



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.

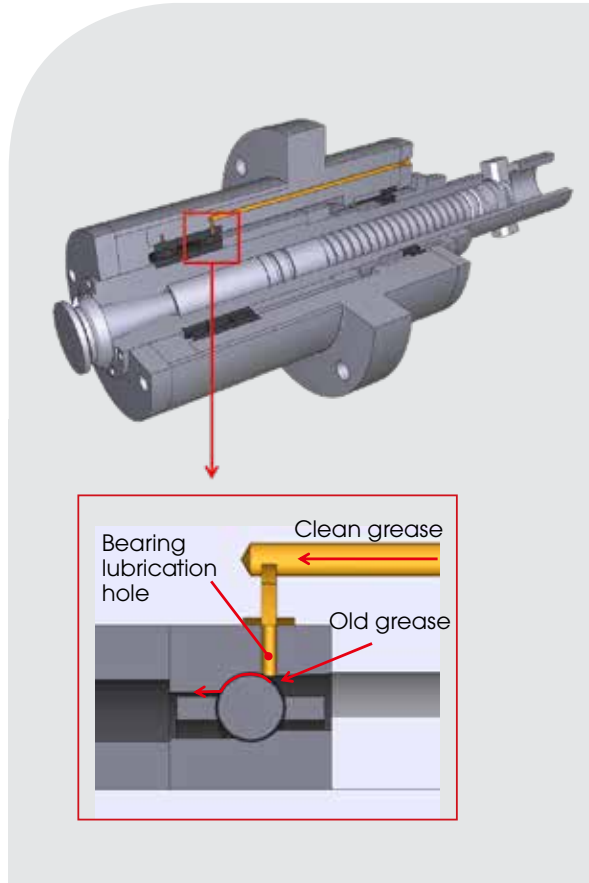
MV3

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

FANUC (S6-25%)

Motor	αiLT12/12,000 (BiSVSP-18-B)
Spindle base speed (min ⁻¹)	1,500
Spindle power (kW)	18.5
Spindle torque (Nm)	118

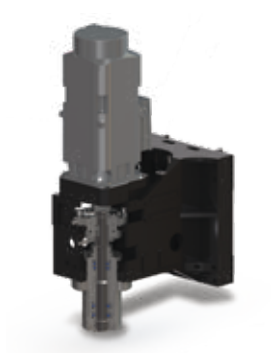
HEIDENHAIN (S6-25%)

Motor	QAN200UH (Compact inverter)
Spindle base speed (min ⁻¹)	1,500
Spindle power (kW)	17
Spindle torque (Nm)	108

SIEMENS (S6-25%)

Motor	1PH8133-combi
Spindle base speed (min ⁻¹)	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

