

RV-3 SP / 5A SP

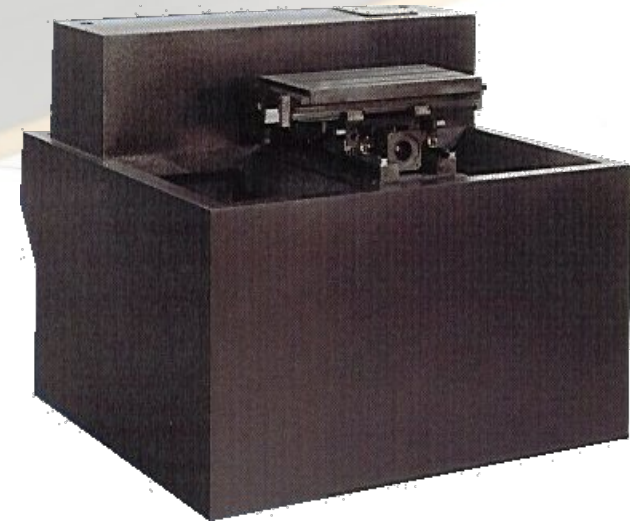


VERTICAL MACHINING CENTER

REALMECA

A machine dedicated to micromechanics

- ✓ Polymer composite machine base offering :
 - ✓ Excellent vibration dampening ;
 - ✓ Structural rigidity ;
 - ✓ Thermal stability ;
- ✓ High-speed spindle
- ✓ Designed for easy chip removal
- ✓ High precision linear bearing guideways
- ✓ Flatness, parallelism and perpendicularity within 2 μ m
- ✓ Column supports and cross slides directly integrated in the machine base
- ✓ Short kinematic chain of transmission
- ✓ Phosphate treatment of the metallic surfaces



CAPACITY	
X axis	350 mm
Y axis	240 mm
Z axis	300 mm
SPINDLE	
HF80	
Max. speed	46 000 - 50 000 rpm
Max. rating	2,5 kW / 3,2 kW
Taper	HSK-E25
HT80 (option)	
Max. speed	30 000 rpm
Max. rating	3,3 kW / 4,3 kW
Taper	HSK-E25
HF120 (option)	
Max. speed	42 000 rpm
Max. rating	13,8 kW / 19,6 kW
Taper	HSK-E40
FEEDRATES	
Max. cutting	30 m/min
Rapids	30 m/min
Precision	0,1μ
TOOL CHANGER	
Capacity	18 / 30 / 60 (HSK25) tools

SIZE / MASS	
Length / Width / Height	2350 x 1670 x 2150 mm
Weight	2900 kg
OPTIONS	
4th axis rotary	
A axis	360 000*0.001°
RV-3 version 5A	
B axis	100° / -10°
C axis	360°
Precision	0,1μ / 0,001°

Tool probing (option)

Marposs : Mida laser 75 pico or Touch T18
Blum : Laser NT-H3D

Laser probing

Marposs : OP32
Renishaw : OMP40

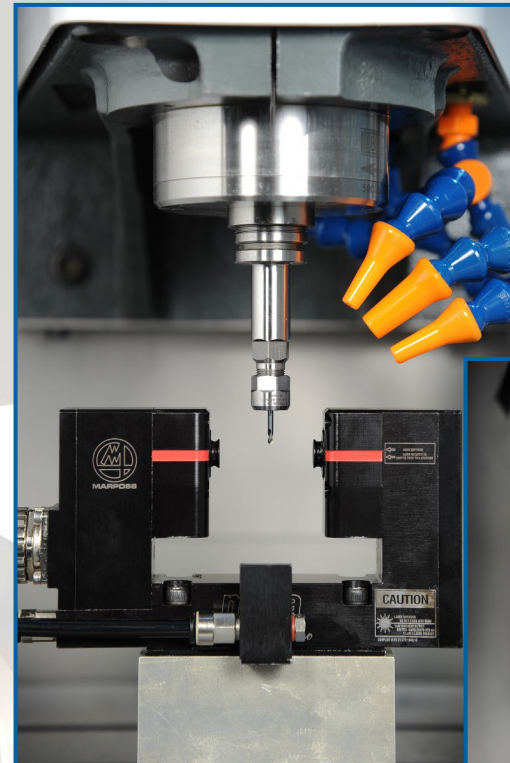
Coolant flow

- Through surrounding nozzles
- Through the spindle (option)

