

# 26mm Brushless DC Motor



2644

## General Specifications

Number of phases	3
Number of poles	2
Operating temperature range	-30°C ~ 85°C
Commutation	Electrically commutated
Bearing type	Shielded ball bearings
Housing material	Black anodized aluminum
Magnet material	Sintered Nd-Fe-B
Direction of rotation	Reversible
Insulation Class	Class B (130°C max.)
Dielectric strength	500 VDC for one minute
Insulation resistance	100Mohms min., 500VDC

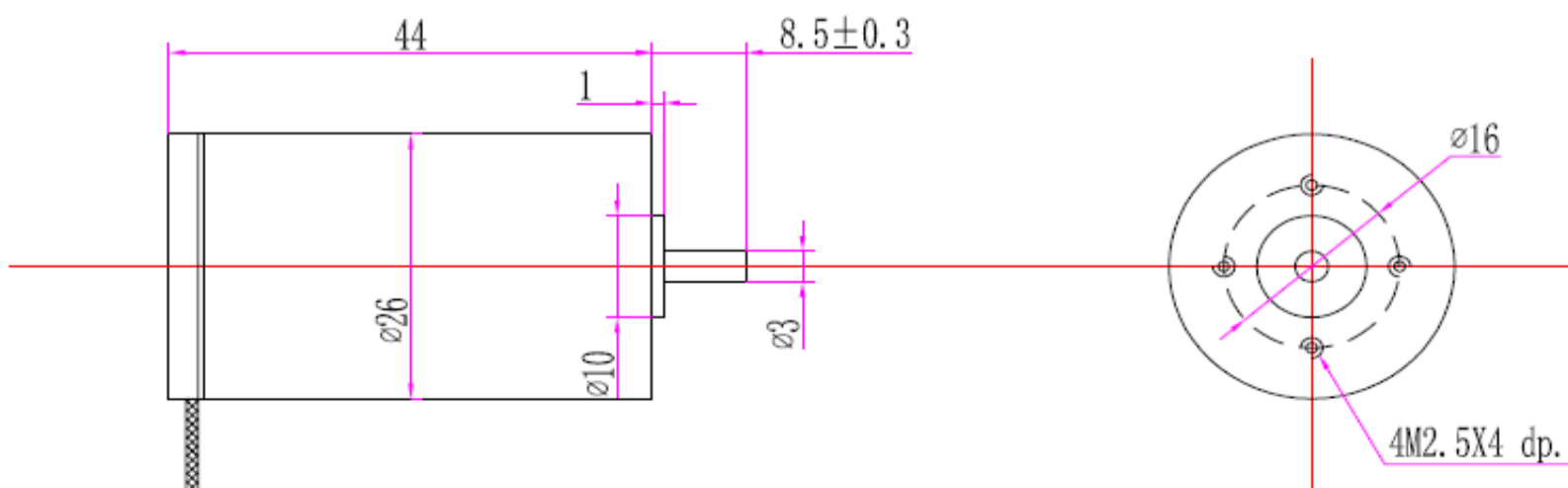
Model		DM26440-06-000	DM2644-06-001	DM26440-06-003	DM2644-09	DM26440-12-005
Nominal Voltage	V	6	6	6	9	12
Rated Speed	RPM	583	1791	3419	2718	3576
Rated Current	A	0.1	0.38	0.75	0.47	0.54
Rated Torque	mNm	3.32	5.98	6.31	8.09	10.23
Rated Efficiency	%	37	50	52	55	60
Phase Resistance	W	31	5.7	2.8	6	6
Output Power	W	0.2	1.3	2.7	2.9	5.4
Max. Efficiency	%	37	50	52	55	60
No-Load Speed	RPM	1020	2580	4840	3710	4640
No-Load Current	A	0.03	0.09	0.17	0.1	0.1
Stall Torque	mNm	7.76	19.55	21.5	30.27	44.58
Friction Torque	mNm	1.42	1.83	1.85	2.16	2.35
Back EMF Constant	mV/RPM	4.97	2.13	1.14	2.26	2.46
Torque Constant	mNm/A	47.47	20.31	10.9	21.62	23.46
Slope of Speed vs. Torque Curve	RPM/mNm	131.39	131.97	225.1	122.57	104.09
Mechanical time Constant	mS	8.93	8.97	15.3	8.33	7.07
Rotor Inertia	g-cm <sup>2</sup>	6.49	6.49	6.49	6.49	6.49
Max. Angular Acceleration	10 <sup>3</sup> rad/s <sup>2</sup>	11.96	30.12	33.13	46.64	68.69
Sensor		Hall Sensor	Hall Sensor	Hall Sensor	Hall Sensor	Hall Sensor
Driver Recommendation		DR2404&DR3002IE	DR2404&DR3002IE	DR2404&DR3002IE	DR2404&DR3002IE	DR2404&DR3002IE
Weight	g	106	106	106	106	106
Motor Body Length	"L"	44	44	44	44	44

