

NEW



HIGH-PRECISION
TOOL GRIND CHUCK TGC^{PRO}



HIGH-PRECISION TOOL GRIND CHUCK

TGC^{P®O}

Increase your productivity and lower your costs!

Whenever high-performance tools are manufactured, there is a need for high performing and high-precision manufacturing equipment. With the TGC^{P®O} high-precision Tool Grind Chuck we fulfil these requirements. Whether dealing with manufacturing or resharpener of monoblock tools (end mills, drill bits, taps or reamers), with our TGC^{P®O} chucks we can guarantee the highest concentricity across the whole clamping range, from Ø 5 mm to Ø 20 mm.

The inner workings of the TGC^{P®O} are actively protected from contamination by an oil-carrying air purge system. This achieves a permanent lubrication of all movable parts, and thus guarantees a very high service life at a constant quality. Additionally, the axially stationary clamping blades are subject to extremely low wear.

The comprehensive range of accessories for the TGC^{P®O} ensures that the chucks can be utilized optimally in automatic and manual mode. The two standard versions – FTGC with pneumatic actuation and the TGC with actuation based on a pneumatic force cylinder and a draw tube – cover a clamping range from Ø 5 mm to Ø 20 mm. Difference clamping ranges can be offered as customer specific solutions.

Concentricity

A concentricity of ≤ 0.005 mm can be achieved under the following conditions:

- Clamping length l_1 at a clamping diameter $d_{sp} \leq 8$ mm: min. 25 mm
- Clamping length $l_1 > 8$ mm to 20 mm: min. 3 x clamping diameter d_{sp}
- Measuring point l_2 maximal 4 x the clamping diameter distant from the clamping blade
- Immaculate condition of the tool chuck
- Free of interfering lateral loads during the loading of the workpieces

Advantages

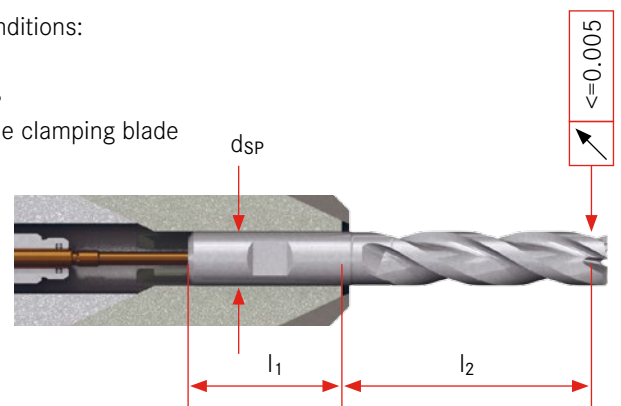


- Highest precision ≤ 0.005 mm
- Standard clamping range Ø 5 mm to Ø 20 mm
- Reduction of set-up times
- Comprehensive range of accessories

Function

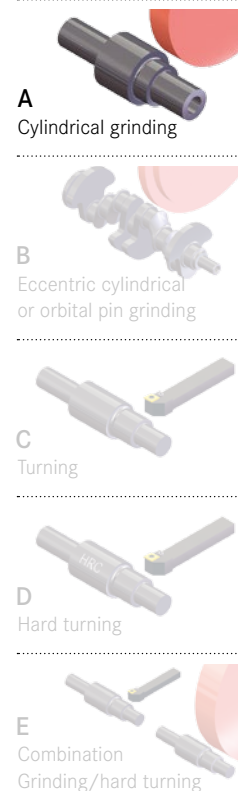


- Active air purge system protects against contamination
- Axially stationary clamping elements result in minimal wear at the clamping location
- TGC: actuated by a pneumatic cylinder
- FTGC: pneumatically actuated at the front end





Suitability according to machining process:



Explanation of symbols:
SwissChuck.com



Type FTGC 5-20 | front end actuated

Type	Item	Number of clamping blades	Clamping range [mm]	Clamping force max. [kN]	Operating pressure [MPa]	Weight [kg]	Max. RPM [1/min]	ø OD [mm]	Length of chuck ¹⁾ [mm]	Suitable for
FTGC 5-20	SX1021350	6	ø 5 - 20	8	0.8	11	1000	125	167 / 160	A

Type	Item	Designation	Connection	Accessory for actuation
•	•	Spindle flange	Adjusted to the spindle nose	
BS-FM	N08020000	Flange for rotary feed	Adjusted to the spindle end face / integrated rotation lock of the rotary feed	
LZR-BSA	N08020010	Rotary feed	Triple connection, clamping and release line + oil carrying air purge	



Type TGC 5-20 | cylinder actuated

Type	Item	Number of clamping blades	Clamping range [mm]	Clamping force max. [kN]	Operating force [MPa]	Weight [kg]	Max. RPM [1/min]	ø OD [mm]	Length of chuck ¹⁾ [mm]	Suitable for
TGC 5-20	SX1021620	6	ø 5 - 20	8	4.5	11	1000	125	167 / 160	A

Type	Item	Designation	Connection	Accessory for actuation
•	•	Spindle flange	Adjusted to the spindle nose	
•	•	Draw tube	With opening for air purge, single rotary feed	
•	•	Cylinder flange	Adjusted to spindle end face	
PZLHM 180-18 A54	CHZ11378	Pneumatic force clamping cylinder	Required piston stroke = 17, recommended range of force = 0.75 - 4.25 kN	

1) Length of chuck taken from face to spindle flange (open / closed)



Type FTGC 5-20

With ø20 mm end mill, long design version

The FTGC is ideally suited both for the manufacture of new rotary tools and for the resharpener of rotary tools, across a diameter range of 5 mm to 20 mm.



Type OFTGC 2-20 | 18-36 | 34-52

For the grinding of tungsten carbide taps:

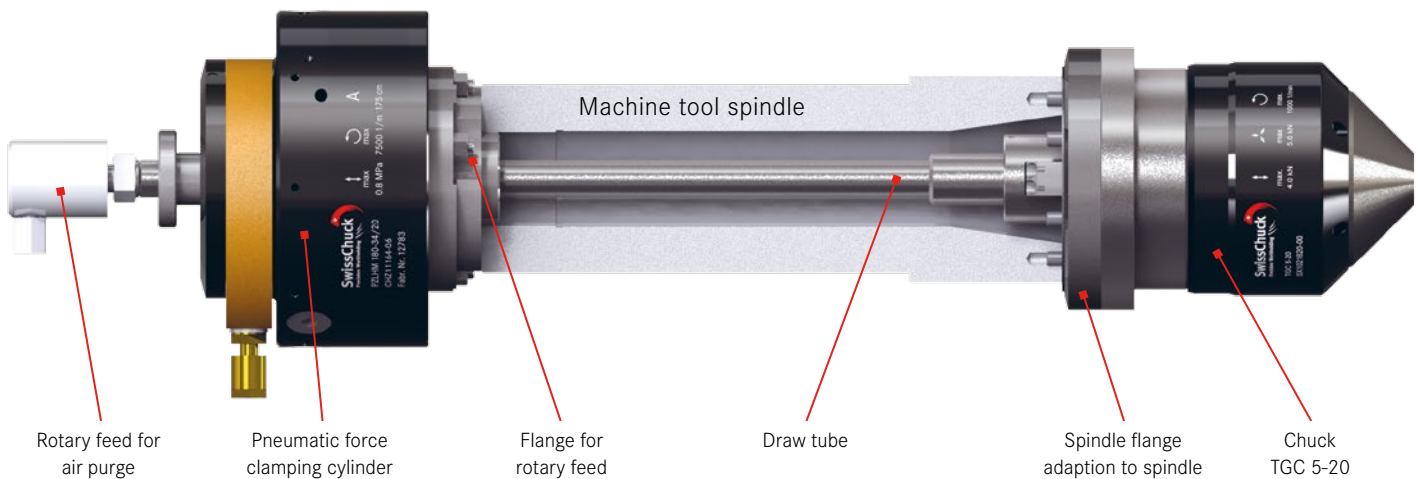
Hydraulic actuation for the clamping with a quick-change system

