Flexible Drilling and Tapping Solutions

CNC-drilling centers

Drilling - Tapping - Flowdrilling - Countersinking - Milling

SANDFELD A/S
VÆRKTØJSMASKINER
Birkegårdsvej 2 · 7400 Herning · Denmark · Phone +45 97 11 92 22 · www.sandfeld.com

3RD series

CMA - 3RD

Drilling upto 42 mm
X/Y 3x0,6 - 10,5x0,6 m
3-axis CNC-control
Dialog + ISO programming
Chipconveyor
Dual-station production

More than 500 drilling-centers on 5 continents

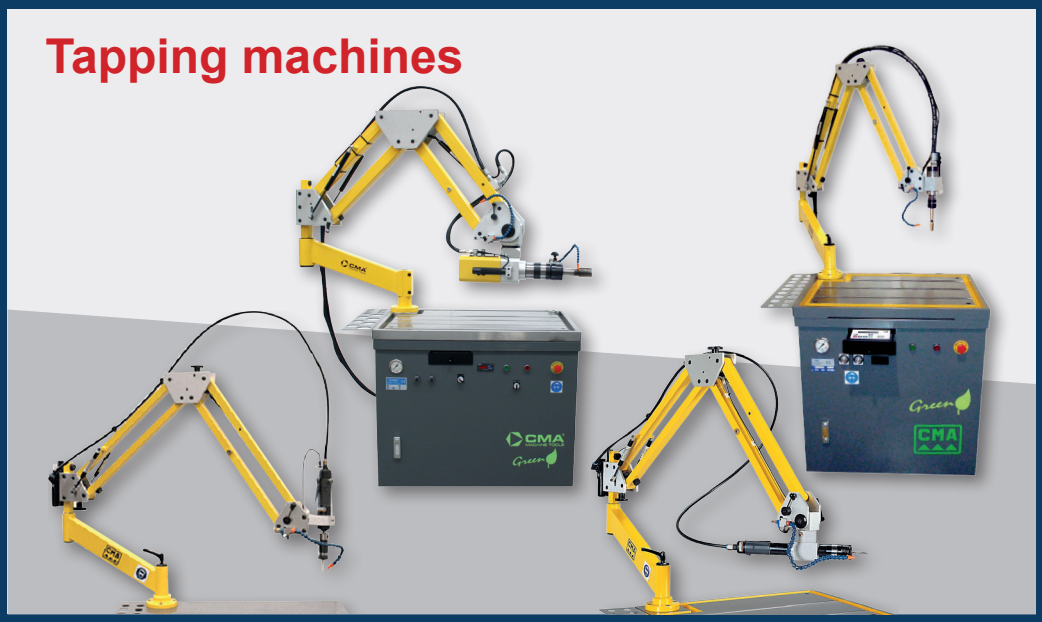
GRD series

CMA - GRD

Drilling upto 60 mm
X/Y 3x1,2 - 20x4 m
3-axis CNC-control
Dialog + ISO programming
Chipconveyor
Dual-station production
Special sizes on request

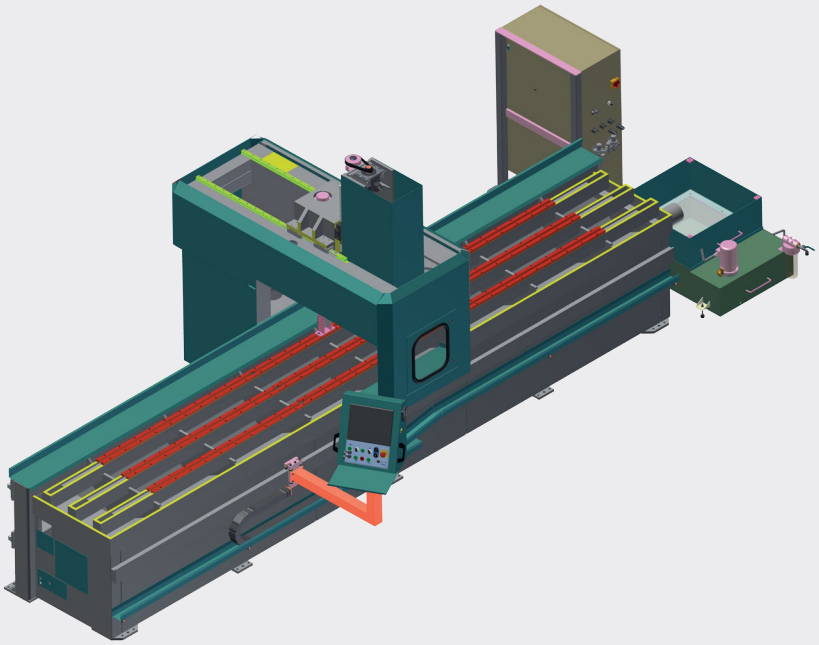
More than 15.000 tapping machines on 6 continents

