

# Low Cost PMDC - Flat Sided



## 10mm Series

### Applications

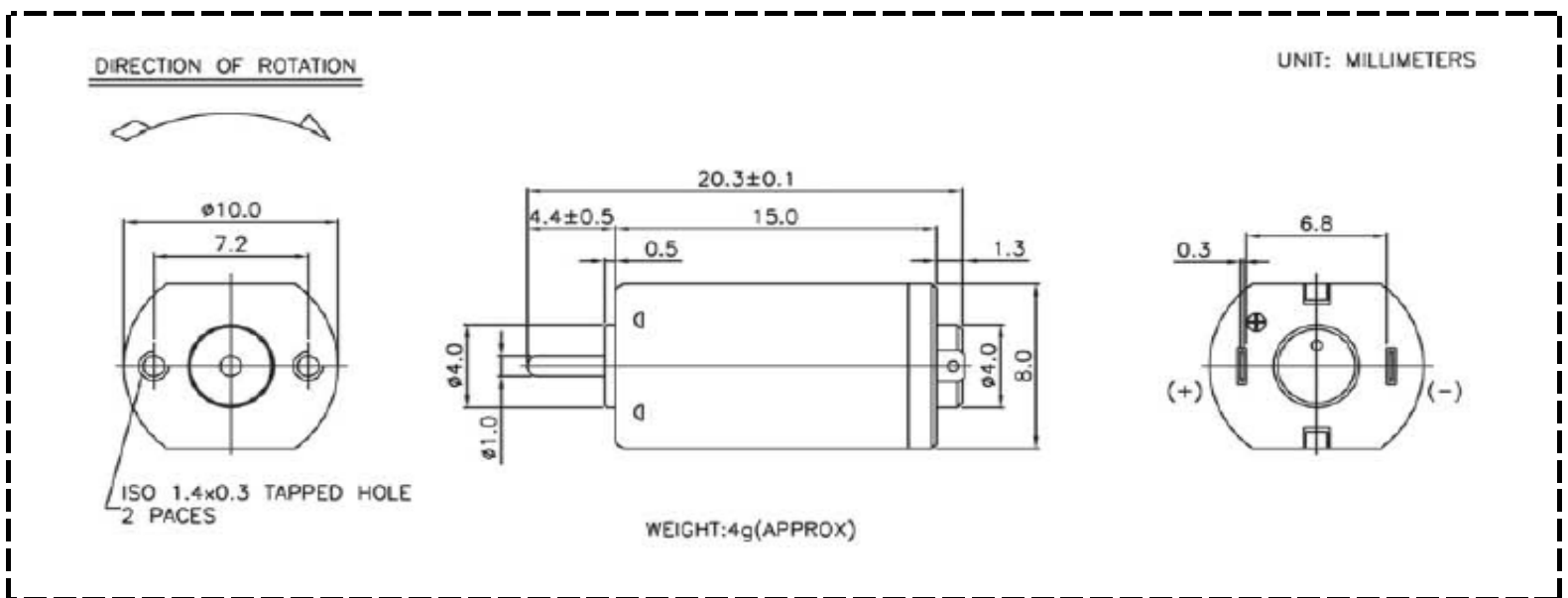
- \* Audio and Visual Equipments
- \* Comcorder
- \* Precision Instruments
- \* Camero



### Specification

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque gf.cm
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL10FF3-3-02	2.0~3.0	3.0	15200	0.045	11820	0.16	1.70	0.21	43.0	7.6
PL10FF3-2-02	1.2~3.5	2.4	15800	0.056	12410	0.2	1.80	0.23	47.7	8.6
PL10FF3-2-00	2.0~4.0	2.0	8000	0.025	6020	0.08	0.96	0.06	37.0	3.9
PL10FF3-2-03	1.5~3.5	1.5	20000	0.12	13500	0.43	2.00	0.28	43.4	6.2

### Outline Drawing



# Low Cost PMDC - Flat Sided



## 12mm Series

### Applications

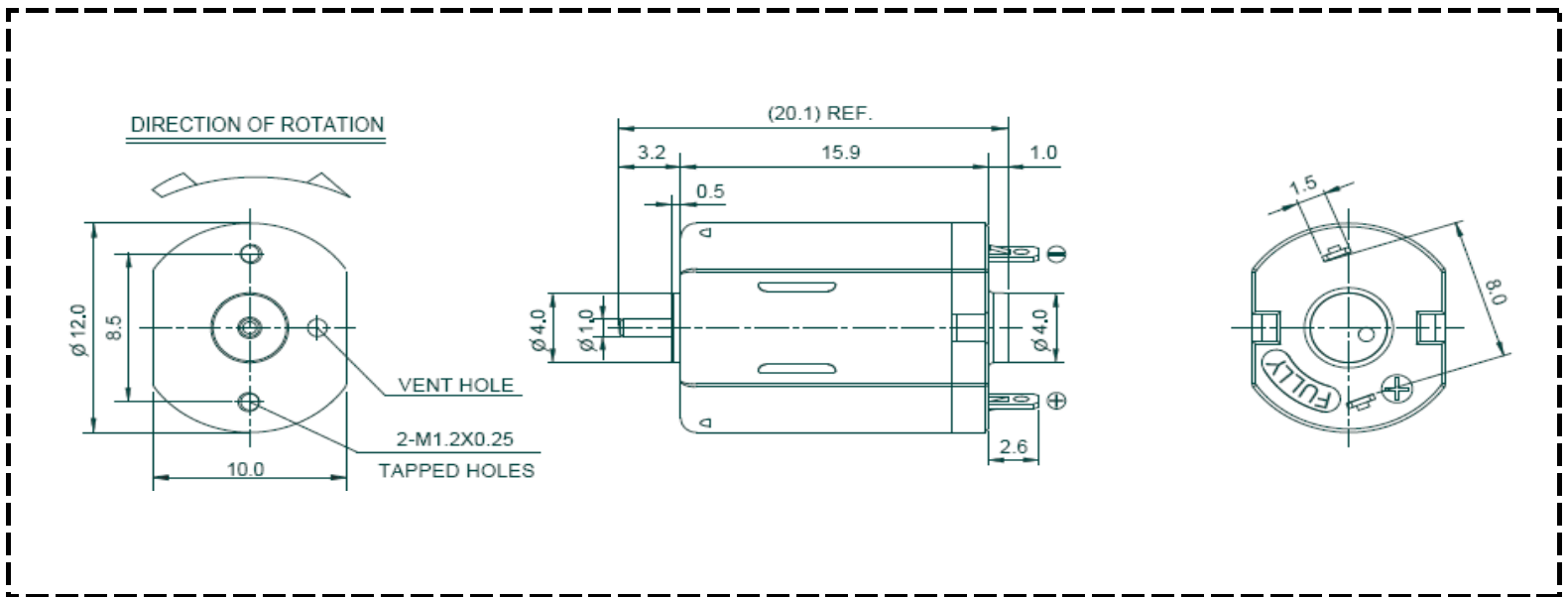
- \* Camera
- \* Motorized Toy
- \* Motorized Plastic Model
- \* Comcorder
- \* Radio Control Model



### Specification

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	gf.cm
PL12FF3-1-02	1.0~2.0	1.2	10240	0.06	8400	0.33	2.00	0.17	43.5	11
PL12FF3-2-02	1.0~2.0	1.5	12000	0.06	10000	0.32	2.00	0.2	42.0	12
PL12FF3-3-05	1.0~3.0	2.5	16000	0.11	12700	0.42	3.50	0.45	43.4	17
PL12FF3-3-03	1.5~4.5	3.0	12000	0.07	10000	0.2	2.50	0.26	43.0	15
PL12FF3-4-03	2.0~5.0	3.5	12400	0.06	9500	0.22	3.30	0.32	41.7	14
PL12FF3-5-05	3.0~6.0	5.0	16000	0.07	12560	0.25	4.00	0.52	41.6	19

### Outline Drawing



# Low Cost PMDC - Flat Sided



## 14mm Series

### Applications

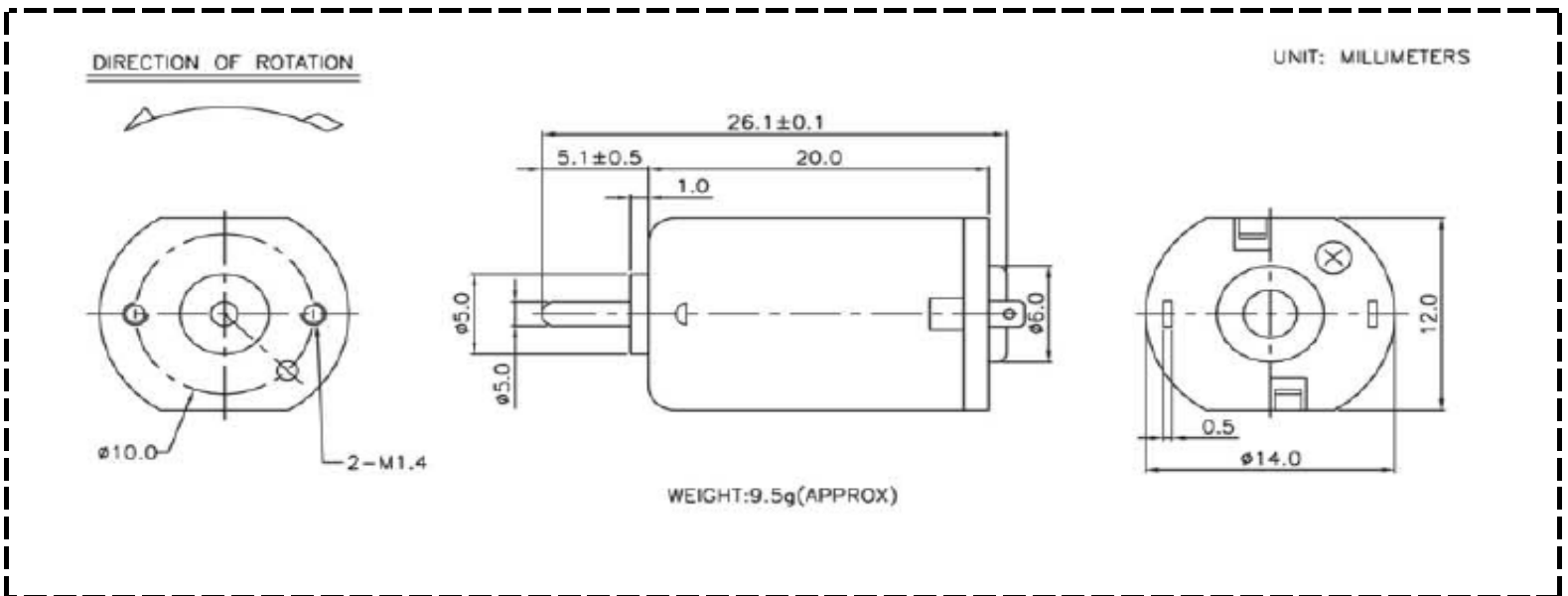
- \* Audio and Visual Equipment
- \* CD Player                            \* LD Player
- \* Cassette Tape Recorder
- \* Comcorder                            \* Rolling Pump



### Specification

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	gf.cm
PL14FF3-3-01	2.0~4.0	3.0	4240	0.02	3165	0.05	2.00	0.065	43.3	7.90
PL14FF3-3-04	2.0~4.0	3.0	12000	0.08	9100	0.25	4.00	0.37	49.8	16.8
PL14FF3-5-14	3.0~9.0	4.5	22400	0.14	17400	0.52	8.00	1.43	51.1	36.0
PL14FF3-5-15	3.0~9.0	4.5	3000	0.30	23480	1.06	5.80	1.54	34.4	31.3

### Outline Drawing



# Low Cost PMDC - Flat Sided



## 15.5mm Series

### Applications

- \* Locking System
- \* CD Player
- \* MD Player
- \* CD Player Tracking
- \* Motorized Curtain

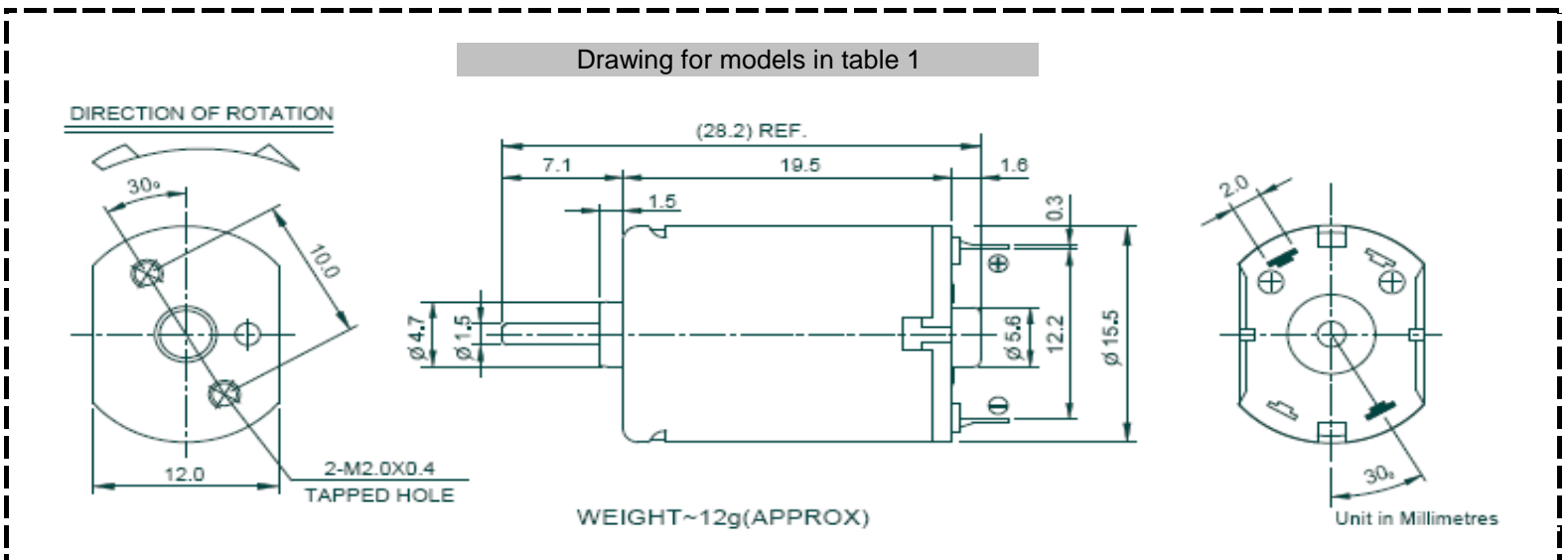


### Specification

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL16FF3-2-01D	1.0~2.0	1.5	6730	0.1	4700	0.23	3.00	0.14	42.0	10
PL16FF3-3-01	1.8~3.5	2.6	4480	0.04	3250	0.08	2.20	0.07	35.3	8.0
PL16FF3-3-02	2.0~4.0	3.0	9200	0.07	7350	0.18	2.50	0.18	34.9	12.4
PL16FF3-5-04	3.0~6.0	5.0	10200	0.05	7500	0.16	4.50	0.35	43.3	17.0
PL16FF3-5-01	3.0~6.0	5.0	6050	0.02	4540	0.05	2.00	0.09	37.3	8.0
PL16FF3-10-01	6.0~12.0	10.0	7650	0.02	5300	0.05	2.00	0.11	22.0	6.5
PL16FF3-12-01	6.0~12.0	12.0	9000	0.02	7000	0.05	2.00	0.14	23.3	9.0

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL16FF3-2-05	1.0~3.0	1.5	7500	0.13	5000	0.69	10.00	0.51	49.0	30.0
PL16FF3-3-07V	1.5~4.5	3.0	9600	0.09	6450	0.41	10.00	0.66	53.7	30.0
PL16FF3-5-04	3.0~7.0	5.0	8700	0.06	6790	0.17	6.00	0.42	49.4	27.4
PL16FF3-7-06V	5.0~9.0	7.0	10300	0.06	8500	0.17	7.00	0.61	51.0	42.0
PL16FF3-8-03	6.0~12.0	8.0	7630	0.02	6040	0.07	5.00	0.31	55.3	24.0
PL16FF3-12-05V	6.0~18.0	12.0	9000	0.02	7100	0.09	7.00	0.5	60.0	33.1
PL16FF3-12-02V	6.0~18.0	12.0	5000	0.02	3440	0.04	5.00	0.17	36.7	16.0
PL16FF3-14-06V	6.0~18.0	13.5	10670	0.03	8250	0.09	6.20	0.55	45.0	28.6

### Outline Drawing



# Low Cost PMDC - Flat Sided



## 20.4mm Series

### Applications

* Aeroplane Model	* Game Pad
* Nail Dryer	* Model Railway
* Mouse Pas	* Nail Trimmer
* Game Steering Wheel	* Car Mirror
* Hair Cutter	* Razor
* Shaver	



### Specification

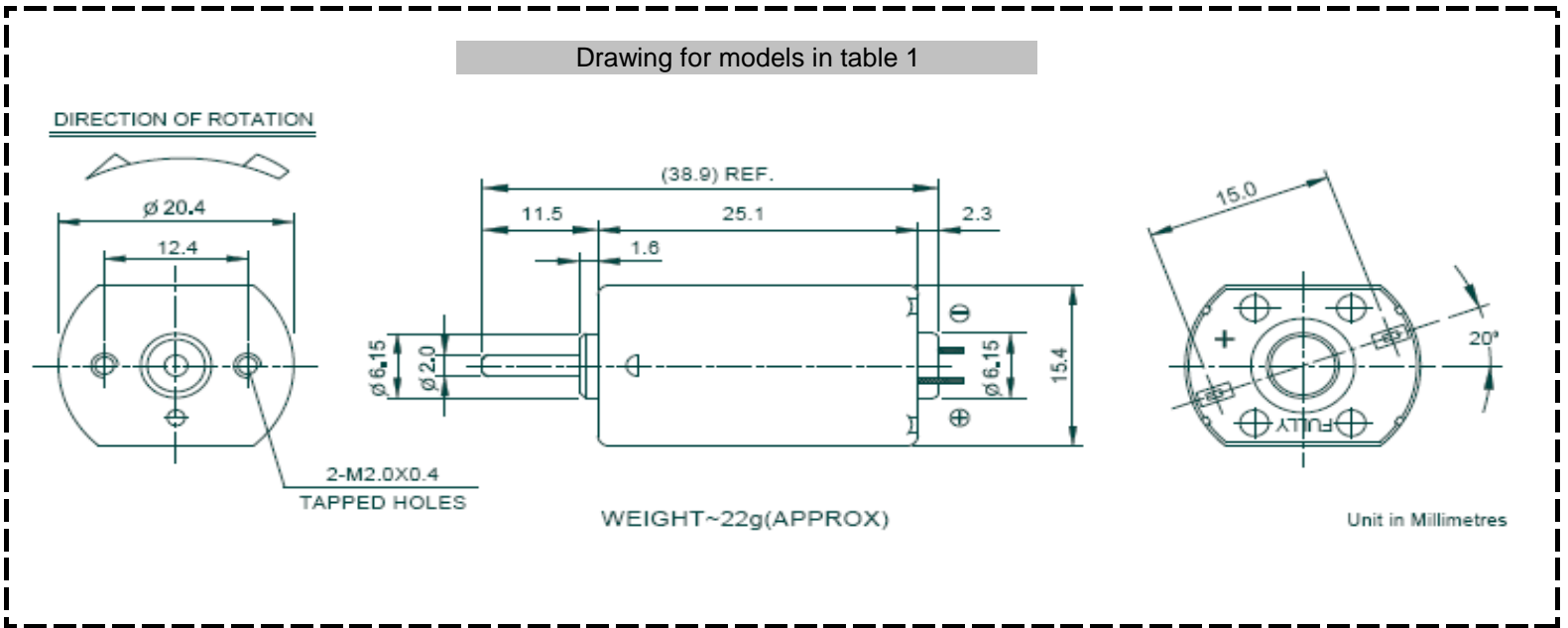
Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque gf.cm
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL20FF3-1-01	0.6~2.4	0.7	2100	0.13	1600	0.35	5	0.082	17.0	21.0
PL20FF3-2-06V	1.0~3.0	1.5	6900	0.21	5500	0.68	10	0.56	55.0	50.0
PL20FF3-2-08V	1.2~3.6	2.4	7730	0.16	6270	0.55	13	0.823	62.3	67.4
PL20FF3-3-47V	1.2~3.0	3.0	20000	0.45	15300	3.00	30	4.7	52.0	128.0
PL20FF3-6-04	4.5~9.0	6.0	5100	0.03	3840	0.12	10	0.39	54.7	40.5
PL20FF3-8-04	5.0~12.0	8.0	5000	0.03	3850	0.10	10	0.39	49.4	44.0
PL20FF3-9-07V	3.0~12.0	9.0	7400	0.04	6000	0.17	12	0.74	48.3	63.0
PL20FF3-12-10VN	3.0~12.0	12.0	8900	0.03	6780	0.16	15	1.04	54.2	63.0

