

TECHNIC

widebelt sanding in his highest perfection

1945 - 2020
75
KUNDIG



SANDING IDEAS – IDEAS TO GET THE JOB DONE !

KUNDIG

Since foundation in the year 1945 KÜNDIG uses the most modern techniques for design and production to offer their customer the optimal and reliable sanding technology.

Quality, creativity, dynamism, innovation and environmental care are thus the key to our economic success and strong market position.

The KÜNDIG Group already knows the challenges facing both humans and machines in the coming years, we understand our customers requirements and are developing ideas to meet them with...

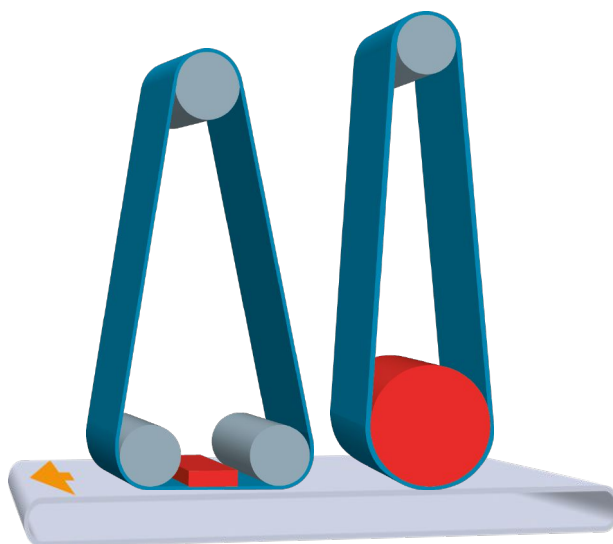
...SANDING IDEAS – IDEAS TO GET THE JOB DONE !

TECHNIC - 2 -1100 (43") – RE

Very solid and very powerful top class widebelt sander of the successful **TECHNIC** series.

The 2 sanding units guarantee an absolute perfect and precise calibration and a high quality finishing of solid wooden and veneered workpieces.

The **TECHNIC** series is an innovative sanding solution for the demanding industry.



Calibration:

- ✓ Solid workpieces
- ✓ Veneered workpieces

Finishing:

- ✓ Solid workpieces
- ✓ Veneered workpieces

Filler / Lacquer:

- Intermediate sanding
- High Gloss sanding

General sander specifications:

Voltage	EUROPE 400 V / 50 Hz	USA 460 V / 60 Hz
Widebelt dimension:	1120 mm x 2000 mm	44" x 75"
Working width:	1100 mm	43 ³ / ₁₀ "
Maximum workpiece thickness:	200 mm	8"
Minimum workpiece thickness:	3 mm	1/8"
Maximum workpiece length:	no limit	no limit
Minimum workpiece dimension without vacuum:	100 mm x 400 mm	4" x 15 ³ / ₄ "
Minimum workpiece dimension with vacuum:	100 mm x 100 mm (optional)	4" x 4" (optional)
Abrasive belt entry side:	left (related to the workpiece feed direction)	
Controller position:	left (related to the workpiece feed direction)	

Control Center & PLC:

KÜNDIG widebelt sanders are designed to make the operator's work as comfortable as possible. One basic to achieve this target is the clearly arranged control panel.

Studies on working processes have shown that with individual production, the direct handling of familiar control elements is far safer and quicker than with menu- controls. Alternatively, for repeating sanding operations a screen-controlled programmer is preferred.

KÜNDIG has realized these ideas and developed a clear operation panel, which takes care for both requirements.

Major sanding settings can be easily controlled at the Touch Screen or fast adjusted by 2 control elements.

For **USA** the units are in **INCH** with the possibility to switch with one button click to **METRIC** and back.

Industrial PLC control panel for perfect ergonomic handling with a very high reactive and high resolution 10" colored Touch Screen.

Touch Screen is operable with gloves and has a IP54 protection.

KÜNDIG was focused to create an intuitive PLC handling with a clearly laid out menu navigation in order to simplify for the operator the sander control.

