driven by perfection

walter
PRÄZISION


# TANi
## evolution
**H2S & H2S-XS**

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# 2 axes for us are
# 5 faces for you!

Perfect for 5-face machining TANiH2S-Evolution and TANiH2S-Evolution XS

TANi
evolution
**H2S & H2S-XS**

## "Evolution" is improvement by development

The tiltable dividing-head TANiH-2S Evolution and TANiH2S-Evolution XS combine the traditional values of perfection and premium class with the most innovative developments – also in the 5-axes range. The series is based on the TANiH-Evolution range.

**The 2-axes NC-dividing head TANiH2S-Evolution,** with its 2 full CNC axes, is characterised by the highest efficiency with a very compact design. The WALTER TRIPLEX clamping system gives you highest possible holding torques for heavy-duty machining.

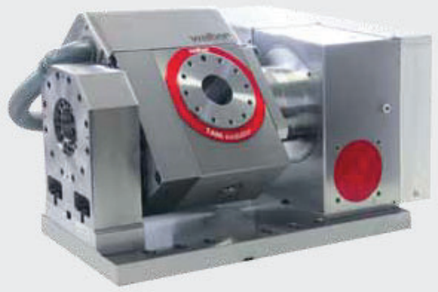
**The 2-axes NC-dividing head TANiH2S-Evolution XS**, with its 2 full CNC axes, is characterised by the highest efficiency with a very compact design. The rotation axis without a counter bearing is suitable for moderate machining forces. The option of direct measuring systems in both axes to achieve highest accuracies, as well as the possibility to adapt full- or semi-automatic workholding devices gives you the highest precision and effectivity in your production of parts and subassemblies.

Together with the 3 axes of the machine or machining centre, a full 5-axes machining can be realised. The adjustable wormdrive consisting of a case-hardened wormshaft and a bronze-alloy wormwheel, together with various motor-mounting possibilities, gives your production the best possible "drive".

**In evolution, flexibility decides about success!**

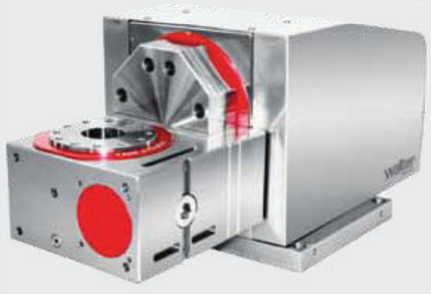
### TANiH2S-Evolution

The compact and modular system allows the combination of multiple spindles and axes. This combination makes the TANiH2S-Evolution the most comprehensive solution for your manufacturing tasks on complex workpieces. Due to the unique and stunning WALTER TRIPLEX clamping system with 3 clamping-points and a rigid and stable counterbearing, highest holding torques are guaranteed!



### TANiH2S-Evolution XS

5-face machining with unrestricted acces. Perfect conditions for most production processes in which moderate machining forces occur. This makes the TANiH2S-Evolution XS to a cost-efficient solution for your production.



# Premium class, more precise, higher in performance and tiltable.

TANiH2S-Evolution with WALTER-*TRIPLEX** clamping system
3+2 axes exceed than 5 axes

also available with drive axis mounted in inverse position

## The advantages in brief

+ NC controlled tilting range from -5° - +95°
+ high precision drive technology and stability
+ WALTER-*TRIPLEX* clamping system for highest holding torques
+ aesthetical stainless steel optics
+ highest precision in mμ-range
+ gives your machine the flexibility of 3 or 5 axes

**Highest holding torques due to the WALTER-*TRIPLEX** clamping system**

* The Walter *TRIPLEX* clamping system is the addition of 2 clamping systems in the tilting axis and the clamping system of the rotating axis



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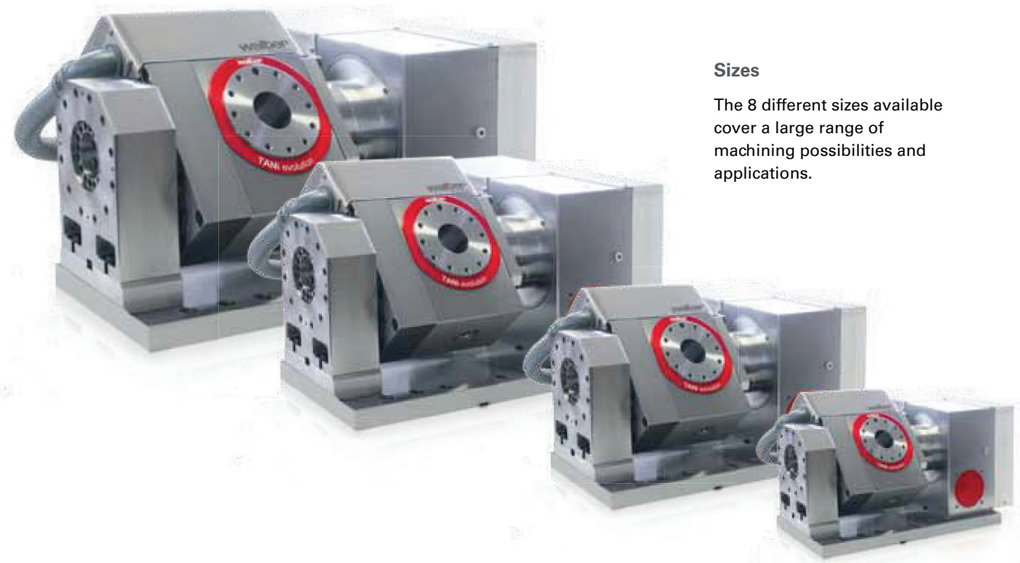
# Technical data

