Vertical 3-Axes Machining Center

VM 10i Plus

mind over metal℠

HURCO®

Keydata

	VM 10i Plus
Travels (X/Y/Z) [mm]	660 / 405 / 510
Spindle Speed [1/min]	10,000
Spindle Power [kW]	11
Torque [Nm]	74
ATC stations	20

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Technical Specification

Machine Capacity		Rapids X / Y / Z [m/min]	24 / 24 / 24
Travels X/Y/Z [mm]	660 / 405 / 510	Axis Thrust X/Y/Z [N]	7,800 / 7,800 / 12,700
Spindle Nose To Table [mm]	100- 610	**Automatic Tool Changer**	
Table Working Surface W x D [mm]	760 x 405	Number of stations	20
T – Slots (DIN 650)	3 x 18^{H8} x 100	Max. Tool Diameter [mm]	89
Max. load (uniform distribution) [kg]	682	Adjacent Sides Empty [mm]	127
Spindle		Max. Tool length [mm]	250
Spindle Taper (DIN 69871 A)	Sk 40	Max. Tool weight [kg]	7
Max. Speed [min^{-1}]	12,000	ATC Time (Tool to tool) [sek.]	3
Max. Power [kW]	11	ATC Time (Chip to chip) [sek]	7
Max. Torque [Nm]	61	**Service Requirements**	
Retention knobs	ISO 7388/II B	Electrical	18 kVA / 26 A / 400V
Accuracy (VDI / DGQ 3441)		Air (Dry, clean air acc. DIN/ISO 8573-1, class 4)	7bar / 150 l/min
Positioning P_{max} [mm]	0.01 (Full travel)	**Weights**	
Repetability P_S [mm]	0.005	Machine Weight [kg]	3,000*
Feedrates		Shipping Weight [kg]	3,500*
Cutting feedrate X / Y / Z [mm/min]	19.000 / 19.000/ 19.000		

*due to the position of the mass center of the machine, for unloading by forklift it is recommended to plan with a higher carrying capacity of 30%

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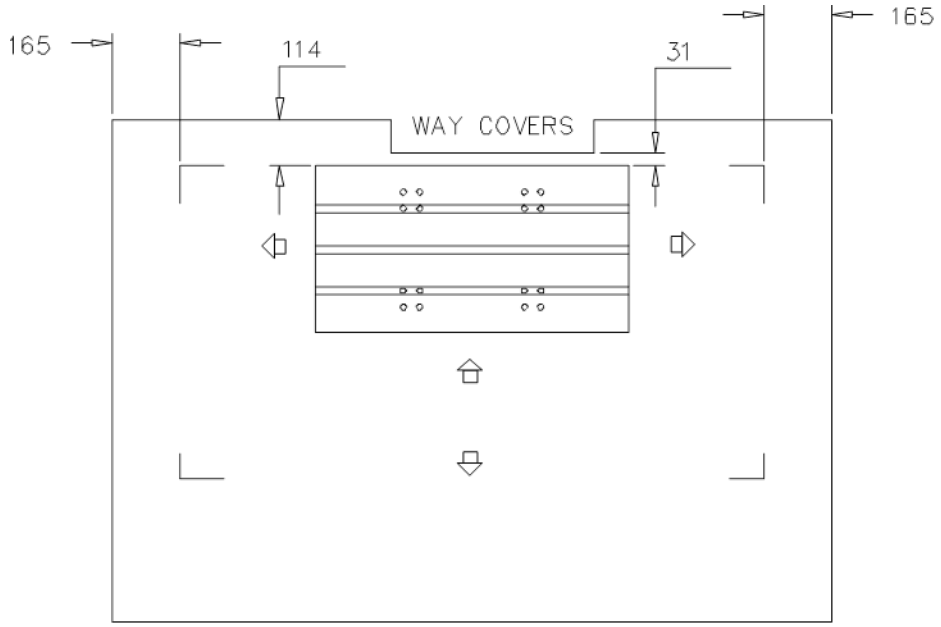
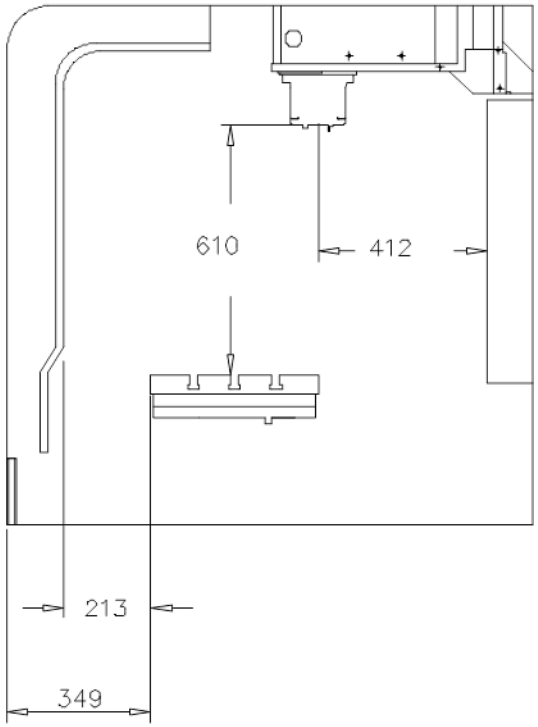
Interior Clearances





