

Индикативно предложение по проведени пазарна консултация №53979  
с предмет "Доставка на машина металообработваща-струг универсален"

от

"НБИ Консорциум" ООД, ЕИК: 107526979, адрес: гр.Габрово, ул. "Батак" 31, тел.066801805, e-mail: office@nbi.bg, Христо Новомиров - Зам.Управител  
/наименование на участника, ЕИК, адрес, телефон, ел. поща, лице за контакт, длъжност/

№ по ред	ID на Възложителя	Описание и технически характеристики на предлаганото изделие	М.е.	К-во	Ед. цена без ДДС	Стойност без ДДС
		<p>Струг универсален модел Turnado 230/2000 със следните технически параметри:</p> <ul style="list-style-type: none"> <li>- височина на центрите: 230мм;</li> <li>- обработваем диаметър над направляващите: 690мм;</li> <li>- разстояние между центрите: 2000мм;</li> <li>- обороти на шпиндела: (12) 25 - 2,000 1/min;</li> <li>- бързи ходове на празен ход;</li> <li>- възможност за нарязване на различни резби, включително 19 навивки в инч;</li> <li>- система за централизирано мазане;</li> <li>- охлаждателна система;</li> <li>- локално работно осветление;</li> <li>- цифрово измерване и отчитане на размери и големина на ходове по време на работа - за оси X и Y;</li> <li>- ел.схема за подвързване - 380V, 50Hz;</li> <li>- подвижен люнет - 2 бр;</li> <li>- неподвижен люнет - 1 бр.;</li> <li>- универсален патронник самоцентриращ четиричелюстен, Ø 250мм - 1 бр.;</li> <li>- преходни конусни втулки;</li> <li>- патронник самоцентриращ Б20 с конусна опашка - 1 бр.;</li> <li>- въртящ център с морзов конус МК4 - 1 бр.;</li> <li>- неподвижен център с морзов конус МК4 - 1 бр.</li> </ul>	бр.	1	86 056.00	86 056.00
<b>Обща стойност без ДДС</b>						<b>86 056.00</b>

Срок на доставка: 5 седмици;  
Условие на доставка: франко склад на Възложителя;  
Гаранционен срок 24 месеца  
Производител KNUTH Machine Tools - Германия  
Съпроводителна документация при доставка - ръководство за експлоатация, сертификат за произход, гаранционна карта  
Документ за представителство - приложен

**Приложения:**

- технически параметри на предлаганата машина
- оторизационно писмо

Управител

Заличено на основание  
ЗЗЛД



Габрово,  
07.06.2024 год.

KNUTH Werkzeugmaschinen GmbH  
Postfach 18 46 • D-24508 Neumünster

TO WHOM IT MAY CONCERN

## Certification Letter

Dear Sir or Madam,

we herewith certify that the below mentioned company is authorized to sell the following products from company KNUTH exclusively in Bulgaria:

**NBI Consortium Ltd.**  
**31 Bata Str.**  
**5300 Gabrovo**  
**Bulgaria**

KNUTH articles:

- 1- **Art. 320557 Turnado 230/2000 Lead Screw and Shaft Lathe**
- 2- **Art. 100080 BO T 110 CNC Drill Unit**

Knuth Werkzeugmaschinen GmbH

Stamp:



Signature:

**Заличено на основание ЗЗЛД**

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# Conventional Horizontal Lathes Turnado 230/2000

**SKU : 320557**

The machines of the Turnado series are the modern version of the classic lathe. They are characterized by robust construction, a powerful motor and high level of versatility. With the extensive range of standard accessories and options, these machines can be adapted to many production requirements. A modern position indicator is also part of the standard equipment, as is a high-quality quick-change toolholder system. The models in this series have proven themselves many times and have been one of our best-selling conventional lathes for more than 20 years.

- Classic design with sturdy construction
- One-piece heavy cast bed for increased rigidity
- 3-axis position indicator with various turning functions
- Adjustable feed stops for longitudinal feed
- Extensive standard equipment package



## TECHNICAL SPECS

### WORKING AREA

Workpiece length (max.)	2000 mm
Turning-Ø over bed	460 mm
Turning-Ø over support	224 mm
Turning diameter over gap bridge	690 mm
Gap bridge length	155 mm
Bed width	300 mm
Center height	230 mm

### DETAILS

Equipment	with position indicator
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### TRAVELS

Travel X-axis	285 mm
Travel Z1-axis	128 mm
Swing range of top slide	± 52°

### HEADSTOCK

Spindle speeds	(12) 25 - 2.000 1/min
Spindle bore	58 mm
Spindle mount	Camlock D1-6
Spindle taper	6 MT

### FEED

Feed X-axis	0.014 mm/R - 0.784 mm/R
Feed Z-axis	0.031 mm/R - 1.7 mm/R

### THREADING

Threading, metric	0.1 mm - 14 mm
Threading, diametric	(50) 4-112 DP
Threading, module	0.1 mm - 7 mm
Threading, whitworth	(60) 2-112 TPI

### TAILSTOCK

Tailstock quill diameter	60 mm
Tailstock taper	4 MT
Tailstock quill stroke	120 mm
Tailstock traverse adjustment	± 13 mm

