



ROMI®

M Series

Programmable Universal Lathes

Technical Features



M 17 / M 420 M 33 / M 850
M 20 / M 510 M 43 / M 1100
M 23 / M 580 M 51 / M 1300
M 27 / M 680

Remark: CE safety regulation compliance for Europe Community only.

M Series

Technical Features

Technical Specifications		M 17 / M 420	M 20 / M 510	M 23 / M 580	M 27 / M 680	M 33 / M 850	M 43 / M 1100	M 51 / M 1300	
Capacity									
Center height	mm	215	255	290	350	425	550	650	
	in	8.46	10.04	11.42	13.78	16.73	21.65	25.59	
Distance between centers	m	1.0	1.0 / 1.5 / 2.0	1.0 / 2.0 / 3.0	1.0 / 2.0 / 3.0	2.0 / 3.5 / 5.0 (*)	2.0 / 3.5 / 5.0 (*)	2.0 / 3.5 / 5.0 (*)	
	in	40	40 / 60 / 80	40 / 80 / 120	40 / 80 / 120	80 / 140 / 200 (*)	80 / 140 / 200 (*)	80 / 140 / 200 (*)	
Swing over bed	mm	430	520	580	685	850	1,100	1,300	
	in	16.93	20.47	22.83	26.97	33.46	43.31	51.18	
Swing over cross slide	mm	204	260	306	430	550	700	900	
	in	8.03	10.24	12.05	16.93	21.65	27.56	35.43	
Swing over carriage wings	mm	400	450	440	540	830	1,040	1,200	
	in	15.75	17.72	17.32	21.26	32.68	40.94	47.24	
X axis travel	mm	220	280	360	360	475	575	575	
	in	8.66	11.02	14.17	14.17	18.70	22.64	22.64	
Z axis travel	m	1.0	1.0 / 1.5 / 2.0	1.0 / 2.0 / 3.0	1.0 / 2.0 / 3.0	2.0 / 3.5 / 5.0	2.0 / 3.5 / 5.0	2.0 / 3.5 / 5.0	
	in	40	40 / 60 / 80	40 / 80 / 120	40 / 80 / 120	80 / 140 / 200	80 / 140 / 200	80 / 140 / 200	
Bed									
Width	mm	305	340	380	380	600	600	600	
	in	12.01	13.39	14.96	14.96	23.62	23.62	23.62	
Length	mm	350	336	400	400	460	460	460	
	in	13.77	13.22	15.74	15.74	18.11	18.11	18.11	
Headstock (standard)									
Spindle nose	ASA	A2-5"	A2-6"	A2-8"	A2-8"	A2-11"	A2-15"	A2-15"	
Spindle hole diameter	mm	53	65	80	104	137	175	175	
	in	2.09	2.56	3.15	4.09	5.39	6.89	6.89	
Speed range	rpm	4 to 4,000	3 to 3,000	2 to 2,500	2 to 1,800	7 to 1,200	6 to 1,000	6 to 670	
	Range I	rpm	-	-	2 to 629	2 to 441	7 to 260	6 to 210	6 to 210
	Range II	rpm	-	-	2 to 2,500	2 to 1,800	7 to 1,200	6 to 1,000	6 to 670
Headstock (Optional)									
Spindle nose	ASA	A2-6"	A2-8"	-	A2-11"	A2-15"	A2-20"	A2-20"	
Spindle hole diameter	mm	65	80	-	160	252	375	375	
	in	2.56	3.15	-	6.30	9.92	14.76	14.76	
Speed range	rpm	3 to 3,000	2 to 2,200	-	2 to 1,000	5 to 750	3 to 500	3 to 500	
	Range	rpm	-	-	-	2 to 245	5 to 170	3 to 100	3 to 100
	Range	rpm	-	-	-	2 to 1,000	5 to 750	3 to 500	3 to 500
Headstock (Optional)									
Spindle nose	ASA	D1-6"	D1-8"	D1-8"	D1-11"	-	-	-	
Spindle hole diameter	mm	53	80	80	104	-	-	-	
	in	2.09	3.15	3.15	4.1	-	-	-	
Speed range	rpm	3 to 3,000	2 to 2,200	2 to 2,500	2 to 1,000	-	-	-	
	Range	rpm	-	-	2 to 629	2 to 245	-	-	
	Range	rpm	-	-	2 to 2,500	2 to 1,000	-	-	
Feed									
Rapid traverse (z axis)	m/min	10	10	7.5	7.5	8	8	8	
	ipm	394	394	295	295	315	315	315	
Rapid traverse (x axis)	m/min	7.5	7.5	7.5	7.5	8 / 5 (*)	8 / 5 (**)	8 / 5 (**)	
	ipm	295	295	295	295	315 / 197 (*)	315 / 197 (**)	315 / 197 (**)	
Quick Change Tool Holder (optional)									
Stations		2 or 3	2 or 3	2 or 3	2 or 3	-	-	-	
Tool size: square	mm	25 x 25	25 x 25	32 x 32	32 x 32	-	-	-	
	in	1 x 1	1 x 1	1 x 1	1 x 1	-	-	-	
bar (diameter)	mm	25	25	32	32	-	-	-	
	in	1	1	1	1	-	-	-	
Gang Tool Holder (optional)									
Tool size: square	mm	20 x 20	20 x 20	-	-	-	-	-	
	in	1 x 1	1 x 1	-	-	-	-	-	
bar (diameter)	mm	25	25	-	-	-	-	-	
	in	1	1	-	-	-	-	-	
Rear Tool Holder (optional)									
Tool size: square	mm	20 x 20	25 x 25	25 x 25	25 x 25	40 x 40	40 x 40	-	
	in	1 x 1	1 x 1	1 x 1	1 x 1	1 x 1	1 x 1	-	
bar (diameter)	mm	25	32	40	40	80	80	-	
	in	1	1 1/4	1 1/2	1 1/2	3 1/8	3 1/8	-	
Four-Way Toll Post (optional)									
Tool Size: square	mm	-	-	-	-	50 x 50	50 x 50	50 x 50	
	in	-	-	-	-	2 x 2	2 x 2	2 x 2	
8-Station Disk Type Automatic Turret (optional)									
Number of stations / tools		8 / 8	8 / 8	8 / 8	8 / 8	8 / 8	8 / 8	8 / 8	
Next tool index time	s	0.6	0.6	0.8	0.8	1.2	1.2	1.2	
180° index time	s	1.5	1.5	1.9	1.9	3.0	3.0	3.0	
Tool size: square	mm	25 x 25	25 x 25	25 x 25	25 x 25	32 x 32	32 x 32	32 x 32	
	in	1 x 1	1 x 1	1 x 1	1 x 1	1 1/4 x 1 1/4	1 1/4 x 1 1/4	1 1/4 x 1 1/4	
bar (diameter)	mm	25	32	40	40	40	40	40	
	in	1 1/4	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	

(*) the machines M 33 / M 850, M 43 / M 1100, M 51 / 1300 are offered on length versions of 6.5 m / 256 inches, 8.0 m / 315 inches and 9.5 m / 374 inches between centers too.

These machines use a rack and pinion system for Z axis displacement. Optical scale is used for accurate positioning of the Z axis.

