

Characteristics:

High efficiency, compact size

Specifications:

Dimensions	: Ø 10.0 X 8.0 X 15.0 mm
Shaft Diameter	: Ø 1.000 mm
Input Voltage	: 5.0 V DC
No Load Speed	: 23200 rpm
No Load Current	: 0.04 A
Stall Torque	: 0.92 mNm
Stall Current	: 0.53 A
Maximum Output Power	: 0.56 W
Maximum Efficiency	: 52%
Torque at Maximum Efficiency	: 0.20 mNm
Speed at Maximum Efficiency	: 18100 rpm
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 85 °C
Electrical Connection	: Terminal



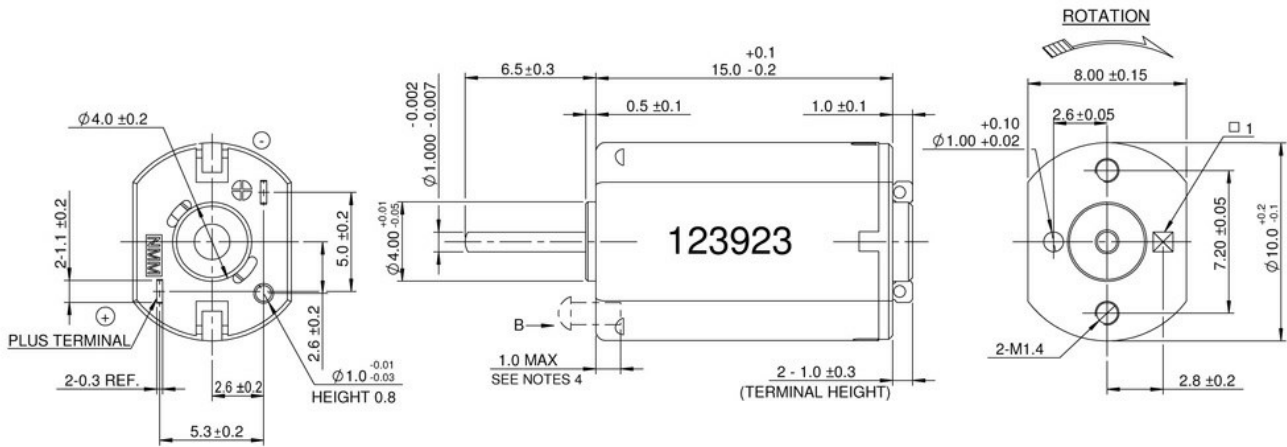
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.04	0.53	0.15	0.29
Efficiency (%)	-	-	52	39
Output Power (W)	-	-	0.38	0.56
Speed (rpm)	23200	-	18100	11600
Torque (mNm)	-	0.92	0.20	0.46

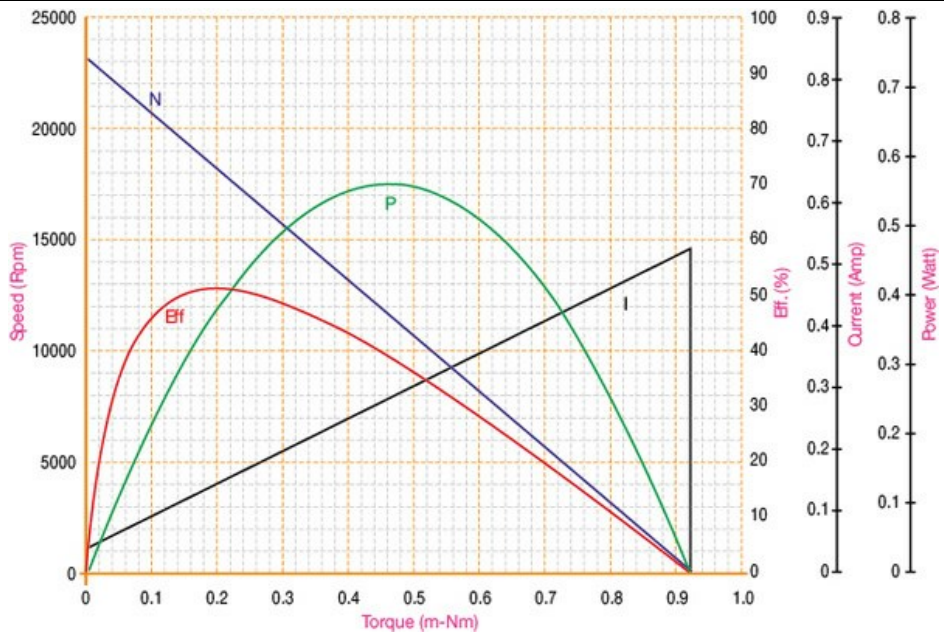
Application Examples:

Electric Meters, Gas Meters

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High power DC motor

Specifications:

Dimensions	: Ø 10.0 X 8.0 X 15.0 mm
Shaft Diameter	: Ø 1.000 mm
Input Voltage	: 3.0 V DC
No Load Speed	: 10000 rpm
No Load Current	: 0.02 A
Nominal Speed	: 4100 rpm
Nominal Torque	: 0.32 mNm
Nominal Current	: 0.15 A
Stall Torque	: 0.50 mNm
Stall Current	: 0.22 A
Maximum Output Power	: 0.13 W
Maximum Efficiency	: 45%
Torque at Maximum Efficiency	: 0.12 mNm
Speed at Maximum Efficiency	: 7600 rpm
Life (Typical)	: 200 hr
Weight	: 4.3 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



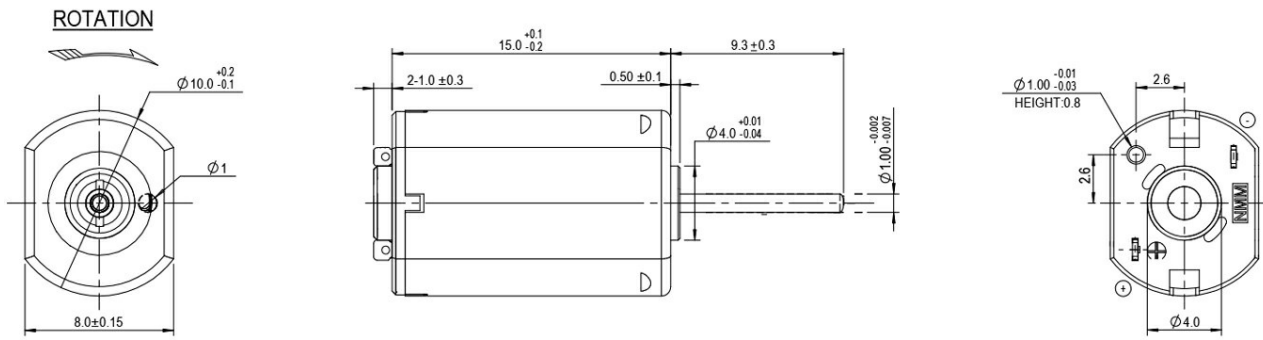
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.02	0.22	0.07	0.12
Efficiency (%)	-	-	45	36
Output Power (W)	-	-	0.10	0.13
Speed (rpm)	10000	-	7600	5100
Torque (mNm)	-	0.50	0.12	0.25

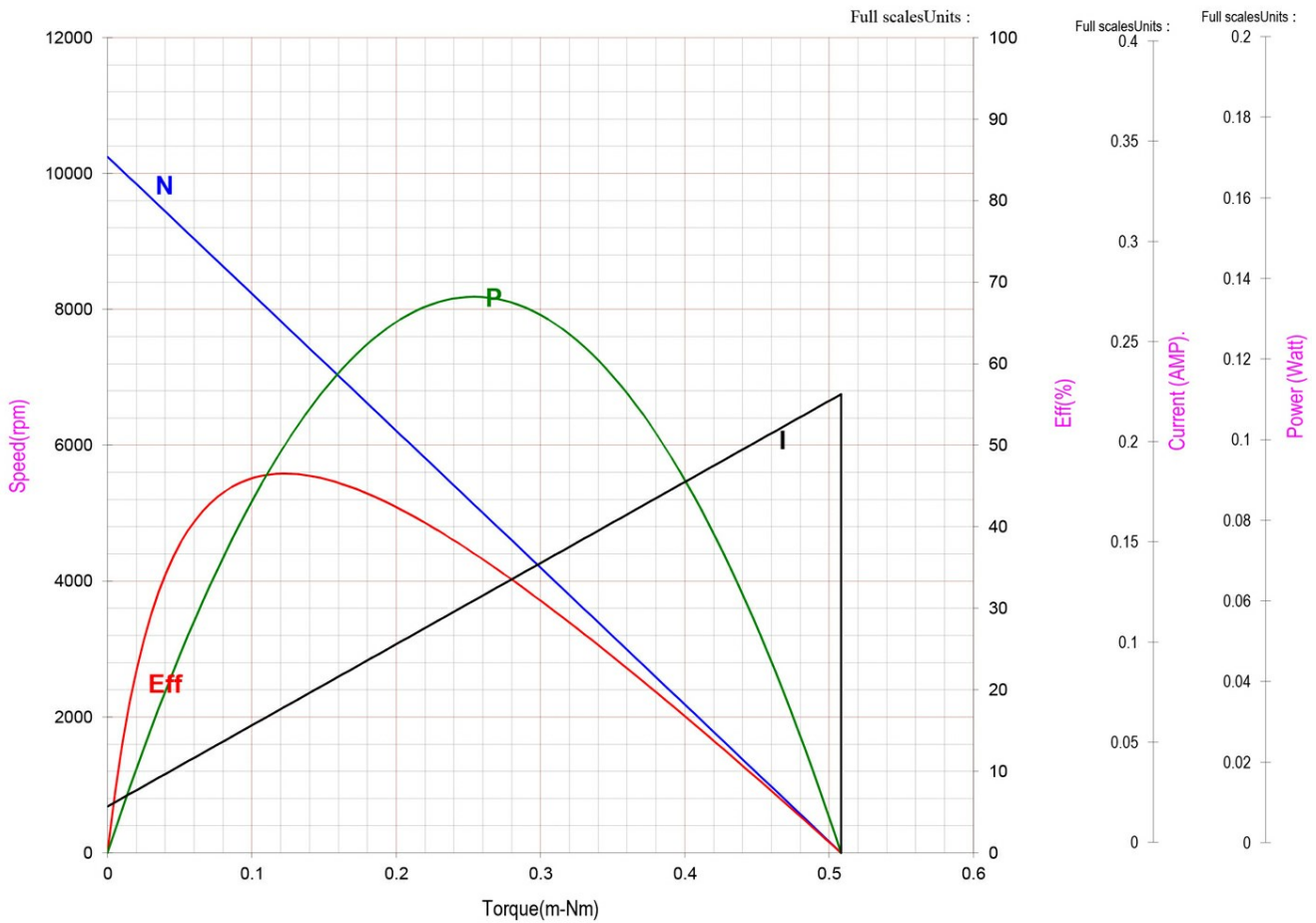
Application Examples:

Door Locks

Outline Drawing:



Performance Curves:



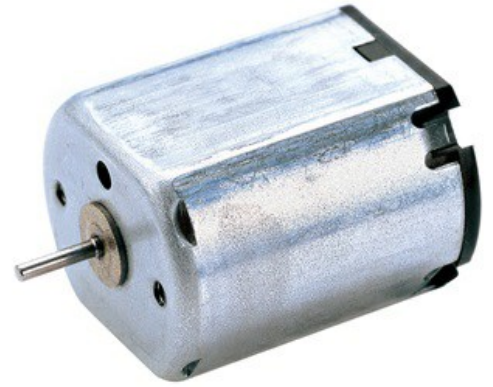
Units in Metric

Characteristics:

High power micro PMDC motor

Specifications:

Dimensions	: Ø 10.0 X 8.0 X 11.0 mm
Shaft Diameter	: Ø 1.000 mm
Input Voltage	: 3.0 V DC
No Load Speed	: 26187 rpm
No Load Current	: 0.07 A
Stall Torque	: 0.45 mNm
Stall Current	: 0.54 A
Maximum Output Power	: 0.31 W
Maximum Efficiency	: 41%
Torque at Maximum Efficiency	: 0.12 mNm
Speed at Maximum Efficiency	: 19318 rpm
Weight	: 3 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



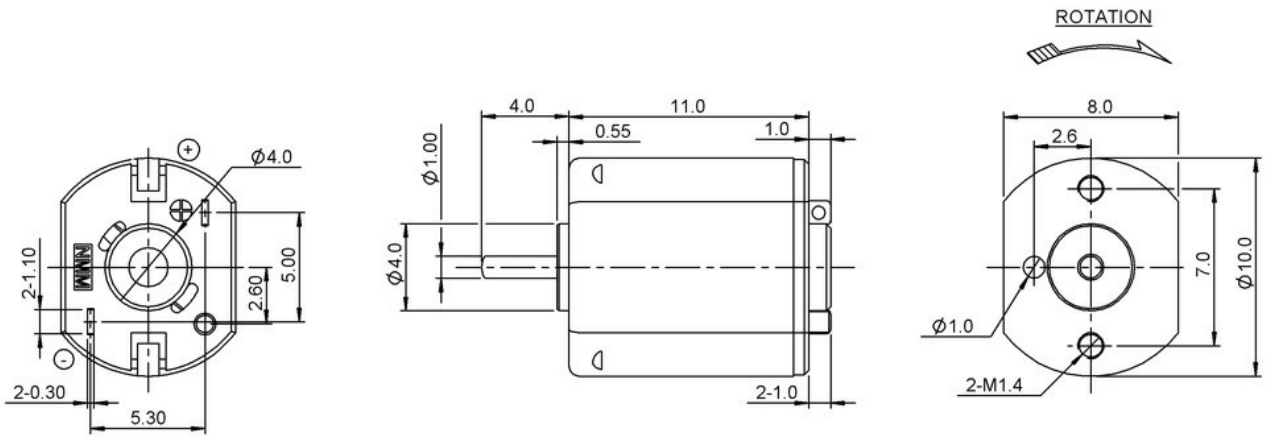
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.07	0.54	0.19	0.31
Efficiency (%)	-	-	41	-
Output Power (W)	-	-	0.24	0.31
Speed (rpm)	26187	-	19318	13094
Torque (mNm)	-	0.45	0.12	0.23

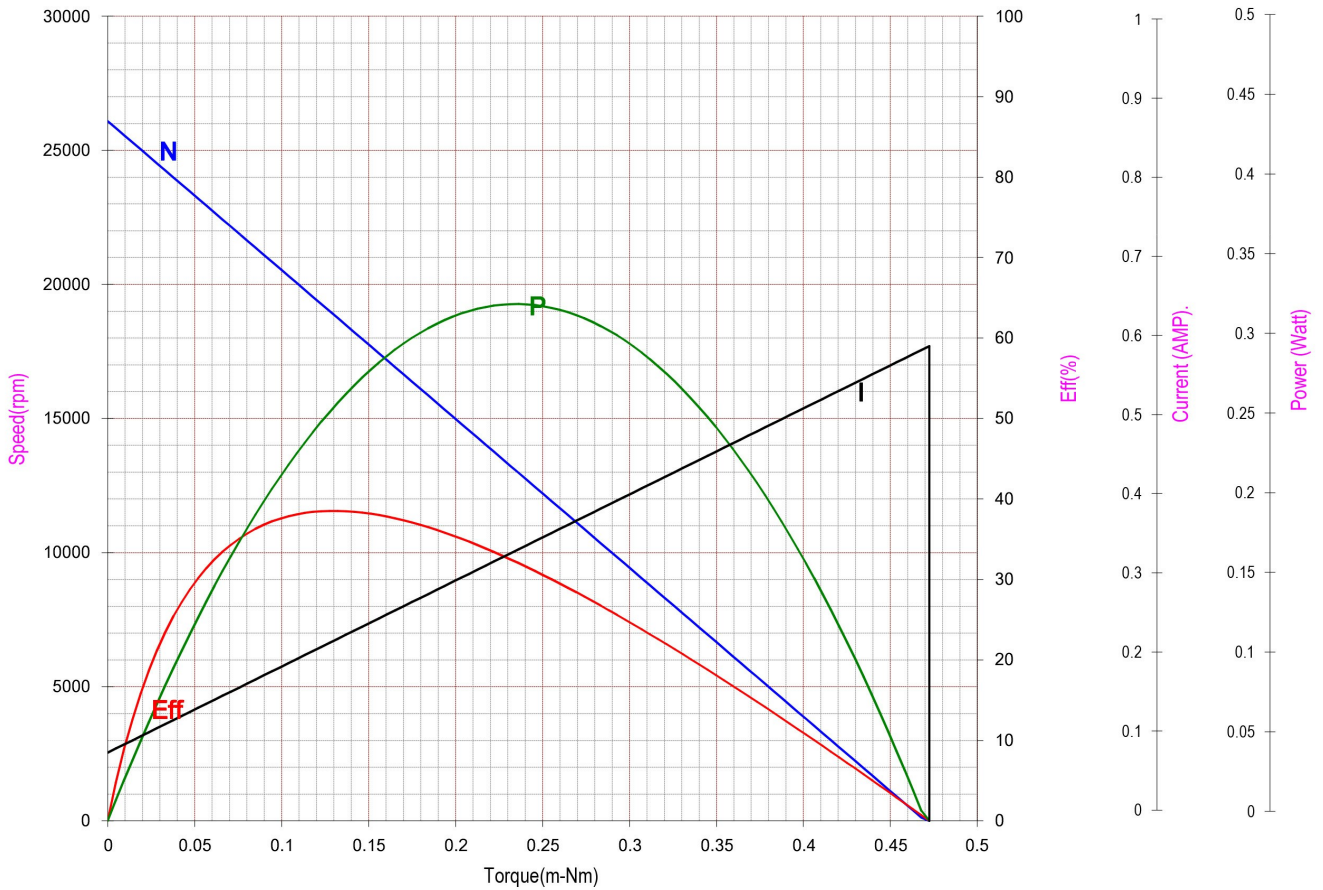
Application Examples:

Door Locks

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High power micro PMDC motor

Specifications:

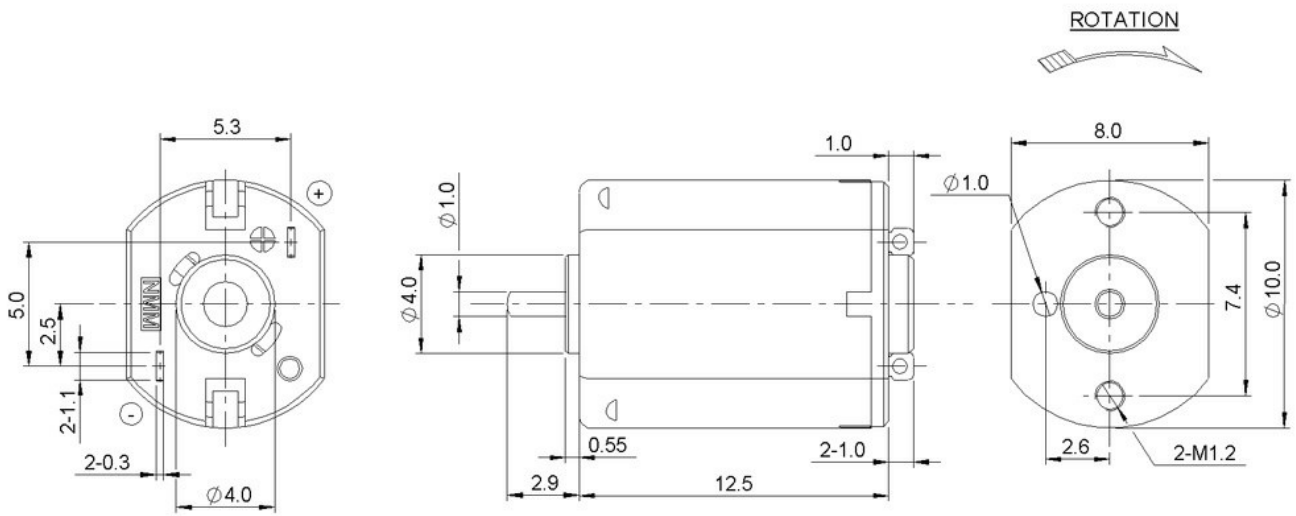
Dimensions	: Ø 10.0 X 8.0 X 12.5 mm
Shaft Diameter	: Ø 1.000 mm
Input Voltage	: 2.8 V DC
No Load Speed	: 12000 rpm
No Load Current	: 0.03 A
Stall Torque	: 0.39 mNm
Stall Current	: 0.23 A
Maximum Output Power	: 0.12 W
Maximum Efficiency	: 43%
Torque at Maximum Efficiency	: 0.00 lb.in
Speed at Maximum Efficiency	: 9000 rpm
Weight	: 4 g



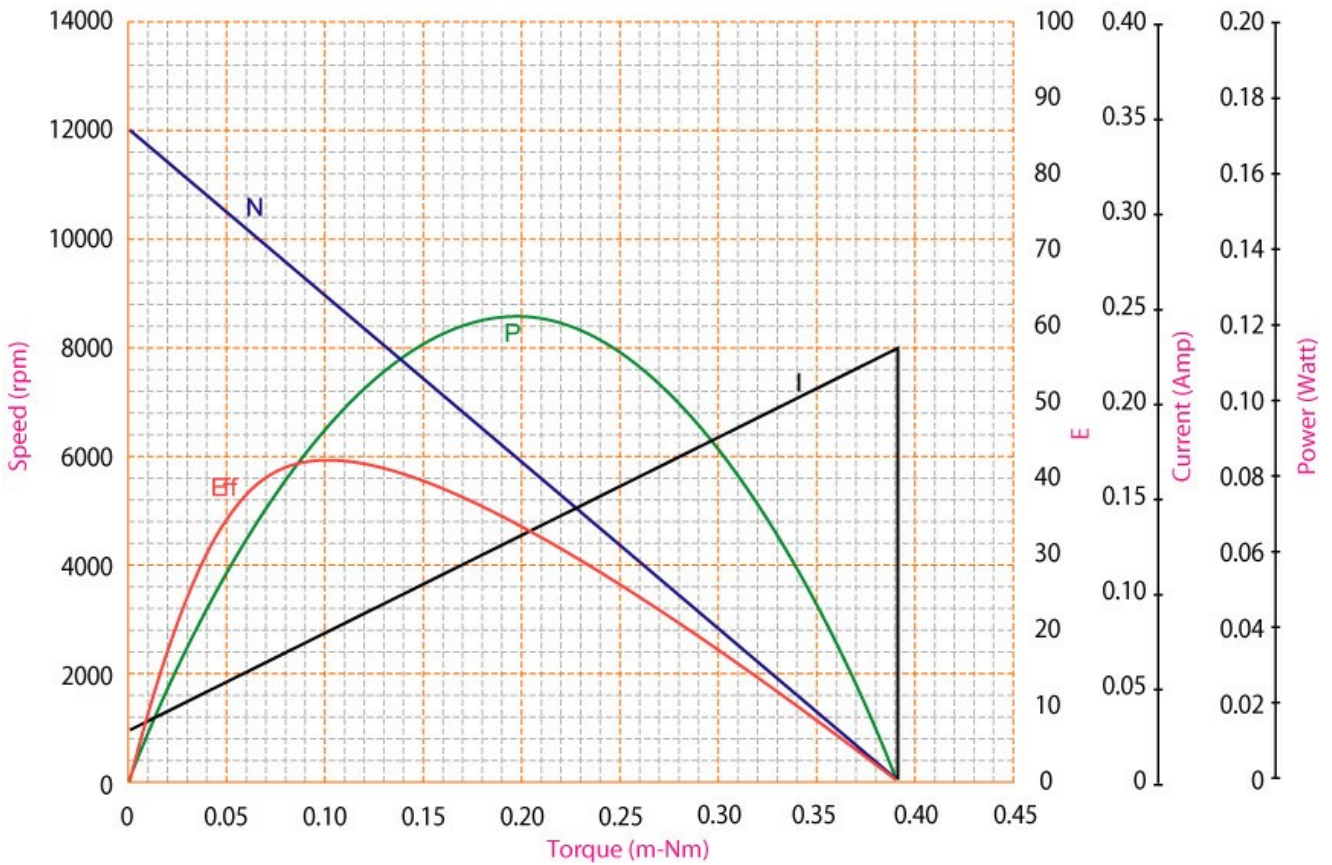
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.03	0.23	0.08	0.13
Efficiency (%)	-	-	43	-
Output Power (W)	-	-	0.09	0.12
Speed (rpm)	12000	-	9000	6000
Torque (mNm)	-	0.39	0.10	0.20

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

Compact Size Motor

Specifications:

Dimensions	: Ø 8.0 X 6.0 X 20.0 mm
Shaft Diameter	: Ø 1.000 mm
Input Voltage	: 3.0 V DC
No Load Speed	: 17782 rpm
No Load Current	: 0.04 A
Stall Torque	: 0.58 mNm
Stall Current	: 0.44 A
Maximum Output Power	: 0.27 W
Maximum Efficiency	: 48%
Torque at Maximum Efficiency	: 0.36 mNm
Speed at Maximum Efficiency	: 13612 rpm
Life (Typical)	: 380 hr
Weight	: 4 g
Operating Temperature Range	: -20 to 60 °C
Storage Temperature Range	: -40 to 85 °C
Electrical Connection	: Terminal



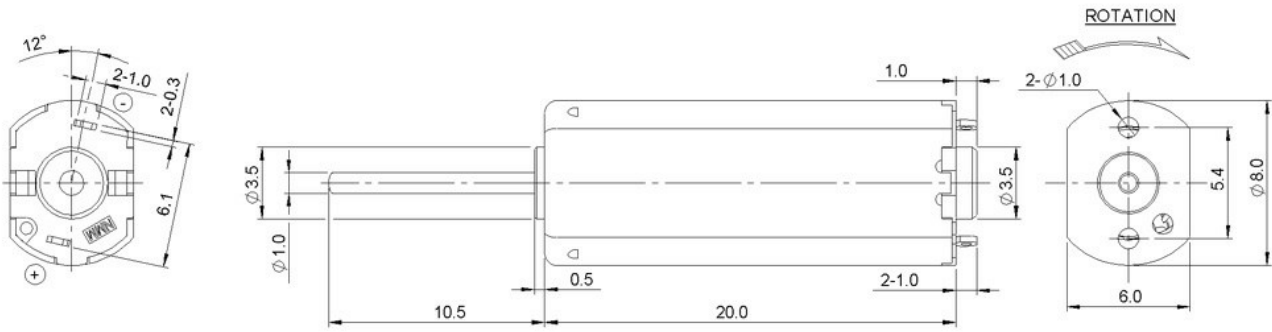
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.04	0.44	0.13	0.24
Efficiency (%)	-	-	48	-
Output Power (W)	-	-	0.20	0.27
Speed (rpm)	17782	-	13612	8890
Torque (mNm)	-	0.58	0.36	0.29

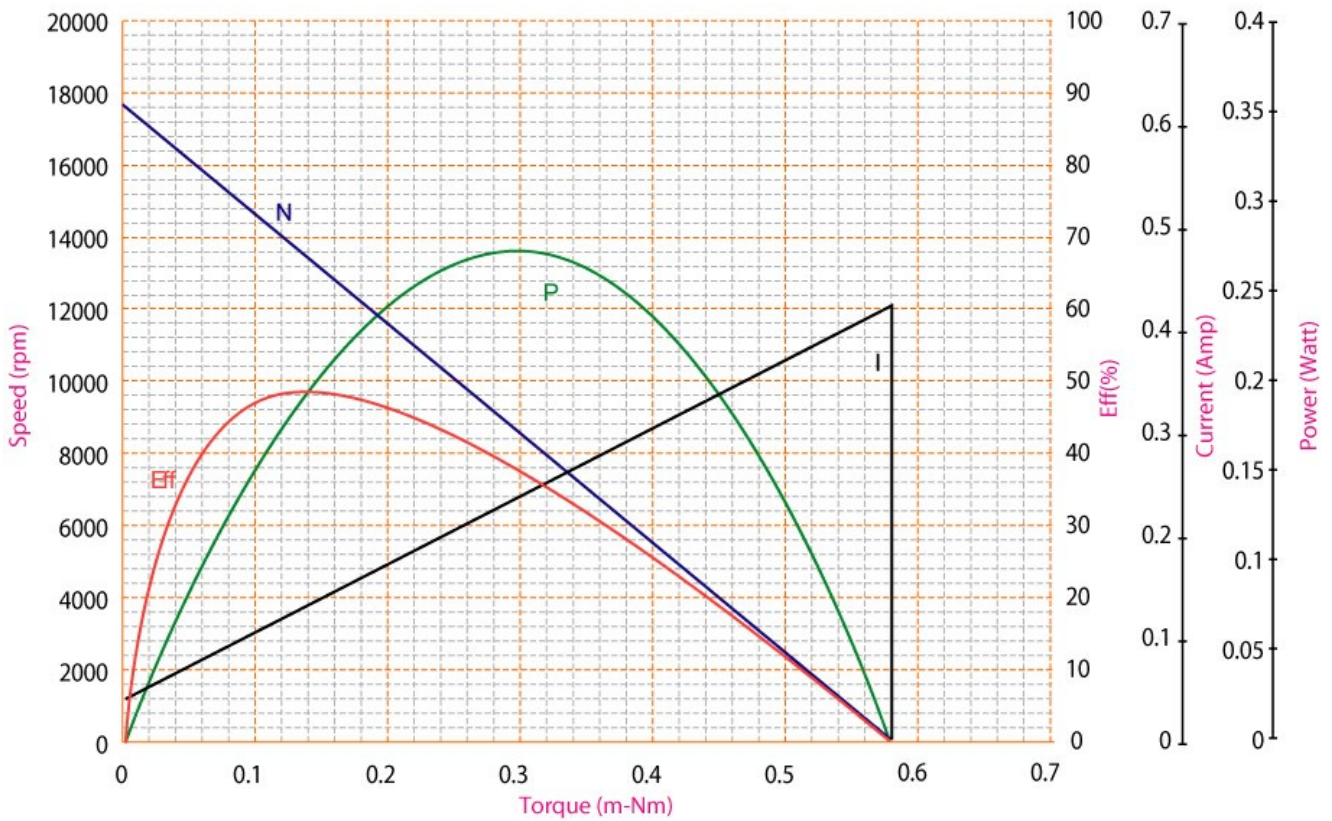
Application Examples:

Locks

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

Compact Size Motor

Specifications:

Dimensions	: Ø 8.0 X 6.0 X 14.5 mm
Shaft Diameter	: Ø 0.800 mm
Input Voltage	: 4.5 V DC
No Load Speed	: 22480 rpm
No Load Current	: 0.03 A
Stall Torque	: 0.72 mNm
Stall Current	: 0.44 A
Maximum Output Power	: 0.43 W
Maximum Efficiency	: 54%
Torque at Maximum Efficiency	: 0.15 mNm
Speed at Maximum Efficiency	: 17800 rpm
Life (Typical)	: 65 hr
Weight	: 3 g
Operating Temperature Range	: -20 to 70 °C
Storage Temperature Range	: -40 to 85 °C
Electrical Connection	: Terminal



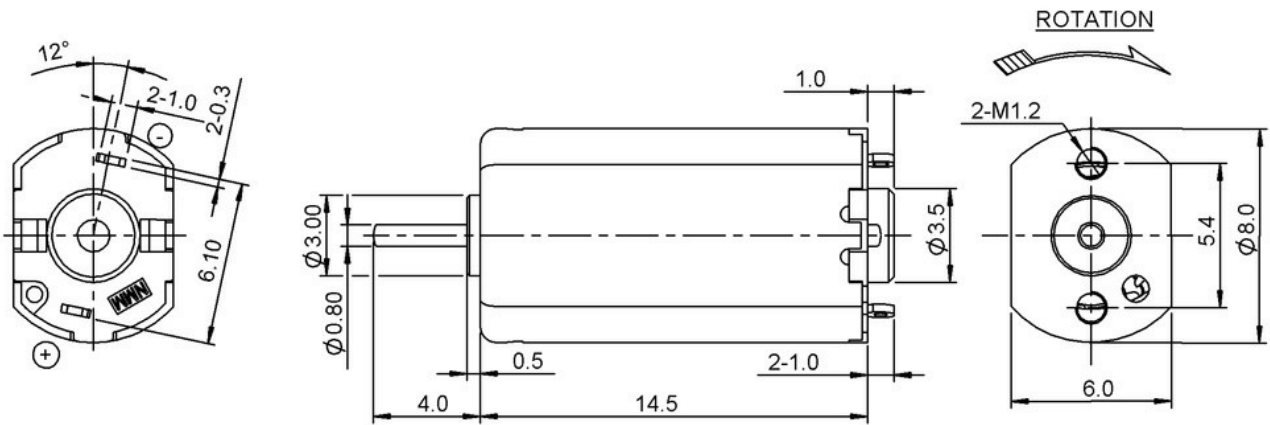
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.03	0.44	0.11	0.23
Efficiency (%)	-	-	54	-
Output Power (W)	-	-	0.28	0.43
Speed (rpm)	22480	-	17800	11200
Torque (mNm)	-	0.72	0.15	0.36

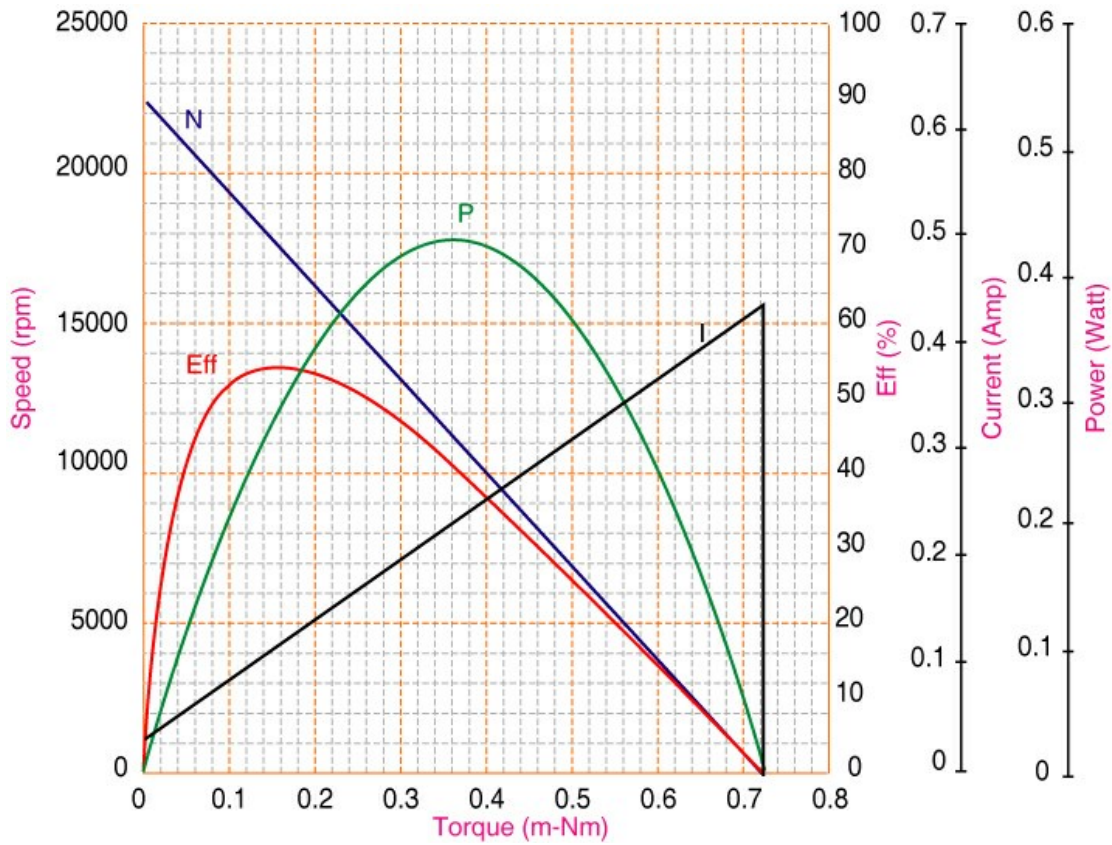
Application Examples:

Door Locks, Locks

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

Compact Size Motor

Specifications:

Dimensions	: Ø 8.0 X 6.0 X 14.5 mm
Shaft Diameter	: Ø 1.000 mm
Input Voltage	: 5.0 V DC
No Load Speed	: 21100 rpm
No Load Current	: 0.03 A
Stall Torque	: 0.67 mNm
Stall Current	: 0.36 A
Maximum Output Power	: 0.37 W
Maximum Efficiency	: 53%
Torque at Maximum Efficiency	: 0.14 mNm
Speed at Maximum Efficiency	: 16600 rpm
Life (Typical)	: 110 hr
Weight	: 3 g
Operating Temperature Range	: -10 to 70 °C
Storage Temperature Range	: -40 to 85 °C
Electrical Connection	: Terminal



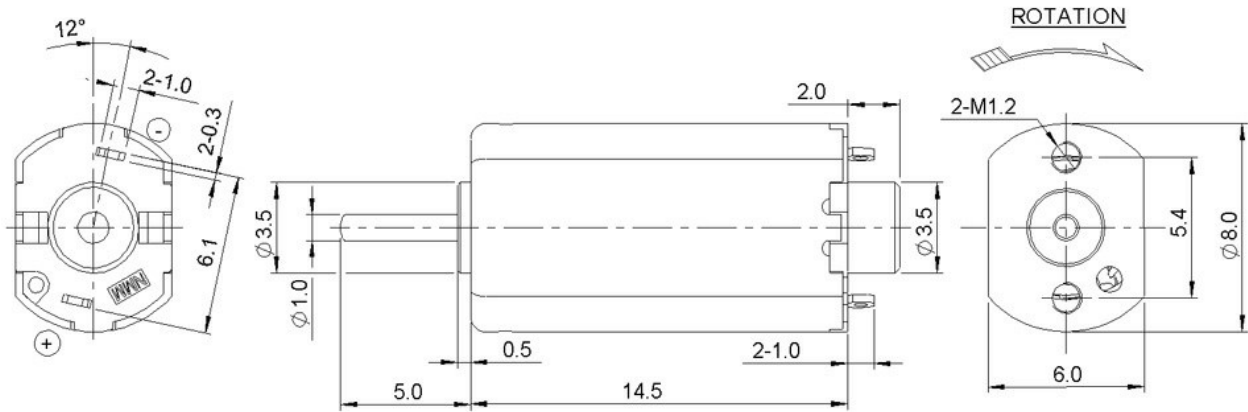
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.03	0.36	0.10	0.19
Efficiency (%)	-	-	53	-
Output Power (W)	-	-	0.25	0.37
Speed (rpm)	21100	-	16600	10500
Torque (mNm)	-	0.67	0.14	0.33

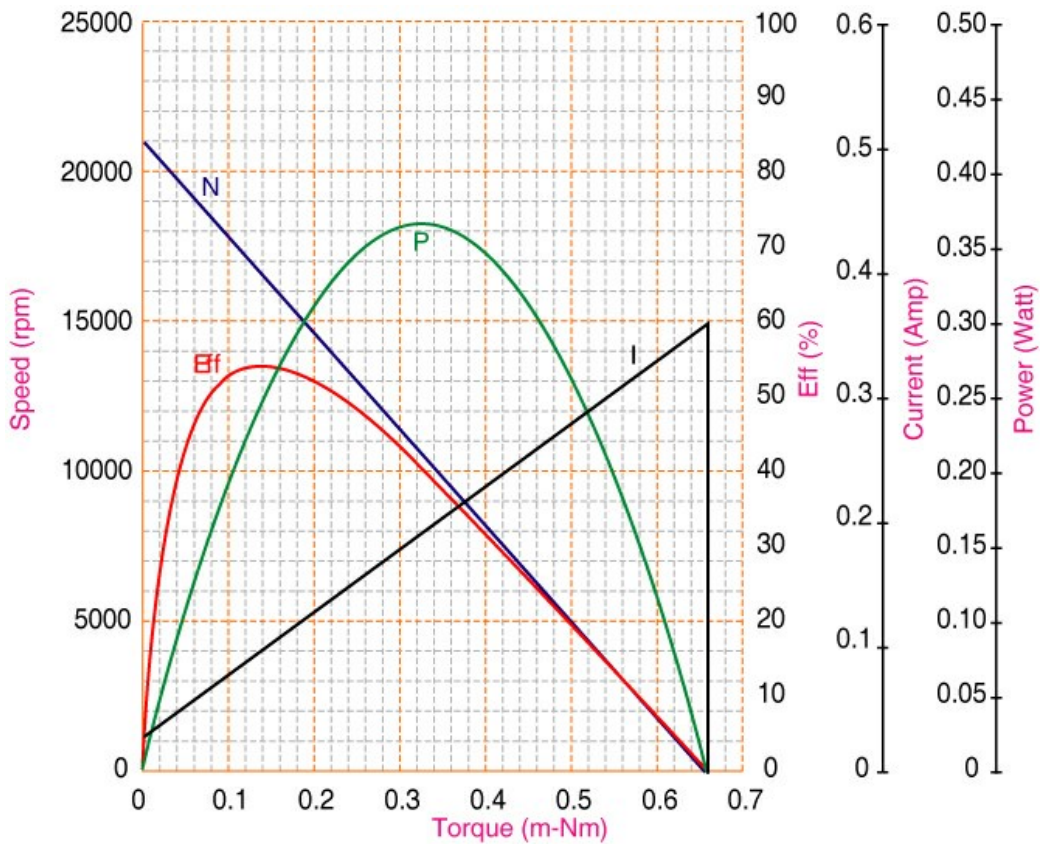
Application Examples:

Door Locks, Locks

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

Compact size, High reliability

Specifications:

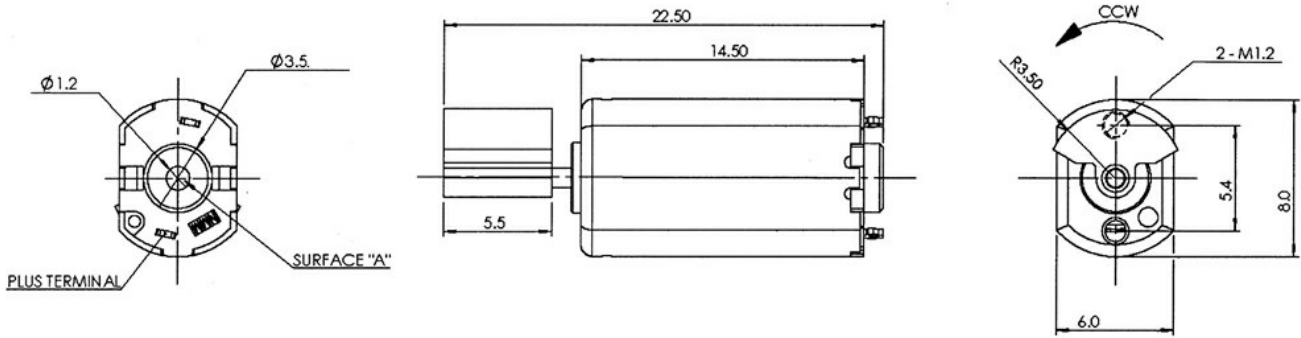
Dimensions	: Ø 8.0 X 14.5 mm
Shaft Diameter	: Ø 1.000 mm
Input Voltage	: 4.5 V DC
No Load Speed	: 22551 rpm
Stall Torque	: 0.73 mNm
Maximum Output Power	: 0.43 W
Maximum Efficiency	: 54%
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Leadwire/connector



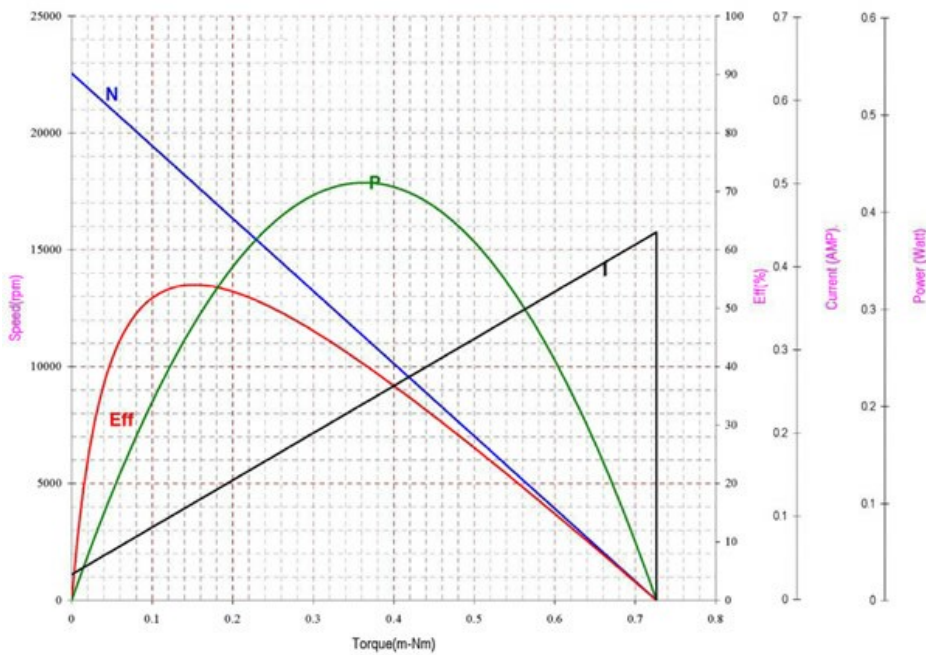
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.03	0.44	0.12	0.24
Efficiency (%)	-	-	54	72
Output Power (W)	-	-	0.28	0.43
Speed (rpm)	22551	-	17825	11276
Torque (mNm)	-	0.73	0.15	0.36

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High efficiency, compact size

Specifications:

Dimensions	: Ø 8.0 X 6.0 X 10.0 mm
Shaft Diameter	: Ø 1.000 mm
Input Voltage	: 3.6 V DC
No Load Speed	: 19600 rpm
Stall Torque	: 0.23 mNm
Stall Current	: 0.16 A
Maximum Output Power	: 0.12 W
Maximum Efficiency	: 42%
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 85 °C
Electrical Connection	: Terminal



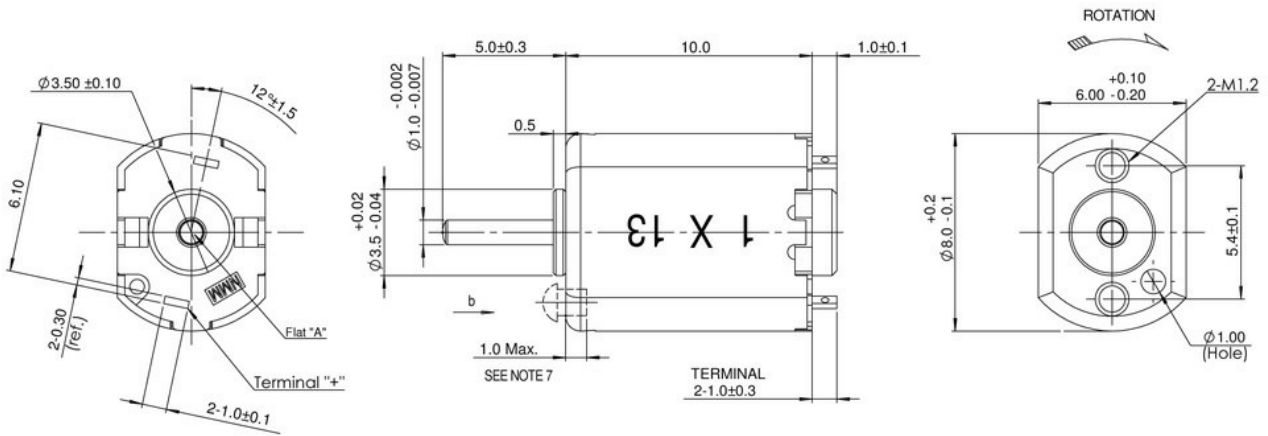
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.03	0.16	0.07	0.09
Efficiency (%)	-	-	42	36
Output Power (W)	-	-	0.10	0.12
Speed (rpm)	19600	-	13900	9800
Torque (mNm)	-	0.23	0.07	0.12

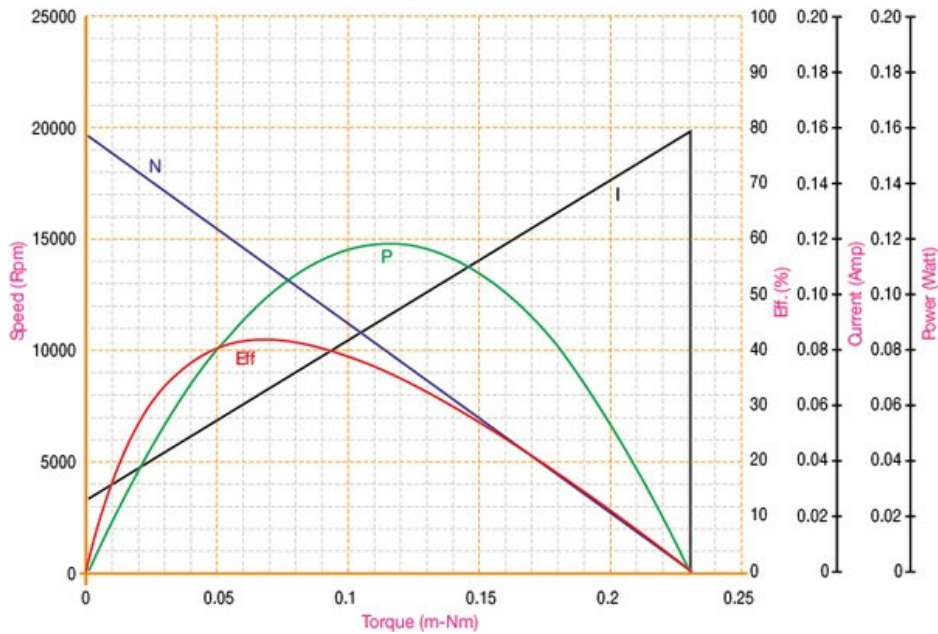
Application Examples:

Electric Meters, Gas Meters

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

Compact Size Motor

Specifications:

Dimensions	: Ø 6.8 X 4.7 X 20.0 mm
Shaft Diameter	: Ø 0.800 mm
Input Voltage	: 3.0 V DC
No Load Speed	: 24100 rpm
No Load Current	: 0.05 A
Stall Torque	: 0.44 mNm
Stall Current	: 0.41 A
Maximum Output Power	: 0.26 W
Maximum Efficiency	: 45%
Torque at Maximum Efficiency	: 0.10 mNm
Speed at Maximum Efficiency	: 18171 rpm
Life (Typical)	: 200 hr
Weight	: 3 g
Operating Temperature Range	: -20 to 60 °C
Storage Temperature Range	: -40 to 85 °C
Electrical Connection	: Terminal



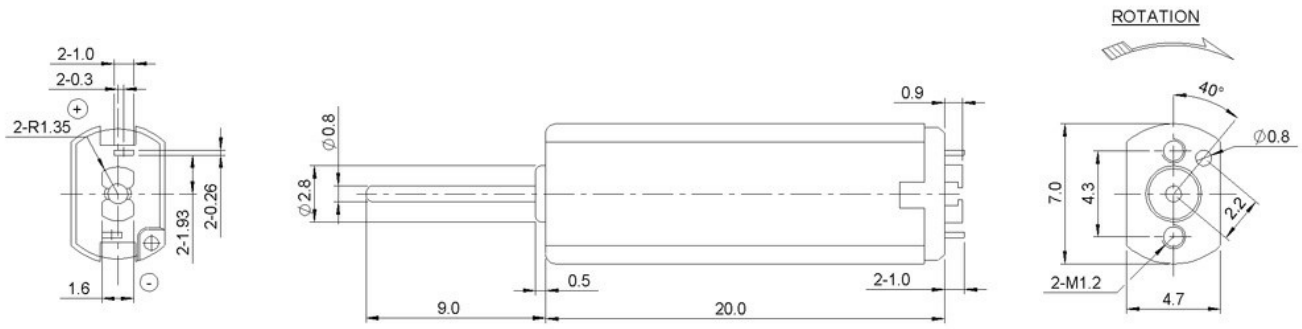
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.05	0.41	0.14	0.24
Efficiency (%)	-	-	45	-
Output Power (W)	-	-	0.20	0.26
Speed (rpm)	24100	-	18171	12044
Torque (mNm)	-	0.44	0.10	0.21

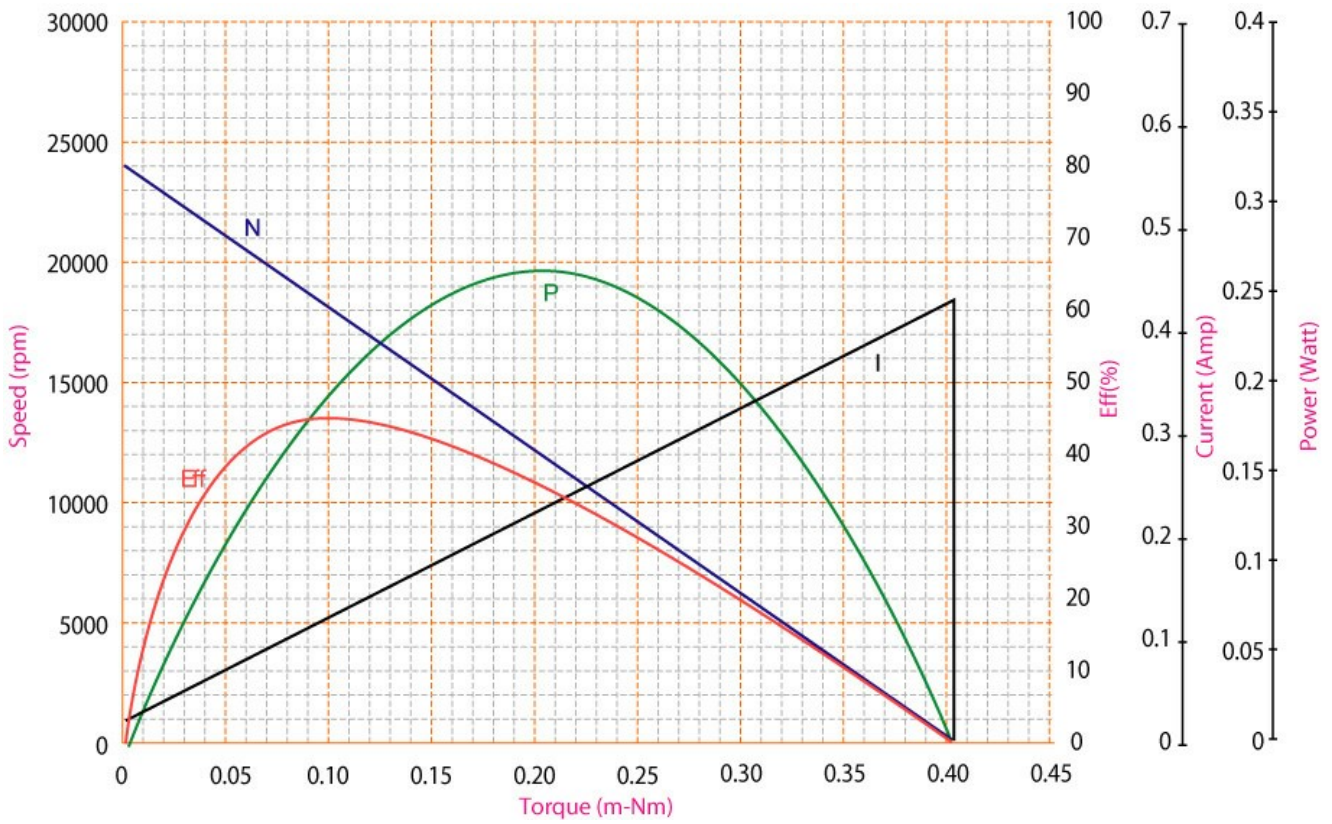
Application Examples:

Door Locks, Locks

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High power micro PMDC motor

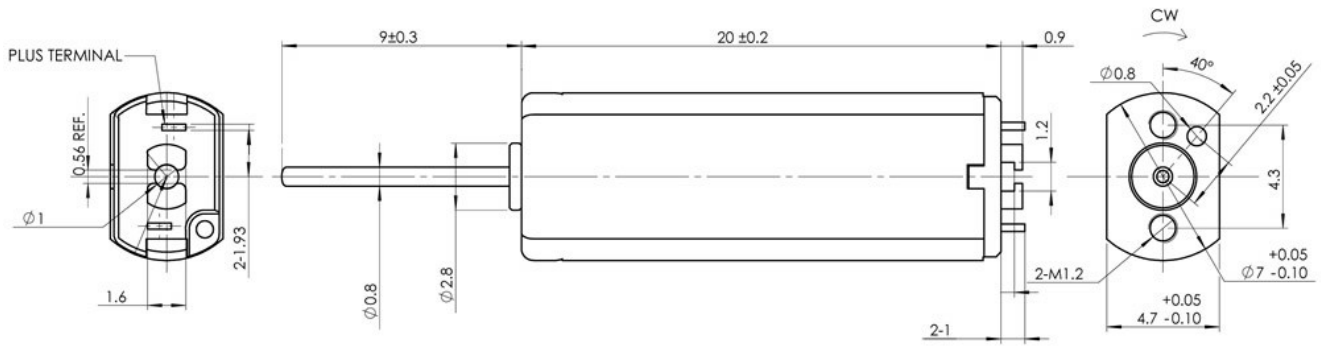
Specifications:

Dimensions	: Ø 7.0 X 4.7 X 20.0 mm
Shaft Diameter	: Ø 0.800 mm
Input Voltage	: 3.0 V DC
No Load Speed	: 24926 rpm
No Load Current	: 0.05 A
Stall Torque	: 0.42 mNm
Stall Current	: 0.45 A
Maximum Output Power	: 0.27 W
Maximum Efficiency	: 46%
Torque at Maximum Efficiency	: 0.10 mNm
Speed at Maximum Efficiency	: 18874 rpm
Weight	: 3 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals

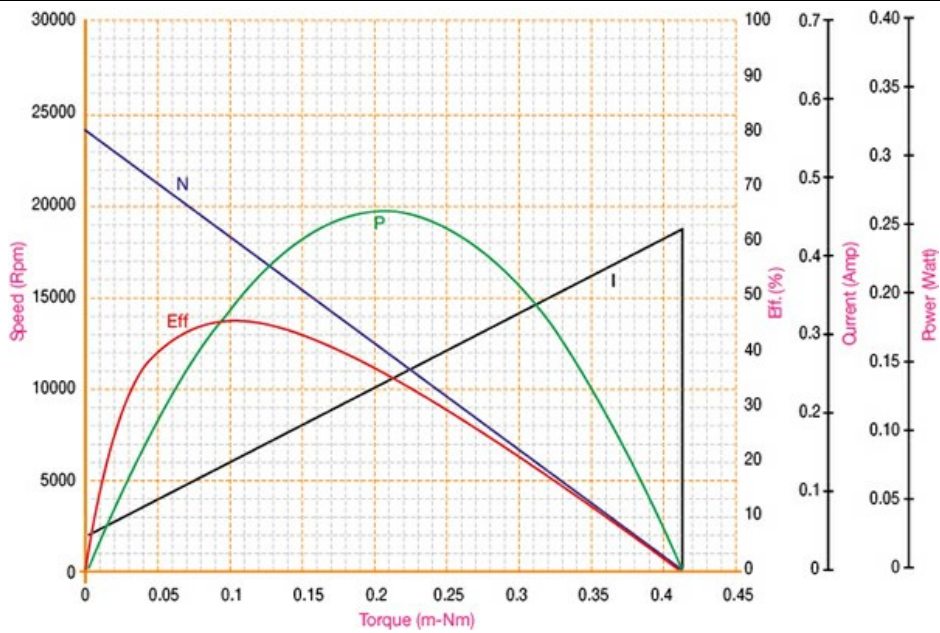
**Performance Data:**

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.05	0.45	0.15	0.25
Efficiency (%)	-	-	46	-
Output Power (W)	-	-	0.20	0.27
Speed (rpm)	24926	-	18874	12463
Torque (mNm)	-	0.42	0.10	0.21

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High power DC motor

Specifications:

Dimensions	: Ø 15.5 X 12.0 X 26.9 mm
Shaft Diameter	: Ø 1.505 mm
Input Voltage	: 5.0 V DC
No Load Speed	: 6000 rpm
No Load Current	: 0.02 A
Nominal Speed	: 4460 rpm
Nominal Torque	: 0.85 mNm
Nominal Current	: 0.13 A
Stall Torque	: 3.40 mNm
Stall Current	: 0.47 A
Maximum Output Power	: 0.54 W
Maximum Efficiency	: 62%
Torque at Maximum Efficiency	: 0.60 mNm
Speed at Maximum Efficiency	: 4900 rpm
Life (Typical)	: 55 hr
Weight	: 17 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



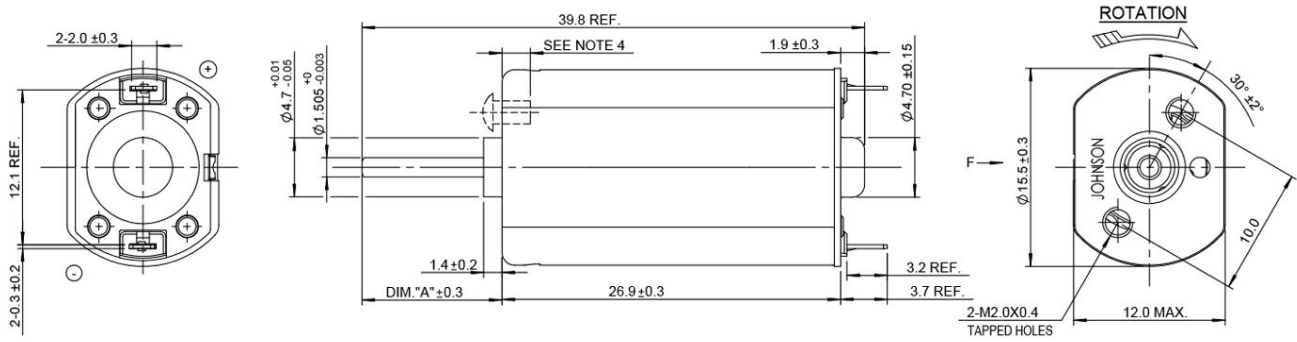
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.02	0.47	0.10	0.25
Efficiency (%)	-	-	62	44
Output Power (W)	-	-	0.30	0.54
Speed (rpm)	6000	-	4900	3000
Torque (mNm)	-	3.40	0.60	1.71

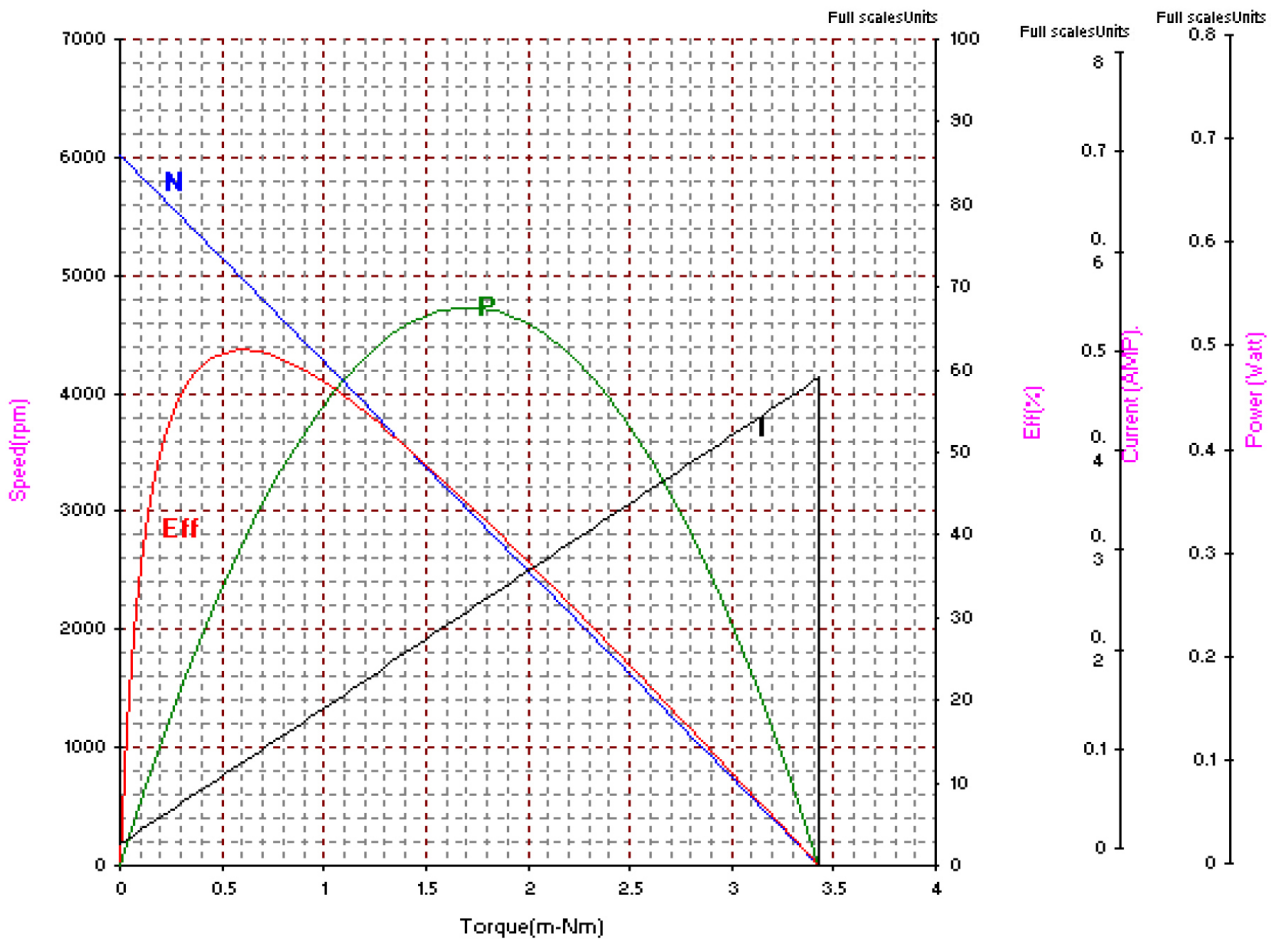
Application Examples:

Door Locks

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High power DC motor

Specifications:

Dimensions	: Ø 15.5 X 12.0 X 26.9 mm
Shaft Diameter	: Ø 1.505 mm
Input Voltage	: 5.0 V DC
No Load Speed	: 6000 rpm
No Load Current	: 0.03 A
Nominal Speed	: 4460 rpm
Nominal Torque	: 0.85 mNm
Nominal Current	: 0.15 A
Stall Torque	: 3.40 mNm
Stall Current	: 0.47 A
Maximum Output Power	: 0.54 W
Maximum Efficiency	: 62.3%
Torque at Maximum Efficiency	: 0.59 mNm
Speed at Maximum Efficiency	: 4900 rpm
Life (Typical)	: 50 hr
Weight	: 17 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



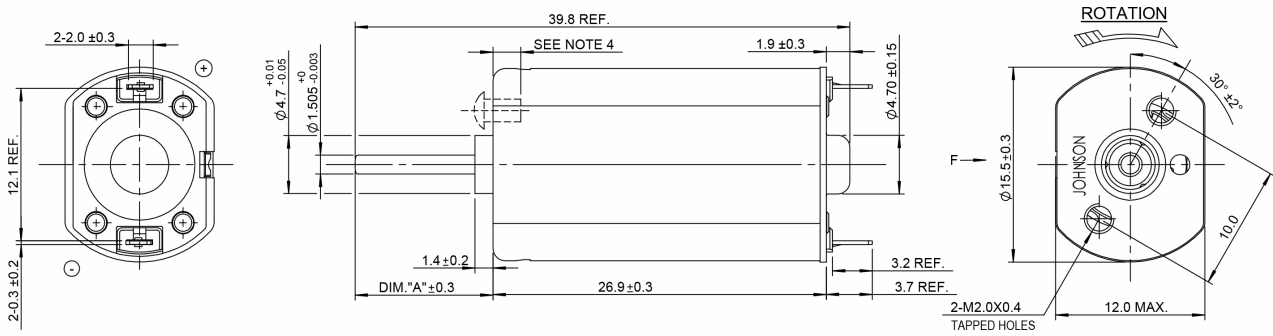
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.03	0.47	0.10	0.25
Efficiency (%)	-	-	62.30	43
Output Power (W)	-	-	0.31	0.54
Speed (rpm)	6000	-	4900	3000
Torque (mNm)	-	3.40	0.59	1.70

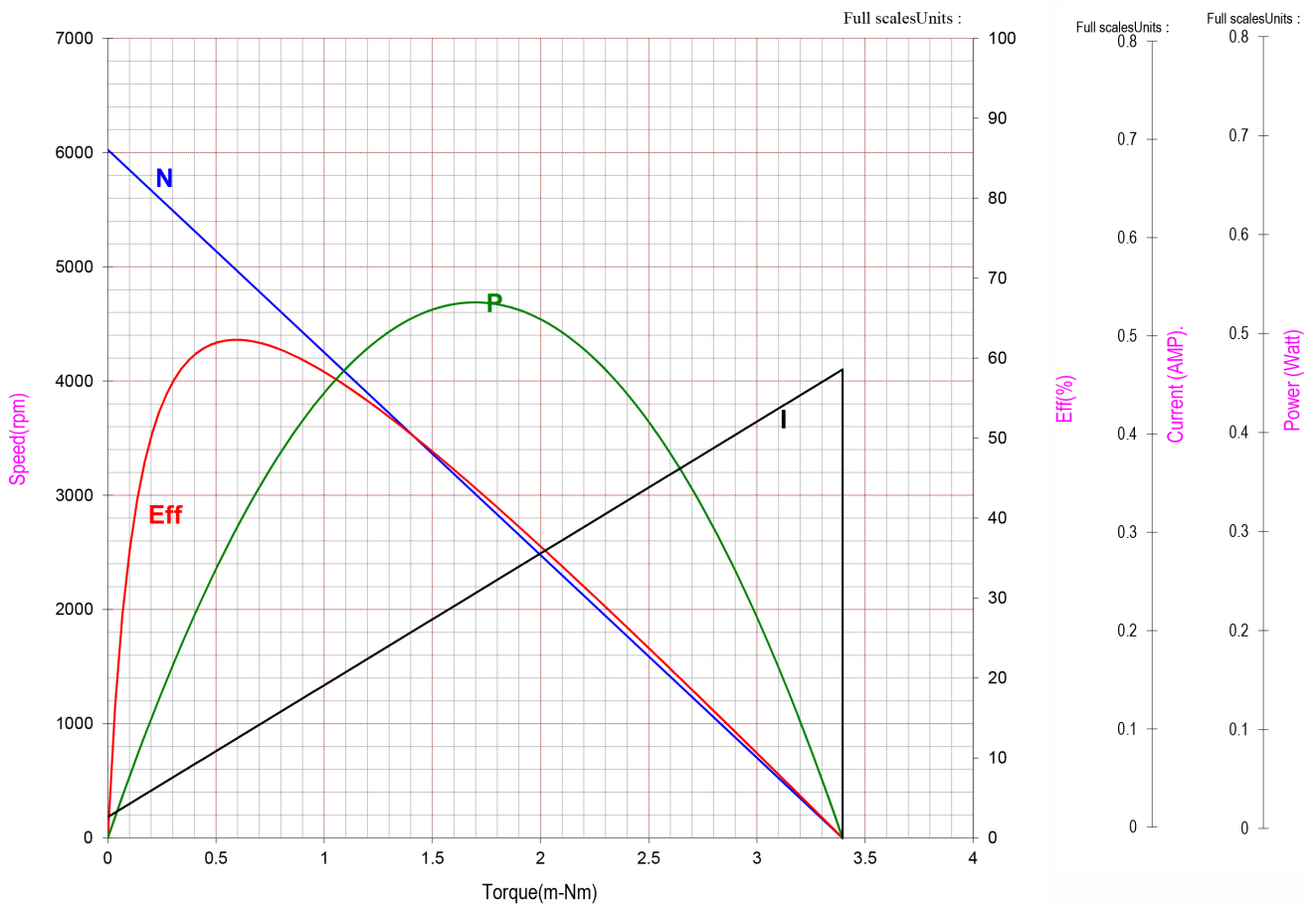
Application Examples:

Door Locks

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

Compact Size Motor

Specifications:

Dimensions	: Ø 15.5 X 12.0 X 18.6 mm
Shaft Diameter	: Ø 1.505 mm
Input Voltage	: 5.0 V DC
No Load Speed	: 12623 rpm
No Load Current	: 0.06 A
Stall Torque	: 2.09 mNm
Stall Current	: 0.64 A
Maximum Output Power	: 0.69 W
Maximum Efficiency	: 50%
Torque at Maximum Efficiency	: 0.50 mNm
Speed at Maximum Efficiency	: 9602 rpm
Life (Typical)	: 17 hr
Weight	: 10 g
Operating Temperature Range	: -20 to 70 °C
Storage Temperature Range	: -40 to 85 °C
Electrical Connection	: Terminal



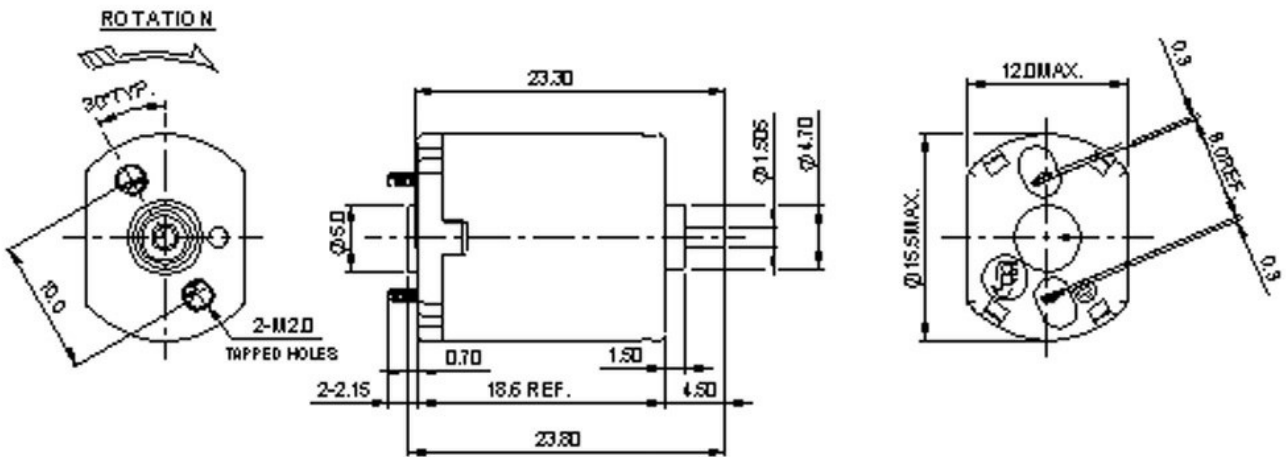
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.06	0.64	0.20	0.35
Efficiency (%)	-	-	50	-
Output Power (W)	-	-	0.50	0.69
Speed (rpm)	12623	-	9602	6312
Torque (mNm)	-	2.09	0.50	1.05