- Multiple changes of the chuck per day
- Special zero point interface
- Change-over of the chuck takes less than five minutes – no alignment of the chuck required
- Covers the complete clamping range from ø2 mm to ø52 with only three sizes of chucks

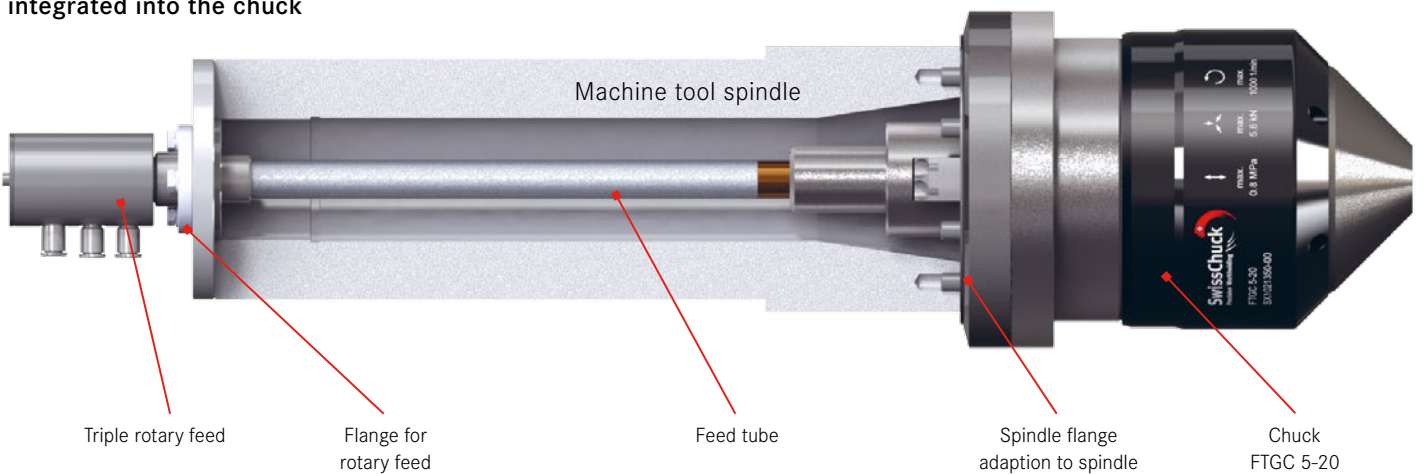
MOUNTING EXAMPLES



With pneumatic clamping cylinder

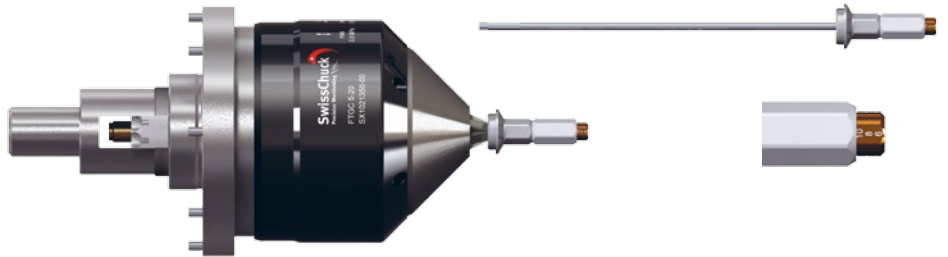


With triple pneumatic rotary feed clamping cylinder integrated into the chuck



The chuck is specifically mounted according to the machine type, SwissChuck designs and provides all the required components. Hence, our customers will receive the entire workholding unit ready for installation.

