

# R VT / R VT Pro

## RADIAL DRILL PRESS

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## Everything for metalworking under one roof

KNUTH Machine Tools is a leading supplier of conventional and CNC machine tools. KNUTH is a global company with a presence in more than 30 countries.

In an area of 16.000 m<sup>2</sup> at our headquarters in Wasbek, Germany, we keep a complete selection of machines for all areas of machining and metal working ready for demos and quick delivery.



**Open for you 24/7:** Take a virtual tour through our warehouses, spare parts warehouses and workshop with Google Street View.

## Quality Assurance for your KNUTH Machine

### Quality by KNUTH Certified Quality Assurance

More than 1400 machines are shipped annually from our headquarters in Wasbek, Germany. Every machine has to pass a series of tests in our 5-level quality assurance process that covers everything from incoming quality control to alignment testing, and from functional, technical and geometric accuracy tests to the final acceptance test. These tests are conducted by our master technicians who use a dedicated customized data processing system for this purpose.

An ISO 9001 certified quality management system ensures continuous control and improvement of all quality-relevant activities. Design, development and precision of each individual machine are documented exactly in detailed inspection protocols and acceptance test logs.

### All-Encompassing KNUTH Service Worldwide Reliability

Trust our global qualified staff take care of everything from installation and maintenance to repairs and upgrades quickly and professionally.



The Process of Making  
a KNUTH Machine Tool



### KNUTH Machines in Action

Visit our YouTube page to experience machines in action before the real-life test on site

**Subscribe to our YouTube channel - Go to KNUTH Machine Tools!**

## Reliable service from a single source

We provide highly qualified technicians and engineers all over the world to ensure reliable service from one central source. And our global supplier network ensures prompt availability of replacement parts and consumables at a local level.



### CONSULTATION

- Sample work pieces
- Machine demos



### START-UP

- Installation / Commissioning
- On-site Instruction



### TRAINING

- User Training
- Maintenance Training



### PREVENTIVE MAINTENANCE

- Inspection
- Maintenance



### REPAIR

- Machine Repair
- Spare Parts



### MACHINE WARRANTY

- Protect Insurance

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**Our Service Help Desk is available 24/7 online at: [knuth.de/servicedesk](https://www.knuth.de/servicedesk)**



UNIQUE OPERATING CONCEPT

ADVANCED CONTROL OF MACHINE FUNCTIONS

SERVOMOTOR-DRIVEN QUILL FEED

RIGID DESIGN WITH PROVEN HIGH STABILITY

## R-VT / VT Pro Radial Drill Press

**Model**

R 60 VT - 101656  
R 60 VT Pro - 101657  
R 80 VT Pro - 101648

- The series R-VT / VT Pro represents the new generation of the widely used conventional radial drilling machines, outshining them with a unique operating concept, which simplifies and empowers all regular operations.
- This models are equipped to easily handle various operations like drilling, counter-boring and tapping, making them the ideal solution for single workpiece machining and small batch production. These machines are often found in maintenance and tool production workshops.



## Main Features

### Machine Base

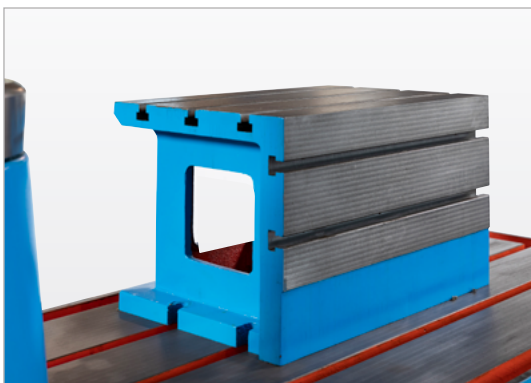


- This model has a wide base, made from premium quality cast iron which provides a vibration free support for the entire machine.
- It has a ground surface and T-slots which facilitate a precise positioning of the cubic table or large assemblies.



- Features an integrated cooling tank to maintain machine's compact design.
- The base has drainage channels to support the recirculating cooling system for minimum coolant consumption.

### Cubic Table



- The large cubic table is delivered standard with the machine and its robust hardened construction offers a solid support for heavy workpieces.