(**) for machine with 5.0 m / 200" between centers



Technical Specifications		M 17 / M 420	M 20 / M 510	M 23 / M 580	M 27 / M 680	M 33 / M 850	M 43 / M 1100	M 51 / M 1300
4-Station Square Automatic Turret (optional)								
Number of stations / tools	-	-	-	4 / 4	4 / 4	4 / 4	4 / 4	-
Next tool index time	s	-	-	0.7	0.7	2.1	2.1	2.1
180° index time	s	-	-	1.6	1.6	4.2	4.2	4.2
Tool size: square	mm	-	-	25 x 25	25 x 25	32 x 32	32 x 32	32 x 32
	in	-	-	1 x 1	1 x 1	1 1/4 x 1 1/4	1 1/4 x 1 1/4	1 1/4 x 1 1/4
bar (diameter)	mm	-	-	40	40	80	80	80
	in	-	-	1 1/2	1 1/2	3 1/8	3 1/8	3 1/8
4-Station Square Hydraulic Turret (optional)								
Number of stations / tools	-	-	-	-	4 / 4	4 / 4	4 / 4	4 / 4
Next tool index time	s	-	-	-	7	12	12	12
180° index time	s	-	-	-	12	20	20	20
Tool size: square	mm	-	-	-	25 x 25	32 x 32	40 x 40	40 x 40
	in	-	-	-	1 x 1	1 1/4 x 1 1/4	1 1/2 x 1 1/2	1 1/2 x 1 1/2
bar (diameter)	mm	-	-	-	40	60	60	60
	in	-	-	-	1 1/2	2 3/8	2 3/8	2 3/8
Manual Tailstock								
Body positioning		manual	manual	manual	manual	manual / move with saddle	manual / move with saddle	manual / move with saddle
Quill travel	mm	120	130	180	180	250	250	250
	in	4.72	5.12	7.09	7.09	9.84	9.84	9.84
Quill diameter	mm	60	80	100	100	150	150	150
	in	2.36	3.15	3.94	3.94	5.91	5.91	5.91
Quill taper	MT	4	4	5	5	6	6	6
Quill activation		manual	manual	manual	manual	manual	manual	manual
Automatic Tailstock (optional)								
Body positioning		manual	manual	manual	manual	manual / move with saddle	manual / move with saddle	manual / move with saddle
Quill travel	mm	120	130	180	180	300	300	300
	in	4.72	5.12	7.09	7.09	9.84	9.84	9.84
Quill diameter	mm	60	80	100	100	200	200	200
	in	2.36	3.15	3.94	3.94	7.87	7.87	7.87
Quill taper	MT	4	4	5	5	6	6	6
Quill activation		pneumatic	pneumatic	hydraulic	hydraulic	hydraulic	hydraulic	hydraulic
Electrical Specifications								
AC spindle motor	kW / hp	7.5 / 10	11. / 15	15 / 20	22 / 30	37 / 50	44.5 / 60	44.5 / 60
Power consumption	kVA	15	20	25	40	57	68	68
Dimensions and Weights (approximate)								
Floor space required (***)								
version: 1.0 m	m	2.72 x 1.27	3.15 x 1.65	3.46 x 2.03	3.46 x 2.03	-	-	-
40"	in	107.09 x 50.00	124.01 x 64.96	136.22 x 79.92	136.22 x 79.92	-	-	-
version: 1.5 m	m	-	3.65 x 1.65	-	-	-	-	-
60"	in	-	143.70 x 64.96	-	-	-	-	-
version: 2.0 m	m	-	4.15 x 1.65	4.46 x 2.03	4.46 x 2.03	6.09 x 2.45	6.09 x 2.85	6.09 x 3.10
80"	in	-	163.38 x 64.96	175.59 x 79.92	175.59 x 79.92	239.76 x 96.45	239.76 x 112.20	239.76 x 122.04
version: 3.0 m	m	-	-	5.46 x 2.03	5.46 x 2.03	-	-	-
120"	in	-	-	214.96 x 79.92	214.96 x 79.92	-	-	-
version: 3.5 m	m	-	-	-	-	7.61 x 2.45	7.61 x 2.85	7.61 x 3.10
140"	in	-	-	-	-	299.60 x 96.45	299.60 x 112.20	299.60 x 122.04
version: 5.0 m	m	-	-	-	-	9.14 x 2.45	9.14 x 2.85	9.14 x 3.10
200"	in	-	-	-	-	359.84 x 96.45	359.84 x 112.20	359.84 x 122.04
version: 6.5 m	m	-	-	-	-	10.70 x 2.45	10.70 x 2.85	10.70 x 3.10
256"	in	-	-	-	-	421.26 x 96.45	421.26 x 112.20	421.26 x 122.04
version: 8 m	m	-	-	-	-	12.20 x 2.45	12.20 x 2.85	12.20 x 3.10
315"	in	-	-	-	-	480.31 x 96.45	480.31 x 112.20	480.31 x 122.04
version: 9.5 m	m	-	-	-	-	13.75 x 2.45	13.75 x 2.85	13.75 x 3.10
374"	in	-	-	-	-	541.33 x 96.45	541.33 x 112.20	541.33 x 122.04
Net weight (approximate)								
version: 1.0 m	kg	2,850	3,000	5,000	5,780	-	-	-
40"	lbs	6,284	6,615	11,025	12,745	-	-	-
version: 1.5 m	kg	-	3,500	-	-	-	-	-
60"	lbs	-	7,717	-	-	-	-	-
version: 2.0 m	kg	-	3,750	5,520	6,300	15,000	18,000	19,500
80"	lbs	-	8,269	12,172	13,892	33,075	39,690	42,998
version: 3.0 m	kg	-	-	6,150	7,000	-	-	-
120"	lbs	-	-	13,560	15,435	-	-	-
version: 3.5 m	kg	-	-	-	-	17,500	21,000	22,500
140"	lbs	-	-	-	-	38,588	46,305	49,613
version: 5.0 m	kg	-	-	-	-	20,000	24,000	25,500
200"	lbs	-	-	-	-	44,100	52,920	56,228
version: 6.5 m	kg	-	-	-	-	23,000	27,000	28,000
256"	lbs	-	-	-	-	50,705	59,524	61,728
version: 8 m	kg	-	-	-	-	26,000	30,000	31,000
315"	lbs	-	-	-	-	57,319	66,137	68,342
version: 9.5 m	kg	-	-	-	-	29,000	33,000	34,000
374"	lbs	-	-	-	-	63,933	72,751	74,996

(***) without chip conveyor

M Series

Technical Features

Standard equipment

- Apron with 2 electronic handwheels and spindle motor switch for manual operation
- Automatic lubrication system with line filter (M 17 / M 420, M 20 / M 510, M 23 / M 580 and M 27 / M 680)
- Automatic lubrication system with line filter and monitoring sensors (M 33 / M 850, M 43 / M 1100 and M 51 / M 1300)
- CE safety regulation compliance (for Europe Community only)
- Chip conveyor interface
- Coolant system - 10 l/min / 2.6 gpm - 1.2 bar / 17.6 psi - 0.12 kW / 0.16 hp (M 17 / M 420, M 20 / M 510, M 23 / M 580, M 27 / M 680) and 10 l/min / 2.6 gpm - 2 bar / 20 psi - 0.18 kW / 0.24 hp (M 33 / M 850, M 43 / M 1100, M 51 / M 1300)
- Electrical installation for 380 V, 50/60 Hz (CNC Siemens)
- Electrical installation for 230 V, 50/60 Hz (CNC GE Fanuc - USA market)
- Electrical installation with 08 tap auto-transformer for 200 / 210 - 220 / 230 - 240 / 250 - 360 / 380 - 390 / 410 - 420 / 440 - 460 / 480 V, 50/60 Hz (CNC GE Fanuc - CE market)
- Fully enclosed splash guard, with additional safety door, interlocked with safety switch
- GE-Fanuc control Series 21i-T with Manual Guide software system (Hole Line) or Siemens Sinumerik 810D control with Manual Turn software system with 10.4" LCD color monitor (M 17 / M 420, M 20 / M 510, M 23 / M 580 and M 27 / M 680)
- Removable chip box
- Sealed Worklight
- Set of levelling screws and nuts
- Set of operating, maintenance, programming, installation and parts manuals
- Set of wrenches for machine operation
- Standard colors: 10B - 3/4 Munsell blue textured enamel epoxy and textured gray RAL 7035 powder epoxy paint
- Tailstock with manually operated quill (M 17 / M 420, M 20 / M 510, M 23 / M 580 and M 27 / M 680)

Optional equipment

M 17 / M 420



- Air conditioning for electrical panel
- Air operated tailstock quill. (Pneumatics and foot switch included)
- Auto-transformer for 220/240 V, 50/60 Hz (CNC Siemens)
- Auto-transformer for 200 / 210 - 220 / 230 - 240 / 250 - 360 / 380 - 390 / 410 - 420 / 440 - 460 / 480 V, 50/60 Hz (CNC GE Fanuc - USA market)

- Auto-transformer for 200 / 210 - 220 / 230 - 240 / 250 V, 50/60 Hz (CNC GE Fanuc - USA market)
- A2-6" spindle cartridge, with $\varnothing 2.56"$ ($\varnothing 65$ mm) through hole spindle (3,000 rpm max.)
- 8-station disk type automatic turret, electrically driven (tool holder and reduction sleeves NOT included)
- $\varnothing 6.3"$ ($\varnothing 160$ mm) or $\varnothing 7.9"$ (200 mm) universal chuck, with set of three hard jaws (A2-5")
- $\varnothing 7.9"$ ($\varnothing 200$ mm) universal chuck, with set of three hard jaws (A2-6")
- $\varnothing 6.5"$ ($\varnothing 165$ mm) pneumatically operated (rear closed center air cylinder) chuck, with $\varnothing 1.5"$ ($\varnothing 39$ mm) bar capacity, 21.5" (540 mm) maximum bar length inside the draw tube) and one set of soft jaws, for A2-5" spindle nose only. (Pneumatics and foot switch included)
- $\varnothing 8.5"$ ($\varnothing 210$ mm) pneumatically operated (rear closed center air cylinder) chuck, with $\varnothing 2"$ ($\varnothing 50.8$ mm) bar capacity, $\varnothing 21.5"$ ($\varnothing 540$ mm) maximum bar length inside the draw tube) and one set of soft jaws, for A2-5" spindle nose only (3,000 rpm max.). (Pneumatics and foot switch included)
- $\varnothing 8"$ ($\varnothing 210$ mm) pneumatically operated (rear closed center air cylinder) chuck, with $\varnothing 2"$ ($\varnothing 50.8$ mm) bar capacity, $\varnothing 21.5"$ ($\varnothing 540$ mm) maximum bar length inside the draw tube) and one set of soft jaws, for A2-6" spindle nose only (3,000 rpm max.). (Pneumatics and foot switch included)
- D1-6" spindle cartridge, with $\varnothing 2.09"$ ($\varnothing 53$ mm) through hole spindle (3,000 rpm max.)
- Chip conveyor (hinged belt), with 26.4 gallons (100 liters) of coolant reservoir capacity
- Extra set of operating, maintenance, programming, installation and parts manual
- Follow rest with rollers, 12 to 50 mm ($1/2"$ to 2") diameter capacity
- Gang-tooling plate, with 5 tool holders: (2x) boring bar holder, (2x) facing tool holder and (1x) turning tool holder and 4 reduction sleeves (one each: $1/2"$ or 12 mm, 5/8" or 16 mm, 3/4" or 20 mm and MT-1)
- Quick change tool holder base, with one boring bar holder ($\varnothing 1"$ or 25 mm) and one turning tool holder ($1" \times 1"$ or 25 x 25 mm)
- Rear tool holder, with T-slot base, one boring bar holder ($\varnothing 1"$ or 25 mm) and one turning / facing tool holder ($3/4" \times 3/4"$ or 20 x 20 mm)
- Steady rest (closed) with bronze tips, $5/16"$ to $3 1/8"$ (8 to 80 mm) diameter capacity
- Steady rest (open) with bronze tips, $5/16"$ to $3 1/8"$ (8 to 80 mm) diameter capacity
- Steady rest (U-Type) with rollers, 4" to 8" (101.6 to 203.2 mm) diameter capacity
- T-slotted faceplates: A2-5" x 16" (400 mm) diameter (375 rpm max.), A2-6" x 16" (400 mm) diameter (375 rpm max.), D1-6" x 16" (400 mm) diameter (375 rpm max.)
- 8-Station turret accessories: Boring bar holder $\varnothing 1"$, Reduction sleeves: $5/16" \times 1" - 3/8" \times 1" - 1/2" \times 1" - 5/8" \times 1" - 3/4" \times 1"$, Drill socket MT-1 x 1", Facing tool holder $1" \times 1"$, Boring bar holder $\varnothing 25$ mm, Reduction sleeves: 8 x 25 mm - 10 x 25 mm - 12 x 25 mm - 16 x 25 mm - 20 x 25 mm, Drill socket MT-1 x 25 mm, Facing tool holder 25 x 25 mm, Locking block for turning tool
- Gang-tooling accessories: T-Slot base, Boring bar holder $\varnothing 1"$, Reduction sleeve $5/16" \times 1" - 3/8" \times 1" - 1/2" \times 1" - 5/8" \times 1" - 3/4" \times 1"$, Drill socket MT-1 x 1", Facing tool holder $3/4" \times 3/4"$, Turning tool holder $3/4" \times 3/4"$, Boring bar