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque gf.cm
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL20FF3-1-13	1.0~1.5	1.2	8300	0.44	6300	1.89	20	1.29	57.0	83.0
PL20FF3-2-06	1.5~3.0	2.4	4400	0.09	3600	0.33	15	0.55	69.4	82.5
PL20FF3-3-17V	1.5~4.5	3.0	9550	0.17	8200	0.83	20	1.68	67.5	133.0
PL20FF3-5-04V	3.0~7.0	5.0	4360	0.05	3520	0.13	10	0.36	55.5	52.0
PL20FF3-6-01VN	5.0~12.0	5.5	1980	0.01	1570	0.03	5	0.08	48.5	24.0
PL20FF3-5-20VN	3.0~9.0	5.0	9430	0.1	7890	0.47	25	2.02	71.0	153.0
PL20FF3-12-20N	9.0~24.0	12.0	7500	0.04	4800	0.31	40	1.97	53.0	111.0
PL20FF3-15-08V	12.0~28.0	15.0	6290	0.02	5300	0.09	15	0.82	60.7	95.0

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque gf.cm
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL20FK3-2-06	1.0~2.0	1.5	6900	0.21	5500	0.68	10	0.56	55.0	50.0
PL20FK3-2-04V	1.2~3.6	2.4	4400	0.07	3470	0.25	10	0.35	59.3	47.0
PL20FK3-3-12	1.6~6.0	3.0	2500	0.03	1500	0.10	8	1.23	41.0	20.0
PL20FK3-3-59	1.0~3.0	3.0	2000	0.45	1290	3.80	45	5.9	51.7	128.0
PL20FK3-6-38	2.0~6.0	6.0	1875	0.37	1470	1.32	25	3.77	47.6	116.0
PL20FK3-12-62	6.0~12.0	12.0	3600	0.44	3000	1.65	20	6.15	31.0	120.0
PL20FK3-12-23	6.0~12.0	12.0	1400	0.13	1150	0.40	20	2.3	47.9	100.0
PL20FK3-12-08	6.0~12.0	12.0	6900	0.06	5000	0.14	15	0.78	46.4	55.0

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	gf.cm
PL20FK3-2-13	2.0~3.0	2.4	9100	0.36	7550	1.04	17	1.32	53.0	100.0
PL20FK3-5-54	2.4~4.8	4.8	17500	0.51	13200	1.98	40	5.4	57.0	163.0
PL20FK3-5-12	3.0~8.0	5.0	7300	0.12	5850	0.39	20	1.2	61.5	100.0
PL20FK3-6-84	3.0~6.0	6.0	19200	0.48	16480	2.1	50	8.4	66.6	354.0
PL20FK3-9-15N	4.5~12.0	9.0	7700	0.08	6400	0.3	23	1.51	55.9	136.0
PL20FK3-12-20N	9.0~24.0	12.0	7500	0.07	4800	0.36	40	1.97	45.0	111.0
PL20FK3-14-67VN	6.0~14.0	14.0	25000	0.25	21700	0.95	30	6.68	50.2	227.0
PL20FK3-24-10	12.0~28.0	24.0	5800	0.03	4580	0.08	22	1	52.0	105.0

## Outline Drawing



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# Low Cost PMDC - Flat Sided



## 24.2mm Series

### Applications

- \* Door Lock
- \* Hair Clipper
- \* Electric Shaver



### Specification

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL24FC3-3-09	1.5~6.0	3.0	5600	0.17	4350	0.58	20	0.89	51.3	90.0
PL24FC3-5-03	3.0~6.0	4.5	4000	0.06	2890	0.13	10	0.3	51.0	36.0
PL24FC3-6-32	3.0~9.0	6.0	13200	0.2	10400	0.98	30	3.2	54.4	141.0
PL24FC3-12-54	3.0~12.0	12.0	18000	0.15	15000	0.75	35	5.38	59.8	210.0
PL24FC3-12-11	6.0~15.0	12.0	8600	0.05	7300	0.17	15	1.12	55.0	99.0
PL24FC3-12-12	6.0~18.0	12.0	7425	0.06	5810	0.18	20	1.19	55.1	92.0
PL24FC3-12-12Z	6.0~18.0	12.0	6400	0.05	4750	0.18	25	1.2	56.4	97.0
PL24FC3-24-46NVC	12.0~32.0	24.0	19000	0.06	15000	0.35	30	4.6	55.0	143.0

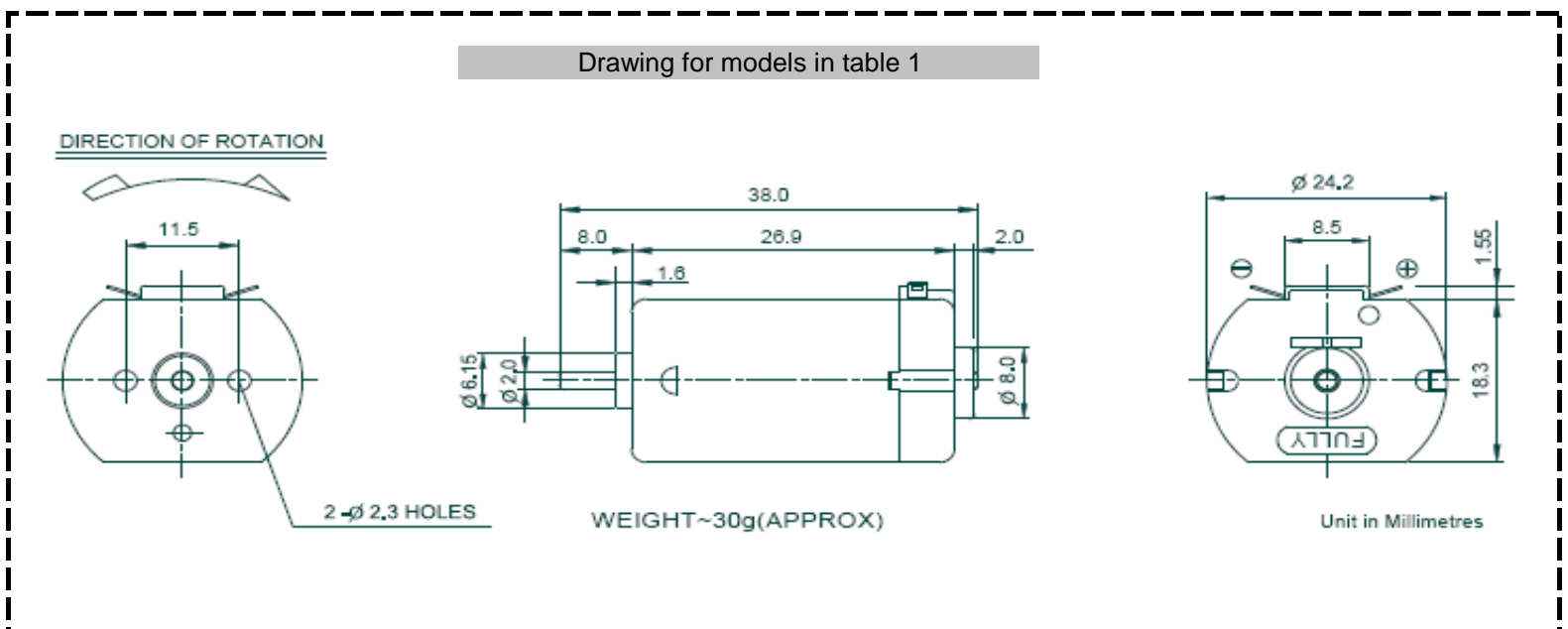
Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL24FC3-6-03	3.0~8.0	6.0	4000	0.05	3200	0.13	10	0.33	42.0	50.0
PL24FC3-12-03	6.0~15.0	12.0	3000	0.03	2520	0.05	10	0.26	43.0	63.0
PL24FC3-12-08	6.0~24.0	12.0	6700	0.05	5400	0.15	15	0.83	46.2	80.0
PL24FC3-18-05	12.0~24.0	18.0	6000	0.03	4875	0.07	10	0.5	40.0	53.0
PL24FC3-24-13	12.0~24.0	24.0	10000	0.04	8450	0.12	15	1.3	45.0	97.0

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL24FC3-1-07	1.0~2.0	1.2	5500	0.42	4500	1.14	15	0.69	50.4	83.0
PL24FC3-1-08	1.0~3.0	1.2	5500	0.42	4600	1.20	15	0.74	51.3	118.0
PL24FC3-5-37ZN	2.0~4.5	4.5	24330	0.55	18160	1.90	20	3.73	44.0	78.9
PL24FC3-5-07Z	3.0~6.5	4.5	4780	0.11	3600	0.28	18	0.66	52.4	72.9
PL24FC3-12-34	6.0~12.0	12.0	14900	0.2	13120	0.60	25	3.37	47.0	210.0
PL24FC3-12-06	6.0~18.0	12.0	4520	0.03	3360	0.09	18	0.62	57.4	70.0
PL24FC3-24-40	12.0~24.0	24.0	12500	0.06	9400	0.35	51	4	58.5	206.0
PL24FC3-30-61Z	12.0~30.0	30.0	17400	0.08	14760	0.35	40	6.06	57.8	264.0

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL24FC3-12-66Z	6.0~12.0	12.0	15200	0.17	12100	0.92	53	6.6	59.6	280.0
PL24FC3-12-61Z	6.0~15.0	12.0	12400	0.15	9950	1.78	60	6.1	65.1	303.0
PL24FC3-12-41Z	6.0~15.0	12.0	12200	0.14	10050	0.58	40	4.1	58.9	227.0
PL24FC3-12-21Z	6.0~15.0	12.0	10300	0.1	8500	0.34	25	2.1	51.5	147.0
PL24FC3-12-51Z	6.0~18.0	12.0	12200	0.15	10000	0.69	50	5.1	61.9	277.0
PL24FC3-12-43Z	9.0~15.0	12.0	12400	0.12	10400	0.58	40	4.27	61.0	248.0
PL24FC3-12-35Z	12.0~18.0	12.0	11680	0.13	9700	0.48	35	3.5	60.8	206.0

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL24FK3-10-06	80~120	10.0	710	0	660	0	10	0.6	33.0	14.0
PL24FK3-12-10	80~120	12.0	850	0.013	750	0	20	1	42.0	17.0
PL24FK3-12-20	80~120	12.0	940	0.015	811	0	30	2	41.0	22.0
PL24FK3-10-20	80~110	10.0	870	0.012	740	0	35	2	45.0	23.0

### Outline Drawing



# Low Cost PMDC - Flat Sided



## 35.7mm Series

### Applications

- \* Vacuum Cleaner
- \* Air Compressor/Drills/Screwdrivers
- \* Toys and Models
- \* Automotive Products
- \* Automatic Cruise Control
- \* Lumbar Support
- \* Cordless Power Tools
- \* Radio Control Models
- \* Car Accessories
- \* Printer



### Specification

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36FS3-7-67	6.0~24.0	7.2	6550	0.32	5439	1.56	120	6.7	59.3	708.0
PL36FS3-12-153	6.0~24.0	12.0	11260	0.36	9539	1.99	156	15.3	64.0	1023.0
PL36FS3-6-67	6.0~24.0	6.0	6300	0.45	5182	2.09	129	6.87	54.8	729.0

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36FC5-12-62	12.0~30.0	12.0	6630	0.15	5640	0.86	107	6.2	60.5	718.0
PL36FC5-24-211	12.0~30.0	24.0	13560	0.21	11773	1.38	174	21.1	63.5	1324.0
PL36FC5-12-26	12.0~30.0	12.0	3280	0.08	2700	0.37	94	2.6	58.5	533.0
PL36FC5-24-85	12.0~30.0	24.0	6840	0.09	5856	0.54	142	8.5	56.2	984.0

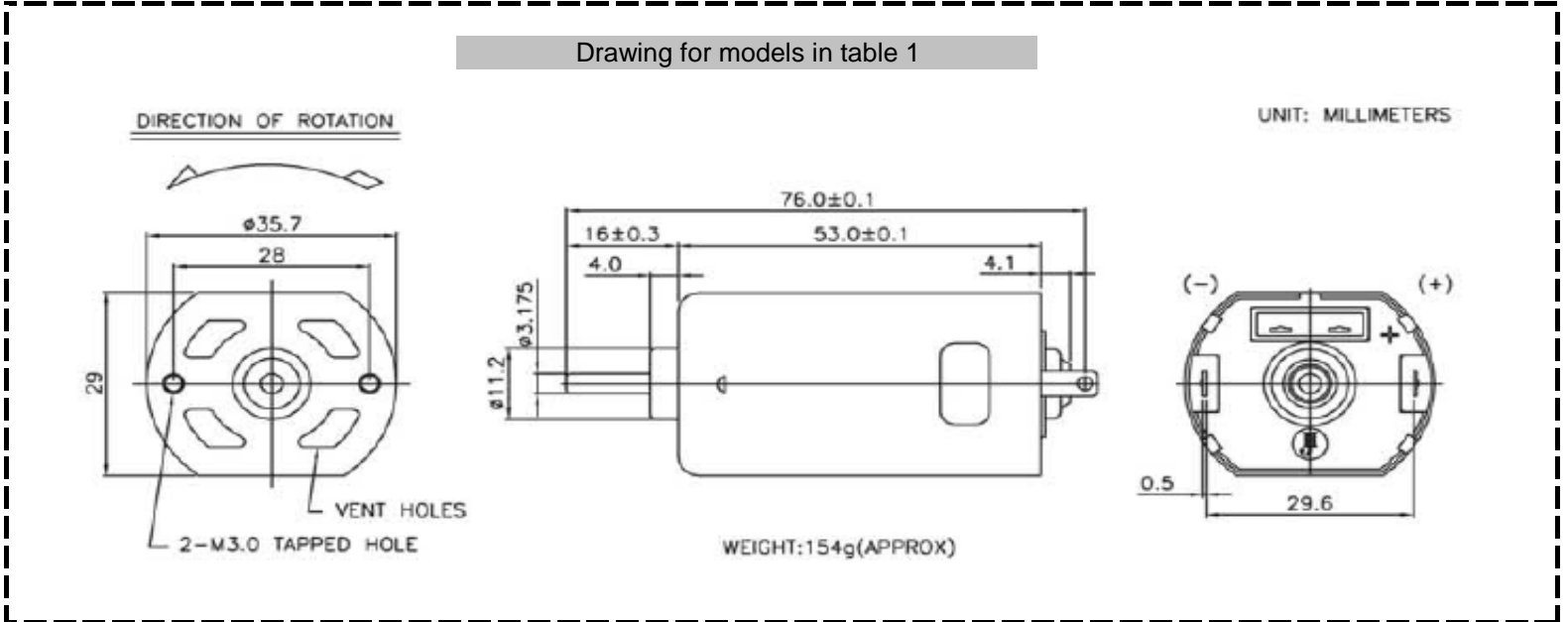
Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36FS12-230-152	100~240	230.0	9000	0.015	7720	0.09	192	15.23	73.2	1352.0
PL36FS12-120-175	100~240	120.0	9000	0.03	7553	0.16	226	17.5	93.3	1406.0
PL36FS12-120-169	100~240	120.0	10000	0.04	8184	0.18	201	16.9	78.2	1111.0

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36FS3-6-133	6.0~24.0	6.0	6900	0.75	5783	3.88	223	13.25	56.9	1380.0
PL36FS3-12-423	6.0~24.0	12.0	14200	0.92	12215	5.66	337	42.28	62.2	2414.0
PL36FS3-6-127	6.0~24.0	6.0	8270	0.52	7024	3.5	177	12.7	60.7	1173.0
PL36FS3-7-158	6.0~24.0	7.2	10300	0.8	8591	4	179	15.8	54.5	1079.0

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36FS12-110-70	100~240	110.0	6000	0.025	4584	0.081	149	7.01	78.8	632.0
PL36FS12-230-99	100~240	230.0	6400	0.015	5076	0.058	189	9.85	74.7	914.0
PL36FS12-230-260	100~240	230.0	13000	0.03	10508	0.127	241	26	89.4	1258.0

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	gf.cm
PL36FS5-21-65	6.0~30.0	21.0	3750	0.07	3180	0.39	200	6.5	79.7	1316.0
PL36FS5-24-68	6.0~30.0	24.0	4290	0.07	3677	0.42	180	6.8	67.5	1262.0
PL36FS5-12-31	6.0~30.0	12.0	3050	0.06	2517	0.43	116	3.07	57.9	740.0
PL36FS5-24-96	6.0~30.0	24.0	6200	0.09	5414	0.62	173	9.63	54.7	1369.0

### Outline Drawing



# Low Cost PMDC - Flat Sided



## 35.8mm Series

### Applications

- \* Medical Equipment
- \* Vacuum Cleaner
- \* Refrigerator
- \* Electrical Sweeper
- \* Massager Chair



### Specification

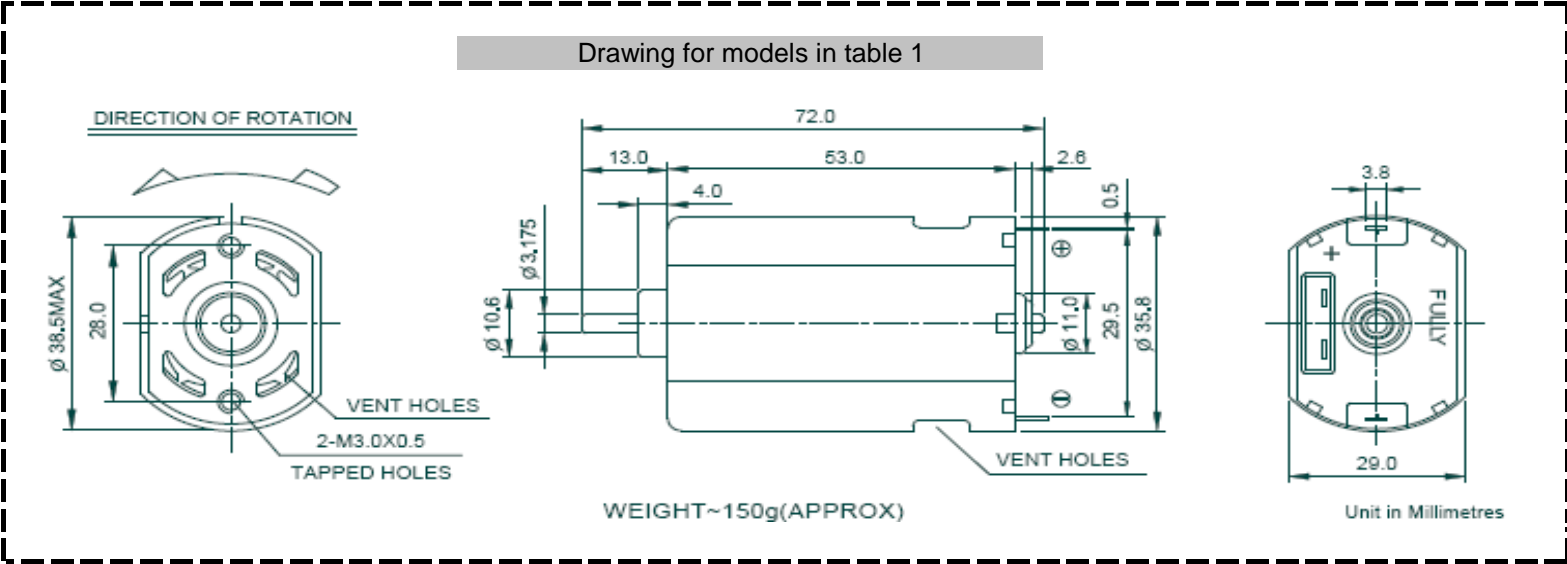
Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36FS5-12-64C	6.0~18.0	12.0	4700	0.15	3100	0.82	200	6.4	65.0	588.0
PL36FS3-12-62	6.0~18.0	12.0	4200	0.14	3000	0.75	200	6.15	68.3	700.0
PL36FS3-12-28	6.0~18.0	12.0	3800	0.12	2700	0.42	100	2.8	55.0	345.0

