



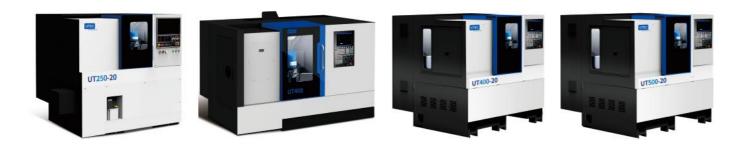




UTEC(Suzhou) Sealing Solutions Co., Ltd.

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COMPLETE TURN- KEY CNC SEAL MANUFACTURING SYSTEMS

UTEC Sealing Solutions offers you the latest technology in CNC machining systems, state-of-the-art computer technology and seal production software as well as high-performance sealing materials-the complete solution for modern seal production up to 1500mm OD .

UTEC CNC lathes are custom-made, fully integrated systems, for the instant production of various seals used in hydraulic and pneumatic applications, as well as engineered plastic parts.

Machine, software, semi-finished materials and tools are precisely tuned to guarantee efficient machining and top - quality products.

Lathe-cut seals gain an ever-increasing market share in today's sealing industry and are widely accepted in OEM and MRO applications-UTEC Sealing Solutions contributes its part to the success of this manufacturing technology.

HIGH - END TECHNOLOGY

The machines are based on custom-designed lathes for metal machining and are modified and upgraded in our factory with all the features necessary for the machining of seals and plastic parts.

All machines are equipped with high-end mechanical and electrical/electronic components. The high precision guides, disc turret, bearing, drive systems and control unit are without exception produced by world-wide, well-known brands who define the standards of modern CNC machining technology.

These top-quality components in combination with a sturdy machine design guarantee a long service life of UTEC Seal Manufacturing Systems.

In order to guarantee the smooth operation of your UTEC CNC lathe, our customers will receive training on their machine, in our factory. After technical acceptance of the machine, it will be commissioned and installed on site by one of our engineers.



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TECHNICAL FEATURES UT250-20



AT A GLANCE

- Machine system for seals up to 250mm/9.8" OD Chip cutter & suction unit
- Pragati 8-station electric tool turret
- Quick tool clamping system
- Latest FANUC Oi-TF drive and control system
- PC with UTOSEAL software

- Material clamping system
- Cutting tools & holders
- Automatic lubrication system
- Coolant (cutting fluid) system

Machining Capacity

- Max . machining diameter :250mm/9.8"
- Swing over bed :300mm/11.8"
- Max . travel X-axis :180mm/7.09"
- Max . travel Z-axis :300mm/11.8"
- Max . machining length :155mm/6.1"

Machining Accuracy

- Cylindrical accuracy: IT6
- Surface roughness : Ra 0.4-1.6μm
- Roundness: ≤0.003mm
- Positional accuracy: X:0.005mm/Z:0.008mm
- Repeated pos. accuracy: X:0.002mm/Z:0.004mm

Main Spindle Drive

- Max . speed :3000rpm
- Through-hole diameter:38mm/1.5"
- Power: 3.7/5.5kW(\$1,\$3)
- Max.current:25A
- Noise level normal/max .:78/82dB

- Electric tool turret (Pragati, India)
- Tool positions: 8
- Tool holders: "FAST Insert"

TECHNICAL FEATURES UT400-20



AT A GLANCE

- Machine system for seals up to 400mm/15.7" OD Chip cutter & suction unit
- Pragati 12-station electric tool turret
- FAST Insert tool clamping system
- Latest FANUC Oi-TF drive and control system
- PC with UTOSEAL software

- Material clamping system
- Cutting tools & holders
- Automatic lubrication system
- Coolant (cutting fluid) system

Machining Capacity

- Max . machining diameter :400mm/15.7"
- Swing over bed :450mm/17.7"
- Max . travel X-axis :250mm/9.8"
- Max . travel Z-axis :350mm/13.78"
- Max . turning length :155mm/6.1"

Machining Accuracy

- Cylindrical accuracy: IT6
- Surface roughness: Ra 0.4-0.6μm
- Roundness: ≤0.005mm
- Positional accuracy: X:0.006mm/Z:0.009mm
- Repeated pos. accuracy: X:0.004mm/Z:0.006mm

Main Spindle Drive

- Max . speed :3500rpm
- Through-hole diameter:50mm/2"
- Power:5.5/7.5kw (\$1,\$3)
- Max.current:32A
- Noise level normal/max .:78/82dB

- Tool turret : electric (Pragati , India)
- Max rotating/indexing time: 0.16s/30°
- Tool positions:12
- Tool holders: "FAST Insert"