- holder $\varnothing 25$ mm, Reduction sleeves: 8 x 25 mm - 10 x 25 mm - 12 x 25 mm - 16 x 25 mm - 20 x 25 mm, Drill socket MT-1 x 25 mm, Facing tool holder 20 x 20 mm, Turning tool holder 20 x 20 mm
- Quick change tool accessories: Boring bar holder $\varnothing 1"$ or 25 mm, Turning tool holder $1" \times 1"$ or 25 x 25 mm
- Pneumatic chuck accessories: Set of three soft or hard jaws for 6.5" (165 mm) chuck diameter and for 8" (210 mm) chuck diameter
- Rear tool holder accessories: T-Slot base, Boring bar holder $\varnothing 1"$ or 25 mm, Turning tool holder $3/4" \times 3/4"$ or 20 x 20 mm
- Steady rest (closed) accessories: Additional set of bronze tips $3 1/8"$ to 6" (80 to 152 mm) diameter capacity, Additional set of rollers $5/16"$ to $3 1/8"$ (8 to 80 mm) diameter capacity, Additional set of rollers $3 1/8"$ to 6" (80 to 152 mm) diameter capacity
- Steady rest (U Type) accessories: Additional set of rollers 2" to 7" (50.8 to 177.8 mm) diameter capacity
- Tailstock drag device
- Universal chuck accessories: Set of three soft or hard jaws for 6.3" (160 mm) diameter and 7.9" (200 mm) chuck diameter

M 20 / M 510



- Air conditioning for electrical panel
- Air operated tailstock quill. (Pneumatics and foot switch included)
- Auto-transformer for 220/240 V, 50/60 Hz (CNC Siemens)
- Auto-transformer for 200 / 210 - 220 / 230 - 240 / 250 - 360 / 380 - 390 / 410 - 420 / 440 - 460 / 480 V, 50/60 Hz (CNC GE Fanuc - USA market)
- Auto-transformer for 200 / 210 - 220 / 230 - 240 / 250 V, 50/60 Hz (CNC GE Fanuc - USA market)
- A2-8" spindle cartridge, with $\varnothing 3.15"$ ($\varnothing 80$ mm) through hole spindle (2,200 rpm max.)
- 8-station disk type automatic turret, electrically driven (tool holder and reduction sleeves NOT included)
- $\varnothing 7.9"$ ($\varnothing 200$ mm) or $\varnothing 10"$ ($\varnothing 254$ mm) universal chuck with set three hard jaws (A2-6") and $10"$ (254 mm) universal chuck, with set three hard jaws (A2-8")
- $\varnothing 8"$ ($\varnothing 210$ mm) pneumatically operated (rear closed center air cylinder) chuck, with $\varnothing 2"$ ($\varnothing 50.8$ mm) bar capacity, 21.5" (540 mm) maximum bar length inside the draw tube and one set of soft jaws for A2-6" spindle nose only. (Pneumatics and foot switch included)
- $\varnothing 10"$ ($\varnothing 254$ mm) pneumatically operated (rear closed center air cylinder) chuck, with $\varnothing 2.5"$ ($\varnothing 63.5$ mm) bar capacity, 25.6" (650 mm) maximum bar length inside the draw tube and one set of soft jaws for A2-6" spindle nose only (2,000 rpm max.). (Pneumatics and foot switch included)
- $\varnothing 10"$ ($\varnothing 254$ mm) pneumatically operated (rear closed center air cylinder) chuck, with $\varnothing 2.5"$ ($\varnothing 63.5$ mm) bar capacity, 25.6" (650 mm) maximum bar length inside the draw tube and one set of soft jaws for A2-8" spindle nose



only (2,000 rpm max.). (Pneumatics and foot switch included)

- D1-8" spindle cartridge, with $\varnothing 3.15"$ ($\varnothing 80$ mm) through hole spindle (2,200 rpm max.)
- Chip conveyor for (hinged belt) (1,000 mm) with 26.4 gallons (100 liters) of coolant reservoir capacity, transverse (TCE)
- Chip conveyor (hinged belt) for (1,500 mm) with 26.4 gallons (100 liters) of coolant reservoir capacity, transverse (TCE)
- Chip conveyor (hinged belt) for (2,000 mm) with 29 gallons (110 liters) of coolant reservoir capacity, longitudinal (TCE)
- Extra set of operating, maintenance, programming, installation and parts manual
- Follow rest with rollers, 15 to 80 mm ($5/8"$ to $3 1/8"$) diameter capacity
- Gang-tooling plate, with 5 tool holders (2 x) boring bar holder, (2 x) facing tool holder and (1 x) turning tool holder and 3 reduction sleeves (one each: $1/2"$ or 12 mm, $3/8"$ or 16 mm, $3/4"$ or 20 mm and MT-1)
- Milling head; collet type DIN 6499-ER 32 for collets from $\varnothing 2$ to $\varnothing 20$ mm; 1.48 kW / 2 hp; Y travel +/- 5 mm (collets NOT included) - only for machines with Siemens control
- Quick change tool holder base, with one boring bar holder ($\varnothing 1"$ or 25 mm) and one turning tool holder ($1" \times 1"$ or 25×25 mm)
- Rear tool holder, with a T-Slot base, one boring bar holder ($\varnothing 1 1/4"$ or 32 mm) and one turning / facing tool holder ($1" \times 1"$ or 25×25 mm)
- Steady rest (closed) with bronze tips, $5/16"$ to $3 1/8"$ ($\varnothing 80$ mm) diameter capacity
- Steady rest (open) with bronze tips, $5/16"$ to $3 1/8"$ ($\varnothing 80$ mm) diameter capacity
- Steady rest (U Type) with rollers, $5"$ to $10"$ (127 to 254 mm) diameter capacity
- T-slotted faceplate, A2-6" $\times 16"$ (400 mm) diameter (375 rpm max.)
- T-slotted faceplate, A2-8" $\times 16"$ (400 mm) diameter (375 rpm max.)
- T-slotted faceplate, D1-8" $\times 16"$ (400 mm) diameter (375 rpm max.)
- 8-station turret accessories: Boring bar holder $\varnothing 1 1/4"$, Reduction sleeves: $3/8" \times 1 1/2"$, $1/2" \times 1 1/2"$, $3/8" \times 1 1/4"$, $3/4" \times 1 1/4"$, $1" \times 1 1/4"$, Drill sockets MT-1 $\times 1 1/2"$ and MT-2 $\times 1 1/2"$, Facing tool holder $1" \times 1"$, Boring bar holder $\varnothing 32$ mm, Reduction sleeve 10×32 mm - 12×32 mm - 16×32 mm - 20×32 mm - 25×32 mm, Drill sockets MT-1 $\times 32$ mm and MT-2 $\times 32$ mm, Facing tool holder 25×25 mm, Locking block for turning tool
- Gang-tooling accessories: T-Slot base, Boring bar holder $\varnothing 1"$, Reduction sleeves $1/2" \times 1"$ - $3/8" \times 1"$ - $3/4" \times 1"$, Drill socket MT-1 $\times 1"$ Facing tool holder $3/4" \times 3/4"$, Turning tool holder $3/4" \times 3/4"$, Boring bar holder $\varnothing 25$ mm, Reduction sleeves: 12×25 mm - 16×25 mm - 20×25 mm, Drill socket MT-1 $\times 25$ mm, Facing tool holder 20×20 mm, Turning tool holder 20×20 mm
- Quick change tool accessories: Boring bar holder $\varnothing 1"$ and 25 mm, Turning tool holder $1" \times 1"$ and 25×25 mm
- Pneumatic chuck accessories: set of three soft and hard jaws for $8"$ (210 mm) and for $10"$ (254 mm) chuck diameter
- Rear tool holder accessories: T-Slot base, Boring bar holder $\varnothing 1 1/4"$ and 32 mm, Turning tool holder $1" \times 1"$ and 25×25 mm
- Steady rest (closed) accessories: Additional set of bronze tips $3 1/8"$ to $6"$ ($\varnothing 80$ to 152 mm) diameter capacity,

Additional set of rollers $5/16"$ to $3 1/8"$ ($\varnothing 80$ mm) diameter capacity, Additional set of rollers $3 1/8"$ to $6"$ ($\varnothing 80$ to 152 mm) diameter capacity

- Steady rest (U Type) accessories: Additional set of rollers $2"$ to $7"$ (50.8 to 177.8 mm) diameter capacity
- Tailstock drag device
- Universal chuck accessories: Set of three soft and hard jaws for $7.9"$ (200 mm) chuck diameter and for $10"$ (254 mm) chuck diameter