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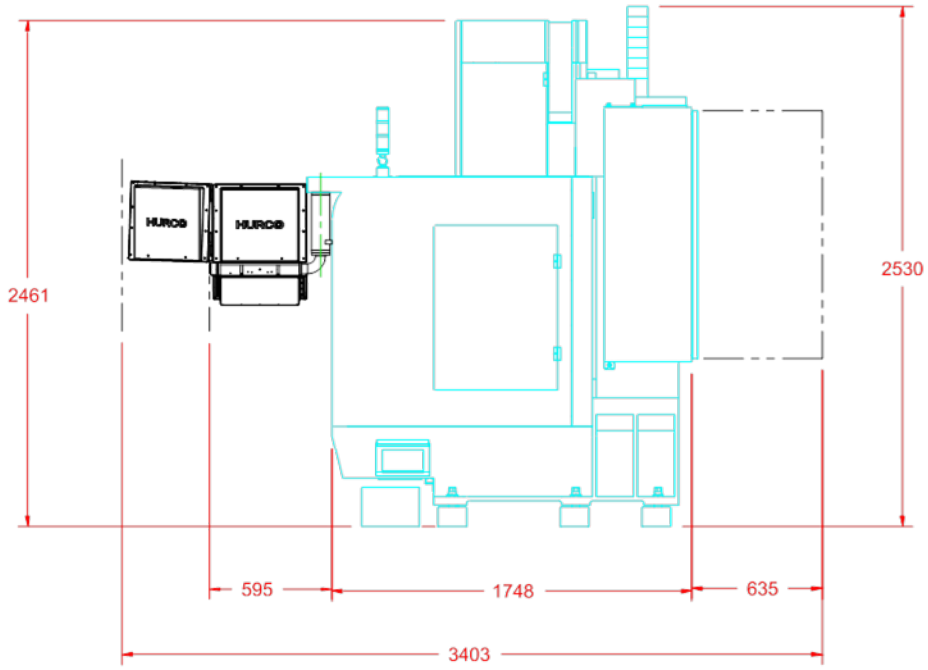
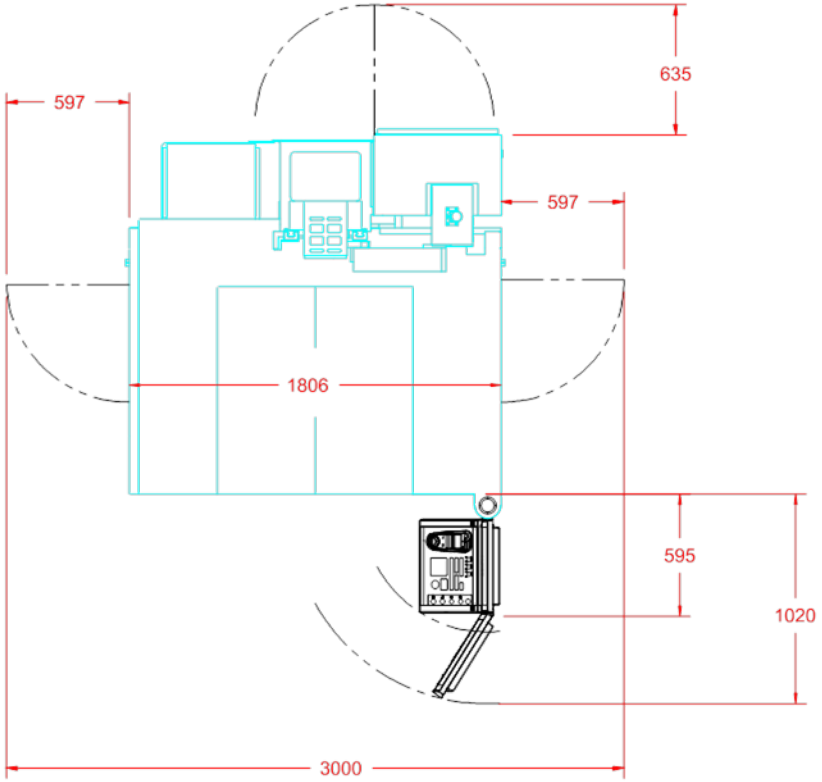
Operating Dimensions (w/o CTS)





