FAGOR PARAM + ERROR S

APPENDIX G

SEQUENTIAL MACHINE PARAMETER LIST

OP MODE

9

1

8025 GP
YD1856030200000

8025 MK [redacted]
YD1316030200000

P0	Communications baudrate (110, 300, 600, 1200, 2400, 4800, 9600)	*Section 3.3.6*
P1	Communications data bits (7/8)	*Section 3.3.6*
P2	Parity. (1=Odd, 2=Even)	*Section 3.3.6*
P3	Stop bits. (1/2)	*Section 3.3.6*
P4	Feedrate Override active in G00. (No/Yes)	*Section 3.3.9*
P5	Mains (AC) frequency. (50/60)	*Section 3.3*
P6	Theoretical (1) or real (0) display	*Section 3.3*
P7	Maximum spindle speed for RANGE 1. (0..9999 rpm)	*Section 5.1*
P8	Maximum spindle speed for RANGE 2. (0..9999 rpm)	*Section 5.1*
P9	Maximum spindle speed for RANGE 3. (0..9999 rpm)	*Section 5.1*
P10	Maximum spindle speed for RANGE 4. (0..9999 rpm)	*Section 5.1*
P11	The machine has a W axis. (0= No, X/Y/Z=Yes)	*Section 3.3.1*
P12	Continuous (N) or pulsating (Y) axis JOG	*Section 3.3.7*
P13	Measuring units. 0= mm, 1= inches	*Section 3.3*
P99	Language. (0= Spanish, 1= German, 2= English, 3= French, 4= Italian)	*Section 3.3*
P100	Sign of the X axis analog output WHICH WAY PROG. IS MOVING MACHINE + −	*Section 4.*
P101	Counting direction of the X axis DETERMINES COUNTING	*Section 4.*
P102	X axis jogging direction JOG DIRECTION	*Section 4.*
P103	X axis feedback (counting) resolution	*Section 4.1*
P104	Dwell between Enable and analog output for the X axis. (N= No, Y=Yes)	*Section 4.2*
P105	Continuous control of the X axis. (N= No, Y=Yes)	*Section 4.2*
P106	Type of feedback signal for the X axis. (N= Square, Y=Sine)	*Section 4.1*
P107	X axis positive travel limit	*Section 4.3*
P108	X axis negative travel limit	*Section 4.3*
P109	X axis leadscrew backlash (0..255µm)	*Section 4.9*
P110	X axis maximum programmable feedrate	*Section 4.4*
P111	X axis G00 feedrate	*Section 4.4*
P112	1st home searching feedrate for the X axis	*Section 4.6*
P113	Additional analog pulse for the X axis. (1=2.5 mV)	*Section 4.9*
P114	Proportional gain K1 for the X axis	*Section 4.5*
P115	Gain break point for the X axis	*Section 4.5*
P116	Proportional gain K2 for the X axis	*Section 4.5*
P117	Minimum X axis analog. (1=2.5mV)	*Section 4.2*
P118	In-position zone (dead band) for the X axis. (0..255µm)	*Section 4.2*
P119	X axis home coordinate	*Section 4.6*
P200	Sign of the Y axis analog output	*Section 4.*
P201	Counting direction of the Y axis	*Section 4.*
P202	Y axis jogging direction	*Section 4.*
P203	Y axis feedback (counting) resolution	*Section 4.1*
P204	Dwell between Enable and analog output for the Y axis. (N= No, Y=Yes)	*Section 4.2*
P205	Continuous control of the Y axis. (N= No, Y=Yes)	*Section 4.2*
P206	Type of feedback signal for the Y axis. (N= Square, Y=Sine)	*Section 4.1*
P207	Y axis positive travel limit	*Section 4.3*
P208	Y axis negative travel limit	*Section 4.3*
P209	Y axis leadscrew backlash (0..255µm)	*Section 4.9*
P210	Y axis maximum programmable feedrate	*Section 4.4*
P211	Y axis G00 feedrate	*Section 4.4*
P212	1st home searching feedrate for the Y axis	*Section 4.6*
P213	Additional analog pulse for the Y axis. (1=2.5 mV)	*Section 4.9*
P214	Proportional gain K1 for the Y axis	*Section 4.5*
P215	Gain break point for the Y axis	*Section 4.5*
P216	Proportional gain K2 for the Y axis	*Section 4.5*
P217	Minimum Y axis analog. (1=2.5mV)	*Section 4.2*
P218	In-position zone (dead band) for the Y axis. (0..255µm)	*Section 4.2*

