

## Spur gear DC motors 1W - 40W General catalogue



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SD = Spur Gear DC Motor

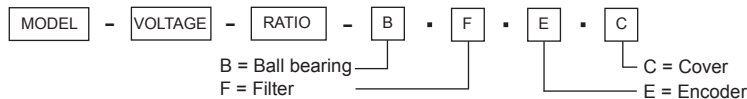
SDC = Spur Gear Centric DC Motor

SDS = Spur Gear DC Motor with square flange

## ENCODER VERSIONS FOR PD, SD and SDC MOTOR SERIES

Encoders are available for all our planetary and spur dc gear motors in this product range. This document describes the data for only the encoders. For motor data please refer to the separate motor data sheets. The encoder design is based on a rotating magnetic disk and two hall sensors. It is a simple, long life, robust and low cost technology. In standard our encoders generate the maximum number of pulses that are possible in relation to the diameter of the magnet and encoder.

### MODEL NO. DESIGNATIONS



Example: SD3246-12-10-BFCE

### ENCODER FEATURES

- Magnetic hall sensor encoders
- Two sensors channels is standard
- Available for all our gear motors
- Simple design
- Robust and long lifetime
- Low cost
- High number of pulses

### ENCODER SHAPE AND OUTPUT

MOTOR	COVER LENGHT	CABLE LENGTH	MAGNETIC POLES	PPR x2	CPR x2
PD1330	NO COVER	100mm	6	6	12
PD1626	NO COVER	100mm	6	6	12
PD2232	NO COVER	100mm	6	6	12
PD3046	12.6	100mm	14	14	28
PD3237	12.6	100mm	14	14	28
PD3246	12.6	100mm	14	14	28
PD3557	13.5	100mm	14	14	28
PD4266	15.5	100mm	38	38	76
PDS4265	13.5	100mm	14	14	28
SD3039	12.6	100mm	6	6	12
SD3729	14.3	100mm	14	14	28
SD3757	13.5	100mm	14	14	28
SDC3729	14.3	100mm	14	14	28
SDS4360	13.5	100mm	14	14	28

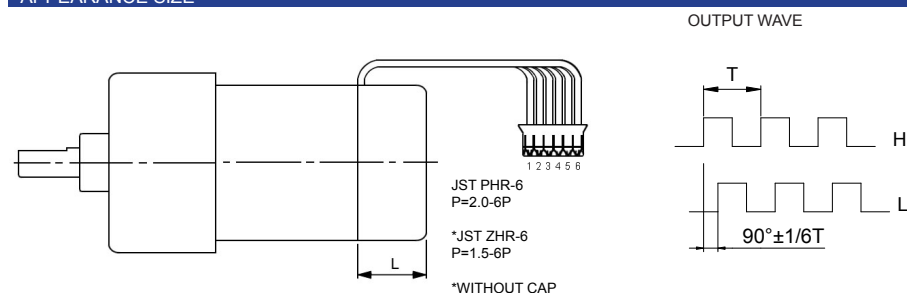


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### GEARED MOTOR DATA

CHARACTERISTICS	SYMBOL	TEST CONDITIONS	MIN	REF	MAX	UNITS
Supply voltage	Vcc	---	3.5	-	20	V
Output saturation voltage	Vce (sat)	Vcc = 14V ; Ic = 20mA	-	300	700	mV
Output leakage current	Icex	Vce = 14V ; Vcc = 14V	-	< 0.1	10	µA
Supply Current	Ice	Vcc = 20V Output open	-	5	10	mA
Output rise time	tr	Vcc = 14V; RL = 820 Ohm; CL = 20pF	-	0.3	1.5	µS
Output fall time	tf	Vcc = 14V; RL = 820 Ohm; CL = 20pF	-	0.3	1.5	µS
Hall sensor	UTC Unisonic KS1816					

### APPEARANCE SIZE

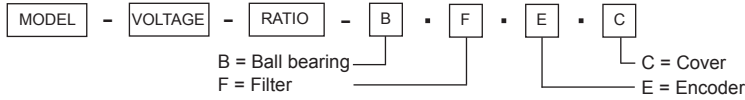


TWO CHANNEL ENCODER	
CONNECTIONS:	
1. BLACK	: - MOTOR
2. RED	: + MOTOR
3. BROWN	: HALL SENSOR Vcc
4. GREEN	: HALL SENSOR GND
5. BLUE	: HALL SENSOR A Vout
6. PURPLE	: HALL SENSOR B Vout

## SD3039 GEARED MOTOR SERIES

Brush commutator spur dc gear motors with strong metal gears of straight type manufactured by milling machine process. Only the motor shaft gear pinion is made of bakelite for noise reduction purpose. The output shaft is made in hardened stainless steel and has a sleeve bearing output as standard. For electric noise suppression the dc motors have as standard and if available integral filters as either with varistor and / or capacitor. This is marked as a F in the part description. There are options for encoder assembly and special adaptations. All motors are produced under strict high quality production standards and are tested and inspected prior to delivery.

