



# MV1 / MV3



# **Vision Manufactured**

At Quaser Group, we dedicate to

**Creating a world where there is no gap between design concept and manufacturing to maximize the power of engineering.**

**Whatever you design, we can make it to upgrade your competitive edge.**

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# Machine Structure

## ▲ MV1

Travel X / Y / Z: 661 / 572 / 560 (mm)



Motor		MV1				
Spindle code		12C	15C	20C	18M	24M
X / Y / Z (kW)	F	3 / 3 / 4				
	T	3.1 / 3.1 / 4.5	4.5 / 4.5 / 5.4	-	4.5 / 4.5 / 5.4	
	S	3.55 / 4 / 4	3.55 / 4 / 5.5	-	3.55 / 4 / 5.5	

FANUC = F SIEMENS = S HEIDENHAIN = T

Note: The object might be different from the photo of catalogue if there is any specification update.

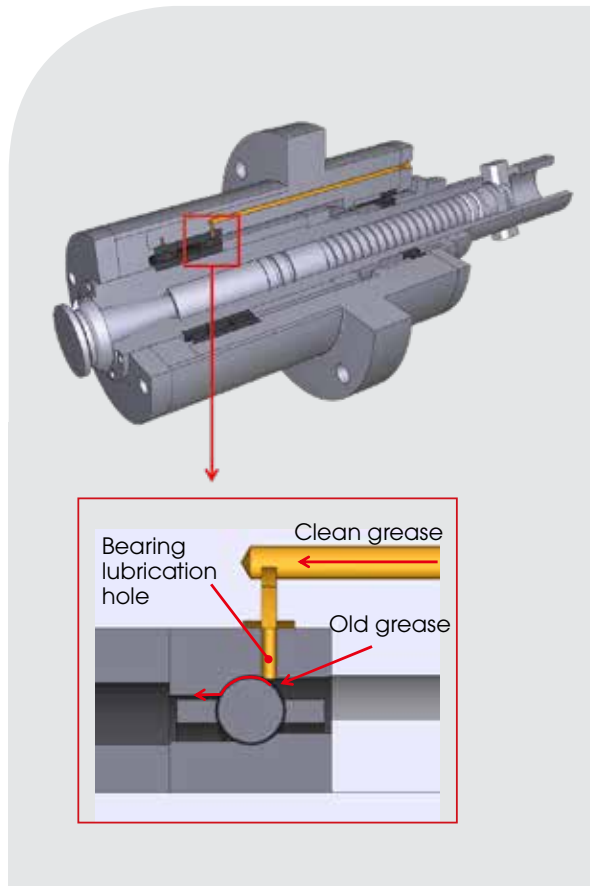
## ▲ MV3

Travel X / Y / Z: 1,020 / 610 / 610 (mm)



MV3					
12C	15C	20C	18M	24M	
3/3/4					
3.1/3.1/4.5	4.5/4.5/5.4	-	4.5/4.5/5.4		
3.55/4/4	3.55/4/5.5	-	3.55/4/5.5		

# Unique Spindle Technology

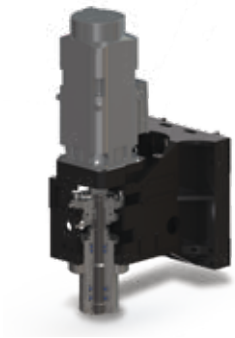


Re-grease supply system is stable and eco-friendly by supplying new grease intermittently to bearings during high speed rotation.