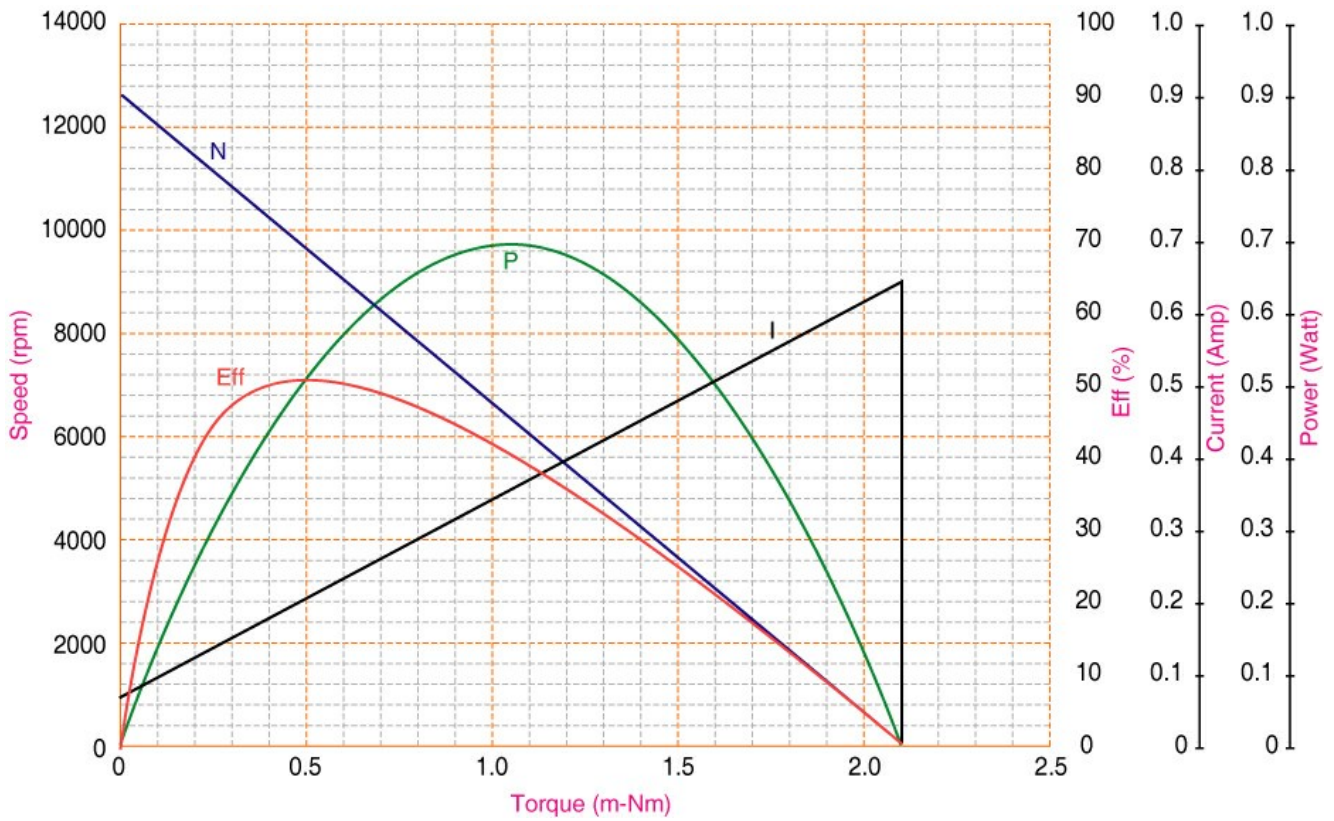
Application Examples:

Door Locks

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High power DC motor

Specifications:

Dimensions	: Ø 15.0 X 12.0 X 33.0 mm
Shaft Diameter	: Ø 1.505 mm
Input Voltage	: 5.0 V DC
No Load Speed	: 6000 rpm
No Load Current	: 0.03 A
Nominal Speed	: 4900 rpm
Nominal Torque	: 0.40 mNm
Nominal Current	: 0.10 A
Stall Torque	: 2.91 mNm
Stall Current	: 0.42 A
Maximum Output Power	: 0.47 W
Maximum Efficiency	: 57%
Torque at Maximum Efficiency	: 0.57 mNm
Speed at Maximum Efficiency	: 4900 rpm
Life (Typical)	: 50 hr
Weight	: 17 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



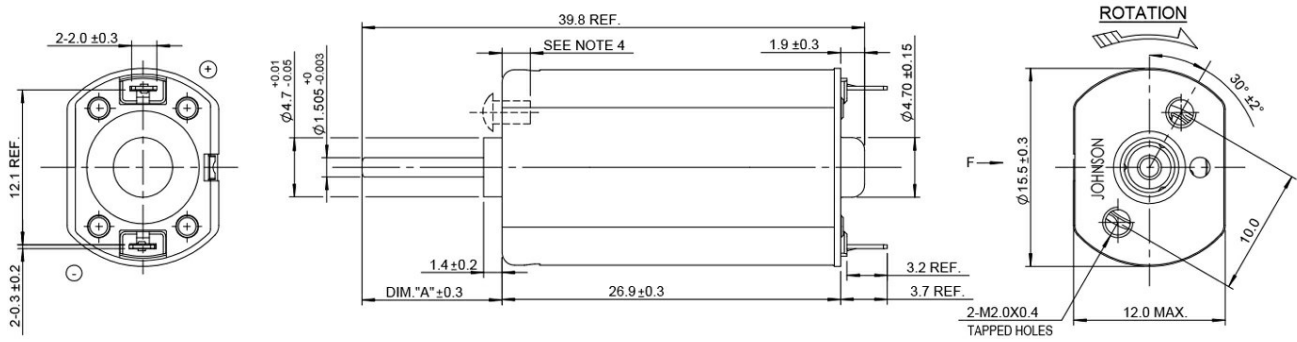
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.03	0.42	0.10	0.22
Efficiency (%)	-	-	57	42
Output Power (W)	-	-	0.30	0.47
Speed (rpm)	6000	-	4900	3000
Torque (mNm)	-	2.91	0.57	1.11

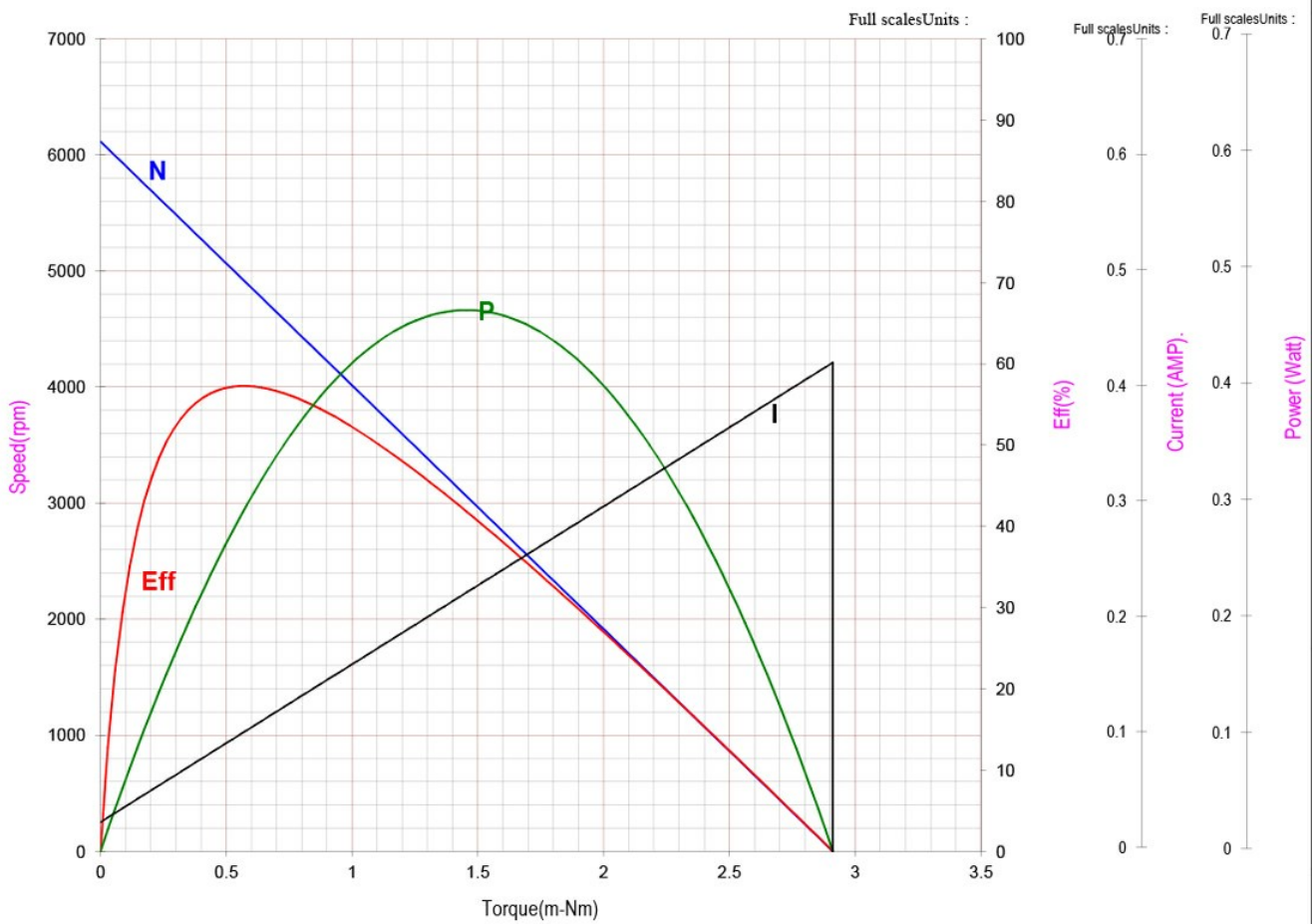
Application Examples:

Door Locks

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

DC motor

Specifications:

Dimensions	: Ø 15.5 X 12.0 X 18.6 mm
Shaft Diameter	: Ø 1.505 mm
Input Voltage	: 5.0 V DC
No Load Speed	: 13000 rpm
No Load Current	: 0.06 A
Nominal Speed	: 9500 rpm
Nominal Torque	: 0.50 mNm
Nominal Current	: 0.20 A
Stall Torque	: 2.00 mNm
Stall Current	: 0.63 A
Maximum Output Power	: 0.69 W
Maximum Efficiency	: 50%
Torque at Maximum Efficiency	: 0.50 mNm
Speed at Maximum Efficiency	: 9500 rpm
Life (Typical)	: 50 hr
Weight	: 10 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



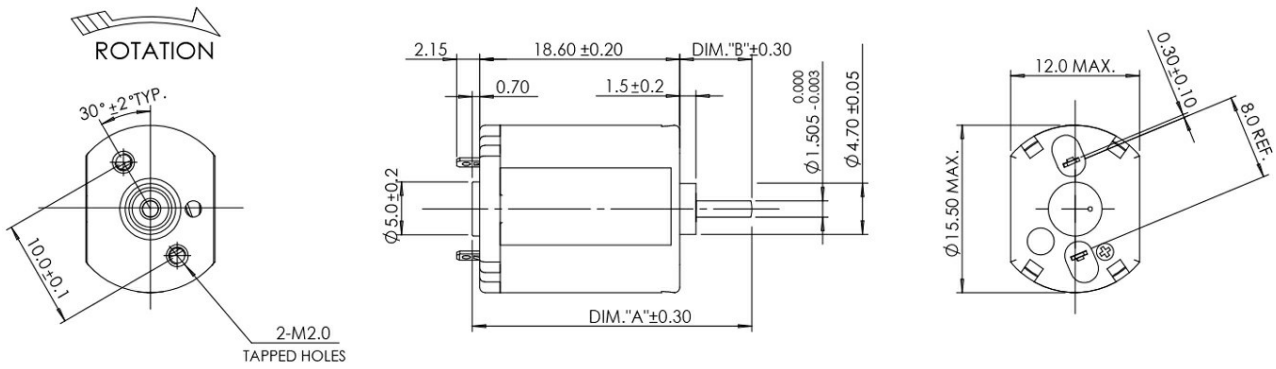
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.06	0.63	0.20	0.35
Efficiency (%)	-	-	50	39
Output Power (W)	-	-	0.50	0.69
Speed (rpm)	12600	-	9500	6300
Torque (mNm)	-	2.10	0.50	1.00

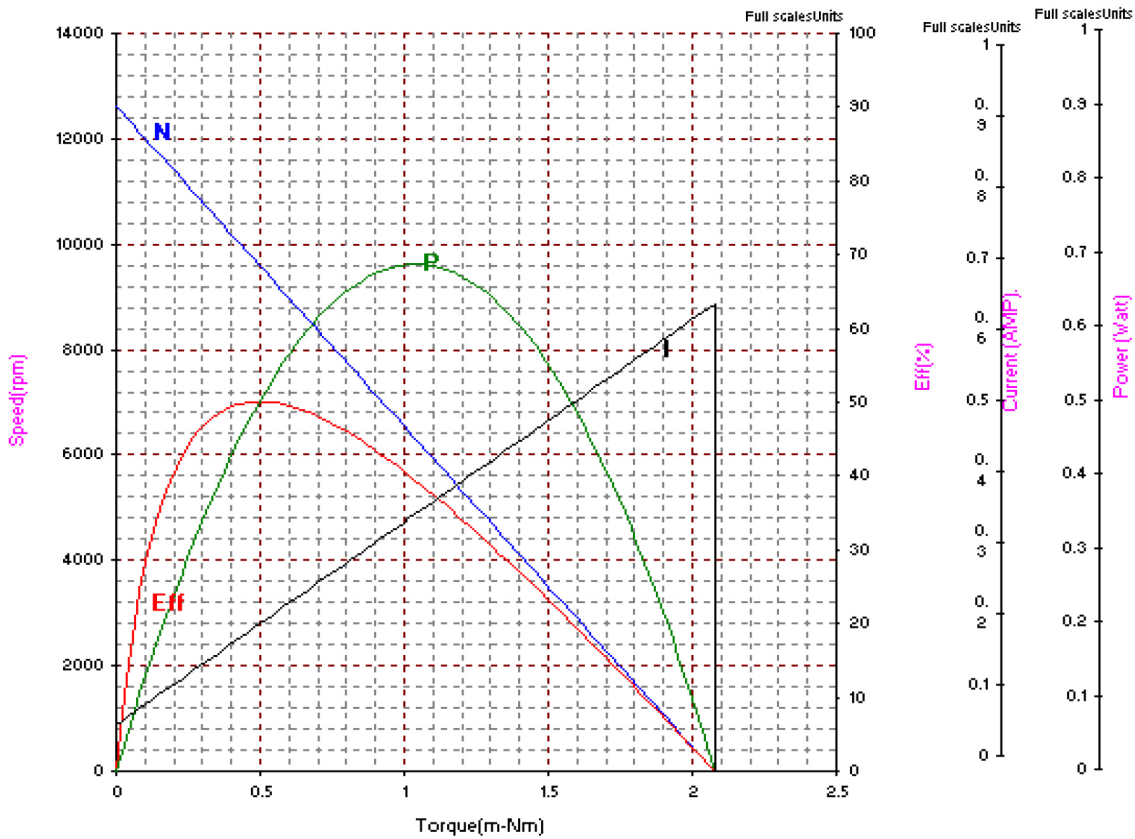
Application Examples:

Door Locks

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High power mini PMDC motor

Specifications:

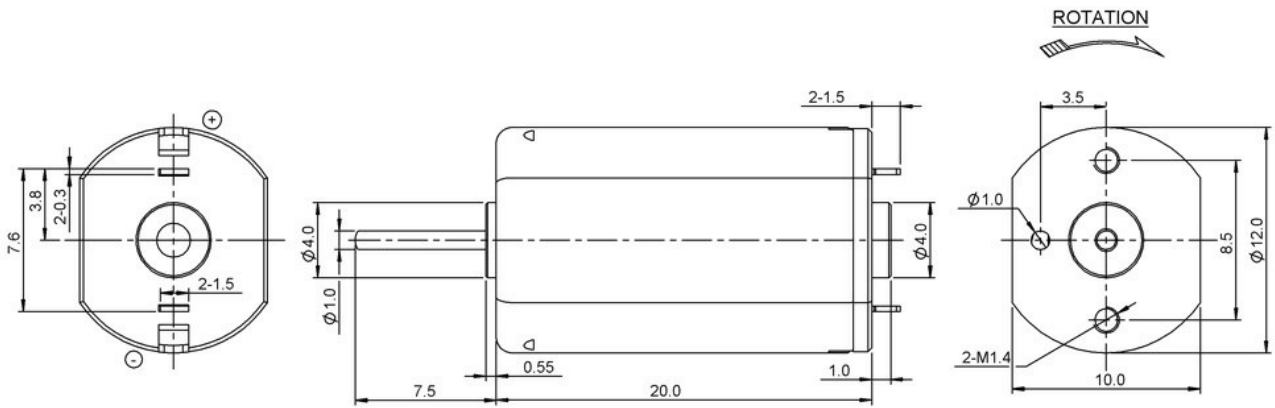
Dimensions	: Ø 12.0 X 10.0 X 20.0 mm
Shaft Diameter	: Ø 1.000 mm
Input Voltage	: 4.5 V DC
No Load Speed	: 14300 rpm
No Load Current	: 0.06 A
Stall Torque	: 2.60 mNm
Stall Current	: 0.98 A
Maximum Output Power	: 0.97 W
Maximum Efficiency	: 58%
Torque at Maximum Efficiency	: 0.50 mNm
Speed at Maximum Efficiency	: 11536 rpm
Weight	: 8 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



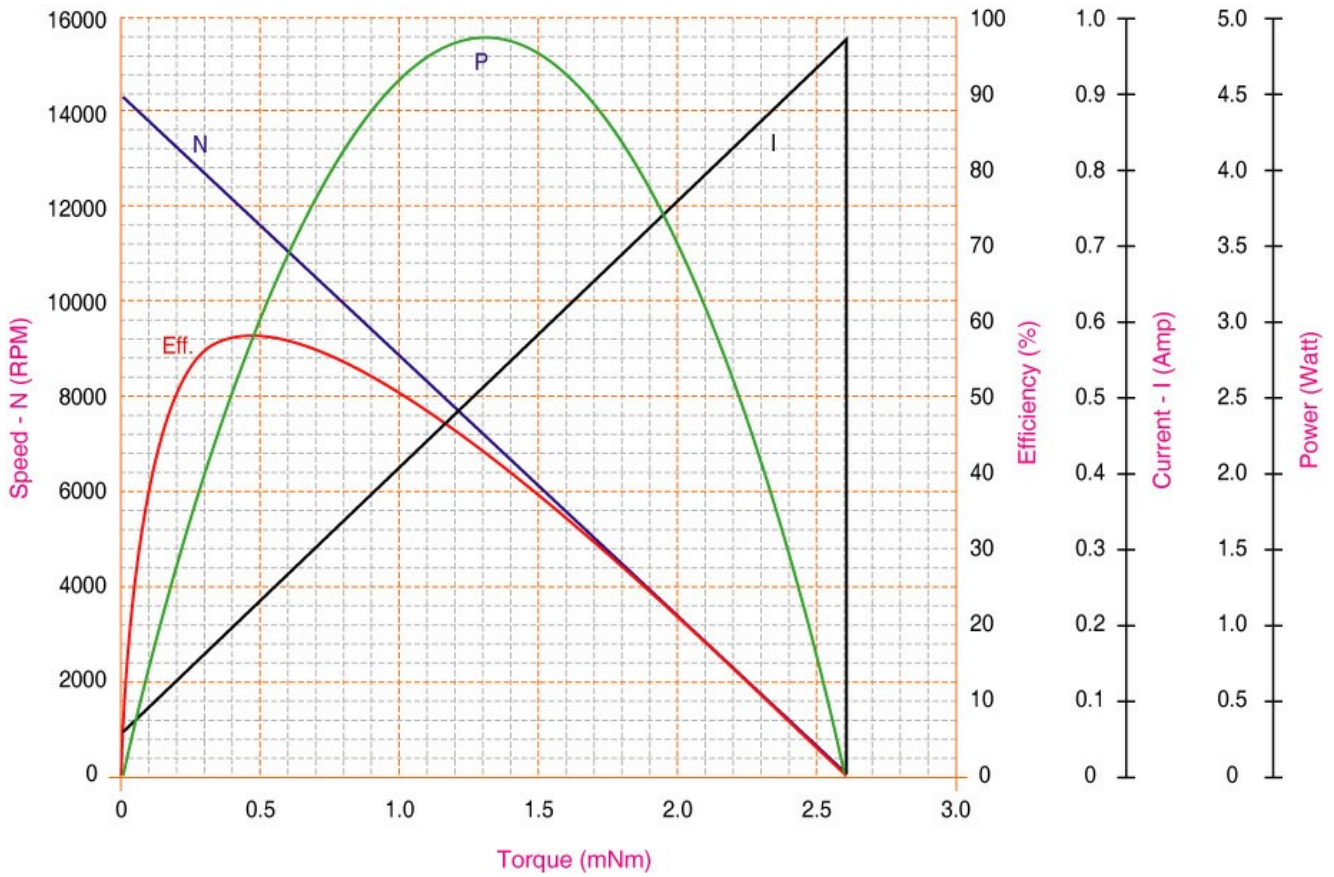
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.06	0.98	0.23	0.52
Efficiency (%)	-	-	58	-
Output Power (W)	-	-	0.61	0.97
Speed (rpm)	14300	-	11536	7150
Torque (mNm)	-	2.60	0.50	1.30

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High power DC motor

Specifications:

Dimensions	: Ø 12.0 X 10.0 X 15.0mm
Shaft Diameter	: Ø 1.000 mm
Input Voltage	: 5.0 V DC
No Load Speed	: 19800 rpm
No Load Current	: 0.04 A
Nominal Speed	: 16000 rpm
Nominal Torque	: 0.29 mNm
Nominal Current	: 0.17 A
Stall Torque	: 1.55 mNm
Stall Current	: 0.72 A
Maximum Output Power	: 0.81 W
Maximum Efficiency	: 59%
Torque at Maximum Efficiency	: 0.29 mNm
Speed at Maximum Efficiency	: 16000 rpm
Life (Typical)	: 50 hr
Weight	: 5 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



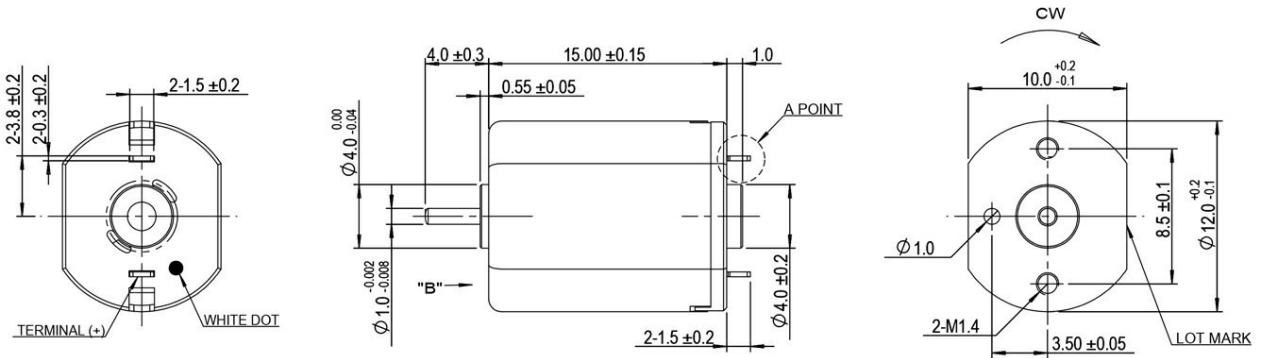
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.04	0.72	0.17	0.38
Efficiency (%)	-	-	59	42
Output Power (W)	-	-	0.50	0.81
Speed (rpm)	19800	-	16000	10000
Torque (mNm)	-	1.55	0.29	0.77

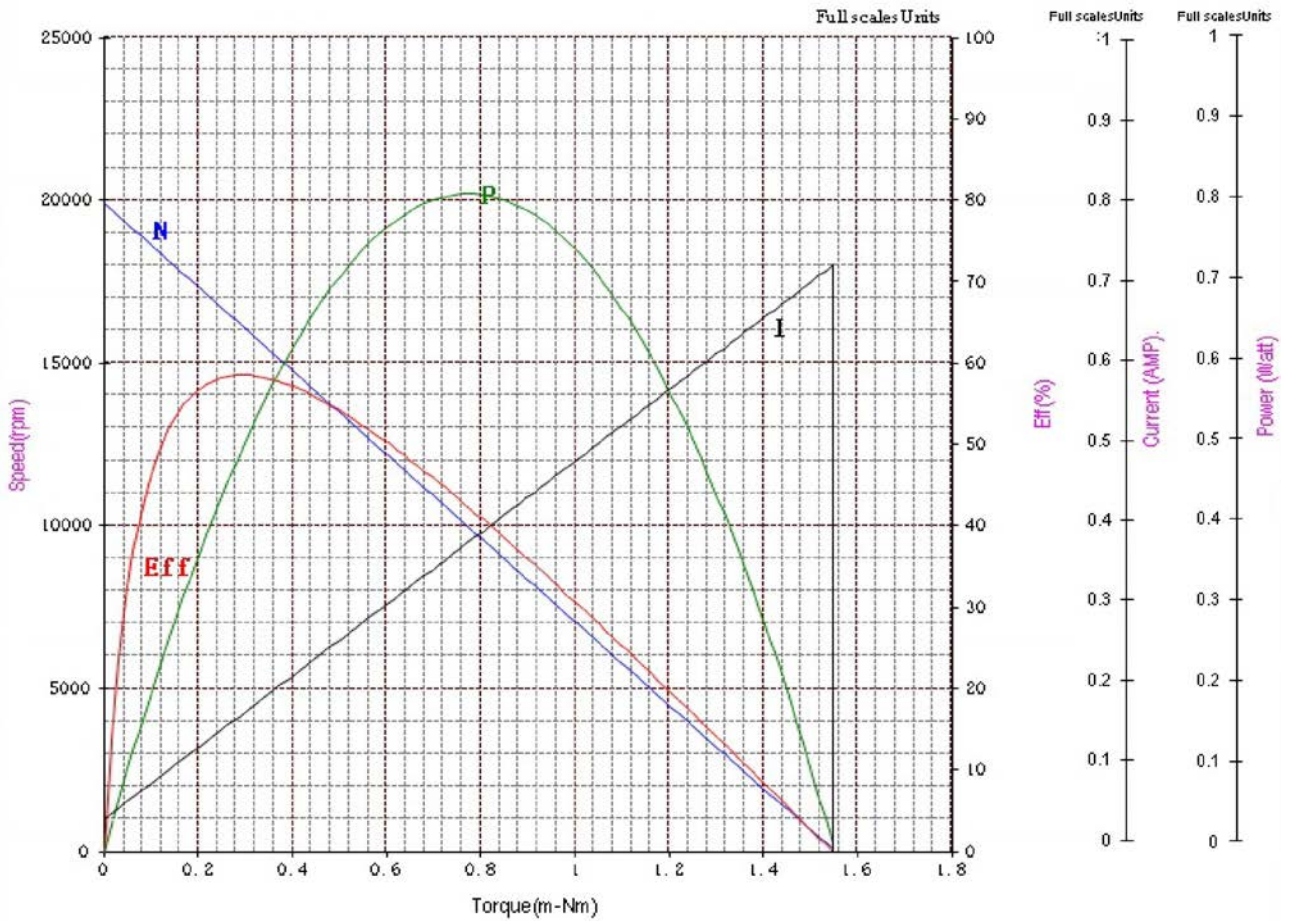
Application Examples:

Door Locks

Outline Drawing:



Performance Curves:



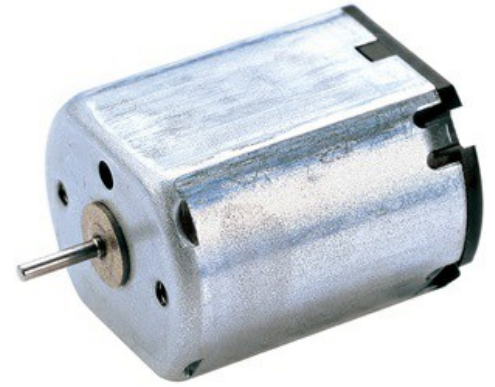
Units in Metric

Characteristics:

High power mini PMDC motor

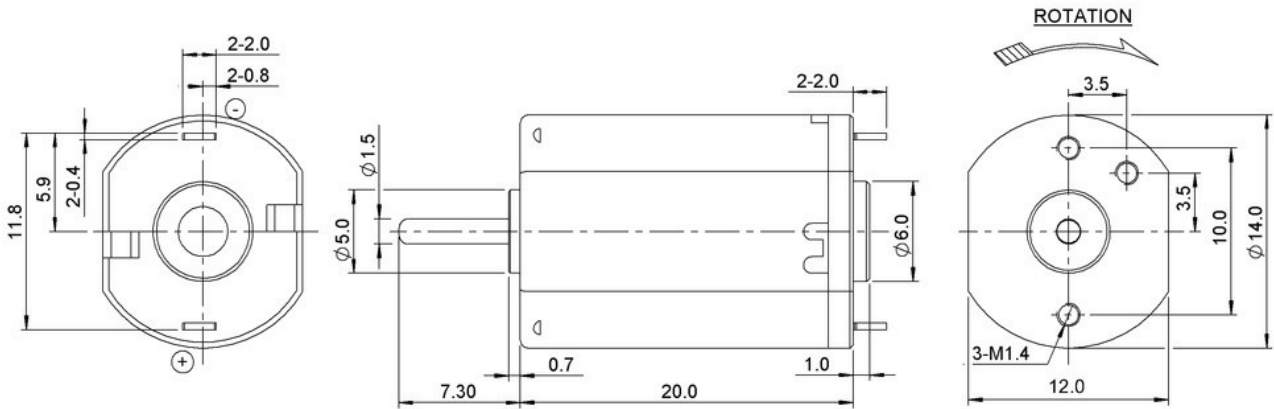
Specifications:

Dimensions	: Ø 14.0 X 12.0 X 20.0 mm
Shaft Diameter	: Ø 1.500 mm
Input Voltage	: 2.5 V DC
No Load Speed	: 4508 rpm
No Load Current	: 0.02 A
Stall Torque	: 0.85 mNm
Stall Current	: 0.20 A
Maximum Output Power	: 0.10 W
Maximum Efficiency	: 46%
Torque at Maximum Efficiency	: 0.20 mNm
Speed at Maximum Efficiency	: 3423 rpm
Weight	: 10 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals

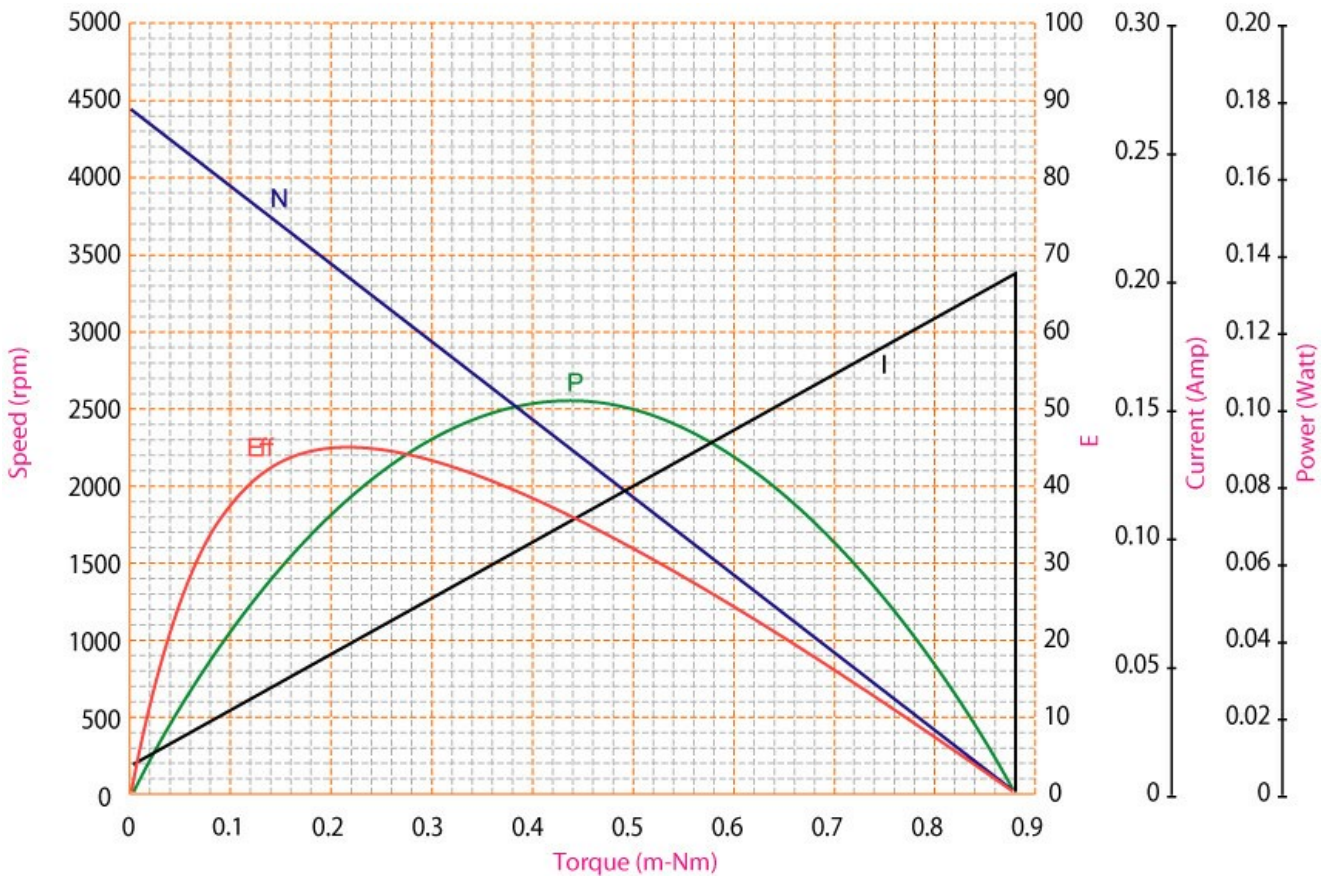
**Performance Data:**

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.02	0.20	0.06	0.11
Efficiency (%)	-	-	46	-
Output Power (W)	-	-	0.07	0.10
Speed (rpm)	4508	-	3423	2254
Torque (mNm)	-	0.85	0.20	0.42

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power DC motor

Specifications:

Dimensions	: Ø 24.0 X 30.5 mm mm
Shaft Diameter	: Ø 2.000 mm
Input Voltage	: 21.0 V DC
No Load Speed	: 30000 rpm
No Load Current	: 0.30 A
Nominal Speed	: 26500 rpm
Nominal Torque	: 4.00 mNm
Nominal Current	: 1.50 A
Stall Torque	: 40.00 mNm
Stall Current	: 7.00 A
Maximum Output Power	: 32.00 W
Maximum Efficiency	: 60%
Torque at Maximum Efficiency	: 7.00 mNm
Speed at Maximum Efficiency	: 25000 rpm
Life (Typical)	: 80 hr
Weight	: 45 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



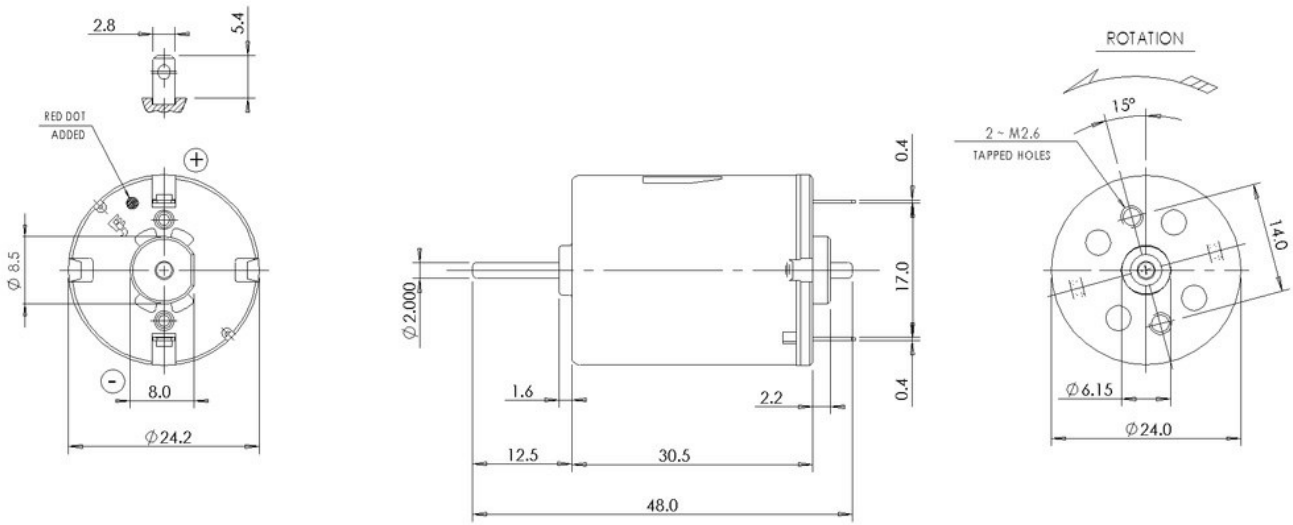
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.30	7.00	1.50	4.00
Efficiency (%)	-	-	60	45
Output Power (W)	-	-	20.00	32.00
Speed (rpm)	30000	-	25000	14800
Torque (mNm)	-	40.00	7.00	20.00

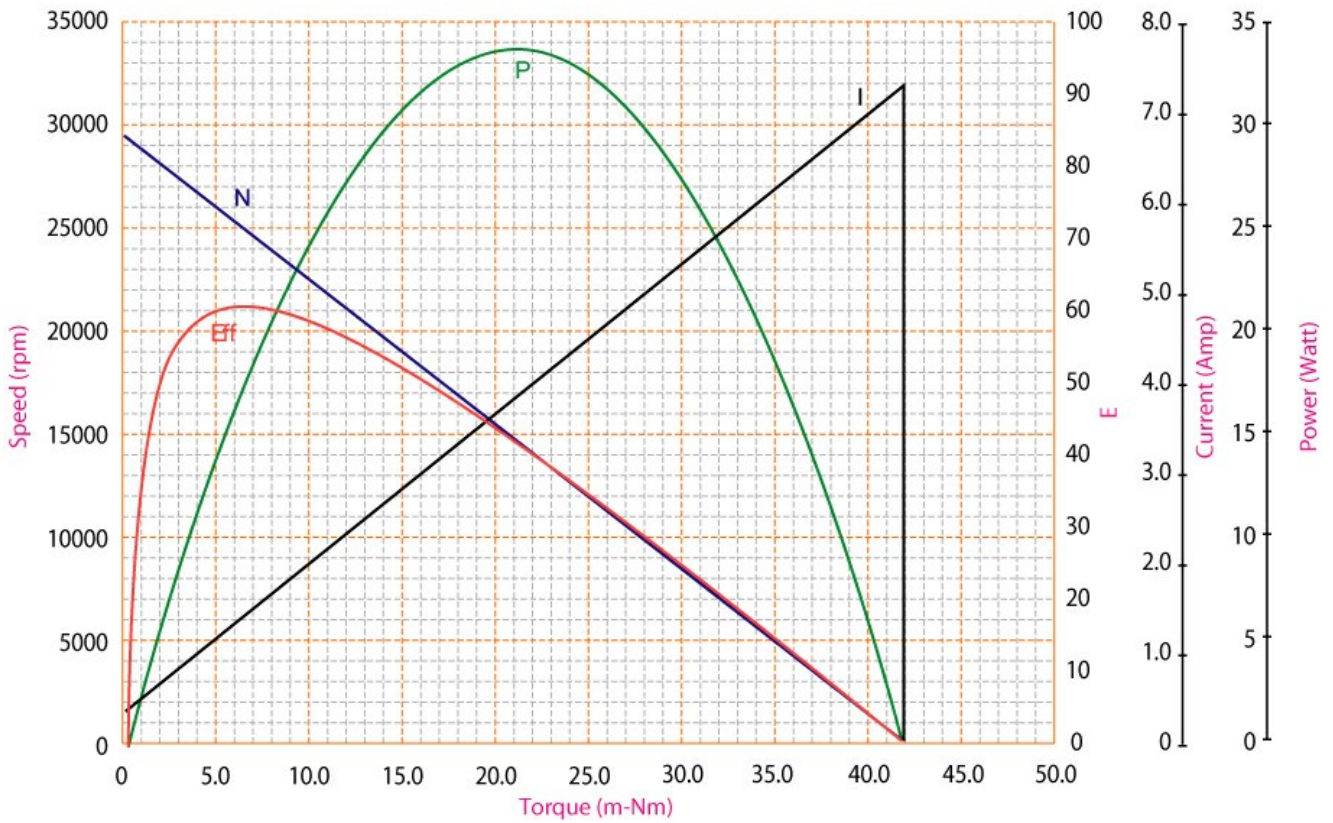
Application Examples:

Hair Dryers, Hair Care

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power DC motor

Specifications:

Dimensions	: Ø 24.0 X 30.5 mm mm
Shaft Diameter	: Ø 2.000 mm
Input Voltage	: 21.0 V DC
No Load Speed	: 30000 rpm
No Load Current	: 0.30 A
Nominal Speed	: 26500 rpm
Nominal Torque	: 4.00 mNm
Nominal Current	: 1.50 A
Stall Torque	: 40.00 mNm
Stall Current	: 7.00 A
Maximum Output Power	: 32.00 W
Maximum Efficiency	: 60%
Torque at Maximum Efficiency	: 7.00 mNm
Speed at Maximum Efficiency	: 25000 rpm
Life (Typical)	: 80 hr
Weight	: 45 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



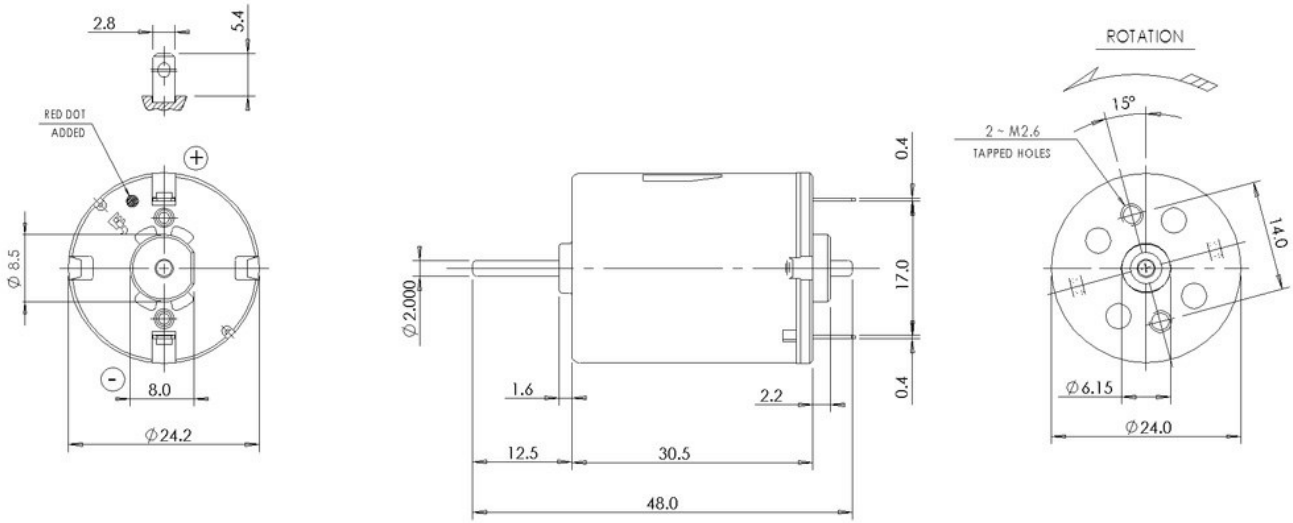
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.30	7.00	1.50	4.00
Efficiency (%)	-	-	60	45
Output Power (W)	-	-	20.00	32.00
Speed (rpm)	30000	-	25000	14800
Torque (mNm)	-	40.00	7.00	20.00

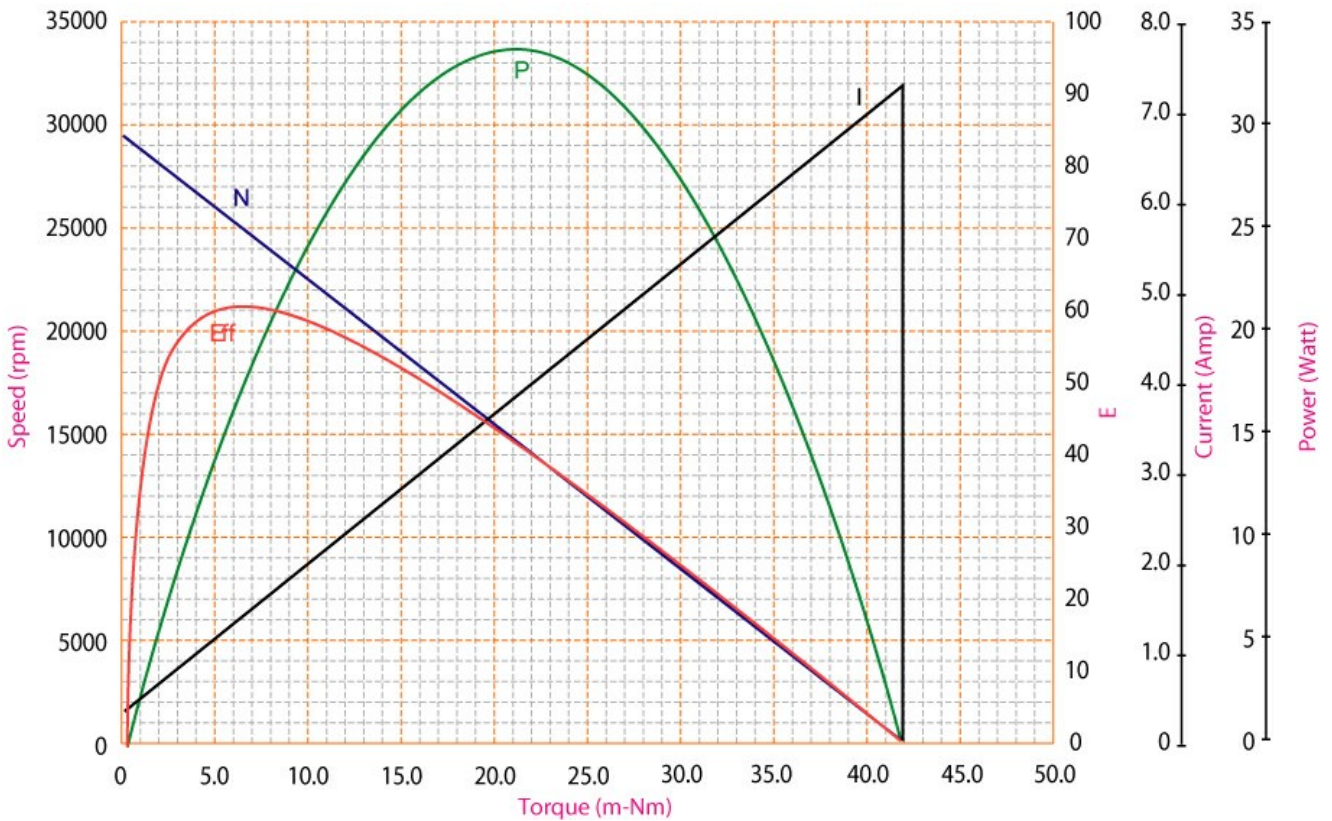
Application Examples:

Hair Dryers, Hair Care

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power DC motor

Specifications:

Dimensions	: Ø 20.4 X 15.4 X 32.1 mm
Shaft Diameter	: Ø 2.000 mm
Input Voltage	: 13.0 V DC
No Load Speed	: 25000 rpm
No Load Current	: 0.20 A
Nominal Speed	: 22000 rpm
Nominal Torque	: 3.00 mNm
Nominal Current	: 0.80 A
Stall Torque	: 20.00 mNm
Stall Current	: 4.50 A
Maximum Output Power	: 15.00 W
Maximum Efficiency	: 65%
Torque at Maximum Efficiency	: 4.00 mNm
Speed at Maximum Efficiency	: 21000 rpm
Life (Typical)	: 100 hr
Weight	: 35 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C



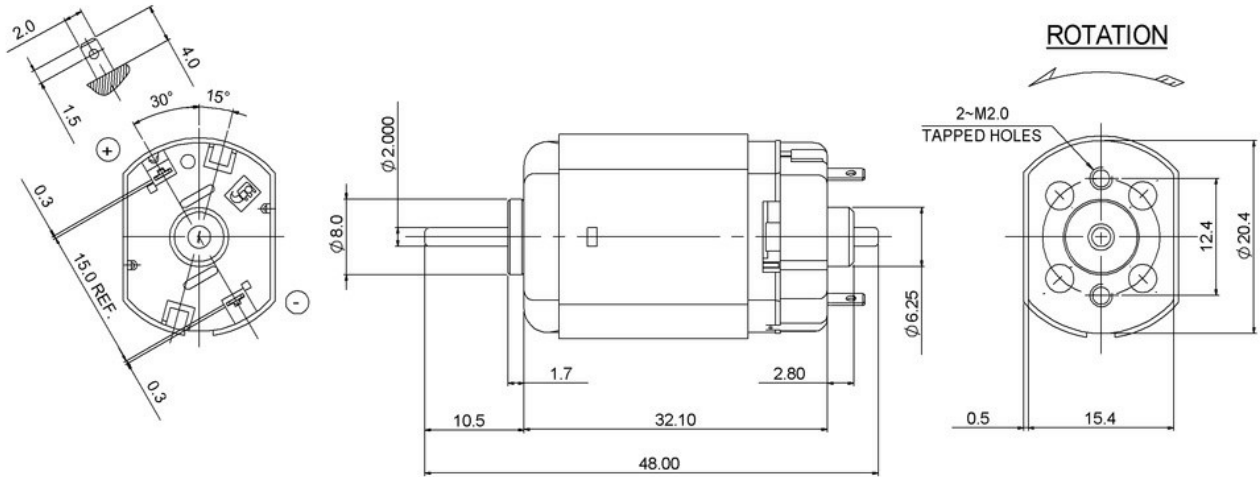
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.20	4.50	1.00	0.20
Efficiency (%)	-	-	65	45
Output Power (W)	-	-	8.00	15.00
Speed (rpm)	25000	-	21000	12500
Torque (mNm)	-	20.00	4.00	10.00

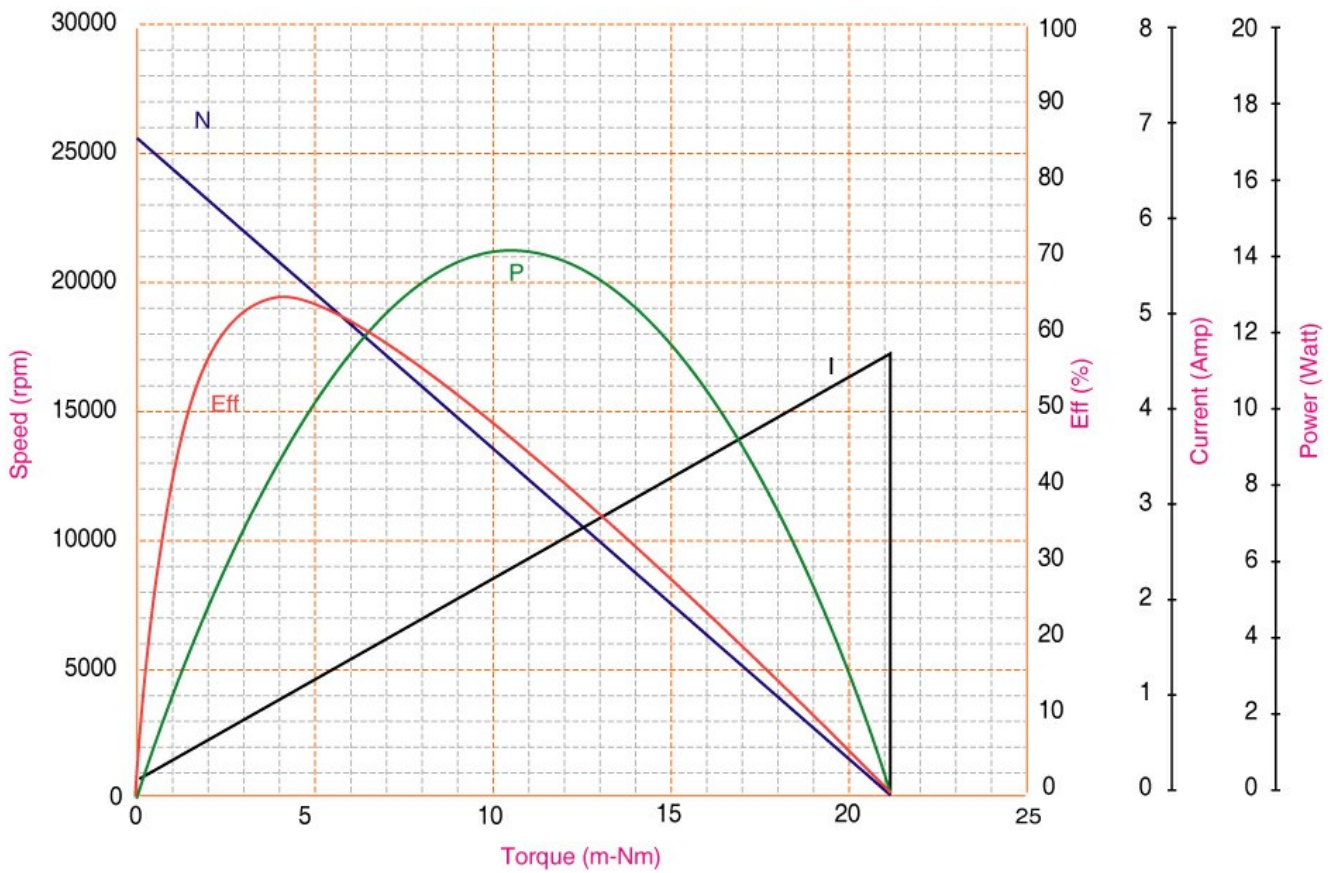
Application Examples:

Hair Dryers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

Compact size, Low noise, low cogging

Specifications:

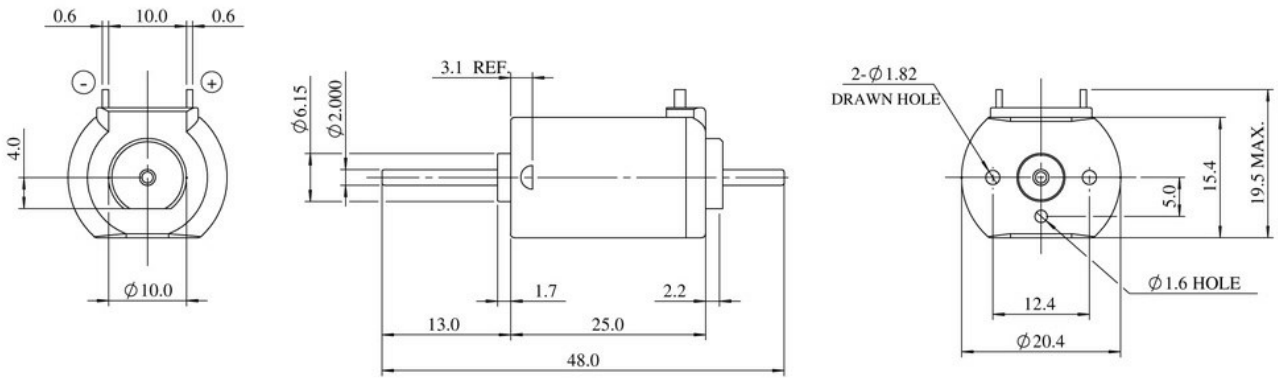
Dimensions	: Ø 20.4 X 25.0 mm
Shaft Diameter	: Ø 2.000 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 12359 rpm
Stall Torque	: 7.44 mNm
Maximum Output Power	: 2.41 W
Maximum Efficiency	: 49%
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



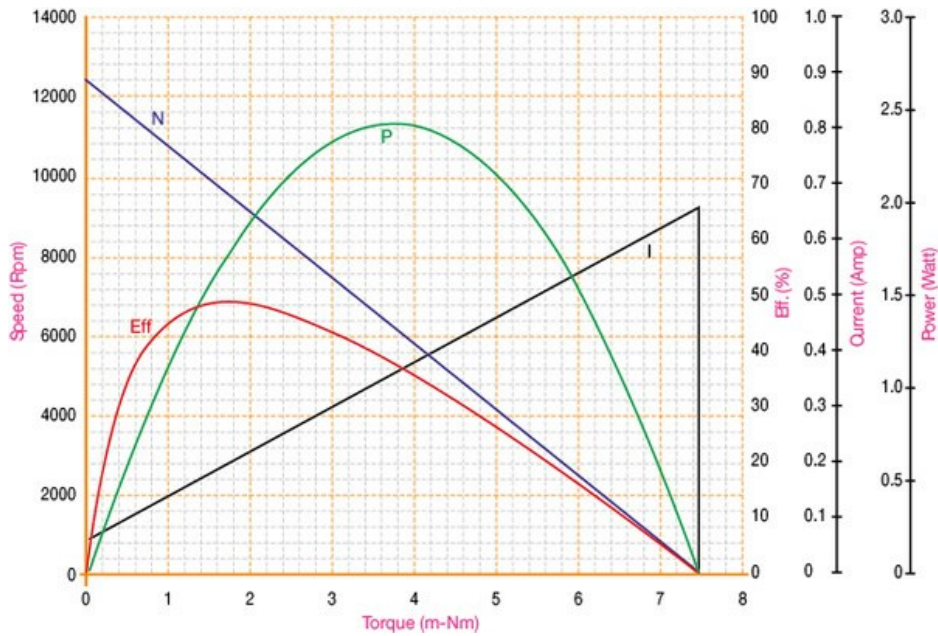
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.06	0.66	0.20	0.36
Efficiency (%)	-	-	49	37
Output Power (W)	-	-	1.70	2.41
Speed (rpm)	12359	-	9533	6177
Torque (mNm)	-	7.44	1.70	3.72

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

Compact size, High reliability

Specifications:

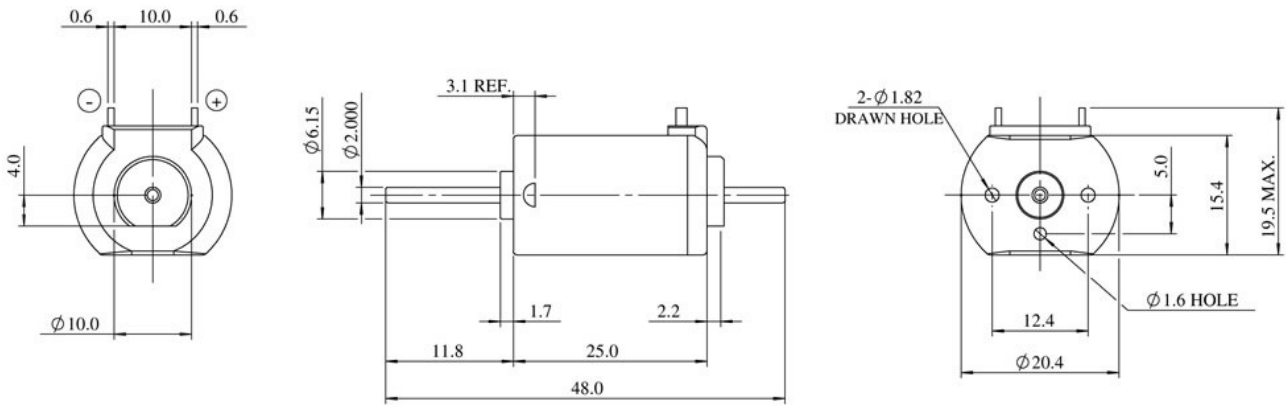
Dimensions	: Ø 20.4 X 25.0 mm
Shaft Diameter	: Ø 2.000 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 12675 rpm
Stall Torque	: 6.94 mNm
Maximum Output Power	: 2.30 W
Maximum Efficiency	: 48%
Torque at Maximum Efficiency	: 1.63 mNm
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



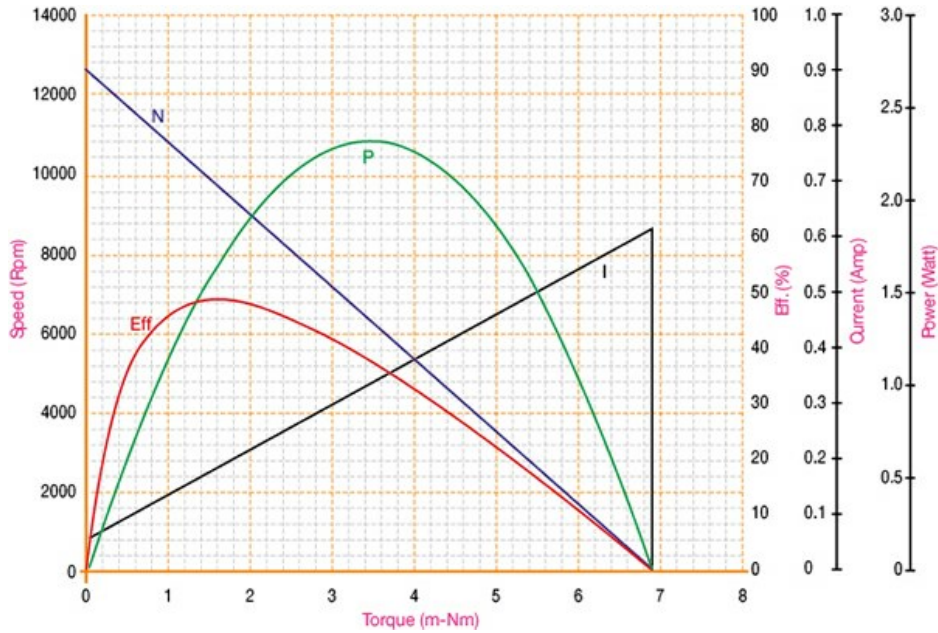
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.06	0.62	0.19	0.34
Efficiency (%)	-	-	48	38
Output Power (W)	-	-	1.66	2.30
Speed (rpm)	12675	-	9694	6335
Torque (mNm)	-	6.94	1.63	3.47

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

Low Cogging DC motor

Specifications:

Dimensions	: Ø 20.4 X 15.4 x 25.0 mm
Shaft Diameter	: Ø 2.000 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 12400 rpm
No Load Current	: 0.05 A
Nominal Speed	: 9900 rpm
Nominal Torque	: 1.60 mNm
Nominal Current	: 0.18 A
Stall Torque	: 7.60 mNm
Stall Current	: 0.67 A
Maximum Output Power	: 2.50 W
Maximum Efficiency	: 52%
Torque at Maximum Efficiency	: 1.60 mNm
Speed at Maximum Efficiency	: 9900 rpm
Life (Typical)	: 100 hr
Weight	: 22 g
Operating Temperature Range	: -5 to 65 °C
Storage Temperature Range	: 0 to 65 °C
Electrical Connection	: Terminals



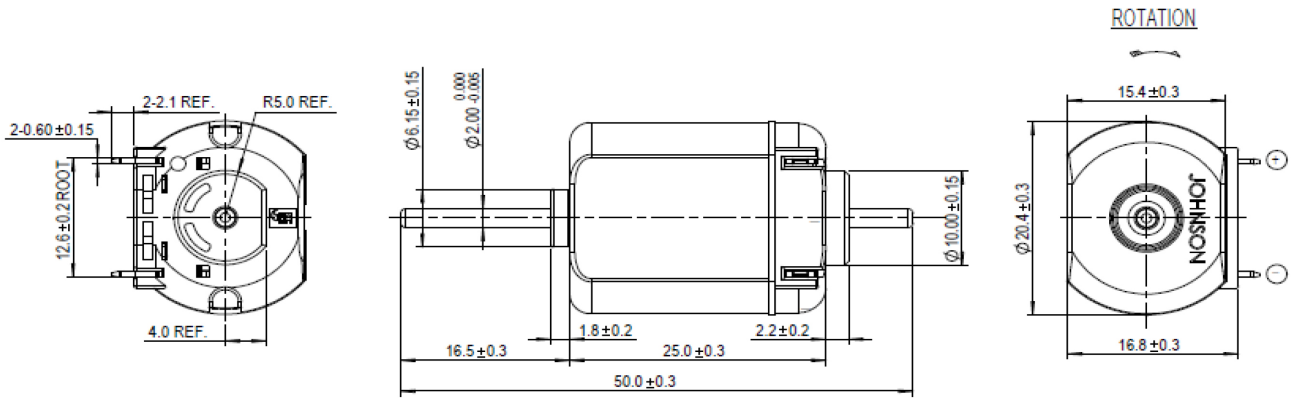
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.05	0.67	0.18	0.36
Efficiency (%)	-	-	52	38
Output Power (W)	-	-	1.70	2.50
Speed (rpm)	12400	-	9900	6200
Torque (mNm)	-	7.60	1.60	3.80

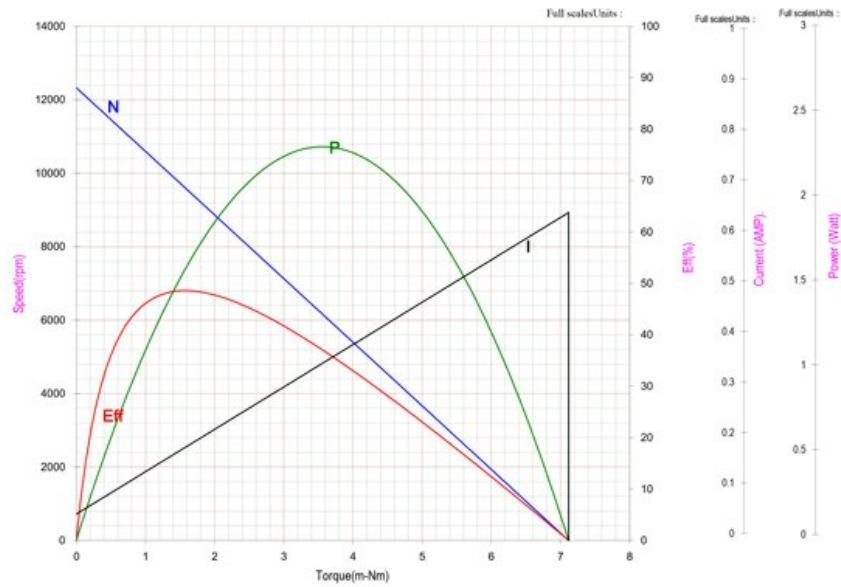
Application Examples:

Circuit Breaker Switches, Door Locks, Headlamp Adjusters, Copiers and Scanners, Paper Lifts and Feeds

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

Compact size, Low noise, low cogging

Specifications:

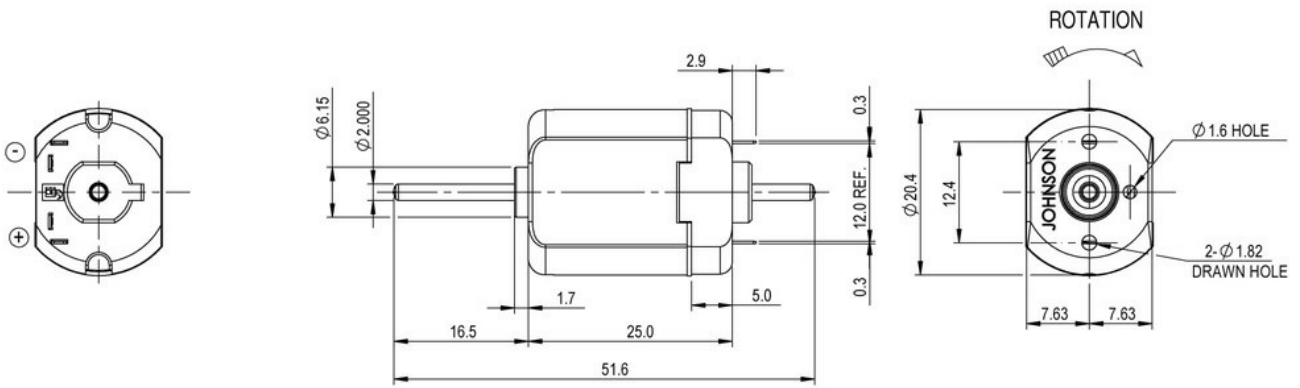
Dimensions	: Ø 20.4 X 25.0 mm
Shaft Diameter	: Ø 2.000 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 12000 rpm
Stall Torque	: 7.72 mNm
Maximum Output Power	: 2.44 W
Maximum Efficiency	: 48%
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



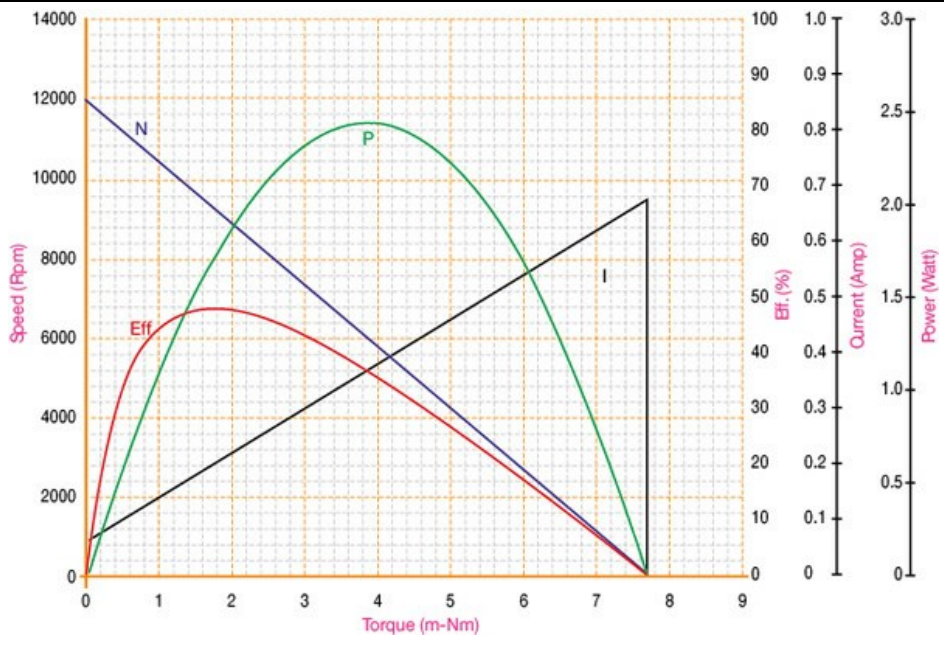
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.06	0.67	0.20	0.37
Efficiency (%)	-	-	48	37
Output Power (W)	-	-	1.71	2.44
Speed (rpm)	12000	-	9337	6032
Torque (mNm)	-	7.72	1.75	3.86

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power DC motor

Specifications:

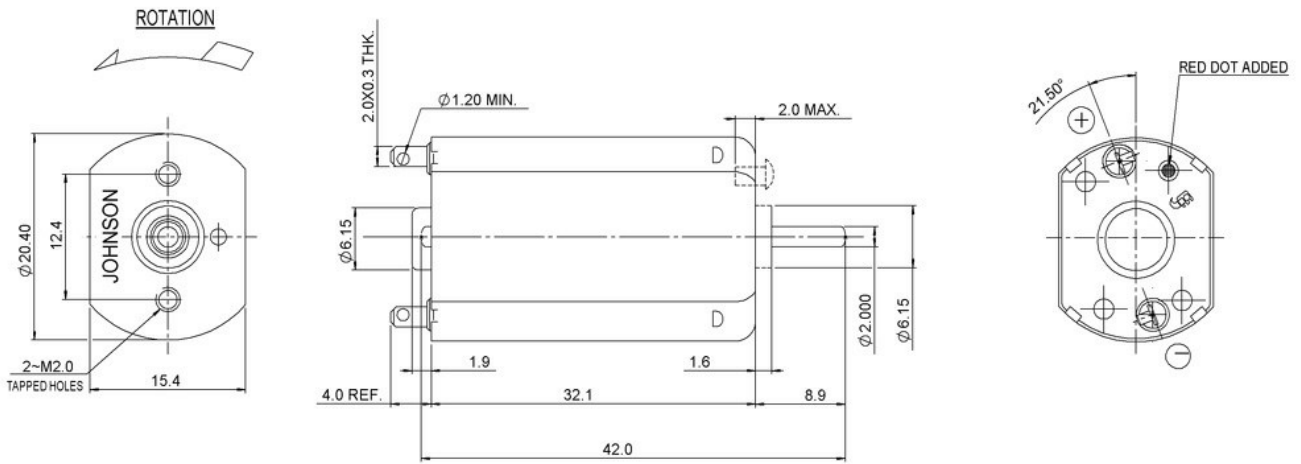
Dimensions	: Ø 20.4 X 15.4 X 32.1 mm
Shaft Diameter	: Ø 2.000 mm
Input Voltage	: 2.4 V DC
No Load Speed	: 6200 rpm
No Load Current	: 0.08 A
Nominal Speed	: 5300 rpm
Nominal Torque	: 1.20 mNm
Nominal Current	: 0.40 A
Stall Torque	: 8.00 mNm
Stall Current	: 2.50 A
Maximum Output Power	: 1.30 W
Maximum Efficiency	: 65%
Torque at Maximum Efficiency	: 1.20 mNm
Speed at Maximum Efficiency	: 5300 rpm
Noise Level	: 50 dB(A)
Life (Typical)	: 60 hr
Weight	: 30 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



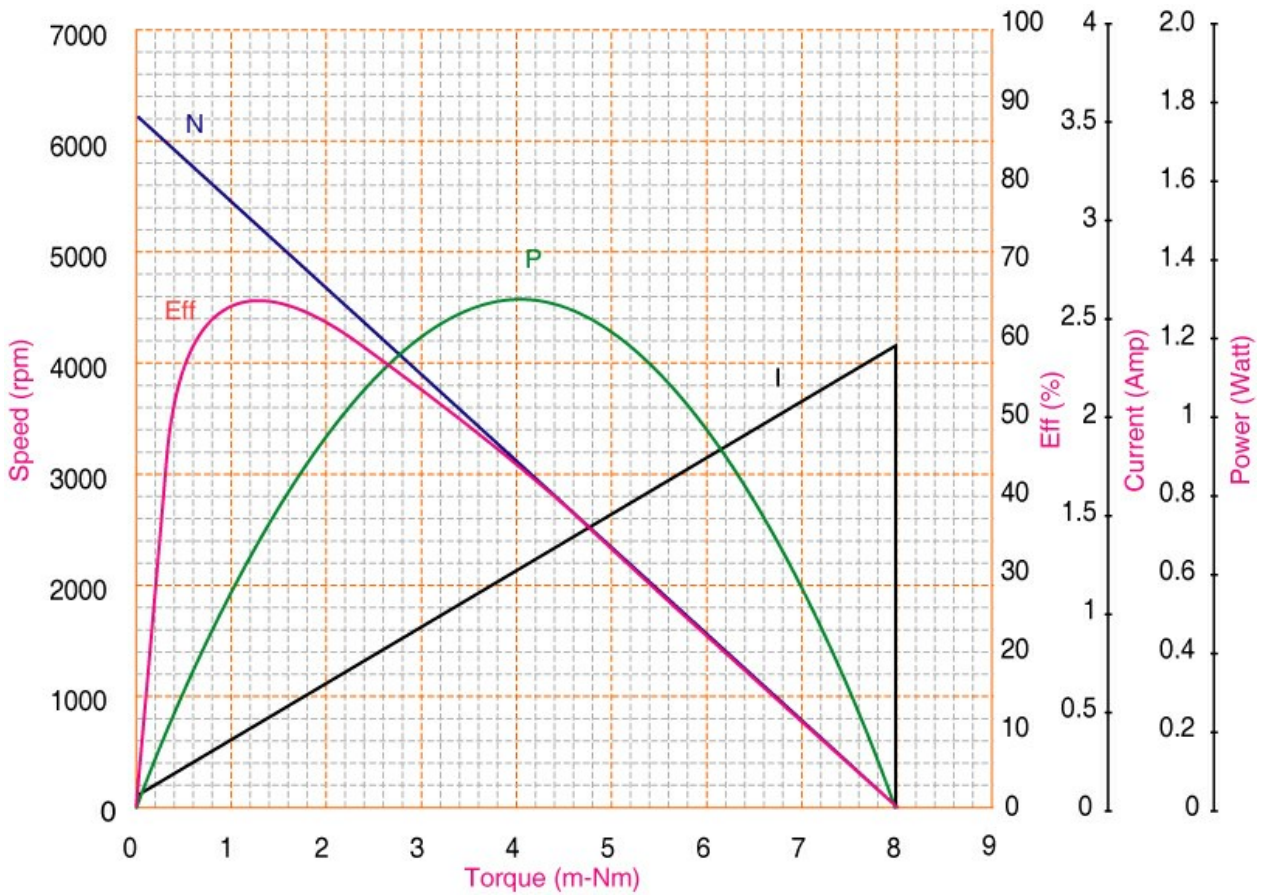
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.08	2.50	0.40	1.20
Efficiency (%)	-	-	65	45
Output Power (W)	-	-	0.70	1.30
Speed (rpm)	6200	-	5300	3000
Torque (mNm)	-	8.00	1.20	4.00

