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ISO 9001:2008 TÜV Rheinland certified

RISE TO WIN

BML-SERIES

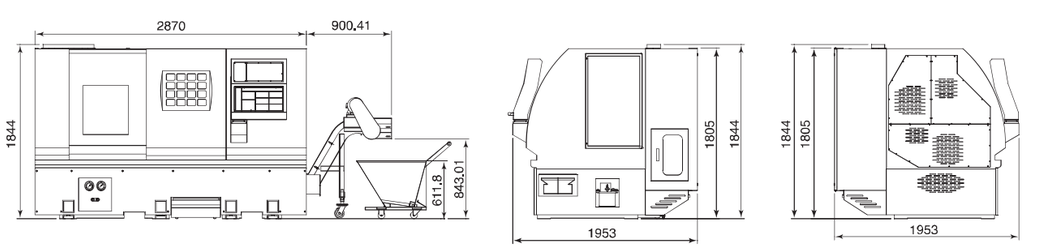
LATHES

JULY 2011 DESIGNED BY S&J CORP. +886-4-3703 8989

BML-600S (BML-280)

Box Way Lathe

Dimensional Drawings

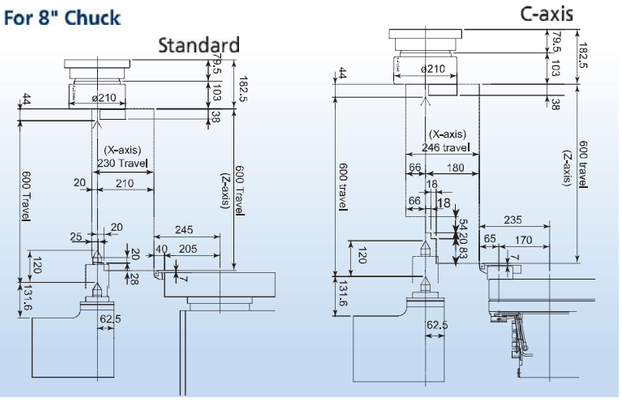


▲ Front View ▲ Side View

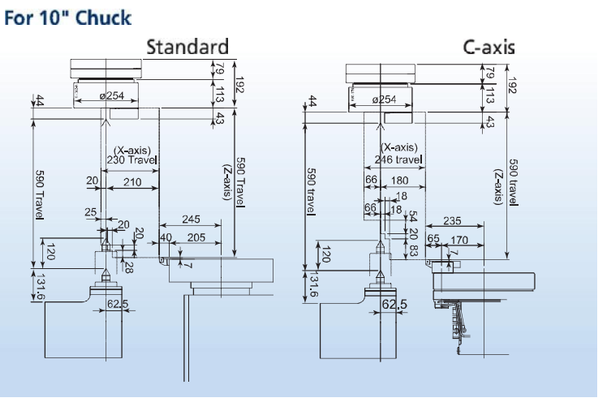
Unit: mm

Work Envelope

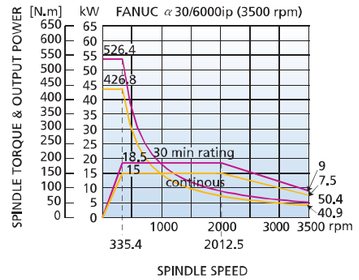
For 8" Chuck



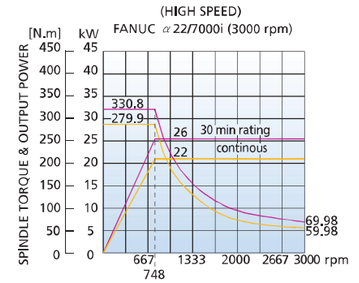
For 10" Chuck

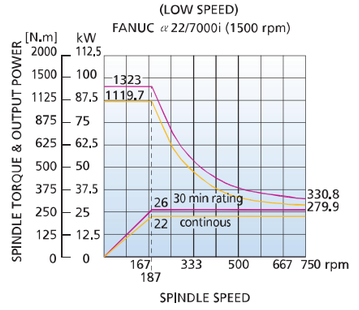


Spindle Torque Diagram

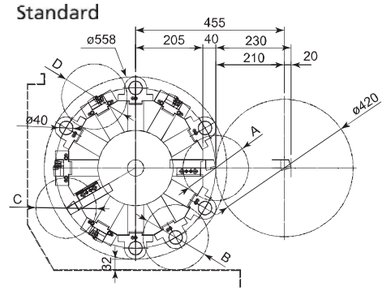


Spindle Torque Diagram (ZF Gearbox)





