system 3R

TOOLING I AUTOMATION I SOFTWARE

WorkPartner 1+

Design and quality by System 3R

Contents

4	Modular Automation
10	Options
11	Technical specifications
13	AMR integration
14	WSM 5 – WorkShopManager 5

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+ (LH 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 MILLING & EDM

WorkPartner 1+ (LH Version)
Large magazine capacity
Two types of tooling
Heavy loading station
Drain station

LASER APPLICATION

WorkPartner 1+ (LH Version)

RAIL APPLICATION FOR FRONT LOADED MILLING MACHINES

WorkPartner 1+ (HH Version)
Heavy loading station

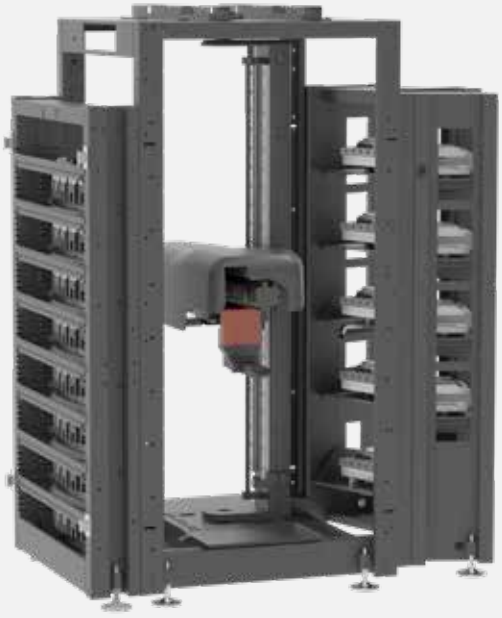
Choose between 12 modular models

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.

WorkPartner 1 + with covers

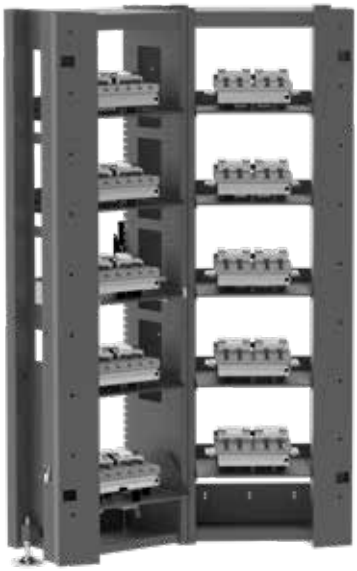


WorkPartner 1 + without covers

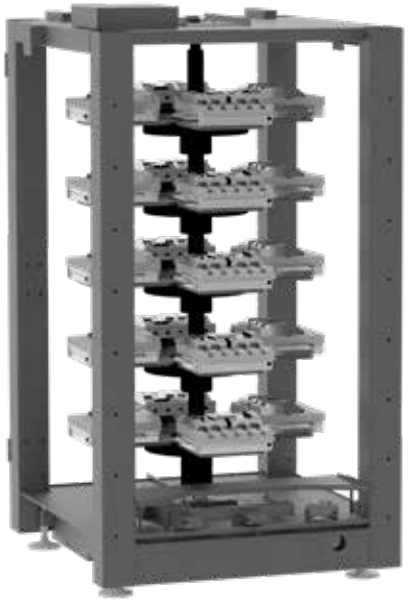
4 different build in components

Manipulator unit

Light magazine



Heavy magazine



Rotary magazine

WorkPartner 1+ with different configurations

TWO MAGAZINE EXAMPLE

- Two light magazines
  16 levels with 10 pallets/level

Summary
160 Macro 54 pallets

TWO MAGAZINES EXAMPLE

- One light magazine
  8 levels with 10 pallets/level
- One Heavy magazine
  5 levels with 2 pallets/level

Summary
80 Macro 54 pallets
10 Dynafix 350 pallets

TWO MAGAZINES EXAMPLE

- One light magazine
  8 levels with 10 pallets/level
- One rotary magazine
  2 levels with 36 pallets/level
  3 levels with 4 pallets/level