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power DC motor

Specifications:

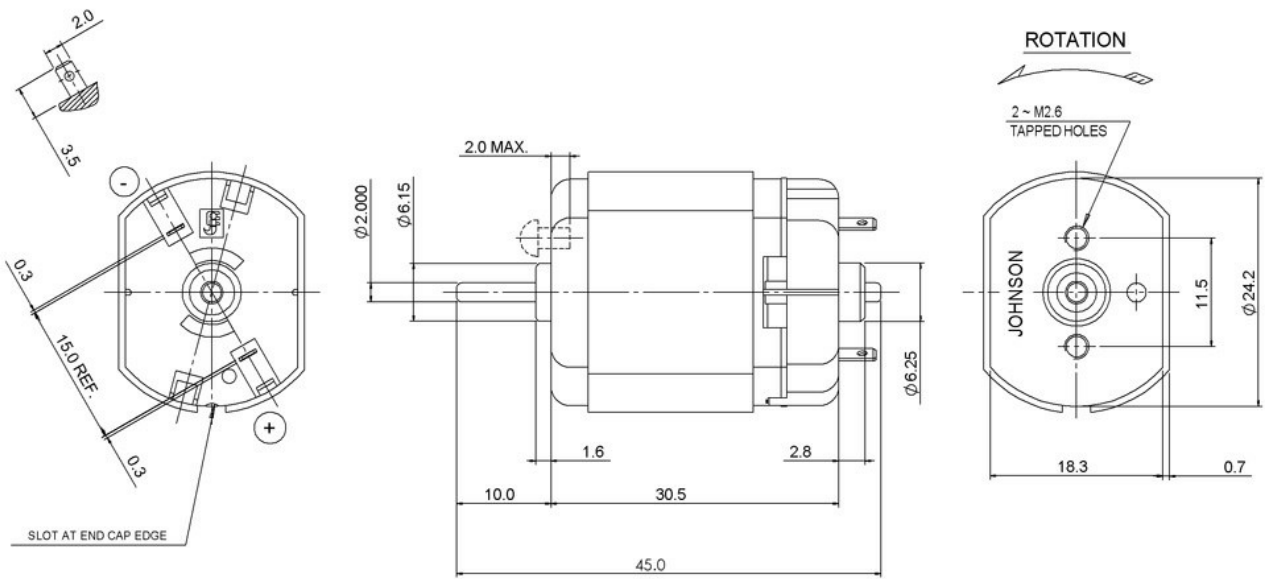
Dimensions	: Ø 24.2 X 18.3 X 30.5 mm
Shaft Diameter	: Ø 2.000 mm
Input Voltage	: 2.4 V DC
No Load Speed	: 7000 rpm
No Load Current	: 0.18 A
Nominal Speed	: 6500 rpm
Nominal Torque	: 2.00 mNm
Nominal Current	: 0.80 A
Stall Torque	: 26.00 mNm
Stall Current	: 9.00 A
Maximum Output Power	: 5.00 W
Maximum Efficiency	: 70%
Torque at Maximum Efficiency	: 3.00 mNm
Speed at Maximum Efficiency	: 6000 rpm
Life (Typical)	: 100 hr
Weight	: 45 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: terminals



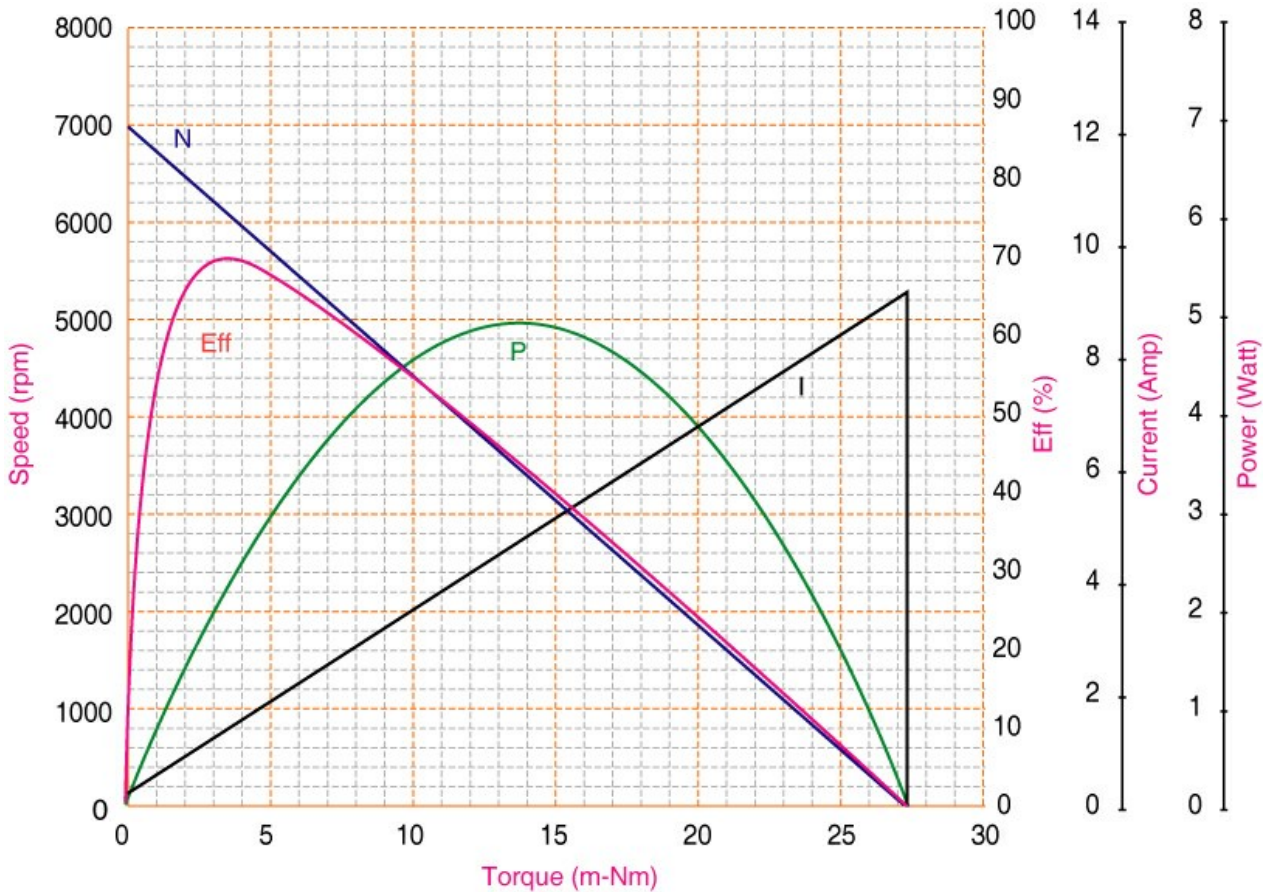
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.18	9.00	1.30	4.50
Efficiency (%)	-	-	70	40
Output Power (W)	-	-	2.00	5.00
Speed (rpm)	7000	-	6000	3500
Torque (mNm)	-	26.00	3.00	13.00

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

Compact size, High reliability

Specifications:

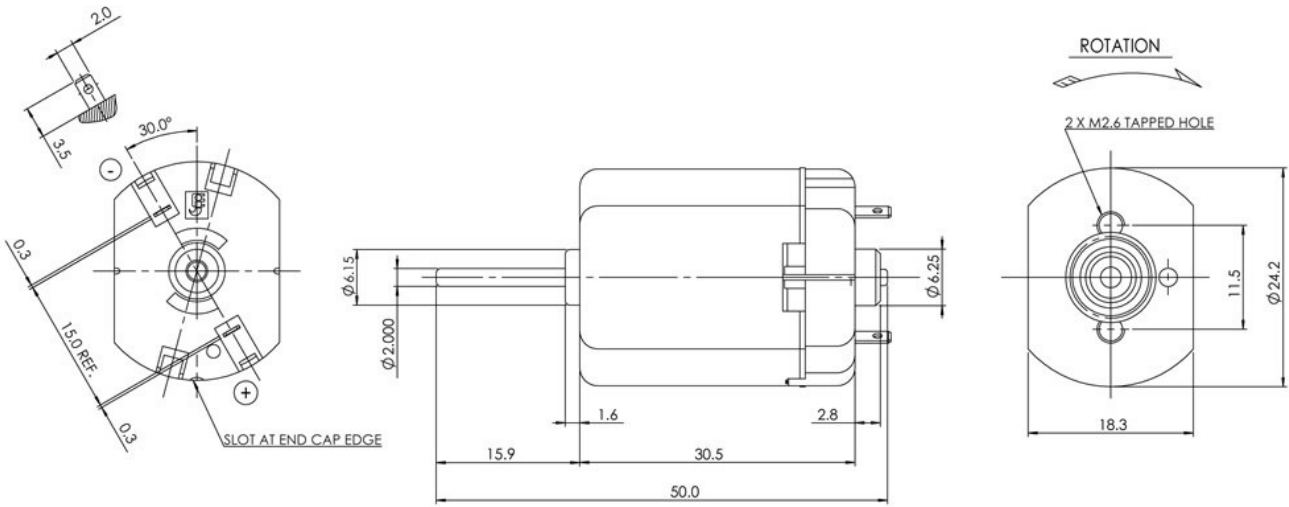
Dimensions	: Ø 24.2 X 30.5 mm
Shaft Diameter	: Ø 2.000 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 4735 rpm
Stall Torque	: 12.68 mNm
Maximum Output Power	: 1.57 W
Maximum Efficiency	: 63%
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



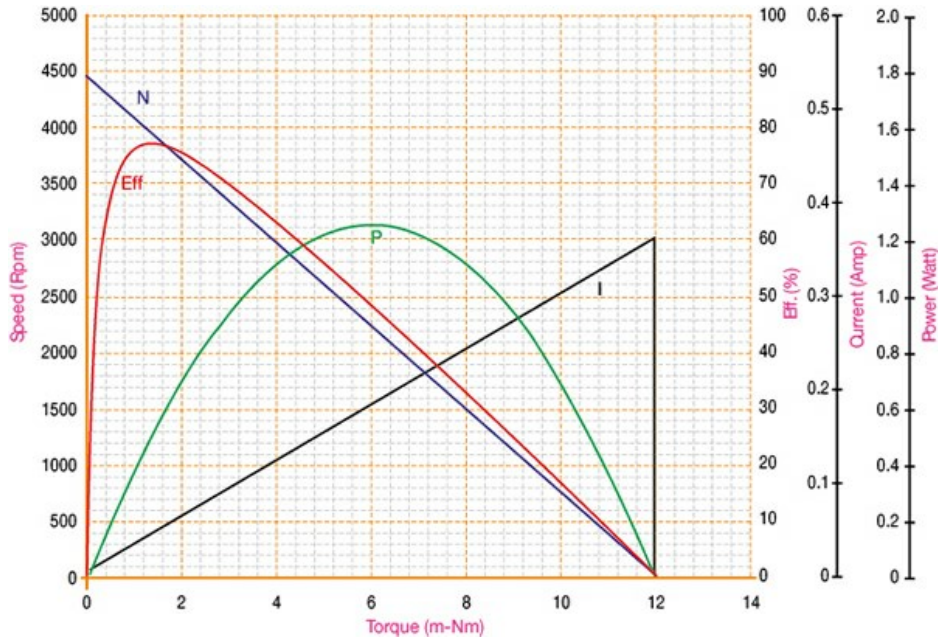
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.02	0.38	0.08	0.20
Efficiency (%)	-	-	63	44
Output Power (W)	-	-	0.91	1.57
Speed (rpm)	4735	-	3908	2366
Torque (mNm)	-	12.68	2.21	6.34

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

Compact size, Low noise, low cogging

Specifications:

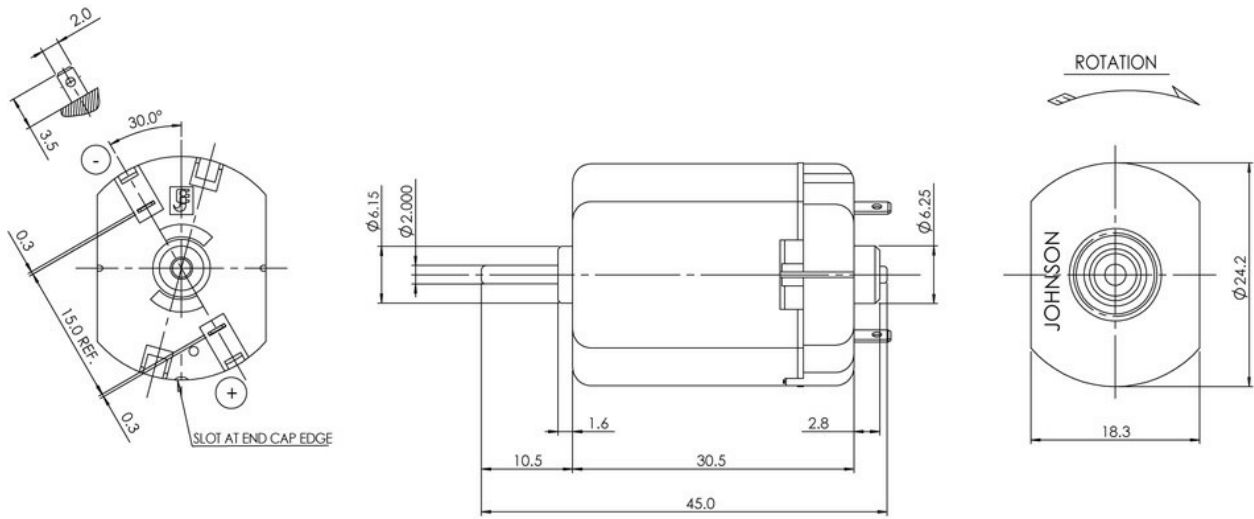
Dimensions	: Ø 24.2 X 30.5 mm
Shaft Diameter	: Ø 2.000 mm
Input Voltage	: 12.0 V DC
No Load Speed	: 12500 rpm
Stall Torque	: 28.10 mNm
Maximum Output Power	: 9.14 W
Maximum Efficiency	: 66%
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



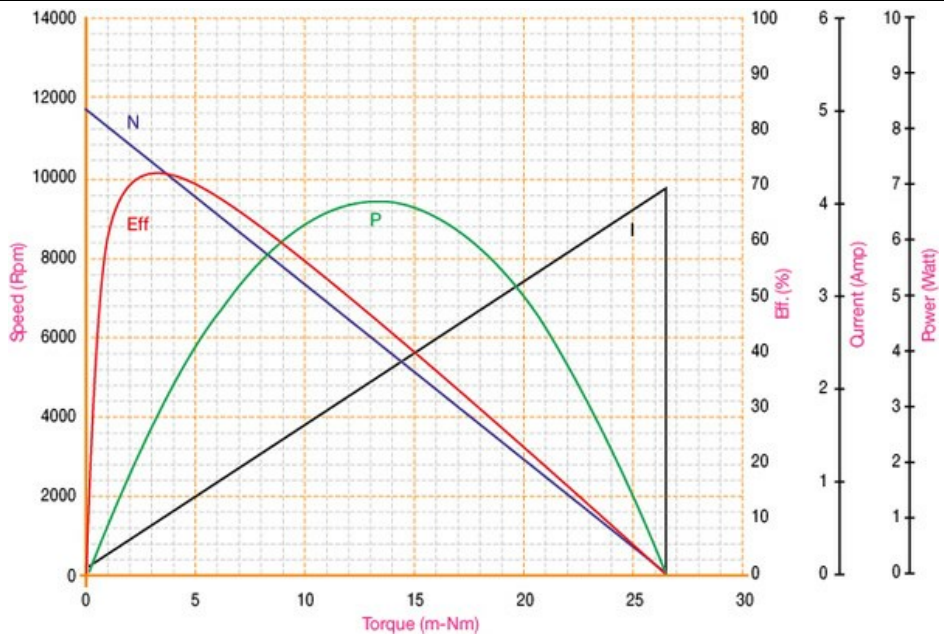
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.09	3.45	0.54	1.77
Efficiency (%)	-	-	66	43
Output Power (W)	-	-	4.29	9.14
Speed (rpm)	12500	-	10756	6218
Torque (mNm)	-	28.10	3.80	14.05

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power DC motor

Specifications:

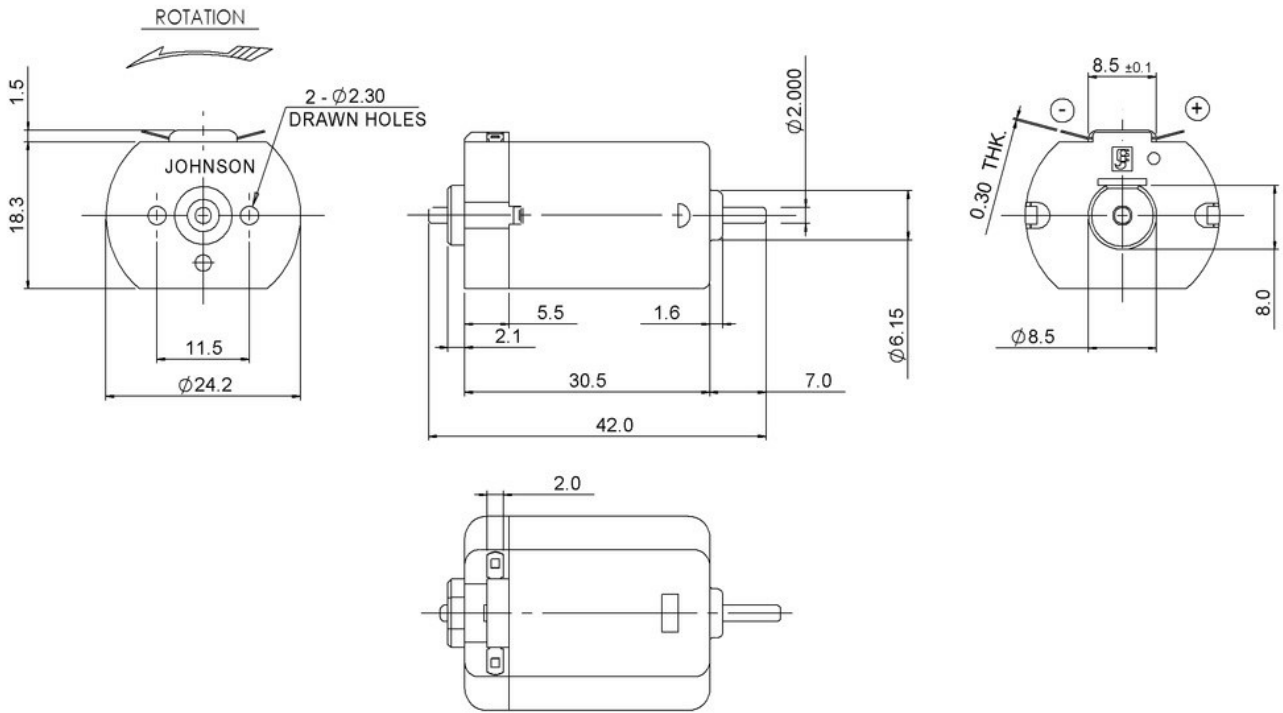
Dimensions	: Ø 24.2 X 18.3 X 30.5 mm
Shaft Diameter	: Ø 2.000 mm
Input Voltage	: 1.2 V DC
No Load Speed	: 7800 rpm
No Load Current	: 0.40 A
Nominal Speed	: 7000 rpm
Nominal Torque	: 1.50 mNm
Nominal Current	: 1.50 A
Stall Torque	: 12.00 mNm
Stall Current	: 10.00 A
Maximum Output Power	: 2.50 W
Maximum Efficiency	: 60%
Torque at Maximum Efficiency	: 2.00 mNm
Speed at Maximum Efficiency	: 6500 rpm
Life (Typical)	: 100 hr
Weight	: 35 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: terminals



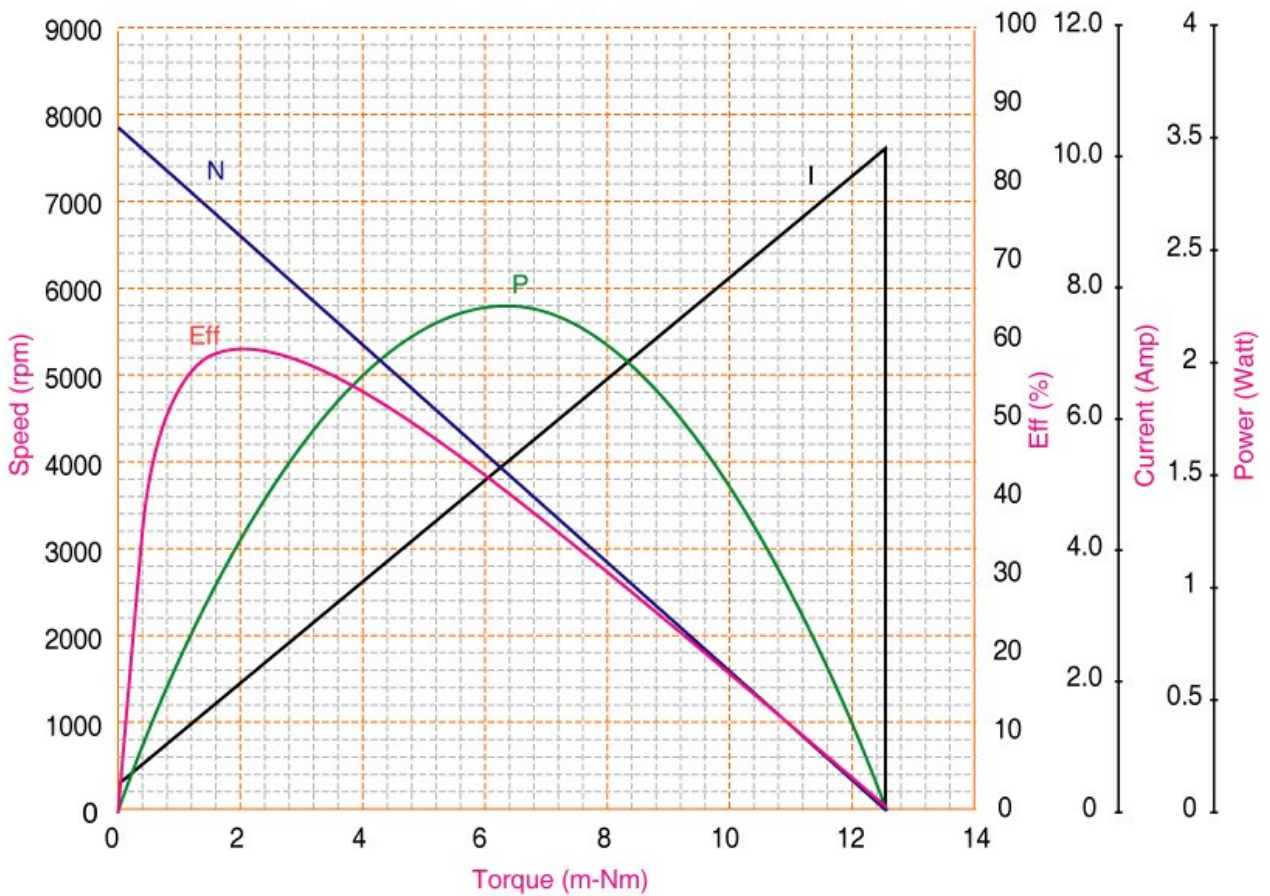
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.40	10.00	2.00	5.00
Efficiency (%)	-	-	60	40
Output Power (W)	-	-	1.50	2.50
Speed (rpm)	7800	-	6500	4000
Torque (mNm)	-	12.00	2.00	6.00

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High efficiency, compact size

Specifications:

Dimensions	: Ø 24.2 X 18.3 X 30.5 mm
Shaft Diameter	: Ø 2.000 mm
Input Voltage	: 12.0 V DC
No Load Speed	: 9225 rpm
Stall Torque	: 19.00 mNm
Maximum Output Power	: 4.92 W
Maximum Efficiency	: 64%
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 85 °C
Electrical Connection	: Terminals



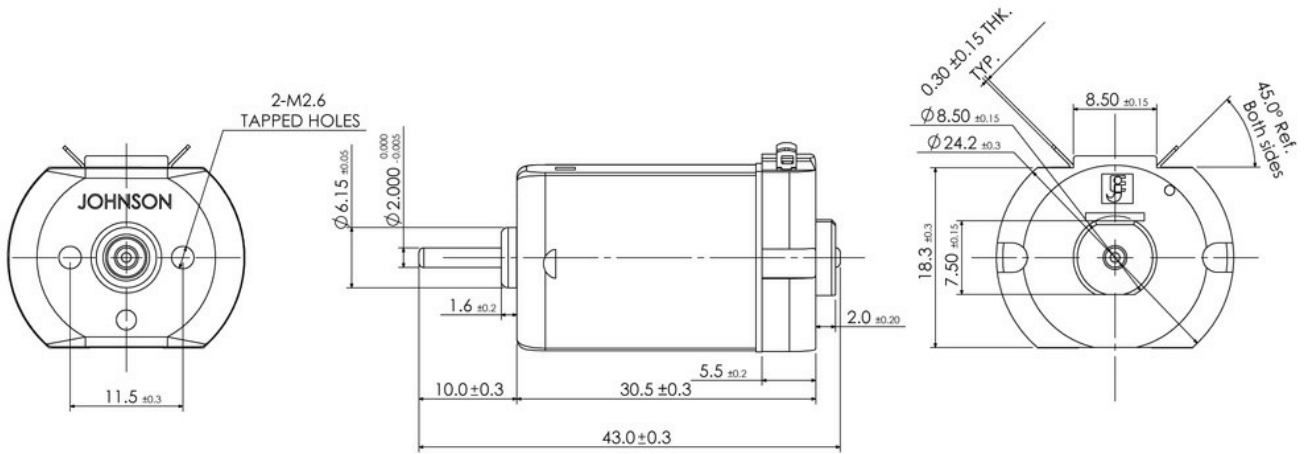
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.09	1.73	0.38	0.91
Efficiency (%)	-	-	64	45
Output Power (W)	-	-	2.91	4.92
Speed (rpm)	9225	-	8115	4953
Torque (mNm)	-	19.00	3.43	9.47

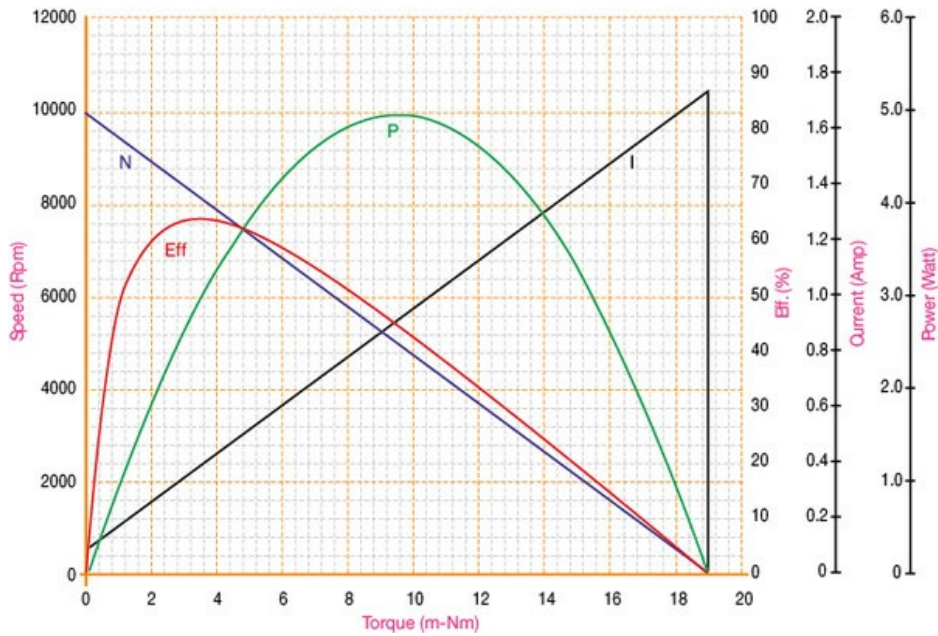
Application Examples:

Electric Meters, Gas Meters

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

Compact size, High reliability

Specifications:

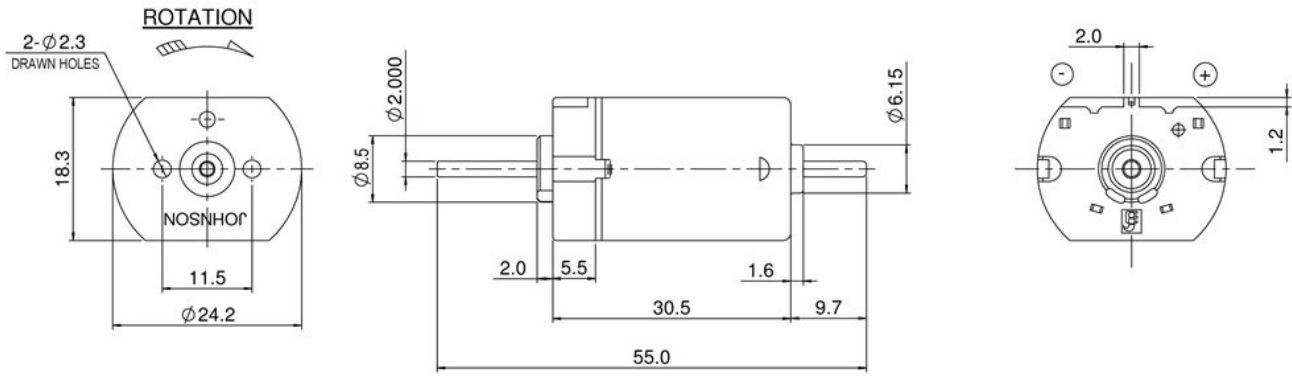
Dimensions	: Ø 24.2 X 30.5 mm
Shaft Diameter	: Ø 2.000 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 6075 rpm
Stall Torque	: 10.96 mNm
Maximum Output Power	: 1.74 W
Maximum Efficiency	: 59%
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



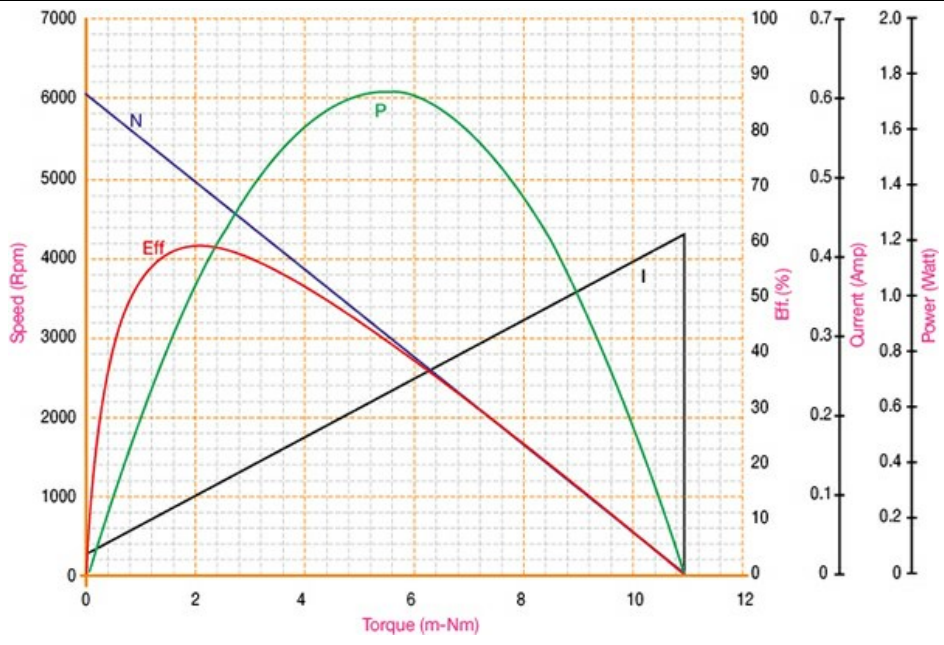
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.02	0.43	0.10	0.23
Efficiency (%)	-	-	59	43
Output Power (W)	-	-	1.07	1.74
Speed (rpm)	6075	-	4929	3037
Torque (mNm)	-	10.96	2.07	5.48

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

Compact size, High reliability

Specifications:

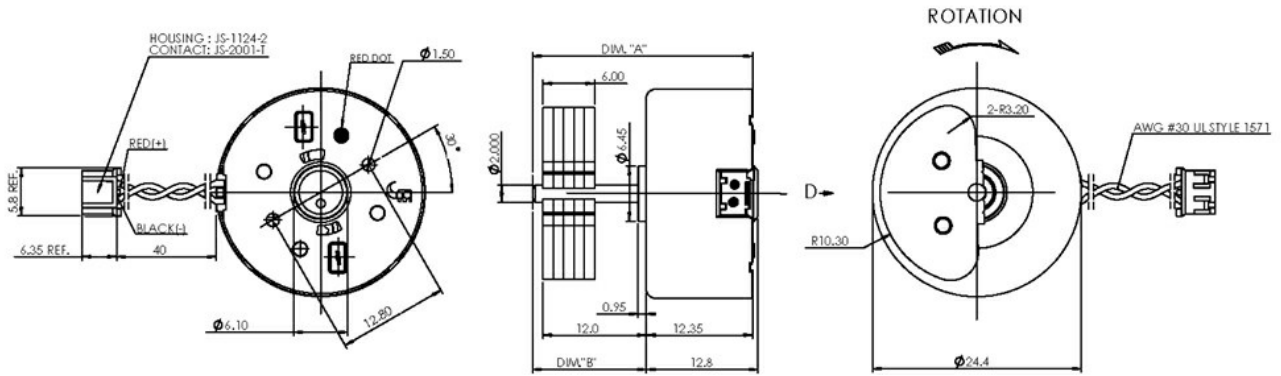
Dimensions	: Ø 24.4 X 12.35 mm
Shaft Diameter	: Ø 2.000 mm
Input Voltage	: 2.4 V DC
No Load Speed	: 4492 rpm
Stall Torque	: 0.97 mNm
Maximum Output Power	: 0.11 W
Maximum Efficiency	: 43%
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Leadwire/connector



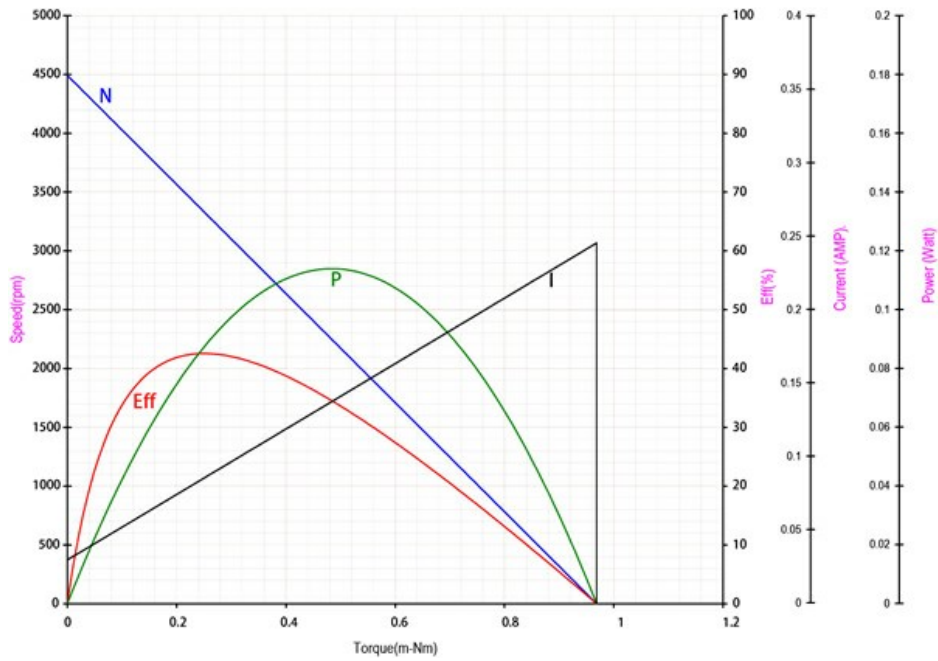
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.03	0.25	0.09	0.14
Efficiency (%)	-	-	43	57
Output Power (W)	-	-	0.09	0.11
Speed (rpm)	4492	-	3331	2246
Torque (mNm)	-	0.97	0.25	0.48

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power DC motor

Specifications:

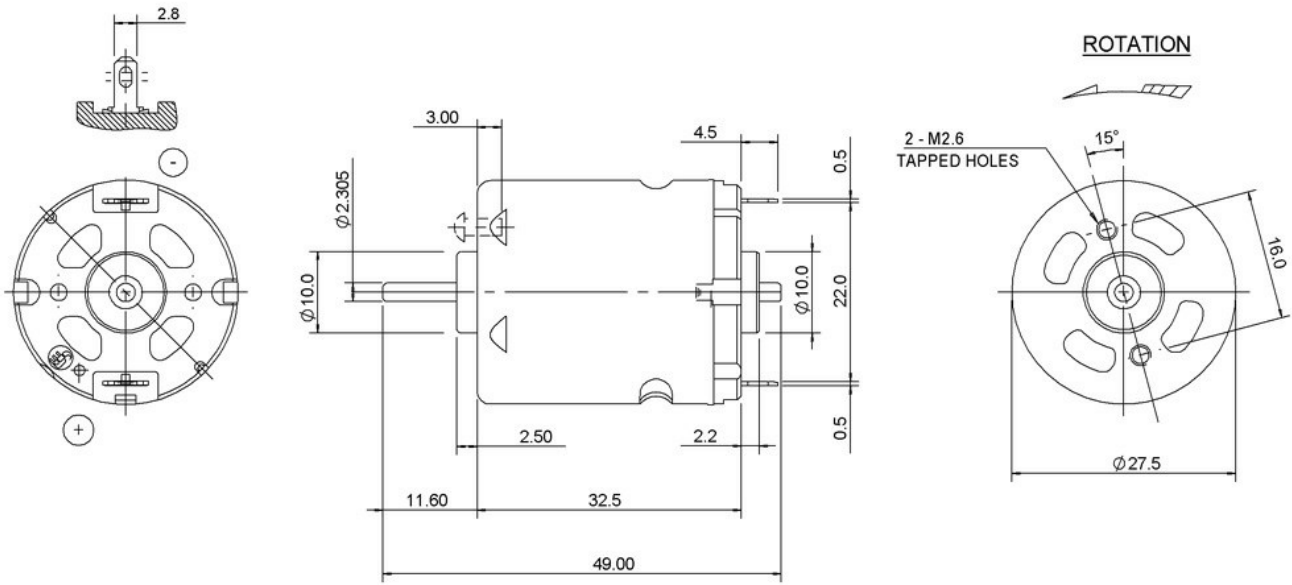
Dimensions	: Ø 27.5 X 32.5 mm
Shaft Diameter	: Ø 2.305 mm
Input Voltage	: 24.0 V DC
No Load Speed	: 7200 rpm
No Load Current	: 0.05 A
Nominal Speed	: 5800 rpm
Nominal Torque	: 4.00 mNm
Nominal Current	: 0.18 A
Stall Torque	: 20.00 mNm
Stall Current	: 0.70 A
Maximum Output Power	: 4.00 W
Maximum Efficiency	: 55%
Torque at Maximum Efficiency	: 4.80 mNm
Speed at Maximum Efficiency	: 5600 rpm
Life (Typical)	: 150 hr
Weight	: 50 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



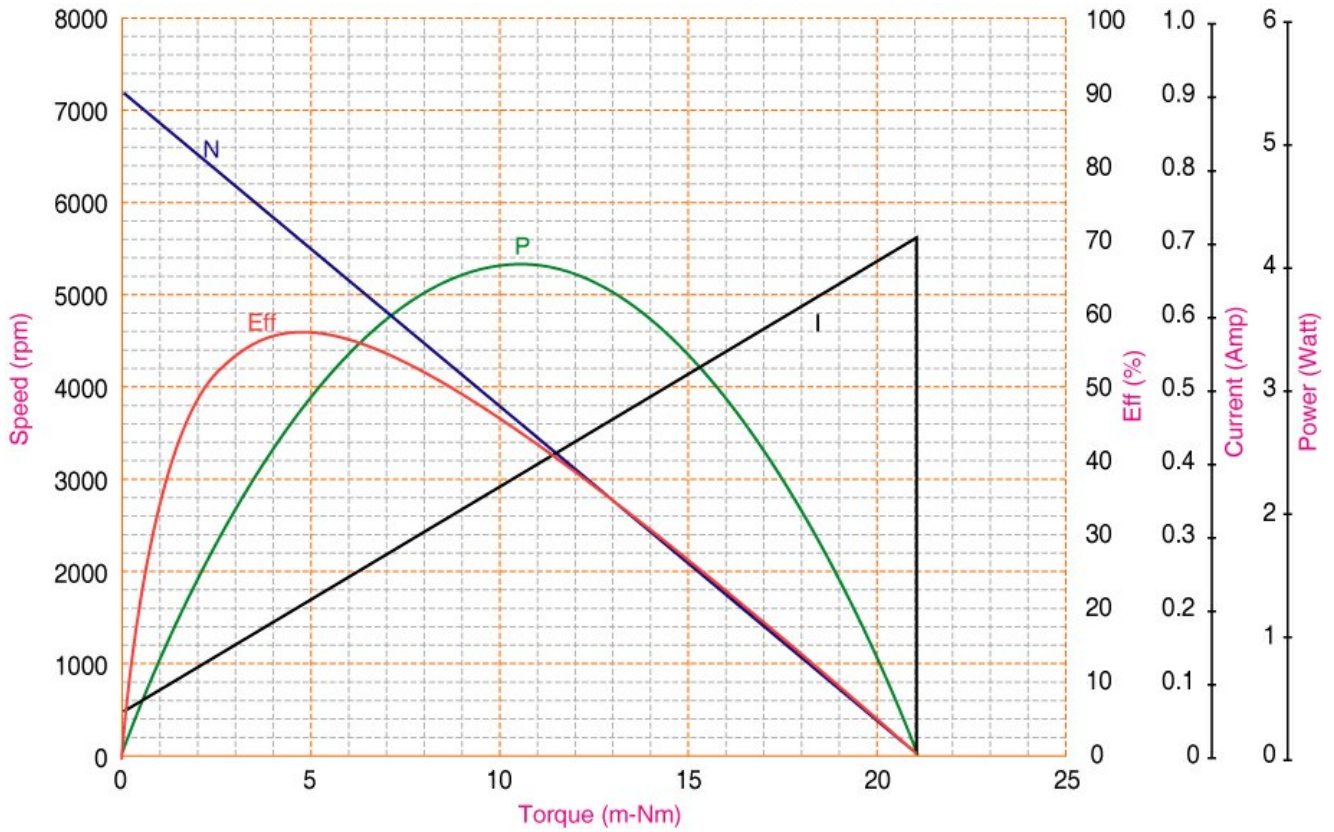
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.05	0.70	0.20	0.40
Efficiency (%)	-	-	55	45
Output Power (W)	-	-	3.00	4.00
Speed (rpm)	7200	-	5600	3500
Torque (mNm)	-	20.00	4.80	10.00

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power PMDC motor

Specifications:

Dimensions	: Ø 27.5 X 32.5 mm
Shaft Diameter	: Ø 2.305 mm
Input Voltage	: 6.0 V DC
No Load Speed	: 14178 rpm
No Load Current	: 0.61 A
Stall Torque	: 50.95 mNm
Stall Current	: 14.55 A
Maximum Output Power	: 18.92 W
Maximum Efficiency	: 60%
Torque at Maximum Efficiency	: 8.64 mNm
Speed at Maximum Efficiency	: 11774 rpm
Weight	: 61 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



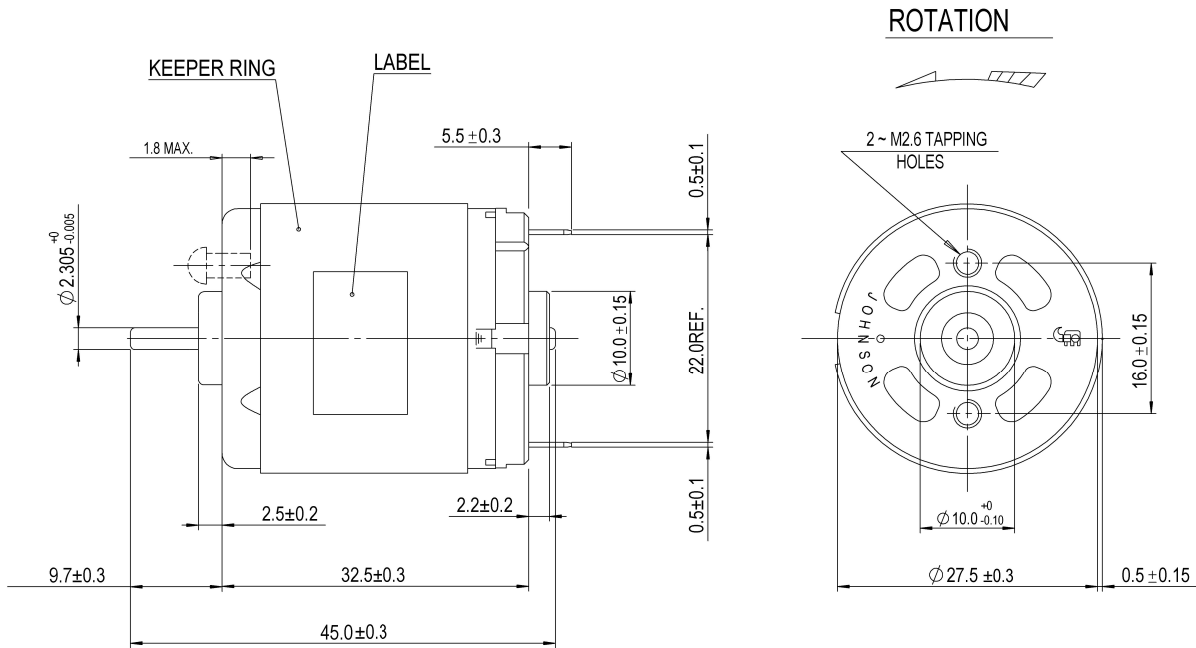
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.61	14.55	2.97	7.58
Efficiency (%)	-	-	60	42
Output Power (W)	-	-	10.66	18.92
Speed (rpm)	14178	-	11774	7089
Torque (mNm)	-	50.95	8.64	25.48

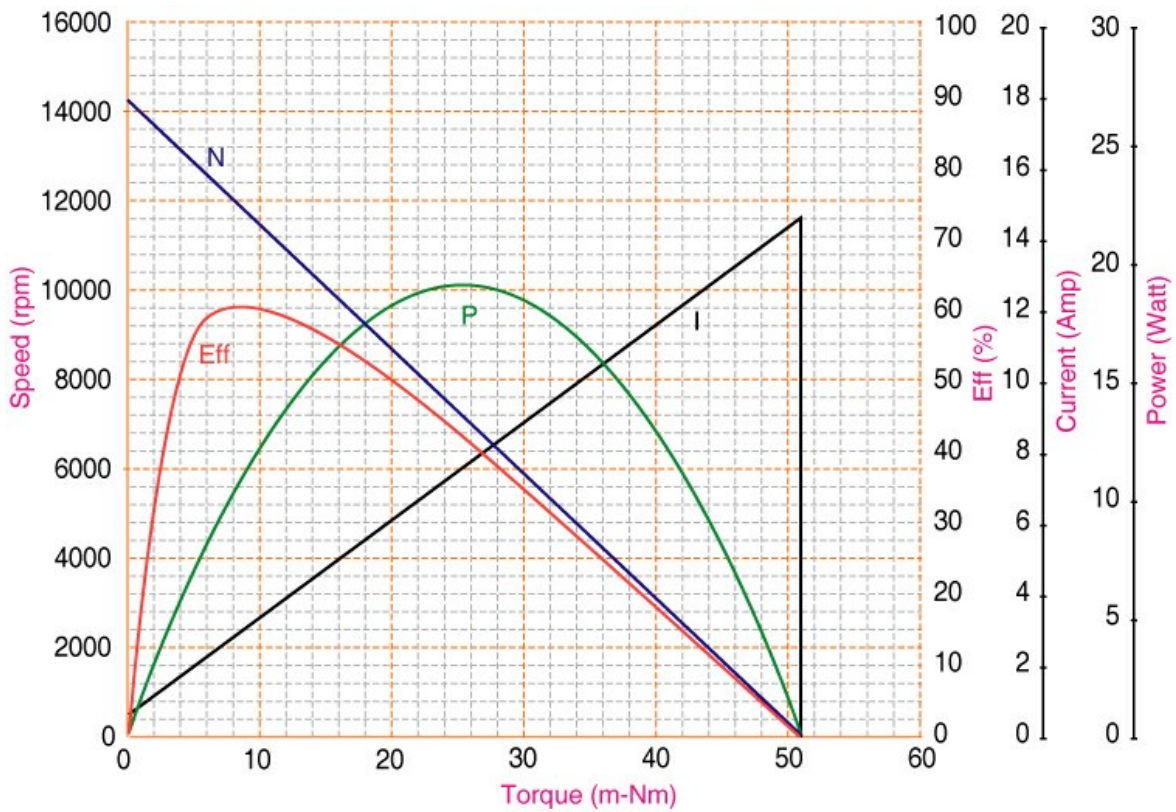
Application Examples:

Rotary Sanders

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power PMDC motor

Specifications:

Dimensions	: Ø 27.5 X 38.0 mm
Shaft Diameter	: Ø 2.305 mm
Input Voltage	: 4.8 V DC
No Load Speed	: 22938 rpm
No Load Current	: 1.43 A
Stall Torque	: 100.25 mNm
Stall Current	: 57.63 A
Maximum Output Power	: 60.23 W
Maximum Efficiency	: 65%
Torque at Maximum Efficiency	: 13.64 mNm
Speed at Maximum Efficiency	: 19817 rpm
Weight	: 75 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



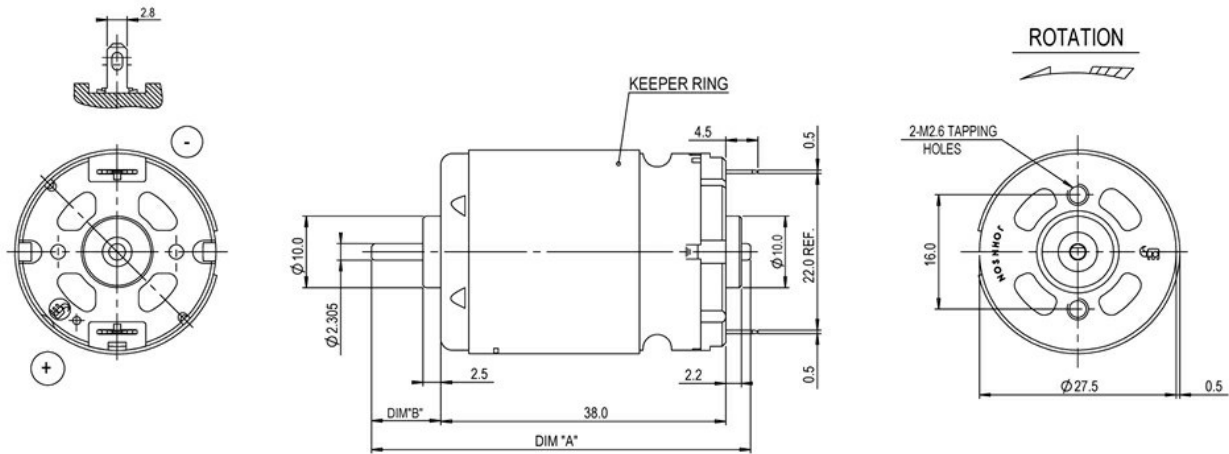
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	1.43	57.63	9.08	29.53
Efficiency (%)	-	-	65	-
Output Power (W)	-	-	28.32	60.23
Speed (rpm)	22938	-	19817	11469
Torque (mNm)	-	100.25	13.64	50.13

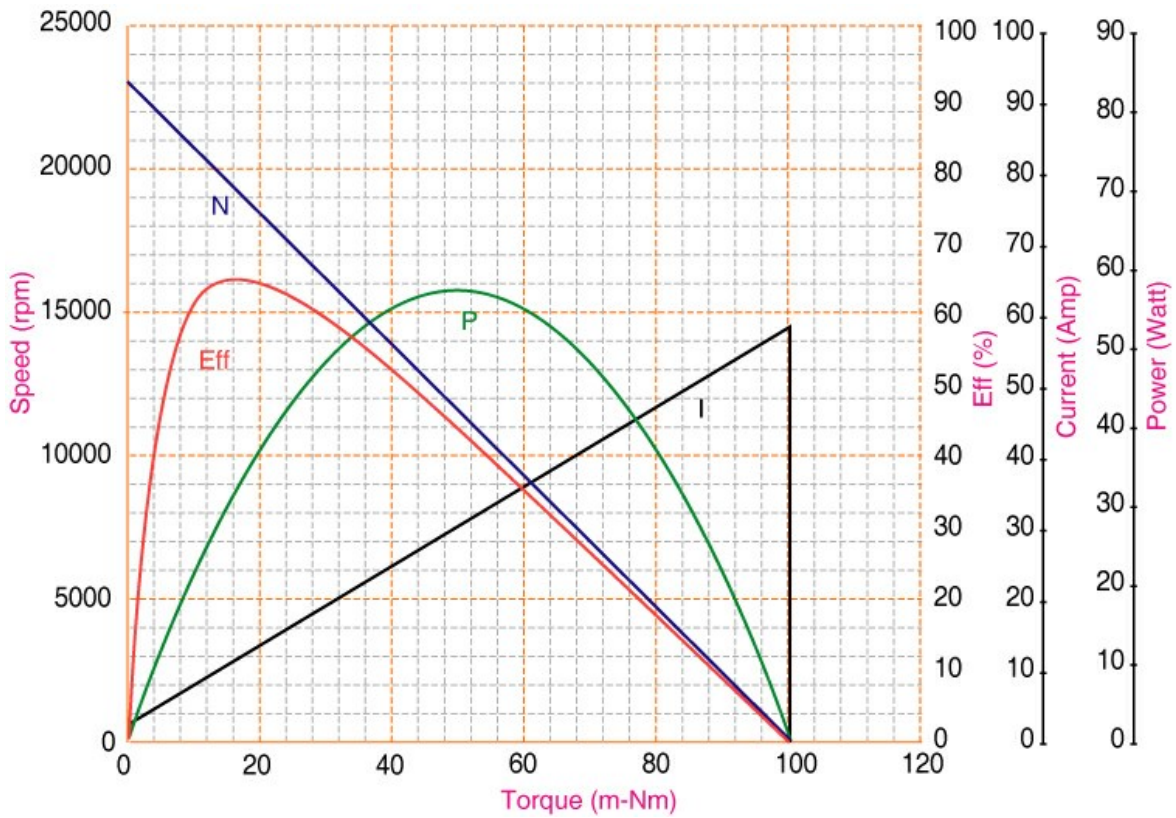
Application Examples:

Screw Drivers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

Compact Size

Specifications:

Dimensions	: Ø 27.5 X 38.0 mm
Shaft Diameter	: Ø 2.305 mm
Input Voltage	: 3.6 V DC
No Load Speed	: 22784 rpm
No Load Current	: 2.22 A
Stall Torque	: 68.96 mNm
Stall Current	: 49.68 A
Maximum Output Power	: 41.15 W
Maximum Efficiency	: 63%
Torque at Maximum Efficiency	: 12.03 mNm
Speed at Maximum Efficiency	: 18810 rpm
Weight	: 75 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: terminals



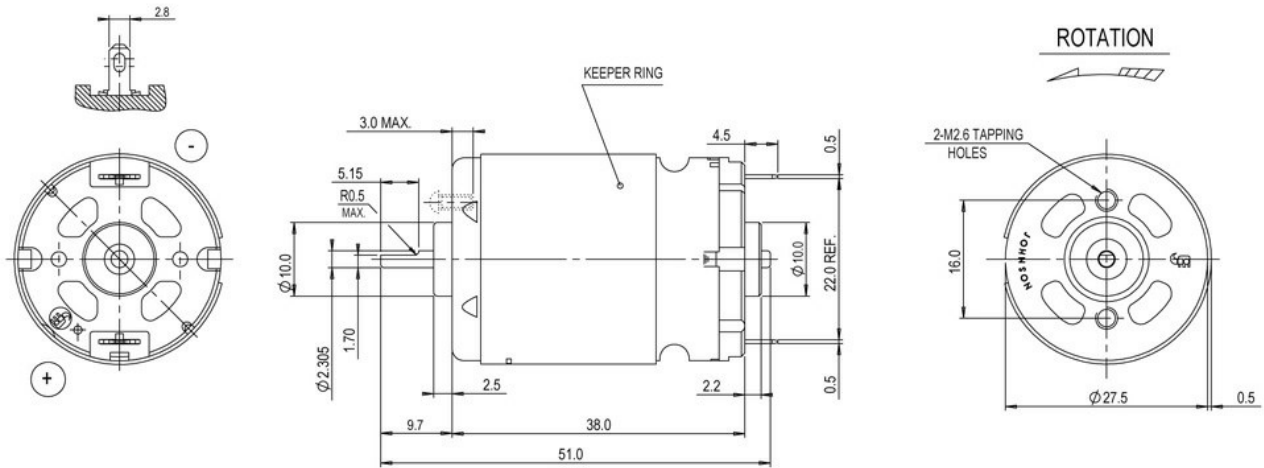
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	2.22	49.68	10.49	1.00
Efficiency (%)	-	-	63	45
Output Power (W)	-	-	23.70	41.15
Speed (rpm)	22784	-	18810	9000
Torque (mNm)	-	68.96	12.03	20.00

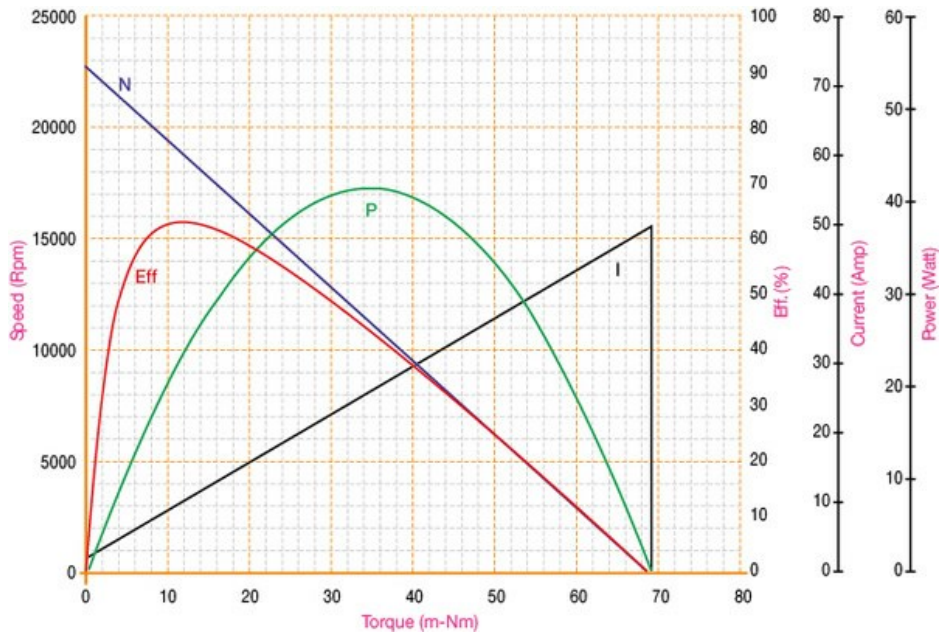
Application Examples:

Screw Drivers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power DC motor

Specifications:

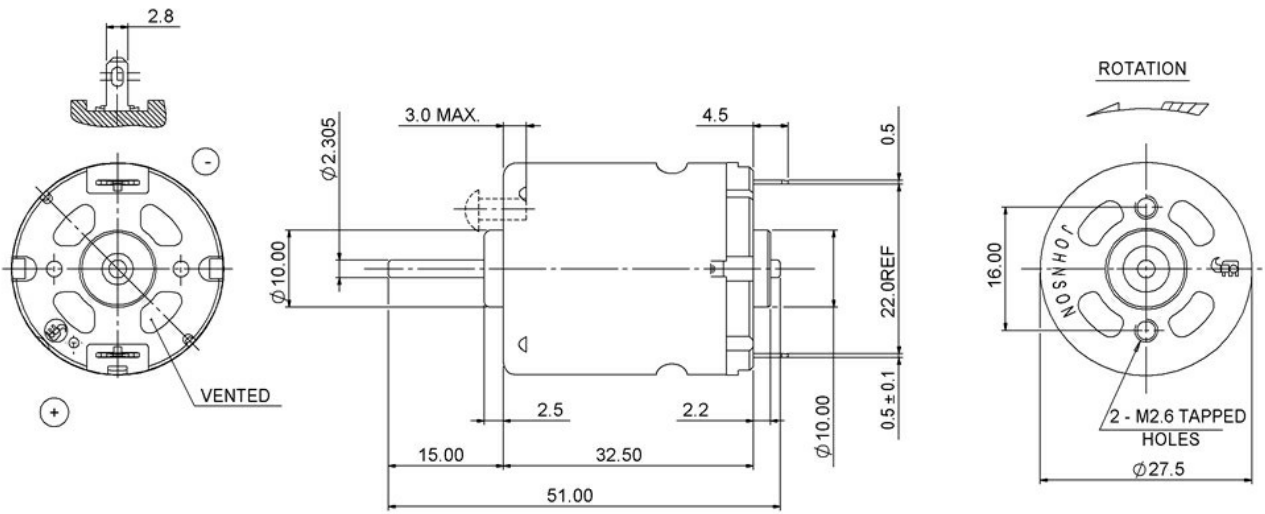
Dimensions	: Ø 27.5 X 32.5 mm
Shaft Diameter	: Ø 2.305 mm
Input Voltage	: 41.0 V DC
No Load Speed	: 18000 rpm
No Load Current	: 0.05 A
Nominal Speed	: 16500 rpm
Nominal Torque	: 2.50 mNm
Nominal Current	: 0.18 A
Stall Torque	: 38.00 mNm
Stall Current	: 2.00 A
Maximum Output Power	: 18.00 W
Maximum Efficiency	: 65%
Torque at Maximum Efficiency	: 6.00 mNm
Speed at Maximum Efficiency	: 15000 rpm
Life (Typical)	: 150 hr
Weight	: 50 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: terminals



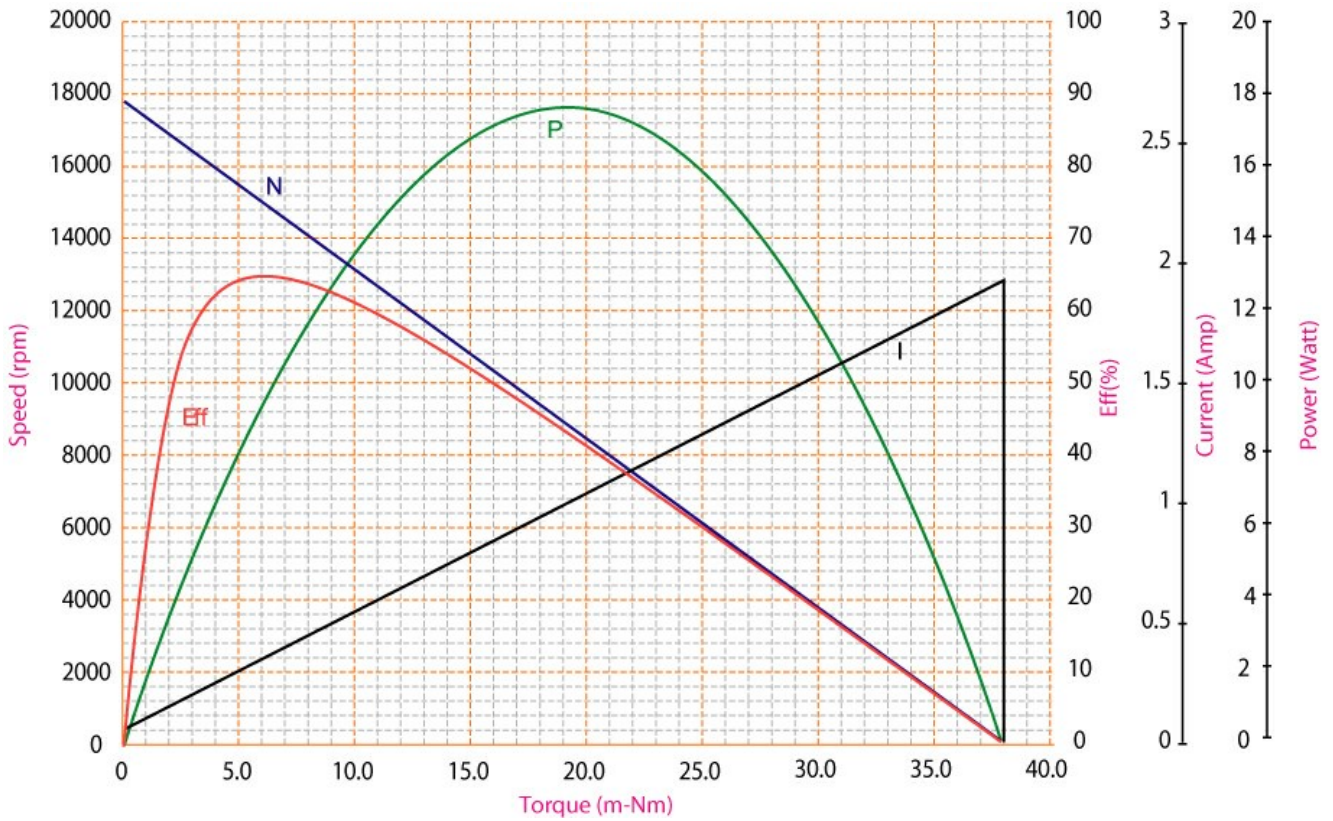
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.05	2.00	0.35	1.00
Efficiency (%)	-	-	65	45
Output Power (W)	-	-	10.00	18.00
Speed (rpm)	18000	-	15000	9000
Torque (mNm)	-	38.00	6.00	20.00

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power DC motor

Specifications:

Dimensions	: Ø 27.5 X 38.0 mm
Shaft Diameter	: Ø 2.305 mm
Input Voltage	: 39.0 V DC
No Load Speed	: 21000 rpm
No Load Current	: 0.15 A
Nominal Speed	: 16800 rpm
Nominal Torque	: 14.00 mNm
Nominal Current	: 0.80 A
Stall Torque	: 70.00 mNm
Stall Current	: 4.00 A
Maximum Output Power	: 40.00 W
Maximum Efficiency	: 70%
Torque at Maximum Efficiency	: 10.00 mNm
Speed at Maximum Efficiency	: 17500 rpm
Life (Typical)	: 150 hr
Weight	: 66 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



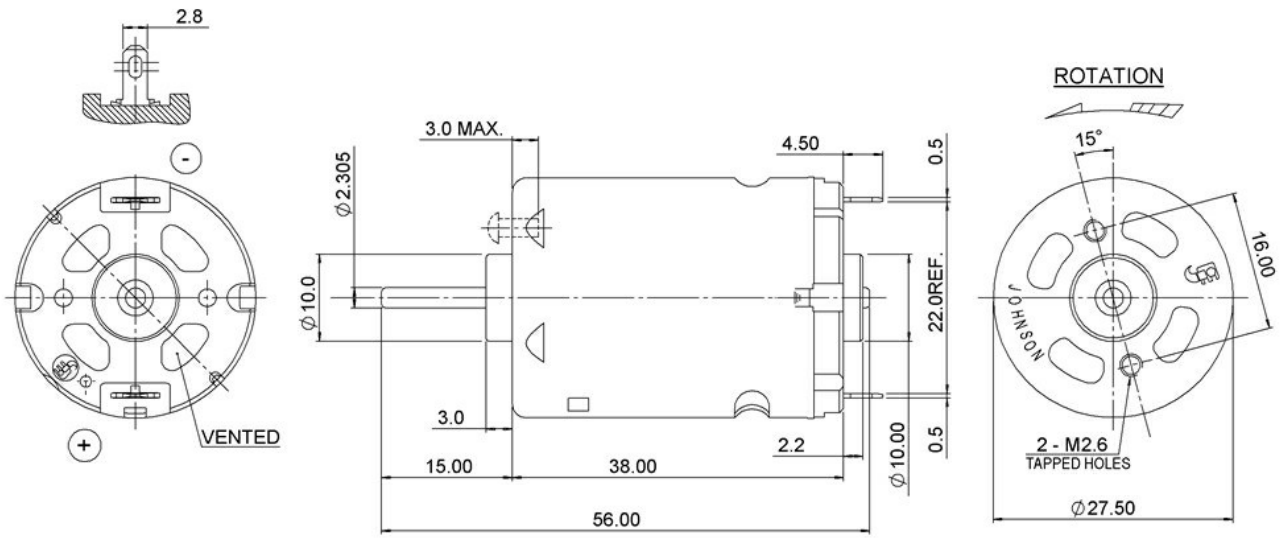
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.15	4.00	0.70	2.00
Efficiency (%)	-	-	70	48
Output Power (W)	-	-	20.00	40.00
Speed (rpm)	21000	-	17500	10000
Torque (mNm)	-	70.00	10.00	35.00

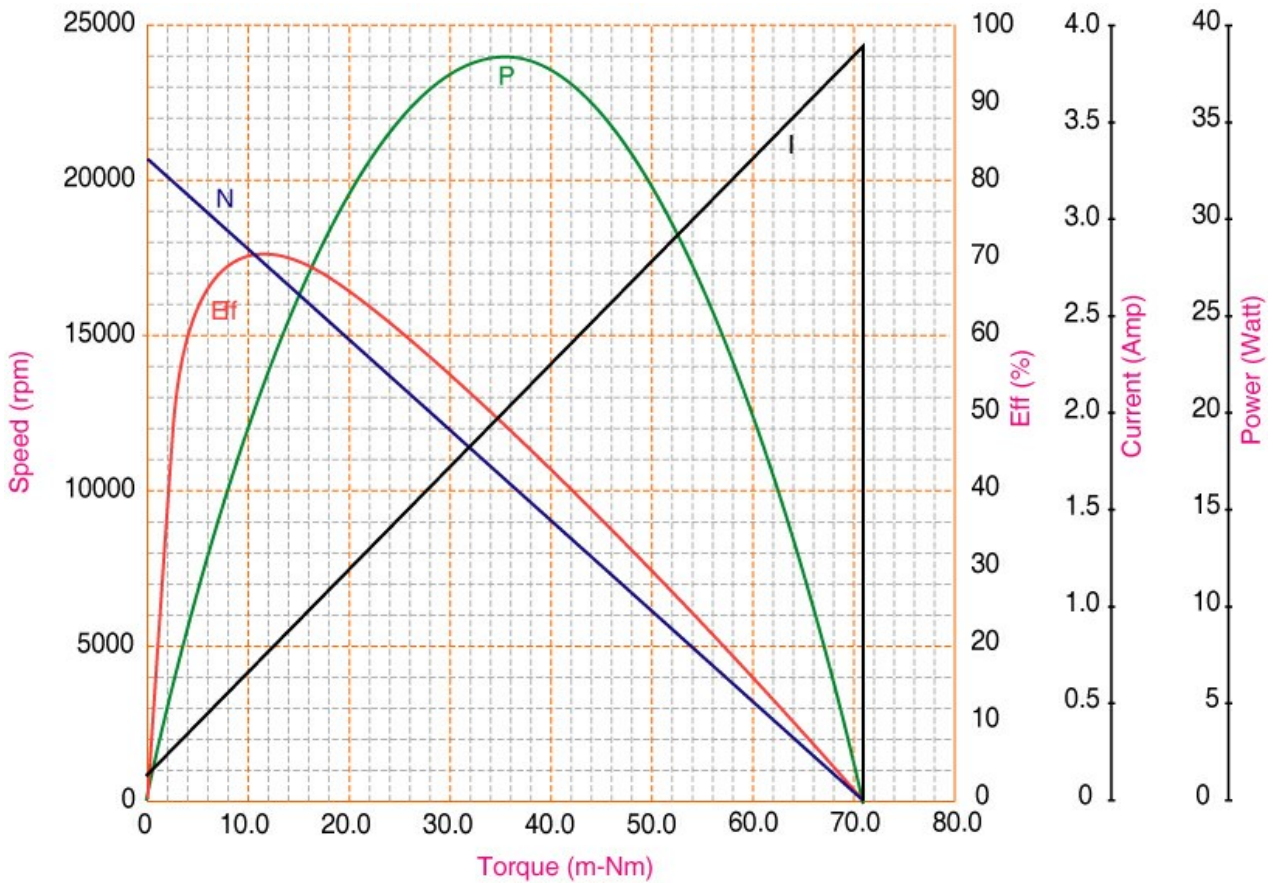
Application Examples:

Hair Dryers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power DC motor

Specifications:

Dimensions	: Ø 27.5 X 38.0 mm
Shaft Diameter	: Ø 2.305 mm
Input Voltage	: 24.0 V DC
No Load Speed	: 22000 rpm
No Load Current	: 0.20 A
Nominal Speed	: 18500 rpm
Nominal Torque	: 10.00 mNm
Nominal Current	: 1.20 A
Stall Torque	: 60.00 mNm
Stall Current	: 6.00 A
Maximum Output Power	: 35.00 W
Maximum Efficiency	: 70%
Torque at Maximum Efficiency	: 10.00 mNm
Speed at Maximum Efficiency	: 18500 rpm
Life (Typical)	: 150 hr
Weight	: 65 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: terminals



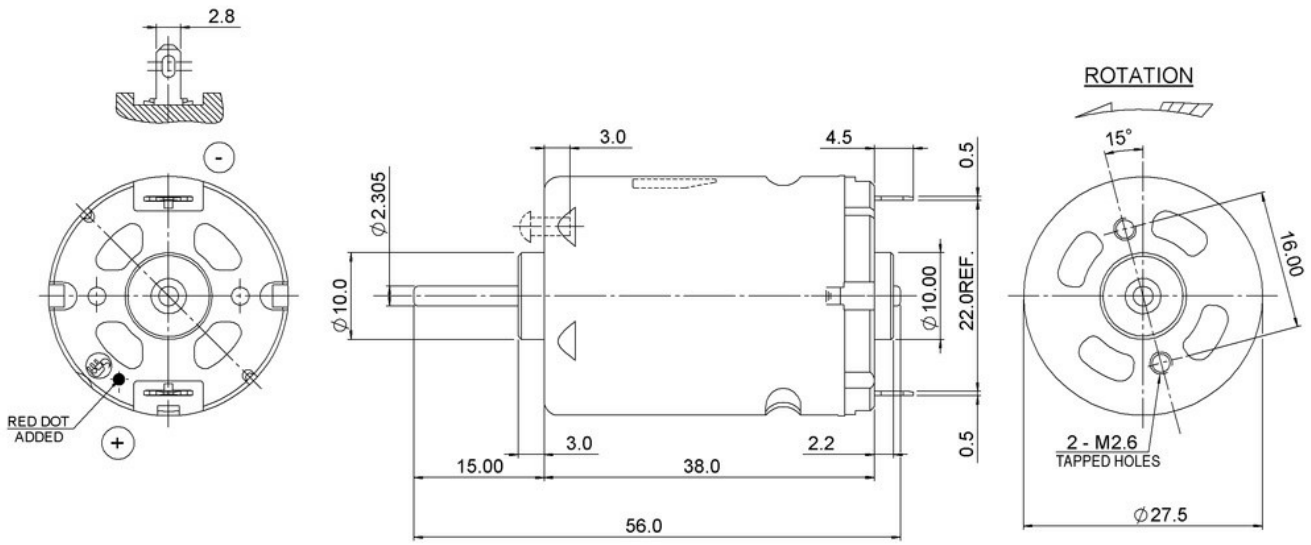
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.20	6.00	1.20	3.00
Efficiency (%)	-	-	70	45
Output Power (W)	-	-	20.00	35.00
Speed (rpm)	22000	-	18500	11000
Torque (mNm)	-	60.00	10.00	30.00

