4-Circle Diffractometer 5042

The Huber diffractometer type 5042 is a stable and versatile 4-circle diffractometer that can be used both for X-ray as well as for neutron applications.

Depending on its use, the system is equipped with different components:

X-ray sources, X-ray optics and different detectors.
The version on the picture and in the 3D file download is an example configuration.

Specifications Phi-/Chi-circle:

	Phi-Circle	Chi-Circle
Travel range [°]:	360	360
Resolution [°]:	0.001*	0.001*
Accuracy ['']:	30*	30*
Repeatability (unidir.)['']:	<= 2*	<= 3*
Reversal error ['']:	<= 10*	<= 15*
Gear ratio:	360:1 / 180:1**	360:1

* better values i.e. in combination with encoders and gear boxes on request.
** using Goniometer 410A

Specifications 2-Theta/Omega:

	2-Theta	Omega
Resolution [°]:	0.001*	0.001*
Accuracy ['']:	<= 20*	<= 20*
Repeatability (unidir.)['']:	<= 2*	<= 2*
Reversal error ['']:	<= 4*	<= 4*
Gear ratio:	360:1	360:1
Eccentricity [μm]:	<= 3	<= 3
Wobble ['']:	<= 2	<= 2

* better values i.e. in combination with encoders and gear boxes on request.

Specifications system:

Sphere of confusion [mm]:	<= 0.02
Weight [kg]:	320

The instrument features:

- step motors
- limit switches and zero-point control
- collimator and detector arms
- detector mount
- cross slit screen 3011
- collimators (inside diameter 0.3/0.5/0.8mm)
- primary beam collector
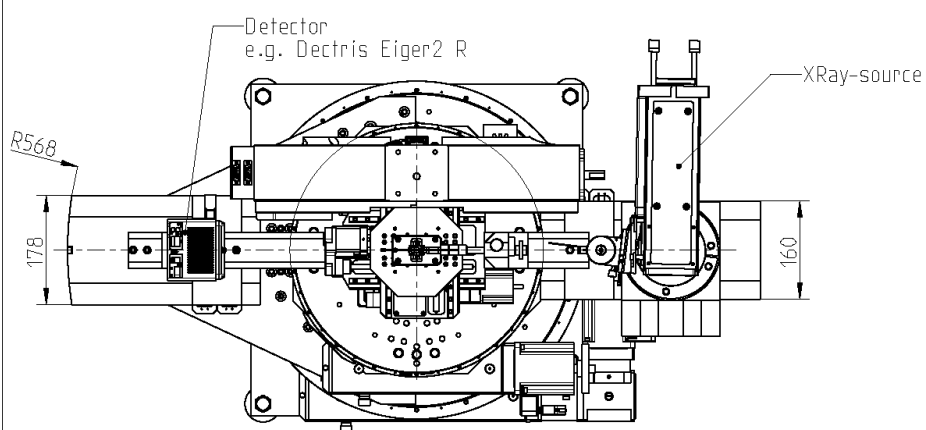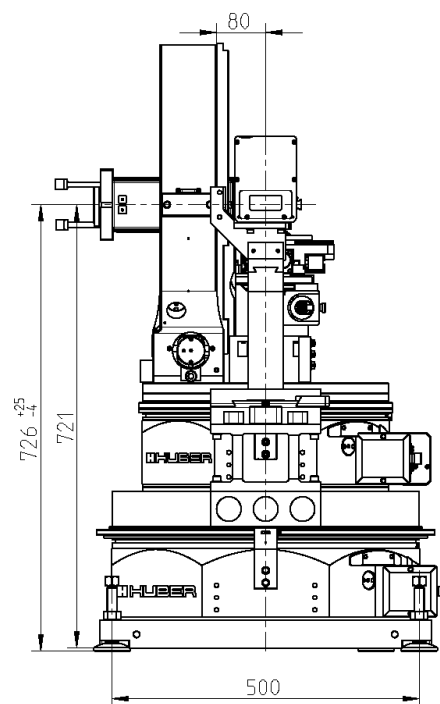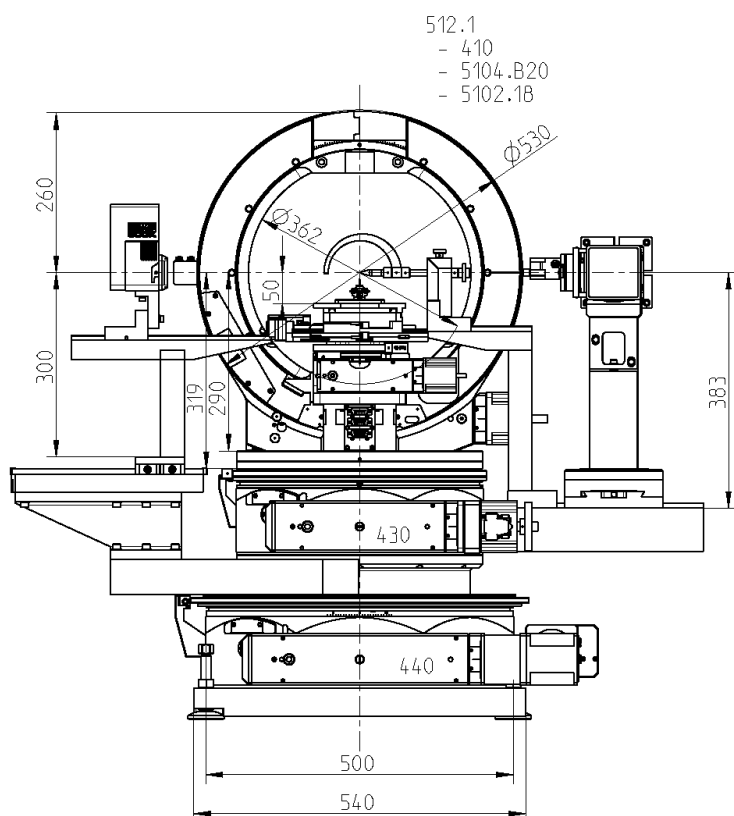- secondary beam collector (inside diameter 3.2mm)

We would be happy to incorporate customer specific alterations, if technically possible.

Accessories:

Collimator arm XYZ-cryostat carrier:	512.120
	512.120M
Counter bearing:	512.110
Slit screens:	Series 3000
XY-stages:	optional
Control system:	9300
CCD-camera:	MiniVID
Motors:	2-/3/-5-Ph.
Limit switches:	included
Zero-point control:	9100
Goniometer heads:	Series 1000
Encoder:	incremental
	absolute
Integr. Z-stages motorised:	5104.A05M
Gear boxes (Phi):	2056.05
	2056.10
	2056.20
Gear boxes (Chi, Omega, 2-Theta):	2083.05
	2083.10
	2083.20
Mounting for tube shield:	adjustable in X/Y/Z/Rz/Ry

Alignment bases: optional

Alignment bases: optional

512.1
– 410
– 5104.B20
– 5102.1B

Ø530

Ø362

50

260

300

319

290

430

440

383

500

540

80

726 +25 −4

721

500

Detector
e.g. Dectris Eiger2 R

XRay-source

R568

178

160

HUBER 5042 (79587-201793)