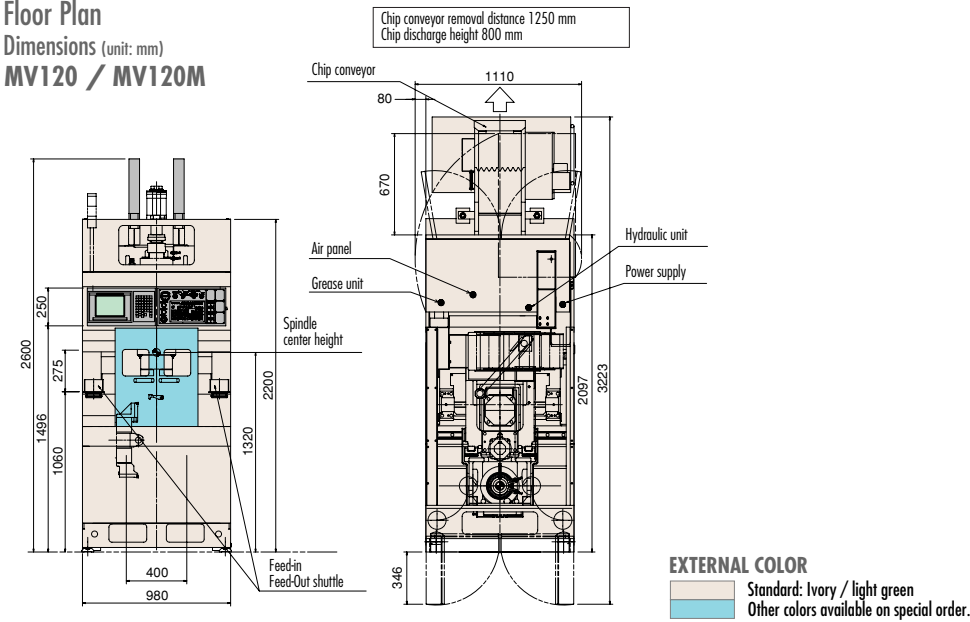


Specifications

Model		MV120	MV120M
Chuck size		φ 210 mm	
Spindle nose		JIS A2-5	
Diameter of spindle bore		φ 47 mm	
Maximum Work size		φ 120 mm x 80 mm (Option φ 180 mm x 80 mm)	
Axis stroke	X-axis	420 mm	
	Z-axis	200 mm	
Rapid traverse rate	X-axis	40 m/min	
	Z-axis	30 m/min	
I.D. of spindle bearing		φ 100 mm	
Spindle motor capacity		7.5 kW/30 min (Option 11 kW/30 min)	
Spindle speed		40 ~ 4,000 rpm	
Machine size (W x D x H)		980 mm (W) x 2,060 mm (D) x 2,350 mm (H)	
Floor area		2.02 m²	
Machine weight		4,000 kg	4,100 kg
Number of turret stations		8-Station Servo (□ 20 mm · φ 40 mm)	8-Station Servo (□ 20 mm · φ 40 mm) <small>*Live tool position available on all 8 turret stations</small>
Customized tooling area		360 mm (W) x 245 mm (H)	
Live tool motor		—	2.5 kW (Servo)
Live tool speed		—	4,000 rpm

Floor Plan
Dimensions (unit: mm)
MV120 / MV120M



■ Safety Specification
For EU countries, machines are built with CE-safety conformity.

* Machine appearance may differ to that shown in the catalogue pictures.
* All specifications are subject to change without advance notice.

