



We lead the way by a new business model



WELE MECHATRONIC CO., LTD
(<http://www.welegroup.com>)

HEADQUARTERS:
No.458, Shinsing Rd., Hukou Town, Hsin-Chu County 303, Taiwan
TEL : +886-3-696-0360 (rep.) FAX : +886-3-696-0370

TAICHUNG BRANCH:
No.600, Sec. 4, Sanfeng Rd., Houli Dist., Taichung City 421, Taiwan
TEL : +886-4-2558-0762 FAX : +886-4-2558-2334

WELE MECHATRONIC (SU-ZHOU) CO., LTD.

No. 16, Fuhua Rd., Changshu Economic Development Zone,
Changshu City, Jiangsu Province, China 215513
TEL : +86-512-5229-7868 FAX : +86-512-5229-7866
SALES: 150-5141-3969,150-5141-3981



2106883 MacdS TEL:04-2753326

AQSERIES



Vertical Machining Center
Linear Guideways Type



WELE MECHATRONIC CO., LTD

AQ series

The machine AQ series is developing for the demand of high performance cutting, fitted with generously sized guideways and equipped with a mechanical, WELE own developed 15,000 rpm built-in spindle as standard which suite for general and die& mold application.

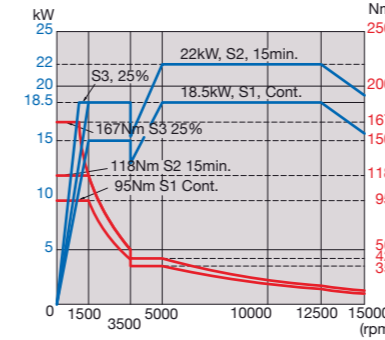


* Above figure is AQ1265 with some accessories.

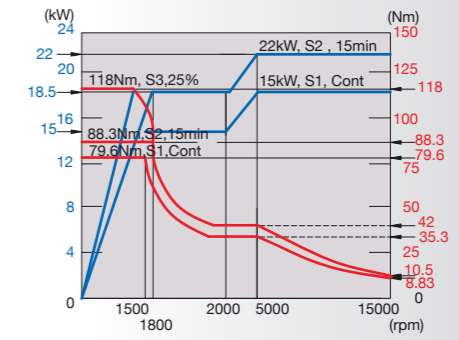
* AQ1265's main structure

		AQ850	AQ1050	AQ1265	AQ1465	AQ1665
Strokes						
X travel (left & right)	mm (in)	800 (31.5)	1,020 (40.2)	1,200 (47.2)	1,400 (55.1)	1,600 (63.0)
Y travel (in & out)	mm (in)	510 (20.1)	510 (20.1)	650 (25.6)	650 (25.6)	650 (25.6)
Z travel (up & down)	mm (in)	510 (20.1)	510 (20.1)	610 (24.0)	610 (24.0)	610 (24.0)
Table dimensions						
Table size (X direction)	mm (in)	1,000 (39.4)	1,200 (47.2)	1,400 (55.1)	1,600 (63.0)	1,750 (68.9)
Table size (Y direction)	mm (in)	510 (20.1)	510 (20.1)	650 (25.6)	650 (25.6)	650 (25.6)
Table load capacity	kg (lb)	500 (1,102.3)	600 (1,322.8)	1,000 (2,204.6)	1,000 (2,204.6)	1,000 (2,204.6)

Spindle Configuration



15,000 rpm built-in driven (STD) for FANUC controller



15,000 rpm built-in driven (STD) for Mitsubishi controller

Experienced technology



Strick quality assurance



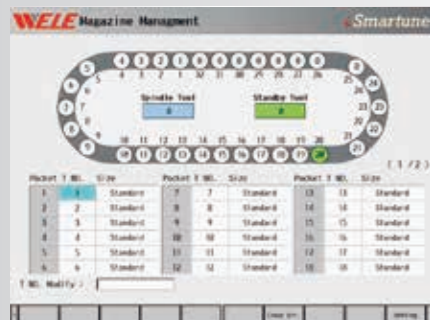


Smartune

WELE's new developed the smart and enhancement software function to providing the operator able to easy setup and maintain the machine.

They are including the Magazine management, tool measurement, Workpiece measurement, Calculator, I/O list, and ATC troubleshooting.