Tapping machines



Tapping machines

Pneumatic M12 / M20
Hydraulic M18 / M24 / M30 / M45 / M60
Vertical or multi-position



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Standard configuration C-frame-type 3RD

OMRON Industrial Touchscreen PC (Windows 7)
Controlled X-, Y- and Z-axis
Linearguides with circulating type bearings on all axis
X-axis with helical rack and pinion, Y-/Z- axis with ballscrew
Automatic toolchanger for 10 tools
Automatic toolcalibrator (touch-off)
Cover around drilling head with laser scanner (working in 2 areas)
Coolant system (emulsion)
Open-table with 3 clamping bars and chip-conveyor
LED-machinelight
Light-curtain safety-barrier on the rear of the machine
RJ45 connection for teleservice, incl. all necessary software

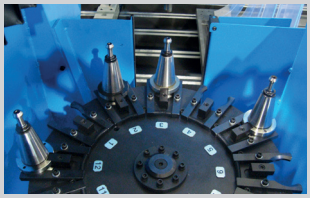
Options C-frame-type 3RD

13,1 kW spindle-motor to increase torque
Internal coolant through the spindle
Spraying systems for minimal lubrication or paste (flowdrilling)
Automatic system for correcting height of the product (Z-reader)
Renishaw system for automatic search of zeropoint
NJWin13 external software for programming on a PC
CAD/CAM software for converting 2D or 3D drawings
4th axis for automatic tube-rotation
Pneumatic clamping systems for single or multiple parts

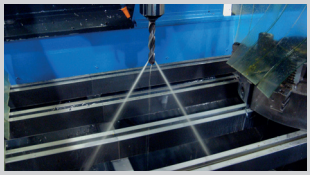
Technical data 3RD	3006	4506	6006	7506	9006	10506
Drilling capacity *	6 versions from max Ø22 upto max Ø42					
Tapping capacity *	6 versions from max M16 upto max M27					
Spindlemotor	8,9 kW, option 13,1 kW					
Spindle speed rpm	6 versions from max 2000 upto max 6000					
Maximum torque Nm	6 versions from max 57 upto max 170					
Spindle type	BT 40 / CAT 40					
Distance spindle/table mm	150-600					
Length of table mm	3000	4500	6000	7500	9000	10500
Width of table mm	580					
T-slots (nr./size/distance)	3 / 20 / 250					
Stroke X-axis mm	3000	4500	6000	7500	9000	10500
Stroke Y-axis mm	600					
Stroke Z-axis mm	450					
Speed X-axis m/min	30					
Speed Y-axis m/min	30					
Speed Z-axis m/min	9,6					
Weight kg	3750	4500	5250	6050	6800	7550

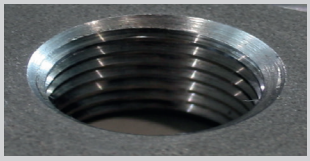
** depending on speed, feed and type of tool*

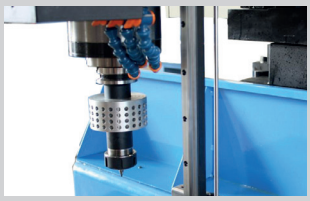
3RD & GRD
options & samples

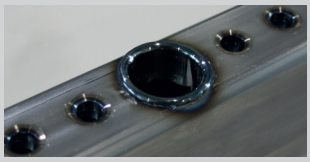

Toolchanger

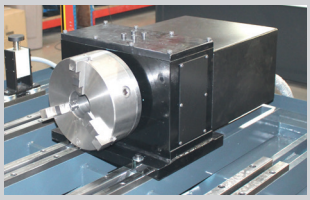
Drilling and milling

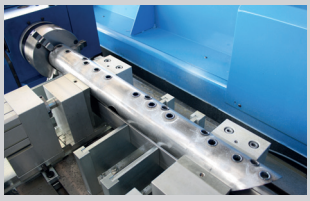

Internal coolant


Tapping


Z-reader


Flowdrilling M8 and G1/2


4th axis


Tubedrilling with 4th axis

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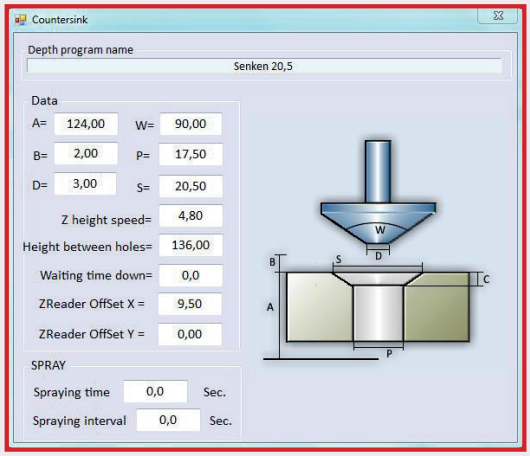
3RD – 4506 (XY 4,5 x 0,6 m)

