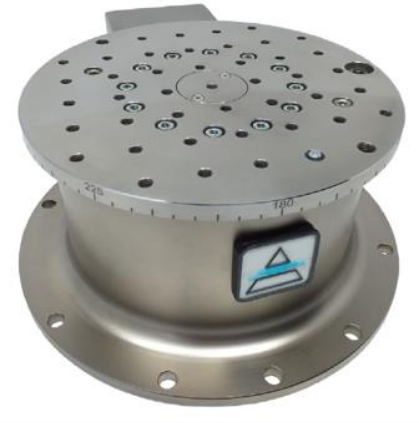

MOTORIZED ROTARY TABLE
TGV200-H012

The TGV200-H012 rotary table guarantees an extremely high accurate movement matched with high load capacity.
The body of the stage is entirely made of steel while the tabletop is made of stainless steel AISI 420.
Main features are high feedback resolution encoder, sub-micrometer run-out and sub-micrometer positioning errors.
The innovative combined axial-radial rolling bearings ensure high stiffness both in axial and radial direction.
These characteristics guarantee high structural, torsional and transmission stiffness, high accuracy in positioning and low sensitivity to temperature variations due to operative duty-cycles.

The TGV200-H012 rotary table is designed for both vertical and horizontal applications.

BENEFITS
No backlash drive system
High payloads
Low sensitivity to temperature change
Flexibility and suitability for wide range of applications

INDUSTRIAL SECTORS
LENGHTS METROLOGY
MASS AND FORCES METROLOGY
SEMICONDUCTORS
BIOMEDICAL

APPLICATIONS
Coordinate measuring machines
Semiconductor applications
Optical test
Computed Tomography
Laser cut and scribing
Micro Milling Machines

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MAIN FEATURES	UM	Description
axial bearing technology		rolling
radial bearing technology		rolling
tabletop material		hardened AISI 420
gear technology		no backlash

DIMENSIONS AND MASSES		UM	Description
tabletop diameter	D_p	mm	Ø 199
base diameter	D_B	mm	Ø 239
total height	H	mm	120
hollow shaft – through hole diameter	H_t	mm	12
total mass	m	kg	13.5
rotary parts inertia	J	kg·mm²	18500

PERFORMANCE		UM	Description
max axial payload	L_a	N	1000
axial stiffness	k_a	N/µm	1700
radial stiffness	k_r	N/µm	2200
tilt stiffness	k_f	Nm/mrad	2500
axial run-out error (3)	e_a	µm	≤ +/-0.2
radial run-out error (3)	e_r	µm	≤ +/-0.5
wobble error (3)	e_w	µrad	≤ +/-8
tabletop/base parallelism	e_p	µm	≤ 10.0
maximum speed	n_{t_max}	rpm	10
continous torque at the rotary table	T_{ct}	Nm	23
maximum torque at the rotary table	T_{pt}	Nm	30
gear ratio	τ		1:300

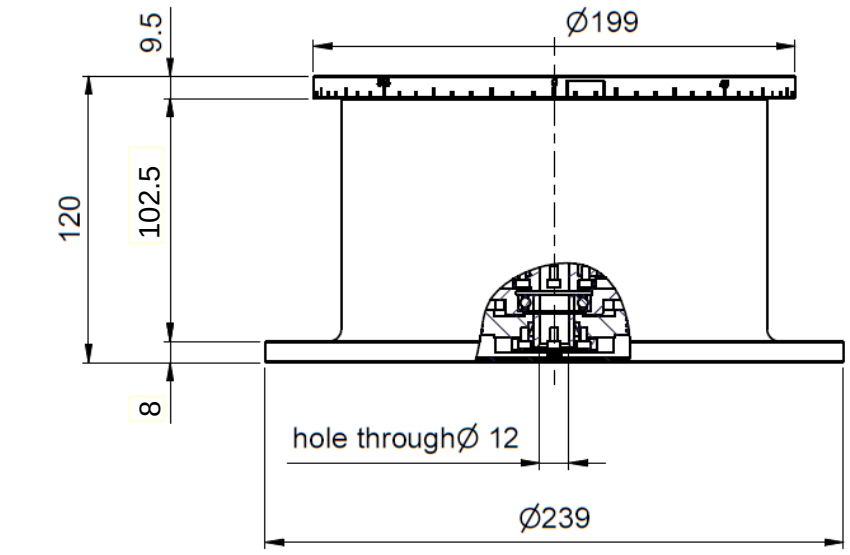
MOTOR		UM	Description
motor type			DC brush
power source voltage	u_n	V	48
nominal speed	n_n	rpm	3000
no load speed	n_{C0}	rpm	3850
continous torque	T_{c_m}	Nm	0.11
stall torque	T_{s_m}	Nm	0.5
continous current	I_{c_m}	A	0.95
peak current	I_{p_m}	A	4.2
no load current	I_{C0}	A	0.04
efficiency	η		0.84
torque constant	k_{T_m}	Nm/A	0.12
speed constant	k_{v_m}	rpm/V	80.5
electrical resistance	R	Ω	11.4
electrical inductance	L	mH	3.16