Standard on all models

Spindle	SC-4.2
Shaft diameter	Ø80 / Ø70
Spindle Taper	ISO-40
Bearing arrangement	<< >>
Ball bearing type	Ceramic
Roller bearing type	-
Bearing lubrication	Grease packed
Transmission	Coupling
Spindle Speed	12,000
<b>FANUC (S6-25%)</b>	
Motor	αiIT12/12,000 (βiSVSP-18-B)
Spindle base speed (min <sup>-1</sup> )	1,500
Spindle power (kW)	18.5
Spindle torque (Nm)	118
<b>HEIDENHAIN (S6-25%)</b>	
Motor	QAN200UH (Compact inverter)
Spindle base speed (min <sup>-1</sup> )	1,500
Spindle power (kW)	17
Spindle torque (Nm)	108
<b>SIEMENS (S6-25%)</b>	
Motor	1PH8133-combi
Spindle base speed (min <sup>-1</sup> )	1,500
Spindle power (kW)	17.6 (S6-40%)
Spindle torque (Nm)	112 (S6-40%)
CTS Availability	
Available NC Adapting	
MV1	● ● ●
MV3	● ● ●



MC-4.1R	MC-4.0R	MS30-20	MS30-24
Ø80 / Ø65	Ø70 / Ø60	Ø80	Ø80
ISO-40 / HSK A63	ISO-40 / HSK A63	HSK A63	HSK A63
< >=	< >=	<<> >	<<> >
Ceramic	Ceramic	Ceramic	Ceramic
Steel	Ceramic	-	-
Re-grease	Re-grease	Oil air	Oil air
Coupling	Coupling	Built-in	Built-in
15,000	20,000	18,000	24,000
αilT15/15,000 (SPM30)	αilL8/20,000 (SPM30)	-	-
1,400	1,500	2,420	2,650
26	15	31.7	32.2
177	125	125	116
1PH8131	-	-	-
2,000	-	3,330	3,460
27.7	-	43.5	42
132	-	125	116
1PH8131	-	-	-
2,000	-	3,330	3,460
27.7	-	43.5	42
132	-	125	116
●			
(F) FANUC (T) HEIDENHAIN (S) SIEMENS			

○ ○ ○	○	○ ○ ○	○ ○ ○
○ ○ ○	○	○ ○ ○	○ ○ ○

● (F) = FANUC ● (T) = HEIDENHAIN ● (S) = SIEMENS

# ATC System



**30 ATC (std.)**



**48 ATC (opt.)**







**60 ATC (opt.)**



**ATC auto door (std.)**



# Coolant system & Chip management



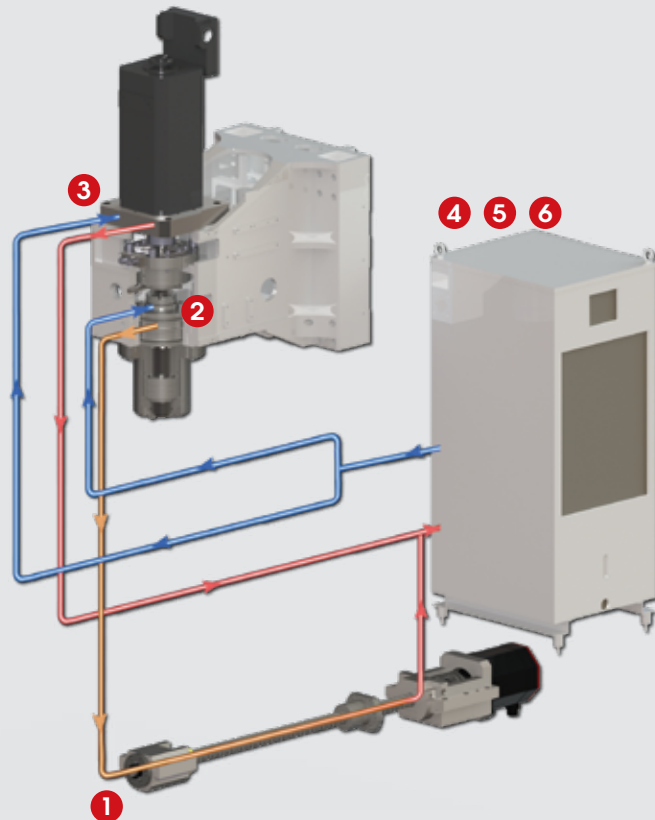
		MV1	MV3
<b>A</b>	Coolant tank	350L	480L
<b>B</b>	Coolant through spindle	8 bar	8 bar
<b>C</b>	Nozzle coolant	3 bar	3 bar
<b>D</b>	Wash gun	Std.	Std.
<b>E</b>	Chip augers	Std.	Std.
<b>F</b>	Chip conveyor	Scrapers type	Std.
<b>G</b>	Filtration unit	Opt.	Opt.
<b>H</b>	High-angle telescopic cover design with excellent chip	Std.	-
<b>I</b>	Wash down	1.1 bar	3 bar