M 23 / M 580



- Air conditioning for electrical panel
- Auto-transformer for 220/240 V, 50/60 Hz (CNC Siemens)
- Auto-transformer for 200 / 210 - 220 / 230 - 240 / 250 - 360 / 380 - 390 / 410 - 420 / 440 - 460 / 480 V, 50/60 Hz (CNC GE Fanuc - USA market)
- Auto-transformer for 200 / 210 - 220 / 230 - 240 / 250 V, 50/60 Hz (CNC GE Fanuc - USA market)
- 4-station square automatic turret, electrically driven (tool holder and reduction sleeves NOT included)
- 8-station disk type automatic turret, electrically driven (tool holder and reduction sleeves NOT included)
- $\varnothing 10"$ ($\varnothing 254$ mm) or $\varnothing 12.4"$ ($\varnothing 315$ mm) universal chuck, with set three hard jaws, (A2-8")
- $\varnothing 10"$ ($\varnothing 254$ mm) hydraulically operated chuck, with $\varnothing 2.5"$ ($\varnothing 63.5$ mm) bar capacity and one set of soft jaws, for A2-8" spindle nose (hydraulic power unit and foot switch included)
- $\varnothing 12.4"$ ($\varnothing 315$ mm) hydraulically operated chuck, with $\varnothing 2.5"$ ($\varnothing 63.5$ mm) bar capacity and one set of soft jaws, for A2-8" spindle nose (hydraulic power unit and foot switch included)
- D1-8" spindle nose, with $\varnothing 3.15"$ ($\varnothing 80$ mm) through hole spindle
- Extra set of operating, maintenance, programming, installation and parts manual
- Chip conveyor (hinged belt) for (1,000 mm), with 31.6 gallons (120 liters) of coolant reservoir capacity, longitudinal (TCE)
- Chip conveyor (hinged belt) for (2,000 mm), with 48.9 gallons (185 liters) of coolant reservoir capacity, longitudinal (TCE)
- Chip conveyor (hinged belt) for (3,000 mm), with 64.5 gallons (244 liters) of coolant reservoir capacity, longitudinal (TCE)
- Hydraulically operated tailstock quill. Hydraulic power unit and foot switch included
- Quick change tool holder base, with one boring bar holder ($\varnothing 32$ mm) and one turning tool holder (32×32 mm)
- Rear boring bar holder, with a T-slot base: $\varnothing 1 1/2"$ or 40 mm
- Rear tool holder, for turning or facing, with a

T-slot base: $1" \times 1"$ and 25×25 mm

- Steady rest (closed) with rollers, $1/2"$ to $6"$ (12 to 152 mm) diameter capacity
- Steady rest (U Type) with rollers, $6"$ to $12"$ (152 to 304,8 mm) diameter capacity
- Tailstock quill with built in live center
- T-slotted faceplate, A2-8" $\times 16"$ (400 mm) diameter (375 rpm max.)
- 4-station square turret accessories: Boring bar holder $\varnothing 1 1/2"$, Boring bar ($\varnothing 1 1/2"$) and turning ($1" \times 1"$) double tool holder, Reduction sleeves: $3/8" \times 1 1/2"$ - $1/2" \times 1 1/2"$ - $3/8" \times 1 1/2"$ - $3/4" \times 1 1/2"$ - $1" \times 1 1/2"$ - $1 1/4" \times 1 1/2"$, Drill sockets: MT-1 $\times 1 1/2"$, MT-2 $\times 1 1/2"$, MT-3 $\times 1 1/2"$, Facing tool holder $1" \times 1"$, Turning tool holder $1" \times 1"$, Boring bar holder $\varnothing 40$ mm, Boring bar ($\varnothing 40$ mm) and turning (25×25 mm) double tool holder, Reduction sleeves: 10×40 mm - 12×40 mm - 16×40 mm, 20×40 mm - 25×40 mm - 32×40 mm, Drill socket MT-1 $\times 40$ mm - MT-2 $\times 40$ mm - MT-3 $\times 40$ mm, Facing tool holder 25×25 mm, Turning tool holder 25×25 mm
- 8-station turret accessories: Boring bar holder $\varnothing 1 1/2"$, Reduction sleeves: $3/8" \times 1 1/2"$ - $1/2" \times 1 1/2"$ - $3/8" \times 1 1/2"$ - $3/4" \times 1 1/2"$ - $1" \times 1 1/2"$ - $1 1/4" \times 1 1/2"$, Drill sockets: MT-1 $\times 1 1/2"$ - MT-2 $\times 1 1/2"$ - MT-3 $\times 1 1/2"$, Facing tool holder $1" \times 1"$, T-MAX type boring bar holder $\varnothing 1 1/2"$, T-MAX type drill sockets: $3/4" \times 1 1/2"$ - $1" \times 1 1/2"$ - $1 1/4" \times 1 1/2"$, Turning tool holder - left side (CW turning) - short $1" \times 1"$, Turning tool holder - left side (CW turning) - long $1" \times 1"$, Turning tool holder - right side (CCW turning) - short $1" \times 1"$, Turning tool holder - right side (CCW turning) - long $1" \times 1"$, Boring bar holder $\varnothing 40$ mm, Reduction sleeves: 10×40 mm - 12×40 mm - 16×40 mm - 20×40 mm - 25×40 mm - 32×40 mm, Drill sockets: MT-1 $\times 40$ mm - MT-2 $\times 40$ mm - MT-3 $\times 40$ mm, Facing tool holder 25×25 mm, T-MAX type boring bar holder $\varnothing 40$ mm, T-MAX type drill sockets 20×40 mm - 25×40 mm - 32×40 mm, Turning tool holder - left side (CW turning) - short 25×25 mm, Turning tool holder - left side (CW turning) - long 25×25 mm, Turning tool holder - right side (CCW turning) - short 25×25 mm, Turning tool holder - right side (CCW turning) - long 25×25 mm, Locking block for turning tool
- Quick change tool accessories: Boring bar holder $\varnothing 1 1/4"$ and 32 mm, Turning tool holder $1 1/4" \times 1 1/4"$ and 32×32 mm
- Hydraulic chuck accessories: Set of three soft and hard jaws for $10"$ (254 mm) chuck diameter and for $12.4"$ (315 mm) chuck diameter
- Steady rest (closed) accessories: Additional set of rollers $1/2"$ to $6"$ (12 to 152 mm) diameter capacity
- Steady rest (U Type) accessories: Additional set of rollers $2"$ to $7"$ (50.8 to 177.8 mm) diameter capacity

M 27 / M 680



- Auto-transformer for 220/240 V, 50/60 Hz (CNC Siemens)
- Auto-transformer for 200 / 210 - 220 / 230 - 240 / 250 -

continue

M Series

Technical Features

360 / 380 - 390 / 410 - 420 / 440 - 460 / 480 V, 50/60 Hz (CNC GE Fanuc - USA market)

- Auto-transformer for 200 / 210 - 220 / 230 - 240 / 250 V, 50/60 Hz (CNC GE Fanuc - USA market)
- 4-station square automatic turret, electrically driven (tool holder and reduction sleeves NOT included)
- 4-station square automatic turret (head type), hydraulically driven (tool holder and reduction sleeves NOT included)
- 4-station square hydraulic turret accessories: Boring bar holder and reduction sleeves
- 8-station disk type automatic turret, electrically driven (tool holder and reduction sleeves NOT included)
- Ø 10" (Ø 254 mm), Ø 12.4" (Ø 315 mm) and Ø 15.7" (Ø 400 mm) universal chuck, with set three hard jaws, (A2-8")
- Ø 15.7" (Ø 400 mm) universal chuck, with set three hard jaws, (A2-11")
- Ø 10" (Ø 254 mm) hydraulically operated chuck, with 2.5" (63.5 mm) bar capacity and one set of soft jaws, for A2-8" spindle nose (hydraulic power unit and foot switch included)
- Ø 12.4" (Ø 315 mm) hydraulically operated chuck, with Ø 2.5" (Ø 63.5 mm) bar capacity and one set of soft jaws, for A2-8" spindle nose (hydraulic power unit and foot switch included)
- A2-11" spindle nose, with Ø 6.3" (Ø 160 mm) through hole spindle (1,000 rpm max.)
- D1-11" spindle nose, with Ø 4.1" (Ø 104 mm) through hole spindle
- Chip conveyor (hinged belt) for (1,000 mm), with 31.6 gallons (120 liters) of coolant reservoir capacity longitudinal (TCE)
- Chip conveyor (hinged belt) for (2,000 mm), with 48.9 gallons (185 liters) of coolant reservoir capacity, longitudinal (TCE)
- Chip conveyor (hinged belt) for (3,000 mm), with 64.5 gallons (244 liters) of coolant reservoir capacity, longitudinal (TCE)
- Extra set of operating, maintenance, programming, installation and parts manual
- Hydraulically operated tailstock quill, hydraulic power unit and foot switch included
- Quick change tool holder base, with one boring bar holder (Ø 1 1/4" or 32 mm) and one turning tool holder (1 1/4" x 1 1/4" or 32 x 32 mm)
- Rear boring bar holder, with a T-slot base: Ø 1 1/2" and 40 mm
- Rear centralizing ring - spindle nose ASA A2-11" x 160 mm
- Rear tool holder, for turning or facing, with a T-slot base: 1" x 1" or 25 x 25 mm
- Steady rest (closed) with rollers, 1/2" to 6" (12 to 152 mm) diameter capacity
- Steady rest (U Type) with rollers, 6" to 12" (152.4 to 304.8 mm) diameter capacity
- Tailstock quill with built in live center
- T-slotted faceplate, A2-8" x 16" (400 mm) diameter (375 rpm max.)
- 4-station square turret accessories: Boring bar holder Ø 1 1/2", Boring bar (Ø1 1/2") and turning (1" x 1") double tool holder, Reduction sleeves: 3/8" x 1 1/2" - 1/2" x 1 1/2" - 5/8" x 1 1/2" - 3/4" x 1 1/2" - 1" x 1 1/2" - 1 1/4" x 1 1/2", Drill sockets: MT-1 x 1 1/2" - MT-2 x 1 1/2" - MT-3 x 1 1/2", Facing tool holder 1" x 1", Turning tool holder 1" x 1", Boring bar holder Ø 40 mm, Boring bar (Ø 40 mm) and turning (25 x 25 mm) double tool holder, Reduction sleeves 10 x 40 mm - 12 x 40 mm - 16 x 40 mm - 20 x 40 mm - 25 x 40 mm - 32 x 40 mm, Drill sockets: MT-1 x 40 mm, MT-2 x 40 mm, MT-3 x 40 mm, Facing tool holder 25 x 25 mm, Turning tool holder 25 x 25 mm

