

# LATHES

TT 75, SUA, SU



SLOVÁCKÉ STROJÍRNY, a.s., CZECH REPUBLIC

# HIGH PRECISION

## Multifunctional Lathe Center

# TT 75

TT75 - Multifunctional lathe center Tos Turn is a production machine for fully automated (semi-automated) machining of shaft and flange parts in an optimum machining time with a very high precision.

TT75 machine is characterized by the possibility of using the latest tools in the field of lathe-working, milling and other technological operations which are based on the high level support provided by the CNC system from the very clamping of a work piece into the machine.

The machine is suitable for serial production, but also for the production of work pieces that have to be machined on one clamping for the reason of accuracy. Thanks to the high precision C-axis, this machine can also be used to mill gears using the dividing or self-generating method. The high precision C-axis also allows for high precision form milling. The machine is available with tailstock, which is very suitable for eccentric work pieces, or with sub spindle, in which case the work pieces can be taken over from the main headstock and finished from the second side on the sub spindle. It is also possible to run the spindle and sub spindle for example for the production of long work pieces. The machine can also be equipped with an automatic tool change with up to 120 positions.

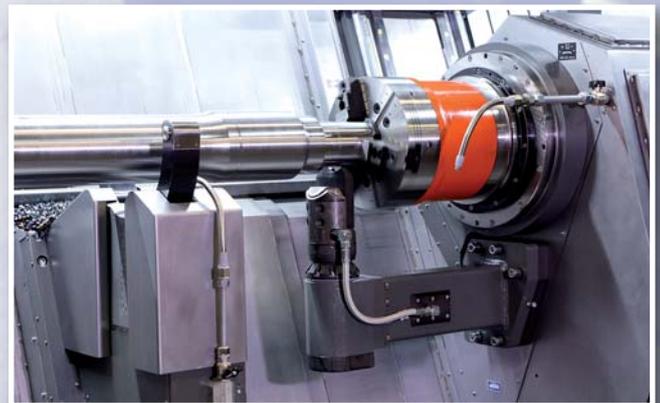
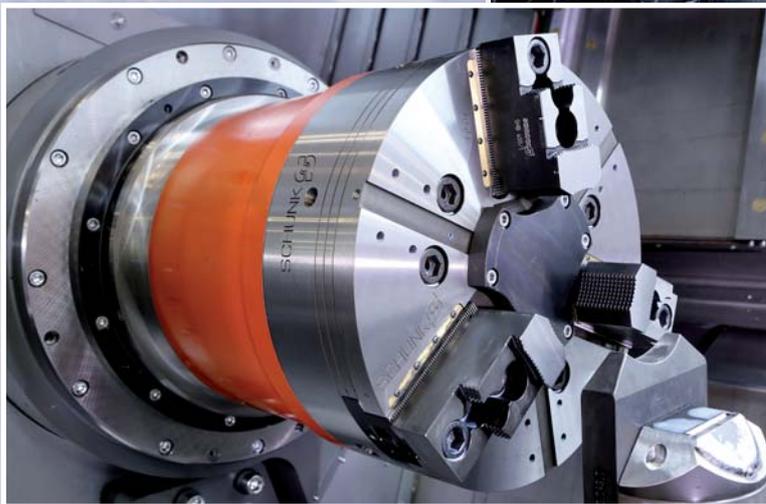
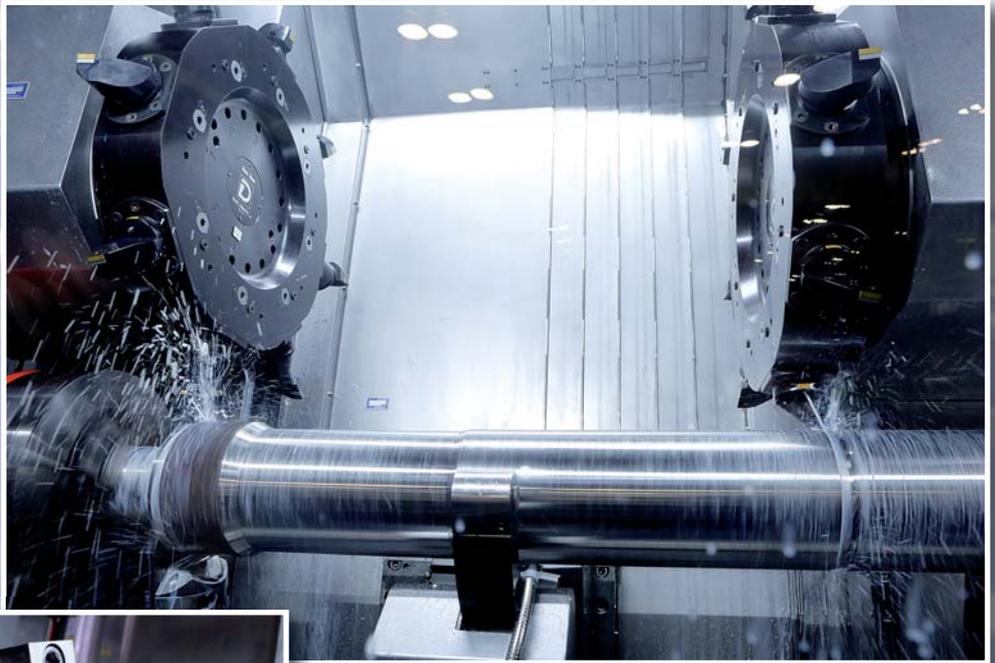
It is further possible to install the bar feeder. The machine can also be equipped with two carriages.



## Specification

### TT75

Swing over bed guide covers	mm	1,000
Maximum diameter of turning above supports in the whole range	mm	750
Length variants of the machine	mm	2,000, 3,000, 4,000, 5,000, 6,000
Maximum longitudinal lift of upper carriage Z1	mm	2,350, 3,350, 4,352, 5,350, 6,350
Maximum transverse lift of upper carriage X1	mm	782
Maximum lift of Y1 axis		+120 / -90
Maximum spindle rotation speed (short-term)	rpm	1,900 (2,500)
Tools fixing		CAPTO C6, C8, HSK 80
Angle of stepless displacement of axis B	°	± 102,5
Maximum weight of work piece	kg	3,000 (4,500)