Installation

Electrical : 30 kVA
Air : 6 bars mini

Tool probing



Laser probing



Tool changer

Capacity : 18 - 30 - 60 tools
Max. length : 110 mm
Max. diameter : 40 mm

Option Tool changer HSK E40

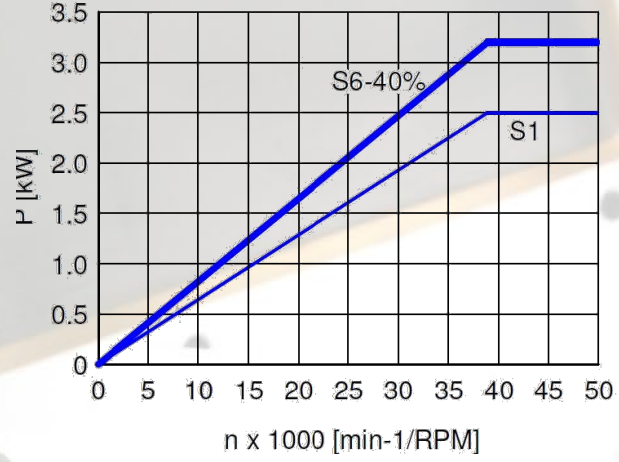
Capacity : 12 outils
Max. length : 110 mm
Max. diameter : 40 mm



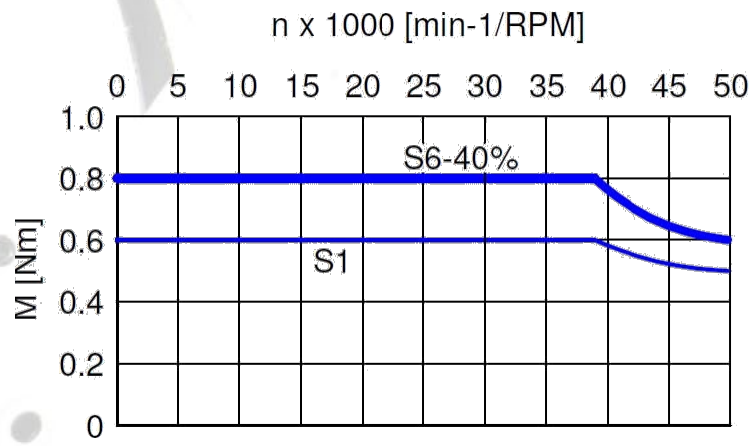
HF80

- Max. speed : **50.000 rpm**
- Max. rating : **2,5 kW**
- Torque : **0.6 Nm**
- Taper : **HSK E 25**
- Water cooling
- Air/Oil bearing lubrication
- Position encoder
- (Option) High pressure through spindle coolant : **80 bars Max. 42.000 rpm max**

RATING



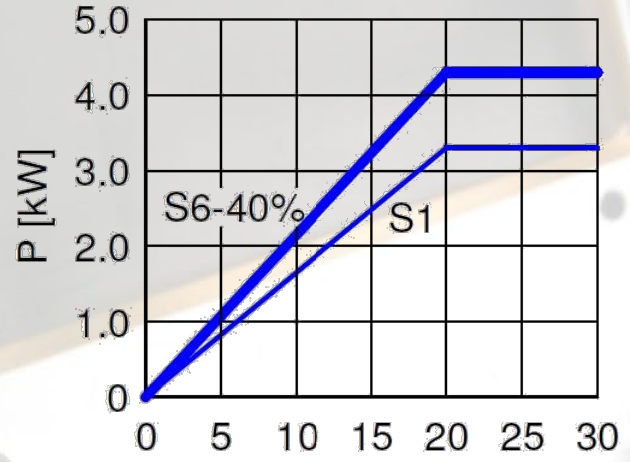
TORQUE



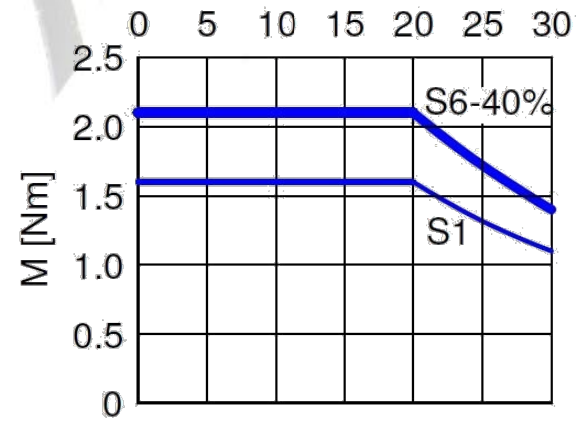
HT80 (option)

- Max. speed : **30.000 rpm**
- Max. rating : **3.3 kW**
- Torque : **4.2 Nm**
- Taper : **HSK E 25**
- Water cooling
- Air/Oil bearing lubrication
- Position encoder
- (Option) High pressure through spindle coolant : **80 bars Max. 42.000 rpm max**