P600(8)	Type of X axis marker pulse (home). 0= Neg, 1= Pos.	*Section 4.6*
(7)	Type of Y axis marker pulse (home). 0= Neg, 1= Pos.	*Section 4.6*
(6)	Type of Z axis marker pulse (home). 0= Neg, 1= Pos.	*Section 4.6*
(5)	Type of W axis marker pulse (home). 0= Neg, 1= Pos.	*Section 4.6*
(4)	Type of machine. 0= Mill, 1= Boring mill.	*Section 3.3.1*
(3)	W axis: normal (0) or position-only (1)	*Section 3.3.1*
(2)	W axis: rotary HIRTH. 0= No, 1= Yes	*Section 3.3.1*
(1)	W axis: linear (0) or rotary (1)	*Section 3.3.1*
P601(8)	M06 interrupts the program. 0= No, 1= Yes	*Section 3.3.5*
(7)	Sign of the analog S output associated with M19	*Section 5.5*
(6)	Residual analog S output during range change. 0= No, 1= Yes	*Section 5.1*
(5)	Machining center. 0= No, 1= Yes	*Section 3.3.5*
(4)	Sign of the spindle analog output	*Section 5.2*
(3)	S output in 2-digit BCD code. 0= No, 1= Yes	*Section 5.3*
(2)	S output in 4-digit BCD code. 0= No, 1= Yes	*Section 5.3*
(1)	Random tool magazine. 0= No, 1= Yes	*Section 3.3.5*
P602(8)	Cancellation of X axis feedback alarm. 0= No, 1= Yes	*Section 3.3.2*
(7)	Cancellation of Y axis feedback alarm. 0= No, 1= Yes	*Section 3.3.2*
(6)	Cancellation of Z axis feedback alarm. 0= No, 1= Yes	*Section 3.3.2*
(5)	Cancellation of W axis feedback alarm. 0= No, 1= Yes	*Section 3.3.2*
(4)	X axis home switch. 1= No, 0= Yes	*Section 4.6*
(3)	Y axis home switch. 1= No, 0= Yes	*Section 4.6*
(2)	Z axis home switch. 1= No, 0= Yes	*Section 4.6*
(1)	W axis home switch. 1= No, 0= Yes	*Section 4.6*
P603(8)	X axis with binary encoder. 0= No, 1= Yes	*Section 4.1*
(7)	Y axis with binary encoder. 0= No, 1= Yes	*Section 4.1*
(6)	Z axis with binary encoder. 0= No, 1= Yes	*Section 4.1*
(5)	W axis with binary encoder. 0= No, 1= Yes	*Section 4.1*
(4)	Not being used at this time (=0)	
(3)	Machine with pallets. 0= No, 1= Yes	*Section 4.11*
(2)	Special M06 sequence. 0= No, 1= Yes	*Section 3.3.5*
(1)	Cancellation of V axis feedback alarm. 0= No, 1= Yes	*Section 3.3.2*
P604(8)	X axis feedback signal multiplying factor. (0= x4, 1= x2)	*Section 4.1*
(7)	Y axis feedback signal multiplying factor. (0= x4, 1= x2)	*Section 4.1*
(6)	Z axis feedback signal multiplying factor. (0= x4, 1= x2)	*Section 4.1*
(5)	W axis feedback signal multiplying factor. (0= x4, 1= x2)	*Section 4.1*
(4)	X axis feedback units. (0= mm, 1= inches)	*Section 4.1*
(3)	Y axis feedback units. (0= mm, 1= inches)	*Section 4.1*
(2)	Z axis feedback units. (0= mm, 1= inches)	*Section 4.1*
(1)	W axis feedback units. (0= mm, 1= inches)	*Section 4.1*
P605(8)	Normal status of Emergency output (pin 5 of connector I/O1). (0=0V, 1=24V)	*Section 3.3.2*
(7)	Pin 22 of connector I/O 2 as "tool magazine rotating direction". 0= No, 1= Yes	*Section 3.3.2*
(6)	Y axis as DRO axis. 0= No, 1= Yes	*Section 3.3.1*
(5)	The CNC waits for trailing edge at "M-done" input. 0= No, 1= Yes	*Section 3.3.2*
(4)	Axis orientation on the XZ plane	*Section 3.3.9*
(3)	M21 generated when executing M22, M23, M24 or M25. 0= No, 1= Yes	*Section 4.11*
(2)	The Z axis moves when executing M22, M23, M24 or M25. 0= No, 1= Yes	*Section 4.11*
(1)	The W axis moves when executing M22, M23, M24 or M25. 1= No, 0= Yes	*Section 4.11*
P606(8)	X axis leadscrew error compensation. 0= No, 1= Yes	*Section 4.9*
(7)	Y axis leadscrew error compensation. 0= No, 1= Yes	*Section 4.9*
(6)	Z axis leadscrew error compensation. 0= No, 1= Yes	*Section 4.9*
(5)	W axis leadscrew error compensation. 0= No, 1= Yes	*Section 4.9*
(4)	Function G74 generates an M30. 0= No, 1= Yes	*Section 4.6*
(3)	M30 executed when switching to JOG mode. 0= No, 1= Yes	*Section 3.3.7*
(2)	Maximum Feedrate override value applied by the CNC. 0= 120%, 1= 100%	*Section 3.3.9*
(1)	W rotary rollover. 0= No, 1= Yes	*Section 3.3.1*