Summary
152 Macro 54 pallets
12 Dynafix 350 pallets

ONE MAGAZINE EXAMPLE

- One light magazine
  8 levels with 10 pallets/level

Summary
80 Macro 54 pallets

TWO MAGAZINES EXAMPLE

- One rotary magazine
  2 levels with 36 pallets/level
  3 levels with 4 pallets/level
- One Heavy magazine
  5 levels and 2 pallets/level

Summary
72 Macro 54 pallets
22 Dynafix 350 pallets

ONE MAGAZINE EXAMPLE

- One heavy magazine
  5 levels with 2 pallets/level

Summary
10 Dynafix 350 pallets

ONE MAGAZINE EXAMPLE

- One rotary magazine
  2 levels with 36 pallets/level
  3 levels with 4 pallets/level

Summary
72 Macro 54 pallets
12 Dynafix 350 pallets

TWO MAGAZINES EXAMPLE

- Two heavy magazine
  10 levels with 2 pallets/level

Summary
20 Dynafix 350 pallets

THREE MAGAZINES EXAMPLE

- One light magazine
  8 levels with 10 pallets/level
- Two heavy magazine
  10 levels and 2 pallets/level

Summary
80 Macro 54 pallets,
20 Dynafix 350 pallets

THREE MAGAZINE EXAMPLE

- Three light magazines
  24 levels with 10 pallets/level

Summary
240 Macro 54 pallets

THREE MAGAZINE EXAMPLE

- Three heavy magazines
  15 levels with 2 pallets/level

Summary
30 Dynafix 350 pallets

THREE MAGAZINE EXAMPLE

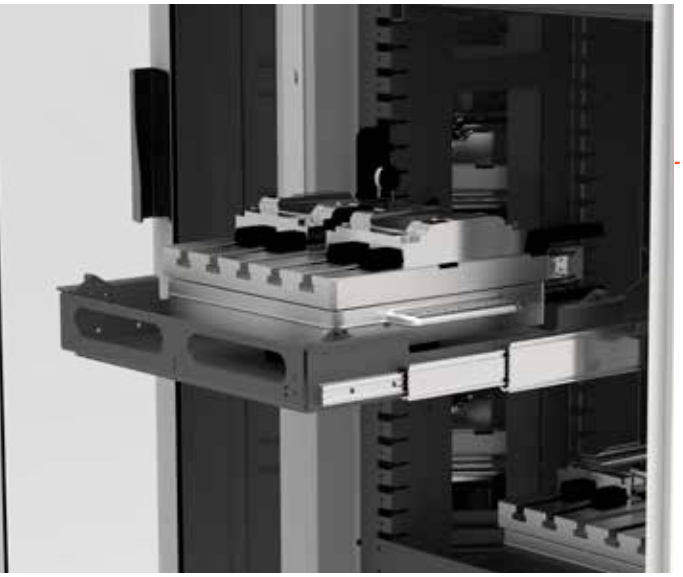
- Two light magazines
  16 levels with 10 pallets/level
- One heavy magazine
  5 levels and 2 pallets/level

Summary
160 Macro 54 pallets
10 Dynafix 350 pallets

DRAIN STATION
For emptying fluids from workpieces.