- 8-station turret accessories: Boring bar holder Ø 1 1/2", Reduction sleeves: 3/8" x 1 1/2" - 1/2" x 1 1/2" - 5/8" x 1 1/2" - 3/4" x 1 1/2" - 1" x 1 1/2" - 1 1/4" x 1 1/2", Drill socket MT-1 x 1 1/2" - MT-2 x 1 1/2" - MT-3 x 1 1/2" - Facing tool holder 1" x 1", T-MAX type boring bar holder Ø 1 1/2", T-MAX type drill socket 3/4" x 1 1/2" - 1" x 1 1/2" - T-MAX type drill socket 1 1/4" x 1 1/2", Turning tool holder - left side (CW turning) - short 1" x 1", Turning tool holder - left side (CW turning) - long 1" x 1", Turning tool holder - right side (CCW turning) - short 1" x 1", Turning tool holder - right side (CCW turning) - long 1" x 1", Boring bar holder Ø 40 mm, Reduction sleeves: 10 x 40 mm - 12 x 40 mm - 16 x 40 mm - 20 x 40 mm - 25 x 40 mm - 32 x 40 mm, Drill sockets: MT-1 x 40 mm - MT-2 x 40 mm - MT-3 x 40 mm, Facing tool holder 25 x 25 mm, T-MAX type boring bar holder Ø 40 mm, T-MAX type drill sockets: 20 x 40 mm - 25 x 40 mm - 32 x 40 mm, Turning tool holder - left side (CW turning) - short 25 x 25 mm, Turning tool holder - left side (CW turning) - long 25 x 25 mm, Turning tool holder - right side (CCW turning) - short 25 x 25 mm, Turning tool holder - right side (CCW turning) - long 25 x 25 mm, Locking block for turning tool
- Quick change tool accessories: Boring bar holder Ø 1 1/4" and 32 mm, Turning tool holder 1 1/4" x 1 1/4" and 32 x 32 mm
- Hydraulic chuck accessories: Set of three soft and hard jaws for 10" (254 mm) and 12.4" (315 mm) chuck diameter
- Steady rest (closed) accessories: Additional set of rollers 1/2" to 6" (12 to 152 mm) diameter capacity
- Steady rest (U Type) accessories: Additional set of rollers 8" to 12" (203.2 to 304.8 mm) diameter capacity, Additional set of rollers 4" to 8" (101.6 to 203.2 mm) diameter capacity.

- Ø 25" (Ø 630 mm) universal chuck, with set three hard jaws ASA A2-15" with Ø 9.92" (Ø 252 mm) through hole (500 rpm max.)
- Ø 19.68" (Ø 500 mm) four jaws independent chuck with Ø 5.39" (Ø 137 mm) through hole (400 rpm max.)
- Ø 24.80" (Ø 630 mm) four jaws independent chuck with Ø 6.89" (Ø 175 mm) through hole (350 rpm max.)
- Chip conveyor group (hinged belt -TCE) including 02 transverse and one longitudinal for 80" (2,000 mm)
- Chip conveyor group (hinged belt -TCE) including 03 transverse and one longitudinal for 140" (3,500 mm)
- Chip conveyor group (hinged belt -TCE) including 04 transverse and one longitudinal for 200" (5,000 mm)
- Extra set of operating, maintenance, programming, installation and parts manual
- Four-way toll post
- Main spindle indexing with 72 positions (5°)
- Rear centralizing ring - spindle nose ASA A2-11" x 137 mm (5.39") diameter
- Rear centralizing ring - spindle nose ASA A2-15" x 252 mm (9.92") diameter
- Rear tool holder
- Steady rest (U type), 4" to 12" (100 to 305 mm) / 11.5" to 17.3" (292 to 440 mm) diameter capacity: Steady rest body (no rollers included)
 - Set of rollers for 4" to 12" (100 to 305 mm) diameter capacity
 - Set of rollers for 11.5" to 17.3" (292 to 440 mm) diameter capacity
- Table rest with rollers 12 1/4" to 20" (317.5 to 508 mm) diameter capacity

M 33 / M 850



- Air conditioning for electrical panel
- Auto-transformer for 200 / 210 - 220 / 230 - 240 / 250 - 360 / 380 - 390 / 410 - 420 / 440 - 460 / 480 V, 50/60 Hz (CNC GE Fanuc - USA market)
- Auto-transformer for 200 / 210 - 220 / 230 - 240 / 250 V, 50/60 Hz (CNC GE Fanuc - USA market)
- 4-station square automatic turret, electrically driven (tool holders and reduction sleeves NOT included)
- 4-station square automatic turret (head type), hydraulically driven (tool holders and reduction sleeves NOT included)
- 8-station disk type automatic turret, electrically driven (tool holders and reduction sleeves NOT included)
- Ø 15.7" (Ø 400 mm) universal chuck, with set of three hard jaws ASA A2-11" with Ø 5.35" (Ø 136 mm) through hole
- Ø 19.7" (Ø 500 mm) universal chuck, with set three hard jaws ASA A2-11" with Ø 7.48" (Ø 190 mm) through hole (700 rpm max.)
- Ø 19.7" (Ø 500 mm) universal chuck, with set three hard jaws ASA A2-15" with Ø 7.48" (Ø 190 mm) hole diameter through chuck (700 rpm max.)

- Tailstock with hydraulically driven quill
- Tailstock with manually operated quill with gear reduction system
- 4-station square turret accessories: Boring bar holder Ø 80 mm; Adaptor sleeves D80XD32XL180; D80XD40XL180; D80XD50XL180; D80XD60XL180; Double-Boring bar holder Ø 60 mm; Adaptor sleeves D60XD12XL95 split, D60XD16XL95 split, D60XD20XL95 split, D60XD25XL95 split, D60XD30XL95 split, D60XD32XL95 split, D60XD40XL95 split, D60XD50XL95 split, Facing tool holder 32 x 32 mm; Turning tool holder 32 x 32 mm; Boring bar holder Ø 3 1/8", Double-Boring bar holder Ø 2 3/8", Facing tool holder 1 1/4" x 1 1/4" Turning tool holder 1 1/4" x 1 1/4"
- 4-station square hydraulic turret accessories: Boring bar holder and reduction sleeves
- 8-station turret accessories: Boring bar holder Ø 1 1/4"; Facing tool holder 1 1/4" x 1 1/4"; T-MAX type boring bar holder Ø 1 1/4"; Turning tool holder - left side (CW turning) - short 1 1/4" x 1 1/4"; Turning tool holder - left side (CW turning) - long 1 1/4" x 1 1/4"; Turning tool holder - right side (CCW turning) - short 1 1/4" x 1 1/4"; Turning tool holder - right side (CCW turning) - long 1 1/4" x 1 1/4"; Boring bar holder Ø 40 mm; Facing tool holder 32 x 32 mm; T-MAX type boring bar holder Ø 40 mm; Turning tool holder - left side (CW turning) - short 32 x 32 mm; Turning tool holder - left side (CW turning) - long 32 x 32 mm; Turning tool holder - right side (CCW turning) - short 32 x 32 mm; Turning tool holder - right side (CCW turning) - long 32 x 32 mm



M 43 / M 1100



- Air conditioning for electrical panel
- Auto-transformer for 200 / 210 - 220 / 230 - 240 / 250 - 360 / 380 - 390 / 410 - 420 / 440 - 460 / 480 V, 50/60 Hz (CNC GE Fanuc - USA market)
- Auto-transformer for 200 / 210 - 220 / 230 - 240 / 250 V, 50/60 Hz (CNC GE Fanuc - USA market)
- 4-station square automatic turret, electrically driven (tool holder and reduction sleeves NOT included)
- 4-station square automatic turret (head type), hydraulically driven (tool holders and reduction sleeves NOT included)
- 8-station disk type automatic turret, electrically driven (tool holder and reduction sleeves NOT included)
- Ø 19.7" (Ø 500 mm) universal chuck, with set three hard jaws ASA A2-15" with Ø 7.48" (Ø 190 mm) through hole (700 rpm max.)
- Ø 25" (Ø 630 mm) universal chuck, with set three hard jaws ASA A2-15" with Ø 9.92" (Ø 252 mm) through hole (500 rpm max.)
- Ø 25" (Ø 630 mm) universal chuck, with set three hard jaws ASA A2-20" with Ø 9.92" (Ø 252 mm) through hole (500 rpm max.)
- Ø 31.5" (Ø 800 mm) universal chuck, with set three hard jaws ASA A2-20" with Ø 12.59" (Ø 320 mm) through hole (300 rpm max.)
- Ø 24.80" (Ø 630 mm) four jaw independent chuck with Ø 6.89" (Ø 175 mm) through hole (350 rpm max.)
- Ø 31.49" (Ø 800 mm) four jaw independent chuck (200 rpm max.)
- Ø 40.16" (Ø 1,020 mm) four jaw independent chuck (120 rpm max.)
- Chip conveyor group (hinged belt - TCE) including 02 transverse and one longitudinal for 80" (2,000 mm)
- Chip conveyor group (hinged belt - TCE) including 03 transverse and one longitudinal for 140" (3,500 mm)
- Chip conveyor group (hinged belt - TCE) including 04 transverse and one longitudinal for 200" (5,000 mm)
- Extra set of operating, maintenance, programming, installation and parts manual
- Four-way toll post
- Rear centralizing ring-spindle ASA A2-15" x 375 mm (Ø 6.89")
- Rear centralizing ring-spindle ASA A2-20" x 375 mm (Ø 14.76")
- Steady rest (U type), 9" to 15.75" (230 to 400 mm) / 15.75" to 21.65" (400 to 550 mm) diameter capacity: Steady rest body (no rollers included)
 - Set of rollers for 9" to 15.75" (230 to 400 mm) diameter capacity
 - Set of rollers for 15.75" to 21.65" (400 to 550 mm) diameter capacity

