Eulerian Cradle 511.5

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.

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 the Phi-axis.

A manual Z-adjustment 5104.A05 is integrated in the Phi-circle, enabling the mounting of goniometer heads.

Incorporated in the Chi-circle is an aperture of 90mm. This limits the operational range to 157°.

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

Both circles are equipped with zero-point controls and step motors. A range of different motor types and specifications is available according to customer requirements.

In combination with the 2-Circle Goniometer 424 this system forms a compact X-ray diffractometer.

Specifications:

Sphere of confusion[mm]:	0.02***
Parallelity (Chi-plane to Phi-axis) ["]:	<= +/- 20***
Weight [kg]:	22

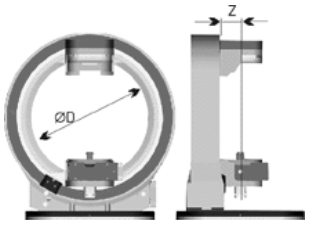
	Phi-circle	Chi-circle
Travel range [°]:	360	157
Gear ratio:	360:1 / 180:1**	360:1
Accuracy ["]:	30	30
Repeatability (unidir.) ["]:	<= 2	<= 2
Reversal error ["]:	<= 10	<= 15
Resolution [°]:	0.001* / 0.002**	0.001*
Min. drive torque [Nm]:	0.10 / 0.13**	0.7
Flange size [mm]:	56	56

* step motor, 1000 steps/revolution

** using Goniometer 410A

*** with a load of 5kg

Dimensions [mm]:

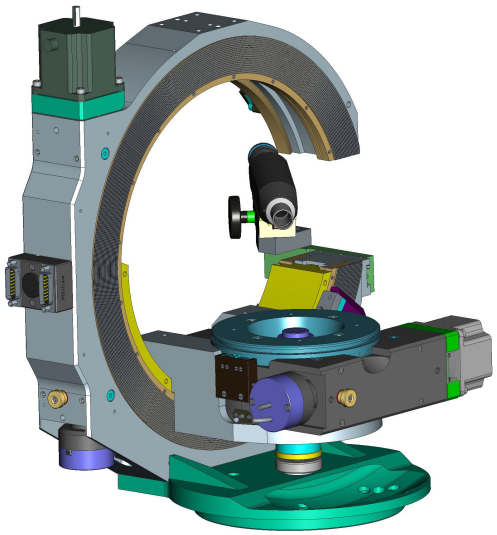


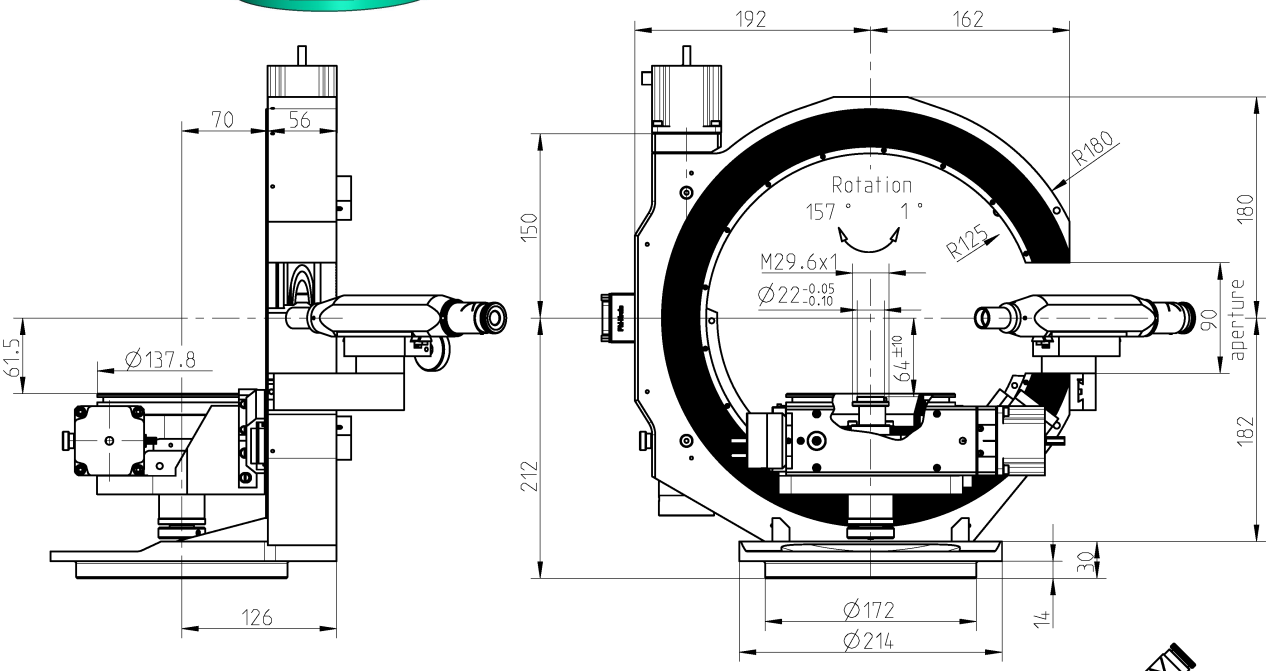
D:	Z:
250	70

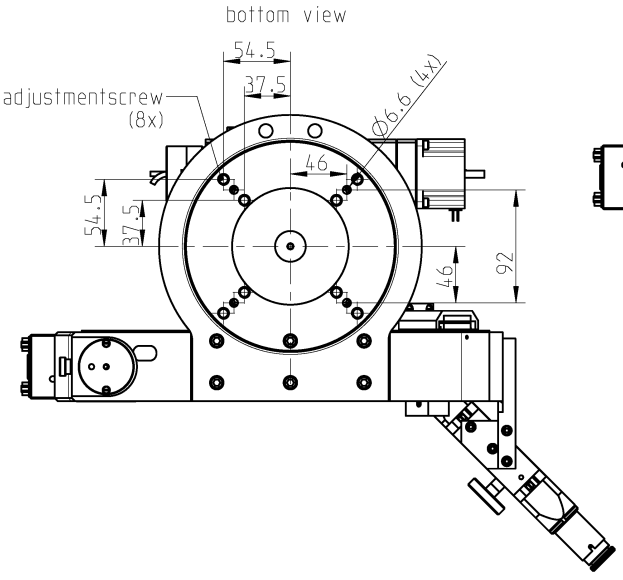
Accessories:

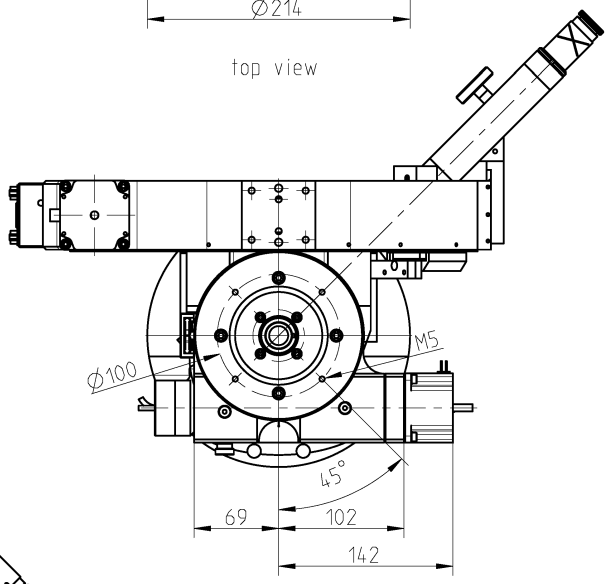
Motors:	included
Limit switches:	included
Zero-point control:	included
Gear boxes:	2056.05
	2056.10
	2056.20
Encoder:	incremental (Chi)
	absolute (Chi)
Control system:	9300
CCD-camera:	MiniVID
Z-adjustment motorised:	5104.A05M*
Goniometer heads:	1001
	1002
	1004
	1007

* special base necessary, cradle raised by 40mm




192
162
70
56
61.5
Ø137.8
126
150
212
Rotation
157 °
1 °
R180
R125
M29.6x1
Ø22 -0.05 -0.10
64 ±10
180
90
aperture
182
30
14
Ø172
Ø214


bottom view
54.5
37.5
adjustmentscrew
(8x)
Ø6.6 (4x)
46
54.5
37.5
46
92


top view
Ø100
M5
45°
69
102
142