

Machines, software and tools



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We are an international group of independent seal manufacturers and plastics processors. We produce in our group all types of seals and plastic parts such as o-rings, molded rubber parts, rubber-metal compounds foam parts, semi-finished products as well as machines for turned seals products.

Therefore advanced manufacturing techniques are in use. Our high-quality CNC twister machine systems allow the rapid processing of Trygonal materials to produce our high quality seals and turned plastic parts. The new machinery product line, «twister» stands for dynamism, speed, strength and functionality. These are modern and compact CNC lathes, which can be used to manufacture hydraulic and pneumatic seals, special turned parts out of all plasters and elastomers, as well as metals.

- We see ourselves as a partner to our customers.
- We are independent, holistic and solution-oriented.
- We are a sealing and plastic parts manufacturer.
- We are an international network company and we work world-wide.
- We see our company culture like life: varied, complex and exciting.
- We value greatly the individuality and the expertise of the staff.
- We are committed to high professional ethics and integrity in all we do.

All this creates a passionate, innovative and dynamic team to support your business.

Machine types

- Trygonal twister t40l to 460mm
 - Trygonal twister t40dt to 400mm
 - Trygonal twister t40dty to 300mm with live tooling and bar feeder.
 - Trygonal twister t60l to 650 mm
 - Trygonal twister t60dt to 600mm
 - Trygonal twister t60dty to 500mm with live tooling and bar feeder.
 - Trygonal twister t140, t180, t200 to 2000mm turning diameter on demand
 - Accessories: manufacturing facilities
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Trygonal SealCAM

This sealing profile software allows more than 140 different hydraulic and pneumatic seals to be easily programmed. Also special profiles can be programmed on demand.

Trygonal Twister Series

Dynamic, fast, strength and functionality are the magic words for the new machinery product line twister.

It is a compact modern CNC lathes, that allows the production of machined seals for hydraulic and pneumatic applications. Special turned plastics and elastomers as well as metal parts can be produced on our twister machines.

The machine also can be customized to a highly degree of individuality. For example: c-axis, driven tools, bar loader package or an integrated automation solution is available on request.



Example Machine, Twister t40



Spindle

- High drive performance
- Thermoresistant construction
- Large speed range
- A2-5spindle connection
- Bar capacity 65 mm

Tool turret

- 8/12 station VDI 20/30 axial
- 6/12 station driven on request
- Polygonal turning
- Synchronised thread cutting

Control unit

- Cutting-edge digital control technology
- Siemens manual guide
- Color LCD monitor

Working area

- Straight chip fall or suction device
- Top ergonomics
- Completely covered guide rails