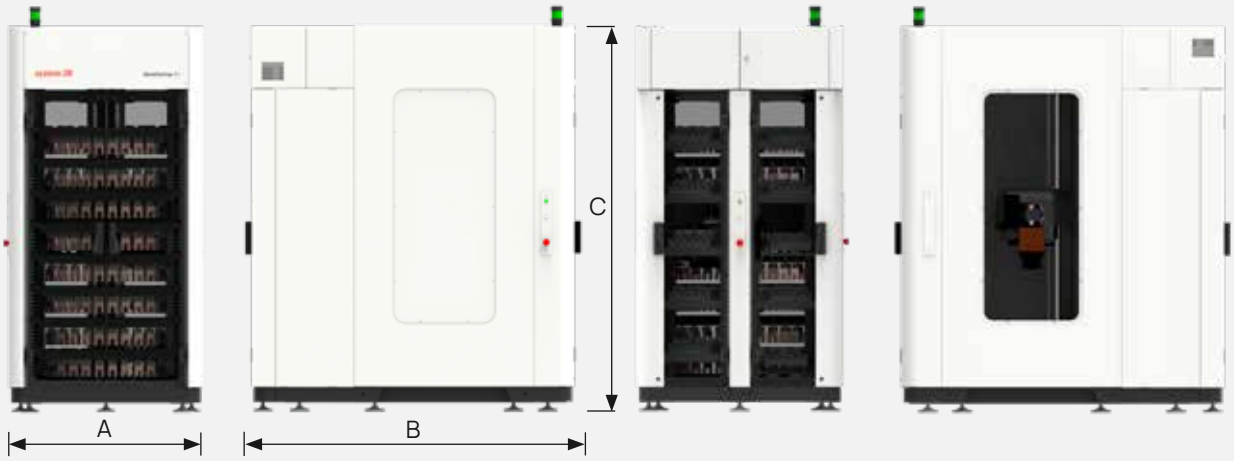
CELL PC
WorkPartner 1+ equipped with a Cell PC.

Options



LOAD STATION
Equipped with a sliding shelf for easy loading.
10 mm security glass in the door.

TECHNICAL SPECIFICATIONS



Configuration	Foot print
One light magazine	A = 1310, B = 1646, C = 2460 mm (A = 52, B = 65, C = 97 in)
One heavy magazine	A = 1310, B = 2043, C = 2460 mm (A = 52, B = 81, C = 97 in)
One rotary magazine	A = 1310, B = 2647, C = 2460 mm (A = 52, B = 104, C = 97 in)
Two light magazines	A = 1310, B = 1646, C = 2460 mm (A = 52, B = 65, C = 97 in)
Two heavy magazines	A = 1310, B = 2440, C = 2460 mm (A = 52, B = 96, C = 97 in)
One light and one heavy magazine	A = 1310, B = 2043, C = 2460 mm (A = 52, B = 81, C = 97 in)
One light and one rotary magazine	A = 1310, B = 2647, C = 2460 mm (A = 52, B = 104, C = 97 in)
One heavy and one rotary magazine	A = 1310, B = 3044, C = 2460 mm (A = 52, B = 120, C = 97 in)
One light and two heavy magazines	A = 1961, B = 2043, C = 2460 mm (A = 77, B = 81, C = 97 in)
Three light magazines	A = 1564, B = 1646, C = 2460 mm (A = 62, B = 65, C = 97 in)
Three heavy magazines	A = 1961, B = 2440, C = 2460 mm (A = 77, B = 96, C = 97 in)
Two light and one heavy magazine	A = 1564, B = 2043, C = 2460 mm (A = 62, B = 81, C = 97 in)

Specifications	
Transfer weight*	Up to 100 kg (220 lbs.) Includes pallet with workpiece
Max. X-reach	1244 mm (49 in). Two magazine version
Max. Z-reach	1500 mm (59 in)
Max. C-rotation	330 °
Required air pressure	6 ± 1 bar, 150 litres/minute
Power supply (Japan)	3x200 VAC
Power supply (North America)	3x480 VAC
Power supply (Europe)	3x400 VAC
Power consumption	Max 20A@3x200 VAC or 20A@3x400VAC
Frequency	50/60 Hz ± 1%
External fuse	20 Ampere, characteristic type D
Interface	RS-232, 24 V I/0 (Various) Industrial Field Buses
Double emergency stop	✓

Options and accessories	
Load station*	✓
Drain station*	✓
ID-system with or without automatic scanning	✓
Internal magazine lighting (LED)	✓
Cell PC with WSM software	✓
Customized color for outer covers	✓
Manual rail	✓

*With load and drain station total transfer weight 80 kg.

