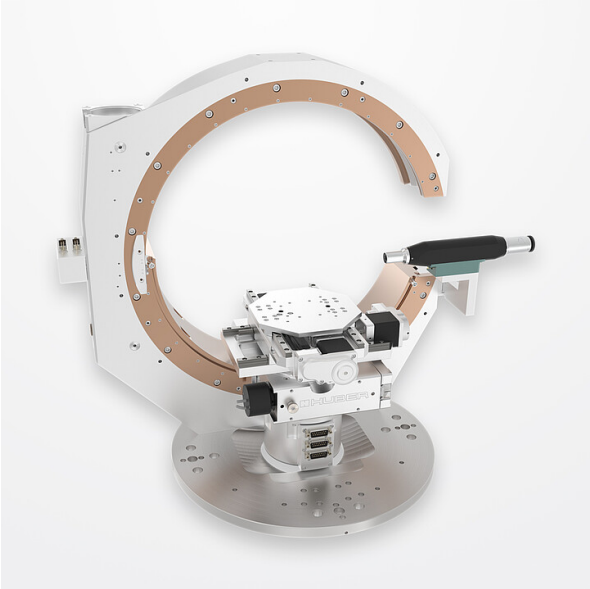


Eulerian Cradle 512.51

The Eulerian cradle is a full-circle cradle with an assymetrical design. The Phi- and Chi-circle planes are at right angles to one another.

The motor and signal currents are transmitted via slip rings. This enables an unrestricted rotation around both axes.

A motorised XYZ-stage with an operational range of 150 x 150 x 25 mm is integrated in the Phi-circle.

For sample adjustment an optical microscope or an optional CCD-camera is integrated (see Accessories MiniVID).

All movements are equipped with zero-point controls, limit switches and step motors.

General Information:

The Eulerian cradles of the series 500 can be combined with the goniometers of the series 400 to create multi-circle diffractometers. These can be used for analytical investigations in the fields of X-ray and neutron diffraction.

Specifications rotation:

Sphere of confusion [mm]:	0.05***
Parallelity (Chi-plane to Phi-axis) ["]:	<= +/- 20***
Weight [kg]:	69

	Phi-circle	Chi-circle
Travel range [°]:	360	160
Gear ratio:	360:1 / 180:1**	360:1
Accuracy["]:	30	30
Repeatability (unidir.) ["]:	<= 2	<= 3
Reversal error ["]:	<= 10	<= 15
Resolution [°]:	0.001* / 0.002* **	0.001*
Min. drive torque [Nm]:	0.1 / 0.13**	1.5
Flange size [mm]:	56	83

* step motor, 1000 steps/revolution

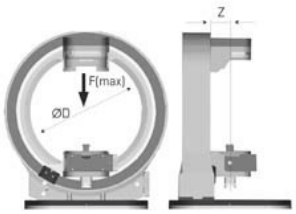
** using Goniometer 410A

*** with a load of 5kg

Specifications translation:

	X	Y	Z
Travel range [mm]:	150	150	25
Resolution [µm]:	0.005	0.005	0.0025
Repeatability (unidir.)[µm]:	+/- 5	+/- 5	+/- 2
Reversal error [µm]:	5	5	3

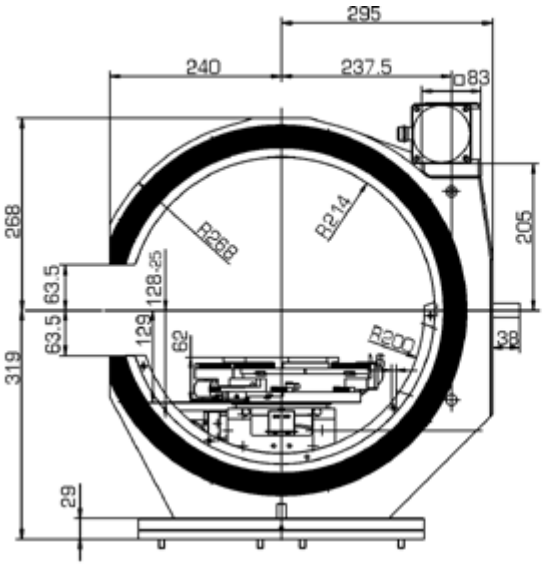
Dimensions [mm]:

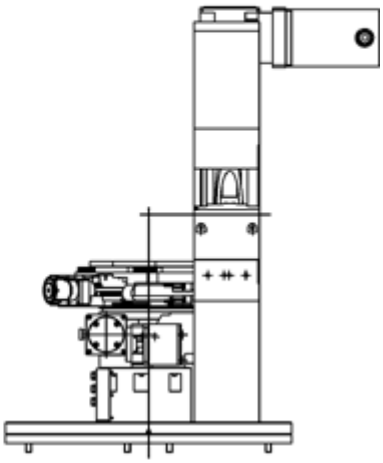


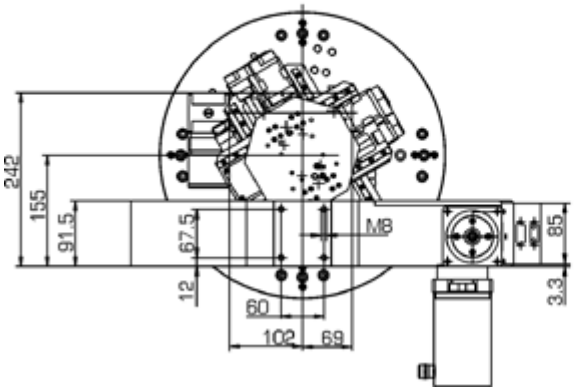
D:	Z:
400	63.5

Accessories:

Motors:	included
Limit switches:	included
Zero-point control:	included
Gear boxes:	2056.05 (Phi)
	2056.10 (Phi)
	2056.20 (Phi)
	2083.05 (Chi)
	2083.10 (Chi)
	2083.20 (Chi)
Encoder:	incremental
	absolute
Control system:	9300
CCD-camera:	MiniVID
Goniometer heads:	Series 1000


295
240
237.5
□83
268
R268
R214
205
63.5
128-25
63.5
129
62
R200
38
319
29




242
155
91.5
67.5
M8
85
12
3.3
60
102
69