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36FC5-6-20	4.0~12.0	6.0	2686	0.18	2070	0.6	92	1.95	54.2	402.0
PL36FC5-12-53	6.0~18.0	12.0	3780	0.13	2570	0.78	200	5.27	56.0	326.0
PL36FC5-12-29	6.0~18.0	12.0	3225	0.11	2550	0.41	110	2.87	58.6	526.0
PL36FC5-24-75	12.0~28.0	24.0	5690	0.12	4877	0.53	150	7.5	58.9	880.0

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36FS12-110-200BDF	80~120	110.0	11050	0.085	9300	0.28	210	20	64.9	1326.0
PL36FS12-120-329BDF	90~130	120.0	13500	0.08	10700	0.34	300	32.9	80.6	1449.0
PL36FS12-120-209BDF	80~140	120.0	12300	0.1	10200	0.30	200	20.9	58.0	1176.0
PL36FS12-120-209FDB	80~140	120.0	12500	0.08	10200	0.26	200	20.9	67.1	1110.0
PL36FS12-120-207FDB	80~140	120.0	12800	0.1	10100	0.32	200	20.7	43.0	952.0
PL36FS12-230-253D	110~240	230.0	9500	0.05	8230	0.17	300	25.3	64.7	2244.0
PL36FS12-240-308NF	180~240	240.0	13000	0.07	10000	0.18	300	30.8	71.3	1300.0

**Outline Drawing**

Drawing for models in table 1



# Low Cost PMDC - Round Sided



## 12.1mm Series

### Applications

- \* CD Player
- \* DVD Player
- \* Electric Shaver
- \* Car CD Player

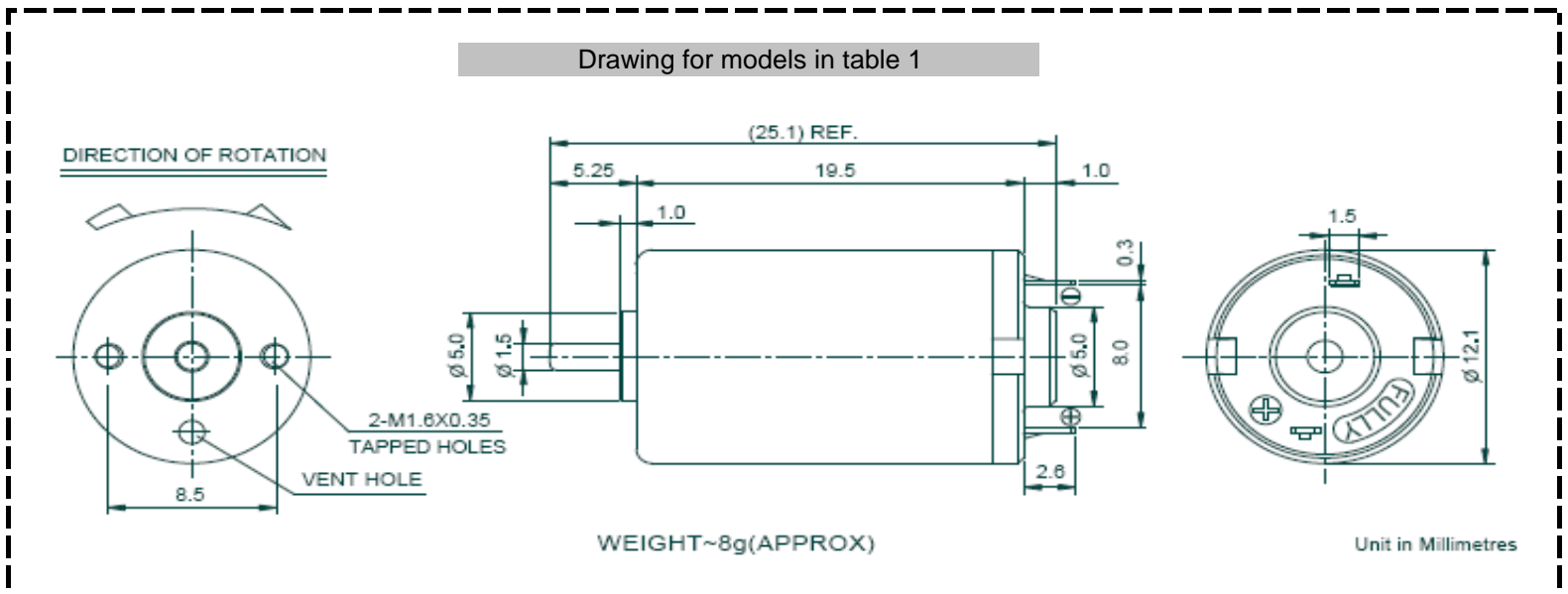


### Specification

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL12RF3-2-02	1.0~2.5	1.5	9930	0.08	7150	0.25	3.00	0.22	58.6	11
PL12RF3-3-02	2.0~5.0	3.0	14900	0.07	11200	0.19	2.00	0.23	40.3	8.1
PL12RF3-5-06	2.0~5.0	5.0	21300	0.08	16400	0.26	3.50	0.59	45.3	15
PL12RF3-5-05	3.0~6.0	5.0	19880	0.07	15100	0.21	3.00	0.46	44.2	12
PL12RF3-6-03	2.0~8.0	6.0	19800	0.06	15100	0.15	2.00	0.31	34.4	8.5

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL12RF3-1-03	0.6~1.8	1.2	8000	0.18	6400	0.48	4.00	0.26	45.1	20
PL12RF3-2-05	1.0~4.0	2.4	10270	0.1	8050	0.38	5.50	0.46	49.3	25
PL12RF3-3-02	2.0~4.0	3.0	7876	0.05	6190	0.17	3.00	0.19	37.3	14
PL12RF3-5-05	2.0~5.0	4.8	11550	0.06	9410	0.22	5.00	0.48	45.7	27
PL12RF3-5-03	3.0~8.0	5.0	11100	0.05	8320	0.16	4.00	0.34	42.7	16
PL12RF3-6-01	3.0~9.0	6.0	6000	0.04	4600	0.06	3.00	0.14	40	13

### Outline Drawing



# Low Cost PMDC - Round Sided



## 17mm Series

### Applications

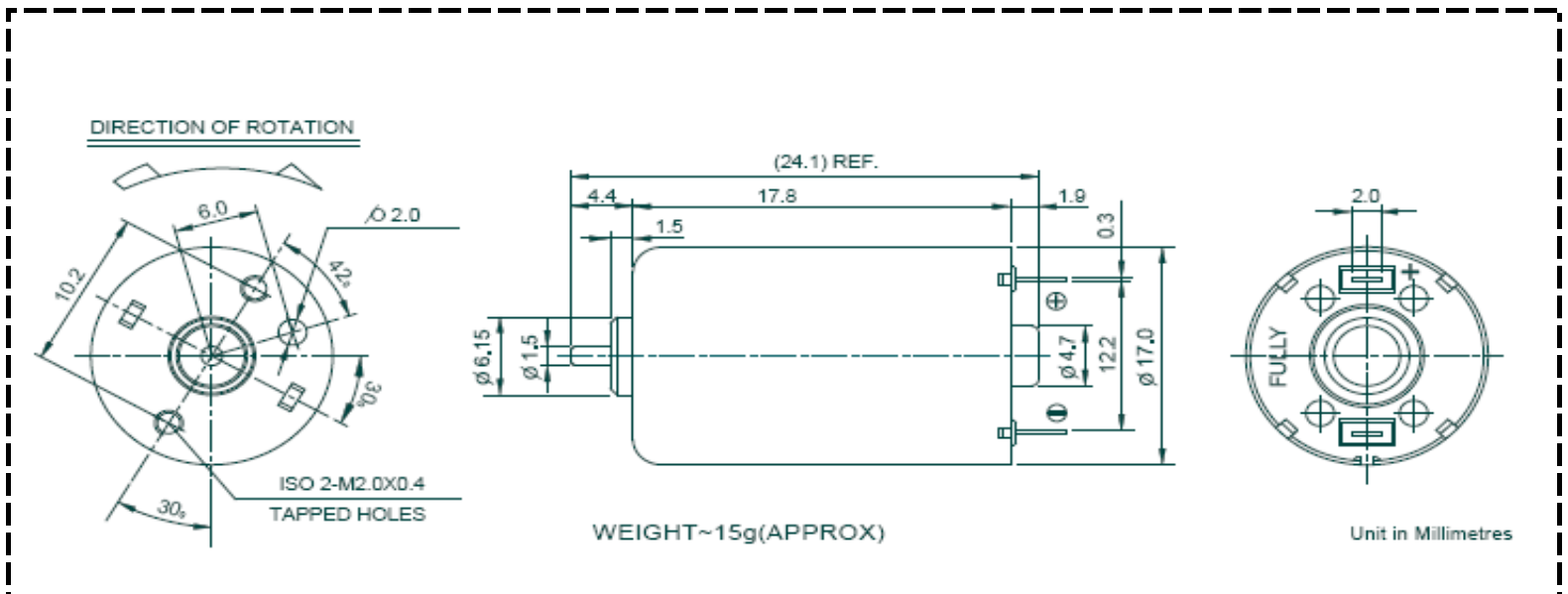
- \* Radio Control Model      \* Game Pad
- \* Facial Massager



### Specification

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque gf.cm
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL17RF3-3-01	1.5~6.0	3.0	4500	0.02	3280	0.04	1.50	0.05	41.7	5.5
PL17RF3-3-01V	2.0~4.0	3.0	9550	0.07	6025	0.16	2.00	0.12	25.7	5.4
PL17RF3-5-02V	2.8~4.5	4.5	12500	0.09	11000	0.15	1.60	0.18	26.6	13
PL17RF3-5-04	2.8~6.0	4.5	15700	0.11	9650	0.32	3.80	0.386	26.8	10.1
PL17RF3-5-01	3.0~7.0	5.0	6060	0.01	4340	0.04	2.00	0.089	44.5	7
PL17RF3-5-01G	3.0~7.0	5.0	6200	0.02	4100	0.05	2.00	0.08	33.6	5.9

### Outline Drawing



# Low Cost PMDC - Round Sided



## 21.3mm Series

### Applications

- \* Toothbrush
- \* Camera
- \* Shaver

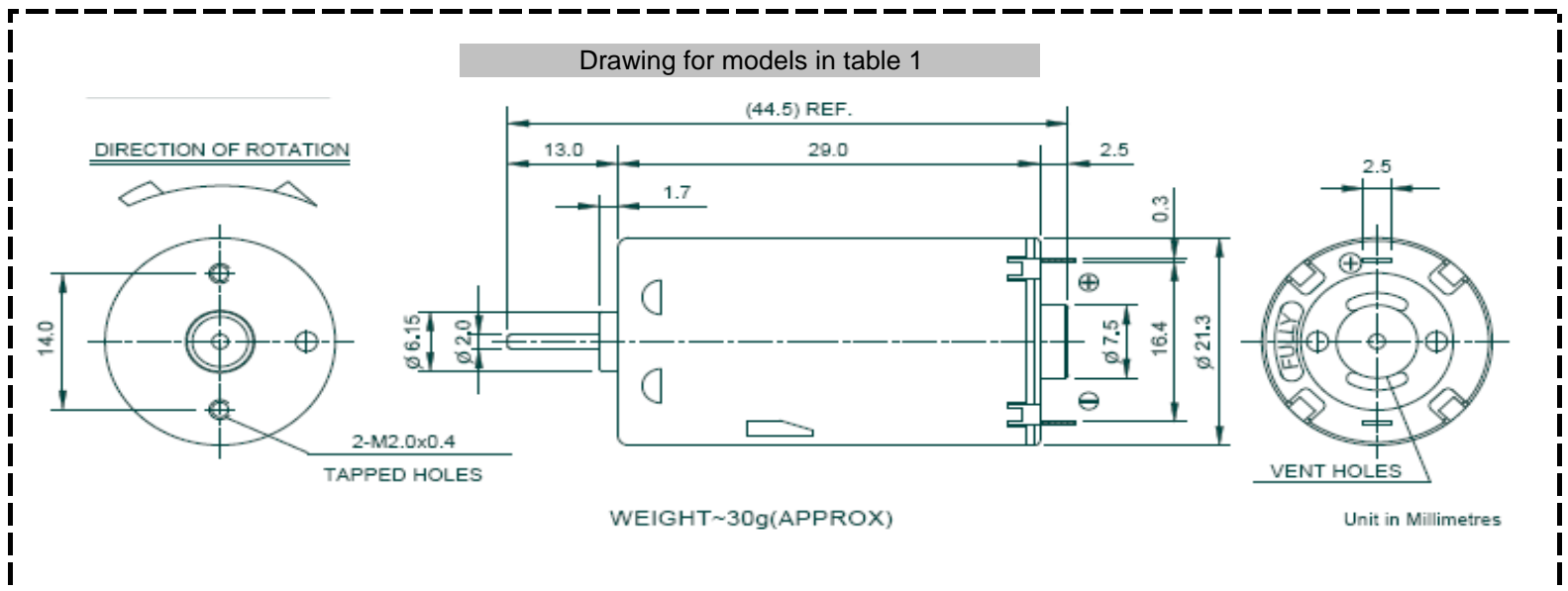


### Specification

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL21RD3-2-01	2.0~4.0	2.0	2820	0.06	2020	0.16	8.00	0.16	52.0	29
PL21RD3-3-11	1.5~6.0	3.0	6560	0.11	5280	0.52	20.00	1.1	69.4	102
PL21RD3-3-17	2.0~3.0	3.0	10600	0.2	8500	0.8	20.00	1.7	72.6	101
PL21RD3-5-15	1.5~6.0	4.5	9100	0.1	7100	0.52	20.00	1.46	62.4	91
PL21RD3-6-08	3.0~12.0	6.0	5500	0.06	4400	0.21	17.00	0.77	60.9	85
PL21RD3-12-05	8.0~16.0	12.0	6000	0.03	5100	0.08	10.00	0.53	55.2	67
PL21RD3-12-32	8.0~12.0	12.0	15000	0.1	12340	0.47	25.00	3.17	56.2	140
PL21RD3-24-10	12.0~28.0	24.0	6100	0.02	4200	0.08	25.00	1	52	80

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL21RC3-12-05	1.5~12.0	12.0	7200	0.04	5140	0.1	10.00	0.53	43.9	37
PL21RC3-3-09	1.5~12.0	3.0	9500	0.13	7600	0.5	12.00	0.94	62.4	57
PL21RC3-5-18	3.0~6.0	4.5	10100	0.15	8600	0.7	20.00	1.76	56.0	136
PL21RC3-5-30	3.0~4.5	4.5	13800	0.25	11700	1.1	25.00	3	61.0	170

### Outline Drawing



# Low Cost PMDC - Round Sided



## 23.8mm Series

### Applications

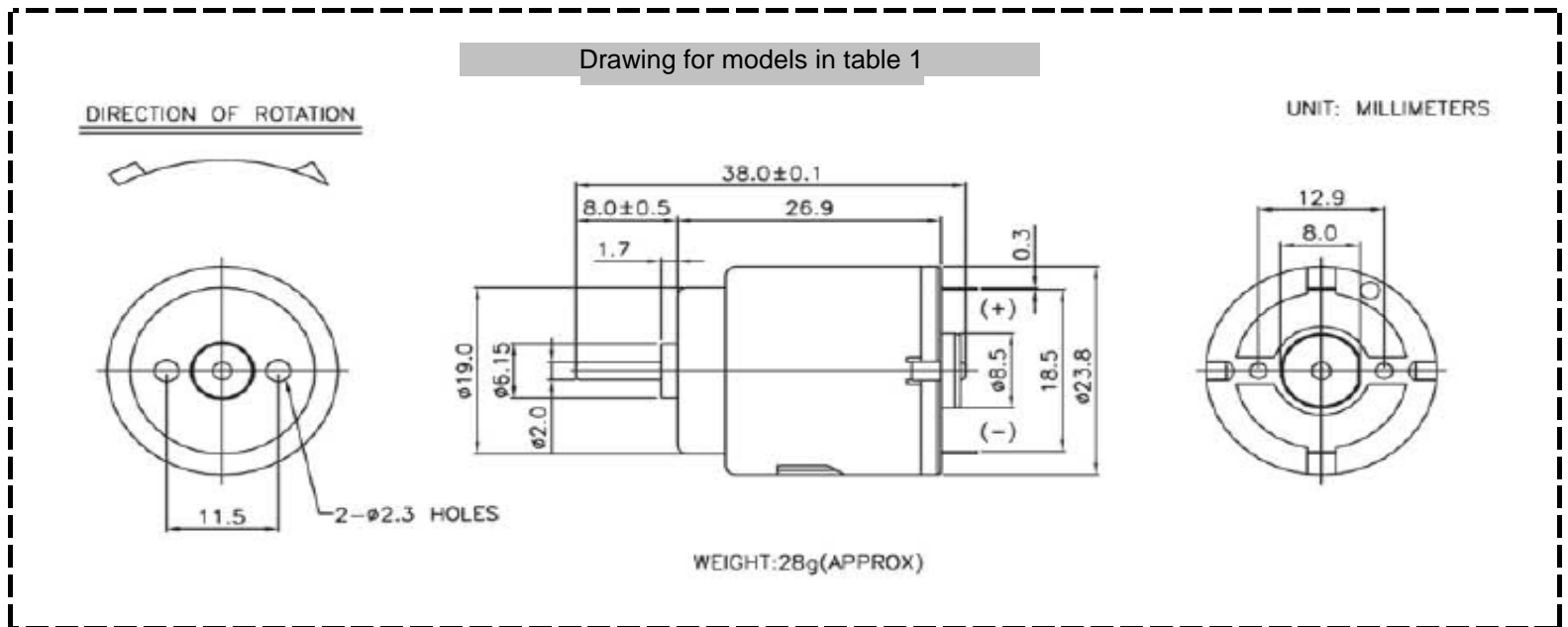
- \* Motorized Toys/Motorized Plastic Models
- \* Hair Dryer
- \* Radio Control Models



### Specification

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque gf.cm
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL24RC3-12-05	1.5~12.0	12.0	7200	0.04	5140	0.1	10.00	0.53	43.9	37
PL24RC3-3-09	1.5~12.0	3.0	9500	0.13	7600	0.5	12.00	0.94	62.4	57
PL24RC3-5-18	3.0~6.0	4.5	10100	0.15	8600	0.7	20.00	1.76	56.0	136
PL24RC3-5-30	3.0~4.5	4.5	13800	0.25	11700	1.1	25.00	3	61.0	170

### Outline Drawing



# Low Cost PMDC - Round Sided



## 24.2mm Series

### Applications

- \* Door Lock
- \* Small Coffee Mixer
- \* Paper Shredder
- \* Radio Control Models
- \* Small Membrane Pump
- \* Feeder
- \* Toys and Models