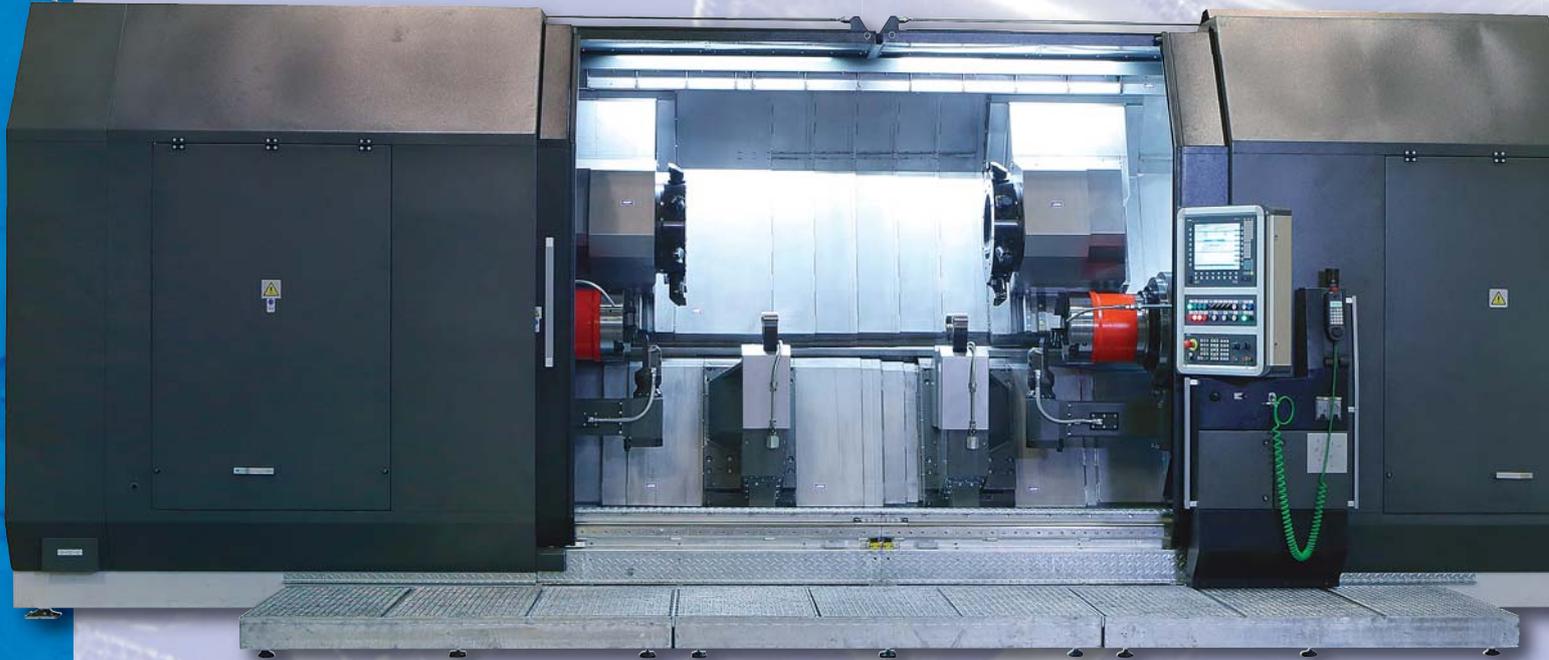


YOUR TECHNOLOGY  
ON MACHINE TOS

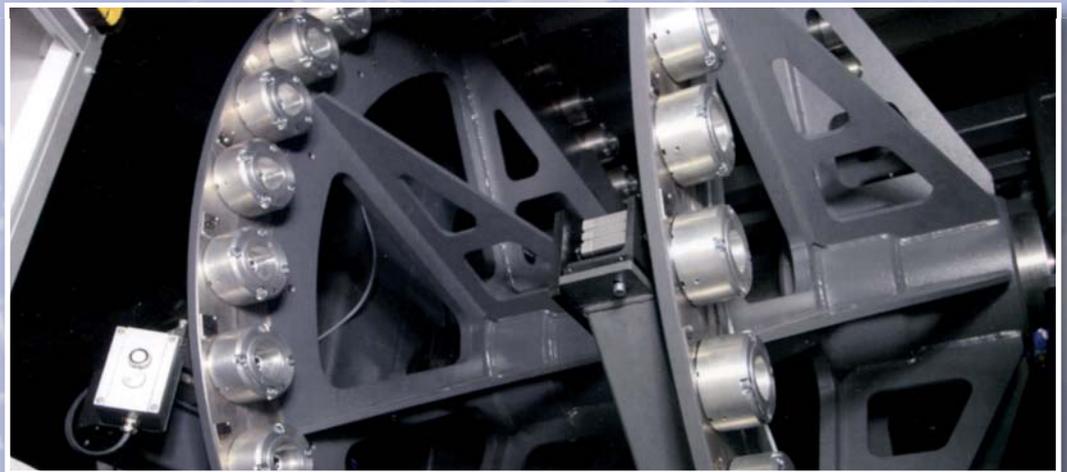
# HIGH PERFORMANCE

## Multifunctional Lathe Center

# TT 75



**Magazine  
Capacity  
up to 120  
Tools**



## COMPLEX PARTS MACHINING

## CONTROLLED MACHINE AXES - BASIC VERSION

### Axes with position link

X1 cross traverse of top left carriage

Z1 longitudinal traverse of top left carriage

Y1 cross traverse of top left carriage

R1 longitudinal traverse of tailstock

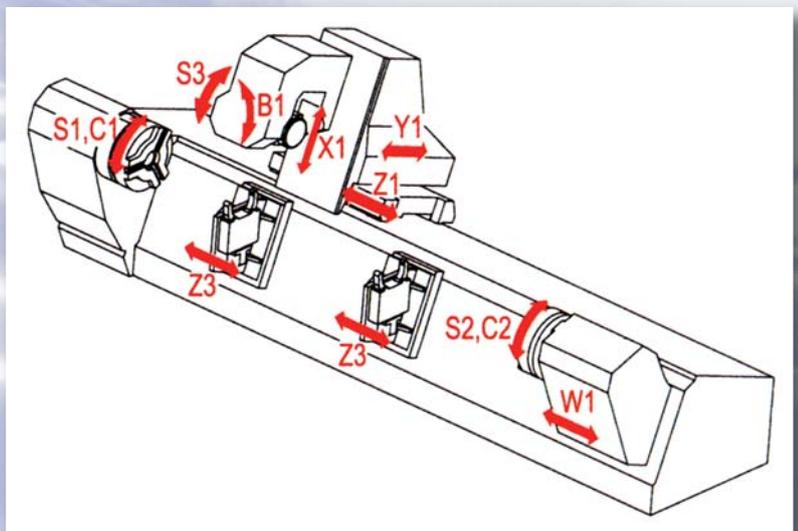
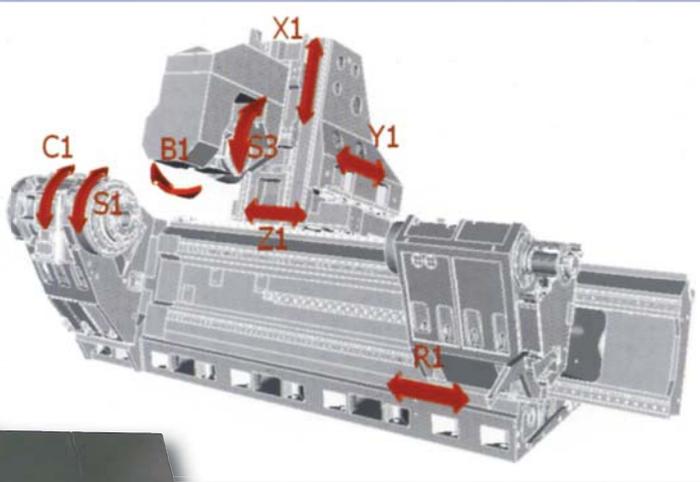
B1 angular setting of tool head

