

SF - SERIES

Food Grade Servo Motor
6" Frame

Motor Data (230V)

Performance Data (40 °C)	Symbol	Unit	SF61-D	SF61-G	SF62-D	SF62-E	SF62-G
Continuous Rated Torque (Stall)	T_c	lb-in [Nm]	48.3 [5.45]	48.3 [5.45]	102.7 [11.60]	102.7 [11.60]	102.7 [11.60]
Continuous Rated Current (RMS)	I_c	Amps (RMS)	4.40	7.23	8.74	10.74	14.20
Max. Continuous Power	P_{max}	HP [kW]	1.05 [0.78]	2.23 [1.66]	1.62 [1.63]	2.73 [2.03]	3.47 [2.58]
Torque @ Max. Power	T_p	lb-in [Nm]	33.0 [3.72]	46.9 [5.30]	50.9 [5.75]	68.8 [7.77]	72.8 [8.23]
Current @ Maximum Power	I_p	Amps (RMS)	3.96	6.51	7.79	9.66	12.78
Speed @ Max. Power (Amp. Dependent)	N_p	RPM	2000	3000	2000	2500	3000
Max. Continuous Speed (Amp. Dependent)	N_{max}	RPM	2645	3962	2512	3141	3992
Maximum Current (RMS)	I_m	Amps (RMS)	17.59	28.94	34.96	42.94	56.79
Peak Torque	T_{pk}	lb-in [Nm]	144.9 [16.35]	144.9 [16.35]	308.1 [34.80]	308.1 [34.80]	308.1 [34.80]
Rotor Inertia	J_m	lb-in-sec ² [kg-m ²]	0.011 [0.0012]	0.011 [0.0012]	0.018 [0.0023]	0.018 [0.0023]	0.018 [0.0023]
Torque Constant (@ Max. Winding Temp.)	K_t	lb-in/Amps [Nm/Amp]	10.96 [1.24]	6.67 [0.75]	11.75 [1.33]	9.57 [1.08]	7.23 [0.82]
Back EMF Constant (L-L RMS) @ 25°C (77°F)	K_e	V/KRPM [V*Sec/Rad]	78.64 [0.75]	52.50 [0.50]	82.80 [0.79]	66.22 [0.63]	52.10 [0.50]
Stator Resistance ±10% (L-L) @ 25°C (77°F)	R_s	Ohm	4.71	1.87	1.61	1.05	0.60
Stator Inductance ±10% (L-L) @ 25°C (77°F)	L_s	millihenry	40.00	14.90	19.70	12.60	6.77
Max. Theoretical Acceleration @ Stall [brake]	AE	Rad/sec ²	18458 [16920]	18458 [10686]	24022 [16631]	24022 [22758]	24022 [16631]
Thermal Time Constant [brake]	T_{th}	minute	30 [33]	30 [33]	35 [38]	35 [38]	35 [38]
Electrical Time Constant	T_e	msec	8.49	7.97	9.75	12.00	10.26
Mechanical Time Constant [brake]	T_m	msec	6.29 [6.87]	6.15 [10.63]	3.12 [3.29]	3.12 [3.30]	3.30 [4.77]
Static Friction	T_f	lb-in [Nm]	5 [0.56]	5 [0.56]	5 [0.56]	5 [0.56]	5 [0.56]
Weight	W	lb [kg]	24 [10.9]	24 [10.9]	34 [15.4]	34 [15.4]	34 [15.4]
Line Voltage	V	VAC	230	230	230	230	230