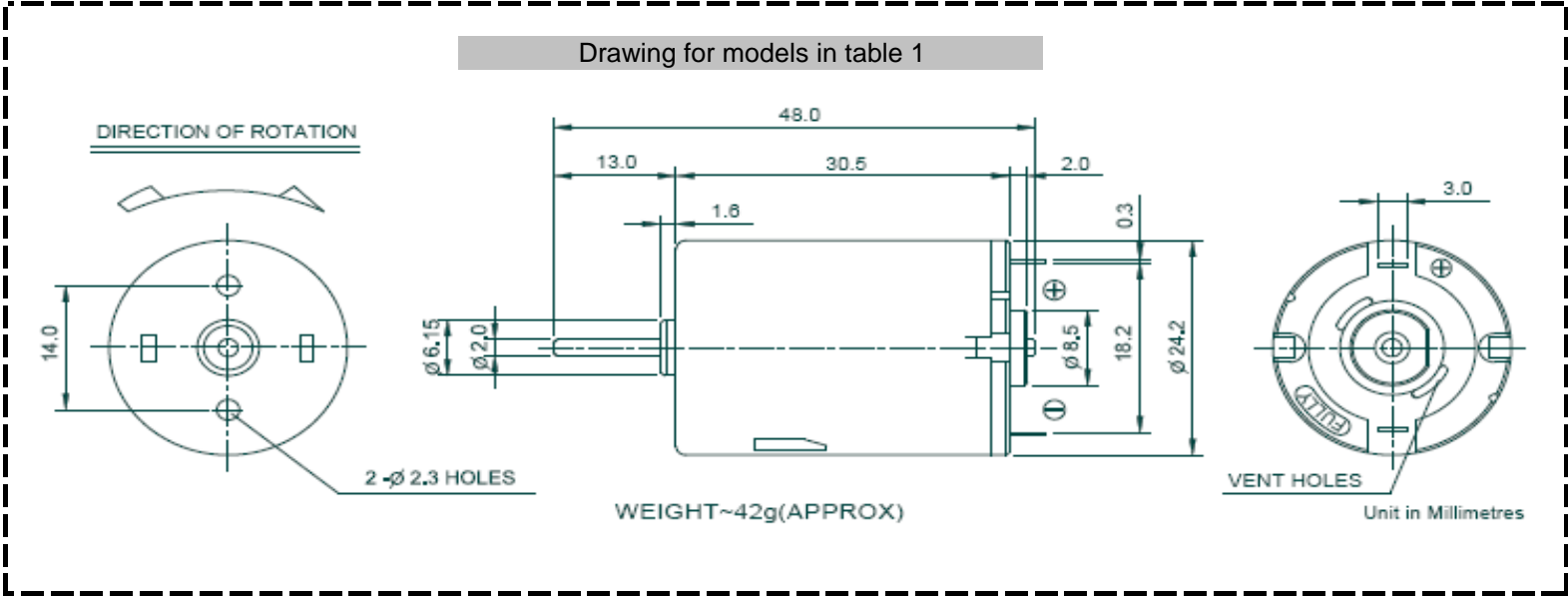
### Specification

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque gf.cm
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL24RC3-2-01V	1.0~4.5	1.5	1460	0.09	1250	0.14	5.00	0.064	30.5	42
PL24RC3-3-19	3.0~9.0	3.0	7000	0.23	4710	1.1	40.00	1.9	58.6	122
PL24RC3-5-11	3.0~5.0	4.5	6300	0.15	5340	0.4	20.00	1.1	61.1	131
PL24RC3-6-36	3.0~9.0	6.0	10800	0.14	8750	0.86	40.00	3.59	69.6	210
PL24RC3-12-54	6.0~12.0	12.0	10750	0.1	8800	0.62	60.00	5.4	72.8	330
PL24RC3-15-28	8.0~18.0	15.0	10000	0.06	8300	0.25	30.00	2.8	66.6	176
PL24RC3-18-110Z	13.0~23.0	18.0	13700	0.1	8900	1.02	120.00	11	59.7	342
PL24RC3-24-01G	6.0~30.0	24.0	2700	0.01	2240	0.02	6.00	0.14	29.2	35

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque gf.cm
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL24RE3-2-07	2.0~4.0	2.4	5000	0.15	4540	0.5	15.00	0.7	58.3	163
PL24RE3-3-20	1.5~6.0	3.0	6300	0.16	4950	1.02	40.00	2	65.0	186
PL24RE3-6-36	1.5~6.0	6.0	14300	0.2	12232	1.2	28.90	3.6	50.0	200
PL24RE3-6-20	3.0~6.0	6.0	8000	0.11	6677	0.55	28.10	2	60.6	170
PL24RE3-6-15VC	4.5~10.0	6.0	7500	0.11	6100	0.48	25.00	1.5	54.3	134
PL24RE3-24-32V	12.0~24.0	24.0	10300	0.05	8450	0.2	36.50	3.16	65.8	200

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque gf.cm
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL24RC3-12-07	6.0~12.0	12.0	4560	0.03	3500	0.11	20.00	0.72	54.4	86
PL24RC3-6-19	6.0~12.0	6.0	7700	0.12	6400	0.57	29.00	1.9	55.7	175
PL24RC3-3-17	1.5~4.5	3.0	6800	0.21	5608	0.97	29.80	1.71	59.2	170
PL24RC3-6-56	3.0~6.0	6.0	14000	0.3	12030	1.78	45.00	5.6	52.0	320

Drawing for models in table 1



# Low Cost PMDC - Round Sided



## 24.4mm Series

### Applications

- |              |                  |
|--------------|------------------|
| * Fire Alarm | * Siren          |
| * Printer    | * Discolighting  |
| * Toothbrush | * CD Door Opener |



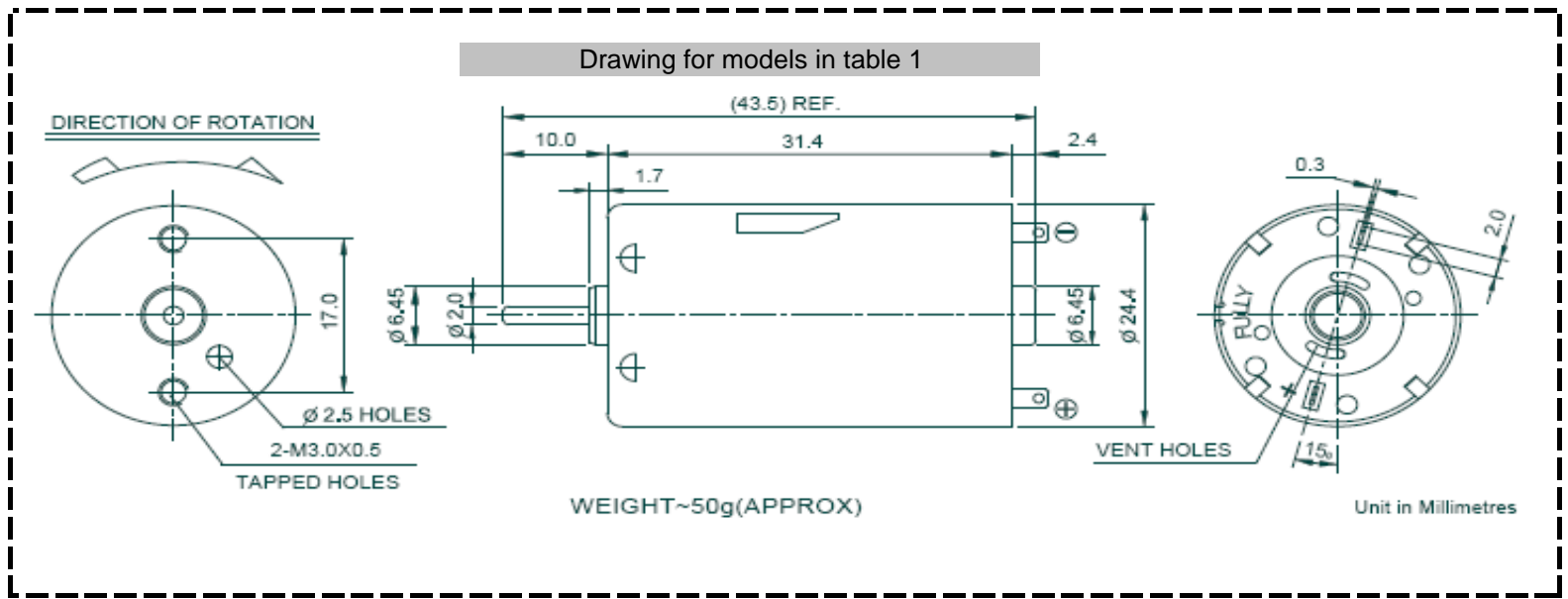
### Specification

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL24RC3-2-14D	1.2~2.4	2.4	10000	0.38	8400	1.2	16.00	1.38	47.8	100
PL24RC3-6-25D	3.0~12.0	6.0	7400	0.15	6100	0.65	40.00	2.5	64.2	228
PL24RC3-10-52D	6.0~12.0	10.0	13200	0.15	11280	0.8	45.00	5.2	65.0	309
PL24RC3-12-43D	6.0~12.0	12.0	11900	0.14	10500	0.57	40.00	4.3	63.0	341
PL24RC3-24-20D	12.0~24.0	24.0	7800	0.03	6700	0.12	30.00	2	69.4	214
PL24RC3-40-59D	24.0~40.0	40.0	20300	0.08	18000	0.3	32.00	5.9	50.0	282

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL24RF3-6-01V	3.9~9.0	6.0	1480	0.01	1000	0.05	12.00	0.13	43.3	37
PL24RF3-6-11V	4.5~12.0	6.0	6300	0.1	5580	0.35	20.00	1.1	52.4	175
PL24RF3-13-06V	6.0~14.0	12.8	3620	0.02	2815	0.08	20.00	0.6	58.6	90
PL24RF3-13-14V	6.0~14.0	12.8	6530	0.04	5365	0.17	25.00	1.4	64.3	140

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL24RF3-3-01	1.5~6.0	3.0	1200	0.02	950	0.07	10.00	0.1	47.6	48
PL24RF3-5-04V	4.5~12.0	4.5	2080	0.02	1750	0.11	20.00	0.36	73.0	126
PL24RF3-5-15VD	3.0~8.0	5.0	6950	0.09	5800	0.43	25.00	1.48	69.0	151
PL24RF3-6-10V	4.0~8.0	6.0	5210	0.04	4620	0.2	20.00	0.95	78.9	174
PL24RF3-7-04V	3.0~9.0	7.0	2750	0.02	1750	0.11	20.00	0.36	73.0	126
PL24RF3-8-04V	6.0~12.0	8.0	2450	0.02	2050	0.08	20.00	0.42	65.6	123
PL24RF3-11-07	8.0~14.0	11.0	3700	0.02	2800	0.1	25.00	0.72	59.3	102
PL24RF3-12-28V	8.0~16.0	12.0	5500	0.03	4200	0.3	66.00	2.84	78.9	279

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL24R3S-2-35	1.8~3.0	2.4	9150	0.45	7500	1.96	45.00	3.46	73.0	250
PL24R3S-3-05	3.0~6.0	3.0	3100	0.08	2600	0.27	20.00	0.53	65.8	124
PL24R3S-5-41	1.5~6.0	4.5	10150	0.24	7960	1.5	50.00	4.1	60.5	232
PL24R3S-6-03	4.0~8.0	6.0	2410	0.04	2060	0.09	15.00	0.32	58.7	103
PL24R3S-7-150	3.0~7.5	7.2	21310	0.42	17000	2.95	86.00	15	70.6	425
PL24R3S-12-11	6.0~12.0	12.0	25000	0.3	21800	1.55	50.00	11.2	60.0	390
PL24R3S-2--13	12.0~24.0	24.0	5500	0.03	4900	0.08	25.00	1.26	65.0	229
PL24R3S-30-94	12.0~30.0	30.0	17000	0.09	14700	0.45	62.00	9.35	69.0	458



# Low Cost PMDC - Round Sided



## 27mm Series

### Applications

- \* Industrial Screwdriver
- \* Hair Clipper

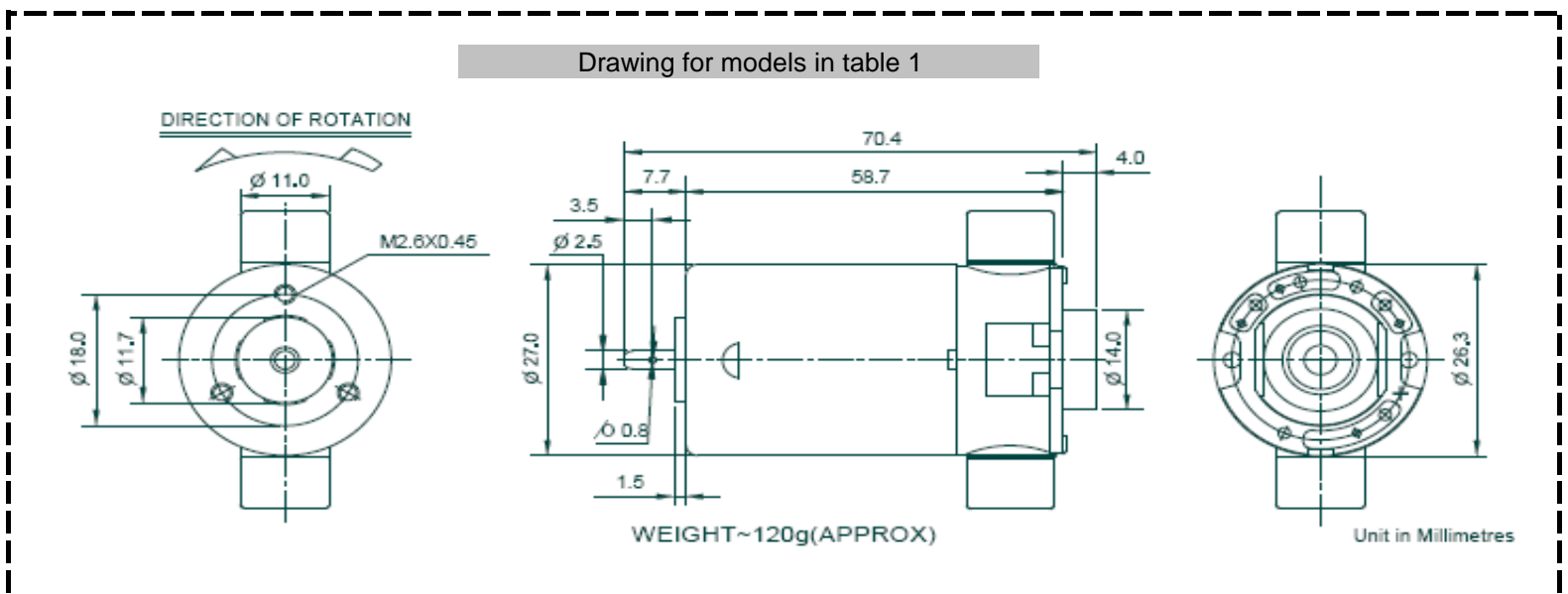


### Specification

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL27RS7-24-120	12.0~30.0	24.0	15138	0.16	12600	0.7	93.00	12	71.4	555
PL27RS7-24-102	12.0~30.0	24.0	13500	0.18	11080	0.65	90.00	10.2	65.6	502
PL27RS7-30-114	20.0~40.0	30.0	15000	0.16	12300	0.65	90.00	11.4	58.0	500
PL27RS7-30-137	20.0~40.0	30.0	16500	0.18	13400	0.75	100.00	13.7	60.9	532

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL27RS8-100-583	80.0~110.0	100.0	20000	0.072	14200	0.76	400.00	58.3	76.7	1379
PL27RS8-100-170	10.0~120.0	100.0	16000	0.05	13800	0.21	120.00	17	80.9	873
PL27RS8-110-119	80.0~120.0	110.0	11450	0.03	9620	0.15	121.00	11.94	72.0	758
PL27RS8-110-187	80.0~120.0	110.0	15000	0.05	13000	0.21	140.00	18.7	80.9	1050
PL27RS8-220-160	120.0~220.0	220.0	12500	0.02	10400	0.11	150.00	16	66.0	882

### Outline Drawing



# Low Cost PMDC - Round Sided



## 27.7mm Series

### Applications

- |                   |                        |
|-------------------|------------------------|
| * Hair Dryer      | * Water Pump           |
| * Water Sprayer   | * Washer Pump          |
| * Electric Drill  | * Electric Screwdriver |
| * Linear Actuator | * Popcorn Machine      |
| * Flush Device    | * Ice Sharpener        |



### Specification

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque gf.cm
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL28RS3-4-17	2.0~8.0	3.6	5000	0.2	4150	0.8	40.00	1.7	58.0	235
PL28RS3-5-99	3.2~4.8	4.8	15600	0.7	13030	3.2	74.00	9.9	64.4	449
PL28RS3-12-13VNC	9.0~12.0	12.0	4900	0.07	3722	0.22	33.60	1.3	49.3	140
PL28RS3-12-78	9.0~24.0	12.0	12900	0.22	10585	1	72.00	7.8	65.1	400
PL28RS3-24-27N	12.0~24.0	24.0	7000	0.06	5900	0.19	45.00	2.72	59.7	286
PL28RS3-24-56N	12.0~30.0	24.0	9700	0.11	7840	0.41	70.00	5.6	57.2	365
PL28RS3-24-88N	16.0~28.0	24.0	13000	0.1	10740	0.5	80.00	8.81	73.0	460
PL28RS3-24-26(B)	12.0~30.0	24.0	6800	0.06	5640	0.23	44.50	2.6	46.6	260

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque gf.cm
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL28RS3-2-67D	1.2~3.6	2.4	11700	1.1	9300	4.3	70.00	6.68	65.0	341
PL28RS3-2-48	1.2~2.4	2.4	11250	0.9	8500	3.4	55.00	4.8	58.8	225
PL28RS3-4-112	2.4~3.8	3.6	13500	0.8	11000	4.52	100.00	11.2	68.8	540
PL28RS3-5-110	3.0~6.0	4.8	15700	0.6	13100	3.2	80.00	11	71.0	483
PL28RS3-5-110	3.0~6.0	4.8	16000	0.7	13650	3.3	80.00	11	69.0	545
PL28RS3-7-56	3.0~9.0	7.2	12500	0.4	11000	1.25	50.00	5.64	62.6	420
PL28RS3-7-81	5.0~9.0	7.2	10000	0.38	7900	1.6	100.00	8.1	70.3	476
PL28RS3-12-29	6.0~12.0	12.0	14300	0.24	13300	0.56	21.60	2.9	43.1	308

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque gf.cm
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL28RS5-6-20	4.0~12.0	6.0	7435	0.32	6370	0.7	30.00	1.96	47.0	21
PL28RS5-8-00	8.0~18.0	8.0	1170	0.02	980	0.03	2.80	0.028	11.6	18
PL28RS5-9-84	60.~12.0	9.0	19200	0.43	16400	1.5	50.00	8.4	62.3	34
PL28RS5-12-270N	6.0~12.0	12.0	26500	0.5	21600	3.5	120.00	26.6	63.3	660
PL28RS5-12-34	6.0~24.0	12.0	8836	0.15	6620	0.5	50.00	3.4	56.7	200
PL28RS5-24-168	6.0~30.0	24.0	28500	0.32	23500	1.2	70.00	16.8	58.3	399
PL28RS5-24-53	12.0~34.0	24.0	14600	0.13	11300	0.45	46.00	5.3	49.0	200
PL28RS5-24-38NC	18.0~30.0	24.0	10200	0.07	8040	0.25	46.00	3.8	63.2	217

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL28RS5-12-39	8.0~12.0	12.0	9180	0.14	7520	0.48	50.00	3.86	67.0	277
PL28RS5-12-04V	6.0~24.0	12.0	2530	0.03	1720	0.08	20.00	0.35	36.4	63
PL28RS5-12-07VC	6.0~18.0	12.0	4300	0.08	3450	0.17	20.00	0.7	34.3	100
PL28RS5-15-85	6.0~18.0	15.0	16200	0.18	13900	0.82	60.00	8.5	69.1	428
PL28RS5-18-122	6.0~18.0	18.0	19200	0.23	16500	0.95	72.20	12.2	71.0	515
PL28RS5-18-161	12.0~20.0	18.0	20600	0.26	15700	1.66	100.00	16.1	53.9	420
PL28RS5-24-07VC	12.0~28.0	24.0	4300	0.05	3650	0.09	20.00	0.73	33.8	117
PL28RS5-24-43N	12.0~24.0	24.0	10500	0.1	8450	0.35	50.00	4.3	51.2	256

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL28RS5-12-83	6.0~18.0	12.0	14625	0.3	12500	1	65.00	8.3	69.4	447
PL28RS5-13-203D	4.5~13.0	13.0	26800	0.6	22000	2.6	90.00	20.3	60.0	502
PL28RS5-13-213D	6.0~13.0	13.0	28000	0.64	23100	2.9	90.00	21.3	56.6	514
PL28RS5-17-128	6.0~17.0	17.0	19350	0.35	15550	1.32	80.00	12.8	56.9	407
PL28RS5-18-60	6.0~24.0	18.0	11000	0.13	8400	0.55	70.00	6.03	60.9	296
PL28RS5-18-117C	123.0~26.0	18.0	17500	0.25	14424	1.21	79.10	11.7	55.6	450
PL28RS5-24-136	12.0~24.0	24.0	21800	0.25	19000	0.9	70.00	13.6	62.9	546
PL28RS5-24-187	12.0~24.0	24.0	26400	0.3	22800	1.42	80.00	18.7	54.8	588

