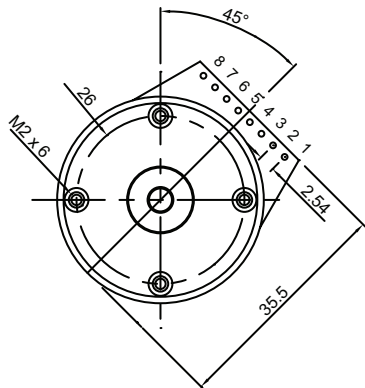
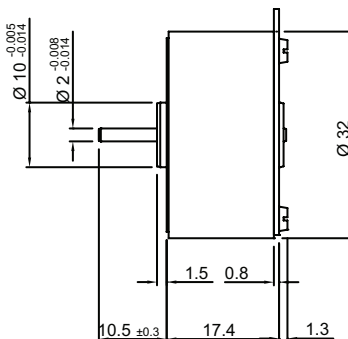


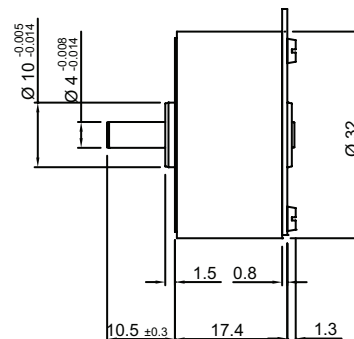
60 steps/revolution
6° step angle



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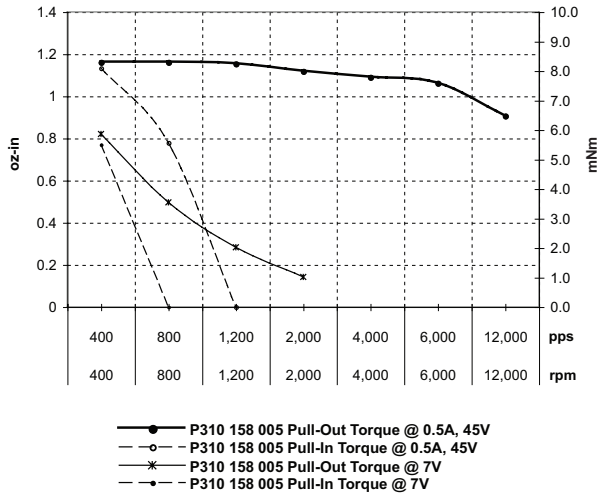
P310 • 158 ■■•10



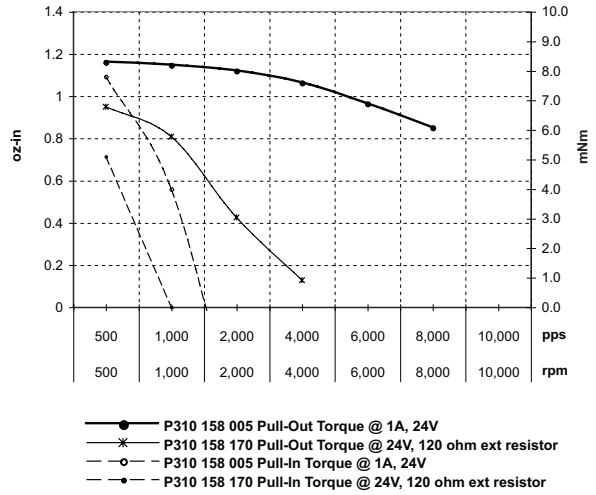
Motor Part Number	P310 158 170 09		P310 158 005 09		
	Series	Parallel	Series	Parallel	
Rated voltage	vdc	20.00	10.00	6.00	6.00
Resistance per phase, ± 10%	ohms	332.00	83.00	10.50	2.60
Inductance per phase, typ	mH	184.00	46.00	6.40	1.60
Rated current per phase *	amps	0.06	0.12	0.36	0.72
Back-emf amplitude	V/kst/s	18.00	9.00	3.20	1.60
Holding torque, typical *	oz-in / mNm			2.0 / 14	
Detent torque, typical	oz-in / mNm			0.3 / 2.5	
Step angle, ± 10% *	degrees			6.0	
Steps per revolution *				60	
Natural resonance frequency (nominal current)	Hz			230.00	
Electrical time constant	ms			0.60	
Angular acceleration (nominal current)	rad/s ²			140,000	
Thermal resistance	°C/watt			25.00	
Rotor moment of inertia	oz-in-s ² / g-cm ²			0.122 X 10E-4 / 0.86	
Ambient temperature range					
Operating	°C			-20 ~ +50	
Storage	°C			-40 ~ +85	
Bearing type				Sintered bronze sleeve or ball bearings	
Insulation resisittance at 500vdc	Mohms			100 megohms	
Dielectric withstanding voltage	vac			500 for 2 seconds	
Weight	lbs / g			0.09 / 40	
Shaft load ratings, max at 1500 rpm					
Radial	lbs / N			0.22 / 1.0, 2.2 [^] / 10 [^] (at shaft center)	
Axial	lbs / N			0.11 / 0.5, 4.5 [^] / 20 [^] (both directions)	
Leadwires				NA (PCB connection)	
Temperature class, max				B (130°C)	
RoHS				COMPLIANT	