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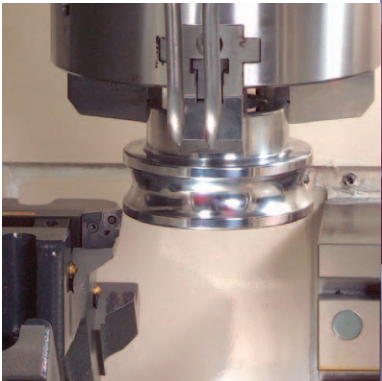
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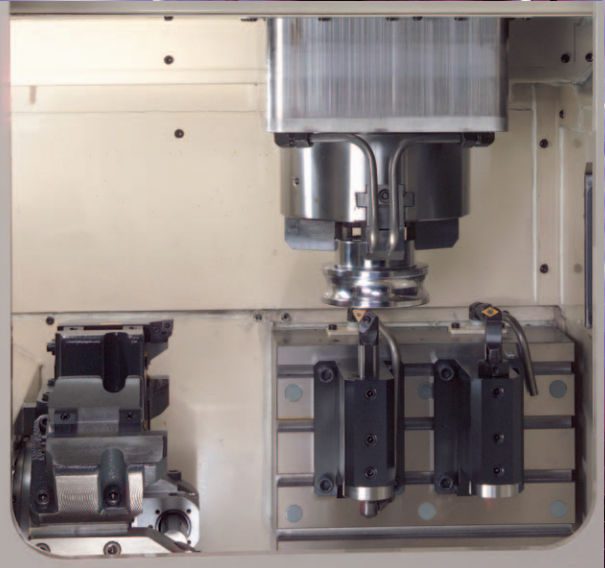
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Self-loading Chucker

**MV120 /
MV120M**



Revolutionizing the Production Line!

A New Approach Towards Modular, Economical Line Planning

Inverted Spindle, Self-loading Chucker

MV120

Place Part / Pick-up Part

2.4 Seconds!

MV120

Lean Production Concept! Walkthrough Operation!!

Designed to meet requirements in lean, economical production for modular line planning, MV120 is an external manual place & pick up self-loading chucker. Compact machine width allows space saving modular line planning. MV120 is an ideal production solution for process integration, economical line planning for continuous variable production needs.

- Fully automatic and stable self-load / unload of part by spindle chuck
- Fatigueless, easy external part place & pick up. No skilled operation required!
- Quick self-load / unload by chuck reduces idle time
- 2.5 times increase in productivity and reduced labor cost