Innovative and very reliable modular industrial PLC:

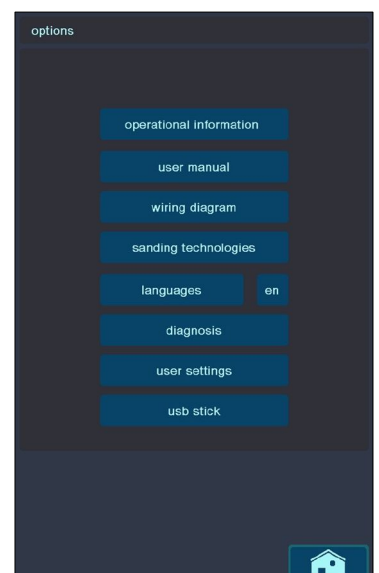
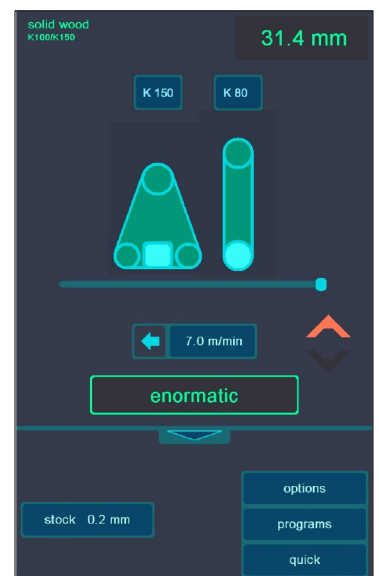
- ✓ The PLC is **INDUSTRY 4.0** ready
- ✓ Remote access by LAN connection for service and monitoring
- ✓ External USB port
- ✓ Two clicks only to setup and run
- ✓ Easiest control for operator by maximum simplicity of design
- ✓ Only relevant information displayed
- ✓ One screen for each parameter
- ✓ The status of the machine is always visible
- ✓ Designed for fatigue-free working
- ✓ Operable with gloves
- ✓ Light and dark mode user interface
- ✓ Connection possibility of any external device (i.e. Bar Code Scanner, Monitoring Camera, Temperature Sensor, etc.)

KÜNDIG – eco* energy saving mode:

The KÜNDIG - eco* energy saving mode permanently supervise the required electrical energy. After a programmable time interval, if no work pieces are being processed, the machine starts a current saving mode.

The work performance is not at all affected.

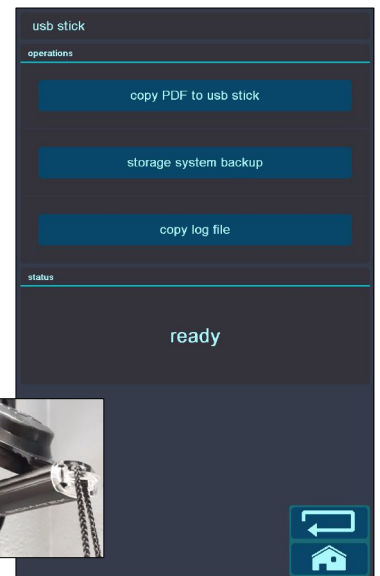
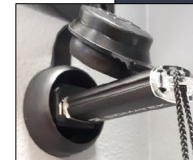
Studies found out that a saving of **20 - 25 %** on electrical energy can be achieved.



External USB port:

The sander is equipped with an external USB port for an easy access to:

- ✓ Complete system backup
- ✓ Complete system restore
- ✓ Download user manual and wiring diagram from the PLC
- ✓ Backup & restore the sanding- programs
- ✓ Download the event log file in Excel readable .csv format.
- ✓ Direct references to wiring diagram
- ✓ Detailed and differentiated information
- ✓ Diagnosis tools
- ✓ Error history with time stamp and export to USB- Stick



Remote access:

The sander is prepared for internet access by LAN:

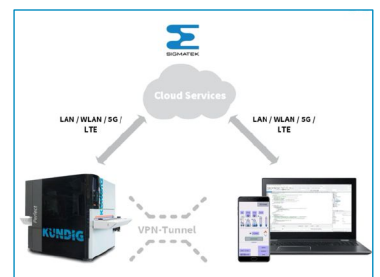
- ✓ Control & Statistics
- ✓ Support & Service
- ✓ Software updates & Backups

With this feature a KÜNDIG technician can easily support or assist the customer even on distance.