[Available for controller models are M830 and OiMF/31iMF-plus 15"]



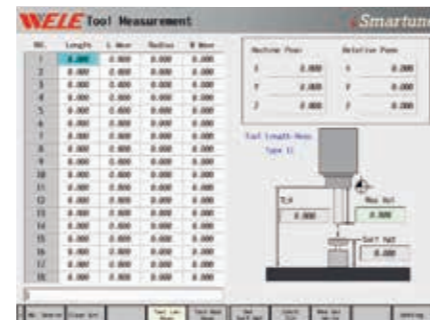
Magazine & tool management

- Visualize magazine and pocket status
- Easy to maintain the pocket table
- Integrated tool information editable



Workpiece measurement

- Workpiece origin measuring and adjustment
- Easy and faster to operate



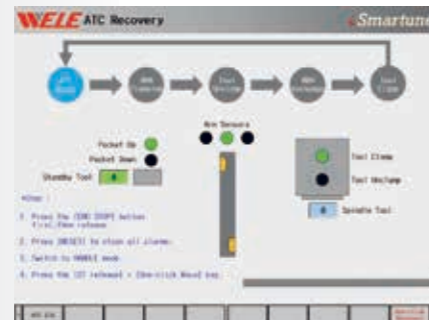
Tool measurement

- Tool length and radius measuring as available.
- Input the measured value to the tool table directly



Calculator

- Calculated result stored for 5 sets
- Calculating formular is display and stored
- Simple engineering calculator function included.



ATC Recovery

- ATC procedure show as photo and flowchart.
- Easy to know the current status
- One key to recovery

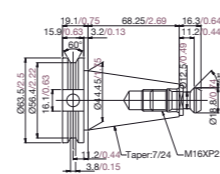


I/O signal list

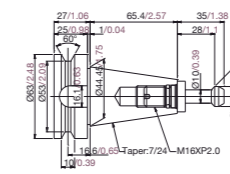
- All signals' status display
- Signal list is group by its function to easy reading.

Tool Shank and Pull Stud Dimension

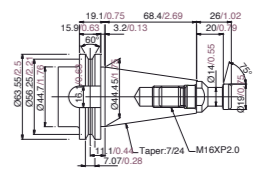
Unit : mm(inch)



CAT40

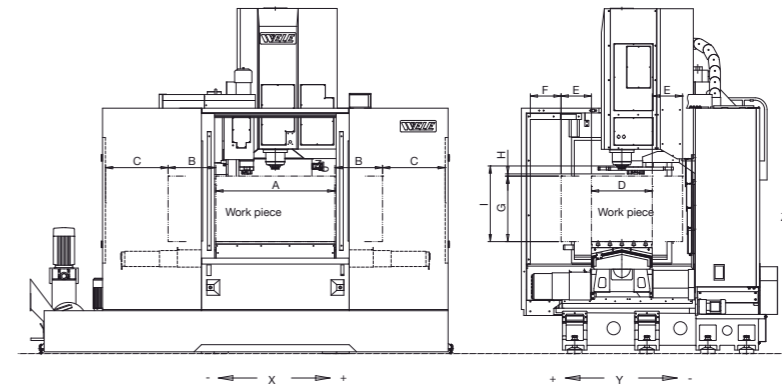


BBT40



DIN40

Inside of Working Area Dimensions



Unit : mm(inch)

Model	A	B	C	D	E	F	G	H	I
AQ850	1000 (39.4)	400 (15.7)	525 (20.7)	510 (20.1)	255 (10.0)	260 (10.2)	550 (21.7)	20 (0.8)	125-635 (4.9-25)
AQ1050	1200 (47.2)	510 (20.1)	415 (16.3)						150-760 (5.9-29.9)
AQ1265	1400 (55.1)	600 (23.6)	395 (15.6)	650 (25.6)	325 (12.8)	210 (8.3)	660 (26.0)	20 (0.8)	
AQ1465	1600 (63)	700 (27.6)	435 (17.1)						
AQ1665	1750 (68.9)	800 (31.5)	470 (18.5)						