# Thermal Management

To meet the rigorous requirements of working accuracy, here are the Thermal Management.

- 1 Coolant through ball screw.
- 2 Spindle cooling circuit.
- 3 Motor mounting block cooling circuit.
- 4 Oil chiller 6,000 BTU.
- 5 Oil chiller 12,000 BTU.
- 6 Oil chiller 18,000 BTU.



	MV1		MV3	
	Coupling	Built-in	Coupling	Built-in
1	○	○	○	○
2	● Note2	●	● Note2	●
3	●	×	●	×
4	● Note1	×	● Note1	×
5	● Note2	×	● Note2	×
6	×	● Note3	×	● Note3

Note1: 15,000 rpm / ● Note2: 15,000 rpm / ● Note3: 18,000 / 24,000 rpm / ●

# Easy Operation



**a** Front door opening at  
- MV1: 710 mm  
- MV3: 1,050 mm

**b** Ergonomic operation panel with adjustable angle

**c** Convenient distance from operator to the spindle  
- MV1: 715 mm  
- MV3: 861 mm

**d** Table to front door with easy accessibility  
- MV1: 154 mm  
- MV3: 255 mm

# Technical Data

Technical Data		MV1 / MV3
Spindle code		12C
<b>Main spindle</b>		
Spindle taper		40 Taper
<b>Work range</b>		
Table size (mm)		940 x 550 <b>1,200 x 600</b>
Travel X / Y / Z (mm)		661 / 572 / 560 <b>1,020 / 610 / 610</b>
Spindle nose to table surface (mm)		100 ~ 660 <b>100 ~ 710</b>
Table load capacity (kg)		500
<b>Feed drive</b>		
Feed force X / Y / Z (N)	F	6,283 / 6,283 / 11,519
	T	6,807 / 6,807 / 9,268
	S	11,519 / 14,137 / 14,137
Rapid movement X / Y / Z (m/min)		36 / 36 / 36 <b>32 / 32 / 32</b>
<sup>(1)</sup> Acceleration X / Y / Z (m/s <sup>2</sup> )	F	6 / 5 / 4 <b>3.5 / 3.5 / 3</b>
	T	3 / 3 / 2.5 <b>2 / 2 / 2</b>
	S	4.5 / 4 / 5.5 <b>3.5 / 2.5 / 2</b>
Dia. & pitch of the ball screw (mm)		Ø40 / P = 12 / 12 / 12 <b>Ø45 / P = 12 / 12 / 12</b>
<b>Tool changer</b>		
Tool selection		Random
Magazine positions		30 (std.) 48 / 60 (opt.)
Max. tool diameter (mm)		Ø 76.2
w/o adjacent tool (mm)		Ø 150 <b>Ø125</b>
Max. tool length (mm)		300 <b>280</b>
Max. tool weight (kg)		10 <b>7</b>
T to T time-ISO 10791-9 (sec.)-60Hz		1.7±0.2
C to C time-ISO 10791-9 (sec.)-60Hz		4.7±0.2

Control: (F) FANUC (S) SIEMENS (T) HEIDENHAIN

**MV1 / MV3**

15C

20C<sup>(2)</sup>

18M

24M

40 Taper

940 x 550 **1,200 x 600**

661 / 572 / 560 **1,020 / 610 / 610**

100~660 **100 ~ 710**

500

4,712 / 4,712 / 8,639 **4,712 / 4,712 / 11,519**

6,951 / 6,951 / 10,249 **6,951 / 6,951 / 13,666**

8,639 / 10,603 / 11,781

48 / 48 / 48 **40 / 40 / 36**

4.5 / 4 / 4 **4 / 4 / 4**

4.5 / 3.5 / 5.5 **3.5 / 2.5 / 5**

5 / 4.5 / 5.5 **4 / 2.5 / 5**

Ø40 / P = 16 / 16 / 16 **Ø45 / P = 16 / 16 / 12**

Random

30 (std.) 48 / 60 (opt.)