### MODEL NO. DESIGNATIONS



Example: SD3246-12-10-BFCE

### GEAR HEAD DATA

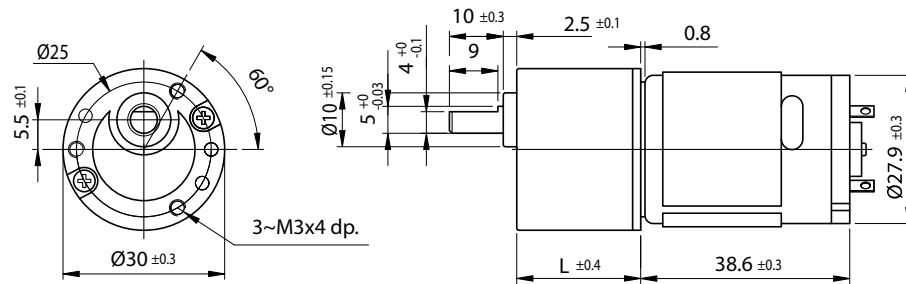
- Sleeve bearing
- Spur gear
- Backlash at no load  $\leq 2^\circ$
- Radial (10mm from flange) load  $\leq 0.8\text{kg}$
- Axial load  $\leq 0.6\text{kg}$
- Press fit max.  $\leq 10\text{kg}$
- Radial play  $\leq 0.05\text{mm}$
- Thrust play  $\leq 0.35\text{mm}$



### GEARED MOTOR DATA

Reduction	20:1	30:1	36:1	50:1	60:1	75:1	90:1	100:1	120:1	150:1	180:1	200:1	250:1	300:1	400:1	500:1	600:1	810:1	900:1	1000:1
12V	Rated torque(Kg-cm)	1	1.5	1.5	2.0	2.0	3.0	3.0	3.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
	Rated speed (rpm)	255	168	150	107	91	73	62	56	46.3	37.5	32	28.8	24	19.5	15.2	12.1	10.4	7.7	6.9
24V	Rated torque(Kg-cm)	1.0	1.5	1.5	2.0	2.0	3.0	3.0	3.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
	Rated speed (rpm)	258	168	150	107	91	73	62	56	46.3	37.4	31.8	28.7	24	19.5	15.1	12.1	10.3	7.7	6.9
Length L (mm)	23	23	23	23	23	23	23	23	28	28	28	28	28	28	28	28	28	28	28	28
Weight (g)	162	162	162	162	162	162	162	162	171	171	171	171	171	171	171	171	171	171	171	171

### APPEARANCE SIZE

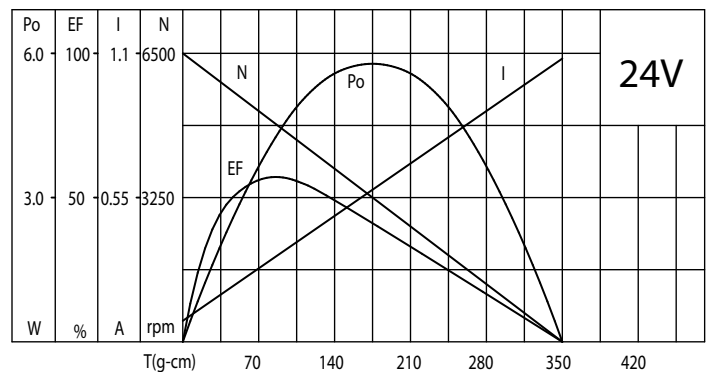
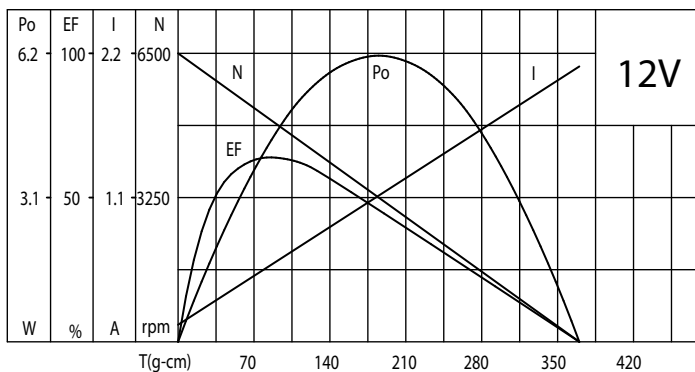


### MOTOR FEATURES

- Carbon brush commutator dc motors
- Gears in steel manufactured by milling process
- Sleeve bearing supported gear shaft
- Integrated electric noise suppression filter if (F)
- Operating temp. range -10...+60 °C
- Encoder version is available
- Customizations are welcome

### MOTOR DATA

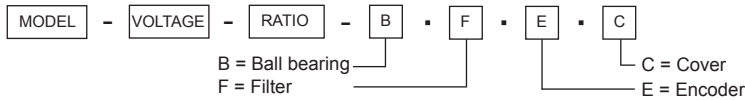
Rated volt (V)	Rated torque (g-cm)	Rated speed (rpm)	Rated current (mA)	No load speed (rpm)	No load current (mA)	Rated output (W)	Weight (g)
12	78	5290	$\leq 530$	6500	$\leq 150$	4.22	73
24	74	5250	$\leq 250$	6500	$\leq 85$	3.97	73



## SD3729 GEARED MOTOR SERIES

Brush commutator spur dc gear motors with strong metal gears of straight type manufactured by milling machine process. Only the motor shaft gear pinion is made of bakelite for noise reduction purpose. The output shaft is made in hardened stainless steel and has a sleeve bearing output as standard. For electric noise suppression the dc motors have as standard and if available integral filters as either with varistor and / or capacitor. This is marked as a F in the part description. There are options for encoder assembly and special adaptations. All motors are produced under strict high quality production standards and are tested and inspected prior to delivery.

