

TIBO Tiefbohrtechnik GmbH | Benzstr. 5 | 72793 Pfullingen

TECO Tooling Pty Ltd  
121 Bittern-Dromana Road  
VIC 3926 Merricks North  
COMMONWEALTH OF AUSTRALIA

## QUOTATION

**AN200374.700**

Date 19.11.2020  
Customer 20905  
Your inquiry dated 19.11.2020  
Your sign  
Your fax 00613 86 727 836  
Your VAT-ID  
Our sign Volker Kunze  
Email kunze@tibo.com  
Page 1 of 10

Dear Sir or Madam,

We are pleased to offer you based on our sales and delivery conditions, which you can find on [www.tibo.com](http://www.tibo.com)

## PRICE OVERVIEW

pos	qty	description	unit price EUR	total EUR
1	1 pcs	Deep Hole Drilling Machine # 700		
2	1 pcs	Remote connection		
3	1 pcs	Clamping tailstock		
4	1 pcs	Drill bush and clamping cone reception		
5	1 pcs	Automatic positioning of tail stock		
6	1 pcs	precentering on linear motion guides		
7	3 pcs	Tool Steady Rest		
8	1 pcs	Coolant system 120 L/min - 1,000 L - ELB E40 // 1		
9	1 pcs	Scratch type chip conveyor		
10	1 pcs	Safety and Splash Guard		
11	1 pcs	Triple signal lamp		
12	1 pcs	Camera for process monitoring		
13	1 pcs	Machine acceptance test before delivery		
14	1 pcs	Warranty		
<b>Total</b>				<b>215.000,00</b>
16	1 pcs	Installation, Commissioning and Training invoiced at cost		
17	1 set	Accessories will be offered upon request		

## OPTIONS

15 1 pcs Toolbox 2.980,00

pos	qty	item description	unit price EUR	total EUR
-----	-----	------------------	----------------	-----------

**DETAILED QUOTATION**

1      1 pcs    *mc000700*  
**Deep Hole Drilling Machine # 700**  
 E40 // 1-1000

Manufacturer                      TIBO Tiefbohrtechnik GmbH  
 Manufactured in                  Germany

Method                                Rotating tool and counter-rotating workpiece

Drilling method                    gundrilling (ELB)

**Machine data**

Spindle number                    1  
 Solid drilling Ø                    5 - 40 mm in steel  
 Drill depth                         1,000 mm

Spindle drive                      17 kW Siemens SINAMICS 1PH8  
 Spindle speed                    200 - 6.000 min<sup>-1</sup>, infinitely variable  
 Feed                                  10 - 500 mm/min, infinitely variable  
 Rapid traverse                    4,500 mm/min

Operating current                 3 AC, 400 V/50 Hz  
 Connected load                    29 kW

Space required                    see layout  
 Machine weight                    (approx. 6,200 kg) depending on  
 machinery equipment

pos	qty	item description	unit price EUR	total EUR
-----	-----	------------------	----------------	-----------

**Basic machine consisting of**

Machine frame

of powerful, torsion-resistant welded construction with circumferential coolant groove and drainage into the coolant system. Linear guides are mounted along the entire length of the machine frame.

Deep-drilling unit

mounted with guide carriages on the linear guides. The feed motion is executed by means of a ball screw spindle with a Siemens AC servo motor and upstream planetary gearbox.

Drilling spindle unit

with precision bearings.

There is a central through bore in the drill spindle to supply the coolant, and a drill oil feed installed at the end of the spindle (including a flow divider for multi-spindle versions). The spindle drive unit uses a Siemens SINAMICS spindle motor and toothed belt drive mounted to the spindle in a fixed drive housing.

Movable drill bush holder carriage

mounted on a guide carriage on the linear guides. The movable drill bush holder carriage is of powerful, rigid welded construction for accommodating drill guide and sealing elements. It is equipped with a foldable observation window in its cover. The removal of coolant and chips in the chip conveyor/chip basket is performed by means of a chip discharge mounted on its reverse side and equipped with additional flushing supply to avoid chip congestion during outflow.

Sliding the drill bush holder carriage right or left allows excessively long workpieces or drills to be clamped.

Tailstock slide / Slide for clamping devices

mounted on guide carriages on the linear guides. It can accommodate clamping devices or a tailstock rotating in the opposite direction to the drill spindle, and its position can be adjusted along the linear guides. The clamping stroke in Z+ is performed hydraulically. Clamping speed and force can be adjusted steplessly.

