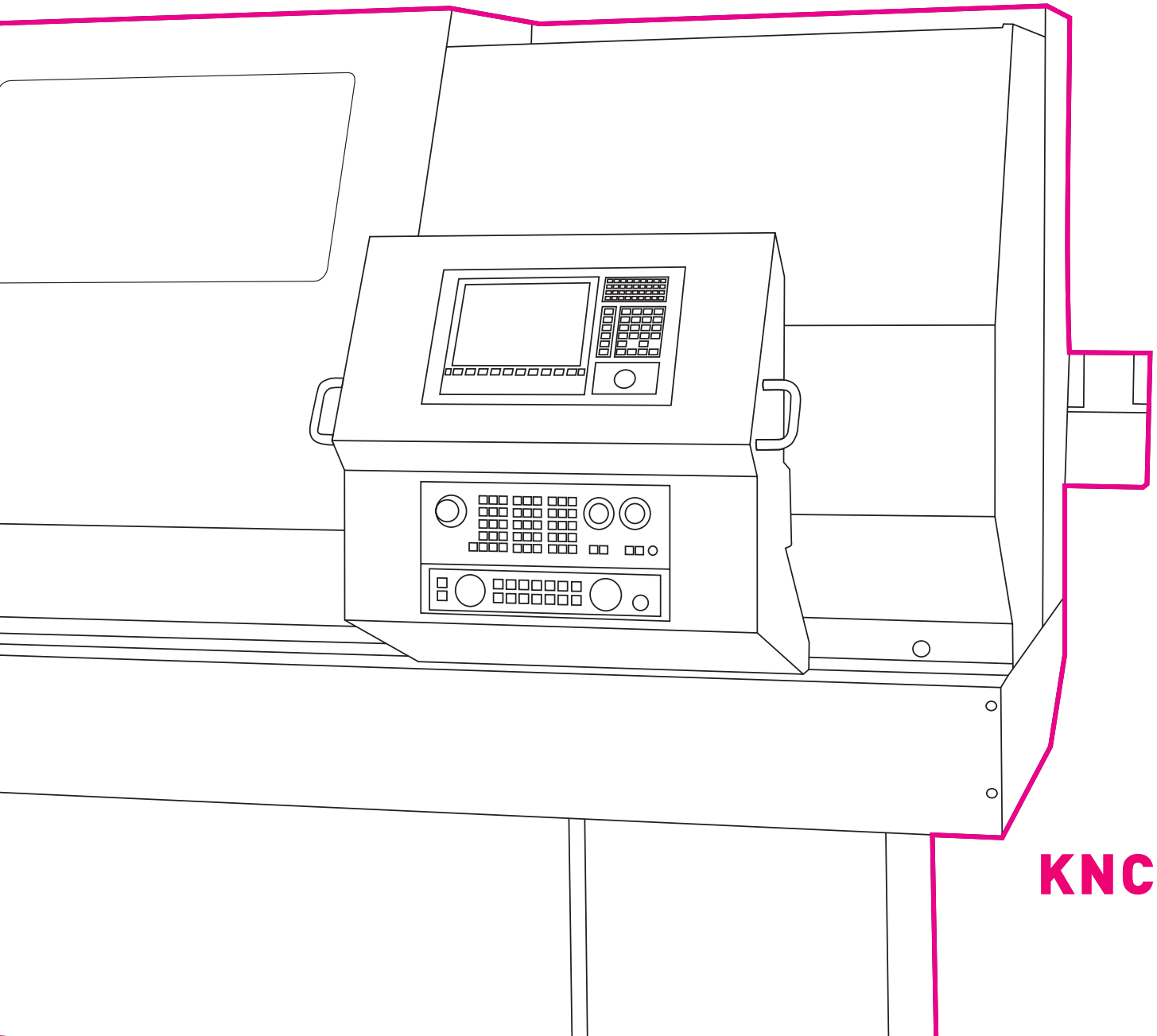
MONFORTS

140 YEARS

TOOL MACHINES

SUSTAINABLE // CONSISTENTLY PRECISE// POWERFUL // COST-EFFICIENT



KNC

KNC SERIES

CYCLE-CONTROLLED UNIVERSAL TURNING MACHINES

KNC turning machines already have a long tradition at Monforts. For around 30 years, these machines have been valued by our customers for their robustness and reliability.

