



TRANSFER

BTB-TRV

BEST IN CLASS VERTICAL AXIS
TRANSFER MACHINE



*Productivity and flexibility
in a single machine*

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VERTICAL AXIS

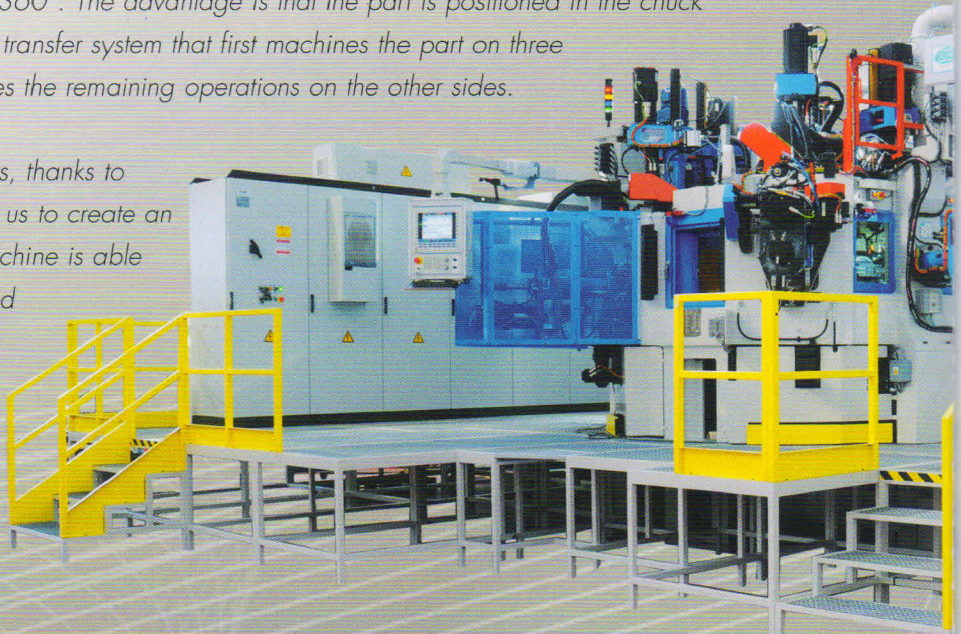
HIGH PRODUCTIVITY TRANSFER MACHINE

The BTB-TRV vertical axis transfer machine created and designed by BTB TRANSFER is the ideal solution for machining complex parts that require a high number of operations on different sides of the parts with different angles. It is capable of machining a variety of materials such as brass, steel, aluminium, and it is a valid alternative to the traditional machining centers.

The BTB-TRV transfer is able to machine the part on different sides thanks to the use of an NC controlled programmable rotating chuck which allows rotations from 1° to 360°. The advantage is that the part is positioned in the chuck with a single clamping, instead of the traditional transfer system that first machines the part on three sides, and after on a separate machine completes the remaining operations on the other sides.

This could cause inevitable positioning errors.

The use of advanced and innovative technologies, thanks to the continuous research of our staff, has enabled us to create an extremely flexible and versatile machine. This machine is able to guarantee an elevated production with reduced changeover, making it the ideal transfer machine for small lots of parts.



Machining capability on BTB TRV :

Besides the conventional drilling, threading, and boring operations, this machine can perform the following:

- CNC Contouring of internal and external profiles
- Cylindrical and taper threading single-point in multiple passes
- Outside turning with rotating part by means of lathe units interpolated with tool slide and tool holding turrets. Operations with machining centers also available with a 3/4 position toolchange "CURBITER" (BTB patent)
- Radial machining operations with very tight angular tolerances thanks to the use of angular precision escapement devices mounted on the machining center
- Circular or planetary marking
- Knurling and execution of special profiles
- Part repositioning in the machine
- Machining with special angles on 4 or 5 faces of the part by means of rotating chucks or rotating jaws
- Dimensional checks