Ø 76.2

Ø 150 **Ø125**

300 **280**

10 **7**

1.7±0.2

4.7±0.2

# Technical Data

Technical Data	MV1 / MV3
Spindle code	12C
<b>Main spindle</b>	
Spindle taper	40 Taper
<b>Coolant system</b>	
Coolant tank capacity (Liter)	350L 480L
Pump capacity	
-Nozzle coolant	75L / min, 3bar
-Coolant through spindle	25L/min, 8bar
-Wash down	75L / min, 1.1bar 75L / min, 3bar
<b>Machine size</b>	
Height (mm)	3,005 3,030
Floor space W x D (mm)	
30ATC / 48ATC	2,470 x 3,305 2,800 x 3,430
60ATC	2,470 x 3,305 2,800 x 3,450
Weight (kg)	6,000 (30ATC) 6,400 (48ATC) 6,600 (60ATC) 7,090
<b>Connections</b>	
Main power	220~230V / 50~60 Hz, 380~415V/50~60Hz
Power consumption (KVA)	30(F)(T)(S)

Note: <sup>(1)</sup>Test condition: values are measured by half of the maximum table load capacity.

<sup>(2)</sup>Only for FANUC control.

- Machine specification might be different from the catalogue if there is any specification update.



<b>MV1 / MV3</b>			
15C	20C <sup>(2)</sup>	18M	24M
40 Taper			
350L 480L			
75L / min, 3bar			
25L/min, 8bar			
25L/min, 1.1bar 75L / min, 3bar			
3,005 3,030			
2,470 x 3,305 2,800 x 3,430			
2,470 x 3,305 2,800 x 3,450			
6,000 (30ATC) 6,400 (48ATC) 6,600 (60ATC) 7,090			
220~230V / 50~60 Hz, 380~415V/50~60Hz			
25(F) 30(T) 35(S) 30(F) 35(T)(S)	30(F)	25(F) 30(T)(S) 40(F) 50(T) 45(S)	

Control: (F) FANUC (S) SIEMENS (T) HEIDENHAIN

# Standard / Optional Accessories

Standard / Optional Accessories	MV1				
	12C	15C	20C	18M	24M
Spindle code					
FANUC 0iMF Plus	○	○	○	○	○
FANUC 31iB Plus	○	○	○	○	○
HEIDENHAIN TNC640	○	○	×	○	○
SIEMENS 828D	○	○	×	○	○
40 Taper 30 position tool magazine	●	●	●	●	●
40 Taper 48 position tool magazine	○	○	○	○	○
40 Taper 60 position tool magazine	○	○	○	○	○
ATC auto door	●	●	●	●	●
Tooling	- BT40	●	○	×	×
	- ISO40 & DIN40	○	○	○	×
	- HSK A63	×	○	○	●
Balance tooling for spindle warm up	●	●	●	●	●
4th axis preparation	●	●	●	●	●
Ø255mm rotary table & tail stock	○	○	○	○	○
Transformer <sup>(1)</sup>	○	○	○	○	○
Linear scale	○	○	○	○	○
Work probe	○	○	○	○	○
Tool length / breakage measurement	○	○	○	○	○

