

FINN-POWER

► **PUNCHING**

■ **LASER CUTTING**

■ **BENDING**

■ **INTEGRATED PUNCHING & SHEARING**

■ **INTEGRATED PUNCHING & LASER CUTTING**

■ **FLEXIBLE MANUFACTURING SYSTEMS**



TECHNICAL DATA **C5 TURRET PUNCH PRESS** **COMPACT EXPRESS C5**

Technical information C5

Turret punch press C5

Ram force	300 kN (33 US Tons)
Punch stroke	servo hydraulic
Number of stations / max tools in turret	20 pcs / 200 pcs
Tools	Thick Turret
Punch diameter, max.	89 mm (3.5")
CNC Index Tool:	
Number of stations / max tools in turret	standard 2 pcs (max. 10 pcs) / 80 pcs
Punch diameter, max.	89 mm (3.5")
Tool rotation, max.	166 r/min
Upforming cylinder (indexable, option)	
Force	250 kN (27.5 US Tons)
Stroke length	12 mm (0.472")
Material thickness, max.	8 mm (0.315")
Sheet weight, max. *1	200 kg (440 lbs)
Clamps pneumatic,	2 pcs (optional 3 pcs)
Sheet size X x Y, max. without repositioning	2,530 mm x 1,270 mm (96 x 48)
X-traverse	2,584 mm (101")
X-traverse, axis speed max.	90 m/min (3543"/min)
Y-traverse	1317 mm (51")
Y-traverse, axis speed max.	60 m/min (2362"/min)
Positioning speed, max.	108 m/min (4252"/min)
Hit speed, max. *2	
1 mm between holes (0.039")	1,100 1/min
25 mm between holes (0.984)	420 1/min
250 mm between holes (9.84")	150 1/min
Punching accuracy according to LKP-7100 *3	
Hole location deviation (X/Y axes), max.	0.1 mm (0.004")
Hole-to-hole distance deviation (X/Y axes), max.	± 0.05 mm (0.002")
Angular deviation (CNC Index Tool) max.	± 0.1°
Positioning accuracy according to VDI/DGQ 3441 *4	
Positional deviation Pa (X/Y axes)	0.08 mm ± 0.04 mm (0.003" ± 0.0015")
Positional scatter Ps (X/Y axes)	0.04 mm ± 0.02 mm (0.0015" ± 0.001")
Turret rotation	24 r/min
Tool change time *5	1 ... 3 s
Work chute (option), max. part size	500 mm x 500 mm (19.7" x 19.7")
CNC control	Siemens Sinumerik 840D / Fanuc 18iPB
Work memory	Siemens: 1.5 MB / Fanuc: 512 KB
Ethernet connection	standard
Machine weight	10,500 kg (23,549 lbs)
Hydraulic unit drained weight	600 kg (1,323 lbs)
Oil tank volume	200 l (53 gallons)
Oil cooler, cooling capacity max.	0.64 kW/°C (0.36 kW/°F)
Oil cooler air flow	2.9 m³/s (6,145 cfm)
Electrical connection (E1):	
Average power consumption *6	15 kVA / 13 kW
Requirements for connection power *7	35 kVA
Fuse	3 x 50 A (with voltage 3 x 400 V)
Compressed air connection (P1):	
Min. air pressure	6 bar (90 psi)
Max. air consumption	5 NI/s (11 cfm)
Average air consumption *8	2.5 NI/s (5.5 cfm)