TANiH2S evolution


also available with drive axis mounted in inverse position

TANiH2S evolution




**Sizes**

The 8 different sizes available cover a large range of machining possibilities and applications.

also available with drive axis mounted in inverse position

## Loads

| Size | max. load (centrically) | | | total axial force | tilting moment | holding torque hydraulic at 100 bar | |
|---|---|---|---|---|---|---|---|
| | vertical spindle | tilting movement | horizontal spindle | rotating axis | rotating axis | rotating axis | tilting axis |
| mm | kg (max.) | kg (max.) Nm (dynamic) | kg (max.) Nm (static) | N (max.) | Nm | Nm | Nm |
| 125/125 | 280 | 60 kg/110Nm | 100 kg/1.200Nm | 25.000 | 1.200 | 800 | 1.600 |
| 125/160 | 280 | 100 kg/250 Nm | 100 kg/1.200Nm | 25.000 | 1.200 | 800 | 2.400 |
| 160/160 | 700 | 100 kg/250 Nm | 180 kg/2.400Nm | 40.000 | 3.300 | 1.600 | 2.400 |
| 160/200 | 700 | 180 kg/450 Nm | 180 kg/3.300Nm | 40.000 | 3.300 | 1.600 | 5.600 |
| 200/200 | 1.000 | 180 kg/450 Nm | 300 kg/5.600Nm | 55.000 | 6.400 | 4.000 | 5.600 |
| 200/250 | 1.000 | 250 kg/900 Nm | 300 kg/6.400Nm | 55.000 | 6.400 | 4.000 | 9.000 |
| 250/250 | 1.400 | 250 kg/900 Nm | 360 kg/9.000Nm | 60.000 | 10.400 | 5.000 | 9.000 |
| 250/320 | 1.400 | 400 kg/1.800 Nm | 360 kg/10.400Nm | 60.000 | 10.400 | 5.000 | 14.000 |

* values may vary due to customer specific variations

## Loads

| Size | drive torque | reduction ratio worm drive | | speed short term speed for positioning | | weight | spindle bore rotating axis |
|---|---|---|---|---|---|---|---|
| | on spindle rotating axis | rotating axis | tilting axis | rotating axis | tilting axis | without motor without baseplate | |
| mm | Nm (max.) | i= | i= | $min^{-1}$ (max.) | $min^{-1}$ (max.) | kg (appr.) | mm |
| 125/125 | 110 | 72:1 | 72:1 | 42 | 42 | 145 | 50 |
| 125/160 | 110 | 72:1 | 72:1 | 42 | 42 | 170 | 50 |
| 160/160 | 250 | 72:1 | 72:1 | 42 | 42 | 200 | 65 |
| 160/200 | 250 | 72:1 | 90:1 | 42 | 33 | upon request* | 65 |
| 200/200 | 450 | 90:1 | 90:1 | 33 | 33 | upon request* | 105 |
| 200/250 | 450 | 90:1 | 90:1 | 33 | 33 | upon request* | 105 |
| 250/250 | 900 | 90:1 | 90:1 | 33 | 33 | upon request* | 150 |
| 250/320 | 900 | 90:1 | 90:1 | 33 | 33 | upon request* | 150 |

* values may vary due to customer specific variations

technical data are subject to change without prior notice (September 2013)

# Technical data

TANiH2S evolution

## Accuracies

| Size | indexing accuracy (± in arc seconds) | | | | |
|---|---|---|---|---|---|
| | with indirect measuring system | | with direct measuring system (system accuracy) | | |
| | rotating axis | tilting axis | rotating axis / tilting axis | | |
| mm | NEG | NEG | d-A | d-AA | d-AAA |
| 125/125 | ±15" | ±15" | ±5" | ±2,5" | - |
| 125/160 | ±15" | ±15" | ±5" | ±2,5" | ±1,5" only tilting axis |
| 160/160 | ±15" | ±15" | ±5" | ±2,5" | ±1,5" |
| 160/200 | ±15" | ±10" | ±5" | ±2,5" | ±1,5" |
| 200/200 | ±10" | ±10" | ±5" | ±2,5" | ±1,5" |
| 200/250 | ±10" | ±10" | ±5" | ±2,5" | ±1,5" |
| 250/250 | ±10" | ±10" | ±5" | ±2,5" | ±1,5" |
| 250/320 | ±10" | ±10" | ±5" | ±2,5" | ±1,5" |

Please note: All values given here are approximate values. We keep the right to technical changes due to technical progress without any further notice. Maximum loads depend very much on the geometry of the work-piece. In case of doubt, please contact our technical department for further information.