Machine Dimension and Space Requirement

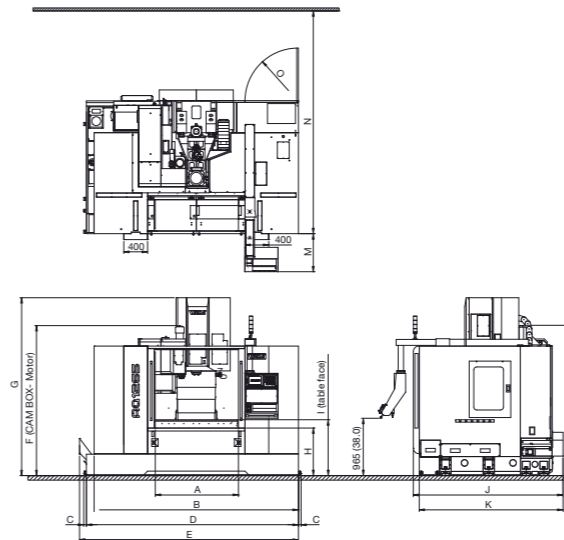
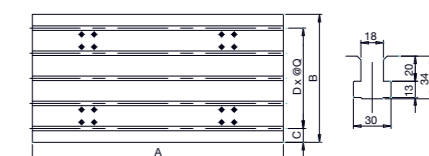


Table Dimensions



Unit : mm(inch)

Model	A	B	C	D	Q
AQ850	1000 (39.4)	510 (20.1)	55 (2.2)	100 (3.9)	5
AQ1050	1200 (47.2)	510 (20.1)	55 (2.2)	100 (3.9)	5
AQ1265	1400 (55.1)	650 (25.6)	75 (3)	100 (3.9)	6
AQ1465	1600 (63)	650 (25.6)	75 (3)	100 (3.9)	6
AQ1665	1750 (68.9)	650 (25.6)	75 (3)	100 (3.9)	6

Unit : mm(inch)

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
AQ850	1020 (40.2)	2900 (114.2)	45 (1.8)	3390 (133.5)	3505 (138)	2530 (99.6)	2900 (114.2)	800 (31.5)	940 (37)	2250 (88.6)	2150 (84.6)	2410 (94.9)	693 (27.3)	2900 (114.2)	782 (30.8)
AQ1050	1200 (47.2)	3100 (122)			3505 (138)										
AQ1265	1400 (55.1)	3440 (135.4)		3570 (140.6)	3685 (145.1)										
AQ1465	1600 (63)	3920 (154.3)	45 (1.8)	3920 (154.3)	4035 (158.9)	2530 (99.6)	2994 (117.9)	800 (31.5)	940 (37)	2520 (99.2)	2420 (95.3)	2530 (99.6)	693 (27.3)	3750 (147.6)	R893 (35.2)
AQ1665	1750 (68.9)	4340 (170.9)		4340 (170.9)	4455 (175.4)										