Performance Data (40 °C)	Symbol	Unit	SF63-D	SF63-F	SF63-K	SF64-C	SF64-E
Continuous Rated Torque (Stall)	T_c	lb-in [Nm]	147.0 [16.55]	147.0 [16.55]	147.0 [16.55]	183.9 [20.79]	183.9 [20.79]
Continuous Rated Current (RMS)	I_c	Amps (RMS)	11.21	17.48	27.60	12.95	19.42
Max. Continuous Power	P_{max}	HP [kW]	3.23 [2.41]	3.42 [2.56]	4.02 [3.00]	3.13 [2.33]	3.80 [2.83]
Torque @ Max. Power	T_p	lb-in [Nm]	116.4 [13.15]	86.3 [9.74]	72.4 [8.18]	131.3 [14.84]	119.8 [13.53]
Current @ Maximum Power	I_p	Amps (RMS)	9.75	15.73	24.83	11.66	17.48
Speed @ Max. Power (Amp. Dependent)	N_p	RPM	1750	2500	3500	1500	2000
Max. Continuous Speed (Amp. Dependent)	N_{max}	RPM	2286	3590	5389	2012	3141
Maximum Current (RMS)	I_m	Amps (RMS)	44.84	69.92	110.37	51.79	77.67
Peak Torque	T_{pk}	lb-in [Nm]	441.0 [49.65]	441.0 [49.65]	441.0 [49.65]	551.7 [62.37]	551.7 [62.37]
Rotor Inertia	J_m	lb-in-sec ² [kg-m ²]	0.025 [0.00282]	0.025 [0.00282]	0.025 [0.00282]	0.032 [0.00361]	0.032 [0.00361]
Torque Constant (@ Max. Winding Temp.)	K_t	lb-in/Amps [Nm/Amp]	13.06 [1.48]	8.38 [0.95]	5.31 [0.60]	14.21 [1.61]	9.47 [1.07]
Back EMF Constant (L-L RMS) @ 25°C (77°F)	K_e	V/KRPM [V*Sec/Rad]	91.00 [0.87]	57.94 [0.55]	38.60 [0.37]	103.40 [0.99]	66.22 [0.63]
Stator Resistance ±10% (L-L) @ 25°C (77°F)	R_s	Ohm	1.21	0.46	0.18	0.92	0.39
Stator Inductance ±10% (L-L) @ 25°C (77°F)	L_s	millihenry	15.24	6.17	2.78	12.16	5.91
Max. Theoretical Acceleration @ Stall [brake]	AE	Rad/sec ²	24666 [18686]	24666 [18686]	24666 [18686]	24205 [19364]	24205 [23472]
Thermal Time Constant [brake]	T_{th}	minute	45 [48]	45 [48]	45 [48]	47 [50]	47 [50]
Electrical Time Constant	T_e	msec	12.60	13.33	15.44	13.22	15.08
Mechanical Time Constant [brake]	T_m	msec	2.57 [3.40]	2.50 [3.30]	2.30 [3.04]	2.10 [2.62]	2.09 [2.59]
Static Friction	T_f	lb-in [Nm]	5 [0.56]	5 [0.56]	5 [0.56]	5 [0.56]	5 [0.56]
Weight	W	lb [kg]	38 [17.2]	38 [17.2]	38 [17.2]	45 [20.4]	45 [20.4]
Line Voltage	V	VAC	230	230	230	230	230

Brake Information:			Fail safe, Electric release ("B" version)	("C" version)
Rated Holding Torque	T_s	lb-in [Nm]	100 [11.3]	175 [19.8]
Rated voltage	V	VDC	24	24
Rated current	I	Amp	0.67	0.55
Inertia	J_b	lb-in-sec ² [kg-m ²]	0.0006 [0.000067]	0.0008 [0.00009]
Weight Adder	W	lb [kg]	5 [2.3]	5 [2.3]

SF - SERIES

Food Grade Servo Motor
6" Frame

Motor Data (230V)