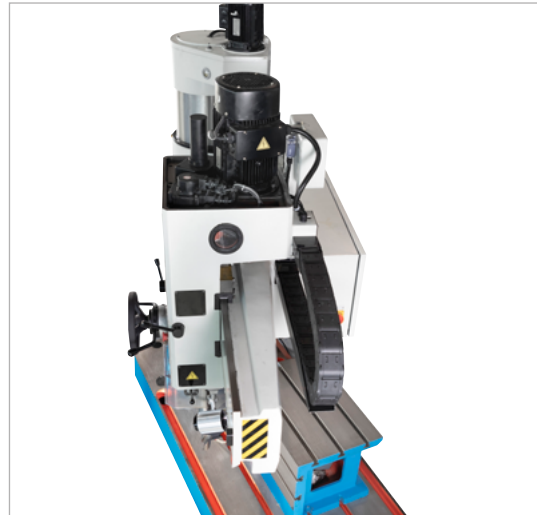


- The two clamping sides of the table extend the working possibilities of the machine by allowing the mounting of various fixtures and jigs for part clamping.

## Machine Column



- The oversized column design ensures a high stability for the arm and very good overall machining precision.
- Its glossy surface eases the vertical travel of the arm.



- The column rotates around its axis which, together with the axial movement of the headstock, unlocks unlimited positioning possibilities.
- Upon reaching the desired position, the hydraulic clamping guarantees a strong grip.

## Radial Arm



- One of the main components of the machine, our long radial arm offers high stability and vibration free operations at any position of the headstock.
- The radial arm can be moved up and down along the column to easily adjust the working height according to the job requirements.



- This movement is accurately controlled by a powerful motor installed on top of the column, with a gear transmission along a high precision leadscrew.
- Inside the feed box, the gears and bearing run in an oil-bath for maximum reliability and minimum wear.



- The lifting screw rod features a spiral cover which protects against external agents.
- For extra safety, an overload protection is installed which prevents the arm from falling if the main nut is worn after many years of operating.

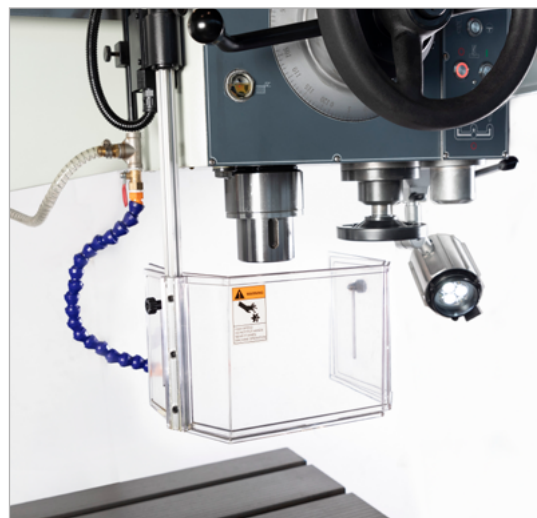


- The arm's movement and clamping are interlocked to reduce the downtimes of the machine and ease the work of the operator.
- Unclamping/clamping is done automatically before and after each movement.
- The motor for the hydraulic clamping system is mounted on the back side of the arm.

## Headstock



- The headstock can be positioned effortlessly along the radial arm. The travel axis feature extremely smooth operation to make the operator's everyday production work easier.
- It travels on large box type precision ground guideways assuring excellent positioning accuracy.
- The column and the headstock can be clamped simultaneously or independently.

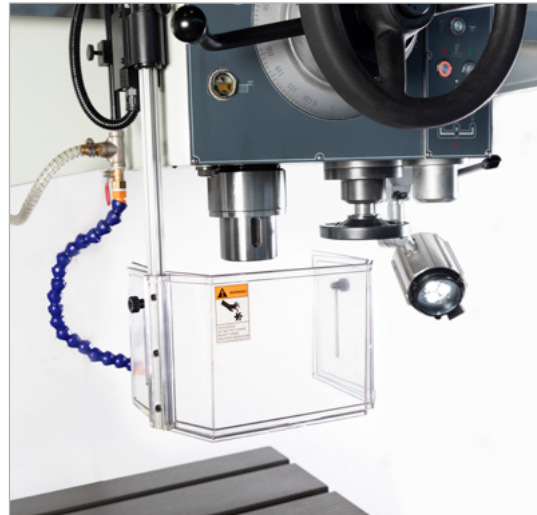


- The headstock houses a highly efficient lubrication system which ensures smooth operation.
- A spindle cover is mounted on the bottom side of the headstock to provide extra protection for the operator.
- It features an interlock system, stopping the machine when the cover is open.

