



Goniometer 409

- four precision configurations
- two load configurations

Application specific versions:

- vacuum suitable
- antimagnetic
- radiation resistant
- in black

Modularly individually configurable:

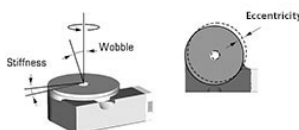
- from basic model to high-end system
- to multi-axis systems
- with individual transmission aperture
- with customer-specific hole pattern

Specifications:

Travel range [°]:	360
Material (housing/worm gear):	Aluminium/Bronze
Gear ratio:	180:1
Resolution [°]:	0.002 **
	0.001 minimum
Min. drive torque [Nm]:	0.12
Max. output torque [Nm]:	4
Stiffness [μrad/Nm]:	6
Weight [kg]:	2.2
Flange size [mm]:	42
Transm. aperture [mm]:	20 (standard) - 61

** step motor, 1000 steps/revolution

Precision configurations:



X1

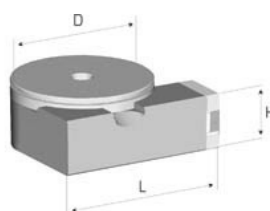
X2

X3

XE

Accuracy ["]:	≤45	30	15	on request
Repeatability (unidir.) ["]:	≤4	2	2	on request
Reversal error ["]:	≤20	15	9	on request
Eccentricity [μm]:	≤5	3	2	2
Wobble ["]:	≤8	5	3	3

Dimensions [mm]:



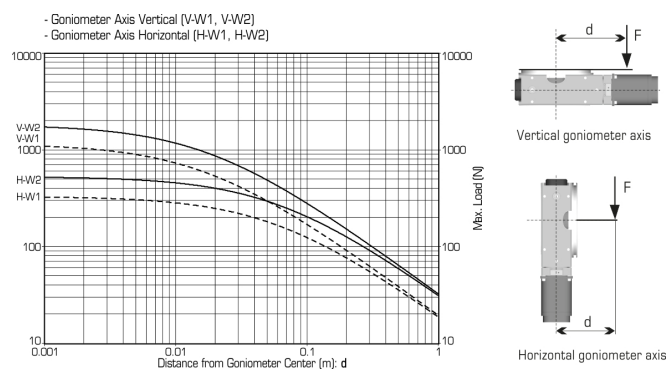
D:	L:	H:
110	110	60

Accessories:

Motors:	2-/5-Ph. Servo/DC
Hand wheels:	0042
Gear boxes:	2042.10 2042.20
Limit switches:	included
Zero-point control	9100
Encoder XE :	incremental absolute
Control system:	9300

Load configurations:

	vertical gonio. axis	horizontal gonio. axis
Max. load [N] W1 :	1100	320
Max. load [N] W2 :	1800	500



- Goniometer axis vertical (V- W1 , V- W2)
- Goniometer axis horizontal (H- W1 , H- W2)