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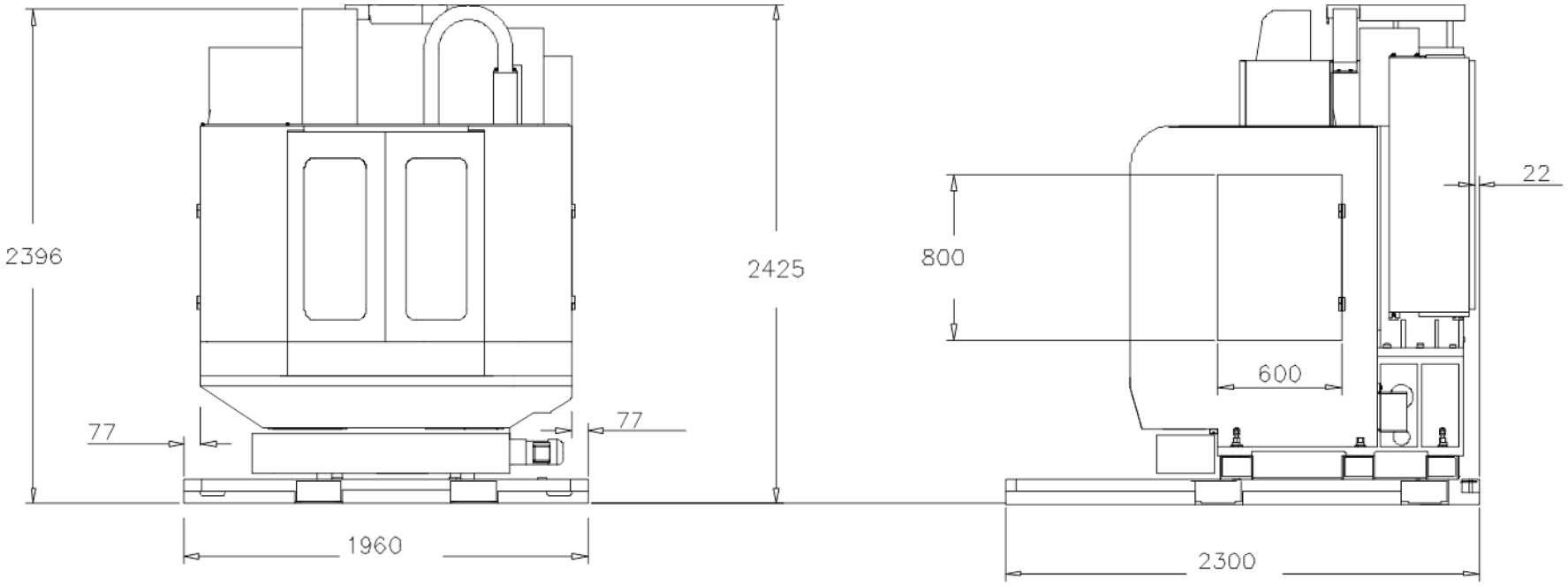
Shipping Dimensions