P607(8)	G53 zero offset activated after Reset. 0= No, 1= Yes	*Section 3.3.9*
(7)	Status report by interruption. 0= No, 1= Yes	*Section 3.3.6*
(6)	The CNC aborts DNC communications (program debugging). 1= No, 0= Yes	*Section 3.3.6*
(5)	DNC protocol active after power-up. 0= No, 1= Yes	*Section 3.3.6*
(4)	Communications with FAGOR Floppy (1) or Cassette (0)	*Section 3.3.6*
(3)	DNC. 0= No, 1= Yes	*Section 3.3.6*
(2)	Spindle reversal with M05 in G84. 1= No, 0= Yes	*Section 3.3.9*
(1)	Limits ignored when executing M06, M22, M23, M24 or M25. 1= No, 0= Yes	*Section 4.11*
P608(8)	Direction of the unidirectional approach along X. 0= Positive, 1= Negative	*Section 4.8*
(7)	Direction of the unidirectional approach along Y. 0= Positive, 1= Negative	*Section 4.8*
(6)	Direction of the unidirectional approach along Z. 0= Positive, 1= Negative	*Section 4.8*
(5)	Direction of the unidirectional approach along W. 0= Positive, 1= Negative	*Section 4.8*
(4)	Unidirectional approach along X. 0= No, 1= Yes	*Section 4.8*
(3)	Unidirectional approach along Y. 0= No, 1= Yes	*Section 4.8*
(2)	Unidirectional approach along Z. 0= No, 1= Yes	*Section 4.8*
(1)	Unidirectional approach along W. 0= No, 1= Yes	*Section 4.8*
P609(8)	Axis orientation for graphic display . 0= Mill, 1= Boring mill	*Section 3.3.9*
(7)	Pin 17 of connector I/O 1 as "rapid jog". 0= No, 1= Yes	*Section 3.3.2*
(6)	Maximum incremental JOG move. (0= 10mm or 1 inch, 1= 1mm or 1 inch)	*Section 3.3.7*
(5)	M functions set at M table are not output in BCD or binary. 1= No, 0= Yes	*Section 3.3.2*
(4)	All spindle speed changes generate an S strobe output. 0= No, 1= Yes	*Section 5.2*
(3)	Pin 23 of connector I/O 2 as "RESET". 0= No, 1= Yes	*Section 3.3.2*
(2)	Spindle counting direction	*Section 5.4*
(1)	Machine with axis travel over 8 meters. 0= No, 1= Yes	*Section 4.12*
P610(8)	X axis binary encoder equivalence	*Section 4.1*
(7)	Y axis binary encoder equivalence	*Section 4.1*
(6)	Z axis binary encoder equivalence	*Section 4.1*
(5)	W axis binary encoder equivalence	*Section 4.1*
(4)	S analog output: unipolar or bipolar	*Section 5.2*
(3)	Pin 17 of connector I/O 1 as "Enter" in Play-back mode. 0= No, 1= Yes	*Section 3.3.2*
(2)	Vectored (interpolated) G00. 0= No, 1= Yes	*Section 3.3.9*
(1)	Feed-Hold in G84 and G47. 0= No, 1= Yes	*Section 3.3.9*
P611(8)	In G00 and F00 proportional gain break-point at 256 microns. 0= No, 1= Yes	*Section 4.5*
(7)	The X axis moves when executing M22, M23, M24 or M25. 1= No, 0= Yes	*Section 4.11*
(6)	Pin 24 of connector I/O 2 as "Automatic" output. 0= No, 1= Yes	*Section 3.3.2*
(5)	Feed units in G94. (0=1mm/min or 0.1 inch/min, 1=0.1mm/min or 0.01inch/min)	*Section 3.3.9*
(4)	W axis as DRO. 0= No, 1= Yes	*Section 3.3.1*
(3)	Z and W axes movements combined in Z axis graphic display. 0= No, 1= Yes	*Section 3.3.9*
(2)	Home search required after power-up. 0= No, 1= Yes	*Section 4.6*
(1)	Pin 24 of connector I/O 2 as "Cycle ON" output. 0= No, 1= Yes	*Section 3.3.2*
P612(8)	Spindle marker pulse (home) type. 0= Negative, 1= Positive)	*Section 5.5*
(7)	Type of probe pulse. (0= 0V, 1= 5V or 24V)	*Section 3.3.4*
(6)	Multplying factor for electronic handwheel signals. (0= x4, 1= x2)	*Section 3.3.3*
(5)	Feedback (counting) resolution of the electronic handwheel	*Section 3.3.3*
(4)	Feedback (counting) resolution of the electronic handwheel	*Section 3.3.3*
(3)	Feedback units of the electronic handwheel. (0= mm, 1= inches)	*Section 3.3.3*
(2)	Counting direction of the electronic handwheel	*Section 3.3.3*
(1)	Connector A6. Handwheel (0) or spindle (1)	*Section 3.3.1*
P613(8)	Arithmetic parameters P150 through P254 as read-only. 0= No, 1= Yes	*Section 3.3.9*
(7)	Acc/dec in all G01 movements. 0= No, 1= Yes	*Section 4.7*
(6)	Leadscrew error compensation tables. (0= 4, 1= 2)	*Section 4.9*
(5)	G05 or G07 active on power-up. (0= G07, 1= G05)	*Section 3.3.9*
(4)	Pin 24 of connector I/O 2 as "G00" output. 0= No, 1= Yes	*Section 3.3.2*
(3)	There is PLC64 in the LAN. 0= No, 1= Yes	Fagor LAN
(2)	Pin 25 of connector I/O 2 as "vertical move" output. 0= No, 1= Yes	*Section 3.3.2*
(1)	Electronic handwheel model: FAGOR 100P. 0= No, 1= Yes	*Section 3.3.3*

P614 CNC identification in the Fagor LAN ..... Fagor LAN

P615(8) During M06, M19 is executed while the axis is moving. 0= No, 1= Yes ..... *Section 3.3.5*
(7) Feedrate of rotary axes in degrees/minute (1) or 2.54°/min (0) ..... *Section 4.4*
(6) Feedrate of linear axes in inches/min (1) or 0.1inch/min (0) ..... *Section 4.4*
(5) The CNC occupies main node "0" in Fagor LAN. 0= No, 1= Yes ..... Fagor LAN
(4) Node N° occupied by the CNC or number of nodes in LAN ..... Fagor LAN
(3) Node N° occupied by the CNC or number of nodes in LAN ..... Fagor LAN
(2) Node N° occupied by the CNC or number of nodes in LAN ..... Fagor LAN
(1) Node N° occupied by the CNC or number of nodes in LAN ..... Fagor LAN

P616(8) Multiplying factor for V axis feedback signals. (0= x4, 1= x2) ..... *Section 4.1*
(7) V axis feedback units. 0= mm, 1= inches ..... *Section 4.1*
(6) V axis binary encoder equivalence ..... *Section 4.1*
(5) V axis with binary encoder. 0= No, 1= Yes ..... *Section 4.1*
(4) The machine has a V axis. 0= No, 1= Yes ..... *Section 3.3.1*
(3) V axis: normal (0) or positioning-only (1) ..... *Section 3.3.1*
(2) V axis: rotary HIRTH. 0= No, 1= Yes ..... *Section 3.3.1*
(1) V axis: linear (0) or rotary (1) ..... *Section 3.3.1*

P617(8) M function output in BCD (0) or Binary (1) ..... *Section 3.3.2*
(7) Gantry axis. 0= No, 1= Yes ..... *Section 3.3.1*
(6) 0.0001 millimeters (0.00001 inch) resolution. 0= No, 1= Yes ..... *Section 4.12*
(5) X as DRO axis. 0= No, 1= Yes ..... *Section 3.3.1*
(4) Z as DRO axis. 0= No, 1= Yes ..... *Section 3.3.1*
(3) V as DRO axis. 0= No, 1= Yes ..... *Section 3.3.1*
(2) V axis home switch. 1= No, 0= Yes ..... *Section 4.6*
(1) Type of V axis marker pulse (home). 0= Negative, 1= Positive ..... *Section 4.6*

