



Tool Milling Machines

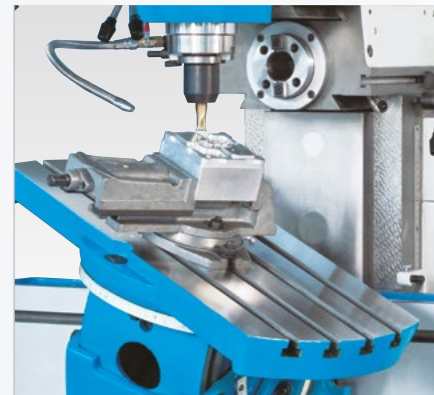
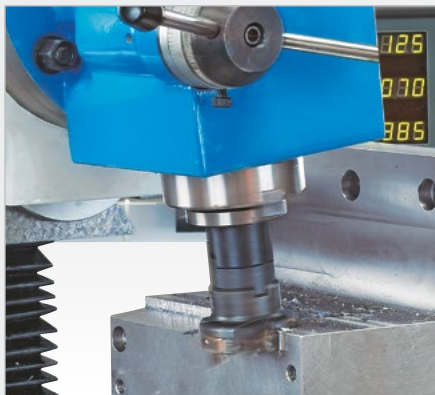
# WF 4.1 • 3.1 • 2.1

## Milling Machines for Die Making with digital position indicator

- automatic feeds on all 3 axes
- vertical head quill for drilling
- quill stroke 80 mm
- versatile for many applications for vertical and horizontal milling



WF 4.1 • 3.1 • 2.1



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The WF 4.1 Tool Milling Machine features a vertical cutter head with a +/- 90° swivel range. The set degrees are easily read on the integrated degree scale. The large quill features a stroke of 80 mm and is clamped mechanically via lever. For horizontal milling applications, merely remove the vertical cutter head via the swivel arm, shift the upper beam, and mount an outer arbor support. Conversion and setup costs are very low. All 3 axis of this machine are equipped with automatic feeds and rapid feeds. The X and Y axes are engaged and disengaged via one single directional lever. For the cross feed (Y), a separate lever has been provided at the upper beam. In addition, all axes can be manually moved using the integrated scaled hand-wheels.

WF 4.1 • 3.1 • 2.1

DESCRIPTION



WF 4.1 shown



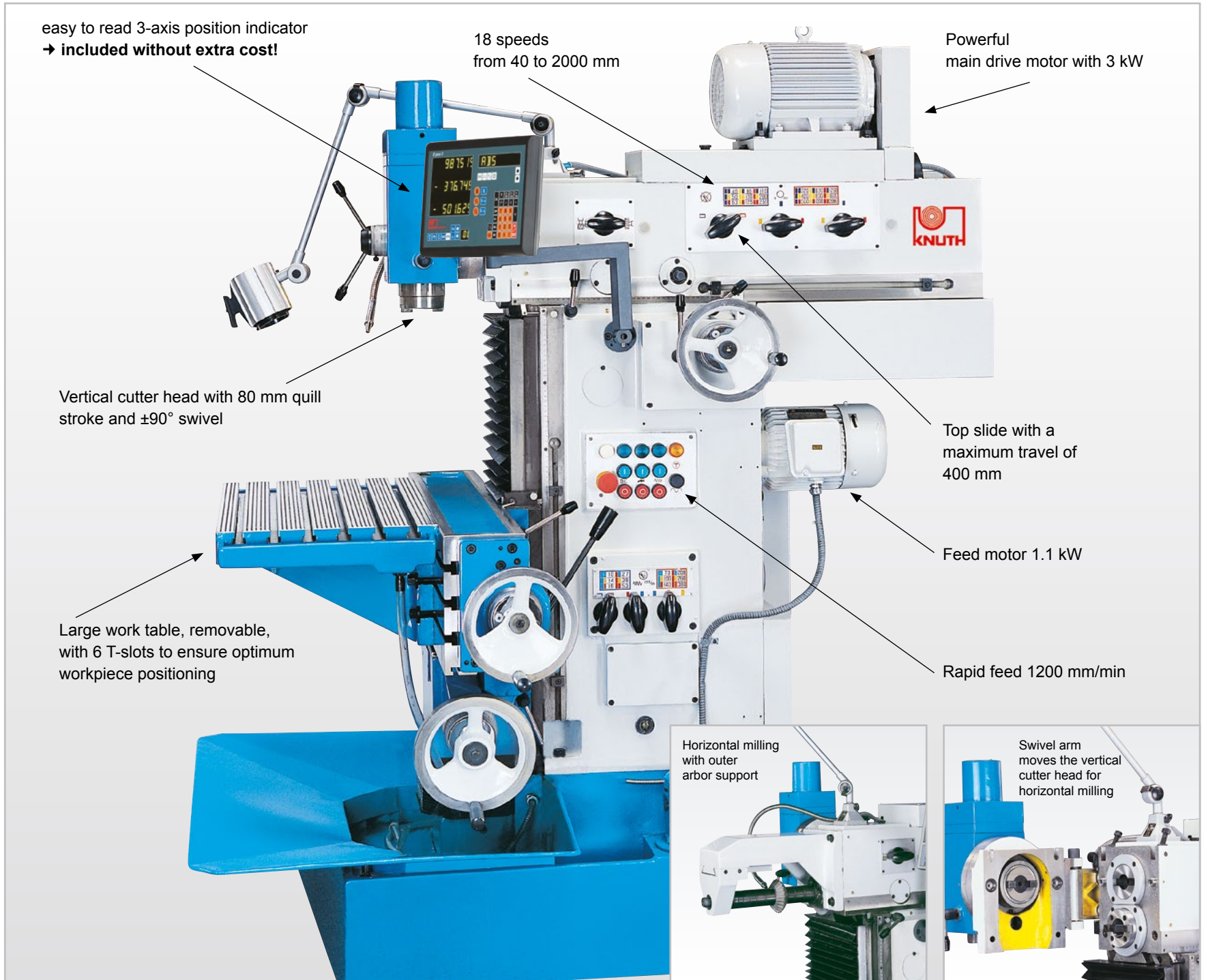
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# WF 4.1 • 3.1 • 2.1