Tool Interference Diagram

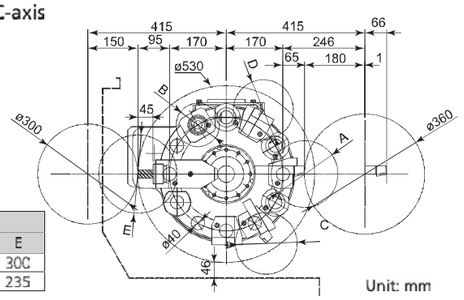


Standard

Capacity	Dimension			
	A	B	C	D
10-Tool	255	255	235	260
12-Tool	210	210	190	210

C-axis

Capacity	Dimension				
	A	B	C	D	E
8-Tool	290	215	187	215	300
12-Tool	200	130	185	180	235



Unit: mm

Machine Specifications

Unit: mm

		BML-600S (BML-280)	
		Standard	C-axis
CAPACITY	Swing over bed	Ø600	
	Swing over saddle	Ø450	
	Distance between center	STD: 638 (A2-6); OPT: 629 (A2-8)	
	Max. machining dia.	Ø420	Ø360
	Max. machining length	STD: 560 (8"); OPT: 544 (10")	
	Distance between noses	-	
	Slant angle of bed	30°	
TRAVEL RANGE	X-axis	230 (210+20)	246 (180+66)
	Y-axis	-	
	Z-axis	8": 600 / 10": 590	
	C-axis	360° (0.001°)	
	W-axis	-	
SPINDLE	Spindle speeds (rpm)	STD: 50~4500 (A2-6); OPT: 50~3500 (A2-8)	
	Spindle nose	STD: A2-6; OPT: A2-8	
	Spindle bore dia.	STD: Ø62 (A2-6); OPT: Ø86 (A2-8)	
	Front bearing dia.	STD: Ø100 (A2-6); OPT: Ø120 (A2-8)	
	Bar capacity	STD: 52; OPT: 75	
	Chuck diameter	STD: Ø8"; OPT: Ø10"	
TURRET	Type	Hydraulic VDI	Live-tooling
	Stations	STD: 10 OPT: 12	STD: 12 OPT: 8
	Model	LS-240	TBMA200
	Square tool shank	25	25
	Boring bar shank diameter	Ø40	Ø40
	Indexing time (0~180 °)(sec)	1.7	1.5
LIVE-TOOL	Spindle speeds (rpm)	-	50~4000
FEEDRATE	Rapid traverse (M/min)	X: 16, Z: 20	
TAILSTOCK	Quill diameter	Ø85	
	Tapered bore type	STD: MT 5; OPT: MT 4	
	Quill travel	120	
MOTORS	Main spindle (kW)	STD: α30ip 15/18.5	
	Sub-spindle(kW)	-	
	Live-tool (kW)	-	α3 (3.7/5.5)
	X/Z-axis servo motor (kW)	X: α12 3.0; Z: α12 3.0	
	Hydraulic oil pump (kW)	1.5	
	Chip conveyor (kW)	0.2	
	Coolant pump (kW)	0.8	
ACCURACY	Positioning (mm)	±0.005	
	Repeatability (mm)	±0.004	
POWER	Requirement (KVA)	STD: 26; OPT: 30	
MACHINE SIZE	Height	1844	
	Floor space (L x W)	2870 x 1953	
	Packing (w/conveyor) (cm)	383 x 212 x 212	
	Net weight (w/conveyor) (kgs)	5430	
	Gross weight (w/conveyor) (kgs)	5730	

*Specifications are subject to change without further notice.