TECHNICAL FEATURES UT400/UT400DT*



AT A GLANCE

- Machine system for seals up to 400mm/15.7" OD
- Sauter 12-station hydraulic tool turret
- VDI 20 tool clamping system
- Latest FANUC Oi-TF drive and control system
- PC with UTOSEAL software

- Chip cutter & suction unit
- Material clamping system
- Cutting tools & holders
- Automatic lubrication system
- Coolant (cutting fluid) system

Machining Capacity

- Max . machining diameter :400mm/15.7"
- Swing over bed :450 mm/17.72"
- Max . travel X-axis :280mm/11"
- Max . travel Z-axis :518mm/20.4"
- Max . turning length :155mm/6.1"

Machining Accuracy

- Surface roughness : Ra 0.4-0.6μm
- Roundness: ≤0.005mm
- Positional accuracy X/Z:0.002mm
- Repeated pos, accuracy X/Z:0.0008mm

Main Spindle Drive

- Max.speed:3500rpm
- Through-hole diameter:50mm/1.87
- Power (S1/S3):7.5/11.5kW
- Max current:63A
- Noise level normal/max .:78/82dB

- Tool turret, hydraulic (Sauter, Germany)
- Max rotating/indexing time 30°:0.08s/0.21s
- Tool positions:12
- Tool holders: VDI20

TECHNICAL FEATURES UT500-20



AT A GLANCE

- Machine system for seals up to 500mm/19,7" OD Chip cutter & suction unit
- Pragati 12-station electric tool turret
- FAST Insert tool clamping system
- Latest FANUC Oi-TF drive and control system
- PC with UTOSEAL software

- Material clamping system
- Cutting tools & holders
- Automatic lubrication system
- Coolant (cutting fluid) system

Machining Capacity

- Max . machining diameter :500mm/19.7"
- Swing over bed :550mm/21.7"
- Max . travel X-295mm/11.6
- Max . travel Z-axis :350mm/13.78"
- Max . turning length :155mm/6.1"

Machining Accuracy

- Cylindrical accuracy:IT6
- Surface roughness : Ra 0.4-0.6μm
- Roundness : ≤ 0.005mm
- Positional accuracy: X:0.006mm/Z:0.009mm
- Repeated pos . accuracy : X :0.004mm/Z :0.006mm

Main Spindle Drive

- Max . speed :3500rpm
- Through-hole diameter:50mm/2"
- Power:5.5/7.5kw (\$1,\$3)
- Max.current:32A
- Noise level normal/max .: 78/82dB

- Tool turret : electric (Pragati , India)
- Max rotating/indexing time:0.16s/30°
- Tool positions:12
- Tool holders: "FAST Insert"

TECHNICAL FEATURES UT750/UT750DT*



AT A GLANCE

- Machine system for seals up to 750mm/29.5" OD
- Sauter 12-station hydraulic tool turret
- VDI 20 tool clamping system
- Latest FANUC Oi-TF drive and control system
- PC with UTOSEAL software

- Chip cutter & suction unit
- Material clamping system
- Cutting tools & holders
- Automatic lubrication system
- Coolant (cutting fluid) system

Machining Capacity

- Max . machining diameter :750mm/29,5"
- Swing over bed :800mm/31.5"
- Max . travel X-axis :450mm/17.7"
- Max . travel Z-axis :630mm/24.8"

Main Spindle Drive

- Max . speed :3500rpm
- Through hole diameter:66mm/2.60"
- Power (S1/S3):11/15kW
- Max.current:63A
- Noise level normal/max .:78/82dB*

Machining Accuracy

- Surface roughness : Ra 0.4-0.6μm
- Roundness: ≤0.005mm · Max
- Positional accuracy X/Z :0.002mm
- Repeated pos. accuracy X/Z:0.0008mm

- Tool turret: hydraulic (Sauter, Germany)
- Max rotating/indexing time 30°:0.08s/0.21s
- Tool positions:12
- Tool holders:VDI20

TECHNICAL FEATURES UT850-20/UT850DT*



AT A GLANCE

- Machine system for seals up to 850mm
- SAUTER 12-station hydraulic tool turret
- VDI 20 tool clamping system
- Latest FANUC Oi-TF drive and control system
- PC with UTOSEAL software

Machining Capacity Machining Capacity Machining Capacity

- Max . machining diameter :850mm
- Swing over bed :900mm
- Max . travel X-axis :500mm
- Max . travel Z-axis :630mm
- Max . turning length :155mm

Main Spindle Drive

- Max.speed:3000rpm
- Through hole diameter:66mm
- Power:11/15kw (S1,S3)
- Max.current:63A
- Noise level normal/max:78/82dB