C1 precise positioning of left headstock spindle

### Axes with speed link

S1 drive of left headstock spindle

S3 drive of tool head spindle



### Another machine version with counter spindle and lower support

S2 counter spindle drive

C2 counter spindle precise positioning

W1 longitudinal traverse of counter spindle

Z3 longitudinal traverse of lower carriage



# CNC Universal Center Lathe

## SUA 63, 80, 90, 100, 125, 150, 170 Numeric

The SUA NUMERIC multi-purpose center lathe is a numerically controlled machine designed for rough turning and finishing operations of shaft and flange parts, thread cutting, boring and turning tapers and various rotary surfaces. The machine comprises of a horizontal lathe bed with rigid design. The guide surfaces of the bed are hardened and ground. The counter surfaces on the saddle are lined with Turcite B sliding compound. The SUA Numeric features an automatic cycle control, which may be fitted with the control system Siemens 840D sl, Heidenhein 620, FAGOR or FANUC.

A great advantage of the machine consists in automatic hydraulic shifting of three gears. The spindle speed can be continuously regulated within each of these three gears.

The drive of the longitudinal feed - Z axis - is ensured via a servo drive connected directly to a ball screw. The drive of machines with a turning length exceeding 3,500 mm is performed using a special carriage box with backlash elimination. The feed is ensured via a rack. The drive of the cross feed - X axis - is ensured via a servo drive connected directly to the ball screw.

The measuring of both feeds is performed by rotary transducers installed on the servomotors. For machines with long turning lengths, the Z axis feed is measured directly using linear scales. The machine can be fitted with both manually controlled tool heads and the multi-position CNC-controlled heads. In addition to this, the machine can also be equipped with a wide range of special accessories as well as custom accessories, including the chip conveyor.



## STANDARD ACCESSORIES

- Fixed lathe center 60° with nut for main spindle
- Fixed lathe center 60° for tailstock
- Main spindle reduction sleeve (1:10)
- Tool post Multifix D1 on fixed tool holder
- Cooling system
- Chip pan
- Spot light
- Universal chuck and driving plate guard with protection
- Rear guard and sliding door
- Set of tools
- Operating manual (2pcs.)
- Mechanical tailstock travel

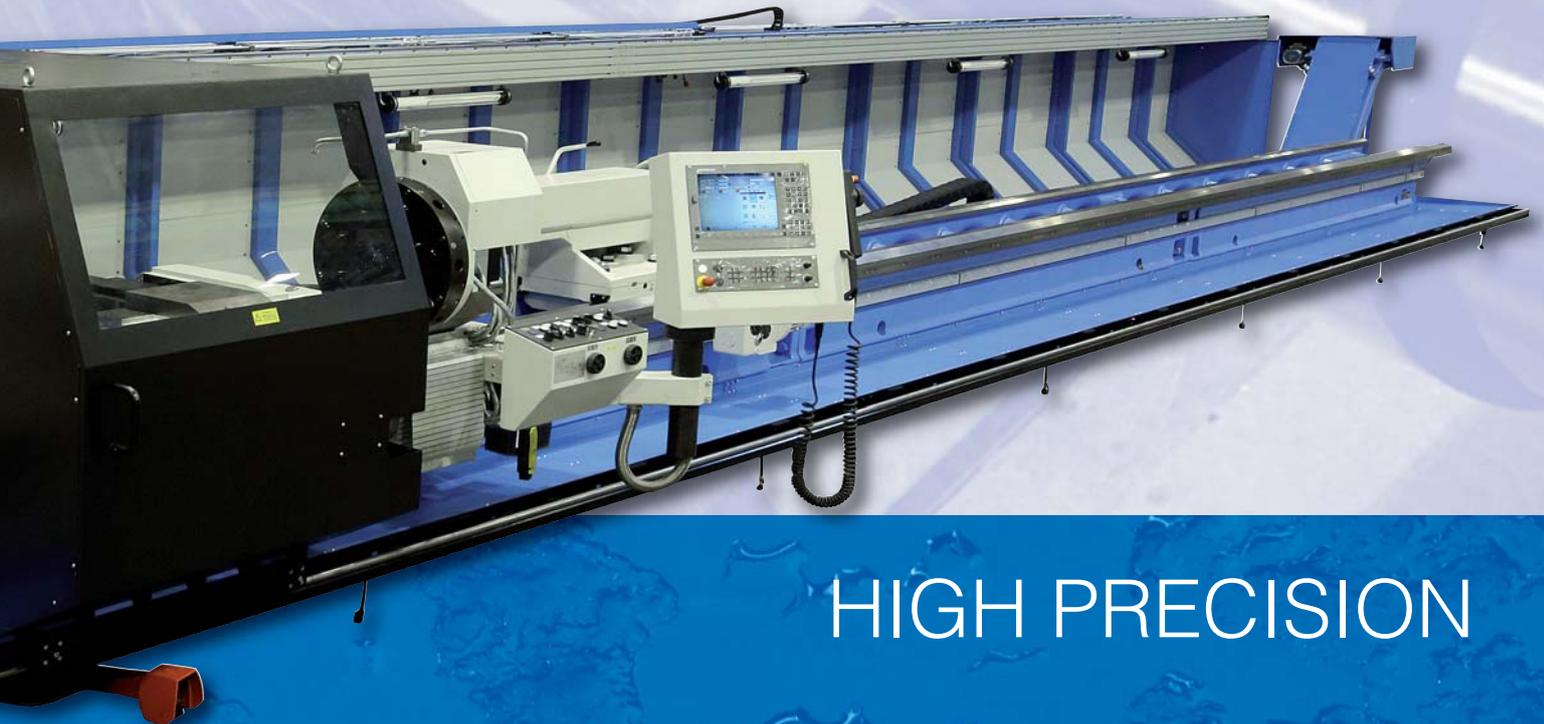
## SPECIAL ACCESSORIES

- Small fixed steady with pulleys or sliding blocks
- Large fixed steady with pulleys or sliding blocks
- Travelling steady with sliding blocks
- Universal three-jaw chuck, diameter 630 mm, with flange
- Chuck plates according to machine size
- 60° or 90° live center
- Hand- lever feed of tailstock barrel
- Tailstock feed- actuated by motor power
- Fixed lathe center 90° with nut for main spindle