## Spindle system and main drive



- This model is equipped with a power AC servo motor which controls the spindle speed and lubrication pump.
- It adopts converter motor and gear shifting to realize stepless speed regulation and digital display in the full speed range.
- A balancing weight is used to increase the stability of the spindle system.



- The new design of the quill is much more rigid than the traditional construction by adopting a strengthening structure with double supports.
- Furthermore, the travel of the spindle sleeve is supported by two large bearings.



- The quill itself is made of superior material with nitrogen treatment and fine machining for low wear and increased accuracy.
- Thread cutting is, however, completely manual, i. e., the operator changes the quill's rotational direction upon reaching the drilling depth.



- This model features two feed possibilities: manual or servo controlled.
- The servo motor provides infinitely variable control of the quill feed - upon reaching the preselected drilling depth, the quill automatically returns to the starting position.
- Additionally, a micro feed wheel is installed on the bottom of the headstock which offers an accurate manual feed.



## Control Panel

### Access the machine functions via a large touchscreen

This model features a new command panel design. Most old conventional functions are replaced by electronically controlled ones and integrated in a powerful touch screen controller.

All buttons and levers are ergonomically positioned. The handle for changing the direction of threading is conveniently on the right side, while the emergency stop button is easily accessible on the panel.

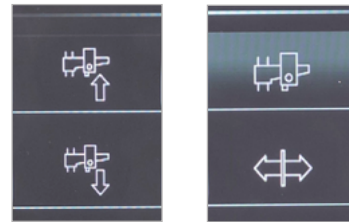
The large touchscreen display gives access to most of the machine's functions.



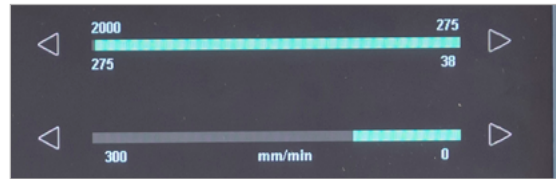
Drilling depth is electronically set, and the input value is checked by the system. On the screen the feed is displayed in two ways: feed per revolution and feed per minute.



Measuring units for input and display can be selected by the operator (mm or inch).



The operator sets the arm height by touching the respective icon, whereupon the system automatically releases and fixates the hydraulic clamps, turns off the lift motor, and considers all set limit stops.



The infinitely varied rpm is displayed as well on the monitor.

Multiple main functions can be easily activated or deactivated just by pressing their corresponding icon, such as turning on/off the coolant system or clamping/releasing the headstock and column.

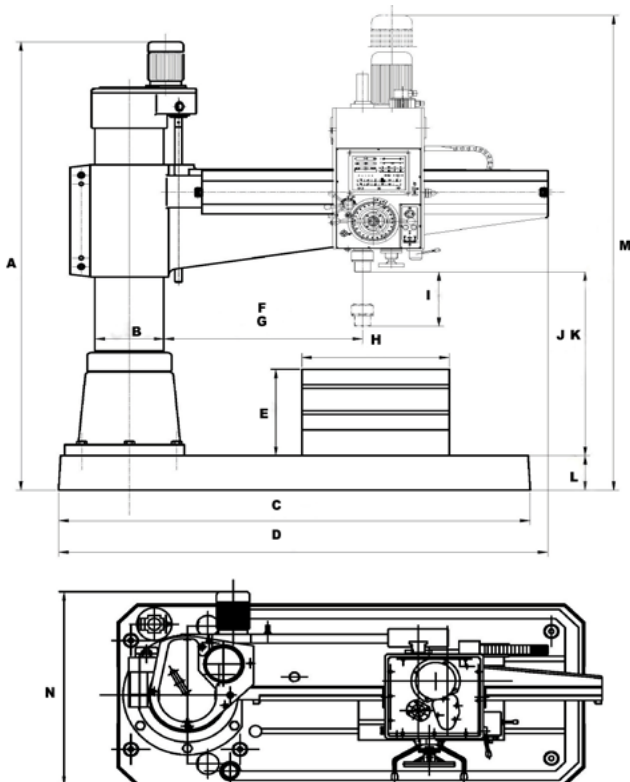


Various alarm screens warn the operator in case of operational errors and display information on the operational state.