OPERATIVE PLATFORM

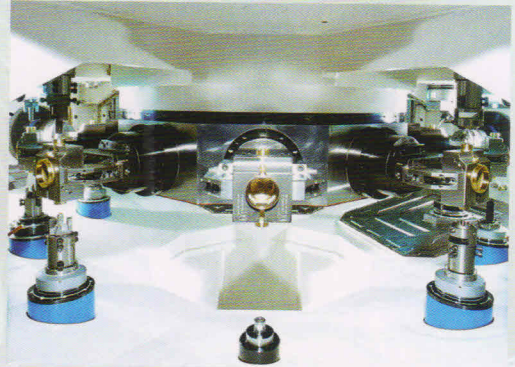
The machine management is controlled by the Numerical Control Indramotion MTX Advanced, the integrated Numeral Control is the latest generation available for the machine tool market. This control can provide meaningful advantages in regards to communications, diagnostics and management of the most advanced automation components with data communication and processing times among the most capable in the machine tool field.



2) DIRECT DRIVE TABLE:

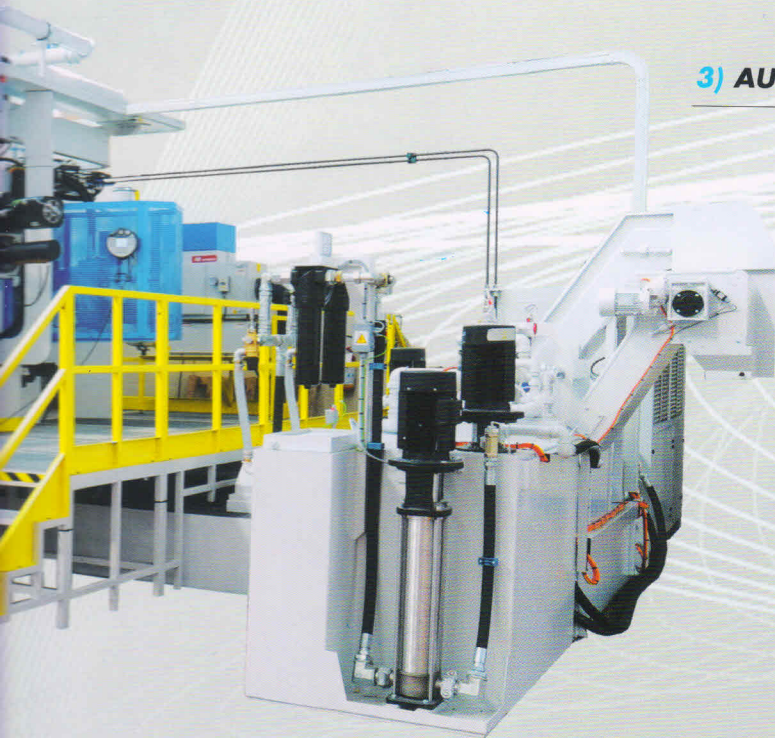
the rotation command of the table is achieved by a Direct Drive motor closed ring speed adjustment and controlled by absolute encoders. This solution allows elevated speed thanks to elevated torque and absence of mechanical backlash. High precision locking through an elastic deformation device. Table rotation time 1 second.

**BTB PATENT
NO. ML1998A02450
DATE 11/11/1998
"DIRECT DRIVE" TABLE**



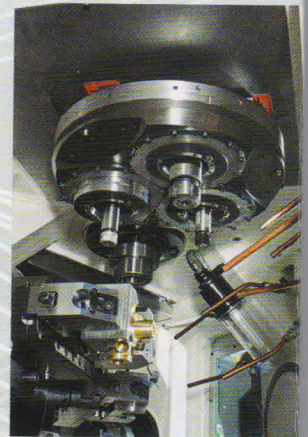
1) MACHINING UNITS:

boring and threading/boring units, fully NC-controlled, available with different spindle attachments, and equipped with special devices like recessing heads, die heads, revolving heads, 3 or 4 position tool change device, through-the-spindle coolant, to meet any special machining requirements



3) AUTOMATIC TOOL CHANGE DEVICE "CURBITER":