- Fixed lathe center 90° for tailstock
- Anchoring material
- Boring bar holder
- Increased separation cooling capacity
- Hydraulic clamping

## OTHER MACHINE VERSIONS

- Prolonged cross slide with T-slots
- Flat hardened guide (only SUA100-170)
- Increased spindle speed
- Alternative spindle end design Camlock, ASA
- Increased spindle bore (only SUA 100-170)
- C- Axis
- Heavy tailstock (only SUA 125-170)
- Hydraulic operation of tailstock barrel
- Automatic clamping of tailstock (only SUA 100-170)



# HIGH PRECISION

# HIGH MATERIAL REMOVAL

**CNC Universal  
Center Lathe**

# SUA

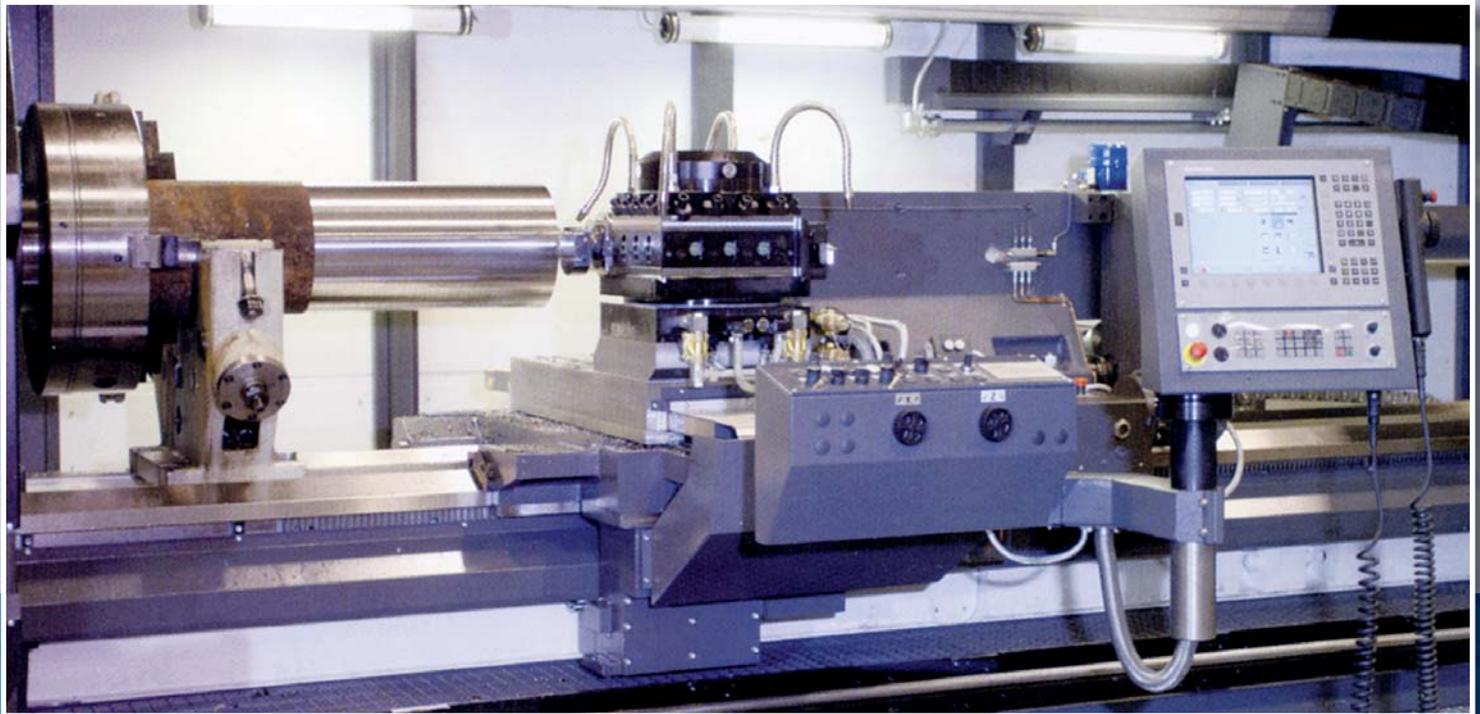


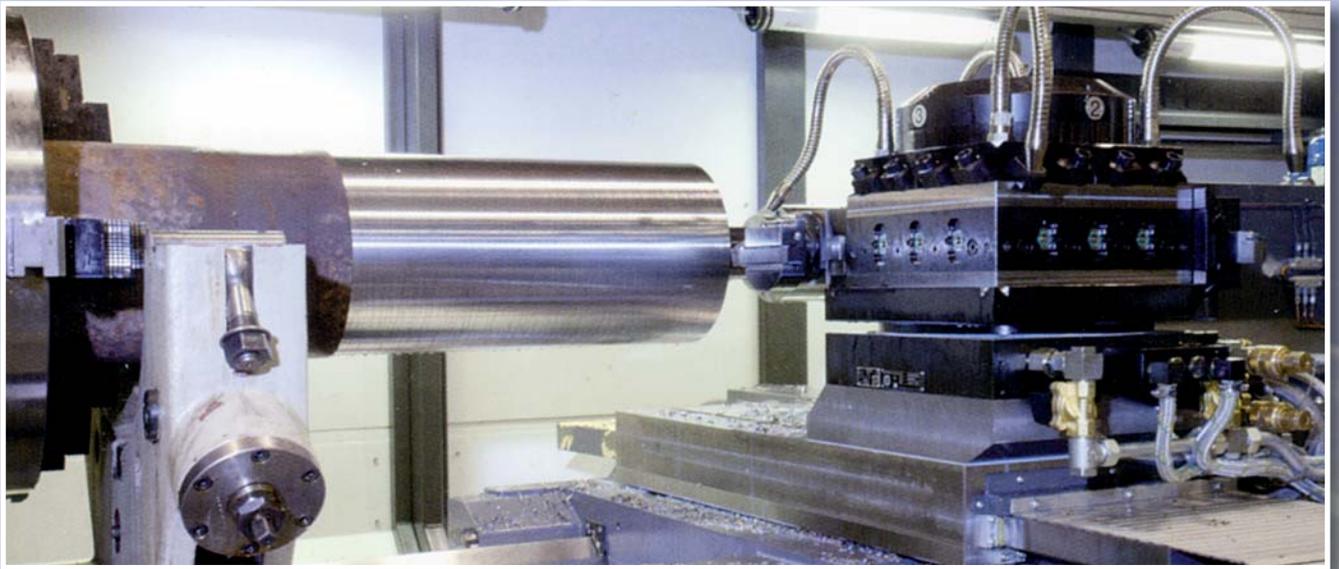
**HIGH RIGIDITY**

## Specification

SUA		63, 80 90 NUMERIC	100, 125, 150, 170 NUMERIC
<b>Operating range</b>			
Swing over bed	mm	Ø 655, 840, 900	Ø 1,050, 1,250, 1,500, 1,700
Swing over carriage	mm	Ø 380, 530, 600	Ø 720, 930, 1,190, 1,400
Swing over prolonged flat hardened cross slides with T- slots	mm	–	Ø 550, 760, 1,020, 1,230
Swing over prolonged cross slides with T-slots	mm	Ø 320, 450, 520	Ø 620, 830, 1,090, 1,300
