



We lead the way by a new business model



WELE MECHATRONIC CO., LTD

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MBSERIES



**Double Column ▶▶▶▶▶
Precision 5-face
Machining Center**

WELE MECHATRONIC CO., LTD

The Newest 5-face machining center to provide High Rigidity, High Performance, High Efficiency

- WELE Inherited from an excellent technical blood relationship of MIRL at Industrial Technology Research Institute.
- Professional Technique, Excellent Workmanship & Skill, Sincerely Services \ Quality Assurance.
- Z axis travel in 1000mm (STD), 1200mm, 1400mm (OPT)
- All axes are using Ultra-Heavy Roller Guideways.
- Full automatic Head Exchange/ Head Storage/ Auto tool exchange in vertical & horizontal/ 5 sides machining function.
- WELE = Smiling Faces + Newest Technique + Services
- A TOYODA strategic alliance company



- Above figure indicates the MB-525 machine with some accessories about four splash guard and hanging type operator panel.

Well consider Specification High Performance High Rigid Structure Excellent Service

- Thermal displacement symmetrical, uniform box type main structure.
- All series with linear scale feedback system on X, Y axes; Z axis (OPT).
- Recycling lubricating oil collector for 3 axes, follow the rule of environment protection.
- All series includes twin hydraulic counter balancer in Z axis (STD).
- Max. rapid feed rate is 20m/min (MB-x25 series, Y axis).



Automatic tool and head storage system

ATC in horizontal direction

ATC in vertical direction

- Individual ATC in vertical and horizontal direction.
- 60 tools capacity tool magazine as standard; 120 tools capacity tool magazine as option.
- Automatic multi head exchange system.
- Strict multi sensors checking system to keep, Head/Tool exchange safely.



Horizontal Spindle exchange mechanism



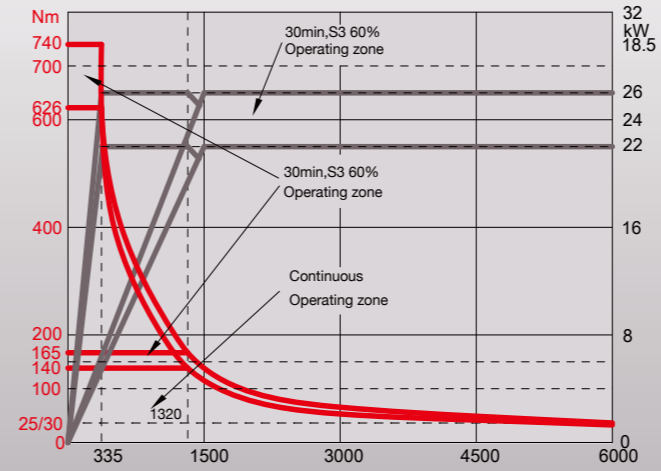
Vertical Spindle exchange mechanism



Automatic tool and head Storage system

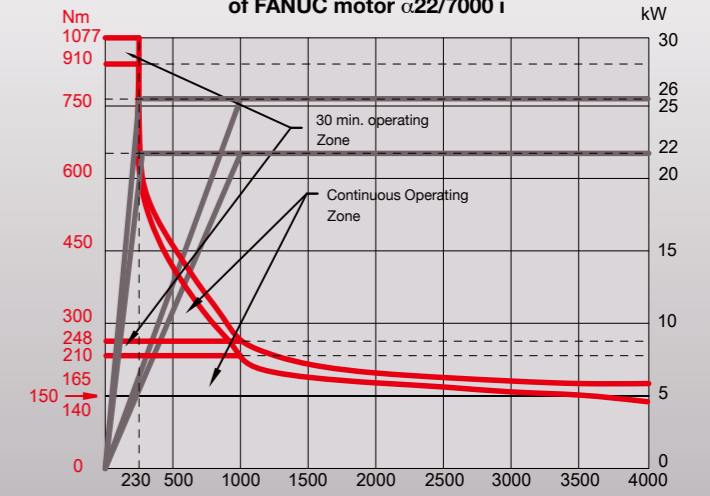
**New generation 5 faces Head Attachment.
Tool unclamping mechanism with built-in
hydraulic component**

Speed up to 6000 rpm with gear driven of FANUC motor $\alpha 22/7000i$



6000rpm geared spindle (Standard)

Speed up to 4000 rpm with gear driven of FANUC motor $\alpha 22/7000 i$



4000rpm geared spindle (Option)



● New generation, patented auto clamp & index mechanism



● New generation indexing in every 5° on the multi-head.

