

microtap thread tapping machines



...when you thinking tapping threads

Know-how in thread tapping

technical features & advantages

for operator- and customer utility

with **microtap** thread tapping machines

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FEATURE – ADVANTAGE – CUSTOMER BENEFITS



of microtap thread tapping machines

FEATURE	ADVANTAGE	OPERATOR -/ CUSTOMER - BENEFIT
<ul style="list-style-type: none">○ torque- and process controlled unit	<ul style="list-style-type: none">○ optimising process parameters<ul style="list-style-type: none">- cutting speed- selection of tool- lubricant<ul style="list-style-type: none">- sufficient supply- also at reverse motion (!)○ no tool breakage—even when touching ground of hole○ no scrap (of work piece)○ re-work (finish-cut) without intersection of already tapped threads for example after finishing surface or too narrow depth○ automatic storage of data in order to document the measurements and all statistics of production according to Gauss	<ul style="list-style-type: none">○ process security<ul style="list-style-type: none">- no scrap- good-/bad - selection- amount of parts = target- actual processing parameters visible- optimising tool life- no repeated setting times- reduced expenses for tools○ torque (Mz) –target at production is lower than moment of tool fracture (static Mz)○ state & wear of tool is controlled / transparent○ no additional quality control by good-bad-selection○ faulty parts can be „healed“, resp. be re-worked / re-cut○ increase in productivity○ guaranteed quality & low expenses compared to conventional machines and actual & usual production at treatment-/ production centres

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<ul style="list-style-type: none"> ○ torque window ○ maximum torque (Mz in Nmm) analysis & request 	<ul style="list-style-type: none"> ○ identification & analysis of <ul style="list-style-type: none"> - too small core holes - blunt & worn out tools - unaligned core holes - unaligned mated work pieces - chips /swarf or break-out of tool shoulders - the necessity of automatic or cyclic removal of chips / swarf ○ prevents jamming of chips / swarf & tool breakage & scrap of work piece ○ control of tool tolerances and quality / suitability of tool 	<ul style="list-style-type: none"> ○ faulty production is prevented ○ secured net product ○ prevents production with faulty tools ○ faulty production will immediately be recognised and prevented
<ul style="list-style-type: none"> ○ minimum torque (Mz in Nmm) analysis & request 	<ul style="list-style-type: none"> ○ identification & analysis of <ul style="list-style-type: none"> - too wide core holes - wrong cutting tools resp. tolerances (6H – 6G) 	<ul style="list-style-type: none"> ○ faulty production will immediately be recognised and prevented
<ul style="list-style-type: none"> ○ Minimum Mz recognises 	<ul style="list-style-type: none"> ○ worn tapping tools ○ when a thread, which has already been tapped, is going to be tapped once more 	<ul style="list-style-type: none"> ○ thread will not be re-cut and will not be counted by the unit meter

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<ul style="list-style-type: none"> ○ balance neutral to force of weight by mechanical compensation 	<ul style="list-style-type: none"> ○ no leading spindle, no re-setting times <ul style="list-style-type: none"> - high accuracy - low axial forces - prevents swarf jamming - no intersection - no misalignment of lead - prevention of breakage (see also WinPCA „optimum lubricant“) ○ production of all kinds of threads independent of lead ○ high flexibility in single-- and serial production ○ compared with leading-spindle no wear 	<ul style="list-style-type: none"> ○ no expenses for wear of leading spindle ○ no additional setting times resp. no tool breakage but rather “productive” wages ○ prolonged tool life ○ no leading-spindle for various thread-leads ○ minimum reset times <ul style="list-style-type: none"> - after change of tool you only have to recall production -parameter from data store ○ minimum expenses / cost advantage
<ul style="list-style-type: none"> ○ pneumatic force-neutral Z-axis-approach with automatic start-function, control of starting force und delta-Sz-control 	<ul style="list-style-type: none"> ○ necessary axial forces only at start ○ tolerance control of work piece ○ tolerance control for thread security ○ starting force control 	<ul style="list-style-type: none"> ○ maximum tool life ○ secured process control ○ target- quality achieved
<ul style="list-style-type: none"> ○ optoelectronic depth control at highest solution +/- 50µm 	<ul style="list-style-type: none"> ○ automatic control & display of target-depth und not reached depth ○ exactness of depth (display by 0,1 mm) ○ continuous analysis and secured quality control 	<ul style="list-style-type: none"> ○ Invariable, repeatable and secured fulfilling of duty +/- 0,1mm ○ no cutting through thin flanked parts out of reasons of torque allowances ○ security of process