For binding dimensions, please request an individual dimensional layout. Incremental or absolute encoders can be used as measuring systems. Special concentricity or axial run-out of the spindle is available. Special centre heights and specific base plates are available as option, upon request. Please also see the section “additional equipment”.

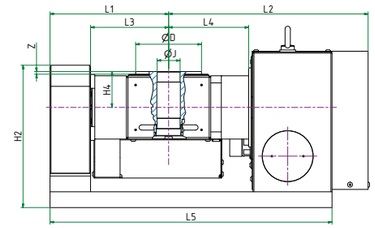
## Accuracies

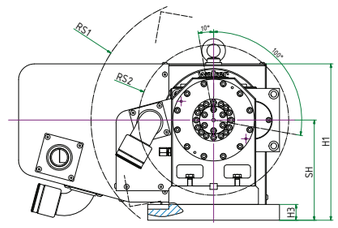
| Size | repeatability (± in arc seconds) | | | | | concentricity | | axial runout |
|---|---|---|---|---|---|---|---|---|
| | with indirect measuring system | | with direct measuring system | | | | | |
| | rotating axis | tilting axis | rotating axis / tilting axis | | | spindle nose | spindle bore | spindle nose |
| mm | NEG | NEG | d-A | d-AA | d-AAA | mm | mm | mm |
| 125/125 | ±3" | ±3" | ±1" | ±1" | - | ≦0,008 | ≦0,008 | ≦0,008 |
| 125/160 | ±3" | ±3" | ±1" | ±1" | ±1" | ≦0,008 | ≦0,008 | ≦0,008 |
| 160/160 | ±3" | ±3" | ±1" | ±1" | ±1" | ≦0,008 | ≦0,008 | ≦0,008 |
| 160/200 | ±3" | ±3" | ±1" | ±1" | ±1" | ≦0,008 | ≦0,008 | ≦0,008 |
| 200/200 | ±3" | ±3" | ±1" | ±1" | ±1" | ≦0,008 | ≦0,008 | ≦0,008 |
| 200/250 | ±3" | ±3" | ±1" | ±1" | ±1" | ≦0,008 | ≦0,008 | ≦0,008 |
| 250/250 | ±3" | ±3" | ±1" | ±1" | ±1" | ≦0,008 | ≦0,008 | ≦0,008 |
| 250/320 | ±3" | ±3" | ±1" | ±1" | ±1" | ≦0,008 | ≦0,008 | ≦0,008 |

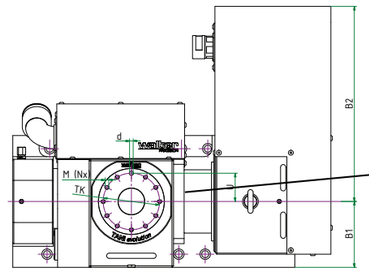
technical data are subject to change without prior notice (September 2013)