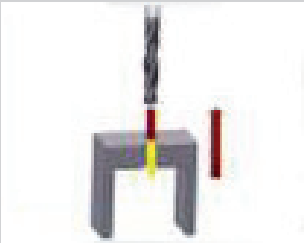


Dialog-programming

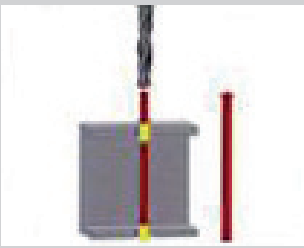
```
O1234
N10 M7 T2
N20 G52 Q200
N30 G0 G90 G54 X50 Y50 Z50 M3 H1
N40 Z2 M12
N50 G1 G91 G42 X-25 F1000
N60 G2 X0 Y0 Z-1 F3000 L20
N70 G1 G40 X25 F1000
N80 G0 G90 Z50 M13
N90 M30
```

ISO-programming

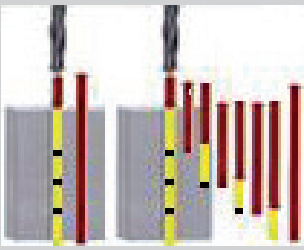
GRD 3030 (XY 3 x3 m)



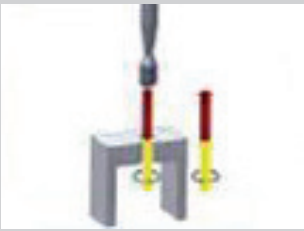
Drilling



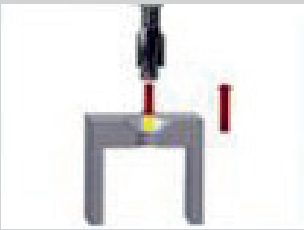
Drilling profiles with intermediate rapid-feed



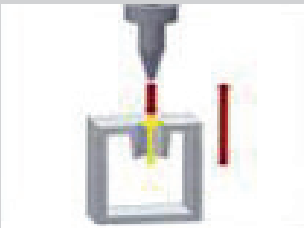
Deep-hole drilling



Tapping



Countersinking

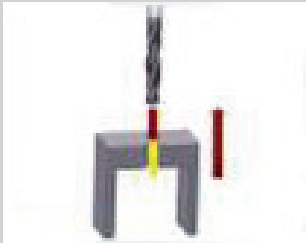


Flowdrilling

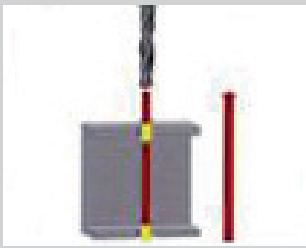
3RD – 6006 (XY 6 x 0,6 m)

GRD 9012 (XY 9 x 1,2 m)

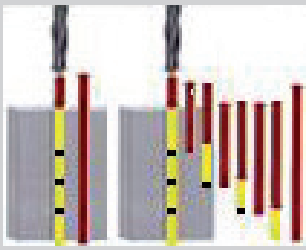
GRD 8006-4 (XY 8 x 0,6 m for tubes Ø400 mm)



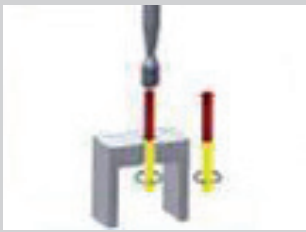
Drilling



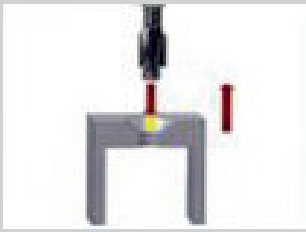
Drilling profiles with intermediate rapid-feed