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL28RS3-5-82C	3.0~9.6	4.8	10500	0.5	8830	2.6	90.00	8.15	65.3	566
PL28RS3-5-35D	3.6~6.0	5.2	5100	0.18	4300	0.9	80.00	3.53	75.0	424
PL28RS3-6-60	3.0~12.0	6.0	9200	0.26	7800	1.4	75.00	6	71.4	493
PL28RS3-12-246N	6.0~12.0	12.0	26000	0.5	20000	3.2	120.00	24.6	64.0	520
PL28RS3-12-265N	6.0~12.0	12.0	26000	0.6	21500	3	120.00	26.5	73.5	696
PL28RS3-12-96	6.0~18.0	12.0	13400	0.25	11000	1.25	85.00	9.6	64.0	475
PL28RS3-24-22	12.0~28.0	24.0	5300	0.03	4300	0.14	50.00	2.2	65.4	265
PL28RS3-24-39	12.0~28.0	24.0	7400	0.06	6000	0.27	64.00	3.9	60.0	338

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL28RS3-6-154C	4.0~8.0	6.0	17000	0.7	15000	4	100.00	15.4	64.1	850
PL28RS3-7-197	3.6~7.2	7.2	18500	0.57	16000	3.9	120.00	19.7	70.0	888
PL28RS3-7-259	6.0~9.0	7.2	22000	0.74	18700	4.7	135.00	25.9	76.5	900
PL28RS3-7-158	3.0~12.0	7.2	16200	0.65	14000	3.3	110.00	15.8	66.5	810
PL28RS3-12-138VD	6.0~12.0	12.0	16000	0.35	13500	1.64	100.00	13.8	70.0	640
PL28RS3-12-262N	6.0~12.0	12.0	20500	0.38	17000	3.2	150.00	26.2	68.2	882
PL28RS3-18-297VD	12.0~24.0	18.0	23500	0.32	19300	2.1	150.00	29.7	78.6	804
PL28RS3-24-45VN	12.0~24.0	24.0	6800	0.05	5500	0.26	80.00	4.5	72.0	421

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL28RS3-2-89	1.2~3.2	2.4	14500	1.4	12500	6	70.00	8.9	61.8	255
PL28RS3-2-139N	1.5~4.8	2.4	15500	1.85	12300	9.5	110.00	13.9	61.0	523
PL28RS3-4-118	2.0~6.0	3.6	13800	0.95	11700	4.87	98.00	11.8	67.0	644
PL28RS3-6-158	4.0~7.0	6.0	16800	0.8	15500	3.8	100.00	15.8	69.0	1298
PL28RS3-6-154	4.0~7.0	6.0	16500	0.7	15000	3.5	100.00	15.4	73.0	1110
PL28RS3-6-147	4.0~7.0	6.0	16500	0.58	14400	3.3	100.00	14.7	74.7	790
PL28RS3-7-160	4.5~9.0	7.2	16800	0.52	14470	3.3	108.00	16	67.0	390
PL28RS3-24-109N	12.0~24.0	24.0	8400	0.08	5300	0.8	200.00	10.9	56.7	540

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL28RS3-4-200N	2.4~6.0	3.6	16400	1.3	13950	8	140.00	20	69.7	1000
PL28RS3-12-29D	6.0~18.0	12.0	4360	0.08	3560	0.38	80.00	2.9	63.8	440
PL28RS3-24-86C	18.0~30.0	24.0	7000	0.06	5580	0.5	150.00	8.6	72.0	750
PL28RS3-24-155C	12.0~30.0	24.0	8000	0.07	6030	0.82	250.00	15.5	78.7	1000
PL28RS3-40-23VN	30.0~148.0	40.0	4550	0.03	3950	0.1	55.00	2.3	57.5	417
PL28RS3-100-88GC	80.0~100.0	100.0	12000	0.02	10750	0.1	80.00	8.8	69.8	800
PL28RS3-100-63GC	80.0~100.0	100.0	10000	0.018	8820	0.075	70.00	6.3	66.6	593
PL28RS3-100-127GC	80.0~110.0	100.0	14100	0.03	12400	0.13	100.00	12.7	77.5	829

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL28RS3-4-194	2.4~3.6	3.6	18740	1.5	15740	7.6	120.00	19.4	70.8	750
PL28RS3-5-287N	2.4~4.8	4.8	22500	1.5	18700	8.7	150.00	28.7	68.7	887
PL28RS3-6-235N	4.0~8.0	6.0	19100	0.9	16400	5.15	140.00	23.54	76.0	990
PL28RS3-6-159	4.0~8.0	6.0	16800	0.8	15500	3.44	100.00	15.9	77.0	1292
PL28RS3-7-178C	3.0~9.0	7.2	16500	0.55	14500	3.3	120.00	17.8	74.9	990
PL28RS3-7-144	3.0~10.0	7.2	14800	0.48	12800	2.7	110.00	14.4	74.0	810
PL28RS3-12-282N	6.0~12.0	12.0	20500	0.44	17200	3.2	160.00	28.2	73.4	1000
PL28RS3-12-86	1.0~18.0	12.0	8100	0.18	6430	1.2	130.00	8.6	59.5	631

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL28RS3-7-190C	3.0~9.0	7.2	17000	0.85	15400	4.3	120.00	19	61.5	1200
PL28RS3-7-209C	3.0~9.0	7.2	19000	0.72	17000	3.5	120.00	20.9	83.0	1142
PL28RS3-7-202C	3.0~9.0	7.2	18400	0.67	16400	3.65	120.00	20.2	77.0	1104
PL28RS3-7-184C	4.8~7.2	7.2	16900	0.7	15000	3.8	120.00	18.4	67.2	1070
PL28RS3-7-194C	3.0~9.0	7.2	17800	0.7	15800	3.8	120.00	19.4	70.9	1068
PL28RS3-24-179	12.0~24.0	24.0	15000	0.2	12950	1.15	135.00	17.9	65.0	990

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL28RS5-12-134N	6.0~15.0	12.0	16000	0.34	13800	1.5	95.00	13.4	74.0	693
PL28RS5-12-155N	6.0~18.0	12.0	18000	0.35	15200	1.8	100.00	15.5	71.7	642
PL28RS5-12-72N	6.0~18.0	12.0	12070	0.23	10000	0.9	70.00	7.2	66.6	410
PL28RS5-12-04V	9.0~12.0	12.0	2150	0.03	1600	0.08	25.00	0.41	42.9	100
PL28RS5-12-11V	6.0~24.0	12.0	3400	0.09	2760	0.21	40.00	1.13	44.9	212
PL28RS5-12-15V	12.0~24.0	12.0	4400	0.05	3710	0.19	40.00	1.52	67.0	255
PL28RS5-24-22V	12.0~24.0	24.0	6600	0.07	5450	0.18	40.00	2.2	51.0	250
PL28RS5-24-29	12.0~28.0	24.0	5700	0.04	4400	0.19	65.00	2.9	63.5	285

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL28RS5-12-06C	6.0~18.0	12.0	2500	0.04	1940	0.11	30.00	0.59	44.7	136
PL28RS5-12-14C	6.0~18.0	12.0	4000	0.05	3320	0.18	40.00	1.36	62.8	235
PL28RS5-20-82	12.0~24.0	20.0	9900	0.1	8000	0.54	100.00	8.2	75.9	526
PL28RS5-24-158	9.0~24.0	24.0	15200	0.15	12870	0.92	120.00	15.8	71.6	783
PL28RS5-24-23V	12.0~18.0	24.0	6600	0.07	5500	0.18	40.00	2.3	53.2	240
PL28RS5-24-228N	12.0~24.0	24.0	20000	0.23	17100	1.38	130.00	22.8	68.8	896
PL28RS5-24-143NC	12.0~30.0	24.0	13000	0.11	10000	0.95	140.00	14.3	63.0	600
PL28RS5-24-46NC	12.0~30.0	24.0	9430	0.07	8150	0.3	55.00	4.6	64.0	405

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL28RS5-12-91V	6.0~15.0	12.0	10700	0.2	8900	1.05	100.00	9.1	76.0	594
PL28RS5-12-65	6.0~18.0	12.0	10000	0.16	8500	0.78	75.00	6.5	69.4	500
PL28RS5-12-82N	8.0~16.0	12.0	10000	0.17	8400	0.98	95.00	8.18	70.0	297
PL28RS5-24-34V	12.0~30.0	24.0	6600	0.07	5500	0.21	60.00	3.4	57.0	360
PL28RS5-24-82V	12.0~30.0	24.0	8350	0.12	6630	0.5	120.00	8.2	68.0	583
PL28RS5-24-49VN	12.0~30.0	24.0	10300	0.1	8800	0.36	55.00	4.9	56.7	379
PL28RS5-24-02VN	12.0~30.0	24.0	1750	0.02	1370	0.03	15.00	0.21	30.2	69
PL28RS5-24-40C	12.0~30.0	24.0	6800	0.08	5580	0.28	70.00	4	59.6	390

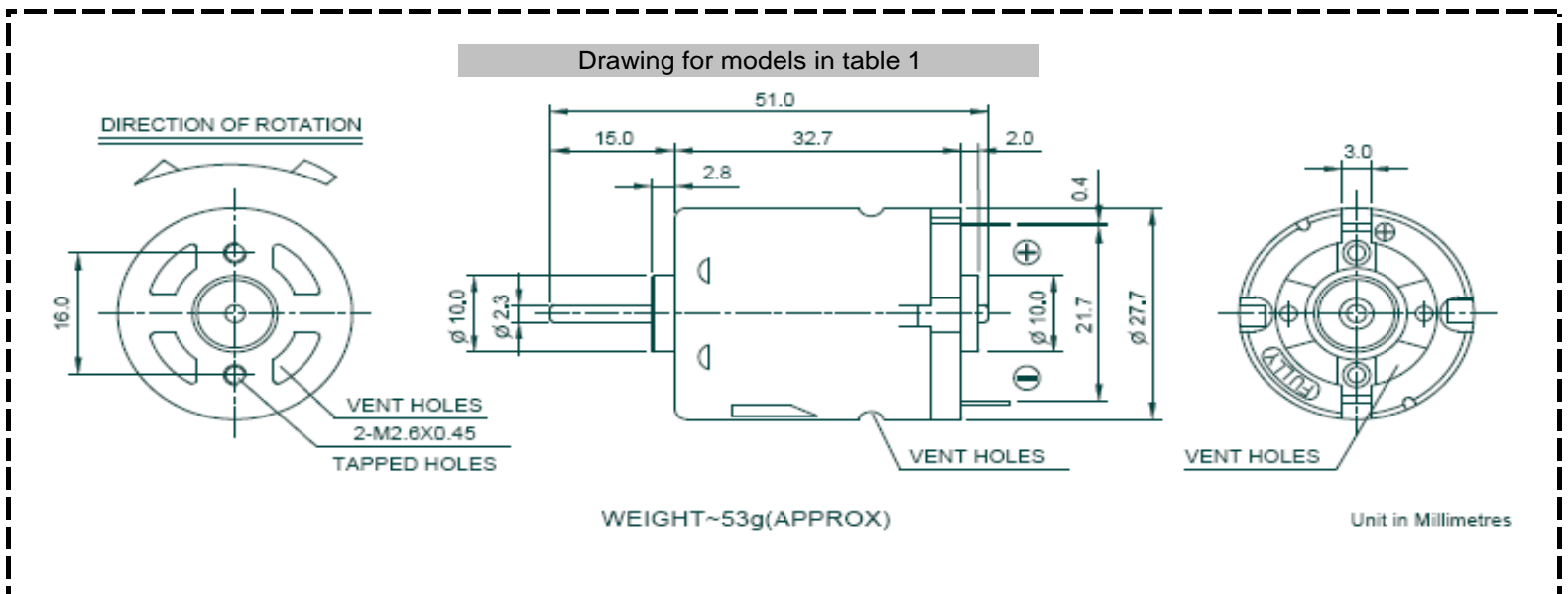
Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL28RS5-6-22VD	3.0~12.0	6.0	4040	0.17	3370	0.6	64.00	2.2	61.0	385
PL28RS5-6-22V	6.0~12.0	6.0	4040	0.15	3370	0.6	68.00	2.2	61.0	394
PL28RS5-12-55C	6.0~18.0	12.0	7000	0.13	5700	0.65	95.00	5.5	70.0	520
PL28RS5-12-24VD	6.0~24.0	12.0	4040	0.11	3370	0.33	70.00	2.4	61.0	422
PL28RS5-12-32C	6.0~24.0	12.0	5100	0.1	4400	0.38	70.00	3.2	70.0	510
PL28RS5-12-12C	12.0~24.0	12.0	2750	0.07	2270	0.19	52.50	1.2	53.6	301
PL28RS5-24-52C	12.0~24.0	24.0	6000	0.09	5060	0.36	100.00	5.2	60.0	640
PL28RS5-24-31	12.0~24.0	24.0	6920	0.05	5840	0.19	52.00	3.1	68.3	333

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL28RS5-6-16	3.0~9.0	6.0	4100	0.15	3130	0.49	50.00	1.6	54.6	211
PL28RS5-12-82N	6.0~18.0	12.0	9800	0.17	8400	0.92	95.00	8.19	74.2	669
PL28RS5-12-138N	6.0~18.0	12.0	15900	0.33	13500	1.7	100.00	13.8	68.0	663
PL28RS5-12-92V	8.0~18.0	12.0	10700	0.25	9000	1.2	100.00	9.23	64.1	629
PL28RS5-20-08	12.0~20.0	20.0	2790	0.035	2180	0.09	35.00	0.78	43.3	160
PL28RS5-24-49C	6.0~30.0	24.0	7600	0.09	6000	0.34	80.00	4.9	60.3	370
PL28RS5-24-90C	12.0~30.0	24.0	10000	0.12	8740	0.53	100.00	9	70.7	793
PL28RS5-24-85C	18.0~30.0	24.0	9700	0.11	8260	0.46	100.00	8.47	76.0	674

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL28RS5-12-30C	6.0~18.0	12.0	5100	0.08	4200	0.36	70.00	3.02	69.8	396
PL28RS5-12-246C	6.0~18.0	12.0	15800	0.58	13300	3.2	180.00	24.6	63.9	1138
PL28RS5-24-89C	12.0~24.0	24.0	10000	0.11	8700	0.54	100.00	8.92	68.0	769
PL28RS5-24-85C	18.0~30.0	24.0	9700	0.11	8260	0.46	100.00	8.47	76.0	674

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL28RS3-100-125	80~100	100.0	14000	0.035	12200	0.16	100.00	12.5	62.0	778
PL28RS3-100-249B	80~100	100.0	19400	0.07	16200	0.32	150.00	24.9	61.0	909
PL28RS3-100-39	80~120	100.0	6700	0.024	4800	0.07	80.00	3.9	53.6	282
PL28RS3-100-118F	80~120	100.0	14000	0.05	11500	0.17	100.00	11.8	69.4	560
PL28RS3-110-44	80~120	110.0	6800	0.019	5800	0.05	70.00	4.4	61.6	476
PL28RS3-126-130	100~130	126.0	14300	0.045	12700	0.16	100.00	13	64.5	894
PL28RS3-220-139	180~240	220.0	16500	0.025	13600	0.08	100.00	13.9	79.0	568

## Outline Drawing



# Low Cost PMDC - Round Sided



## 30.2mm Series

### Applications

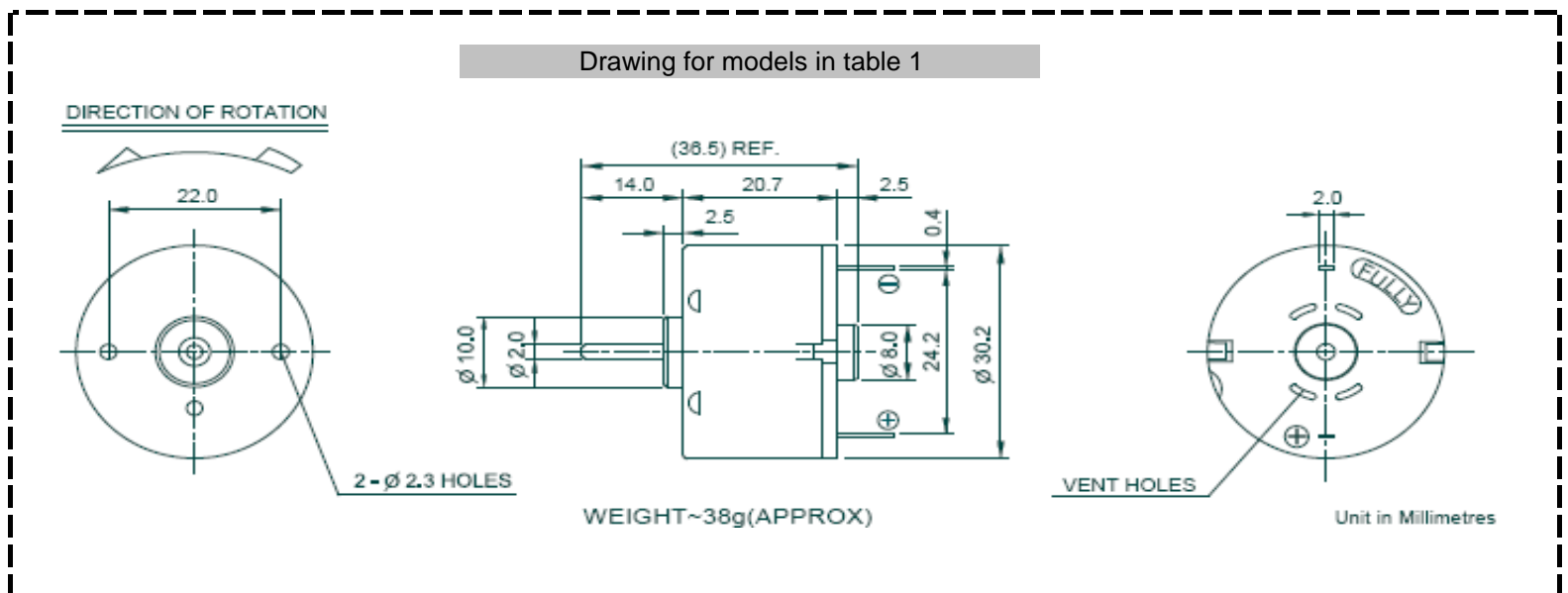
- \* Record Player
- \* Video Tape Rewinder
- \* Mini Electric Fan
- \* Alarm Bell



### Specification

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque gf.cm
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL30RS3-3-05D	1.5~6.0	3.0	5000	0.2	4100	0.41	10.90	0.46	37.7	61
PL30RS3-9-07D	6.0~12.0	9.0	5400	0.05	4500	0.19	15.00	0.69	40.5	90
PL30RS3-9-09D	6.0~12.0	9.0	5400	0.05	4200	0.18	20.00	0.86	53.0	90
PL30RS3-12-10	6.0~18.0	12.0	6000	0.06	4700	0.16	20.00	0.96	50.0	92.3
PL30RS3-12-46ND	3.0~12.0	12.0	13200	0.14	10969	0.7	40.60	4.6	54.8	240
PL30RS3-12-01	12.0~24.0	12.0	2090	0.015	1605	0.035	6.60	0.1	23.8	28.4
PL30RS3-24-17D	12.0~24.0	24.0	7300	0.03	6040	0.13	27.00	1.67	53.5	156
PL30RS3-28-08	24.0~36.0	28.0	5000	0.03	3700	0.08	21.00	0.8	35.7	80

### Outline Drawing



# Low Cost PMDC - Round Sided



## 32mm Series

### Applications

- \* Record Player
- \* Mini Electric Fan
- \* Traffic Light
- \* Video Tape Rewinder
- \* Alarm Bell