Machine base

- Easy to transport
- Large coolant reservoir
- Ease to clean

Bar loader package

- Short bar loader
- Parts catcher
- Interface
- Warning light
- Adaptor sleeves

Example Machine with optional equipment, Twister t60

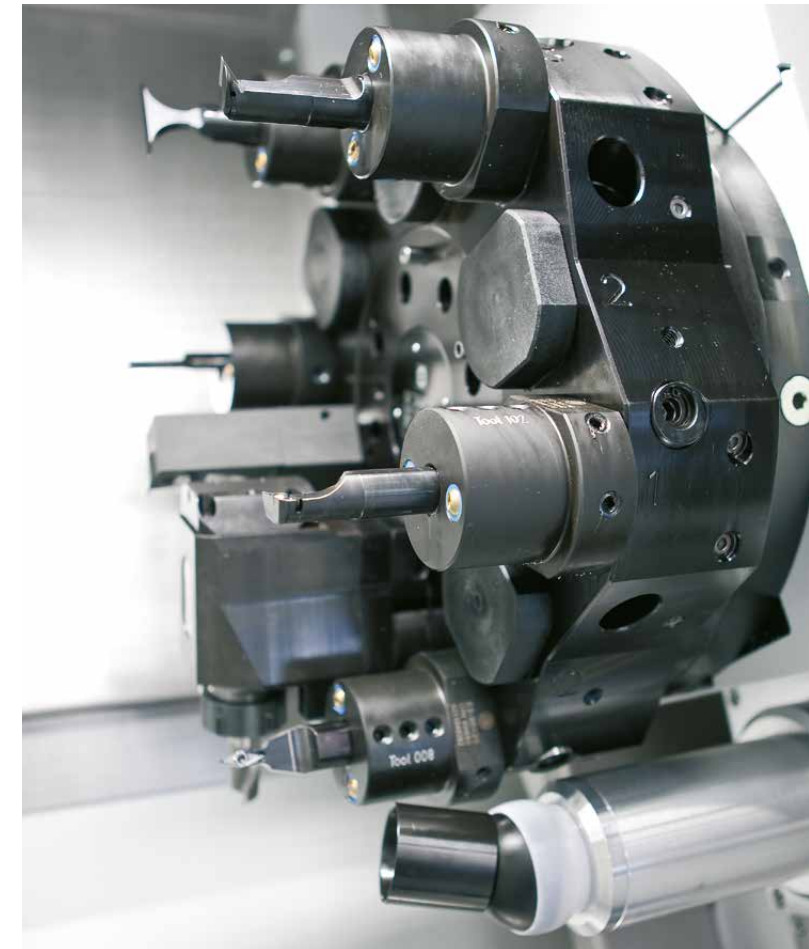
Twister Basic

- basic machine twister t40l/t60l
- control: SIEMENS 828D
- max. turning OD 460mm/650mm
- turret with 8/12 tooling positions VDI 20
- extraction unit and cutter
- SealCAM software/hardware
- flexible clamping system up to 254mm OD/for bigger ODs clamping discs, incl. 1 set clamping plate
- tools: basic equipment, VDI-holders inclusive and tool holder for plastics and metals
- keys and necessary additional



Twister Professional

- basic machine twister t40dty/t60dty
- control: SIEMENS 828D
- max. turning OD 500mm
- turret hydraulic with 12 tooling positions VDI 30/12 position with driven tools
- Y-Axis travel +40/-40mm
- extraction unit and cutter
- SealCAM software/hardware
- flexible clamping system up to 400mm OD/for bigger ODs clamping discs, incl. 1 set clamping plate
- tools - basic equipment, VDI-holders inclusive and tool holder for plastics and metals
- keys and necessary additional



Twister series in comparison

		Twister T40le	Twister T40l	Twister T40dt	Twister T40dty	twister t60l	twister t60dt	twister t60dty
Capacity								
Swing over bed	[mm]	ø 500	ø 500	ø 500	ø 430	ø 650	ø 640	ø 640
Max. machining diameter	[mm]	ø 460	ø 460	ø 400	ø 300	ø 650	ø 600	ø 500
Max. machining length	[mm]	310	310	310	510	520	520	520
Max. bar work diameter	[mm]	ø 45	ø 45	ø 45	ø 45	ø 65	ø 65	ø 65
Main spindle								
Speed range	[rpm]	0-6300	0-6300	0-6300	0-6300	60-4200	60-4200	60-4200
Max. torque	[Nm]	78	78	78	43	192	192	192
Spindle nose acc. to DIN 55026		A2-5	A2-5	A2-5	A2-5	A2-6	A2-6	A2-6
Main drive								
Main drive power @ 100/40% duty cycle	[kW]	9/13	9/13	9/13	9/13	15/18	15/18	15/18
Turret								
Number of tool station		8	8	12	12	12	12	12
Quick change tool shank according to DIN 69880		VDI 20	VDI 20	VDI 30	VDI 30	VDI 20	VDI 30	VDI 30
Turret indexing time	[sec]	0,53	0,14	0,14	0,14	0,2	0,2	0,2
Hydraulic system								
Max. pressure for work holding	[bar]		50	50	50	50	50	50
Power supply								
Voltage	[V]	3x400/PE	3x400/PE	3x400/PE	3x400/PE	3x400/PE	3x400/PE	3x400/PE
Dimensions/weight								
Machine total height	[mm]	1940	1940	1940	1940	1880	1880	1880
Floor space WxD (without chip conveyor)	[mm]	2250x1630	2250x1630	2250x1630	2250x1630	2852x1722	2852x1722	2852x1722
Total weight of the machine	[kg]	3300	3300	3300	3300	4300	4300	4300
Sound intensity level								
Average sound emission level	[db(A)]	78	78	78	78	75	75	75