Partial Replacement of
Current Production Line

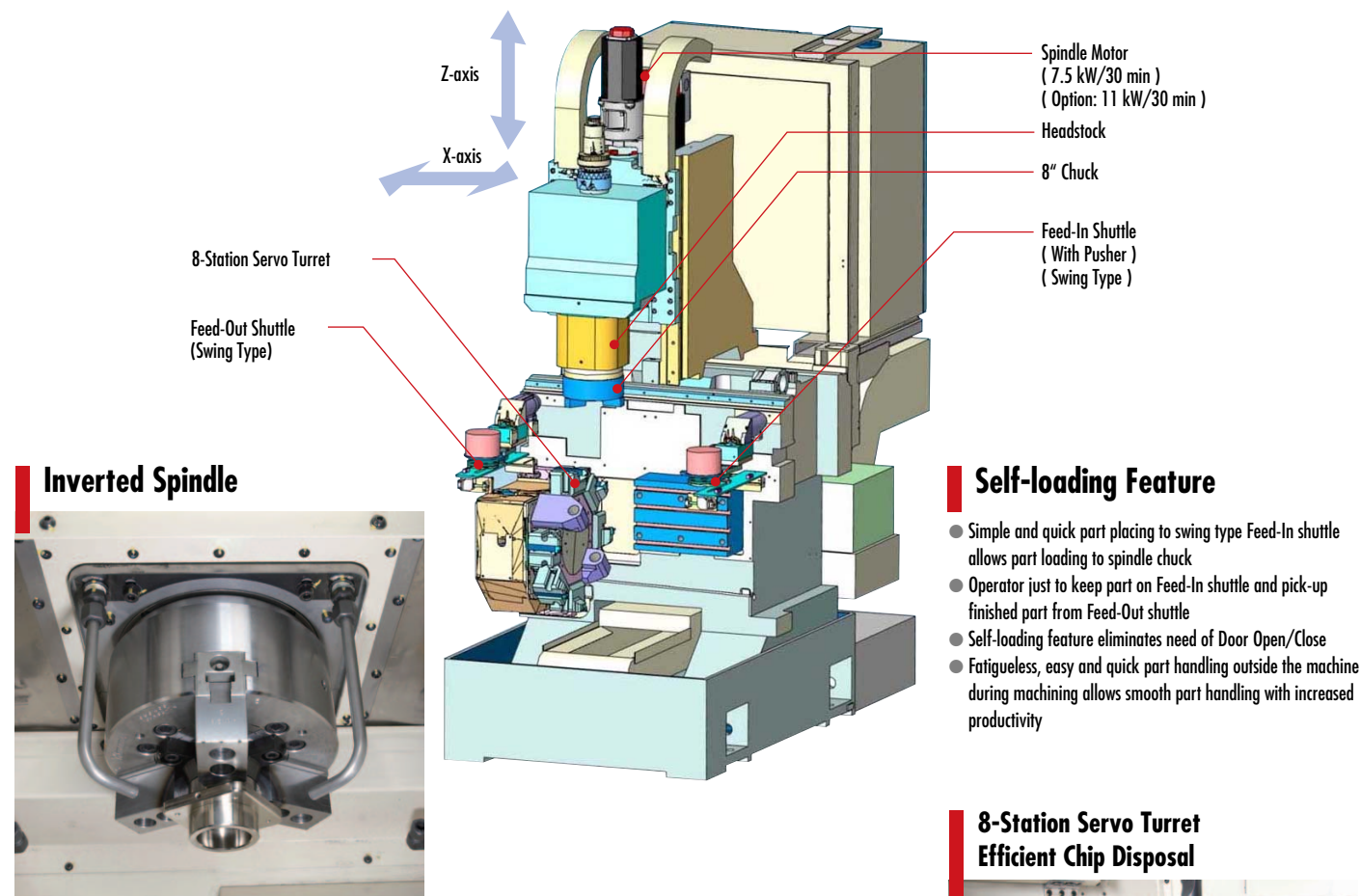
Replacement of
Old Machines

New Set-up / Production
Capacity Enhancement

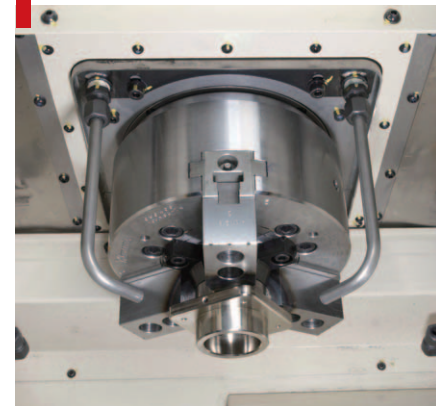
muratec

Walkthrough Operation! A new Approach!

Inverted Spindle Self-loading Chucker with unparalleled operation ease, numerous features and economical production

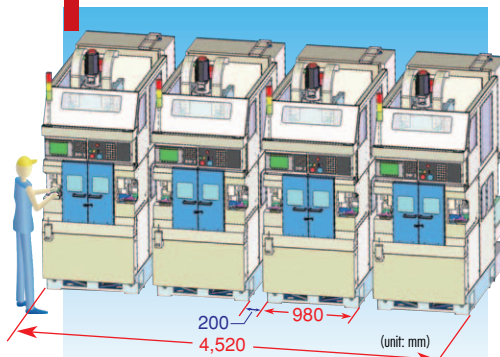


Inverted Spindle



- Inverted spindle design allows automatic part self-loading using X-axis movement
- Quick part clamping reduces cycle time
- Stable part clamping using 3 point part resting and spring pusher feed-in shuttle construction.
- Direct free fall of chips adhered to part and chuck. Chuck center coolant blow further improves chip disposal

Compact Modular Line Planning Machine Width 980 mm



- Compact design reduces operator movements in between machines
- Front and rear side maintenance access design allows changes in operation line through adding or removing machines in line planning any time
- Compact modular planning for several machines is possible

