production chain.

- Designed for long performance life (10 years 24 h per day at 80% nominal load,+40 °C ambient temperature)
- Quick response on load and speed changes improves your machine performance
- Online Auto-Tuning for improved motor performance at low speed
- Optional external 24 VDC supply assures communication and data flow in any power-loss situation
- High speed performance: The V1000 controls the application with a super-fast 2 ms scan rate

Quick maintenance

The YASKAWA V1000 is an AC drive which adapts to user demands and provides maintenance functions that ensure quick replacement and minimize down time.

- Removable terminal board with parameter memory for quick and easy maintenance
- Screw-less control terminal saves setup time
- Predictive maintenance function showing the lifetime of IGBT, Capacitor, Cooling Fan and Soft Charge Bypass Relay on the displa

INVERTER V1000 YASKAWA
TECHNICAL SPECIFICATION

Power ratings		Single-phase 200 V						
Inverter model CIMR-VCBA*1		0001	0002	0003	0006	0010	0012	00018*6
Output Inverter	Motor output (normal duty) [kW]*2	0,18	0,37	0,75	1,1	2,2	3,0	–
	Motor output (heavy duty) [kW]*5	0,1	0,18	0,55	0,75	1,5	2,2	4,0
	Rated output current (normal duty) [A]*3	1,2	1,9	3,3	6	9,6	12	–
	Rated output current (heavy duty) [A]*5	0,8*4	1,6*4	3,0*4	5,0*4	8,0*5	11,0*5	17,5*5
	Overload	125 % for 60 sec normal duty, 150 % for 60 sec heavy duty from inverter rated output current						
	Rated output power (normal duty) [kVA]	0,5	0,7	1,3	2,3	3,7	4,6	-
	Rated output power (heavy duty) [kVA]	0,3	0,6	1,1	1,9	3,0	4,2	6,7
	Max. output voltage	Three-phase 200 to 240 V (proportional to input voltage)						
	Max. output frequency	400 Hz						
Inverter input	Rated input voltage	Single-phase 200 to 240 V +10%/-15%						
	Rated input frequency	50/60 Hz, ±5 %						

* based on 220 V input voltage

Power ratings		Three-phase 200 V										
Inverter model CIMR-VC2A		0001	0002	0004	0006	0010	0012	0020	0030	0040	0056	0069
Output Inverter	Motor output (normal duty) [kW]*2	0,18	0,37	0,75	1,1	2,2	3,0	5,5	7,5	11,0	15,0	18,5
	Motor output (heavy duty) [kW]*5	0,1	0,2	0,4	0,75	1,5	2,2	4,0	5,5	7,5	11,0	15,0
	Rated output current (normal duty) [A]*3	1,2	1,9	3,5	6,0	9,6	12,0	19,6	30,0	40,0	56,0	69,0
	Rated output current (heavy duty) [A]*5	0,8*4	1,6*4	3,0*4	5,0*4	8,0*5	11,0*5	17,5*5	25,0*5	33,0*5	47,0*5	60,0*5
	Overload	120 % for 60 sec normal duty, 150 % for 60 sec heavy duty from inverter rated output current										
	Rated output power (normal duty) [kVA]	0,5	0,7	1,3	2,3	3,7	4,6	7,5	11,4	15,2	21,3	26,3
	Rated output power (heavy duty) [kVA]	0,3	0,6	1,1	1,9	3,0	4,2	6,7	9,5	12,6	17,9	22,9
	Max. output voltage	Three-phase 200 to 240 V (proportional to input voltage)										
	Max. output frequency	400 Hz										
Inverter input	Rated input voltage	Single-phase 200 to 240 V +10%/-15%										
	Rated input frequency	50/60 Hz, ±5 %										