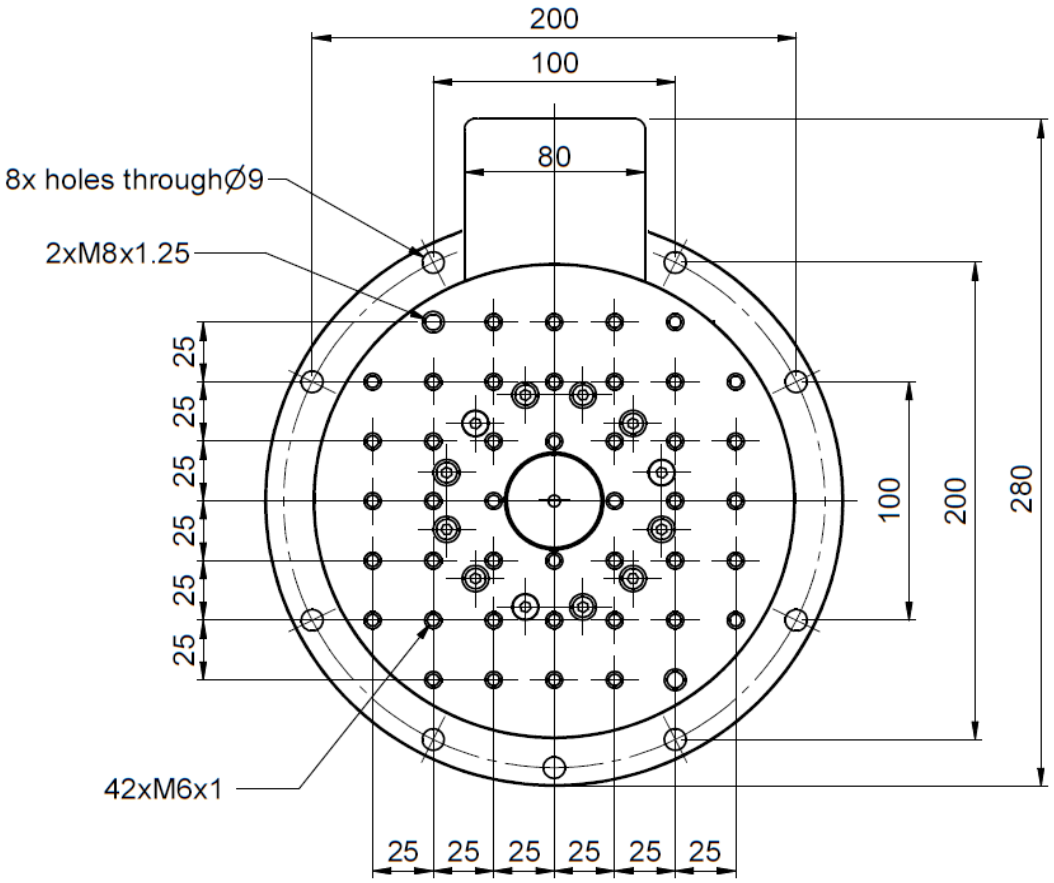
MOTOR DC TACHO (optional)	UM	Description
voltage @ 1000rpm	V	0.52
max. current	A	0.01
terminal electrical resistance	Ω	37.7
linear voltage tolerance		<0.8%
peak to peak ripple		<6%

TABLE ENCODER (1)	UM	Description
technology		Optical incremental
resolution	puls/rev	20000
accuracy	arcsec	+/-2.5
power souce voltage	V	5
output signal		1 Vpp

(1) Different types of encoders on demand.
(2) The values here mentioned refer to standard electric drives. Optional: mapping of repeatable errors for real time or post-processing angular compensation.
(3) The values here refer to no payload.
** Configuration, data and performances here indicated refer to a rotary stage applied on a vertical axis.