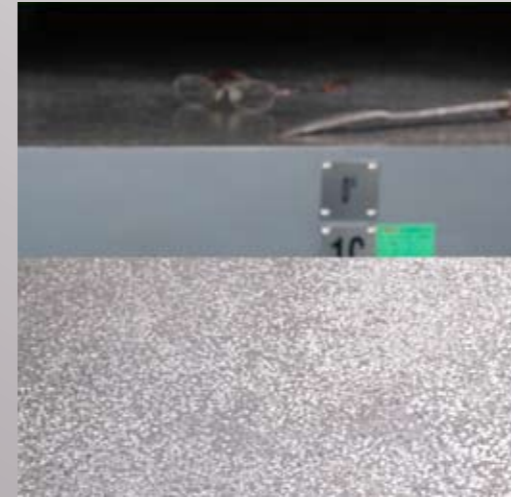


● Vertical machining

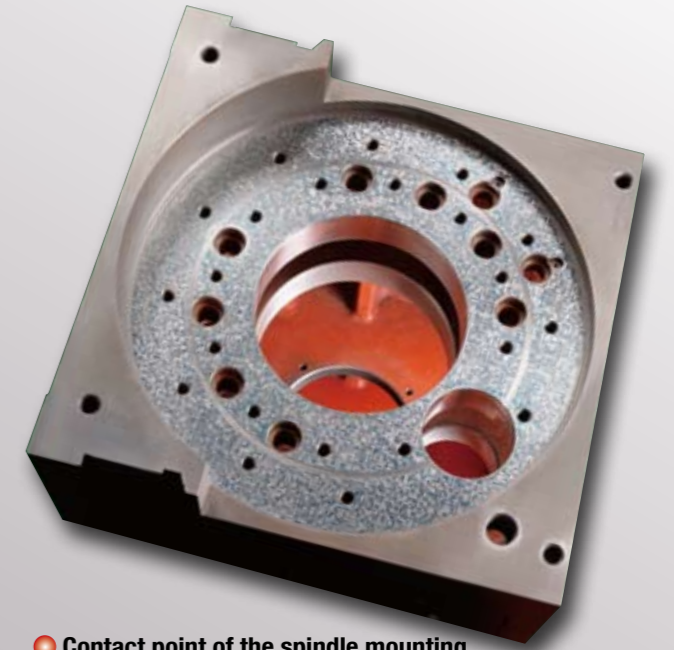


● Horizontal machining

Excellent quality Control And Assurance
Foundation of accuracy, the flatness less than 3 micro meter (3μm) in 1200 square standard.
Strictly manufacturing and assembling in precision,
control every detail as Japanese standard qualification.

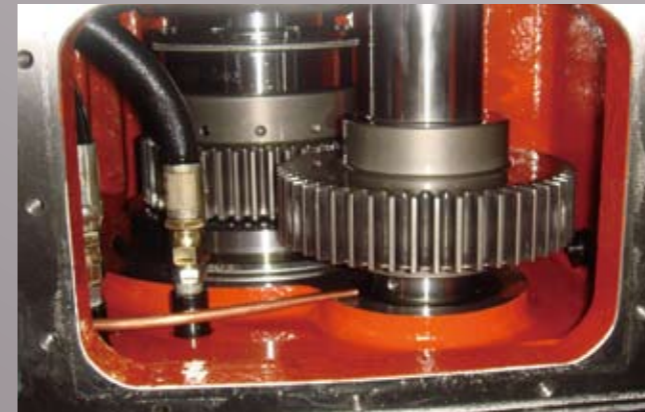


Uniform contact surfaces in every square inch , which provide every machine keep high accuracy level.



Contact point of the spindle mounting surface.

Optimized geared spindle design, may utilize in each kind of Z axis travel headstocks.



Each gear transmission through 8 hours warming up and 24 hours trial run tested.