Performance Data (40 °C)	Symbol	Unit	SF64-G	SF65-C	SF65-D	SF65-G
Continuous Rated Torque (Stall)	T_c	lb-in [Nm]	183.9 [20.79]	209.0 [23.61]	209.0 [23.61]	209.0 [23.61]
Continuous Rated Current (RMS)	I_c	Amps (RMS)	26.49	14.53	18.15	27.46
Max. Continuous Power	P_{max}	HP [kW]	4.58 [3.42]	3.52 [2.62]	3.99 [2.97]	6.07 [4.53]
Torque @ Max. Power	T_p	lb-in [Nm]	115.5 [13.05]	147.7 [16.69]	80.8 [9.13]	153.1 [17.30]
Current @ Maximum Power	I_p	Amps (RMS)	23.30	13.07	16.34	24.71
Speed @ Max. Power (Amp. Dependent)	N_p	RPM	2500	1500	1800	2500
Max. Continuous Speed (Amp. Dependent)	N_{max}	RPM	4023	2010	2513	3769
Maximum Current (RMS)	I_m	Amps (RMS)	103.59	58.1	72.62	109.8
Peak Torque	T_{pk}	lb-in [Nm]	551.7 [62.37]	627.0 [70.83]	627.0 [70.83]	627.0 [70.83]
Rotor Inertia	J_m	lb-in-sec ² [kg-m ²]	0.032 [0.0036]	0.039 [0.0044]	0.039 [0.0044]	0.039 [0.0044]
Torque Constant (@ Max. Winding Temp.)	K_t	lb-in/Amps [Nm/Amp]	7.10 [0.80]	14.39 [1.63]	11.51 [1.30]	7.61 [0.86]
Back EMF Constant (L-L RMS) @ 25°C (77°F)	K_e	V/KRPM [V*Sec/Rad]	51.70 [0.49]	103.47 [0.99]	82.77 [0.79]	55.18 [0.53]
Stator Resistance ±10% (L-L) @ 25°C (77°F)	R_a	Ohm	0.23	0.76	0.45	0.20
Stator Inductance ±10% (L-L) @ 25°C (77°F)	L_a	millihenry	3.04	11.40	10.84	3.24
Max. Theoretical Acceleration @ Stall [brake]	AE	Rad/sec ²	24205 [19364]	22560 [21996]	22560 [21996]	22560 [18720]
Thermal Time Constant [brake]	T_{th}	minute	47 [50]	53 [56]	53 [56]	53 [56]
Electrical Time Constant	T_e	msec	13.22	15.10	15.50	16.09
Mechanical Time Constant [brake]	T_m	msec	2.10 [2.62]	2.07 [2.13]	1.78 [1.84]	1.96 [2.36]
Static Friction	T_f	lb-in [Nm]	5 [0.56]	5 [0.56]	5 [0.56]	5 [0.56]
Weight	W	lb [kg]	45 [20.4]	52 [23.6]	52 [23.6]	52 [23.6]
Line Voltage	V	VAC	230	230	230	230

Brake Information:

			Fail safe, Electric release ("B" version)	("C" version)
Rated Holding Torque	T_s	lb-in [Nm]	100 [11.3]	175 [19.8]
Rated voltage	V	VDC	24	24
Rated current	I	Amp	0.67	0.55
Inertia	J_b	lb-in-sec ² [kg-m ²]	0.0006 [0.000067]	0.0008 [0.00009]
Weight Adder	W	lb [kg]	5 [2.3]	5 [2.3]

SF - SERIES

Food Grade Servo Motor
6" Frame

Motor Data (460V)