PUISSANCE



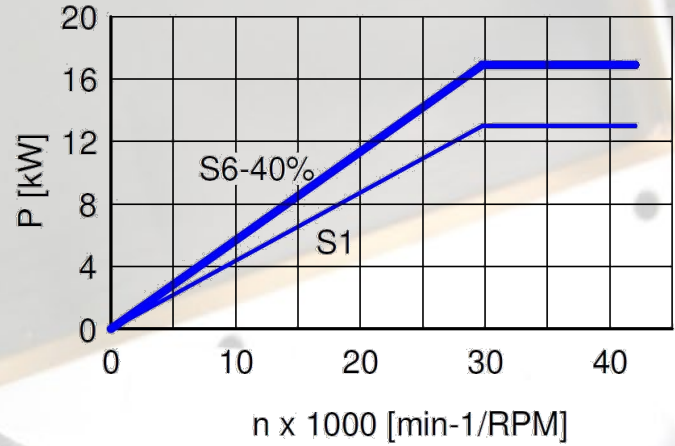
COUPLE



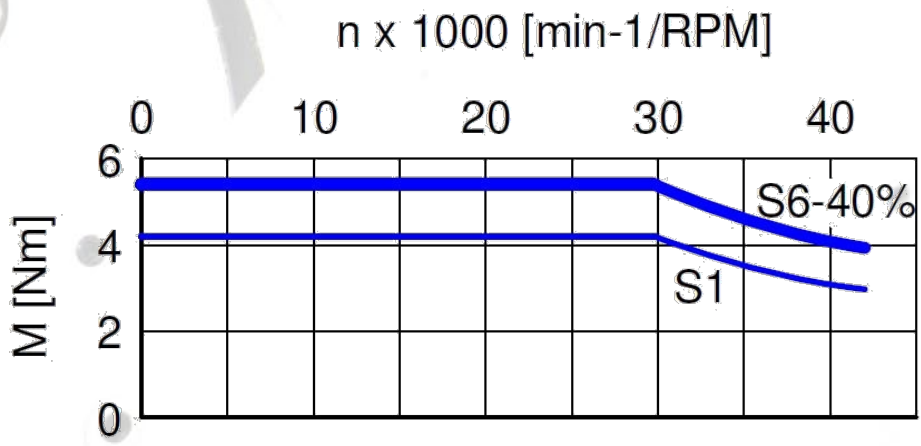
HF120 (option)

- Max. speed : **42.000 Tr/mn**
- Max. rating : **13 kW**
- Torque : **4.2 Nm**
- Taper : **HSK E 40**
- Water cooling
- Air/Oil bearing lubrication
- Position encoder
- (Option) High pressure through spindle coolant : **80 bars Max. 30.000 rpm max**

RATING



TORQUE



SIEMENS 840 SL

The Siemens 840 SL interface displays a 3D model of a cylindrical part on the left. The main screen shows a 2D technical drawing of a part with dimensions. Below the drawing, there is a table of parameters and a program list.

Parameter	Value
T	BOHRER_5 D1
F	0,800 m/min
S	1000 U/min
Z1	Schaf 6
D	32,800 Ink
DF	15,800
D1	0,000 s

Line	Operation	Tool	Parameters
1	SHIPPILL TEIL 27,5		
2	Planfräsen	T-PLANMESER FB.4/2	S400m XB=100
3	U-PROFIL		
4	Bahnfräsen	T-FRAMESER25 FB.2/2	S300m ZB=0 Z1=40Ink
5	Bahnfräsen	T-FRAMESER25 FB.2/2	S300m ZB=0 Z1=40Ink
6	Bahnfräsen	T-FRAMESER25 FB.2/2	S300m ZB=0 Z1=40Ink
7	Kreistaste	T-FRAMESER25 FB.2/2	S200m XB=0 WB=0 ZB=0

HEIDENHAIN 640

The Heidenhain 640 interface displays a 3D model of a part on the left. The main screen shows a 2D technical drawing of a part with dimensions. Below the drawing, there is a table of parameters and a program list.

Parameter	Value
X	45.917
Y	18.500
Z	28.367

Line	Operation	Tool	Parameters
1	SHIPPILL TEIL 27,5		
2	Planfräsen	T-PLANMESER FB.4/2	S400m XB=100
3	U-PROFIL		
4	Bahnfräsen	T-FRAMESER25 FB.2/2	S300m ZB=0 Z1=40Ink
5	Bahnfräsen	T-FRAMESER25 FB.2/2	S300m ZB=0 Z1=40Ink
6	Bahnfräsen	T-FRAMESER25 FB.2/2	S300m ZB=0 Z1=40Ink
7	Kreistaste	T-FRAMESER25 FB.2/2	S200m XB=0 WB=0 ZB=0

Micro-lubrication



Air-oil spindle lubrication



Oil filtration



Fire protection (option)