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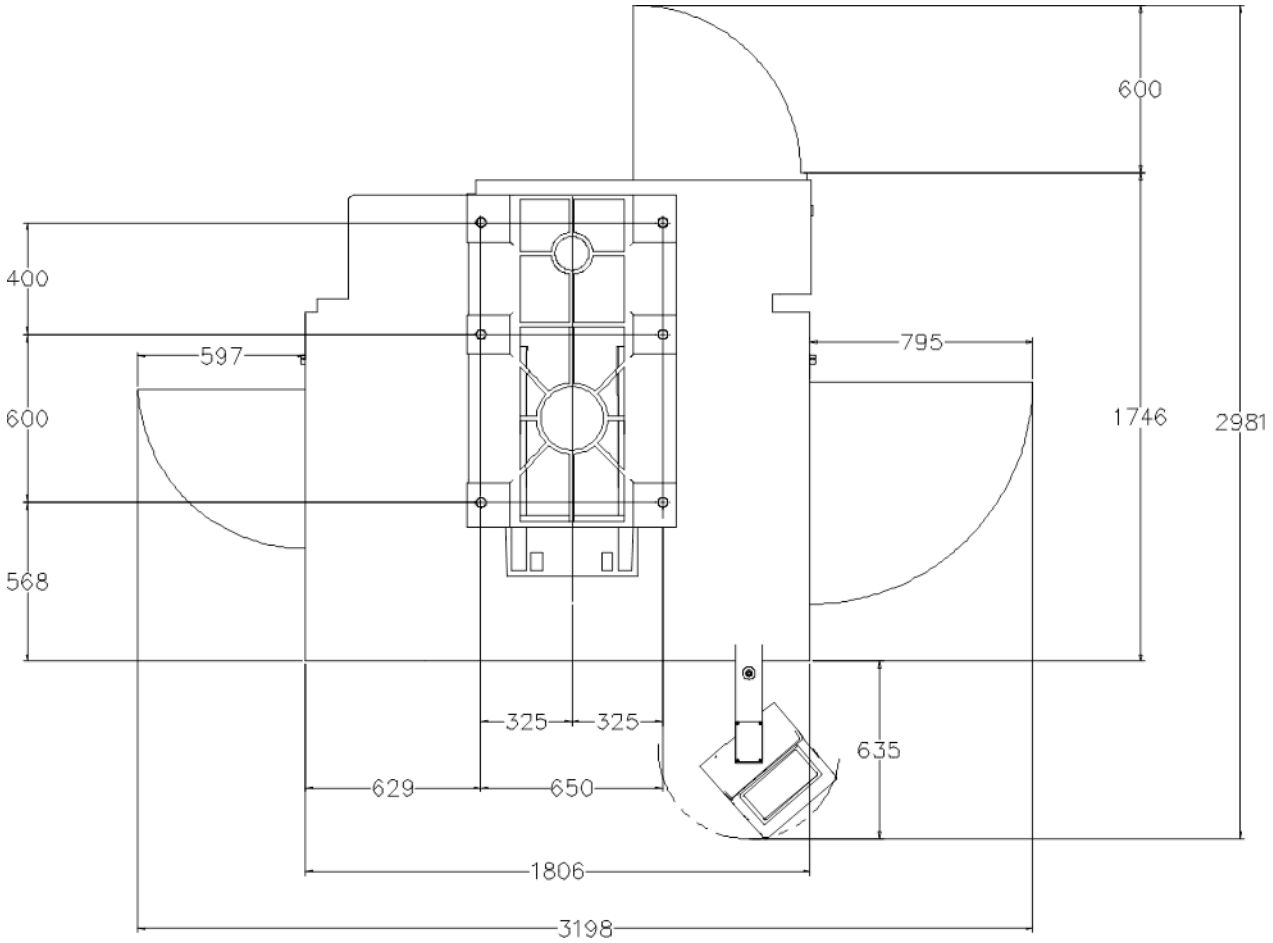
Foundation