Model		DM2644-12-008	DM2644-15-003	DM2644-15-013	DM2644-15-014	DM2644-16-020
Nominal Voltage	V	12	15	15	15	16
Rated Speed	RPM	5117	3453	7014	9167	9221
Rated Current	A	0.8	0.25	0.74	1.03	1.14
Rated Torque	mNm	10.72	5.77	10.36	9.97	12.54
Rated Efficiency	%	60	57	69	63	67
Phase Resistance	W	4	18	4	3.6	3
Output Power	W	8.1	2.8	13.2	14.3	19.9
Max. Efficiency	%	60	57	69	63	67
No-Load Speed	RPM	6640	4620	8490	11640	11340
No-Load Current	A	0.15	0.05	0.11	0.18	0.18
Stall Torque	mNm	46.73	22.83	59.61	46.94	67.09
Friction Torque	mNm	2.46	1.46	1.8	2.12	2.34
Back EMF Constant	mV/RPM	1.72	3.05	1.71	1.23	1.36
Torque Constant	mNm/A	16.39	29.14	16.38	11.77	13.02
Slope of Speed vs. Torque Curve	RPM/mNm	142.11	202.37	142.42	247.98	169.03
Mechanical time Constant	mS	9.66	13.75	9.68	16.85	11.49
Rotor Inertia	g-cm <sup>2</sup>	6.49	6.49	6.49	6.49	6.49
Max. Angular Acceleration	10 <sup>3</sup> rad/s <sup>2</sup>	72	35.18	91.85	72.33	103.37
Sensor		Hall Sensor	Hall Sensor	Hall Sensor	Hall Sensor	Hall Sensor
Driver Recommendation		DR2404&DR3002IE	DR2404&DR3002IE	DR2404&DR3002IE	DR2404&DR3002IE	DR2404&DR3002IE
Weight	g	106	106	106	106	106
Motor Body Length	"L"	44	44	44	44	44

