Turntable Coreless DC motor

The ironless rotor motors have been designed for applications which require high efficiency and smooth running at all speeds.
No magnetic detent (holding) torque allows motor to be adjusted forwarder or reverse effortlessly
Precious-metal commutation with 9 segment and 3 brushes ensure optimum commutation making the motor effortlessly suitable for accurate electronic speed control or optimum function as servo motor or DC Tachogenerator

Features

* Ironless rotor with oblique winding
* Low mechanical time constant
* High starting torque
* Low moment of inertia
* Combination of the above commutation/brush construction with sintered slide bearing ensures long life smooth running and low noise
* Thrust rear bearing limits the shaft pulley from pumping when driving a belt

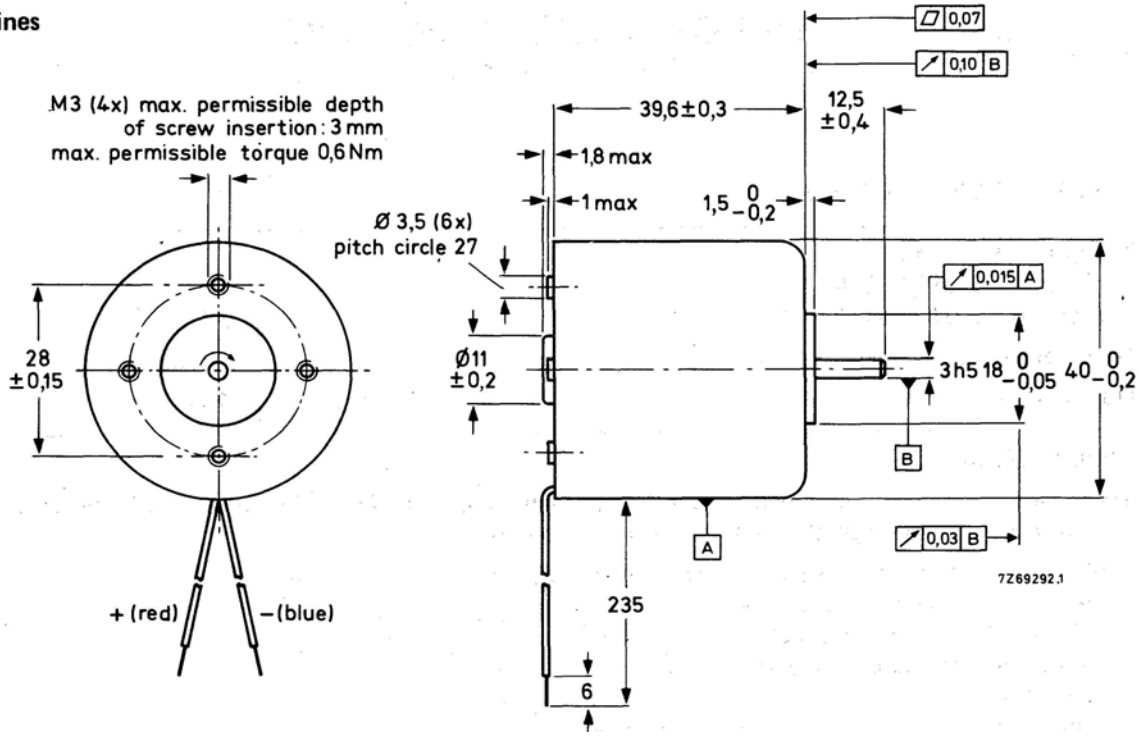
Applications:

* High quality turntable which utilize belt drive platter.
* video recorders (capstan and reel drive)
* digital cassette and cartridge recorders
* recording measuring instruments

Motor Dimensions

TECHNICAL DATA

Outlines



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MOTOR TECHNICAL DATA

Ordering Part Number 9904 120		**16141**	**16803**
Nominal voltage	V	12	24
Nominal torque	mNm	10	
Nominal speed	rev/Min	2850	
Input power	W	3.6	
Speed no load	rev/Min	3300	
Direction of rotation		reversible	
E.M.F. at 3000 rev/min	V	11	22
Torque constant	Nm/A	$35x10^{3}$	$70x10^{3}$
Rotor resistance measured without brushes	Ohm	6.2	24.5
Current at nominal voltage			
*at nominal torque	mA	300	150
*at no load	(max) mA	24	15
Starting torque at nominal voltage	(typ) mNm	65	
Rotor inductance	mH	0.8	3.3
Rotor moment of inertia	$Kgm^2 10^3$	3.92	
Max voltage	V	15	30

