

半密型單相鐵板馬達(ODP)  
(For NEMA)

**MODEL : BSGS39**

ROLLED STEEL FRAME  
SINGLE PHASE HVAC MOTORS  
LOW VOLTAGE SQUIRREL CAGE  
FRAME SIZE : 48~145T



DWG NO.

**31057D72309**

REV. 00

		<b>SPECIFICATION TABLE</b>	MODEL <b>BSGS39</b>
		ROLLED STEEL FRAME SINGLE PHASE HVAC MOTORS	
ITEM		STANDARD SPECIFICATION	
R A T I O N G	Kind of Motors	Squirrel Cage Induction Motors ( SCIM ) CSCR ( Capacitor Start Capacitor Run )	
	Design Standards	NEMA MG-1, MG-13.	
	Voltages	Rated Voltage 115/208 - 230V. 3HP 208 - 230V.	
	Frequency	60 Hz.	
	Output Range	1/4 HP ~ 3HP	
	R.P.M. (Syn.)	3600 RPM, 1800 RPM ( 2P, 4P ).	
	Time Duty	S.F. 1.15 for 60Hz 115 & 230V ( SF1.0 for 60Hz 208V ).	
	Frame Size	48 ~ 56H	
	Protection Enclosure	Open, Drip Proof ( IP22 ).	
	Mounting	Horizontal Foot Mounted, with or without C-flange ( IM 1001, IM 2101 ) F1.	
A P P L I C A T I O N	Power Condition	Voltage : $\pm 10\%$ , Frequency : $\pm 5\%$ , and 10% Max. of Combined Voltage and Frequency, But Frequency Variation does not Exceed $\pm 5\%$ .	
	Designed Primarily	HVAC, Fan, Compressor and Pumps	
	Environment Conditions	Place : Non - Hazardous. Ambient Temperature : $-15^{\circ}\text{C} \sim 40^{\circ}\text{C}$ . Relative Humidity : Less Than 90%RH ( Non - Condensation ). Altitude : Less Than 3,300ft.	
	Drive Method	Belt Service, or Direct Coupling Service.	
	Direction of Rotation	Bi - Directional.	
	Method of Starting	Full Voltage Direct On Line.	
	P E R F O R M A N C E	Temperature Rise	B Rise, Not to Exceed $90^{\circ}\text{C}$ . for S.F. 1.15 or $80^{\circ}\text{C}$ for S.F. 1.0 by Resistance Method.
Over Speed		125% Syn. R.P.M. for 2 Minutes. ( 2,4 Poles)	
Over Torque		160% Rated Torque for 15 Sec.	

