



The Best of Both Worlds

INNOVATIVE SINGLE-SPINDLE AUTOMATIC

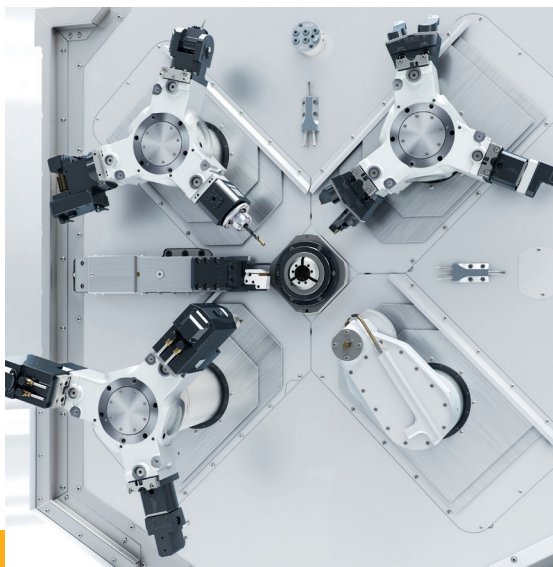
ECX Series

THE ECX – FLEXIBLE AND HIGHLY PRODUCTIVE

Decreasing batch sizes due to the individualisation of products and just-in-time production present industrial manufacturing with new challenges in competition. With its new ECX series, Schütte offers the perfect solution to this: a highly productive, new single-spindle automatic for batch sizes that are below the practical or economic application limit for multi-spindle automatics. The ECX is perfectly suitable for the complete machining of complex workpieces in medium batch sizes and with new materials. It combines the flexibility and simple handling of single-spindle automatics with the productivity of multi-spindle automatics and thus closes the gap between the two worlds.

The machine concept

- one main spindle
- one opposed spindle
- six tool units
- freely accessible machining area
- integrated parts handling system



Main spindle housing



Machining area



The next stage of productivity – the solution for medium batch sizes

Uniquely productive

- parallel machining with up to six tools (four for the main spindle and two for the opposed spindle)
- chip-to-chip time = 0 seconds: follow-up tools can be changed and prepositioned parallel to the productive time
- shorter part-production times with output two to three times higher than with conventional opposed spindle machines with three turrets

Uniquely flexible

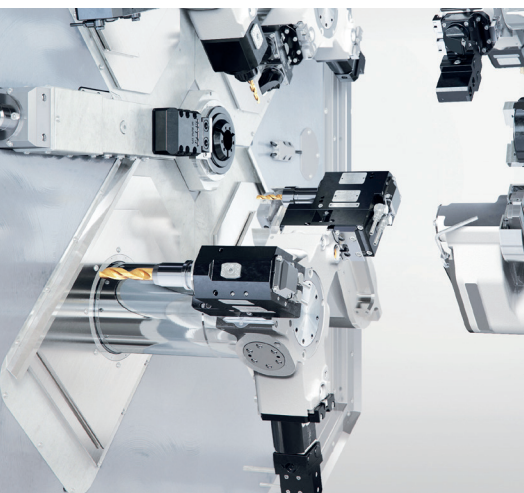
- simple conversion and retrofitting thanks to modular structure of the tool/turret units
- fast installation of stationary or driven tools without additional adjustment operations through precise set-up interface
- economic production of even small batch sizes, e.g. when starting up production thanks to short set-up times

Tried-and-tested technology from Schütte

- optimum damping properties through hydrostatic bearings, high process stability and low tool wear
- free machining area (lines and guides outside the material removal area), free falling chips, internal cooling lubricant supply directly to the cutting edge
- energy efficiency thanks to integrated cooling system with connection option to customer's cooling unit or active cooler
- maximum stability and rigidity through self-supporting frame structure, three-point installation
- workpiece discharge for robust parts, optional handling system for shock-sensitive workpieces
- optional tool monitoring