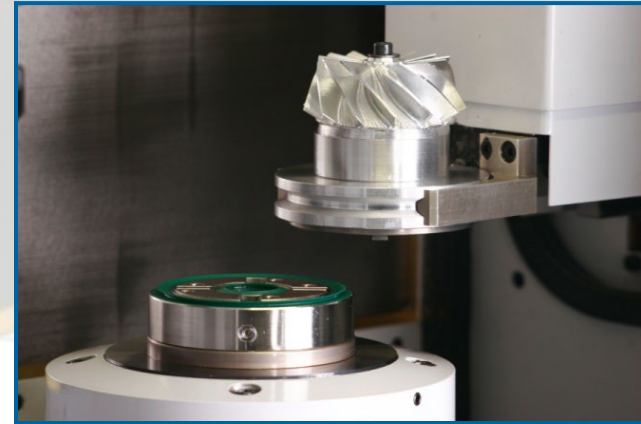
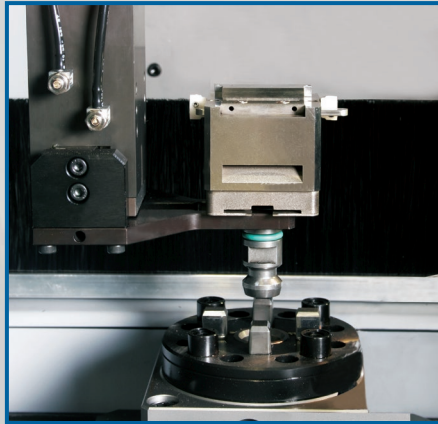


Electrostatic filtration

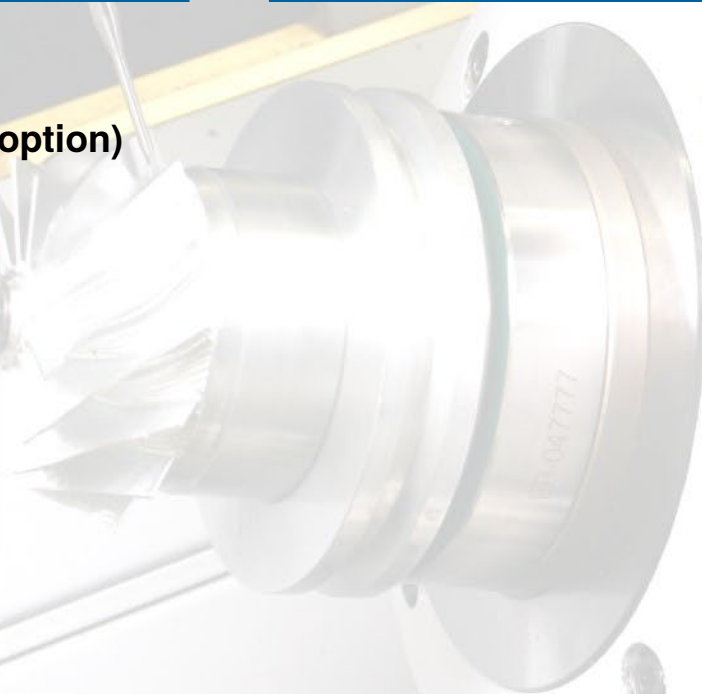
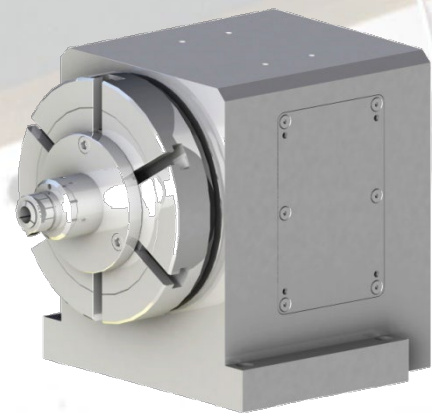


Filtration system (option)

PALLETISATION SYSTEM (option)



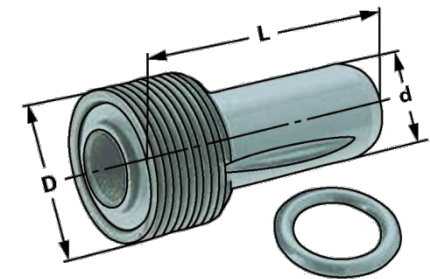
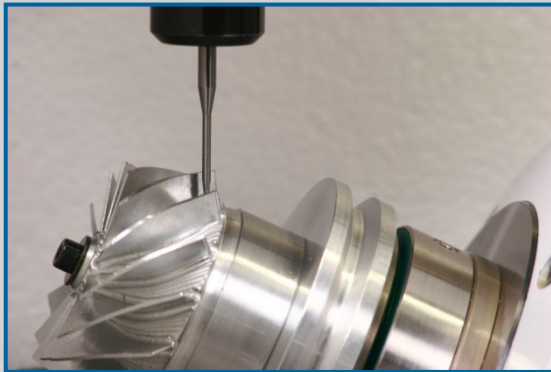
4th-axis rotary, axe A (option)