New concept of tool change device with 3 or 4 tools that applied to a machining center allows to triple or quadruple the number of possible operations on the transfer without compromises in rigidity and precision of the machining units. The stiffness of the system allows to easily pass from aluminum machining to steel and cast iron machining - **BTB Patent**



**PATENT N. MI2006A00470
Date: 15/03/2006
INTEGRATED TOOLCHANGE
SYSTEM**

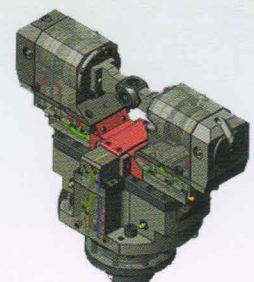
4) ROTATING CHUCKS FROM 1° TO 360°:

For machining 5 sides of the part. The chuck can rotate at 1° which enables special angle machining operations. .



5) ROTATING JAWS:

For machining 4 sides of the part. No external control or clutch is required. All rotation control systems of the jaw are housed inside the table, avoiding any cleaning problems or wear of the assembly



SAFETY

THE TECHNOLOGY INVOLVED IN THE SAFETY OF ELECTRICAL, MECHANICAL, HYDRAULIC AND PNEUMATIC COMPONENTS IS INTEGRATED TO GUARANTEE:

- Maximum safety level (directive EN IEC 61800-5-2)
- Increase in productivity
- Reduce non productive times
- Protection against damages
- Certified safety

THE PERFECT INTEGRATION GUARANTEES A SAFE AND AFFORDABLE MACHINE

ENERGY SAVING

THE USE OF NEW TECHNOLOGIES SUCH AS:

ENERGY SYSTEM DESIGN

- Optimal management of DRIVES, MOTORS and MECHANICAL COMPONENTS
- Optimization of motion control energy.

ENERGY EFFICIENT COMPONENTS
EuP- Directive 2009

- Energy efficient products and system

ENERGY ON DEMAND

- Intelligent energy distribution through integrated monitoring
- Intelligent distribution of personalized and integrated cycles
- Energy upon request -STANDBY

ENERGY RECOVERY (recupero energetico)

- Drive energy exchange (DC-Bus)
- Net energy exchange
- Regenerating and storing of kinetic energy

BTB MACHINES GAIN AN ESTIMATED 30% REDUCTION IN ENERGY CONSUMPTION

TRV 14S-28U ISO 40 CN-EL

DOUBLE INDEX MACHINE WITH DIRECT DRIVE TABLE

Field: Gas valves

Material: Brass and Aluminum

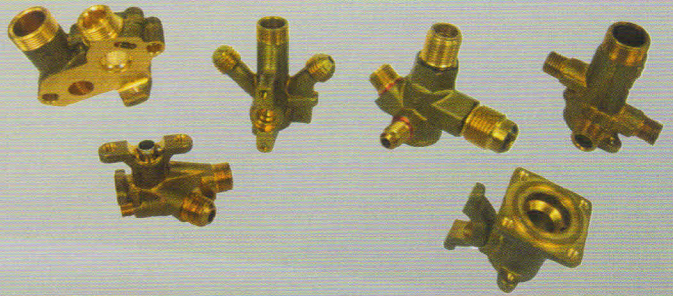
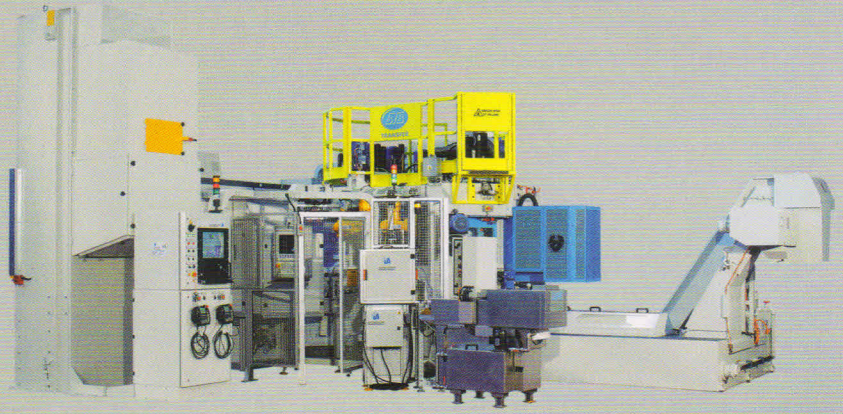
Composition: DOUBLE INDEX DIRECT DRIVE rotating table, VERTICAL AXIS, 14 machining stations, 22 machining units UN-105 ELCN, 6 machining units UN-105 ELCN with electric spindle, numerically controlled