●=Standard ○=Option X=N/A

Standard / Optional Accessories	MV1				
	12C	15C	20C	18M	24M
Spindle code					
Coolant system	●	●	●	●	●
Coolant wash down / wash gun	●	●	●	●	●
Coolant through ball screw	○	○	○	○	○
Coolant through spindle 8 bar	●	●	●	●	●
Coolant through spindle 20 bar	○	○	○	○	○
Coolant through spindle 50 bar	○	○	○	○	○
Cutter air blast	●	●	●	●	●
Chip auger	●	●	●	●	●
Scraper external lift-up conveyor	●	●	●	●	●
Oil-mist collector	○	○	○	○	○
Filtration unit	○	○	○	○	○
Documentation (USB) <sup>(2)</sup>	●	●	●	●	●
Total Enclosure Guard (with Top side cover)	●	●	●	●	●
Work light	●	●	●	●	●
Machine status light	●	●	●	●	●
CE	●	●	●	●	●

Note: <sup>(1)</sup> Transformer as standard or optional item will be varied according to control system and power supply condition.

<sup>(2)</sup> Paper documentation is optional.

- Machine specification might be different from the catalogue if there is any specification update.

# Standard / Optional Accessories

Standard / Optional Accessories	MV3				
	12C	15C	20C	18M	24M
Spindle code					
FANUC 0iMF Plus	○	○	○	○	○
FANUC 31iB Plus	○	○	○	○	○
HEIDENHAIN TNC640	○	○	×	○	○
SIEMENS 828D	○	○	×	○	○
40 Taper 30 position tool magazine	●	●	●	●	●
40 Taper 48 position tool magazine	○	○	○	○	○
40 Taper 60 position tool magazine	○	○	○	○	○
ATC auto door	●	●	●	●	●
- BT40	●	●	○	×	×
Tooling					
- ISO40 & DIN40	○	○	○	×	×
- HSK A63	×	○	○	●	●
Balance tooling for spindle warm up	●	●	●	●	●
4th axis preparation	●	●	●	●	●
Ø255mm rotary table & tail stock	○	○	○	○	○
Transformer <sup>(1)</sup>	○	○	○	○	○
Linear scale	○	○	○	○	○
Work probe	○	○	○	○	○
Tool length / breakage measurement	○	○	○	○	○

●=Standard ○=Option X=N/A

Standard / Optional Accessories	MV3				
	12C	15C	20C	18M	24M
Spindle code					
Coolant system	●	●	●	●	●
Coolant wash down / wash gun	●	●	●	●	●
Coolant through ball screw	○	○	○	○	○
Coolant through spindle 8 bar	●	●	●	●	●
Coolant through spindle 20 bar	○	○	○	○	○
Coolant through spindle 50 bar	○	○	○	○	○
Cutter air blast	●	●	●	●	●
Chip auger	●	●	●	●	●
Scraper external lift-up conveyer	●	●	●	●	●
Oil-mist collector	○	○	○	○	○
Filtration unit	○	○	○	○	○
Documentation (USB) <sup>(2)</sup>	●	●	●	●	●
Total Enclosure Guard (with Top side cover)	●	●	●	●	●
Work light	●	●	●	●	●
Machine status light	●	●	●	●	●
CE	●	●	●	●	●

Note: <sup>(1)</sup> Transformer will be varied according to control system and power supply condition.

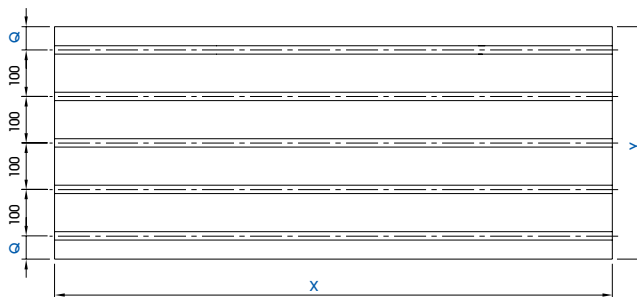
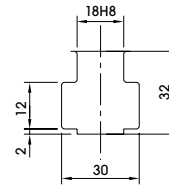
<sup>(2)</sup> Paper documentation is optional.

- Machine specification might be different from the catalog if there is any specification update.

