

TIBO Tiefbohrtechnik GmbH | Benzstr. 5 | 72793 Pfullingen

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

## QUOTATION

**AN200376.702**

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 # 702 B80-2000		
2	1 pcs	Remote connection		
3	1 pcs	Split Bush Tool Connection Size 6		
4	1 pcs	Clamping tailstock		
5	1 pcs	3-jaw chuck Ø 315mm		
6	1 pcs	Carriage for vibration damper with clamping-Ø 180 mm		
7	1 pcs	Pneumatic Vibration Damper size 2		
8	1 pcs	Workpiece pre-centring-device		
9	4 pcs	Tool Steady Rest		
10	1 pcs	Coolant Pressure Head (TIBO-BOZA)		
11	1 pcs	Coolant system 350l/min - 2.500l		
12	1 pcs	Central lubrication unit for E-/B-series machines		
13	1 pcs	Hinge band chip conveyor		
14	1 pcs	Safety and Splash Guard		
15	1 pcs	Conversion kit for gundrilling for B80		
16	1 pcs	Warranty		
17	1 pcs	Machine acceptance test before delivery		
<b>Total</b>				<b>340.000,00</b>
19	1 pcs	Installation, Commissioning and Training invoiced at cost		
20	1 set	Accessories will be offered upon request		
<b>OPTIONS</b>				
18	1 pcs	Refrigerating machine 17,4 kW	14.460,00	

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

**DETAILED QUOTATION**

1 1 pcs *mc000702*  
**Deep hole drilling machine # 702**  
 B80-2000

Manufacturer TIBO Tiefbohrtechnik GmbH  
 Manufactured in Germany

Working method rotating workpiece or rotating tool  
 and counter rotation

Drilling method BTA-System (STS) / pushing and pulling  
 and gundrilling\*

**Machine data**

No. of spindles 1  
 Solid drilling Ø 18-80 mm in steel  
 10-40 mm\*

Drill dept 2.000 mm

Spindle drive 28 kW Siemens SINAMICS 1PH8  
 Spindle speed max. 1.800 rpm, infinitely variable  
 Feed 10 - 500 mm/min, infinitely variable  
 Rapid traverse 4.500 mm/min

Operating current 3 AC, 400V/50Hz  
 Connected load approx. 70 kW

Space required see layout  
 Machine weight (approx. 9.000 kg) depending on  
 machinery equipment

\*when using the optionally available conversion kit for gundrilling  
 on B80-series.

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

**Basic machine consisting of**

Machine bed

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. Feed can be fed in infinitely in the machine control.

Spindle unit

The drill spindle in a solid cast casing is equipped with high precision spindle bearings and a lifetime lubrication. Spindle nose with spindle head according to DIN55021 and through bore for chip exhaust / delivery of coolant. Spindle drive unit with Siemens SINAMICS spindle motor and toothed belt to spindle in solid drive casing.

Chip discharge

with wear piece and cover for drill tube exchange without dismantle of the chip discharge as well as fast clearing in case of chip jam.

Pressure Head Carriage

mounted with guide carriages on the linear guides. The pressure head carriage comes with a housing to accommodate the pressure head (BOZA). The pressure head carriage is clamping the workpiece hydraulically. Clamping speed and clamping force can be set up infinitely. Clamping stroke = 200 mm, including hydraulic aggregate. Sliding the pressure head carriage right or left allows excessively long workpieces or drills to be clamped.

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

### Electric Equipment

in a separate Rittal control cabinet, L x W x H=1.600 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

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

**Machine paint**

RAL 7035 (light grey):

RAL 7016 (anthracite):

Machine frame, control cabinet  
Full machine enclosure, tailstock,  
drilling bush holder carriage/BOZA,  
deep-drilling unit, Coolant system,  
chip conveyor  
(if included in delivery)

