HACO Q3
CNC TURRET PUNCHING MACHINE
The Haco Q3 is based on over 50 years of experience in manufacturing of CNC punching machines. With its 22 or 30 tons high-speed servo hydraulic punching head, Y-axis (throat) of 1500 mm (59”) and rotation axis for all tools, The Haco Q3 is the perfect and most flexible CNC turret punching machine. The Haco Q3 converts your workshop into one with the highest indexability and flexibility that can be achieved with CNC sheet metal punching machines, without high investments, but also without the compromises of the conventional turret punching machine. Its optimum price/quality relation translates itself into a profitable investment.

The overdimensioned mecano-welded frame is stress-relieved by thermal treatment before machining, thus resulting in performance high accuracy. The user-friendly graphical programming system, the automatic tool change system, the rotation of all tools, the comfortable sheet loading, the large sheet support tables… are just one of the characteristics of the HACO Q3.

**HACO Q3 CNC TURRET PUNCHING MACHINE**

- High speed Servo hydraulic punching head.
- 6-axis CNC TP69 (T) graphics control with Graphical programming.
- 4 repositioning cylinders (2 upper and 2 lower).
- Hydraulic sheet clamps.
- 4 vibration dampers.
- 12 (20) station tool turret complete with 12 (20) tool holders. (Tools not included)
- Slug suction device.
- Part chute door 350x480 mm (13.78”x 18.9”)
- Quick tool set for tool alignment.
- CE optical safety system around machine.
- Automatic oil spray system.

**STANDARD EXECUTION:**

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A wide range of standard and special tooling is available. We can offer a complete range of tools for special applications, such as louvring, embossing, forming, bending, tapping, marking...
On the large standard brush tables, various workpieces can be processed. It pushes the plate onto the die holder during the punch stroke, thus serving as a hold-down, thus leading to minimum material deformation.

- Full control of stroke (Z-axis).
- Programs can be nested under every angle, resulting in optimal sheet usage and minimum rest sheet.

Moreover, the number of necessary tools can be reduced with 40 hydraulic sheet clamps with minimal ‘dead zone’ (215 by 95 mm). The AC-servo driven X- and Y-axis connected. The stripper, which is fixed to the punch holder, has 2 functions:

- It ensures that the plate is stripped from the punch during the return stroke.
- It pushes the plate onto the die holder during the punch stroke, thus serving as a hold-down, thus leading to minimum material deformation.

The assembly of the tool holders is done ‘off-line’ and does not affect the production runs. The highly advanced controller software ‘Robopunch’ offers a vast amount of features, making it one of the most complete packages available today. The simple layout of the user interface allows direct access to the desired functions, thus creating optimum operator convenience. Real-time simulation with adjustable settings guarantees a continuous monitoring of the entire production process, along with immediate response to possible problems.

The TPC Graphics can easily be connected to any new or existing network, resulting in easy data transfer (‘programs’) and machine monitoring between the controller and one or multiple PCs. Access to the control is possible from anywhere on the network.

Advantages of the Haco Q3

- All tools are 360° auto-indexable.
- Easy and fast loading of tools into the turret.
- Any tool station takes any tool (also MultiTool).
- No complex turret composition. A ‘factor turret’ set-up:
  - No turret wear, no turret adjustments.
  - Better adjustment for punch and die clearance than classic turret punching machines.
  - Positive tool clamping (no springs).
  - Full control of stroke (Z-axis).
  - Stripping plate has also hold-down function.
  - Urethane strippers can be used for scratch free production.
  - Programs can be nested under every angle, resulting in optimal sheet usage and minimum rest sheet.
  - No limitations in clamp setting.
  - Possibility of making big formings (Z-axis stroke of 37 mm).
  - Fast tool change done by bidirectional rotation of the tool turret that select automatically shortest rotation to the next tool.
  - Standard slug suction device avoids the use of expensive ‘slug stop dies’.

The Haco Q3 has a standard turret with 12 (QQ) tool station. Each tool station can take any kind of tool (small or large) including MultiTools. The loading of the turret is fast and easy. The fast automatic tool change system puts the active tool from the turret into the punching head. Traditional ‘turret wear’ is thus eliminated. The Q3 concept allows the rotating (auto-indexing) of all tools at a speed of 250 rpm which is considerably increasing the use and flexibility of the tooling.