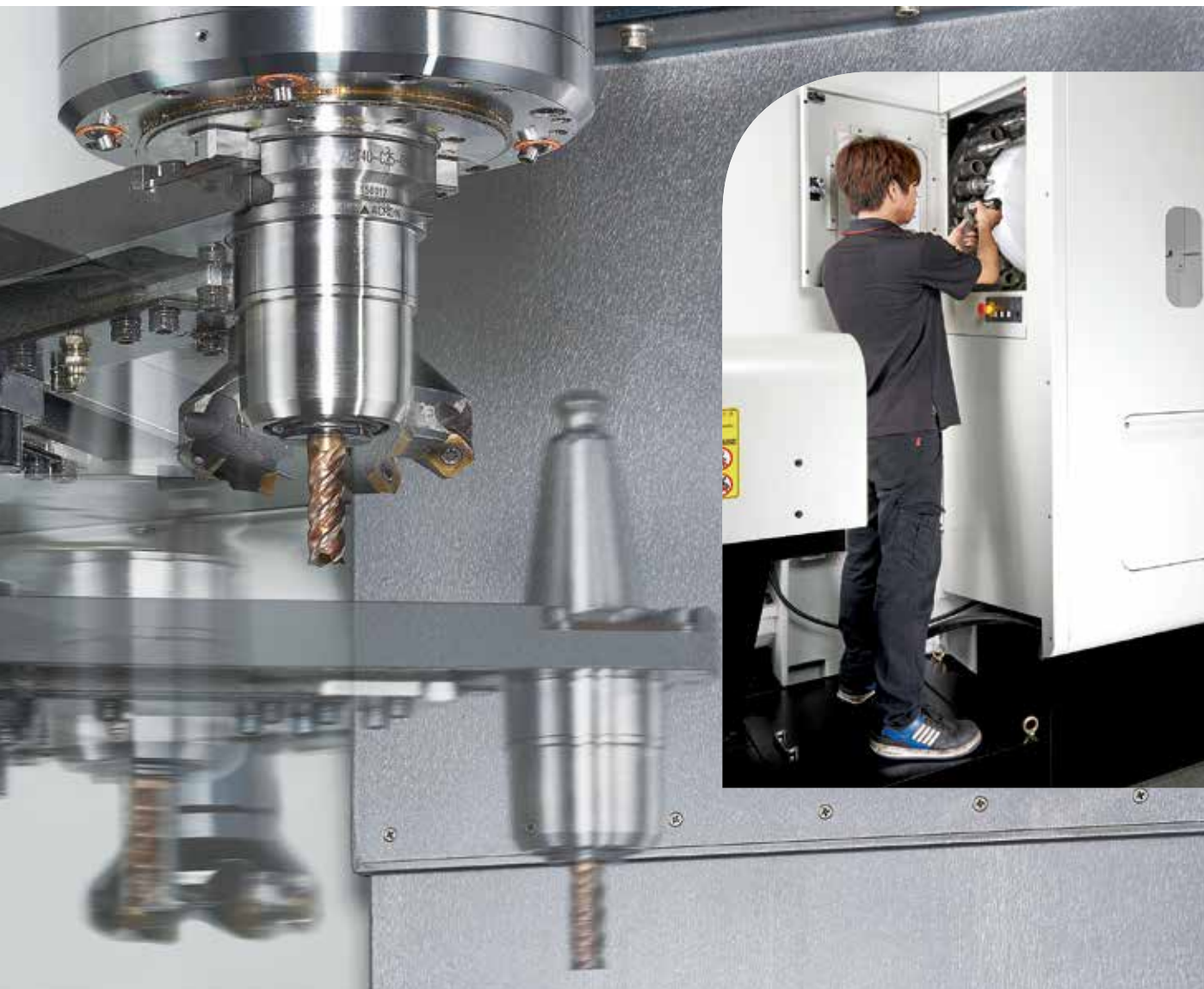


30 ATC (std.)



48 ATC (opt.)





60 ATC (opt.)



ATC auto door (std.)



Coolant system & Chip management



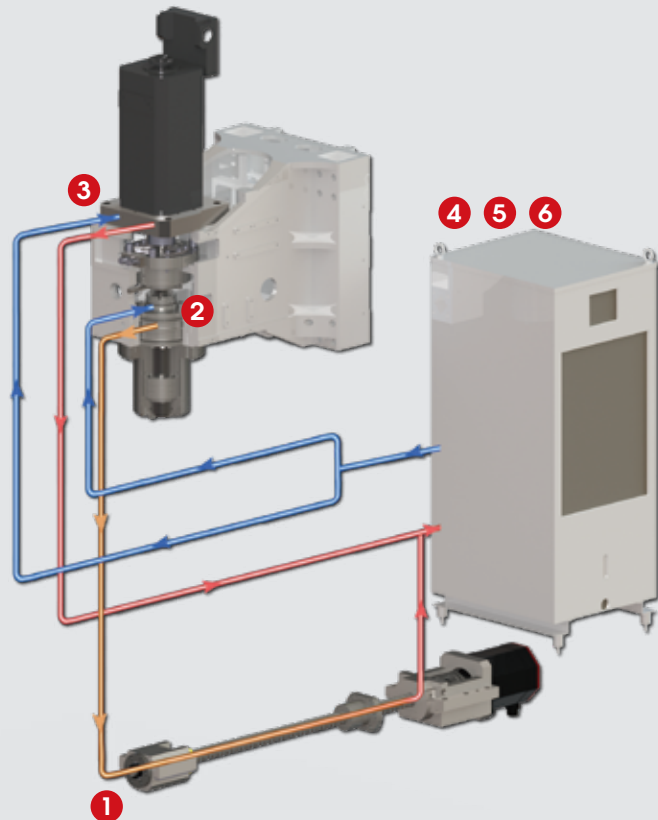
		MV1	MV3
A	Coolant tank	350L	480L
B	Coolant through spindle	8 bar	8 bar
C	Nozzle coolant	3 bar	3 bar
D	Wash gun	Std.	Std.
E	Chip augers	Std.	Std.
F	Chip conveyor	Std.	Std.
	Scraper type		
G	Filtration unit	Opt.	Opt.
H	High-angle telescopic cover design with excellent chip	Std.	-
I	Wash down	1.1 bar	3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