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Machine Options

- **Coolant air through coolant nozzles**
  - selectively coolant water or coolant air through coolant nozzles. Programmable as „Coolant 2“ or by M-function
- **Coolant air through Spindle**
  - as before, however supplying is through the spindle. Option „Coolant through Spindle“ (CTS) is required
- **Part- and Tool Probing** *more*
- **Coolant through Spindle (CTS)** *more*
- **Bypass Filter** *more*
- **Rotoclear**
  - The rotating pane throws off cooling emulsion, leaving the view free for the machine operator
- **Linear Scales**
  - Evaluation of axis position with a linear scale instead of rotary encoders (requires dry, clean air acc. DIN/ISO 8573-1, class 1, dew point 3°)

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Part- and Tool Probing

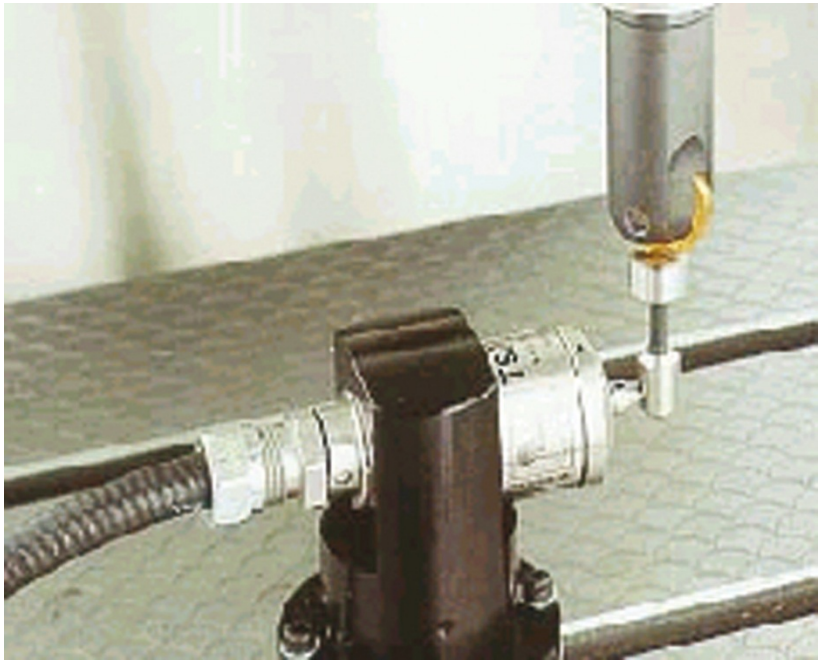
Partprobing

- Probing Part Zero:
  - Edge
  - Corner
  - Hole or Circle
  - Cylinder
  - Rectangular Pocket
  - Rectangular Solid
- Probing Skew Angle
- Measuring of Workpiece

Part- and Tool Probing

Tool Probing with Touch Probe

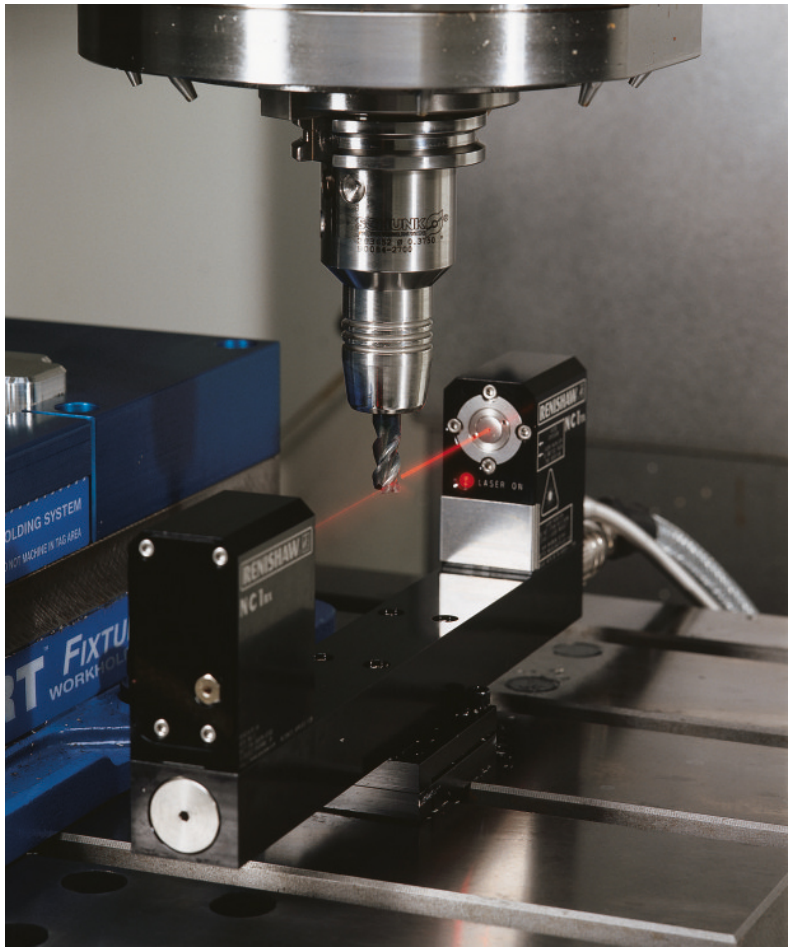
- Probing of Tool Length
- Tool Breakage Control of Tool Length and – if Tool is broken – Usage of a Spare Tool
- NO Probing of Tool Diameter