* based on 220 V input voltage

Power ratings		Three-phase 400 V										
Inverter model CIMR-VC4A		0001	0002	0004	0005	0007	0009	0011	0018	0023	0031	0038
Output Inverter	Motor output (normal duty) [kW]*2	0,37	0,75	1,5	2,2	3,0	4,0	5,5	7,5	11	15,0	18,5
	Motor output (heavy duty) [kW]*5	0,18	0,37	0,75	1,5	2,2	3,0	4,0	5,5	7,5	11,0	15,0
	Rated output current (normal duty) [A]*3	1,2	2,1	4,1	5,4	6,9	8,8	11,1	17,5	23,0	31,0	38,0
	Rated output current (heavy duty) [A]*5	1,2	1,8	3,4	4,8	5,5	7,2	9,2	14,8	18,0	24,0	31,0
	Overload	120 % for 60 sec normal duty, 150 % for 60 sec heavy duty from inverter rated output current										
	Rated output power (normal duty) [kVA]	0,9	1,6	3,1	4,1	5,3	6,7	8,5	13,3	17,5	23,6	29,0
	Rated output power (heavy duty) [kVA]	0,9	1,4	2,6	3,7	4,2	5,5	7,0	11,3	13,7	18,3	23,6
	Max. output voltage	Three-phase 380 to 480 V (proportional to input voltage)										
	Max. output frequency	400 Hz										
Inverter input	Rated input voltage	Three-phase 380 to 480 V +10%/-15%										
	Rated input frequency	50/60 Hz, ±5 %										

*1 Drives with a single-phase power supply input have three-phase output. Single-phase motors cannot be used.
*2 The motor capacity (kW) refers to a YASKAWA 4-pole, 60 Hz, 200 V motor. The rated output current of the drive output amps should be equal to or greater than the motor rated current.
*3 At 2 kHz carrier frequency without derating
*4 At 10 kHz carrier frequency without derating
*5 At 8 kHz carrier frequency without derating
*6 Only heavy duty rating available

Rotational Auto-Tuning must be performed to obtain the performance described with the open loop vector control.

INVERTER V1000 YASKAWA
SPECIFICATIONS

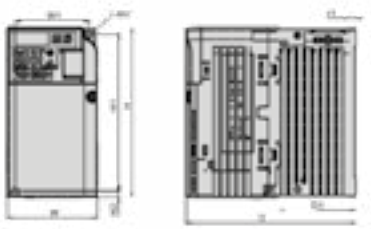
		Specifications
Control functions	Control methods	Open loop vector control (Current vector), V/f control, PM open loop vector control (for SPM and IPM motors)
	Frequency control range	0.01 to 400 Hz
	Frequency accuracy (Temperature fluctuation)	Digital input: within ±0.01 % of the max. output frequency (-10 °C to +50 °C)
		Analog input: within ±0.1% of the max. output frequency (25 °C ±10 °C)
	Frequency setting resolution	Digital input: 0.01 Hz
		Analog input: 1/1000 of max. frequency
	Starting torque	200 % / 0.5 Hz (assumes heavy duty rating AC motor of 3.7 kW or less using open loop vector control), 50 % / 6 Hz (assumes PM open loop vector control)
	Speed control range	1:100 (Open loop vector control), 1:40 (V/f control), 1:10 (PM open loop vector control)
	Speed control accuracy	±0.2 % in open loop vector control (25 °C ±10 °C)*1
	Speed response	5 Hz in open loop vector (25 °C ±10 °C) (requires rotational auto-tuning)
	Torque limit	Open loop vector control allows seperate settings in four quadrants
	Accel/Decel time	0.0 to 6,000.0 s (4 selectable combinations of independent acceleration and deceleration settings)
	Braking torque	• Short-time decel torque*2: over 150 % for 0.1/0.2 kW motors, over 100 for 0.4/0.75 kW motors, over 50 % for 1.5 kW motors, over 20 % for 2.2 kW and above motors (overexcitation braking/high-slip braking: approx. 40 %) • Continuous regen. torque: approx. 20 % (approx. 125 % with dynamic braking resistor option*3: 10 % ED, 10 s, internal braking transistor)
	V/f characteristics	User-selected programs, V/f preset patterns possible
	Main control functions	Main control functions Momentary power loss ride-thru, Speed search, Overtorque detection, Torque limit, 17-step speed (max), Accel/decel time switch, S-curve accel/decel, 3-wire sequence, Auto-tuning (rotational, stationary tuning for resistance between lines), Dwell, Cooling fan on/off switch, Slip compensation, Torque compensation, Frequency jump, Upper/lower limits for frequency reference, DC injection braking at start and stop, Overexcitation braking, High slip braking, PID control (with sleep function), Energy saving control, MEMOBUS comm. (RS-485/422 max, 115.2 kbps), Fault restart, Applica- tion presets, DriveWorksEZ (customized function), Removable terminal block with parameter backup function...
Protection functions	Motor protection	Motor overheat protection based on output current
	Momentary overcurrent protection	Drive stops when output current exceeds 200 % of heavy duty rating
	Overload protection	Drive stops after 60 s at 150 % of rated output current (heavy duty rating)*4
	Overvoltage protection	200 V class: Stops when DC bus exceeds approx. 410 V 400 V class: Stops when DC bus exceeds approx. 820 V
	Undervoltage protection	Stops when DC bus voltage falls below the following levels: 190 V (3-phase 200 V), 160 V (single-phase 200 V), 380 V (3-phase 400 V), 350 V (3-phase 380 V)
	Momentary power loss ride-thru	Stops after approx. 15 ms (default). Parameter settings allow the drive to continue running if power loss lasts for up to approx. 2 s*5
	Heatsink overheat protection	Protection by thermistor
	Braking resistance over heat protection	Overheat sensor for braking resistor (optional ERF-type, 3 % ED)
	Stall prevention	Seperate settings allowed during acceleration, and during run. Enable/disable only during deceleration.
	Ground fault protection	Protection by electronic circuit*6
	Charge LED	Charge LED remains lit until DC bus has fallen below approx. 50 V
Operating environment	Area of use	Indoors
	Ambient temperature	-10 °C to +50 °C (open chassis), -10 °C to +40 °C (NEMA Type 1)
	Humidity	95 RH% or less (non-condensing)
	Storage temperature	-20 °C to +60 °C
	Altitude	1,000 m without derating (output derating of 1 % per 100 m above 1,000 m, max. 3,000 m)
	Vibration	10 to 20 Hz (9.8 m/s²), 20 to 55 Hz (5.9 m/s²)
Standards		CE, UL, cUL, RoHS
Protective Design		IP20 open-chassis, NEMA Type 1 enclosure, IP66