Performance Data (40 °C)	Symbol	Unit	SF61-D	SF61-G	SF62-D	SF62-E	SF62-G
Continuous Rated Torque (Stall)	T_c	lb-in [Nm]	48.3 [5.45]	48.3 [5.45]	102.7 [11.60]	102.7 [11.60]	102.7 [11.60]
Continuous Rated Current (RMS)	I_c	Amps (RMS)	2.20	3.62	4.37	5.37	7.11
Max. Continuous Power	P_{max}	HP [kW]	1.05 [0.78]	2.23 [1.66]	1.62 [1.63]	2.73 [2.03]	3.47 [2.58]
Torque @ Max. Power	T_p	lb-in [Nm]	33.0 [3.72]	46.9 [5.30]	50.9 [5.75]	68.8 [7.77]	72.8 [8.23]
Current @ Maximum Power	I_p	Amps (RMS)	1.99	3.26	3.90	4.84	6.39
Speed @ Max. Power (Amp. Dependent)	N_p	RPM	2000	3000	2000	2500	3000
Max. Continuous Speed (Amp. Dependent)	N_{max}	RPM	2645	3962	2512	3141	3992
Maximum Current (RMS)	I_m	Amps (RMS)	8.80	14.47	17.48	21.47	28.40
Peak Torque	T_{pk}	lb-in [Nm]	144.9 [16.35]	144.9 [16.35]	308.1 [34.80]	308.1 [34.80]	308.1 [34.80]
Rotor Inertia	J_m	lb-in-sec ² [kg-m ²]	0.011 [0.0012]	0.011 [0.0012]	0.018 [0.0023]	0.018 [0.0023]	0.018 [0.0023]
Torque Constant (@ Max. Winding Temp.)	K_t	lb-in/Amps [Nm/Amp]	21.92 [2.48]	13.34 [1.50]	23.50 [2.66]	19.14 [2.16]	14.46 [1.64]
Back EMF Constant (L-L RMS) @ 25°C (77°F)	K_e	V/KRPM [V*Sec/Rad]	157.28 [1.50]	105.00 [1.00]	165.60 [1.58]	132.44 [1.26]	104.20 [1.00]
Stator Resistance ±10% (L-L) @ 25°C (77°F)	R_a	Ohm	9.42	3.74	3.22	2.10	1.20
Stator Inductance ±10% (L-L) @ 25°C (77°F)	L_a	millihenry	80.00	29.80	39.40	25.20	13.54
Max. Theoretical Acceleration @ Stall [brake]	AE	Rad/sec ²	18458 [16920]	18458 [10686]	24022 [16631]	24022 [22758]	24022 [16631]
Thermal Time Constant [brake]	T_{th}	minute	30 [33]	30 [33]	35 [38]	35 [38]	35 [38]
Electrical Time Constant	T_e	msec	8.49	7.97	9.75	12.00	10.26
Mechanical Time Constant [brake]	T_m	msec	6.29 [6.87]	6.15 [10.63]	3.12 [3.29]	3.12 [3.3]	3.30 [4.77]
Static Friction	T_f	lb-in [Nm]	5 [0.56]	5 [0.56]	5 [0.56]	5 [0.56]	5 [0.56]
Weight	W	lb [kg]	24 [10.9]	24 [10.9]	34 [15.4]	34 [15.4]	34 [15.4]
Line Voltage	V	VAC	460	460	460	460	460