** Above estimated dimensions are not including the chip bucket, CTS tank, and other optional accessories.

** Product informations are subject change without notice.

Technical specifications

Specification \ Model	Unit	AQ850	AQ1050	AQ1265	AQ1465	AQ1665
Travel						
X travel	mm (in)	800 (31.5)	1,020 (40.2)	1,200 (47.2)	1,400 (55.1)	1,600 (63.0)
Y travel	mm (in)	510 (20.1)		650 (25.6)		
Z travel	mm (in)	510 (20.1)		610 (24.0)		
Distance from spindle nose to table top	mm (in)	125-635 (4.9-25)		150-760 (5.9-29.9)		
Table						
Table size (X direction)	mm (in)	1,000 (39.4)	1,200 (47.2)	1,400 (55.1)	1,600 (63.0)	1,750 (68.9)
Table size (Y direction)	mm (in)	510 (20.1)		650 (25.6)		
Table load capacity	kg (lb)	500 (1,102.3)	600 (1,322.8)	1,000 (2,204.6)		
Spindle						
Spindle speed	rpm	Built-in / 15,000		Built-in / 15,000		
Spindle motor (cont./30 min. rating)	kW	15/18.5/22		15/18.5/22		
Spindle Torque (cont./30 min. rating)	Nm (lb-ft)	80/88/118 (58/64/86)		80/88/118 (58/64/86)		
Spindle taper		BBT40		BBT40		
Feedrate						
Rapid traverse rate (X axis)	mm(in)/min	48,000 (1,889.8)		36,000 (1,417.3)		
Rapid traverse rate (Y axis)	mm(in)/min	48,000 (1,889.8)		36,000 (1,417.3)		
Rapid traverse rate (Z axis)	mm(in)/min	36,000 (1,417.3)		30,000 (1,181.1)		
Cutting feedrate	mm(in)/min	1-10,000 (0.04-393.7)		1-10,000 (0.04-393.7)		
Tool magazine						
Tool magazine capacity	pockets	24		24		
Max. tool diameter/ adjacent pocket empty	mm (in)	80/150 (3.15/5.9)		80/150 (3.15/5.9)		
Max. tool length	mm (in)	250 (9.8)		250 (9.8)		
Max. tool weight	kg (lb)	7 (15.4)		7 (15.4)		
Accuracy						
Positioning accuracy (JIS 6338)	mm (in)	±0.005/300 (0.0002/11.8)		±0.005/300 (0.0002/11.8)		
Positioning accuracy (VDI 3441)	mm (in)	P ≤ 0.012 (0.0005)		P ≤ 0.012 (0.0005)		
Repeatability (JIS 6338)	mm (in)	±0.003 (0.0001)		±0.003 (0.0001)		
Repeatability (VDI 3441)	mm (in)	Ps ≤ 0.006 (0.0002)		Ps ≤ 0.006 (0.0002)		
Space requirement & weight						
Machine length	mm (in)	2,900 (114.2)	3,100 (122.0)	3,570 (140.6)	3,920 (154.3)	4,340 (170.9)
Machine width	mm (in)	2,250 (88.6)		2,520 (99.2)		
Machine height	mm (in)	2,900 (114.2)		2,994 (117.9)		
Machine weight	kg (lb)	6,700 (14,771)	7,200 (15,873.3)	7,700 (16,975.6)	8,100 (17,857.5)	8,600 (18,959.8)

**Product specifications and accessories are subject to change without notice.

Standard and optional accessories

● : Standard ○ : Option

Specification \ Model	AQ850	AQ1050	AQ1265	AQ1465	AQ1665
*BBT40 spindle taper with its tool magazine	●	●	●	●	●
*BDV40 spindle taper with its tool magazine	○	○	○	○	○
*BCV40 spindle taper with its tool magazine	○	○	○	○	○
*15,000 rpm built-in spindle (15/20HP) BBT40	●	●	●	●	●
*Column raise up for 200mm	○	○	○	○	○
*Spindle chiller	●	●	●	●	●
*Centralized automatic lubricating system in X/Y/Z axis.	●	●	●	●	●
*Roof enclosure guarding system	●	●	●	●	●
*Coolant wash down	○	○	○	○	○
*Recycling lubricating oil collector for 3 axes	●	●	●	●	●
*Twin chip auger in Y axis	●	●	●	●	●
*Caterpillar or scrape types conveyor and bucket	○	○	○	○	○
*24 capacity of arm type tool magazine (Tool holder #40)	●	●	●	●	●
*32 capacity of arm type tool magazine (Tool holder #40)	○	○	○	○	○
*40 capacity of arm type tool magazine (Tool holder #40)	○	○	○	○	○
*Rigid tapping	●	●	●	●	●
*Switch for manual tool unclamping	●	●	●	●	●
*Remote handwheel control (MPG)	●	●	●	●	●
*Work light	●	●	●	●	●
*Operation cycle finish and alarm lights	●	●	●	●	●
*Spray hose for chip wash down	●	●	●	●	●
*Foundation bolt kit	●	●	●	●	●
*Machine manuals	●	●	●	●	●
*Linear scale feedback system for X/Y/Z axis.	○	○	○	○	○
*Thermal compensation function package	○	○	○	○	○
*Air through spindle	○	○	○	○	○
*Coolant through the tool adapter	○	○	○	○	○
*Coolant through the spindle (w/ regular tank or high tank)	○	○	○	○	○
*Automatic tool length measurement (Blum or Renishaw)	○	○	○	○	○
*Automatic workpiece measuring system (Blum or Renishaw)	○	○	○	○	○
*4th axis interface prepared	○	○	○	○	○
*CNC rotary table	○	○	○	○	○
*FANUC 0iMF Plus controller	●	●	●	●	●
*FANUC 31iMB Plus controller	○	○	○	○	○
*Mitsubishi M830 controller	○	○	○	○	○
*Heidenhain TNC 620 controller	○	○	○	○	○

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