Special Purpose Machines & Equipment

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Our Facilities

30 skilled engineers

40+ years experience in the design, manufacture, retrofit of automotive and aerospace machine tools

3D CAD machine and tooling design

Fully equipped in house machining of details, assembly and commissioning

Experienced in Heidenhain, Siemens, Allen Bradley, Bosch, Fanuc and other CNC controls and PLC’s

Approved Bosch Sales Partner

Worldwide installation and commissioning capability
Our Customers

- Ford
- BMW
- MINI
- Visteon
- Nissan
- ROVER
- MG
- LAND ROVER
- Perkins
- LINAMAR

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Our Services

Complete new design of custom built machining centres

Specialist in rotary transfer systems, multi head engine casing machining systems and die casting sawing and cubing cells

Modular design allows adaption to future engine variants with minimal cost

Overhaul and retrofit of existing equipment to latest standards including CNC/PLC upgrade, overhaul and/or retrofit

Supply, servicing and installation worldwide
Typical Components

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SPECIAL 3 STATION DUPLEX IN LINE TRANSFER MACHINE

Machine Specification:
The machine is a fully automated Transfer Machine with drilling and reaming heads opposing a hydraulically actuated clamping and locating fixture. Automatic load and unload of two components is achieved by an overhead transfer beam with robot grippers.

PRODUCTION - 223 Compts/Hour

COMPONENT - Brake Drum
MATERIAL - Cast Iron
OPERATION - Drill and Ream
4 Stud Holes
STUD HOLE SIZE - Ø 12.60/12.76mm
POSITIONAL TOLERANCE - 0.2
CAPABILITY STUDY - 8 Sigma 1.33 C.M.K.
MACHINE DESCRIPTION AND SPECIFICATION:
The machine is a Fully Automated C.N.C. Rotary Transfer with Auto Load and Auto Unload.

STATION 1
- The auto load/unload unit consists of a linear track with lift and carry grippers (2 off) which are adjustable to accommodate for the variation of components.

STATION 2 & 3
- At each station there is a four spindle servo driven turret index unit, capable of vertical and horizontal machining. The turret is mounted to a three axis 300mm cube column module, running on linear bearings and driven by servo motors, linear scales are used for positioning.
  Spindle drive is 5.5NM, R.P.M. 6000
  Tool change time - 1 second, linear repeatability on X, Y & Z axis 0.006mm

ROTARY TABLE AND FIXTURES
- The Ø1250mm servo driven/disc braked rotary table has three 180° indexing fixtures, with change over jaws, to accommodate different components. The rotary table and indexing fixtures give simultaneous multi face machining and part transfer, table index time is 2.5 seconds.
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6 STATION CENTRE COLUMN ROTARY TRANSFER MACHINE

COMPONENT
- Support Trans Centre

MATERIAL
- Aluminium Alloy

OPERATIONS
- Gun Drill, Dimple, Drill
  and Ream Various Holes

PRODUCTION
- 189 Compts/Hour

MACHINE SPECIFICATION AND PROCESS:
STATION 1 - Auto Load/Unload (2) components per cycle
STATION 2 - Vertical Gun Drill (2) holes Ø4,0mm
STATION 3 - Vertical Gun Drill (2) holes Ø4,0mm
  - Horizontal Gun Drill (2) holes Ø4,8mm
STATION 4 - Vertical Gun Drill (2) holes Ø3,0/4,0mm
  - Horizontal Gun Drill (2) holes Ø5,8mm
STATION 5 - Vertical Ream/Chamfer (4) holes Ø4,85 index spindles
  - Horizontal Gun Drill (2) holes Ø3,0mm
STATION 6 - Angular Dimple and Drill (2) holes Ø4,9/2,05mm
  - Horizontal Drill (6) holes Ø4,0mm 3 position index spindles

MACHINE DESCRIPTION:
The machine is a fully automated Centre Column Rotary Transfer, with five vertical and four horizontal working stations. There are six two position workholding fixtures mounted to a Ø1600mm rotating ring table, components are auto loaded, unloaded and mechanically clamped/unclamped at station number one via a nutrunner.
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COMPONENT - 4 & 6 Cylinder Blocks
MATERIAL - Cast Iron
OPERATIONS - Rough Mill End Faces and Mill Boss Front Face Flange

MACHINE SPECIFICATION:
The machine is a fully automated Milling Machine with two opposed heavy duty milling heads and a cross milling head on separate slide. Flexibility for machining two components is achieved via change over workholding fixtures mounted to a heavy duty milling table.

PRODUCTION - 36 Compt’s/Hour
MACHINE DESCRIPTION AND PROCESS
The machine is a Fully Automated Cylinder Head Fettling Machine. The component is loaded in its cast state at STATION ONE where it is put through a gauge to check the maximum profile dimensions of the component. At STATION TWO the valve holes are punched to ensure they are not covered by flash, before transferring the component through two milling units, machining the exhaust and inlet faces. At STATION THREE the component is transferred to a trunnion fixture, which turns through 90° sawing the water jacket face at the same time. At STATION THREE the component is transferred through a sawing unit, removing the ring riser, which then slides out of the machine to a bin. At STATION FOUR the component is automatically ejected from the machine to an unload position.
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42 Spindle Multi Head - White Goods

9 Spindle Multi Head - Cylinder Head

5 Spindle Multi Head - Cylinder Head

Milling Head with Quill Retraction & Fine Adjustment.

- QUILL: Ø280mm
- ARBOR: 50 INT
- SPEED: 65-250 R.P.M.
- CUTTER: Ø400mm
- MOTOR: 30 K.W

2 Station Multi Head

Tilt/Turn rotary axes
Weisser Lathe – CNC retrofit of Siemens Sinumerik 840D
Complete mechanical refurbishment
Re-tooling
New drives and controls

Multi Station CNC mill drill – CNC retrofit.
Complete mechanical refurbishment
Re-tooling & re-fixtured, re-configured for new component.
Auto part load and unload.

Limited budget and timescale?
Let our engineers overhaul, re-engineer existing equipment to give you a cost effective solution compared to buying new. Fully supported with warranty, spares and service.