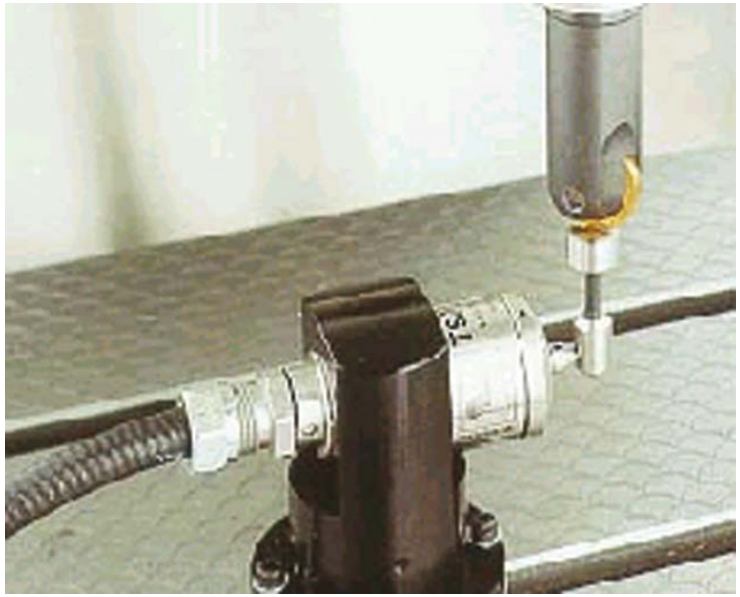
Part- and Tool Probing

Tool Probing with Laser

- Probing of Tool Length
- Probing of Tool Diameter
- Tool Breakage Detection and – if the Tool is broken – Usage of a Spare Tool
- Tool Wear Detection and Compensation