Thermal Management

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

- ❶ Coolant through ball screw.
- ❷ Spindle cooling circuit.
- ❸ Motor mounting block cooling circuit.
- ❹ Oil chiller 6,000 BTU.
- ❺ Oil chiller 12,000 BTU.
- ❻ Oil chiller 18,000 BTU.



MV1			MV3	
	Coupling	Built-in	Coupling	Built-in
❶	○	○	○	○
❷	● Note2	●	● Note2	●
❸	●	×	●	×
❹	● Note1	×	● Note1	×
❺	● Note2	×	● Note2	×
❻	×	● 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
Main spindle		
Spindle taper		40 Taper
Work range		
Table size (mm)		940 x 550 1,200 x 600
Travel X / Y / Z (mm)		661 / 572 / 560 1,020 / 610 / 610
Spindle nose to table surface (mm)		100 ~ 660 100 ~ 710
Table load capacity (kg)		500
Feed drive		
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 32 / 32 / 32
⁽¹⁾ Acceleration X / Y / Z (m/s ²)	F	6 / 5 / 4 3.5 / 3.5 / 3
	T	3 / 3 / 2.5 2 / 2 / 2
	S	4.5 / 4 / 5.5 3.5 / 2.5 / 2
Dia. & pitch of the ball screw (mm)		Ø40 / P = 12 / 12 / 12 Ø45 / P = 12 / 12 / 12
Tool changer		
Tool selection		Random
Magazine positions		30 (std.) 48 / 60 (opt.)
Max. tool diameter (mm)		Ø 76.2
w/o adjacent tool (mm)		Ø 150 Ø125
Max. tool length (mm)		300 280
Max. tool weight (kg)		10 7
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 ⁽²⁾	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
Main spindle	
Spindle taper	40 Taper
Coolant system	
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
Machine size	
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
Connections	
Main power	220~230V / 50~60 Hz, 380~415V/50~60Hz
Power consumption (KVA)	30(F)(T)(S)

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

⁽²⁾ Only for FANUC control.

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

MV1 / MV3			
15C	20C ⁽²⁾	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				
Spindle code	12C	15C	20C	18M	24M
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 ⁽¹⁾	○	○	○	○	○
Linear scale	○	○	○	○	○
Work probe	○	○	○	○	○
Tool length / breakage measurement	○	○	○	○	○

●=Standard ○=Option X=N/A

Standard / Optional Accessories	MV1				
Spindle code	12C	15C	20C	18M	24M
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) ⁽²⁾	●	●	●	●	●
Total Enclosure Guard (with Top side cover)	●	●	●	●	●
Work light	●	●	●	●	●
Machine status light	●	●	●	●	●
CE	●	●	●	●	●

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

⁽²⁾ Paper documentation is optional.