Performance Data (40 °C)	Symbol	Unit	SF63-D	SF63-F	SF63-K	SF64-C	SF64-E
Continuous Rated Torque (Stall)	T_c	lb-in [Nm]	147.0 [16.55]	147.0 [16.55]	147.0 [16.55]	183.9 [20.79]	183.9 [20.79]
Continuous Rated Current (RMS)	I_c	Amps (RMS)	5.61	8.74	13.80	6.50	9.71
Max. Continuous Power	P_{max}	HP [kW]	3.23 [2.41]	3.42 [2.56]	4.02 [3.00]	3.13 [2.33]	3.80 [2.83]
Torque @ Max. Power	T_p	lb-in [Nm]	116.4 [13.15]	86.3 [9.74]	72.4 [8.18]	131.3 [14.84]	119.8 [13.53]
Current @ Maximum Power	I_p	Amps (RMS)	4.87	7.87	12.42	5.83	8.74
Speed @ Max. Power (Amp. Dependent)	N_p	RPM	1750	2500	3500	1500	2000
Max. Continuous Speed (Amp. Dependent)	N_{max}	RPM	2286	3590	5389	2012	3141
Maximum Current (RMS)	I_m	Amps (RMS)	22.42	34.96	55.19	25.90	38.84
Peak Torque	T_{pk}	lb-in [Nm]	441.0 [49.85]	441.0 [49.85]	441.0 [49.85]	551.7 [62.37]	551.7 [62.37]
Rotor Inertia	J_m	lb-in-sec ² [kg-m ²]	0.025 [0.00282]	0.025 [0.00282]	0.025 [0.00282]	0.032 [0.00361]	0.032 [0.00361]
Torque Constant (@ Max. Winding Temp.)	K_t	lb-in/Amps [Nm/Amp]	26.12 [2.96]	16.76 [1.90]	10.62 [1.20]	28.42 [3.22]	18.94 [2.14]
Back EMF Constant (L-L RMS) @ 25°C (77°F)	K_e	V/KRPM [V*Sec/Rad]	182.00 [1.74]	115.88 [1.10]	77.20 [0.74]	206.80 [1.98]	132.44 [1.26]
Stator Resistance ±10% (L-L) @ 25°C (77°F)	R_a	Ohm	2.42	0.92	0.36	1.84	0.78
Stator Inductance ±10% (L-L) @ 25°C (77°F)	L_a	millihenry	30.48	12.34	5.56	24.32	11.82
Max. Theoretical Acceleration @ Stall [brake]	AE	Rad/sec ²	24666 [18686]	24666 [18686]	24666 [18686]	24205 [19364]	24205 [23472]
Thermal Time Constant [brake]	T_{th}	minute	45 [48]	45 [48]	45 [48]	47 [50]	47 [50]
Electrical Time Constant	T_e	msec	12.60	13.33	15.44	13.22	15.08
Mechanical Time Constant [brake]	T_m	msec	2.57 [3.40]	2.50 [3.30]	2.30 [3.04]	2.10 [2.62]	2.09 [2.59]
Static Friction	T_f	lb-in [Nm]	5 [0.56]	5 [0.56]	5 [0.56]	5 [0.56]	5 [0.56]
Weight	W	lb [kg]	38 [17.2]	38 [17.2]	38 [17.2]	45 [20.4]	45 [20.4]
Line Voltage	V	VAC	460	460	460	460	460

Brake Information:			Fail safe, Electric release ("B" version)	("C" version)
Rated Holding Torque	T_s	lb-in [Nm]	100 [11.3]	175 [19.8]
Rated voltage	V	VDC	24	24
Rated current	I	Amp	0.67	0.55
Inertia	J_b	lb-in-sec ² [kg-m ²]	0.0006 [0.000067]	0.0008 [0.00009]
Weight Adder	W	lb [kg]	5 [2.3]	5 [2.3]

SF - SERIES

Food Grade Servo Motor
6" Frame

Motor Data (460V)

Performance Data (40 °C)	Symbol	Unit	SF64-G	SF65-C	SF65-D	SF65-G
Continuous Rated Torque (Stall)	T_c	lb-in [Nm]	183.9 [20.79]	209.0 [23.61]	209.0 [23.61]	209.0 [23.61]
Continuous Rated Current (RMS)	I_c	Amps (RMS)	13.24	7.27	9.07	13.73
Max. Continuous Power	P_{max}	HP [kW]	4.58 [3.42]	3.52 [2.62]	3.99 [2.97]	6.07 [4.53]
Torque @ Max. Power	T_p	lb-in [Nm]	115.5 [13.05]	147.7 [16.69]	80.8 [9.13]	153.1 [17.30]
Current @ Maximum Power	I_p	Amps (RMS)	11.66	6.54	8.17	12.36
Speed @ Max. Power (Amp. Dependent)	N_p	RPM	2500	1500	1800	2500
Max. Continuous Speed (Amp. Dependent)	N_{max}	RPM	4023	2010	2513	3769
Maximum Current (RMS)	I_m	Amps (RMS)	51.79	29.05	36.31	54.9
Peak Torque	T_{pk}	lb-in [Nm]	551.7 [62.37]	627.0 [70.83]	627.0 [70.83]	627.0 [70.83]
Rotor Inertia	J_m	lb-in-sec ² [kg-m ²]	0.032 [0.0036]	0.039 [0.0044]	0.039 [0.0044]	0.039 [0.0044]
Torque Constant (@ Max. Winding Temp.)	K_t	lb-in/Amps [Nm/Amp]	14.2 [1.60]	28.78 [3.26]	23.02 [2.60]	15.22 [1.72]
Back EMF Constant (L-L RMS) @ 25°C (77°F)	K_e	V/KRPM [V*Sec/Rad]	103.40 [0.98]	206.94 [1.98]	165.54 [1.58]	110.36 [1.06]
Stator Resistance ±10% (L-L) @ 25°C (77°F)	R_a	Ohm	0.46	1.52	0.90	0.40
Stator Inductance ±10% (L-L) @ 25°C (77°F)	L_a	millihenry	6.08	22.80	21.68	6.48
Max. Theoretical Acceleration @ Stall [brake]	AE	Rad/sec ²	24205 [19364]	22560 [21996]	22560 [21996]	22560 [18720]
Thermal Time Constant [brake]	T_{th}	minute	47 [50]	53 [56]	53 [56]	53 [56]
Electrical Time Constant	T_e	msec	13.22	15.10	15.50	16.09
Mechanical Time Constant [brake]	T_m	msec	2.10 [2.62]	2.07 [2.13]	1.78 [1.84]	1.96 [2.36]
Static Friction	T_f	lb-in [Nm]	5 [0.56]	5 [0.56]	5 [0.56]	5 [0.56]
Weight	W	lb [kg]	45 [20.4]	52 [23.6]	52 [23.6]	52 [23.6]
Line Voltage	V	VAC	460	460	460	460