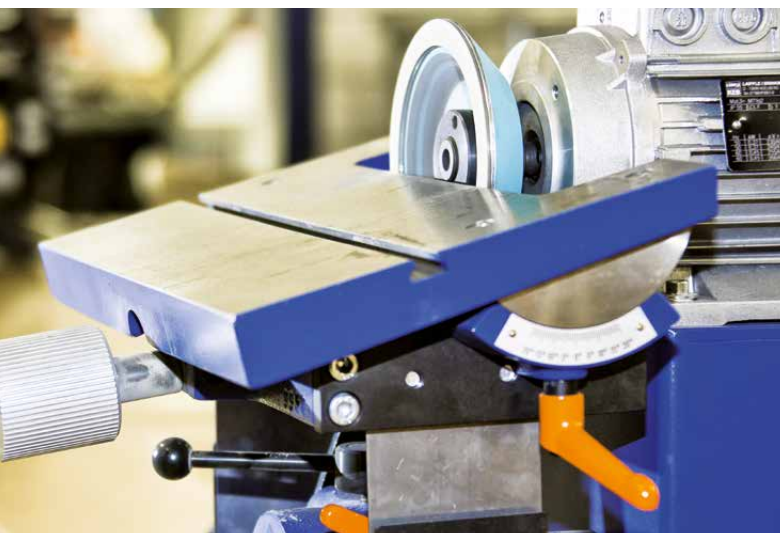
Options, equipment and automation



- Working environment/furniture**
- Workbench with min. two drawer cabinet
 - Table for VDI holders stand
 - Work table (for machine)
 - Storage shelf for materials
 - Drawer cabinet for tools
 - Workbench for small machines on drawer cabinets for tools (workspace of the table top, approx 90cm x 400cm)
 - Table for pc and printer



- Measuring equipment**
- Digital slide gauge from 0 – 200mm (Mitutoyo)
 - Slide gauge large up to about 400 – 450 mm
 - Circumferential band measures from 20 – 300 mm
 - Circumferential band measures from 300 – 700 mm
 - O-ring measuring cone measures from 5 – 300 mm
 - Durometer for Shore A measurement
 - Sub light microscope
 - Refractometer



- Additional machines (optional feature)**
- Laser-Marker
 - Guiding tape cutting device
 - Generator
 - Grinding machine
 - Band saw
 - Stand-drilling machine
 - Notching machine (Facette Star)
 - Battery driller for screwing the mounting plates onto the tubes
 - Air compressor
 - Coolant and various lubricants
 - PC/Printer

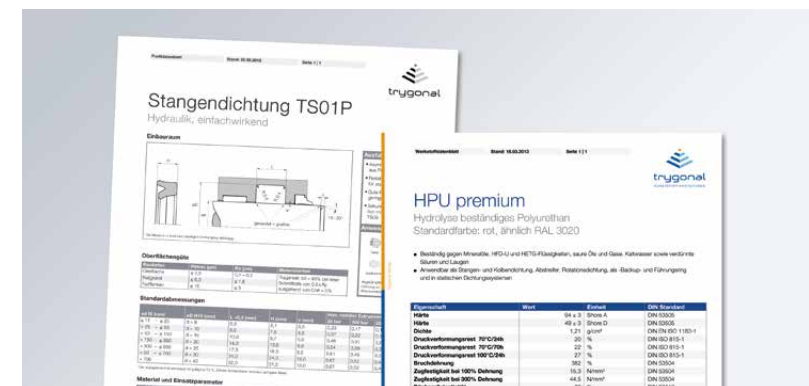
- Machine options**
- Chip-Con
 - Transformer – 40
 - Catching tray
 - Airplast
 - Bar feeder



- Software**
- Production (SealCam, CAD/CAM)
 - Office (construction, calculation)



- Documentation**
- Manufacturing documentation (manufacturing tolerances, profil discription, material data sheets of the semi-finished products, etc.)



- Tools**
- Side cutter (to cut by meandering and spring feeders)
 - Various screwdrivers, pliers, etc.
 - Oil skimmer
 - Bench vice
 - Tool setter



Software and control system

We want to make your job as easy as possible. Therefore we have developed the right software solution for your «twister» machines. The «SealCAM» program is easy to install and use! Profiles can be quickly and easily adapted to individual needs.

If required, we can arrange and programm customized profiles according to your needs and install them on the SealCAM software. The SealCAM software can be adapted to different types of controllers such as Fanuc or Siemens.

Our profile selection will be updated regularly. Ongoing upgrades keep you always up to date.



Machines, Software & Tools

 Materials & Semi-Finished Products

 Sealing Systems

 O-rings and Static Sealing Profiles

 Plastic Turned and Milled Parts

 Rubber Parts and Membranes

 Rubber-Metal & Rubber-Plastic Components

 Forming and Foam Parts

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