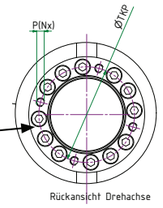
# Dimensions

TANiH2S evolution




also available with drive axis mounted in inverse position

## Dimensions

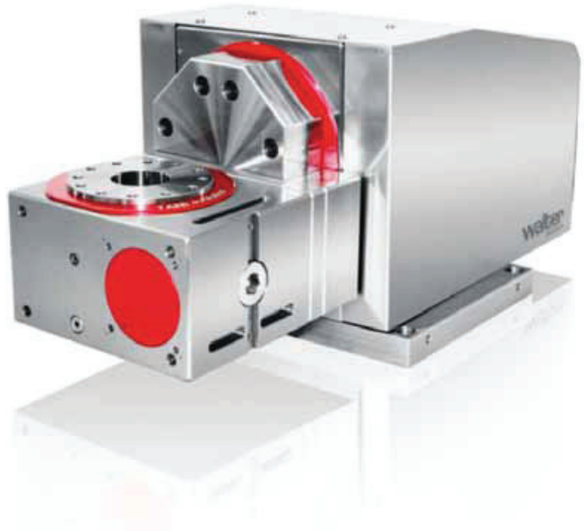
| Size mm | B1 | B2* | d H7 | D H6 | H1 | H2 | H3 | H4 | J H6 | L1 | L2 | L3 | L4 | L5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 125/125 | 125 | 370 | 8 | 125 | 240 | 210 | 30 | 68 | 50 | 225 | 350 | 148 | 156 | 505 |
| 125/160 | 125 | 370 | 8 | 125 | 295 | 270 | 30 | 68 | 50 | 225 | 380 | 148 | 156 | 535 |
| 160/160 | 160 | 335 | 10 | 150 | 295 | 270 | 30 | 68 | 65 | 245 | 400 | 168 | 190 | 575 |
| 160/200 | 160 | 400 | 10 | 150 | 385 | 345 | 40 | 83 | 65 | 276 | 440 | 180 | 190 | 640 |
| 200/200 | 145 | 420 | 12 | 200 | 385 | 345 | 40 | 97,5 | 105 | 320 | 485 | 225 | 230 | 725 |
| 200/250 | 200 | 530 | 12 | 200 | 477 | 435 | 50 | 97,5 | 105 | 350 | 530 | 225 | 230 | 800 |
| 250/250 | upon request | | | | | | | | | | | | | |
| 250/320 | upon request | | | | | | | | | | | | | |

| mm | M(Nx) | P (Nx) | RS1 | RS2 | SH ±0,025 | TK ±0,1 | TKP ±0,1 | U ±0,02 | Z |
|---|---|---|---|---|---|---|---|---|---|
| 125/125 | M8 (11x) | M6 (4x) | 208 | 120 | 155 | 107 | 66 | 53,5 | 5 |
| 125/160 | M8 (11x) | M6 (4x) | 228 | 140 | 190 | 107 | 66 | 53,5 | 5 |
| 160/160 | M10 (11x) | sur demande | 560 | 308 | 190 | 130 | upon request | 65 | 4,5 |
| 160/200 | M10 (11x) | sur demande | 560 | 308 | 240 | 130 | upon request | 65 | 4,5 |
| 200/200 | M12 (11x) | M6 (8x) | 780 | 440 | 240 | 176 | 114 | 88 | 6 |
| 200/250 | M12 (11x) | M6 (8x) | 780 | 440 | 300 | 176 | 114 | 88 | 6 |
| 250/250 | upon request | | | | | | | | |
| 250/320 | upon request | | | | | | | | |

*dimension B2=depending on motor – here Siemens 1FK7 series

# The 2-axis alternative for medium machining forces

**for moderate machining forces TANiH2S Evolution XS**



## The advantages in brief

+ NC controlled tilting range up to -120° - +120°
+ no interfering counter bearing
+ high precision drive technology and stability
+ hydraulic clamping system in both axis
+ aesthetical stainless steel optics
+ highest precision in mµ-range
+ gives your machine the flexibility of 3 or 5 axes

# Technical data

**TANiH2S-XS evolution**

Loads

| Size | max. load (centrically) | | | total axial force | tilting moment | | holding torque hydraulic at 100 bar | |
|---|---|---|---|---|---|---|---|---|
| | vertical spindle | tilting movement | horizontal spindle | rotating axis | rotating axis | tilting axis | rotating axis | tilting axis |
| mm | kg (max.) | kg (max.) Nm dynamic | kg (max.) Nm static | N (max.) | Nm | Nm | Nm | Nm |
| 80/100 | 50 | 30 kg / 45 Nm | 25 kg / 250 Nm | 3.500 | 250 | 900 | 180 | 400 |
| 100/125 | 120 | 45 kg / 110 Nm | 80 kg / 350 Nm | 18.000 | 350 | 1.200 | 400 | 800 |
| 125/160 | 280 | 80 kg / 250 Nm | 100 kg / 1.200Nm | 25.000 | 1.200 | 3.300 | 800 | 1.600 |
| 160/200 | 700 | 120 kg / 450 Nm | 180 kg / 3.300Nm | 40.000 | 3.300 | 6.400 | 1.600 | 4.000 |
| 200/250 | 1.000 | 300 kg / 900 Nm | 360 kg / 5.000 Nm | 55.000 | 6.400 | 10.400 | 4.000 | 5.000 |

Loads

| Size | drive torque | reduction ratio | | speed | | weight | spindle bore |
|---|---|---|---|---|---|---|---|
| | rotating axis | rotating axis | tilting axis | rotating axis | tilting axis | w/o motor and w/o baseplate | mm H6 rotating axis |
| mm | Nm (max.) | i= | i= | $min^{-1}$ (max.) | $min^{-1}$ (max.) | kg (apr.) | mm |
| 80/100 | 32 | 45:1 | 56:1 | 133 | 105 | weight varies due to customer specific variations* | 32 |
| 100/125 | 45 | 56:1 | 72:1 | 105 | 42 | weight varies due to customer specific variations* | 32 |
| 125/160 | 110 | 72:1 | 72:1 | 42 | 42 | weight varies due to customer specific variations* | 50 |
| 160/200 | 250 | 72:1 | 90:1 | 42 | 33 | weight varies due to customer specific variations* | 65 |
| 200/250 | 450 | 90:1 | 90:1 | 33 | 33 | weight varies due to customer specific variations* | 105 |