Brake Information:

			Fail safe, Electric release ("B" version)	("C" version)
Rated Holding Torque	T_s	lb-in [Nm]	100 [11.3]	175 [19.8]
Rated voltage	V	VDC	24	24
Rated current	I	Amp	0.67	0.55
Inertia	J_b	lb-in-sec ² [kg-m ²]	0.0006 [0.000067]	0.0008 [0.00009]
Weight Adder	W	lb [kg]	5 [2.3]	5 [2.3]

SF - SERIES

Food Grade Servo Motor
6" Frame

Connection Data

Motor Connections

WIRE COLOR	AWG	FUNCTION
BLACK	12	ØA
WHITE	12	ØB
RED	12	ØC
GREEN	12	GROUND

Incremental Encoder Connections

WIRE COLOR	AWG	FUNCTION
RED/BLUE	24	+VDC
BLUE/RED	24	COMMON
WHITE/GREEN	24	OUTPUT A
GREEN/WHITE	24	OUTPUT A'
WHITE/BLUE	24	OUTPUT B
BLUE/WHITE	24	OUTPUT B'
WHITE/ORANGE	24	OUTPUT Z
ORANGE/WHITE	24	OUTPUT Z'
WHITE/GRAY	24	OUTPUT U
GRAY/WHITE	24	OUTPUT U'
WHITE/BROWN	24	OUTPUT V
BROWN/WHITE	24	OUTPUT V'
RED/ORANGE	24	OUTPUT W
ORANGE/RED	24	OUTPUT W'
WHITE	24	CASE GND (NOT USED)
DRAIN WIRE	24	SHIELD
BROWN	18	BRAKE (+) Optional
ORANGE	18	BRAKE (-) Optional
BLUE	18	OTL
BLUE	18	OTL

Absolute Encoder Connections

WIRE COLOR	AWG	FUNCTION
WHITE/BLUE	24	+VDC
BLUE/WHITE	24	COMMON
WHITE/ORANGE	24	+SIN
ORANGE/WHITE	24	REFSIN
WHITE/GREEN	24	+COS
GREEN/WHITE	24	REFCOS
WHITE/BROWN	24	DATA +
BROWN/WHITE	24	DATA -
DRAIN WIRE	24	SHIELD
BROWN	18	BRAKE (+) Optional
ORANGE	18	BRAKE (-) Optional
BLUE	18	OTL
BLUE	18	OTL