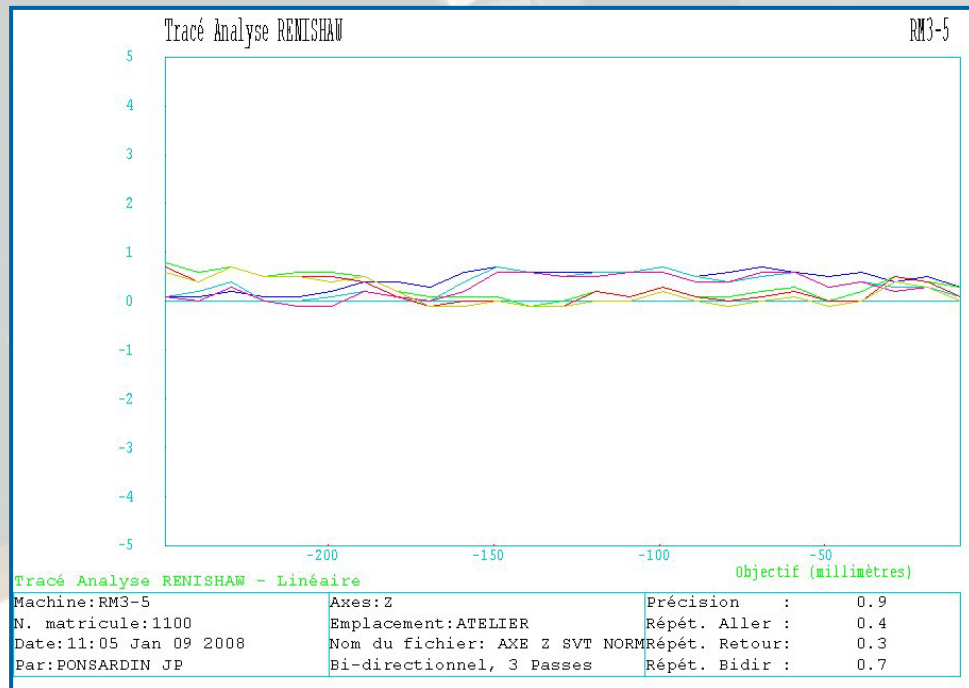
TOOLHOLDER HSK E25

Balanced G2.5 at 50 000 rpm

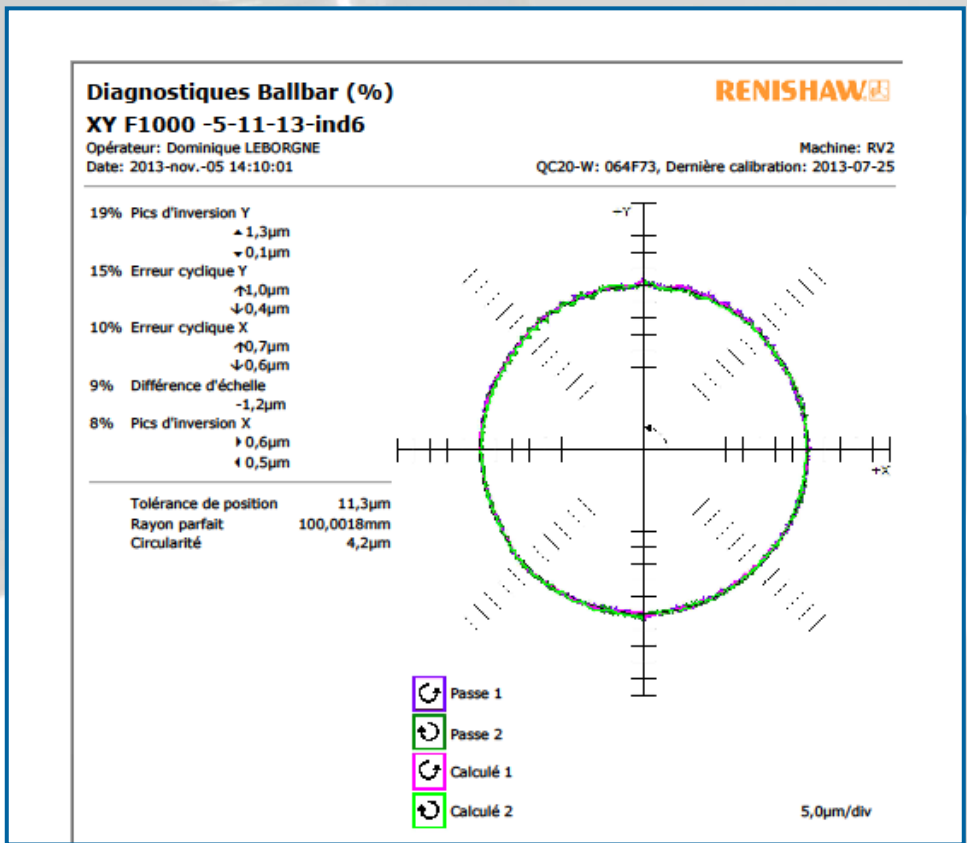
Beware : For through-spindle coolant, we recommend using specific tips



The precision and accuracy of the machine's axis is controlled with laser interferometry