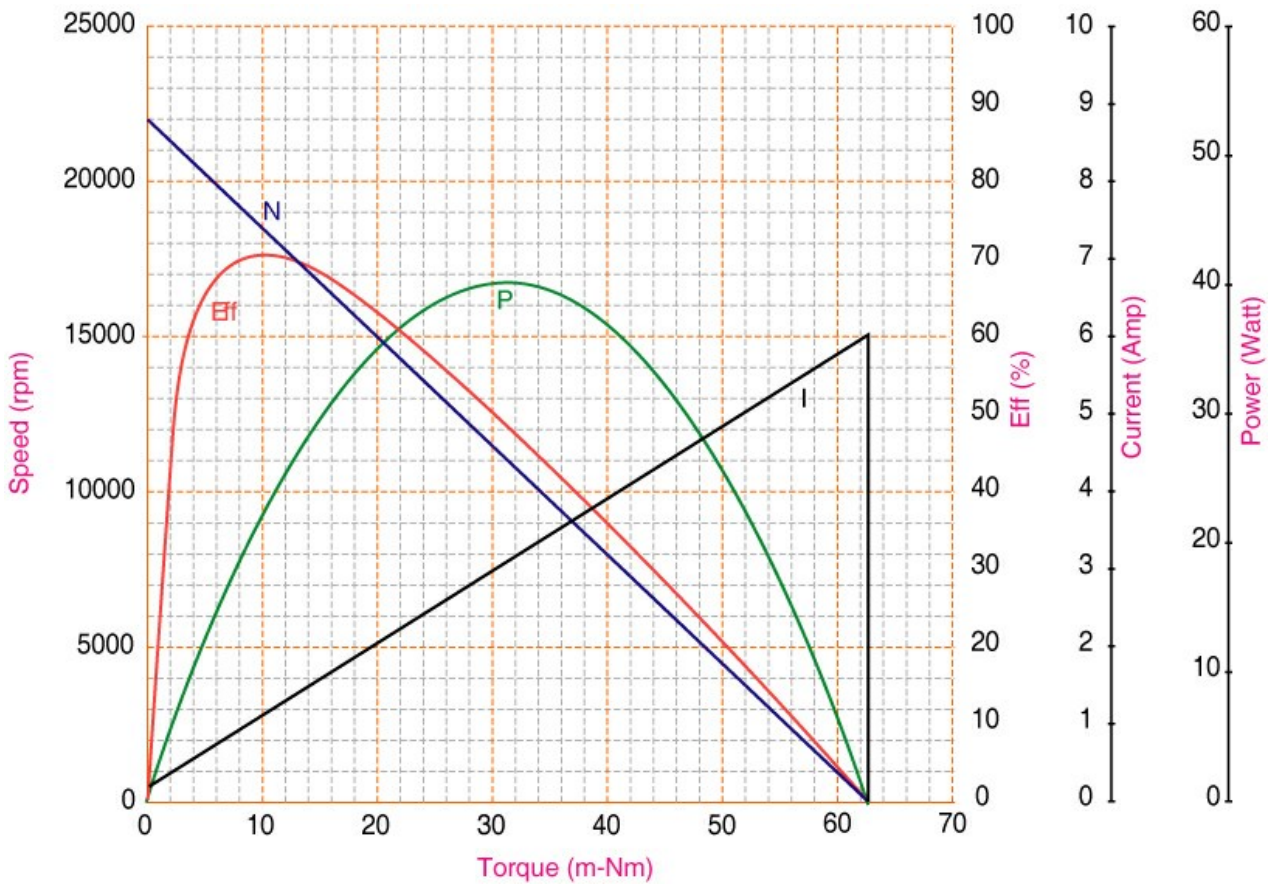
Application Examples:

Hair Dryers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High power DC motor

Specifications:

Dimensions	: Ø 27.5 X 38 mm
Shaft Diameter	: Ø 2.305 mm
Input Voltage	: 3.6 V DC
No Load Speed	: 18700 rpm
No Load Current	: 1.65 A
Nominal Speed	: 15200 rpm
Nominal Torque	: 10.86 mNm
Nominal Current	: 7.42 A
Stall Torque	: 55.00 mNm
Stall Current	: 33.00 A
Maximum Output Power	: 27.00 W
Maximum Efficiency	: 60%
Torque at Maximum Efficiency	: 10.00 mNm
Speed at Maximum Efficiency	: 15200 rpm
Life (Typical)	: 90 hr
Weight	: 85 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



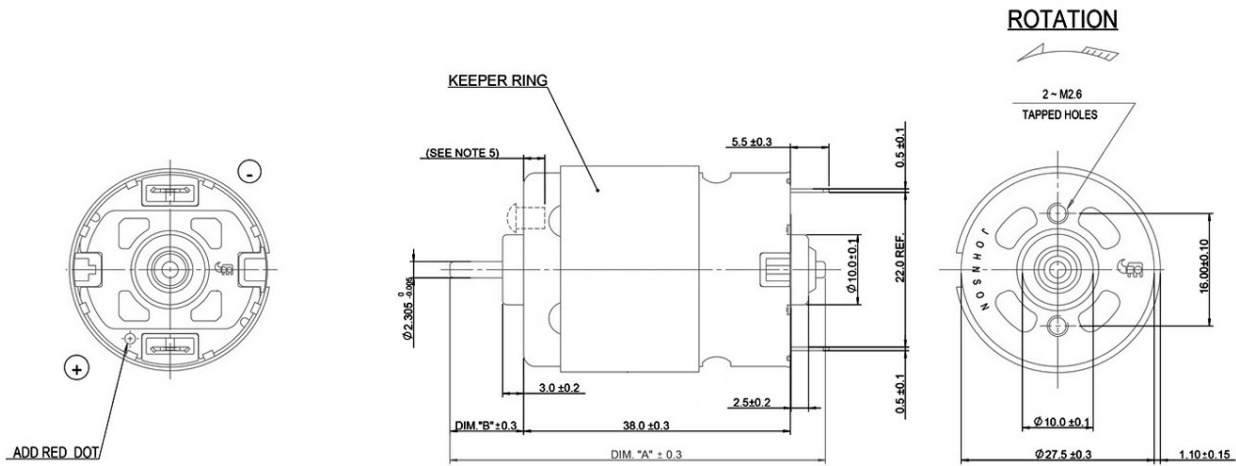
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	1.65	33.00	7.42	17.50
Efficiency (%)	-	-	60	43
Output Power (W)	-	-	16.00	27.00
Speed (rpm)	18700	-	15200	9300
Torque (mNm)	-	55.00	10.00	27.60

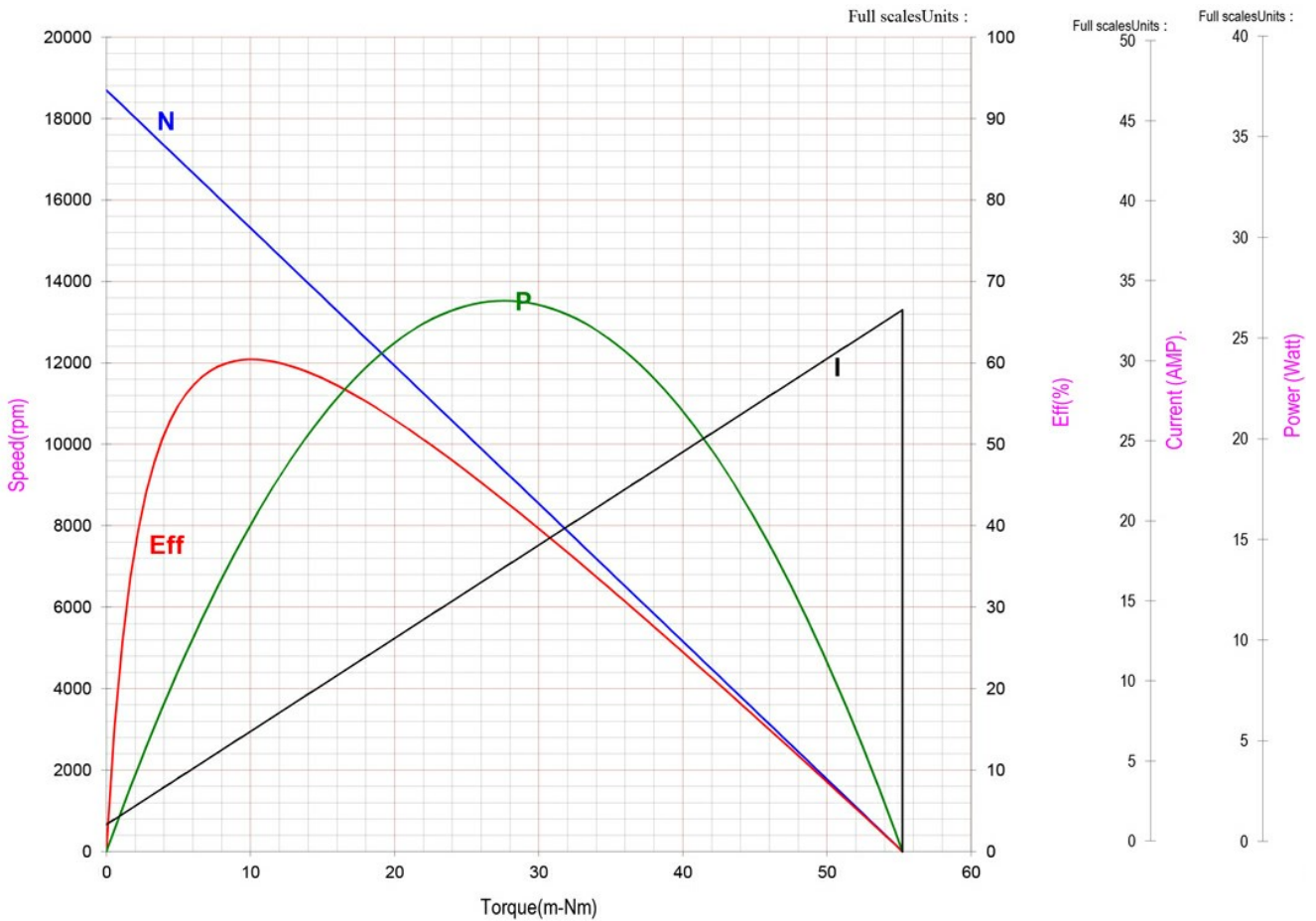
Application Examples:

Power Tools

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

Compact Size

Specifications:

Dimensions	: Ø 27.5 X 46.5 mm
Shaft Diameter	: Ø 2.305 mm
Input Voltage	: 7.2 V DC
No Load Speed	: 17198 rpm
Stall Torque	: 151.74 mNm
Maximum Output Power	: 68.34 W
Maximum Efficiency	: 70%
Weight	: 104 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



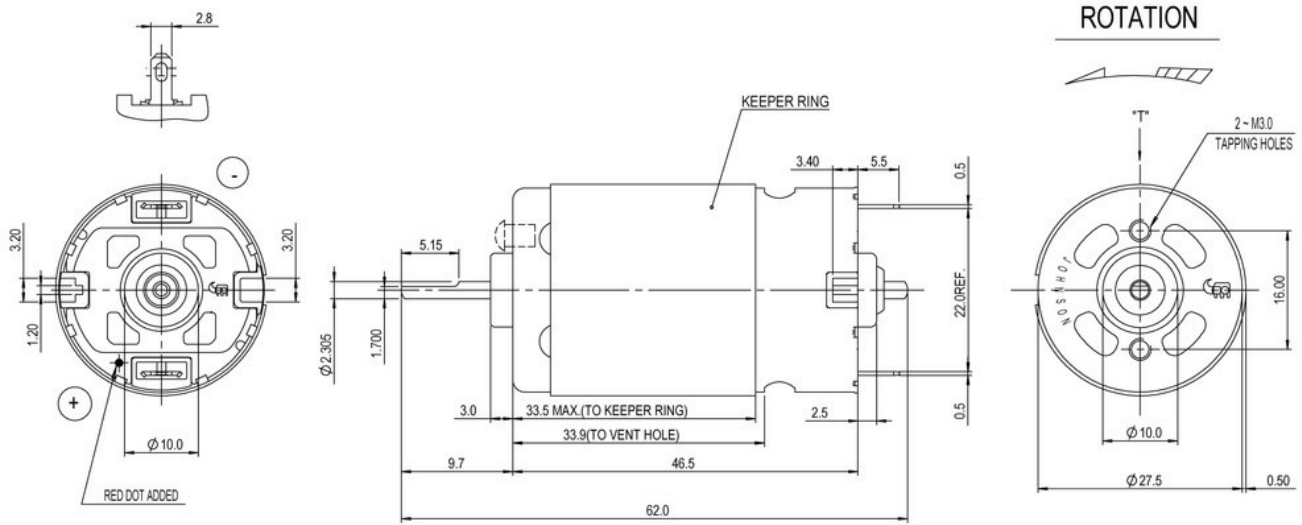
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	1.05	40.20	6.48	20.63
Efficiency (%)	-	-	70	46
Output Power (W)	-	-	32.69	68.34
Speed (rpm)	17198	-	14810	8599
Torque (mNm)	-	151.74	21.07	75.87

Application Examples:

Screw Drivers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power DC motor

Specifications:

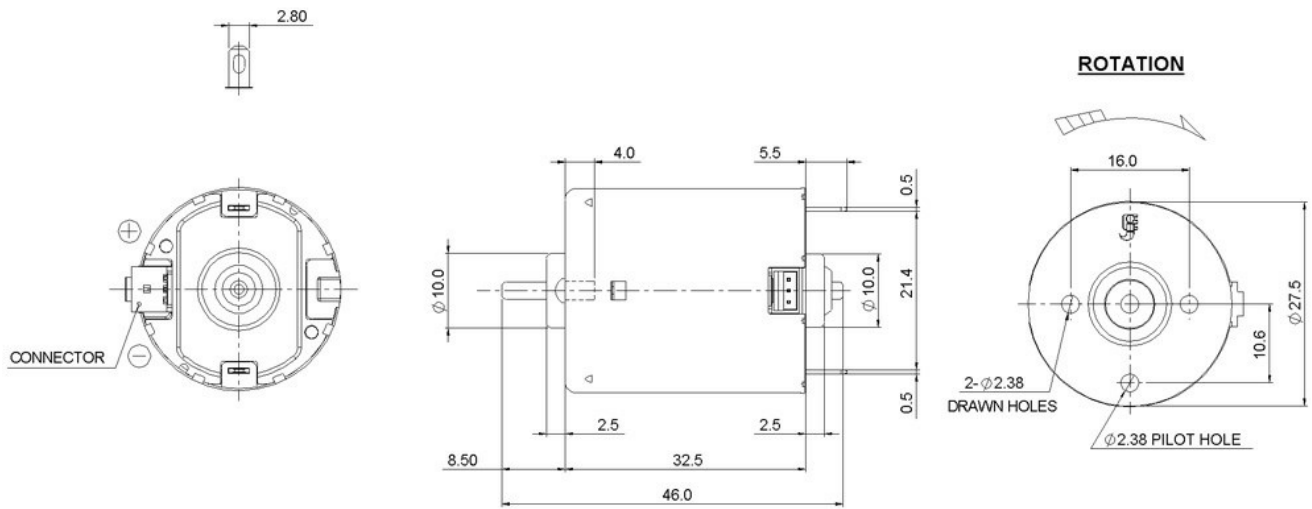
Dimensions	: Ø 27.5 X 32.5 mm
Shaft Diameter	: Ø 2.305 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 9987 rpm
No Load Current	: 0.13 A
Stall Torque	: 39.24 mNm
Stall Current	: 2.70 A
Maximum Output Power	: 10.20 W
Maximum Efficiency	: 57%
Torque at Maximum Efficiency	: 7.10 mNm
Speed at Maximum Efficiency	: 8200 rpm
Life (Typical)	: 500 hr
Weight	: 57 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



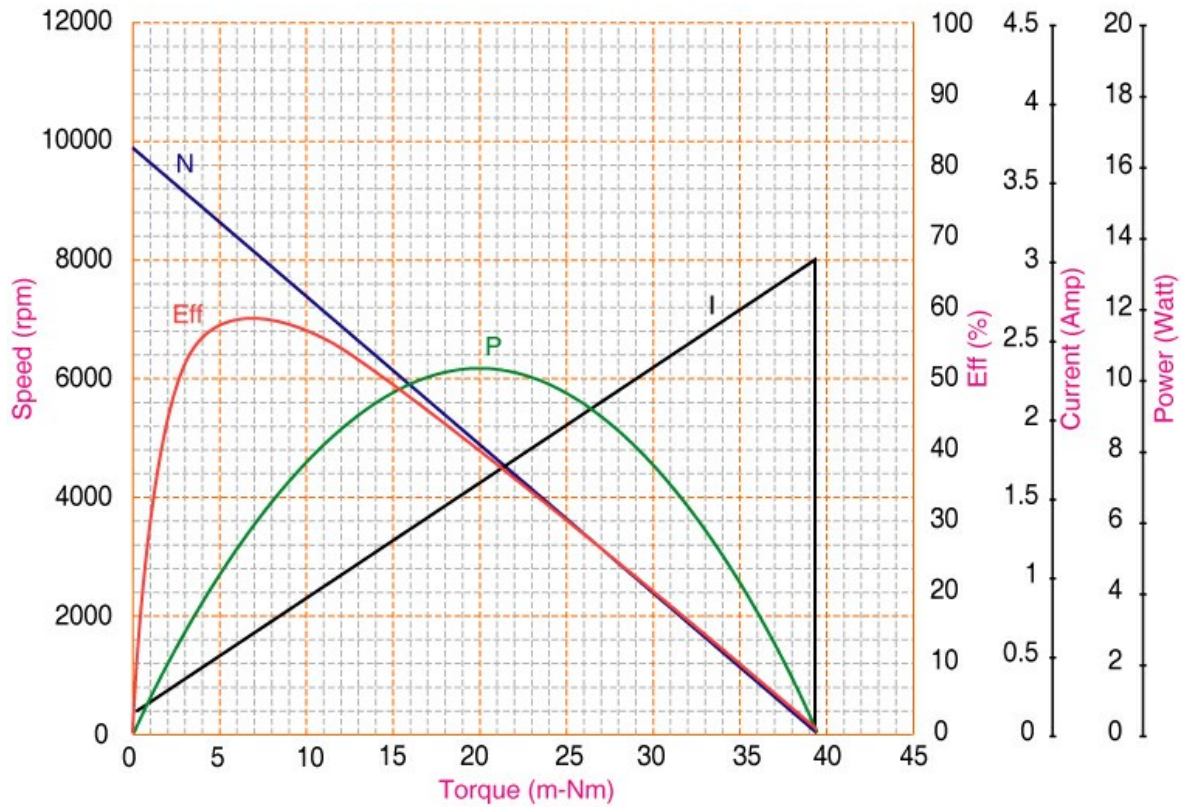
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.13	2.70	0.60	1.41
Efficiency (%)	-	-	57	-
Output Power (W)	-	-	6.09	10.20
Speed (rpm)	9987	-	8200	4994
Torque (mNm)	-	39.24	7.10	19.62

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

Compact size, Low noise, low cogging

Specifications:

Dimensions	: Ø 27.5 X 32.5 mm
Shaft Diameter	: Ø 2.305 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 9440 rpm
Stall Torque	: 43.53 mNm
Maximum Output Power	: 10.76 W
Maximum Efficiency	: 54%
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



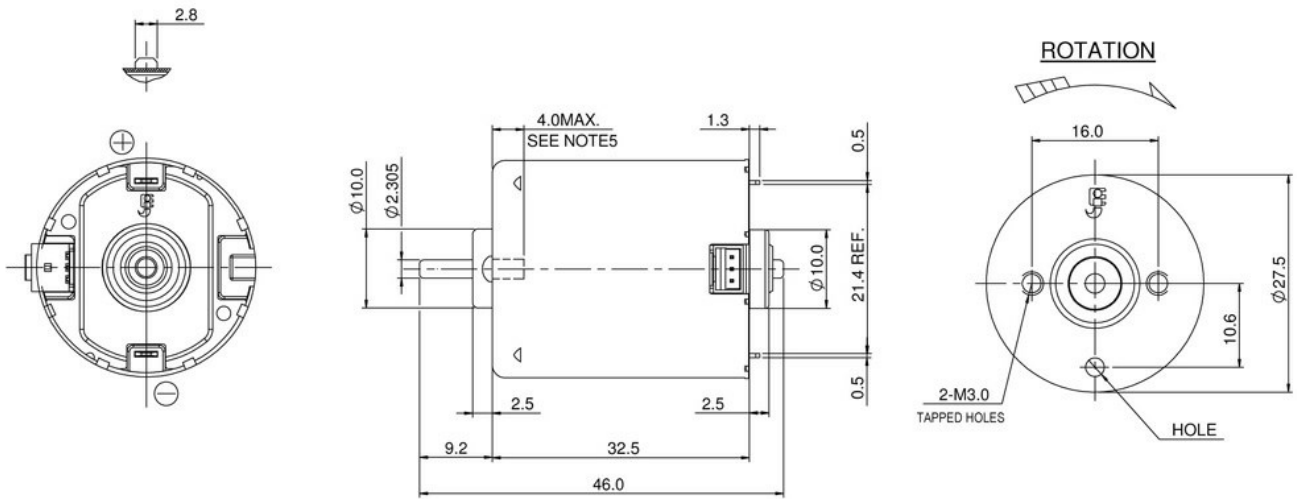
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.17	2.85	0.70	1.51
Efficiency (%)	-	-	54	40
Output Power (W)	-	-	6.78	10.76
Speed (rpm)	9440	-	7593	4720
Torque (mNm)	-	43.53	8.53	21.77

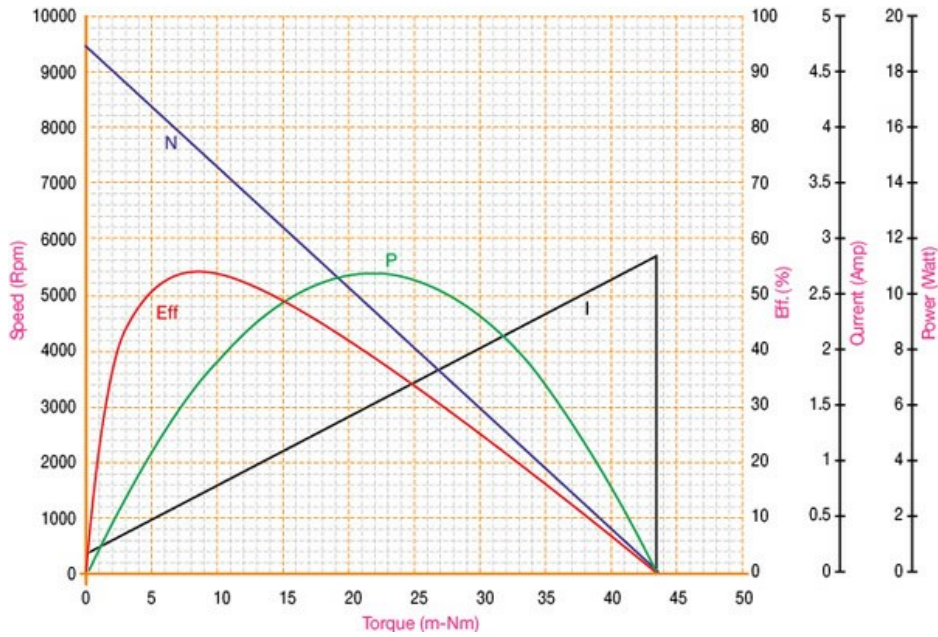
Application Examples:

Paper Lifts and Feeds

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

Compact size, Low noise, low cogging

Specifications:

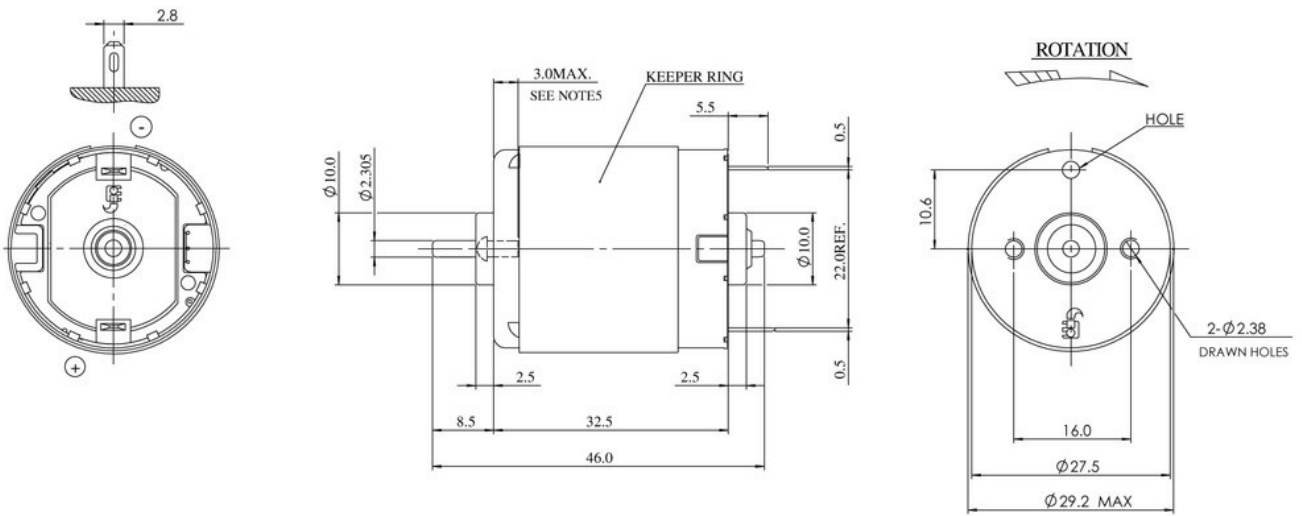
Dimensions	: Ø 27.5 X 32.5 mm
Shaft Diameter	: Ø 2.305 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 7620 rpm
Stall Torque	: 32.65 mNm
Maximum Output Power	: 6.51 W
Maximum Efficiency	: 53%
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



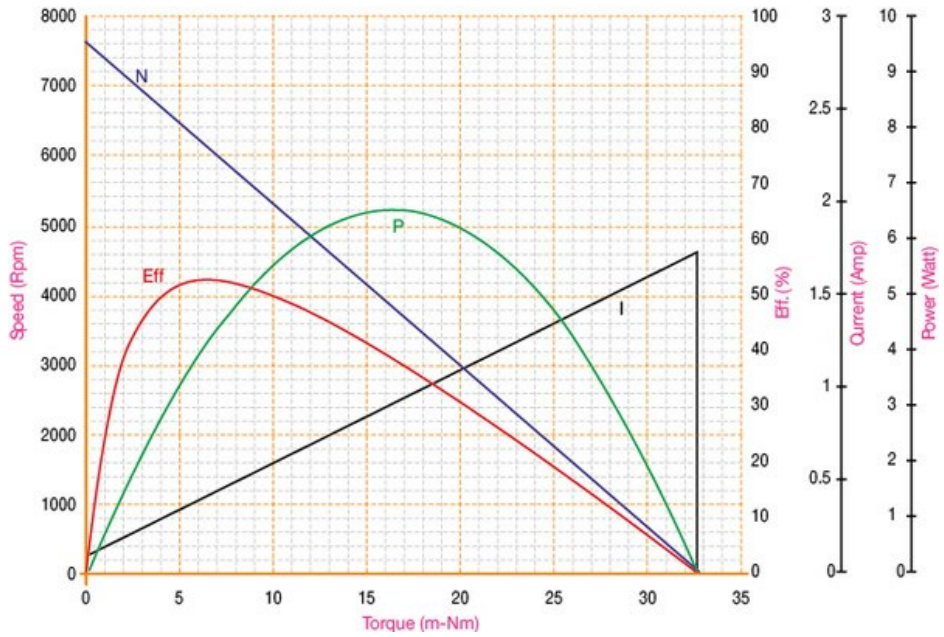
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.11	1.75	0.44	0.93
Efficiency (%)	-	-	53	39
Output Power (W)	-	-	4.18	6.51
Speed (rpm)	7620	-	6091	3808
Torque (mNm)	-	32.65	6.54	16.32

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

Compact size, Low noise, low cogging

Specifications:

Dimensions	: Ø 27.5 X 38.0 mm
Shaft Diameter	: Ø 2.305 mm
Input Voltage	: 21.0 V DC
No Load Speed	: 6680 rpm
Stall Torque	: 46.28 mNm
Maximum Output Power	: 8.10 W
Maximum Efficiency	: 63%
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



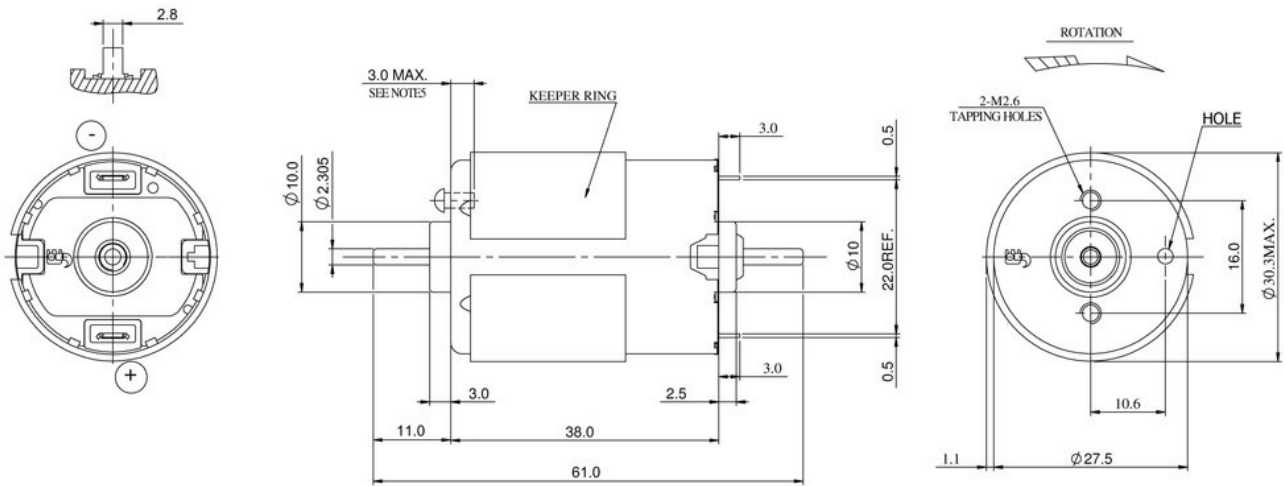
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.07	1.67	0.35	0.87
Efficiency (%)	-	-	63	44
Output Power (W)	-	-	4.64	8.10
Speed (rpm)	6680	-	5528	3341
Torque (mNm)	-	46.28	8.01	23.14

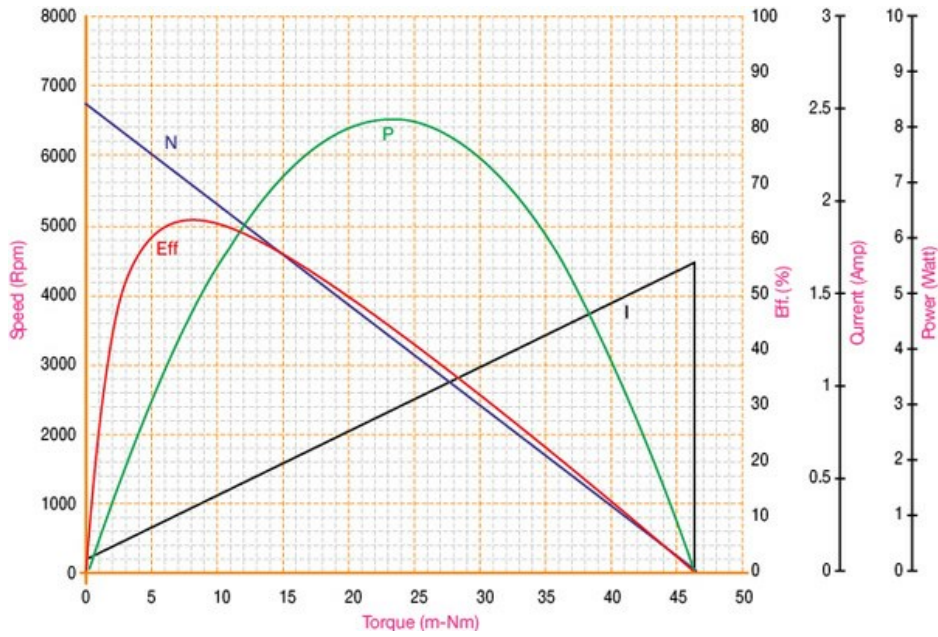
Application Examples:

Paper Lifts and Feeds

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High power DC motor

Specifications:

Dimensions	: Ø 27.5 X 38 mm
Shaft Diameter	: Ø 2.305 mm
Input Voltage	: 24.0 V DC
No Load Speed	: 21550 rpm
No Load Current	: 0.28 A
Nominal Speed	: 18000 rpm
Nominal Torque	: 11.23 mNm
Nominal Current	: 1.42 A
Stall Torque	: 68.50 mNm
Stall Current	: 7.22 A
Maximum Output Power	: 38.62 W
Maximum Efficiency	: 62%
Torque at Maximum Efficiency	: 11.23 mNm
Speed at Maximum Efficiency	: 18000 rpm
Life (Typical)	: 175 hr
Weight	: 65.50 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



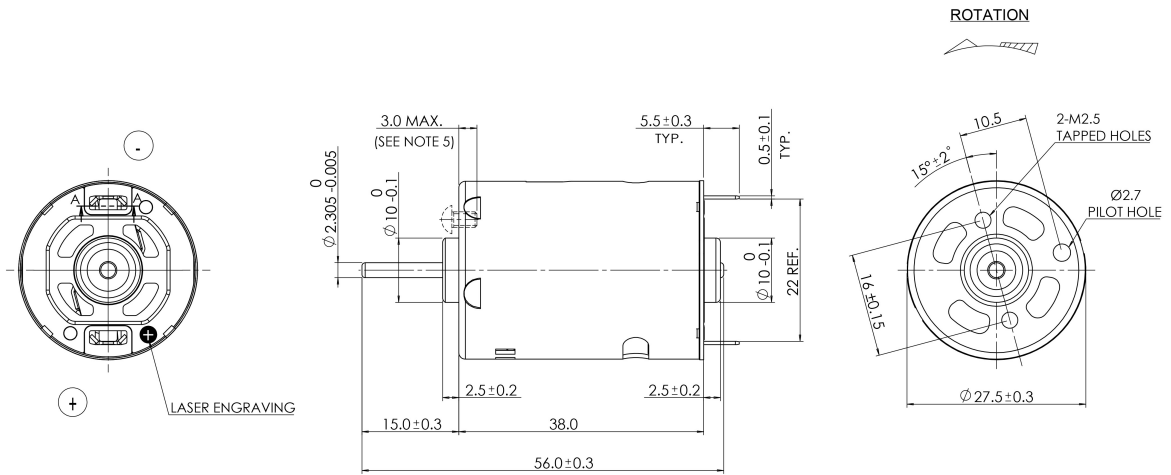
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.28	7.22	1.42	3.75
Efficiency (%)	-	-	62	43
Output Power (W)	-	-	21.20	38.62
Speed (rpm)	21550	-	18000	10770
Torque (mNm)	-	68.50	11.23	34.24

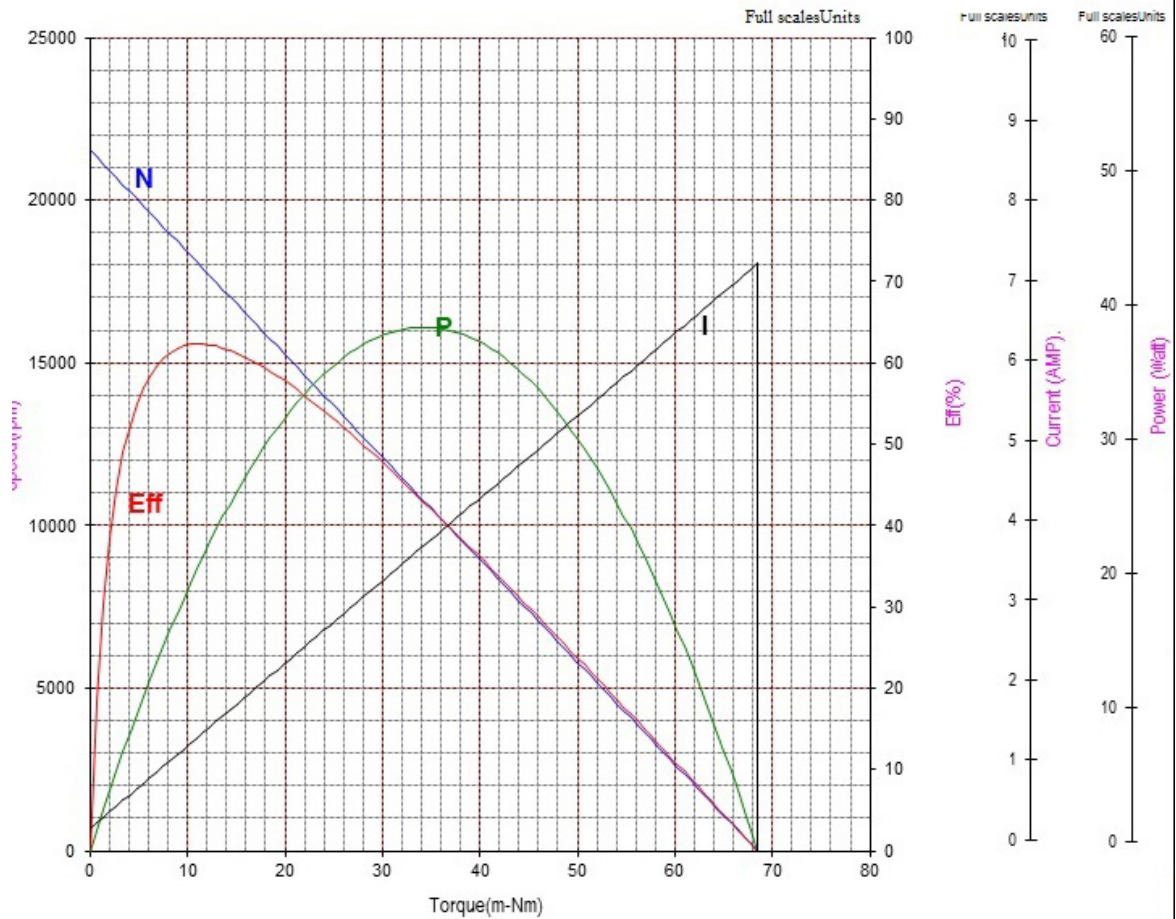
Application Examples:

Hair Dryers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power DC motor

Specifications:

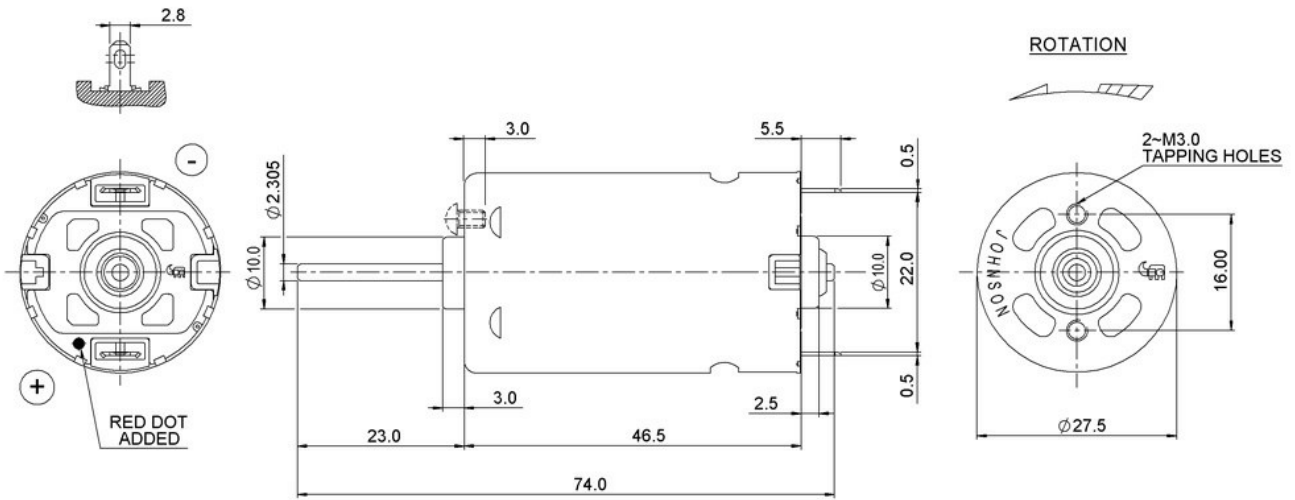
Dimensions	: Ø 27.5 X 46.5 mm
Shaft Diameter	: Ø 2.305 mm
Input Voltage	: 36.0 V DC
No Load Speed	: 11000 rpm
No Load Current	: 0.10 A
Nominal Speed	: 9700 rpm
Nominal Torque	: 13.00 mNm
Nominal Current	: 0.50 A
Stall Torque	: 90.00 mNm
Stall Current	: 3.00 A
Maximum Output Power	: 25.00 W
Maximum Efficiency	: 70%
Torque at Maximum Efficiency	: 12.00 mNm
Speed at Maximum Efficiency	: 9500 rpm
Life (Typical)	: 150 hr
Weight	: 90 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: terminals



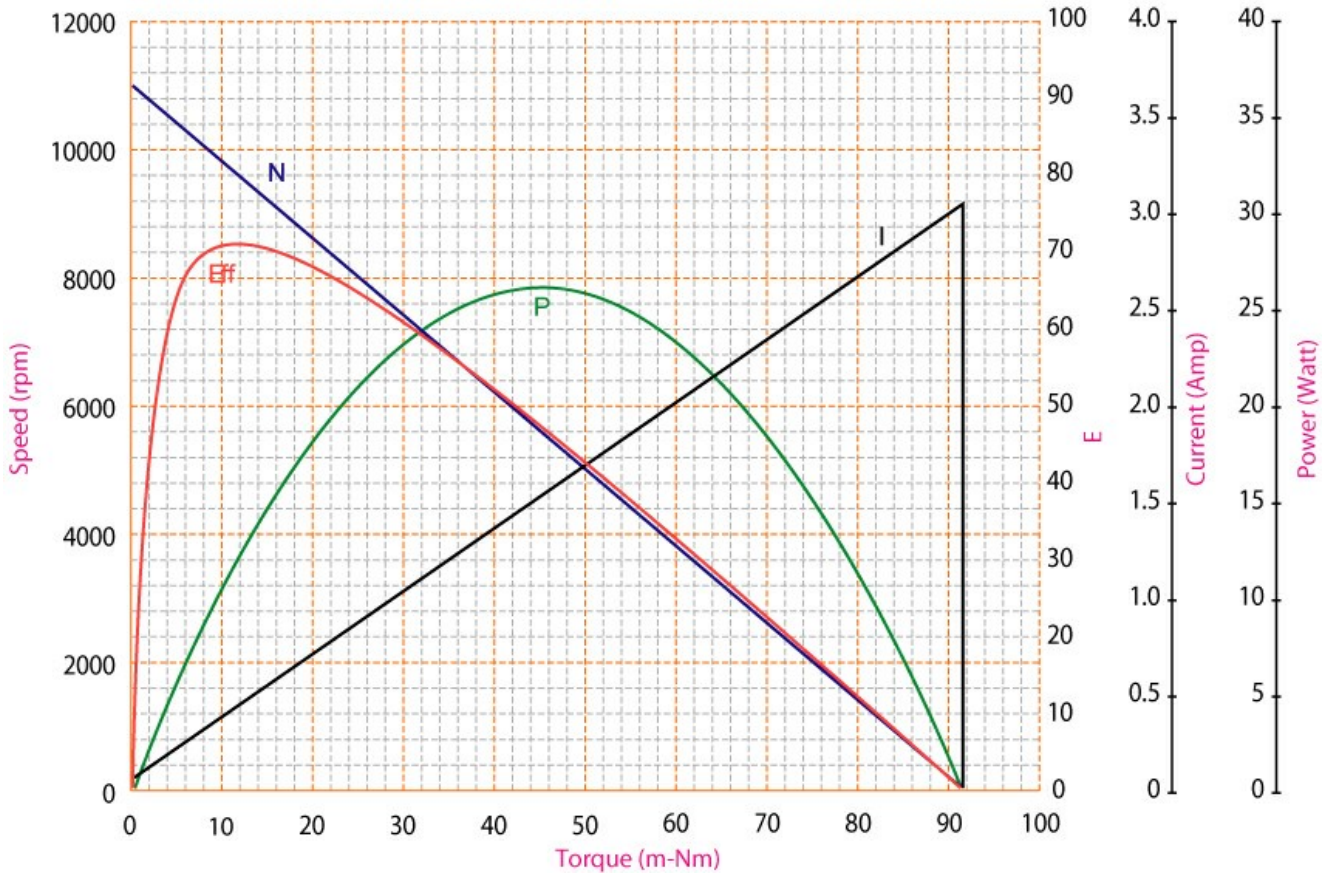
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.10	3.00	0.45	1.50
Efficiency (%)	-	-	70	45
Output Power (W)	-	-	12.00	25.00
Speed (rpm)	11000	-	9500	5500
Torque (mNm)	-	90.00	12.00	45.00

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power DC motor

Specifications:

Dimensions	: Ø 27.5 X 46.5 mm
Shaft Diameter	: Ø 2.305 mm
Input Voltage	: 28.0 V DC
No Load Speed	: 19000 rpm
No Load Current	: 0.20 A
Nominal Speed	: 16000 rpm
Nominal Torque	: 22.00 mNm
Nominal Current	: 1.80 A
Stall Torque	: 140.00 mNm
Stall Current	: 10.00 A
Maximum Output Power	: 70.00 W
Maximum Efficiency	: 75%
Torque at Maximum Efficiency	: 15.00 mNm
Speed at Maximum Efficiency	: 17000 rpm
Life (Typical)	: 175 hr
Weight	: 100 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: terminals



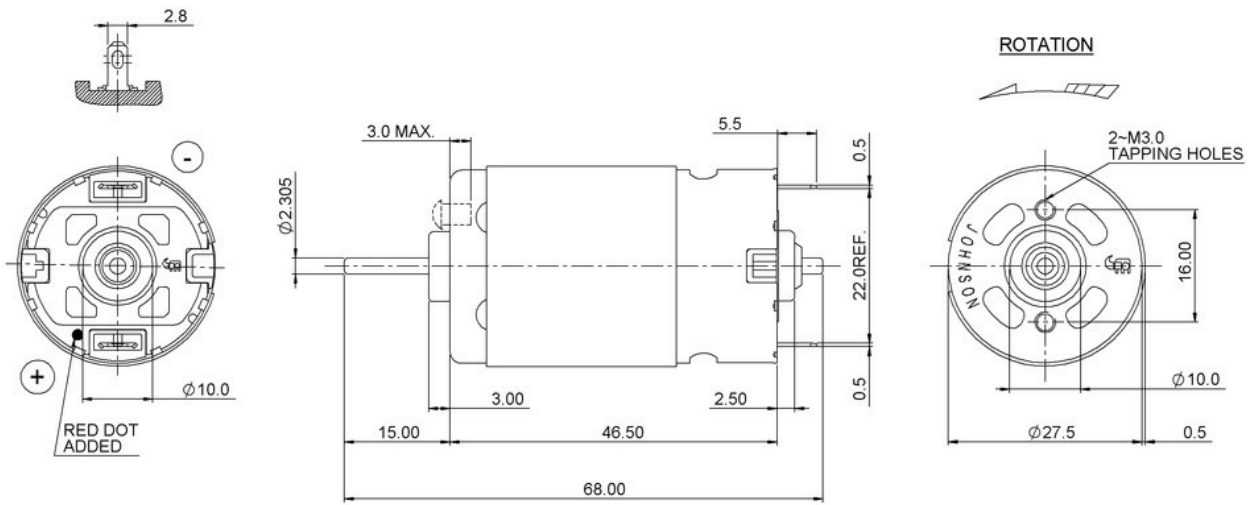
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.20	10.00	1.30	5.50
Efficiency (%)	-	-	75	45
Output Power (W)	-	-	30.00	70.00
Speed (rpm)	19000	-	17000	9400
Torque (mNm)	-	140.00	15.00	70.00

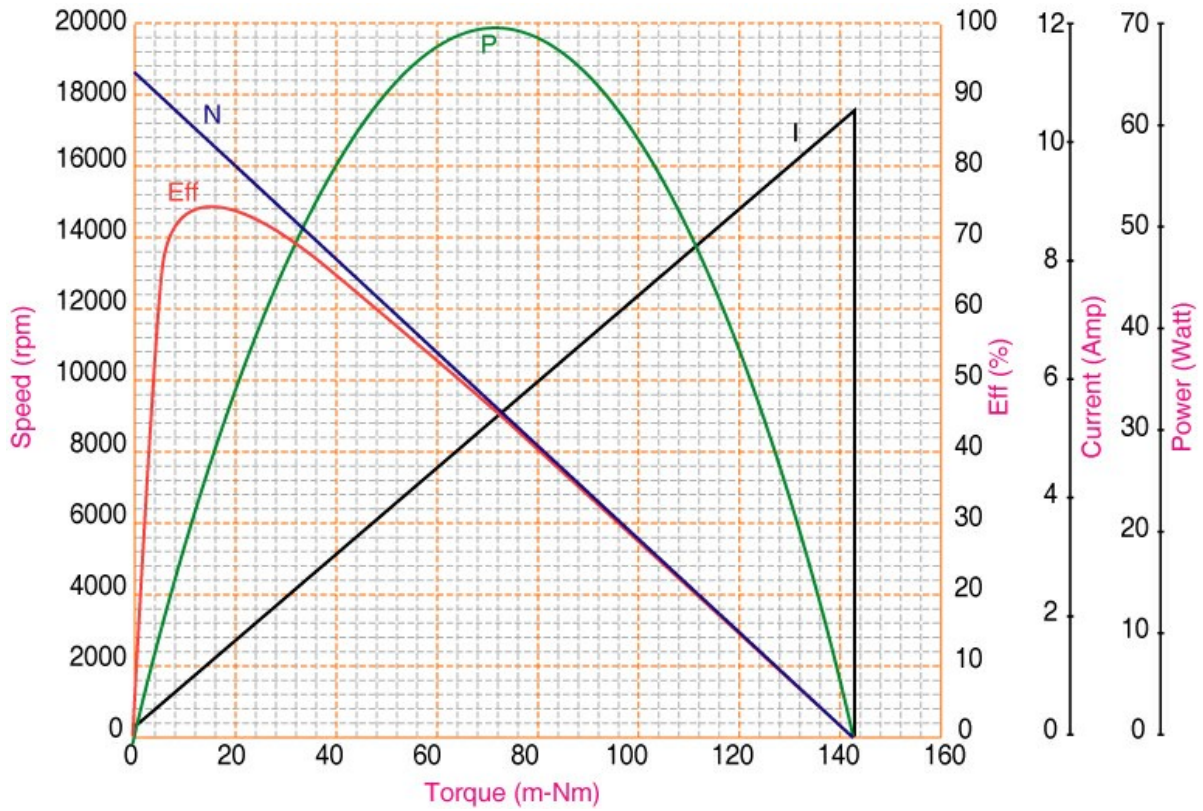
Application Examples:

Hair Dryers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

Compact size, Low noise, low cogging

Specifications:

Dimensions	: Ø 27.5 X 46.5 mm
Shaft Diameter	: Ø 2.305 mm
Input Voltage	: 21.0 V DC
No Load Speed	: 5890 rpm
Stall Torque	: 88.63 mNm
Maximum Output Power	: 13.67 W
Maximum Efficiency	: 69%
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



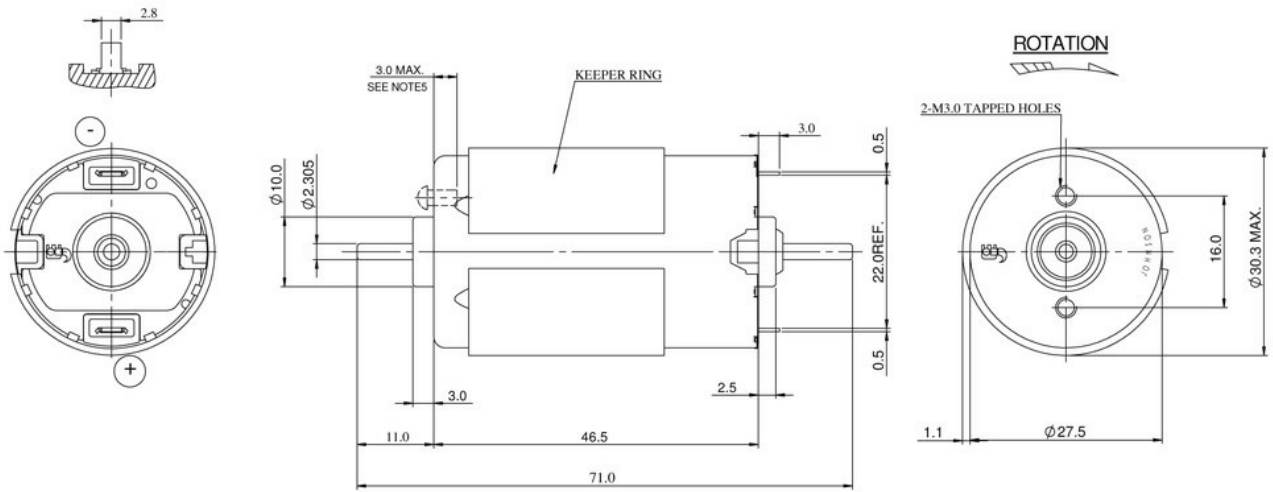
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.08	2.75	0.47	1.41
Efficiency (%)	-	-	69	46
Output Power (W)	-	-	6.80	13.67
Speed (rpm)	5890	-	5033	2944
Torque (mNm)	-	88.63	12.90	44.31

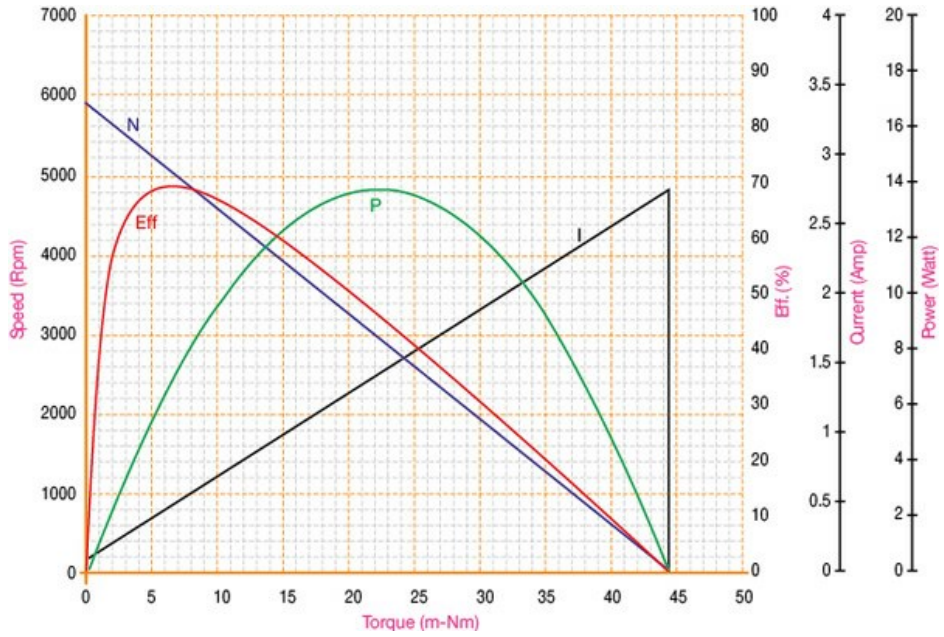
Application Examples:

Paper Lifts and Feeds

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High power DC motor

Specifications:

Dimensions	: Ø 27.5 X 46.5 mm
Shaft Diameter	: Ø 2.305 mm
Input Voltage	: 2.5 V DC
No Load Speed	: 2460 rpm
No Load Current	: 0.23 A
Nominal Speed	: 1960 rpm
Nominal Torque	: 6.40 mNm
Nominal Current	: 0.93 A
Stall Torque	: 32.00 mNm
Stall Current	: 3.70 A
Maximum Output Power	: 2.00 W
Maximum Efficiency	: 56%
Torque at Maximum Efficiency	: 6.40 mNm
Speed at Maximum Efficiency	: 1960 rpm
Life (Typical)	: 250 hr
Weight	: 110 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



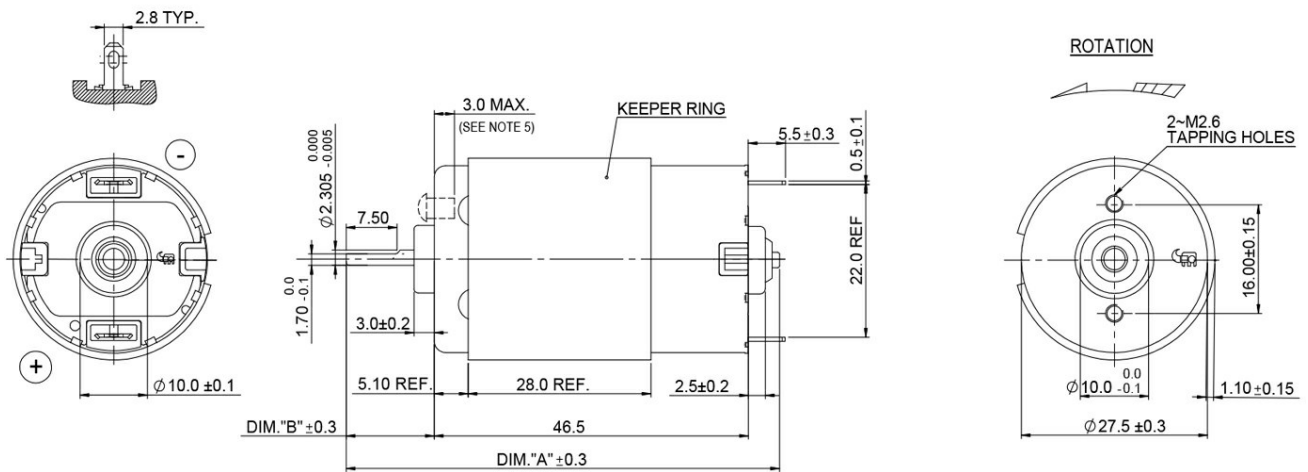
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.23	3.70	0.93	1.95
Efficiency (%)	-	-	56	42
Output Power (W)	-	-	1.30	2.00
Speed (rpm)	2460	-	1960	1230
Torque (mNm)	-	32.00	6.40	15.80

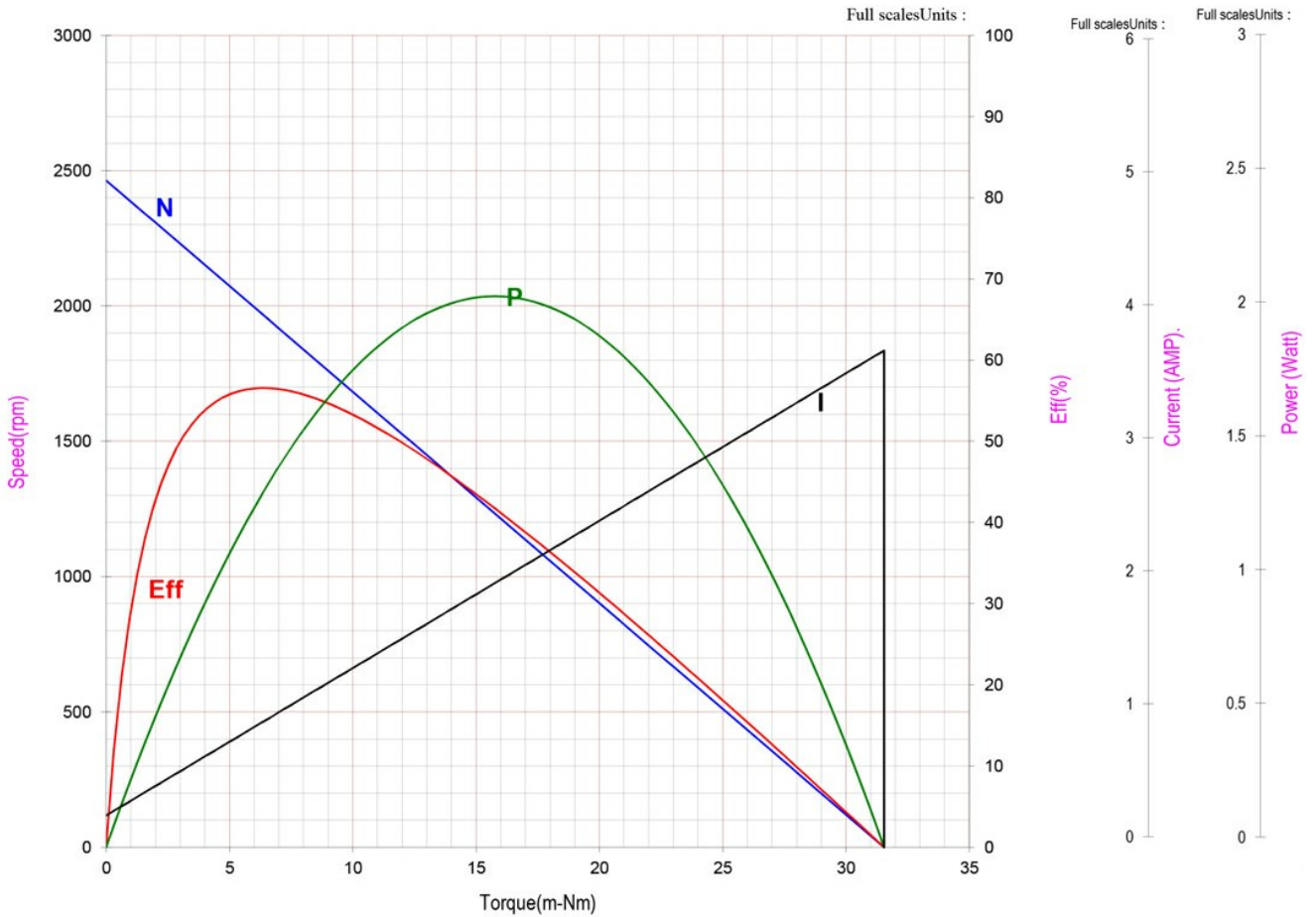
Application Examples:

Window Shutters

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High power DC motor

Specifications:

Dimensions	: Ø 27.5 X 46.5 mm
Shaft Diameter	: Ø 2.305 mm
Input Voltage	: 28.0 V DC
No Load Speed	: 19000 rpm
No Load Current	: 0.17 A
Nominal Speed	: 17000 rpm
Nominal Torque	: 16.20 mNm
Nominal Current	: 1.35 A
Stall Torque	: 146.20 mNm
Stall Current	: 10.80 A
Maximum Output Power	: 72.30 W
Maximum Efficiency	: 75%
Torque at Maximum Efficiency	: 16.20 mNm
Speed at Maximum Efficiency	: 17000 rpm
Life (Typical)	: 175 hr
Weight	: 100 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



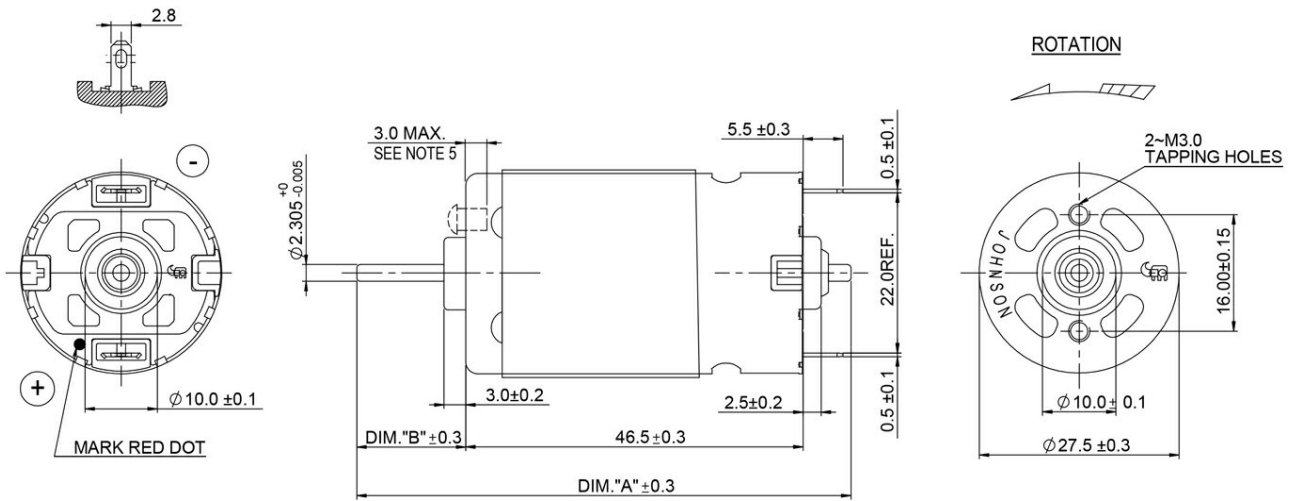
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.17	10.80	1.35	5.50
Efficiency (%)	-	-	75	47
Output Power (W)	-	-	28.60	72.30
Speed (rpm)	19000	-	17000	9400
Torque (mNm)	-	146.20	16.20	73.10

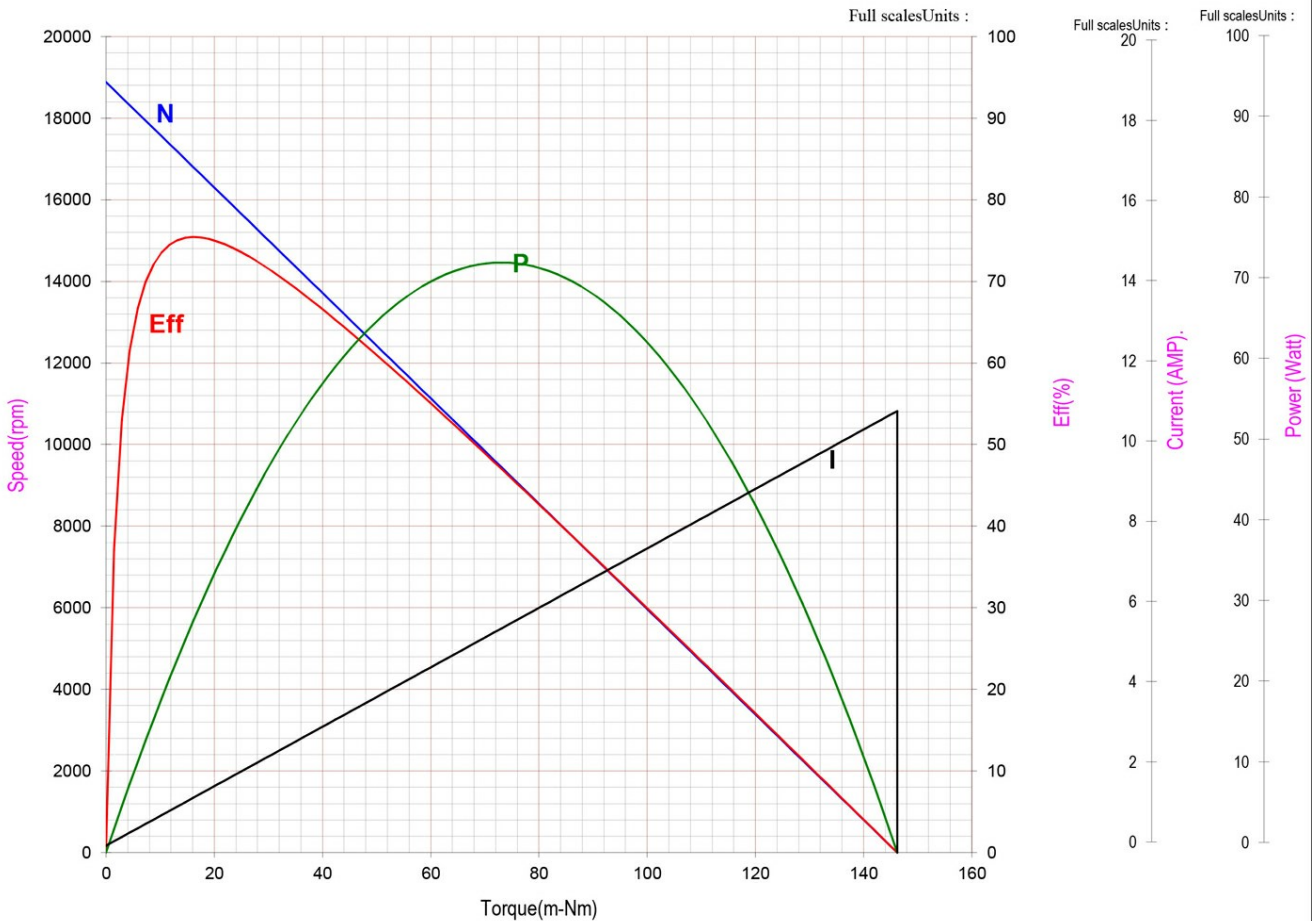
Application Examples:

Hair Dryers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High power DC motor

Specifications:

Dimensions	: Ø 27.5 X 46.5 mm
Shaft Diameter	: Ø 2.305 mm
Input Voltage	: 32.0 V DC
No Load Speed	: 16000 rpm
No Load Current	: 0.15 A
Nominal Speed	: 14500 rpm
Nominal Torque	: 17.00 mNm
Nominal Current	: 1.08 A
Stall Torque	: 144.20 mNm
Stall Current	: 8.00 A
Maximum Output Power	: 62.20 W
Maximum Efficiency	: 75%
Torque at Maximum Efficiency	: 17.00 mNm
Speed at Maximum Efficiency	: 14500 rpm
Life (Typical)	: 175 hr
Weight	: 100 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



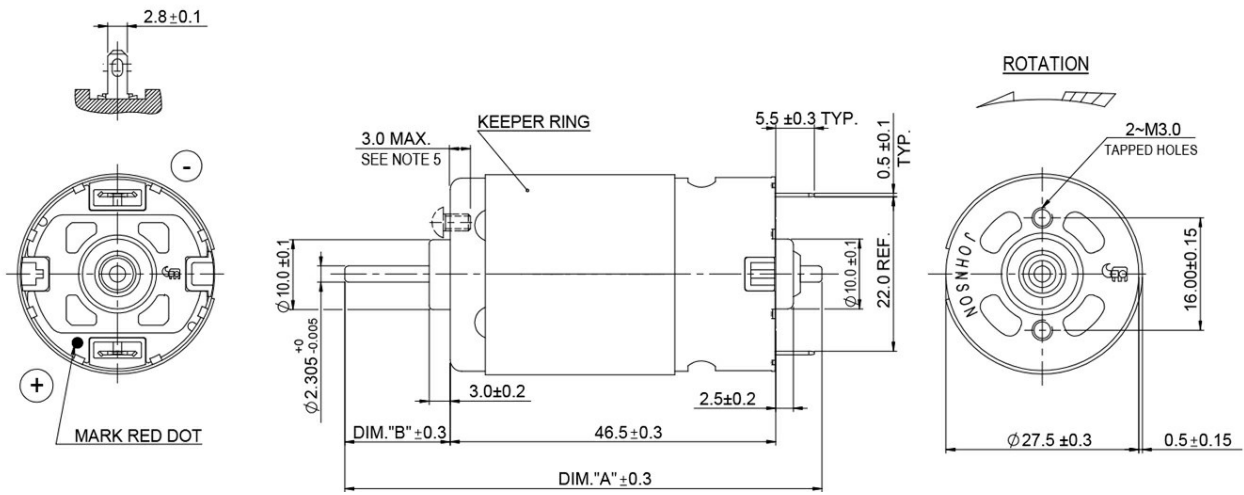
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.15	8.00	1.08	4.00
Efficiency (%)	-	-	75	47
Output Power (W)	-	-	26.00	62.20
Speed (rpm)	16000	-	14500	8200
Torque (mNm)	-	144.20	17.00	72.00

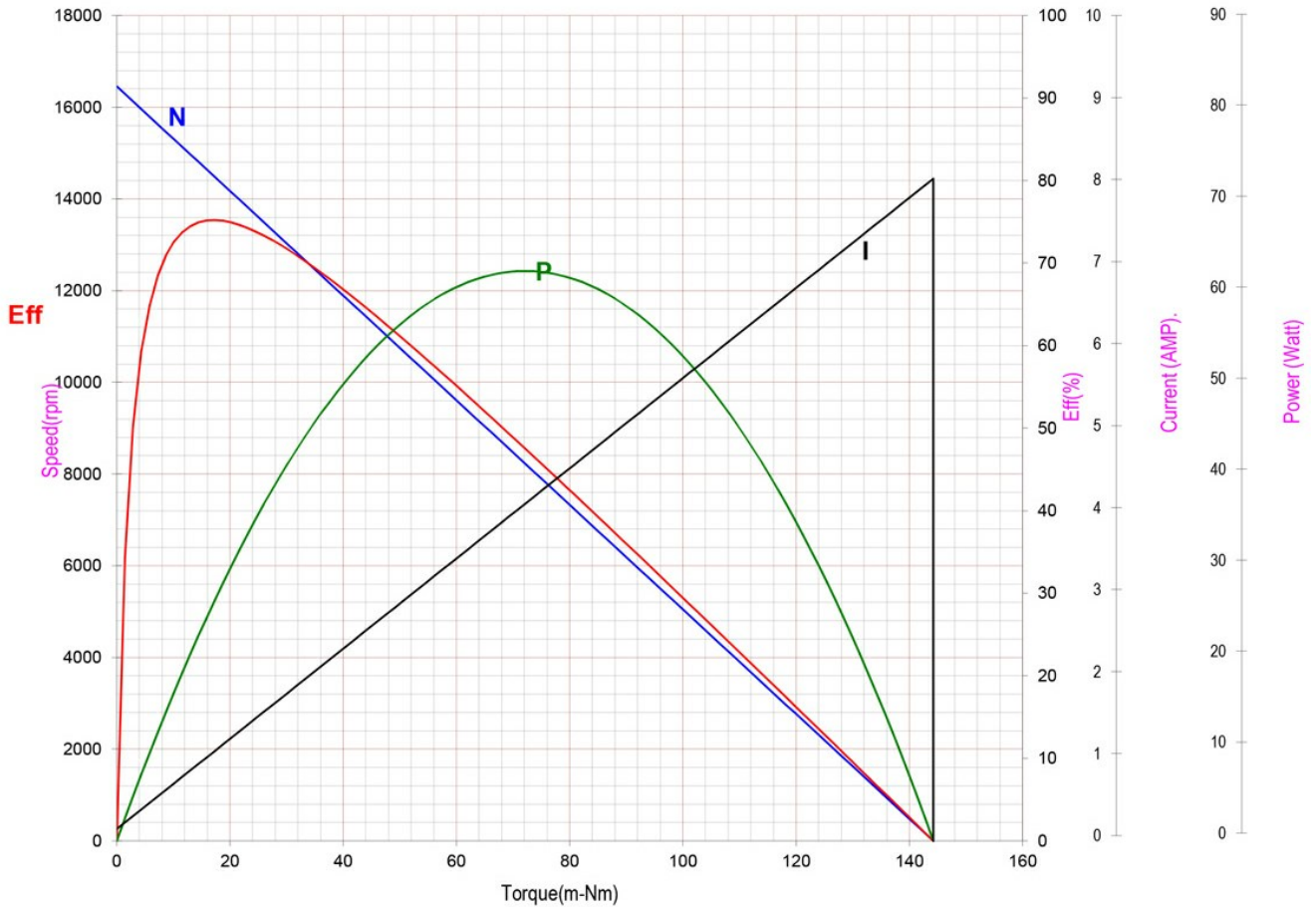
Application Examples:

Hair Dryers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power DC motor

Specifications:

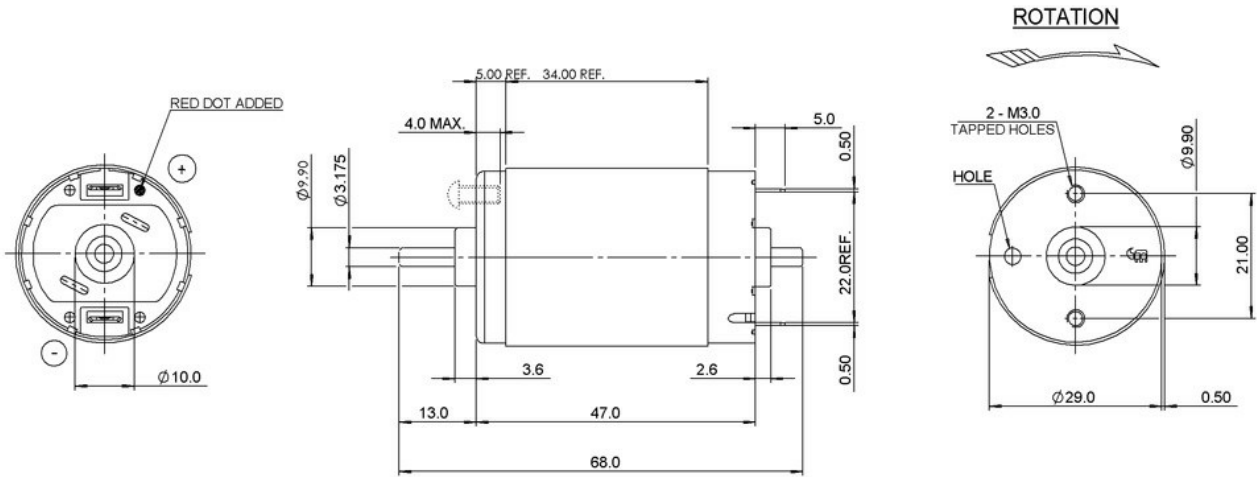
Dimensions	: Ø 29.0 X 47.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 42.0 V DC
No Load Speed	: 6400 rpm
No Load Current	: 0.06 A
Stall Torque	: 92.00 mNm
Stall Current	: 1.60 A
Maximum Output Power	: 15.50 W
Maximum Efficiency	: 64%
Torque at Maximum Efficiency	: 14.80 mNm
Speed at Maximum Efficiency	: 5380 rpm
Life (Typical)	: 240 hr
Weight	: 122 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



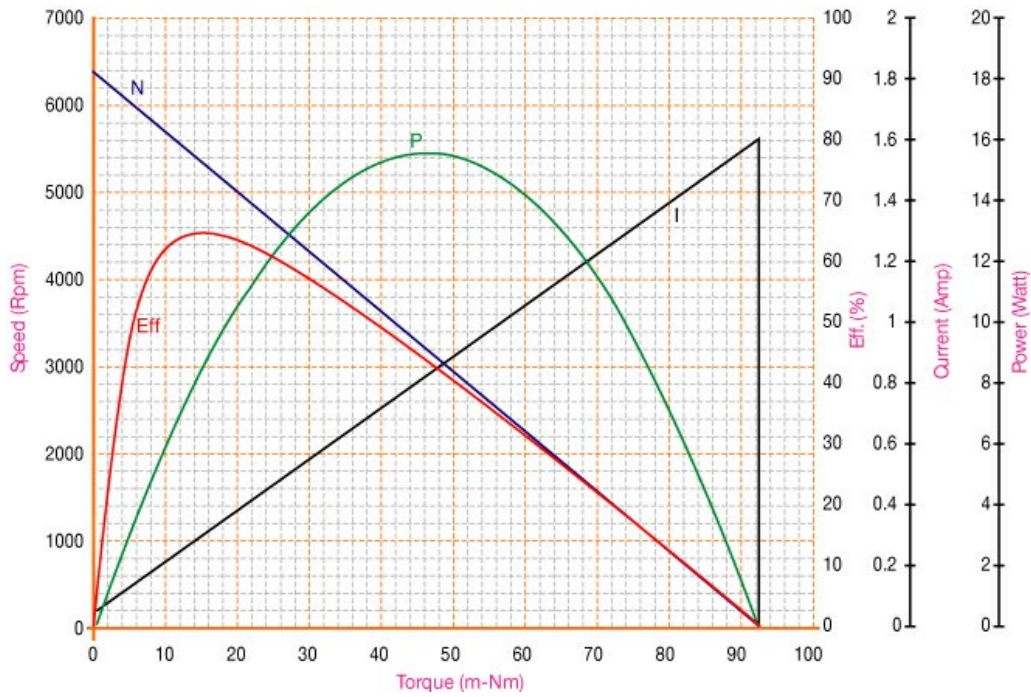
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.06	1.60	0.31	0.83
Efficiency (%)	-	-	64	-
Output Power (W)	-	-	8.00	15.50
Speed (rpm)	6400	-	5380	3200
Torque (mNm)	-	92.00	14.80	46.30

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

Compact size, Low noise, low cogging

Specifications:

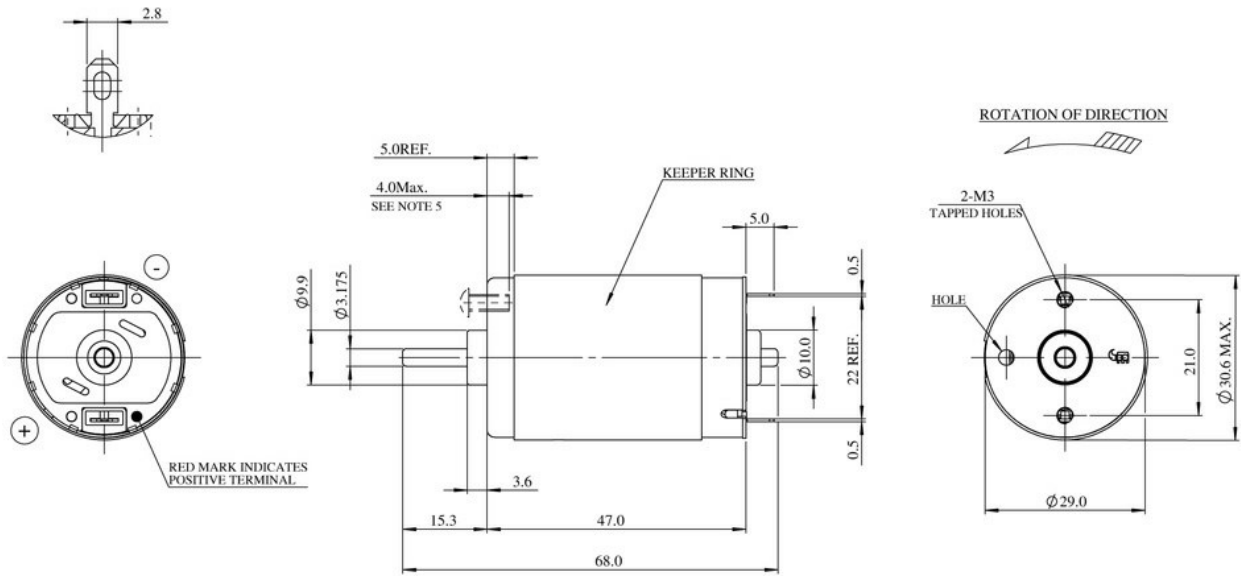
Dimensions	: Ø 29.0 X 47.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 24.0 V DC
No Load Speed	: 5980 rpm
Stall Torque	: 90.21 mNm
Maximum Output Power	: 14.13 W
Maximum Efficiency	: 68%
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.07	2.58	0.42	1.32
Efficiency (%)	-	-	68	45
Output Power (W)	-	-	6.78	14.13
Speed (rpm)	5980	-	5147	2989
Torque (mNm)	-	90.21	12.58	45.10

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power, Long Life PMDC motor

Specifications:

Dimensions	: Ø 27.5 X 46.5 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 36.0 V DC
No Load Speed	: 18250 rpm
Stall Torque	: 287.00 mNm
Maximum Output Power	: 137.00 W
Maximum Efficiency	: 73%
Life (Typical)	: 1000 hr
Life Test Condition	: (subject to fan load)
Weight	: 115 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals
Certification	: RoHS



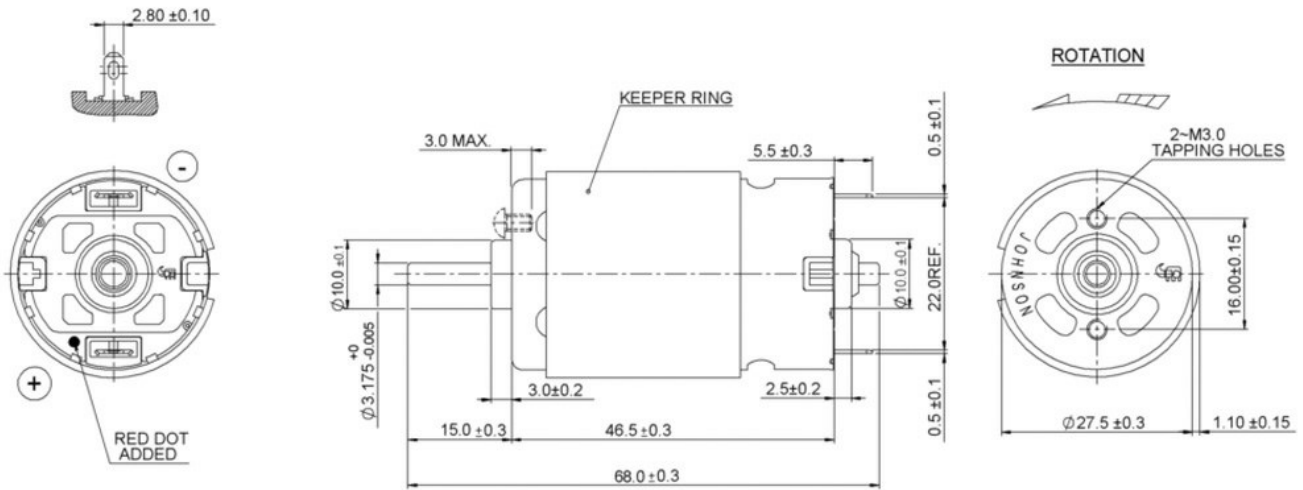
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.32	16.00	2.35	8.20
Efficiency (%)	-	-	73	-
Output Power (W)	-	-	59.00	137.00
Speed (rpm)	18250	-	16000	9100
Torque (mNm)	-	287.00	35.50	143.60

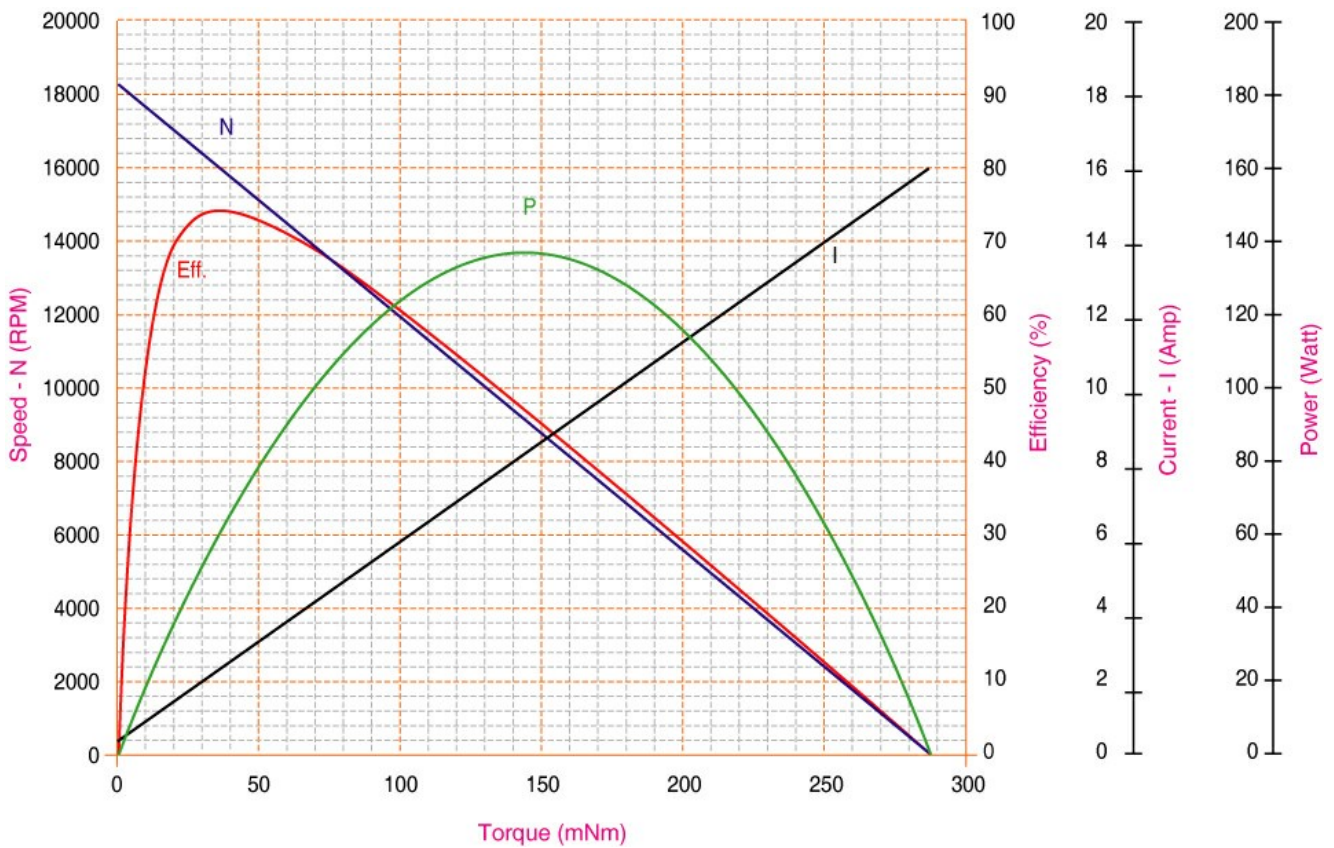
Application Examples:

Hair Dryers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power, Long Life PMDC motor

Specifications:

Dimensions	: Ø 27.5 X 46.5 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 24.0 V DC
No Load Speed	: 22350 rpm
Stall Torque	: 246.57 mNm
Maximum Output Power	: 144.00 W
Maximum Efficiency	: 70%
Life (Typical)	: 1000 hr
Life Test Condition	: (subject to fan load)
Weight	: 115 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals
Certification	: RoHS



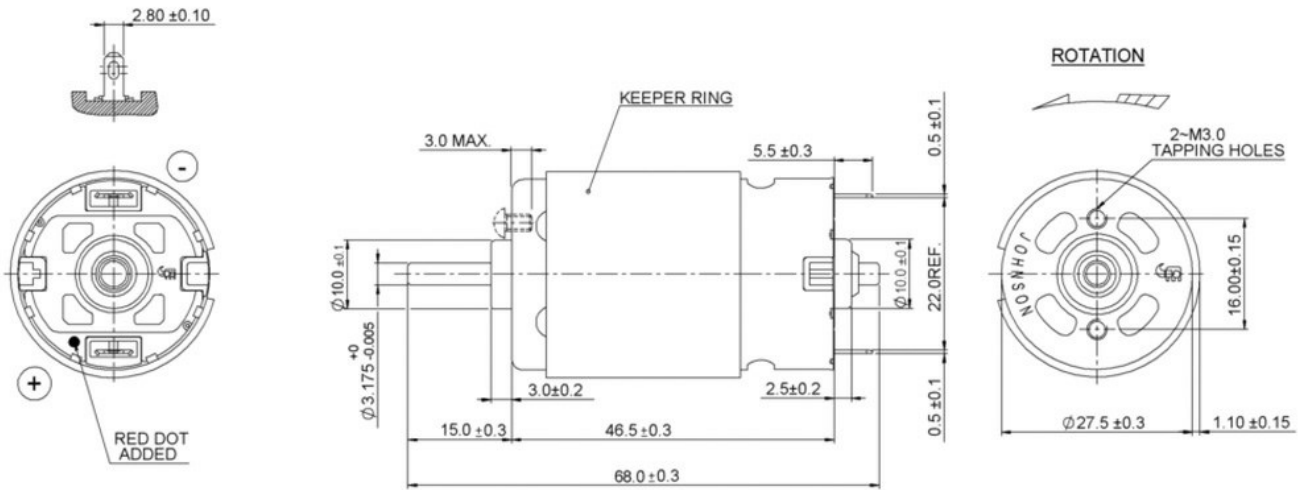
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.72	25.00	4.25	12.90
Efficiency (%)	-	-	70	-
Output Power (W)	-	-	71.00	144.00
Speed (rpm)	22350	-	19110	11171
Torque (mNm)	-	246.57	35.74	123.28

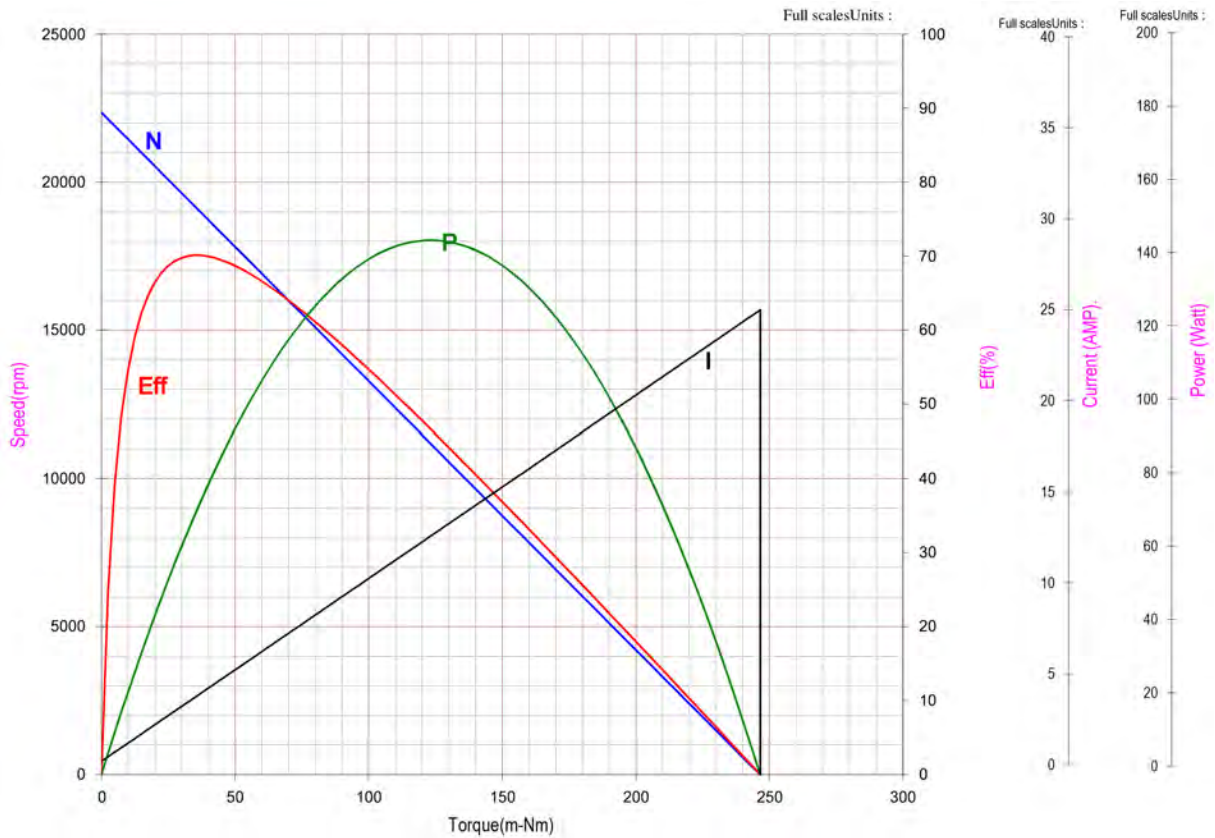
Application Examples:

Hair Dryers, Actuators

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High torque DC motor

Specifications:

Dimensions	: Ø 27.5 X 46.5 mm
Shaft Diameter	: Ø 2.305 mm
Input Voltage	: 28.0 V DC
No Load Speed	: 17000 rpm
No Load Current	: 0.38 A
Nominal Speed	: 15000 rpm
Nominal Torque	: 32.70 mNm
Nominal Current	: 2.60 A
Stall Torque	: 249.00 mNm
Stall Current	: 16.95 A
Maximum Output Power	: 112.60 W
Maximum Efficiency	: 72%
Torque at Maximum Efficiency	: 32.70 mNm
Speed at Maximum Efficiency	: 15000 rpm
Life (Typical)	: 500 hr
Weight	: 115 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



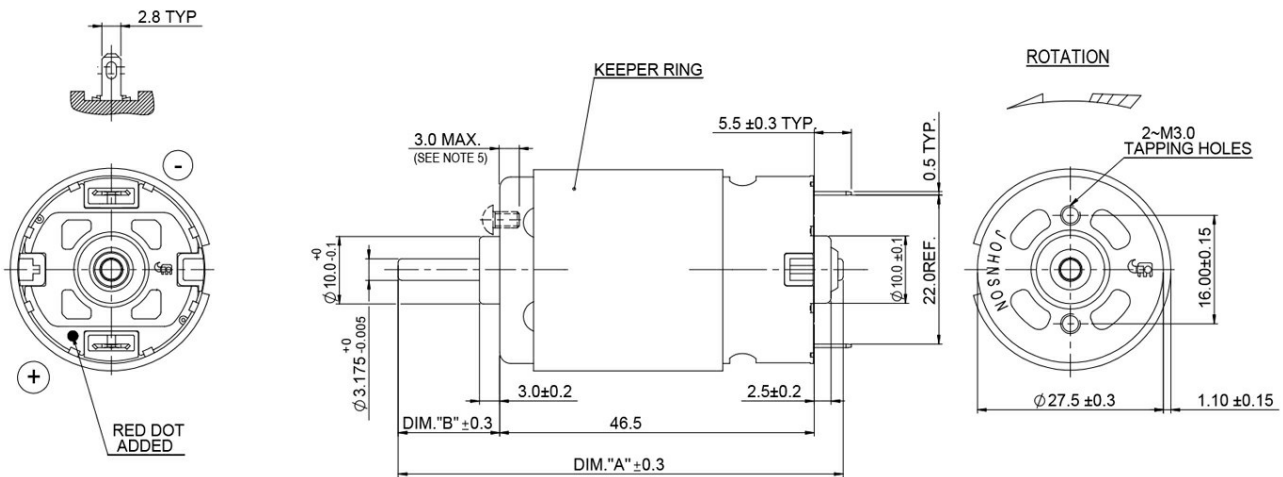
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.38	16.95	2.60	8.67
Efficiency (%)	-	-	72	46
Output Power (W)	-	-	51.30	112.60
Speed (rpm)	17000	-	15000	8600
Torque (mNm)	-	249.00	32.70	124.70

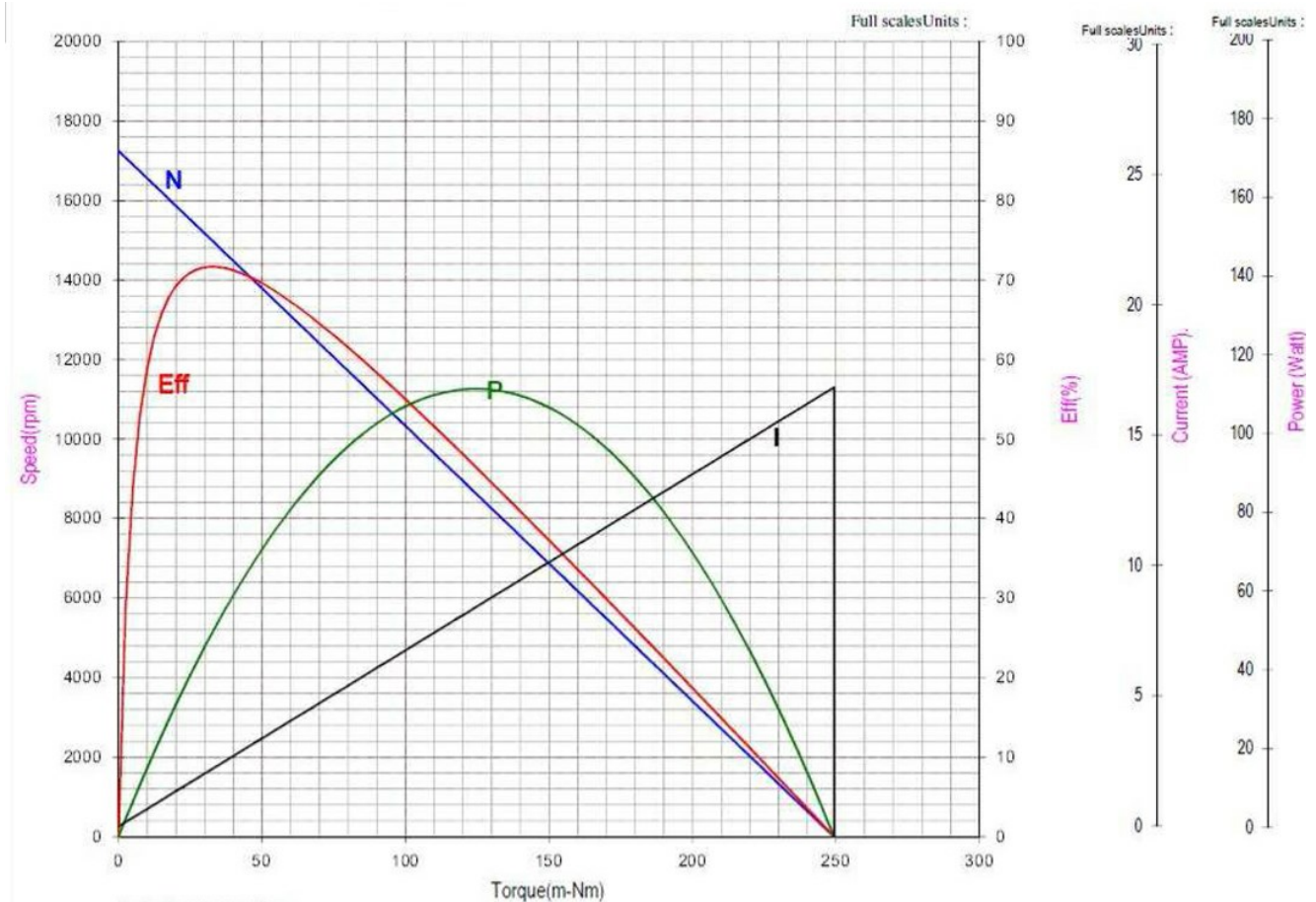
Application Examples:

Hair Dryers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High torque DC motor

Specifications:

Dimensions	: Ø 27.5 X 46.5 mm
Shaft Diameter	: Ø 2.305 mm
Input Voltage	: 36.0 V DC
No Load Speed	: 16000 rpm
No Load Current	: 0.29 A
Nominal Speed	: 14000 rpm
Nominal Torque	: 34.00 mNm
Nominal Current	: 1.94 A
Stall Torque	: 263.00 mNm
Stall Current	: 13.00 A
Maximum Output Power	: 112.00 W
Maximum Efficiency	: 72%
Torque at Maximum Efficiency	: 34.00 mNm
Speed at Maximum Efficiency	: 14000 rpm
Life (Typical)	: 500 hr
Weight	: 115 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



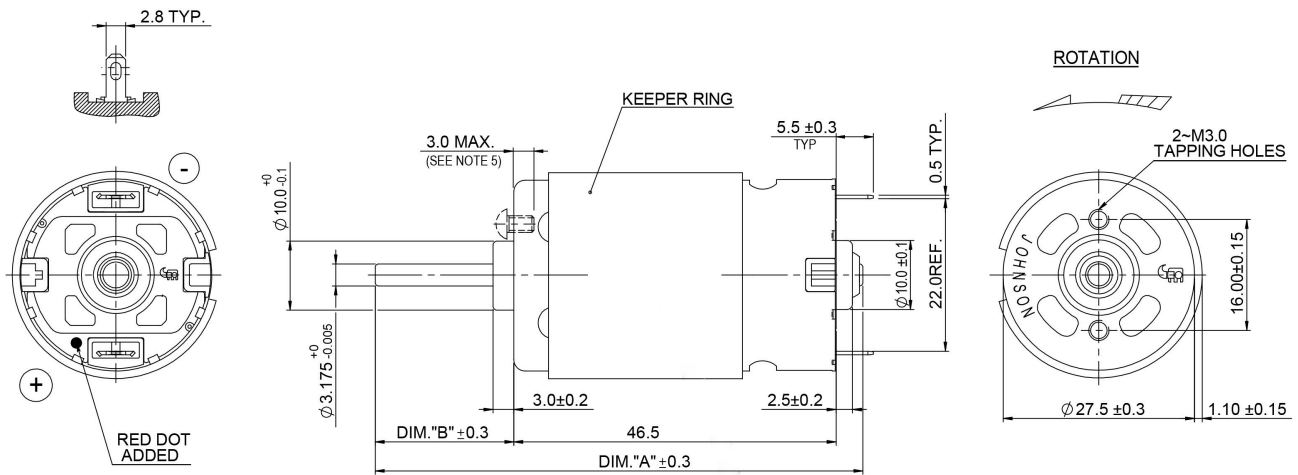
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.29	13.00	1.94	6.68
Efficiency (%)	-	-	72	47
Output Power (W)	-	-	50.50	112.00
Speed (rpm)	16000	-	14000	8000
Torque (mNm)	-	263.00	34.00	131.70

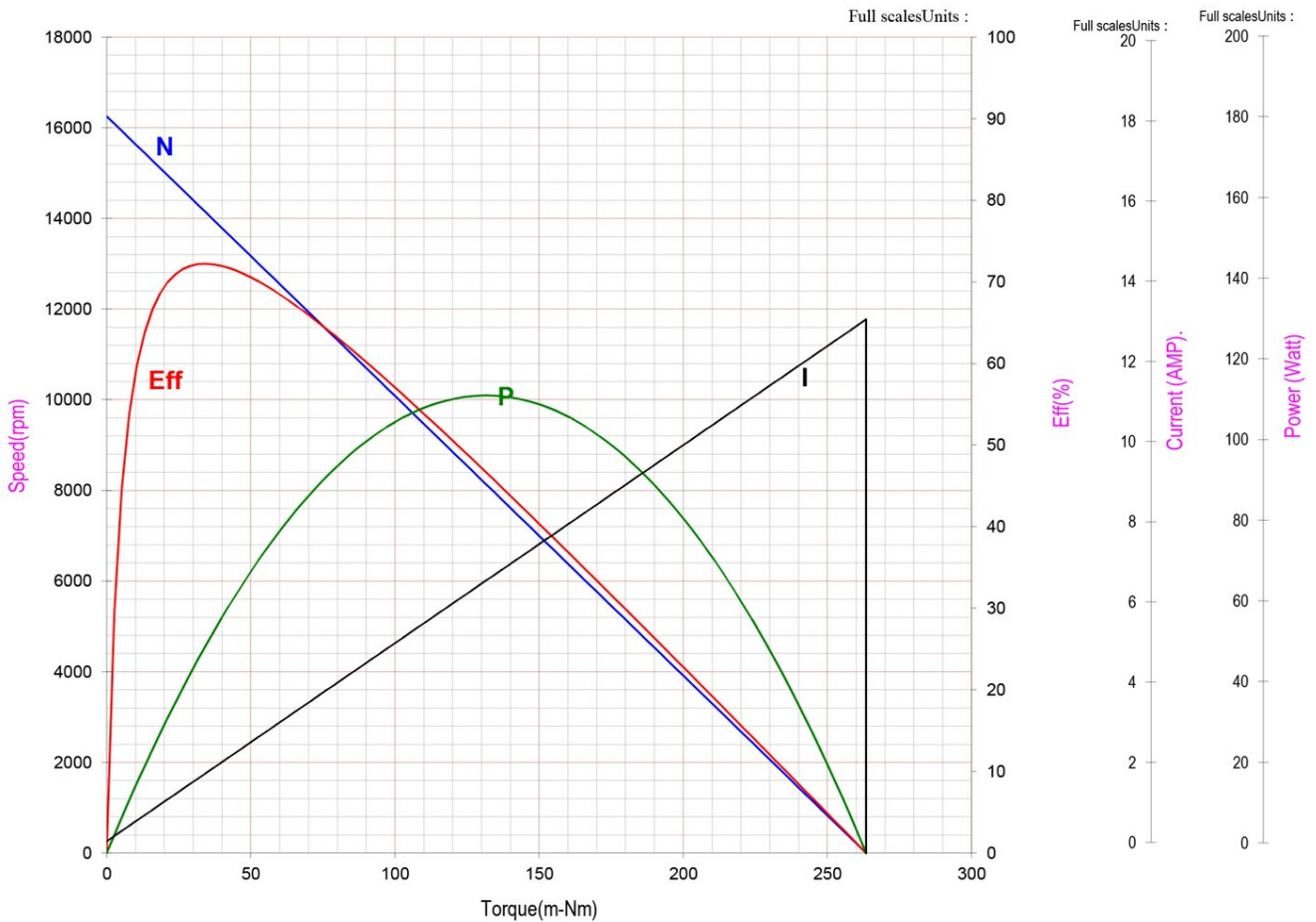
Application Examples:

Hair Dryers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High torque DC motor

Specifications:

Dimensions	: Ø 35.8 X 57.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 14.4 V DC
No Load Speed	: 18700 rpm
No Load Current	: 2.10 A
Nominal Speed	: 16500 rpm
Nominal Torque	: 100.00 mNm
Nominal Current	: 15.30 A
Stall Torque	: 835.00 mNm
Stall Current	: 111.00 A
Maximum Output Power	: 410.00 W
Maximum Efficiency	: 79%
Torque at Maximum Efficiency	: 100.00 mNm
Speed at Maximum Efficiency	: 16500 rpm
Life (Typical)	: 50 hr
Weight	: 240 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Leadwires



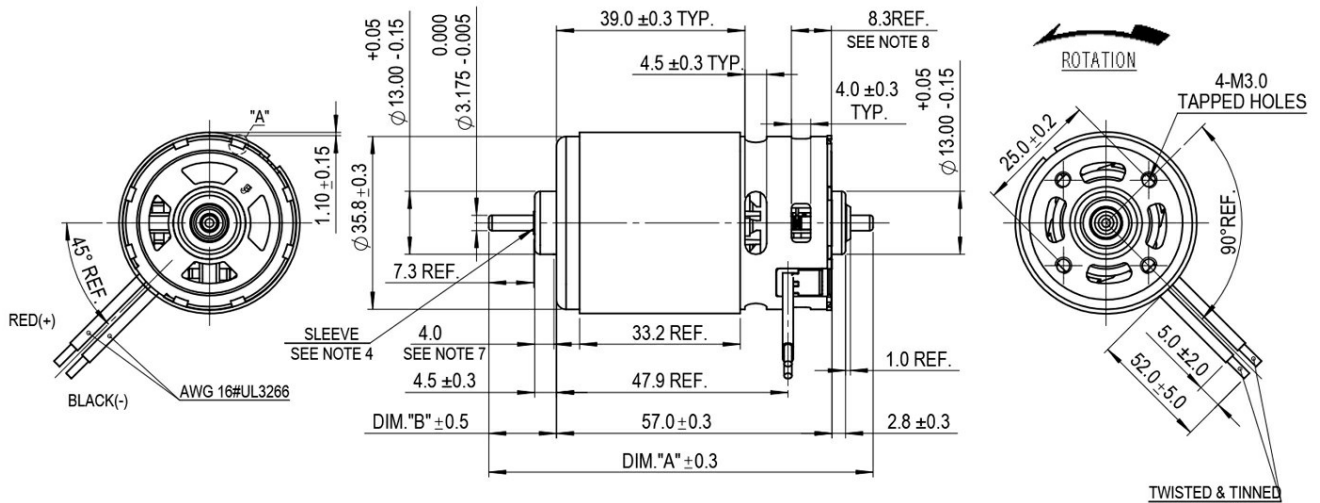
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	2.10	111.00	15.30	56.60
Efficiency (%)	-	-	79	50
Output Power (W)	-	-	175.00	410.00
Speed (rpm)	18700	-	16500	9400
Torque (mNm)	-	835.00	100.00	418.00

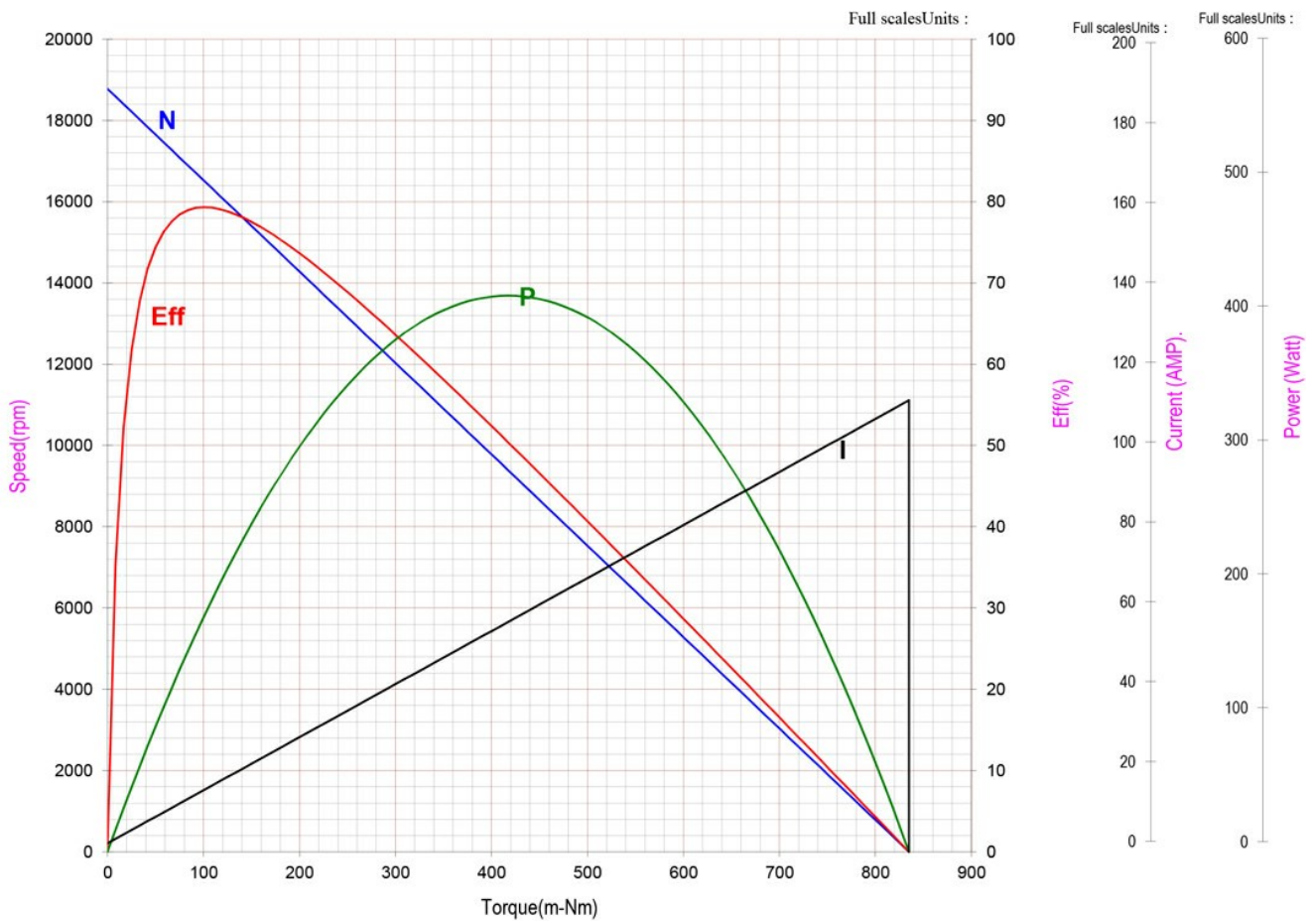
Application Examples:

Power Tools

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High torque DC motor

Specifications:

Dimensions	: Ø 46.6 X 53 mm
Shaft Diameter	: Ø 5.005 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 21000 rpm
No Load Current	: 4.00 A
Nominal Speed	: 18000 rpm
Nominal Torque	: 180.00 mNm
Nominal Current	: 25.00 A
Stall Torque	: 1265.00 mNm
Stall Current	: 151.00 A
Maximum Output Power	: 693.00 W
Maximum Efficiency	: 75%
Torque at Maximum Efficiency	: 180.00 mNm
Speed at Maximum Efficiency	: 18000 rpm
Life (Typical)	: 100 hr
Weight	: 330 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Leadwires



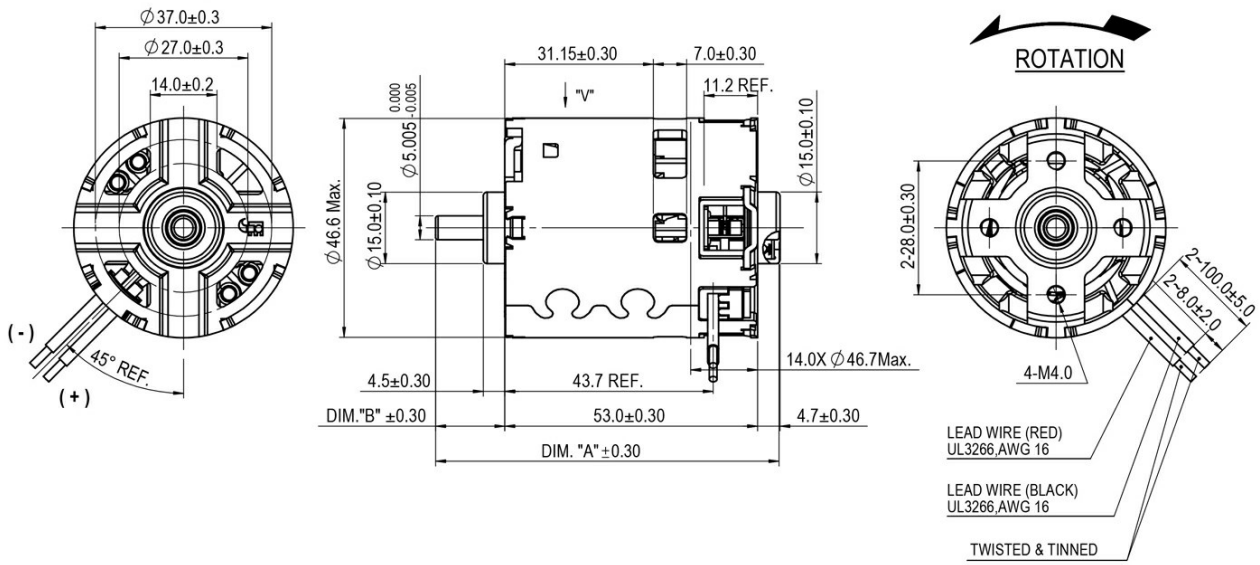
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	4.00	151.00	25.00	77.60
Efficiency (%)	-	-	75	50
Output Power (W)	-	-	338.00	693.00
Speed (rpm)	21000	-	18000	10500
Torque (mNm)	-	1265.00	180.00	633.00

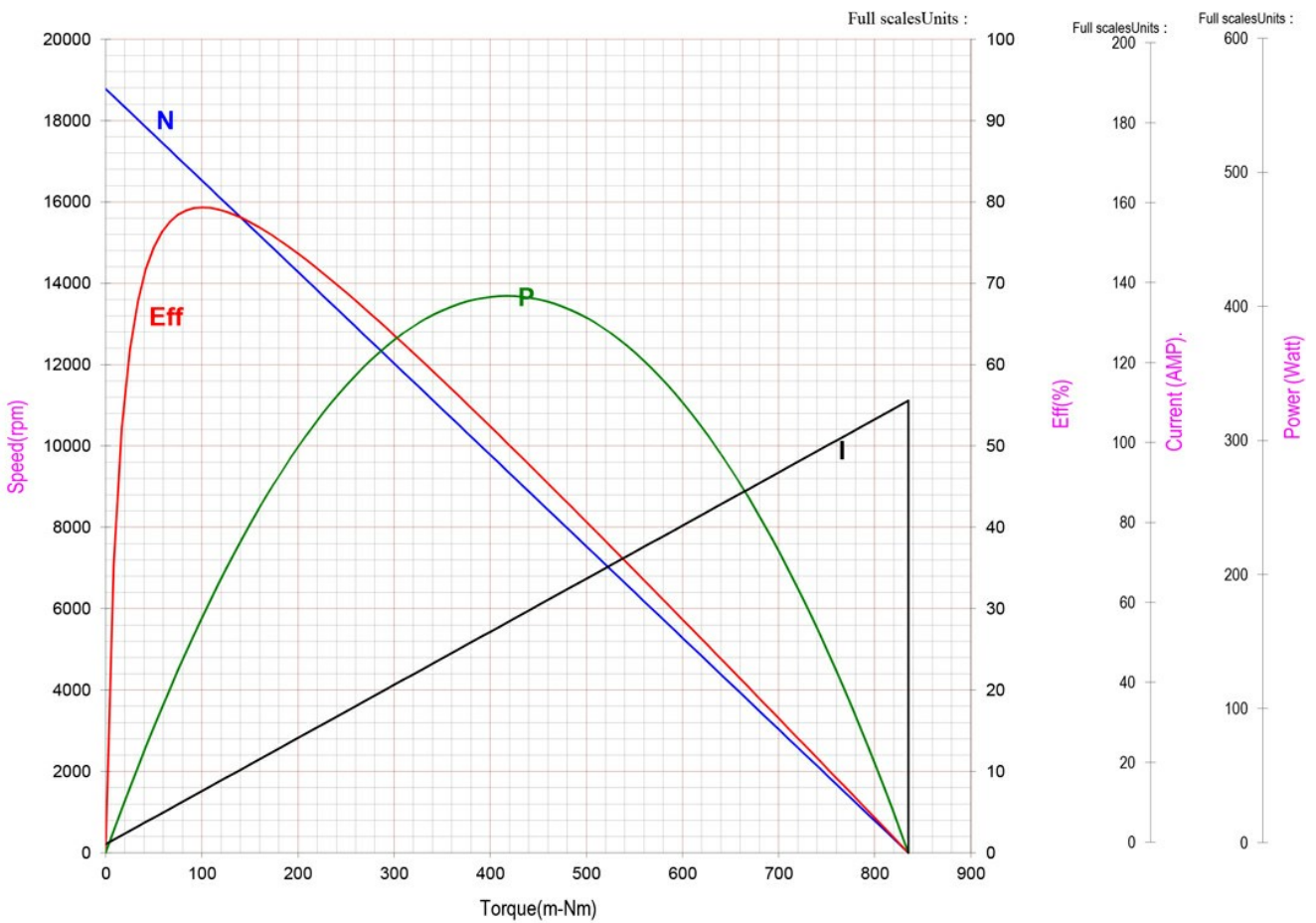
Application Examples:

Power Tools

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power PMDC motor

Specifications:

Dimensions	: Ø 35.8 X 50.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 9.6 V DC
No Load Speed	: 21400 rpm
No Load Current	: 1.50 A
Stall Torque	: 101.20 mNm
Stall Current	: 25.00 A
Maximum Output Power	: 56.60 W
Maximum Efficiency	: 61%
Torque at Maximum Efficiency	: 20.10 mNm
Speed at Maximum Efficiency	: 17100 rpm
Weight	: 150 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



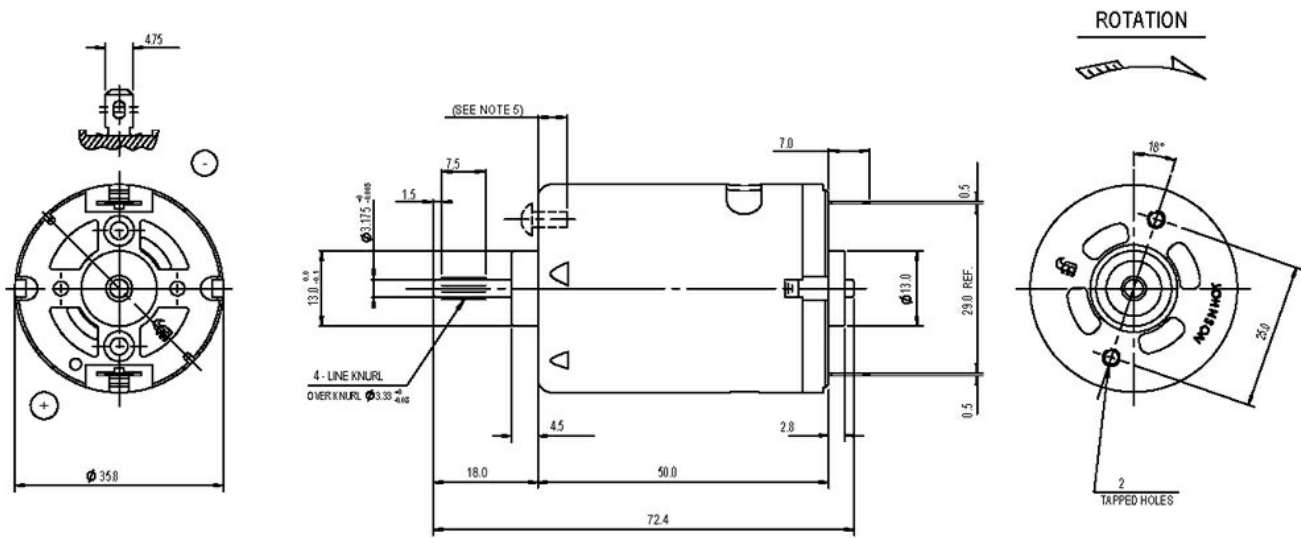
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	1.50	25.00	6.20	13.20
Efficiency (%)	-	-	61	-
Output Power (W)	-	-	36.10	56.60
Speed (rpm)	21400	-	17100	-
Torque (mNm)	-	101.20	20.10	50.60

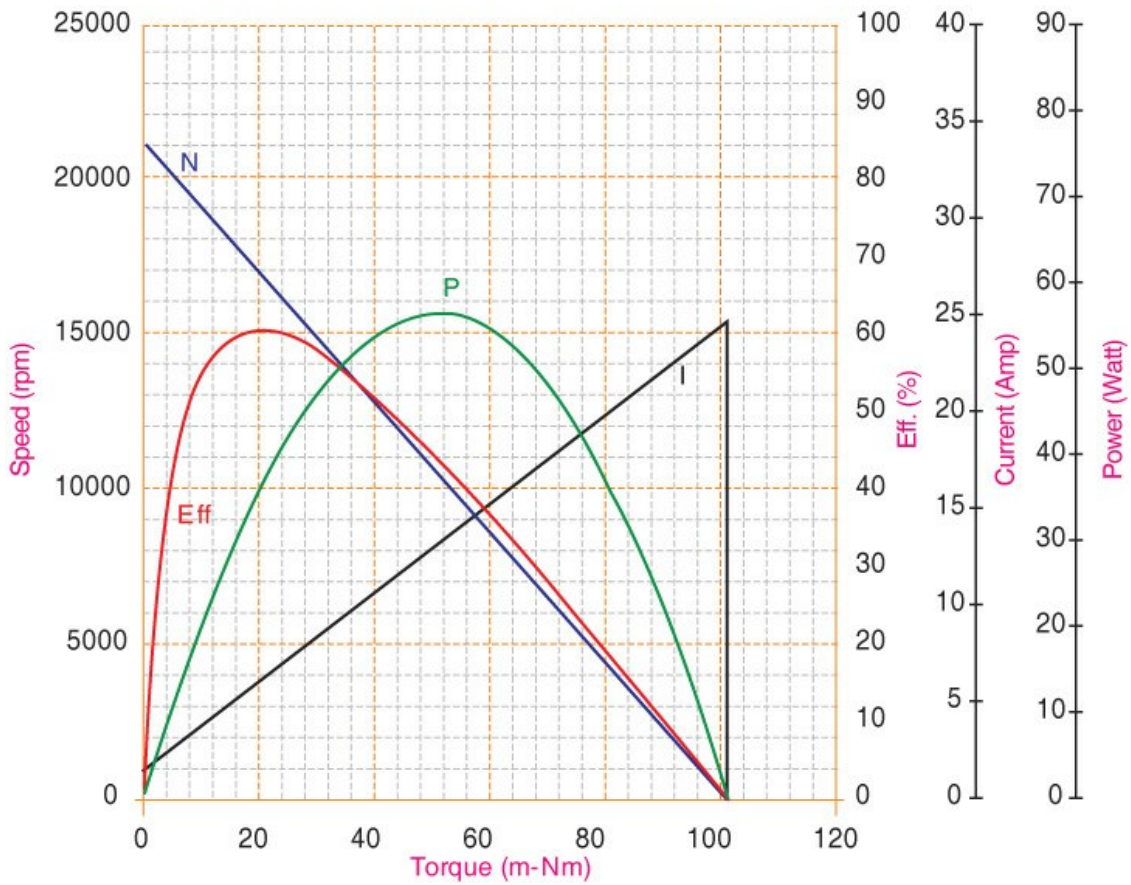
Application Examples:

Hand-held Vacuum Cleaners, Brush Roll and Power Brushes

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power PMDC motor

Specifications:

Dimensions	: Ø 35.8 X 50.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 7.2 V DC
No Load Speed	: 27500 rpm
No Load Current	: 3.40 A
Stall Torque	: 198.00 mNm
Stall Current	: 88.00 A
Maximum Output Power	: 143.00 W
Maximum Efficiency	: 63%
Torque at Maximum Efficiency	: 32.60 mNm
Speed at Maximum Efficiency	: 23000 rpm
Weight	: 160 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



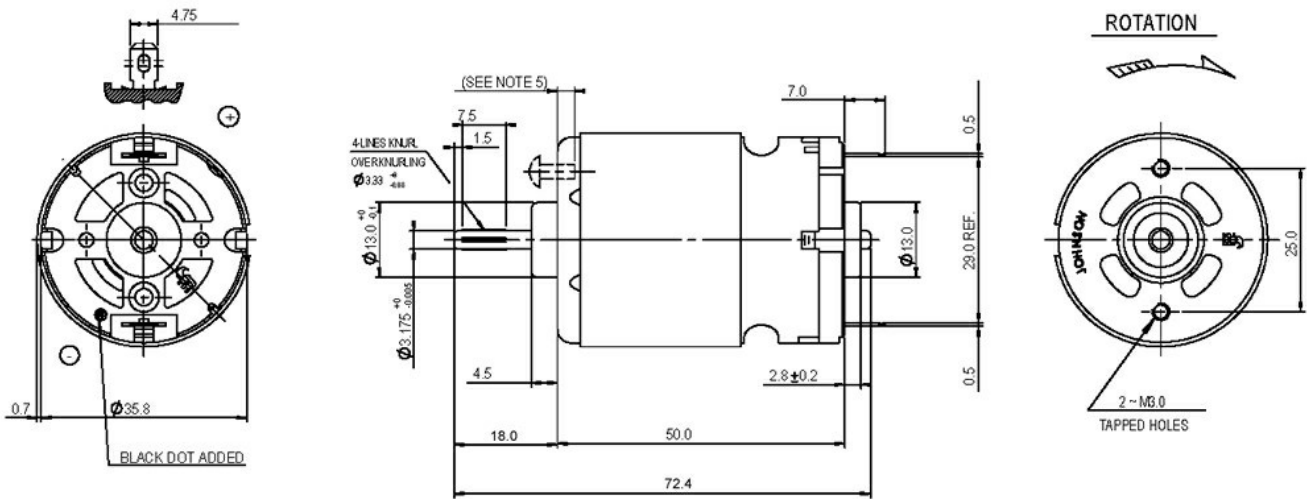
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	3.40	88.00	17.25	45.60
Efficiency (%)	-	-	63	-
Output Power (W)	-	-	78.50	143.00
Speed (rpm)	27500	-	23000	13700
Torque (mNm)	-	198.00	32.60	99.00

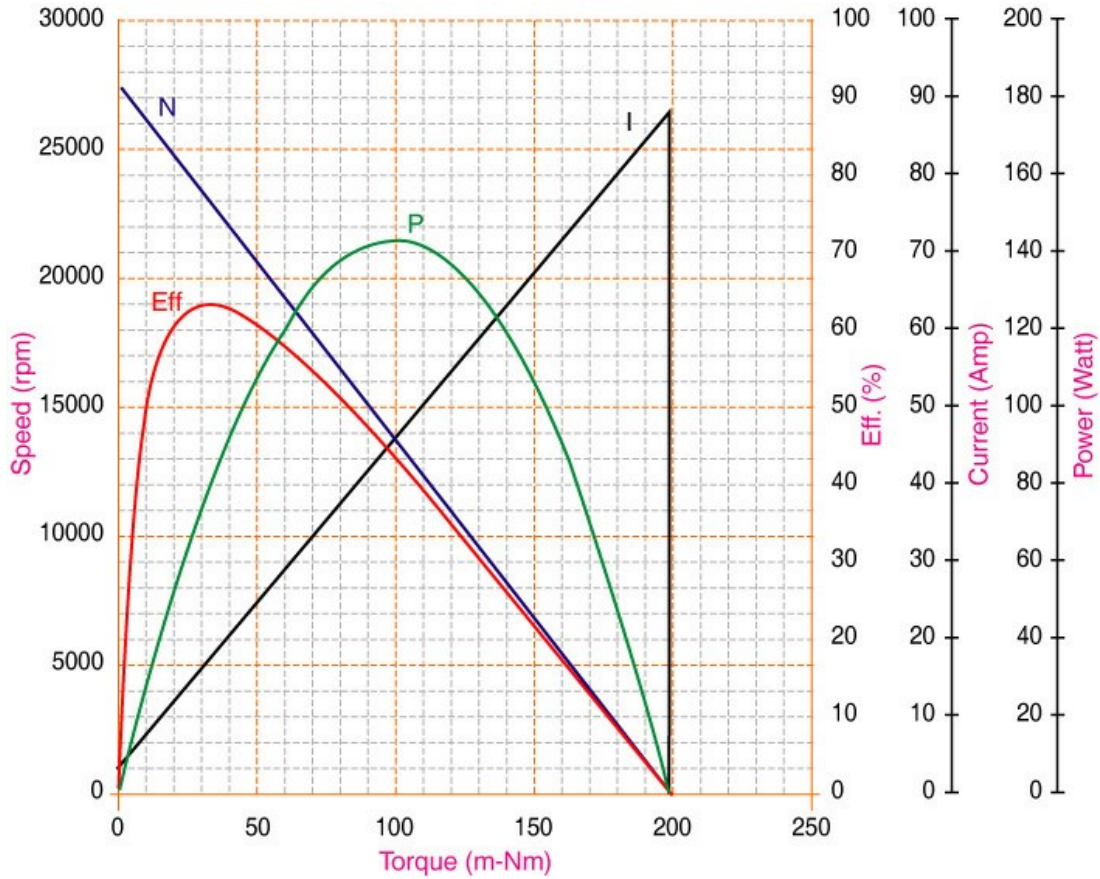
Application Examples:

Hand-held Vacuum Cleaners, Brush Roll and Power Brushes

Outline Drawing:



Performance Curves:



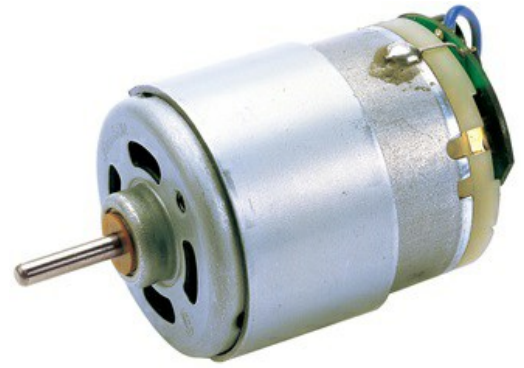
Units in Metric

Characteristics:

High Power DC motor

Specifications:

Dimensions	: Ø 35.8 X 43.5 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 60.0 V DC
No Load Speed	: 8600 rpm
No Load Current	: 0.10 A
Nominal Speed	: 7200 rpm
Nominal Torque	: 30.00 mNm
Nominal Current	: 0.50 A
Maximum Output Power	: 40.00 W
Maximum Efficiency	: 70%
Torque at Maximum Efficiency	: 25.00 mNm
Speed at Maximum Efficiency	: 7400 rpm
Life (Typical)	: 1000 hr
Weight	: 150 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: terminals



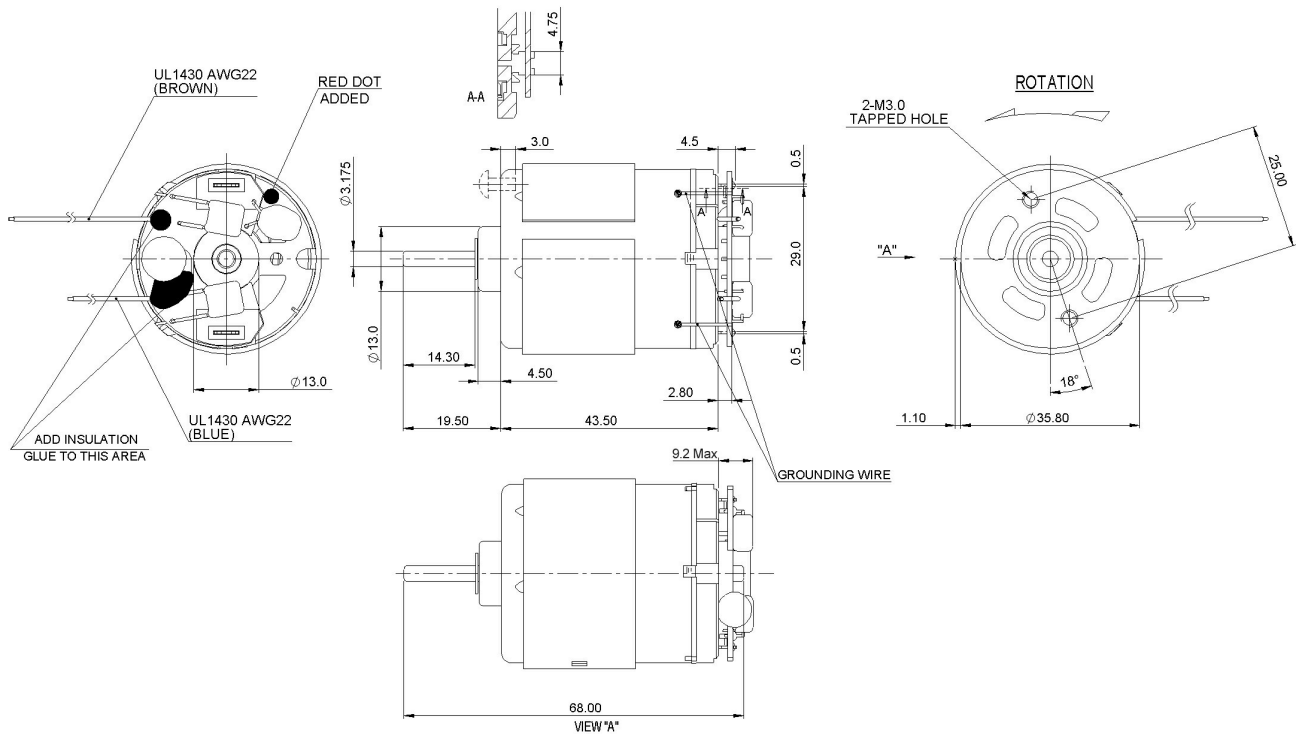
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.10	-	0.50	1.30
Efficiency (%)	-	-	70	45
Output Power (W)	-	-	20.00	40.00
Speed (rpm)	8600	-	7400	4300
Torque (mNm)	-	40.00	25.00	80.00

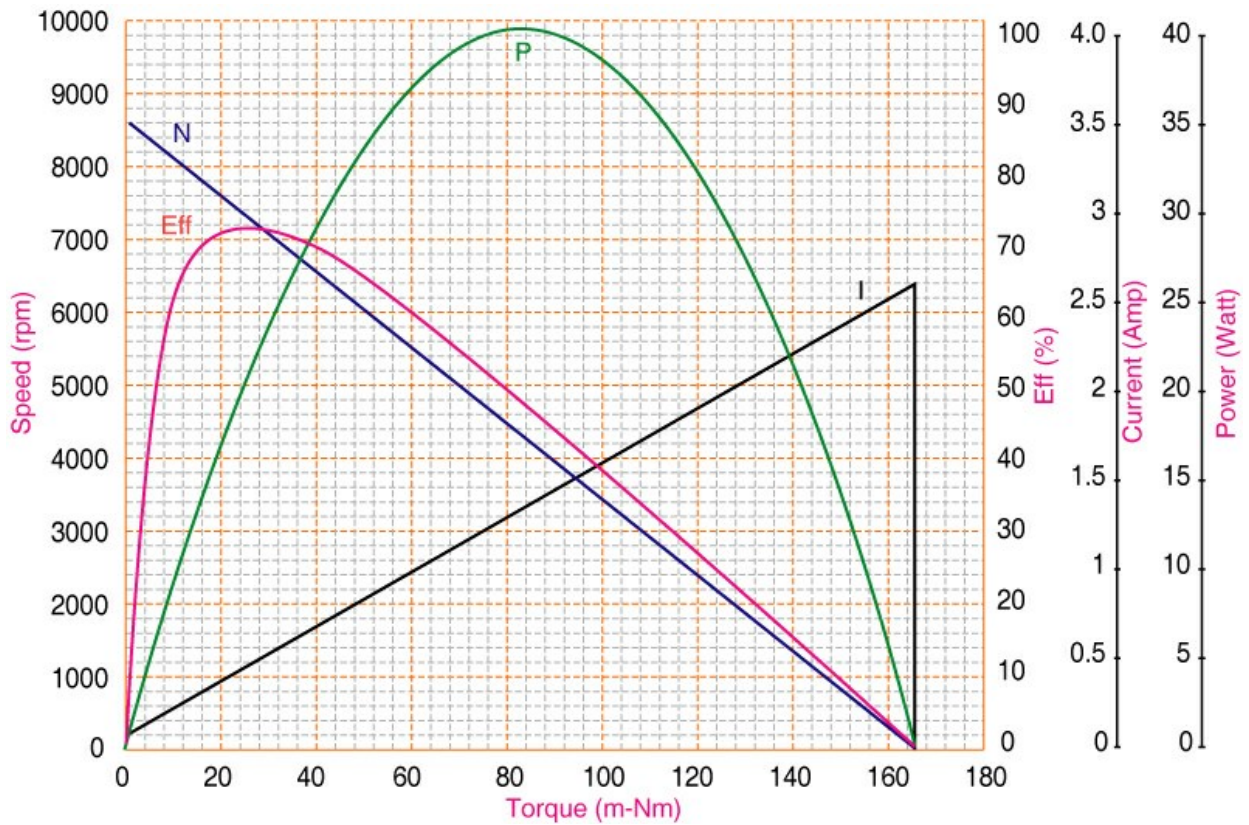
Application Examples:

Hair Dryers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High torque DC motor

Specifications:

Dimensions	: Ø 35.8 X 50.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 12.0 V DC
No Load Speed	: 27300 rpm
No Load Current	: 1.39 A
Nominal Speed	: 24500 rpm
Nominal Torque	: 42.00 mNm
Nominal Current	: 12.60 A
Stall Torque	: 420.00 mNm
Stall Current	: 115.00 A
Maximum Output Power	: 300.00 W
Maximum Efficiency	: 70%
Torque at Maximum Efficiency	: 42.00 mNm
Speed at Maximum Efficiency	: 24500 rpm
Life (Typical)	: 50 hr
Weight	: 160 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



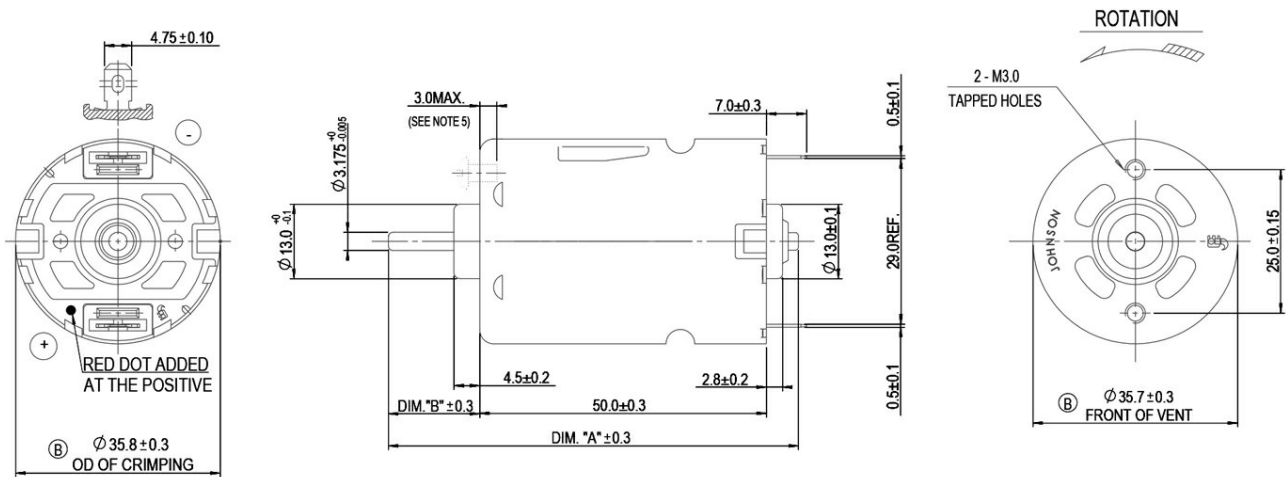
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	1.39	115.00	12.60	58.20
Efficiency (%)	-	-	70	43
Output Power (W)	-	-	107.00	300.00
Speed (rpm)	27300	-	24500	13600
Torque (mNm)	-	420.00	42.00	210.00

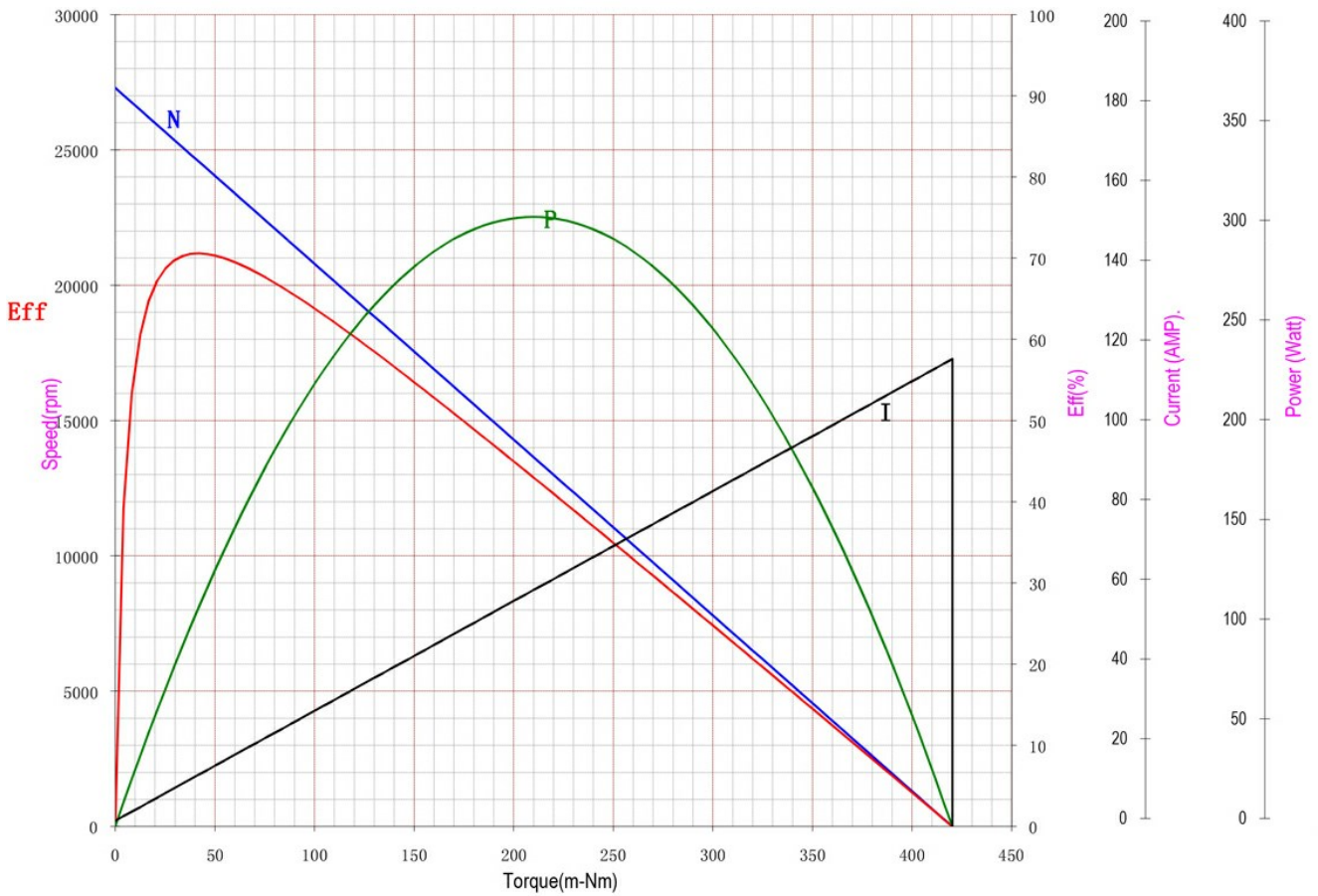
Application Examples:

Power Tools

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 35.8 X 57.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 10.8 V DC
No Load Speed	: 22739 rpm
Stall Torque	: 473.06 mNm
Maximum Output Power	: 274.98 W
Maximum Efficiency	: 72%
Weight	: 235 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



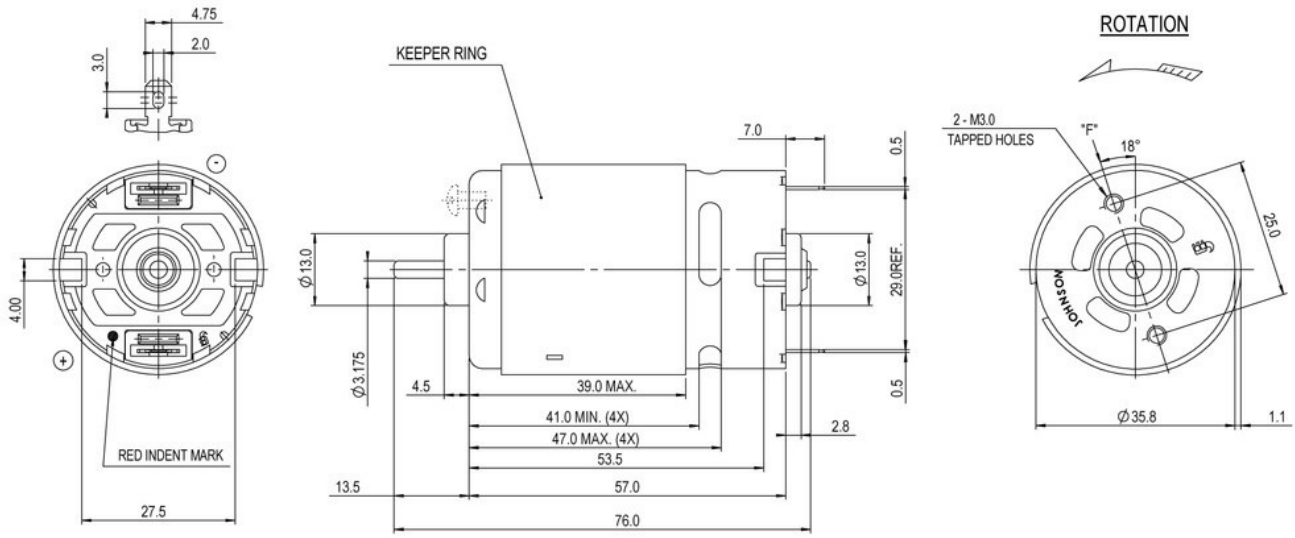
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	2.38	104.99	16.55	53.81
Efficiency (%)	-	-	72	47
Output Power (W)	-	-	129.24	274.98
Speed (rpm)	22739	-	19184	11102
Torque (mNm)	-	473.06	64.34	236.53

