The Star NICS system is an evolutionary development of the group’s commitment to pursuing a user friendly concept. ECAS was born as an achievement and a great improvement in workability, operability and productivity.
This is the way to facilitate machining simpler operation at a higher speed by

**Star NICS Flow**

- **Setting up by NC**
  - Numerical Control
  - Creation of a machining programme
  - High Speed Precision Cutting (minimal idle time)
  - Confirmation of the programme (dry run)

- **Machining by MC**
  - Motion Control
  - High Speed, Precision Secondary Machining

**Star NICS (Star New Integrated Control System)**

An objective of ultimate high speed, high precision and ideal operability has been realised with this revolutionary control system.
of complete profile parts with using the Star NICS system.

Processes from creation of ECAS data to starting of machining operation...

**01 NC program writing**
- Creation by SD-EDITOR (PC side)
- Conversion by e-camo (PC side)
- Creation by NC code (PC side)
- Input by NC code (Machine side)

**02 Program optimisation**
- Conversion to motion control data
- Automatic conversion in a batch (Machine side)

**03 Machining**
- Motion control
- All machining processes by MC control

**Using Easy Cam (e-camo)**
- With this system it is easy to define geometry and complete machining data supported by a menu selection system with setting value input.
- Machine geometry, dimension and interference checks using on screen 3D simulation makes it a simple process to confirm on the actual machine.
- Machining data, once created, can be stored in the memory and made available for future use. The data is also capable of being read faster and simpler.
- Programs adding or modification can be achieved with complete ease.

**PROCESSING VARIATION**

Balance cut machining including milling

Simultaneous machining

Back-face turning

Front off-center hole drilling + cross milling

Counter-face cross milling

Back eccentric machining

**Pursuing high productivity**
- Simultaneous machining plus drilling by counter-face tool post becomes possible by which the cycle time of machining can substantially be reduced.
- Clamping the motion control system, tool selection is optimised and formation of continuous tool path without interference is realised.
- Machine construction that completely separates front and back machining is adopted. Division of processes is optimised by which reduction of machining time is realised.
- Development of the high-speed chucking unit has made it possible to have the chuck opened/closed without rotation variation of the main spindle.
- Easy CAM (e-camo) developed exclusively by Star greatly reduces the time and labour needed for creating programmes.
- By adopting a micro-hydraulic system (electrical system), the idle time between activities of each axis has been significantly reduced.
- By supplying the motor on the sub spindle with the same power as the main spindle the book-face machining capability is enhanced and the freedom to programme efficiently is improved.

**Pursuing High Precision**
- By using high-rigidity and high-precision servo controls, machining of corners during turning is improved.
- Greater accuracy when thread cutting is also assured.

**Improved operability**
- The machine can also be operated in the same way as traditional CNC machines. For operators who are experienced with NC machines, they will feel at home and control the machine with ease.
- By e-camo simulation system, time and labour for the work such as interference checks on the actual machine can substantially reduced.
SWISS TYPE AUTOMATIC LATHE equipped with Star NICS

<table>
<thead>
<tr>
<th>Item</th>
<th>ECAS-12</th>
<th>ECAS-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. machining diameter</td>
<td>φ13mm(1/2in)</td>
<td>φ20mm(3/4in)</td>
</tr>
<tr>
<td>Tool Post</td>
<td>Front: Turning tool + Power-driven tool</td>
<td>Rear: Feeding tool + Power-driven tool</td>
</tr>
<tr>
<td>Number of tools</td>
<td>Front: 4 tools</td>
<td>Rear: 2 tools</td>
</tr>
<tr>
<td>Tool Shank</td>
<td>Ø11mm</td>
<td>Ø12mm, Ø16mm, Ø25mm</td>
</tr>
<tr>
<td>4-spindle holder</td>
<td>Number of tools: 4 tools</td>
<td>Max. drilling capacity: φ10mm(3/8in)</td>
</tr>
<tr>
<td>Max. tapping capacity</td>
<td>MBxP1.25</td>
<td>MBxP1.25</td>
</tr>
<tr>
<td>Main spindle speed</td>
<td>Max. 12,000min⁻¹</td>
<td>Max. 10,000min⁻¹</td>
</tr>
<tr>
<td>Main spindle motor</td>
<td>Sub motor: 22kW(30hp) x 3/4bar(100psi)</td>
<td>Power driven att: drive motor 0.75kw</td>
</tr>
<tr>
<td>Main spindle min. indexing angle</td>
<td>0.01° (6-axis control)</td>
<td></td>
</tr>
<tr>
<td>Sub spindle min. indexing angle</td>
<td>0.01° (6-axis control)</td>
<td></td>
</tr>
<tr>
<td>Sub spindle speed</td>
<td>Max. 12,000min⁻¹</td>
<td>Max. 10,000min⁻¹</td>
</tr>
<tr>
<td>Power driven att. spindle speed</td>
<td>Max. 8,000min⁻¹</td>
<td></td>
</tr>
</tbody>
</table>

**Standard Accessories and Functions**

1. Coolant oil level detector (over limit)
2. Automatic centralized lubrication unit
3. Door interlock
4. Pneumatic regulator unit
5. Coolant oil flow sensor
6. Parts separator
7. Station tool holder 8 In front side 
8. Station tool holder 8 In rear side
9. Station tool holder 8 On front side
10. Station tool holder 8 On rear side
11. 4-spindle end working sleeve holder
12. Drill sleeve for end working (101-25x4)
13. Revolving guide bush unit
14. Air purge system for revolving guide bush unit
15. Drive system for power driven attachment (gang tool)
16. Cross milling/drilling unit (331-50x6)
17. Main spindle C-axis control unit
18. Sub spindle C-axis control unit
19. Sub spindle air blow unit
20. Parts ejection detector
21. Back spindle unit (stationary type)
22. Drill sleeve for back working (541-21x4)

**Optional Accessories and Functions**

1. Drive system for power-driven attachment B
2. Parts conveyor
3. Inclined grinding unit
4. Station tool holder 8 In front side 
5. Station tool holder 8 In rear side
6. Tool holder 8 On front side
7. Tool holder 8 On rear side
8. Transformer CE marking specifications
9. Tool setter
10. Rotary magic guide bush unit

**External Dimensions and Floor Space (unit: mm)**

<table>
<thead>
<tr>
<th>Item</th>
<th>ECAS-12</th>
<th>ECAS-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Maximum length for front section</td>
<td>80mm(3-1/4in)</td>
<td>80mm(3-1/4in)</td>
</tr>
<tr>
<td>Max. parts projection length</td>
<td>30mm(1-3/16in)</td>
<td>30mm(1-3/16in)</td>
</tr>
<tr>
<td>4-spindle attachment (for back working side)</td>
<td>Max. drilling: Stationary tool</td>
<td>Power driven att.</td>
</tr>
<tr>
<td>Max. tapping capacity</td>
<td>MBxP1.25</td>
<td>MBxP1.25</td>
</tr>
<tr>
<td>Sub spindle min. indexing angle</td>
<td>0.01° (6-axis control)</td>
<td></td>
</tr>
<tr>
<td>Sub spindle speed</td>
<td>Max. 12,000min⁻¹</td>
<td>Max. 10,000min⁻¹</td>
</tr>
<tr>
<td>Power driven att. spindle speed</td>
<td>Max. 8,000min⁻¹</td>
<td></td>
</tr>
</tbody>
</table>

**Note**

The above specifications apply to SWEC (W2, T405, DN45) material. The machining capacities may differ from listed values depending on the machining conditions, such as the material to be machined or the tools to be used.

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**Design features, specifications and technical execution are subject to change without prior notice.**

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