Ambient temperature range		
* Operating	°C	-10 +60
*Storage	°C	-40+70
Mechanical time constant of motor	ms	19.6
Thermal resistance between winding & housing	(Typ)°K/W	6
Thermal resistance between winding & ambient	(Typ)°K/W	16
Test volts(DC) between housing and terminals	V	500
Bearing		slide
Special feature Rear bearing		thrust
Max radial force	N	7
Max axial force	N	0.5
Mass	g	205

Fig. 2 typical curves of motor operated at full and one halve voltage

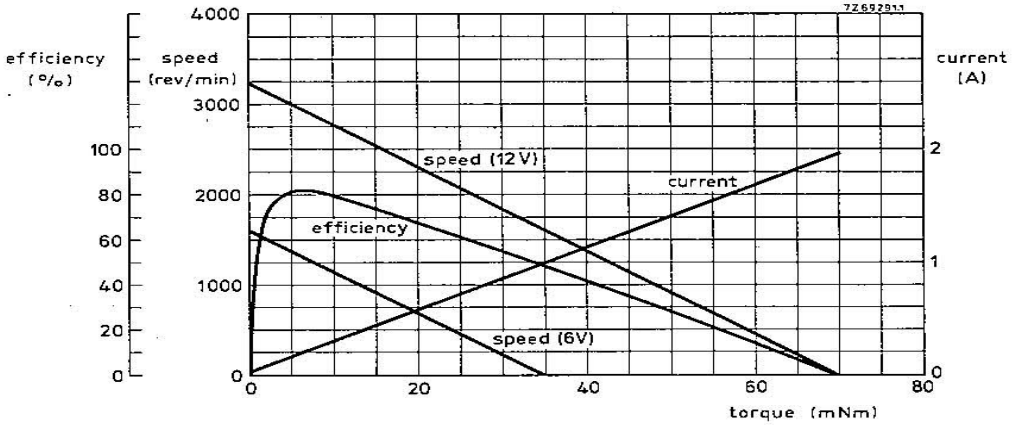

Fig. 2 typical curves of motor 9904 120 16141 at 12 V, T ambient =20°C

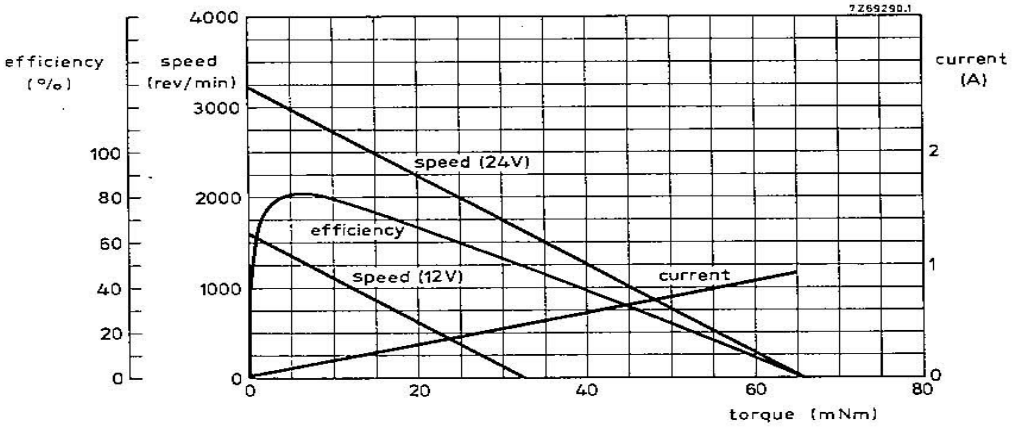

Fig. 2 typical curves of motor 9904 120 16803 at 24 V, T ambient =20°C

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