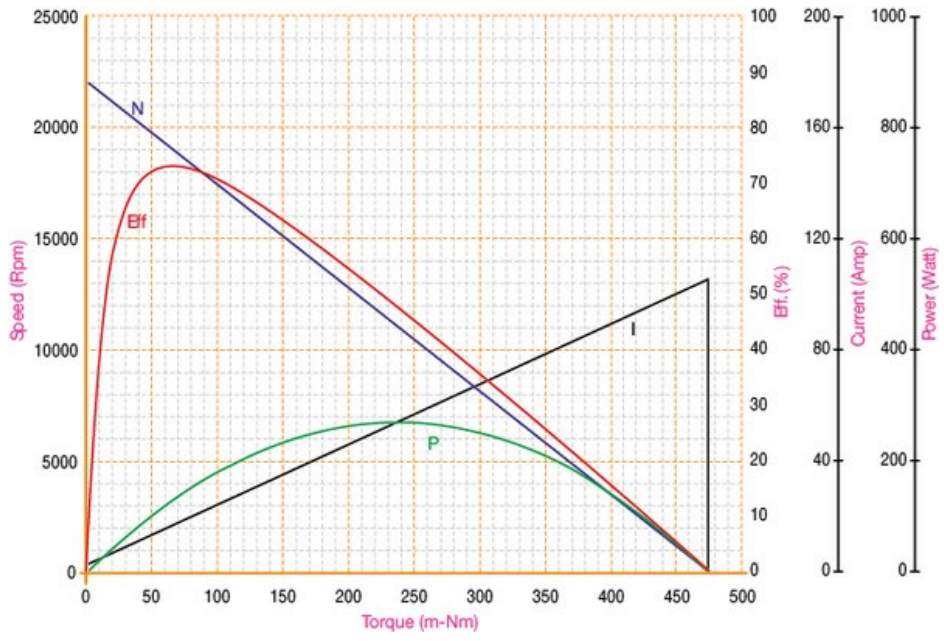
Application Examples:

Drills and Hammer Drills, Screw Drivers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 35.8 X 57.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 14.4 V DC
No Load Speed	: 23475 rpm
Stall Torque	: 678.73 mNm
Maximum Output Power	: 417.31 W
Maximum Efficiency	: 77%
Weight	: 235 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



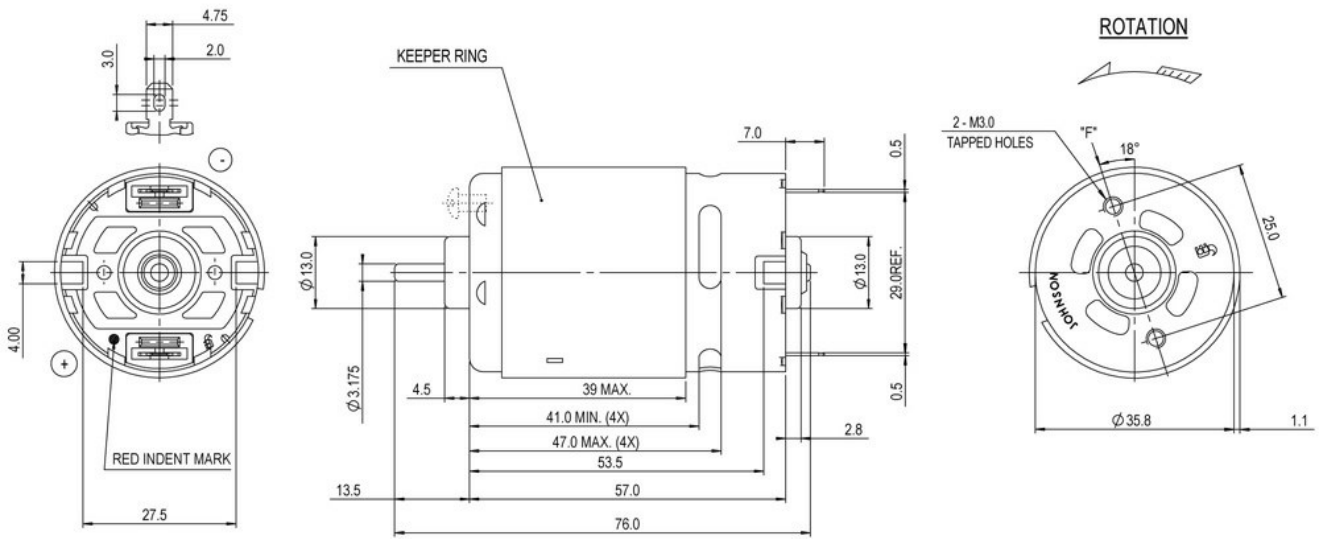
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	2.01	117.59	15.63	59.84
Efficiency (%)	-	-	77	48
Output Power (W)	-	-	172.84	417.31
Speed (rpm)	23475	-	20722	11738
Torque (mNm)	-	678.73	79.62	339.37

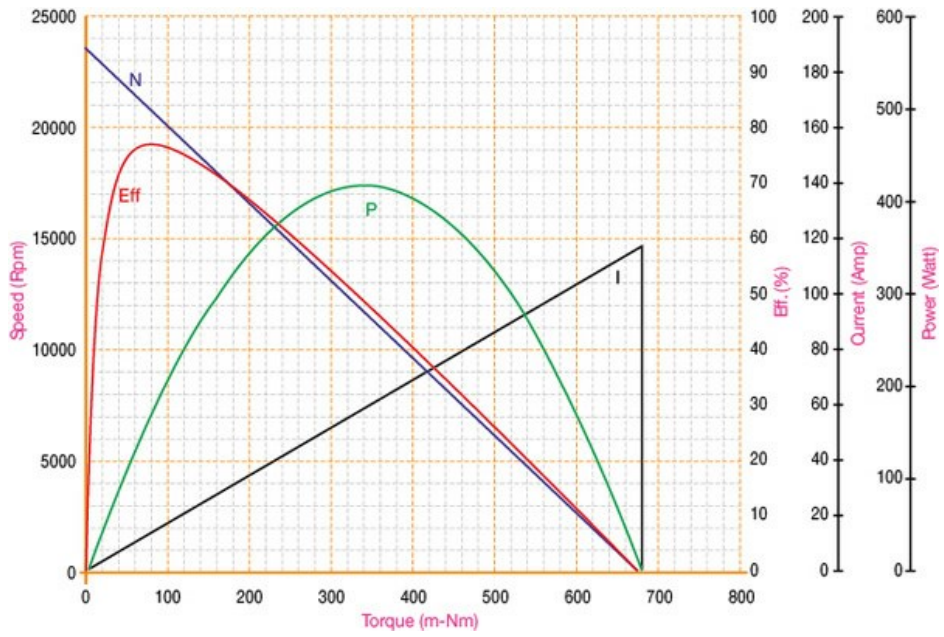
Application Examples:

Drills and Hammer Drills, Screw Drivers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 35.8 X 57.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 10.8 V DC
No Load Speed	: 15951 rpm
Stall Torque	: 525.93 mNm
Maximum Output Power	: 219.71 W
Maximum Efficiency	: 76%
Weight	: 235 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



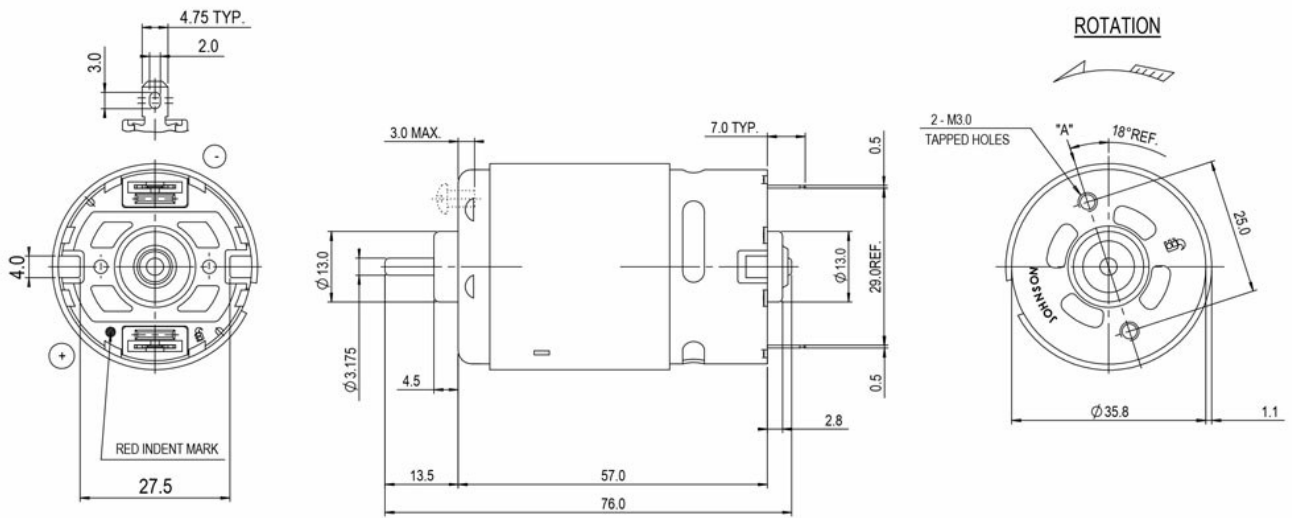
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	1.34	84.70	10.64	43.02
Efficiency (%)	-	-	76	47
Output Power (W)	-	-	87.14	219.71
Speed (rpm)	15951	-	14171	7976
Torque (mNm)	-	525.93	58.69	262.96

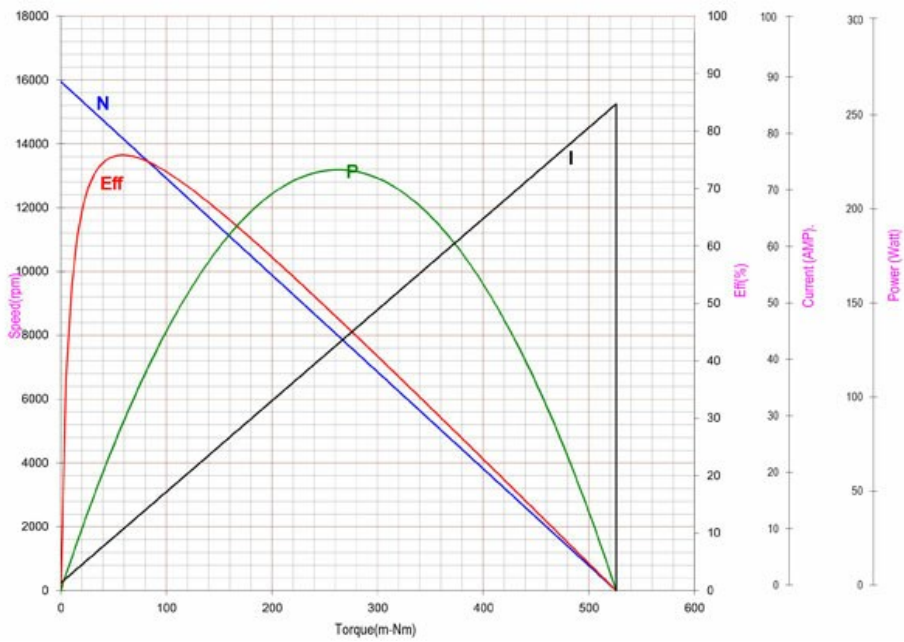
Application Examples:

Reciprocating Saws

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High torque DC motor

Specifications:

Dimensions	: Ø 35.8 X 57.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 6.0 V DC
No Load Speed	: 10700 rpm
No Load Current	: 1.20 A
Nominal Speed	: 9400 rpm
Nominal Torque	: 37.00 mNm
Nominal Current	: 8.70 A
Stall Torque	: 296.00 mNm
Stall Current	: 61.00 A
Maximum Output Power	: 83.00 W
Maximum Efficiency	: 69%
Torque at Maximum Efficiency	: 37.00 mNm
Speed at Maximum Efficiency	: 9400 rpm
Life (Typical)	: 100 hr
Weight	: 240 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



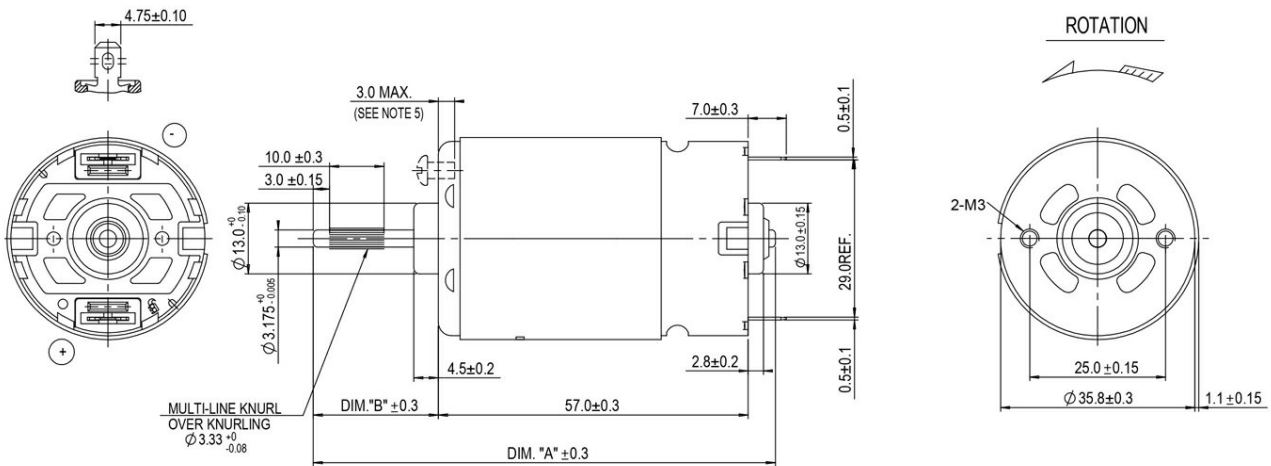
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	1.20	61.00	8.70	31.00
Efficiency (%)	-	-	69	44
Output Power (W)	-	-	36.00	83.00
Speed (rpm)	10700	-	9400	5400
Torque (mNm)	-	296.00	37.00	148.00

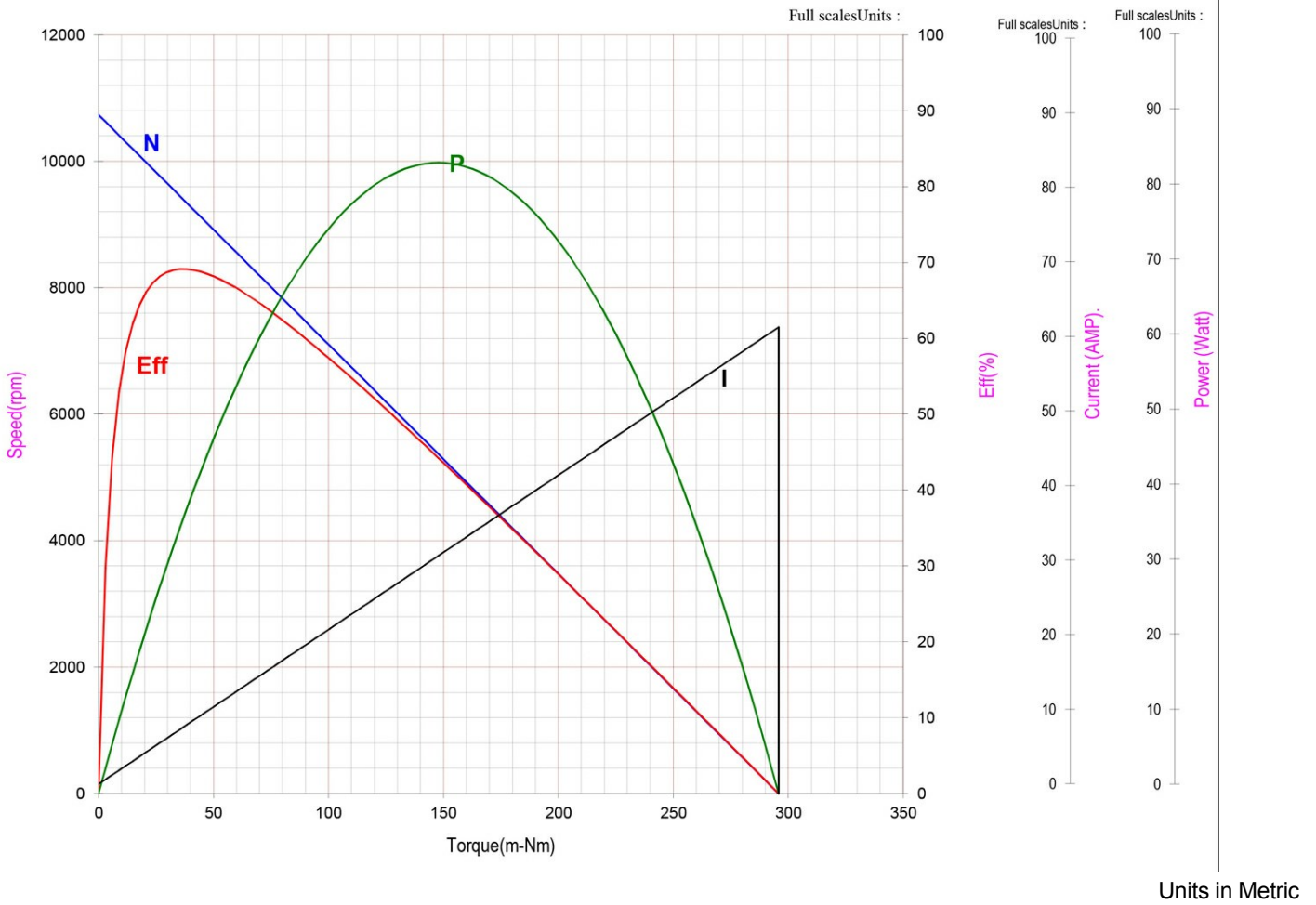
Application Examples:

ATV

Outline Drawing:



Performance Curves:



Characteristics:

High torque DC motor

Specifications:

Dimensions	: Ø 35.8 X 57.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 12.0 V DC
No Load Speed	: 15200 rpm
No Load Current	: 0.96 A
Nominal Speed	: 13700 rpm
Nominal Torque	: 49.00 mNm
Nominal Current	: 8.40 A
Stall Torque	: 480.00 mNm
Stall Current	: 74.00 A
Maximum Output Power	: 192.00 W
Maximum Efficiency	: 69%
Torque at Maximum Efficiency	: 49.00 mNm
Speed at Maximum Efficiency	: 13700 rpm
Life (Typical)	: 80 hr
Weight	: 230 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



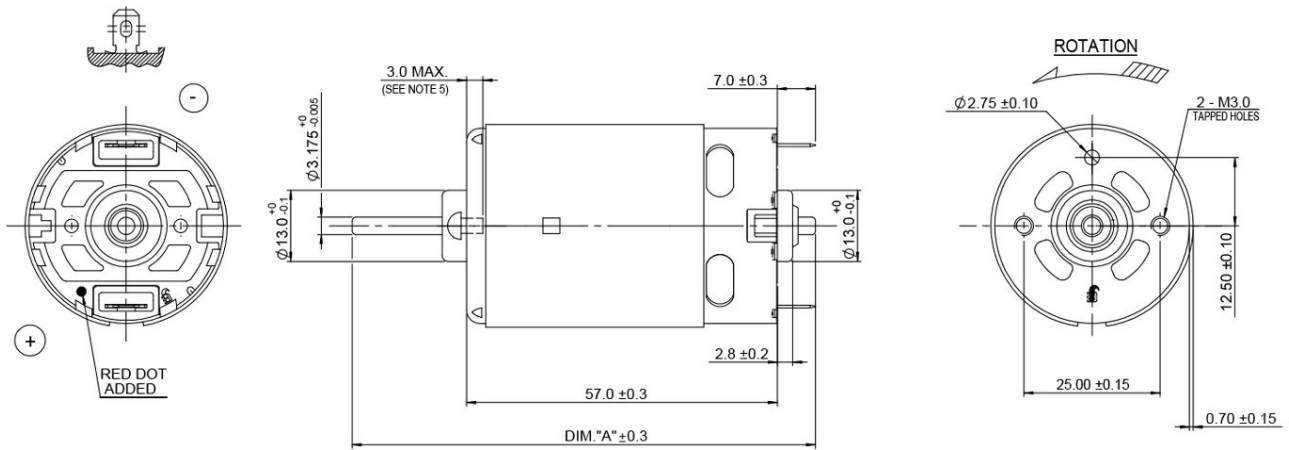
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.96	74.00	8.40	37.70
Efficiency (%)	-	-	69	50
Output Power (W)	-	-	70.00	192.00
Speed (rpm)	15200	-	13700	7600
Torque (mNm)	-	480.00	49.00	240.00

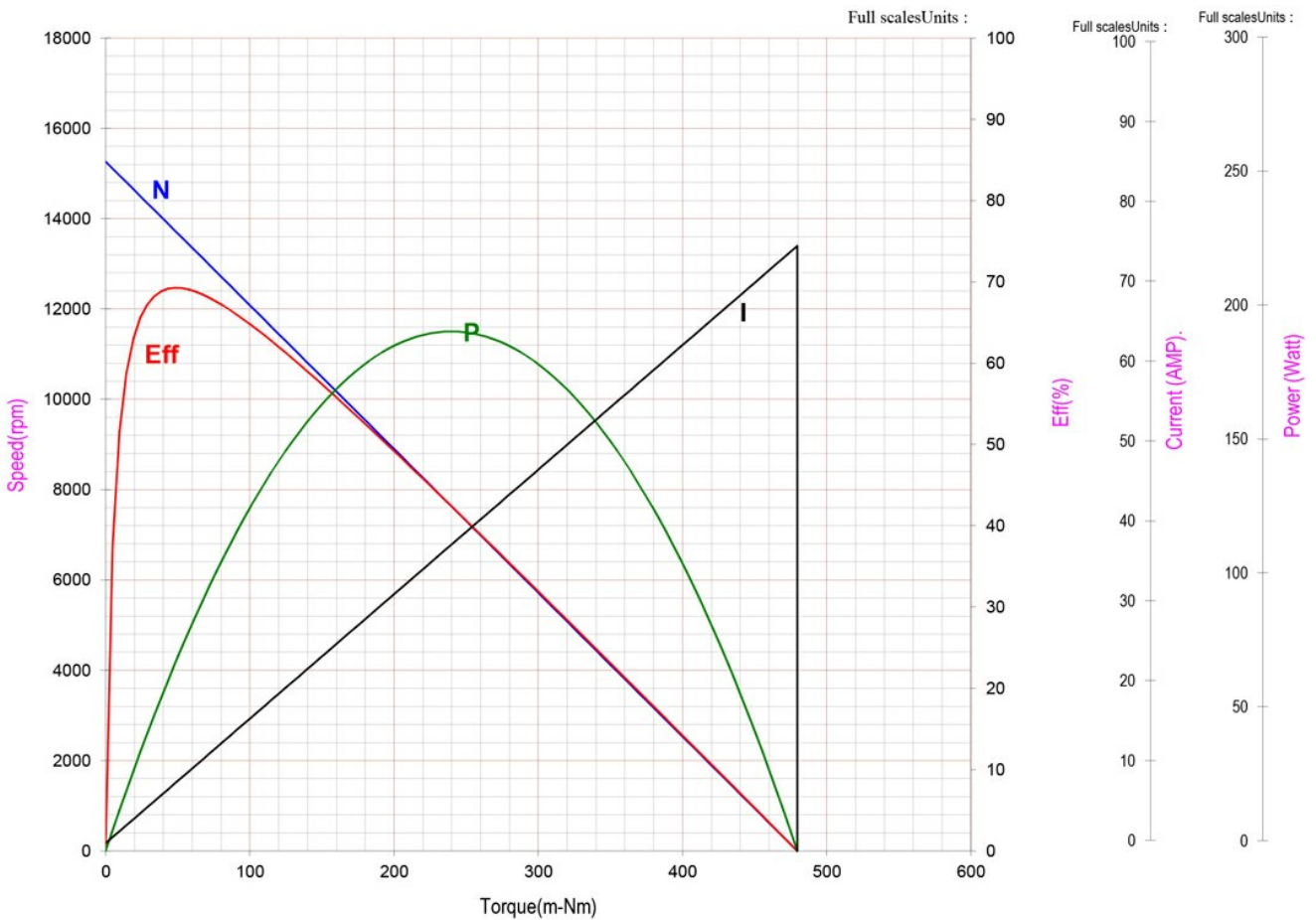
Application Examples:

ATV

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 35.8 X 57.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 12.0 V DC
No Load Speed	: 21614 rpm
Stall Torque	: 597.24 mNm
Maximum Output Power	: 338.09 W
Maximum Efficiency	: 78%
Weight	: 245 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



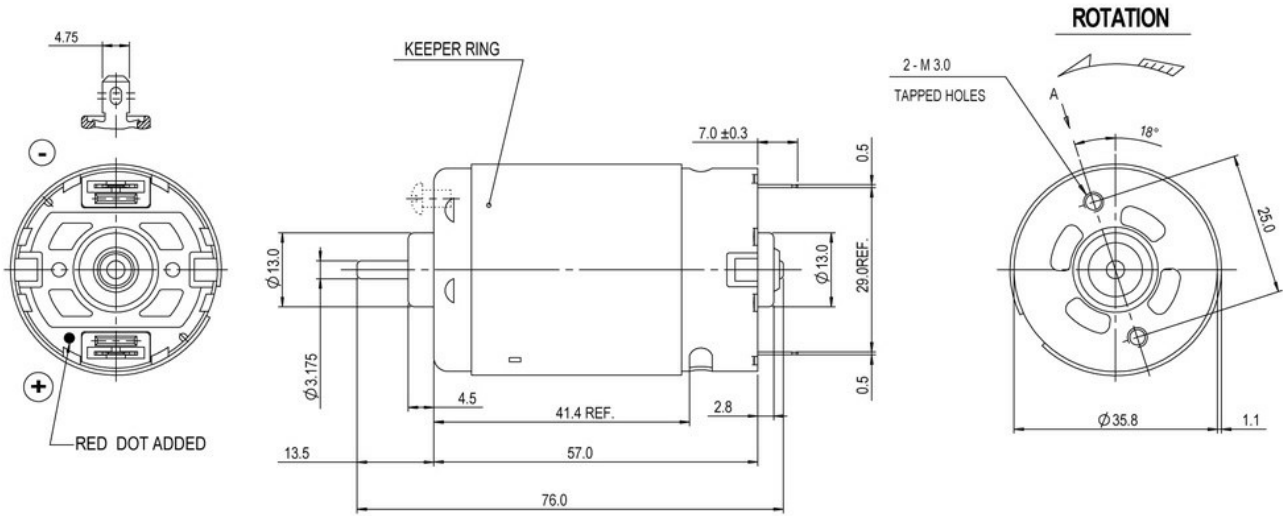
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	1.52	116.14	13.29	58.83
Efficiency (%)	-	-	78	48
Output Power (W)	-	-	124.58	338.09
Speed (rpm)	21614	-	19395	10807
Torque (mNm)	-	597.24	61.31	298.62

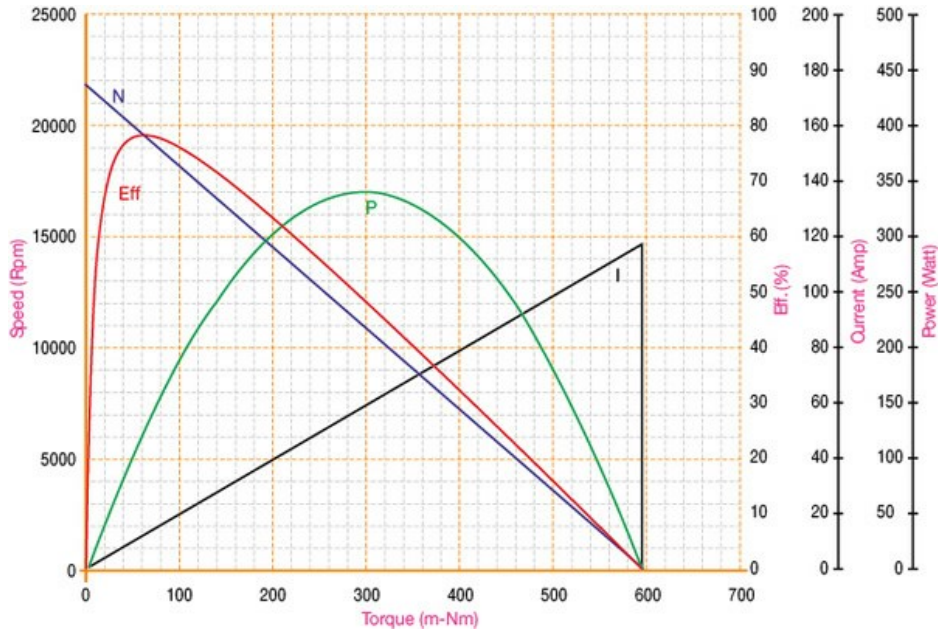
Application Examples:

Drills and Hammer Drills, Screw Drivers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 35.8 X 57.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 14.4 V DC
No Load Speed	: 22305 rpm
Stall Torque	: 623.60 mNm
Maximum Output Power	: 364.30 W
Maximum Efficiency	: 78%
Weight	: 243 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



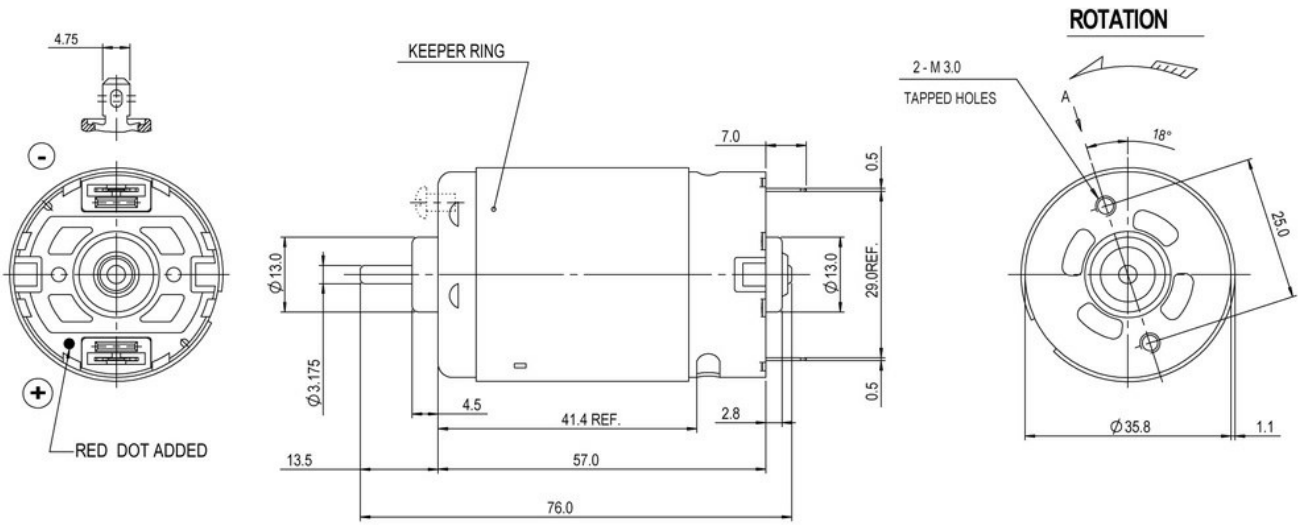
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	1.46	103.22	12.28	52.34
Efficiency (%)	-	-	78	46
Output Power (W)	-	-	138.43	364.30
Speed (rpm)	22305	-	19934	11153
Torque (mNm)	-	623.60	66.28	311.80

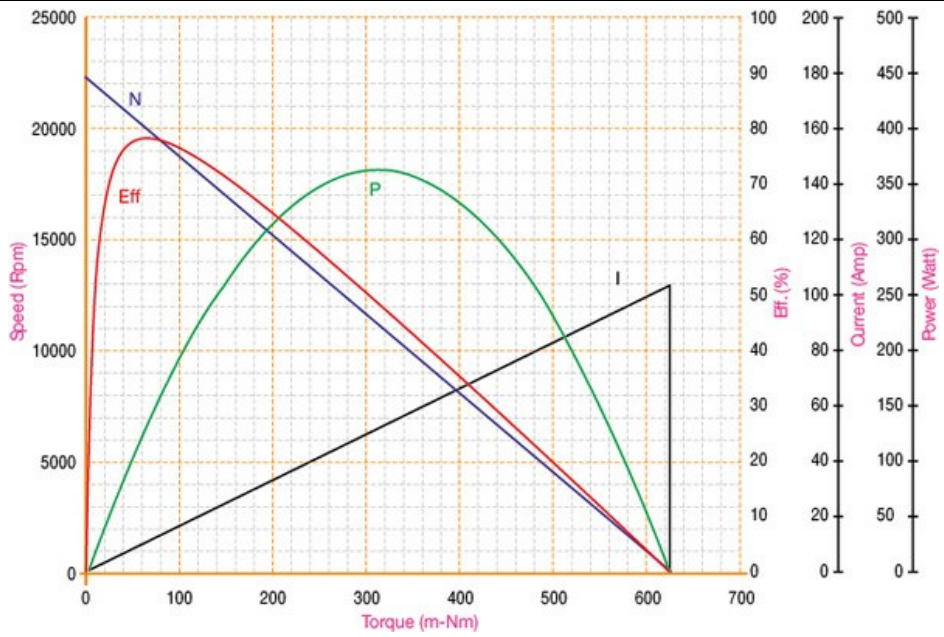
Application Examples:

Drills and Hammer Drills, Screw Drivers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 35.8 X 65.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 16.8 V DC
No Load Speed	: 14742 rpm
Stall Torque	: 521.18 mNm
Maximum Output Power	: 201.23 W
Maximum Efficiency	: 74%
Weight	: 240 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



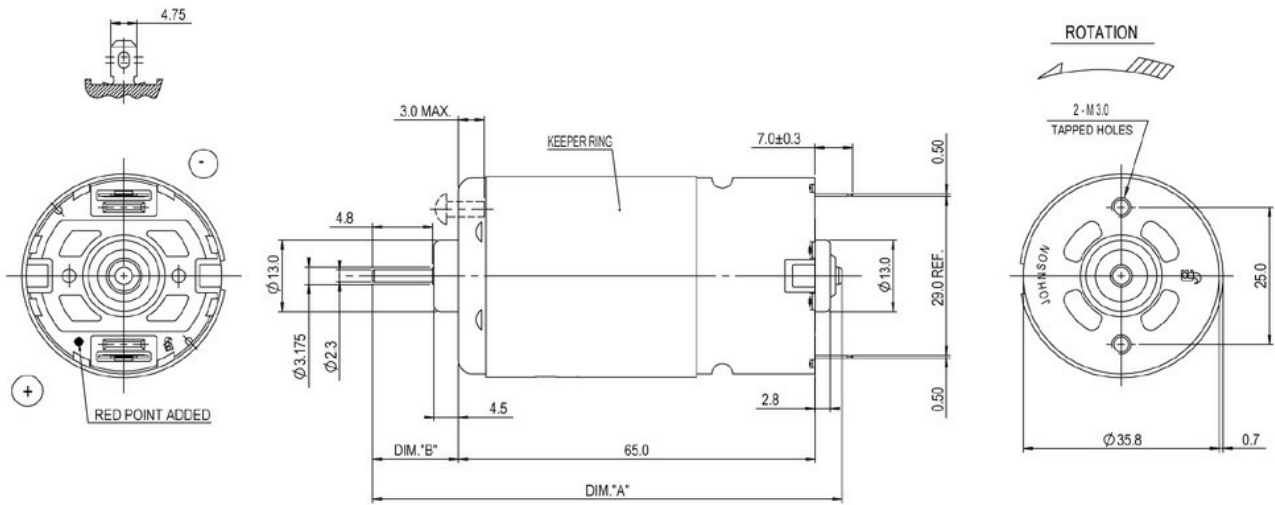
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.79	50.92	6.34	25.85
Efficiency (%)	-	-	74	46
Output Power (W)	-	-	79.28	201.23
Speed (rpm)	14742	-	13109	7371
Torque (mNm)	-	521.18	57.73	260.59

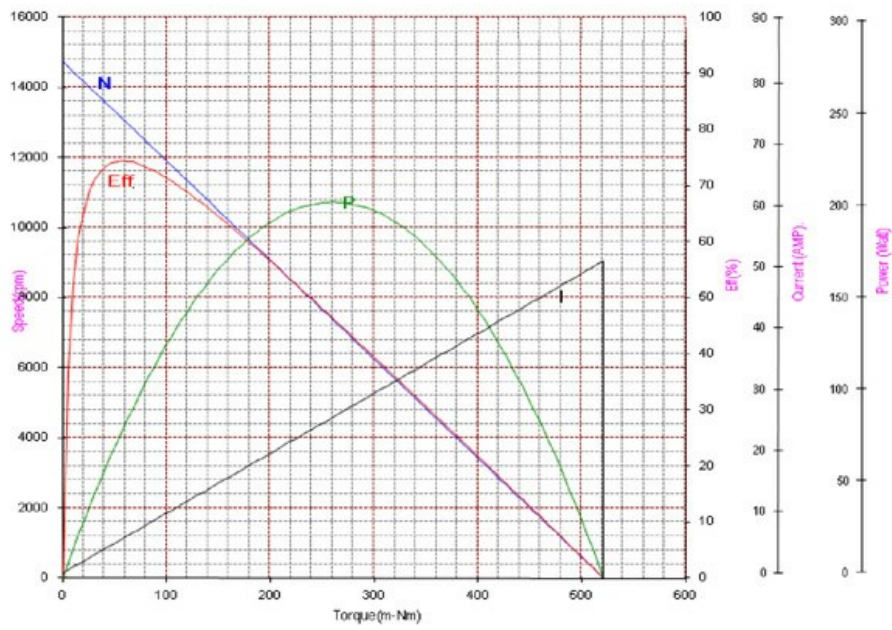
Application Examples:

String Trimmers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Reliability, High Torque, Low Cogging

Specifications:

Dimensions	: Ø 35.8 X 50.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 24.0 V DC
No Load Speed	: 4465 rpm
Stall Torque	: 214.65 mNm
Maximum Output Power	: 25.08 W
Maximum Efficiency	: 77%
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



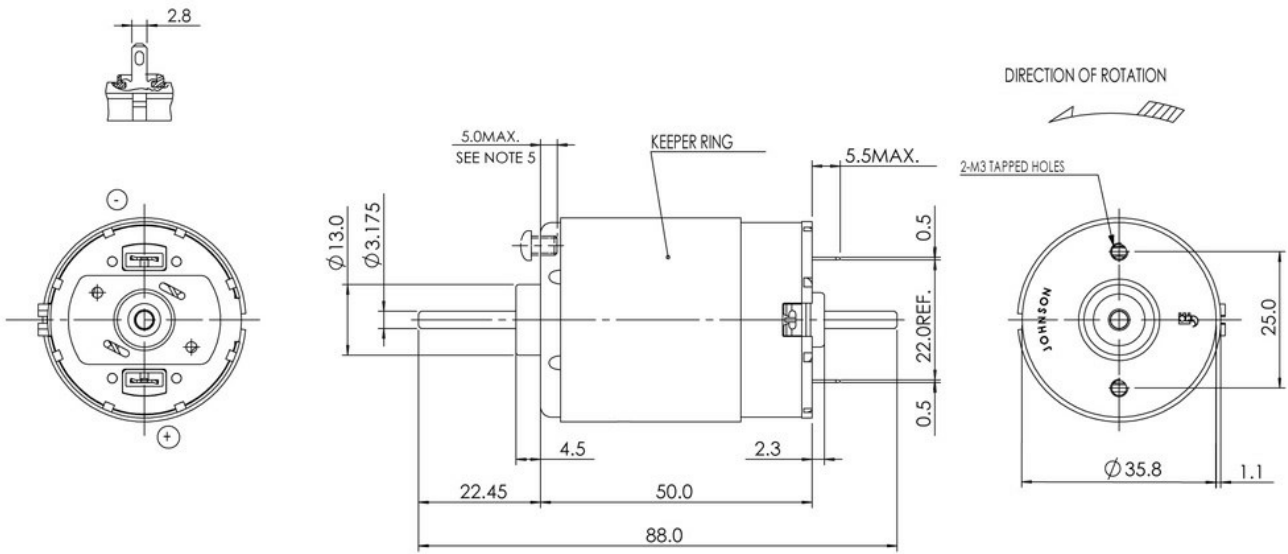
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.07	4.23	0.55	2.15
Efficiency (%)	-	-	77	49
Output Power (W)	-	-	10.21	25.08
Speed (rpm)	4465	-	3951	2231
Torque (mNm)	-	214.65	24.66	107.32

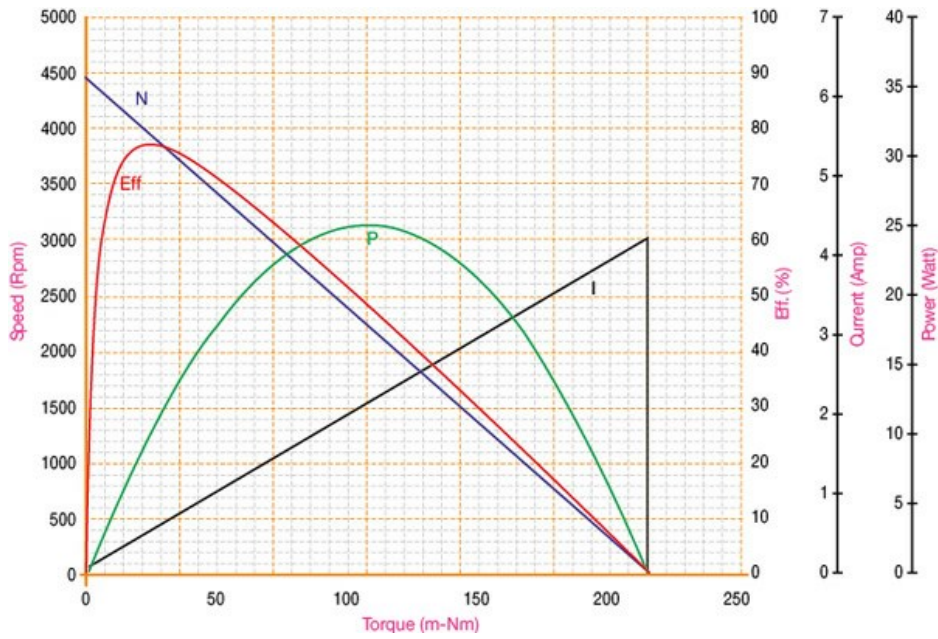
Application Examples:

Paper Lifts and Feeds

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Reliability, High Torque, Low Cogging

Specifications:

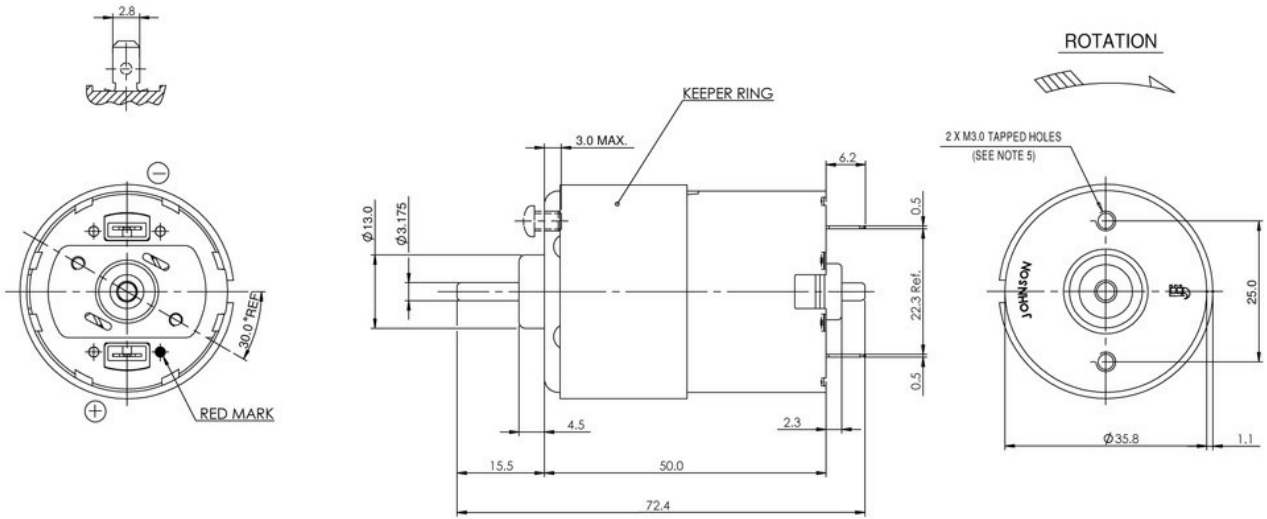
Dimensions	: Ø 35.8 X 50.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 3350 rpm
Stall Torque	: 140.41 mNm
Maximum Output Power	: 12.33 W
Maximum Efficiency	: 67%
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



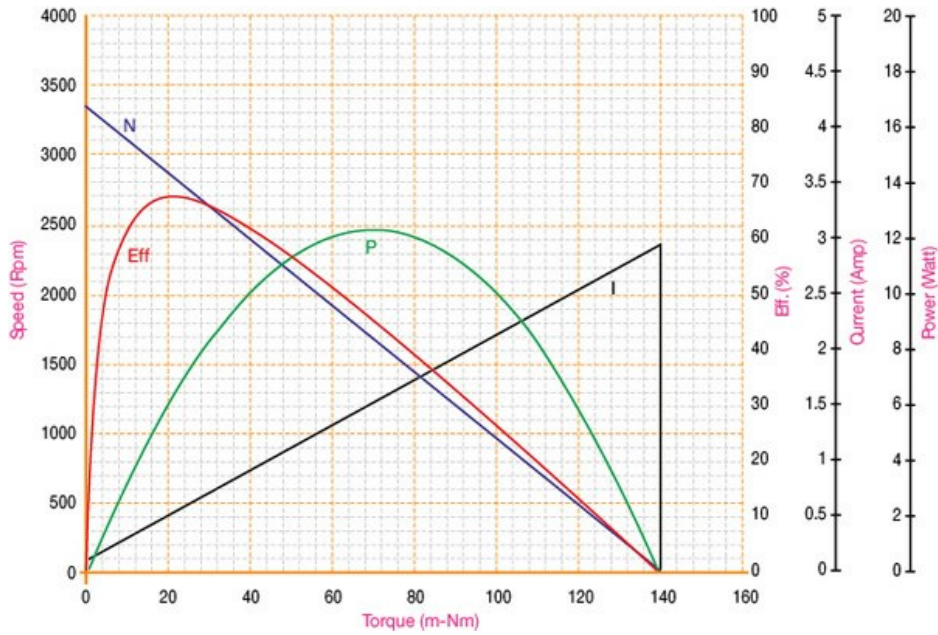
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.09	2.93	0.52	1.51
Efficiency (%)	-	-	67	45
Output Power (W)	-	-	6.32	12.33
Speed (rpm)	3350	-	2847	1676
Torque (mNm)	-	140.41	21.20	70.20

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High torque DC motor

Specifications:

Dimensions	: Ø 35.8 X 50.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 12.0 V DC
No Load Speed	: 28200 rpm
No Load Current	: 2.40 A
Nominal Speed	: 23700 rpm
Nominal Torque	: 45.30 mNm
Nominal Current	: 12.80 A
Stall Torque	: 286.00 mNm
Stall Current	: 68.00 A
Maximum Output Power	: 212.00 W
Maximum Efficiency	: 74%
Torque at Maximum Efficiency	: 45.30 mNm
Speed at Maximum Efficiency	: 23700 rpm
Life (Typical)	: 75 hr
Weight	: 150 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



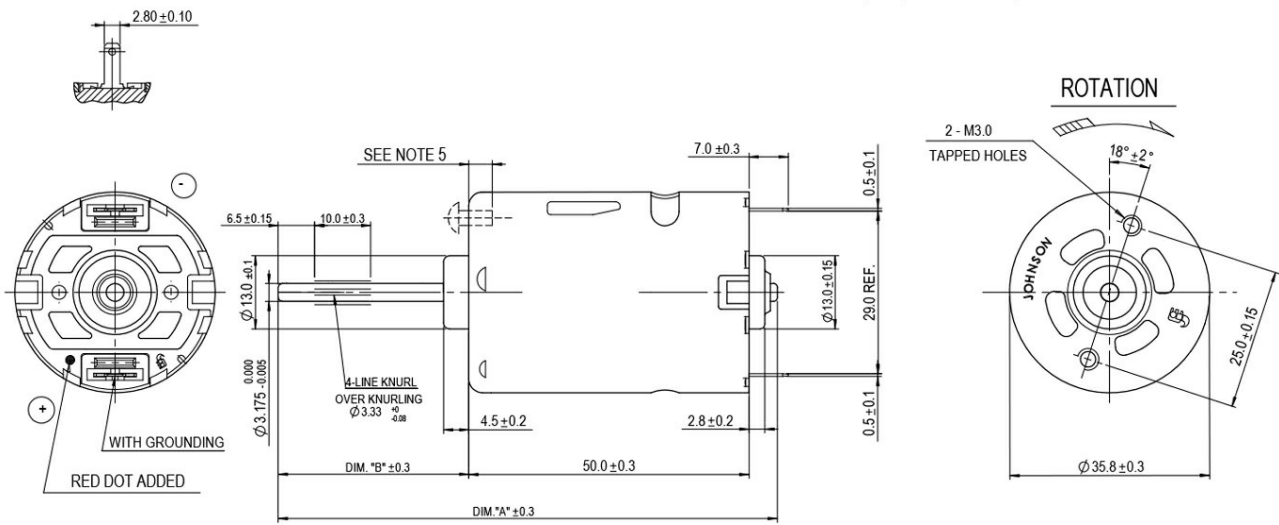
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	2.40	68.00	12.80	35.20
Efficiency (%)	-	-	74	50
Output Power (W)	-	-	112.80	212.00
Speed (rpm)	28200	-	23700	14000
Torque (mNm)	-	286.00	45.30	143.00

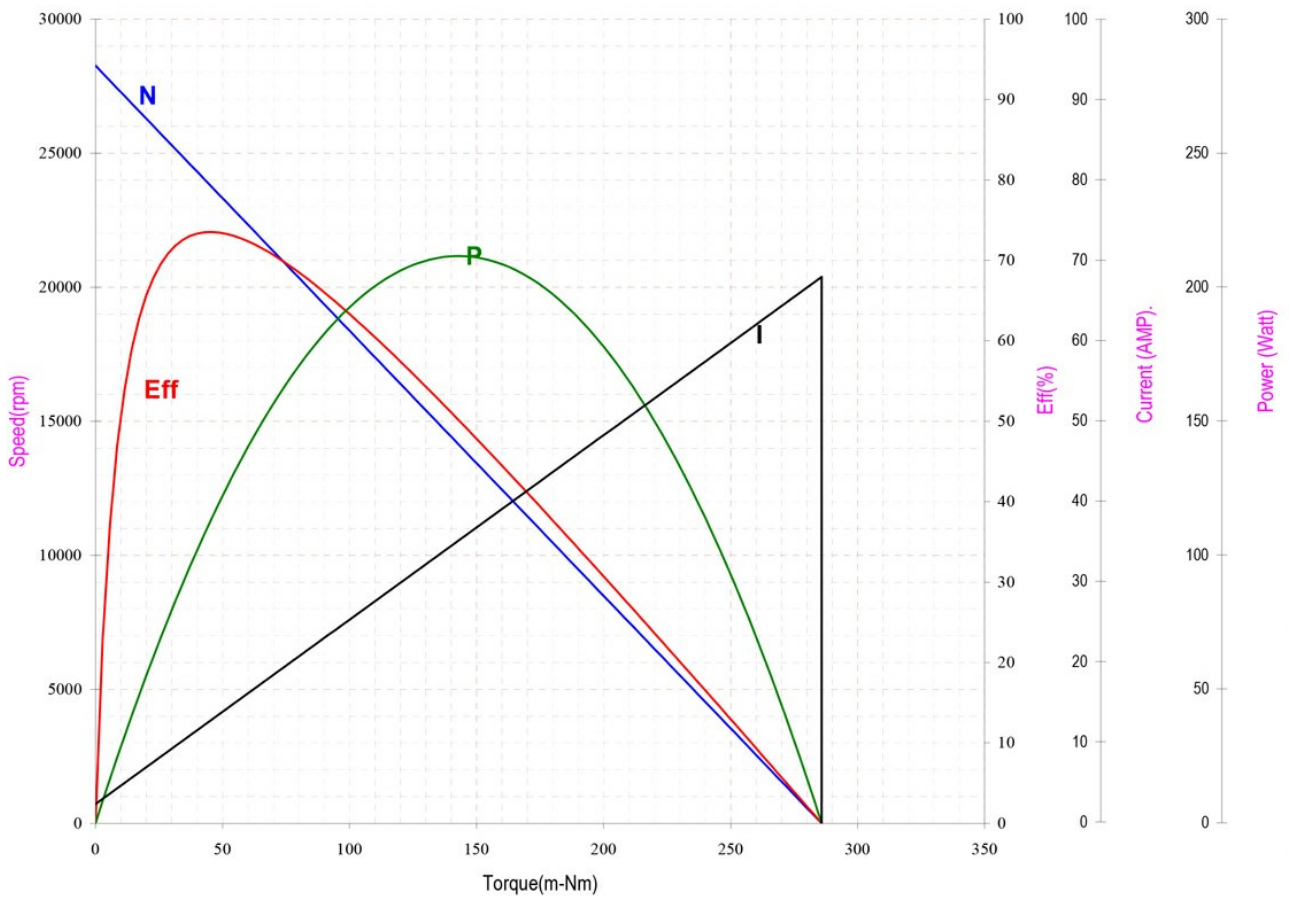
Application Examples:

Hand-held Vacuum Cleaners

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High torque DC motor

Specifications:

Dimensions	: Ø 35.8 X 50.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 26700 rpm
No Load Current	: 1.09 A
Nominal Speed	: 20500 rpm
Nominal Torque	: 67.70 mNm
Nominal Current	: 12.40 A
Stall Torque	: 367.80 mNm
Stall Current	: 55.00 A
Maximum Output Power	: 242.00 W
Maximum Efficiency	: 63%
Torque at Maximum Efficiency	: 67.70 mNm
Speed at Maximum Efficiency	: 20500 rpm
Life (Typical)	: 100 hr
Weight	: 150 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



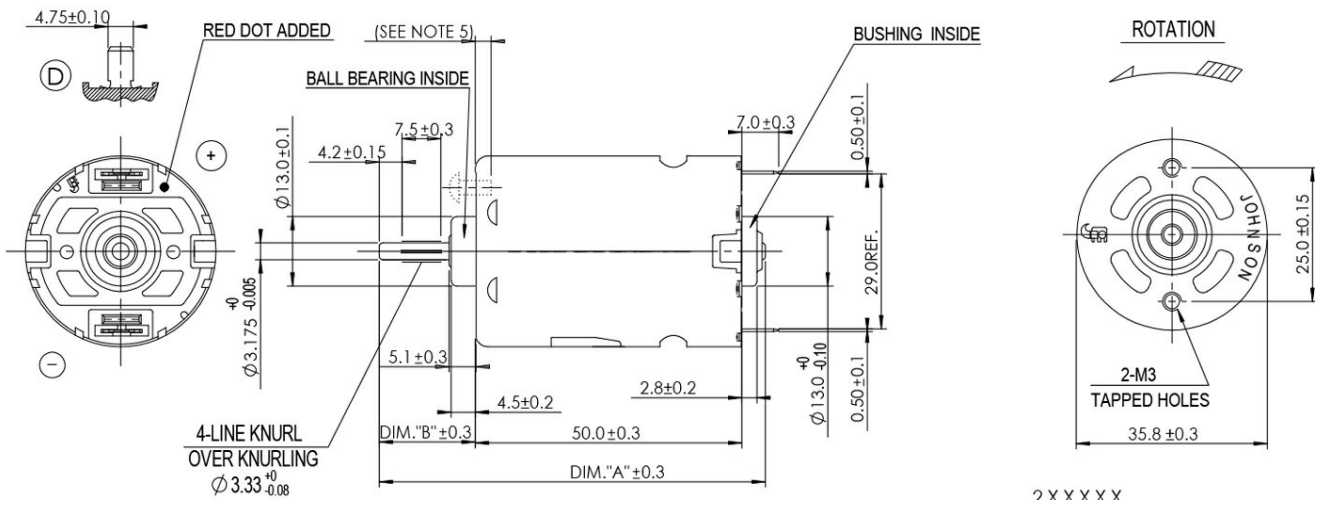
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	1.09	55.00	12.40	28.96
Efficiency (%)	-	-	63	46
Output Power (W)	-	-	145.40	242.00
Speed (rpm)	26700	-	20500	12500
Torque (mNm)	-	367.80	67.70	183.90

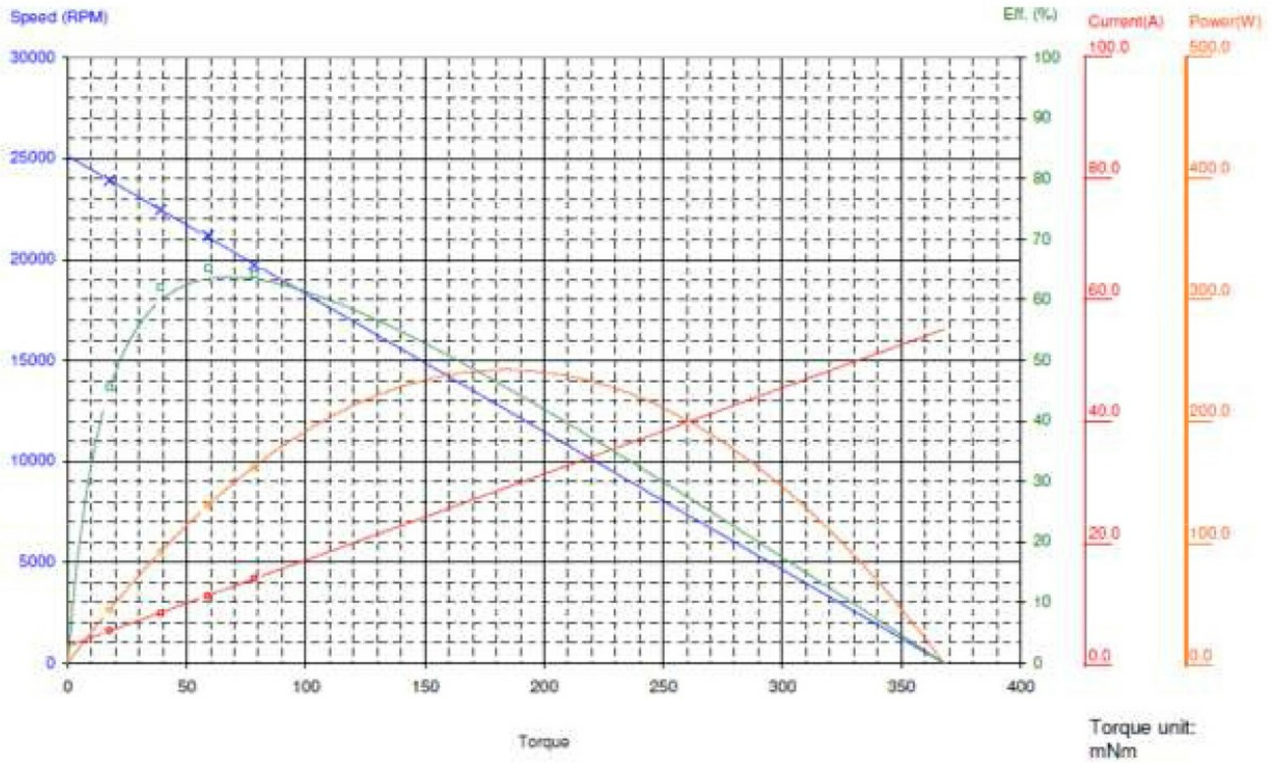
Application Examples:

Hand-held Vacuum Cleaners

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Reliability, High Torque, Low Cogging

Specifications:

Dimensions	: Ø 35.8 X 57 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 24.0 V DC
No Load Speed	: 5350 rpm
Stall Torque	: 334.10 mNm
Maximum Output Power	: 46.81 W
Maximum Efficiency	: 77%
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



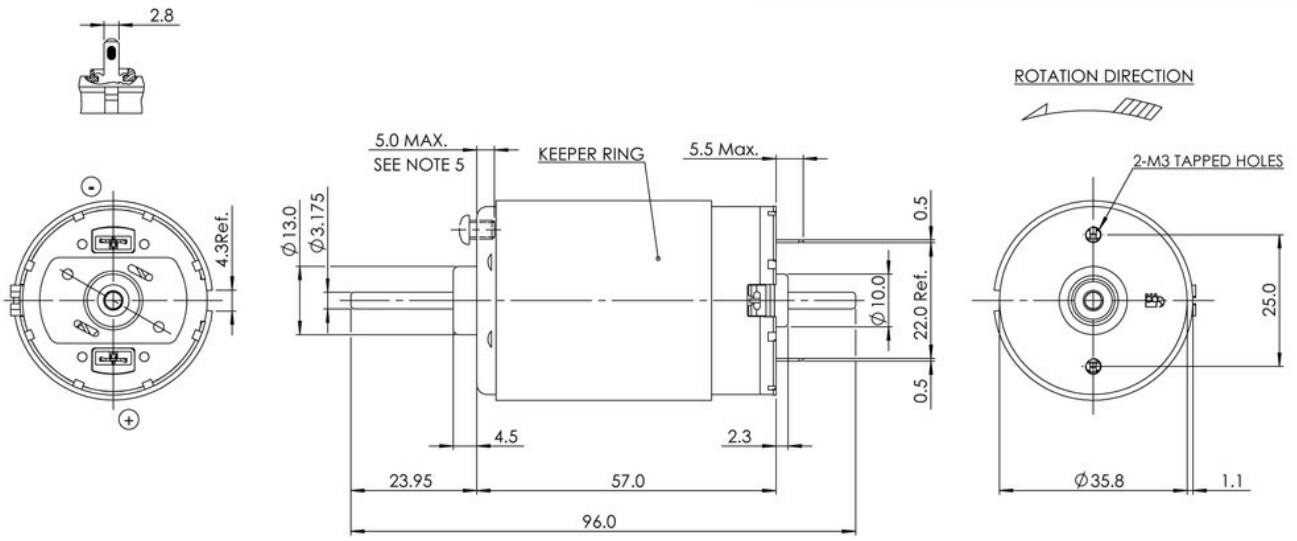
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.14	7.95	1.04	4.04
Efficiency (%)	-	-	77	48
Output Power (W)	-	-	19.21	46.81
Speed (rpm)	5350	-	4731	2675
Torque (mNm)	-	334.10	38.77	167.00

Application Examples:

Paper Lifts and Feeds

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Reliability, High Torque, Low Cogging

Specifications:

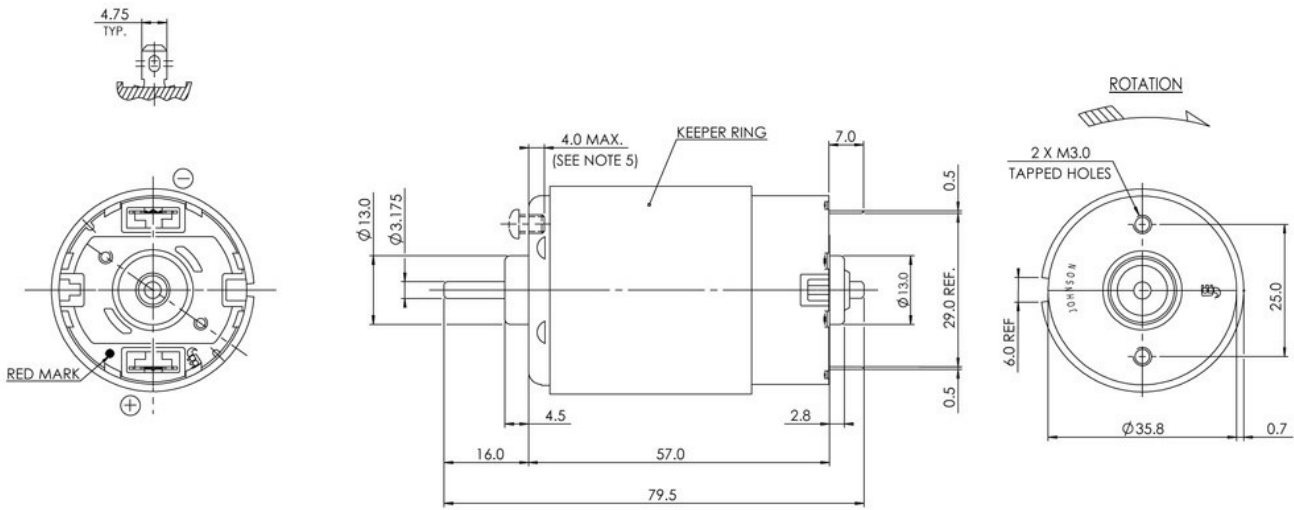
Dimensions	: Ø 35.8 X 57.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 20.0 V DC
No Load Speed	: 3335 rpm
Stall Torque	: 196.20 mNm
Maximum Output Power	: 17.13 W
Maximum Efficiency	: 69%
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



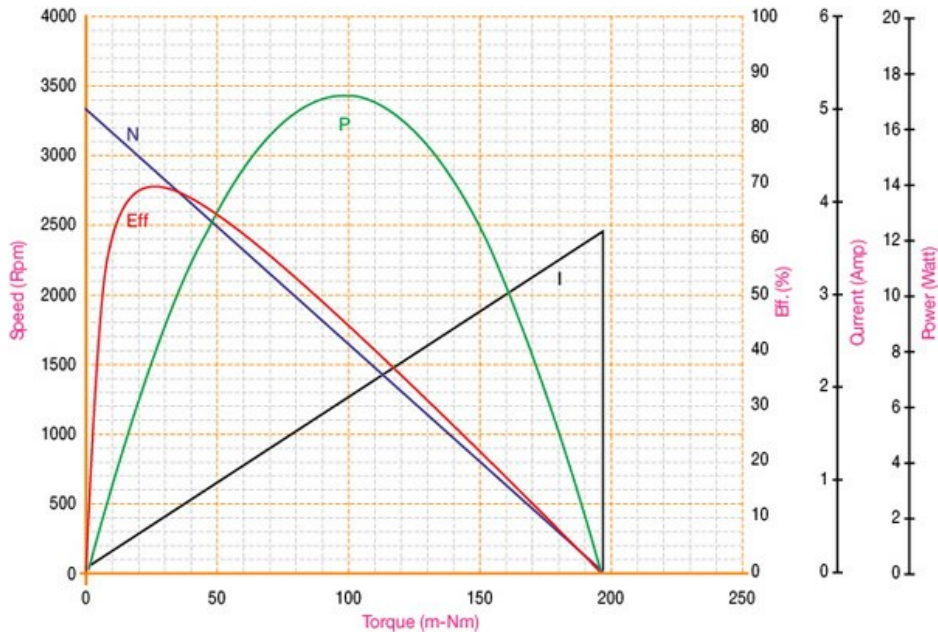
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.09	3.69	0.58	1.89
Efficiency (%)	-	-	69	45
Output Power (W)	-	-	8.07	17.13
Speed (rpm)	3335	-	2881	1667
Torque (mNm)	-	196.20	26.73	98.11

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 35.8 X 57.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 24.0 V DC
No Load Speed	: 23503 rpm
Stall Torque	: 550.16 mNm
Maximum Output Power	: 338.65 W
Maximum Efficiency	: 60%
Weight	: 238 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



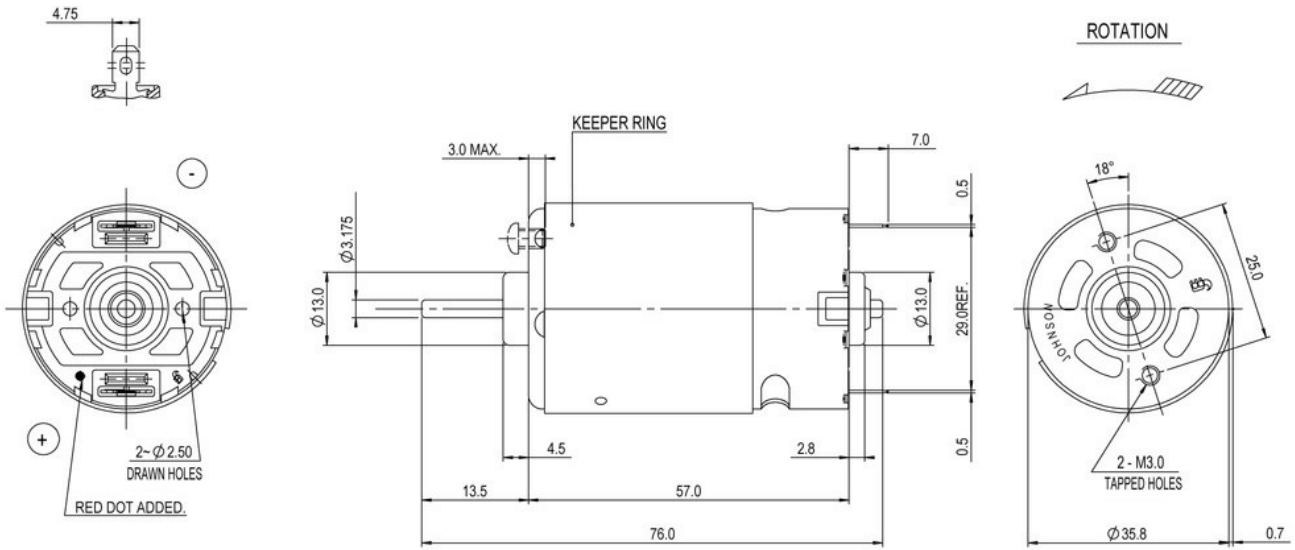
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	1.05	75.28	8.87	38.16
Efficiency (%)	-	-	60	37
Output Power (W)	-	-	127.73	338.65
Speed (rpm)	23503	-	21025	11751
Torque (mNm)	-	550.16	57.99	275.08

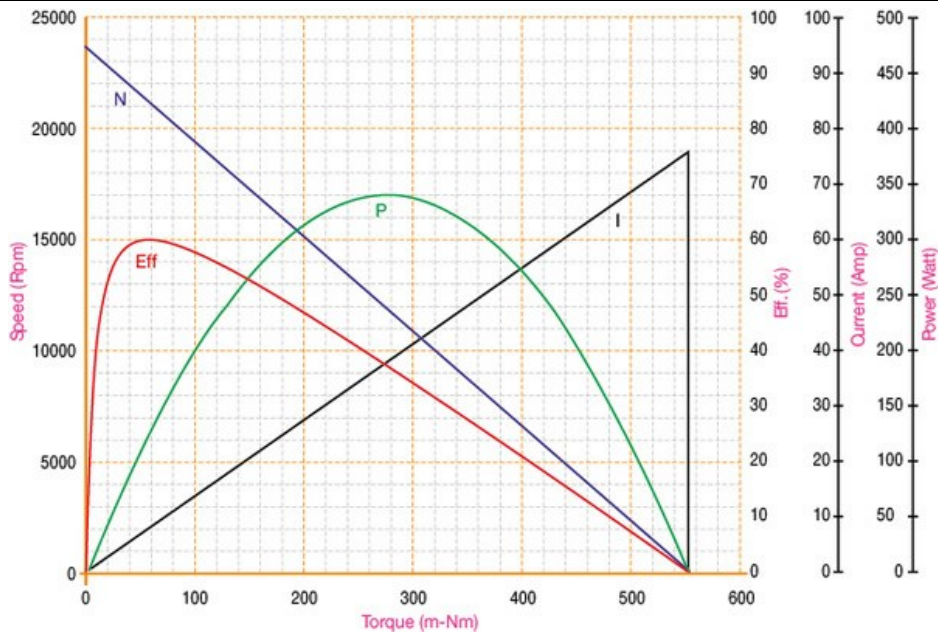
Application Examples:

Drills and Hammer Drills, Screw Drivers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 35.8 X 57.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 22421 rpm
Stall Torque	: 585.86 mNm
Maximum Output Power	: 344.02 W
Maximum Efficiency	: 79%
Weight	: 232 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



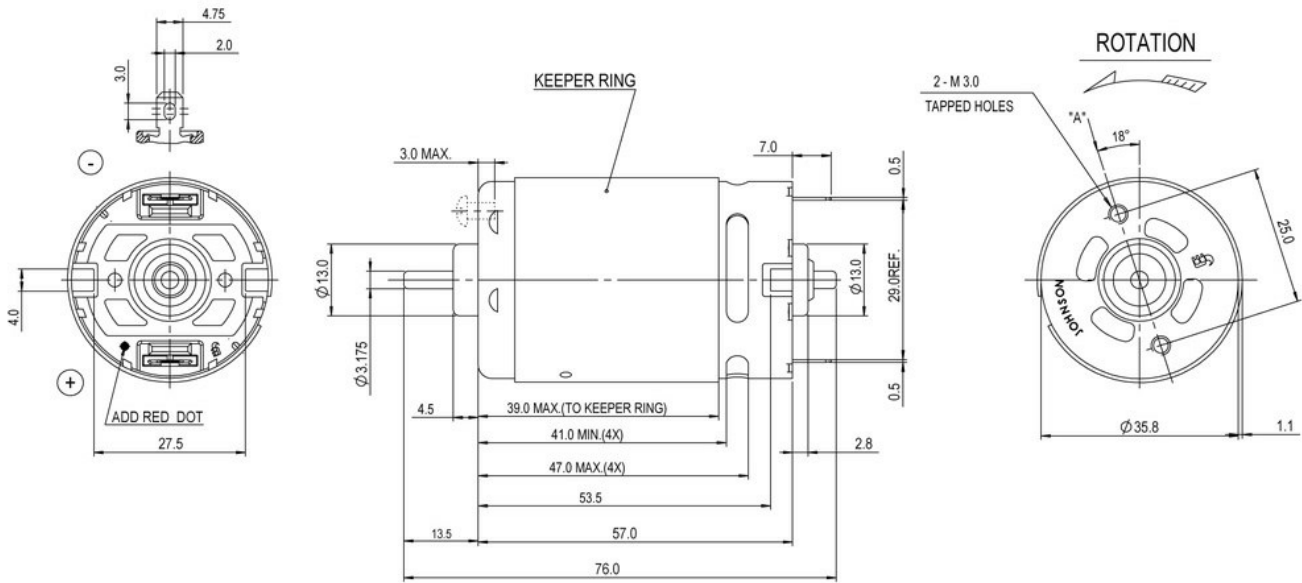
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	1.42	75.07	10.34	38.25
Efficiency (%)	-	-	79	50
Output Power (W)	-	-	146.39	344.02
Speed (rpm)	22421	-	19707	11210
Torque (mNm)	-	585.86	70.91	292.93

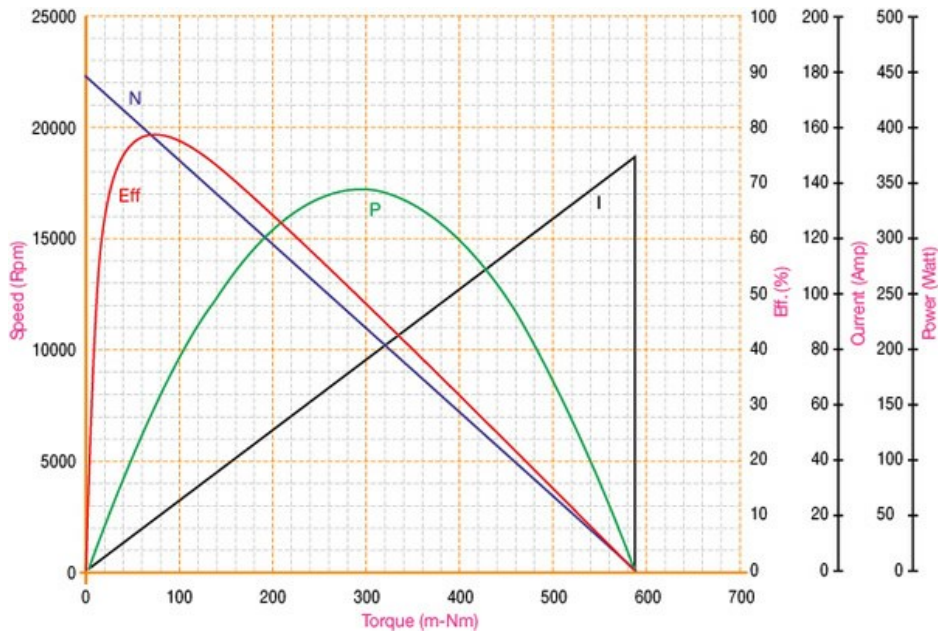
Application Examples:

Drills and Hammer Drills, Screw Drivers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 35.8 X 57.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 36.0 V DC
No Load Speed	: 20197 rpm
Stall Torque	: 662.24 mNm
Maximum Output Power	: 350.31 W
Maximum Efficiency	: 77%
Weight	: 235 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



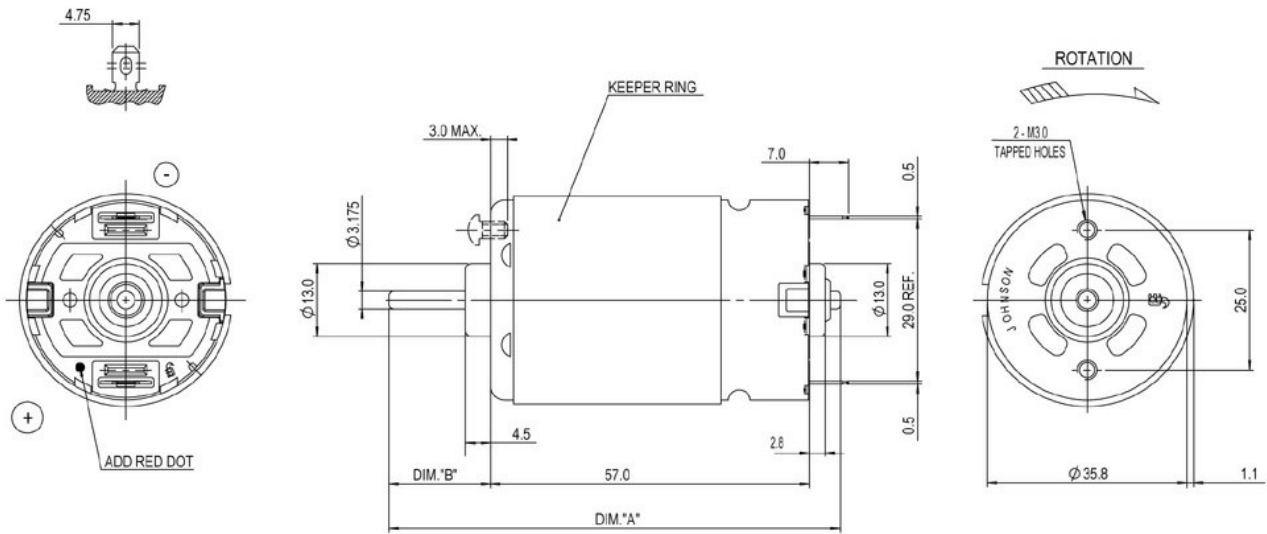
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.55	40.76	4.73	20.66
Efficiency (%)	-	-	77	47
Output Power (W)	-	-	130.46	350.31
Speed (rpm)	20197	-	18099	10099
Torque (mNm)	-	662.24	68.81	331.12

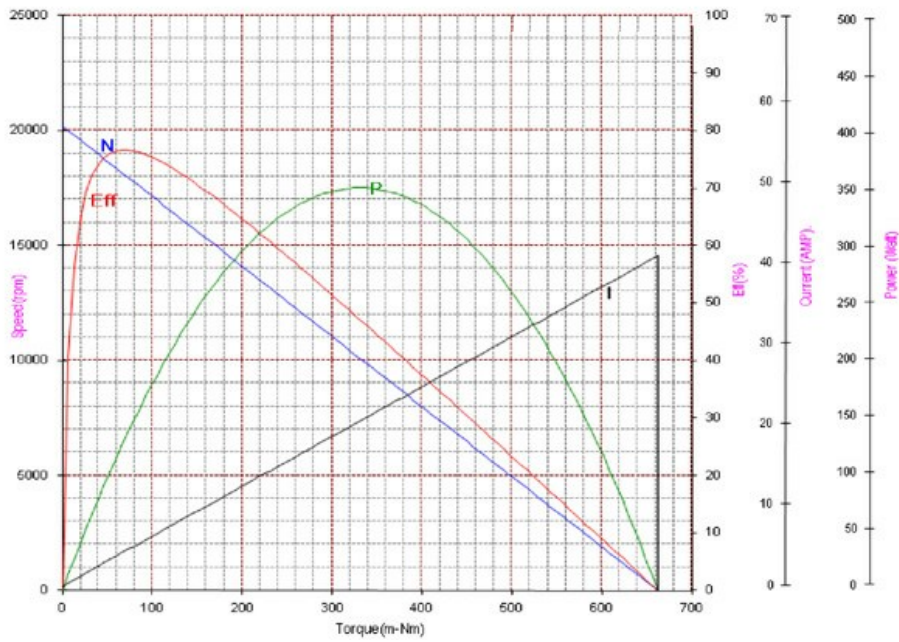
Application Examples:

Hedge Trimmers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High torque DC motor

Specifications:

Dimensions	: Ø 35.8 X 57.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 10.8 V DC
No Load Speed	: 19600 rpm
No Load Current	: 1.64 A
Nominal Speed	: 17200 rpm
Nominal Torque	: 52.00 mNm
Nominal Current	: 12.00 A
Stall Torque	: 430.00 mNm
Stall Current	: 87.50 A
Maximum Output Power	: 222.00 W
Maximum Efficiency	: 73%
Torque at Maximum Efficiency	: 52.00 mNm
Speed at Maximum Efficiency	: 17200 rpm
Life (Typical)	: 100 hr
Weight	: 150 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



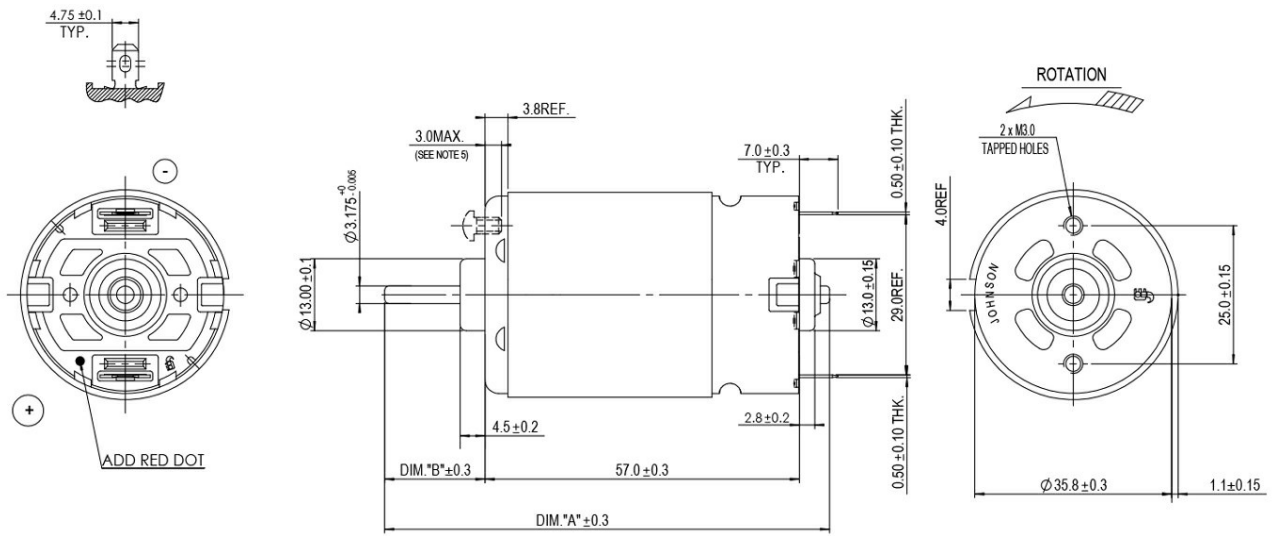
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	1.64	87.50	12.00	44.50
Efficiency (%)	-	-	73	46
Output Power (W)	-	-	95.00	222.00
Speed (rpm)	19600	-	17200	9800
Torque (mNm)	-	430.00	52.00	216.00

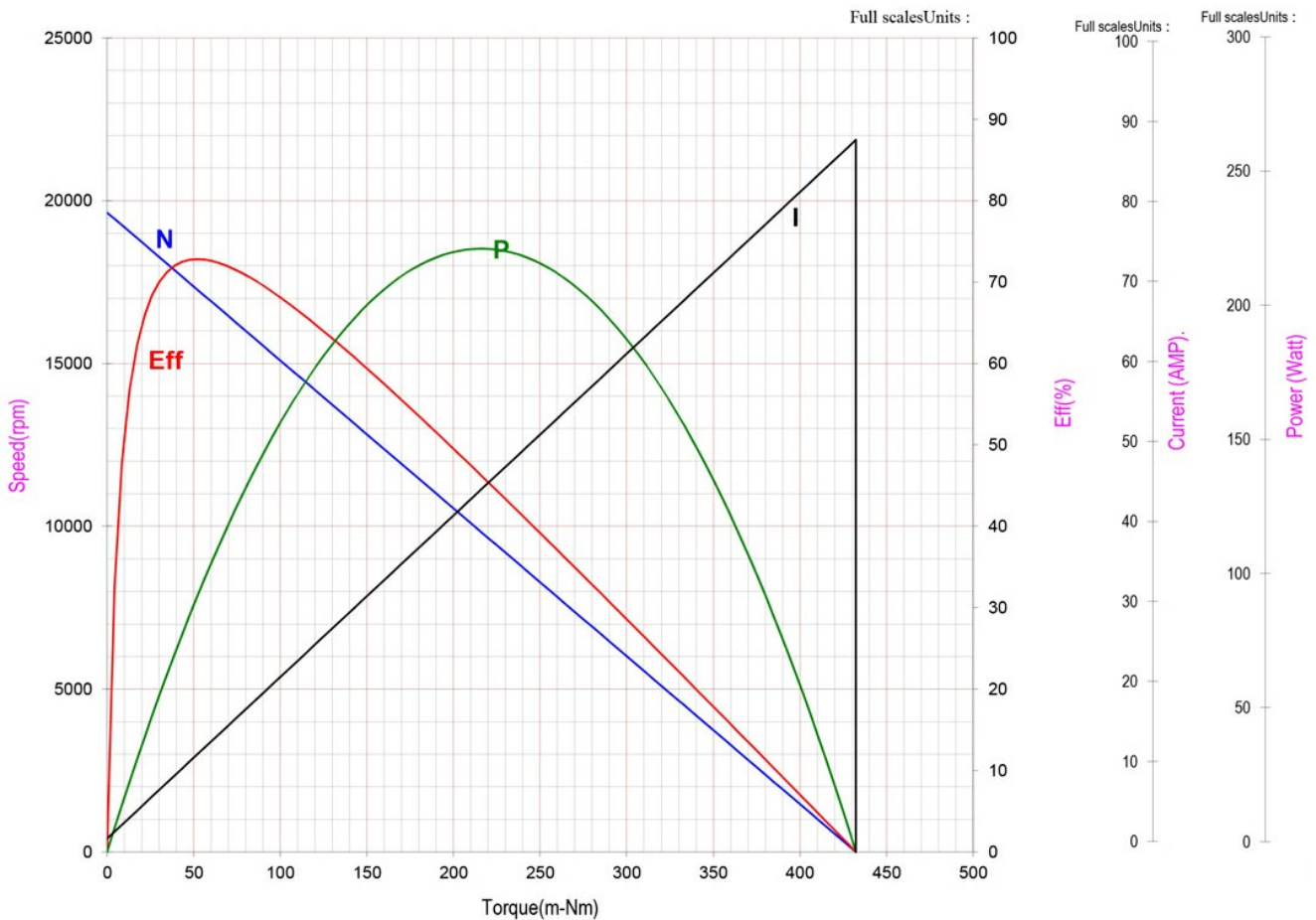
Application Examples:

Power Tools

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High torque DC motor

Specifications:

Dimensions	: Ø 35.8 X 57.0 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 24.0 V DC
No Load Speed	: 19000 rpm
No Load Current	: 0.76 A
Nominal Speed	: 17000 rpm
Nominal Torque	: 65.00 mNm
Nominal Current	: 6.40 A
Stall Torque	: 607.00 mNm
Stall Current	: 53.80 A
Maximum Output Power	: 300.00 W
Maximum Efficiency	: 74%
Torque at Maximum Efficiency	: 65.00 mNm
Speed at Maximum Efficiency	: 17000 rpm
Life (Typical)	: 100 hr
Weight	: 240 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



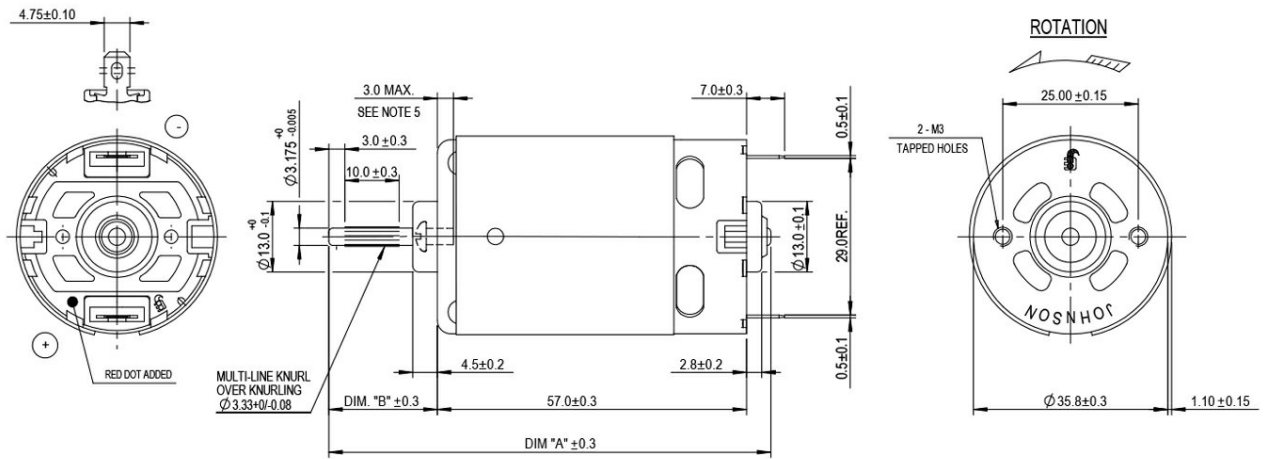
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.76	53.80	6.40	27.30
Efficiency (%)	-	-	74	46
Output Power (W)	-	-	114.00	300.00
Speed (rpm)	19000	-	17000	9400
Torque (mNm)	-	607.00	65.00	304.00

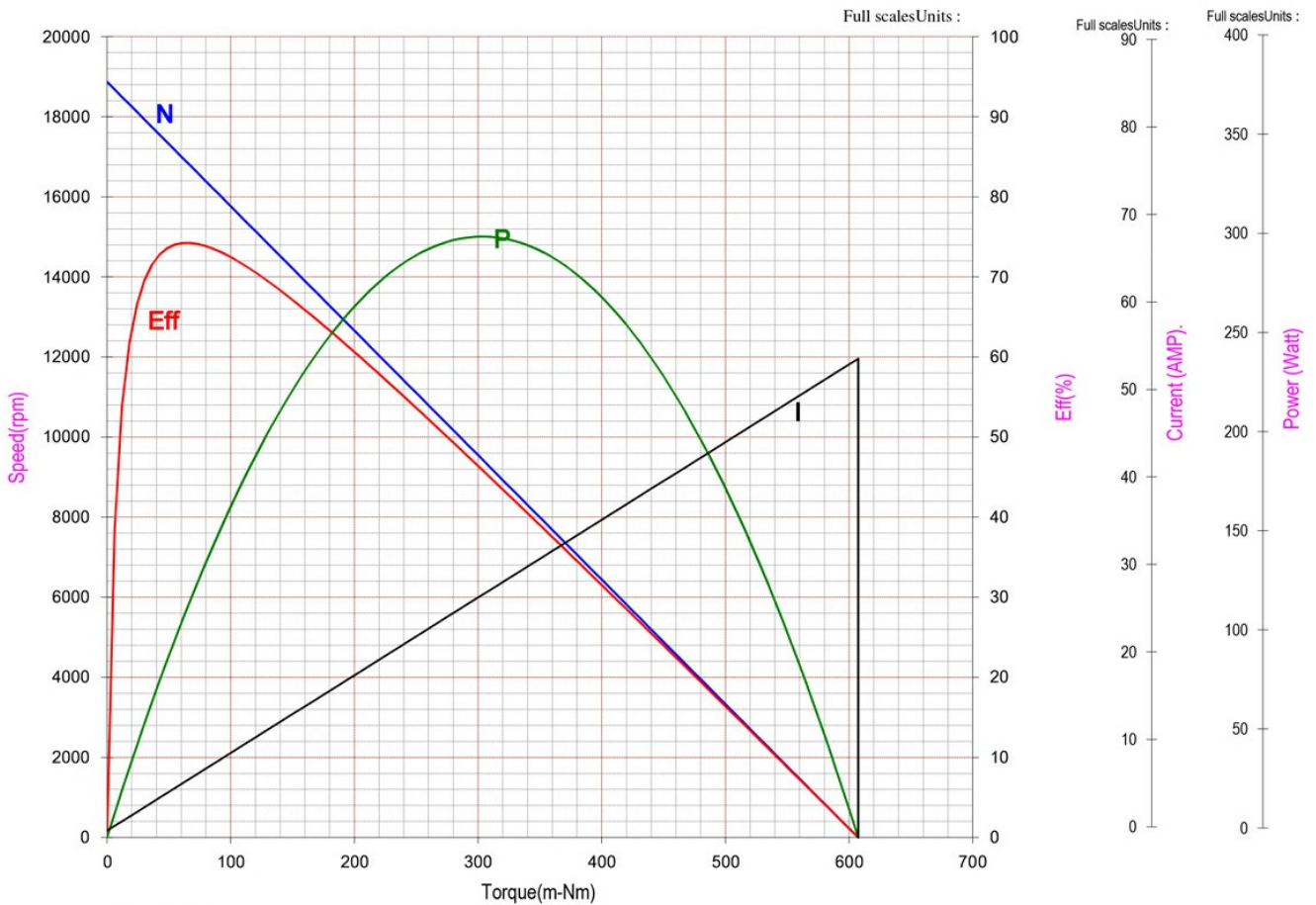
Application Examples:

ATV

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High torque DC motor

Specifications:

Dimensions	: Ø 44.2 X 60.0 mm
Shaft Diameter	: Ø 5.005 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 23000 rpm
No Load Current	: 3.60 A
Nominal Speed	: 19800 rpm
Nominal Torque	: 137.00 mNm
Nominal Current	: 21.40 A
Stall Torque	: 956.00 mNm
Stall Current	: 128.00 A
Maximum Output Power	: 578.00 W
Maximum Efficiency	: 74%
Torque at Maximum Efficiency	: 137.00 mNm
Speed at Maximum Efficiency	: 19800 rpm
Life (Typical)	: 50 hr
Weight	: 420 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Leadwires



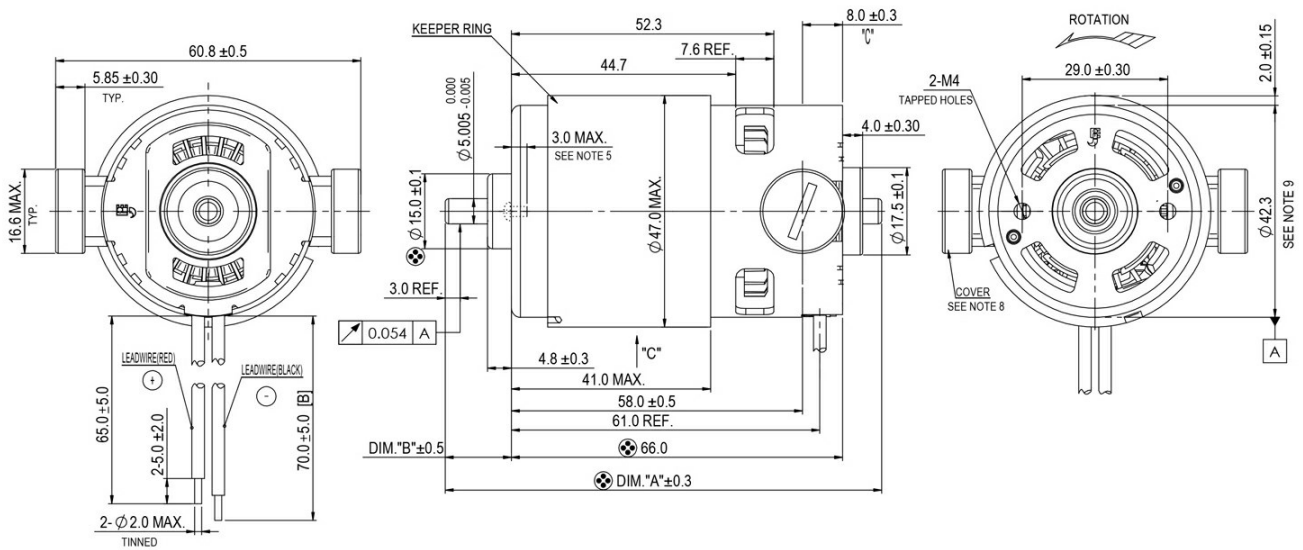
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	3.60	128.00	21.40	66.00
Efficiency (%)	-	-	74	49
Output Power (W)	-	-	284.00	578.00
Speed (rpm)	23000	-	19800	11500
Torque (mNm)	-	956.00	137.00	478.00

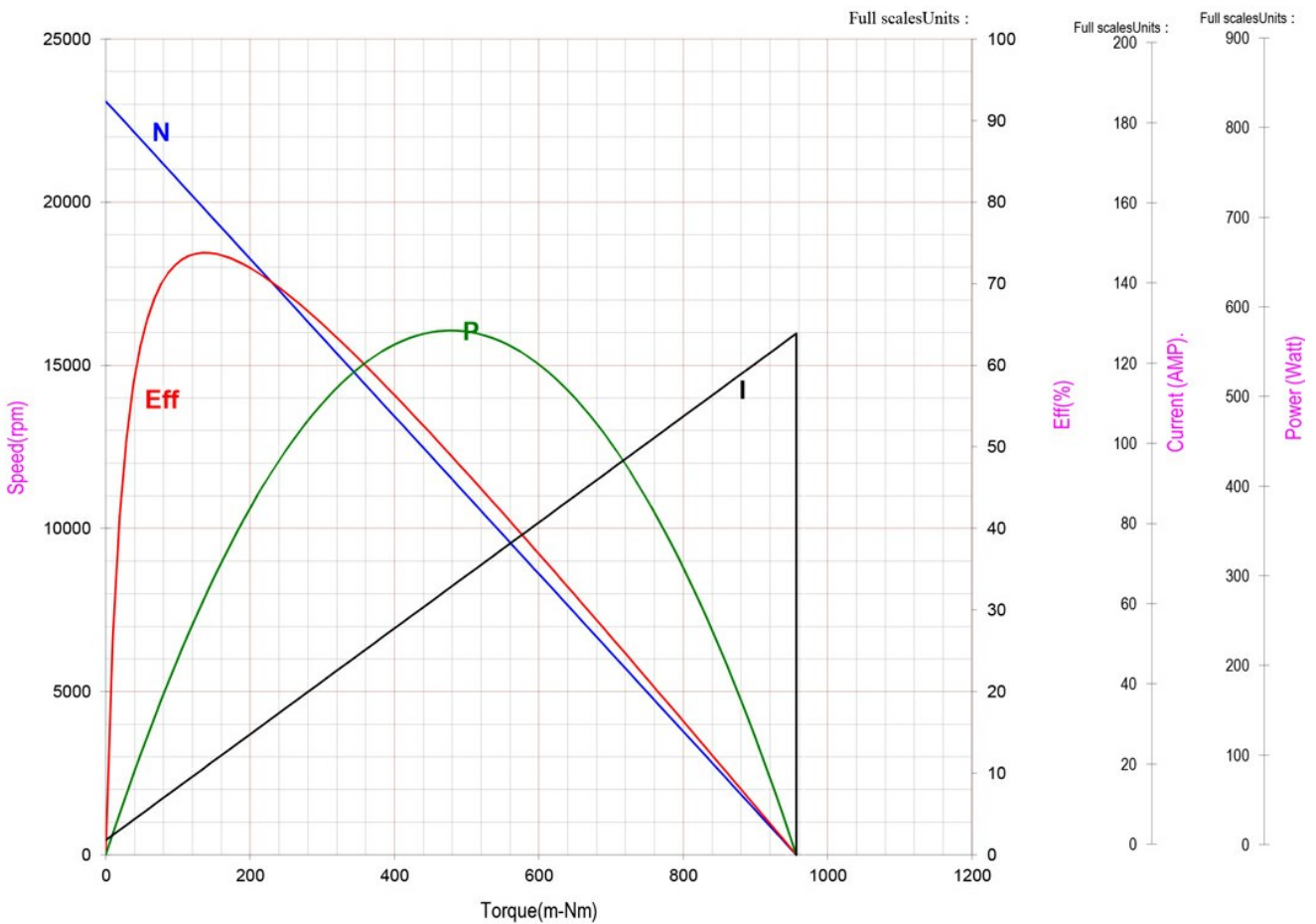
Application Examples:

Power Tools

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Reliability, High Torque, Low Cogging

Specifications:

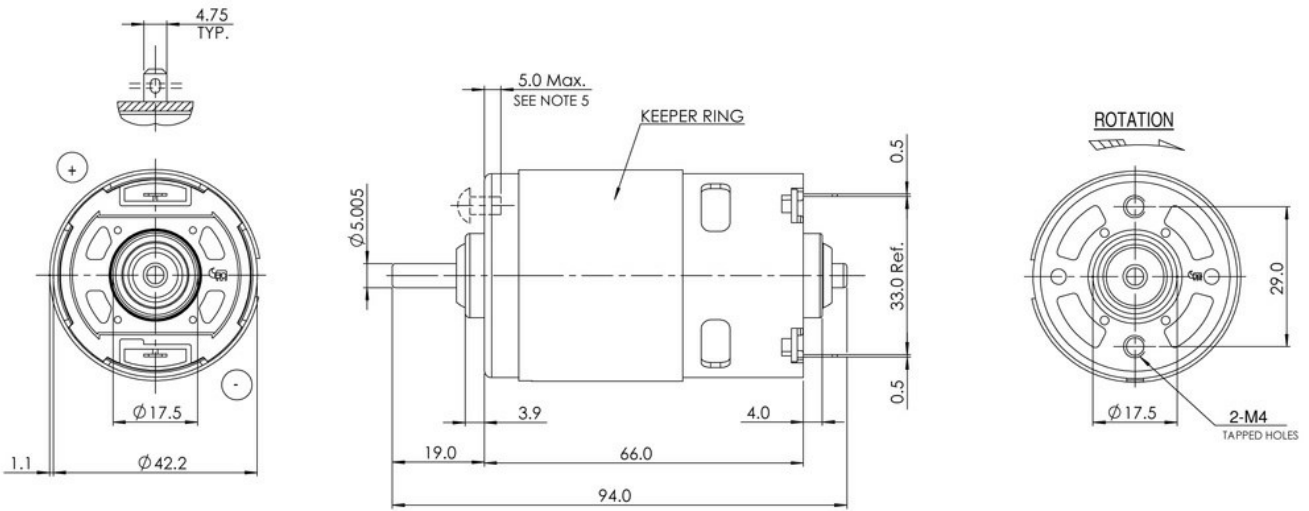
Dimensions	: Ø 42.2 X 66.0 mm
Shaft Diameter	: Ø 5.005 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 2370 rpm
Stall Torque	: 227.00 mNm
Maximum Output Power	: 14.09 W
Maximum Efficiency	: 64%
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



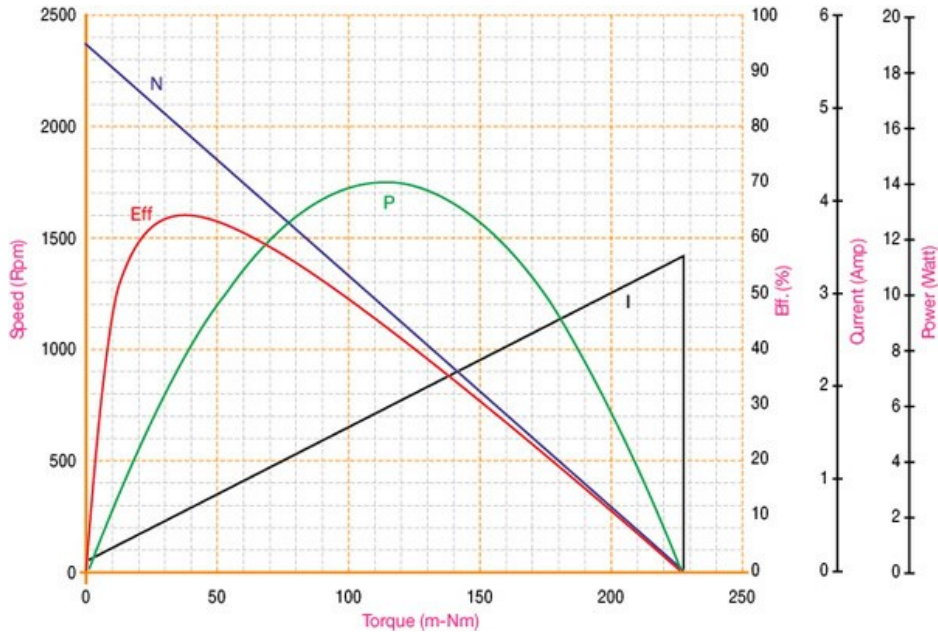
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.14	3.39	0.68	1.76
Efficiency (%)	-	-	64	44
Output Power (W)	-	-	7.85	14.09
Speed (rpm)	2370	-	1974	1185
Torque (mNm)	-	227.00	37.97	113.50

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power DC motor

Specifications:

Dimensions	: Ø 42.3 X 67.0 mm
Shaft Diameter	: Ø 5.005 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 20950 rpm
No Load Current	: 2.90 A
Stall Torque	: 1175.03 mNm
Stall Current	: 138.64 A
Maximum Output Power	: 644.74 W
Maximum Efficiency	: 78%
Speed at Maximum Efficiency	: 18310 rpm
Life (Typical)	: 18 hr
Weight	: 380 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



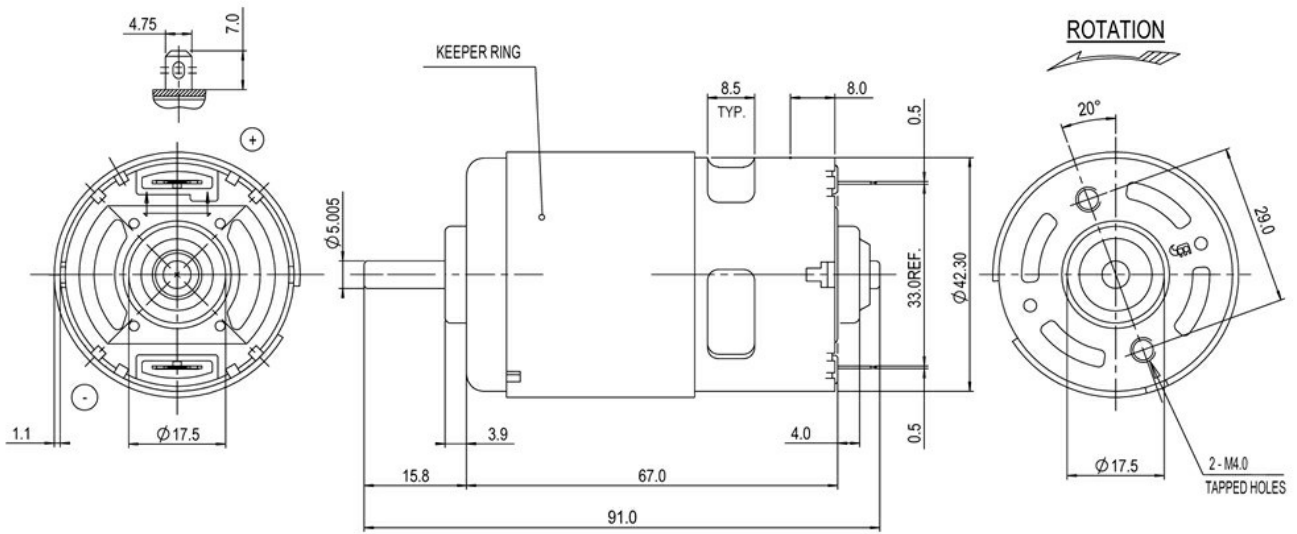
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	2.90	138.64	19.99	70.76
Efficiency (%)	-	-	78	50
Output Power (W)	-	-	0.00	644.74
Speed (rpm)	20950	-	18310	10475
Torque (mNm)	-	1175.03	148.10	587.51

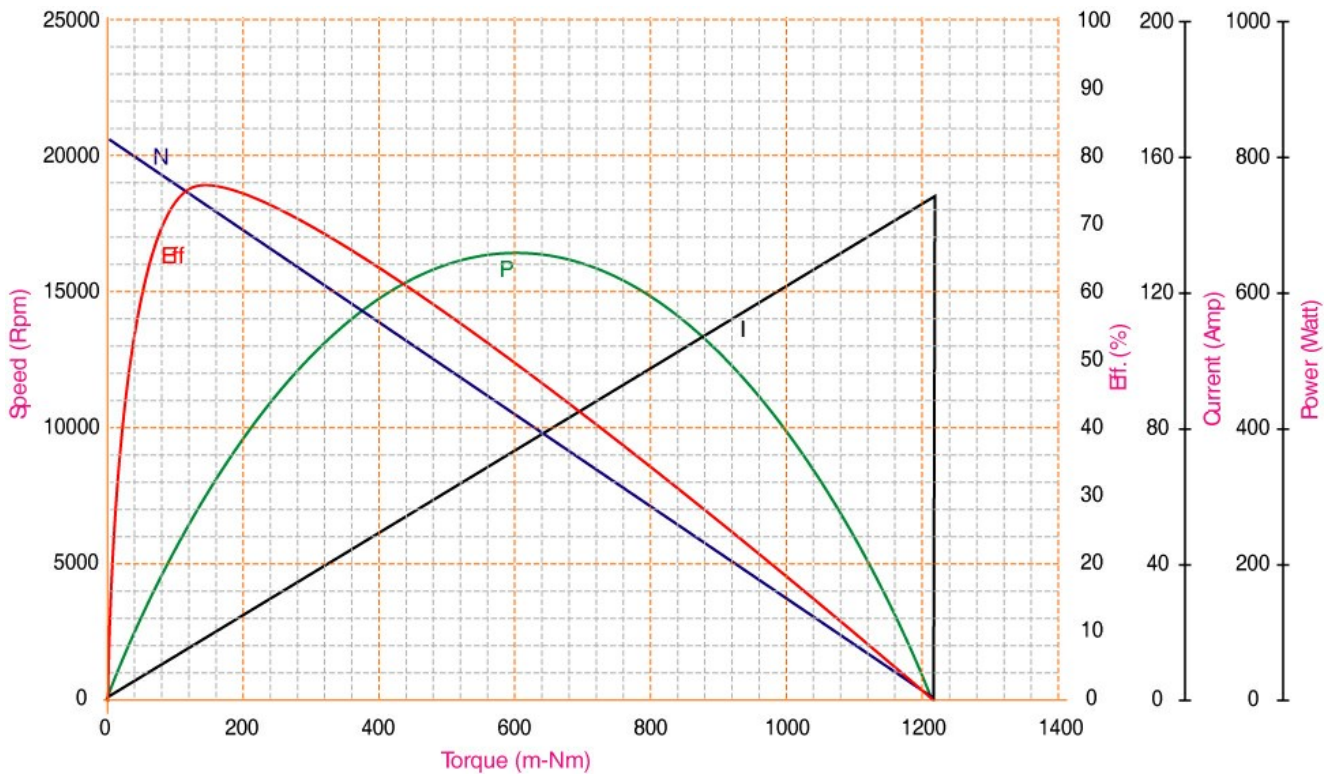
Application Examples:

Drills and Hammer Drills

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 42.3 X 67.0 mm
Shaft Diameter	: Ø 5.005 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 20968 rpm
Stall Torque	: 1219.18 mNm
Maximum Output Power	: 654.05 W
Maximum Efficiency	: 75%
Weight	: 380 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



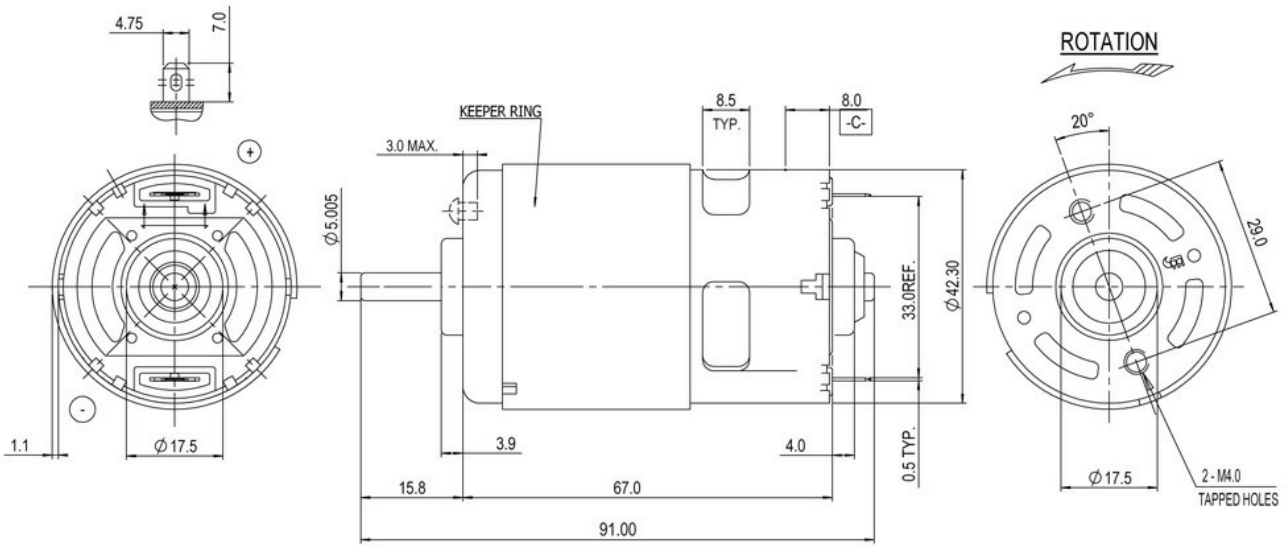
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	2.23	148.53	27.01	75.62
Efficiency (%)	-	-	75	48
Output Power (W)	-	-	363.36	654.05
Speed (rpm)	20968	-	17083	10250
Torque (mNm)	-	1219.18	203.20	609.59

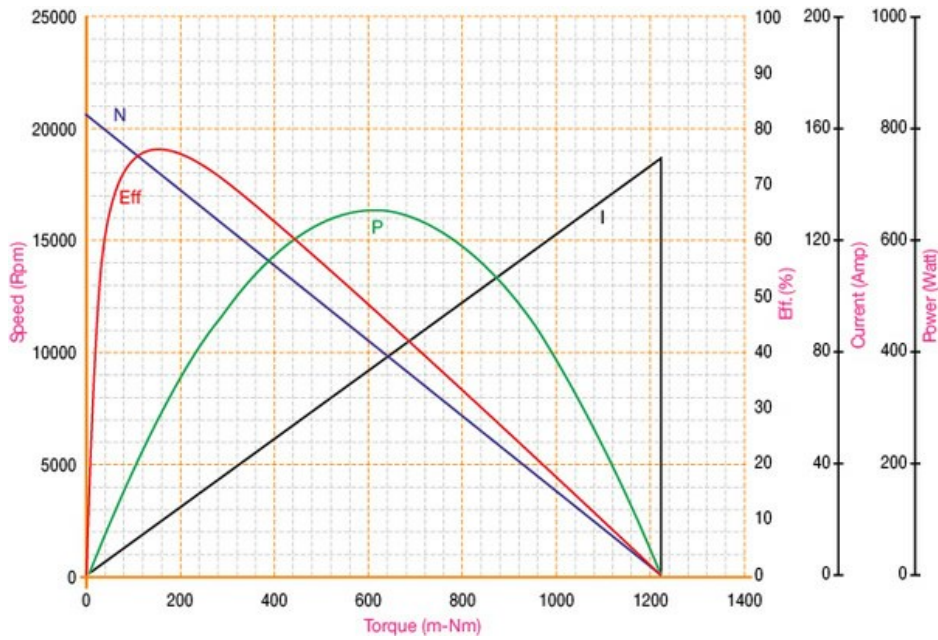
Application Examples:

Drills and Hammer Drills

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 42.3 X 67.0 mm
Shaft Diameter	: Ø 5.005 mm
Input Voltage	: 14.4 V DC
No Load Speed	: 21363 rpm
Stall Torque	: 1134.68 mNm
Maximum Output Power	: 634.85 W
Maximum Efficiency	: 76%
Weight	: 373 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



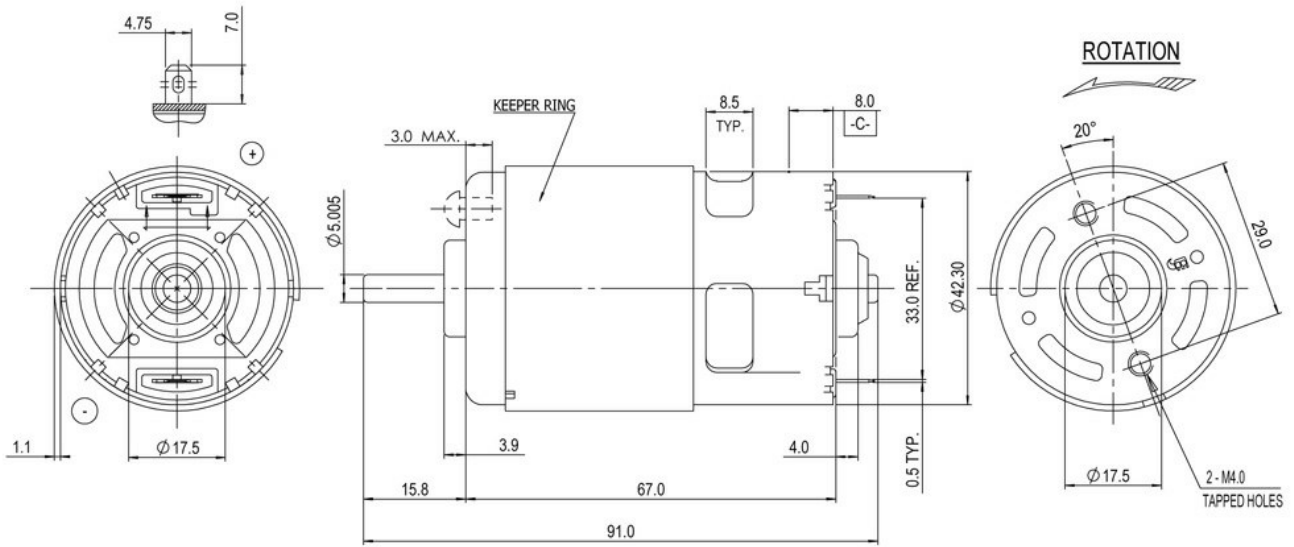
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	4.06	173.85	26.56	88.96
Efficiency (%)	-	-	76	49
Output Power (W)	-	-	291.91	634.85
Speed (rpm)	21363	-	18532	567
Torque (mNm)	-	1134.68	150.36	567.34

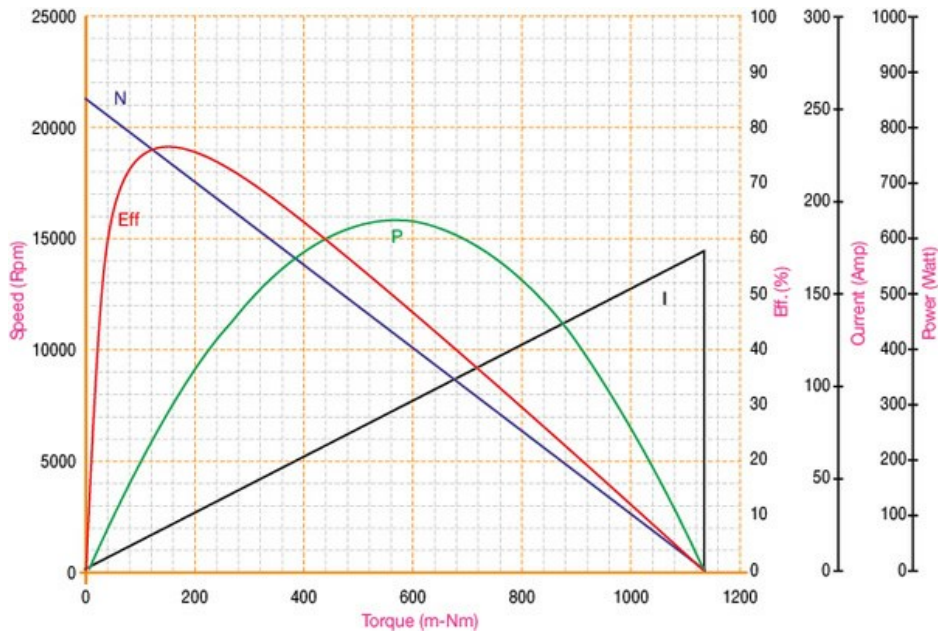
Application Examples:

Drills and Hammer Drills

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 42.3 X 67.0 mm
Shaft Diameter	: Ø 5.005 mm
Input Voltage	: 36.0 V DC
No Load Speed	: 23426 rpm
Stall Torque	: 1554.99 mNm
Maximum Output Power	: 954.06 W
Maximum Efficiency	: 76%
Weight	: 416 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



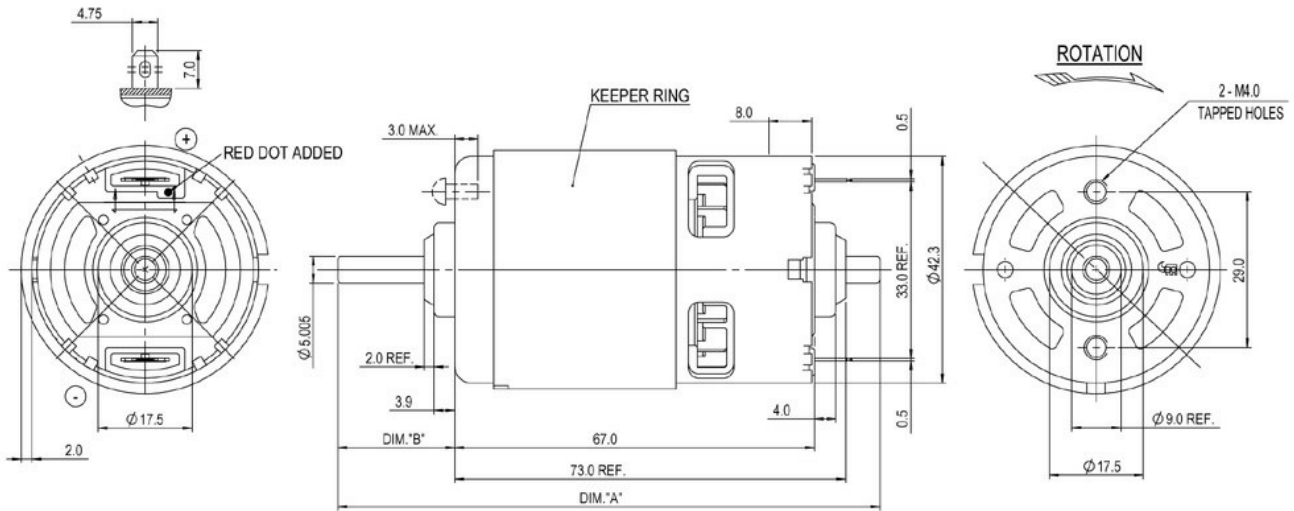
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	1.95	108.45	14.56	55.20
Efficiency (%)	-	-	76	39
Output Power (W)	-	-	398.13	954.06
Speed (rpm)	23426	-	20654	11713
Torque (mNm)	-	1554.99	184.00	777.49

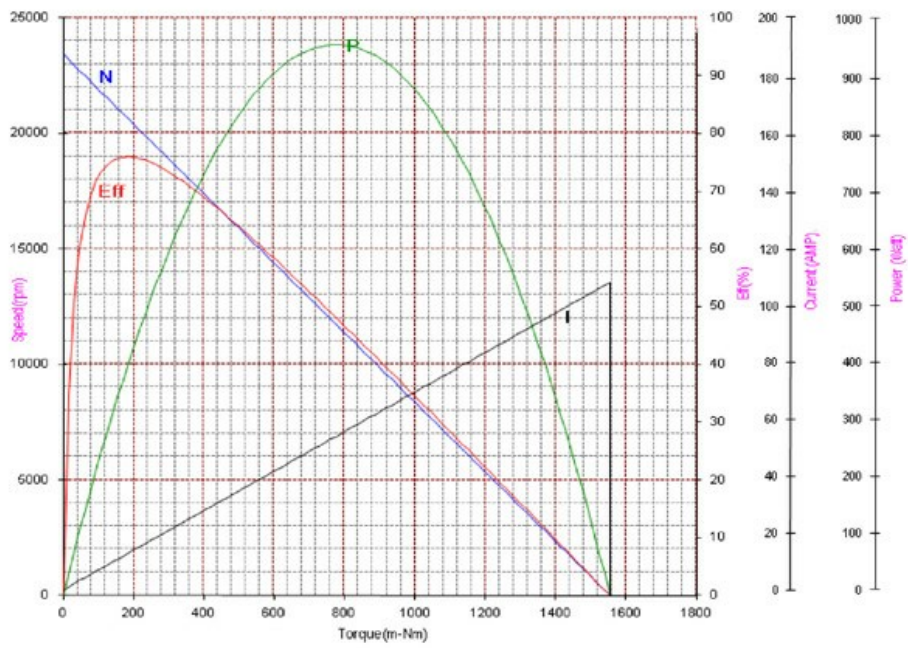
Application Examples:

String Trimmers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 42.3 X 67.0 mm
Shaft Diameter	: Ø 5.005 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 19752 rpm
Stall Torque	: 1064.26 mNm
Maximum Output Power	: 550.55 W
Maximum Efficiency	: 78%
Weight	: 380 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



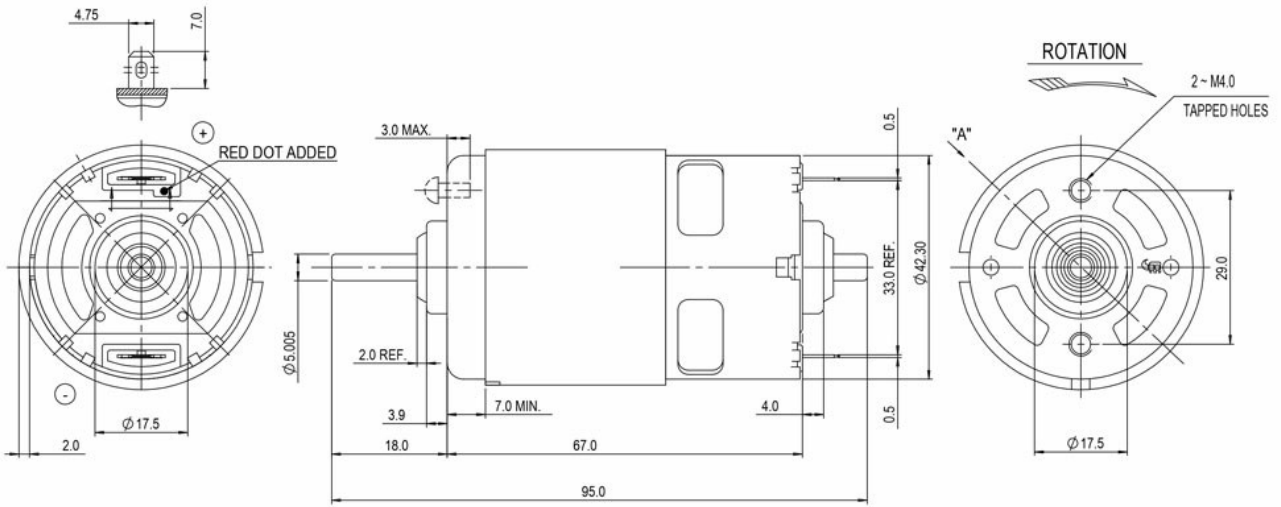
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	2.91	117.78	18.52	60.35
Efficiency (%)	-	-	78	52
Output Power (W)	-	-	258.61	550.55
Speed (rpm)	19752	-	17067	9876
Torque (mNm)	-	1064.26	144.63	532.13

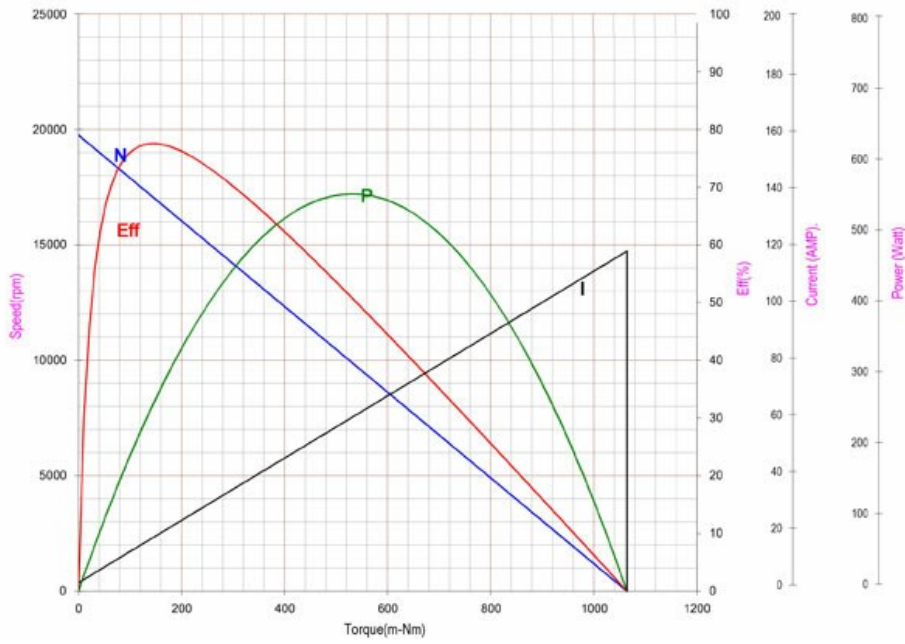
Application Examples:

Reciprocating Saws

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 42.3 X 60.0 mm mm
Shaft Diameter	: Ø 5.005 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 19347 rpm
Stall Torque	: 890.95 mNm
Maximum Output Power	: 449.35 W
Maximum Efficiency	: 75%
Weight	: 359 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Leadwire



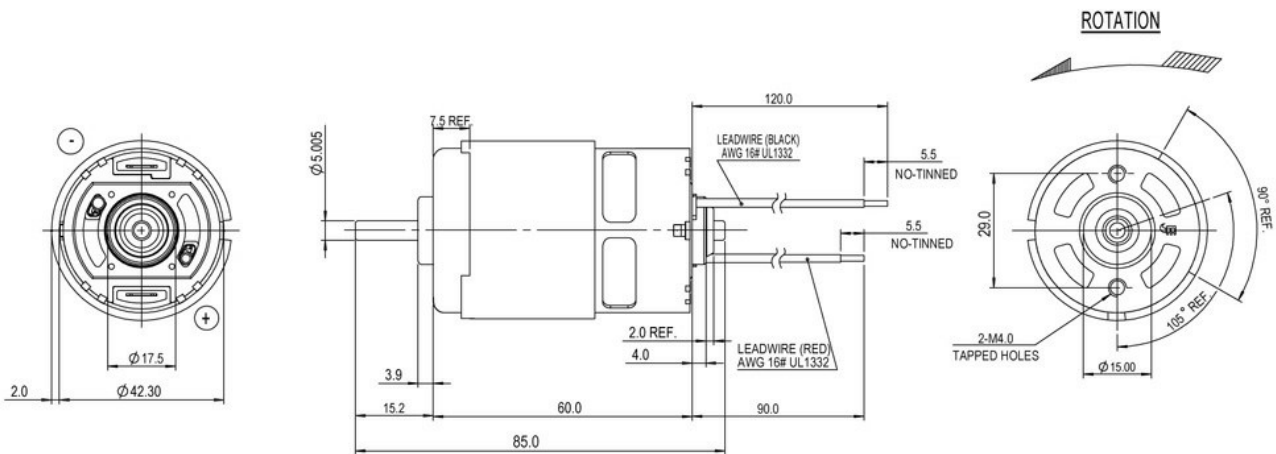
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	1.96	100.94	18.58	51.52
Efficiency (%)	-	-	75	48
Output Power (W)	-	-	249.64	449.35
Speed (rpm)	19347	-	16061	9636
Torque (mNm)	-	890.95	148.49	445.48

Application Examples:

Drills and Hammer Drills, Screw Drivers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 42.2 X 60.0 mm mm
Shaft Diameter	: Ø 5.005 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 11208 rpm
Stall Torque	: 651.22 mNm
Maximum Output Power	: 191.16 W
Maximum Efficiency	: 71%
Weight	: 359 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



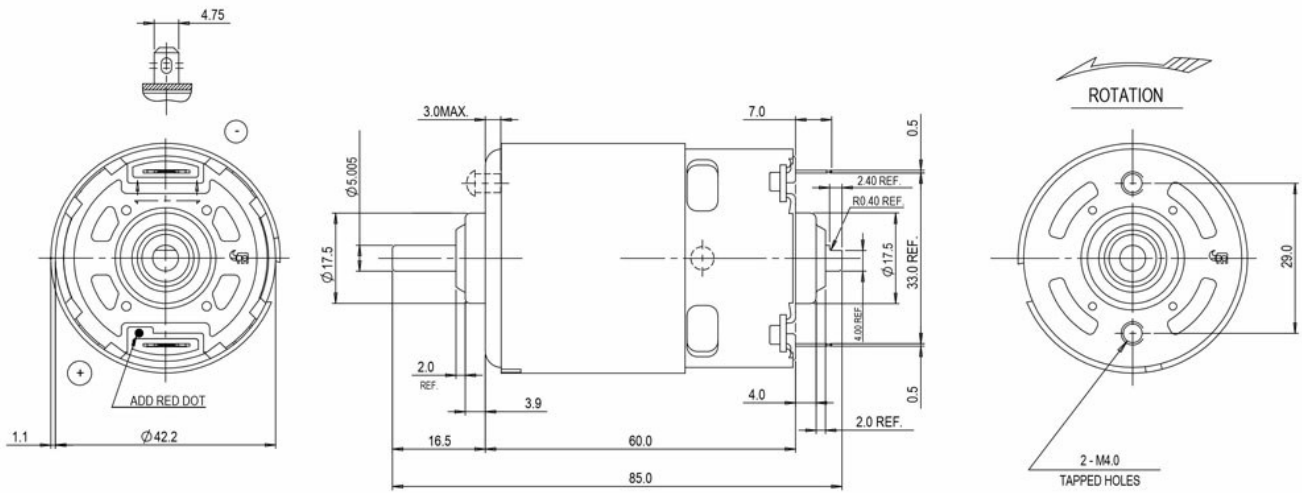
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	1.26	43.64	7.41	22.45
Efficiency (%)	-	-	71	46
Output Power (W)	-	-	94.84	191.16
Speed (rpm)	11208	-	9582	5604
Torque (mNm)	-	651.22	94.48	325.61

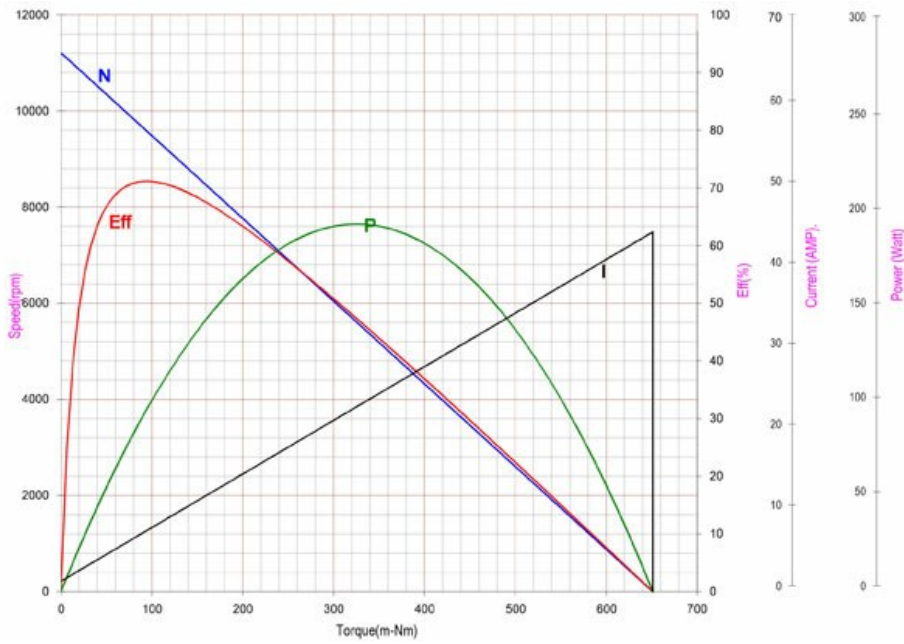
Application Examples:

Rotary Sanders

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High torque DC motor

Specifications:

Dimensions	: Ø 44.2 X 60.0 mm
Shaft Diameter	: Ø 5.005 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 22000 rpm
No Load Current	: 2.50 A
Nominal Speed	: 19000 rpm
Nominal Torque	: 102.00 mNm
Nominal Current	: 17.00 A
Stall Torque	: 805.00 mNm
Stall Current	: 117.00 A
Maximum Output Power	: 458.00 W
Maximum Efficiency	: 67%
Torque at Maximum Efficiency	: 102.00 mNm
Speed at Maximum Efficiency	: 19000 rpm
Life (Typical)	: 100 hr
Weight	: 310 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



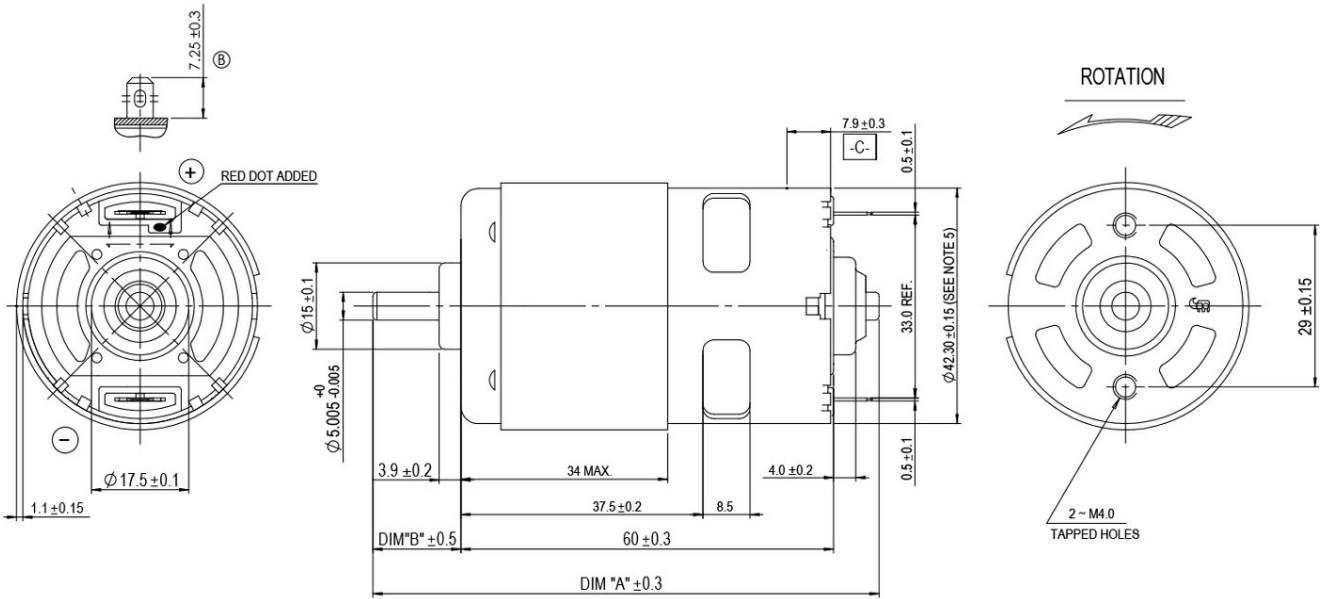
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	2.50	117.00	17.00	60.00
Efficiency (%)	-	-	67	43
Output Power (W)	-	-	204.00	458.00
Speed (rpm)	22000	-	19000	11000
Torque (mNm)	-	805.00	102.00	402.00

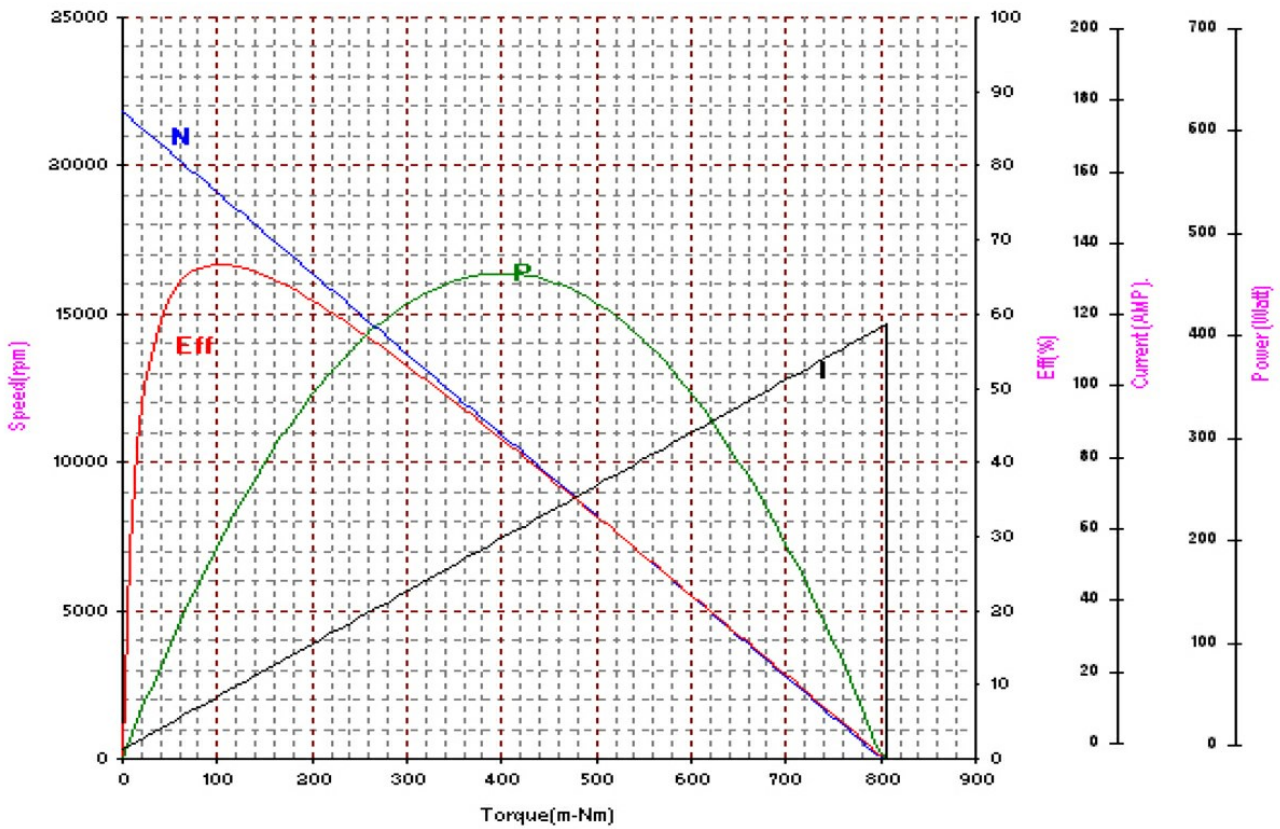
Application Examples:

Power Tools

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power DC motor

Specifications:

Dimensions	: Ø 48.0 X 50.5 mm mm
Shaft Diameter	: Ø 4.005 mm
Input Voltage	: 14.4 V DC
No Load Speed	: 20120 rpm
No Load Current	: 3.80 A
Stall Torque	: 787.72 mNm
Stall Current	: 124.99 A
Maximum Output Power	: 415.00 W
Maximum Efficiency	: 66%
Speed at Maximum Efficiency	: 17134 rpm
Weight	: 320 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Lead wire



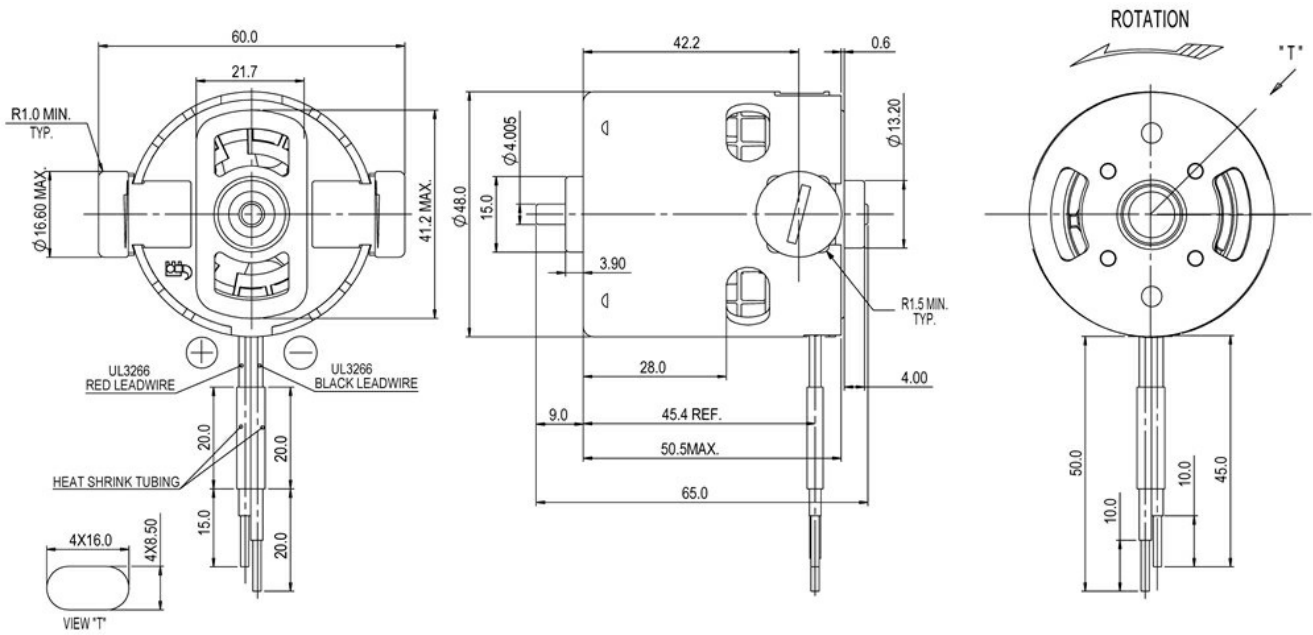
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	3.80	124.99	21.78	64.39
Efficiency (%)	-	-	66	-
Output Power (W)	-	-	209.86	415.00
Speed (rpm)	20120	-	17134	10060
Torque (mNm)	-	787.72	116.91	393.86

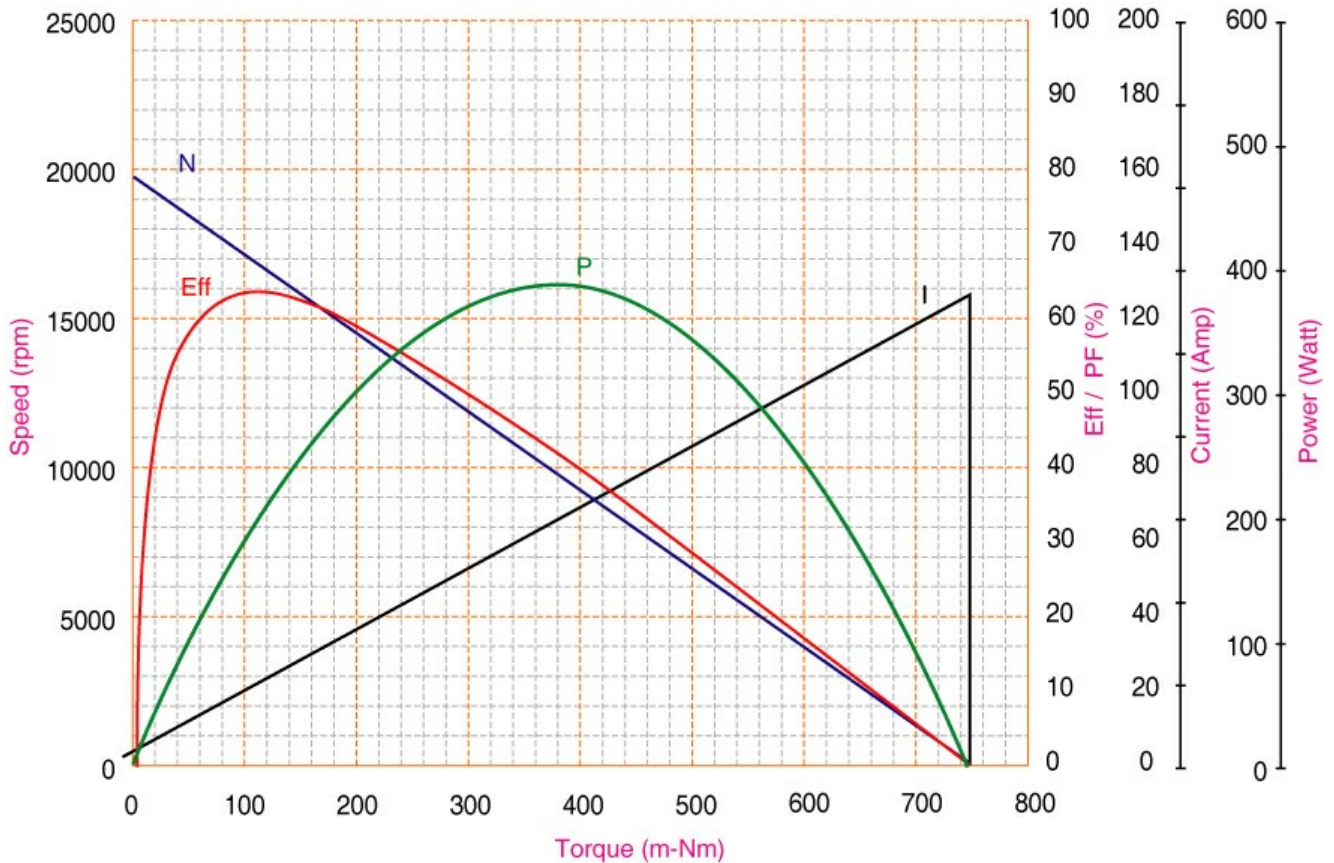
Application Examples:

Drills and Hammer Drills

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power DC motor

Specifications:

Dimensions	: Ø 48.0 X 50.5 mm mm
Shaft Diameter	: Ø 4.005 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 20281 rpm
No Load Current	: 2.29 A
Stall Torque	: 656.64 mNm
Stall Current	: 82.49 A
Maximum Output Power	: 348.79 W
Maximum Efficiency	: 69%
Speed at Maximum Efficiency	: 17385 rpm
Weight	: 313 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Lead wire