* values may vary due to customer specific variations

# Technical data

TANiH2S-XS evolution

## Accuracies

| Size | indexiong accuracy | | | | |
|---|---|---|---|---|---|
| | with indirect measuring system | | with direct measuring system | | |
| | rotating axis | tilting axis | rotating-/tilting axis | | |
| mm | NEG | NEG | d-A | d-AA | d-AAA |
| 80/100 | ±45" | ±30" | ±5" | ±2,5" | – |
| 100/125 | ±30" | ±15" | ±5" | ±2,5" | – |
| 125/160 | ±15" | ±15" | ±5" | ±2,5" | ±1,5" only tilting axis |
| 160/200 | ±15" | ±10" | ±5" | ±2,5" | ±1,5" |
| 200/250 | ±10" | ±10" | ±5" | ±2,5" | ±1,5" |

Please note: All values given here are approximate values. We keep the right to technical changes due to technical progress without any further notice.

Maximum loads depend very much on the geometry of the work-piece. In case of doubt, please contact our technical department for further information. For binding dimensions, please request an individual dimensional layout.

Incremental or absolute encoders can be used as measuring systems. Special concentricity or axial runout of the spindle is available. Special centre heights and specific base plates are available as option, upon request. Please also see the section “additional equipment”.

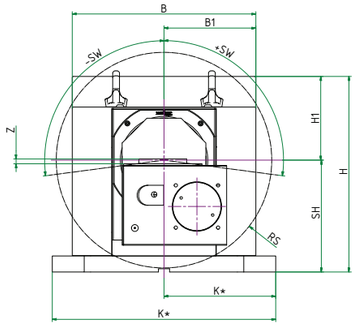
## Accuracies

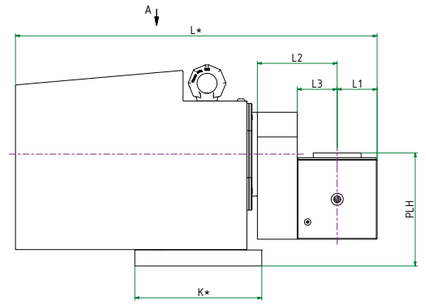
| Size | repeatability | | | | | concentricity | | axial runout |
|---|---|---|---|---|---|---|---|---|
| | with indirect measuring system | | with direct measuring system | | | | | |
| | rotating axis | tilting axis | rotating-/tilting axis | | | spindle nose | spindle bore | spindle nose |
| mm | NEG | NEG | d-A | d-AA | d-AAA | mm | mm | mm |
| 80/100 | ±3" | ±3" | ±1" | ±1" | ±1" | ≦0,008 | ≦0,008 | ≦0,008 |
| 100/125 | ±3" | ±3" | ±1" | ±1" | ±1" | ≦0,008 | ≦0,008 | ≦0,008 |
| 125/160 | ±3" | ±3" | ±1" | ±1" | ±1" | ≦0,008 | ≦0,008 | ≦0,008 |
| 160/200 | ±3" | ±3" | ±1" | ±1" | ±1" | ≦0,008 | ≦0,008 | ≦0,008 |
| 200/250 | ±3" | ±3" | ±1" | ±1" | ±1" | ≦0,008 | ≦0,008 | ≦0,008 |

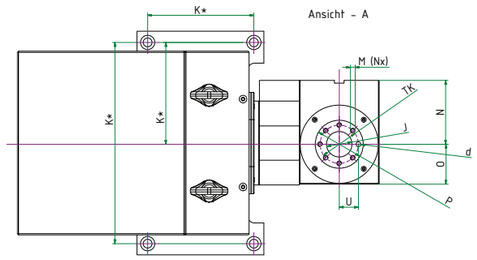
technical data are subject to change without prior notice (September 2013)