### MODEL NO. DESIGNATIONS



Example: SD3246-12-10-BFCE

### GEAR HEAD DATA

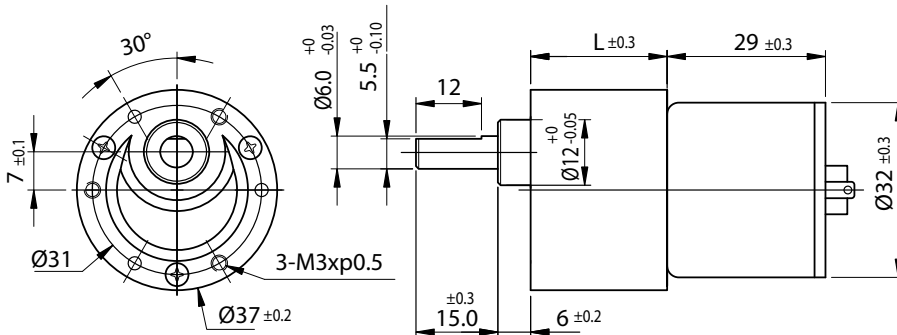
- Sleeve bearing
- Spur gear
- Backslash at no load  $\leq 2^\circ$
- Radial (10mm from flange) load  $\leq 1$  kg
- Axial load  $\leq 0.7$  kg
- Press fit max.  $\leq 20$  kg
- Radial play  $\leq 0.05$  mm
- Thrust play  $\leq 0.35$  mm



### GEARED MOTOR DATA

Reduction	1:10	1:18	1:30	1:50	1:60	1:75	1:90	1:100	1:120	1:150	1:180	1:200	1:250	1:300	1:500	1:600	1:750	1:1000	1:1500	1:3000
12V	Rated torque(Kg-cm)	0.5	0.8	1.3	2.0	2.4	2.9	3.5	3.9	4.2	5.3	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
	Rated speed (rpm)	507	278	170	101	84	68	57	51	42.5	34	28.5	26	22	19	11	9.0	7.9	6	4
24V	Rated torque(Kg-cm)	0.5	0.8	1.4	2.0	2.4	3.0	3.6	4.0	4.4	5.4	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
	Rated speed (rpm)	500	280	164	100	83	67	56	50	41.5	33	28	26	22	19	11	9	7.9	6	4
Length L (mm)	19.5	22	22	24	24	24	24	24	27	27	27	27	27	27	29.5	29.5	29.5	29.5	32	32
Weight (g)	161	168	168	175	175	175	175	175	181	181	181	181	181	181	187	187	187	187	195	195

### APPEARANCE SIZE

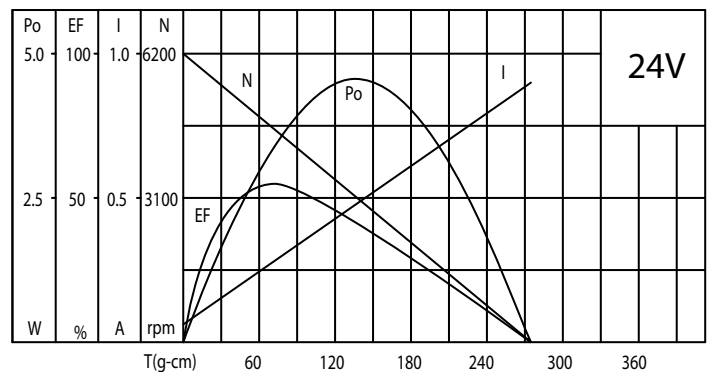
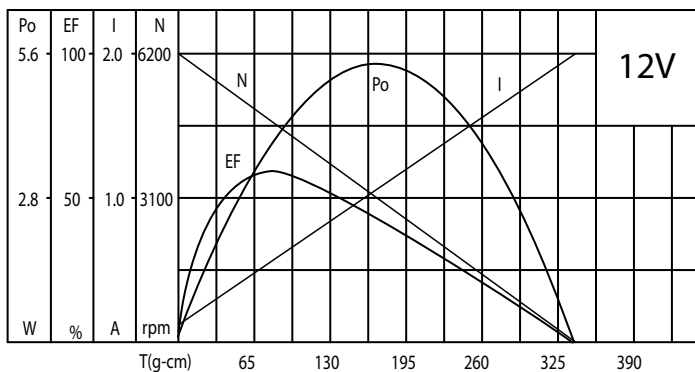


### MOTOR FEATURES

- Carbon brush commutator dc motors
- Gears in steel manufactured by milling process
- Sleeve bearing supported gear shaft
- Integrated electric noise suppression filter if (F)
- Operating temp. range -10...+60 °C
- Encoder version is available
- Customizations are welcome

### MOTOR DATA

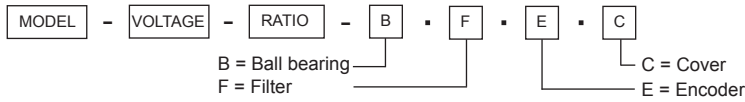
Rated volt (V)	Rated torque (g-cm)	Rated speed (rpm)	Rated current (mA)	No load speed (rpm)	No load current (mA)	Rated output (W)	Weight (g)
12	60	5100	$\leq 470$	6200	$\leq 120$	3.14	75
24	62	5000	$\leq 210$	6200	$\leq 60$	3.17	75



## SD3757 GEARED MOTOR SERIES

Brush commutator spur dc gear motors with strong metal gears of straight type manufactured by milling machine process. Only the motor shaft gear pinion is made of bakelite for noise reduction purpose. The output shaft is made in hardened stainless steel and has a sleeve bearing output as standard. For electric noise suppression the dc motors have as standard and if available integral filters as either with varistor and / or capacitor. This is marked as a F in the part description. There are options for encoder assembly and special adaptations. All motors are produced under strict high quality production standards and are tested and inspected prior to delivery.