P618(8) Function P1=0X considers current work units. 0= No, 1= Yes ..... *Section 3.3.9*
(7) V axis displayed. 1= No, 0= Yes ..... *Section 3.3.1*
(6) X axis displayed. 1= No, 0= Yes ..... *Section 3.3.1*
(5) Y axis displayed. 1= No, 0= Yes ..... *Section 3.3.1*
(4) Z axis displayed. 1= No, 0= Yes ..... *Section 3.3.1*
(3) W axis displayed. 1= No, 0= Yes ..... *Section 3.3.1*
(2) M06 before (0) or after (1) associated subroutine ..... *Section 3.3.5*
(1) CYCLE START key inhibited. 0= No, 1= Yes ..... *Section 3.3.9*

P619(8) W axis as rotary rollover via shortest path. 0= No, 1= Yes ..... *Section 3.3.1*
(7) G59 as additive zero offset. 0= No, 1= Yes ..... *Section 3.3.9*
(6) Spindle orientation in both directions. 0= No, 1= Yes ..... *Section 5.5*
(5) The emergency subroutine executes function M00. 0= No, 1= Yes ..... *Section 3.3.8*
(4) Coordinates assigned to arithmetic parameters in emergency subroutine. (0= Beginning point, 1= Current point) ..... *Section 3.3.8*
(3) Analog S output proportional to actual axis feedrate. 0= No, 1= Yes ..... *Applications*
(2) Monitor color combination ..... Section 3.3
(1) Monitor color combination ..... Section 3.3

P620(8) Not being used at this time (=0)
(7) Not being used at this time (=0)
(6) V axis as rotary rollover via shortest path. 0= No, 1= Yes ..... *Section 3.3.1*
(5) Cross compensation applied to Y axis. 0= No, 1= Yes ..... *Section 4.10*
(4) Cross compensation applied to Z axis. 0= No, 1= Yes ..... *Section 4.10*
(3) Transfer inhibit and M-done inputs independent from Feed-hold. 0= No, 1= Yes ... Fagor LAN
(2) Acc/dec. in G05 (round corner). 1= No, 0= Yes ..... *Section 4.7*
(1) Marks M1801 thru M1899 to send messages to the CNC. 0= No, 1= Yes ..... LAN & PLCI

P621(8)		To be used only by the Service Department of Fagor Automation
(7)		Function M06 does not execute function M19. 1= No, 0= Yes ..... *Section 3.3.5*
(6)		Error to be issued when probing (G75). 1= No, 0= Yes ..... *Section 3.3.4*
(5)		Not being used at this time (=0)
(4)		Block beginning synchronized with independent axis (G65). 0= No, 1= Yes ..... *Section 4.12*
(3)		Repetitive emergency subroutine. 0= No, 1= Yes ..... *Section 3.3.8*
(2)		Not being used at this time (=0)
(1)		The CNC has a PLCI. 0= No, 1= Yes ..... *PLCI manual*
P622(8)		Jig Grinder. 0= No, 1= Yes ..... *Applications*
(7)		Transfer inhibit affects M, S, T functions. 1= No, 0= Yes ..... *Fagor LAN*
(6)		Sheetmetal tracing on laser machines. 0= No, 1= Yes ..... *Applications*
(5)		V axis sine-wave feedback counting resolution ..... *Section 4.1*
(4)		W axis sine-wave feedback signals ..... *Section 4.1*
(3)		Z axis sine-wave feedback signals ..... *Section 4.1*
(2)		Y axis sine-wave feedback signals ..... *Section 4.1*
(1)		X axis sine-wave feedback signals ..... *Section 4.1*
P623(8)		X axis home searching direction. (0= Positive, 1= Negative) ..... *Section 4.6*
(7)		Y axis home searching direction. (0= Positive, 1= Negative) ..... *Section 4.6*
(6)		Z axis home searching direction. (0= Positive, 1= Negative) ..... *Section 4.6*
(5)		W axis home searching direction. (0= Positive, 1= Negative) ..... *Section 4.6*
(4)		V axis home searching direction. (0= Positive, 1= Negative) ..... *Section 4.6*
(3)		Axis causing the cross error (cross compensation) ..... *Section 4.10*
(2)		Axis causing the cross error (cross compensation) ..... *Section 4.10*
(1)		Apply cross compensation onto X axis. 0= No, 1= Yes ..... *Section 4.10*
P624(8)		Bell shaped acc/dec.. 0= No, 1= Yes ..... *Section 4.7*
(7)		Not being used at this time (=0)
(6)		Not being used at this time (=0)
(5)		Sign of V axis leadscrew backlash. (0= Positive, 1= Negative) ..... *Section 4.9*
(4)		Sign of W axis leadscrew backlash. (0= Positive, 1= Negative) ..... *Section 4.9*
(3)		Sign of Z axis leadscrew backlash. (0= Positive, 1= Negative) ..... *Section 4.9*
(2)		Sign of Y axis leadscrew backlash. (0= Positive, 1= Negative) ..... *Section 4.9*
(1)		Sign of X axis leadscrew backlash. (0= Positive, 1= Negative) ..... *Section 4.9*
P625(8)		To be used only by the Service Department of Fagor Automation
(7)		Handwheel managed by the PLC. 0= No, 1= Yes ..... *Section 3.3.3*
(6)		Spindle inhibit by the PLC. 0= No, 1= Yes ..... *Section 3.3.9*
(5)		Type of compensation on G07 sections ..... Section 3.3.9
(4)		Associated subroutine executed before (1) or after (0) the T function ..... *Section 3.3.5*
(3)		Double cross compensation. 0= No, 1= Yes ..... *Section 4.10*
(2)		Not being used at this time (=0)
(1)		G84. Tap beginning synchronized with spindle Io. 0= No, 1= Yes ..... *Section 5.6*
P626(8)	0	The machine uses non-servocontrolled open loop motors. 0= No, 1= Yes ..... *Applications*
(7)	0	Not being used at this time (=0)
(6)	0	Not being used at this time (=0)
(5)	1	Not being used at this time (=0) Set to 1 set to 5 Min. Screen Saver,
(4)	0	Use G64, multiple machining in arc. 1= No, 0= Yes ..... *Section 3.3.9*
(3)	0	"RESCAN 200" feature from Renishaw. 0= No, 1= Yes ..... *Section 4.12*
(2)	-	Not being used at this time (=0)
(1)	0	The CNC displays the tool base (0) or tool tip (1) position ..... *Section 3.3.5*