BALLBAR Test



Automatic system for measuring kinematic data

701445 Toolchanger door is open

Kinematic channel1 Name of swivel data record

Name: **RM13_B** Kinematics Inclinal head No.: 1

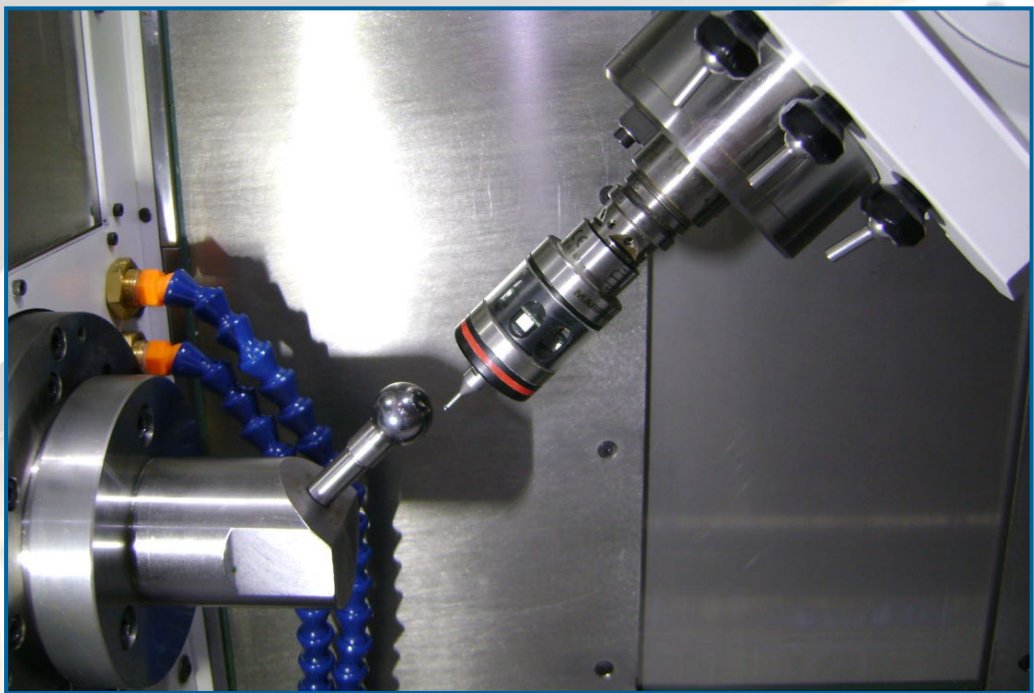
Retract: No retraction

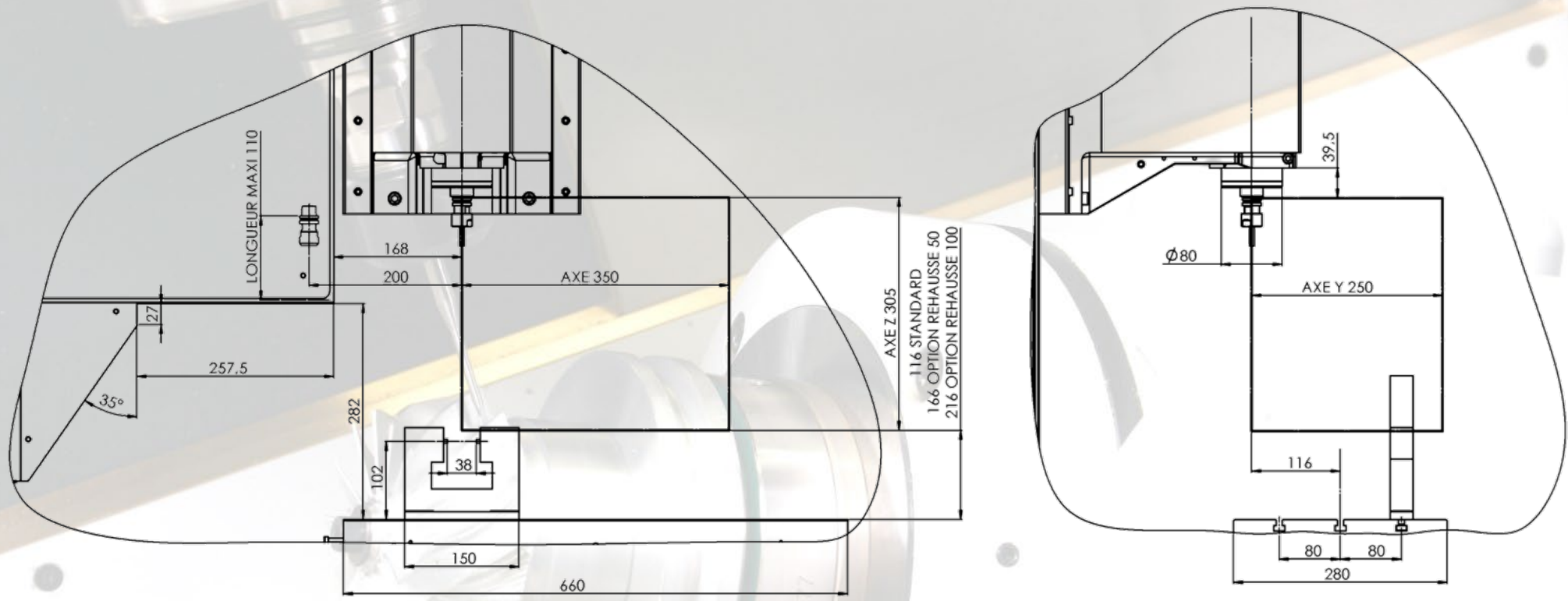
	X	Y	Z	[mm]
Offset vector I1	0.000000	0.000000	-134.225000	[mm]
Rotary axis vector V1	0.000000	239.225000	0.000000	
Offset vector I2	0.000000	0.000000	134.225000	[mm]
Rotary axis vector V2	0.000000	0.000000	0.000000	
Offset vector I3	0.000000	0.000000	0.000000	[mm]

