



**SPECIFICATIONS**

**TRAVEL**  
X Axis=24" (610mm) Y Axis=25" (635mm) Z Axis=18" (457mm)

**ACCURACY**  
Axis Positioning +/- .0002" (.0050 mm)  
Axis Repeatability +/- .0001" (.0025 mm)

**FEEDRATES**  
Rapid on X-Y-Z 787 IPM (20MPM)  
Max. Cutting Feed 600 IPM (15.25MPM)

**SPINDLE**  
Nose Diameter 6.00" (152.4mm)  
Taper Size #40 ISO  
Speed 0-2000, 3000, 6000 RPM Std.  
0-8000 RPM Opt.  
Bearings ABEC Class 7, Lifetime Lubed  
Orientation Standard  
Auto. Drawbar Standard

**SPINDLE MOTORS**  
Max. Rating 15 HP (11.9 Kw)  
Type Fanuc Alpha 8 AC Brushless  
Duty Cycle at Max. 30 min. Continuous

**AXIS MOTORS**  
HP Rating 2.8 HP (1.86Kw)  
Max Thrust 1500 lbs. (684 kgf)  
Peak Torque, 3:1 Ratio 152ft/lbs (23 Nm)  
Type Fanuc Alpha 12 AC Brushless

**UTILITY REQUIREMENTS**  
Air Pressure 85 PSI (6Kgf/cm2)  
Air Flow 5 CFM (.1416 m3)  
Electrical 80 Amps (FLA) 230 vAC

**COOLANT SYSTEM (Optional)**  
Flood Coolant Plumbed to Solenoid  
Spindle Coolant Plumbed to Solenoid  
(5 GPM @ 100 PSI Capacity)

**TOOL CHANGER (Optional)**  
Tool Pockets & Mounting Rack 6 Tools Std., (12 Optional)  
Max. Tool Dia. 4.0" (6.0" w/out adj. tools)  
Max. Tool Length 9.00" (230mm)  
Max Tool Weight 11lbs (5Kg)  
Change Time Tool - Tool 5.5 sec.

**MACHINE WEIGHT**  
5,000 LBS

**CONTROL SPECIFICATIONS - GE / FANUC SERIES 21 MB**  
Microprocessor 32-bit  
Axis Control 3 axis simultaneous std.,  
4 axis simultaneous opt.  
Data I/O RS-232, SRAM (Card Opt.)  
Baud 19,200  
Memory 40m Std., 320m Max  
I/O Slots 10 Total, 8 Open  
I/O Capacity 1024 Max.

**STANDARD CONTROL FEATURES INCLUDE:**  
Rigid tapping 40m Ext. memory Helical interpolation  
G54-G59 Work Coord. Scaling 48 Add. Work Coord.  
Polar coordinates Program rotation Run hour / parts display  
Metric/Inch Input Programmable Inputs Cutter comp. ?C?  
Background editing canned cycles Ext. part program editing  
Macro ?B? Fault messages Digital spindle load meter  
(1) Set manuals 1) Set fuses

CELLCON DESIGN SUBJECT TO CHANGE WITHOUT NOTICE. PLEASE VERIFY PRINT REVISION LEVEL WITH CELLCON PRIOR TO COMMITTING TO DESIGN.