P627(8,7,6) Not being used at this time (=0)
(5) V axis feedback marker pulse "Io" type. 0=Regular, 1= Coded ..... Section 4.6
(4) W axis feedback marker pulse "Io" type. 0=Regular, 1= Coded ..... Section 4.6
(3) Z axis feedback marker pulse "Io" type. 0=Regular, 1= Coded ..... Section 4.6
(2) Y axis feedback marker pulse "Io" type. 0=Regular, 1= Coded ..... Section 4.6
(1) X axis feedback marker pulse "Io" type. 0=Regular, 1= Coded ..... Section 4.6

P628(2) W axis variable Io increases in positive (0) or negative (1) direction ..... Section 4.6
(1) W axis coded Io period. (0= 20mm, 1= 100mm) ..... Section 4.6
(2) Z axis variable Io increases in positive (0) or negative (1) direction ..... Section 4.6
(1) Z axis coded Io period. (0= 20mm, 1= 100mm) ..... Section 4.6
(2) Y axis variable Io increases in positive (0) or negative (1) direction ..... Section 4.6
(1) Y axis coded Io period. (0= 20mm, 1= 100mm) ..... Section 4.6
(2) X axis variable Io increases in positive (0) or negative (1) direction ..... Section 4.6
(1) X axis coded Io period. (0= 20mm, 1= 100mm) ..... Section 4.6

P629(8,7,6,5,4,3) Not being used at this time (=0)
(2) V axis variable Io increases in positive (0) or negative (1) direction ..... Section 4.6
(1) V axis coded Io period. (0= 20mm, 1= 100mm) ..... Section 4.6

P700 Spindle speed S when in M19. (0..255 rpm) ..... *Section 5.5*
P701 Number of tool pockets in tool magazine. (0..98) ..... *Section 3.3.5*
P702 First axis to move when executing M06. (1=X, 2=Y, 3=Z, 4=W, 5=V) ..... *Section 3.3.5*
P703 Second axis to move when executing M06. (1=X, 2=Y, 3=Z, 4=W, 5=V) ..... *Section 3.3.5*
P704 Third axis to move when executing M06. (1=X, 2=Y, 3=Z, 4=W, 5=V) ..... *Section 3.3.5*
P705 Fourth axis to move when executing M06. (1=X, 2=Y, 3=Z, 4=W, 5=V) ..... *Section 3.3.5*
P706 Value of the residual S analog voltage. (1=2.5mV) ..... *Section 3.3.5*
P707 Oscillation period during range change ..... *Section 5.1*
P708 Feedrate override When analog voltage reaches 10V. ..... *Section 5.1*
P709 Subroutine associated with M06 ..... *Section 4.4*
P710 Subroutine associated with M22 ..... *Section 3.3.5*
P711 Subroutine associated with M23 ..... *Section 4.11*
P712 Subroutine associated with M24 ..... *Section 4.11*
P713 Subroutine associated with M25 ..... *Section 4.11*
P714 Error if actual feedrate is not within 50% and 200% of programmed value ..... *Section 4.11*
P715 Dwell between blocks in G07 (square corner). (1=10ms) ..... *Section 4.4*
P716 Distance between unidirectional approach point and programmed point ..... *Section 3.3.8*
P717 Spindle in-position zone during M19 ..... *Section 4.8*
P718 Spindle proportional gain K during M19 ..... *Section 5.5*
P719 Minimum spindle analog for M19. (1=2.5mV) ..... *Section 5.5*
P720 M associated to probing (G75) ..... *Section 5.5*
P721 ACCELERATION/DECELERATION for X. (1=20ms) ..... *Section 3.3.4*
P722 ACCELERATION/DECELERATION for Y. (1=20ms) ..... *Section 4.8*
P723 ACCELERATION/DECELERATION for Z. (1=20ms) ..... *Section 4.8*
P724 ACCELERATION/DECELERATION for W. (1=20ms) ..... *Section 4.8*
P725 Subroutine associated with function G74 ..... *Section 4.8*
P726 Recovery of programmed position on axes "without continuous control" ..... *Section 4.7*
P727 Emergency subroutine ..... *Section 4.6*
P728 ACCELERATION/DECELERATION for V. (1=20ms) ..... *Section 3.3.7*
P729 Maximum feedrate for circular interpolations ..... *Section 4.8*
P730 Nº of the node receiving the M, S, T functions ..... *Section 4.5*
P731 Nº of the register of node P730 receiving the M, S, T functions ..... Fagor LAN
P732 FEED-FORWARD gain for X ..... Fagor LAN
P733 FEED-FORWARD gain for Y ..... *Section 4.7*
P734 FEED-FORWARD gain for Z ..... *Section 4.7*
P735 FEED-FORWARD gain for W ..... *Section 4.7*
P736 FEED-FORWARD gain for V ..... *Section 4.7*
P737 Group of marks used by the CNC to send its internal data ..... *Section 4.7*
P738 Group of marks used by the CNC to update the status of its connectors ..... Fagor LAN
P739 Group of marks used by the CNC to update its internal data ..... Fagor LAN
P740 Group of marks used by the CNC to update its additional internal data ..... Fagor LAN

