Coordinate-System KOSY4

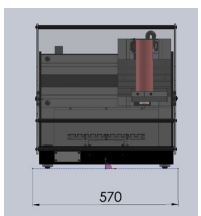
4tth generation, replacing KOSY3 since fall 2014.

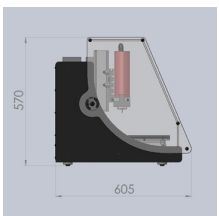
Our construction principles - stability by mineral cast, use of linear profiles, ball-screws and integrated protection hood - are the basis of our machines.
What is new: the attractive design, the protection hood with replacable panes; the electronics are placed in the back for easy access .
2 sizes ... A4 (KS44x) and A3 (KS43x), their travel correspond to the paper formats.

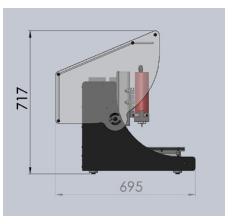
Picture: A4-version, socle and side colour is black

Technical data

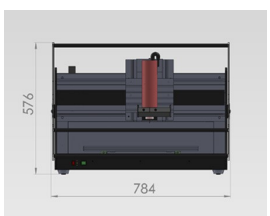
Coordinate table	
Construction	Cast socle with gantry type arrangement, MAX-linear-profiles with hardened guide rails, drives with ball screws, Y-/Z-table with T-slot profile 20mm, Alu-surfaces brushed, sides out of plastic material, protection hood out of polycarbonate with safety contact, integrated control unit.
Type	**Standard (KS 4x1):** Pulleys of grooved ball bearings, hose coupling, partly anodized aluminum. **Special (KS 4x2):** Precision pulleys, claw couling, all aluminum parts anodized.
Travel of the 3 basic axes XxYxZ, depending on size.	Size A4 (KS44x): approx. 310 x 220 x 108 mm – corr. A4 Size A3 (KS43x): approx. 510 x 310 x 108 mm – bigger than A3
Passage height	A4- and A3-version: approx. 100 mm, suitable for turning unit big.
Stepper motor-linear drives	X/Y/Z: ball screw 12x4 mm – Endswitch in all axes
Step resolution	X/Y/Z: 0.00125 mm = 1,25 µm, microstepping
Repeat accuracy	< 0.02 mm
Position accuracy	< 0.02 mm / 100 mm
Feed fast mode/attack max.	X/Y: 60/40 mm/sec , Z: 60/40 mm/sec reducible
Weight load Y/Z-table	max. 5 kg
Control unit	
Type	Assembled as separate service-block in the back of the X-linear profile MultiController control unit MCS or MCS*compact* Dimensions WxDxH approx. 400 x 200 x 60 mm
Axis controller	3 basic axes X/Y/Z + C-axis (extruder or machining unit BAE50)
Connecting sockets for … … with software-support	Extruder (3D-Print), C-Axis (milling spindle), 230V-user (max. 800W), handwheel box, tool-length-measurer, 3D-scanner.
Power	230V / 50-60Hz, approx. 300 W
Port to PC	MCS: RS 232, USB via adapter – MCS*compact*: USB direct
Software	Part of delivery: ***nccad9a*** CAD/CAM/CNC-Software, latest version. Other SW-versions on demand
General data	
Noise level axes movements	< 45 dB (A) – with milling application depending on chosen machining unit
Surrounding	5-40°C, 35-80% rel. humidity (no condensation)
Weight Machine / Control unit	A4-version: approx. 61 kg, A3-version: approx. 87 kg.
Guarantee	1000 hours acc. to operating hours counter (counts travel times of axes only).
Accessories	230V-power cord, communication cable to PC