- Chip cutter & suction unit
- Material clamping system
- Cutting tools & holders
- Automatic lubrication system
- Coolant (cutting fluid) system

Machining Accuracy

- Surface roughness : Ra 0.4-0.6μ m
- Roundness: ≤0.003mm
- Positional accuracyX/Z :0.005mm/0.008mm
- Repeated pos. accuracyX/Z:0.004mm/0.008mm

- Tool turret; hydraulic (SAUTER, Germany)
- Max rotating/indexing time 30°:0.08s/0.21s
- Tool positions:12
- Tool holders: VD120

TECHNICAL FEATURES UT1500-20



AT A GLANCE

- Complete machine system for seals measuring between 500 and 1500mm/59.1"φ
- Sauter 12-station electric tool turret
- FAST Insert tool clamping system
- Latest FANUC Oi-TF drive and control system

- PC with UTOSEAL software
- Chip cutter & suction unit
- Cutting tools & holders
- Automatic lubrication system
- Coolant (cutting fluid) system

Machining Capacity

- Machining diameter:1500mm/59.1"
- Swing over bed :1700mm/66.9"
- Max . travel X-axis :800mm/31.5"
- Max . travel Z-axis :450mm/17.7"
- Max . turning length :160mm/6.3"

Machining Accuracy

- Cylindrical accuracy: IT6-7
- Surface roughness : Ra 1.6μm
- Positional accuracy X/Z:0.009mm
- Repeated pos . accuracy X/Z :0.008mm

Main Spindle Drive

- Max.speed:150rpm
- Power:18.5KW
- Max . current :63A
- Noise level normal/max .:78/82dB

- Tool turret, hydraulic (Sauter, Germany)
- Max rotating/indexing time: 0.16s
- Tool positions:12
- Tool holders: "FAST Insert"

MACHINE OVERVIEW	TECHNICAL DATA		
MACHINE OVERVIEW	UT250-20	UT400-20	
Machine dimension (WXDXH) [mm]	1700x1500x1600	2300x1700x1700	
Total weight (excl. suction unit) [kg/lbs]	2800 / 6172	3100 / 6820	
coolant tank capacity [L]	50	50	
Machining capacity			
Min . machining diameter [mm]/[in]	N/A	N/A	
Max. machining diameter [mm]/[in]	250 / 9.8	400 / 15.7	
swing over bed [mm]/[in]	300 / 11.8	450 / 17.7	
Max. travel X-axis [mm]/[in]	180 / 7.09	250±10/9.8±0.4	
Max. travel Z-axis [mm]/[in]	300 / 11.8	350 / 13.78	
Max. turning length [mm]/[in]	155 / 6.1	155 / 6.1	
Main spindle drive			
Max. speed [rpm]	3000	3500	
Through-hole diam. [mm]/[in]	38 / 1,5	50/2	
power [KW] (S1/S3)	3.7	5.5	
Max. current [A]	25	32	
Max. positioning/ acceleration torque [Nm]			
Rapid feed in X-/z-axis [m/min]			
Machining accuracy			
cylindrical accuracy	It6	It6	
surface roughness [ym]	Ra 0.4-1.6	Ra 0.4-0.6	
Roundness [mm]	≤0.003	≤0.005	
positional accuracy X/z [mm]	X:0.005 / Z:0.008	X:0.006 / Z:0.009	
Repeated pos. accuracy x/z [mm]	X:0.002 / Z:0.004	X:0.004 / Z:0.006	
Tool system			
Electric tool turret (pragati, India)	√	√	
Hydraulic tool turret (Sauter, Germany)			
Max. Rotating/ indexing time 30" [s]	0.16	0.16	
Tool positions	8	12	
Tool holder	"FAST insert"	"FAST insert"	
Noise level			
Normal / Maximum [dB]	78 / 82	78 / 82	
suction unit			
suction unit (motor / max. air flow)	4kw / 8600L / min	4kw / 8600L / min	
chip container capacity [L]	100	100	
Dimensions (WXDXH) [mm]	650x1250x1600	650x1250x1600	
Dimensions (WXDXH) [in]	26x49x63	26x49x63	
Weight[KG]/[lbs]	185 / 408	185 / 408	
CNC type /software			
Fanuc control version	oi-TF	oi-TF	
UTEC software	UTOSEAL	UTOSEAL	