### Specification

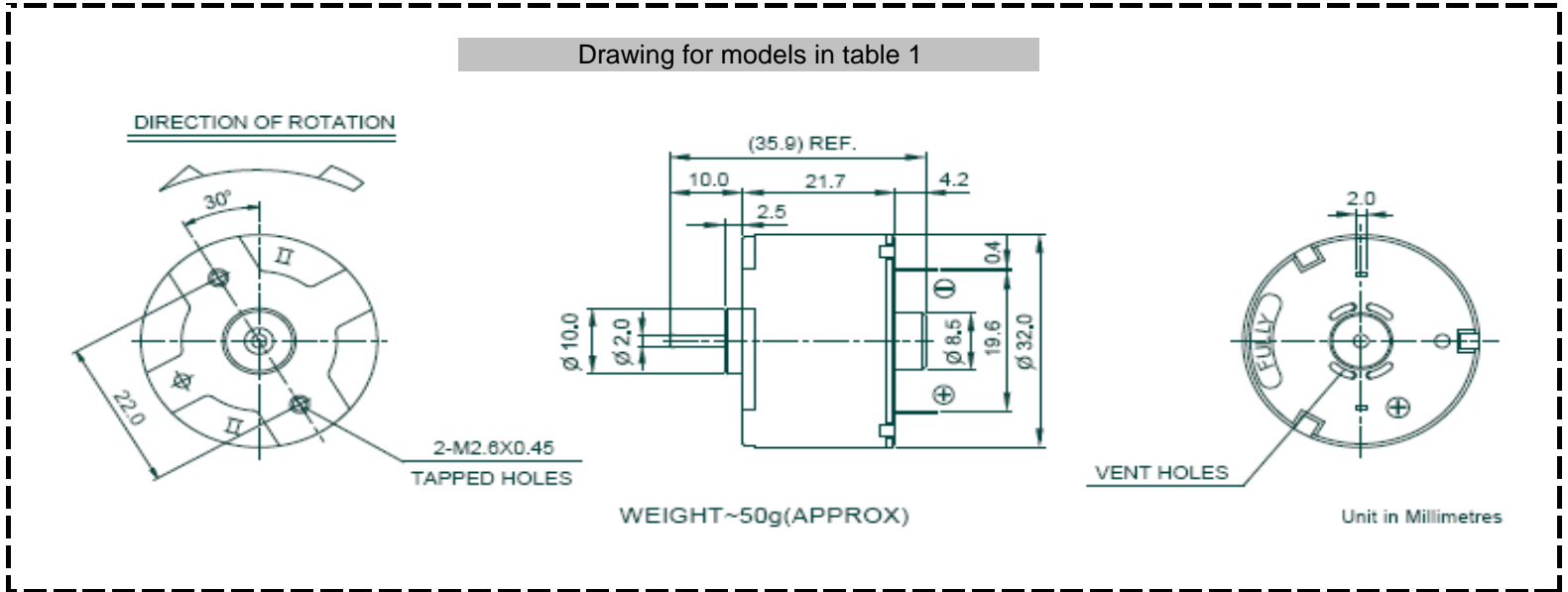
Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque gf.cm
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL32RF3-2-03V	1.5~12.0	1.5	950	0.03	600	0.08	9.00	0.05	41.6	24.4
PL32RF3-2-01V	1.5~5.0	2.0	2820	0.08	2240	0.26	13.00	0.3	57.7	64
PL32RF3-3-03	1.5~4.0	3.0	2700	0.05	2219	0.18	12.50	0.28	51.9	70
PL32RF3-3-01	1.5~9.0	3.0	1900	0.03	1500	0.09	8.00	0.12	44.4	38
PL32RF3-6-02	3.0~12.0	6.0	2700	0.03	2180	0.08	10.00	0.22	45.8	52
PL32RF3-12-09V	6.0~12.0	12.0	5200	0.03	4150	0.13	20.00	0.85	54.4	100
PL32RF3-12-16V	6.0~15.0	12.0	6500	0.03	5150	0.19	30.00	1.58	69.0	144
PL32RF3-24-06VG	12.0~24.0	24.0	4300	0.015	2950	0.045	20.00	0.6	56.0	63.7

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque gf.cm
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL32RF3-3-03	3.0~8.0	3.0	3860	0.07	2980	0.34	20.00	0.61	60.0	88
PL32RF3-5-03V	3.0~12.0	5.0	2330	0.025	1650	0.11	20.00	0.33	60.0	68.5
PL32RF3-6-20	3.0~6.0	6.0	8400	0.1	6600	0.65	30.00	2	52.1	140
PL32RF3-6-21V	4.0~8.0	6.0	8400	0.12	6700	0.56	30.00	2.1	62.5	148
PL32RF3-12-12V	3.0~12.0	12.0	6150	0.02	4500	0.16	25.00	1.15	60.0	93
PL32RF3-12-04V	6.0~18.0	12.0	3400	0.02	2800	0.06	12.40	0.36	50.0	70
PL32RF3-12-02	9.0~18.0	12.0	3400	0.01	2700	0.03	7.00	0.17	52.8	34
PL32RF3-12-01	12.0~24.0	12.0	2260	0.01	1660	0.03	7.00	0.12	34.0	27

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque gf.cm
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL32RF3-2-07	1.0~4.0	2.0	4000	0.14	3450	0.6	20.00	0.71	59.0	148
PL32RF3-3-13	2.0~3.5	3.1	5350	0.11	4300	0.67	30.00	1.33	64.0	153
PL32RF3-3-18D	2.0~4.5	3.1	6900	0.15	5700	0.76	30.00	1.75	74.0	173
PL32RF3-6-03V	3.0~12.0	6.0	2590	0.025	2100	0.09	16.00	0.34	63.8	85
PL32RF3-6-24	4.0~8.0	6.0	7000	0.1	5780	0.66	40.00	2.4	60.0	230

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	gf.cm
PL32RF3-12-02	2.0~15.0	12.0	2700	0.006	2271	0.032	10.30	0.24	62.5	64.8
PL32RF3-3-00	2.0~15.0	3.0	900	0.015	649	0.039	5.90	0.04	33.6	21
PL32RF3-6-04	2.0~15.0	6.0	3734	0.02	3123	0.102	12.20	0.39	63.9	74.5
PL32RF3-6-08	2.0~15.0	6.0	5540	0.045	4600	0.22	16.80	0.79	60.0	99

### Outline Drawing



# Low Cost PMDC - Round Sided



## 32mm Series

### Applications

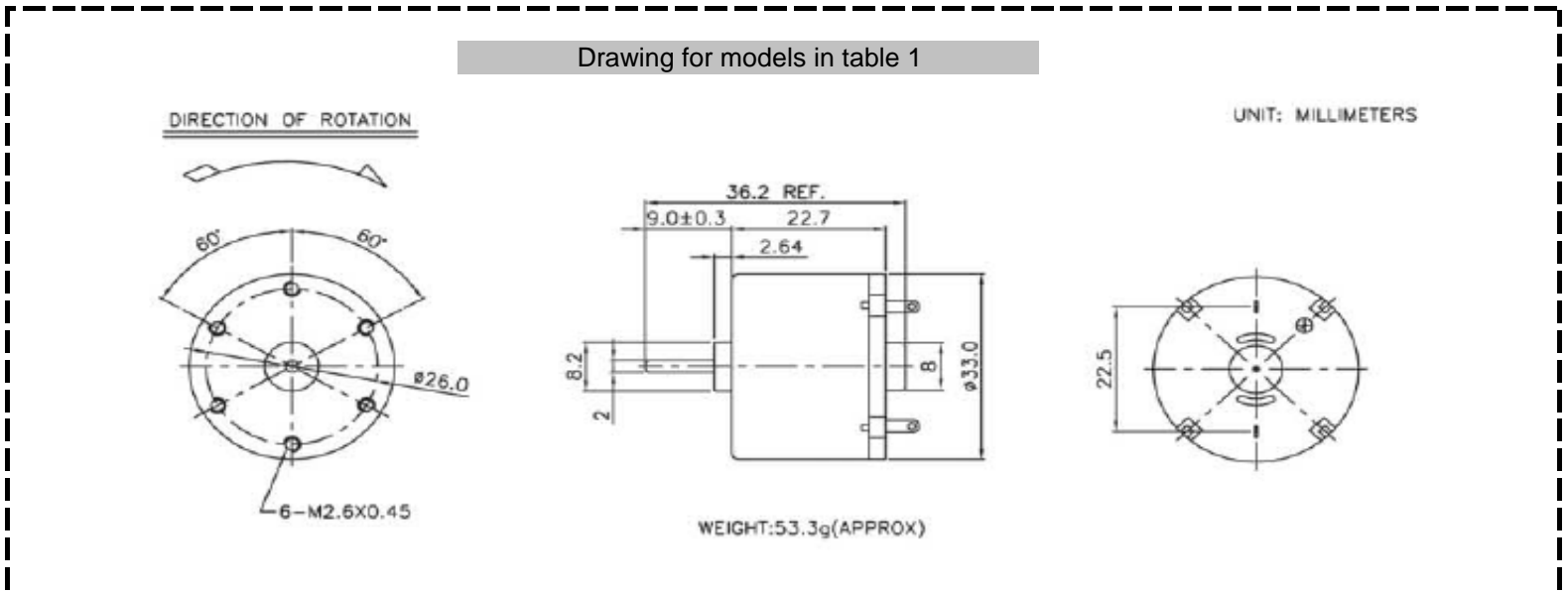
- \* Computer Peripherals
- \* Printer
- \* Automotive Products
- \* Car Antenna/Lumbar Support



### Specification

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque gf.cm
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL33RF3-12-05	3.0~15.0	12.0	3300	0.013	2733	0.063	17.00	0.477	63.1	99
PL33RF3-12-03	3.0~15.0	12.0	2800	0.015	2090	0.044	12.40	0.265	50.2	48.7
PL33RF3-6-04	3.0~15.0	6.0	2000	0.025	1566	0.09	21.70	0.35	64.8	100
PL33RF3-12-17	3.0~15.0	12.0	6539	0.032	5630	0.198	29.10	1.683	70.8	209.6

### Outline Drawing



# Low Cost PMDC - Round Sided



## 35.8mm Series

### Applications

- |                     |                       |
|---------------------|-----------------------|
| * Vacuum Cleaner    | * Radio Control Car   |
| * Fuel Pump         | * Massager            |
| * Grinding Machine  | * Air Pump            |
| * Hand Scrw Driver  | * Vaccum Cleaner      |
| * Paper Shredder    | * Shoes Brush         |
| * Portable Massager | * Game Steering Wheel |



### Specification

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque gf.cm
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36RS3-3-203N	2.4~3.6	3.2	19200	3	15200	10.8	130.00	20.3	58.6	624
PL36RS3-4-200N	1.2~4.0	3.6	22800	3.4	19500	10.5	100.00	20	53.0	690
PL36RS3-5-266N	2.4~5.0	4.8	22100	2.3	17300	9.5	150.00	26.6	58.3	690
PL36RS3-6-187N	3.0~8.0	6.0	18000	1.4	15200	5	120.00	18.7	62.3	774
PL36RS3-7-250	3.0~9.0	7.2	21000	1.5	16350	6.6	150.00	25	52.6	677
PL36RS3-9-380N	6.0~9.0	9.0	23400	1.35	18500	6.5	200.00	38	64.9	955
PL36RS3-12-386N	6.0~12.0	12.0	23500	0.98	18800	5.1	200.00	38.6	63.0	1000
PL36RS3-24-246	12.0~24.0	24.0	33000	0.92	30000	3.2	80.00	24.6	32.0	888

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque gf.cm
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36RS3-6-267	3.0~9.0	6.0	15000	1.3	13000	6	200.00	26.7	74.0	1500
PL36RS3-6-153	4.8~12.0	6.0	8400	0.62	7450	3.3	200.00	15.3	77.3	1768
PL36RS3-12-254N	6.0~15.0	12.0	11000	0.57	9900	2.8	250.00	25.4	75.6	2500
PL36RS3-12-78	9.0~18.0	12.0	5250	0.17	4400	0.89	172.00	7.8	72.7	1062
PL36RS3-12-43	6.0~24.0	12.0	3000	0.1	2100	0.54	200.00	4.3	66.0	667
PL36RS3-12-39VC	12.0~24.0	12.0	2760	0.08	1930	0.47	200.00	3.9	70.2	665
PL36RS3-24-214VC	21.0~30.0	24.0	9800	0.16	8350	1.2	250.00	21.4	74.3	1690
PL36RS3-24-67	18.0~30.0	24.0	5200	0.08	4411	0.42	148.70	6.7	66.5	980

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque gf.cm
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36RS3-2-283N	1.8~3.6	2.4	19500	5	13800	21	200.00	28.3	56.1	689
PL36RS3-3-324N	1.8~3.6	2.8	19500	4.5	15800	17	200.00	32.4	68.0	1050
PL36RS3-3-320N	2.0~4.0	3.0	19000	3.8	15600	15	200.00	32	71.0	1120
PL36RS3-45-461N	3.4~5.2	4.5	21800	2.8	18000	14.5	250.00	46.1	70.0	1470
PL36RS3-6-643N	4.0~7.0	6.0	24000	2.6	20900	14	300.00	64.3	76.5	2320
PL36RS3-7-600N	4.8~7.2	7.2	22900	1.9	19500	12	300.00	60	69.4	2020
PL36RS3-7-560N	5.4~7.2	7.2	20800	1.6	18200	10.5	300.00	56	74.0	2400
PL36RS3-12-503N	6.0~12.0	12.0	17500	0.7	15100	5.2	325.00	50.3	80.0	2372

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36RS3-6-98C	4.5~12.0	6.0	5700	0.45	4800	2.5	200.00	9.8	65.5	1267
PL36RS3-6-153	4.5~12.0	6.0	8400	0.62	7500	3.38	200.00	15.3	75.0	1866
PL36RS3-6-369	4.0~8.0	6.0	16430	1.2	14400	7.8	250.00	36.9	78.8	2055
PL36RS3-24-221	12.0~28.0	24.0	8380	0.3	7200	1.3	300.00	22.1	70.8	2140

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36RS3-6-320FC	3.0~9.0	6.0	9660	0.85	7800	7.2	400.00	32	74.0	2077
PL36RS3-6-443F	6.0~12.0	6.0	10500	1	8640	9.7	500.00	44.3	76.2	2822
PL36RS3-7-463NF	6.0~9.0	7.2	17800	1.57	15100	8.8	300.00	46.3	73.4	1978
PL36RS3-10-669NF	6.0~12.0	9.6	19900	1.35	16300	10.7	400.00	66.9	65.0	2211
PL36RS3-12-520NF	6.0~15.0	12.0	18800	1.03	16900	5.9	300.00	52	73.4	2968
PL36RS3-12-20D	10.0~24.0	12.0	2210	0.08	1860	0.24	105.00	2	67.0	660
PL36RS3-14-820NF	6.0~15.0	14.4	22800	1.05	20000	7.9	400.00	82	72.1	3257

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36RS3-6-64	9.0~18.0	6.0	5000	0.4	4190	1.7	150.00	6.4	63.0	926
PL36RS3-8-16	9.0~18.0	8.0	2400	0.1	2000	0.34	80.00	1.64	60.0	470
PL36RS3-12-54	9.0~18.0	12.0	4300	0.13	3500	0.72	150.00	5.4	62.3	806
PL36RS3-12-103	9.0~18.0	12.0	6000	0.2	5000	1.3	200.00	10.3	66.0	1148

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36RS5-12-41	3.0~24.0	12.0	4850	0.17	4000	0.55	100.00	4.1	62.2	570
PL36RS5-12-208N	6.0~12.0	12.0	21500	0.8	18400	2.8	110.00	20.8	62.9	760
PL36RS5-12-214N	6.0~12.0	12.0	21600	1	19000	3	110.00	21.4	59.5	913
PL36RS5-12-97	6.0~18.0	12.0	8000	0.32	6300	1.3	150.00	9.7	62.1	706
PL36RS5-12-68	12.0~24.0	12.0	7400	0.3	5820	1	115.00	6.8	57.2	539
PL36RS5-18-91N	6.0~18.0	18.0	8400	0.25	7000	0.8	128.00	9.1	63.1	768
PL36RS5-24-197	12.0~24.0	24.0	15200	0.35	12800	1.3	150.00	19.7	63.1	950
PL36RS5-24-137	12.0~30.0	24.0	11600	0.25	9900	0.85	135.00	13.7	67.2	900

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36RS5-12-795N	5.0~12.0	12.0	24500	1.6	20400	9.6	380.00	79.5	69.0	2270
PL36RS5-12-238	6.0~18.0	12.0	10000	0.43	8000	2.6	290.00	23.8	76.2	1450
PL36RS5-12-52	6.0~18.0	12.0	5150	0.17	3900	0.75	130.00	5.2	57.7	540
PL36RS5-12-95N	9.0~24.0	12.0	7200	0.33	6150	1.3	150.00	9.5	60.7	1028
PL36RS5-24-96	12.0~18.0	24.0	5700	0.12	4700	0.54	200.00	9.6	74.0	1140
PL36RS5-24-333NC	12.0~24.0	24.0	15000	0.34	13000	1.78	250.00	33.3	78.0	1923
PL36RS5-24-220NC	12.0~30.0	24.0	10300	0.21	8600	1.2	250.00	22	76.4	1515
PL36RS5-24-452NC	12.0~30.0	24.0	20000	0.43	17620	2.77	250.00	45.2	68.0	2100

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36RS5-12-31	6.0~18.0	12.0	3600	0.15	3000	0.4	100.00	3.07	64.0	588
PL36RS5-12-45DC	6.0~18.0	12.0	4800	0.18	4350	0.55	100.00	4.46	67.6	1067
PL36RS5-12-110D	9.0~24.0	12.0	5400	0.2	4300	1.2	250.00	11	76.4	1227
PL36RS5-17-43N	9.0~30.0	17.0	3400	0.08	2800	0.36	150.00	4.3	70.3	850
PL36RS5-24-42VD	6.0~24.0	24.0	3500	0.07	2750	0.3	150.00	4.23	58.7	700
PL36RS5-24-178	12.0~24.0	24.0	10000	0.2	8700	1	200.00	17.8	74.1	1538
PL36RS5-24-172V	12.0~24.0	24.0	9500	0.2	8400	0.9	200.00	17.2	79.6	1793
PL36RS5-24-36V	12.0~30.0	24.0	3100	0.08	2346	0.25	150.00	3.6	60.1	616

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36RS5-12-19VD	12.0~24.0	12.0	1650	0.06	1240	0.25	150.00	1.9	63.6	603
PL36RS5-12-80N	8.0~16.0	12.0	4600	0.14	3950	0.79	208.00	8.04	88.0	1472
PL36RS5-24-233N	12.0~30.0	24.0	9040	0.2	7830	1.3	290.00	23.3	74.7	2167

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36FS5-12-64C	6.0~18.0	12.0	4700	0.15	3100	0.82	200.00	6.4	65.0	588
PL36FS5-12-62	6.0~18.0	12.0	4200	0.14	3000	0.75	200.00	6.15	68.3	700
PL36FS5-12-28	6.0~18.0	12.0	3800	0.12	2700	0.42	100.00	2.8	55.0	245

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36RS3-6-05	3.0~9.0	6.0	1100	0.07	980	0.17	50.00	0.5	49.3	458
PL36RS3-6-378	4.8~8.0	6.0	15000	1.5	12700	8.5	290.00	37.8	74.1	1930
PL36RS3-12-410N	6.0~12.0	12.0	12000	0.65	10000	4.2	400.00	41	81.3	2400
PL36RS3-12-503	6.0~15.0	12.0	16500	1	14000	5.2	350.00	50.3	80.5	2310
PL36RS3-12-250	6.0~24.0	12.0	7600	0.34	6100	2.8	400.00	25	74.5	2030
PL36RS3-12-109	6.0~24.0	12.0	6600	0.26	5300	1.4	200.00	10.9	64.7	1015
PL36RS3-24-118	12.0~24.0	24.0	5800	0.1	5100	0.6	225.00	11.8	81.7	1864
PL36RS3-24-124	12.0~30.0	24.0	5700	0.1	4850	0.78	250.00	12.4	66.4	1676

