



HAGEN & GOEBEL

Werkzeugmaschinen GmbH

Base functions of tapping units

G 6 / 50 – G 30 / 80

To realise a tapping stroke with absolutely precision pitch of tapping tool all our tapping units are equipped with **leadscrew system**. The exchange area is placed on the top of the unit and can be reached very easy for exchange of leadscrews.

Between leadscrew and tool is installed a ratio of $i = 1:2$ into slower speed, so that the tool speed is two times faster than the leadscrew. This has the advantage that on one side the speed on the leadscrew is only half speed of the tool and on the other side the pitch is 2 times bigger and the leadscrew tap is much stronger. With this advantage the leadscrew tap especially of small tapping pitches is very strong and robust.

All tapping units G6/50 – G30/80 in base design are also equipped with a stroke protection system. The leadscrew is compressed by a spring system. If the tapping tool touches the full material caused on not existing a hole, the hole size is too small or the tapping tool is on wear limit the axial force increases and the overload system compresses the leadscrew spring system. Now this system pushes a limit switch which makes the unit run back to starting position and gives automatically error to control box.

The automatic cycle is stopped without mechanical crash on the unit and user can check the kind of error.

On the same way this system is working if a blind hole is not deep enough or unit stroke is adjusted too long. By this procedure the torque increases to a very high level and the mechanical torque control inside tapping chuck loses a coupling inside and stroke will be limited by that way. (This is not possible with standard collet chuck!)

To protect unit and tool against all possible errors all units can be equipped with special tapping chucks with adjustable tapping clutch. That means, if the used torque is higher than the required maximal needed and allowed torque the clutch system opens the clutch and the protection system will do its job. Broken tools and destroyed parts are history.

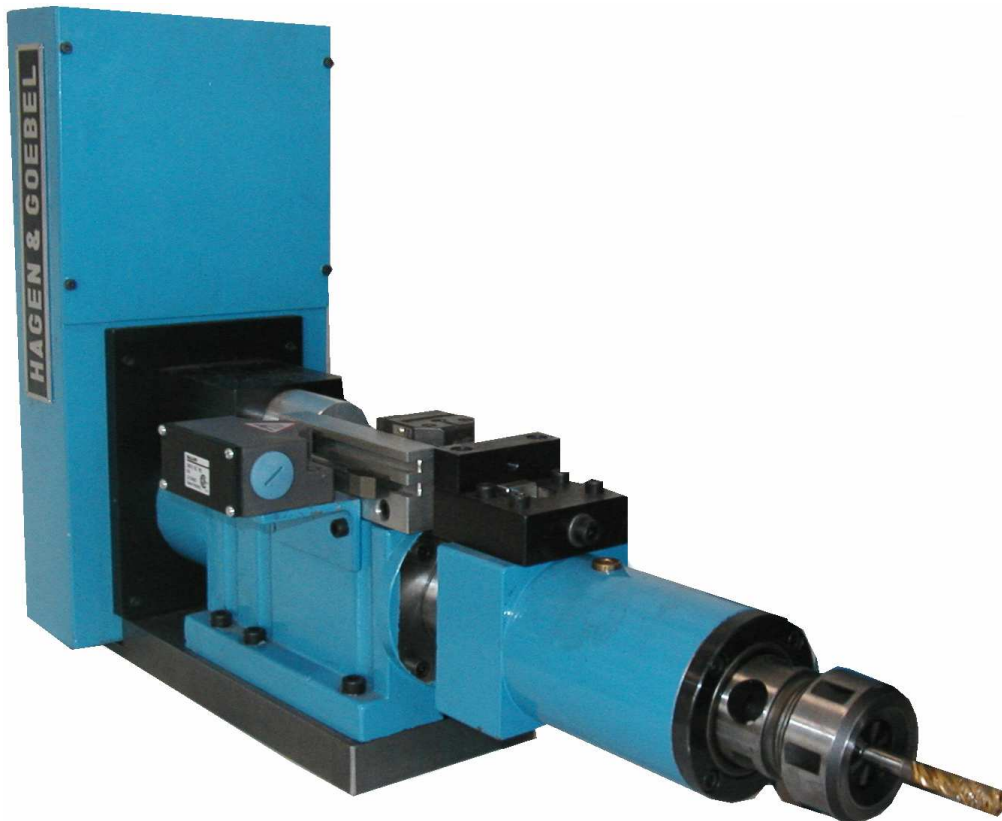
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Tapping units Type G 6 / 50 up to G 30 / 80



Cutting range:	up to M30 in steel (St 50)	Range
Tapping stroke:	50mm, adjustable by limit switch, G30/80, stroke 80mm	G 6 / 50
Fast speed:	by fast moving slideways up to 6000mm/min.	G 10 / 50
Feed system:	by leadscrew and leadnut	G 16 / 50
		G 20 / 50
		G 30 / 80
Powertransfer:	Teeth belt system	
Motor:	Three phases brake motor from 0,25KW up to at about 4,0KW	
Bearing system:	3 – times	
Spindle nose:	collet chuck (standard), trapezoidal shank system (type “TR”)	
Power system:	220 / 380 Volt, 50 Hz	
Control power:	220 Volt, 50 Hz	
Brake power:	220 Volt, 50 Hz	
Control:	Optional by control box for tapping units in connection with limit switches on tapping unit.	

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Production programm:

Tapping units G6/50-G30/80

- a) standard specification
- b) with multispindle head
- c) with fast slideway's
- d) other motors
- e) higher spindle speed
- f) spezial spindle noses
- g) other motor fixture
- h) with control box

Maximal allowed spindle speed:

- G 6/50 + G10/50 => 1000 U/min.
- G 16/50 + G20/50 => 800 U/min.
- G 30/80 => 400 U/min.

If higher spindle speed is requested please use our high speed tapping units type „GE-6 up to GE-42“

Technical data for base design.

Type	Tap diameter in steel St 50 max.	Tapping stroke mm	Brake motor KW	Standard n (rpm)	Ratio motor/spindle	Spindle speed Standard
G 6 / 50	M6	50	0,25	1000	14 / 30	430
G 10 / 50	M10	50	0,55	1000	14 / 40	325
G 16 / 50	M16	50	1,10	1000	14 / 48	268
G 20 / 50	M20	50	1,10	359	14 / 40	130
G 30 / 80	M30	80	2,20	284	16 / 40	110

The belt system is exchangeable. Other spindle speed is possible.

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