### MODEL NO. DESIGNATIONS



Example: SD3246-12-10-BFCE

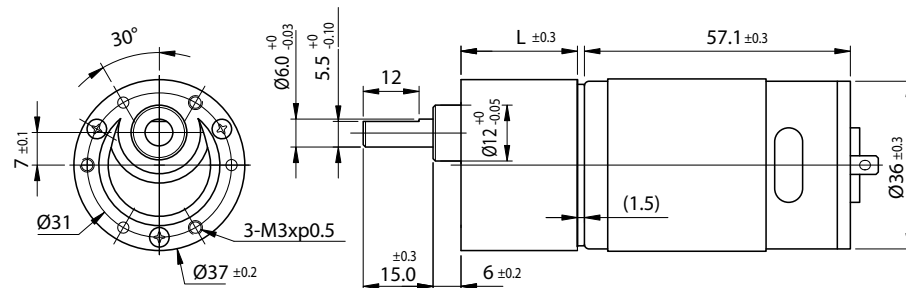
### GEAR HEAD DATA

- Sleeve bearing
- Spur gear
- Backlash at no load  $\leq 2^\circ$
- Radial (10mm from flange) load  $\leq 1$  kg
- Axial load  $\leq 0.7$  kg
- Press fit max.  $\leq 20$  kg
- Radial play  $\leq 0.05$  mm
- Thrust play  $\leq 0.35$  mm

### GEARED MOTOR DATA

Reduction	1:10	1:18	1:30	1:50	1:60	1:75	1:90	1:100	1:120	1:150	1:180	1:200	1:250	1:300	1:500	1:600	1:750	1:1000	1:1500	1:3000
12V	Rated torque(Kg-cm)	1.0	1.0	2.0	3.0	3.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
	Rated speed (rpm)	528	313	185	109	95	76	63	55	47	36	31.5	29	22.5	19.5	11.5	9.8	8.0	5.9	3.9
24V	Rated torque(Kg-cm)	1.0	1.0	2.0	3.0	3.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
	Rated speed (rpm)	532	315	186	111	96	77	64	55.5	48	36	32	29.5	23	20	11.8	9.9	8.0	6.0	4.0
Length L (mm)	19.5	22	22	24.5	24.5	24.5	24.5	24.5	27	27	27	27	27	27	29.5	29.5	29.5	29.5	32	32
Weight (g)	306	313	313	320	320	320	320	320	326	326	326	326	326	326	332	332	332	332	340	340

### APPEARANCE SIZE

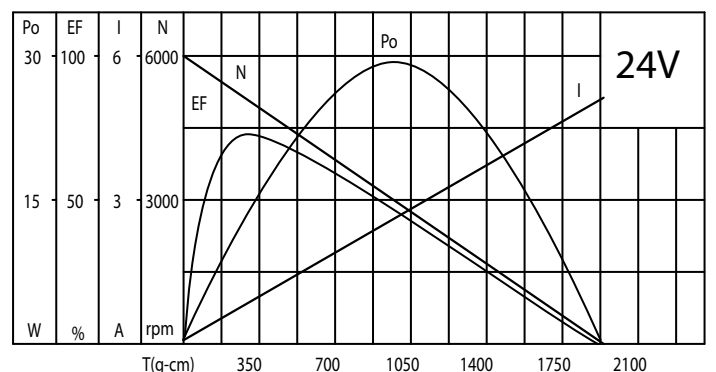
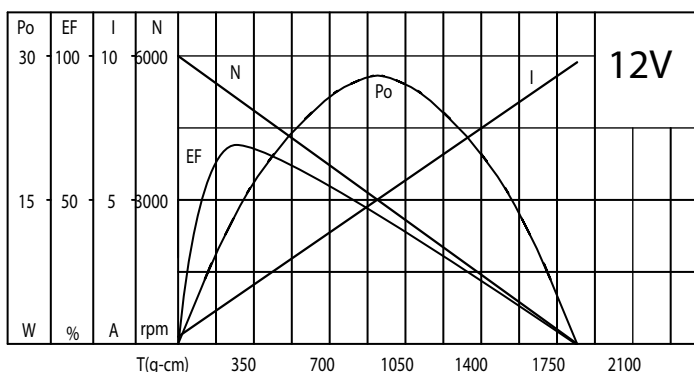


### MOTOR FEATURES

- Carbon brush commutator dc motors
- Gears in steel manufactured by milling process
- Sleeve bearing supported gear shaft
- Integrated electric noise suppression filter if (F)
- Operating temp. range -10...+60 °C
- Encoder version is available
- Customizations are welcome

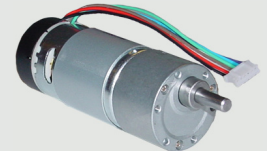
### MOTOR DATA

Rated volt (V)	Rated torque (g-cm)	Rated speed (rpm)	Rated current (mA)	No load speed (rpm)	No load current (mA)	Rated output (W)	Weight (g)
12	250	4930	$\leq 1600$	6000	$\leq 250$	12.80	220
24	240	5150	$\leq 750$	6000	$\leq 130$	12.70	220



### ENCODER VERSION

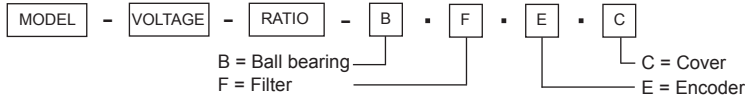
SEE SEPARATE DATA SHEET



## SDS4360 GEARED MOTOR SERIES

Brush commutator spur dc gear motors with strong metal gears of straight type manufactured by milling machine process. Only the motor shaft gear pinion is made of bakelite for noise reduction purpose. The output shaft is made in hardened stainless steel and has a sleeve bearing output as standard. For electric noise suppression the dc motors have as standard and if available integral filters as either with varistor and / or capacitor. This is marked as a F in the part description. There are options for encoder assembly and special adaptations. All motors are produced under strict high quality production standards and are tested and inspected prior to delivery.