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Standard / Optional Accessories

Standard / Optional Accessories	MV3				
Spindle code	12C	15C	20C	18M	24M
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 ⁽¹⁾	○	○	○	○	○
Linear scale	○	○	○	○	○
Work probe	○	○	○	○	○
Tool length / breakage measurement	○	○	○	○	○

●=Standard ○=Option X=N/A

Standard / Optional Accessories	MV3				
Spindle code	12C	15C	20C	18M	24M
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) ⁽²⁾	●	●	●	●	●
Total Enclosure Guard (with Top side cover)	●	●	●	●	●
Work light	●	●	●	●	●
Machine status light	●	●	●	●	●
CE	●	●	●	●	●

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

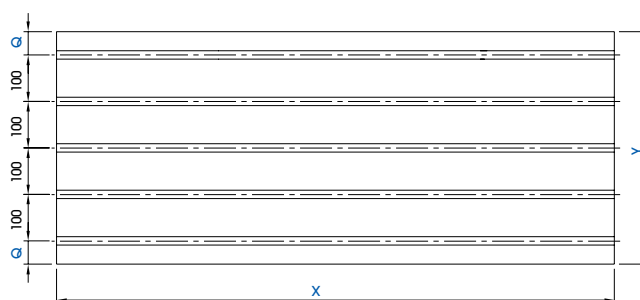
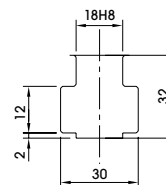
⁽²⁾ Paper documentation is optional.

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Machine Dimensions

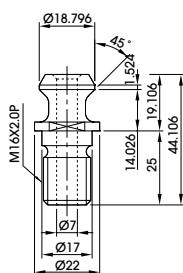
Table dimension

	MV1	MV3
X	940	1200
Y	550	600
Q	75	100

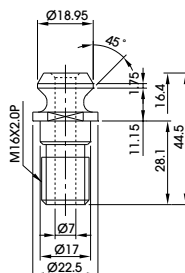


Pull stud and applicable tools

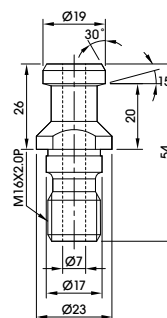
BT 40



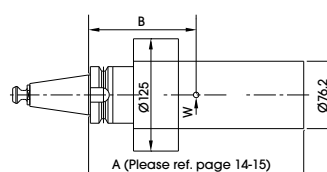
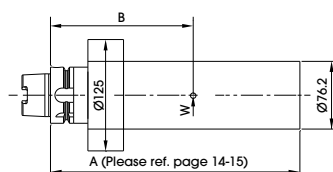
ISO (7388-B)



DIN (69872-A)

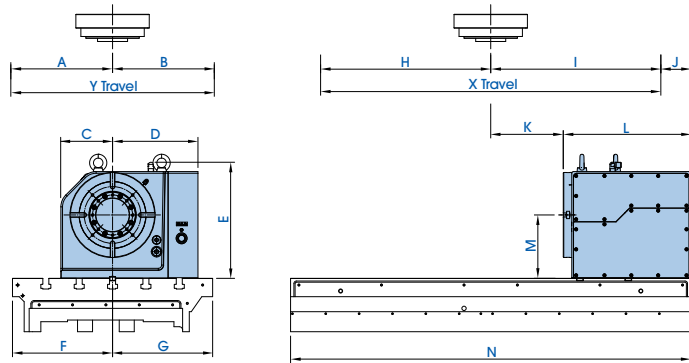


B	tool median point distance
W	tool weight
MOMENT=W*B(≤ 10.29N-m)	MOMENT=W*B(≤ 9.85N-m)

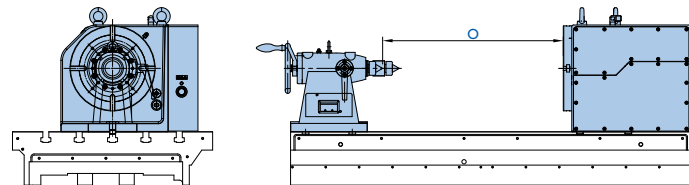


GVA255HBII

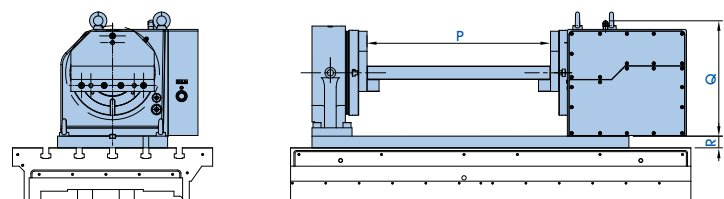
	MV1	MV3
A	286	305
B	286	305
C	155	155
D	256	256
E	348	348
F	375	300
G	175	300
H	330.5	510
I	330.5	510
J	139.5	90
K	87.5	217.5
L	382.5	382.5
M	190	190
N	940	1200
O	281.5	541.5
P	340	550
Q	391	346
R	35	35