- Table rest with rollers 17 5/16" to 25" (440 to 635 mm) diameter capacity
- Tailstock with hydraulically driven quill
- Tailstock with manually operated quill with gears reduction system
- 4-station square turret accessories: Boring bar holder Ø 80 mm; Adaptor sleeves D80XD32XL180; D80XD40XL180; D80XD50XL180; D80XD60XL180; Double-Boring bar holder Ø 60 mm; Adaptor sleeves D60XD12XL95 split, D60XD16XL95 split, D60XD20XL95 split, D60XD25XL95 split, D60XD30XL95 split, D60XD32XL95 split, D60XD40XL95 split, D60XD50XL95 split, Facing tool holder 32 x 32 mm; Turning tool holder 32 x 32 mm; Boring bar holder Ø 3 1/8", Double-Boring bar holder Ø 2 3/8", Facing tool holder 1 1/4" x 1 1/4" Turning tool holder 1 1/4" x 1 1/4"
- 4-station square hydraulic turret accessories: Boring bar holder and reduction sleeves
- 8-station turret accessories: Boring bar holder Ø 1 1/4"; Facing tool holder 1 1/4" x 1 1/4"; T-MAX type boring bar holder Ø 1 1/4"; Turning tool holder - left side (CW turning) - short 1 1/4" x 1 1/4"; Turning tool holder - left side (CW turning) - long 1 1/4" x 1 1/4"; Turning tool holder - right side (CCW turning) - short 1 1/4" x 1 1/4"; Turning tool holder - right side (CCW turning) - long 1 1/4" x 1 1/4"; Boring bar holder Ø 40 mm; Facing tool holder 32 x 32 mm; T-MAX type boring bar holder Ø 40 mm; Turning tool holder - left side (CW turning) - short 32 x 32 mm; Turning tool holder - left side (CW turning) - long 32 x 32 mm; Turning tool holder - right side (CCW turning) - short 32 x 32 mm; Turning tool holder - right side (CCW turning) - long 32 x 32 mm

- Ø 31.5" (Ø 800 mm) universal chuck, with set three hard jaws ASA A2-20" with Ø 12.59" (Ø 320 mm) through hole chuck (300 rpm max.)
- Ø 24.80" (Ø 630 mm) four jaw independent chuck with Ø 6.89" (Ø 175 mm) through hole (350 rpm max.)
- Ø 31.49" (Ø 800 mm) four jaw independent chuck (200 rpm max.)
- Ø 40.16" (Ø 1,020 mm) four jaw independent chuck (120 rpm max.)
- Chip conveyor group (hinged belt - TCE) including 02 transverse and one longitudinal for 80" (2,000 mm)
- Chip conveyor group (hinged belt - TCE) including 03 transverse and one longitudinal for 140" (3,500 mm)
- Chip conveyor group (hinged belt - TCE) including 04 transverse and one longitudinal for 200" (5,000 mm)
- Extra set of operating, maintenance, programming, installation and parts manual
- Four-way toll post
- Main spindle indexing with 72 positions (5°)
- Rear centralizing rear - spindle nose ASA A2-15" x 375 mm (14.76") diameter
- Rear centralizing rear - spindle nose ASA A2-20" x 175 mm (6.89") diameter
- Steady rest (U type), 9" to 15.75" (230 to 400 mm) / 15.75" to 21.65" (400 to 550 mm) diameter capacity: Steady rest body (no rollers included)
 - Set of rollers for 9" to 15.75" (230 to 400 mm) diameter capacity
 - Set of rollers for 15.75" to 21.65" (400 to 550 mm) diameter capacity

M 51 / M 1300



- Air conditioning for electrical panel
- Auto-transformer for 200 / 210 - 220 / 230 - 240 / 250 - 360 / 380 - 390 / 410 - 420 / 440 - 460 / 480 V, 50/60 Hz (CNC GE Fanuc - USA market)
- Auto-transformer for 200 / 210 - 220 / 230 - 240 / 250 V, 50/60 Hz (CNC GE Fanuc - USA market)
- 4-station square automatic turret, electrically driven (tool holder and reduction sleeves NOT included)
- 4-station square automatic turret (head type), hydraulically driven (tool holders and reduction sleeves NOT included)
- 8-station disk type automatic turret, electrically driven (tool holder and reduction sleeves NOT included)
- Ø 19.7" (Ø 500 mm) universal chuck, with set three hard jaws ASA A2-15" with Ø 7.48" (Ø 190 mm) through hole chuck (700 rpm max.)
- Ø 25" (Ø 630 mm) universal chuck, with set three hard jaws ASA A2-15" with Ø 9.92" (Ø 252 mm) through hole chuck (500 rpm max.)
- Ø 25" (Ø 630 mm) universal chuck, with set three hard jaws ASA A2-20" with Ø 9.92" (Ø 252 mm) hole diameter through chuck (500 rpm max.)

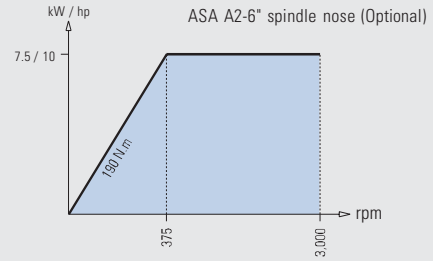
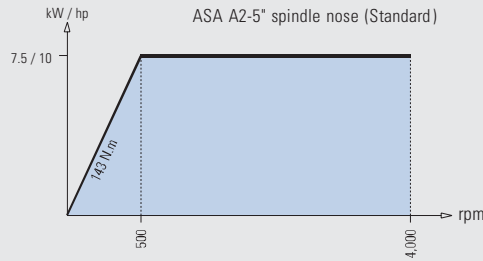
- Table rest with rollers 17 5/16" to 25" (440 to 635 mm) diameter capacity
- Tailstock with hydraulically driven quill
- Tailstock with manually operated quill with gear reduction system
- 4-station square turret accessories: Boring bar holder Ø 80 mm; Adaptor sleeves D80XD32XL180; D80XD40XL180; D80XD50XL180; D80XD60XL180; Double-Boring bar holder Ø 60 mm; Adaptor sleeves D60XD12XL95 split, D60XD16XL95 split, D60XD20XL95 split, D60XD25XL95 split, D60XD30XL95 split, D60XD32XL95 split, D60XD40XL95 split, D60XD50XL95 split, Facing tool holder 32 x 32 mm; Turning tool holder 32 x 32 mm; Boring bar holder Ø 3 1/8", Double-Boring bar holder Ø 2 3/8", Facing tool holder 1 1/4" x 1 1/4" Turning tool holder 1 1/4" x 1 1/4"
- 4-station square hydraulic turret accessories: Boring bar holder and reduction sleeves
- 8-station turret accessories: Boring bar holder Ø 1 1/4"; Facing tool holder 1 1/4" x 1 1/4"; T-MAX type boring bar holder Ø 1 1/4"; Turning tool holder - left side (CW turning) - short 1 1/4" x 1 1/4"; Turning tool holder - left side (CW turning) - long 1 1/4" x 1 1/4"; Turning tool holder - right side (CCW turning) - short 1 1/4" x 1 1/4"; Turning tool holder - right side (CCW turning) - long 1 1/4" x 1 1/4"; Boring bar holder Ø 40 mm; Facing tool holder 32 x 32 mm; T-MAX type boring bar holder Ø 40 mm; Turning tool holder - left side (CW turning) - short 32 x 32 mm; Turning tool holder - left side (CW turning) - long 32 x 32 mm; Turning tool holder - right side (CCW turning) - short 32 x 32 mm; Turning tool holder - right side (CCW turning) - long 32 x 32 mm

M Series

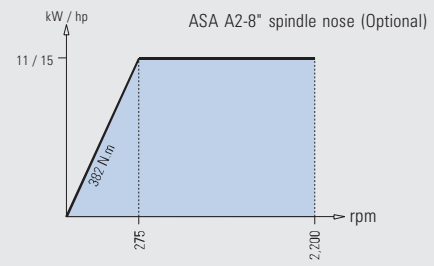
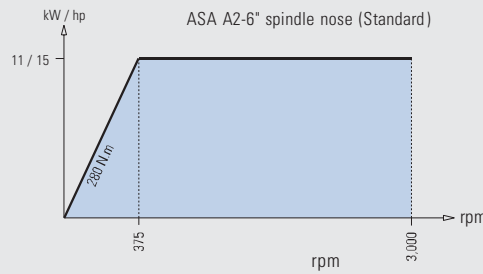
Technical Features