P908	Collision zone between Y, Z	*Section 4.12*
P909	Collision zone between Y, Z	*Section 4.12*
P910	Minimum X coordinate of the probe	*Section 3.3.4*
P911	Maximum X coordinate of the probe	*Section 3.3.4*
P912	Minimum Y coordinate of the probe	*Section 3.3.4*
P913	Maximum Y coordinate of the probe	*Section 3.3.4*
P914	Minimum Z coordinate of the probe	*Section 3.3.4*
P915	Maximum Z coordinate of the probe	*Section 3.3.4*
P916	Spindle orient position when executing M19 without "S"	*Section 5.5*
P917	Lower limit of the forbidden zone for the spindle in M19	*Section 5.5*
P918	Upper limit of the forbidden zone for the spindle in M19	*Section 5.5*
P919	Offset of the X axis coded Io	*Section 4.6*
P920	Offset of the Y axis coded Io	*Section 4.6*
P921	Offset of the Z axis coded Io	*Section 4.6*
P922	Offset of the W axis coded Io	*Section 4.6*
P923	Offset of the V axis coded Io	*Section 4.6*

P924 thru P952 Not being used at this time (=0).

001 This error occurs in the following cases:

> When the first character of the block to be executed is not an "N".

> When while BACKGROUND editing, the program in execution calls a subroutine located in the program being edited or in a later program.

The order in which the part-programs are stored in memory are shown in the part-program directory. If during the execution of a program, a new one is edited, this new one will be placed at the end of the list.

002 Too many digits when defining a function in general.

003 A negative value has been assigned to a function which does not accept the (-) sign or an incorrect value has been given to a canned cycle parameter.

004 A canned cycle has been defined while function G02, G03 or G33 was active.

005 Parametric block programmed wrong.

006 There are more than 10 parameters affected in a block.

007 Division by zero.

008 Square root of a negative number.

009 Parameter value too large

010 M41, M42, M43 or M44 has been programmed.

011 More than 7 "M" functions in a block.

012 This error occurs in the following cases:

> Function G50 is programmed wrong

> Tool dimension values too large.

> Zero offset values (G53/G59) too large.

013 Cycle defined incorrectly.

014 A block has been programmed which is incorrect either by itself or in relation with the program history up to that instant.

015 Functions G20, G21, G22, G23, G24, G25, G26, G27, G28, G29, G30, G31, G32, G50, G52, G53, G54, G55, G56, G57, G58, G59, G72, G73, G74, G92 and G93 must be programmed alone in a block.

016 The called subroutine or block does not exist or the block searched by means of special function F17 does not exist.

017 This error is issued in the following cases:

> Negative or too large thread pitch value.

> Function G95 or M19 has been used with machine parameter "P800=0".

018 Error in blocks where the points are defined by means of angle-angle or angle-coordinate.

019 This error is issued in the following cases:

> After defining G20, G21, G22 or G23, the number of the subroutine it refers to is missing.

> The "N" character has not been programmed after function G25, G26, G27, G28 or G29.

> Too many nesting levels.

020 The axes of the circular interpolation are not programmed correctly.

021 There is no block at the address defined by the parameter assigned to F18, F19, F20, F21, F22.

022 An axis is repeated when programming G74.

023 K has not been programmed after G04.

024 The decimal point is missing when programming T2.2 or N2.2.

025 Error in a definition block or subroutine call, or when defining either conditional or unconditional jumps.

026 This error is issued in the following cases:

> Memory overflow.

> Not enough free tape or CNC memory to store the part-program.

027 I/J/K has not been defined for a circular interpolation or thread.

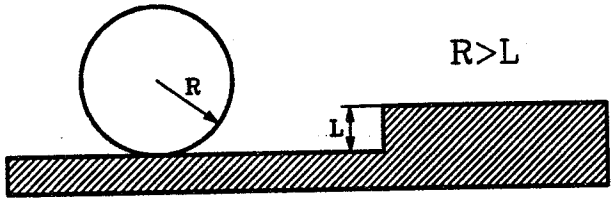
028 An attempt has been made to select a tool offset at the tool table or a non-existent external tool (the number of tools is set by machine parameter).

029 Too large a value assigned to a function.

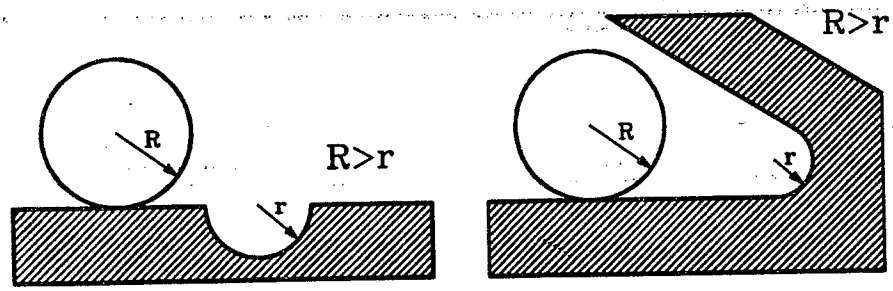
This error is often issued when programming an F value in mm/min (inch/min) and, then, switching to work in mm/rev (inch/rev) without changing the F value.

030 The programmed G function does not exist.

031 Tool radius value too large.



032 Tool radius value too large.



033 A movement of over 8388 mm or 330.26 inches has been programmed.

Example: Being the X axis position X-5000, if we want to move it to point X5000, the CNC will issue error 33 when programming the block N10 X5000 since the programmed move will be:
5000 - (-5000) = 10000 mm.

In order to make this move without issuing this error, it must be carried out in two stages as indicated below:

```
N10 X0          ; 5000 mm move
N10 X5000       ; 5000 mm move
```

ON MBC CHECK GEARING FACTOR IN PEDIMENT

034 S or F value too large. - ON BOL 760 PRESS RESET 2 TIMES RECALL PROG

035 Not enough information for corner rounding, chamfering or compensation.

036 Repeated subroutine.

037 Function M19 programmed incorrectly.

038 Function G72 or G73 programmed incorrectly.

It must be borne in mind that if G72 is applied only to one axis, this axis must be positioned at part zero (0 value) at the time the scaling factor is applied.