Distance between centres	mm	2,000, 2,750 .... 14 000	2,000, 3,000, 4,000 ....20,000
Max. work piece weight in center/in fixed lathe center	kg	6,000 / 8,000	6,000 / 8,000 (* 10,000 / 14,000)
<b>Spindle</b>			
Bore	mm	102, 128	128 (165, 208, 260*)
Speed range	rpm	5–1,400; 5–1,250	4–630 (800, 1,000 only size 11*)
Main motor output	kW	30 (37*)	37 (51*)
<b>Carriage</b>			
Operating feed			
Longitudinal	mm.min-1	1–1,000	1–1,000
Cross	mm.min-1	1–1,000	1–1,000
Rapid traverse			
Longitudinal	mm.min-1	5,000	5,000
Cross	mm.min-1	5,000	5,000
<b>Tailstock</b>			
Tailstock barrel	mm	Ø 130, Ø 165	Ø 165 (*220)
Taper in tailstock barrel		MK 6	100 (1:20); [*120 (1:20)]
Travel of tailstock barrel	mm	275, 335	350
<b>Machine</b>			
Total power input	kVA	57	67
Weight	kg	4,900 – 10,000	7,400 – 12,450

\* other machine execution designs, special

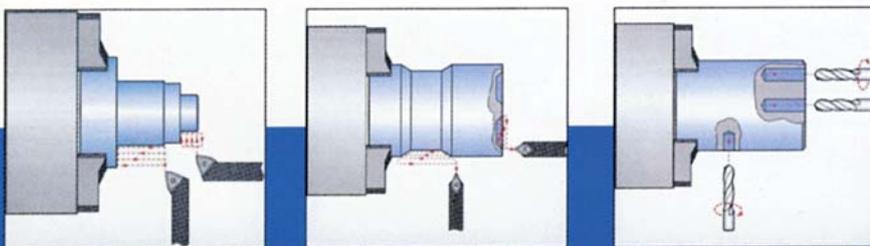




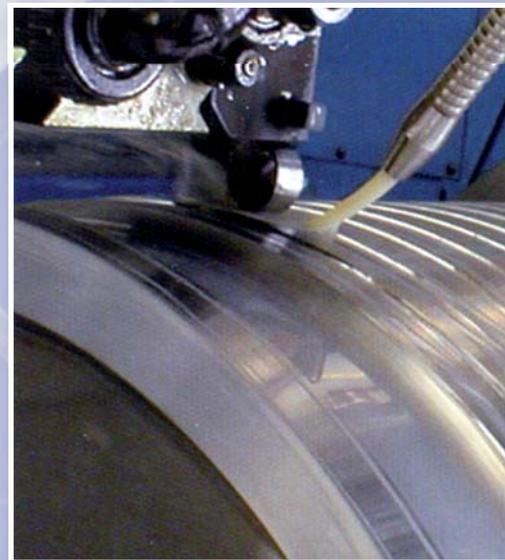
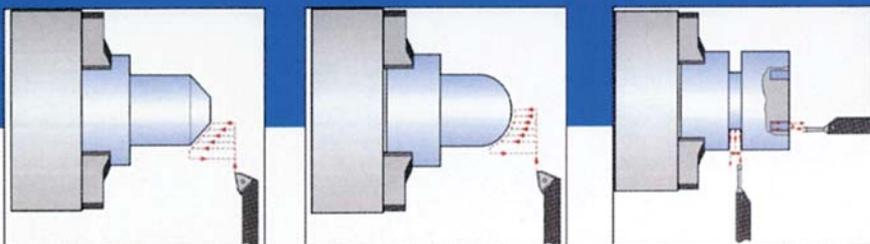
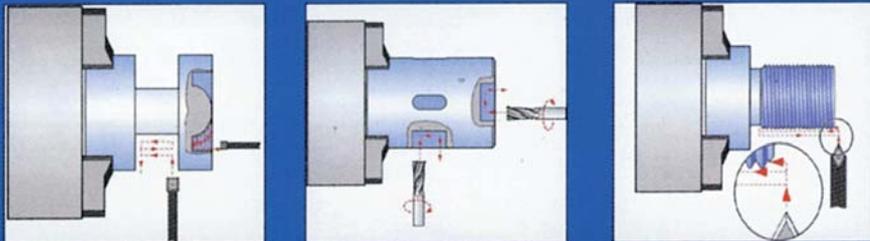
# HIGH RELIABILITY