TECHNICAL DATA					
UT500-20	UT400	UT750	UT850-20	UT1500-20	
2300x1700x1700	2300x1600x1600	2800x1800x1850	2885x1887x1913	2700x2100x2100	
3400 / 7495	3500 / 7716	4000 / 8818	4000 / 8818	12000 / 26400	
50	120	120		100	
N/A	N/A	N/A	N/A	500 / 19.69	
500 / 19.7	400 / 15.7	750 / 29.5	850	1500 / 59.1	
550 / 21.7	450 / 17.72	800 / 31.5	900	1700 / 66.9	
295±5/11.6±0.2	280 / 11	450 / 17.7	500	850 / 31.5	
350 / 13.78	518 / 20.4	630 / 24.8	630	450 / 17.7	
155 / 6.1	155 / 6.1	155 / 6.1	155	160 / 6.3	
3500	3500	3500	3000	200	
50/2	50 / 1.97	66 / 2.6	66	N/A	
5.5	7.5 / 11.5	11 / 15	11	18.5	
32	63	63	63	63	
	2.65 / 5.5	2.65 / 5.5			
	12 / 20	12 / 20			
It6			It6	It6-7	
Ra 0.4- 0.6	Ra 0.4-0.6	Ra 0,4-0.6	Ra 0.4-0.6	Ra 1.6	
≤0.005	≤0.005	≤0.005	≤0.003		
X:0.006 / Z:0.009	0.002	0.002	0.009 / 0.008		
X:0.004 / Z:0.006	0.0008	0.0008	0.004 / 0.008	0.008	
√					
	√	√	√	√	
0.16	0.08 / 0.21	0.08 / 0.21	0.16	0.16	
12	12	12	12	12	
"FAST insert"	VDI20	VDI20	VDI20	"FAST insert"	
78 / 82	78 / 82	78 / 82	78 / 82	78 / 82	
		1 24 1222211			
4kw / 8600L / min	4kw / 8600L / mii				
100	100	100	100	100	
650x1250x1600	650x1250x1600	650x1250x1600	650x1250x1600	650x1250x1600	
26x49x63	26x49x63	26x49x63		26x49x63	
185 / 408	185 / 408	185 / 408	185	185 / 408	
al TE	-1.75	-1.75			
oi-TF	oi-TF	oi-TF	oi-TF	oi-TF	
UTOSEAL	UTOSEAL	UTOSEAL	UTOSEAL	UTOSEAL	

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UTOSEAL®

SEAL PRODUCTION SOFTWARE

The UTOSEAL is the 2nd generation of sealing processing software independently developed by UTEC company after UTFLEX Workstation. The UTOSEAL Seal Production Software has been upgraded to include over 170 standard seal profile for mature applications, while also adapting to customized design needs. Through the software, users can easily revise the size and characteristics of seals, quickly generate required design solutions, reduce development cycles, and improve efficiency.

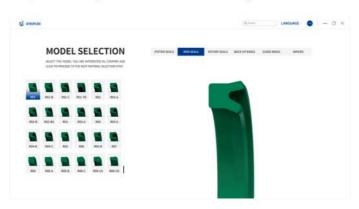
The software not only supports material cost-wise selection recommendation and tool path simulation functions, but also realizes one click transmission, greatly reducing the process time from design to production processing. The tool path simulation function can accurately visualization of the machining path, help users avoid trial error problems in production, and improve the accuracy and consistency of the finished product. Through visual integration, the software achieved new-user friendly by plug-in to use, without the need for complex settings and additional training.

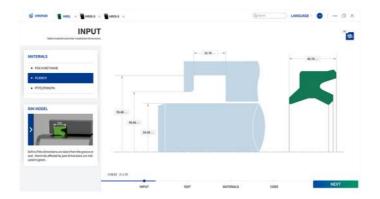
PROFILE SELECTION

Built in over 170 commonly used seal profile, complete size coverage range, and mature engineering application experience.

SEAL DESIGN

Automatically adjust the compression value setting according to the selected material, freely switch between groove and seal dimension, visually installation dimensions fill-in, switch between metric and imperial size with one click.





CUSTOMIZED DESIGN

Customized profile add-in, providing chargeable profile design services according to customer needs. Intuitive material utilization rate, UTEC material database sorted by recommended values, proportion diagram of 1:1 ratio between seal ring and raw materials, visualization of design progress, and direct access to the target interface.

MATERIAL SELECTION

Customized profile add-in, providing chargeable profile design services according to customer needs.

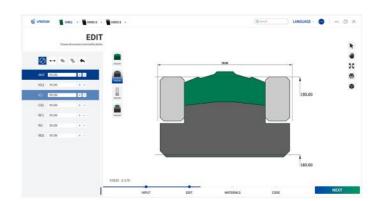
Intuitive material utilization rate, UTEC material database sorted by recommended values, proportion diagram of 1:1 ratio between seal ring and raw materials, visualization of design progress, and direct access to the target interface.

