



Rear discharge conveyor systems allow machines to be placed closer together, thus, requiring less floor space. Furthermore, all machine conveyors can discharge onto a central conveyor, which carries the chips to one location; this saves man power and streamlines the chip removal process.



The standard chip conveyor features adjustable timers that allow the operator to set operation intervals according to the amount of chips generated by the machine. Thus, reducing coolant loss to a minimum.



Right discharge
 GA-2000 series (excluding C models)
 GA-3000 series
 Rear discharge
 GA-2000 series (excluding C models)
 GA-3000 series

GA-2000 Series

CAPACITY	GA-2000	GA-2600	GA-2800
Max. swing diameter		Ø 580 mm (22.83")	
Swing over saddle		Ø 400 mm (15.74")	
Max. turning diameter		Ø 350 mm (13.77")	
Standard turning diameter	Ø 203 mm (8")		Ø 254 mm (10")
Max. turning length *1	309 mm 624 mm 1,204 mm (12.16" 24.56" 47.4")	291 mm 606 mm 1,186 mm (11.45" 23.86" 46.69")	260 mm 575 mm 1,155 mm (10.23" 22.63" 45.47")
Max.work piece weight *2	170 Kg (374 lbs.)	230 Kg (506 lbs.)	250 Kg (550 lbs.)
Chuck size	Ø 8"	Ø 10"	10" (加大孔径)
Bar capacity	Ø 51 mm (2.00")	Ø 65 mm (2.55")	Ø 75 mm (2.95")
SPINDLE	GA-2000	GA-2600	GA-2800
Hole through draw tube	Ø 52 mm (2.05")	Ø 66 mm (2.59")	Ø 76 mm (2.99")
Hole through spindle	Ø 66 mm (2.59")	Ø 76 mm (2.99")	Ø 90 mm (3.54")
Spindle bearing diameter	Ø 100 mm (3.93")	Ø 120 mm (4.72")	Ø 130 mm (5.11")
Hydraulic cylinder	8"	10"	10"(Big-Bore)
Spindle nose	A2-6	A2-8	A2-8
Spindle motor type	FANUC α P22 / 6,000i (AC / Wide-Range / Cont. ouput)		
Motor output (Cont.)	11 kW (15 HP)		
Motor output (30min.)	15 kW (20 HP)		
Motor full output speed	750 RPM		
Spindle drive system	Direct Belt Drive		
Spindle drive ratio	4 : 5	2 : 3	7 : 12
Spindle speed range	48 ~ 4,800 RPM	40 ~ 4,000 RPM	35 ~ 3,500 RPM
Spindle full output speed	600 RPM	500 RPM	440 RPM
Spindle torque (30min.)	238 N-m (176 ft-lbs)	286 N-m (211 ft-lbs)	325 N-m (240 ft-lbs)
Spindle torque (Peak)	175 N-m (129 ft-lbs)	211 N-m (156 ft-lbs)	240 N-m (177 ft-lbs)

2-SPEED SPINDLE

Spindle speed ranges	L	20 ~ 1,200 RPM	20 ~ 1,000 RPM	20 ~ 875 RPM
	H	1,201 ~ 4,800 RPM	1,001 ~ 4,000 RPM	876 ~ 3,500 RPM
Spindle full output speed	L	400 RPM	333 RPM	291 RPM
	H	600 RPM	500 RPM	440 RPM
Spindle torque (15 min.)	L	360 N-m (266 ft-lbs)	430 N-m (317 ft-lbs)	497 N-m (367 ft-lbs)
Spindle torque (30 min.)	H	238 N-m (176 ft-lbs)	286 N-m (211 ft-lbs)	325 N-m (240 ft-lbs)

Cf-AXIS SPINDLE (OPTIONAL)

Drive type	AC Servo Motor 0.7 kW (FANUC α 2 / 5,000i , Absolute Encoder, 1,000,000 / rev.)
Torque output / max. speed	240 N-m (177 ft-lbs) / 33 RPM

X & Z AXES

	GA-2000	GA-2600	GA-2800
Max. X-axis travel*3		205 mm (8.07")	
Max. Z-axis travel*1		350 mm (13.77") 650 mm (25.59") 1,230 mm (48.42")	
X / Z axes rapids		20 m / min. (788 IPM) , 24 m / min. (945 IPM)	
Slide way type		Hardened & Ground Box Ways	
Feed rates		1 ~ 4,800 mm / min. (1~189 IPM)	
X-axis servo motor		AC 1.6 kW (2.1 HP , FANUC α 8 β / 3,000i , Absolute encoder, 1,000,000 / rev.)	
Z-axis servo motor		AC 3.0 kW (4 HP , FANUC α 12 / 3,000i , Absolute encoder, 1,000,000 / rev.)	
X-axis ball screw \varnothing / pitch		\varnothing 32 mm (1.26") / Pitch 6	
Z-axis ball screw \varnothing / pitch		\varnothing 36 mm (1.41") / Pitch 10	
X / Z axes thrust (Cont.)		850 Kg (1,870 lbs.) / 760 Kg (1,672 lbs.)	