# Dimensions

TANiH2S-XS evolution




## Dimensions

| Size | B1 | B2 | $d^{H7}$ | $D^{h6}$ | H1 | H2 | $J^{H6}$ | L | L1 | L2 | L3 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 80/100 | 230 | 115 | 6 | 60 | 255 | 105 | 32 | * | 50 | 100 | 50 |
| 100/125 | 270 | 124 | 8 | 105 | 302 | 127 | 32 | * | 65 | 140 | 90 |
| 125/160 | 300 | 150 | 8 | 125 | 358 | 168 | 50 | * | 80 | 155 | 100 |
| 160/200 | - | - | 10 | 150 | - | - | 65 | * | - | - | - |
| 200/250 | - | - | 12 | 200 | - | - | 105 | * | - | - | - |

| mm | M(Nx) | N | O | PLH | RS | $SH^{\pm 0,025}$ | +SW | -SW | $T^{\pm 0,05}$ | $TK\text{-}Ø^{\pm 0,1}$ | $U^{\pm 0,02}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 80/100 | M6 (7x) | 80 | 50 | 150 | 135 | 150 | 97,5 | 97,5 | 24 | 48 | 24 |
| 100/125 | M8 (7x) | 100 | 65 | 175 | 160 | 175 | 95 | 95 | 43 | 86 | 43 |
| 125/160 | M8 (11x) | 125 | 80 | 190 | 180 | 190 | 120 | 120 | 53,5 | 107 | 53,5 |
| 160/200 | M10 (11x) | 160 | 105 | - | - | 240 | - | - | 65,5 | 176 | 65 |
| 200/250 | M12 (11x) | 200 | 145 | - | - | 290 | - | - | 65,5 | 176 | 88 |

* dimension L=depending on motor



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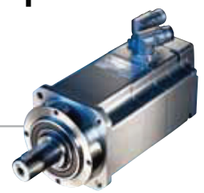
# Additonal Equipment

The additional equipment shown here is only an example of different possibilities. Individual modifications are possible and already available. Many options e.g. zero-point clamping devices, palleting systems, special faceplates, swing-bridges, rotary feed-through, clamping cylinders and many others can be realised.



**Motors**
Alternative motors (e.g. Fanuc, Heidenhain and others) available on request.

| Size | | 80 | 100 | 125 | 160 | 200 | 250 | 320 |
|---|---|---|---|---|---|---|---|---|
| required torque (min.), at direct connection to the worm shaft | Nm | 1,4 | 1,6 | 3 | 7 | 10 | 20 | 40 |
| SIEMENS 1FK7 series | - | 7034 | 7042 | 7042 | 7060 | 7063 | 7101* | 7101* |

*using a 2:1 reduction belt drive

**Pressure intensifier**
air : oil 1:17

**CNC Control unit**
CNC control with interface for M-functions

**Plug- and Play solution**
for use as 4th and/or 5th axis for a specific machine type.

**Collet chucks**
for various types of collets e.g. Schaublin, Hainbuch etc... Power-operated chucks also available.Please ask for details.

| Size | | 80 | 100 | 125 | 160 | 200 | 250 | 320 |
|---|---|---|---|---|---|---|---|---|
| clamping range | mm | 3-22 | 3-22 | 3-26 | 3-42 | 3-42 | * | * |

*on request

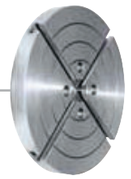

**Clamping cylinders and rotary distributors**
For all clamping solutions. Rotary distributors available in multi core versions for Hydraulic and Pneumatic solutions.

**Direct measuring systems – Heidenhain**
for highest possible accuracies

| Size | | 80 | 100 | 125 | 160 | 200 | 250 |
|---|---|---|---|---|---|---|---|
| accuracy class A** | ±5“ | * | RCN 226 | RCN 226 | RCN 226 | RCN 226 | RCN 226 |
| accuracy class AA** | ±2,5“ | n.a. | RCN 228 | RCN 228 | RCN 228 | RCN 228 | RCN 228 |
| accuracy class AAA** | ±1,5“ | n.a. | n.a. | RCN 829 | RCN 829 | RCN 829 | RCN 829 |

* on request **alternative RON/ROD types available

**Other workpiece clamping devices.**
**e.g. zero point clamping systems**
EROWA, SYSTEM 3R, UNILOCK, SCHUNK



**Faceplates**
standard and customer specific solutions available

| Size | | 80 | 100 | 125 | 160 | 200 | 250 |
|---|---|---|---|---|---|---|---|
| face plate Ø | mm | 100 | 160 | 200 | 250 | 320 | 400 |
| t-slots acc. to DIN 650 | $mm^{H8}$ | 8 | 8 | 12 | 12 | 12 | 12 |
| centre bore Ø | $mm^{H7}$ | 22 | 25 | 32 | 32 | 40 | 40 |
| alternative face plate Ø | mm | 158 | 198 | 248 | 318 | 398 | 498 |
| t-slots acc. to DIN 650 | $mm^{H8}$ | 8 | 12 | 12 | 12 | 12 | 12 |
| centre bore Ø | $mm^{H7}$ | 25 | 32 | 32 | 32 | 40 | 40 |

**spindle insert / customer specific spindle versions**
spindle inserts for all typical spindle-cones. Upon request also available as complete spindle unit. Other Special spindles according to customers request and technical producibility.