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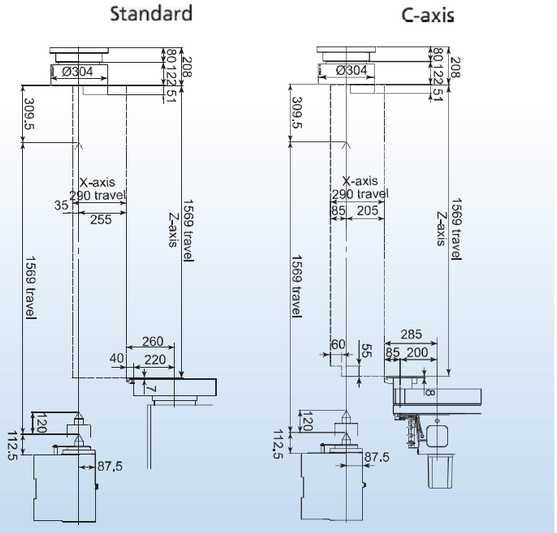
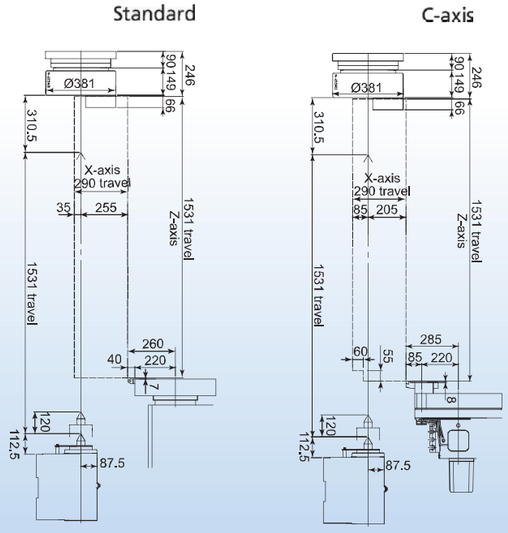
BML-630 Work Envelope