## CNC Universal Center Lathe

# SUA

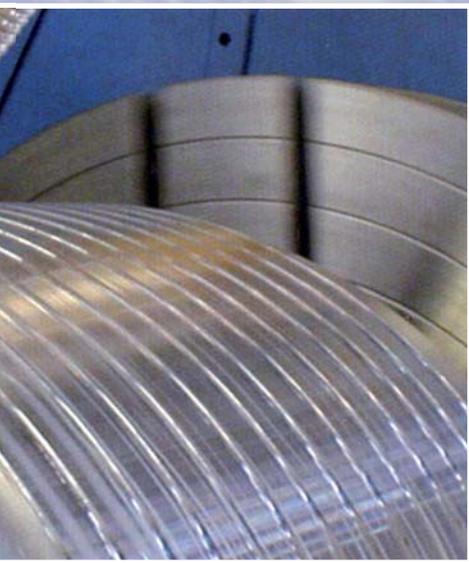
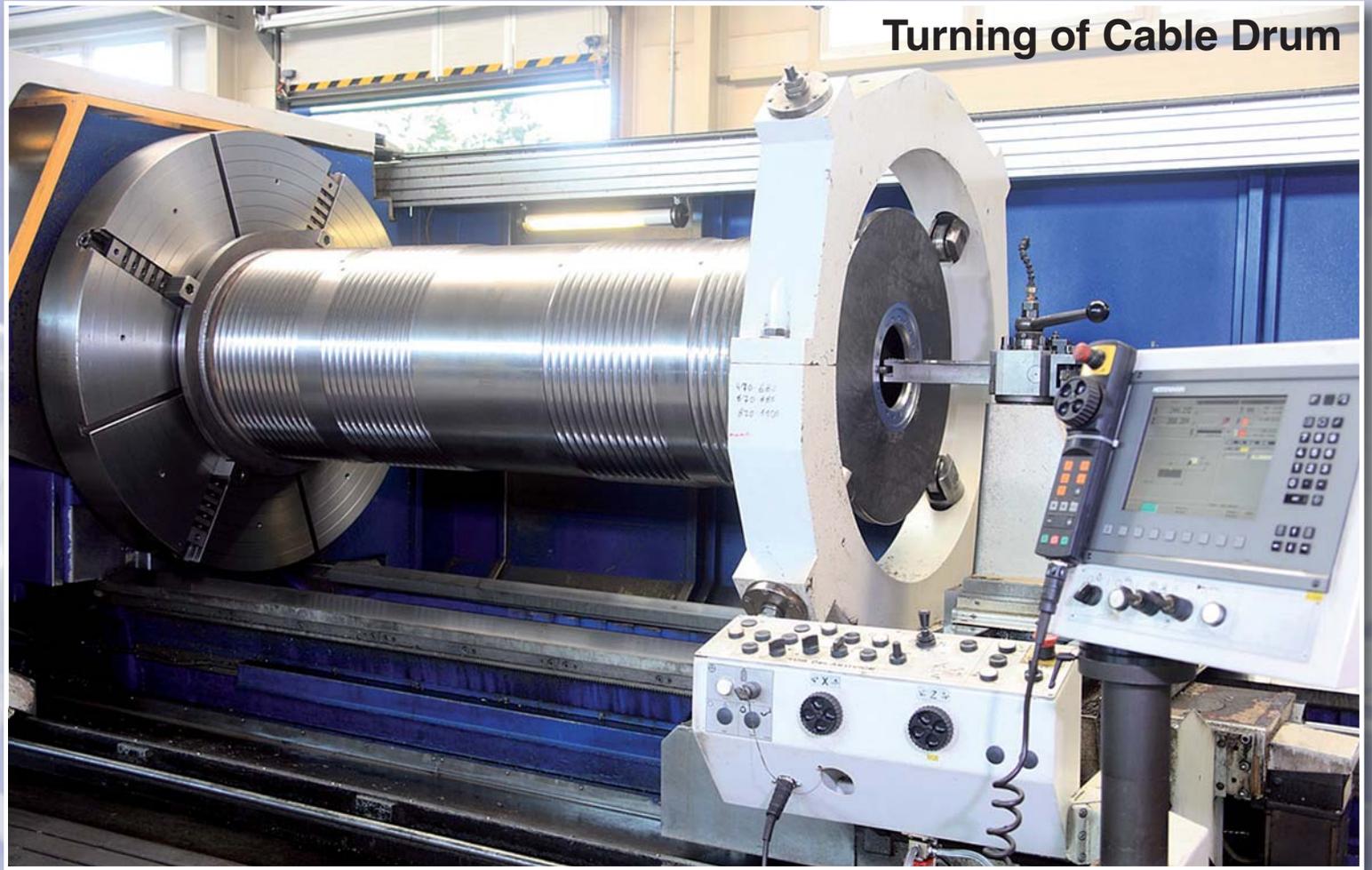


**Machining Possibilities**



# HIGH MATERI

Turning of Cable Drum



AL REMOVAL

## Universal Center Lathes – Conventional SU 63H, 80H, 100H, 125H, 150H, 155H

The universal center lathes of the SU H series are designed for rough turning and finishing operations, thread cutting and boring of shaft and flange parts. The machines allow for the processing of a wide range of parts with weights of up to 8,000 kg or 14,000 kg (special version SU 100-150 only). The headstock can hold flange type work-pieces for overhung clamping up to 1,250 kg (SU 63, 80), 1,600 kg (SU 100-155), and 2,300 kg (special design for SU 100-155 version).

The machines are suitable for single-piece or small-run production. Their versatility is enhanced by an extensive range of special accessories and designs.

The concept of the machines and their structural design meet the requirements imposed on the current machining technology with high reliability and precision levels.



## STANDARD ACCESSORIES

- Fixed spindle center
- Fixed tailstock center
- Square tool head
- Replaceable gears for feeds and threads
- Chip pan
- Supports for the lead screw and the feed shaft
- Cooling unit
- Lighting
- Cover against chips
- Interconnection cable
- Chuck and face plate cover with blocking
- Tool kit
- Operating manual Rapid traverse
- Manual tailstock travel (SU 63, 80H only)
- Mechanical tailstock travel (SU 100-155H only)

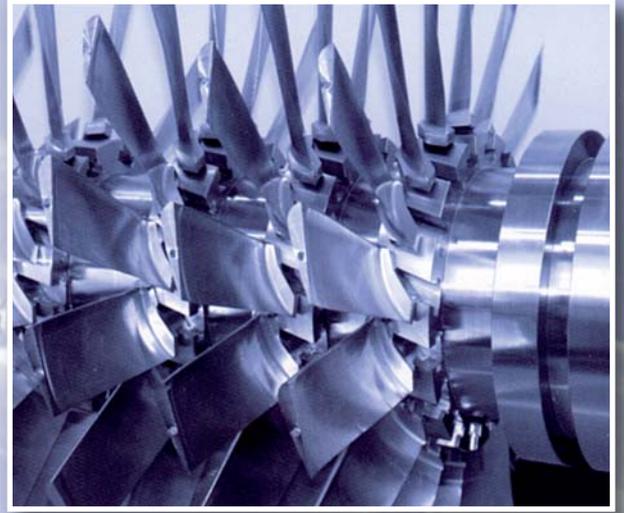
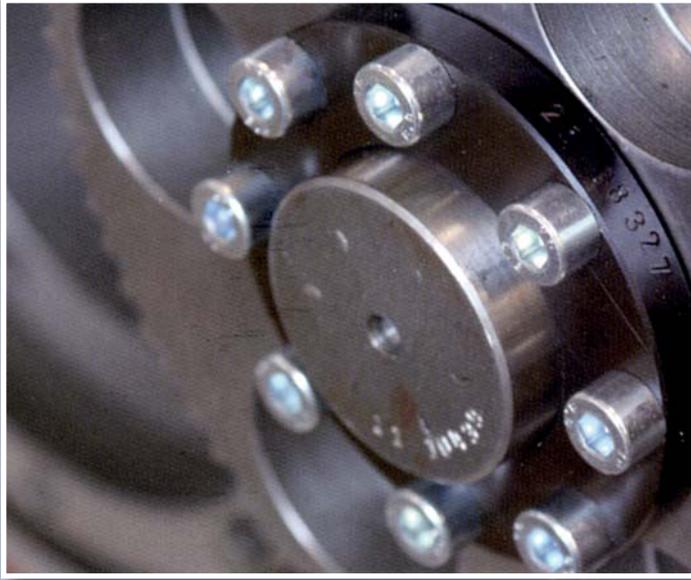
## SPECIAL ACCESSORIES