### MODEL NO. DESIGNATIONS



Example: SD3246-12-10-BFCE

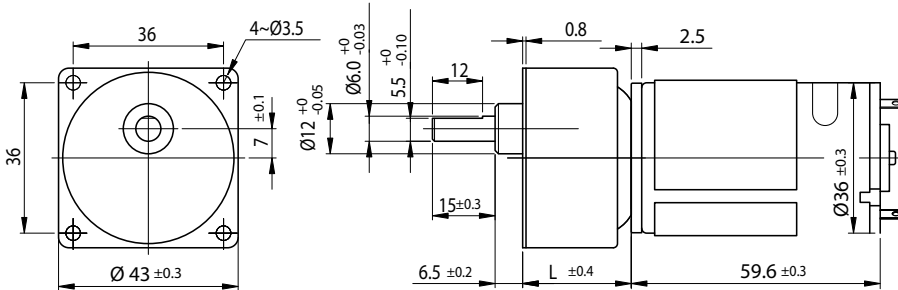
### GEAR HEAD DATA

- Sleeve bearing
- Spur gear
- Backlash at no load  $\leq 2^\circ$
- Radial (10mm from flange) load  $\leq 1$  kg
- Axial load  $\leq 0.7$  kg
- Press fit max.  $\leq 20$  kg
- Radial play  $\leq 0.05$  mm
- Thrust play  $\leq 0.35$  mm

### GEARED MOTOR DATA

Reduction	1:10	1:15	1:18	1:25	1:30	1:36	1:50	1:60	1:75	1:90	1:100	1:120	1:150	1:180	1:200	1:250	1:300	1:360	1:400	1:500	
12V	Rated torque(Kg-cm)	1.0	2.7	3.0	4.0	4.0	4.0	5.0	5.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
	Rated speed (rpm)	519	321	275	198	172	145	103	91	72.5	61	54	46	37	31	28.5	22.5	19.2	16	14.5	11.8
24V	Rated torque(Kg-cm)	1.0	2.6	3.0	4.0	4.0	4.0	5.0	5.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
	Rated speed (rpm)	530	340	283	207	176	149	107	92	73	61	54	46	37	31	28.5	23	19.1	16.2	14.5	11.8
Length L (mm)	23.9	26.4	26.4	26.4	26.4	26.4	28.9	28.9	28.9	28.9	28.9	28.9	28.9	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4
Weight (g)	330	336	336	336	336	336	345	345	345	345	345	345	345	350	350	350	350	350	350	350	350

### APPEARANCE SIZE

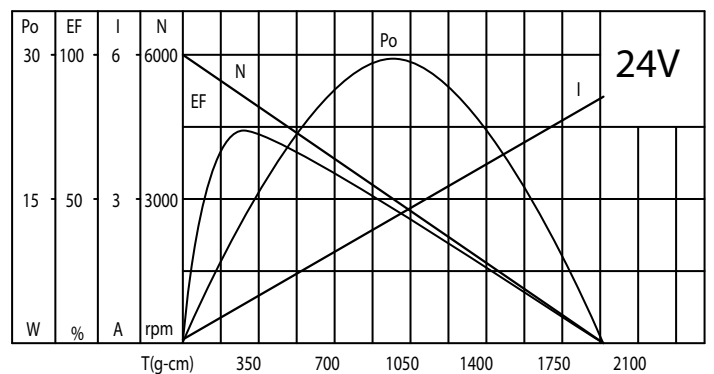
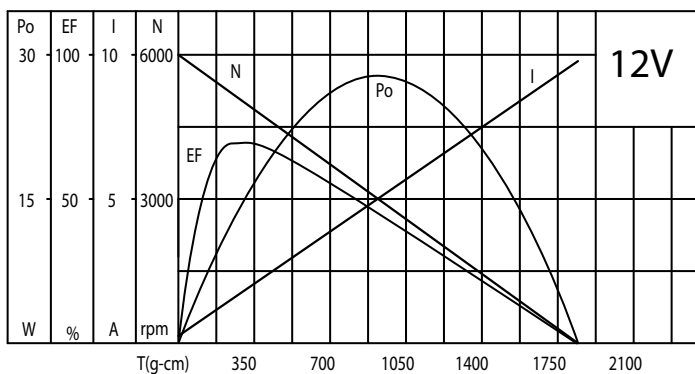


### MOTOR FEATURES

- Carbon brush commutator dc motors
- Gears in steel manufactured by milling process
- Sleeve bearing supported gear shaft
- Integrated electric noise suppression filter if (F)
- Operating temp. range -10...+60 °C
- Encoder version is available
- Customizations are welcome

### MOTOR DATA

Rated volt (V)	Rated torque (g-cm)	Rated speed (rpm)	Rated current (mA)	No load speed (rpm)	No load current (mA)	Rated output (W)	Weight (g)
12	250	4930	$\leq 1600$	6000	$\leq 250$	12.8	220
24	240	5150	$\leq 750$	6000	$\leq 130$	12.7	220