# Machine Dimensions

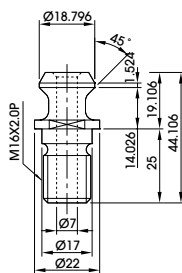
## Table dimension

	MV1	MV3
<b>X</b>	940	1200
<b>Y</b>	550	600
<b>Q</b>	75	100

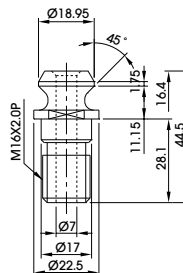


## Pull stud and applicable tools

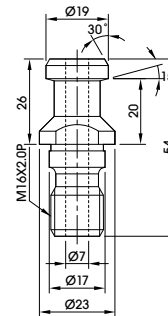
### BT 40



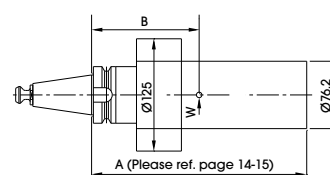
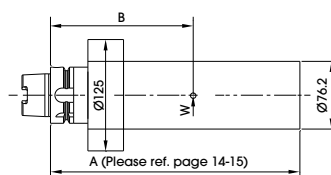
### ISO (7388-B)



### DIN (69872-A)

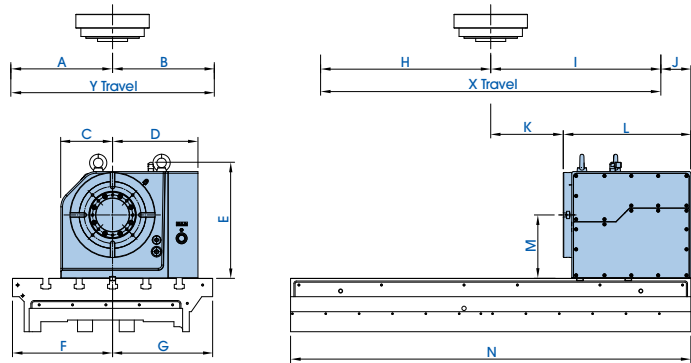


<b>B</b>	tool median point distance
<b>W</b>	tool weight
MOMENT=W*B ( ≤ 10.29N-m)	
MOMENT=W*B ( ≤ 9.85N-m)	

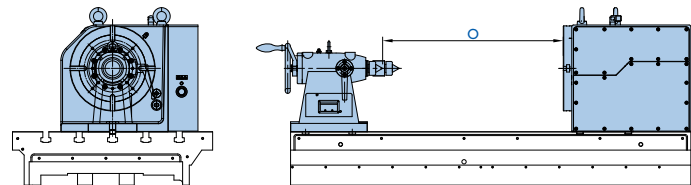


### GVA255HBII

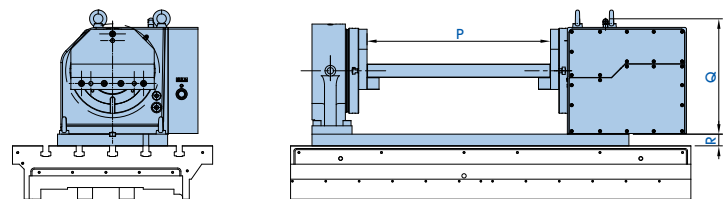
	MV1	MV3
<b>A</b>	286	305
<b>B</b>	286	305
<b>C</b>	155	155
<b>D</b>	256	256
<b>E</b>	348	348
<b>F</b>	375	300
<b>G</b>	175	300
<b>H</b>	330.5	510
<b>I</b>	330.5	510
<b>J</b>	139.5	90
<b>K</b>	87.5	217.5
<b>L</b>	382.5	382.5
<b>M</b>	190	190
<b>N</b>	940	1200
<b>O</b>	281.5	541.5
<b>P</b>	340	550
<b>Q</b>	391	346
<b>R</b>	35	35