- Small fixed steady with pulleys or sliding blocks
- Large fixed steady with pulleys or sliding blocks
- Traveling steady with sliding blocks
- Longitudinal stops, cross stops (SU 63, 80H only)
- Rear tool holder with fixed head (SU 63, 80H only)
- Rear tool holder with rotary head (SU 63, 80H only)
- Face plate
- Taper turning unit
- Manual chuck diam. 630 mm with flange
- Chuck flange
- Live center MK6
- Metric live center, size 100, 120 (SU 100-155H only)
- Tailstock barrel adapter for MK6 (SU 100-155H only)
- Dial gauge for threads (metric or inch)
- Hand-lever feed of the tailstock barrel (SU 63, 80H)
- Rear cover
- Mechanical tailstock travel (SU 63, 80H)
- Version with rear wall
- Carrier plate
- Anchoring material

## OTHER MACHINE VERSIONS

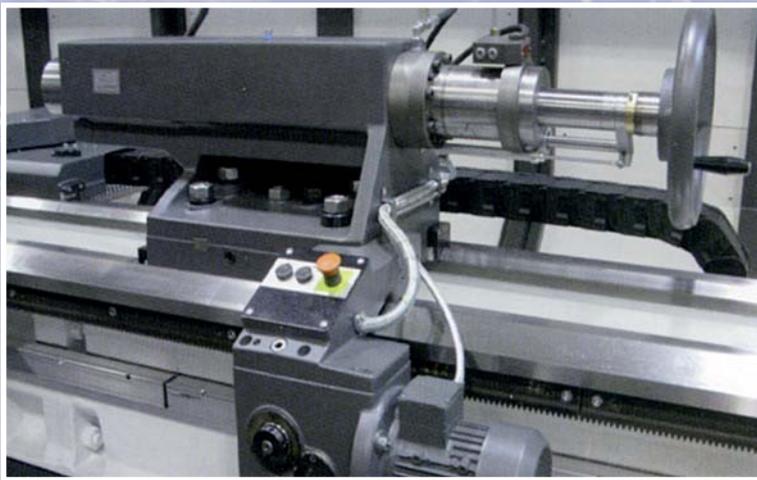
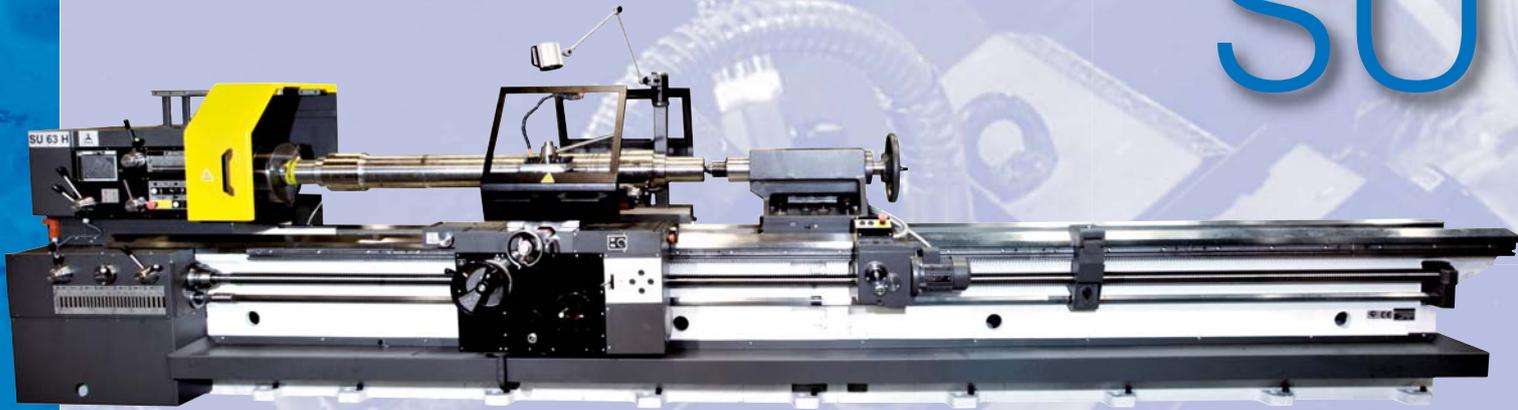
- Version with a rapid-change tool holder
- Inch version
- Version with the spindle nose for flange CAMLOCK or American standard
- Extended spindle bore 92, 102 mm (SU 63, 80H only), 165, 208, 260 mm with spindle nose 15 (SU 100-155H only)
- Version with reduced speed 3.55-900 rpm (SU 63, 80H)
- Version with increased speed 10-1,250 rpm (SU 63, 80H), 12-1,600 rpm (SU 63H)
- Version with increased speed 2.8-560 rpm (SU 125, 150H)
- Version with reduced speed 1.4-280 rpm (SU 100H) and 0.9-180 rpm (SU 125H)
- Electric equipment voltages other than 400V, 50 Hz
- Version with increased climatic resistance
- Spindle brake
- Version with plastic coated guide surfaces of the carriage
- Two-axis tool DRO (SU 63, 80H), three-axis DRO (SU 100-155H)
- Prolonged cross slide with T-slots
- Alternative tool holder design
- Machine design with chip conveyor
- Boring bar holder
- Version with heavy duty tailstock (SU 125, 150, 155H)