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<ul style="list-style-type: none"> ○ display 	<ul style="list-style-type: none"> ○ all relevant production parameters are actually visible / recognisable ○ thread tapping no longer is an invisible procedure 	<ul style="list-style-type: none"> ○ operator controls quality without further efforts during production
<ul style="list-style-type: none"> ○ autostart function 	<ul style="list-style-type: none"> ○ when producing series no manual start ○ before touching work piece / core hole, tool rotates at optimal cutting- speed 	<ul style="list-style-type: none"> ○ accuracy and swiftness ○ quality and precision
<ul style="list-style-type: none"> ○ stepless torque control 	<ul style="list-style-type: none"> ○ production at optimal cutting-speed ○ No limitation of rotating speed by vee belt gear reduction 	<ul style="list-style-type: none"> ○ production- & processing-parameters optimised to target ○ cost reduction due to long tool life and many other items
<p>optional software for further demands</p>		
<ul style="list-style-type: none"> ○ automatic cut relief programmes 	<ul style="list-style-type: none"> ○ at depths over 1,5 D (1,5 x core diameter or more) there are various possibilities of chip-clearing functions / swarf according to target ○ a variably controlled torque-proof chip/ swarf -removing programme allows depths over 2 D 	<ul style="list-style-type: none"> ○ process controlled production with no faults ○ acceptance of difficult tasks in order to secure high profit

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FEATURE	ADVANTAGE	OPERATOR -/ CUSTOMER - BENEFIT
<ul style="list-style-type: none"> ○ thread „cutting & forming“ 	<ul style="list-style-type: none"> ○ the software-programme technically differentiates between “cutting” and “forming” 	<ul style="list-style-type: none"> ○ process parameters adjusted to performance ○ Increased quality
<ul style="list-style-type: none"> ○ reverse motion-programme <ul style="list-style-type: none"> ○ fast back ○ slow back 	<ul style="list-style-type: none"> ○ for shorter production time ○ for deep ground-hole threads in very hard materials ○ for tapping thermoplastic materials 	<ul style="list-style-type: none"> ○ process security according to target with optimised production parameters ○ helps with removal of chips / swarf ○ no special tools necessary ○ after cooling down threads remain according to target gauge
<ul style="list-style-type: none"> ○ gros & single-unit meter ○ reliable control of tapped threads, especially when tapping diverse threads into one work piece 	<ul style="list-style-type: none"> ○ recognition of thread-holes which are too small or too wide ○ previously finished threads will not be counted again 	<ul style="list-style-type: none"> ○ selection of bad parts ○ no recounting or weighing of the parts to be delivered
<ul style="list-style-type: none"> ○ quality-proof-printer (QND) 	<ul style="list-style-type: none"> ○ directly printed proof of production & quality 	<ul style="list-style-type: none"> ○ External & internal quality-proof ○ assures consecutive contracts