Spindle nose: ISO40 DIN2080

Different attachments available upon request

Cycle time: 4 seconds

Tooling change over: 60 min.



TRV 12S-20U+6MC HSK63 CNEL

MACHINING OF 4-WAY PARTS WITH ELECTRIC SPINDLES AND ROTATING JAWS

Field: Automotive

Material: Aluminum

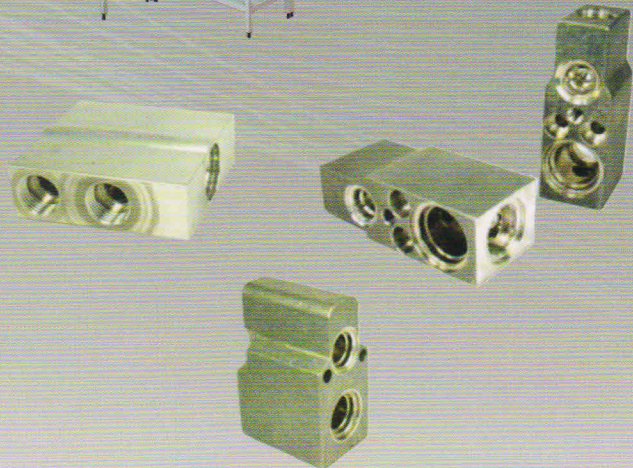
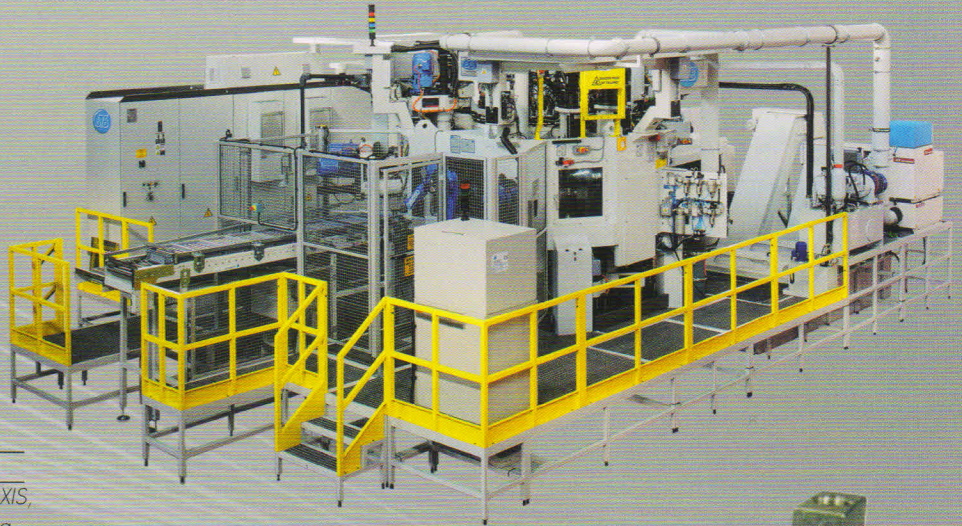
Composition: DIRECT DRIVE rotating table, VERTICAL AXIS, 12 machining stations with rotating jaws, 13 machining units UN-105 ELCN, 6 UN-105 ELCN electric spindles, 1 machining unit UN-120 ELCN, 6 machining centers 120 UN-105, numerically controlled

Spindle nose: HSK63

Different attachments available upon request

Cycle time: 4 seconds

Tooling change over: 60 min.