# HIGH PRODUCTIVITY

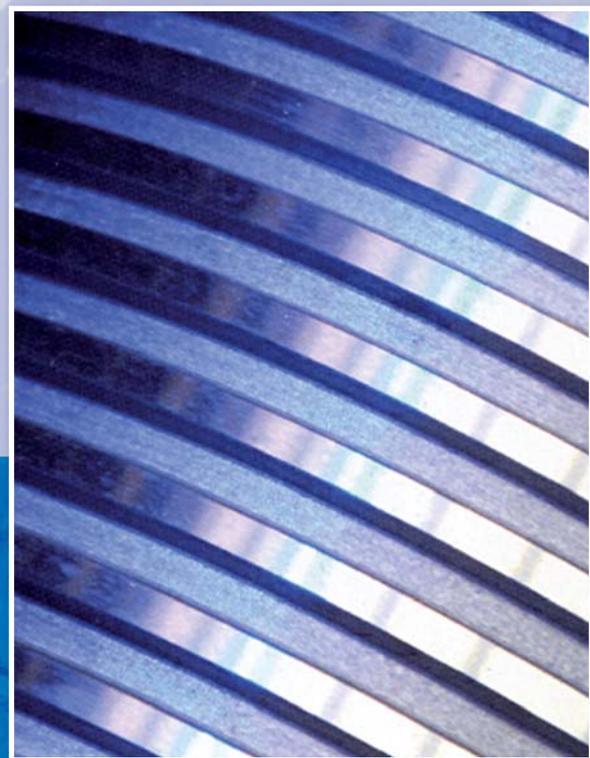


## Universal Centre Lathes

SU



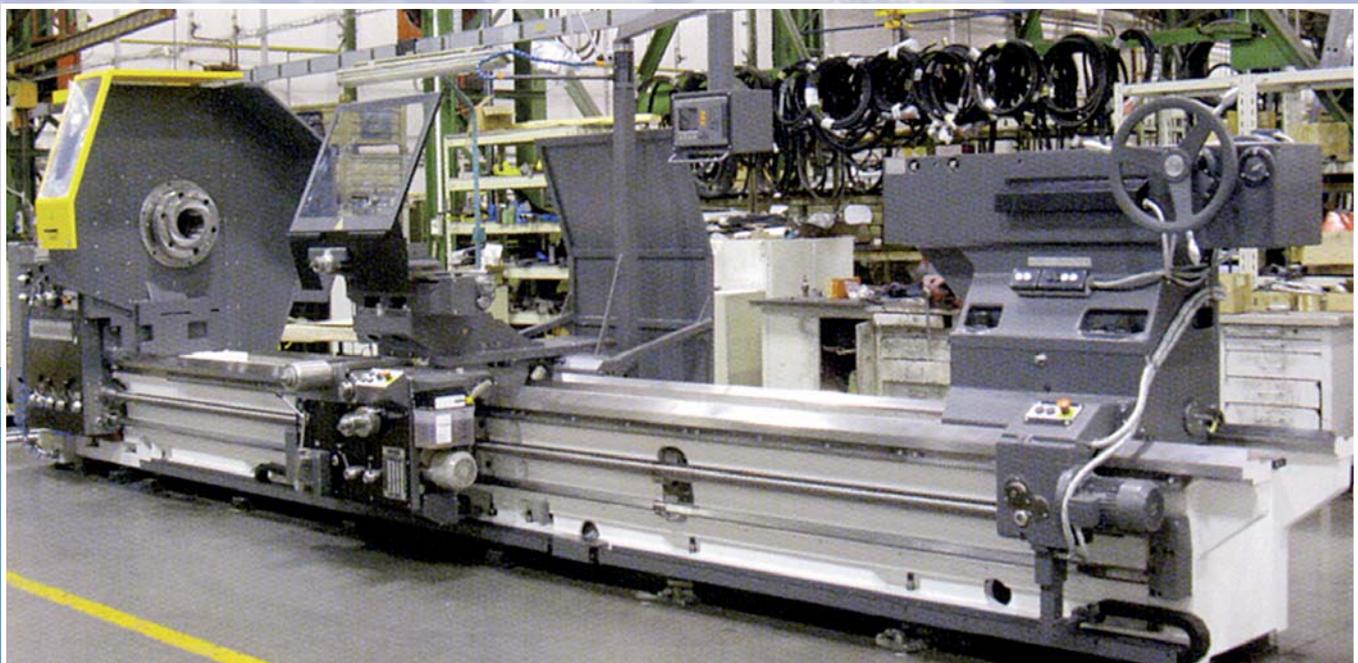
EASY OPERATION



## Specification

SU		63H, 80H	100H, 125H, 150H, 155H
Swing over bed	mm	Ø 655, 840	Ø 1,050, 1,250, 1,500, 1,570
Swing over carriage	mm	Ø 390, 530	Ø 730, 940, 1,200, 1,260
Swing cover prolonged slides with T slots	mm	Ø 320, 450	Ø 630, 840, 1,100, 1,160
Distance between centers	mm	1,250, 2,000, 2,750... 14,000	2,000, 3,000, 4,000, 5,000, ...20,000
Max. work piece weight in center/in fixed steady	kg	6,000 / 8,000	6,000 / 8,000 (*10,000 / 14,000)
<b>Spindle (ISO 702/III.) (American Standard, CAMLOCK)*</b>		Size 11	Size 11 (15*)
Bore Ø	mm	82 (92, 102*)	122 (165, 208, 260*) 260 mm A2-15 only!!
Speed range	rpm	SU 63H 7.1-900, SU 80H 9-1120 10-1,250 (22 KW*)	SU 100H 1.8-560; SU 125H 2.24-450; SU 150H 1.8-355
Main motor output	kW	18.5 (22*)	22 (30*)
<b>Carriage</b>			
Operating feed			
Longitudinal	rpm	0.049-48	0.08-56
Cross	rpm	0.0245-1,5	0.026-18.48
Rapid traverse			
Longitudinal	mm.min-1	4,300	3,600
Cross	mm.min-1	2,150	1,200
Cut thread pitch			
Metric	mm	0.5-224	1-112
Whitworth	thread/1"	56-1/4	28-1/4
Module	modul	0.25-56	0.5-28
Diametric Pitch	D.P.	112-1,2	56-1
Circular Pitch	C.P.	1/64-3½	1/16-3½
<b>Tailstock</b>			
Tailstock barrel	mm	Ø 130	Ø 150 (Ø 220*)
Taper in tailstock barrel		MK6	100 (1:20) / 120* (1:20)
Tailstock barrel extension	mm	275, 335	200 (350*)
Adapter		100 (MK6)	
<b>Heavy duty tailstock *</b>	kg	x	10,000 / 12,000 / 14,000
Total power input	kVA	20	31 (40)
Weight	kg	5,200-10,300	7,200-12,750

\* other machine versions





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