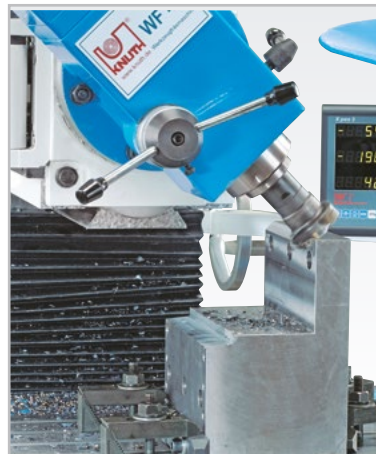
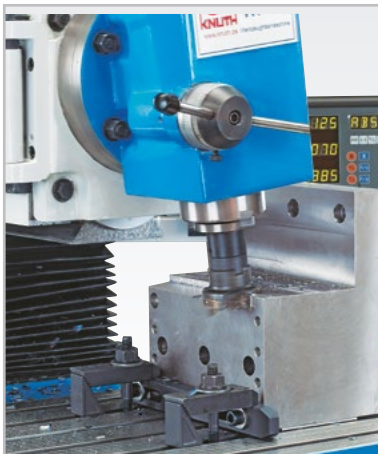
## DESCRIPTION



## Tool Milling Machines

# WF 4.1 • 3.1 • 2.1

- automatic feeds on all 3 axes
  - outer arbor support for horizontal milling
  - The machine base is made of ribbed cast-iron for superior static and dynamic rigidity
  - All controls are arranged at the right side for a compact design
  - The vertical head quill for drilling can be selected via a hand-lever
  - quill stroke 80 mm
  - central lubrication
  - chip collector plate
- 
- For horizontal milling with the **WF 2.1**, just rotate the vertical cutter head 90°
  - Outer arbor support for horizontal milling is included in the standard package
  - wide range of applications



Infinitely variable vertical cutter head with a swivel range of  $\pm 90^\circ$



WF 2.1 shown

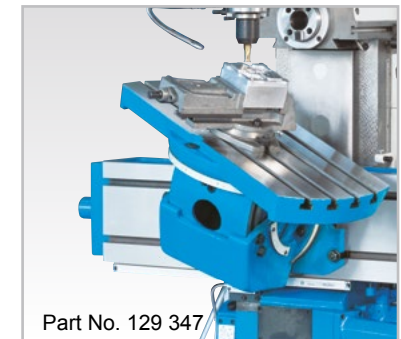
Specifications	WF 2.1	WF 3.1	WF 4.1
<b>Working Area</b>			
X axis travel	400 mm	405 mm	500 mm
Y axis travel	200 mm	305 mm	400 mm
Z axis travel	380 mm	400 mm	400 mm
table dimensions	750 x 320 mm	750 x 320 mm	800 x 400 mm
T-slots (qty x width x spacing)	5 x 14 x 63 mm	5 x 14 x 63 mm	6 x 14 x 63 mm
vertical table	830 x 225 mm	830 x 225 mm	1060 x 250 mm
T-slots, vertical table (number/width/spacing)	2 x 14 x 126 mm	3 x 14 x 63 mm	3 x 14 x 63 mm
table load capacity (max.)	160 kg	160 kg	200 kg
<b>Feed</b>			
X- / Y- / Z- axis rapid feed	1200 mm/min	1200 mm/min	1200 mm/min
feed speed X- / Y- / Z-axis	8 - 310 mm/min	10 - 380 mm/min	10 - 380 mm/min
<b>Vertical Cutter Head</b>			
spindle speed (vertical)	(12) 40 - 1600 rpm	(18) 40 - 2000 rpm	(18) 40 - 2000 rpm
spindle mount (vertical)	SK 40	SK 40	SK 40
quill stroke	80 mm	80 mm	80 mm
throat	680 mm	425 mm	540 mm
spindle nose-to-table distance	75 - 445 mm	50 - 450 mm	50 - 450 mm
<b>Horizontal Cutter Head</b>			
horizontal spindle-to-table distance	35 - 425 mm	85 - 485 mm	50 - 450 mm
<b>Drive Capacities</b>			
main motor rating	2,2 kW	2,2 kW	3 kW
feed motor rating	0,55 kW	0,75 kW	1,1 kW
<b>Dimensions/Weight</b>			
overall dimensions (LxWxH)	1170 x 1210 x 1820 mm	1215 x 1200 x 1800 mm	1390 x 1430 x 1820 mm
weight	1100 kg	1300 kg	1400 kg
Part No.	302 331	302 332	302 333