These machines combine the advantages of a manual and a CNC turning machine: controlled by handwheels in manual mode and switchable to workshop programming. Suitable for one-off or small series production.

TECHNICAL DESCRIPTION OF THE BASIC DESIGN

- Bayonet or Camlock spindle mounts
- Automatic lubrication
- Coolant pressure up to 4 bar
- Enclosure with 2 doors and safety glass
- Workspace light
- Cover for chuck
- Ethernet interface RJ45
- USB interface
- 230V / 2A socket outlet
- Switch cabinet ventilation
- Mechanical 3-stage gearbox
- Manual tailstock; moving the quill by hand
- Chip conveyor
- C-axis positioned via main spindle
- Standard colours:
  RAL 9006 (white aluminium)
  RAL 9016 (traffic white)
  RAL 9017 (traffic black)
  RAL 7021 (black grey)

KEY FEATURES

- Ideal machine for users who are switching from conventional to CNC-controlled machines
- Compact dimensions
- Simple and convenient operation
- Long service life
- Spindle drive via belt: low vibrations, high quality of machined workpieces
- Machine components stress-relieved: high accuracy and stability
- Bed guide surfaces hardened to 400 HB to a hardening depth of at least 2 mm
- Heat-treated spindle with hardened surface layer
- Rolling bearings with lifetime grease filling – low operating costs
- Checking the machine geometry by laser measurement during assembly

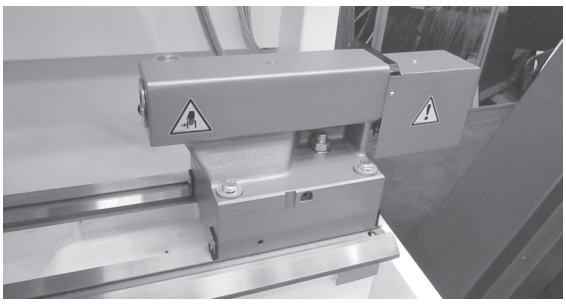
TECHNICAL DATA

		KNC 5	KNC 8
CIRCULATION DIAMETER OVER BED	mm	510	800
CIRCUMFERENTIAL DIAMETER VIA CROSS SLIDE	mm	340	610
TOP WIDTH	mm	bis 2,000	up to 6,000
MAX. SPINDLE SPEED	min^{-1}	2 – 2,400	3 – 2,000
SPINDLE DRILLING	mm	80	104
DRIVE POWER (100 / 40 % ED)	kW	11 / 15	22 / 30

KNC 5

BASIC DESIGN KNC 5

- R&D Cycle control MTC
- Circumferential diameter over bed: 510 mm
- Centre width:
  1,000 mm / 1,500 / 2,000 mm
- Drive power (100 / 40 % ED): 11 / 15 kW
- Quick-release tool holder Multifix C + holder CD 32150
- Spindle bore: ø 80 mm
- Spindle holder: C8 according to ISO702-2 (Camlock)
- Chip conveyor



OPTIONAL EQUIPMENT

- SIEMENS control system
- Clamping holder
- Quick-release tool holder PARAT, Capto
- Drill rig
- 8-position Sauter turret with / without driven tools VDI 30
- 4-sided turret head;
  without tool drive
- Air conditioning unit for switch cabinet
- Tailstock with hydraulically actuated quill
- Spindle brake
- 3-colour operating status display
- Large selection of hydraulic clamping systems

KNC 8

BASIC DESIGN KNC 8

- R&D Cycle control MTC
- Circumferential diameter over bed: 800
- Centre width:
  2.000 / 3,000 / 4,000 / 5,000 / 6,000 mm
- Drive power(100 / 40 % ED): 22 / 30 kW
- Quick-release tool holder Multifix D1 + holder D1D 40180
- Spindle bore: ø 104 mm
- Spindle holder: D11 according to ISO 702-3 (short taper)
- Chip conveyor

