



TIBO Tiefbohrtechnik GmbH | Benzstr. 5 | 72793 Pfullingen

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

**QUOTATION**

**AN200375.701**

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  
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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 # 701 E40-1-1000		
2	1 pcs	Remote connection		
3	1 pcs	Clamping tailstock		
4	1 pcs	Drill bush and clamping cone reception		
5	3 pcs	Tool Steady Rest		
6	1 pcs	Workpiece pre-centring-device		
7	1 pcs	Coolant system 120L/min-1000L-ELB E40-1		
8	1 pcs	Scratch type chip conveyor		
9	1 pcs	Safety and Splash Guard		
10	1 pcs	Warranty		
11	1 pcs	Machine acceptance test before delivery		
<b>Total</b>				<b>185.000,00</b>
12	1 pcs	Installation, Commissioning and Training invoiced at cost		
13	1 set	Accessories will be offered upon request		

pos	qty	item description	unit price EUR	total EUR
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**DETAILED QUOTATION**

1      1 pcs    *mc000701*  
**Deep hole drilling machine # 701**  
 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

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**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 removable 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.

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**Electrical equipment**

in a separate Rittal control cabinet, L x W x H=1,200 x 500 x 2,000 mm 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

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**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):

Machine frame, control cabinet

RAL 7016 (anthracite):

Full machine enclosure, tailstock, drilling bush holder carriage/BOZA, deep-drilling 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

*onf-ebmc*

**Remote connection**

for E-/B-machines

Remote diagnosis:

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

Online access to memory:

- Display and edit cutting datas for up to 500 workpieces

Access is via customer provided LAN or VPN network.

Required: Ethernet cable to cabinet provided by customer.

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                      mounted on tailstock slide.                      For reducing of centerline deviation during drilling process                      the tailstock spindle is in counterrotating the workpiece.                      Motor: SEW gearmotor                      Speed: 100 rpm                      Alternatively available as an option: Infinitely variable speed.</p>		
4	1 pcs	<p><i>e401-bosp</i>  <b>Drill bush and clamping cone reception</b>                      rotating, 1-spindle, drill-Ø up to 48mm                      mounted on the drill bush bracket for reception of axial spring                      mounted drill bush holder and the rotating interior clamping cones,                      resp.                      a jaw chuck or similiar, depending on workpiece geometry.</p>		
5	3 pcs	<p><i>e401-damp</i>  <b>Tool Steady Rest</b>                      for support of long tools                      including hauling system</p>		
6	1 pcs	<p><i>emc01-prze</i>  <b>Workpiece pre-centring-device</b>                      1 set containing 2 pcs supporting prisms                      which are adjustable in height according to                      workpiece diameters up to Ø160 mm.                      Further sizes available upon request</p>		
7	1 pcs	<p><i>KA1,0-120/7,5</i>  <b>Coolant system 120L/min-1000L-ELB E40-1</b>                      For coolant: deep hole drilling oil</p> <ul style="list-style-type: none"> <li>• Coolant tank separated in clean and dirty oil tank with a total capacity of 1.000L</li> <li>• High pressure pump with a max. flow rate of max. 120l/min. The flow rate can be selected as required to get the optimal coolant quantity depending on the tool</li> <li>• Paper tape filter for filtration of the coolant with fineness of filtration 35µm</li> <li>• Slush pump for drill bush bracket</li> </ul>		
8	1 pcs	<p><i>eccs-1m5</i>  <b>Scratch type chip conveyor</b>                      for EXX-1000/1500                      Selecting of right/left-hand drive via machine control.</p>		

pos	qty	item description	unit price EUR	total EUR
9	1 pcs	<p><i>emc-fg1m</i>  <b>Safety and Splash Guard</b>                      for E/B-1000                      with sliding doors covering complete work piece and drilling area of the machine and surface-hardened composite glass                      panes at operator's side of machine. With opened doors there is much space for loading/unloading even via overhead crane. Doors are automatically locked when drilling process is started. Additional removable covers on the backside and on the side ends are available for maintenance works.                      The working area inside the machine enclosure is illuminated by an LED.</p>		
10	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>		
11	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>		
<b>Total</b>				<b>185.000,00</b>

pos	qty	item description	unit price EUR	total EUR
12	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.		
13	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)