Resolver Connections

WIRE COLOR	AWG	FUNCTION
WHITE/BLUE	24	R1 (+REF)
BLUE/WHITE	24	R2 (-REF)
WHITE/ORANGE	24	S1 (+COSINE)
ORANGE/WHITE	24	S3 (-COSINE)
WHITE/GREEN	24	S2 (+SINE)
GREEN/WHITE	24	S4 (-SINE)
DRAIN WIRE	24	SHIELD
BROWN	18	BRAKE (+) Optional
ORANGE	18	BRAKE (-) Optional
WHITE/BROWN	18	OTL
BROWN/WHITE	18	OTL

SF - SERIES

Food Grade Servo Motor
6" Frame

Motor Dimensions

Model	"A"	"B"	"C"	"D"	"E"	"F"	"G"
SF61	∅ 0.6250 0.6245	2.06	1.50	0.517 0.502	0.1875 0.1855	0.80	0.13
	∅ 24.015 23.998	50	40 (captive)	20	8.024 8.015	20.3	3.5
SF62	∅ 0.8750 0.8745	2.25	1.50	0.771 0.756	0.1875 0.1855	0.80	0.13
	∅ 24.015 23.998	50	40 (captive)	20	8.024 8.015	20.3	3.5
SF63	∅ 0.8750 0.8745	2.25	1.50	0.771 0.756	0.1875 0.1855	0.80	0.13
	∅ 24.015 23.998	50	40 (captive)	20	8.024 8.015	20.3	3.5
SF64	∅ 1.1250 1.1240	2.75	1.50	0.986 0.971	0.250 0.247	0.80	0.13
	∅ 24.015 23.998	50	40 (captive)	20	8.024 8.015	20.3	3.5
SF65	∅ 1.1250 1.1240	2.75	1.50	0.986 0.971	0.250 0.247	0.80	0.13
	∅ 24.015 23.998	50	40 (captive)	20	8.024 8.015	20.3	3.5

Model	"H"	"J"	"K"	"L"	"L" w/BRAKE	M	N
SF61	∅ 4.500 4.498	∅0.531	∅0.875	10.07	12.35	2.09	1.63
	∅ 130.013 129.991	∅12	∅165	255.8	313.7	53.1	41.4
SF62	∅ 4.500 4.498	∅0.531	∅0.875	11.57	13.85	2.09	1.63
	∅ 130.013 129.991	∅12	∅165	293.9	351.8	53.1	41.4
SF63	∅ 4.500 4.498	∅0.531	∅0.875	13.07	15.35	2.09	1.63
	∅ 130.013 129.991	∅12	∅165	332.0	389.0	53.1	41.4
SF64	∅ 4.500 4.498	∅0.531	∅0.875	14.57	16.85	2.09	1.63
	∅ 130.013 129.991	∅12	∅165	370.1	428.0	53.1	41.4
SF65	∅ 4.500 4.498	∅0.531	∅0.875	16.07	18.35	2.09	1.63
	∅ 130.013 129.991	∅12	∅165	408.2	466.1	53.1	41.4

Model	"P"	"Q"	"R"	"S"	"T"	"U"	"V"
SF61	∅7.00	3.88	2.88	R1.06	∅9.49	3/8-16 UNC-2B 0.56 DEEP	∅5.875
	∅152.4	98.5	73.2	R26.9	∅200	N.A.	N.A
SF62	∅7.00	1.00	2.88	R1.06	∅9.49	3/8-16 UNC-2B 0.56 DEEP	∅5.875
	∅152.4	98.5	73.2	R26.9	∅200	N.A.	N.A
SF63	∅7.00	3.88	2.88	R1.06	∅9.49	3/8-16 UNC-2B 0.56 DEEP	∅5.875
	∅152.4	98.5	73.2	R26.9	∅200	N.A.	N.A
SF64	∅7.00	3.88	2.88	R1.06	∅9.49	3/8-16 UNC-2B 0.56 DEEP	∅5.875
	∅152.4	98.5	73.2	R26.9	∅200	N.A.	N.A
SF65	∅7.00	3.88	2.88	R1.06	∅9.49	3/8-16 UNC-2B 0.56 DEEP	∅5.875
	∅152.4	98.5	73.2	R26.9	∅200	N.A.	N.A