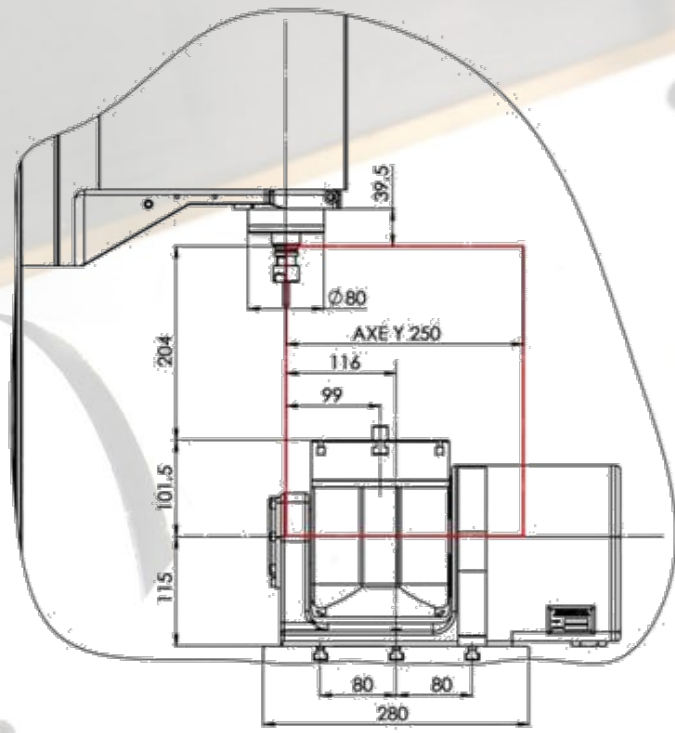
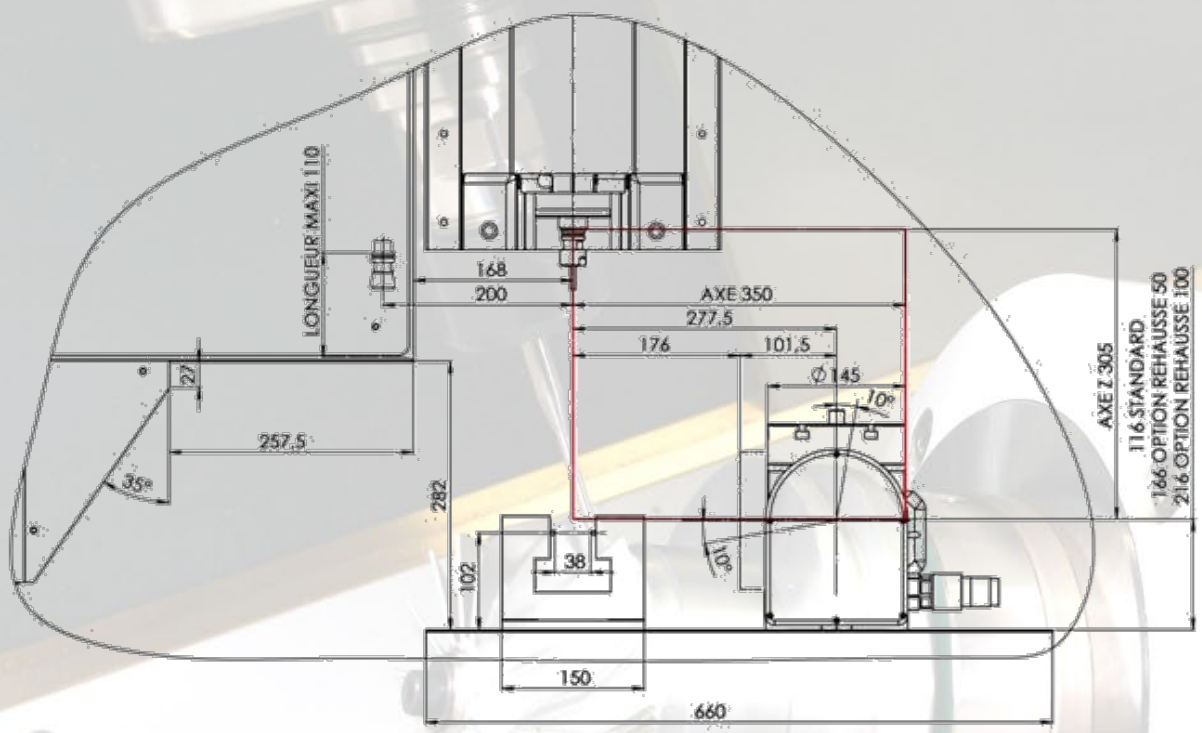
Swivel mode