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36RS3-5-546N	3.4~5.6	4.5	18200	2.5	15200	15.8	350.00	54.6	76.8	2187
PL36RS3-6-718N	4.0~7.0	6.0	20300	2.3	17500	15	400.00	71.8	79.7	2900
PL36RS3-10-885N	4.5~12.0	10.0	26400	2.4	22700	13	380.00	88.5	68.0	2711
PL36RS3-11-800	9.0~15.0	11.0	25100	1.95	21000	10.6	370.00	80	69.0	2265
PL36RS3-12-109	6.0~15.0	12.0	6100	0.28	5300	1.2	200.00	10.9	76.0	1525
PL36RS3-24-289N	12.0~28.0	24.0	11200	0.28	9400	1.62	300.00	28.9	74.3	1875
PL36RS3-24-225	12.0~28.0	24.0	5800	0.13	4400	1.25	500.00	22.5	75.0	2080
PL36RS3-24-66	12.0~28.0	24.0	5200	0.09	4300	0.4	150.00	6.6	68.9	882

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36RS3-6-309	4.0~10.0	6.0	9100	0.97	7540	7.1	400.00	30.9	72.5	2334
PL36RS3-7-750	3.0~9.0	7.2	15300	1.3	12200	13	600.00	75	80.0	2961
PL36RS3-12-1020	6.0~15.0	12.0	23600	1.6	20000	12	500.00	102	70.8	3278
PL36RS3-12-242	6.0~15.0	12.0	14500	0.75	13500	3.3	175.00	24.2	61.0	2538
PL36RS3-12-258VC	6.0~18.0	12.0	7700	0.35	6300	2.8	400.00	25.8	76.8	2200
PL36RS3-12-108	6.0~18.0	12.0	6500	0.26	5400	1.3	195.00	10.8	69.0	1152
PL36RS3-12-217D	12.0~24.0	12.0	6300	0.3	4200	2.9	504.00	21.7	62.4	1512
PL36RS3-24-57V	12.0~24.0	24.0	3850	0.1	3270	0.34	171.00	5.7	70.0	1135

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36RS3-5-170FC	3.0~6.0	4.8	7400	0.85	6400	5.2	260.00	17	68.4	1925
PL36RS3-6-258NF	4.0~8.0	6.0	7390	0.78	6300	5.8	400.00	25.8	74.1	2721
PL36RS3-7-643	3.0~9.0	7.2	14600	1.5	12530	13.5	500.00	64.3	66.0	3526
PL36RS3-10-532	7.2~9.6	9.6	16380	1.18	14500	7.95	358.00	53.2	69.8	3140
PL36RS3-12-623	6.0~12.0	12.0	15000	0.85	13200	6.8	460.00	62.3	76.3	3833
PL36RS3-12-875F	6.0~12.0	12.0	23700	1.7	20800	9.8	410.00	87.5	74.4	3416
PL36RS3-12-126	9.6~30.0	12.0	6100	0.27	5350	1.45	230.00	12.6	72.4	1869
PL36RS3-24-720	12.0~24.0	24.0	14000	0.39	11700	4.2	600.00	72	71.4	3658

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36RS3-7-850	3.0~7.5	7.2	17800	2.1	13800	18	600.00	85	65.6	2670
PL36RS3-10-1100	6.5~10.5	9.6	17800	1.58	15400	16	700.00	110	72.0	5192
PL36RS3-11-912NFC	6.0~12.0	10.5	17280	1.4	14820	11.8	600.00	91.2	73.6	4214
PL36RS3-12-1500	6.0~15.0	12.0	20700	1.6	17000	17	860.00	150	73.6	4831
PL36RS3-12-800FC	6.0~12.0	12.0	14700	0.92	13000	8.6	600.00	80	77.5	5190
PL36RS3-12-369	6.0~18.0	12.0	7100	0.4	6000	3.5	600.00	36.9	87.8	3873
PL36RS3-14-924	8.0~16.0	14.4	17800	0.92	15000	9.8	600.00	92.4	65.5	3814
PL36RS3-24-190	12.0~24.0	24.0	6400	0.15	5450	1.05	340.00	19	75.0	2290

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36RS3-12-144	6.0~18.0	12.0	5800	0.23	4690	1.8	300.00	14.4	67.0	1572
PL36RS3-12-121	6.0~18.0	12.0	5900	0.25	4800	1.35	245.00	12.1	74.7	1320
PL36RS3-24-163D	15.0~24.0	24.0	5800	0.12	4550	1	350.00	16.3	67.9	1624
PL36RS3-24-100	15.0~28.0	24.0	5490	0.11	4640	0.6	210.00	10	69.4	1369

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36RS5-6-115	3.0~9.0	6	6000	0.4	5100	2.3	220	11.5	83.3	1466
PL36RS5-9-85D	6.0~12.0	9	4200	0.22	3300	1.28	250	8.46	73.4	1166
PL36RS5-12-93	6.0~18.0	12	5300	0.17	4500	1.2	200	9.3	64.5	1333
PL36RS5-24-63VD	12.0~24.0	24	3750	0.08	3050	0.38	200	6.25	68.5	1071

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	gf.cm
PL36RS5-6-183D	6.0~12.0	6	7000	0.68	5950	3.7	300	18.3	82	2000
PL36RS5-12-185C	6.0~18.0	12	5400	0.25	4500	2	400	18.5	77	2400
PL36RS5-24-363V	12.0~24.0	24	13400	0.32	11800	1.9	300	36.3	79.6	2521

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	gf.cm
PL36RS5-9-142	7.0~12.0	9	7590	0.5	6600	2.2	210	14.2	71.8	1610
PL36RS5-12-127N	6.0~24.0	12	5500	0.27	4600	1.6	270	12.7	66.1	1656
PL36RS5-16-42D	12.0~20.0	16	2880	0.07	2380	0.37	170	4.15	70.1	980
PL36RS5-20-41N	12.0~30.0	20	2880	0.07	2380	0.29	170	4.14	71.5	979
PL36RS5-24-126C	12.0~24.0	24	5500	0.13	4550	0.8	270	12.6	65.6	1563

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	gf.cm
PL36RS5-6-60D	3.0~9.0	6	3290	0.28	2800	1.29	210	6.03	78	1410
PL36RS5-12-370N	6.0~15.0	12	11700	0.58	10320	4	350	37	77	2967
PL36RS5-13-294D	8.0~18.0	13	8335	0.32	6440	2.62	445	29.4	86.3	1957
PL36RS5-24-240N	12.0~30.0	24	9100	0.2	7800	1.35	300	24	74	2100
PL36RS5-36-540N	12.0~40.0	36	11500	0.19	9600	1.9	550	54	79	3328

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	gf.cm
PL36RS5-6-380	3.0~9.0	6	11700	1.5	9750	10	380	38	63.3	2280
PL36RS5-12-56DC	12.0~15.0	12	3000	0.11	2750	0.56	200	5.64	83.9	5.51
PL36RS5-24-134C	12.0~28.0	24	4000	0.1	3200	0.78	408	13.4	71.6	2040

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	gf.cm
PL36FS5-6-20	4.0~12.0	6	2686	0.18	2070	0.6	92	1.95	54.2	402
PL36FS5-12-53	6.0~18.0	12	3780	0.13	2570	0.78	200	5.27	56	623
PL36FS5-12-29	6.0~18.0	12	3225	0.11	2550	0.41	110	2.87	58.5	526
PL36FS5-24-75	12.0~28.0	24	5690	0.12	4877	0.53	150	7.5	58.9	880

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	gf.cm
PL36RS12-120-180DB	80~160	120.0	11900	0.04	8900	0.16	200.00	18	86.0	794
PL36RS12-120-223B	80~160	120.0	13920	0.05	10850	0.23	200.00	22.3	71.3	907
PL36RS12-120-45	80~160	120.0	7300	0.02	5440	0.06	80.00	4.46	62.0	314
PL36RS12-220-180DB	110~220	220.0	20100	0.04	17500	0.11	100.00	18	63.0	773
PL36RS12-220-150DB	120~220	220.0	11900	0.02	9750	0.1	150.00	15	68.2	840
PL36RS12-220-153B	200~240	220.0	17200	0.04	14900	0.11	100.00	15.3	63.1	748
PL36RS12-230-114F	180~230	230.0	12000	0.03	11100	0.09	100.00	11.4	55.1	1333
PL36RS12-230-89	180~240	230.0	10700	0.02	8650	0.06	100.00	8.87	64.0	522

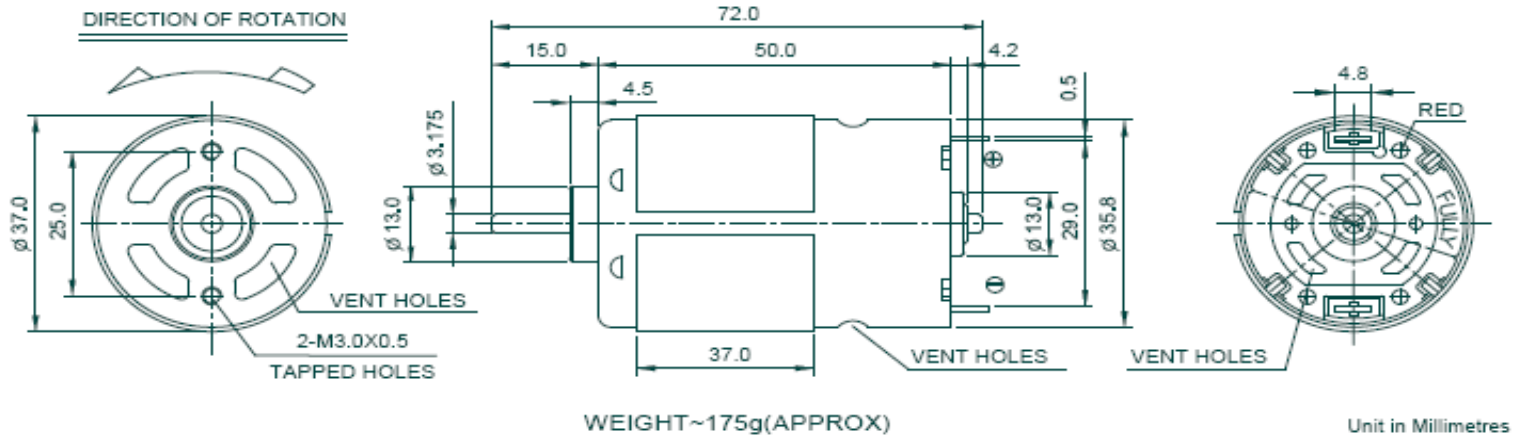
Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36RS12-110-324	80~120	110.0	19200	0.09	15800	0.36	200.00	32.4	81.8	1129
PL36RS12-110-361	80~110	110.0	21500	0.1	17600	0.4	200.00	36.1	86.4	1103
PL36RS12-117-81NB	80~120	117.0	10400	0.04	8800	0.1	90.00	8.1	69.4	585
PL36RS12-120-235NF	80~160	120.0	13920	0.07	11450	0.24	200.00	23.5	81.0	1128
PL36RS12-120-28	80~220	120.0	5030	0.02	3960	0.045	70.00	2.8	52.6	329

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36RS12-110-100N	80~120	110.0	8350	0.05	6500	0.11	150.00	10	64.9	678
PL36RS12-110-109N	80~120	110.0	8500	0.04	7100	0.14	150.00	10.9	60.8	910
PL36RS12-120-327	80~120	120.0	17500	0.07	14500	0.32	220.00	32.7	64.7	1286
PL36RS12-120-207	80~120	120.0	14500	0.06	11900	0.25	170.00	20.7	69.0	948
PL36RS12-220-110	180~240	220.0	6500	0.013	5400	0.07	200.00	11	72.0	1176
PL36RS12-230-207	110~240	230.0	14500	0.03	11900	0.13	170.00	20.7	69.4	950
PL36RS12-230-164N	120~240	230.0	10000	0.02	8000	0.1	200.00	16.4	54.6	1000
PL36RS12-230-82N	120~240	230.0	9250	0.02	7200	0.07	180.00	8.2	64.4	814

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36RS12-100-339NF	80~120	100.0	13000	0.06	11800	0.35	280.00	33.9	75.7	3033
PL36RS12-100-454N	100~120	100.0	13300	0.09	12100	0.48	366.00	45.4	72.7	4057
PL36RS12-100-496N	100~120	100.0	13300	0.08	13880	0.48	400.00	49.6	79.5	4433
PL36RS12-110-427NFB	50~110	110.0	17150	0.16	11600	0.62	300.00	42.7	62.2	1573
PL36RS12-120-333NF	100~120	120.0	13000	0.06	9950	0.27	280.00	33.3	80.6	2600
PL36RS12-220-408F	220~240	220.0	12700	0.04	9750	0.24	400.00	40.8	77.3	1850
PL36RS12-230-450F	120~230	230.0	12500	0.02	12900	0.28	450.00	45	70.0	2045
PL36RS12-230-397F	120~230	230.0	15700	0.04	7200	0.2	300.00	39.7	86.3	1682

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL36RS12-110-200BDF	80~120	110.0	11050	0.085	9300	0.28	210.00	20	64.9	1326
PL36RS12-120-329VF	90~130	120.0	13500	0.08	10700	0.34	300.00	32.9	80.6	1449
PL36RS12-120-209BDF	80~140	120.0	12500	0.1	10200	0.28	200.00	20.9	63.0	1086
PL36RS12-120-209DB	80~140	120.0	12500	0.08	10200	0.26	200.00	20.9	67.1	1110
PL36RS12-120-207FDB	80~140	120.0	12800	0.1	10100	0.32	200.00	20.7	43.0	952
PL36RS12-230-253D	110~240	230.0	9500	0.05	8230	0.17	300.00	25.3	64.7	2244
PL36RS12-240-308NF	180~240	240.0	13000	0.07	1000	0.18	300.00	30.8	71.3	1300

Drawing for models in table 1



# Low Cost PMDC - Round Sided



## 42.2mm Series

### Applications

- |                     |                       |
|---------------------|-----------------------|
| * Vacuum Cleaner    | * Radio Control Car   |
| * Fuel Pump         | * Massager            |
| * Grinding Machine  | * Air Pump            |
| * Hand Scrw Driver  | * Vaccum Cleaner      |
| * Paper Shredder    | * Shoes Brush         |
| * Mincer            | * Coffee Bean Grinder |
| * Electric Drill    | * Car Seat Adjustor   |
| * Electric Saw      | * Window Lifter       |
| * Portable Massager | * Game Steering Wheel |



### Specification

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL42RS3-12-1230F	6.0~12.0	12.0	22500	2.8	19300	14.2	620.00	123	72.2	4359
PL42RS3-12-1230FD	6.0~15.0	12.0	16800	2	15300	7	400.00	62.8	74.8	4494
PL42RS3-12-1230FD	6.0~15.0	12.0	18200	2.3	16400	10	500.00	84.2	70.2	5050
PL42RS3-12-1230FD	6.0~15.0	12.0	20000	2.5	17300	13	580.00	102	65.3	4296
PL42RS3-12-1230F	6.0~18.0	12.0	8200	0.6	7000	2.4	250.00	17.9	62.2	1708
PL42RS3-12-1230F	6.0~18.0	2.0	10000	0.8	8000	4.5	450.00	36.9	68.0	2250
PL42RS3-12-1230DF	6.0~18.0	12.0	10000	0.78	8000	4.2	450.00	36.9	73.7	2250
PL42RS3-12-1230VDC	12.0~24.0	24.0	8200	0.39	6740	1.78	460.00	31.8	74.4	2584

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL42RS3-6-484NF	6.0~10.0	6.0	13340	3.3	11800	12	400.00	48.4	67.2	3464
PL42RS3-10-1113F	4.5~12.0	9.6	18500	2.9	16200	17.3	670.00	111.3	67.0	5389
PL42RS3-12-1480F	6.0~12.0	12.0	21300	3	19200	16.2	750.00	148	76.0	7607
PL42RS3-12-1240F	6.0~14.0	12.0	18320	2.4	16080	14.5	750.00	124	71.3	6134
PL42RS3-14-1127F	6.0~14.4	14.4	18500	2	16400	11	670.00	112.7	71.1	5900
PL42RS3-15-1140F	6.0~15.1	15.1	18100	1.98	16600	9.3	670.00	114	81.0	8084
PL42RS3-18-812NFC	6.0~18.0	18.0	14800	1.4	13200	6	600.00	81.2	75.2	5550
PL42RS3-24-79	12.0~36	24.0	2920	0.11	2570	0.43	300.00	7.9	76.5	2502

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL42RS5-24-115VC	12.0~30.0	24.0	3600	0.15	2800	0.7	400.00	11.5	68.0	1800
PL42RS5-24-115VC	12.0~24.0	24.0	4000	0.17	2850	1.15	650.00	19	69.0	2260
PL42RS5-24-477	12.0~24.0	24.0	11000	0.5	9300	2.6	500.00	47.7	76.4	3236
PL42RS5-24-88	20.0~36.0	24.0	3600	0.16	2870	0.58	300.00	8.83	63.4	1480
PL42RS5-48-115C	24.0~48.0	48.0	3650	0.07	2800	0.37	400.00	11.5	65.0	1718
PL42RS5-48-87	30.0~60.0	48.0	3600	0.08	2820	0.3	300.00	8.67	60.2	1384

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL42RS5-12-265NF	6.0~18.0	12.0	4340	0.5	3230	2.9	800.00	26.5	76.1	3127
PL42RS5-12-463F	9.0~24.0	12.0	8300	0.9	6950	5.2	650.00	46.3	74.3	3998
PL42RS5-14-833F	7.2~16.0	14.4	16400	1.6	14000	9.5	580.00	83.3	61.0	3960
PL42RS5-24-383C	12.0~24.0	24.0	10100	0.6	9100	2.1	410.00	38.3	75.9	4141
PL42RS5-24-582	12.0~24.0	24.0	9550	0.5	8100	2.8	700.00	58.2	86.5	4610
PL42RS5-24-395	12.0~24.0	24.0	12000	0.7	11000	2.2	350.00	39.5	74.8	4375
PL42RS5-24-291	12.0~24.0	24.0	8000	0.42	7100	1.6	400.00	29.1	75.8	3555
PL42RS5-35-443	24.0~40.0	35.0	9550	0.32	8300	1.65	520.00	44.3	76.7	4000

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL42RS12-100-580	80~120	100.0	13500	0.19	12500	0.68	450.00	58	71.0	6075
PL42RS12-100-523FD	80~120	100.0	19800	0.27	17000	0.85	300.00	52.3	54.4	2127
PL42RS12-100-501FD	80~120	100.0	19000	0.28	16300	0.75	300.00	50.1	55.0	2112
PL42RS12-120-530FD	80~150	120.0	14000	0.14	11500	0.5	450.00	53	68.0	5056
PL42RS12-120-728	60~180	120.0	10000	0.09	7100	0.6	1000.00	72.8	82.0	2448

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL42RS12-100-723NFD	60~120	100.0	14000	0.19	12800	0.75	550.00	72.3	75.9	6417
PL42RS12-100-706NF	80~120	100.0	14000	0.19	12500	0.75	550.00	70.6	74.1	5135
PL42RS12-100-590NDF	60~120	100.0	18100	0.25	14480	0.76	400.00	59	70.0	2000
PL42RS12-100-495FD	60~100	100.0	18840	0.26	16070	0.64	300.00	49.5	77.4	2040
PL42RS12-100-551FD	60~100	100.0	21300	0.27	17910	0.76	300.00	55.1	72.5	1885
PL42RS12-120-728	60~180	120.0	10000	0.09	7100	0.6	1000.00	72.8	82.0	3448
PL42RS12-120-489	80~130	120.0	9500	0.09	6800	0.6	700.00	48.9	57.4	2463
PL42RS12-230-430NFC	100~240	230.0	13400	0.07	10500	0.24	400.00	43	78.0	1848

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL42RS12(24)-220-510FD	120~230	220.0	20000	0.14	16600	0.32	300.00	51	62.3	1765
PL42RS12(24)-220-257F	110~240	220.0	15000	0.1	12550	0.18	200.00	25.7	65.0	1226
PL42RS12(24)-230-531F	120~250	230.0	18000	0.11	14800	0.36	350.00	53.1	64.0	2000
PL42RS12(24)-240-196F	120~280	240.0	12000	0.08	9550	0.12	200.00	19.6	68.0	980
PL42RS12(24)-240-556NFC	100~240	240.0	19100	0.11	15500	0.32	350.00	55.6	72.3	1856

