Eulerian Cradle 511.52

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 both axes.

Incorporated in the Phi-circle is a motorised XY-stage with an operational range of 60x60mm. The Z-adjustment (15mm) is manual.

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

All movements (except Z-adjustment) are equipped with zero-point controls, limit switches and step motors.

Specifications rotation:

Sphere of confusion [mm]:	0.05**
Parallelity (Chi-plane to Phi-axis) ["]:	<= +/- 20**
Weight [kg]:	24

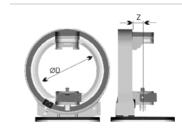|	Phi-Circle	Chi-Circle
Travel range [°]:	360	157
Gear ratio:	180:1	360:1
Accuracy ["]:	40	30
Repeatability (unidir.) ["]:	<= 2	<= 2
Reversal error ["]:	<= 20	<= 15
Resolution [°]:	0.002*	0.001*
Min. drive torque [Nm]:	0.05	0.7
Flange size [mm]:	32	56

* step motor, 1000 steps/revolution

** with a load of 3kg

Specifications translation:

	X	Y	Z
Travel range [mm]:	60	60	15
Resolution [µm]:	0.005	0.005	0.05
Repeatability (unidir.) [µm]:	3	3	20
Reversal error [µm]:	4	5	-

Dimensions [mm]:

D:	Z:
250	70

Accessories:

Motors:	included
Limit switches:	included
Zero-point control:	included
Gear boxes:	2056.05 (Chi)
	2056.10 (Chi)
	2056.20 (Chi)
Encoder:	incremental
	absolute
Control system:	9300
CCD-camera:	MiniVID

XY-Translation ± 30mm