The user-friendly ‘TPC Graphics controller with Robopunch software’ designed using the know-how and experience of many years, the TPC Graphics offers everything you need to fit the high demands in contemporary punching. The high-speed control, fast processing and intuitive user interface result in an innovative system capable of handling simple as well as complex tasks. The TPC Graphics window® controller is driven by high performance, PC-based hardware, allowing very fast processing of data and highly accurate calculation of punching operations. From the initial idea to the production of parts, the TPC Graphics is your ideal partner for punching productions.

- 15” color TFT display (optional touch panel).
- 1024 x 768 pixels.
- High-performance PC-based hardware.
- Windows®-type user interface.
- Edit and import of program code.
- Graphical simulation of program code.
- Unlimited graphical tool database.
- Mm or Inch.
- Network support.
- USB port.
- Language support.
- Tele support.
- Time calculation.
- ...
An automatic and semi-automatic sheet loading and unloading system is available on request. The loading and unloading can be done at the same machine side, which results in a minimum space requirement.

**FAST AND SIMPLE PROGRAMMING WITH HACO OFFLINE SOFTWARE HACO PUNCH PRO**
- Windows® based software
- Importing of different drawing formats dxf, dwg, dstv...
- Common cut
- Importing of different drawing formats dxf, dwg, dstv…
- Windows® based software
- Special programmable functions (delays, speed changes, setting of extra outputs…)

**TECHNICAL SPECIFICATIONS**

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<tr>
<td><strong>GENERAL</strong></td>
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<tr>
<td>Capacity in ton</td>
<td>22 Ton (24 US tons)</td>
<td>22 Ton (24 US tons)</td>
<td>30 Ton (33 US tons)</td>
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<tr>
<td>Max. plate thickness</td>
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<td>6 mm (1/4&quot;)</td>
<td>6 mm (1/4&quot;)</td>
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<td>Control</td>
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<td>7TPC Graphics (brach panel-oriented)</td>
<td>7TPC Graphics (brach panel-oriented)</td>
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<tr>
<td>Tool concept</td>
<td>Triangle® style</td>
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<td>Triangle® style</td>
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<td>Max. tool diameter (ø diagonal)</td>
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<td><strong>STRENGTH PLATES</strong></td>
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<tr>
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<tr>
<td>Z-axis (programmable in stroke and speed)</td>
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<td>37 mm (1 7/16&quot;)</td>
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<td>0,01 mm (0,0004&quot;)</td>
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**SHEET CLAMPS**
- Clamping system: hydraulic
- Number of clamps: 3
- Pressure: adjustable by HACO control
- Drop arm: manually
- Programmable: yes
- Standard equipment: HACO TPC 69 Graphics (touch panel optional)

**FURTHER STANDART EQUIPMENT**
- Automatic sheet preparation: yes
- Bed: optical safety system: yes

**FURTHER MACHINE SPECIFICATIONS**
- Weight: 57 315 kg (126,448 lbs)
- Max. punch force (5 directions): 4004 mm (158,0")
- Max. punch force (single direction): 1035 mm (40,8")
- Punching mechanism (ø): 37 mm (1 7/16")
- Max. punch force (5 directions): 2270 mm (89,4")
- Max. punch force (single direction): 37 mm (1 7/16")
- Average punch force (ø): 80 mm (3,15")
- Average punch force (single direction): 37 mm (1 7/16")
- Steady-state consumption: 0,6 kW (8,1 Hp)
- Compressed air: 6 bar (87 psi)
01 HYDRAULIC PRESSBRAKES
Hydraulic conventional pressbrakes, type PPM.
Up to 10 axes CNC controlled hydraulic Pressbrakes, type Euromaster, Synchromaster and Pressmaster
Capacity of 40 up to 3000 tons

02 CNC PLASMA CUTTING MACHINES
CNC plasma and oxy-fuel cutting machines type Kompact and Proxima.
From 2 x 1 meter up to 30 x 6 meter.

03 HYDRAULIC GUILLOTINE SHEARS
Hydraulic conventional and CNC controlled guillotine shears. Having the possibility to turn the machine into a shearing center by optional sheet hold-up or conveying systems.
Capacity of 6 up to 32 mm