OPTIONAL EQUIPMENT

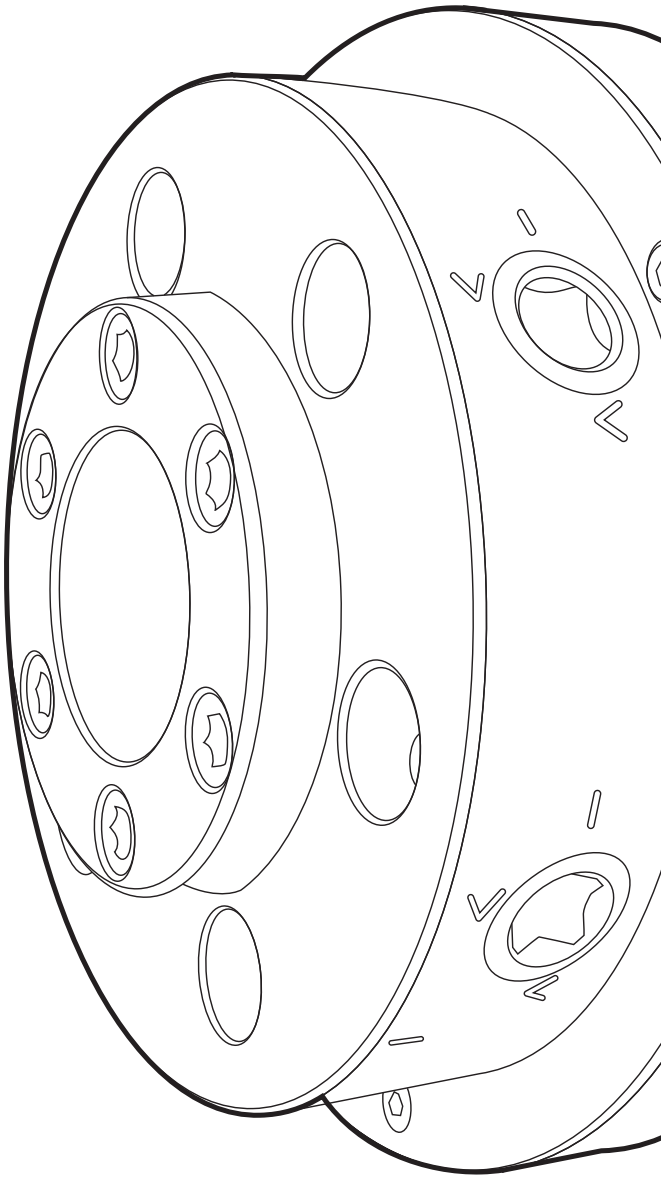
- SIEMENS control system
- Clamping holder
- Quick-release tool holder PARAT, Capto
- Drill rig
- 8-position turret with / without driven tools VDI 50
- 4-sided turret;
  without tool drive
- C-axis positioned with independent servo motor
- Air conditioning unit for switch cabinet
- Hydraulic clamping system
- Spindle brake
- Tailstock with hydraulically actuated quill
- 3-colour operating status display
- Large selection of clamping systems