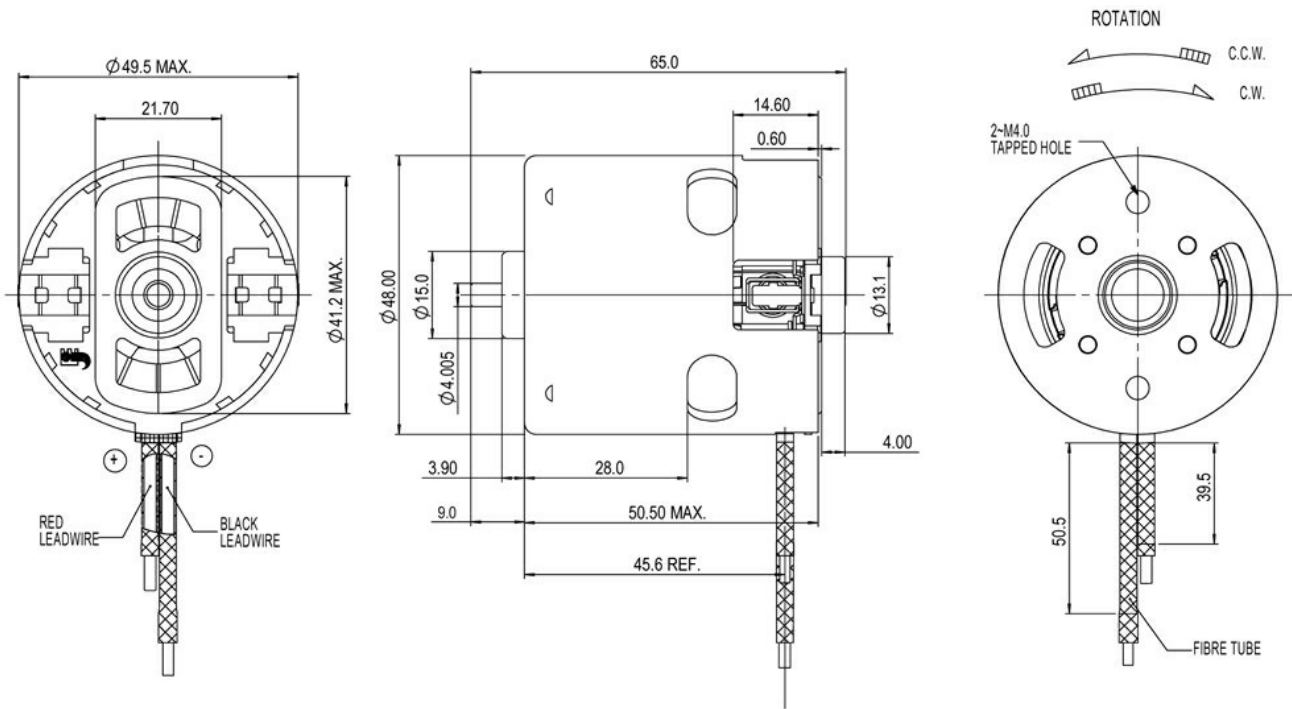
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	2.29	82.49	13.74	42.39
Efficiency (%)	-	-	69	45
Output Power (W)	-	-	170.80	348.79
Speed (rpm)	20281	-	17385	10141
Torque (mNm)	-	656.64	93.78	328.32

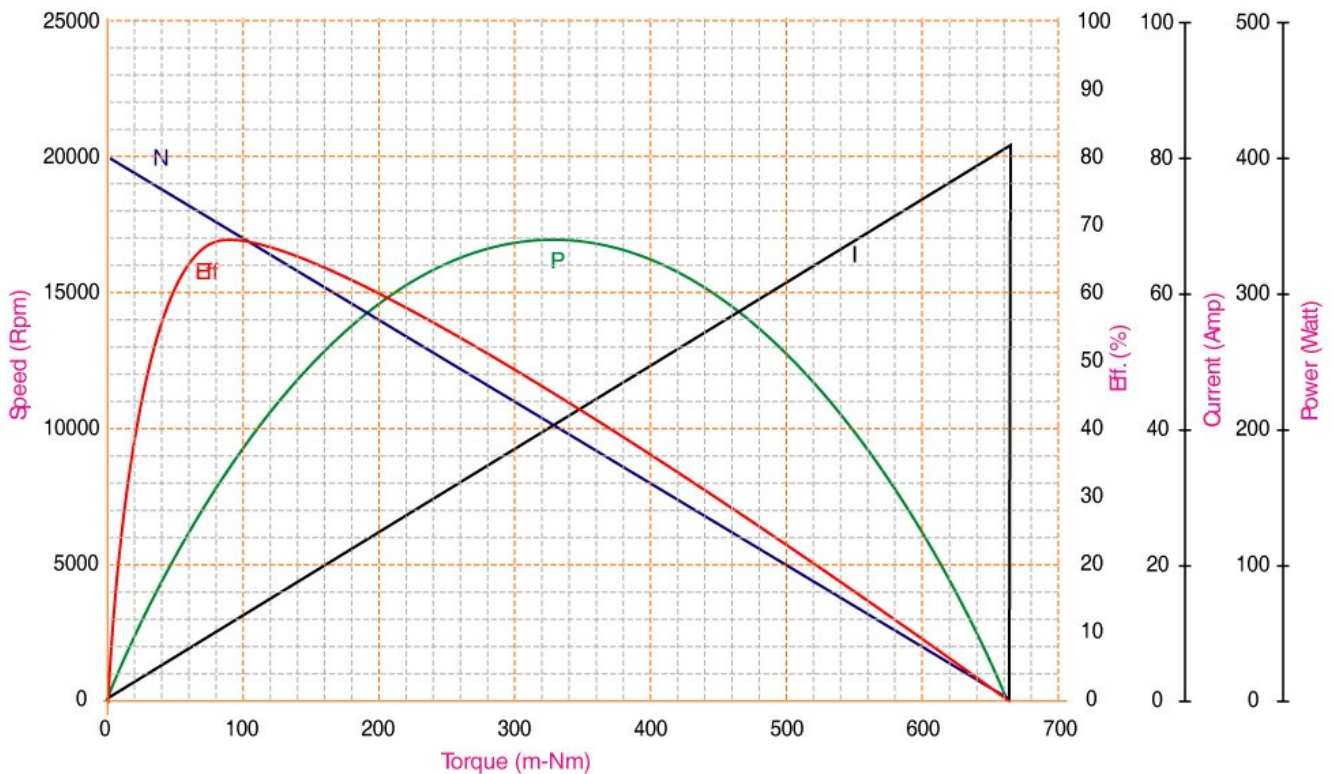
Application Examples:

Drills and Hammer Drills

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 48.0 X 50.5 mm mm
Shaft Diameter	: Ø 4.005 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 19829 rpm
Stall Torque	: 655.88 mNm
Maximum Output Power	: 339.13 W
Maximum Efficiency	: 67%
Weight	: 313 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Leadwire



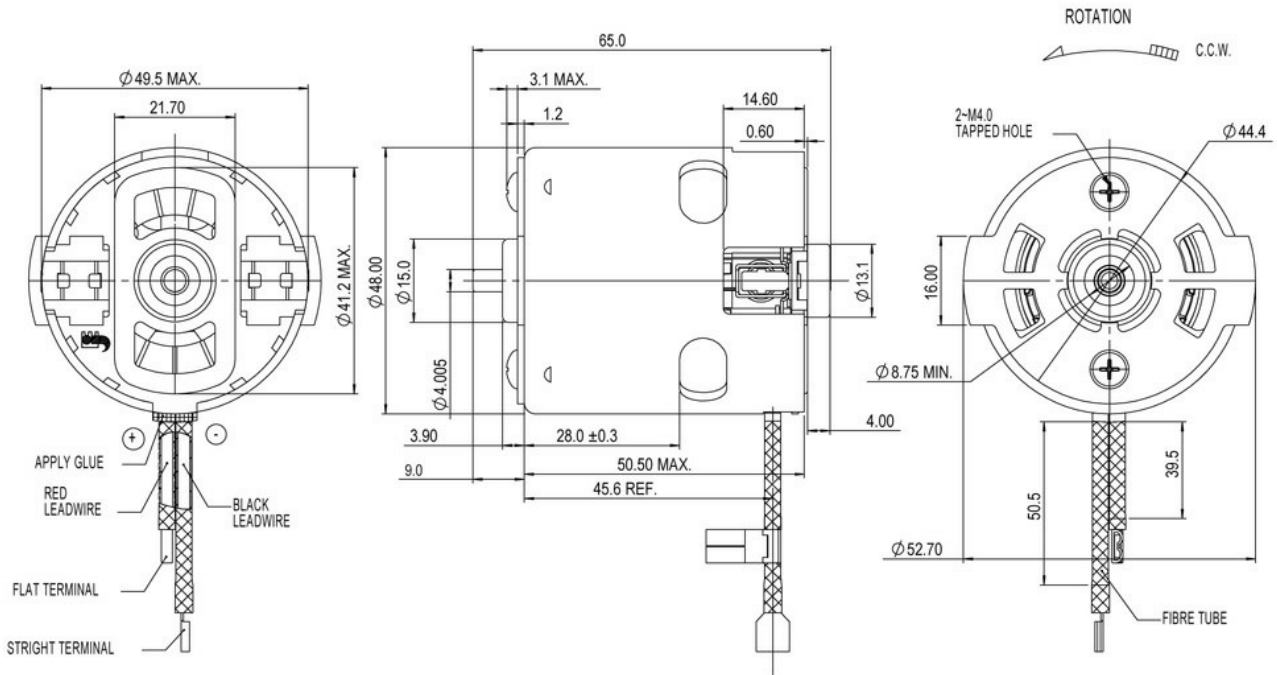
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	2.23	81.17	15.59	41.82
Efficiency (%)	-	-	67	45
Output Power (W)	-	-	188.41	339.13
Speed (rpm)	19829	-	16466	9879
Torque (mNm)	-	655.88	109.31	327.94

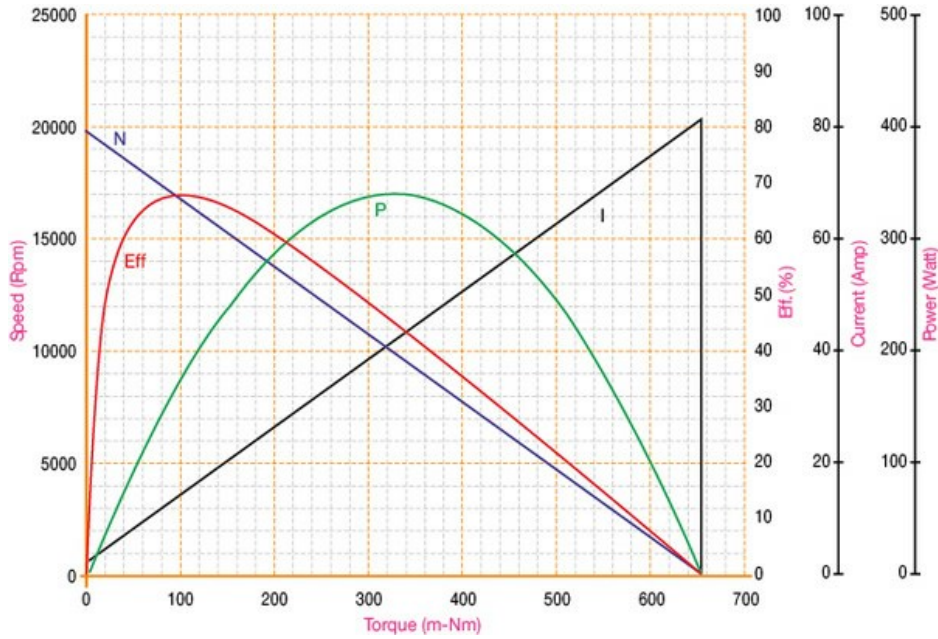
Application Examples:

Drills and Hammer Drills, Screw Drivers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 1.9 X 2.0 in
Shaft Diameter	: Ø 0.197 in
Input Voltage	: 18.0 V DC
No Load Speed	: 20503 rpm
Stall Torque	: 7.78 lb.in
Maximum Output Power	: 0.63
Maximum Efficiency	: 65%
Weight	: 11 oz
Operating Temperature Range	: 14 to 122 °F
Storage Temperature Range	: -4 to 176 °F
Electrical Connection	: Leadwire



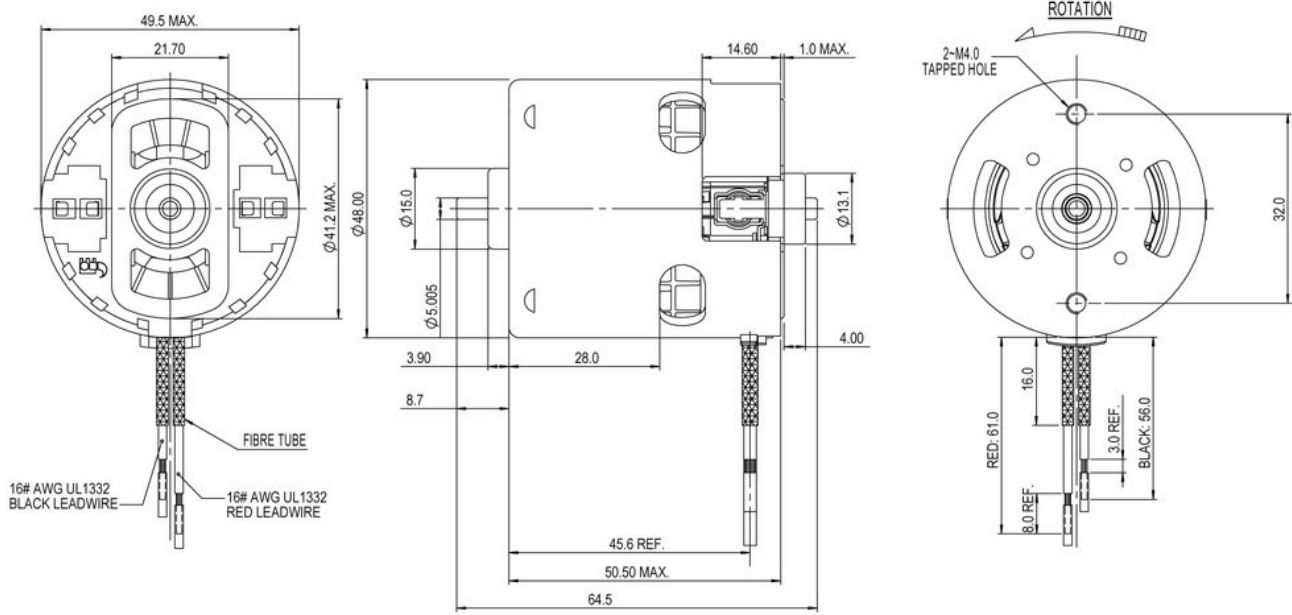
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	3.09	120.45	22.48	61.67
Efficiency (%)	-	-	65	42
Output Power (hp)	-	-	0.35	0.63
Speed (rpm)	20503	-	17064	10238
Torque (Lb.in)	-	7.78	1.30	3.89

Application Examples:

Drills and Hammer Drills, Screw Drivers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 48.0 X 50.5 mm
Shaft Diameter	: Ø 5.005 mm
Input Voltage	: 14.4 V DC
No Load Speed	: 19999 rpm
Stall Torque	: 754.76 mNm
Maximum Output Power	: 395.32 W
Maximum Efficiency	: 62%
Weight	: 305 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Leadwire



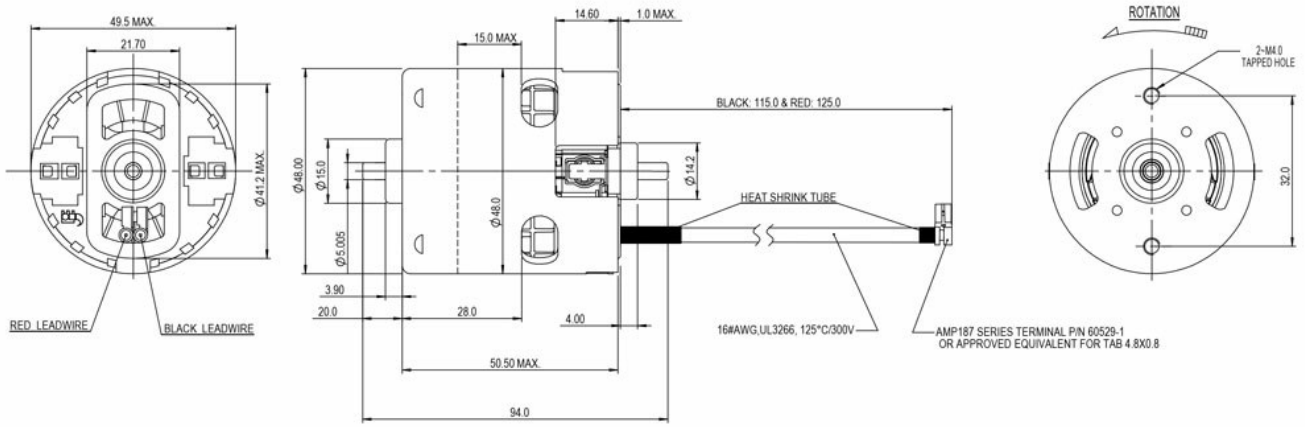
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	3.55	129.41	21.43	66.48
Efficiency (%)	-	-	62	40
Output Power (W)	-	-	192.76	395.32
Speed (rpm)	19999	-	17157	9999
Torque (mNm)	-	754.76	107.25	377.38

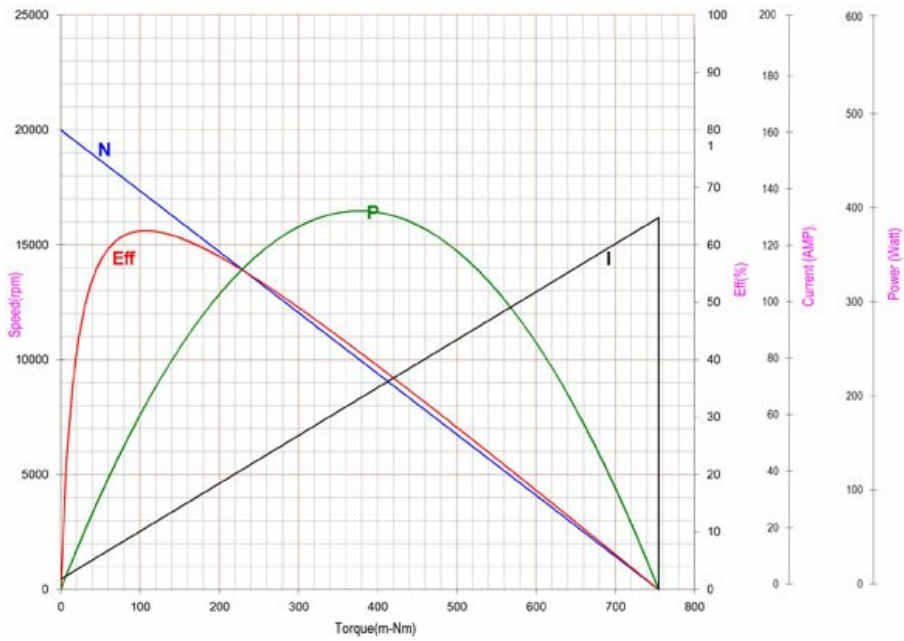
Application Examples:

Angle Grinders

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 48.0 X 68.0 mm
Shaft Diameter	: Ø 5.005 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 18226 rpm
Stall Torque	: 1554.81 mNm
Maximum Output Power	: 781.39 W
Maximum Efficiency	: 71%
Weight	: 464 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Leadwire



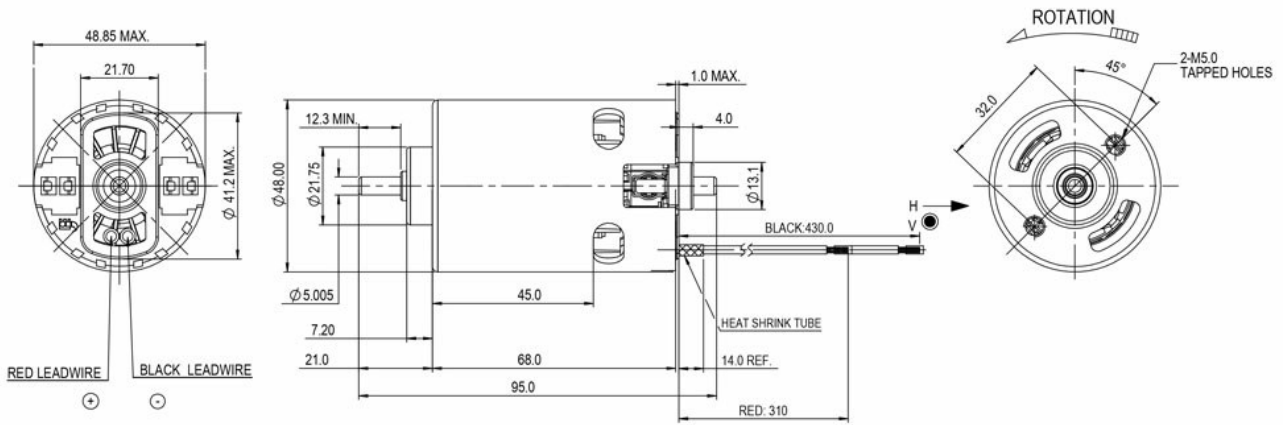
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	4.00	174.55	26.43	89.28
Efficiency (%)	-	-	71	45
Output Power (W)	-	-	339.11	781.39
Speed (rpm)	18226	-	15829	9113
Torque (mNm)	-	1554.81	204.50	777.41

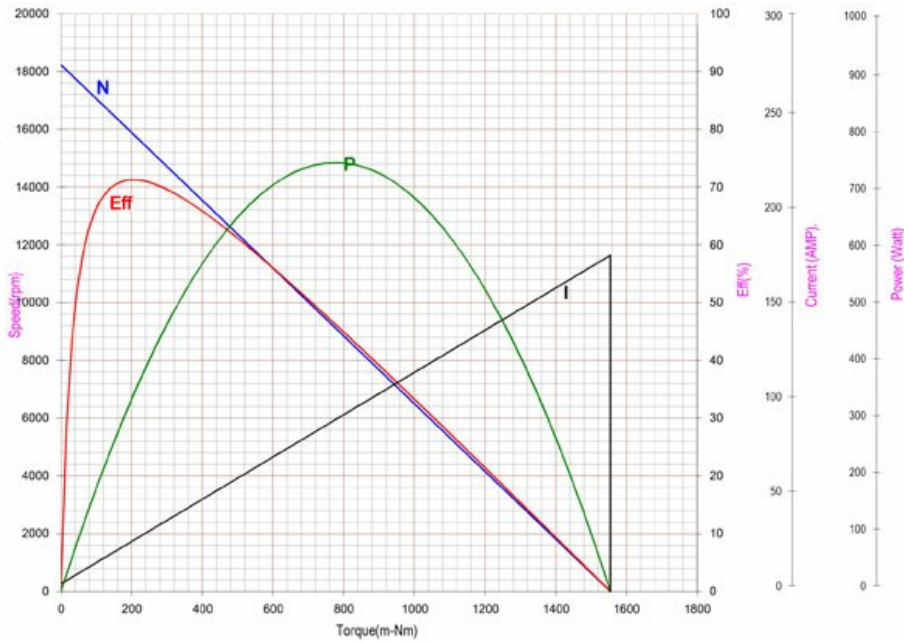
Application Examples:

Circular Saws

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 48.0 X 68.0 mm
Shaft Diameter	: Ø 5.005 mm
Input Voltage	: 19.2 V DC
No Load Speed	: 20492 rpm
Stall Torque	: 1540.28 mNm
Maximum Output Power	: 826.65 W
Maximum Efficiency	: 76%
Weight	: 464 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Leadwire



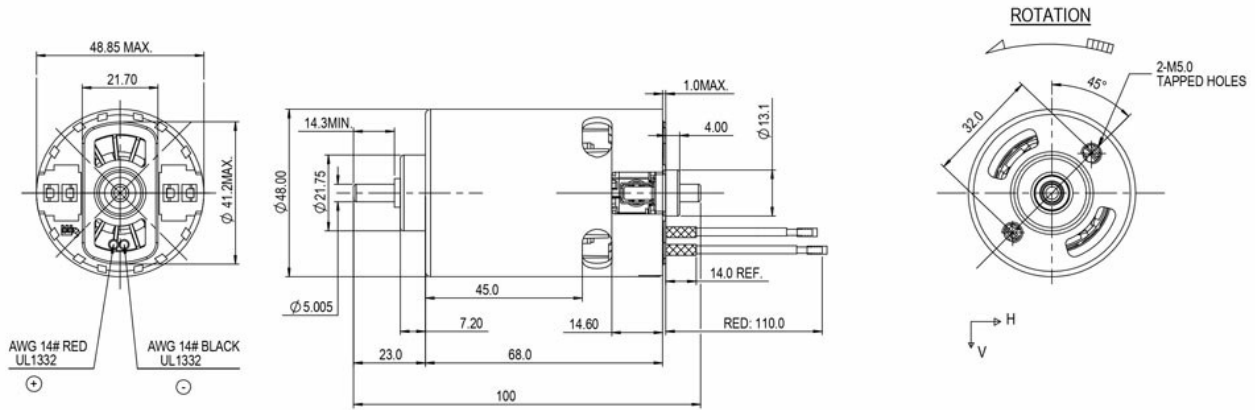
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	4.01	169.83	26.09	86.92
Efficiency (%)	-	-	76	49
Output Power (W)	-	-	381.64	826.65
Speed (rpm)	20492	-	17763	10246
Torque (mNm)	-	1540.28	205.08	770.14

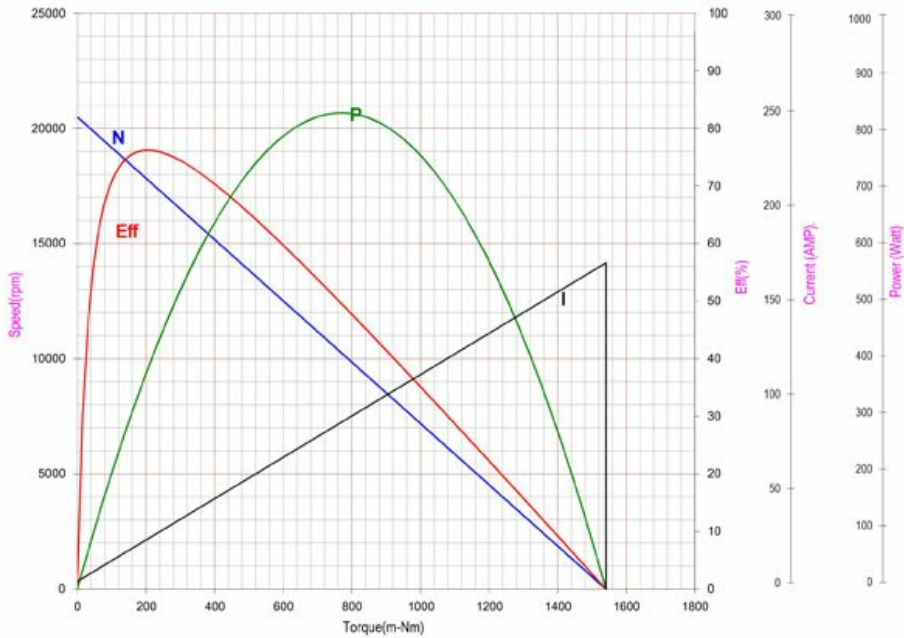
Application Examples:

Spiral Saws

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power DC motor

Specifications:

Dimensions	: Ø 48.0 X 68.0 mm
Shaft Diameter	: Ø 5.005 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 22500 rpm
No Load Current	: 3.90 A
Stall Torque	: 1400.00 mNm
Stall Current	: 185.00 A
Maximum Output Power	: 830.00 W
Maximum Efficiency	: 76%
Torque at Maximum Efficiency	: 180.98 mNm
Speed at Maximum Efficiency	: 19500 rpm
Life (Typical)	: 150 hr
Weight	: 464 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



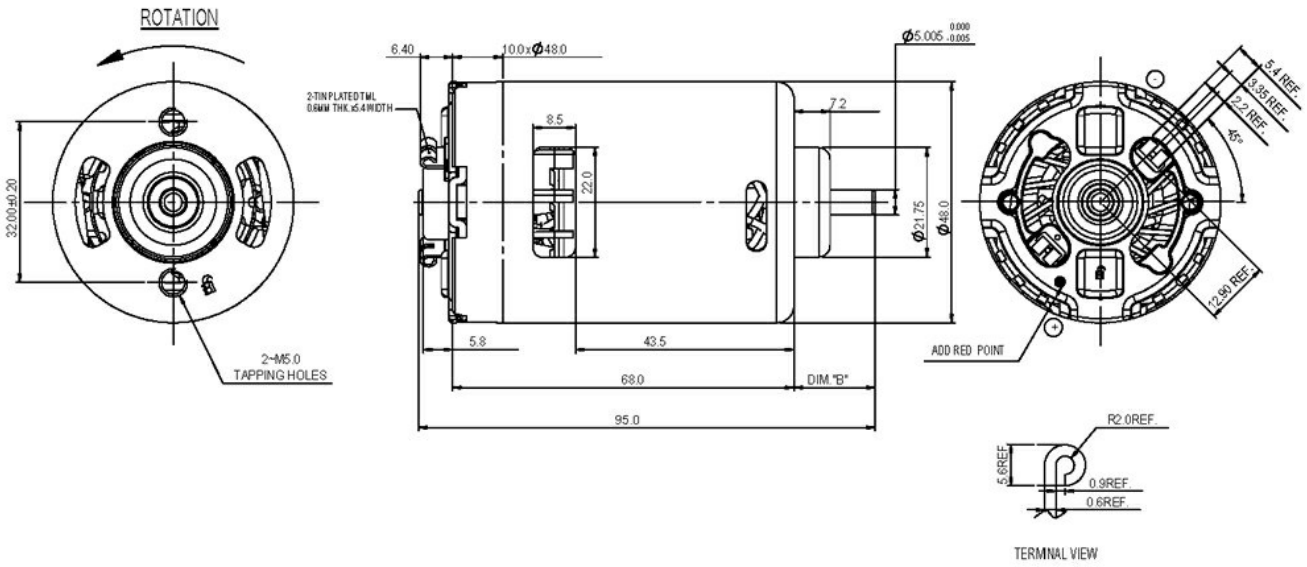
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	3.90	185.00	26.81	93.98
Efficiency (%)	-	-	76	49
Output Power (W)	-	-	369.20	830.00
Speed (rpm)	22500	-	19500	11150
Torque (mNm)	-	1400.00	180.98	711.60

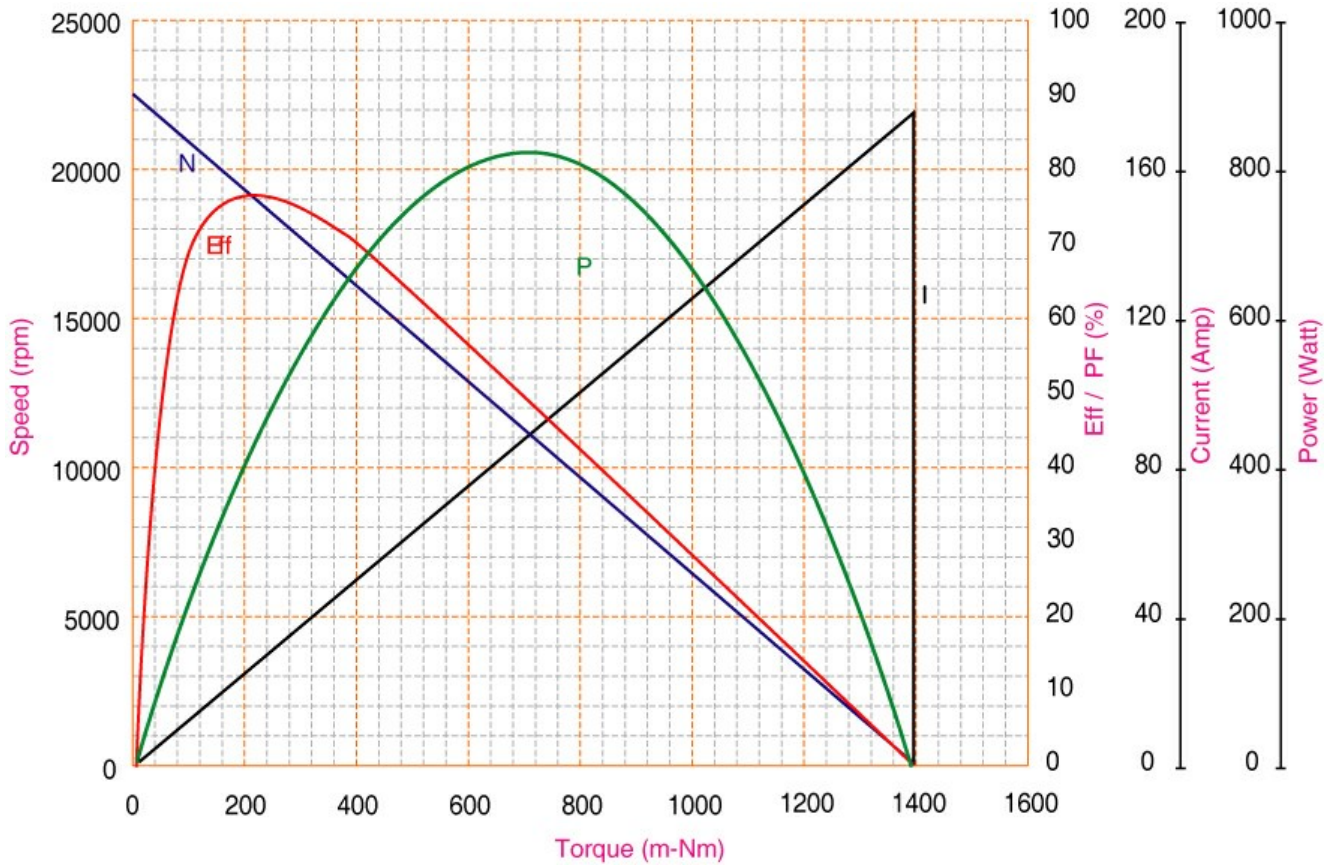
Application Examples:

Drills and Hammer Drills

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 48.0 X 68.0 mm
Shaft Diameter	: Ø 5.005 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 22544 rpm
Stall Torque	: 1398.64 mNm
Maximum Output Power	: 817.21 W
Maximum Efficiency	: 76%
Weight	: 464 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminal



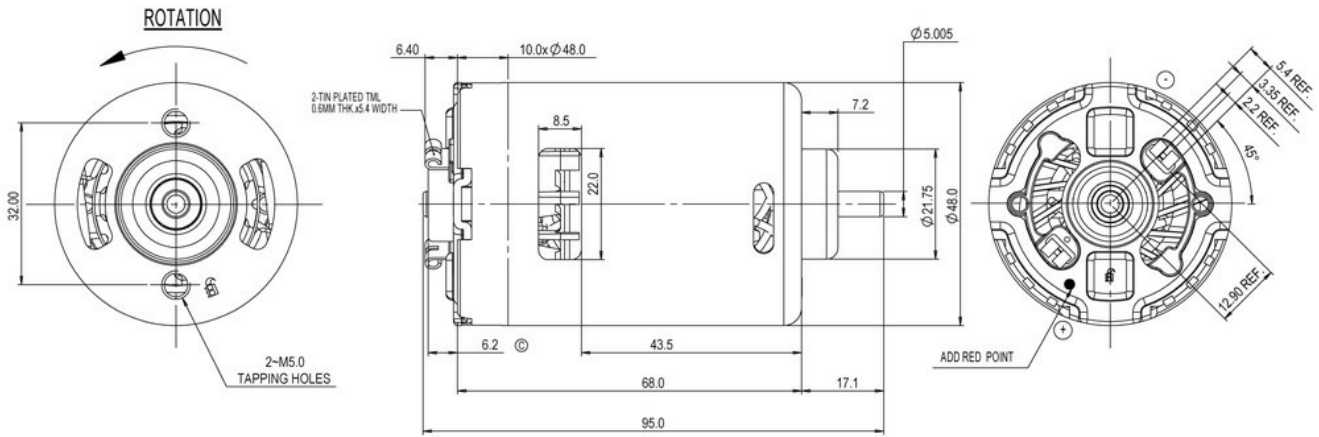
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	4.63	175.16	33.19	89.97
Efficiency (%)	-	-	76	50
Output Power (W)	-	-	454.00	817.21
Speed (rpm)	22544	-	18606	11164
Torque (mNm)	-	1398.64	233.11	699.32

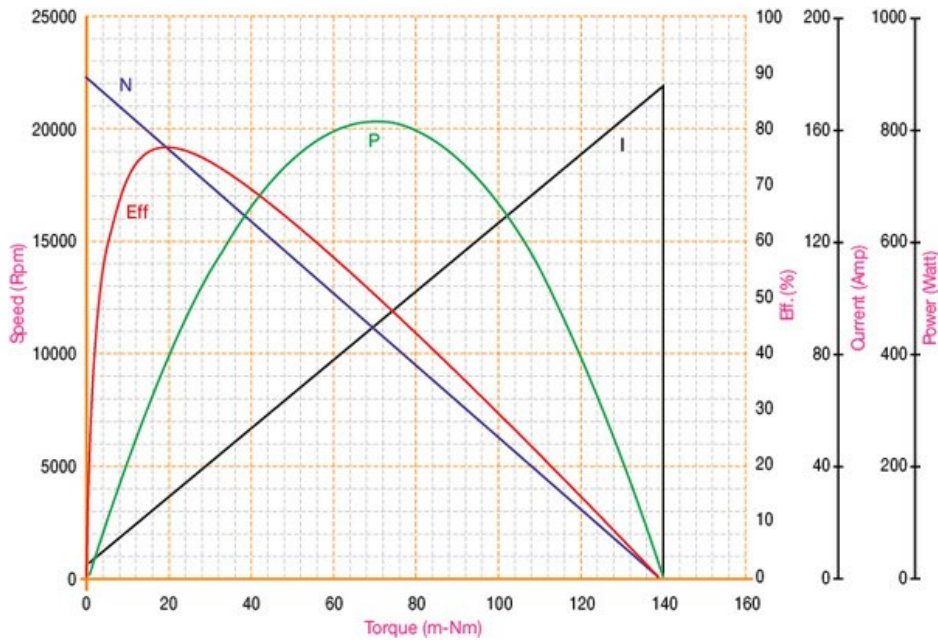
Application Examples:

Drills and Hammer Drills

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power DC motor

Specifications:

Dimensions	: Ø 48.0 X 50.5 mm
Shaft Diameter	: Ø 5.005 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 19600 rpm
No Load Current	: 2.80 A
Stall Torque	: 1055.00 mNm
Stall Current	: 101.00 A
Maximum Output Power	: 542.00 W
Maximum Efficiency	: 66%
Torque at Maximum Efficiency	: 161.96 mNm
Speed at Maximum Efficiency	: 16557 rpm
Life (Typical)	: 32 hr
Weight	: 325 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Lead wire



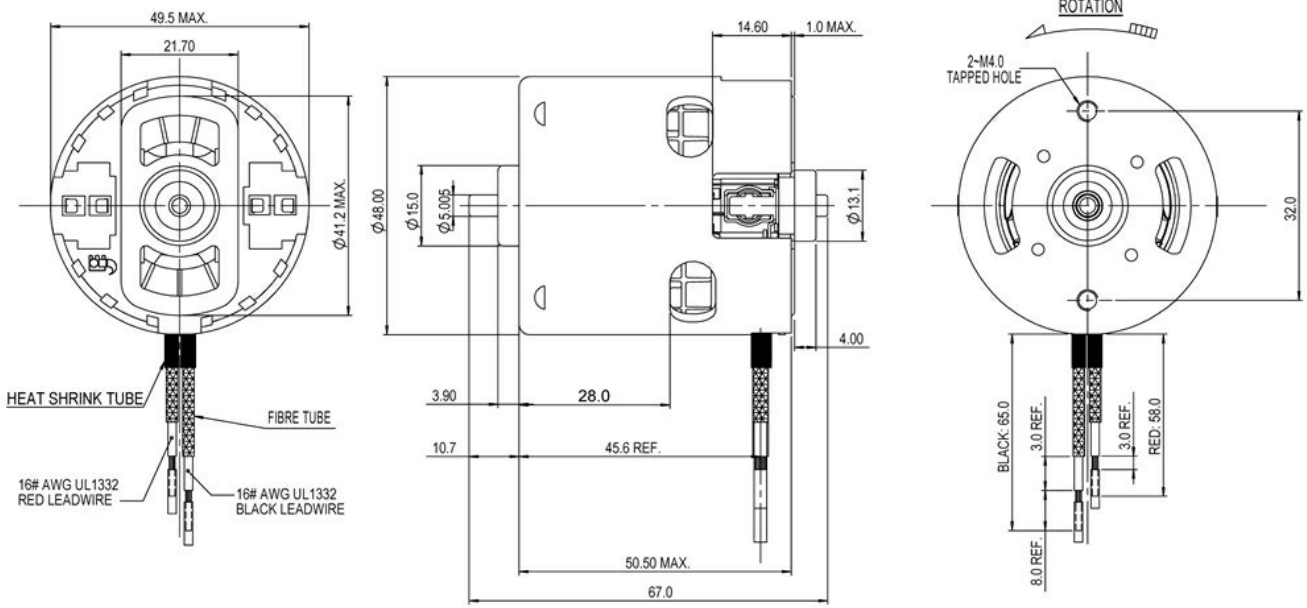
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	2.80	101.00	24.37	66.60
Efficiency (%)	-	-	66	42
Output Power (W)	-	-	280.69	542.00
Speed (rpm)	19600	-	16557	9934
Torque (mNm)	-	1055.00	161.96	485.89

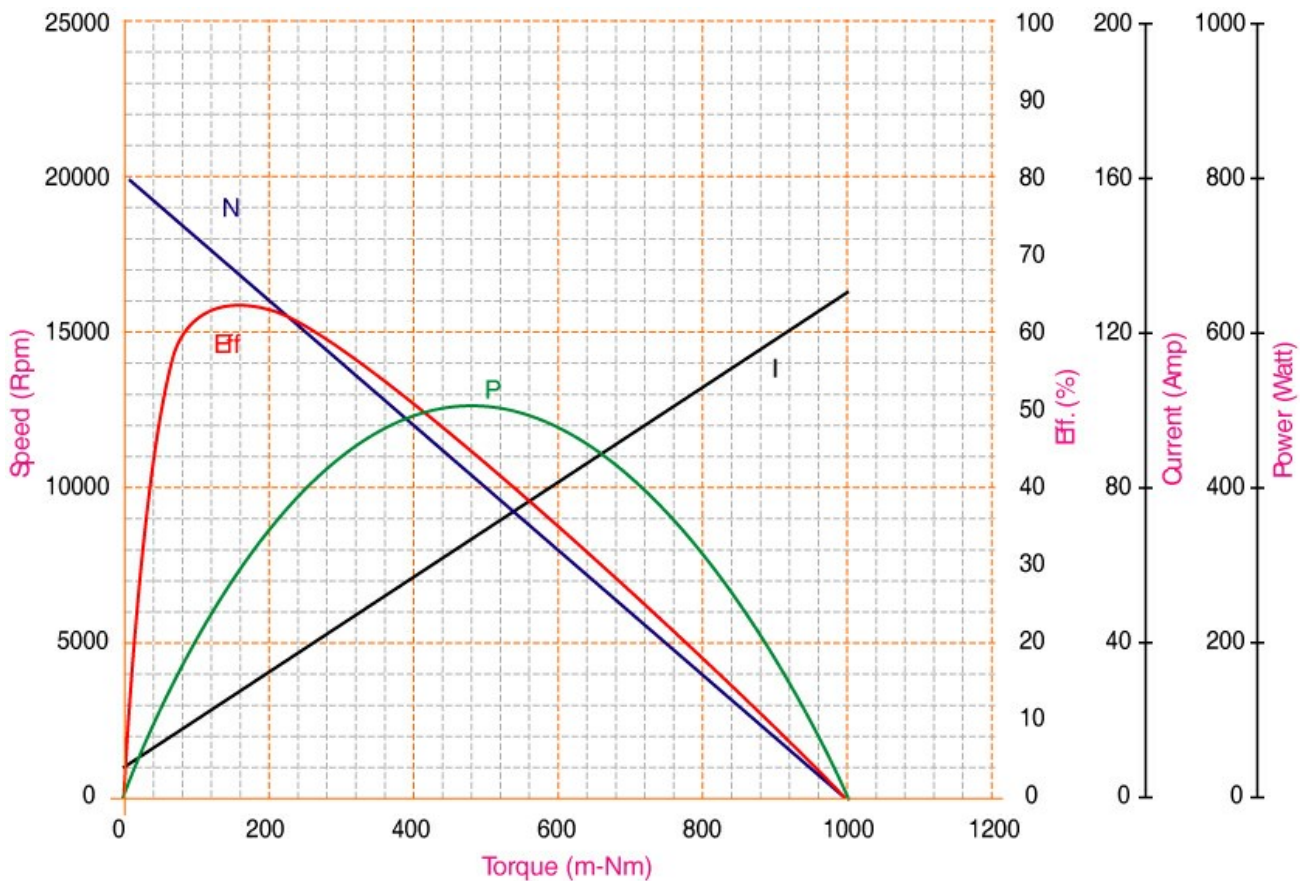
Application Examples:

Drills and Hammer Drills

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power, Compact Size, High Reliability

Specifications:

Dimensions	: Ø 48.0 X 68.0 mm
Shaft Diameter	: Ø 5.005 mm
Input Voltage	: 21.6 V DC
No Load Speed	: 21387 rpm
Stall Torque	: 1762.14 mNm
Maximum Output Power	: 987.05 W
Maximum Efficiency	: 81%
Weight	: 491 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Leadwire



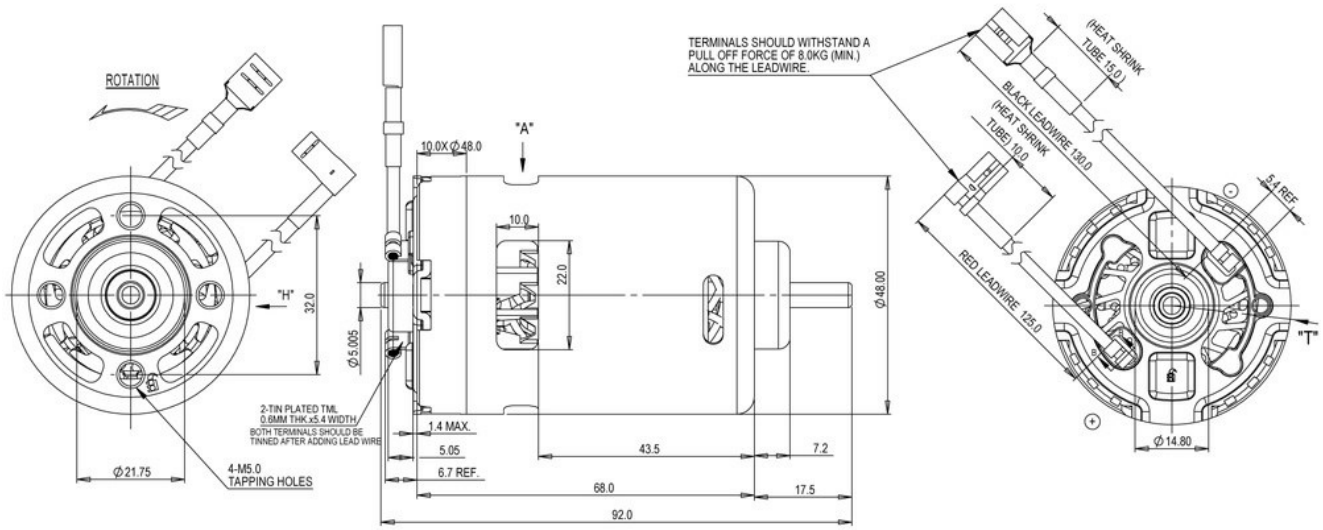
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	4.23	169.30	26.76	86.77
Efficiency (%)	-	-	81	53
Output Power (W)	-	-	465.34	987.05
Speed (rpm)	21387	-	18468	10694
Torque (mNm)	-	1762.14	240.52	881.07

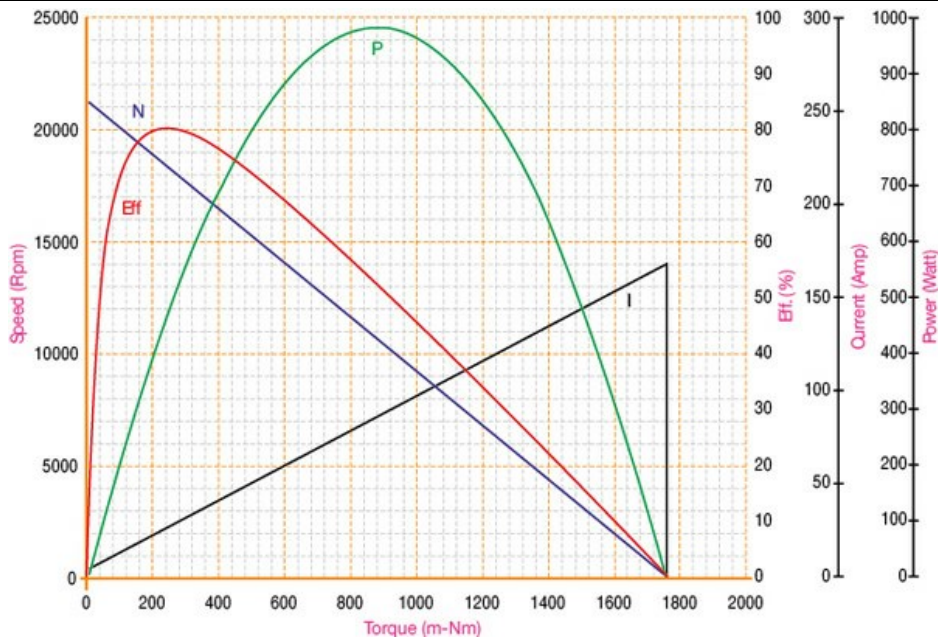
Application Examples:

Drills and Hammer Drills

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions : Ø 48.0 X 68.0 mm
 Shaft Diameter : Ø 5.005 mm
 Input Voltage : 18.0 V DC
 No Load Speed : 23594 rpm
 Stall Torque : 1907.72 mNm
 Maximum Output Power : 1178.85 W
 Maximum Efficiency : 81%
 Weight : 491 g
 Operating Temperature Range : -10 to 50 °C
 Storage Temperature Range : -20 to 80 °C
 Electrical Connection : Leadwire



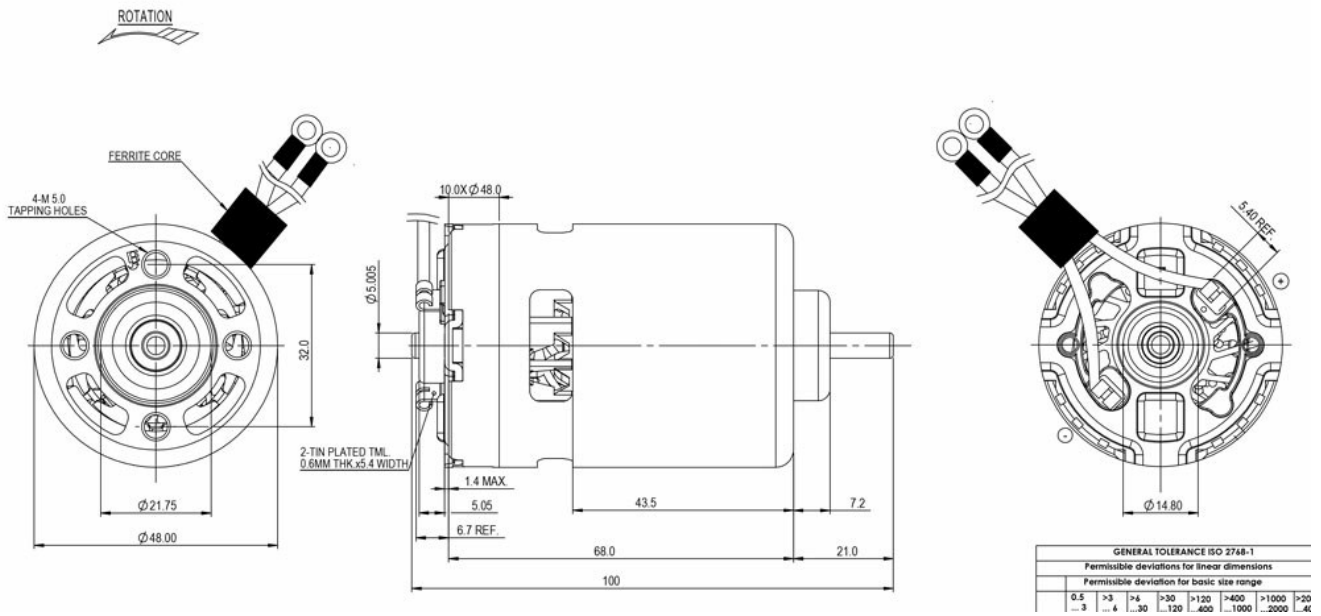
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	4.56	251.04	33.85	127.80
Efficiency (%)	-	-	81	46
Output Power (W)	23594.00	20791.00	493.67	1178.85
Speed (rpm)	23594	-	20791	11797
Torque (mNm)	-	1907.72	226.65	953.86

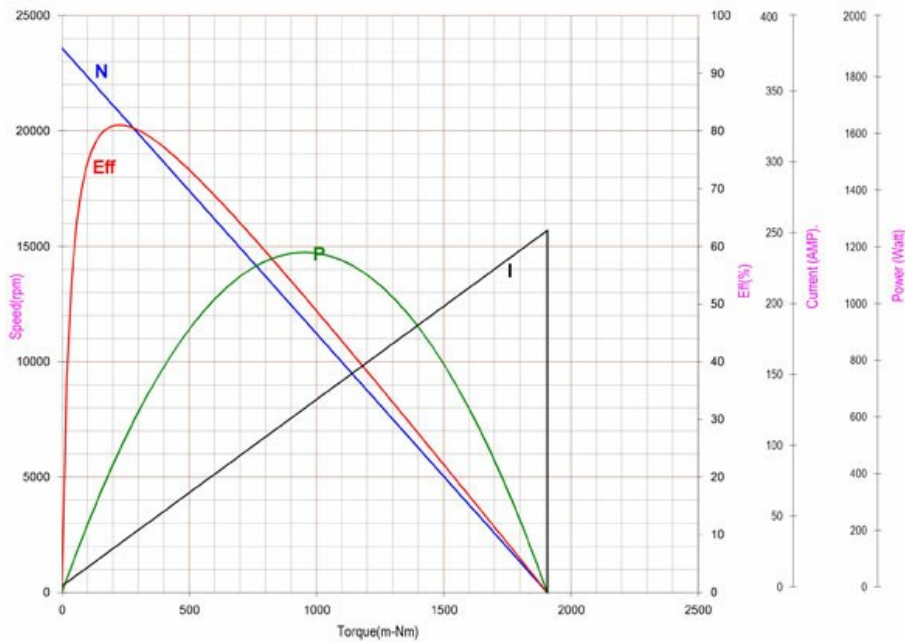
Application Examples:

Jig Saws

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High torque DC motor

Specifications:

Dimensions	: Ø 48.0 X 68.0 mm
Shaft Diameter	: Ø 5.005 mm
Input Voltage	: 21.6 V DC
No Load Speed	: 21300 rpm
No Load Current	: 4.20 A
Nominal Speed	: 18500 rpm
Nominal Torque	: 240.00 mNm
Nominal Current	: 27.00 A
Stall Torque	: 1762.00 mNm
Stall Current	: 169.00 A
Maximum Output Power	: 987.00 W
Maximum Efficiency	: 80%
Torque at Maximum Efficiency	: 240.00 mNm
Speed at Maximum Efficiency	: 18500 rpm
Life (Typical)	: 50 hr
Weight	: 490 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	4.20	169.00	27.00	87.00
Efficiency (%)	-	-	80	53
Output Power (W)	-	-	465.00	987.00
Speed (rpm)	21300	-	18500	10700
Torque (mNm)	-	1762.00	240.00	881.00

Application Examples:

Power Tools

Characteristics:

High torque DC motor

Specifications:

Dimensions	: Ø 38.3 X 58.1 mm
Shaft Diameter	: Ø 3.175 mm
Input Voltage	: 14.4 V DC
No Load Speed	: 20400 rpm
No Load Current	: 2.10 A
Nominal Speed	: 18000 rpm
Nominal Torque	: 93.00 mNm
Nominal Current	: 15.60 A
Stall Torque	: 796.00 mNm
Stall Current	: 118.00 A
Maximum Output Power	: 425.00 W
Maximum Efficiency	: 78%
Torque at Maximum Efficiency	: 93.00 mNm
Speed at Maximum Efficiency	: 18000 rpm
Life (Typical)	: 100 hr
Weight	: 280 g
Operating Temperature Range	: -10 to 55 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Terminals



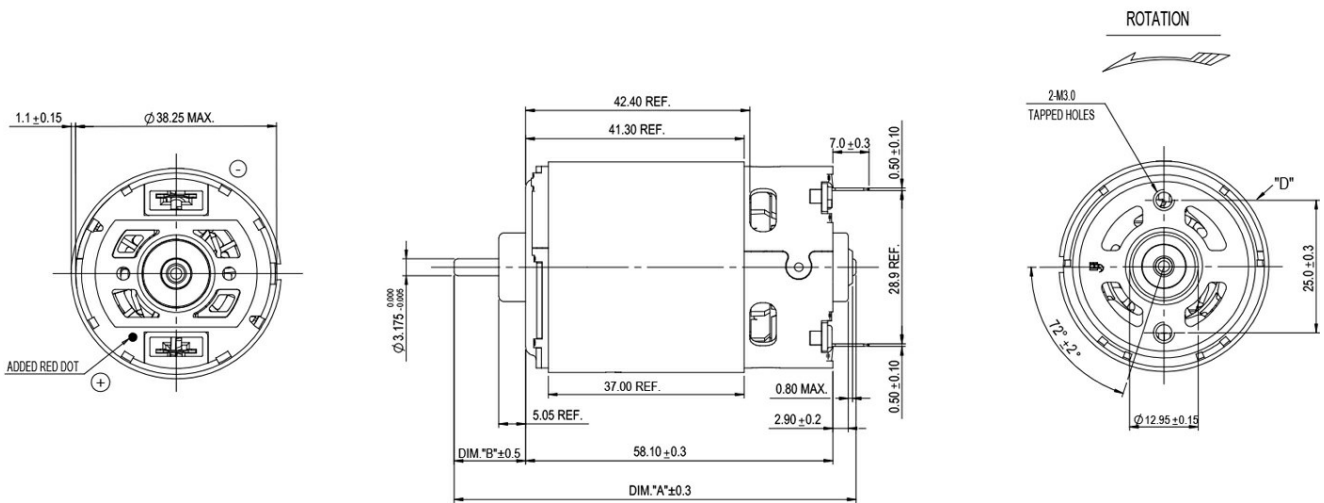
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	2.10	118.00	15.60	60.00
Efficiency (%)	-	-	78	49
Output Power (W)	-	-	176.00	425.00
Speed (rpm)	20400	-	18000	10200
Torque (mNm)	-	796.00	93.00	398.00

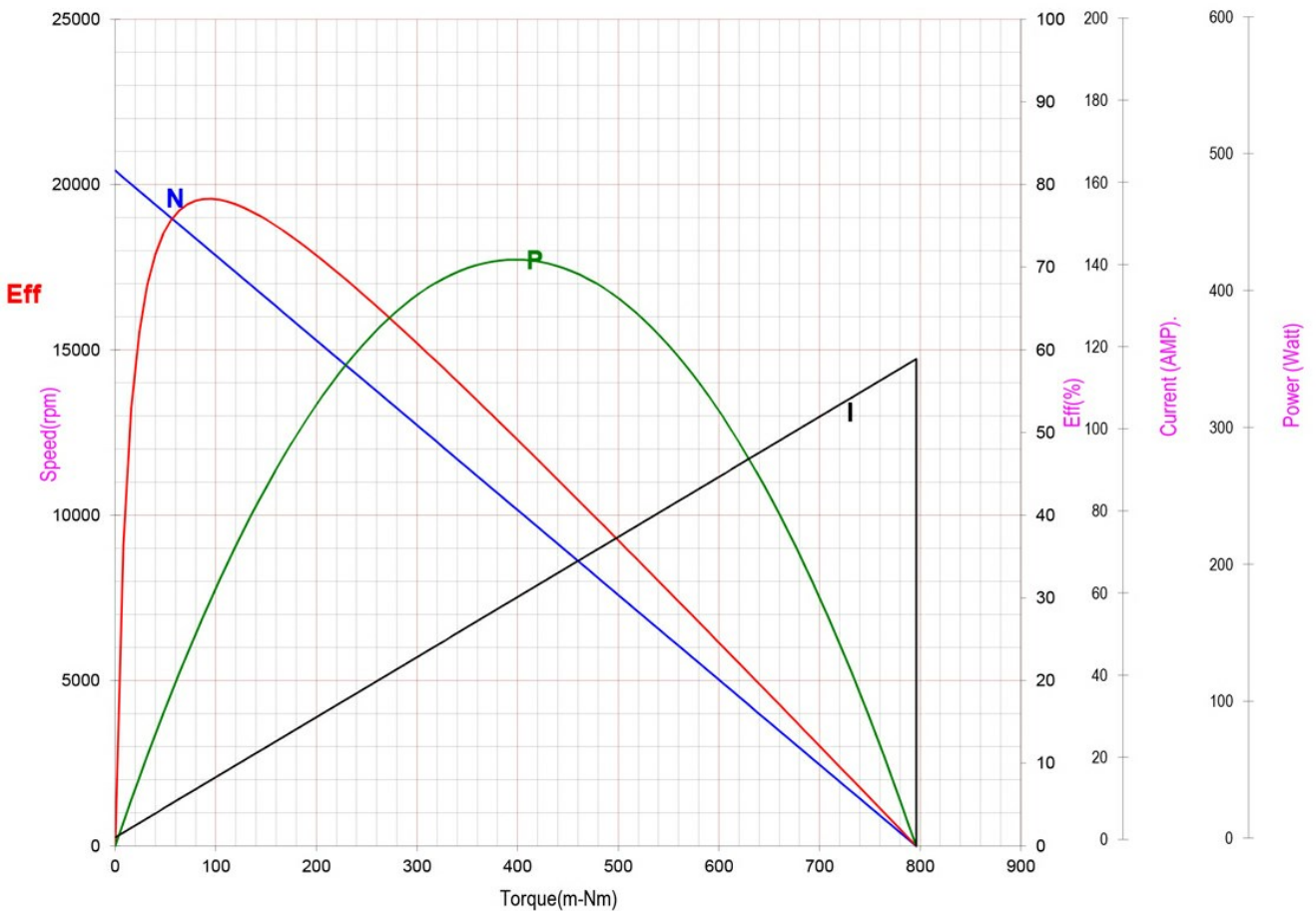
Application Examples:

Power Tools

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 44.8 X 66.0 mm
Shaft Diameter	: Ø 5.005 mm
Input Voltage	: 36.0 V DC
No Load Speed	: 18244 rpm
Stall Torque	: 1000.62 mNm
Maximum Output Power	: 478.12 W
Maximum Efficiency	: 79%
Weight	: 445 g
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrical Connection	: Lead Wires



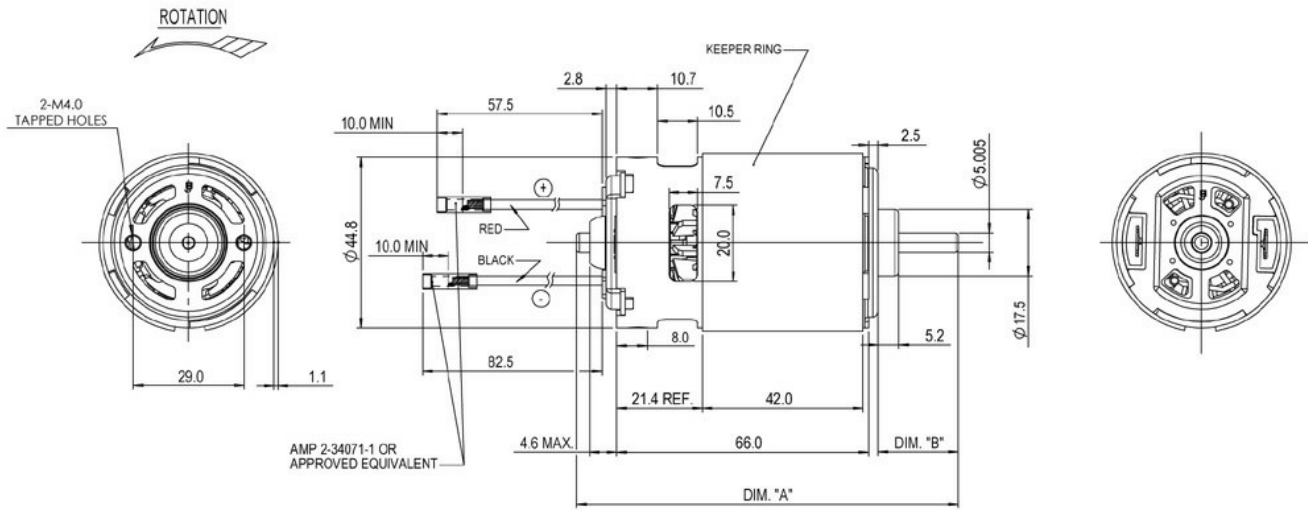
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	0.91	52.70	6.91	26.80
Efficiency (%)	-	-	79	50
Output Power (W)	-	-	195.88	478.12
Speed (rpm)	18244	-	16131	9122
Torque (mNm)	-	1000.62	115.91	500.31

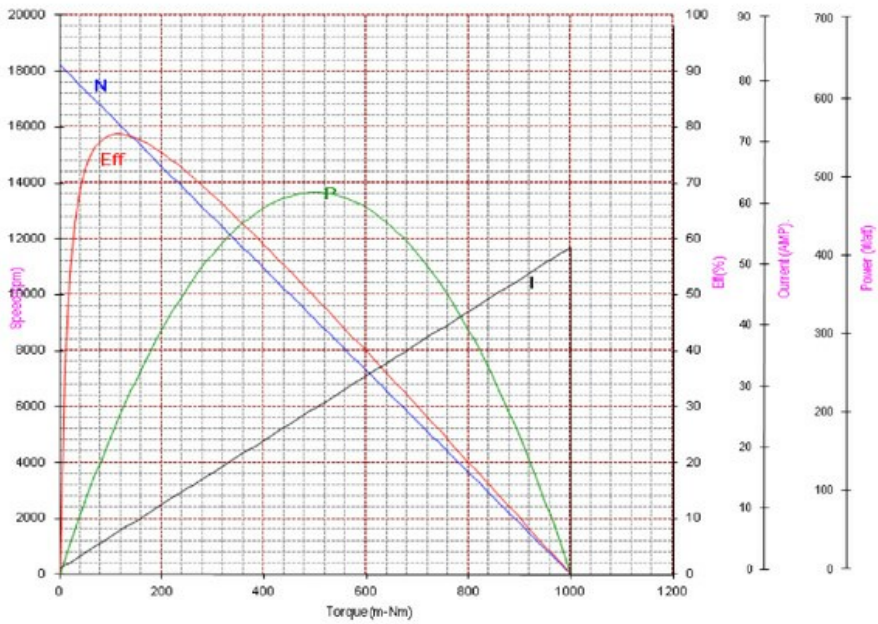
Application Examples:

Hedge Trimmers

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

Compact size, High reliability

Specifications:

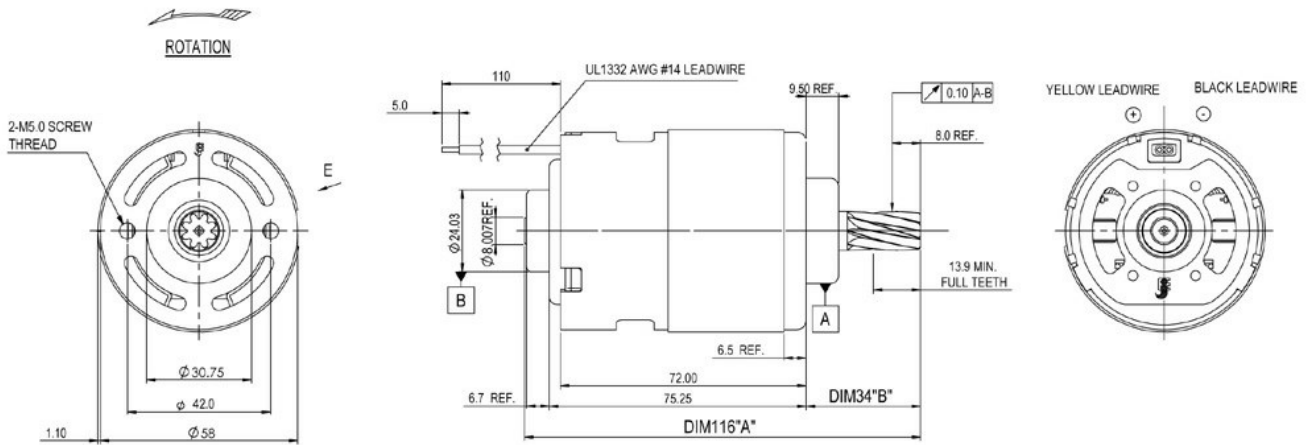
Dimensions	: Ø 58 X 116 mm
Shaft Diameter	: Ø 12.005 mm
Input Voltage	: 36.0 V DC
No Load Speed	: 23444 rpm
Stall Torque	: 2349.34 mNm
Maximum Output Power	: 1447.45 W
Maximum Efficiency	: 72%
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrcial Connection	: Terminal



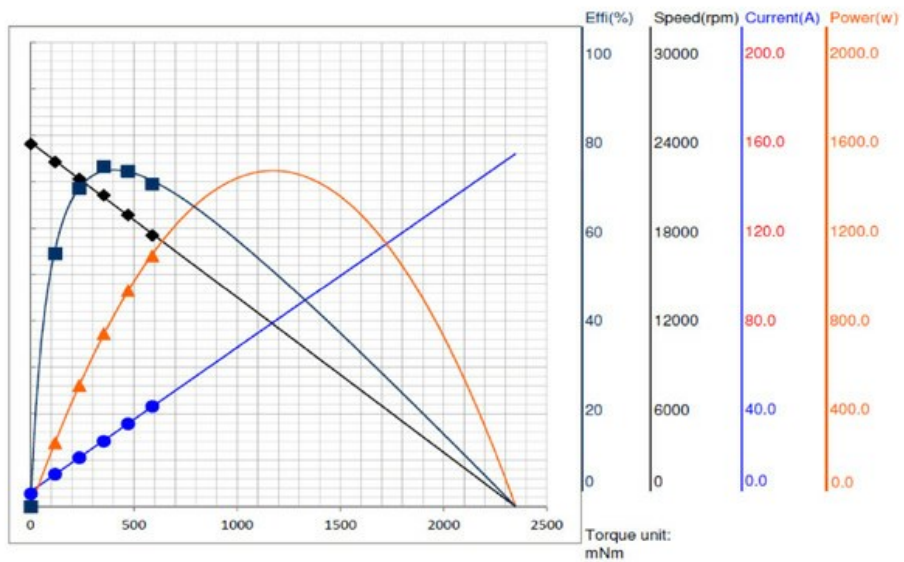
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	5.56	152.11	31.53	79.32
Efficiency (%)	-	-	72	51
Output Power (W)	-	-	1447.45	1447.45
Speed (rpm)	23444	-	19494	11767
Torque (mNm)	-	2349.34	403.33	1174.67

Outline Drawing:



Performance Curves:



Units in Metric

Characteristics:

High Power Density, High Reliability

Specifications:

Dimensions	: Ø 75 X 94.92 mm
Shaft Diameter	: Ø 5.000 mm
Input Voltage	: 18.0 V DC
No Load Speed	: 18723 rpm
Stall Torque	: 1470.16 mNm
Maximum Output Power	: 720.90 W
Maximum Efficiency	: 70%
Operating Temperature Range	: -10 to 50 °C
Storage Temperature Range	: -20 to 80 °C
Electrcial Connection	: Leadwire



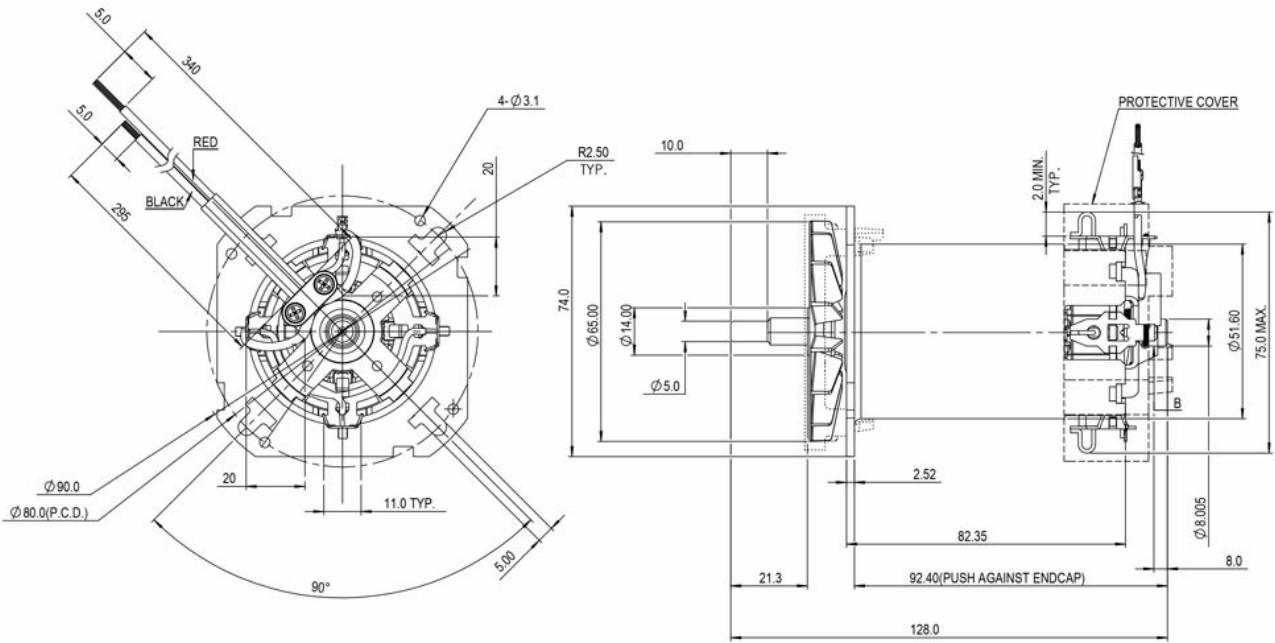
Performance Data:

	No Load	Stall	Maximum Efficiency	Maximum Power
Current (A)	6.88	156.94	32.86	81.91
Efficiency (%)	-	-	70	48
Output Power (W)	-	-	412.80	720.90
Speed (rpm)	18723	-	15481	9361
Torque (mNm)	-	1470.16	254.52	735.08

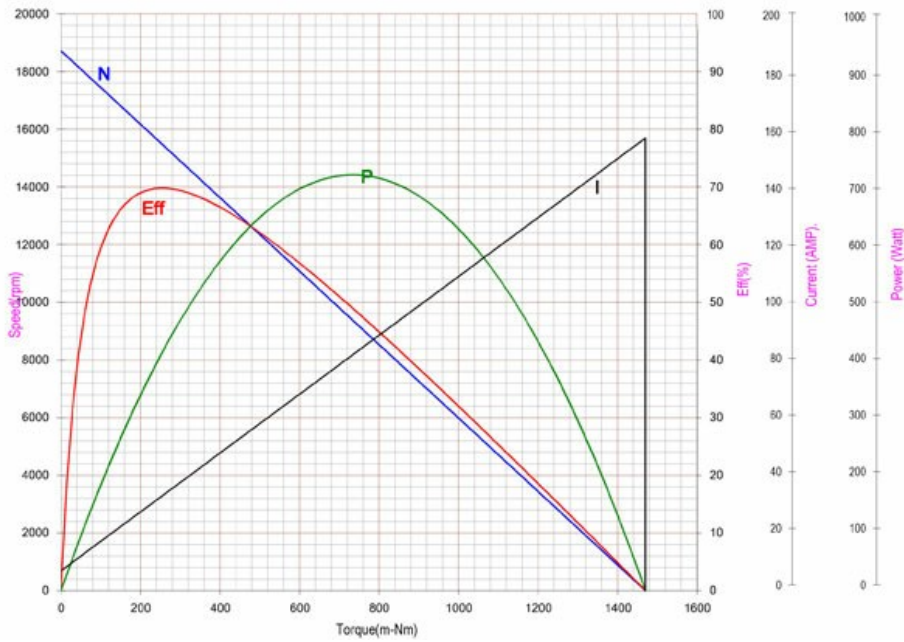
Application Examples:

Circular Saws

Outline Drawing:



Performance Curves:



Units in Metric