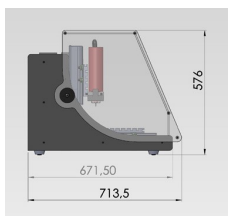


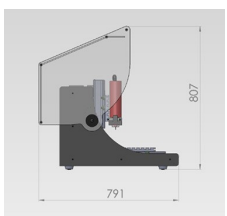




Dimensions KOSY4 A4







Dimensions KOSY4 A3

Hardware Options

Extruder – for 3D-Print (KSZDK10S)

Processing of plastic wire	Bio-plastics PLA, 3 mm diameter
Transport/ Drive	Stepper motor, via axiscontroller C, since Firmware ***.42.***
Particularities	see MAX_ProduktInfo_Extruder.PDF, Instruction for 3D-Print

Universal motor – Millingspindle (BAE10k)

Type of product	Kress 800 FME
Revs min./max.	approx. 10.000/28.000 rpm
Power	230V/approx. 800W via power supply (part of delivery)
Programming	On/Off via power jack at machine (relay 6)
Set of collets	1.x ….. 3.0 mm

C-Axis - Milling spindle and axis fully programmable (BAE50) – ***HighPower C-Axis*** (BAE55) (on demand)

Cchuck	ER 16, 3 mm
Programming	Revs., direction of rotation, angle pos. n x 360° - 0,25°/step.
Options	Collets 1/8“, 6 mm; special collet for thread cutting.

HF-Spindle – HighFrequency spindle for precision work (BAE2x)

Revs min./max.	approx. 5.000 / 50.000 rpm, power approx. 170 W or approx. 450W with KS432 only
Chuck	3 mm with 170W, up to 6mm with 450W
Programming	Revs
Concentricity	< 3 µm (depending on chuck)
Options	Chuck 1/8“, automatic toolchanger (max. 6 tools).

TMRa - DepthController analog, immersion control, autom. series of measures and probing data.

Control accuracy	< 0.02 mm
control range	10 mm, shiftable sensor positions.
Feed	max. 40 mm/sec (F400)
Programming	Depth of immersion
Options	Different sensors a. probes

Handwheel box – elegant BOX for manual operation (MCSZ111)

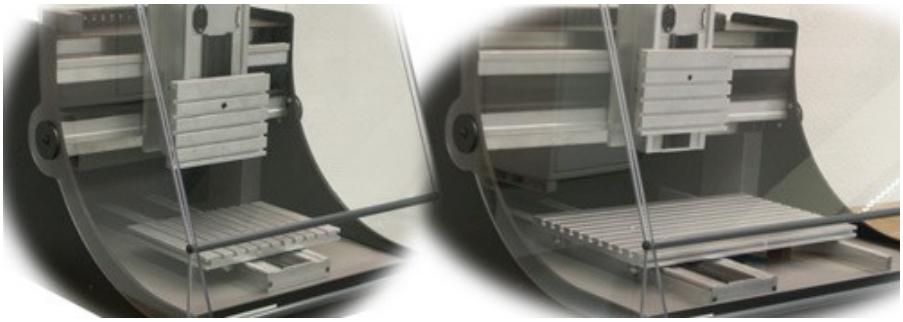
Pulse generator	rough / fine -switch
Axes assignment	via switch X, Y, Z
Programming	Step resolution rough/fine, programmable.
Special functions	Feed -Override, customer specific solutions

WZL - Tool-length-measurer for easier handling (KSZW3)

Arrangement	to position freely in milling range
Accuracy	< 0,02 mm
Measuring process	after manual tool changing
Options	can be changed according to customer

Protection hood – Safety cover of the working area – part of delivery (also available as spare part)

Arrangement	fixed to side, pivoted
Type	Sides and front out of break-proof polycarbonate 6mm
Safety	Sensor „Hood open“, integrated in safety circuit



KOSY4 in 2 sizes:

- A4 >> KS44x (left)
- A3 >> KS43x (right)

KS4 x x ... type key

| |	
| –	1 = Standard-, 2 = Special
–––	4 = A4-, 3 = A3-size

E.G.: **KS432** = KOSY4 A3 special type

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