039 This error occurs in the following cases:

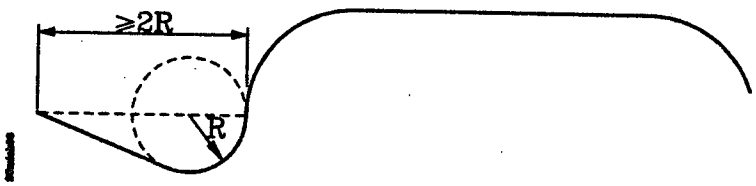
> More than 15 nesting levels when calling subroutines.

> A block has been programmed which contains a jump to itself. Example: N120 G25 N120.

040 The programmed arc does not go through the defined end point (tolerance 0.01mm) or there is no arc that goes through the points defined by G08 or G09.

041 This error is issued when programming a tangential entry as in the following cases:

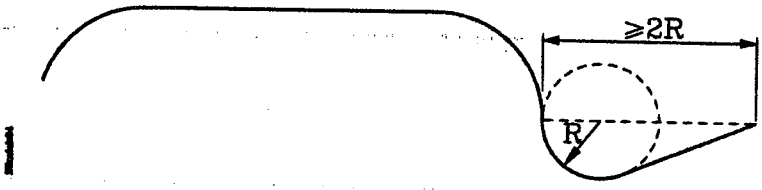
> There is no room to perform the tangential entry. A clearance of twice the rounding radius or greater is required.



> If the tangential entry is to be applied to an arc (G02, G03), The tangential entry must be defined in a linear block.

042 This error is issued when programming a tangential exit as in the following cases:

> There is no room to perform the tangential exit. A clearance of twice the rounding radius or greater is required.



> If the tangential exit is to be applied to an arc (G02, G03), The tangential exit must be defined in a linear block.

043 Polar origin coordinates (G93) defined incorrectly.

044 Canned cycle defined wrong.

045 Function G36, G37, G38 or G39 programmed incorrectly.

046 Polar coordinates defined incorrectly.

047 A zero movement has been programmed during radius compensation or corner rounding.

048 W axis programmed wrong. make Signoscript active in Peddimat

049 Chamfer programmed incorrectly.

050 Functions M06, M22, M23, M24, M25 must be programmed alone in a block.

051 * A tool or pallet change cannot be performed without being in the change position.

052 * The requested tool is not in the magazine.

053 * This error occurs when having a machining center and 2 different external Ts have been programmed in a row without programming an M06 in between.

054 There is no disk in the FAGOR Floppy Disk Unit, there is no tape in the cassette reader or the reader head cover is open.

055 Parity error when reading or writing a floppy or cassette.

056 This error comes up in the following cases:

> When the memory is locked and an attempt is made to generate a CNC program by means of function G76.

> When trying to generate program P99999 or a protected program by means of function G76.

> If function G76 is followed by function G22 or G23.

> If there are more than 70 characters after G76.

> If function G76 (block content) has been programmed without having programmed G76 P5 or G76 N5 before.

> If in a G76 P5 or G76 N5 type function does not contain the 5 digits of the program number.

> If while a program is being generated (G76 P5 or G76 N5), its program number is changed without cancelling the previous one.

> If while executing a G76 P5 type block, the program referred to is not the one edited. In other words, that another one has been edited later or that a G76 P5 type block is executed while a program is being edited in background.

057 Write-protected floppy disk or cassette.

058 Irregular floppy drive motion or sluggish tape transport.

059 Communication error between the CNC and the FAGOR Floppy Disk Unit or between the CNC and the cassette reader.

060 Internal CNC hardware error. Consult with the Technical Service Department.

061 Battery error.

The memory contents will be kept for 10 more days (with the CNC off) from the moment this error occurs. The whole battery module located on the back must be replaced. Consult with the Technical Service Department.

Due to danger of explosion or combustion: do not try to recharge the battery, do not expose it to temperatures higher than 100°C (232°F) and do not short the battery leads.

064 * External emergency input (pin 14 of connector I/O1) is activated.

065 * This error comes up in the following cases:

> If while probing (G75) the programmed position is reached without receiving the probe signal.

> If while executing a probing canned cycle, the CNC receives the probe signal without actually carrying out the probing move itself (collision).

066 * X axis travel limit overrun.

It is generated either because the machine is beyond limit or because a block has been programmed which would force the machine to go beyond limits.

067 * Y axis travel limit overrun.

It is generated either because the machine is beyond limit or because a block has been programmed which would force the machine to go beyond limits.

068 * Z axis travel limit overrun.

It is generated either because the machine is beyond limit or because a block has been programmed which would force the machine to go beyond limits.

069 * W axis travel limit overrun.

It is generated either because the machine is beyond limit or because a block has been programmed which would force the machine to go beyond limits.

070 ** X axis following error.

071 ** Y axis following error.

072 ** Z axis following error.

073 ** W axis following error.

074 ** Spindle speed value too large.

075 ** X axis feedback error. Connector A1.

076 ** Y axis feedback error. Connector A2.

077 ** Z axis feedback error. Connector A3.

078 ** W axis feedback error. Connector A4.

079 ** Spindle feedback error. Connector A5.

080 ** Handwheel feedback error. Connector A5.

081 ** V axis feedback error. Connector A5.

082 ** Parity error in general parameters. The CNC resets the serial line RS232C machine parameters: "P0= 9600", "P1=8", P2=0", "P3=1", "P607(3)=1", "P607(4)=1", "P607(5)=1".

083 ** Parity error in V axis parameters. The CNC resets the serial line RS232C machine parameters: "P0= 9600", "P1=8", P2=0", "P3=1", "P607(3)=1", "P607(4)=1", "P607(5)=1".

084 * V axis travel limit overrun.

085 ** V axis following error.