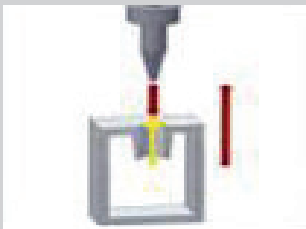
Deep-hole drilling



Tapping



Countersinking



Flowdrilling

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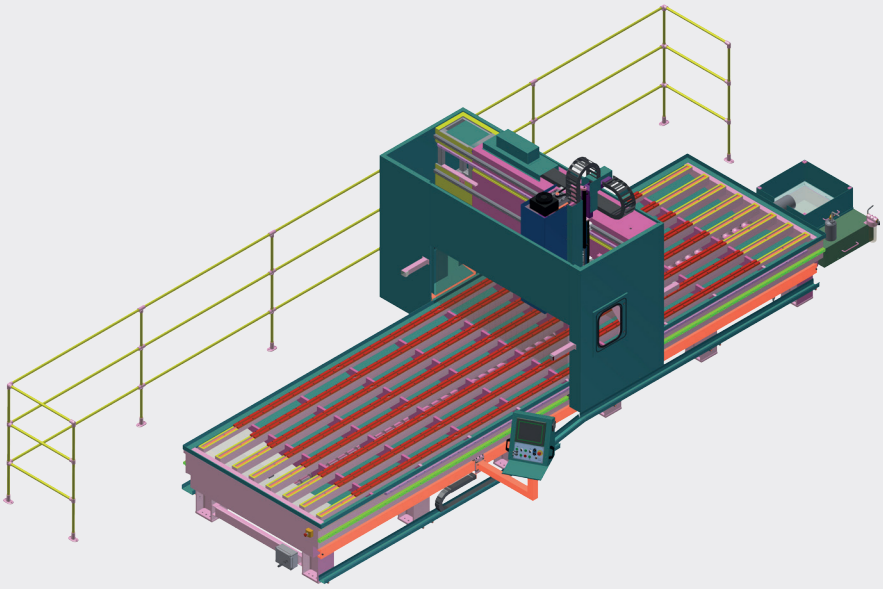

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Standard configuration bridge-type GRD

OMRON Industrial Touchscreen PC (Windows 7)
Controlled X-, Y- and Z-axis
Linearguides with circulating type bearings on all axis
X-/Y- axis with helical rack and pinion, Z- axis with ballscrew
Automatic toolchanger for 14 tools
Automatic toolcalibrator (touch-off)
Cover around drilling head
Movable light-barriers on the front of the machine
Fence on the rear of the machine
Coolant system (emulsion)
Open-table with clamping bars and chip-conveyor
LED-machinelight
RJ45 connection for teleservice, incl. all necessary software

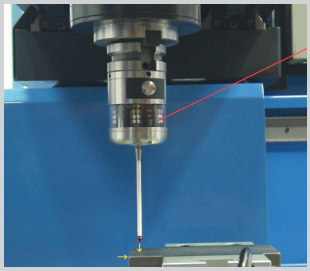
Options bridge-type GRD

13,1 kW spindle-motor to increase torque
Internal coolant through the spindle
Spraying systems for minimal lubrication or paste (flowdrilling)
Automatic system for correcting height of the product (Z-reader)
Renishaw system for automatic search of zeropoint
NJWin13 external software for programming on a PC
CAD/CAM software for converting 2D or 3D drawings
4th axis for automatic tube-rotation
Pneumatic clamping systems for single or multiple parts

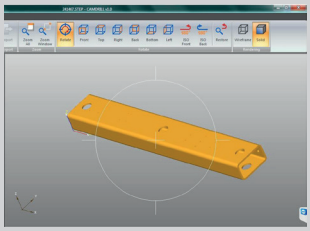
Technical data GRD	30--	45--	60--	75--	90--	105--
Drilling capacity *	6 versions from max Ø25 upto max Ø60					
Tapping capacity *	6 versions from max M18 upto max M45					
Spindlemotor	8,9 kW, options 13,1 kW and ZF-gearbox for high torque					
Spindle speed rpm	6 versions from max 2000 upto max 5000					
Maximum torque Nm	6 versions from max 68 upto max 500					
Spindle type	BT 40 / CAT 40, optional BT 50					
Distance spindle/table mm	120-620					
Length of table mm	3000	4500	6000	7500	9000	10500
Width of table mm	1200 / 1700 / 2400 / 3000 or customized					
T-slots (nr./size/distance)	6-8-11-13 / 20 / 250					
Stroke X-axis mm	3000	4500	6000	7500	9000	10500
Stroke Y-axis mm	1200 / 1700 / 2400 / 3000 or customized					
Stroke Z-axis mm	500					
Speed X-axis m/min	30					
Speed Y-axis m/min	30					
Speed Z-axis m/min	4,8					