Customized Tooling Area

- Customized tool mounting plate is provided as a standard feature
- Fixed or compound tooling application reduces production time
- Flexible utilization of customized tooling area allows process integration to meet customer needs

Feed-In / Feed-Out Shuttle

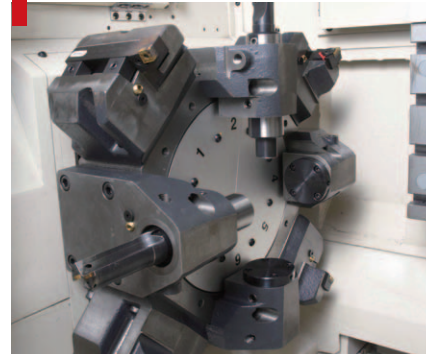


- Simple and quick part placing on swing type Feed-In shuttle allows part loading to spindle chuck
- Automatic part loading enables stable, consistent part seat seating in chuck. This improves chucking performance compared with manual direct loading to chuck.
- Part Feed-Out shuttle automatically unloads finished part
- Automatic unloading and transfer to outside machine reduces unloading time

Self-loading Feature

- Simple and quick part placing to swing type Feed-In shuttle allows part loading to spindle chuck
- Operator just to keep part on Feed-In shuttle and pick-up finished part from Feed-Out shuttle
- Self-loading feature eliminates need of Door Open/Close
- Fatigueless, easy and quick part handling outside the machine during machining allows smooth part handling with increased productivity

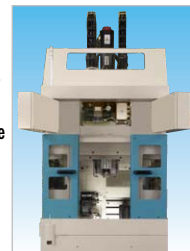
8-Station Servo Turret Efficient Chip Disposal



- Vertical construction turret allows efficient chip fall with centrifugal force
- Chips accumulated at tool cutting area fall freely with gravity force during index

Easy Set-up Change

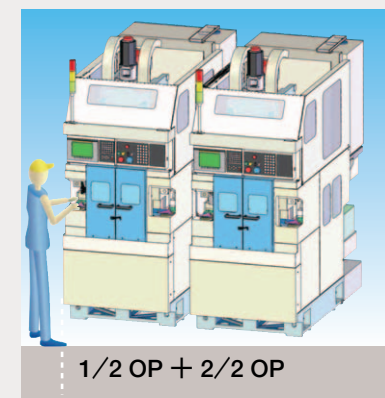
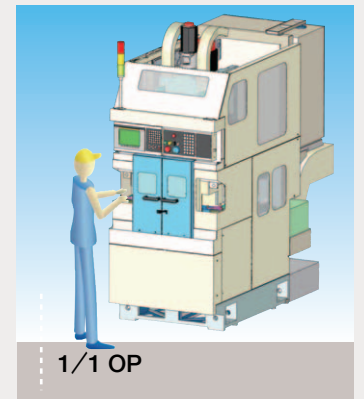
- The wide-open front of the machine permits the operator convenient access to the spindle and turret.
- Feed shuttles set-up change through easy replacement of part seating two plates
- Parts requiring positioning using pin locations can be replaced with parts seating plates having positioning pins



980mm

Line Planning for Variable Production Needs Easy Process Change With Manual Machines Concept

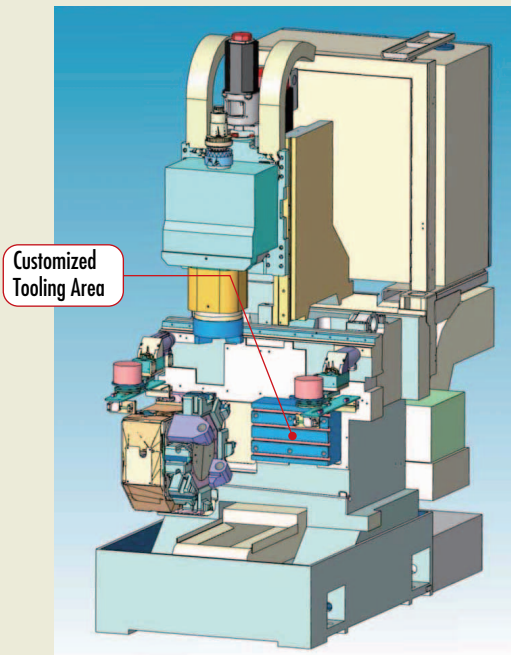
Independent single process machine line construction allows changes in manufacturing processes for same or identical parts as well as new line planning for new parts. Customize tooling area further helps for process change. MV120 is ideal design for variable production needs with optimum production requirements.



