

X/Y/Z CNC Base Units

Series GFV/GFY



Illustration: CNC base unit as milling application

The isel-CNC base units of the series GFV and GFY are stable C-frame-type CNC machines made of aluminium special profiles.

All linear axes of the linear units LES 5 (x- and z-axis) and LES 6 (y-axis) that are used here run on grinded steel shafts with linear ball bearings.

Clearance-free ball screw drives with hardened and polished 5/8"-16 spindles with a pitch of, optionally, 2.5/4/5 or 10 mm are used as drives. The linear axes are driven by powerful and robust DC or AC servo motors in easy-to-maintain drive modules.

The machine table, which is firmly screwed with the underframe, is made of plan-milled precision T-nut profiles. It provides optimal clamping possibilities for the most different and workpiece holders and devices. The underframe is a honeycomb construction made of stable aluminium panel profiles and aluminium pillar profiles.

The protective hood, which features Perspex-lined glass and aluminium profiles, constitutes a closed working room.

When the sliding doors with security locking are open, the entire width of the working room can be used to load and unload.

The isel-CNC base units of the series GFV and GFY are ideal for individually assembling applications in the fields: positioning, milling/drilling, graving, laser beam processing, water jet cutting, dosing, screwing, measuring, etc.

The control cabinet which is attached to the machine provides enough space for the control of up to seven axes. An extension by means of additional modules is easily possible.

The modern PC-based CAN-CNC control for Windows NT/2000/XP offers highest ease of use and performance. Because of the two-wire technique, the assembly of special machines with individual attachment parts is easily possible without great wiring effort.

The plant can be operated with the user-friendly isel-machine terminal with integrated PC.

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Common Data/Characteristics of the X/Y/Z CNC Base Units

Effective travel ranges:	from 440 x 480 mm to 1,380 x 2,480 mm, z-axis 220 or 300 mm
Clamping surface:	from 625 x 1,100 mm to 1,500 x 3,050 mm
Portal passage:	optionally 235 mm or 435 mm
Drive system:	DC (series GFV) or AC (series GFY) servo drives, precision ball screw spindle
Travel speeds:	8 m/min (series GFV); 12 m/min (series GFY)
Repeatability depending:	on the assembly of the plants; on average approx. 0.02 mm
Weight:	450 kg to 650 kg

CNC Control (optional)

The isel-CAN-CNC control is used for the isel-CNC base units of the series GFV/GFY.

- PC-based CNC control for Windows NT/2000/XP
- CAN bus as field bus for the communication between CNC PC and drives as well as peripheral devices such as I/O, operating panel
- Midget dongle at the parallel port or PCI plug-in card serve as CAN interface
- Up to 6-axis interpolation (linear, circular, helix)
- Up to 127 CAN modules as auxiliary axis, I/O, frequency converter
- Look-ahead track handling
- Efficient and easy-to-use operating and programming surface WinRemote, ProNC
- Multi-channel technique (control of up to 4 CNC machines by means of one PC)

Control Cabinet (optional)

The control cabinet with the isel-CAN-CNC control includes all drive components for the control of up to 7 CNC axes, a frequency converter, as well as all peripheral devices in a clearly arranged and easy-to-maintain manner. Extensions are easily possible.

CNC Control Console/CNC Control Panel (optional)

Ideally, the machine is operated by means of an isel-CNC Control Console/CNC Console Panel with integrated PC.

- Light curtain (optional)

Further OEM options

Depending on the application, the following options can be offered together with the GFV-SW machine:

- milling motor/main spindle drive: power up to 2.2 kW and revolution up to 40,000 rpm
- automatic tool changer for up to 10 tools
- different cooling and spraying systems
- rotary axis for the cylinder machining or further auxiliary axes
- working room lighting
- machine without encasement
- outside-located limit switches

The control of all additional components is already integrated into our software.

Ordering Data

	Item no..	Dimensions (W x D x H)	Travel ranges (X x Y x Z)	Passage height	Clamping surface (W x D at approx. 800 mm altitude)
GFV 48/52-SW with protective hood	274 551 0011	1,440 x 1,320 x 1,890 mm	480 x 520 x 220 mm	235 mm	625 x 1,100 mm
GFV 102/72-SW with protective hood	274 552 0011	2,084 x 1,584 x 1,890 mm	1,020 x 720 x 220 mm	235 mm	1,125 x 1,300 mm
GFV 102/112-SW with protective hood	274 553 0011	2,084 x 1,984 x 1,890 mm	1,020 x 1,120 x 220 mm	235 mm	1,125 x 1,700 mm
GFV 142/112-SW with protective hood	274 554 0011	2,459 x 1,984 x 1,890 mm	1,420 x 1,120 x 220 mm	235 mm	1,500 x 1,700 mm
GFV 142/162-SW with protective hood	274 555 0011	2,459 x 2,484 x 1,890 mm	1,420 x 1,620 x 220 mm	235 mm	1,500 x 2,200 mm
GFV 142/252-SW with protective hood	274 556 0011	2,459 x 3,384 x 1,890 mm	1,420 x 2,520 x 220 mm	235 mm	1,500 x 3,050 mm

Option: Series GFY upon request

Passage height optionally 435 mm