



## Eulerian Cradle 511.1

### 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 asymmetrical 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 manual Z-adjustment 5104.A05 is integrated in the Phi-circle, enabling the mounting of goniometer heads of the series 1000.

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

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.

It is possible to equip the Eulerian cradle with a cryostat mount and/or counter bearings for mounting individually required equipment.

### Specifications:

Sphere of confusion [mm]:	0.02***
Parallelity (Chi-plane to Phi-axis) ["]:	+/- 20***
Weight [kg]:	18

	Phi-Circle	Chi-Circle
Travel range [°]:	360	360
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]:	0.1 / 0.13**	0.8
Flange size [mm]:	56	56

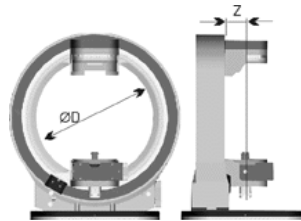
\* step motor, 1000 steps/revolution

\*\* using Goniometer 410A

\*\*\* with a load of 10kg

### Dimensions [mm]:

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D:	Z:
250	70

### Accessories:

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Motors:	included
Limit switches:	included
Zero-point control:	included
Gear boxes:	2056.05
	2056.10
	2056.20
Encoder:	incremental
	absolute
Control system:	9300
CCD-camera:	MiniVID
Cryostat mount:	511.12
Counter bearing:	511.11
Z-adjustment motorised:	5104.A05-20M*
Goniometer heads:	1001
	1002
	1004
	1007

\* special base necessary, cradle raised by 40mm