		<b>PERFORMANCE DATA</b>											MODEL				
		SINGLE-PHASE INDUCTION MOTORS LOW VOLTAGE SQUIRREL CAGE											<b>BSGS39</b>				
		ODP, CLASS F, 40°C AMBIENT TEMP. CONTINUOUS DUTY S.F. 1.15, 115 / 230V 60HZ											<b>NEMA Premium</b>				
		<b>TYPICAL PERFORMANCE</b>											<b>( 230 V )</b>				
OUTPUT		FULL LOAD rpm	FRAME NO. (1)	FRAME NO. (2)	FULL LOAD				LOCKED ROTOR			BREAK DOWN TORQUE	STARTING CAPACITOR		RUNNING CAPACITOR		ROTOR
HP	kW				TORQUE lb-ft	Eff. (%)	P.F. (%)	CURRENT (A)	TORQUE %FLT	KVA CODE	CURRENT (A)	%FLT	MFD	VAC	MFD	VAC	Wk <sup>2</sup> lb-ft <sup>2</sup>
1/4	0.18	3500	48	56	0.360	66.6	90.0	1.31	310	L	10	220	200	125	20	250	0.007
		1740	48	56	0.720	68.5	81.0	1.41	300	K	8.7	240	150	125	25	250	0.026
1/3	0.25	3500	48	56	0.500	70.5	90.0	1.71	310	L	14	230	250	125	25	250	0.007
		1740	48	56	1.010	72.4	81.0	1.85	330	K	12	250	200	125	30	250	0.036
1/2	0.37	3510	48	56	0.740	72.4	90.0	2.47	330	L	20	260	300	125	35	250	0.009
		1740	48	56	1.490	76.2	83.0	2.54	280	H	15	240	250	125	35	250	0.045
3/4	0.55	3510	48	56	1.100	76.2	92.0	3.41	330	K	28	250	350	125	40	250	0.010
		1750	56H	143T	2.210	81.8	90.0	3.25	270	H	21	230	250	165	35	250	0.085
1	0.75	3500	56H	143T	1.500	80.4	92.0	4.41	330	H	31	250	400	165	60	250	0.036
		1750	56H	143T	3.010	82.6	90.0	4.39	280	H	31	250	350	165	40	250	0.108
1.5	1.1	3500	56H	143T	2.210	81.5	96.0	6.11	320	H	46	270	500	165	80	250	0.045
		1740	56H	145T	4.450	83.8	96.0	5.94	250	H	41	230	450	165	80	250	0.142
2	1.5	3500	56H	145T	3.010	82.9	96.0	8.19	310	H	56	260	550	165	100	250	0.052
		1740	56H	145T	6.070	84.5	96.0	8.04	260	G	52	200	550	165	100	250	0.164
3	2.2	3510	56H	145T	4.410	84.1	98.0	11.6	310	J	97	270	250	300	40	450	0.069

NOTE : 1. The above are typical values based on test according to ANSI/IEEE standard 114 method B.  
2. Breakdown & Locked rotor torques are show as average expected values.  
3. Efficiency, power factor, speed and torque are the same for other voltages.  
Current values vary inversely with voltage.  
4. 3 HP Rated Voltage 230V only.  
5. Tolerance according to IEC 60034-1.  
6. Data subject to change without notice.

# OUTLINE DIMENSIONS SHEET

MODEL  
**BSGS39**

ROLLED STEEL FRAME  
SINGLE-PHASE INDUCTION MOTORS  
FRAME SIZE 48/56 ( 2,4P 3/4HP and Below )

Open Drip Proof, Squirrel - Cage Rotor.