The customer decides 'who' and 'when' someone can get access to the sander!

Remark: The customer has only to provide a LAN connection with internet access to the sander.

- Optional: Handheld control; Smartphone APP; Secure VPN connection; "Dead man switch"; WLAN.



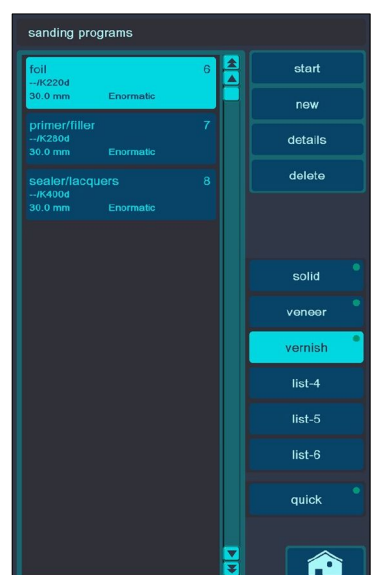
Sanding programs:

Individual sanding programs can be easily created and stored.

A machine start based on the stored programs can be done by a one button click.

The sander starts automatically according the saved settings of the selected sanding operation.

- ✓ «Teach-in» function
- ✓ Saves any parameter
- ✓ View and edit programs
- ✓ Sorted by lists
- ✓ Favorite programs can be started from home screen



Statistic monitor:

The statistic page shows the following information:

- ✓ process time job
- ✓ Process time total
- ✓ linear meters job
- ✓ Linear meters total
- ✓ workpiece counter job (only sander with sensor rollers)
- ✓ workpiece counter total (only sander with sensor rollers)
- ✓ m2 job (only sander with sensor rollers)
- ✓ m2 total (only sander with sensor rollers)
- ✓ last and next service date is displayed

Remark: All sanders with a segmented platen are equipped with sensor rollers.

operational information				
task information	current	09:05	09.12.2018	
process time	0.34	h		reset
linear meters	124.10	m		
workpieces	97	pcs.		
area	67.8	m2		
task information	1	19:51	09.12.18	
process time	1.94	h		
linear meters	98.50	m		
workpieces	233	pcs.		
area	127.1	m2		
task information	2	17:51	05.12.18	
process time	2.28	h		
linear meters	287.80	m		
workpieces	478	pcs.		
area	367.9	m2		
maintenance				
past time since service	259.51	h		🔧
interval (operativ)	300.00	h		
next service	04.12.2018			
past service	04.12.2017			
Interval (periodic)	1.0	a		
machine statistics				

Error diagnosis:

The ERROR-DIAGNOSIS system shows on the Touch Screen "if" and "where" a problem has appeared.

- ✓ Self-explaining information
- ✓ Direct references to wiring diagram
- ✓ Detailed and differentiated information
- ✓ Diagnosis tools
- ✓ Error history with time stamp and export to USB- Stick

Safety features:

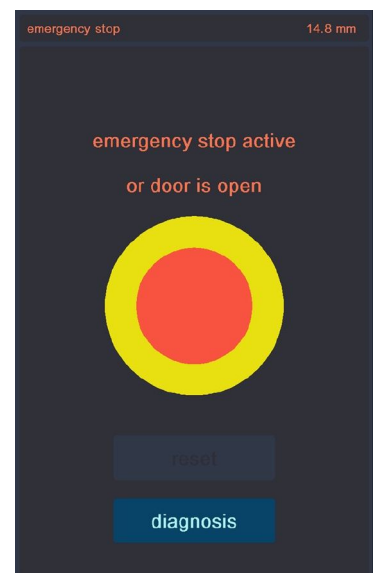
Optimum safety conditions guaranteed by automatic emergency stop with disc brake for:

- ✓ belt tear
- ✓ belt run off
- ✓ pressure loss
- ✓ opening the belt entry door during the sanding process

Over-thickness:

In case of over-thickness of the workpiece a safety device is installed to avoid damages of the machine.