Stroke = 50 mm.

pos	qty	item description	unit price EUR	total EUR
-----	-----	------------------	----------------	-----------

**Electrical equipment**

in a separate Rittal control cabinet with a circuit diagram container of sheet steel built into the door and a Rittal wall-mounted refrigerating unit. The control cabinet is illuminated with an LED lighting system.

Its design complies with VDE directives, and it includes all switching functions for manual and automatic functional sequences and a safety integrated function for safely switching off the Z axis, the spindle drive, and the coolant pump.

**Electrical control**

by means of a programmable logic control system (PLC) and HMI Touch panel with 15" TFT wide-screen display, installed in the control panel

in front of the machine for operation and monitoring of the system. The control panel can be slid along a linear guide mounted on the machine frame along the entire work area in front of the machine.

Input and display of:

- spindle speed
- spindle power (consumption)
- drilling depth and remaining drilling depth
- feed rate
- feed power (consumption)
- feed reduction for spudding or drilling through
- dwell time
- workpiece counter
- coolant pressure
- override for speed, feed, and coolant adjustment
- process parameter monitoring
- error messages and warning on clear text display
- (pressure, coolant, filter, etc.)
- error history on clear text display
- allocation of access privileges for various user levels

pos	qty	item description	unit price EUR	total EUR
-----	-----	------------------	----------------	-----------

**Documentation**

Duplicate copies (one paper, one digital) in compliance with CE regulations

consisting of:

- operating and maintenance manual
- transport plan and instructions
- machine plan
- tool plan
- circuit diagrams for the electrical system, schematics for hydraulics and pneumatics, if the corresponding systems are included in delivery.
- lubrication plan
- parts list
- assembly drawings
- declaration of conformity with CE

**Machine paint**

- RAL 7035 (light grey): Control cabinet, Tailstock, drilling bush holder carriage/BOZA,
- RAL 7016 (anthracite): Full machine enclosure (doors light grey),
- drill unit, coolant system, chip conveyor (if included in delivery)

For our systems, we only use proprietary brands such as Alpha Wittenstein, Bosch, Brinkmann, Euchner, FAG, Hydac, INA, Moog, Parker, Rittal, Schneeberger, SEW-Eurodrive, Siemens, etc.

2	1 pcs	<i>onf-ebmc</i> <b>Remote connection</b> for E- and B-machines		
---	-------	--	--	--

Online access to memory:

- Display, edit and save cutting datas for up to 2,000 drill holes

Remote diagnosis:

- Readout of error messages, input/output of PLC and error codes on frequency converters

Access is via customer provided LAN or VPN network and an Ethernet cable to the control cabinet.

pos	qty	item description	unit price EUR	total EUR
3	1 pcs	<p><i>e401-ws</i>  <b>Clamping tailstock</b>                      for 1 spindle m/c</p> <p>The clamping tailstock is mounted on the tailstock slide. For reducing the centerline deviation during the drilling process the tailstock spindle is rotating in opposite direction to the drill spindle.                      Motor: SEW gearmotor                      Speed: 100 rpm                      Alt. available as an option: Infinitely variable speed</p>		
4	1 pcs	<p><i>e401-bosp-f</i>  <b>Drill bush and clamping cone reception</b>                      rotating, 1-spindle, drill-Ø up to 48mm                      mounted to the drill bush holder.                      For receiving the clamping cone and the drill bush holder which can be exchanged vpreery quickly due to a preloaded spring.</p>		
5	1 pcs	<p><i>emc-wsel</i>  <b>Automatic positioning of tail stock</b>                      - upgrade from hydraulic to ball screw positioning                      The tail stock is driven by a ball screw and can be positioned in any position by the program.</p>		
6	1 pcs	<p><i>vzf01</i>  <b>precentering on linear motion guides</b>                      The height of the pre centering prisms can be adjusted to a part diameters of up to Ø230mm.                      For easy moving they are mounted on the linear motions guides but if not needed they can be quickly removed.</p>		
7	3 pcs	<p><i>e401-damp</i>  <b>Tool Steady Rest</b>                      for support of long tools</p> <p>The tool steady rest is built on the linear guides with a guide carriage. It is automatically positioned at the initial position after each drilling cycle and can be quickly and easily removed from the linear guides when not needed.</p>		