### GVA255HBII+ST255



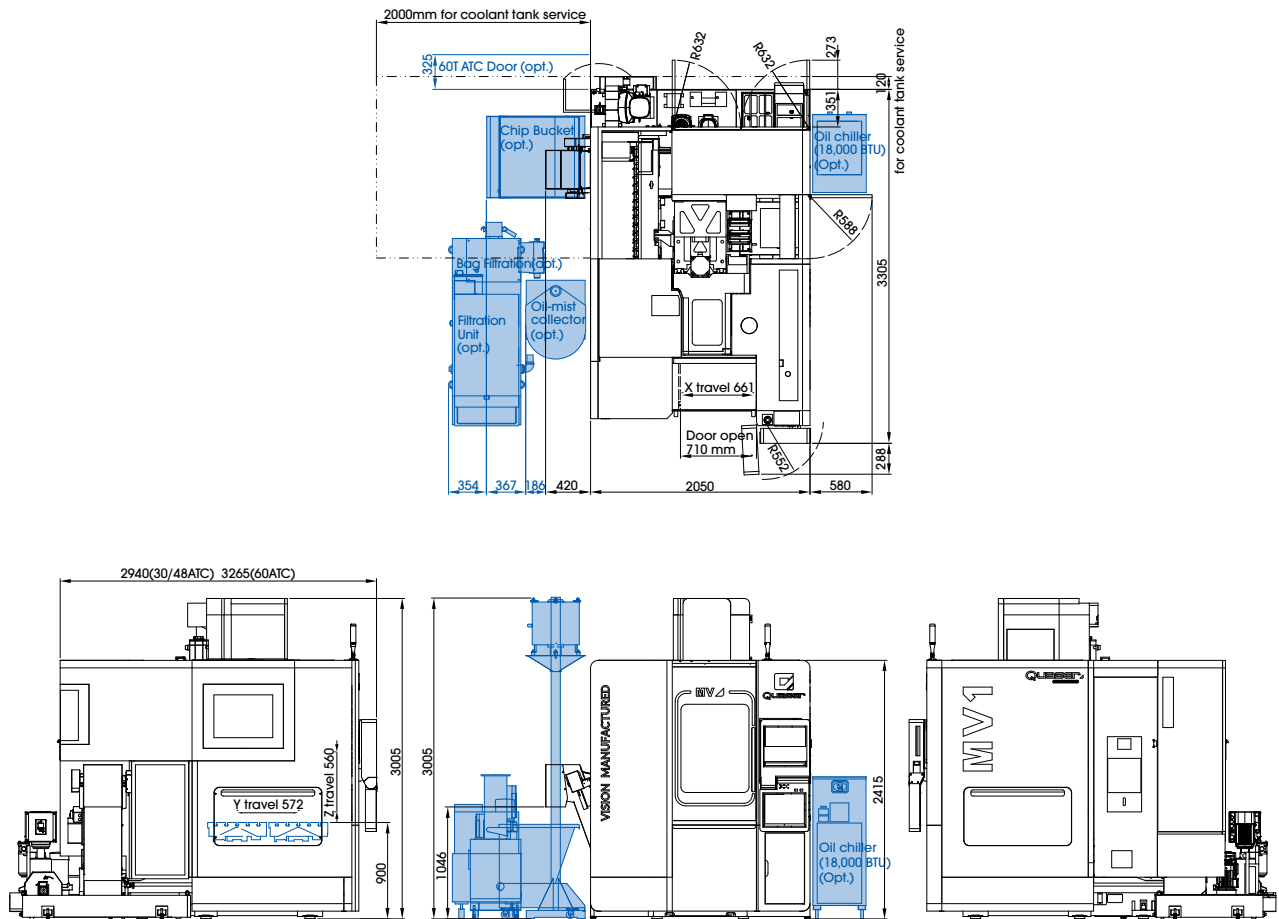
### GVA255HBII-Flxture 2



# Machine Dimensions

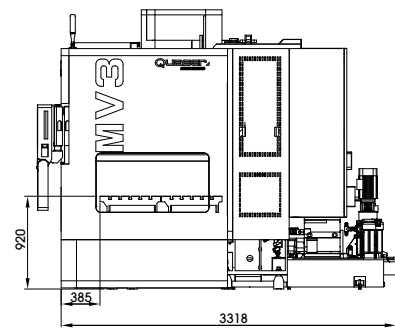
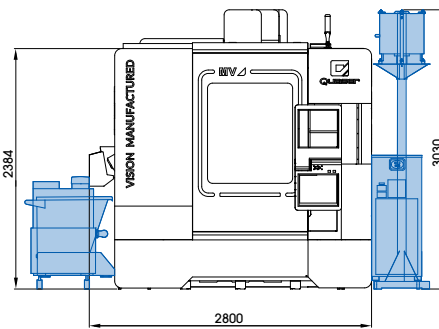
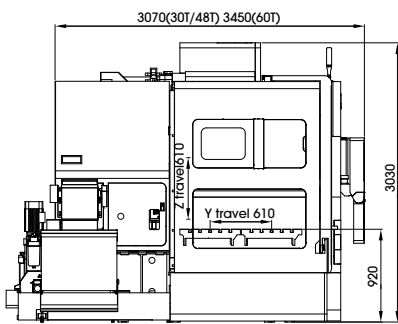
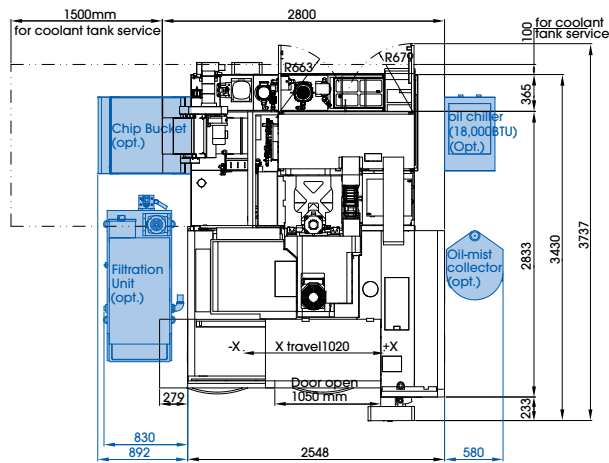
## Dimension installation

### MV1





# MV3



# Carbon Reduction & Green Power



Quaser in the future will not only dedicate to technology in new field, but also contribute to escalating Cooperate Social Responsibility, such as obtain carbon neutral within 5 years. Instead of urging, we will lead stakeholders to reach the goal together.

We are trying to implement a sustainable economy, build healthy cities with the world, and create a prosperous future.

Business or Citizens, everyone is accountable to save the world.

We would never achieve it without your support.

Let's create a green future and start it from today, everyday!

ISO 9001 / ISO 14001 / ISO 14952-1



# QUASER Group



## Taichung Taiwan

No.3, Gong 6th Rd., Youshih Industrial Park,  
Dajia Dist, Taichung City 43768, Taiwan

www.quaser.com  
sales@qmt.com.tw  
T +886 4 2682 1277  
F +886 4 2682 1266



## Jiangsu China

No.503, Building 002, 555 Hengchangjing  
Road, Zhoushi Town, Kunshan City, Jiangsu,  
P.R. China

qmtc@qmt.com.tw  
T 0512 8262 7139  
F 0512 8262 7138



## Heiligenhaus Germany

Carl-Zeiss-Straße 22, 42579 Heiligenhaus,  
Germany

qe@qmt.com.tw  
T +49 205 6259 6780  
MB +49 160 799 9819



## South Carolina USA

3049 Southcross Boulevard, Suite 105 Rock  
Hill, South Carolina 29730 USA

sales@winbrogroup.com  
T +1 803 985 9481 (Sales)  
F +1 888 948 6400 (Service)



## Leicestershire UK

Unit 1, Gelders Hall Road, Shepshed  
Leicestershire LE12 9NH, UK

sales@winbrogroup.com  
T +44 (0)1530 516 000