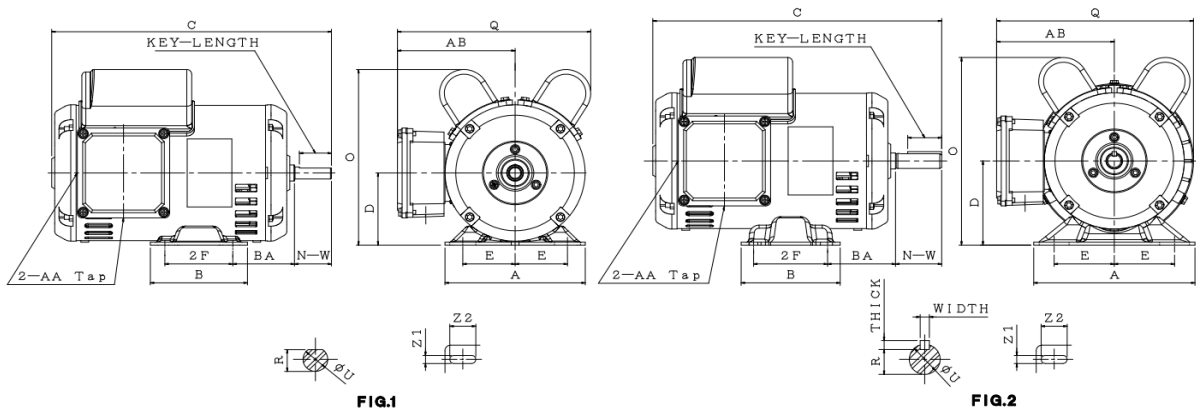


FIG.1

FIG.2

Dimension in inches

Output (HP)			FRAME SIZE	FIG. NO.	Mounting			A	B	C	D	O	Q	Z1	Z2
2P	4P	6P			E	2F	BA								
1/4	1/4	—	48	1	2.12	2.75	2.50	5.69	3.94	10.80	3.00	7.30	7.83	0.34	1.05
1/3	—	—								11.40					
1/2	1/3	—								12.00					
3/4	1/2	—	56	2	2.44	3.00	2.75	6.54	4.02	11.10	3.50	7.80	8	1.22	
1/4	1/4	—								11.70					
1/3	—	—								12.30					
1/2	1/3	—	56	2	2.44	3.00	2.75	6.54	4.02	11.10	3.50	7.80	8	1.22	
1/3	—	—								11.70					
1/2	1/3	—								12.30					
3/4	1/2	—	56	2	2.44	3.00	2.75	6.54	4.02	11.10	3.50	7.80	8	1.22	
1/4	1/4	—								11.70					
1/3	—	—								12.30					

FRAME SIZE	Key			Keyseat R	Terminal Housing		Shaft Extension		Bearings		APPROX. WEIGHT LBS		
	WIDTH	THICK	LENGTH		AA	AB	N-W	U	DRIVE END	OPPOSITE DRIVE END	2P	4P	6P
48	—	—	1.3	0.453	NPT 1/2"	4.77	1.500	0.5	6203ZZ	6202ZZ	20.5	22.0	—
											21.4	—	—
											24.9	26.2	—
56	0.188	0.188	1.41	0.517	NPT 1/2"	4.77	1.875	0.625	6203ZZ	6202ZZ	20.7	22.3	—
											21.6	—	—
											25.1	26.5	—
56	0.188	0.188	1.41	0.517	NPT 1/2"	4.77	1.875	0.625	6203ZZ	6202ZZ	28.4	29.5	—
											28.4	29.5	—

- Note :
1. Dimension D tolerance : +0.00 inch , -0.06 inch .
  2. Dimension U tolerance : +0.000 inch , -0.0005 inch .
  3. Dimension R tolerance : +0.000 inch , -0.015 inch .

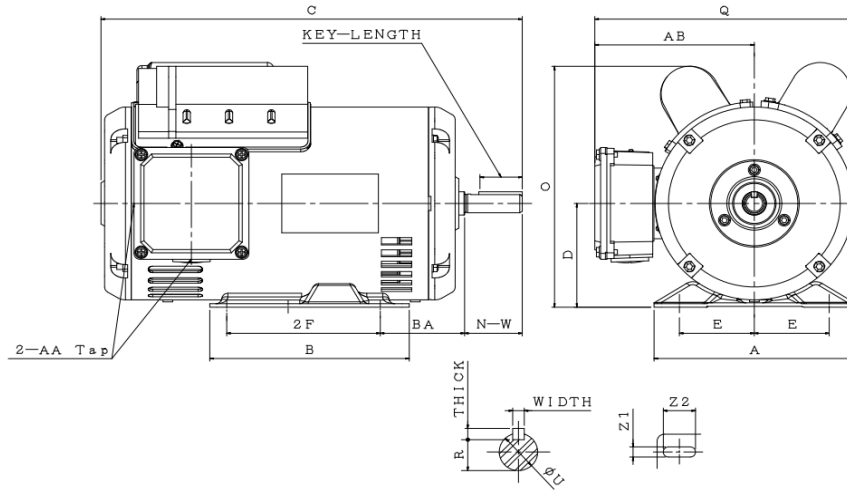
# OUTLINE DIMENSIONS SHEET

MODEL

**BSGS39**

ROLLED STEEL FRAME  
SINGLE-PHASE INDUCTION MOTORS  
FRAME SIZE 56H ( 2,4P Above 3/4HP and Below 3HP)

Open Drip Proof, Squirrel - Cage Rotor.