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL42RS3-12-1440FD	6.0~12.0	12.0	16000	2.3	14100	14.5	1000.00	144	82.7	8474
PL42RS3-12-1800F	6.0~12.0	12.0	28270	5.7	25100	24.2	700.00	180	62.0	6242
PL42RS3-12-1680F	6.0~12.0	12.0	18200	3.2	16320	18.6	1000.00	168	75.3	9680
PL42RS3-12-1615F	6.0~12.0	12.0	20100	3.5	17500	19	900.00	161.5	70.8	6957
PL42RS3-12-1264NFC	6.0~15.0	12.0	17730	2.4	15400	15	800.00	126.4	70.0	6088
PL42RS3-12-2170F	6.0~18.0	12.0	20500	2.9	17600	24.2	1200.00	217	74.7	8483
PL42RS3-24-1070	12.0~24.0	24.0	13500	0.75	10500	6	1000.00	107	74.3	4545
PL42RS3-24-1660D	12.0~24.0	24.0	18200	1.4	16200	9.5	1000.00	166	72.8	9100

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL42RS3-6-944F	3.0~8.0	6.0	10500	2.5	9200	21	1000.00	94.4	75.0	8100
PL42RS3-6-540	3.0~8.0	6.0	8000	1.8	7100	10.6	700.00	54	80.0	6200
PL42RS3-12-894F	8.0~15.0	12.0	12000	2	10900	9.5	800.00	89.4	78.5	9100
PL42RS3-12-1640F	6.0~12.0	12.0	21000	3.5	20000	17	800.00	164	80.0	17020

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL42RS5-12-122	8.0~15.0	12.0	3000	0.3	2380	1.5	500.00	12.2	68.0	2432
PL42RS5-12-257	8.0~15.0	12.0	5000	0.5	4180	2.7	600.00	25.7	79.0	3687
PL42RS5-24-361F	12.0~24.0	24.0	5500	0.2	4300	1.85	820.00	36.1	81.3	3900
PL42RS5-24-361F	12.0~24.0	24.0	3000	0.11	2750	0.4	200.00	5.6	58.0	2450

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL42RS5-12-1210NF	6.0~12.0	12.0	18200	2.4	15800	13.8	750.00	121	73.0	5769
PL42RS5-12-76	6.0~24.0	12.0	2230	0.23	1950	0.86	380.00	7.6	74.5	3040
PL42RS5-12-471F	6.0~24.0	12.0	6500	0.65	5400	4.8	850.00	47.1	81.7	5000
PL42RS5-12-124	6.2~24.0	12.0	3210	0.29	2690	1.5	450.00	12.4	68.9	2812
PL42RS5-12-1220NF	6.0~15.0	12.0	18700	2.5	16700	13.9	710.00	122	72.9	6638
PL42RS5-14-1600NF	6.2~14.4	14.4	21000	3	19500	15	800.00	160	74.1	11428
PL42RS5-14-1850F	6.2~14.4	14.4	24500	3.5	22600	17	800.00	185	75.5	10389

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL42RS5-12-2310F	6.0~12.0	12.0	21000	3.5	18000	25	1250.00	231	76.9	8802
PL42RS5-12-1230F	6.0~12.0	12.0	11600	1	10000	13	1200.00	123	78.8	8700
PL42RS5-12-218	6.0~24.0	12.0	4200	0.47	3800	2.3	600.00	21.8	79.0	6300
PL42RS5-12-257	6.0~24.0	12.0	3435	0.37	2900	2.4	869.00	25.7	89.2	5580
PL42RS5-18-2410F	12.0~18.0	18.0	25000	3.8	23500	17.5	1000.00	241	76.5	16666
PL42RS5-24-503	12.0~24.0	24.0	6000	0.35	4900	2.8	1000.00	50.3	74.7	5263
PL42RS5-36-471	12.0~48.0	36.0	6300	0.2	5400	1.7	850.00	47.1	76.9	5952

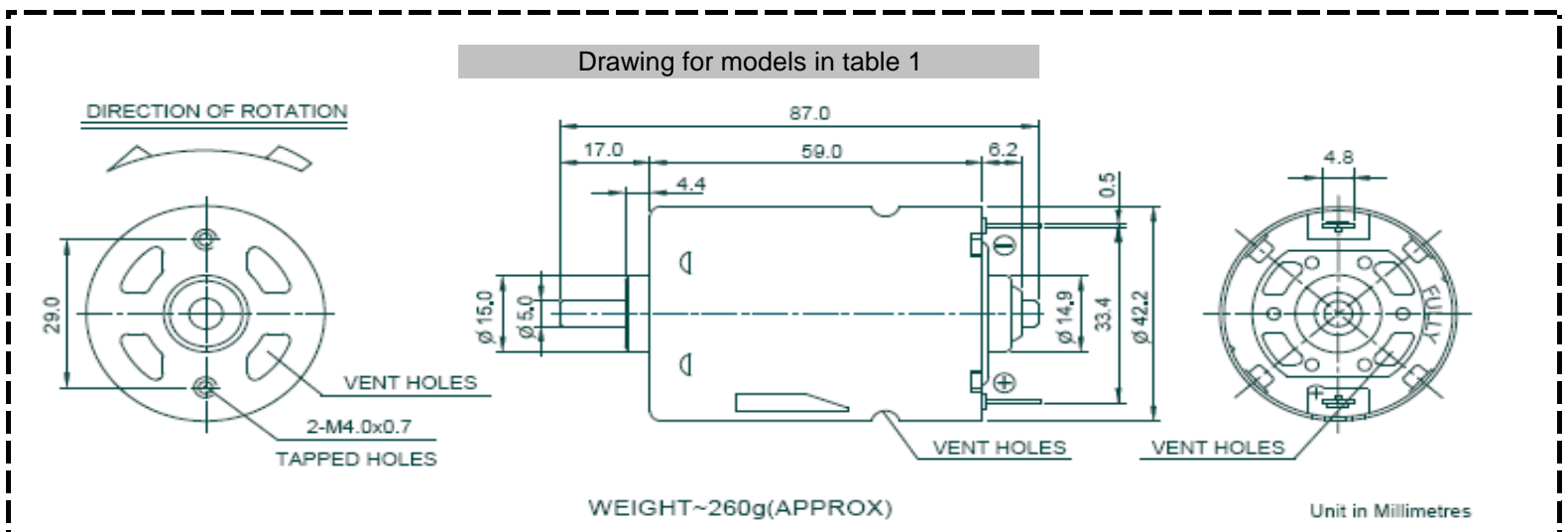
Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL42RS12-110-326	80~120	110.0	12800	0.18	10600	0.45	300.00	32.6	65.9	1745
PL42RS12-115-153	100~140	115.0	4050	0.05	3000	0.18	500.00	15.3	62.0	1928
PL42RS12-120-800F	100~150	120.0	19000	0.21	15500	0.95	500.00	80	55.0	2700
PL42RS12-220-386	110~240	220.0	12280	0.07	9410	0.23	400.00	38.6	76.3	1711
PL42RS12-220-255	100~230	220.0	10400	0.06	8590	0.17	290.00	25.5	68.3	1666
PL42RS12-230-297C	200~240	230.0	11870	0.06	9650	0.16	300.00	29.7	80.7	1604
PL42RS12-230-430NF	110~230	230.0	15300	0.12	12000	0.32	350.00	43	58.8	1623
PL42RS12-230-299	110~240	230.0	11300	0.09	9100	0.19	320.00	29.9	68.3	1643

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL42RS12-100-603DNF	60~120	100	12000	0.15	9800	0.75	600	60.3	69	3273
PL42RS12-100-820DNF	60~120	100	16200	0.2	13340	0.83	600	82	84	3398
PL42RS12-110-610FB	60~120	110	14000	0.16	11100	0.77	533	61	71.7	2573
PL42RS12-115-400N	80~145	115	4830	0.06	3860	0.44	1000	40	79	4980
PL42RS12-120-22	100~150	120.0	1620	0.014	1110	0.038	200.00	2.26	50.8	623
PL42RS12-220-90D	200~240	220.0	5500	0.03	4600	0.06	190.00	9	67.4	1161
PL42RS12-220-905F	200~240	220.0	18000	0.12	14700	0.48	600.00	90.5	85.7	3272
PL42RS12-230-1050D	100~300	230.0	8400	0.04	6000	0.49	1700.00	105	74.0	5950

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL42RS12(24)-110-744F	80~120	110	18400	0.23	14500	0.9	500	74.4	75.2	2359
PL42RS12(24)-115-687NF	80~120	115	16200	0.14	13400	0.75	500	68.7	79.8	2893
PL42RS12(24)-220-615FD	100~220	220	14500	0.12	11250	0.38	533	61.5	73.6	2370
PL42RS12(24)-220-787FD	100~220	220	19150	0.16	15340	0.48	500	78.7	74.5	2513
PL42RS12(24)-220-905F	200~240	220	18000	0.12	14700	0.48	600	90.5	85.7	3272
PL42RS12(24)-230-972F	110~230	230	18700	0.12	15800	0.5	600	97.2	84.5	3870
PL42RS12(24)-230-420F	120~230	230	10000	0.042	8200	0.193	500	42	72.8	2777
PL42RS12(24)-230-667F	180~240	230	16000	0.09	13000	0.35	500	66.7	82.9	2666

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL42RS12-110-1040F	80~120	110.0	16200	0.23	12700	1.05	800.00	104	70.0	3800
PL42RS12-110-890F	100~120	110.0	17140	0.25	14500	1	600.00	89	70.0	3895
PL42RS12-120-1860NF	80~130	120.0	14200	0.18	12100	1.9	1500.00	186	81.6	10143
PL42RS12-120-164NFD	80~160	120.0	3700	0.04	3200	0.18	500.00	16.4	76.0	3700
PL42RS12-230-1620F	120~230	230.0	14200	0.08	10500	0.95	1500.00	162	74.0	5757
PL42RS12-230-900F	110~230	230.0	17140	0.1	14600	0.45	600.00	90	74.1	4049
PL42RS12-230-1660NF	120~230	230.0	14600	0.08	10800	0.9	1500.00	166	66.0	5763
PL42RS12-230-1560F	120~230	230.0	18300	0.11	15200	0.68	1000.00	156	83.7	6310

## Outline Drawing



# Low Cost PMDC - Round Sided



## 49.9mm Series

### Applications

- |                  |                            |
|------------------|----------------------------|
| * Vacuum Cleaner | * Compressor/Bilge Blower  |
| * String Trimmer | * Drill                    |
| * Traffic Light  | * Toy                      |
| * Joystick       | * Air Pump                 |
| * ABS            | * Pollution Control Device |
| * Door Opener    | * Windshield Wiper         |



### Specification

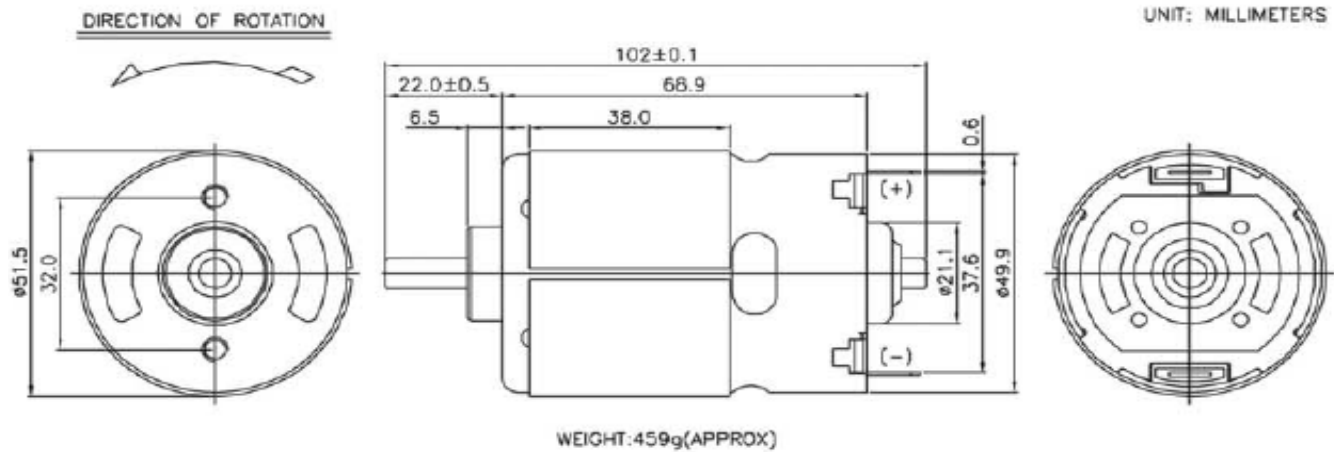
Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL50RS7-20-82	12.0~30.0	20.0	1880	0.15	1540	0.67	510.00	8.21	61.0	2831
PL50RS7-12-311	12.0~30.0	12.0	5110	1.03	4190	4.48	710.00	31.1	58.0	3944
PL50RS7-14-2262	10.0~15.0	14.0	21200	4.18	18300	24.5	1183.00	226.2	66.0	8453
PL50RS7-12-1504	15.0~15.0	12.0	14200	2.93	12200	18.6	1180.00	150.4	68.0	8426

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL50RS12-230-870	100~230	230.0	16350	0.15	1328	0.59	650.00	87	64.2	3200
PL50RS12-120-1260	100~230	120.0	12000	0.22	10134	1.2	1213.00	126	88.0	7800
PL50RS12-12-1047	12.0~230	12.0	13700	3	11200	13.3	892.00	104.7	64.0	4954
PL50RS12-13-2038	12.0~230	13.0	19000	5.91	15400	24	1266.00	203.8	65.0	6665

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL50RF3-12-189	10.0~30.0	12.0	2450	0.4	2090	2.37	865.00	18.9	66.0	5765
PL50RF3-24-502	10.0~30.0	24.0	5450	0.42	4740	2.91	1011.00	50.2	72.0	7776
PL50RF3-12-437D	10.0~30.0	12.0	5350	0.93	4550	5.48	918.00	43.7	67.0	6121
PL50RF3-12-2217V	10.0~30.0	12.0	18300	4.27	15900	27.5	1330.00	221.7	67.0	10230

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL50RS12-230-820	12.0~230	230.0	9070	0.06	7894	0.42	1012.00	82	85.7	7809
PL50RS12-13-654	12.0~250	13.0	6280	0.99	5530	7.06	1131.00	65.4	71.0	9421
PL50RS12-13-740	12.0~230	13.0	7150	1.13	6290	8.12	1125.00	74	70.0	9371

Drawing for models in table 1



# Low Cost PMDC - Round Sided



## 49.9mm Series

### Applications

- |                      |                       |
|----------------------|-----------------------|
| * Car Antenna Lifter | * Car Fan             |
| * Door Lifter        | * Electric Saw        |
| * Hand Tools         | * Window Lifter       |
| * Electric Saw       | * Coffee Bean Grinder |
| * Gardening Tools    | * Air Pump            |
| * Door Opener        | * Trimmer             |



### Specification

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL51RS7-20-95	12.0~36.0	20.0	2010	0.2	1550	0.7	600.00	9.5	68.1	2620
PL51RS7-20-96	12.0~36.0	24.0	2370	0.2	1720	0.85	900.00	15.9	77.8	3280
PL51RS7-20-97	12.0~24.0	24.0	6000	0.5	4900	2.6	1000.00	50.3	80.5	5455
PL51RS7-20-98	12.0~36.0	24.0	3000	0.3	2480	0.71	500.00	12.7	75.0	2905
PL51RS7-20-99	12.0~36.0	24.0	4740	0.5	4000	2.1	1000.00	41	80.0	6429

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL51RS7-8-133	6.0~8.0	8.0	2980	0.65	2600	2.3	500.00	13.3	72.4	3921
PL51RS7-12-1330FD	6.0~15.0	12.0	14700	3.5	13000	16	1000.00	133	69.2	9090
PL51RS7-14-109	6.0~15.0	13.5	2070	0.26	1530	1.3	700.00	10.9	62.5	2683
PL51RS7-18-2120FD	12.0~22.0	18.0	17000	2.7	15100	16	1370.00	212	77.9	12258
PL51RS7-19-2280FD	12.0~24.0	19.2	16500	2.5	14800	15	1500.00	228	79.2	14558
PL51RS7-20-95DN	12.0~25.0	20.0	2010	0.2	1550	0.7	600.00	9.5	68.1	2620
PL51RS7-24-503FD	18.0~30.0	24.0	6000	0.5	4900	2.6	1000.00	50.3	80.5	5455
PL51RS7-36-620	20.0~45.0	36.0	6000	0.37	5050	2.3	1200.00	62	75.1	7579

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL51RS12-100-887F	60~100	100.0	15140	0.26	12350	1.2	700.00	88.7	73.9	3798
PL51RS12-115-976NF	80~120	115.0	16100	0.25	13600	1.2	700.00	97.6	70.8	4510
PL51RS12-120-213	100~150	120.0	3200	0.04	2600	0.22	800.00	21.3	69.0	4266
PL51RS12-120-26	100~150	120.0	1620	0.014	1240	0.03	200.00	2.55	70.8	852
PL51RS12-220-279D	110~230	220.0	6000	0.04	4950	0.17	550.00	27.9	74.6	3143
PL51RS12-220-188D	120~230	220.0	4180	0.02	3050	0.11	600.00	18.8	77.7	2220
PL51RS12-230-174	110~230	230.0	4000	0.02	2830	0.11	600.00	17.4	68.8	2050
PL51RS12-230-1190F	120~230	230.0	16400	0.15	14500	0.56	800.00	119	69.9	6902

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL51RS7-12-165	12.0~36.0	12.0	3180	0.44	2675	1.8	600.00	16.5	76.2	3778
PL51RS7-12-276	6.0~24.0	12.0	3050	0.5	2450	2.7	1100.00	27.6	85.3	5590
PL51RS7-12-700D	6.0~18.0	12.0	6522	1.15	5760	7	1190.00	70	83.3	10250
PL51RS7-12-142D	6.0~18.0	12.0	3040	0.55	2770	1.8	500.00	14.2	65.8	5630
PL51RS7-18-528D	6.0~24.0	18.0	6000	0.65	5150	4	1000.00	52.8	73.3	7058
PL51RS7-24-615	12.0~30.0	24.0	6050	0.56	5000	3	1200.00	61.5	85.5	6914
PL51RS7-24-1010C	12.0~28.0	24.0	6500	0.55	5500	5.2	1800.00	101	81.0	12000
PL51RS7-24-400C	12.0~28.0	24.0	3300	0.28	2600	2.1	1500.00	40	79.3	7142

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL51RS7-6-24D	3.0~18.0	6.0	630	0.18	460	0.68	500.00	2.36	57.9	1853
PL51RS7-7-406	6.0~12.0	7.2	3850	1.3	3300	6.5	1200.00	40.6	86.8	8400
PL51RS7-12-624	6.0~18.0	12.0	4080	0.65	3040	6.5	2000.00	62.4	80.0	8000
PL51RS7-12-623	6.0~18.0	12.0	4500	0.78	2800	6.2	1600.00	62.3	83.7	10320
PL51RS7-18-1560F	12.0~24.0	18.0	8600	1.1	7600	11	2000.00	156	78.8	17200
PL51RS7-18-1150F	12.0~24.0	18.0	6600	0.8	5600	7.5	2000.00	115	85.0	13200
PL51RS7-24-700C	12.0~28.0	24.0	4750	0.38	3800	3.4	1800.00	70	85.7	9000
PL51RS7-24-1602F	12.0~28.0	24.0	9000	0.87	7100	8.7	2200.00	160.2	77.0	10476

Model No.	Voltage		No-Load		At Maximum Efficiency					Stall Torque
	Operating Range	Nominal	Speed	Current	Speed	Current	Torque	Output	Efficiency	
	V	V	RPM	A	RPM	A	gf.cm	W	%	
PL51RS12-110-897N	80~140	110	6640	0.1	5830	0.95	1500	89.7	85.8	12305
PL51RS12-120-485	80~160	120	10000	0.12	8600	0.52	550	48.5	77.7	3928
PL51RS12-220-291D	110~230	220	6000	0.04	5150	0.16	550	29.1	82.5	3884
PL51RS12-220-555	110~230	220	8000	0.05	6760	0.32	800	55.5	79	5171
PL51RS12-230-287N	150~250	230.0	5800	0.04	5100	0.14	550.00	28.7	68.8	4583
PL51RS12-230-250	180~230	230.0	4160	0.03	3040	0.14	800.00	25	77.0	2972

### Outline Drawing

