



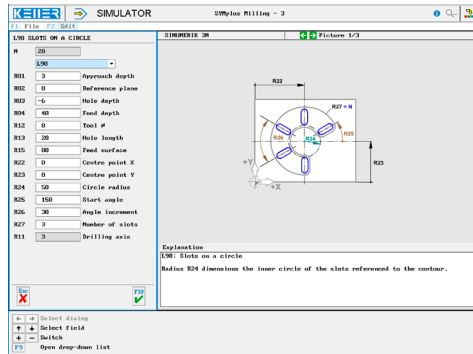
CONTROLS

Control simulator SINUMERIK 3M

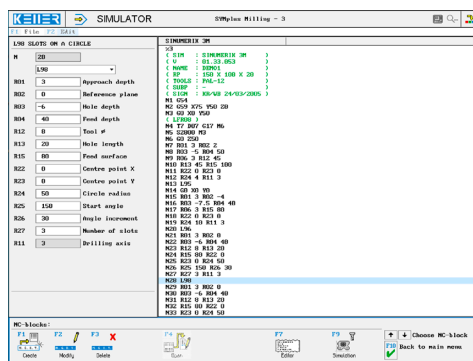


The control related simulator is an additional module for SYMplus. This simulator is used to learn the control system programming. A program generated by a postprocessor can also be edited and simulated.

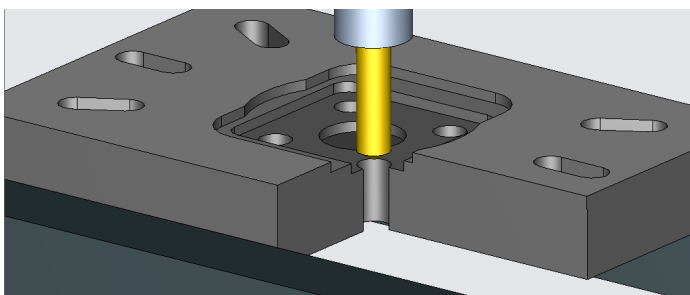
Help pictures and texts (for all input dialogues)



NC editor incl. input dialogue and syntax control

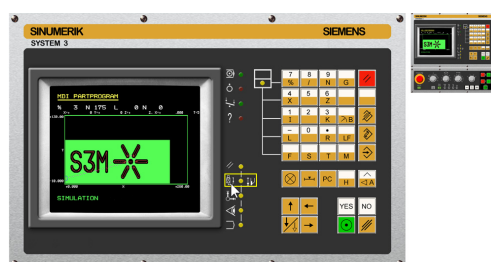


3D view with section at any time of the simulation (with zoom and freely rotatable)



Keyboard information system:

Getting familiar with the meaning of all keys of the control system by moving the mouse cursor over the keys



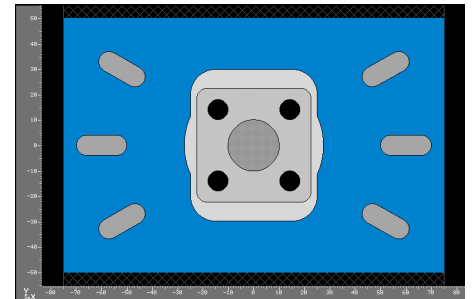
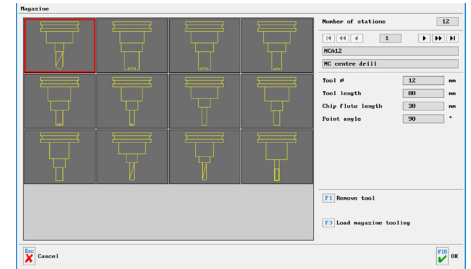
COMMANDS/ FUNCTIONS/CYCLES

G0	Rapid traverse
G1	Line
G2	Arc, clockwise
G3	Arc, counter-clockwise
G4	Dwell time
G10	Rapid traverse (polar)
G11	Line (polar)
G40/G41/G42	Radius compensation
G54-G57, G53	Zero point offset
G59	Additive zero point
G63/G60	Compensation chuck
G90/G91	Dimensional reference
Comment	Explanation
L	Sub-program call-up
R	Parameter list
M	Additional function
T	Tool call-up
X/Y/Z/F/S/M	Modal commands
G80	Deselection of G81...G89
L81	Drilling/centring
L82	Drilling/face ctr.Sinking
L83	Deep hole drilling
L84	Threading
L85...89	Drill return 1...5
L93	Point pattern on a grid
L94	Groove milling on a circle
L95	Rectangular pocket
L96	Circular pocket
L97	Point pattern on a circle
L98	Slots on a circle
G81...G89	See L81 to L89, modally effective

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%3
( RP      : 150 X 100 X 20)
( TOOLS  : PAL-12)
N1 G54
N2 G59 X75 Y50 Z0
N3 G0 X0 Y50
( LFR08 )
N4 T7 D07 G17 M6
N5 S2800 M3
N6 G0 Z50
( RECTANGULAR POCKET )
N7 R01 3 R02 2 R03 -5 R04 50 R06 3 R12 45 R13 45 R15 100
N8 R22 0 R23 0 R24 4 R11 3
N9 L95
N10 G0 X0 Y0
( CIRCULAR POCKET )
N11 R01 3 R02 -4 R03 -7.5 R04 40 R06 3 R15 80
N12 R22 0 R23 0 R24 10 R11 3
N13 L96
( SLOTS ON A CIRCLE )
N14 R01 3 R02 0 R03 -6 R04 40 R12 8 R13 20 R15 80 R22 0
N15 R23 0 R24 50 R25 150 R26 30 R27 3 R11 3
N16 L98
N17 R01 3 R02 0 R03 -6 R04 40 R12 8 R13 20 R15 80 R22 0
N18 R23 0 R24 50 R25 330 R26 30 R27 3 R11 3
N19 L98
N20 G0 Z50
N21 G0 X0 Y50
( SFR16 )
N22 T4 D04 G17 M6
N23 F100 S1400 M3
N24 G0 Z50
N25 G0 X-12 Y0
N26 G0 Z-2.5
N27 G41
N28 G1 X-25 Y-11.456
N29 G1 Y-20
N30 G3 X-15 Y-30 P10
N31 G1 X15
N32 G3 X25 Y-20 P10
N33 G1 Y-11.456
N34 G3 X25 Y11.456 I-25 J11.456
N35 G1 Y20
N36 G3 X15 Y30 P10
N37 G1 X-15
N38 G3 X-25 Y20 P10
N39 G1 Y11.456
N40 G3 X-25 Y-11.456 I25 J-11.456
N41 G1 Y-13
N42 G3 X-15 Y-23 P10
N43 G40
N44 G0 Z50
N45 G0 X0 Y0

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( NCA12 )
N63 T1 D01 G17 M6
N64 F100 S1400 M3
N65 G0 X0 Y0 Z50
N66 R02 -4 R03 -8
N67 L97 R22 0 R23 0 R24 20 R25 45 R26 0 R27
4 R28 81
N68 G0 Z100
N69 G0 X0 Y50
( SPB08 )
N70 T10 D10 G17 M3
N71 F120 S1800 M3
N72 G0 Z50
N73 R02 -4 R03 -22.5
N74 L97 R22 0 R23 0 R24 20 R25 45 R26 0 R27
4 R28 81
N75 G0 Z50
N76 G0 X0 Y100
N77 M30

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