Strictly spindle assembly procedure



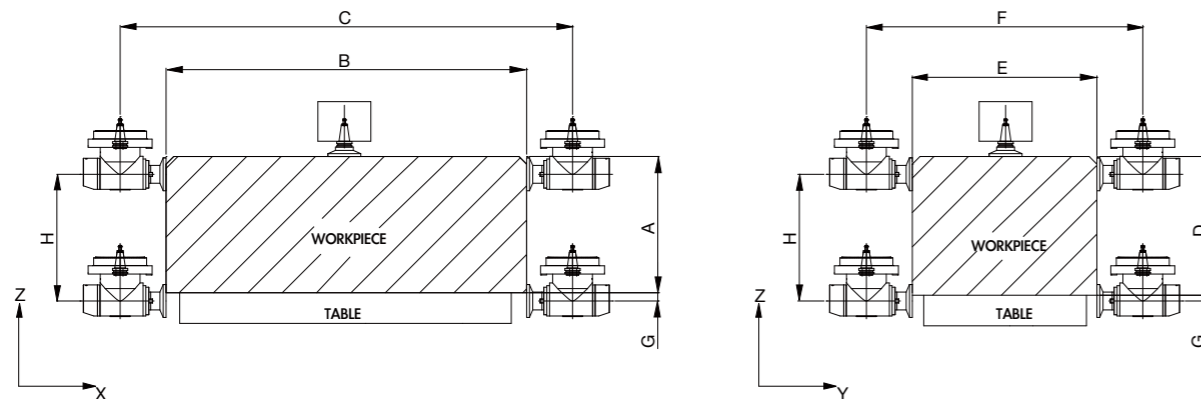
Each spindle through balancing tested

Machine specification

Specification/ Model	Unit	MB-425	MB-525	MB-625	MB-725	MB-432	MB-532	MB-632	MB-732
X travel (Left & right)	mm(in)	4060 (159.8)	5060 (199.2)	6060 (238.6)	7060 (278)	4060 (159.8)	5060 (199.2)	6060 (238.6)	7060 (278)
Y travel (in & out)	mm(in)	3200 (126)			3200 (126)	3900 (153.5)			
Z travel (up &down)	mm(in)	1000 (39.4)			1000 (39.4)	1000 (39.4)			
Distance from spindle nose to table top	mm(in)	200-1200 (7.9-47.2)			200-1200 (7.9-47.2)	200-1200 (7.9-47.2)			
Distance from horizontal spindle center line to table top	mm(in)	0-984 (0-38.7)			0-984 (0-38.7)	0-984 (0-38.7)			
Distance between columns	mm(in)	2500 (98.4)			2500 (98.4)	3200 (126)			
Table size (X direction)	mm(in)	4000 (157.5)	5000 (196.9)	6000 (236.2)	7000 (275.6)	4000 (157.5)	5000 (196.9)	6000 (236.2)	7000 (275.6)
Table size (Y direction)	mm(in)	2000 (78.7)			2000 (78.7)	2400 (94.5)			
Table T slot size (width x distance x number)	mm(in)	28 x 200 x 10 (1.1x7.9x10)			28 x 200 x 10 (1.1x7.9x10)	28 x 200 x 12 (1.1x7.9x12)			
Table load capacity	kg(lb)	15000 (33000)	18000 (39600)	20000 (44000)	20000 (44000)	15000 (33000)	18000 (39600)	20000 (44000)	20000 (44000)
Spindle speed_vertical	rpm	10-6000(Standard) 10-4000(Option)			10-6000(Standard) 10-4000(Option)	10-6000(Standard) 10-4000(Option)			
Spindle speed_horizontal	rpm	2400			2400	2400			
Spindle motor (cont./30 min. rating)	kW(HP)	22/26 (30/35)			22/26 (30/35)	22/26 (30/35)			
Spindle taper		#50 (ISO 50)			#50 (ISO 50)	#50 (ISO 50)			
Spindle clamping force	kg(lb)	1800 (3960)			1800 (3960)	1800 (3960)			
Index degree	degree	every 5° index			every 5° index	every 5° index			
Rapid traverse rate (X axis)	mm(in)/min	18000 (708.7)	12500 (492.1)	9000 (354.3)	6000 (236.2)	18000 (708.7)	12500 (492.1)	9000 (354.3)	6000 (236.2)
Rapid traverse rate (Y axis)	mm(in)/min	20000 (787.4)			20000 (787.4)	15000 (590.6)			
Rapid traverse rate (Z axis)	mm(in)/min	12000 (472.4)			12000 (472.4)	12000 (472.4)			
Cutting feedrate	mm(in)/min	1-10000 (0.04-393.7)			1-10000 (0.04-393.7)	1-10000 (0.04-393.7)			
Tool magazine capacity	pcs	60 (120 Option)			60 (120 Option)	60 (120 Option)			
Max. tool diameter / adjacent pocket empty	mm(in)	127/215 (5/8.5)			127/215 (5/8.5)	127/215 (5/8.5)			
Max. tool length	mm(in)	400 (15.7)			400 (15.7)	400 (15.7)			
Max. tool weight	kg(lb)	20 (44)			20 (44)	20 (44)			
Positioning accuracy (JISB6338)	mm(in)	±0.015 (0.0006) / full travel			±0.015 (0.0006) / full travel	±0.015 (0.0006) / full travel			
Positioning accuracy (VDI/DGQ 3441)	mm (in)	P 0.030 (0.001)	P 0.040 (0.0016)	P 0.050 (0.002)	P 0.060 (0.0024)	P 0.030 (0.001)	P 0.040 (0.0016)	P 0.050 (0.002)	P 0.060 (0.0024)
Repeatability (JISB6338)	mm(in)	±0.003 (0.0001)			±0.003 (0.0001)	±0.003 (0.0001)			
Repeatability(VDI/DGQ 3441)	mm (in)	Ps 0.025 (0.0001)	Ps 0.030 (0.0012)	Ps 0.035 (0.0014)	Ps 0.045 (0.0018)	Ps 0.025 (0.0001)	Ps 0.030 (0.0012)	Ps 0.035 (0.0014)	Ps 0.045 (0.0018)
Coolant tank capacity	liter(gallon)	750 (198.1) with 1.5 HP			750 (198.1) with 1.5 HP	850 (224.5) with 1.5 HP			
Lubrication oil tank capacity	liter(gallon)	6 (1.58)			6 (1.58)	6 (1.58)			
Pneumatic pressure requirement	kg/cm ²	5			5	5			
Total required power (AC220V ± 10%, 50/60 Hz, 3 Phase)	kVA	60			60	60			
Machine weight	kg(lb)	41000 (90200)	46000 (101200)	51000 (112200)	56000 (123200)	42000 (92400)	48000 (105600)	53000 (116600)	59000 (129800)

