

DC-Tachogenerators

Precious Metal Commutation

Series 1616, 1624

		1616 T 001 G9	1624 T 1,4 G9	
EMF constant	K_E	1,0	1,4	mV/rpm
Tolerance of EMF constant		9,55	13,40	mV/rad/s
Load resistance	R_L	± 1	± 1	%
Recommended max. speed:		≥ 20	≥ 8	k Ω
– for continuous operation	$n_{e \text{ max.}}$	5 000	5 000	rpm
Current, max. recommended		limited by the load resistance		
Terminal resistance	R	210	75	Ω
Ripple, peak-peak, typical		7	7	%
Ripple, frequency, cycles		10	10	per turn
Linearity, without load ...				
between 500 rpm and 5 000 rpm	\pm	0,2	0,2	%
Reversion error	\pm	0,2	0,2	%
Temperature coefficient of EMF		0,02	0,02	%/°C
Temperature coefficient of armature resistance		0,4	0,4	%/°C
Rotor inductance	L	3 000	3 000	μH
Rotor inertia	J	0,31	0,64	gcm ²
Commutator segments		5	5	gold alloy
Operating temperature range				
– standard		– 30 ... + 65	– 30 ... + 85	°C
– optional		– 30 ... + 125	– 30 ... + 125	°C
Shaft bearings		sintered bronze sleeves	ball bearings	ball bearings, preloaded
Shaft load max.:		(standard)	(optional)	(optional)
– with shaft diameter		1,5	1,5	1,5
– radial at 3000 rpm (3 mm from bearing)		1,2	5	5
– axial at 3000 rpm		0,2	0,5	0,5
– axial at standstill		20	10	10
Shaft play:				
– radial	\leq	0,03	0,015	0,015
– axial	\leq	0,2	0,2	0
Weight		13	23	g
Housing material		steel, zinc galvanized and passivated		
Direction of rotation		reversible		
Polarity		+ on plus pole if shaft is driven in clockwise direction		

Design

These tachogenerators feature the patented skew wound ironless rotors (System FAULHABER®).

Commutation system

Commutator and brushes are made of high quality gold alloy and provide a minimized but constant contact resistance as well as insensibility to changes in environment.

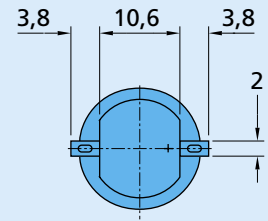
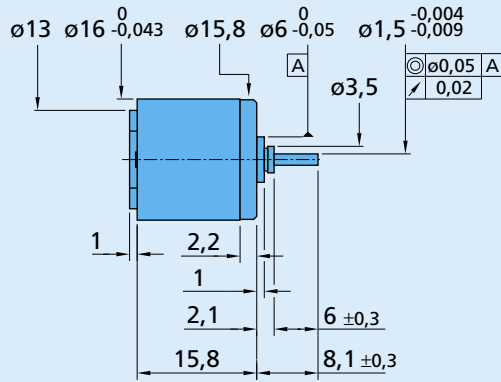
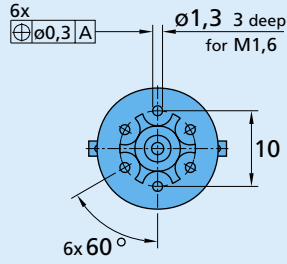
Advantages

This unique design exhibits the following advantages:

- excellent commutation signal
- linear speed/back-EMF characteristics
- high efficiency
- low armature inertia
- smooth running
- extreme low starting friction – even after long standstill

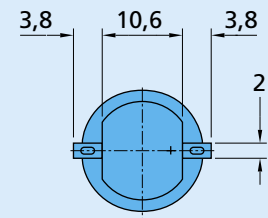
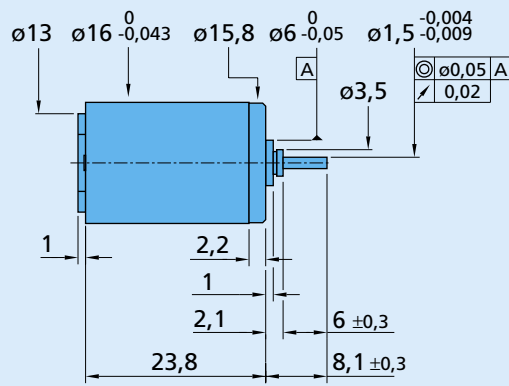
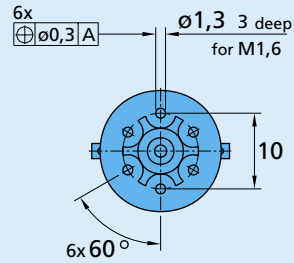
Dimensional drawings

Orientation with respect to generator terminals not defined



1616 T 001 G9

Orientation with respect to generator terminals not defined



1624 T 1,4 G9