**FIG.2**

Dimension in inches

Output (HP)			FRAME SIZE	FIG. NO.	Mounting			A	B	C	D	O	Q	Z1	Z2
2P	4P	6P			E	2F	BA								
1	3/4	—	56H	2	2.44	5.00	2.75	6.54	6.50	12.90	3.50	8.22	8.47	0.34	1.22
1.5	1	—								13.70					
2	—	—								14.50					
—	1.5	—								14.90					
—	2	—								15.70					

FRAME SIZE	Key			Keyseat	Terminal Housing		Shaft Extension		Bearings		APPROX. WEIGHT LBS		
	WIDTH	THICK	LENGTH	R	AA	AB	N-W	U	DRIVE END	OPPOSITE DRIVE END	2P	4P	6P
											56H	0.188	0.188
											39.7	44.8	—
											42.8	—	—
											52.7	—	—
											—	52.7	—
											—	58.6	—

- Note :
1. Dimension D tolerance : +0.00 inch , -0.06 inch .
  2. Dimension U tolerance : +0.000 inch , -0.0005 inch .
  3. Dimension R tolerance : +0.000 inch , -0.015 inch .

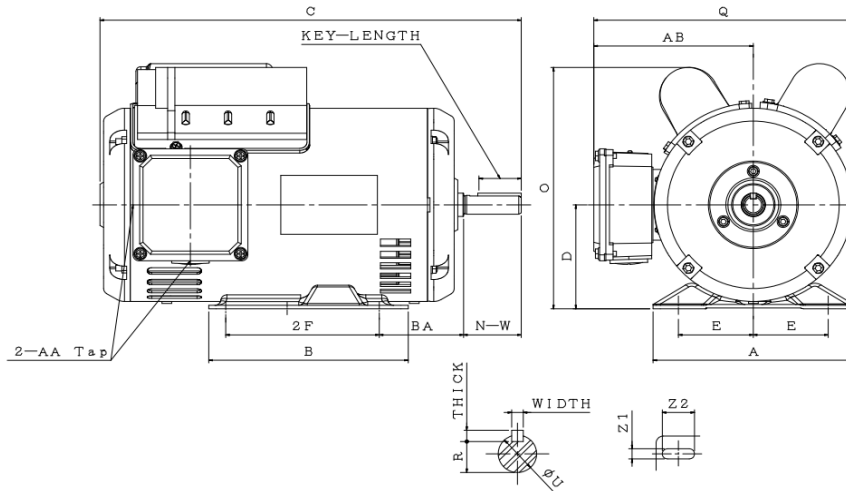
# OUTLINE DIMENSIONS SHEET

MODEL

**BSGS39**

ROLLED STEEL FRAME  
SINGLE-PHASE INDUCTION MOTORS  
FRAME SIZE 140T ( 2,4P Above 3/4HP and Below 3HP)

Open Drip Proof, Squirrel - Cage Rotor.



Dimension in inches

Output (HP)			FRAME SIZE	FIG. NO.	Mounting			A	B	C	D	O	Q	Z1	Z2
2P	4P	6P			E	2F	BA								
1	3/4	—	143T	2	2.75	2.25	6.54	5.91	13.30	3.50	8.22	8.47	0.34	0.5	
1.5	1	—							14.10						
2	—	—	145T	2	5.00	2.25	6.54	5.91	14.90	3.50	8.22	8.47	0.34	0.5	
3	—	—							15.30						
—	1.5	—							16.10						
—	2	—													
FRAME SIZE	Key			Keyseat	Terminal Housing		Shaft Extension		Bearings		APPROX. WEIGHT LBS				
	WIDTH	THICK	LENGTH	R	AA	AB	N-W	U	DRIVE END	OPPOSITE DRIVE END	2P	4P	6P		
140T	0.188	0.188	1.41	0.771	NPT 1/2"	5.20	2.250	0.875	6205ZZ	6203ZZ	35.5	39.2	—		
											40.1	45.2	—		
											43.2	—	—		
											53.1	—	—		
											—	53.1	—		
—	59.1	—													

- Note :
1. Dimension D tolerance : +0.00 inch , -0.06 inch .
  2. Dimension U tolerance : +0.000 inch , -0.0005 inch .
  3. Dimension R tolerance : +0.000 inch , -0.015 inch .