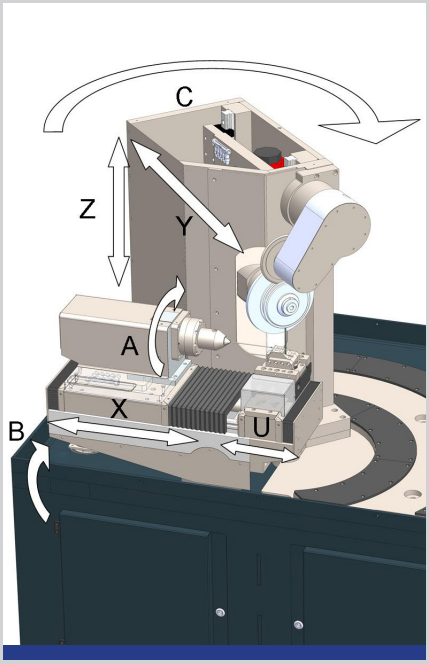
FG-7 / -15



TECHNICAL DATA:

Direct drive spindle FG-7:	7kW, 15.000 RPM max.
Direct drive spindle FG-15:	15kW, 12.000 RPM max.
Wheel range FG-7:	Ø50-220mm
Wheel range FG-15:	Ø100-220mm
Spindle taper FG-7:	HSK 50 / female
Spindle taper FG-15:	HSK 50 / female HSK 63/male, short
Grinding Range FG-7:	Ø1–12
Grinding Range FG-15:	Ø1-20 (24 with CBN)
Shaft diam, auto loading FG-7:	Ø3-10mm
Shaft diam, auto loading FG-15:	Ø3-16mm
Chamfer Pivot Table FG-7: *(with CBN wheels Ø150mm max. only)*	0° / 10°
Chamfer Pivot Table FG-15:	n.a
Tool Length, auto loading:	40-150mm
Grinding length:	150mm max
Table angle:	-50° to +90°
Cutting speed:	80 m/s
Flange:	Arbor Ø20 / Ø32 / Ø52 / Ø76,2
Dresser Diamond Roll:	Ø125, Bore Ø32
Dresser Speed:	+/- 500-6000 RPM
CNC System & Loading:	Fanuc 0i & Fanuc LR Robot

(technical changes reserved)

SMS Maschinenbau GmbH
Brunnenstrasse 117 - 119 · D-72461 Albstadt · Telefon +49(0)7432/98408-0 · Fax +49(0)7432/98408-21
www.sms-gmbh.de · sms@sms-gmbh.de

PRODUCT INFORMATION

The **FG** series is a stand-alone flute grinding solution.

Oil cooled direct drive Fanuc servo spindle motor with programmable speed from 0-12/15.000 RPM's. The nominal power is 7kW with 10kW peak performance for model FG-7 and 15kW with 19kW peak performance for model FG-15. For tools with diameters over 20mm we will soon offer our FG-35 with 35kW motor, which is currently under development.

The machine is equipped with a 6 axis Fanuc control with option for (on the smaller FG-7), a 7th axis for table tilt, where the tap chamfer can be ground by using a straight 1A1 wheel. Menu driven, user friendly software with clear screen icons and instructions makes operator training easy. The flute profile can be entered by DXF file or through screen menus with 2D flute simulation software. 3D simulation is available for complex flute geometry, based on a standard SolidWorks software platform, with menu driven parametric data input.

The machine will grind straight, right and left hand helix, with grinding wheels from 50 to 220mm diameter. With 2 wheels mounted on the flange, gun point can be ground with discrete profiles for flute and spiral point. The built in 2 axis diamond roll dresser has full flexibility to dress multiple different wheel profiles - and dressing can be completed during the automatic robot loading cycle, improving greatly on floor to floor cycle time. The Fanuc robot with dual head gripper, completes the loading cycle in less than 6 seconds. Standard round collets can be used due to the pre-locating devise securing perfect alignment between square and flute. 3D printed coolant spouts simplify the set-up greatly and directs the oil accurately saving pump capacity and energy. To complete the array of features for tap flute grinding, the FG machines all feature a programmable sliding tailstock with the option to grind with center or bushing support.

The machine is equipped with 6/7 CNC axes:

Grinding table longitudinal travel:	X-axis
Wheel spindle horizontal travel:	Y-axis
Wheel spindle vertical travel:	Z-axis
Head stock:	A-axis
Wheel column angle movement:	C-axis
Center or bushing support:	U-axis
Grinding table tilt for chamfer grinding (FG-7 only):	B-axis

Available options

- Customer specified (preferred) cassette design
- CNC sliding bushing or center support
- Use of square or round collet

Work spindle

A-axis, spindle nose:	Schaublin W20 Long nose collet
Automatic, pneumatic clamping:	min. 6 bar
Max Speed:	300 RPM

Automatic Loading

Cassette type:	200x200mm or by customer request
Capacity standard:	2 loaded cassettes, 2 empty
	Ø3 shank, 2 x 200 tools
	Ø10 Shank, 2 x 100 tools

Installation requirements

Weight:	approx. 3.500 kg
Power supply FG-7:	3x400 V, 50 Hz, 16 kW, 16 Amp.
Power supply FG-15:	3x400 V, 50 Hz, 21 kW, 32 Amp.
Air supply:	min. 6 bar, dry and clean
Vent hole:	120mm
Color, machine base:	Anthracite grey
Color, machine enclosure:	Light grey
Automatic central lubrication:	oil

The **FG** series can also be used as part of a modular production concept, the **SMS transfer line**.

E_FG_2018_1

TÜVRheinland ZERTIFIZIERT
Management System ISO 9001:2015
www.tuv.com ID 9105018516

SMS Maschinenbau GmbH
Brunnenstrasse 117 - 119 · D-72461 Albstadt · Telefon +49(0)7432/98408-0 · Fax +49(0)7432/98408-21
www.sms-gmbh.de