For 12" Chuck



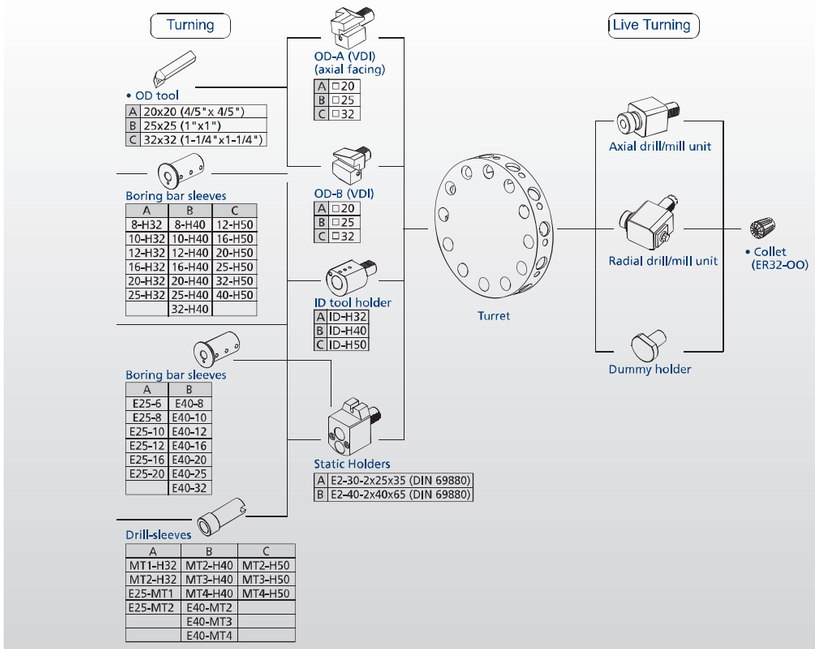
Unit: mm

For 15" Chuck



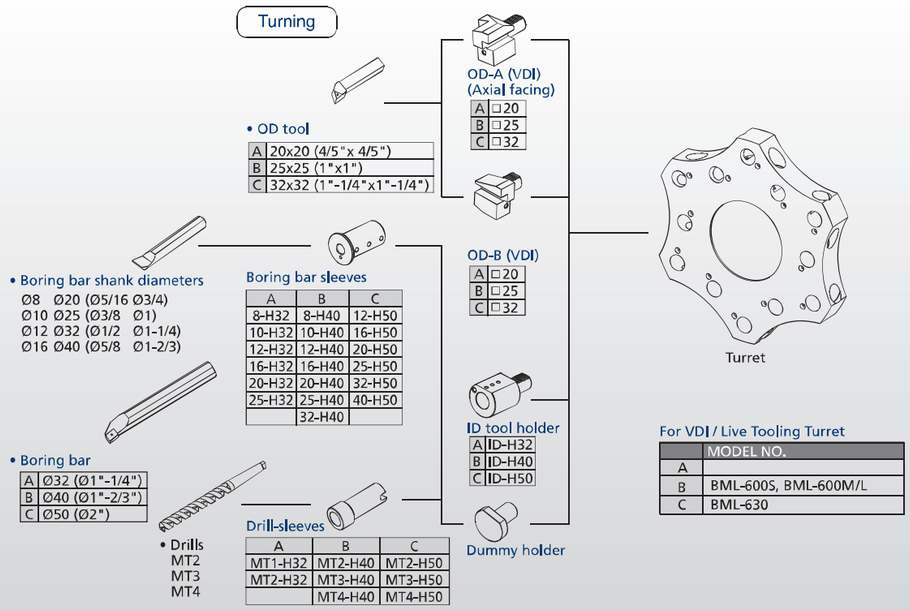
Live Tooling Turret

Unit: mm
Commercial Parts



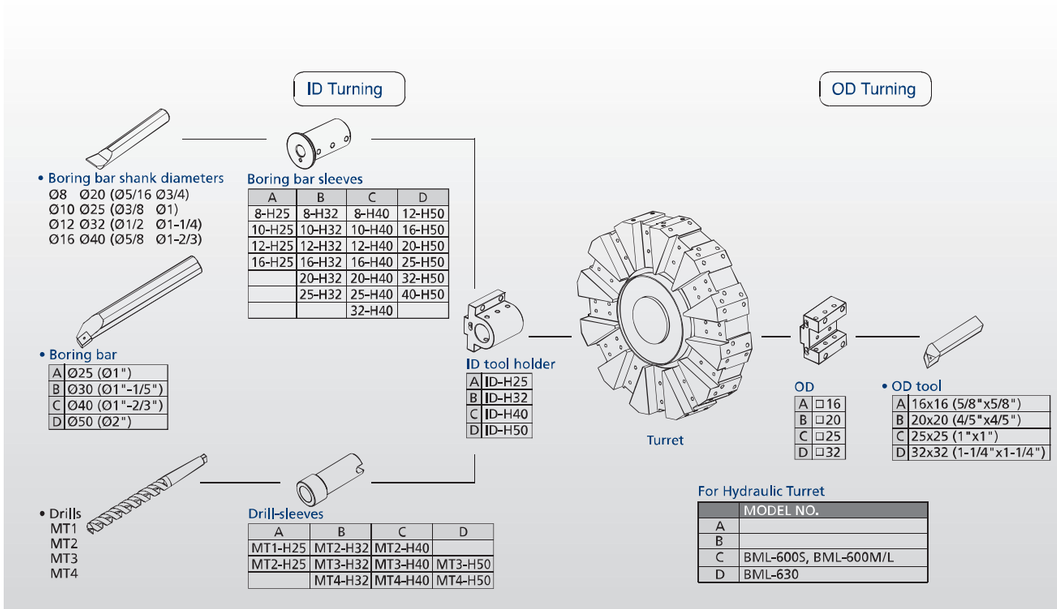
VDI Tooling Turret

Unit: mm
Commercial Parts



HydraulicTooling Turret

Unit: mm
Commercial Parts

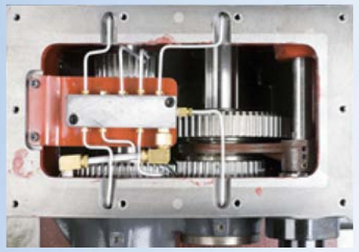


Rigid Bed Foundation

High tensile "Meehanite" is used exclusively in the bed and base castings. Combined with the latest design techniques, it provides the ultimate in stability and rigidity.

Separate Transmission Gear Box and Shaft

The shaft fits high precision SP grade special bearings and features a high rigidity design. The special lubricant prevents heat distortion and ensures shaft rigidity and accuracy. The shaft is equipped with a unique cooling system that more effectively controls thermal deformation, ensuring cutting characteristics remain consistent during extended high speed cutting.



(BML-630)

Hydraulic Device System

Sophisticated and easily accessed high pressure hydraulic system provides pressure to all cylinders, including chuck actuators. A check valve in the rotary hydraulic actuator prevents the chuck opening in the event of a power failure.