**Documentation**

One copy 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

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	<i>hsp22-82</i> <b>Split Bush Tool Connection Size 6</b> dwg. 3.050.2307.06 tube-Ø 22-82 Without inserts and sealing rings depending on drilltube diameter		
4	1 pcs	<i>b80-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. Prepared for reception of 3-jaw chucks or clamping cones. Motor: SEW gearmotor Speed: 45 rpm		
5	1 pcs	<i>3bf-315-6</i> <b>3-jaw chuck Ø 315mm</b> for mounting on workpiece tailstock		
6	1 pcs	<i>b80-damp1</i> <b>Carriage for vibration damper with clamping-Ø 180 mm</b> for supporting and guiding of drill tubes Dampener carriage will be at best position for drilling operation and will be dragged to original position in reverse move automatically.		
7	1 pcs	<i>schwidagr2-pn</i> <b>Pneumatic Vibration Damper size 2</b> for drill tube Ø 22-82 mm for rotating tools, clamping-Ø 180 mm Clamping pressure adjustable during operation via control unit mounted on machine control. Without damping cones depending on drill tube diameter		
8	1 pcs	<i>b80-prze</i> <b>Workpiece pre-centring-device</b> set of 2 pcs adjustable in height for different work piece diameter		
9	4 pcs	<i>e401-damp</i> <b>Tool Steady Rest</b> for support of long tools including hauling system		
10	1 pcs	<i>btaz0006</i> <b>Coolant Pressure Head (TIBO-BOZA)</b> rotating; drill range 25-100mm Head Ø 250x175mm; clamping-Ø 180x250 mm without reduction or accessories depending on boring diameter		

pos	qty	item description	unit price EUR	total EUR
11	1 pcs	<p><i>KA2,5-350/15</i>  <b>Coolant system 350l/min - 2.500l</b>                      For coolant: deep hole drilling oil</p> <ul style="list-style-type: none"> <li>• coolant tank divided into clean oil and dirty oil tank with a total capacity of 2.500l</li> <li>• high pressure pumps with a delivery of max. 350 l/min can be selected in the control system to allow flow rates as required by tool type</li> <li>• filtration of the coolant by paper type filtration unit filter grain size 50µm</li> <li>• designed for deep hole drilling oil</li> </ul>		
12	1 pcs	<p><i>ebmc-zs</i>  <b>Central lubrication unit for E-/B-series machines</b>                      - central lubrication unit with metal tank and level indicator                      - preset to 25 bar working pressure                      - piped and installed for lubrication of feed drive spindle and linear guides of drill spindle as well as linear guides of clamping unit                      - lubrication interval set up via control unit</p>		
13	1 pcs	<p><i>b80-c3m</i>  <b>Hinge band chip conveyor</b>                      for B80-2M2/3M</p>		
14	1 pcs	<p><i>emc-fg2m2</i>  <b>Safety and Splash Guard</b>                      for E/B-2000                      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>		
15	1 pcs	<p><i>b80-elb</i>  <b>Conversion kit for gundrilling for B80</b>                      Accessories kit for fast conversion of a B80 machine into a gundrilling machine. Also the BTA tool steadies can be exchanged for gundrilling tool steadies.</p>		

## Machine Data

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

Drilling method ELB, gundrilling  
 Drill diameters 10-40 mm in steel  
 RPM max. 4.000 rpm infinitely variable

The accessories kit consists of:

- Drill bush holder including exhaust for quick change against the pressure head on the guiding carriage
- Drill bush and clamping cone reception, rotating
- Rotary coolant introduction for up to 120l/min to be mounted at the rear end of the drill spindle
- BTA exhaust can be moved/slided away for fast mounting of gundrilling accessories
- additional controlled piston pump for gundrilling
- Short taper reception for gundrilling tools with sleeve Ø25x70mm
- Conversion time from gundrilling to BTA (and vice vers) approx. 35min.
- Chip conveyor as extended design

16 1 pcs

*gew12*  
**Warranty**

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.

Please note that the warranty obligation expires if the machine installation will not be carried out by our technicians.

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.



pos	qty	item description	unit price EUR	total EUR
17	1 pcs	<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.		
<b>Total</b>				<b>340.000,00</b>
18	1 pcs	<i>as an option</i> <i>cscoc-140</i> <b>Refrigerating machine 17,4 kW</b> net. cooling capacity 16,9 kW cooling capacity 16,9 kW at 32° C ambient temperature and medium 30° C. Controlled by adjustable thermostat. Completely mounted on coolant tank with thermostat, delivery pump, etc.	14.460,00	
19	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.		
20	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)