*1 Speed control accuracy may vary slightly depending on installation conditions or motor used.
*2 Momentary average deceleration torque refers to the deceleration torque from 60 Hz down to 0 Hz. This may vary depending on the motor.
*3 If L3-04 is enabled when using a braking resistor or braking resistor unit, the motor may not stop within the specified deceleration time.
*4 Overload protection may be triggered at lower levels if output frequency is below 6 Hz.
*5 Varies by drive capacity. Drives smaller than 7.5 kW require a separate Momentary Power Loss Recovery Unit to continue operating during a momentary power loss of 2 s.
*6 Protection may not be provided under the following conditions as the motor windings are grounded internally during run:
• Low resistance to ground from the motor cable or terminal block.
• Drive already has a short-circuit when the power is turned on.

INVERTER V1000 YASKAWA
DIMENSIONS INVERTER V1000

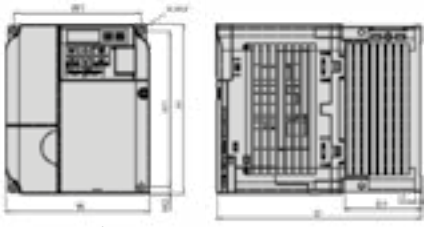
Open frame / IP20 (without EMC filter)

Voltage class	Drive model CIMR-VC	Dimensions in mm Width 1	A1	Width	A	Length	t1	A2	Length 1	Weight (kg)
Single phase 200 V class	BA0001B	56	118	68	128	76	3	5	6,5	0,6
	BA0002B									
	BA0003B					118	5		38,5	1,0
Three Phase 200 V class	2A0001B	56	118	68	128	76	3	5	6,5	0,6
	2A0002B									
	2A0004B					108	5		38,5	0,9
	2A0006B					128			58,5	1,1