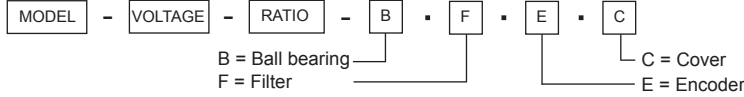
## SDC2718 GEARED MOTOR SERIES

Brush commutator spur dc gear motors with strong metal gears of straight type manufactured by milling machine process. Only the motor shaft gear pinion is made of bakelite for noise reduction purpose. The output shaft is made in hardened stainless steel and has a sleeve bearing output as standard. For electric noise suppression the dc motors have as standard and if available integral filters as either with varistor and / or capacitor. This is marked as a F in the part description. There are options for encoder assembly and special adaptations. All motors are produced under strict high quality production standards and are tested and inspected prior to delivery.



TRANSMOTEC SWEDEN AB

### MODEL NO. DESIGNATIONS



Example: SD3246-12-10-BFCE

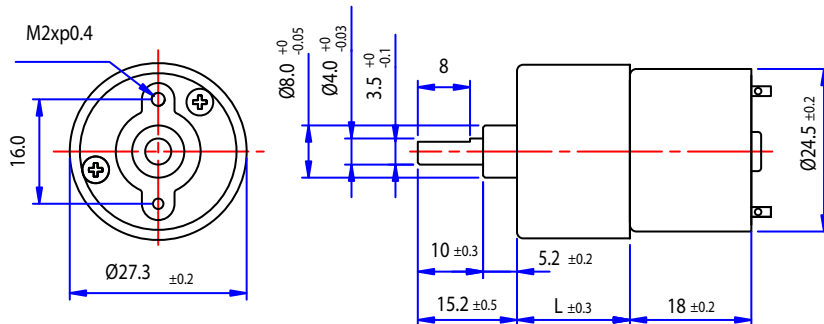
### GEAR HEAD DATA

- Sleeve bearing
- Spur gear
- Backslash at no load  $\leq 2^\circ$
- Radial (10mm from flange) load  $\leq 0.3\text{kg}$
- Axial load  $\leq 0.2\text{kg}$
- Press fit max.  $\leq 2\text{kg}$
- Radial play  $\leq 0.05\text{mm}$
- Thrust play  $\leq 0.3\text{mm}$

### GEARED MOTOR DATA

Reduction	1:10	1:15	1:21	1:30	1:44	1:60	1:77	1:100	1:112	1:150	1:170	1:200	1:250	1:320	1:360	1:500	1:700	1:800	1:900	1:1150	
12V	Rated torque(g-cm)	45	60	90	110	160	220	290	370	410	430	480	560	700	900	950	1050	1500	1500	1500	1500
	Rated speed (rpm)	390	260	180	130	88	65	51	39	35	25	22	19	15	12	10.5	7.5	5.6	5.0	4.9	4.0
Length L (mm)	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	19.3	19.3	19.3	19.3	19.3	19.3
Weight (g)	62	63	63	64	64	64	64	65	65	65	65	65	65	65	65	66	66	66	66	66	66

### APPEARANCE SIZE

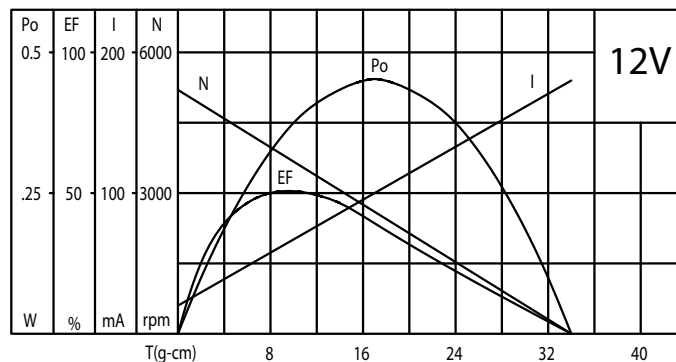


### MOTOR FEATURES

- Carbon brush commutator dc motors
- Gears in steel manufactured by milling process
- Sleeve bearing supported gear shaft
- Integrated electric noise suppression filter if (F)
- Operating temp. range -10...+60 °C
- Encoder version is available
- Customizations are welcome

### MOTOR DATA

Rated volt (V)	Rated torque (g-cm)	Rated speed (rpm)	Rated current (mA)	No load speed (rpm)	No load current (mA)	Rated output (W)	Weight (g)
12	6	4000	$\leq 60$	5200	$\leq 30$	0.25	29

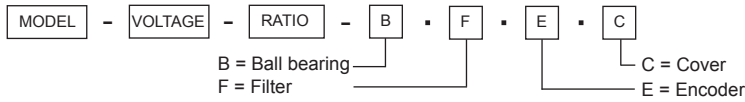


## SDC2730 GEARED MOTOR SERIES

Brush commutator spur dc gear motors with strong metal gears of straight type manufactured by milling machine process. Only the motor shaft gear pinion is made of bakelite for noise reduction purpose. The output shaft is made in hardened stainless steel and has a sleeve bearing output as standard. For electric noise suppression the dc motors have as standard and if available integral filters as either with varistor and / or capacitor. This is marked as a F in the part description. There are options for encoder assembly and special adaptations. All motors are produced under strict high quality production standards and are tested and inspected prior to delivery.