**STAMP OR ETCH DETAILS WITH DETAIL NUMBER**

DATE	BY	REV	DESCRIPTION

**METRIC**  
 DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED = 0.03  
 FRACTIONS 1/32 1/16 3/32 1/8 1/4 3/8 1/2  
 DECIMALS .005 .010 .015 .020 .025 .030 .035 .040 .045 .050 .055 .060 .065 .070 .075 .080 .085 .090 .095 .100 .105 .110 .115 .120 .125 .130 .135 .140 .145 .150 .155 .160 .165 .170 .175 .180 .185 .190 .195 .200 .205 .210 .215 .220 .225 .230 .235 .240 .245 .250 .255 .260 .265 .270 .275 .280 .285 .290 .295 .300 .305 .310 .315 .320 .325 .330 .335 .340 .345 .350 .355 .360 .365 .370 .375 .380 .385 .390 .395 .400 .405 .410 .415 .420 .425 .430 .435 .440 .445 .450 .455 .460 .465 .470 .475 .480 .485 .490 .495 .500 .505 .510 .515 .520 .525 .530 .535 .540 .545 .550 .555 .560 .565 .570 .575 .580 .585 .590 .595 .600 .605 .610 .615 .620 .625 .630 .635 .640 .645 .650 .655 .660 .665 .670 .675 .680 .685 .690 .695 .700 .705 .710 .715 .720 .725 .730 .735 .740 .745 .750 .755 .760 .765 .770 .775 .780 .785 .790 .795 .800 .805 .810 .815 .820 .825 .830 .835 .840 .845 .850 .855 .860 .865 .870 .875 .880 .885 .890 .895 .900 .905 .910 .915 .920 .925 .930 .935 .940 .945 .950 .955 .960 .965 .970 .975 .980 .985 .990 .995 .1000 .1005 .1010 .1015 .1020 .1025 .1030 .1035 .1040 .1045 .1050 .1055 .1060 .1065 .1070 .1075 .1080 .1085 .1090 .1095 .1100 .1105 .1110 .1115 .1120 .1125 .1130 .1135 .1140 .1145 .1150 .1155 .1160 .1165 .1170 .1175 .1180 .1185 .1190 .1195 .1200 .1205 .1210 .1215 .1220 .1225 .1230 .1235 .1240 .1245 .1250 .1255 .1260 .1265 .1270 .1275 .1280 .1285 .1290 .1295 .1300 .1305 .1310 .1315 .1320 .1325 .1330 .1335 .1340 .1345 .1350 .1355 .1360 .1365 .1370 .1375 .1380 .1385 .1390 .1395 .1400 .1405 .1410 .1415 .1420 .1425 .1430 .1435 .1440 .1445 .1450 .1455 .1460 .1465 .1470 .1475 .1480 .1485 .1490 .1495 .1500 .1505 .1510 .1515 .1520 .1525 .1530 .1535 .1540 .1545 .1550 .1555 .1560 .1565 .1570 .1575 .1580 .1585 .1590 .1595 .1600 .1605 .1610 .1615 .1620 .1625 .1630 .1635 .1640 .1645 .1650 .1655 .1660 .1665 .1670 .1675 .1680 .1685 .1690 .1695 .1700 .1705 .1710 .1715 .1720 .1725 .1730 .1735 .1740 .1745 .1750 .1755 .1760 .1765 .1770 .1775 .1780 .1785 .1790 .1795 .1800 .1805 .1810 .1815 .1820 .1825 .1830 .1835 .1840 .1845 .1850 .1855 .1860 .1865 .1870 .1875 .1880 .1885 .1890 .1895 .1900 .1905 .1910 .1915 .1920 .1925 .1930 .1935 .1940 .1945 .1950 .1955 .1960 .1965 .1970 .1975 .1980 .1985 .1990 .1995 .2000 .2005 .2010 .2015 .2020 .2025 .2030 .2035 .2040 .2045 .2050 .2055 .2060 .2065 .2070 .2075 .2080 .2085 .2090 .2095 .2100 .2105 .2110 .2115 .2120 .2125 .2130 .2135 .2140 .2145 .2150 .2155 .2160 .2165 .2170 .2175 .2180 .2185 .2190 .2195 .2200 .2205 .2210 .2215 .2220 .2225 .2230 .2235 .2240 .2245 .2250 .2255 .2260 .2265 .2270 .2275 .2280 .2285 .2290 .2295 .2300 .2305 .2310 .2315 .2320 .2325 .2330 .2335 .2340 .2345 .2350 .2355 .2360 .2365 .2370 .2375 .2380 .2385 .2390 .2395 .2400 .2405 .2410 .2415 .2420 .2425 .2430 .2435 .2440 .2445 .2450 .2455 .2460 .2465 .2470 .2475 .2480 .2485 .2490 .2495 .2500 .2505 .2510 .2515 .2520 .2525 .2530 .2535 .2540 .2545 .2550 .2555 .2560 .2565 .2570 .2575 .2580 .2585 .2590 .2595 .2600 .2605 .2610 .2615 .2620 .2625 .2630 .2635 .2640 .2645 .2650 .2655 .2660 .2665 .2670 .2675 .2680 .2685 .2690 .2695 .2700 .2705 .2710 .2715 .2720 .2725 .2730 .2735 .2740 .2745 .2750 .2755 .2760 .2765 .2770 .2775 .2780 .2785 .2790 .2795 .2800 .2805 .2810 .2815 .2820 .2825 .2830 .2835 .2840 .2845 .2850 .2855 .2860 .2865 .2870 .2875 .2880 .2885 .2890 .2895 .2900 .2905 .2910 .2915 .2920 .2925 .2930 .2935 .2940 .2945 .2950 .2955 .2960 .2965 .2970 .2975 .2980 .2985 .2990 .2995 .3000 .3005 .3010 .3015 .3020 .3025 .3030 .3035 .3040 .3045 .3050 .3055 .3060 .3065 .3070 .3075 .3080 .3085 .3090 .3095 .3100 .3105 .3110 .3115 .3120 .3125 .3130 .3135 .3140 .3145 .3150 .3155 .3160 .3165 .3170 .3175 .3180 .3185 .3190 .3195 .3200 .3205 .3210 .3215 .3220 .3225 .3230 .3235 .3240 .3245 .3250 .3255 .3260 .3265 .3270 .3275 .3280 .3285 .3290 .3295 .3300 .3305 .3310 .3315 .3320 .3325 .3330 .3335 .3340 .3345 .3350 .3355 .3360 .3365 .3370 .3375 .3380 .3385 .3390 .3395 .3400 .3405 .3410 .3415 .3420 .3425 .3430 .3435 .3440 .3445 .3450 .3455 .3460 .3465 .3470 .3475 .3480 .3485 .3490 .3495 .3500 .3505 .3510 .3515 .3520 .3525 .3530 .3535 .3540 .3545 .3550 .3555 .3560 .3565 .3570 .3575 .3580 .3585 .3590 .3595 .3600 .3605 .3610 .3615 .3620 .3625 .3630 .3635 .3640 .3645 .3650 .3655 .3660 .3665 .3670 .3675 .3680 .3685 .3690 .3695 .3700 .3705 .3710 .3715 .3720 .3725 .3730 .3735 .3740 .3745 .3750 .3755 .3760 .3765 .3770 .3775 .3780 .3785 .3790 .3795 .3800 .3805 .3810 .3815 .3820 .3825 .3830 .3835 .3840 .3845 .3850 .3855 .3860 .3865 .3870 .3875 .3880 .3885 .3890 .3895 .3900 .3905 .3910 .3915 .3920 .3925 .3930 .3935 .3940 .3945 .3950 .3955 .3960 .3965 .3970 .3975 .3980 .3985 .3990 .3995 .4000 .4005 .4010 .4015 .4020 .4025 .4030 .4035 .4040 .4045 .4050 .4055 .4060 .4065 .4070 .4075 .4080 .4085 .4090 .4095 .4100 .4105 .4110 .4115 .4120 .4125 .4130 .4135 .4140 .4145 .4150 .4155 .4160 .4165 .4170 .4175 .4180 .4185 .4190 .4195 .4200 .4205 .4210 .4215 .4220 .4225 .4230 .4235 .4240 .4245 .4250 .4255 .4260 .4265 .4270 .4275 .4280 .4285 .4290 .4295 .4300 .4305 .4310 .4315 .4320 .4325 .4330 .4335 .4340 .4345 .4350 .4355 .4360 .4365 .4370 .4375 .4380 .4385 .4390 .4395 .4400 .4405 .4410 .4415 .4420 .4425 .4430 .4435 .4440 .4445 .4450 .4455 .4460 .4465 .4470 .4475 .4480 .4485 .4490 .4495 .4500 .4505 .4510 .4515 .4520 .4525 .4530 .4535 .4540 .4545 .4550 .4555 .4560 .4565 .4570 .4575 .4580 .4585 .4590 .4595 .4600 .4605 .4610 .4615 .4620 .4625 .4630 .4635 .4640 .4645 .4650 .4655 .4660 .4665 .4670 .4675 .4680 .4685 .4690 .4695 .4700 .4705 .4710 .4715 .4720 .4725 .4730 .4735 .4740 .4745 .4750 .4755 .4760 .4765 .4770 .4775 .4780 .4785 .4790 .4795 .4800 .4805 .4810 .4815 .4820 .4825 .4830 .4835 .4840 .4845 .4850 .4855 .4860 .4865 .4870 .4875 .4880 .4885 .4890 .4895 .4900 .4905 .4910 .4915 .4920 .4925 .4930 .4935 .4940 .4945 .4950 .4955 .4960 .4965 .4970 .4975 .4980 .4985 .4990 .4995 .5000 .5005 .5010 .5015 .5020 .5025 .5030 .5035 .5040 .5045 .5050 .5055 .5060 .5065 .5070 .5075 .5080 .5085 .5090 .5095 .5100 .5105 .5110 .5115 .5120 .5125 .5130 .5135 .5140 .5145 .5150 .5155 .5160 .5165 .5170 .5175 .5180 .5185 .5190 .5195 .5200 .5205 .5210 .5215 .5220 .5225 .5230 .5235 .5240 .5245 .5250 .5255 .5260 .5265 .5270 .5275 .5280 .5285 .5290 .5295 .5300 .5305 .5310 .5315 .5320 .5325 .5330 .5335 .5340 .5345 .5350 .5355 .5360 .5365 .5370 .5375 .5380 .5385 .5390 .5395 .5400 .5405 .5410 .5415 .5420 .5425 .5430 .5435 .5440 .5445 .5450 .5455 .5460 .5465 .5470 .5475 .5480 .5485 .5490 .5495 .5500 .5505 .5510 .5515 .5520 .5525 .5530 .5535 .5540 .5545 .5550 .5555 .5560 .5565 .5570 .5575 .5580 .5585 .5590 .5595 .5600 .5605 .5610 .5615 .5620 .5625 .5630 .5635 .5640 .5645 .5650 .5655 .5660 .5665 .5670 .5675 .5680 .5685 .5690 .5695 .5700 .5705 .5710 .5715 .5720 .5725 .5730 .5735 .5740 .5745 .5750 .5755 .5760 .5765 .5770 .5775 .5780 .5785 .5790 .5795 .5800 .5805 .5810 .5815 .5820 .5825 .5830 .5835 .5840 .5845 .5850 .5855 .5860 .5865 .5870 .5875 .5880 .5885 .5890 .5895 .5900 .5905 .5910 .5915 .5920 .5925 .5930 .5935 .5940 .5945 .5950 .5955 .5960 .5965 .5970 .5975 .5980 .5985 .5990 .5995 .6000 .6005 .6010 .6015 .6020 .6025 .6030 .6035 .6040 .6045 .6050 .6055 .6060 .6065 .6070 .6075 .6080 .6085 .6090 .6095 .6100 .6105 .6110 .6115 .6120 .6125 .6130 .6135 .6140 .6145 .6150 .6155 .6160 .6165 .6170 .6175 .6180 .6185 .6190 .6195 .6200 .6205 .6210 .6215 .6220 .6225 .6230 .6235 .6240 .6245 .6250 .6255 .6260 .6265 .6270 .6275 .6280 .6285 .6290 .6295 .6300 .6305 .6310 .6315 .6320 .6325 .6330 .6335 .6340 .6345 .6350 .6355 .6360 .6365 .6370 .6375 .6380 .6385 .6390 .6395 .6400 .6405 .6410 .6415 .6420 .6425 .6430 .6435 .6440 .6445 .6450 .6455 .6460 .6465 .6470 .6475 .6480 .6485 .6490 .6495 .6500 .6505 .6510 .6515 .6520 .6525 .6530 .6535 .6540 .6545 .6550 .6555 .6560 .6565 .6570 .6575 .6580 .6585 .6590 .6595 .6600 .6605 .6610 .6615 .6620 .6625 .6630 .6635 .6640 .6645 .6650 .6655 .6660 .6665 .6670 .6675 .6680 .6685 .6690 .6695 .6700 .6705 .6710 .6715 .6720 .6725 .6730 .6735 .6740 .6745 .6750 .6755 .6760 .6765 .6770 .6775 .6780 .6785 .6790 .6795 .6800 .6805 .6810 .6815 .6820 .6825 .6830 .6835 .6840 .6845 .6850 .6855 .6860 .6865 .6870 .6875 .6880 .6885 .6890 .6895 .6900 .6905 .6910 .6915 .6920 .6925 .6930 .6935 .6940 .6945 .6950 .6955 .6960 .6965 .6970 .6975 .6980 .6985 .6990 .6995 .7000 .7005 .7010 .7015 .7020 .7025 .7030 .7035 .7040 .7045 .7050 .7055 .7060 .7065 .7070 .7075 .7080 .7085 .7090 .7095 .7100 .7105 .7110 .7115 .7120 .7125 .7130 .7135 .7140 .7145 .7150 .7155 .7160 .7165 .7170 .7175 .7180 .7185 .7190 .7195 .7200 .7205 .7210 .7215 .7220 .7225 .7230 .7235 .7240 .7245 .7250 .7255 .7260 .7265 .7270 .7275 .7280 .7285 .7290 .7295 .7300 .7305 .7310 .7315 .7320 .7325 .7330 .7335 .7340 .7345 .7350 .7355 .7360 .7365 .7370 .7375 .7380 .7385 .7390 .7395 .7400 .7405 .7410 .7415 .7420 .7425 .7430 .7435 .7440 .7445 .7450 .7455 .7460 .7465 .7470 .7475 .7480 .7485 .7490 .7495 .7500 .7505 .7510 .7515 .7520 .7525 .7530 .7535 .7540 .7545 .7550 .7555 .7560 .7565 .7570 .7575 .7580 .7585 .7590 .7595 .7600 .7605 .7610 .7615 .7620 .7625 .7630 .7635 .7640 .7645 .7650 .7655 .7660 .7665 .7670 .7675 .7680 .7685 .7690 .7695 .7700 .7705 .7710 .7715 .7720 .7725 .7730 .7735 .7740 .7745 .7750 .7755 .7760 .7765 .7770 .7775 .7780 .7785 .7790 .7795 .7800 .7805 .7810 .7815 .7820 .7825 .7830 .7835 .7840 .7845 .7850 .7855 .7860 .7865 .7870 .7875 .7880 .7885 .7890 .7895 .7900 .7905 .7910 .7915 .7920 .7925 .7930 .7935 .7940 .7945 .7950 .7955 .7960 .7965 .7970 .7975 .7980 .7985 .7990 .7995 .8000 .8005 .8010 .8015 .8020 .8025 .8030 .8035 .8040 .8045 .8050 .8055 .8060 .8065 .8070 .8075 .8080 .8085 .8090 .8095 .8100 .8105 .8110 .8115 .8120 .8125 .8130 .8135 .8140 .8145 .8150 .8155 .8160 .8165 .8170 .8175 .8180 .8185 .8190 .8195 .8200 .8205 .8210 .8215 .8220 .8225 .8230 .8235 .8240 .8245 .8250 .8255 .8260 .8265 .8270 .8275 .8280 .8285 .8290 .8295 .8300 .8305 .8310 .8315 .8320 .8325 .8330 .8335 .8340 .8345 .8350 .8355 .8360 .8365 .8370 .8375 .8380 .8385 .8390 .8395 .8400 .8405 .8410 .8415 .8420 .8425 .8430 .8435 .8440 .8445 .8450 .8455 .8460 .8465 .8470 .8475 .8480 .8485 .8490 .8495 .8500 .8505 .8510 .8515 .8520 .8525 .8530 .8535 .8540 .8545 .8550 .8555 .8560 .8565 .8570 .8575 .8580 .8585 .8590 .8595 .8600 .8605 .8610 .8615 .8620 .8625 .8630 .8635 .8640 .8645 .8650 .8655 .8660 .8665 .8670 .8675 .8680 .8685 .8690 .8695 .8700 .8705 .8710 .8715 .8720 .8725 .8730 .8735 .8740 .8745 .8750 .8755 .8760 .8765 .8770 .8775 .8780 .8785 .8790 .8795 .8800 .8805 .8810 .8815 .8820 .8825 .8830 .8835 .8840 .8845 .8850 .8855 .8860 .8865 .8870 .8875 .8880 .8885 .8890 .8895 .8900 .8905 .8910 .8915 .8920 .8925 .8930 .8935 .8940 .8945 .8950 .8955 .8960 .8965 .8970 .8975 .8980 .8985 .8990 .8995 .9000 .9005 .9010 .9015 .9020 .9025 .9030 .9035 .9040 .9045 .9050 .9055 .9060 .9065 .9070 .9075 .9080 .9085 .9090 .9095 .9100 .9105 .9110 .9115 .9120 .9125 .9130 .9135 .9140 .9145 .9150 .9155 .9160 .9165 .9170 .9175 .9180 .9185 .9190 .9195 .9200 .9205 .9210 .9215 .9220 .9225 .9230 .9235 .9240 .9245 .9250 .9255 .9260 .9265 .9270 .9275 .9280 .9285 .9290 .9295 .9300 .9305 .9310 .9315 .9320 .9325 .9330 .9335 .9340 .9345 .9350 .9355 .9360 .9365 .9370 .9375 .9380 .9385 .9390 .9395 .9400 .9405 .9410 .9415 .9420 .9425 .9430 .9435 .9440 .9445 .9450 .9455 .9460 .9465 .9470 .9475 .9480 .9485 .9490 .9495 .9500 .9505 .9510 .9515 .9520 .9525 .9530 .9535 .9540 .9545 .9550 .9555 .9560 .9565 .9570 .9575 .9580 .9585 .9590 .9595 .9600 .9605 .9610 .9615 .9620 .9625 .9630 .9635 .9640 .9645 .9650 .9655 .9660 .9665 .9670 .9675 .9680 .9685 .9690 .9695 .9700 .9705 .9710 .9715 .9720 .9725 .9730 .9735 .9740 .9745 .9750 .9755 .9760 .9765 .9770 .9775 .9780 .9785 .9790 .9795 .9800 .9805 .9810 .9815 .9820 .9825 .9830 .9835 .9840 .9845 .9850 .9855 .9860 .9865 .9870 .9875 .9880 .9885 .9890 .9895 .9900 .9905 .9910 .9915 .9920 .9925 .9930 .9935 .9940 .9945 .9950 .9955 .9960 .9965 .9970 .9975 .9980 .9985 .9990 .9995 .1000 .1005 .1010 .1015 .1020 .1025 .1030 .1035 .1040 .1045 .1050 .1055 .1060 .1065 .1070 .1075 .1080 .1085 .1090 .1095 .1100 .1105 .1110 .1115 .1120 .1125 .1130 .1135 .1140 .1145 .1150 .1155 .1160 .1165 .1170 .1175 .1180 .1185 .1190 .1195 .1200 .1205 .1210 .1215 .1220 .1225 .1230 .1235 .1240 .1245 .1250 .1255 .1260 .1265 .1270 .1275 .1280 .1285 .1290 .1295 .1300 .1305 .1310 .1315 .1320 .1325 .1330 .1335 .1340 .1345 .1350 .1355 .1360 .1365 .1370 .1375 .1380 .1385 .1390 .1395 .1400 .1405 .1410 .1415 .1420 .1425 .1430 .1435 .1440 .1445 .1450 .1455 .1460 .1465 .1470 .1475 .1480 .1485 .1490 .1495 .1500 .1505 .1510 .1515 .1520 .1525 .1530 .1535 .1540 .1545 .1550 .1555 .1560 .1565 .1570 .1575 .1580 .1585 .1590 .1595 .1600 .1605 .16