System 3R

WorkPartner 1+
Swedish design and quality
Partnering your production

• Can serve one or two machines in a production cell.
• One, two or three magazine capability gives exceptionally flexible capacity.
• Large doors facilitate loading of workpieces and tools into the magazines.
• Integrated pneumatic control of gripping devices and table chucks.
• Minimal floor space requirements.

Achieve greater return on your investment!
Customer-specific Solutions

Modularly adapted to your needs

**Milling application**
WorkPartner 1 + (LHL Version)
Large magazine capacity
Two types of tooling
Heavy loading station

**Wire-cutting EDM (wireEDM) application**
WorkPartner 1 + (HH Version)
Heavy loading station

**EDM application**
WorkPartner 1 + (LH Version)
Heavy loading station
Drain station
Mixed technologies EDM & Milling
WorkPartner 1 + [LH Version]
Large magazine capacity
Two types of tooling
Heavy loading station
Drain station

Laser application
WorkPartner 1 + [LL Version]

Rail application for front loaded milling machines
WorkPartner 1 + [HH Version]
Heavy loading station
WorkPartner 1+ offers maximum magazine capacity in minimum floor space. Unlike many other solutions on the market, there is no risk of “painting yourself into a corner”. Our modular magazines give an unprecedented flexibility that can be adapted to each user’s needs. If you start with a single magazine, one or two more can be added whenever required.

WorkPartner 1+ is equally ideal for milling machines, die-sinking, wire EDM machines, laser machines and grinding machines. Similarly, it is equally efficient whether used in one-off or series production.

With generous magazine doors that facilitate loading/unloading, WorkPartner 1+ is extremely user friendly. Other advantages include rapid change cycles, integrated pneumatic control of gripping devices and table chucks and minimal floor space requirements.
Modular components:

- **Manipulator unit**
- **Light magazine**
- **Heavy magazine**

**Security glass door, 10 mm**

**Doors**
On several sides for loading & unloading

**Loading door**
With one sliding shelf as a loading station

**Drain station**
For emptying fluids from workpieces

**Gripper arm (not shown)**
Prepared for automatic gripper change function
WSM – WorkShopManager

User-friendly Cell Management Software

- Necessary data is entered quickly and in a structured manner.
- Quick, precise overview of the entire process chain
- Increased flexibility: The order of priority can be changed at any time.
- Simpler, safer preparation of automated cells
- The risk of errors due to the human factor is minimized.
- Increased process security
Preparation – WorkCenter

- Create an order
- Assign operations and NC programs
- Retrieve offset values
- Release the order for production

Execution – CellManager

- Manages the pallet ID codes and magazine positions
- Creates priority lists
- Automatically starts available jobs in the order of the priority list
- Updates the information in the database with the status and machining times of individual orders

Monitoring – CellMonitor

- Display status of all cells
- Display status of individual machines and processes

Statistics – WSM Statistics

- Retrieve and analyze cell utilization data
- Retrieve and analyze order data
Customer Services

Optimize the uptime of your equipment with our Machine Support services

Annual reconditioning minimizes production stops and optimizes function, precision and performance. GF Machining Solutions offers comprehensive services for your Automation, reference systems and masters and calibration tools.
Preventive maintenance

**Automation**
- Mechanics
- Pneumatics
- Peripheral equipment

**Reference systems**
- Rebuilding chucks
- Inspecting references
- Checking clamping force

**Masters and calibration tools**
- Cleaning and polishing
- CMM inspection
- Quality certificate

**CE Certification**
GF Machining Solutions’ Customer Services also offers CE Certification of Conformity for complete Automation cells.
**Technical specifications – general**