### MODEL NO. DESIGNATIONS



Example: SD3246-12-10-BFCE

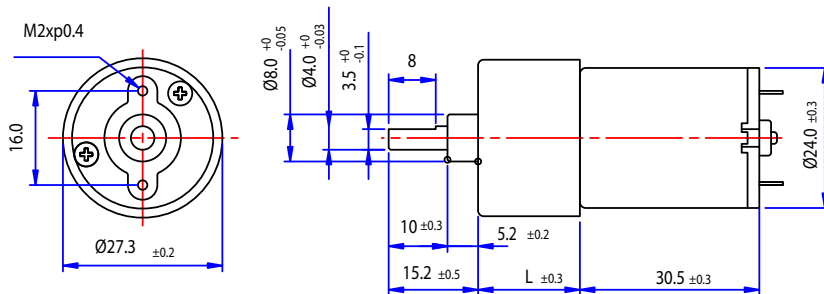
### GEAR HEAD DATA

- Sleeve bearing
- Spur gear
- Backlash at no load  $\leq 2^\circ$
- Radial (10mm from flange) load  $\leq 0.3\text{kg}$
- Axial load  $\leq 0.2\text{ kg}$
- Press fit max.  $\leq 2\text{ kg}$
- Radial play  $\leq 0.05\text{ mm}$
- Thrust play  $\leq 0.3\text{ mm}$

### GEARED MOTOR DATA

Reduction	1:10	1:15	1:21	1:30	1:44	1:60	1:77	1:100	1:112	1:150	1:170	1:200	1:250	1:320	1:360	1:500	1:700	1:800	1:900	1:1150
12V	Rated torque(Kg-cm)	0.16	0.22	0.32	0.40	0.55	0.78	0.8	1.0	1.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	Rated speed (rpm)	340	230	160	110	80	59	46	36	33	21.5	20	18	14.5	12	10.5	7.5	5.7	5.1	4.5
24V	Rated torque(Kg-cm)	0.16	0.21	0.30	0.38	0.52	0.73	0.8	1.0	1.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	Rated speed (rpm)	325	220	153	105	77	56	44	34	33	22	20	18	14.5	11.5	10.5	7.5	5.6	5.0	4.5
Length L (mm)	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	19.3	19.3	19.3	19.3	19.3
Weight (g)	77	78	78	79	79	79	79	80	80	80	80	80	80	80	80	81	81	81	81	81

### APPEARANCE SIZE

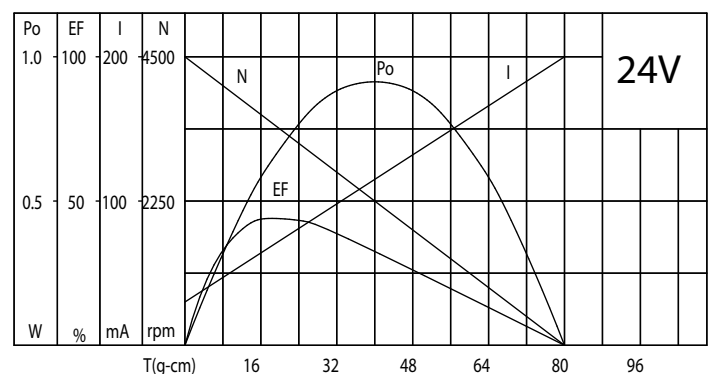
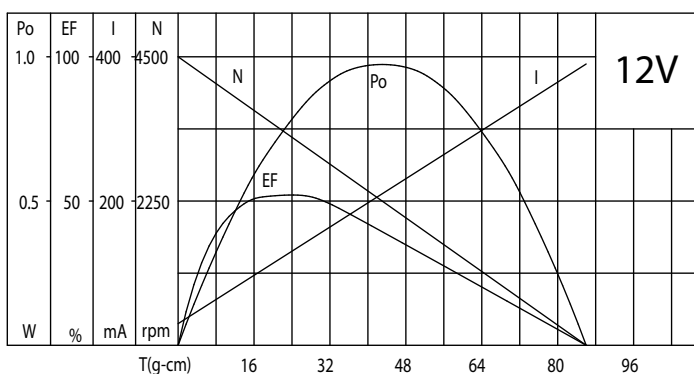


### MOTOR FEATURES

- Carbon brush commutator dc motors
- Gears in steel manufactured by milling process
- Sleeve bearing supported gear shaft
- Integrated electric noise suppression filter if (F)
- Operating temp. range -10...+60 °C
- Encoder version is available
- Customizations are welcome

### MOTOR DATA

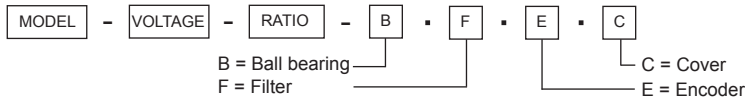
Rated volt (V)	Rated torque (g-cm)	Rated speed (rpm)	Rated current (mA)	No load speed (rpm)	No load current (mA)	Rated output (W)	Weight (g)
12	20.5	3560	$\leq 750$	4500	$\leq 40$	0.75	42
24	19.5	3400	$\leq 390$	4500	$\leq 30$	0.68	42



## SDC3729 GEARED MOTOR SERIES

Brush commutator spur dc gear motors with strong metal gears of straight type manufactured by milling machine process. Only the motor shaft gear pinion is made of bakelite for noise reduction purpose. The output shaft is made in hardened stainless steel and has a sleeve bearing output as standard. For electric noise suppression the dc motors have as standard and if available integral filters as either with varistor and / or capacitor. This is marked as a F in the part description. There are options for encoder assembly and special adaptations. All motors are produced under strict high quality production standards and are tested and inspected prior to delivery.