State-of-the-art Know-how Designed for Process Integration and Continuous Variable Production Needs

OPTION 1

Customized Tooling Area for Multi-functional Applications



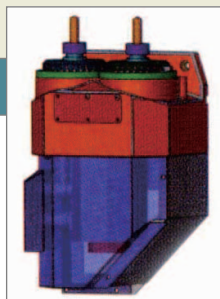
Customized Tool Plate

Customized tooling area is available as standard for multi-functional applications in tooling or special process to fit customer requirements in quick, economical production and process integration. 8-station high speed servo turret with fixed/ live tooling in customized area allows multiple process in compact layout and reduction in production costs.

Customized Tooling Area

- Live Tools
- Grinder
- Chamfering Unit

Drill, Tap, Multi-spindle head driven by single motor etc can be installed



Live Tool 1 unit
(2 Live tool Head, 1 motor)

High Powered Process Integration for Mass Production! Simultaneous multiple drilling/ tapping reduces production time drastically

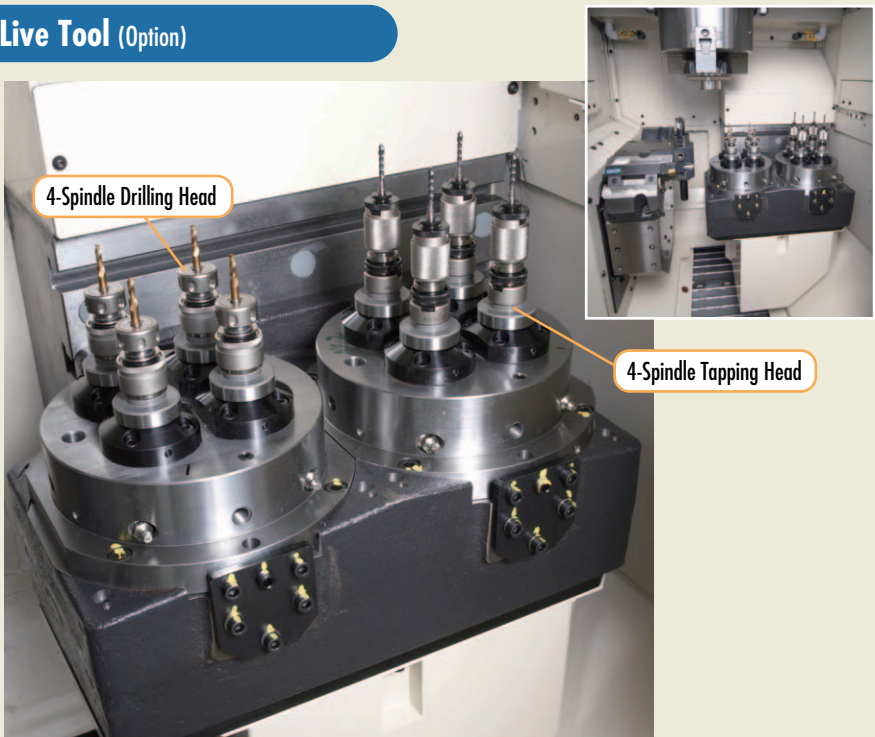
Multi-spindle Live Tool (Option)

Two multi-spindle live tool heads driven by single servo motor can be installed at customized area. Simultaneous live tool operation reduces production time and cost.