Spindle output

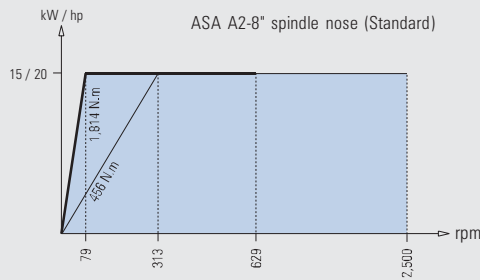
M 17 / M 420



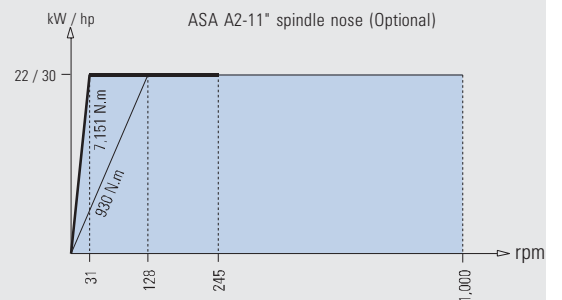
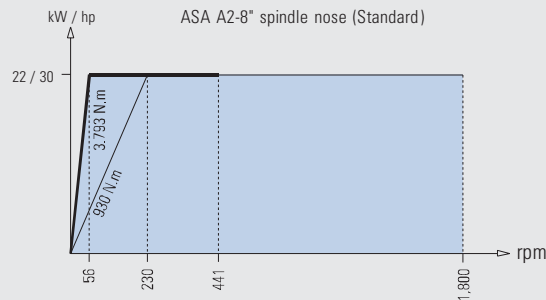
M 20 / M 510



M 23 / M 580



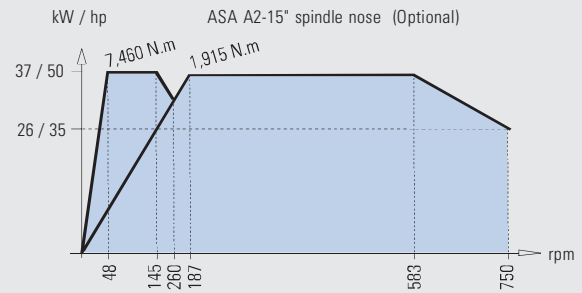
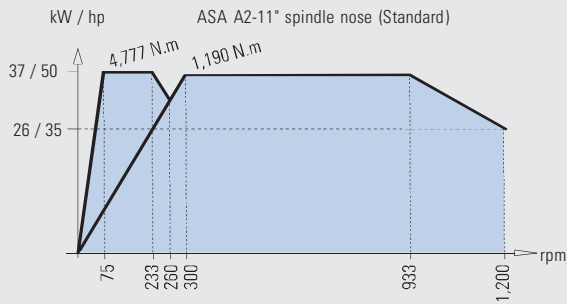
M 27 / M 680



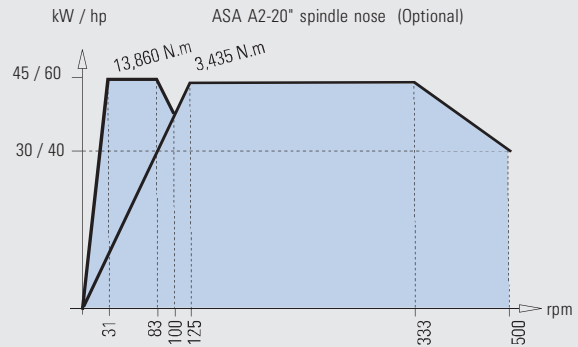
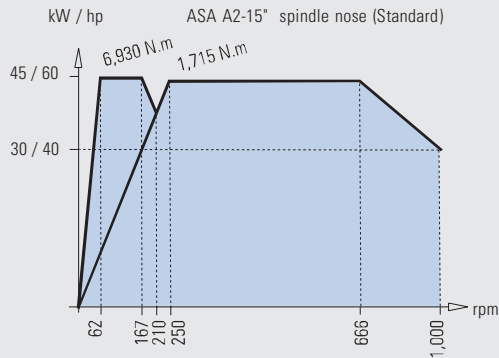


Spindle output

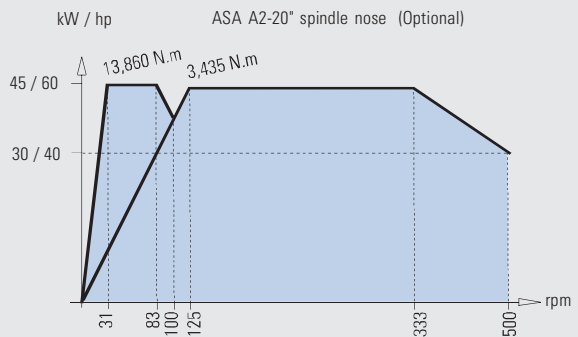
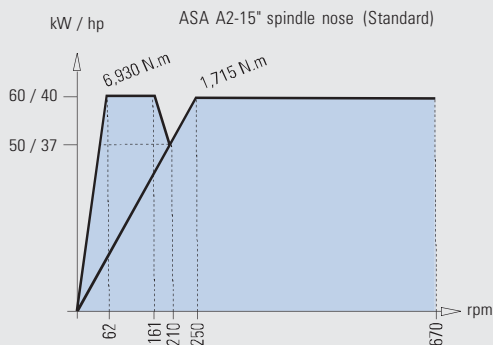
M 33 / M 850



M 43 / M 1100



M 51 / M 1300

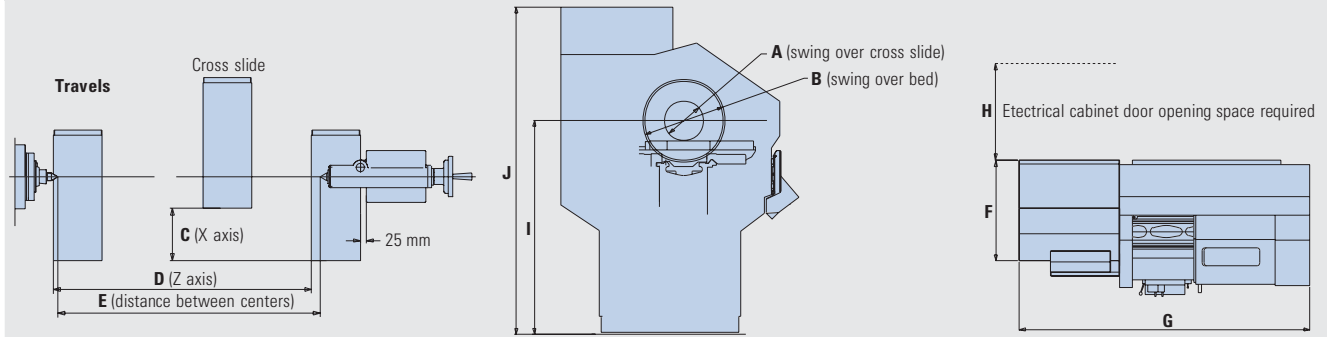


M Series

Technical Features

Work area layout

Dimensions in mm / inches. The drawings are not in scale.



		M 17 / M 420			M 20 / M 510			M 23 / M 580			M 27 / M 680		
		1,0 m			1,0 m	1,5 m	2,0 m	1,0 m	2,0 m	3,0 m	1,0 m	2,0 m	3,0 m
		40"			40"	60"	80"	40"	80"	120"	40"	80"	120"
A	mm	204			260	260	260	305	305	305	430	430	430
	in	8.03			10.24	10.24	10.24	12.01	12.01	12.01	16.93	16.93	16.93
B	mm	430			520	520	520	580	580	580	685	685	685
	in	16.93			20.47	20.47	20.47	22.83	22.83	22.83	26.97	26.97	26.97
C	mm	220			280	280	280	360	360	360	360	360	360
	in	8.66			11.02	11.02	11.02	14.17	14.17	14.17	14.17	14.17	14.17
D	mm	1,000			1,000	1,500	2,000	1,000	2,000	3,000	1,000	2,000	3,000
	in	39.37			39.37	59.06	78.74	39.37	78.74	118.11	39.37	78.74	118.11
E	mm	1,000			1,000	1,500	2,000	1,000	2,000	3,000	1,000	2,000	3,000
	in	39.37			39.37	59.06	78.74	39.37	78.74	118.11	39.37	78.74	118.11
F	mm	1,265			1,650	1,650	1,650	2,030	2,030	2,030	2,030	2,030	2,030
	in	49.80			64.96	64.96	64.96	79.92	79.92	79.92	79.92	79.92	79.92
G	mm	2,720			3,150	3,650	4,150	3,460	4,460	5,460	3,460	4,460	5,460
	in	107.09			124.02	143.70	163.39	136.22	175.59	214.96	136.22	175.59	214.96
H	mm	903			950	950	950	950	950	950	950	950	950
	in	35.55			37.40	37.40	37.40	37.40	37.40	37.40	37.40	37.40	37.40
I	mm	1,090			1,140	1,140	1,140	1,180	1,180	1,180	1,230	1,230	1,230
	in	42.91			44.88	44.88	44.88	46.46	46.46	46.46	48.43	48.43	48.43
J	mm	1,948			1,980	1,980	1,980	2,000	2,000	2,000	2,000	2,000	2,000
	in	76.69			77.95	77.95	77.95	78.74	78.74	78.74	78.74	78.74	78.74