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FEATURE	ADVANTAGE	OPERATOR -/ CUSTOMER - BENEFIT
<ul style="list-style-type: none"> ○ WinPCA – analysis- and evaluation software steadily compares target and actual production ○ selectable power according to measured system-data ○ statistical analysis & documentation according to Gauss ○ delivery & introduction / instruction at your convenience <p>employment & targets</p>	<ul style="list-style-type: none"> ○ secures quality- right from the start of operations scheduling & controlling ○ development & suitability of <ul style="list-style-type: none"> - tool geometries & coating - lubricants & emulsions ○ online-recognition of <ul style="list-style-type: none"> - cutting speeds to influence production results - secures optimum lubricant qualities - influence on tool coating 	<ul style="list-style-type: none"> ○ creation of optimal process parameters ○ production- & quality-results ○ utmost production security ○ automatic storage of data to document all measured details and production statistics according to Gauss
<ul style="list-style-type: none"> ○ easy to handle special programmes according to common targets <ul style="list-style-type: none"> - for thread forming / cutting - to put into place of thread-inserts (Ensat/Helicoil) - and for all kinds of screws - programme for continuous motor speed for secondary hole / similar reaming 	<ul style="list-style-type: none"> ○ torque controlled & positioned to 0,1 mm depth accuracy ○ clean and swift solutions for manual or automatised employment ○ no tool breakage ○ secured production ○ WinPCA provides automatic storage of data to document all measured details and production statistics according to Gauss 	<ul style="list-style-type: none"> ○ flexible range of application ○ ready for halve automatised & extern production ○ advanced utilisation with flexible employment

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<ul style="list-style-type: none"> ○ interface RS232 and 4 x I/O-signals 	<ul style="list-style-type: none"> ○ expandable from work-shop machine to stand-alone- or handling-solution up to fully automated processing ○ software from machine without the need of a PCL 	<ul style="list-style-type: none"> ○ interlace in automation- or handling solution ○ complete arrangement with only one partner
<ul style="list-style-type: none"> ○ analysis- and evaluation software adjusted to the needs of customer 	<ul style="list-style-type: none"> ○ no additional software necessary (PCL) ○ only one partner to talk with 	<ul style="list-style-type: none"> ○ reduced attrition-rate
<ul style="list-style-type: none"> ○ current conditions according to your country 	<ul style="list-style-type: none"> ○ plug in where ever you want 	<ul style="list-style-type: none"> ○ high mobility
<ul style="list-style-type: none"> ○ stand alone-machine with working table on wheels 	<ul style="list-style-type: none"> ○ besides machine centers ○ as a working unit for external production / home production or for employment at more suitable areas 	<ul style="list-style-type: none"> ○ avoids expensive of expensive machine centers and produces at more reasonable costs ○ Productive engagement of operators next to production centres
<ul style="list-style-type: none"> ○ language-selector 	<ul style="list-style-type: none"> ○ manually adjustable ○ employment at foreign partners all over the world 	<ul style="list-style-type: none"> ○ flexible at evacuation of production ○ operator chooses his own language
<ul style="list-style-type: none"> ○ service-guaranty-certificate ○ reliability 	<ul style="list-style-type: none"> ○ 6 - 24 month guaranty ○ maintenance- & home service contracts 	<ul style="list-style-type: none"> ○ security and permanent maintenance ○ business that makes you smile!!!
<ul style="list-style-type: none"> ○ CE-/GS-sign (incl. EMV) ○ TÜV-Bayern – certificate 	<ul style="list-style-type: none"> ○ high reliability in service & quality ○ fuse to protect machine from over-voltage 	<p>CE and higher ranging GS-sign certified by TÜV-Bayern - </p>

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<ul style="list-style-type: none"> ○ rent & rent and buy ○ -exchange of machines ○ execution of orders at customers company 	<ul style="list-style-type: none"> ○ at purchase allowance of 3 months rent ○ when target of customer or client changes ○ customer does not invest, saves capital and raises liquidity 	<ul style="list-style-type: none"> ○ test the microtap products at reasonable allowance ○ customer remains flexible ○ microtap charges only the number of produced threads
<ul style="list-style-type: none"> ○ calculated quick amortisation 	<ul style="list-style-type: none"> ○ compares balance of cost with present and future production 	<ul style="list-style-type: none"> ○ Transparency for Controlling ○ calculated increase of income and profit
<ul style="list-style-type: none"> ○ equipment at all times available 	<ul style="list-style-type: none"> ○ purchase only due to targets 	<ul style="list-style-type: none"> ○ Safe money

We are looking forward to your kind requests and will gladly present our products to you in your company at your earliest convenience.

Thank you for your attention and your time.
microtap GmbH