Part Probing and Tool Probing with Touch Probe



Part Probing and Tool Probing with Laser Probe

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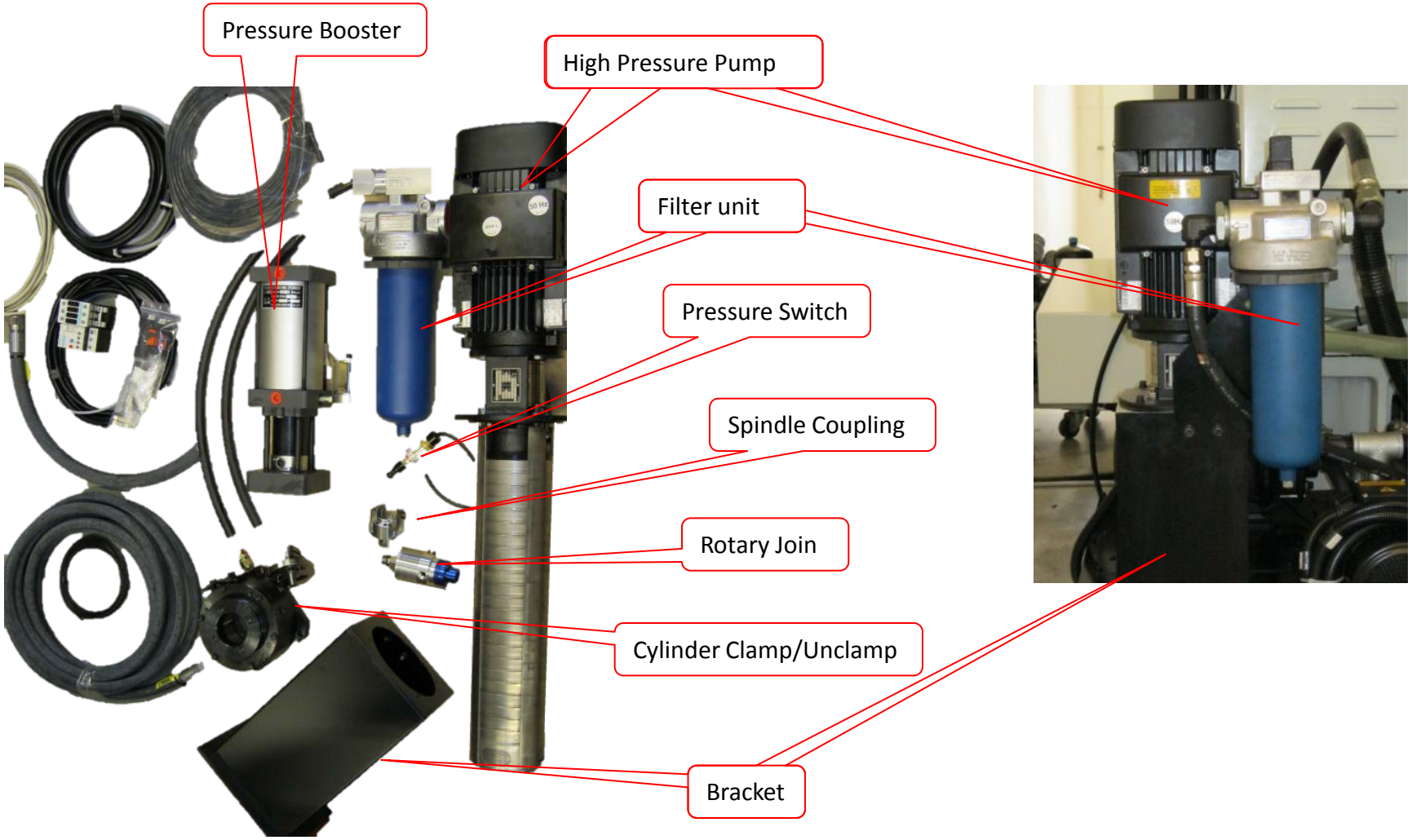
Coolant through Spindle 20 bar