		M 33 / M 850						M 43 / M 1100						M 51 / M 1300					
		2,0 m	3,5 m	5,0 m	6,5 m	8,0 m	9,5 m	2,0 m	3,5 m	5,0 m	6,5 m	8,0 m	9,5 m	2,0 m	3,5 m	5,0 m	6,5 m	8,0 m	9,5 m
		80"	140"	200"	256"	315"	374"	80"	140"	200"	256"	315"	374"	80"	140"	200"	256"	315"	374"
A	mm	550	550	550	550	550	550	700	700	700	700	700	700	900	900	900	900	900	900
	in	21.65	21.65	21.65	21.65	21.65	21.65	27.56	27.56	27.56	27.56	27.56	27.56	35.43	35.43	35.43	35.43	35.43	35.43
B	mm	850	850	850	850	850	850	1,100	1,100	1,100	1,100	1,100	1,100	1,300	1,300	1,300	1,300	1,300	1,300
	in	33.46	33.46	33.46	33.46	33.46	33.46	43.31	43.31	43.31	43.31	43.31	43.31	51.18	51.18	51.18	51.18	51.18	51.18
C	mm	475	475	475	475	475	475	575	575	575	575	575	575	575	575	575	575	575	575
	in	18.70	18.70	18.70	18.70	18.70	18.70	22.64	22.64	22.64	22.64	22.64	22.64	22.64	22.64	22.64	22.64	22.64	22.64
D	mm	2,000	3,500	5,000	6,500	8,000	9,000	2,000	3,500	5,000	6,500	8,000	9,000	2,000	3,500	5,000	6,500	8,000	9,000
	in	78.74	137.80	196.85	255.91	314.96	354.33	78.74	137.80	196.85	255.91	314.96	354.33	78.74	137.80	196.85	255.91	314.96	354.33
E	mm	2,000	3,500	5,000	6,500	8,000	9,000	2,000	3,500	5,000	6,500	8,000	9,000	2,000	3,500	5,000	6,500	8,000	9,000
	in	78.74	137.80	196.85	255.91	314.96	354.33	78.74	137.80	196.85	255.91	314.96	354.33	78.74	137.80	196.85	255.91	314.96	354.33
F	mm	2,450	2,450	2,450	2,450	2,450	2,450	2,850	2,850	2,850	2,850	2,850	2,850	3,100	3,100	3,100	3,100	3,100	3,100
	in	96.46	96.46	96.46	96.46	96.46	96.46	112.20	112.20	112.20	112.20	112.20	112.20	122.05	122.05	122.05	122.05	122.05	122.05
G	mm	6,085	7,610	9,135	10,670	12,200	13,730	6,085	7,610	9,135	10,670	12,200	13,730	6,085	7,610	9,135	10,670	12,200	13,730
	in	239.57	299.61	359.65	420.08	480.31	540.55	239.57	299.61	359.65	420.08	480.31	540.55	239.57	299.61	359.65	420.08	480.31	540.55
H	mm	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
	in	43.31	43.31	43.31	43.31	43.31	43.31	43.31	43.31	43.31	43.31	43.31	43.31	43.31	43.31	43.31	43.31	43.31	43.31
I	mm	1,295	1,295	1,295	1,295	1,295	1,295	1,410	1,410	1,410	1,410	1,410	1,410	1,510	1,510	1,510	1,510	1,510	1,510
	in	50.98	50.98	50.98	50.98	50.98	50.98	55.51	55.51	55.51	55.51	55.51	55.51	59.45	59.45	59.45	59.45	59.45	59.45
J	mm	2,090	2,090	2,090	2,090	2,090	2,090	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250
	in	82.28	82.28	82.28	82.28	82.28	82.28	88.58	88.58	88.58	88.58	88.58	88.58	88.58	88.58	88.58	88.58	88.58	88.58



CNC specifications

GE Fanuc - 21i-T control



Operation

- Registered program 63
- Background editing
- Block skip
- Continuous execution
- Continuous / incremental manual feed (JOG), with programmable speed
- Electronic handwheel for manual axes drive
- End of program (M02, M30)
- Feed hold
- MDI operation
- Optional block hold
- Program block search
- Program identification (number)
- Program load/save
- Program number search in memory
- Program stop (M00, M01)
- Reference cycles
- Single block execution
- Travel limit by software

Axes

- 8-digit programmable maximum dimension
- Spindle speed override: 50 to 120%
- Feed forward system
- Feed modes: increments / turn and increments / min
- Feed rate override: 0 to 150%
- Linear interpolation
- Lowest feed increment: 0,001 mm
- Multi-quadrant circular interpolation
- Number of controlled axes: 2
- Programmable rapid traverse (A)
- Rapid traverse override: 0, 25, 50 and 100%
- Rapid traverse (A)

Programming

- 40 m (16 kBytes) part program storage
- Absolute / incremental programming
- Automatic offset compensation
- Automatic return to reference point (G27 and G28)
- B and C system G code configuration
- Chamfering and corner rounding
- Constant cutting speed
- Dwell time programming (Dwell-G04)
- Feed increment in increment / turn and increment / min

(A) According to the machine model

- Modes of operation:
 - Manual
 - Single cycle
 - Conversational (11 cycles available) with the following operations:
 - Teach-in
 - Graphic simulation
 - Conversational generation of programs
 - G code programming
- Programming in mm or inches
- Programming in radius or diameter
- Program protection
- Tool wear and geometry offset
- Tool radius compensation

Display

- 10,4" color LCD monitor
- Axes positioning
- Clock and parts counter
- Graphic simulation
- Online PLC
- Operator alarms
- Program directory
- Programmed feed and T code
- Programming error messages
- Screen saver
- Multi-language display
- Spindle speed
- Status information

Tests

- Program checking with the spindle stopped (dry run)
- Program checking without chip removal
- Self-diagnosis (reset and online)

Interfaces

- CLP interface
- Complete alphanumeric keyboard (MDI)
- On-screen interface messages
- PCMCIA interface (additional memory for storing data)
- Serial RS232C interface with programmable speed

Optional

- 80 m (32 kBytes) part program storage
- Chuck and tailstock barrier
- Continuous thread cutting
- Custom Macro B
- Direct input of values for chamfering
- Extended part program editing
- Remote diagnosis interface
- Rigid tapping (M 17 / M 420 and M 20 / M 510) (B)
- Spindle positioning
- Thread cutting retract
- Tool life management
- Workpiece coordinate system
- Workpiece coordinate system preset

(B) Requires the function "canned cycle for drilling"

Siemens Sinumerik 810D control (C)



Operation

- Registered program 200
- Block hold
- Block skip
- Continuous / incremental manual feed (JOG), with programmable speed
- Continuous execution
- Electronic handwheel for manual axes drive
- End of program (M02, M30)
- Feed hold
- MDI operation
- Program block search
- Background editing
- Program identification (number and name)
- Program load / save
- Program number search in memory
- Program stop (M00, M01)
- Reference cycles
- Single block execution
- Software travel limits

Axes

- Feed forward system
- Feed modes: increments / turn and increments / min
- Feed rate override: 0 to 120%
- Linear interpolation
- Lowest feed increment 0,001 mm
- Multi-quadrant circular interpolation
- Number of controlled axes: 2
- Programmable maximum dimension (A)
- Programmable rapid traverse (A)
- Rapid traverse (A)
- Rapid traverse override: 0 to 100%
- Spindle orientation (M 17 / M 420 and M 20 / M 510)
- Spindle speed override: 50 to 120%

Programming

- 650 m (260 kBytes) part program storage
- Absolute / incremental programming
- Automatic offset compensation
- B and C system G code configuration
- Chamfering and corner rounding
- Constant cutting speed
- DIN 66025 programming language and high level commands
- Dwell time programming (Dwell-G04)

(C) Available to M 17 / M 420, M 20 / M 510, M 23 / 580 and M 27 / M 680

- Feed increment in increment / turn and increment / min
- Modes of operation:
 - Manual
 - Single cycle
 - Conversational programming:
 - Teach-in
 - Graphic simulation
 - Conversational program generation
 - G code programming
- Program protection
- Programmable return to reference point (G74)
- Programming in mm / inches
- Programming in radius / diameter
- Rigid tapping cycle (M 17 / M 420 and M 20 / M 510)
- Sub-routine repeat times $\leq 9\,999$
- Tool wear and geometry corrector
- Tool radius compensation

Display

- 10,4" color LCD monitor
- Arithmetical and trigonometric functions
- Axes positioning
- Calculator function
- Chronometer
- Clock
- External program execution via serial port
- Graphic module for tool displacement
- Graphic simulation
- Interface messages on the monitor
- Operator alarm
- Program directory
- Programmed feed and T code
- Programming error messages
- Screen saver
- Multi-language display
- Spindle speed
- Status information
- User variables

Tests

- Program checking with the spindle stopped (dry run)
- Program checking without chip removal
- Self-diagnosis (startup and online)

Interfaces

- Built-in (CLP) interface
- Complete alphanumeric keyboard (MDI)
- MPI interface
- Serial RS232C interface with programmable speed

Optional

- Part program storage memory of 256 kBytes (640 m) expansion module
- Remote diagnosis interface



ROMI[®]

Indústrias Romi SA
Av Pérola Byington 56
Santa Bárbara d'Oeste SP
13453 900 Brazil
Phone +55 (19) 3455 9000
Fax +55 (19) 3455 2499
maqfer@romi.com.br
www.romi.com.br

Romi Machine Tools, Ltd
1845 Airport Exchange Blvd
Erlanger KY
41018 USA
Phone +1 (859) 647 7566
Fax +1 (859) 647 9122
sales@romiusa.com
www.romiusa.com

Romi Europa GmbH
Wasserweg 19
D 64521 Gross Gerau
Germany
Phone +49 (6152) 8055-0
Fax +49 (6152) 8055-50
sales@romi-europa.de



ISO 9001:2000
Certificate No.31120