*Internal diameter for M4 screws

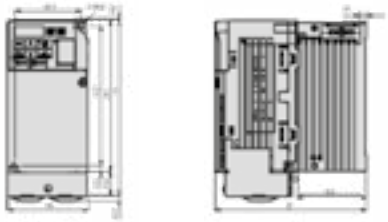
Voltage class	Drive model CIMR-VC	Dimensions in mm Width 1	A1	Width	A	Length	t1	A2	Length 1	Weight (kg)
Single phase 200 V class	BA0006B	96	118	108	128	137,5	5	5	58	1,7
	BA0010B					154				1,8
	BA0012B	128		140		163			65	2,4
	BA0018B	158		170		180				3,0
Three Phase 200 V class	2A0010B	96	118	108	128	129	5	5	58	1,7
	2A0012B					137,5				
	2A0020B	128		140		143			65	2,4
Trifase Classe 400 V	4A0001B	96	118	108	128	81	5	5	10	1,0
	4A0002B					99			28	1,2
	4A0004B					137,5			58	1,7
	4A0005B					154				
	4A0007B									
	4A0009B									
	4A0011B	128		140		143			65	2,4



*Internal diameter for M4 screws

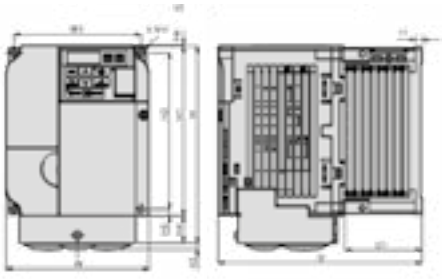
IP20 / NEMA 1 type (without EMC filter)

Voltage class	Drive model CIMR-VC	Dimensions in mm Width 1	A2	Width 1	A1	Length	t1	A5	Length 1	A	A4	A3	A6	Weight (kg)
Single phase 200 V class	BA0001F	56	118	68	128	76	3	5	6,5	149,5	20	4	1,5	0,8
	BA0002F													
	BA0003F					118	5		39					1,2
Three Phase 200 V class	2A0001F	56	118	68	128	76	3	5	6,5	149,5	20	4	1,5	0,8
	2A0002F													
	2A0004F					108	5		39					1,1
	2A0006F					128			59					1,3



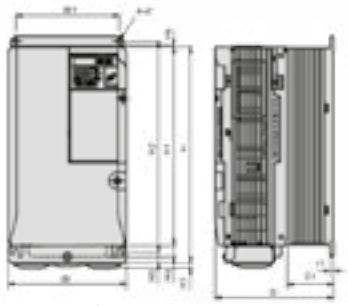
*Internal diameter for M4 screws

Voltage class	Drive model CIMR-VC	Dimensions in mm Width 1	A2	Width 1	A1	Length	t1	A5	Length 1	A	A4	A3	A6	Weight (kg)
Single phase 200 V class	BA0006F	96	118	108	128	137,5	5	5	58	149,5	20	4	1,5	1,9
	BA0010F					154								2,0
	BA0012F	128		140		163			65	153		4,8	5	2,6
	BA0018F	158		170		180				171	38			3,3
Three Phase 200 V class	2A0010F	96	118	108	128	129	5	5	58	149,5	20	4	1,5	1,9
	2A0012F					137,5								
	2A0020F	128		140		143			65	153		4,8	5	2,6
Three Phase 400 V class	4A0001F	96	118	108	128	81	5	5	10	149,5	20	4	1,5	1,2
	4A0002F					99			28					1,4
	4A0004F					137,5			58					1,9
	4A0005F					154								
	4A0007F													
	4A0009F													
	4A0011F	128		140		143			65	153		4,8	5	2,6



*Internal diameter for M4 screws

Voltage class	Drive model CIMR-VC	Dimensions in mm Width 1	A2	Width 1	A1	Length	t1	A5	Length 1	A	A4	A3	A6	d	Weight (kg)
Three Phase 200 V class	2A0030F	122	248	140	234	140	5	13	55	254	13	6	1,5	M5	3,8
	2A0040F														
	2A0056F	160	284	180	270	163			75	290	15				5,5
	2A0069F	192	336	220	320	187		22	78	350	15	7		M6	9,2
Three Phase 400 V class	4A0018F	122	248	140	234	140	5	13	55	254	13	6	1,5	M5	3,8
	4A0023F														
	4A0031F	160	284	180	270	143				290	15				5,2
	4A0038F					163					75				5,5



*Internal diameter for M5/M6 screws

NOTES

High speed precision spindles

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High speed precision spindles

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