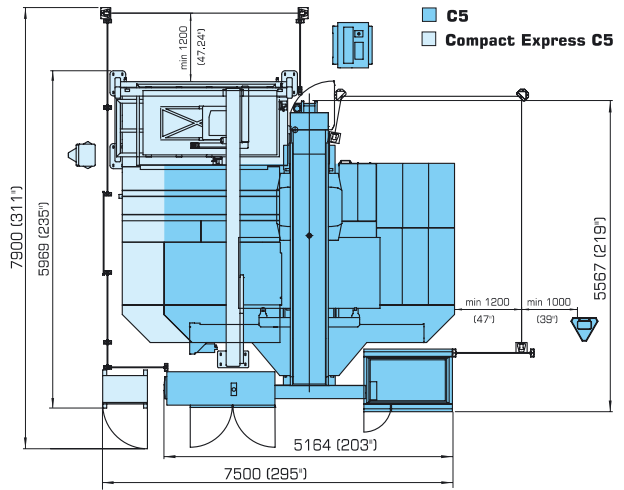
*1 Acceleration/deceleration rate of X- and Y-axes is dependent on sheet weight. Part accuracy depends on acceleration/deceleration rate and sheet size and weight.

*2 Hit speed is dependent on the programmed stroke length, ram speed and acceleration/deceleration rate and speed of the axes.

*3 Punching accuracy is tested according to the FINN-POWER standard LKP-7100 by punching holes in a 1 m x 1 m (39.37" x 39.37") sheet with 100 % speed and by measuring the location (X/Y) and angle (CNC Index Tool) of the punched holes from the sheet.

*4 Positioning accuracy is measured according to the VDI/DGQ 3441 standard, using a laser interferometer measurement system, from the X- and Y-slides of the coordinate table of the machine.

*5 When using special tools the tool change time may differ from the given value.



Compact Express C5

Compressed air connection (P1):

Min. compressed air pressure	6 bar (90 psi)
Max. compressed air consumption	9 NI/s (20 cfm) / C5 and Compact Express
Average compressed air consumption *8	4 NI/s (8.5 cfm) / C5 and Compact Express

Loading device:

Sheet size max. (X x Y) *9	2,530 mm x 1,270 mm (96" x 48")
Sheet size min. (X x Y) *9	500 mm x 300 mm (19.7" x 11.81")
Sheet weight max.	200 kg (440 lbs)
Sheet thickness max.	8 mm (0.315")
Sheet thickness min.	0.5 mm (0.02")
Suction cups in loading gripper	32 pcs Ø 75 mm (3") in 8 areas
Suction cup suction pressure	adjustable
Horizontal movement	electrical
Horizontal movement speed	approx. 0.75 m/s (30"/sec)
Vertical movement	electrical
Load loading station, max.	3,000 kg (6,614 lbs)
Sheet stack height on loading station, max.	200 mm + pallet 150 mm (7.8" + 5.9")
Sheet stack spread, max.	25 mm (0.9")

Floating cover (option) for loading table:

± 50 mm (1.97") manual adjustment in X- and Y-directions
 Pneumatic locking of cover plate. When the locking is released from the manual valve, the cover plate can be moved on balls. After the move, the cover plate must be locked to its position from the valve mentioned above.
 Sheet stack height max. 200 mm (7.8") + pallet 150 mm (5.9").

Unloading device:

Sheet size max. (X x Y) *9	2,530 mm x 1,270 mm (96" x 48")
Sheet size min. (X x Y) *9	400 mm x 40 mm (15.7" x 1.6")
Sheet weight max.	200 kg (440 lbs)
Horizontal movement	pneumatic
Horizontal movement speed	n. 0.5 m/s (20"/sec)
Unloading table load, max.	3,000 kg (6,614 lbs)
Sheet stack height on unloading table, max.	250 mm (9.8") + pallet 150 mm (5.9")
Sheet stack accuracy	±100 mm (3.9")

*6 Average power consumption is based on production run of a typical nesting program with nominal sheet size and 1.5 mm (0.06") sheet thickness. Effective value can be used when calculating energy costs.

*7 This value must be used when dimensioning the power supply to machine (transformer and cable sizes).

*8 Average air consumption is based on production run of a typical nesting program with nominal sheet size and 1.5 mm (0.06") sheet thickness. Value can be used when calculating energy costs.

*9 Depends on the geometry of the workpiece.

We reserve the right to change technical specifications without prior notice.

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