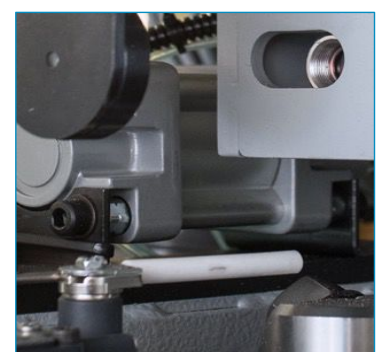
The feed belt stops automatically and the upper part of the machine lifts up.



1st. CONTACT ROLLER "R"

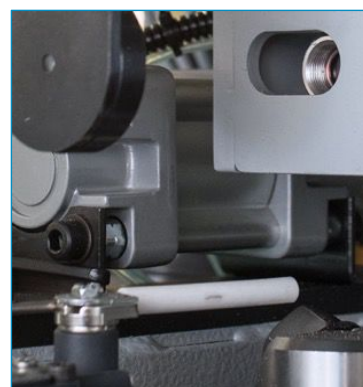
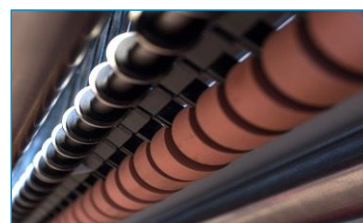
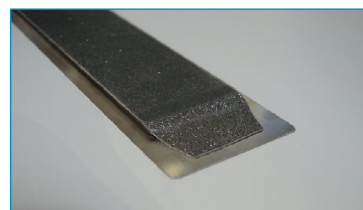
- ✓ Grooved rubberized Contact roller in heavy execution.
- ✓ 80° shore hardness.
- ✓ Contact roller: Ø 160 mm (6 1/3").
- ✓ Belt tension roller: Ø 140 mm (5 1/2").
- ✓ Unit with high performance Poly-V driven for maximal power performance.
- ✓ Common motor with unit 2nd: EUROPE 15 kW, 400 V / 50 Hz (USA 24 HP, 460 V / 60 Hz).
- ✓ Abrasive belt speed: 20 m/s (60 FPS).
- ✓ Automatic motorized positioning (lifting / lowering) of the Contact Roller according to the at the Touch Screen selected sanding operation.
- ✓ Automatic motorized positioning (lifting / lowering) of the Contact Roller according to scale of the selected abrasive grit for absolute highest calibration precision (abrasive grit compensation).
- ✓ Extreme solid locking device of the contact roller at the belt entry side.
- ✓ Belt tension, tracking and oscillation pneumatically.
- ✓ The non-contact photo eye of the oscillation is constantly cleaned by air.
- ✓ Optimized and high efficient dust extraction system.

- Abrasive belt cleaning blower. Action controlled for reduction of air consumption; with extraction channels.



2nd. PAD UNIT "E"

- ✓ Microprocessor controlled SANDING PAD.
- ✓ Segment width: 35 mm (1,38") high speed segments.
- ✓ Symmetrical + dissymmetrical segment edge-control.
- ✓ Sanding pressure adjustable & storeable at touch screen.
- ✓ Sensing-Rollers for perfect workpiece scanning at the in-let of the sander with a width of 35 mm (1,38").
- ✓ The Workpiece-Sensing-Rollers have the same width as the segments of the Pad for optimal segment edge pressure control!
- ✓ Belt tension roller: Ø 140 mm (5 1/2").
- ✓ Unit with high performance Poly-V driven for maximal power performance.
- ✓ Common motor with unit 1st: EUROPE 15 kW, 400 V / 50 Hz (USA 24 HP, 460 V / 60 Hz).
- ✓ Abrasive belt speed: 15 m/s (45 FPS).
- ✓ Extreme solid locking device of the pad unit at the belt entry side.
- ✓ Belt tension, tracking and oscillation pneumatically.
- ✓ The photo eye of the oscillation is constantly cleaned by air.
- ✓ Optimized and high efficient dust extraction system.
- ✓ Abrasive belt cleaning blower. Action controlled for reduction of air consumption; with extraction channels.