ACCESSORIES



Type F/TGC 5-20

Stroke-setting key HES

When dealing with manual loading, particularly of small workpieces, we recommend that the chuck should not be fully opened. The stroke-setting key permits easy setting of the required diameter of the chuck's open position.



Type F/TGC 5-20

Axial end stop set AXA

Axial end stops can be easily mounted or by using the dedicated assembly key. The full depth of the end stop, measured from the front edge of the clamping blades, amounts to 100 mm. A set of axial end stops consists of ten elements, graduated in length by 5 mm steps. Using the longest axial end stop results in a clamping length of 25 mm, using the shortest end stop results in a clamping length of 70 mm.

Type F/TGC 5-20 | Accessory set

TGC 5-20 TOP

Accessory set, consisting of:

- Stroke-setting key
- 10 axial end stops, for clamping lengths of 25 to 100 mm



TGC 5-20 TOP

Type F/TGC 5-20 | Accessory set

TGC 5-20 AXA

Accessory set, consisting of:
– 10 axial end stops, for clamping lengths
of 25 to 100 mm



TGC 5-20 AXA



TGC 5-20 HES

TGC 5-20 HES

Accessory set, consisting of:
– Stroke-setting key

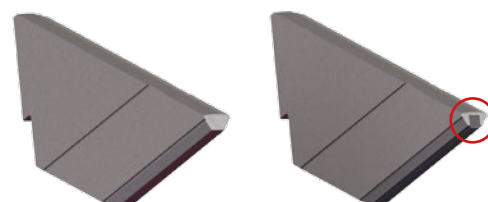
Accessory	Type	Order number	Description
	TGC 5-20 TOP	SX1021717-TOP	Accessory set Consisting of an axial end stop set and a stroke-setting key
	TGC 5-20 AXA	SX1021717-AXA	Axial end stop set Set with ten axial end stops, graduated in 5 mm steps, including an end stop holder and an assembly key
	TGC 5-20 HES	SX1021717-HES	Stroke-setting key For limiting the chuck's opening stroke

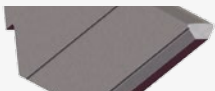
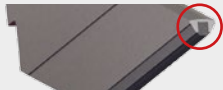
Type F/TGC 5-20

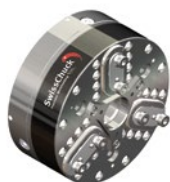
Clamping blades

The high-precision clamping blades form the interface between the chuck and the workpiece.

- As a standard, the F / TGC chucks are fitted with high-speed steel blades.
- As an option, the clamping blades can be equipped with tungsten carbide inserts.



Accessory	Type	Order number	Description
	GC 5-20 HES SLHS	SM1021364	Standard clamping blades HSS One set of six pieces
	TGC 5-20 HES SLHM	SX1021665	Special clamping blades TC One set of clamping blades of six pieces made of HSS with TC inserts



KCHP/VKHP
High-precision force chuck



SAP to KCHP
Automated drive carrier



KFHP
Precision power chuck



KCHSF
Centrifugal force chuck



VMCHP
Diaphragm chuck



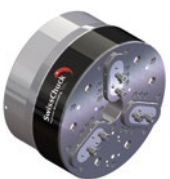
LZK/LSK-S
Collet chuck with clamping lamellas



DL
Collet expanding mandrel



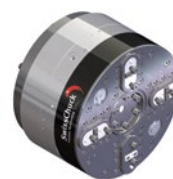
TGC/FTGC
Tool chuck



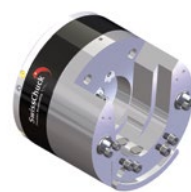
OVEK
High-precision force chuck



OVEKA
Compensating chuck



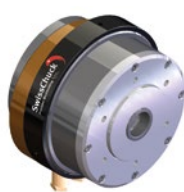
OVEKAV
Moving compensating chucks



FLD/AFLD
Twist finger type console chuck



SPECIAL SOLUTIONS
Tailor made solutions



PZLHM
Pneumatic force clamping cylinder

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