### Standard Equipment

- 3-axis position indicator
- 4 milling arbors, Ø 16, 22, 27, 32 mm
- reducing sleeves, MT 1, 2 3
- collet chuck with collets, 2, 3, 4, 5, 6, 8, 10, 12 mm
- draw bar
- foundation bolts
- coolant system
- chip collector plate
- pivoted mounts (WF 3.1 and WF 4.1)
- outer arbor support for horizontal milling
- work lamp
- operating tools and operator manual

Optional Equipment

- Universal swivel table 320x620 mm	Part No. 129 347	- Assembly Stand	Part No. 108 930
- Universal Facing / Lathe Bore Head ADA / SK 40	Part No. 103 404	- Machine Vise MS 125	Part No. 104 955
- Adapter SK 40 / MK 3	Part No. 103 730	- Machine Vise NZM 125	Part No. 104 918
- Mounting Shaft ISO 40	Part No. 108 637	- Machine Vise PMS 100	Part No. 125 012
- Dial for HNCS 130 V	Part No. 104 933	- Power Worker Metal Cutter	Part No. 123 040
- ER 32 Collet Chuck / Mount ISO 40	Part No. 106 056	- Reduction Sleeve SK40 / SK30	Part No. 103 750
- ER 40 Collet Chuck / Mount ISO 40	Part No. 106 062	- Tailstock RT 200 / 250	Part No. 125 820
- ER 32 Collet Set 6 pcs.	Part No. 106 052	- Rotary Table RT 200	Part No. 125 835
- ER 40 Collet Set 15 pcs.	Part No. 106 054	- Rotary Table RTS 250	Part No. 125 810
- Milling Chuck Set ISO 40	Part No. 106 044	- Roughing Shank Cutter 10 pcs.	Part No. 108 445
- Swivel Hold-Down Clamp Set 100 / M12	Part No. 105 790	- End Mill Set DIN 844 B	Part No. 108 450
- Hydraulic Machine Vise HNCS 130 V	Part No. 104 932	- Stud Bolt Set, and T-Slot Nuts 14 / M12	Part No. 105 355
- Hydraulic Machine Vise HS 125	Part No. 125 024	- Optional Accessory Set / ST 130	Part No. 110 970
- INDEX-feature / RT 160 - 320	Part No. 125 805	- Collet Chuck SK40	Part No. 104 320
- Shell End Milling Arbor Ø 16 SK 40	Part No. 103 895	- De Luxe Clamping Tool Set 14 / M12	Part No. 105 295
- Shell End Milling Arbor Ø 22 SK 40	Part No. 103 900	- Divider HT	Part No. 110 953
- Shell End Milling Arbor Ø 27 SK 40	Part No. 103 905	- Divider ST 130	Part No. 110 960
- Shell End Milling Arbor Ø 32 SK 40	Part No. 103 910	- Swivel Table ST 250	Part No. 129 335
- Shell End Milling Arbor Ø 40 SK 40	Part No. 103 915	- Step of Step Blocks	Part No. 105 340
- Coolant Concentrate 5 ltr.	Part No. 103 184	- Roughing End Mill Cutter 63 mm	Part No. 108 402
- Pivoted Mounts LK 33	Part No. 103 321	- Accessory-Set ISO 40, 5-pcs.	Part No. 104 596





## 3-axis position indicator

# X.pos 3

## Completely assembled, ready for operation and exact measurements

- increased accuracy
- lower error rate
- higher production safety
- significant time savings
- increased productivity
- easy to read display
- user-specific functions
- good keyboard layout
- resolution 0.01 / 0.005 mm
- default coordinates
- maintains the axis position when the display is turned off
- calculation of hole circle pattern
- pocket calculator function
- storage for 10 tools
- radius / diameter toggle
- mm/inch conversion
- maintenance-free operation

**Position Indicators...**  
**an absolute necessity for all machine tools**