**WorkPartner 1+**

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**Foot print**

<table>
<thead>
<tr>
<th>Type of Configuration</th>
<th>Dimensions (A = 1290, B = 1730, C = 2460 mm)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Two light magazines</td>
<td>A = 1290, B = 1730, C = 2460 mm (A = 50.8, B = 68, C = 97 in)</td>
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</tr>
<tr>
<td>One light magazine &amp; one heavy magazine</td>
<td>A = 1290, B = 2030, C = 2460 mm (A = 50.8, B = 78, C = 97 in)</td>
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<td>A = 1290, B = 2030, C = 2460 mm (A = 50.8, B = 78, C = 97 in)</td>
</tr>
<tr>
<td>Two heavy magazines</td>
<td>A = 1290, B = 2425, C = 2460 mm (A = 50.8, B = 95.5, C = 97 in)</td>
<td>A = 1290, B = 2425, C = 2460 mm (A = 50.8, B = 95.5, C = 97 in)</td>
<td>A = 1290, B = 2425, C = 2460 mm (A = 50.8, B = 95.5, C = 97 in)</td>
</tr>
<tr>
<td>Three light magazines</td>
<td>A = 1460, B = 1730, C = 2460 mm (A = 50.8, B = 68, C = 97 in)</td>
<td>A = 1460, B = 1730, C = 2460 mm (A = 50.8, B = 68, C = 97 in)</td>
<td>A = 1460, B = 1730, C = 2460 mm (A = 50.8, B = 68, C = 97 in)</td>
</tr>
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<td>A = 1460, B = 2030, C = 2460 mm (A = 50.8, B = 78, C = 97 in)</td>
</tr>
<tr>
<td>One light magazine &amp; two heavy magazines</td>
<td>A = 1860, B = 2030, C = 2460 mm (A = 73, B = 78, C = 97 in)</td>
<td>A = 1860, B = 2030, C = 2460 mm (A = 73, B = 78, C = 97 in)</td>
<td>A = 1860, B = 2030, C = 2460 mm (A = 73, B = 78, C = 97 in)</td>
</tr>
<tr>
<td>Three heavy magazines</td>
<td>A = 1890, B = 2430, C = 2460 mm (A = 74.4, B = 95.7, C = 97 in)</td>
<td>A = 1890, B = 2430, C = 2460 mm (A = 74.4, B = 95.7, C = 97 in)</td>
<td>A = 1890, B = 2430, C = 2460 mm (A = 74.4, B = 95.7, C = 97 in)</td>
</tr>
</tbody>
</table>

**Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer weight</td>
<td>80 kg. (pallet with workpiece)</td>
</tr>
<tr>
<td></td>
<td>177.8 lbs (pallet with workpiece)</td>
</tr>
<tr>
<td>Max. X-reach</td>
<td>1254 mm</td>
</tr>
<tr>
<td></td>
<td>49.4 in</td>
</tr>
<tr>
<td>Max. Y-reach</td>
<td>1500 mm</td>
</tr>
<tr>
<td></td>
<td>59 in</td>
</tr>
<tr>
<td>Max. C-rotation</td>
<td>330°</td>
</tr>
<tr>
<td>Required air pressure</td>
<td>6 ± 1 bar, 150 litres/minute</td>
</tr>
<tr>
<td>Required power supply</td>
<td>Single-phase, 180-240 V AC, 14 A at 180 V AC, 20 A at 230 V AC.</td>
</tr>
<tr>
<td>Required floor space</td>
<td>1730x1290x2460 mm [but affected by increased magazine capacity]</td>
</tr>
<tr>
<td></td>
<td>68x50.6x97 in [but affected by increased magazine capacity]</td>
</tr>
<tr>
<td>Interface</td>
<td>serial RS-232</td>
</tr>
</tbody>
</table>

**Options & accessories**

- Loading station
- Draining station
- ID-system with or without automatic scanning
- Internal magazine lighting (LED)
- Cell PC with WSM software
- RS422 interface
- Customer chosen color for outer casings
- Manual rail
Optional grippers

- Double
- Tilting
- Turning

Option

- Manual rail – slide away WorkPartner 1+ for manual operation of front-loaded machines

Magazine capacity

There are two types of magazine, light (L) and heavy (H).
Up to three magazines can be connected to the changer unit in any combination whatsoever.

One magazine: L or H.
Two magazines: L + L, H + H or L + H.
Three magazines: L + L + L, H + H + H, L + H + H or L + L + H.
Note: Each individual magazine is intended for one and the same pallet system.

The magazine’s capacity is determined entirely by the shape and size of the workpieces. The tables below show only “guideline values” for each pallet system carrying workpieces of a “standard” size and shape.