| Size | 80 | 100 | 125 | 160 | 200 | 250 |
|---|---|---|---|---|---|---|
| HSK | 25 | 40 | 63 | 80 | 100 | 100 |
| HSK (alt. size) | 32 | 50 | 80 | 100 | - | - |
| MK | 2 | 3 | 4/5 | 5 | 5/6 | 6 |
| SK | 30 | 40 | 40/50 | 40/50 | 50 | 50 |

**3-jaw chucks with mounting flange**
These manual chucks offer a safe clamping of your workpieces

| Size | | 80 | 100 | 125 | 160 | 200 | 250 |
|---|---|---|---|---|---|---|---|
| chuck Ø | mm | 80 | 100 | 160 | 200 | 250 | 315 |
| max. bore Ø | mm | 19 | 20 | 42 | 55 | 76 | 103 |
| clamping range | - | 2-80 | 3-100 | 3-160 | 4-200 | 5-250 | 6-315 |
| alternative chuck Ø | mm | 100 | 125 | 200 | 250 | 315 | 400 |
| max. bore Ø | mm | 20 | 32 | 55 | 76 | 103 | 136 |
| clamping range | - | 3-100 | 3-125 | 4-200 | 5-250 | 6-315 | 20-400 |

technical data are subject to change without prior notice (September 2013)