** depending on speed, feed and type of tool*

3RD & GRD
options & samples

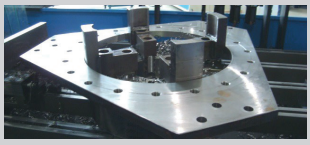

Renishaw probe for 0-point

Helical milling


CAD/CAM-programming

Flange in Hardox

Milling random shape


Machinepart 2 m diameter

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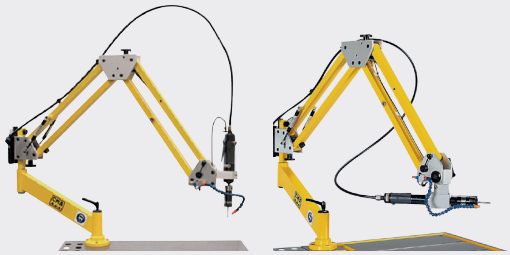
Pneumatic tapping machines



Strong parallel-arm with ball-bearings
High quality pneumatic motor
SMC (Japan) air filter – regulator - lubricator
Spraying system for tap-lubrication (RN-models)
Quick-change tooling system to DIN-standard
Tapping under any angle (M-models)

Model	RPM	Torque	Chuck size	Radius	Weight	Capacity
LCN(M) 8	700	10 Nm	1 / Ø19	1800 mm	26 kg	M2-M8
LCN(M) 12	400	28 Nm	1 / Ø19	1800 mm	26 kg	M3-M12
RN(M)12	400	31 Nm	1 / Ø19	1800 mm	26 kg	M3-M12
RNR(M) 20	400 + 115	31 + 85 Nm	2 / Ø31	1800 mm	27 kg	M3-M20

M-models are equipped with multi-position head

Hydraulic model GH 18
the reliable and cost-effective alternative

To avoid the high-energy costs of pneumatic motors we developed a 230V hydraulic machine. Additional advantages are a lower noise-level and more reliability (no wear-parts) compared to pneumatic driving systems.

Advantages compared to electronic driven machines are the far lower costs and simplicity in case of eventual repairs.

In standard configuration the machine is equipped with a separate hydraulic unit. Optionally the machine can be delivered with a cast-iron working table.

Model	RPM	Torque	Chuck size	Radius	Weight	Capacity
GH(M) 18	425	80 Nm	2 / Ø19	1800 mm	125 kg	M3-M18

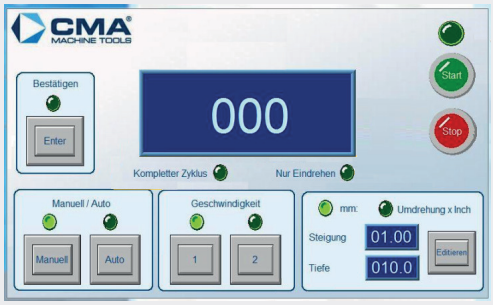
Hydraulic tapping machines

Strong parallel-arm with ball-bearings
Danfos hydraulic motor
Adjustable work- and return-speed
Cast-iron working table
Spraying system for tap-lubrication
Quick-change tooling system to DIN-standard
Tapping under any angle (M-models)
Programmable tapping-depth D-touch (option)

Model	RPM	Torque	Chuck size	Radius	Weight	Capacity
RH(M) 24	÷500	140 Nm	2 / Ø31	1800 mm	285 kg	M3-M24
RHR(M) 30	÷125 + 500	255 + 85 Nm	2 / Ø31	1800 mm	290 kg	M4-M30
RHR(M) 45	÷105 + 475	440 + 95 Nm	3 / Ø48	2200 mm	330 kg	M4-M45
RHR(M) 60	÷55 + 275	1100+220Nm	4 / Ø60	2400 mm	355 kg	M6-M60

M-models are equipped with multi-position head

All the hydraulic models can be delivered with a mobile hydraulic unit (GH-series) and with programmable depth control (D-touch).



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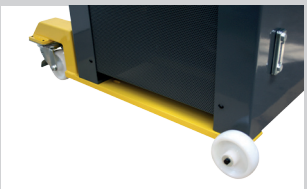
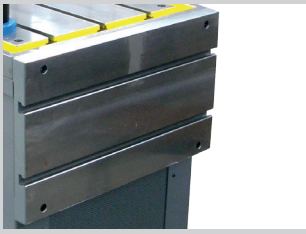
Fast and
flexible Tapping

Cast-iron table for pneumatic machines and GH 18



Castors for all machines

Inserts in soft materials



Lateral vertical table

Tapping under any angle

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