### MODEL NO. DESIGNATIONS



Example: SD3246-12-10-BFCE

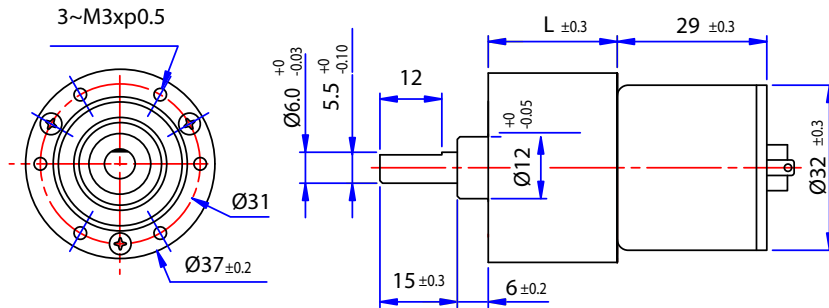
### GEAR HEAD DATA

- Sleeve bearing
- Spur gear
- Backlash at no load  $\leq 2^\circ$
- Radial (10mm from flange) load  $\leq 1$  kg
- Axial load  $\leq 0.7$  kg
- Press fit max.  $\leq 5$  kg
- Radial play  $\leq 0.05$  mm
- Thrust play  $\leq 0.35$  mm

### GEARED MOTOR DATA

Reduction	1:6	1:16	1:21	1:31	1:56	1:75	1:104	1:125	1:156	1:188	1:219	1:250	1:312	1:469	1:625	1:750	1:938	1:1875	1:3750	1:5625	
12V	Rated torque(Kg-cm)	0.3	0.68	0.9	1.25	2.2	2.6	3.6	4.4	5.5	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
	Rated speed (rpm)	800	310	245	155	90	67	49	41	33	28	24	21.5	17.6	12.3	9.1	7.8	6.3	3.2	1.6	1.0
24V	Rated torque(Kg-cm)	0.3	0.7	0.9	1.25	2.3	2.7	3.8	4.5	5.7	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
	Rated speed (rpm)	780	308	240	150	87	65	48	40	32	27	23.5	21.5	17.5	12	9.0	7.8	6.2	3.2	1.6	1.0
Length L (mm)	21.8	24.6	24.6	27.1	27.1	29.6	29.6	29.6	29.6	29.6	32.1	32.1	32.1	32.1	32.1	34.5	34.5	34.5	34.5	34.5	34.5
Weight (g)	172	178	178	184	184	192	192	192	192	196	196	196	196	196	196	203	203	203	206	206	206

### APPEARANCE SIZE

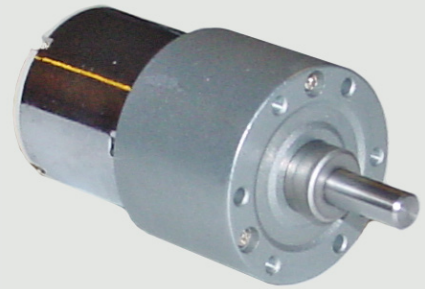
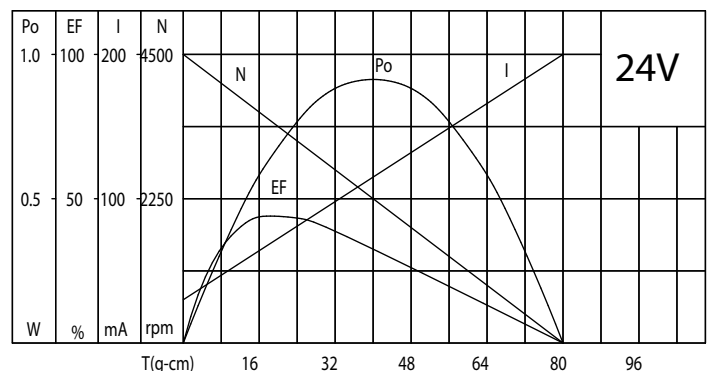
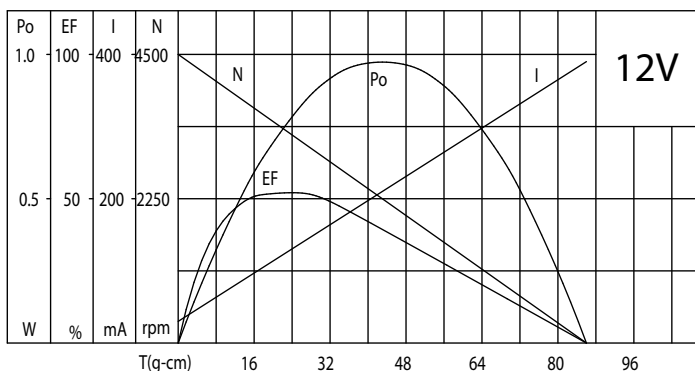


### MOTOR FEATURES

- Carbon brush commutator dc motors
- Gears in steel manufactured by milling process
- Sleeve bearing supported gear shaft
- Integrated electric noise suppression filter if (F)
- Operating temp. range -10...+60 °C
- Encoder version is available
- Customizations are welcome

### MOTOR DATA

Rated volt (V)	Rated torque (g-cm)	Rated speed (rpm)	Rated current (mA)	No load speed (rpm)	No load current (mA)	Rated output (W)	Weight (g)
12	60	5100	$\leq 470$	6200	$\leq 120$	3.14	75
24	62	5000	$\leq 210$	6200	$\leq 60$	3.17	75



### ENCODER VERSION

SEE SEPARATE DATA SHEET