Specifications

Live tool motor	1.8 kW Servo type
Max. live tool speed	3,000 rpm
Tool size	Drilling ϕ 6 mm
(For 4-Spindle head)	Tapping M6
Max. tool length	50 mm
Tool pitch diameter range	4-spindle head 70 to 100 mm
	2-spindle head 50 to 100 mm
Quick change tool holder	Stub Holder KH-12E (NT Tool)

Note: Live tool motor unit is standard. The multi-spindle live tool heads are designed as per required specifications.



OPTION 2

8-Station Turret Live Tools (Option)

Enhanced Process Flexibility

MV120M Application

Machining Process

1. Turning
2. Turning+Live Tools
3. Drilling / Tapping
4. Milling
5. Multi-Spindle Operation

Specifications to suit specific requirements in mass, batch type and continuous variable production needs.

Specifications

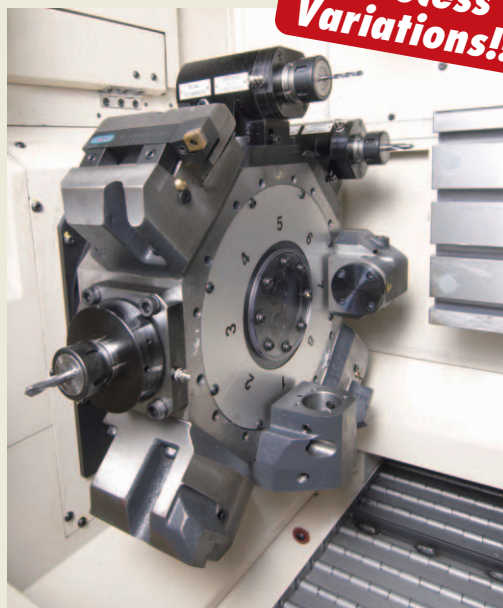
Live tool motor	2.5 kW Servo type
Max. live tool speed	4,000 rpm
	Drilling ϕ 12 mm
Tool size	Milling ϕ 16 mm
	Tapping M12
C-axis positioning accuracy	0.001° (Least move increment)



Face Milling Head



Cross Milling Head



Live tool specification 8-station servo turret
Live tool position available on all 8 turret stations

1 Machine
5 Process
Variations!!

OPTION 3

First Piece OK!

First component accuracy ± 6 microns after insert replacement

Improved system efficiency with "First Piece OK" feature

After change of insert, start the cycle. The system automatically produces first component within the tolerance without trials and manual offset corrections. Auto In-process gauging and auto tool wear compensation function allows precision component size control. Opposite side two O.D. and I.D. position gauging enables high precision gauging with no effect of thermal variation.

Process Flow



Max. Part Diameter 180 mm

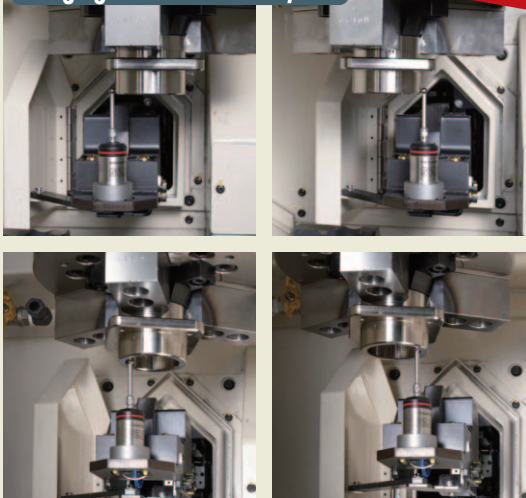
Inverted spindle, wide X-axis stroke from machine center allows 2-position gauging of part with maximum diameter of 180 mm

Gauge Head Away from Cutting Area

The In-process gauge head is away from cutting area and mounted in machine bed area. The coolant, cutting chips, vibrations does not affect gauging accuracies and allows stable gauging for longer life.

Gauging Precision 3 μ m

Part Accuracy $\pm 6 \mu$ m



In-Process Gauge