

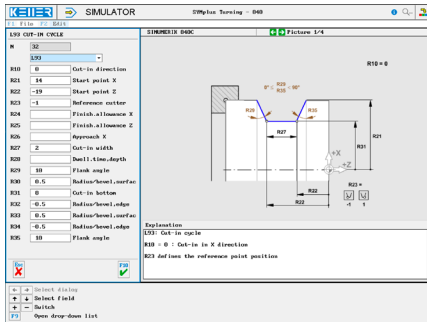
CONTROLS

Control simulator SINUMERIK 840C (turning)

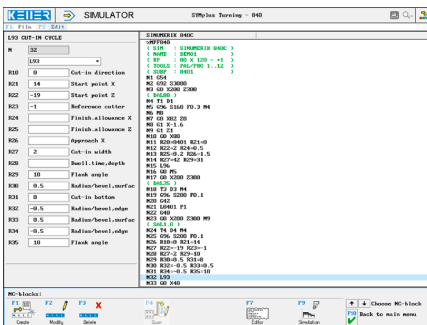


The control related simulator is an additional module for SYMplus. This simulator is used to learn the control system programming. A program generated by a postprocessor can also be edited and simulated.

Help pictures and texts (for all input dialogues)

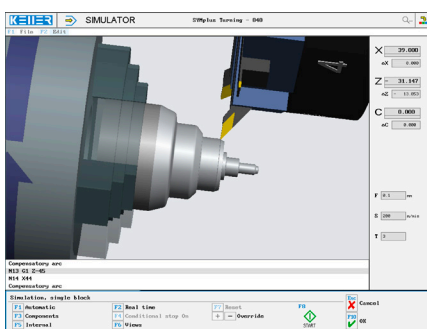


NC editor incl. input dialogue and syntax control



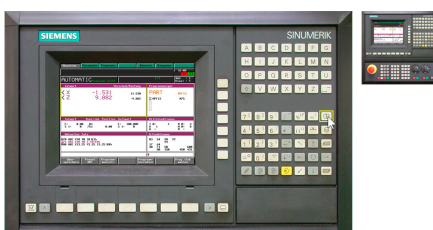
3D simulation

(without display: 2D simulation with the possibility to measure the workpiece)



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 Distance
- G1 (A,A,X,Z) Contour definition
- G2 Arc, clockwise
- G3 Arc, counter-clockwise
- G4 Dwell time
- G33 Thread cutting
- G40/G41/G42 Radius compensation
- G53-G57 Zero offset
- G58/G59 Additive zero offset
- G90/G91 Dimension reference
- G92 Speed limitation
- G96/G97 Spindle mode
- Comment Explanations
- L Subprogram call
- M Additional function
- R Parameter list
- T Tool call
- L93 Cut-in cycle
- L94 Undercut cycle
- L95 Chip remove with undercut
- L96 Chip remove without undercut
- L97 Thread cutting cycle
- L98 Deep drilling
- X/Y/Z/F/S/M Modal commands



Example program

```

%MPF840
( NAME      : DEMO1)
( RP       : 80 X 120 - +1)
( TOOLS    : PAL-3D)
( SUBP     : 8401)
N1 G54
N2 G92 S3000
N3 G0 X200 Z300
( DAL80 )
N4 T1 D1
N5 G96 S160 F0.3 M4
N6 M8
N7 G0 X82 Z0
N8 G1 X-1.6
N9 G1 Z1
N10 G0 X80
N11 R20=8401 R21=0
N12 R22=2 R24=0.5
N13 R25=0.2 R26=1.5
N14 R27=42 R29=31
N15 L96
N16 G0 M5
N17 G0 X200 Z300
( DAL35 )
N18 T5 D3 M4
N19 G96 S200 F0.1
N20 G42
N21 L8401 P1
N22 G40
N23 G0 X200 Z300 M9
( SAL1.8 )
N24 T7 D4 M4
N25 G96 S200 F0.1
N26 R10=0 R21=14
N27 R22=-19 R23=-1
N28 R27=2 R29=10
N29 R30=0.5 R31=8
N30 R32=-0.5 R33=0.5
N31 R34=-0.5 R35=10
N32 L93

N33 G0 X40
N34 R10=0 R21=39
N35 R22=-36 R23=-1
N36 R27=3 R29=15
N37 R30=0.5 R31=33
N38 R32=-1 R33=0.5
N39 R34=-1 R35=15
N40 L93
N41 R21=55 R22=-56
N42 R31=49
N43 L93
N44 G0 X200 Z300 M9
N45 M30

%SPF8401
( FN : CONTOUR REF 840 )
N1 G0 X0 Z1
N2 G1 Z0
N3 G1 X6 B1
N4 G1 Z-2
N5 G1 X8 Z-3
N6 G1 Z-15
N7 G1 X14 B-0.5
N8 G1 Z-25
N9 G1 X21 B-0.3
N10 G1 Z-28
N11 G1 X37
N12 G1 A160 X39
N13 G1 Z-45
N14 X44
N15 X55 Z-50 B3
N16 G1 G91 Z-15
N17 G90
N18 G1 A100 A160 X80 Z-80 B3 B-1
N19 G1 Z-82
N20 X82
N21 M17

```