MAGAZINE CAPACITY

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

One magazine: L , H or R
Two magazines: L + L, H + H, L + H, H + R or L + R.
Three magazines: LHH, LLL, HHH & LHL

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.

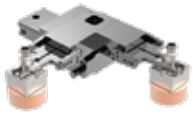
Pallet systems in the LIGHT magazine	No of levels	No of pallets/level	Total
Macro 50/70	8	10	80
Macro PT (70x70)	8	10	80
Macro 116	8	6	48
Macro chip guard	8	6	48
Matrix 110	8	6	48
Matrix 142	8	5	25
MacroMagnum 156	8	5	25
GPS 70	8	10	80
GPS 120	8	6	48
ITS50	8	10	80
ITS72	8	9	72
ITS115	8	6	48
ITS148	8	5	25

Pallet systems in the HEAVY magazine	No of levels	No of pallets/level	Total
Macro Magnum 156	5	4	20
Matrix 110	5	4	20
Matrix 142	5	4	20
GPS 240	5	2	10
Dynafix 280/350	5	2	10
Delphin Short (Fork/levelling head)	5	2	10
ITS148	5	4	20
UPC Fork/RCS	5	2	10

Pallet systems in the Rotary magazine	No of levels	No of pallets/level	Total
Macro 54	7	36	252
Macro 70	7	30	210
Macro 116	5	12	60
Matrix 110	5	12	60
Matrix 142	5	12	60
MacroMagnum 156	5	12	60
GPS 70	7	20	140
GPS 120	5	12	60
GPS 240	5	6	30
Dynafix 280	5	5	25
Delphin Short (Fork/levelling head)	5	5	20
ITS50	7	36	252
ITS148	5	12	60
UPC Fork/RCS	5	4	20

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.**

OPTIONAL GRIPPERS

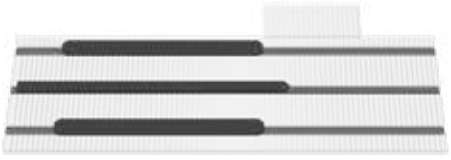


Double

Tilting

Turning

OPTION



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

WorkPartner 1+ with AMR integration

SINGLE CELL

WorkPartner 1+ with EDM machine in integration with AMR unit.
AMR with tray and lifter at a loading/unloading station at one of the machine's sides (where one machining centre only).

DOUBLE CELL

WorkPartner 1+ with Milling and EDM machine in integration with AMR unit.
AMR with tray and lifter at loading/unloading station that has an automatic door on it's magazine. There will be an option available on the WPT1+ Light magazine for AMR support to have access to load/unload the tray on the lifter when using one or two machines. The robotarm will move out through the light magazine. The number of tooling positions in the light magazine will be limited, due to this access (support coming beginning 2025).

WSM 5 – WorkShopManager 5

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 5 Statistics

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

system 3R

Use our Customer Services to optimise your equipment uptime

System 3R's Customer Services department is uniquely positioned to help you maximise the availability, value, precision and productivity of your System 3R equipment. Our cost-effective, customer-centric and expert services put your success at the centre, ramp up your productivity and ensure predictable, uninterrupted uptime.
System 3R's service engineers are your expert partners for a wide range of success-triggering services.
For further details, contact your local System 3R dealer.

www.system3r.com

TOOLING I AUTOMATION I SOFTWARE

System 3R Int'l AB, 2025.
Subject to modification.

Combi, Delphin, Dynafix, Locx, LX, Macro, Matrix, One Minute Set-Up, One System Partner, R2R, System 3R, VDP, WorkMaster, WorkPal, WorkPartner, WorkShopManager, 3HP, 3R, 3Ready-To-Run and 3Refix are registered trademarks of System 3R.

T-2718-E 27.03