

# High-Performance H-FSWC630



The high-performance H-FSWC Series is a globally unique solution that synthesizes the very latest FSW technology with upgradable milling functionality in a single machining centre (Stirtec 2-in-1 concept).



## H-FSWC630

The machines in this series are conceived as 4-axis CNC machines with an integrated palette changer and an integrated B-axis.

The machines can optionally be equipped with an FSW in-process quality monitoring system for reliable series production.

### The exceptionally rugged design ensures:

- ✓ high process stability
- ✓ excellent system availability
- ✓ outstanding technological and economic productivity

Ideal for high volume production, with integrated palett changer

Specially developed very powerful motor spindle, HSK-A63

X and Y operating travels 750 x 700 mm and Z operating travel 770 mm, B-axis 360°

FSW force control system up to 15 kN

High speed-range of up to 10 000 rpm and high power / torque

630 x 630 mm table size, 800 kg table load

FSW process quality monitoring system including FSW process data collection and monitoring

Fully automated process- and tool-change between milling and FSW-process

Siemens Sinumerik 840D control system  
Heidenhain absolute scales on all axes

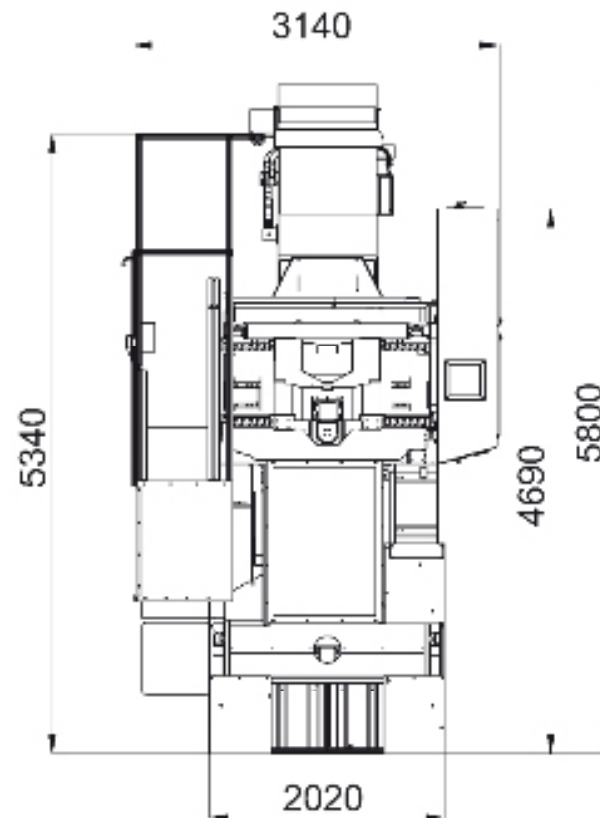
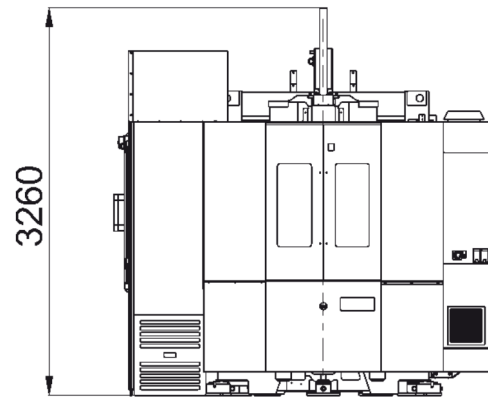
# H-FSWC630 Specifications

## Standard Machine Configuration

- ✓ Siemens SINUMERIC 840D SL
- ✓ Siemens SINAMICS S120 digital
- ✓ motor spindle for FSW and milling 10 000 rpm max. HSK-A 63
- ✓ Automatic pallet changer
- ✓ Vibration diagnosis of the spindle
- ✓ Automatic tool changer 56 chain type HSK-A 63
- ✓ Direct feedback – Heidenhain absolute scales
- ✓ Machine enclosure and fluorescent work light
- ✓ Full protection guarding of all moving items on the machine
- ✓ All electrical devices comply with CE

## Options

- ✓ Through spindle air coolant
- ✓ Coolant system with through-flow filtration 7 MPa JV40 variable (4 levels), 5 microns
- ✓ Automatic tool changer with capacity of 76, 96 or 246 tools
- ✓ Workpiece dimension checking probe
- ✓ Tool dimension checking probe Work
- ✓ Manual wash-off
- ✓ Machine 5-axis version
- ✓ Rotary table with torque motor
- ✓ Supply of hydraulics into pallet
- ✓ Additional wash out system
- ✓ Rapid oil skimmer
- ✓ Lubricating air mist system AccuLube Minibooster
- ✓ Spin window Visiport
- ✓ Interface for remote diagnostic service
- ✓ Flood coolant system
- ✓ Chip conveyer system for steel chips and nonferrous metals' swarf incl. paper filtration



## Operating Travels

X-axis	750 mm
Y-axis	700 mm
Z-axis	770 mm
B-axis	360°

## Palette Changer

Number of palettes	2
Exchange time	10 sec.

## Feed Rates

Cutting feed rate in X, Y, Z axes	50 m/min
Rapid traverse in X, Y, Z axes	50 m/min
Acceleration in X, Y, Z axes	5 m/s <sup>2</sup>

## Accuracy (VDI/DGQ 3441)

Positioning P X, Y, Z axes	0,008 mm
Positioning P B axis	6 arc sec
Repeatability PS X, Y, Z axes	0,005 mm
Repeatability PS B axes	3 arc sec

## Hybrid Spindle CNC/FSW

Speed	10 000 rpm
Power S1 (S6)	23,5 kW (29,7kW)
Max. force in Z-axis	15 kN
Tool clamping taper	HSK-A63
Control concept	Force and position

## Control System

SIEMENS	SINUMERIC 840D
Travels	Absolute scales

## Tool Magazine

Tool holder	HSK A63
Number of positions (max.)	56 (246)
Tool Interchange time - tool to tool	3,1 sec.
Tool maximum diameter / length	125 mm / 450 mm
Tool maximum weight	25 kg
Max. weight of all tools	850 kg

## Electric Power Requirements

Mains voltage rating	3 x 400 V / 50 Hz
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## Weight Data

machine without tool magazine and electric cabinet (depending on options)	ca. 17 000 kg
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## Machine size

Machine width x depth	3 140 x 5 340 mm
Machine height	3 260 mm