## Technical Data

| Technical Data                               |        | R 60 VT / VT Pro | R 80 VT Pro    |
|--|--------|------------------|----------------|
| <b>Working area</b>                          |        |                  |                |
| Drilling capacity                            | mm     | 60               | 80             |
| Tapping capacity, cast-iron                  |        | M 50             | M52            |
| Tapping capacity, steel                      |        | M 45             | M60            |
| Drilling depth (max.)                        | mm     | 315              | 400            |
| Throat                                       | mm     | 350 - 1.600      | 465 - 2550     |
| Spindle nose-to-table surface distance       | mm     | 350 - 1.250      | 360 - 1560     |
| Drill head travel (horizontal)               | mm     | 1.250            | 2095           |
| <b>Headstock</b>                             |        |                  |                |
| Speed range                                  | 1/min  | (2) 38 - 2.000   | 30 - 1400      |
| Spindle mount                                |        | MK 5             | MK 6           |
| <b>Feed</b>                                  |        |                  |                |
| Feeds  | mm/min | 0 - 300          | 0 - 350        |
| <b>Drive capacity</b>                        |        |                  |                |
| Motor rating main drive                      | kW     | 4                | 7,5            |
| Stroke motor                                 | kW     | 1,5              | 2,6            |
| <b>Measures and weights</b>                  |        |                  |                |
| Overall dimensions (length x width x height) | m      | 2,49x1,05x2,78   | 3,59x1,25x3,56 |
| Weight                                       | kg     | 3.800            | 7400           |

\* Due to the process of constant improvement, products and product's data can change without notice.



| Dimensions | R VT 60 Pro      | R VT 80 Pro        |
|------------|------------------|--------------------|
| A          | 2600mm           | 3235 mm            |
| B          | Φ350             | Φ450               |
| C          | 2,490            | 3,400              |
| D          | 2,490            | 3,590              |
| E          | 500              | 500                |
| F          | 350 min 1600 max | 450 min - 2550 max |
| H          | 750              | 850                |
| I          | 315              | 400                |
| J          | 350 min 1260 max | 360 min 1500 max   |
| L          | 200              | 280                |
| M          | 2,751 max        | 3560 max           |
| N          | 1,070            |                    |

## Standard Equipment

### Touch screen control unit



- Redesigned control panel with new large touchscreen which offers full control of the machine and assists the operator during the entire drilling process

### Servo-motor for quill feed



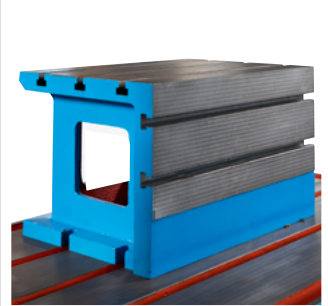
- Drilling depth is electronically set and the input value is checked by the system
- A servo motor provides infinitely variable control of the quill feed

### For PRO models: Thread cutting function



- Only for the VT PRO models
- The tapping mode and desired depth can be selected from the control panel

### Cube table



- Robust cube table with two clamping sides which provides support for workpieces or clamping devices
- R 60 VT/VT Pro: 750x500x500mm
- R 80 VT Pro: 850x580x500mm

### Manual central lubrication



- Very easy access lubrication System which saves time and increases the life of the machine

### Accessory set for drilling



- Contains:
- Drill chuck: B16, 1-13 mm
- Drill chuck arbor: MT4 / B16
- Reduction sleeve: MT3/MT2, MT4/MT3, MT5/MT4
- Drift bolt

### LED work lamp



- LED light lamp, resistant against water, oil and dust

### Coolant system



- The high-performance coolant system is enabled at the touchscreen and will be turned on and off as a function of the main spindle

### Height adjustable spindle cover



- Protects the Operator against chips and coolant
- The height can be easily adjusted

### Operation manual



- Installation instructions
- Operation manual
- Maintenance plans
- Electrical diagrams
- Spare parts lists



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