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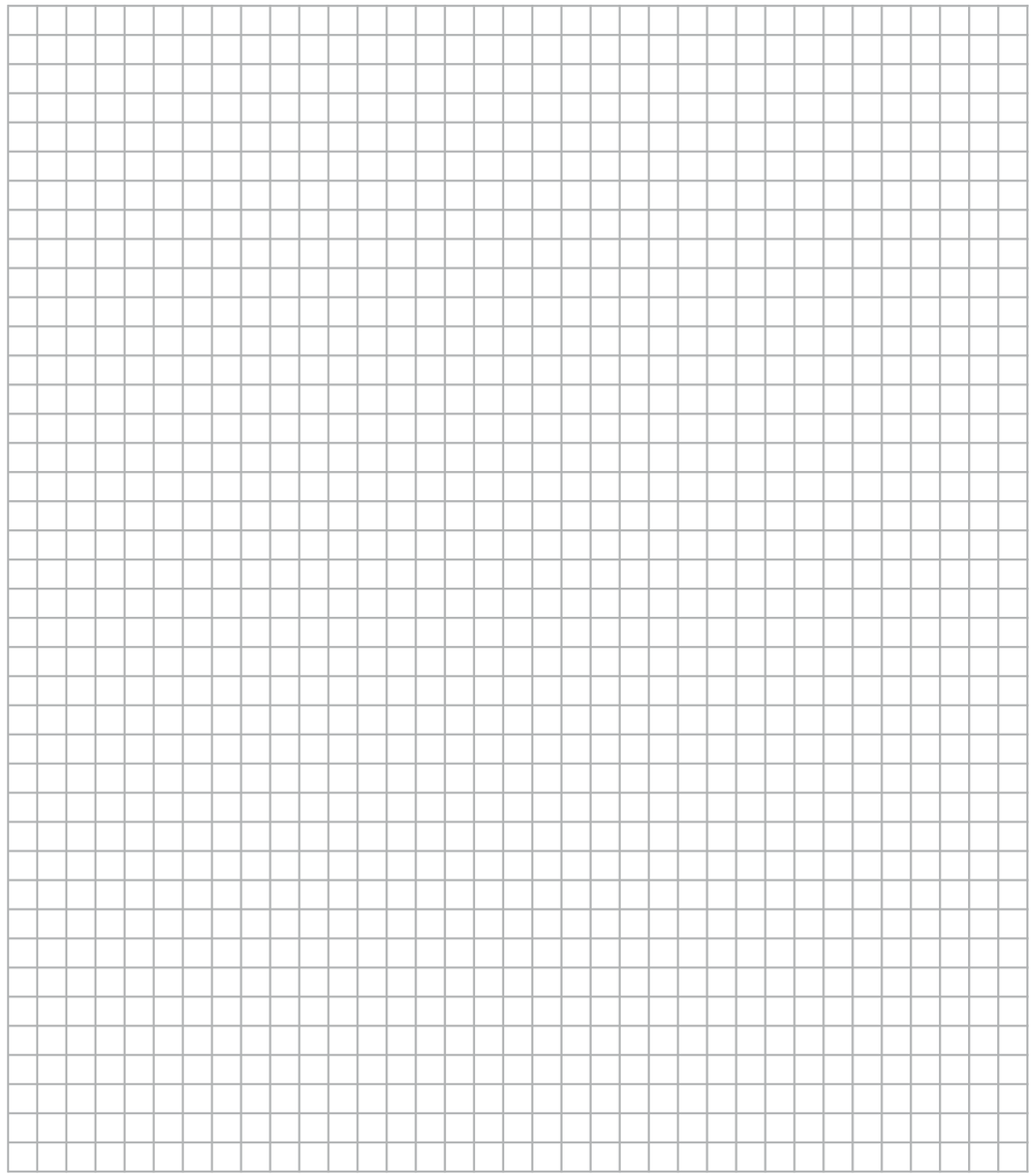
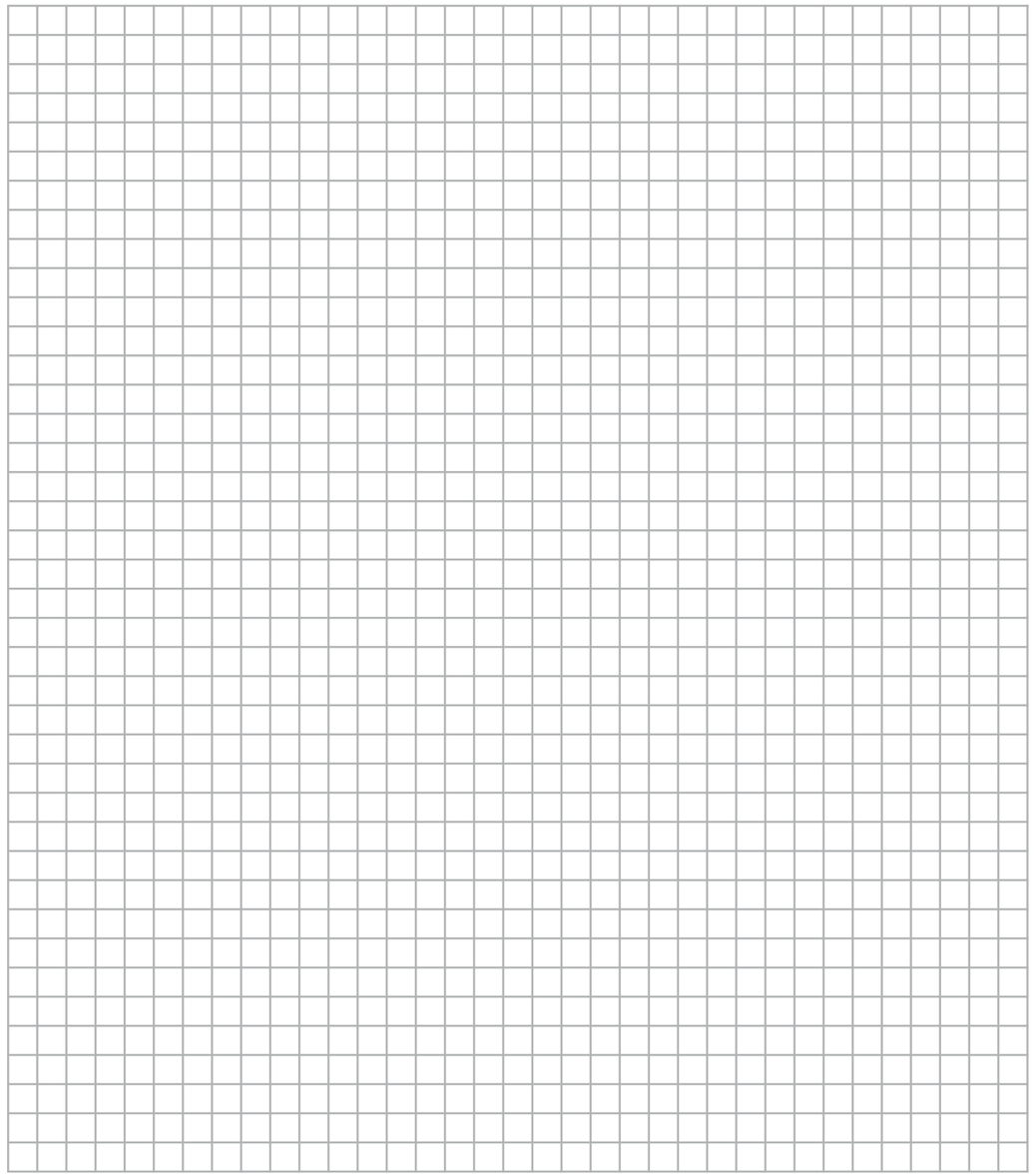
# Sketches and notes







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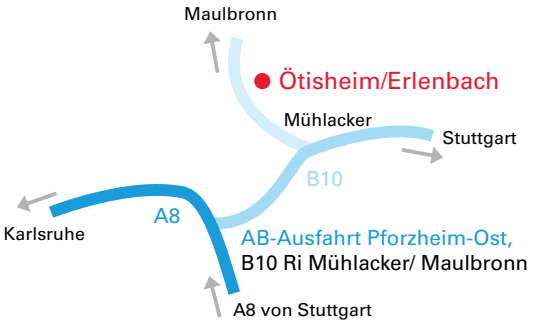


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