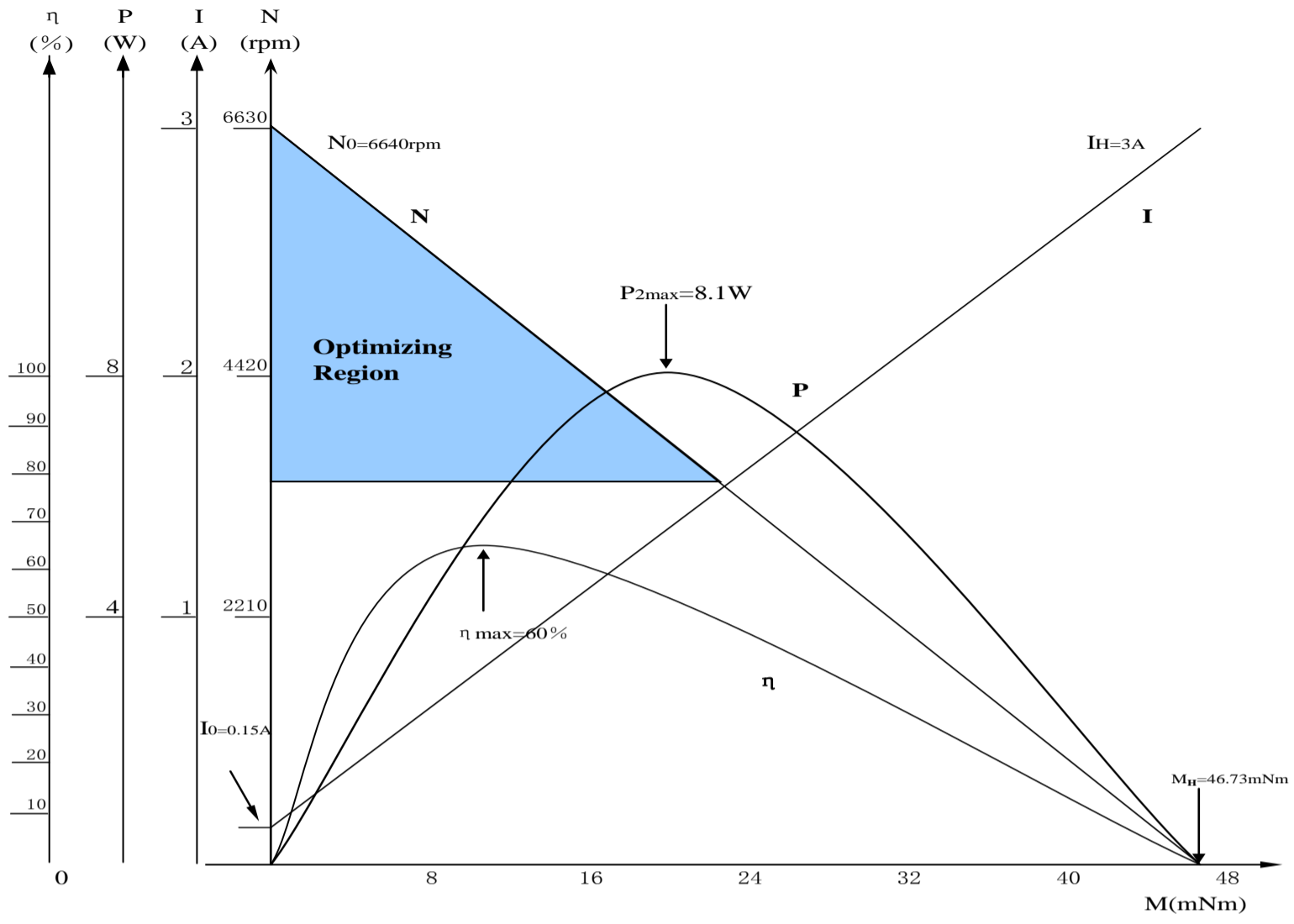
Model		DM2644-18-008	DM2644-18-012	DM2644-24-004	DM2644-24-029	DM2644-24-039
Nominal Voltage	V	18	18	24	24	24
Rated Speed	RPM	4727	5686	3465	9162	12279
Rated Current	A	0.65	0.95	0.29	1.09	1.79
Rated Torque	mNm	12.64	15.47	9.15	18.04	20.46
Rated Efficiency	%	54	55	49	67	62
Phase Resistance	W	8.9	6	31	4.7	3.4
Output Power	W	7.9	11.8	3.8	28.6	38.6
Max. Efficiency	%	54	55	49	67	62
No-Load Speed	RPM	6500	7760	5060	11250	15700
No-Load Current	A	0.14	0.2	0.07	0.17	0.32
Stall Torque	mNm	46.33	57.89	29.01	97.22	93.91
Friction Torque	mNm	3.45	4.13	2.88	3.35	4.46
Back EMF Constant	mV/RPM	2.58	2.16	4.31	2.06	1.46
Torque Constant	mNm/A	24.61	20.67	41.2	19.69	13.94
Slope of Speed vs. Torque Curve	RPM/mNm	140.28	134.06	174.42	115.72	167.18
Mechanical time Constant	mS	9.53	9.11	11.85	7.86	11.36
Rotor Inertia	g-cm <sup>2</sup>	6.49	6.49	6.49	6.49	6.49
Max. Angular Acceleration	10 <sup>3</sup> rad/s <sup>2</sup>	71.39	89.19	44.7	149.79	144.7
Sensor		Hall Sensor	Hall Sensor	Hall Sensor	Hall Sensor	Hall Sensor
Driver Recommendation		DR2404&DR3002IE	DR2404&DR3002IE	DR2404&DR3002IE	DR2404&DR3002IE	DR2404&DR3002IE
Weight	g	106	106	106	106	106
Motor Body Length	"L"	44	44	44	44	44

Model		DM2644-24				
Nominal Voltage	V	24				
Rated Speed	RPM	21021				
Rated Current	A	1.49				
Rated Torque	mNm	11.35				
Rated Efficiency	%	70				
Phase Resistance	W	3				
Output Power	W	45.5				
Max. Efficiency	%	70				
No-Load Speed	RPM	25150				
No-Load Current	A	0.21				
Stall Torque	mNm	69.12				
Friction Torque	mNm	1.86				
Back EMF Constant	mV/RPM	0.93				
Torque Constant	mNm/A	8.87				
Slope of Speed vs. Torque Curve	RPM/mNm	363.84				
Mechanical time Constant	mS	24.73				
Rotor Inertia	g-cm <sup>2</sup>	6.49				
Max. Angular Acceleration	10 <sup>3</sup> rad/s <sup>2</sup>	106.51				
Sensor		Hall Sensor				
Driver Recommendation		DR2404&DR3002IE				
Weight	g	106				
Motor Body Length	"L"	44				