pos	qty	item description	unit price EUR	total EUR
8	1 pcs	<p><i>KA1,0-120/7,5</i>  <b>Coolant system 120 L/min - 1,000 L - ELB E40 // 1</b>                      For coolant: deep hole drilling oil</p> <p><u>The coolant system is including the following components:</u>                      - Coolant tank with a total capacity of 1,000 L - separated by bulkhead plates into a clean and dirty-oil part.                      - High pressure pump with a flow rate of max. 120 L/min.                      The flow rate can be selected as required to get the optimal coolant quantity depending on the tool.                      - Paper tape filter for filtration of the coolant with a filter fineness of 35 µm.                      - Slush pump for the drill bush bracket.</p>		
9	1 pcs	<p><i>eccs-1m5</i>  <b>Scratch type chip conveyor</b>                      for Exx // x-1000/1500</p> <p>The direction of rotation (left- or right-hand) can be selected via the control panel.                      The chip conveyor can additionally be operated in programable cycles in order to reduce the loss of oil due to the chip evacuation.</p>		
10	1 pcs	<p><i>emc-fg1m</i>  <b>Safety and Splash Guard</b>                      for Exx // x-1000 and B80-1000</p> <p>The safety and splash guard is equipped with sliding doors covering the complete workpiece- and drilling area of the machine. On the operator's side of the machine the doors include surface-hardened composite glass panes. With opened doors there is much space for loading / unloading the machine even via an overhead crane. The doors are automatically locked when the drilling process is started. Additional removable covers on the backside and on the side ends are available for maintenance works.                      The working area inside of the machine enclosure is illumanted by two LED lights.</p>		

pos	qty	item description	unit price EUR	total EUR
11	1 pcs	<p><i>etmcsignal</i>  <b>Triple signal lamp</b>                      Green / Orange / Red</p> <p>By constantly showing the status of the machine with the signal lamp it is ensured that the reaction time in case of male function is reduced to a minimum.                      The three different colors clearly show predefined processes.</p> <ul style="list-style-type: none"> <li>- Green: Machine cycle in operation</li> <li>- Orange: Set up mode</li> <li>- Red: Malfunction, not operating</li> </ul>		
12	1 pcs	<p><i>cam-eb</i>  <b>Camera for process monitoring</b>                      Viszualisation via Touch Panel                      depending on the position of the camera different processes can be shown on the touch screen panel                      If needed the operator can adjust the process immediately</p>		
13	1 pcs	<p><i>mcabn</i>  <b>Machine acceptance test before delivery</b>                      to be performed in our premises in 72793 Pfullingen, Germany, following our regulations for function testing.</p>		
14	1 pcs	<p><i>gew12</i>  <b>Warranty</b>                      The warranty period shall be 12 months from the commissioning date, but no longer than 14 months from the date of the pre-acceptance test at Tibo took place.</p> <p>Please note that the warranty obligation expires if the machine installation will not be carried out by our technicians.</p> <p>The warranty of the machine expires if interventions, modifications or repairs will made on the machine.                      During the warranty period repairs and modifications at the machine may only be made by Tibo employees.</p>		
<b>Total</b>				<b>215.000,00</b>



pos	qty	item description	unit price EUR	total EUR
15	1 pcs	<i>as an option</i> tool-box <b>Toolbox</b> Softwareprogramm for PC Program your Tibo machine simply from your office with a state-of-the-art editor by using your PC  - Machine connected via Ethernet - Runs on Windows 7 & 10 - Remote programming - Production statistics - Performance comparisons - Predictive maintenance  Access is via customer provided LAN or VPN network. Required: Ethernet cable to cabinet provided by customer.	2.980,00	
16	1 pcs	<i>sem00112</i> <b>Installation, Commissioning and Training invoiced at cost</b> at customers site according our "Installation And Service Charge Rates". Duration of training is at least 1 working day (8 hours) and contains instruction of customer's personell in operating, changeover and maintenance works of the machine.		

pos	qty	item description	unit price EUR	total EUR
17	1 set	<i>mcallg</i> <b>Accessories will be offered upon request</b> as well as deep hole drilling oil depending on Workpiece OD and drill diameter. Therefore please provide drill-Ø, length and according workpiece OD for each workpiece separately.		

subject to being unsold, details without obligation  
Validity of quotation: December 31st 2020

delivery date: By arrangement after receipt of the written order, down payment and clarification of technical details.

shipping conditions: FCA 72793 Pfullingen, GERMANY, [Incoterms 2010]

payment terms: 1/3 with the order,  
2/3 after positive acceptance test at TIBO  
before shipment, each net without deduction

We would be pleased if our offer meets your approval.

With kind regards,

TIBO Tiefbohrtechnik GmbH

i. A.Volker Kunze  
(electronically created, valid without signature)