GVA255HBII+ST255



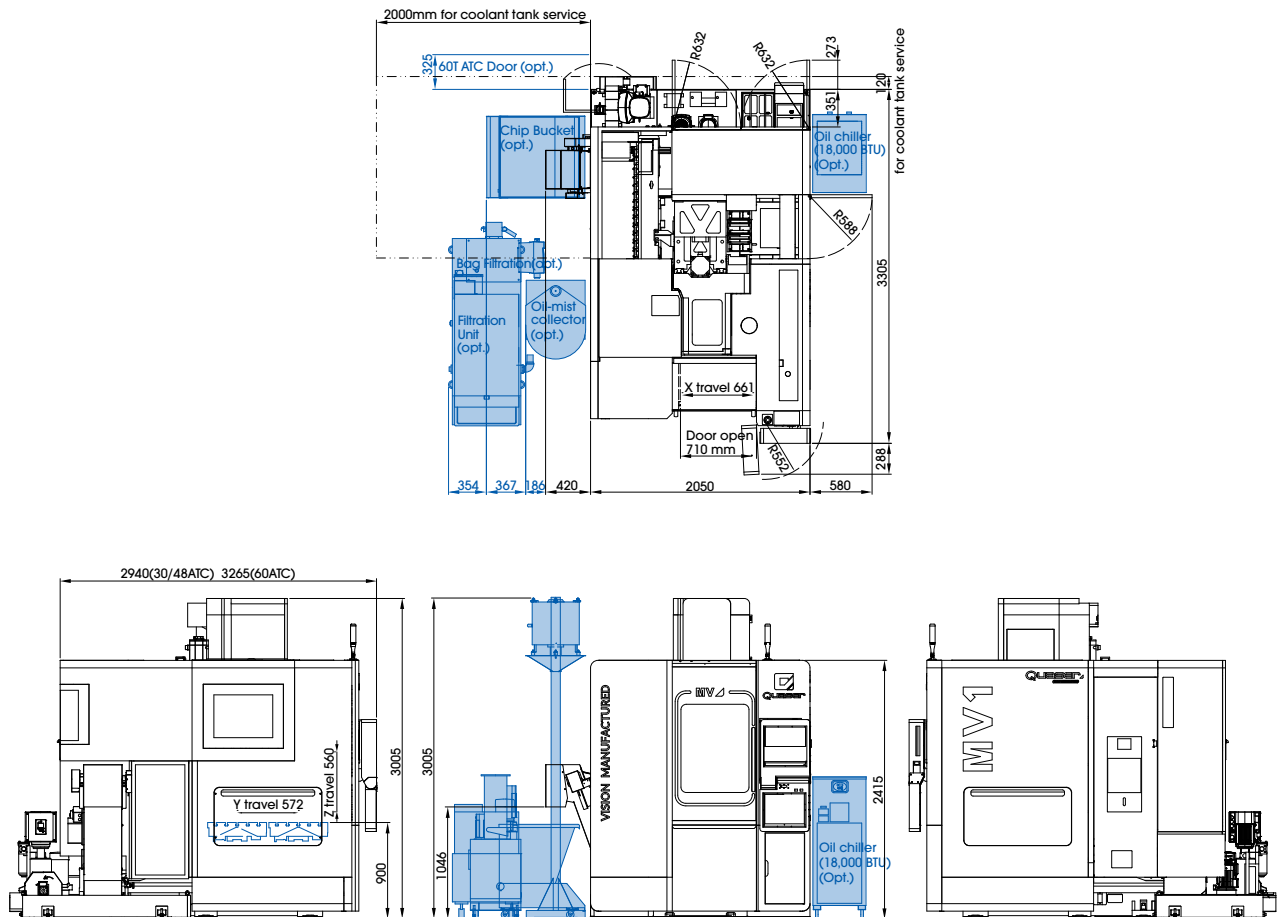
GVA255HBII-Flxture 2



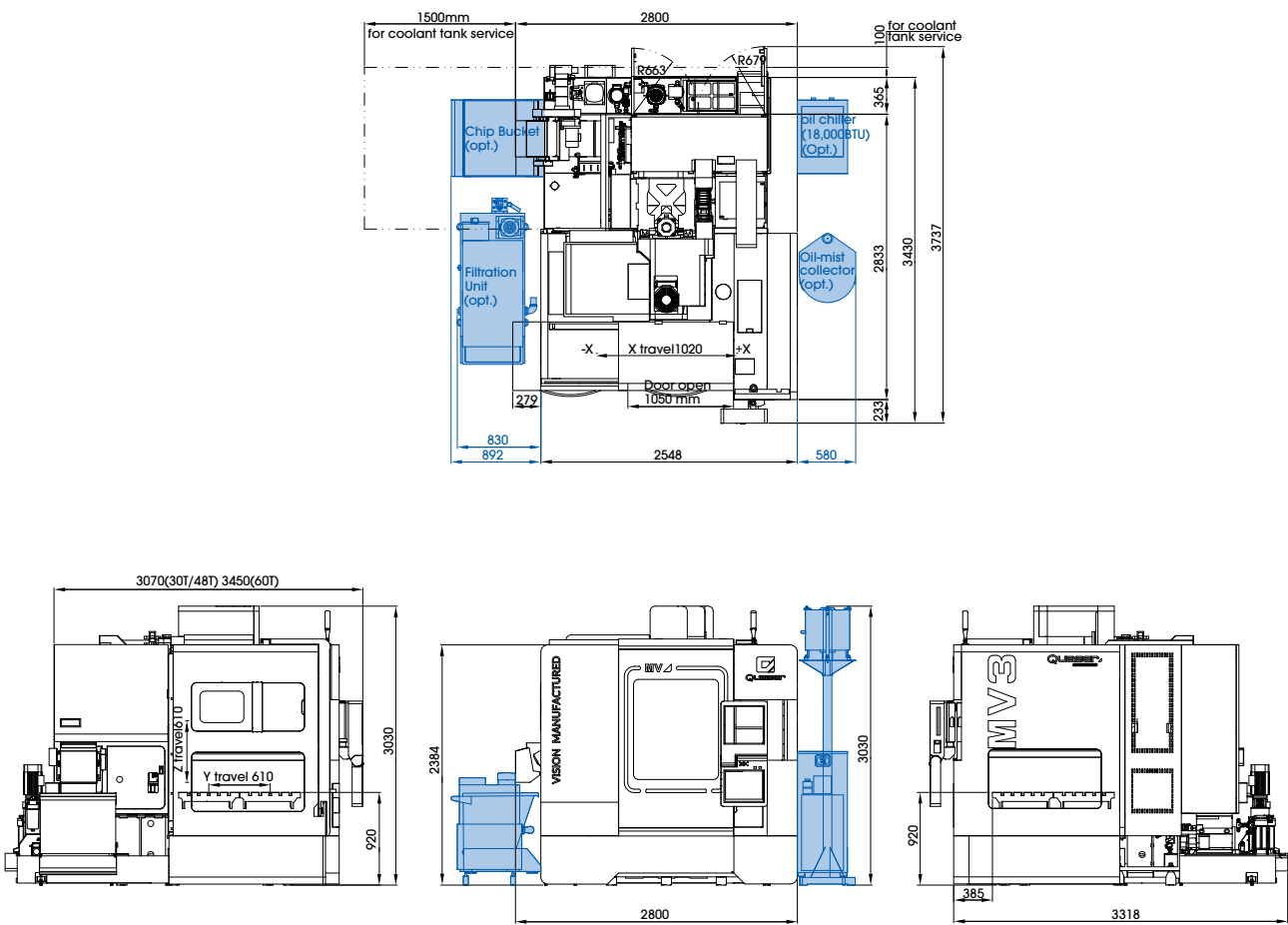
Machine Dimensions

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

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