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

**Specially order like MB-6525,MB-6532 etc.are also available on request



Max. Cutting range

Unit: mm/inch

Model \ Item	A	B	C	D	E	F	G	H
MB-425	1050(41.3)	3360(132.3)	4060(159.8)	1050(41.3)	2500(98.4)	3200(126.0)	16(0.6)	1000(39.4)
MB-525	1050(41.3)	4360(171.7)	5060(199.2)	1050(41.3)	2500(98.4)	3200(126.0)	16(0.6)	1000(39.4)
MB-625	1050(41.3)	5360(211.0)	6060(238.6)	1050(41.3)	2500(98.4)	3200(126.0)	16(0.6)	1000(39.4)
MB-725	1050(41.3)	6360(250.4)	7060(278.0)	1050(41.3)	2500(98.4)	3200(126.0)	16(0.6)	1000(39.4)
MB-432	1050(41.3)	3360(132.3)	4060(159.8)	1050(41.3)	3200(126)	3900(153.5)	16(0.6)	1000(39.4)
MB-532	1050(41.3)	4360(171.7)	5060(199.2)	1050(41.3)	3200(126)	3900(153.5)	16(0.6)	1000(39.4)
MB-632	1050(41.3)	5360(211.0)	6060(238.6)	1050(41.3)	3200(126)	3900(153.5)	16(0.6)	1000(39.4)
MB-732	1050(41.3)	6360(250.4)	7060(278.0)	1050(41.3)	3200(126)	3900(153.5)	16(0.6)	1000(39.4)

**The dimension of tool : length100mm X diameter 215mm

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Standard and optional accessories:

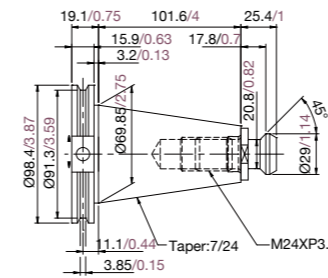
● : standard ○ : option

Specification / Model	MB-x25 series	MB-x32 series
BT50 spindle taper	●	●
DIN50 spindle taper	○	○
CAT50 spindle taper	○	○
6000 rpm stepless speed geared spindle (two steps)	●	●
4000 rpm stepless speed geared spindle (two steps)	○	○
Automatic index in every 5° mechanism	●	●
30° head	○	○
Universal head	○	○
Extension head	○	○
Automatic head exchange system and one horizontal head	●	●
Z travel extend to 1200mm (47.2") (Distance from spindle nose to table top 200-1400mm)	○	○
Z travel extend to 1400mm (55.1") (Distance from spindle nose to table top 200-1600mm)	○	○
Spindle oil-cooling requipment	●	●
External pulse decoder in Z axis	●	●
Adjustable torque-limit clutch (3 axes)	●	●
Centralized automatic lubricating system	●	●
Dust-proof cover for vertical spindle	●	●
Four splash guard	●	●
Full splash guard	○	○
Rear half splash guard + two doors	○	○
Recycling lubricating oil collector for 3 axes	●	●
Flood coolant system (include pump & tank)	●	●
Twin screw type chip conveyor	●	●
Blade type chip conveyor	○	○
Caterpillar type chip conveyor & bucket	●	●
Arm type automatic tool exchanger (vertical & horizontal axes)	●	●
60 tools capacity of tool magazine	●	●
120 tools capacity of tool magazine	○	○
Footswitch for tool clamping	●	●
Twin hydraulic cylinder balance spindle head	●	●
Work light	●	●
Operation cycle finish and alarm lights	●	●
RS232 interface	●	●
Spray hose for chip wash down	●	●
Foundation bolt kit	●	●
Machine manuals	●	●
Linear scale feedback system of X,Y axes (Fagor)	●	●
Linear scale feedback system of Z axis	○	○
Coolant through the tool adapter	○	○
System of hydraulic	●	●
System of Pneumatic(non-including air source and external hose)	●	●
Spindle air blast curtain	●	●
Electrical cabinet and heat exchanger	●	●
Hanging type operator panel (moveable in four direction)	●	●
Moveable remote handwheel control	●	●
Heat exchanger to refit air-conditioning for electric cabinet	○	○
4th axis interface prepared	○	○
CNC Rotary table	○	○
Disc type oil skimmer	○	○
Coolant through the spindle (FORM A)	○	○
Tank for coolant through the spindle	○	○
Automatic tool length measurement	○	○

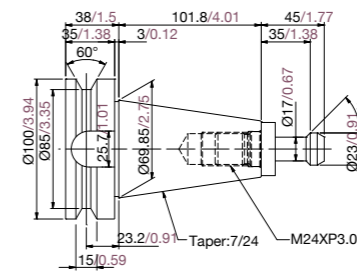
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Tool Shank and Pull Stud Dimension

