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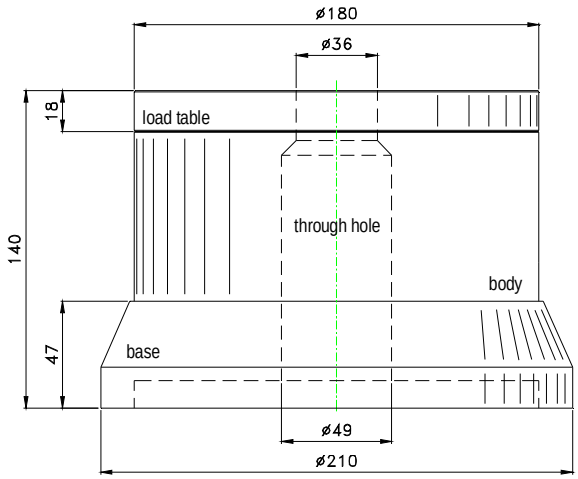
PNEUMOSTATIC ROTARY MOTION SYSTEM *DATA SHEET* TGH180-036

The pneumostatic rotary motion system TGH has pneumostatic bearings either on axial and radial direction.
For the axial direction, it has an upper load bearing (load table) with a magnetic counterthrust system for preload.
Main features of this table are: direct drive, high-resolution angle encoder, hollow shaft, very high precise run-out and positioning.
The hollow shaft allows cables and fittings to pass through the table.
This kind of table is suitable for the use where high position accuracy is requested:
measuring and control systems, light machine tooling, laser applications, semiconductor production.

TOTALLY FREE OF MECHANICAL CONTACT BETWEEN STATOR AND ROTOR AT EVERY SYSTEM LEVEL
– BEARING, DRIVE, ENCODER –



MAIN CHARACTERISTICS	TGH180-036
standard code	F0202-103200
axial bearing tecnology	pneumostatic
radial bearing tecnology	pneumostatic
load table material	tempered AISI420
air inlet	1/8 GAS

MOTOR	TGH180-036
tecnology	direct drive
motor	torque
poles	22
peak torque	38 Nm
continous torque	8 Nm
ANGLE ENCODER (1)	**TGH180-036**
tecnology	optical ring incremental with zero
mounting	bearing-free
line counts per round	11840
accuracy	3 arcsec
supply	5V ±5%
signal	1 Vpp

MAIN DIMENSIONS AND MASS		UM	TGH180-036
load table diameter	D_p	mm	Ø 180
base diameter	D_B	mm	Ø 210
total height	H	mm	140
through hole diameter of the hollow shaft	H_t	mm	Ø 36
total mass	m	kg	12.5
total moment of inertia of rotating parts	I	kg·m²	0.016

	PERFORMANCES		UM	TGH180-036
	standard supply pressure	p	bar	5
	minimum / maximum supply pressure	$p_{m/M}$	bar	4 / 6
(2)	pneumostatic operational axial payload	L_a	N	1800
(2)	pneumostatic maximum axial payload	$L_{a\,lim}$	N	2500
(2)	pnumostatic axial stiffness	R_a	N/µm	180
(2)	pneumostatic radial payload	L_r	N	180
(2)	radial stiffness	R_r	N/µm	8
(2)	consumption Q (with no payload)	Q	Nl/min	35
	radial run-out *(@ load table level)*	e_r	µm	≤ 0.8
	axial run-out	e_a	µm	≤ 2.0
	position accuracy (3)	P_a	arcsec	5.0
	position repeteability (3)	P_r	arcsec	2.0

(1) Different encoders by request.
(2) Values of L, R and Q are referred to the standard supply pressure. Values at different supply pressure are directly proportional, in the range 4 ÷ 6 bar, to the difference from to the standard pressure. The pneumostatic round tables of the TGH series have been designed for the use with the turning axes displaced in vertical position. Different displacements must be evaluated as the case may be.
(3) With calibration, drive dependent – shown values referring to employment of ETEL's drives (error mapping available)

2D (dxf, dwg) or 3D (step) drawings available by request

AIR SUPPLY CHARACTERISTICS

Requested filtering power against particles: 1µm. NOT lubricated air (no oil), dry air. Dew point at the operative pressure: 3°C.
MAGER suggests the use of a pressure switch for the electrical block (motor) in case of air supply pressure decreasing. Block @ 0.9 *p*. Reset @ 1.1 *p*

OPTIONALS

- add-on load table with extended diameters (XLT)
- centering systems on customer specifications
- drive
- custom base
- pneumatic unit for filtering and pressure regulation of the air supply with pressure switch