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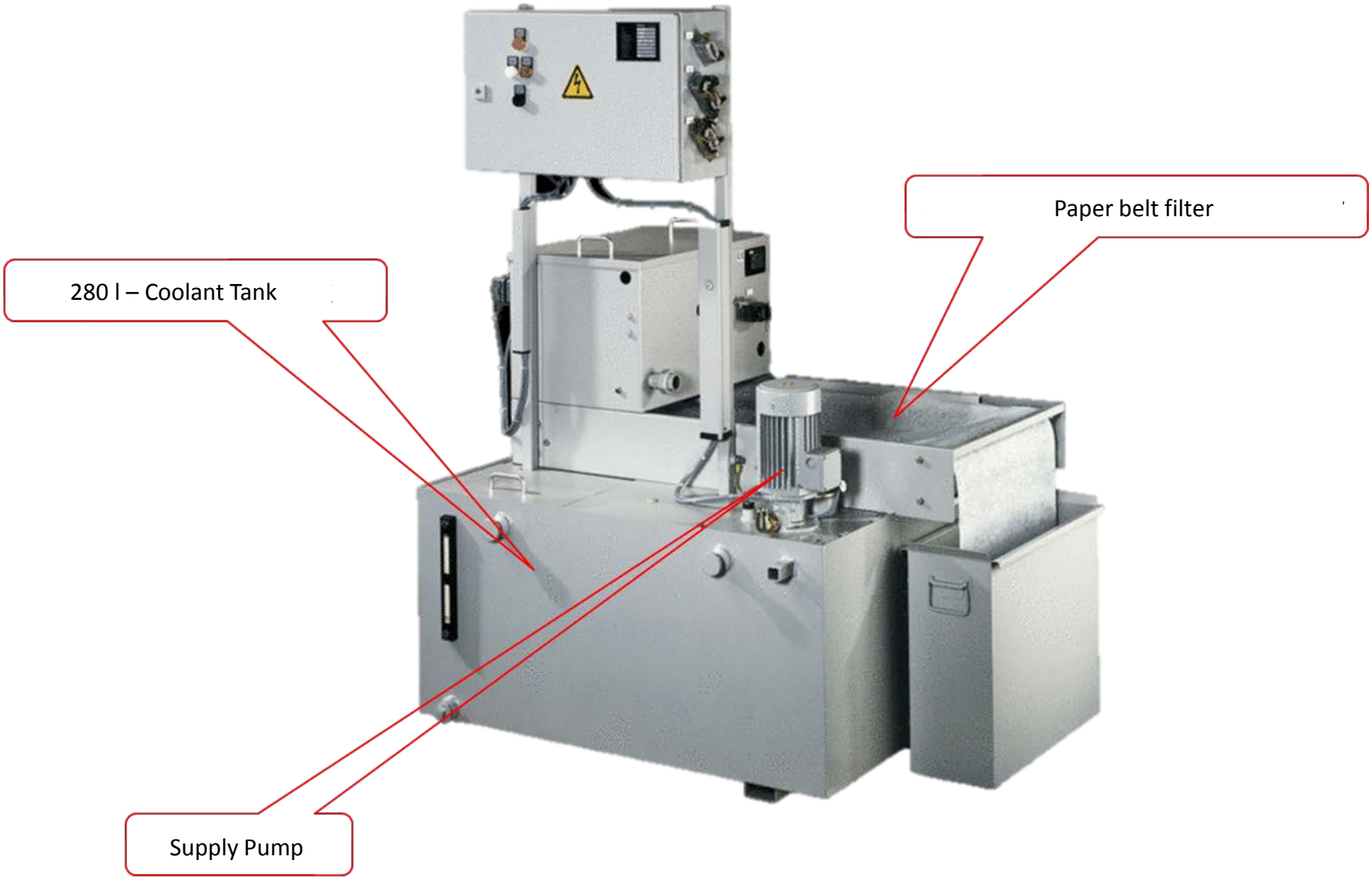
Bypass Filter



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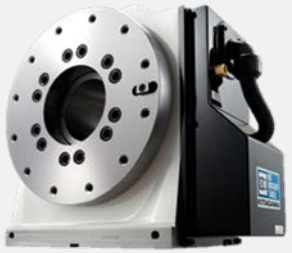
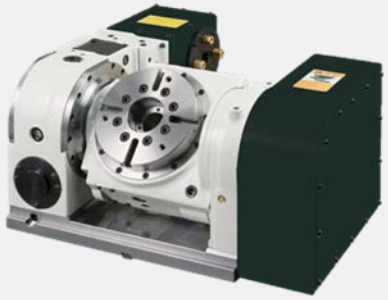
Rotaries

	Rotary	Eligibility	Faceplate Diameter (mm)	Center Height (mm)	Spindle Bore (mm)	Clamping Torque (Nm @ 0,5MPa)
 x well suited o after consulting - not suited	MR 120	x	128	120	32	150
	MR 160	x	165	140	40	310
	GT 200	o	200	140	45	820
	GT 250	-	250	180	70	1600
	GT 320	-	320	225	105	2800
	TT 101	x	110	140	32	180 (4.) 300 (5.)
	TT 182	-	180	180	40	450 (4.) 800 (5.)
	TT 251	-	250	250	70	900 (4.) 1200 (5.)
	TT 321	-	320	255	110	2600 (4.) 2600 (5.)

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