### DRIVE CAPACITY

Motor rating main drive	5.5 kW
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### MEASURES AND WEIGHTS

Overall dimensions (length x width x height)	3.25 m x 1.08 m x 1.34 m
Weight	2100 kg



## PRODUCT DETAILS

- The Turnado Series Universal Lathes are widely tested and proven and our definite bestsellers with a low price and lasting high value

### Machine bed

- A heavily ribbed machine bed, rigid headstock and a massive one-piece cast-iron stand form a solid machine base clamping feature for efficient machining
- Removable bridge allows machining of short workpieces with large diameters
- Guideways feature a v-block design and are hardened and ground for lasting precision

### Headstock/ feed gear

- The powerful main motor with stepped gears provides high torque and wide range of spindle speeds
- All gears and shafts are hardened and ground and run in an enclosed oil bath
- The large spindle capacity allows clamping of shafts and tubes with large diameters
- The high quality spindle support features optimum rigidity and preloading for high precision even under high radial and axial loads as well as long lasting performance
- A 3-jaw lathe chuck with hard reversible jaws, a 4-jaw independent chuck, and a face plate with large diameter are included in the machine's standard equipment
- The user-friendly control panel at the headstock facilitates rapid user familiarization and intuitive operation
- The feed gear offers a large number of thread leads for metric and Withworth tapping

### Support

- The support is designed extra-wide and can easily handle high machining forces
- The control lever for the feed switch and apron nut are designed for user safety with automatic safety interlocking
- The stop spindle features four adjustable cams to provide automatic linear feed shut-off
- This way, repetitive machining processes with different Z axis positions can be simplified by presetting the desired positions in the necessary sequence
- The micrometer bed stop can be used to set precise travel distance limits
- The slip coupling for the automatic feed is positioned centrally on the apron for easy adjustments
- The thread gauge and support allow reliable determination of the pitch after an interrupted tapping process, and also simplifies machining of multi-lead threads
- The top slide swivels and has large, easy to read scaling
- The large, swiveling safety cover at the support protects the user and keeps the work space clean
- A central lubrication system at the support supplies all guideways with lubrication and simplifies maintenance

### Tailstock

- The tailstock quill is equipped with a robust and easy to read scale
- The long quill stroke allows for complex drilling and centering jobs
- The tailstock can be adjusted laterally for machining of conical shafts

### Accessories

- The standard brake pedal is not only practical, but also a safety feature
- A large and sturdy splash guard on the rear of the machine ensures a clean machine environment
- A bright LED light is integrated in the support cover for optimum lighting throughout the work space
- The multi-functional quick-action tool changer system with 4 tool changer cartridges is included in the standard equipment of this series
- A steady and a live rest are a must for long workpieces and also included in the standard package
- The Turnado Lathe is equipped with the latest generation of our position indicators. Ensures high work precision, lower error rate, and increased operator safety
- A coolant system and extensive operating tools complete the equipment package

## CONTROLS & SOFTWARE

### 3-axis position indicator X.Pos 3.2

- Integrating multiple functions, this new generation of 3 axis digital readouts significantly offer a much better control over the machining processes, greatly decreasing down-times and error rates
- Integrating multiple functions, this new generation of 3 axis digital readouts significantly offer a much better control over the machining processes, greatly decreasing down-times and error rates
- It features a totally sealed enclosure made of high quality polyester film which protects it against hazardous environments in shop floors, such as dust or fumes and offers excellent chemical resistance to most commonly used industry solvents
- The optical scales provide 5 micron resolution (0.005 mm) with outside cover from aluminum for protection against oil, coolant and chips.

#### **Basic Functions**

- Resolution of 0,005 mm
- Spindle control ON/OFF
- Unit measurement conversion Inch / Metric
- Setting / Resetting current position
- Coordinate display switching ABS / INC
- Radius / Diameter display
- Z1/Z2 Axes summing
- Pocket calculator functions

#### **Extended Functions**

- Axis position is maintained when display is turned off
- Hole circle pattern calculation
- Radius / diameter toggle
- Reference function for tool gauging
- Taper turning function

#### **Constant cutting speed**

- Allows you to have constant cutting speed during - the spindle speed automatically adjusts based on the turning diameter

## **STANDARD EQUIPMENT**

3-axis position indicator X.Pos 3.2  
 Quick change tool holder head WB  
 Quick change tool holder WBD 25120  
 Adjustable feed stops  
 3-jaw chuck Ø 250 mm  
 4-jaw face plate chuck Ø 300 mm  
 Face plate Ø 350 mm  
 Follow and steady rests  
 Coolant system  
 Micrometer longitudinal stop  
 Thread gauge  
 Reducing sleeve  
 Dead center  
 Protective shield for the toolpost  
 Chuck guard  
 Foot brake pedal  
 Fixed splash guard (wall)  
 Work light  
 Toolbox with operating tools  
 Operator instructions

## **OPTIONAL EQUIPMENT**

- Set of one-piece soft jaws for 3-jaw chuck 250mm, SKU : 252315