Sub-Spindle

CS axis is using the Heidenhain rotary encoder with high-precision. Both of main and sub-spindle brake disks are adjusted and qualified in spindle balancing, with Heidenhain rotary encoder is providing more precision position of accuracy requirement. The sub-spindle can catch the workpiece directly from main spindle by programming for machining another side of workpiece, and save machining time as spindle nonstop for loading / unloading.

(BML-600T, BML-600TY)

STANDARD

NC Controller Panel

Fanuc, Siemens, Mitsubishi and Heidenhain controllers are available.

(BML-600M)
(BML-600L)
(BML-630)

Programmable Tailstock

The programmable tailstock can be efficiently positioned by programmed command.

Spindle Unit

Equipped with the FANUC αi P type (wide constant power range) spindle motor and connected to a gear type belt to provide the quickest orientation and higher torque under lower speeds. The spindle housing is designed with a larger space for convenient maintenance, and the rib design allows for optimal heat dissipation to protect the spindle unit from thermal displacement.

(BML-600TY)

Standard Accessories

1. FANUC 0i-TD Controller
2. Spindle Motor
3. Hydraulic Chuck
4. O.D. Turning Tools
5. I.D. Boring Bar Holders
6. Boring Bar Bushings
   8, 10, 12, 16, 20, 25, 32_*O.D.40 (BML-600S, BML-600M/L);
   8, 10, 12, 16, 20, 25, 32, 40_*O.D.50 (BML-630);
7. Taper Sleeves
   MT No.#2, No.#3, NO.#4 (BML-600S, BML-600M/L);
   MT No.#3, NO.#4 (BML-630);
8. Hydraulic Turret (BML-600S, BML-600M/L, BML-630);
9. Tailstock Quill MT5 (BML-600S, BML-630), MT4 (BML-600M/L);
10. Coolant System
11. Coolant Tank
12. Leveling Bolts and Pads
13. Auto. Lubrication System
14. Work Lamp
15. Food Pedal for Chuck
16. Tool Kit
17. End of Program Light
18. Gearbox (BML-630);
19. Programmable Tailstock
20. Manual Steady Rest (BML-630);

Optionals

1. FANUC 18i-TB
2. Mitsubishi Controller
3. Siemens Controller
4. Collet Chuck and Hydraulic Cylinder (N/A BML-630);
5. Chip Conveyor + Chip Bucket
6. Bar Feeder
7. Bar Feeder Interface
8. V.D.I Turret (10 or 12 Tools);
9. Live Tooling (C-axis) (BML-600S, BML-600M/L, BML-630);
10. Parts Catcher
11. Oil and Coolant Separator
12. Automatic Door
13. Manual Tool Setter
14. Automatic Tool Setter
15. Transformer
16. ZF Gearbox
17. CE
18. Sling Frame
19. Stabilizer
20. Oil Mist Collector
21. Cooler for Coolant Tank

OPTIONAL

Steady Rest (Opt)

The steady rest maintains high precision for long workpieces.

(BML-630)

Fan Cooler (Opt)

(BML-630)

Oil Mist Collector (Opt)

Automatic Tool Measuring System (Opt)

With this system the tool automatically touches the measuring probe to reduce setup time. The optional tool live management system allows the user to determine wear limits.

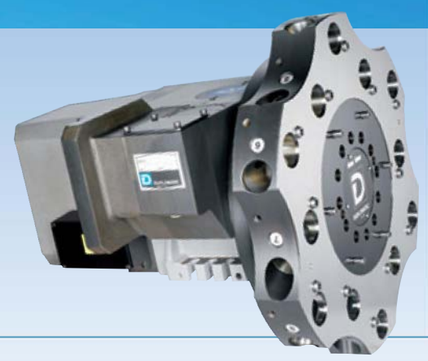
Built-in Spindle (Opt)

Built-in spindle is offering the full power efficiency when lower speed, and providing the superior machining conditions.

(BML-600Y)
(BML-600TY)

VDI Turret (Opt)

The VDI turret can operate bi-directionally and can select the shortest cutting path to improve productivity by reducing tool change over time.



Live Tooling Turret (Opt)

The Duplomatic or Baruffadi Live Tooling Turret is available. It can equip different types of VDI toolholder for customer requirements in drilling, milling, tapping and boring applications to process the various workpieces.

Robot (Opt)

The FANUC M-10iA is available.

- Max. reach: 1.42 m
- Payload capacity: 10 kg (including the weight of fixture.)