Workpiece feed:

General specifications:

Feed motor: **EUROPE** 1,5 kW, 400 V / 50 Hz
USA 2.0 HP, 460 V / 60 Hz

Feed speed: **3 – 15 m/min** (9 – 45 FPM)

The setting of the feed speed is made on the Touch Screen or with the fast adjustment button at the Control Center.

With the KÜNDIG JOY-stick the conveyor belt can be started or stopped.

In-let & Out-let tables:

The In-let and Out-let tables are equipped with one rubberized roller for a safe and comfortable feeding and unloading of the workpiece.

Conveyor drive system:

Reinforced and **profiled** high performance conveyor belt for industrial use.

Conveyor belt driving and reverse roller with $\varnothing 120 \text{ mm}$ ($4 \frac{3}{4}''$).

Automatic conveyor belt tracking and centering during the sanding process.

Pressure rollers / beams:

In-let: Floating precision ground steel pressure roller; $\varnothing 50 \text{ mm}$ (2").

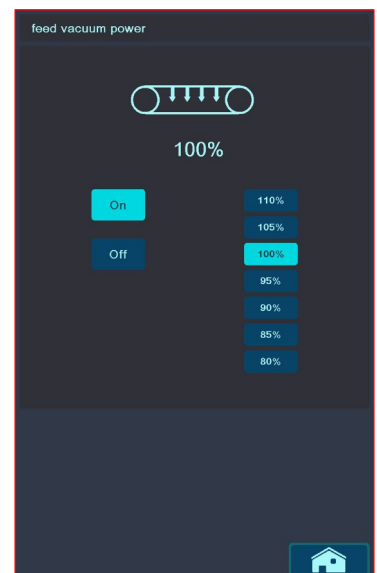
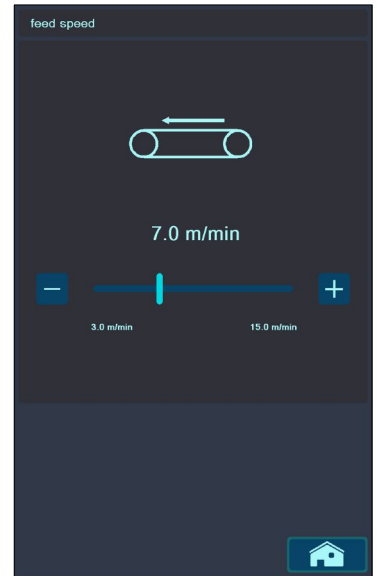
Unit 1st/ 2nd Rubberized pressure; $\varnothing 50 \text{ mm}$ (2").

Out-let: Rubberized pressure; $\varnothing 50 \text{ mm}$ (2").

o Vacuum device & table (optional):

Vacuum motor: **EUROPE** 2,2 kW, 400 V / 50 Hz
USA 3.0 HP, 460 V / 60 Hz

- ✓ High efficient Vacuum table with integrated vacuum generator.
- ✓ Variable electronic adjustment of the vacuum performance by inverter.
- ✓ The setting of the vacuum performance is made on the Touch Screen.
- ✓ The vacuum table is executed with easy removeable dust hoods for an "inside" cleaning and service of the vacuum table.
- ✓ Necessary for workpieces shorter as **400 mm** ($15 \frac{3}{4}''$).
- ✓ Minimum workpiece dimension **100 mm x 100 mm** ($4'' \times 4''$)
- ✓ Extra punching of the conveyor belt over **200 mm** (8") width for very narrow (small) work pieces.



Constant pass line & Height adjustment:

Constant pass line:

The sander has a constant pass line of **910 mm** (35 1/8").

4 extreme solid high precision spindles lift or lower the machines upper frame exactly to the at the Touch Screen selected working height.

Positioning accuracy of **+/- 0.01 mm** ($\frac{4}{10000}$ ").

The spindles are driven by a special double chain drive system designed for longevity, performance and precision.

No chain stretching, because of pretensioned chains!

Height adjustment:

Height adjustment of the sanding unit(S) with **0,1 mm** (0.001") steps by motor with automatic slow motion for fine adjustments.