TECHNICAL DATA

TECHNICAL DATA		KNC 5
CIRCULATION DIAMETER OVER BED MM 510	mm	510
TURNING DIAMETER MM 340	mm	340
TOP WIDTH MM 1,000 / 1,500 / 2,000	mm	1,000 / 1,500 / 2,000
SPINDLE MOUNT CAMLOCK (ISO702-2) C8		C8
INNER TAPER OF THE MAIN SPINDLE METRIC 85	Metric	85
SPINDLE DRILLING MM 80	mm	80
SPINDLE BEARING MM 120	mm	120
SPINDLE SPEED 1ST GEAR MIN-1 2 – 266	min^{-1}	2 – 266
SPINDLE SPEED 2. GEAR MIN-1 7 – 768	min^{-1}	7 – 768
SPINDLE SPEED 3. GEAR MIN-1 21 – 2,400	min^{-1}	21 – 2,400
DRIVE POWER SIEMENS (100 / 40% ED) KW 11 / 15	kW	11 / 15
TORQUE 1ST GEAR (100 / 40% ED) NM 1,489 / 2,030	Nm	1,489 / 2,030
TORQUE 2ND GEAR (100 / 40% ED) NM 522 / 712	Nm	522 / 712
TORQUE 3RD GEAR (100 / 40% ED) 166 / 226		166 / 226
MANUAL CHUCK Ø MM 250 [315]	Ø mm	250 [315]
HYDRAULIC CHUCK Ø MM [210]	Ø mm	[210]
FEED X-AXIS MM / MIN-1 1 – 6,000	mm / min^{-1}	1 – 6,000
RAPID TRAVERSE X-AXIS MM / MIN-1 6,000	mm / min^{-1}	6,000
TRAVEL IN X-AXIS MM 289	mm	289
FEED Z-AXIS MM / MIN-1 1 – 6,000	mm / min^{-1}	1 – 6,000
RAPID TRAVERSE Z-AXIS MM / MIN-1 6,000	mm / min^{-1}	6,000
TRAVEL IN Z-AXIS MM 803 / 1,311 / 1,820	mm	803 / 1,311 / 1,820
CHIP DISPOSAL CHIP CONVEYOR		Chip conveyor
QUICK-CHANGE TOOL HOLDER MULTIFIX C		Multifix C
TURNING CHISEL CROSS-SECTION MM 32 X 32	mm	32 x 32
MANUALLY SWIVELLING QUICK-CHANGE TOOL HOLDER [PARAT RD 3]		[Parat RD 3]
TURNING CHISEL CROSS-SECTION MM [32 X 32]	mm	[32 x 32]
COOLANT PUMP BAR/L PER MIN 4 / 15	bar/l per min	4 / 15
TAILSTOCK MANUAL		manual
MORSE TAPER MOUNT MK5		MK5
QUILL STROKE MM 200	mm	200
CONTROL R&D CYCLE CONTROL MTC		Cycle control MTC
SIEMENS CONTROL SYSTEM SINUMERIK ONE		Sinumerik One

AUSSTATTUNGS-VARIANTEN

KNC 8
800
610
2,000 / 3,000 / 4,000 / 5,000 / 6,000
D11
105
104
150
3 – 224
9 – 670
26 – 2,000
22 / 30
2,935 / 4,000
1,000 / 1,363
325 / 443
400 [500]
315 [400]
1 – 6,000
6,000
410
1 – 6,000
6,000
1,899 / 2,915 / 3,932 / 4,932 / 5,932
Chip conveyor
Multifix D
40 x 40
[Parat RD 4]
[50 x 50]
4 / 15
manual
MK6
300
Cycle control MTC
Sinumerik One



SUSTAINABILITY THROUGH RETROFITTING

We humans are consuming natural resources such as raw materials, water and energy in unprecedented quantities, which is leading to lasting and already recognisable environmental damage. Monforts' machines are designed for a long service life. This is not just because of their solid construction, but also because the main assemblies can be reused in a retrofit. The heavy steel and sheet metal structures, including the hydrostatic guide as well as the main spindle and turret, simply need an overhaul to give them a second lease of life.

RETROFIT ADVANTAGES AT A GLANCE

- Increased productivity through identical or familiar operation as with a new machine
- Cost savings through the reduction of total cost of ownership
- Increased safety thanks to state-of-the-art technology
- Accuracy, as with a new machine
- Shorter delivery times compared to a new machine
- Improved availability due to reduced risk of failure
- Forward-looking sustainability - for long-term protection of the environment by conserving resources