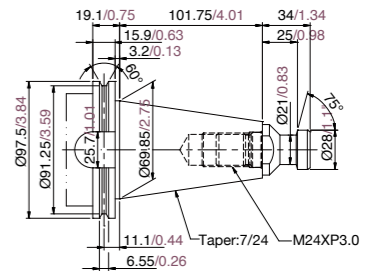
Unit: mm/inch



CAT50

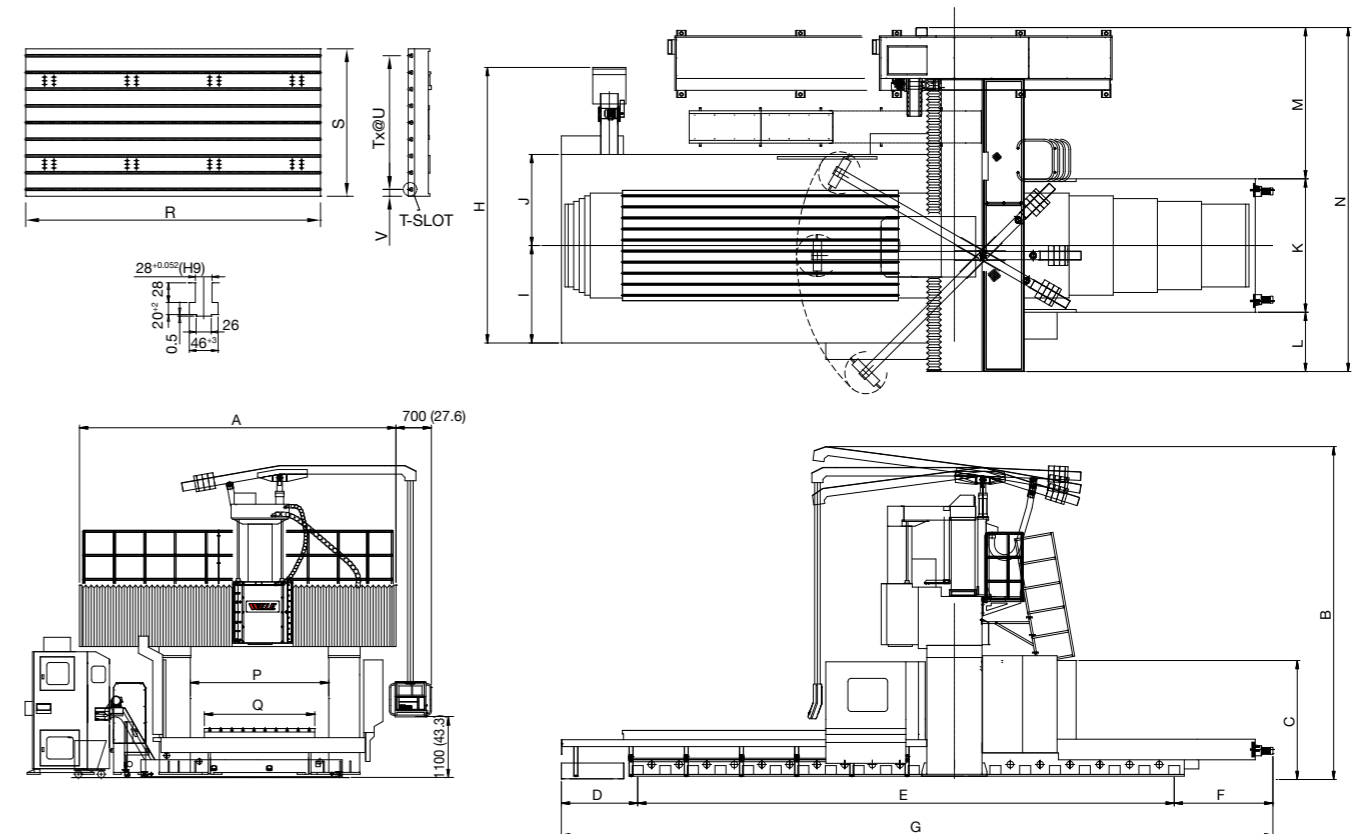


BT50



DIN50

Machine dimension and space requirement



Unit: mm/inch

Model / Item	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U	V
MB-425	5740	5850	1950	1385	7644	1561	10590	5300	1915	1790	2720	1115	2920	6755	2500	4000	2000	10	200	100	
	226	230	76.8	54.5	300.9	61.5	416.9	208.7	75.4	70.5	107.1	43.9	115	265.9	98.4	78.7	157.5	78.7	7.9	3.9	
MB-525	5740	5850	1950	1400	9720	1790	12910	5300	1915	1790	2720	1115	2920	6755	2500	2000	5000	2000	10	200	100
	226	230	76.8	55.1	382.7	70.5	508.3	208.7	75.4	70.5	107.1	43.9	116	265.9	98.4	78.7	196.9	78.7	7.9	3.9	
MB-625	5740	5850	1950	1560	11626	1814	15000	5300	1915	1790	2720	1115	2920	6755	2500	6000	2000	10	200	100	
	226	230	76.8	61.4	457.7	71.4	590.6	208.7	75.4	70.5	107.1	43.9	117	265.9	98.4	78.7	236.2	78.7	7.9	3.9	
MB-725	5740	5850	1950	1620	12695	1905	16220	5300	1915	1790	2720	1115	2920	6755	2500	2000	6000	2000	10	200	100
	226	230	76.8	63.8	499.8	75.0	638.6	208.7	75.4	70.5	107.1	43.9	118	265.9	98.4	78.7	236.2	78.7	7.9	3.9	
MB-432	6440	5850	1950	1385	7644	1561	10590	6000	2265	2140	3420	1115	2920	7455	3200	2400	4000	2400	12	200	100
	254	230	76.8	54.5	300.9	61.5	416.9	236.2	89.2	84.3	134.6	43.9	119	293.5	126.0	94.5	157.5	94.5	7.9	3.9	
MB-532	6440	5850	1950	1400	9720	1540	12660	6000	2265	2140	3420	1115	2920	7455	3200	2400	5000	2400	12	200	100
	254	230	76.8	55.1	382.7	60.6	498.4	236.2	89.2	84.3	134.6	43.9	120	293.5	126.0	94.5	196.9	94.5	7.9	3.9	
MB-632	6440	5850	1950	1560	11626	1564	14750	6000	2265	2140	3420	1115	2920	7455	3200	2400	6000	2400	12	200	100
	254	230	76.8	61.4	457.7	61.6	580.7	236.2	89.2	84.3	134.6	43.9	121	293.5	126.0	94.5	236.2	94.5	7.9	3.9	
MB-732	6440	5850	1950	1620	12695	1655	15970	6000	2265	2140	3420	1115	2920	7455	3200	2400	6000	2400	12	200	100
	254	230	76.8	63.8	499.8	65.2	628.7	236.2	89.2	84.3	134.6	43.9	122	293.5	126.0	94.5	236.2	94.5	7.9	3.9	