### Outline Drawing



# Performance Curve



# 26mm Brushless DC Motor



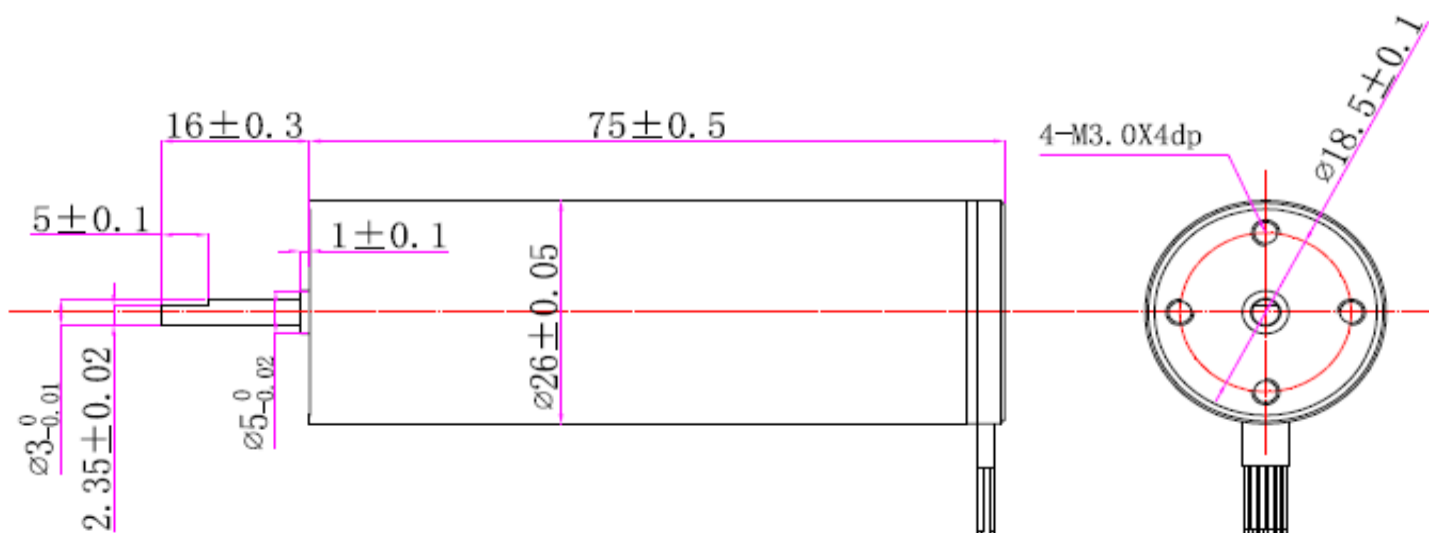
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## General Specifications

Number of phases	3
Number of poles	2
Operating temperature range	-30°C ~ 85°C
Commutation	Electrically commutated
Bearing type	Shielded ball bearings
Housing material	Black anodized aluminum
Magnet material	Sintered Nd-Fe-B
Direction of rotation	Reversible
Insulation Class	Class B (130°C max.)
Dielectric strength	500 VDC for one minute
Insulation resistance	100Mohms min., 500VDC

Model		DM2675-24-121			
Nominal Voltage	V	24			
Rated Speed	RPM	9323			
Rated Current	A	2.67			
Rated Torque	mNm	51.18			
Rated Efficiency	%	78			
Phase Resistance	W	1.16			
Output Power	W	120.8			
Max. Efficiency	%	78			
No-Load Speed	RPM	10560			
No-Load Current	A	0.28			
Stall Torque	mNm	436.96			
Friction Torque	mNm	5.99			
Back EMF Constant	mV/RPM	2.24			
Torque Constant	mNm/A	21.41			
Slope of Speed vs. Torque Curve	RPM/mNm	24.17			
Mechanical time Constant	mS	3.32			
Rotor Inertia	g-cm <sup>2</sup>	13.13			
Max. Angular Acceleration	10 <sup>3</sup> rad/s <sup>2</sup>	332.79			
Sensor		Hall Sensor			
Driver Recommendation		DR2404			
Weight	g	210			
Motor Body Length	"L"	75			

## Outline Drawing



## Performance Curve

$\eta$  (%)    P (W)    I (A)    N (rpm)  
 ↑        ↑        ↑        ↑