### Pallet systems in the LIGHT magazine

<table>
<thead>
<tr>
<th>Pallet systems in the LIGHT magazine</th>
<th>No of pallets/rack</th>
<th>No of racks</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Macro 54/70</td>
<td>10</td>
<td>8</td>
<td>80</td>
</tr>
<tr>
<td>Macro PT [70x70]</td>
<td>10</td>
<td>8</td>
<td>80</td>
</tr>
<tr>
<td>Macro 116</td>
<td>6</td>
<td>8</td>
<td>48</td>
</tr>
<tr>
<td>Macro Chip Guard</td>
<td>6</td>
<td>8</td>
<td>48</td>
</tr>
<tr>
<td>Matrix 110</td>
<td>6</td>
<td>8</td>
<td>48</td>
</tr>
<tr>
<td>Matrix 142</td>
<td>5</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>MacroMagnum</td>
<td>5</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>GPS 70</td>
<td>10</td>
<td>8</td>
<td>80</td>
</tr>
<tr>
<td>GPS 120</td>
<td>6</td>
<td>8</td>
<td>48</td>
</tr>
<tr>
<td>ITS50</td>
<td>10</td>
<td>8</td>
<td>80</td>
</tr>
<tr>
<td>ITS72</td>
<td>9</td>
<td>8</td>
<td>72</td>
</tr>
<tr>
<td>ITS115</td>
<td>6</td>
<td>8</td>
<td>48</td>
</tr>
<tr>
<td>ITS148</td>
<td>5</td>
<td>5</td>
<td>25</td>
</tr>
</tbody>
</table>

### Pallet systems in the HEAVY magazine

<table>
<thead>
<tr>
<th>Pallet systems in the HEAVY magazine</th>
<th>No of pallets/rack</th>
<th>No of racks</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>MacroMagnum</td>
<td>4</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>Matrix 110</td>
<td>4</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>Macro 142</td>
<td>4</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>GPS 240</td>
<td>2</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Dynafix</td>
<td>2</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>ITS148</td>
<td>4</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>UPC Fork</td>
<td>2</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>UPS RCS</td>
<td>2</td>
<td>5</td>
<td>10</td>
</tr>
</tbody>
</table>

Note: When carrying out wire EDM with Macro, MacroTwin or Unimatic, solutions are customer specific – the number of positions per rack is entirely determined by the nature of the devices securing the workpiece and not by the pallet system.
GF Machining Solutions

Milling

High-Speed and High-Performance Milling Centers. In terms of cutting speed, HSM centers are 10 times faster than conventional milling machines. Greater accuracy and a better surface finish are also achieved. This means that even tempered materials can be machined to a condition where they are largely ready to use. One essential advantage of HSM is that with systematic integration, the process chain can be significantly shortened. HSM has developed alongside EDM into one of the key technologies in mold and tool making.

EDM

Electric Discharge Machines. EDM can be used to machine conductive materials of any hardness (for example steel or titanium) to an accuracy of up to one-thousandth of a millimeter with no mechanical action. By virtue of these properties, EDM is one of the key technologies in mold and tool making. There are two distinct processes — wire-cutting EDM and die-sinking EDM.

Laser

Laser texturing. Laser texturing supplements and extends the technologies offered by GF Machining Solutions. With our laser technology we enable you to produce texturizing, engraving, microstructuring, marking and labeling of 2D geometries right through to complex 3D geometries. Laser texturing, compared to conventional surface treatment using manual etching processes, offers economic, ecological and design advantages.

Automation

Tooling, Automation, Software. Tooling for fixing workpieces and tools; automation systems and system software for configuring machine tools and recording and exchanging data with the various system components and design advantages.

Customer Services

Operations, Machine and Business Support. Customer Services provides with three levels of support all kind of services for GF Machining Solutions machines. Operations Support offers the complete range of original wear parts and certified consumables including wires, filters, electrodes, resin and many other materials. Machine Support contains all services connected with spare parts, technical support and preventive services. Business Support offers business solutions tailored to the customer’s specific needs.
At a glance

We enable our customers to run their businesses efficiently and effectively by offering innovative Milling, EDM, Laser and Automation solutions. A comprehensive package of Customer Services completes our proposition.

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