# Better precision and liability with
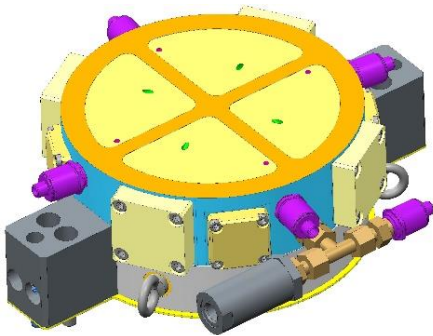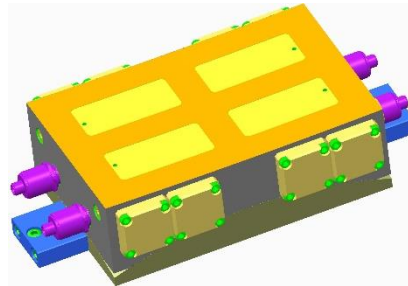# hydrostatic components
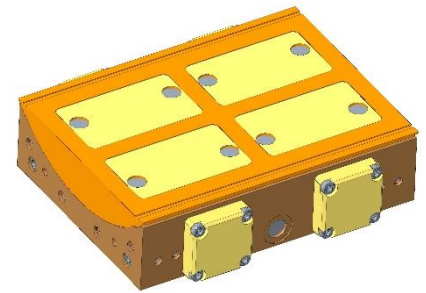
for axial bearing
of big rotary tables



for big ring bearing
radial bearing
of big rotary tables



Tilting pocket
For lower support
of Z-axis RAM

## Why using hydrostatic swivel units?

✓ Hydrostatic pocket pockets need very parallel gap to avoid contact.
✓ Production tolerances and deformation of table and base result parallel errors of gap.
✓ Using swivel unit with hydrostatic sphere in between, pocket adjust automatically parallel.
✓ Big rotary table with swivel units works very reliable, contact free, independent of deformation of base and table.
✓ Using smaller gaps than standard pockets, smaller hydraulic unit and smaller cooling unit with less power and oil flow can be used, or with same flow, larger speed is possible.
✓ Swivel units used for vertical lathes, big telescopes (ELT) or testing machines or moving bridges.
✓ Tilting pockets, with cylinder shape in between, used for lower support of RAM, where bending angle is can be large by large cutting forces.

| Swivel pocket axial | Ø 150 mm | Ø 250 mm | Ø 320 mm | Ø 400 mm | Ø 580 mm |
|---|---|---|---|---|---|
| **Max. force 100bar** [1] | 120 kN | 370 kN | 620 kN | 900 kN | 2000 kN |
| **Max. speed VG46** [2] | 6 m/s | 5,5 m/s | 5,5 m/s | 5,5m/s | 5.000 N |
| **Oil flow 100bar** [3] | 1-4 l/min | 2-9 l/min | 2-10 l/min | 3-15 l/min | 3,5 – 17 l/min |
| **Max. speed VG15** [2] | 16 m/s | 13 m/s | 13 m/s | | |
| **Oil flow 100bar** [3] | 2 -9 l/min | 4 -18 l/min | 4 -19 l/min | | |
| **axial gap stiffness** [4] | 1,5  28 kN/µm | 6-80 kN/µm | 8-100 kN/µm | 14-180 kN/µm | 10-350 kN/µm |

**Oil viscosity, oil temperature range, oil flow and oil pressure is adapted to forces and speed for every application.**

[1] max. theoretic force at where pocket pressure 90% of pump pressure [1] max. speed at 15°K heating by friction
[3] Oil flow at max. force at 30°C with oil viscosity VG46  [4] at 30% of Fmax. With synthetic oil with high VI-Index.

| Swivel pocket | 280x180mm | 170x248mm | 170x318mm | 200x340mm | |
|---|---|---|---|---|---|
| **Type, inside geometry** | Radial R5000 spherical | RAM 250 mm cylindrical | RAM 320 mm cylindrical | RAM 400 cylindrical | |
| **Max. force 100bar** [1] | 300 kN | 2x 120 kN | 2x 170 kN | 440 kN | |
| **Max. speed VG46** [2] | 5 m/s | 40 m/min | 40 m/min | 40 m/min | |
| **Oil flow 100bar** [3] | 9-16 l/min | 0,4-2 l/min | 0,5- 2,5 l/min | 0,3-1,2 | |
| **axial gap stiffness** [4] | 3-25 kN/µm | 1,5-400 kN/µm | 2-500 kN/µm | 3-800kN/µm | |