TURRET

	GA-2000	GA-2600	GA-2800
Stations		12 Std. / 10 Opt.	
Indexing drive		AC Servo motor	
Indexing speed		0.2 sec. Adjacent / 0.5 sec. 180 degrees (Single step)	
Accuracy		Positioning : + / - 0.00069°, Repeatability : + / - 0.00027°	
OD tool shank size		\square 25 mm (1")	
ID tool shank size		\varnothing 40 mm (1 - 1 / 2")	

LIVE TOOLING TURRET (OPTIONAL)

	GA-2000	GA-2600	GA-2800
Stations		12	
Live tooling stations		12	
Live tooling drive type		6 HP, 16.2 ft-lbs (Intermittent) AC Servo motor	
Indexing drive type		AC Servo motor	
Index speed		0.2 sec. Adjacent / 0.5 sec. 180 degrees (Single step)	
OD tool shank size		\square 25 mm (1")	
ID tool shank size		\varnothing 40 mm (1 - 1 / 2")	
Live tooling shank size		ER 32 collets	
Live tooling RPM range		40 ~ 4,000 RPM	

TAILSTOCK

	GA-2000	GA-2600	GA-2800
Quill center taper		MT #4 (Live Center)	
Quill diameter / travel		\varnothing 70 mm (2.75") / 150 mm (5.90")	
Tail stock base travel *1		Fixed 550 mm (21.65") 1,140 mm (44.88")	
Programmable quill / base		Yes / Yes (Not available on GA-2000C series)	
Programmable base type		Positioned by Z-axis carriage	

PARTS CATCHER (OPTIONAL)

	GA-2000	GA-2600	GA-2800
Maximum part diameter		\varnothing 77 mm (3.03")	
Maximum part length		150 mm (5.9")	

GENERAL	GA-2000	GA-2600	GA-2800
Positioning accuracy		+ / - 0.005 mm (0.0002")	
Repeatability		+ / - 0.003 mm (0.0001")	
Standard CNC control		FANUC Oi-TD	
Voltage / Power requirement		AC 200 / 220 + 10% to - 15% 3 phase / 26 KVA	
Hydraulic tank capacity		8 gal. (30 L) 10 gal. (40 L) 10 gal. (40 L)	
Coolant tank capacity		55 gal. (200 L)	
Coolant pump		3 / 4 HP rated at 60 PSI	
Machine weight *1		3,500 Kg (7,700 lbs.) 4,000 Kg (8,800 lbs.) 4,600 Kg (10,120lbs.)	
		Machine : 1,975 2,445 3,242 x 1,630 x 1,725 1,890 1,845 mm (78" 97" 128" x 65" x 68" 75" 73")	
Dimensions L x W x H		Machine w / chip conveyor: GA-2000C : 1,975 x 2,235 x 1,725 mm (78" x 92" x 68") GA-2000 : 3,335 x 1,630 x 1,890 mm (131" x 65" x 75") GA-2000L : 4,132 x 1,630 x 1,875 mm (163" x 65" x 73")	

GA-3000 Series

CAPACITY	GA-3000	GA-3300	GA-3600
Max. swing diameter		Ø 600 mm (23.62")	
Swing over saddle		Ø 500 mm (19.69")	
Max. turning diameter		Ø 500 mm (19.69")	
Standard turning diameter		Ø 225 mm (8.86")	
Max. turning length *4	629 mm 929 mm 1,229 mm (24.76" 36.57" 48.39")	624 mm 924 mm 1,224 mm (24.55" 36.37" 48.18")	596 mm 896 mm 1,196 mm (23.46" 35.27" 47.08")
Max.work piece weight *2	340 Kg (748 lbs.)	340 Kg (748 lbs.)	340 Kg (748 lbs.)
Chuck size	Ø 10" (12")	Ø 12" (15")	Ø 15"
Bar capacity	Ø 75 mm (2.95")	Ø 90 mm (3.54")	Ø 105 mm (4.13")

SPINDLE	GA-3000	GA-3300	GA-3600
Hole through draw tube	Ø 75.5 mm (2.97")	Ø 90.5 mm (3.56")	Ø 105.5 mm (4.15")
Hole through spindle	Ø 90 mm (3.54")	Ø 101 mm (3.98")	Ø 121 mm (4.76")
Spindle bearing diameter	Ø 130 mm (5.12")	Ø 140 mm (5.51")	Ø 160 mm (6.30")
Hydraulic cylinder	10"	12"	15"
Spindle nose	A2-8	A2-8	A2-11
Spindle motor type		FANUC α P40 / 6,000i (AC / Wide-Range)	
Motor output (Cont.)		18.5 kW (25 HP)	
Motor output (30min.)		22 kW (29.5 HP)	
Motor full output speed		400 / 575 RPM	
Spindle drive system		Direct Belt Drive	
Spindle drive ratio	7 : 10	7 : 10	35 : 54
Spindle speed range	30 ~ 3,000 RPM	30 ~ 3,000 RPM	25 ~ 2,500 RPM
Spindle full output speed	403 RPM	403 RPM	373 RPM
Spindle torque (30min.)	522 N-m (385 ft-lbs)	522 N-m (385 ft-lbs)	563 N-m (415 ft-lbs)
Spindle torque (Peak)	439 N-m (324 ft-lbs)	439 N-m (324 ft-lbs)	473 N-m (349 ft-lbs)

2-SPEED SPINDLE

Spindle speed ranges	L	30 ~ 700 RPM	30 ~ 700 RPM	25 ~ 648 RPM
	H	701 ~ 3,000 RPM	701 ~ 3,000 RPM	649 ~ 2,500 RPM
Spindle full output speed	L	280 RPM	280 RPM	260 RPM
	H	403 RPM	403 RPM	373 RPM
Spindle torque (15 min.)	L	750 N-m (553 ft-lbs)	750 N-m (553 ft-lbs)	810 N-m (597 ft-lbs)
Spindle torque (30 min.)	H	439 N-m (324 ft-lbs)	439 N-m (324 ft-lbs)	473 N-m (439 ft-lbs)

Cf-AXIS SPINDLE (OPTIONAL)