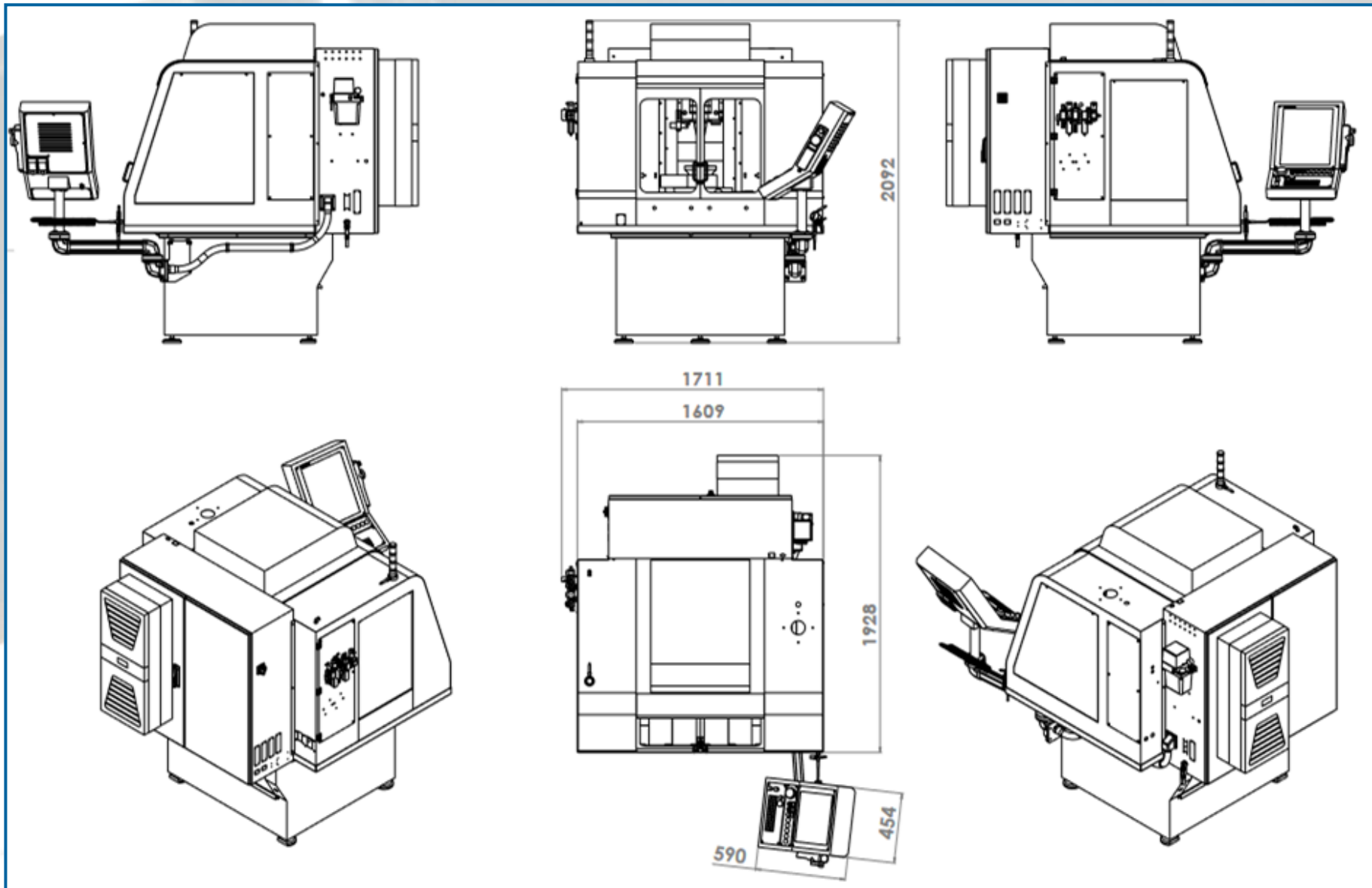
	Axis by axis	
Rotary axes direct	No	Track tool No
Projection angle	No	B axis kinematics No
Solid angle	No	
Direction refer.	Rotary axis 1, - direction selected	
Enable	Yes	
JobShop functions	Automatic swivel data record change	
	Automatic tool change	

Swivel +
Swivel -
RotAxis
Save data record
Delete data rec.
Back









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