EFFICIENCY AND RELIABILITY

BTB offers efficient and reliable customer services.

- Program of periodic inspection and maintenance, in order to monitor the machine during its entire production life.
- Complete programming outside of the machine through BTB offline performance. It consist in a virtual machine with the same user interface which allows to completely program and simulate an actual machining cycle
- Remote service assistance via the internet with BTB Power Service System
- Trouble shooting, guided through written instructions and images which allows any operator to analyze the problem and carry out immediate maintenance operations.

TRV 10S-17U-6MC ISO40 CNEL

With machining centers for angular operations

Field: Sanitary (water meters)

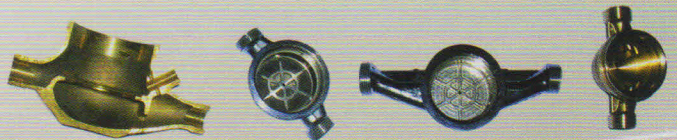
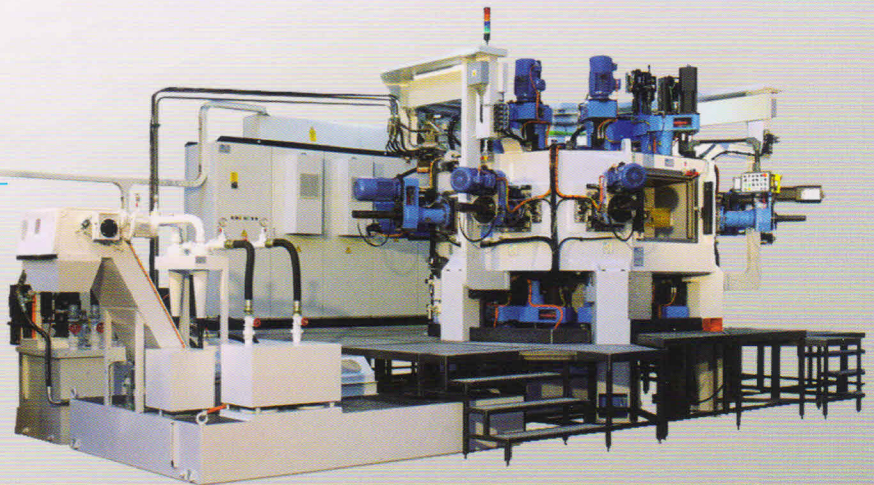
Material: Brass

Composition: Direct Drive table, vertical axis, 10 machining stations, 17 machining units UN-120 ELCN, 6 machining centers UN-120 completely NC controlled

Spindle nose: ISO40 DIN2080 - different attachments available upon request

Cycle time: from 4 to 7 seconds - Water meter

Tooling change over: 60 min.



TRV 8SD-36U ISO40 CNEL

Complete machining of 6 sides of the part with double indexing table

Field: Automotive

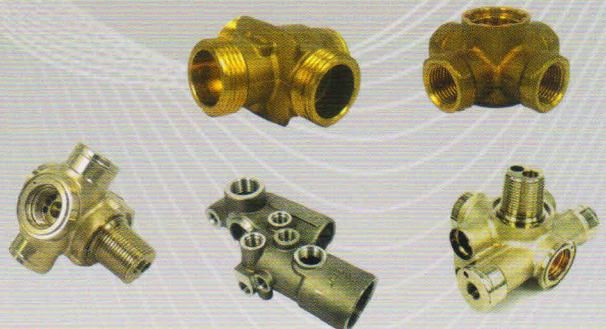
Material: Brass

Composition: Direct Drive table, vertical axis, 8 double machining stations (16 chucks), 36 machining units UN-120 ELCN completely NC controlled

Spindle nose: ISO40 DIN2080 - different attachments available upon request

Cycle time: 6 sec. - 6-way brass body

Tooling change over: 60 min.





DISCOVER THE WORLD
OF BTB TRANSFER



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