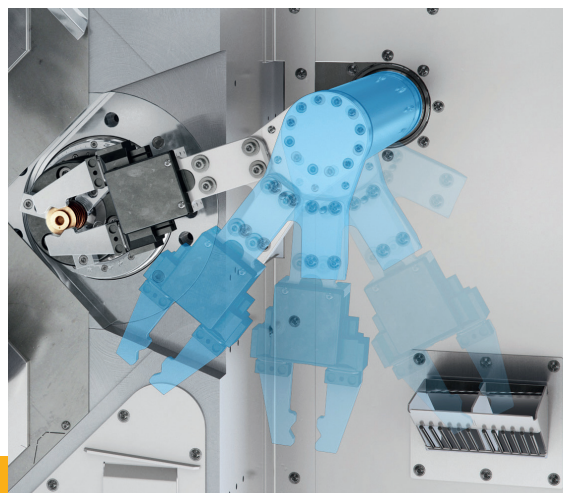
Opposed spindle housing



Axial machining



Parts discharge via a chute



Handling system

ONE SPINDLE – FULL POWER

The unique and completely new machine concept of the ECX is based on established components and functional units and puts the philosophy of parallel machining and reduction of non-production times consistently into practice. The optional interface system ensures the fast and precise replacement of individual devices and the modular structure guarantees simple conversion or retrofitting.

Main spindle

- up to four 3-axis tool/turret units for any type or combination of stationary or driven tools
- shortest possible switching and change times of tool turret through highly dynamic torque motor
- kinematic axis coupling of the turret axis with the main spindle, which makes usage as a fully-fledged Y-axis possible
- efficient material removal thanks to fast and precise clamping of the turret axis

Opposed spindle

- up to two 3-axis tool/turret units for any type or combination of stationary or driven tools
- modular handling system that meets all requirements
 - super fast ejection of insensitive parts
 - removal from the opposed spindle and depositing or transfer of shock-sensitive finished parts to an external handling system (e.g. robot cell with measurement and sorting function)

SOFTWARE SICS: EASY AND INTUITIVE



The established **SICS** software supports machine users with the configuration, programming and production with the machine. The familiar **SICS** software modules are also available here and make a step-by-step entry to Industry 4.0 applications possible.

- **SICS.Connect**: communication interface based on OPC UA for digitisation solutions from Schütte and open for further customer-provided applications
- **SICS.Workstation**: option for creating projects in job engineering and carrying out machine configuration and programming
- **SICS.Simulation**: fully integrated simulation solution with which programs can already be executed, checked and optimised at the workstation

TECHNICAL DATA

MACHINE		EC 2-46	EC 2-65
Main spindle Spindle			
passage, max.	mm	46	65
Torque (100% duty cycle)	Nm	36	103
Rotat. speed, max.	rpm	7,000	5,000
Output (100% duty cycle)	kW	17	31
Opposed spindle			
Clamping diameter, max.	mm	46	65
Torque (100% duty cycle)	Nm	31	31
Rotat. speed, max.	rpm	7,300	7,300
Output (100% duty cycle)	kW	14	14
Spindle stroke Z ₆	mm	498	
Rapid traverse speed	m/min	45	
tool units		1, 2, 3 (optional) and 4 , at the main spindle 7, 8 (optional), at the opposed	
Travel X _{1, 2, 3, 4, 7, 8}	mm	140	
Travel Z _{1, 2, 3, 4, 7, 8}	mm	150	
Rapid traverse speed X, Z	m/min	30	
Turret circuitry/Y-axis		optional	
Part-off unit 5 (optional), at the main in			
Travel X ₅	mm	80	
Tool drive (optional)			
Rotat. speed, max.	rpm	8,500	
Output (100%, 40% duty cycle)	kW	7.4 / 12.8	
Machine size, incl. control cabinet (without bar loader, cooling lubricants unit)			
Machine weight	kg	9,500	
Floor space requirements	m ²	10.7	

* optional: use of the opposed spindle of the EC 2-65 possible



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