Outline drawing





** Some dimensions may change due to wiring configuration.

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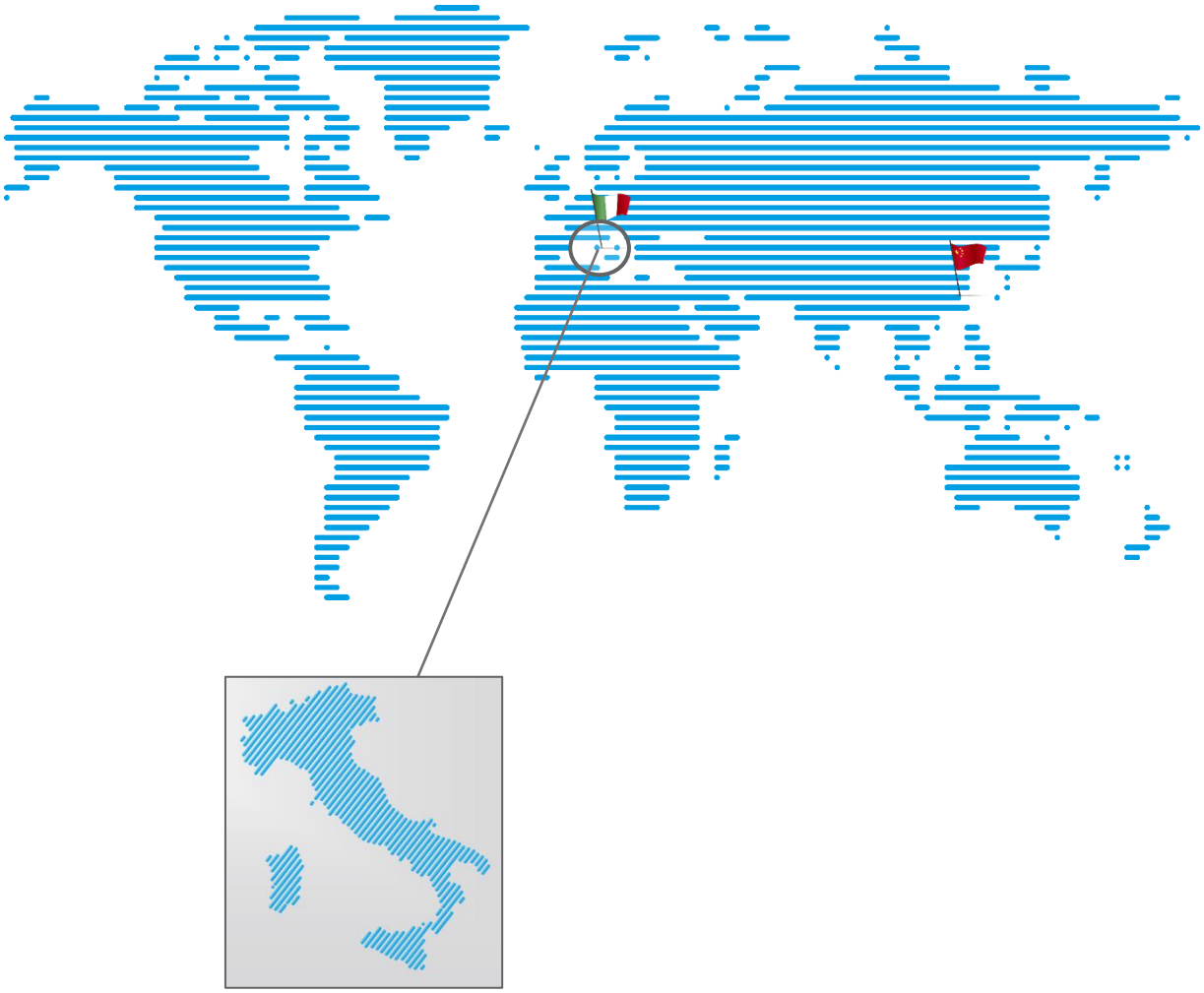

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