RETROFIT OPTIONS AT MONFORTS

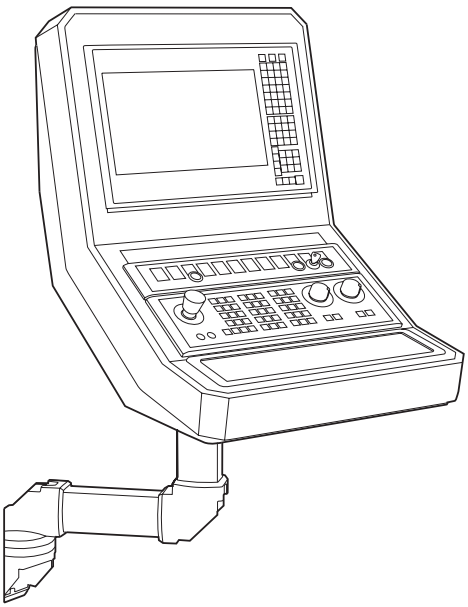
- As a complete retrofit on a used machine previously purchased from Monforts
- As a complete solution for your existing machine
- As an assembly solution after consultation and prior analysis of the current status of your machine

40 % **COST SAVINGS**
COMPARED TO A NEW MACHINE

CONTROLS

SIEMENS SINUMERIK ONE

Operation is convenient via softkeys. Graphic programming support or a convenient geometry processor can be selected on the clear colour widescreen TFT display with capacitive touch sensor. The option of parallel programming and parallel data transfer during processing guarantees reduced production time. Even more programming convenience is provided by cutting edge radius compensation, constant cutting speed and direct spindle speed input inmin-1 and multi-quadrant circular interpolation with radius input. Using cycles and subroutine techniques, you can create short programmes that are stored in the large programme memory. Convenient subroutine techniques ensure the simplest programme structure, while the tool management (option) contributes to the optimum production process.



FANUC 31i

The Fanuc control system offers a wide range of hardware and software versions that enable you to programme your machining operation safely and easily, as well as quickly and reliably. The program is entered via a serial interface (V24), memory card (PCMCIA), Ethernet interface or manually, depending on the user's organisational structure.

The unfinished and finished part contours are drawn with the aid of symbol buttons. Access to the memory for tool and material data ensures that the machining programme is created automatically. The control system selects the tools and defines all the necessary cutting data. The ISO programme is created and stored automatically.

R&D MTC (Manual Turning Control – only for KNC series)

Workshop programming made easy

The R&D **MTC** offers a workshop-orientated user interface that finds its strengths in the application areas of single part, repair and small series production. The machine operator encounters an operator-orientated and user-friendly menu navigation that provides scope for specialist knowledge and variety. This simple menu navigation and clearly structured user interface enable users to define simple and complex contours economically and quickly, allowing them to monitor the manufacturing process transparently.

- → Simple, conventional machining (straight, bevelled, radius)
- → Contour machining with powerful cycles (e.g. machining, undercutting, threading, recessing)
- → NC programming

All entries are supported graphically. Direction indicators, sequence graphics and simulation guide you safely to your goal, even without knowledge of NC programming. Servo handwheels allow the user to intervene in the machining process at any time. To reduce production times, the programme can be created in parallel. A turned part produced by hand can be saved using 'Teach In' and repeated as often as required without the need for further input.

SERVICE

SERVICE CONTRACTS
RETROFIT
TECHNOLOGY CONSULTING
MAINTENANCE & SUPPORT
TRAINING
FUNCTION EXTENSION

We want you to maximise your success and profitability with Monforts machine tools. In addition to the reliability, long-term accuracy and durability of our products, we also support you with comprehensive services. If you have any questions, requests, or problems regarding your Monforts machine tool, we are here to help you solve your problems.

MAINTENANCE & SUPPORT – YOUR CUSTOMISED SERVICE CONTRACT

You decide to what extent we take over maintenance and support for you:

- Maintenance contract
- Warranty extension contract
- All-inclusive contract

We support you with our experience and technologies to optimise your machine workflow.

- Optimisation of the tool and clamping device insert
- Increasing the metal removal rate by adjusting parameters
- Optimisation of your programmes
- Minimisation of vibrations
- Extension of machine functions
- Retrofitting various options and implementing new technologies

TRAINING & TECHNICAL CENTRE

We train your employees and make our technical centre available to you.

- Introduction to machine functions and operation
- Service and maintenance courses
- Application tests in our technical centre
- Demonstration of Monfort's technologies and innovations

MONFORTS

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