086 Not being used at this time.

087 ** Internal CNC hardware error. Consult with the Technical Service Department.

088 ** Internal CNC hardware error. Consult with the Technical Service Department.

089 * All the axes have not been homed.

This error comes up when it is mandatory to search home on all axes after power-up. This requirement is set by machine parameter.

090 ** Internal CNC hardware error. Consult with the Technical Service Department.

091 ** Internal CNC hardware error. Consult with the Technical Service Department.

092 ** Internal CNC hardware error. Consult with the Technical Service Department.

093 ** Internal CNC hardware error. Consult with the Technical Service Department.

094 Parity error in tool table or zero offset table G53-G59. The CNC resets the serial line RS232C machine parameters: "P0= 9600", "P1=8", P2=0", "P3=1", "P607(3)=1", "P607(4)=1", "P607(5)=1".

095 ** Parity error in W axis parameters. The CNC resets the serial line RS232C machine parameters: "P0= 9600", "P1=8", P2=0", "P3=1", "P607(3)=1", "P607(4)=1", "P607(5)=1".

096 ** Parity error in Z axis parameters. The CNC resets the serial line RS232C machine parameters: "P0= 9600", "P1=8", P2=0", "P3=1", "P607(3)=1", "P607(4)=1", "P607(5)=1".

097 ** Parity error in Y axis parameters. The CNC resets the serial line RS232C machine parameters: "P0= 9600", "P1=8", P2=0", "P3=1", "P607(3)=1", "P607(4)=1", "P607(5)=1".

098 ** Parity error in X axis parameters. The CNC resets the serial line RS232C machine parameters: "P0= 9600", "P1=8", P2=0", "P3=1", "P607(3)=1", "P607(4)=1", "P607(5)=1".

099 ** Parity error in M table. The CNC resets the serial line RS232C machine parameters: "P0= 9600", "P1=8", P2=0", "P3=1", "P607(3)=1", "P607(4)=1", "P607(5)=1".

100 ** Internal CNC hardware error. Consult with the Technical Service Department.

101 ** Internal CNC hardware error. Consult with the Technical Service Department.

105 This error comes up in the following cases:
> A comment has more than 43 characters.
> A program has been defined with more than 5 characters.
> A block number has more than 4 characters.
> Strange characters in memory.

106 ** Inside temperature limit exceeded.

107 ** Error in W axis leadscrew error compensation parameters. The CNC resets the serial line RS232C machine parameters: "P0= 9600", "P1=8", P2=0", "P3=1", "P607(3)=1", "P607(4)=1", "P607(5)=1".

108 ** Error in Z axis leadscrew error compensation parameters. The CNC resets the serial line RS232C machine parameters: "P0= 9600", "P1=8", P2=0", "P3=1", "P607(3)=1", "P607(4)=1", "P607(5)=1".

109 ** Error in Y axis leadscrew error compensation parameters. The CNC resets the serial line RS232C machine parameters: "P0= 9600", "P1=8", P2=0", "P3=1", "P607(3)=1", "P607(4)=1", "P607(5)=1".

110 ** Error in X axis leadscrew error compensation parameters. The CNC resets the serial line RS232C machine parameters: "P0= 9600", "P1=8", P2=0", "P3=1", "P607(3)=1", "P607(4)=1", "P607(5)=1".

111 * FAGOR LAN line error. Hardware installed incorrectly. Connection between PLC64 + Fagor

112 * FAGOR LAN error. It comes up in the following instances:

> When the configuration of the LAN nodes is incorrect.
> The LAN configuration has been changed. One of the nodes is no longer present (active).

When this error occurs, access the LAN mode, editing or monitoring, before executing a program block.

113 * FAGOR LAN error. A node is not ready to work in the LAN. For example:

> The PLC64 program is not compiled.
>A G52 type block has been sent to an 82CNC while it was in execution.

114 * FAGOR LAN error. An incorrect command has been sent out to a node.

115 * Watch-dog error in the periodic module.

This error occurs when the periodic module takes longer than 5 milliseconds.

116 * Watch-dog error in the main module.

This error occurs when the main module takes longer than half the time indicated in machine parameter "P741".

117 * The internal CNC information requested by activating marks M1901 thru M1949 is not available.

118 * An attempt has been made to modify an unavailable internal CNC variable by means of marks M1950 thru M1964.

119 Error when writing machine parameters, the decoded M function table and the leadscrew error compensation tables into the EEPROM memory.

This error may occur when after locking the machine parameters, the decoded M function table and the leadscrew error compensation tables, one tries to save this information into the EEPROM memory.

120 Checksum error when recovering (restoring) the machine parameters, the decoded M function table and leadscrew error compensation tables from the EEPROM memory.

150 Incoherent data in the 512 Kb memory.

When this error occurs, save as many programs as you can into the Floppy Disk Unit, peripheral or PC.

Then, proceed as follows to format the 512 Kb memory (when doing this, all part-programs stored in this memory will be lost).

Press **[OP MODE] [6]** to select the Editing mode.
Press **[LOCK/UNLOCK]** the screen displays the text: CODE: F7
Key in: **FM512** and press **[ENTER]**

Once the 512 Kb memory is formatted, recover (restore) the programs you saved into the Floppy Disk Unit, peripheral or PC.

151 Defective 512 Kb memory. Consult with the Technical Service department.

152 Not enough available free space in the 512 Kb memory.

Atention:

The **ERRORS** indicated with "*" behave as follows:

They stop the axis feed and the spindle rotation by cancelling the Enable signals and the analog outputs of the CNC.

They interrupt the execution of the part-program of the CNC if it was being executed.

The **ERRORS** indicated with "**" besides behaving as those with an "*", they activate the INTERNAL EMERGENCY OUTPUT.

OP MODE 6
FM UNLOCK
TYPE PC ALL ENTER
ASK RESET
PRESS Y BUTTON ENTER

} TO CLEAR ALL MEMORY

Ope 6
F3 (Program
Delete
99999 (5)
Y