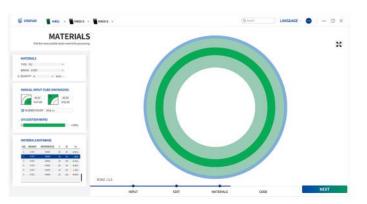
CUTTING-TRACK SIMULATION

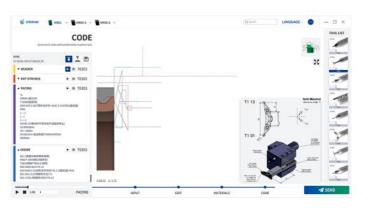
Automatic generation of CNC code, comprehensive optimization of machining logic, support for custom modification of CNC code, complete tool path simulation, segmented tool path simulation, real-time generation of 2D tool path simulation based on CNC code, color differentiation of different parts, and one click transmission to machine.

PROGRAM TRANSFER DUAL CHANNEL

Supporting COMPort R232 and also capable of transferring via FTP network cable.











TOOL INSERT OVERVIEW







MACHINE MAIN COMPONENTS

CONTROL & DRIVE SYSTEM

UTEC machines are equipped with the latest technology of FANUC, the world-wide leader of control systems for machine tools. The FANUC Oi-T* 2-axis control and the iServo-Drive System offer a state-of- art, high precision machine control system with high efficiency and reliability.



TOOL SYSTEM

Tool System UT250-20 /UT400-20/UT500-20

The electric turret disc from Pragati on the UT250-20, UT400-20 UT500-20 models comes with the "FAST insert" tool clamping system guarantees a fast tool change.

SAUTER turret and VDI clamping system is optional *.

Tool System UT850 /UT1500

These models are equipped with the SAUTER servo-motor turret with bi-directional logic. The bi-directional logic in combination with hydraulic clamping/unclamping without lifting mechanism drastically reduces tool positioning times. The turret disc with VDI clamping system for 12 tools guarantees fast tool changing .

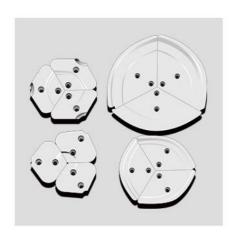
TOOL & HOLDERS

The quality of cutting tools is of highest importance in the production of lathe-cut seals. A complete set of high-precision cutting tools made of fine-grain carbide is supplied with every UTEC machine. In order to cover the complex, complete range of existing seal profiles, most tools have a special geometrical shape and are custom made for seal production.



SEMI-FINISHED MATERIALS CLAMPING SYSTEM

In order to efficiently clamp the raw material billets, special clamping jaws are mounted on to the steel body of the high-precision 3-jaw machine chuck. These sets of multi-range clamping jaws are made of high-grade aluminum and are designed to clamp certain diameter ranges of semi-finished billets.



CHIP CUTTER & SUCTION UNIT

A Well working chip cutter and suction unit play an important role in the manufacturing process of seals and engineered plastic parts, as they contribute to preventing swarf buildup around the tool and thus to a better surface finish of the end product.

The chip cutter is made of high-grade aluminum, using HSS tools to hack up the chips and keep the tools clean for optimal machining performance.

TOOL-LAPPING MACHINE

UTEC recommends the UYMJ-1200 tool lapping machine in combination with a microscope to sharpen, and verify the state of tool tips. This tool lapping technology is highly efficient, as it substantially increases the service life of a cutting tool, and guarantees optimal tool sharpness, which is turn assures excellent surface quality of your end product.



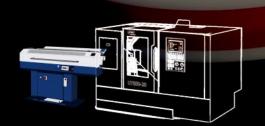
Other accessories, such as measuring devices, beveling shears, band saws for cutting guide rings etc can be supplied on request.

UTEC: YOUR PARTNER FOR SEALING TECHNOLOGY

UTEC Sealing Solutions is a leading manufacturer and supplier of high quality hydraulic and pneumatic seals, engineered plastic parts, high performance sealing materials and turn-key seal manufacturing technology.

With our extensive expertise, UTEC Sealing solution support our customers with design, prototyping, production test and installation utilizing state-of-the-art technology. UTEC Sealing Solutions fulfills challenging service requirements, supplying standard seals in volumes or single and medium series of custom manufactured pa内s with shortest delivery times.

AUTOMATION COMPONENTS







TRUSS MANIPULATOR



ROBOTIC LOAD