ALL MOTOR DATA VALUES AT 25°C UNLESS OTHERWISE SPECIFIED
* ENERGISE AT RATED CURRENT, 2 PHASE ON
[^] Ball bearings

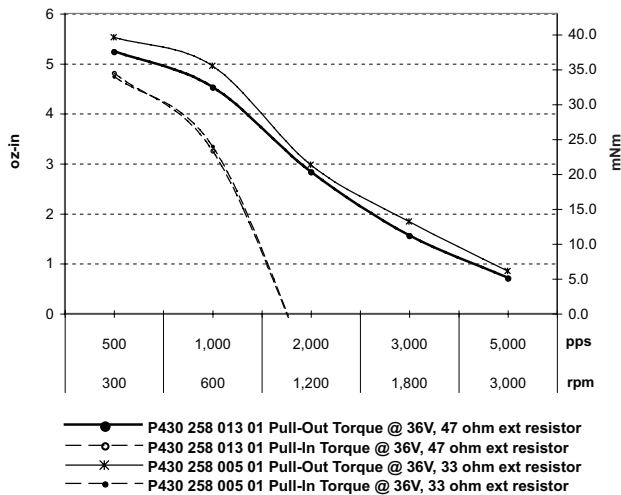
**P310 158 005, P310 158 170 Series
Torque vs Speed
Full step, bipolar voltage drive**



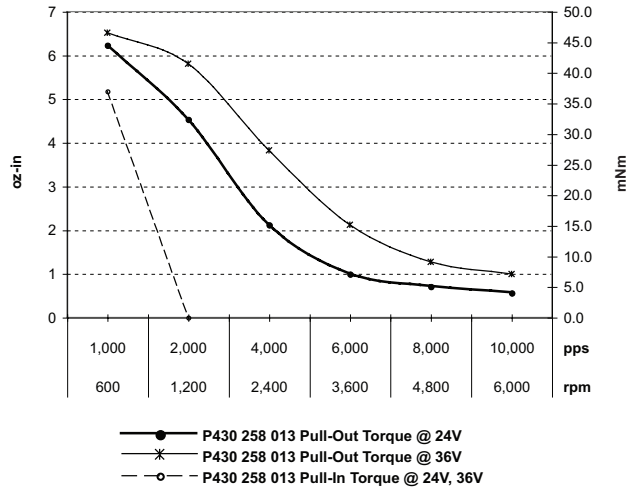
**P310 158 005, P310 158 170 Parallel
Torque vs Speed
Full step, bipolar voltage drive**



**P430 258 013, P430 258 005 Series
Torque vs Speed
Full step, bipolar voltage drive**



**P430 258 013 Parallel
Torque vs Speed
Full step, bipolar voltage drive**



Stepper