The settings for the height are alternatively controlled via Touch Screen or the KÜNDIG - Joy - Stick.

Automatic thickness measuring:

All KÜNDIG sanders are able to measure the thickness of a workpiece automatically and directly in the machine.

No extra measuring device is necessary!

The workpiece has only to be insert into the sander. A high precision caliber roller measures the workpiece over the whole width and displays the workpiece thickness at the Control Screen.

'ENORMATIC' (Smart set):

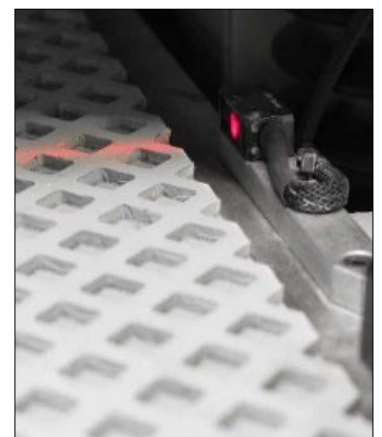
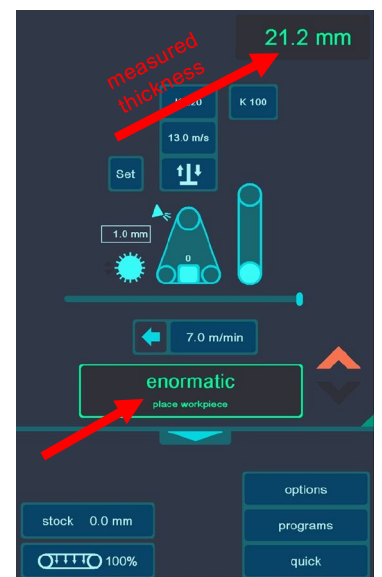
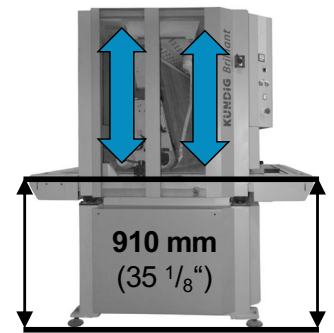
Based on the automatic measurement possibility of the sander KÜNDIG has developed for years the comfortable 'ENORMATIC' feature.

This ingenious function is very practical for batches with constantly changing workpiece thicknesses, but otherwise identical sanding settings.

The application is very easy to work with:

- 1) Place the workpiece on the working table and insert it to the machine
- 2) Select the desired sanding operation programme
- 3) Press the 'ENORMATIC' - Button
- 4) Now the machine measures the workpiece thickness over the whole width of the workpiece and starts the sanding process automatically.

In combination with the 'ENORMATIC' feature it's possible to make stepless variable adjustments of the stock removal in **0,1 mm** ($\frac{4}{1000}$ ") steps at the Touch Screen panel.

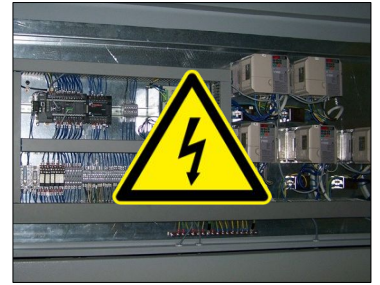


Electric device:

- ✓ Whole electric device with contactor control.
- ✓ Automatic star-delta starter of main motors.
- ✓ Overload and short circuit motor protection.
- ✓ Ammeter for supervision of stock removal.

Remark:

All machines delivered to USA or Canada are built to UL/CSA standards, but are NOT UL approved. Local electrical requirements vary widely and may require inspection by an independent agency. The cost of any inspection will be the responsibility of the customer.



IN-FEED Monitor:

The IN-FEED Monitor permanently records over a programmable time period in which position the operator feeds the workpieces into the sander.

In order to optimize the lifetime of abrasive it's very important to utilize the full working width of the sander.

The reason is to avoid areas where the widebelt get's 'overloaded' by feeding the workpieces always at the same position, whereof other areas of the widebelt are more or less unused.

This tool allows the operator to see in which position he feeds too frequent or too less.

This gives him the possibility to optimize the feeding process.

