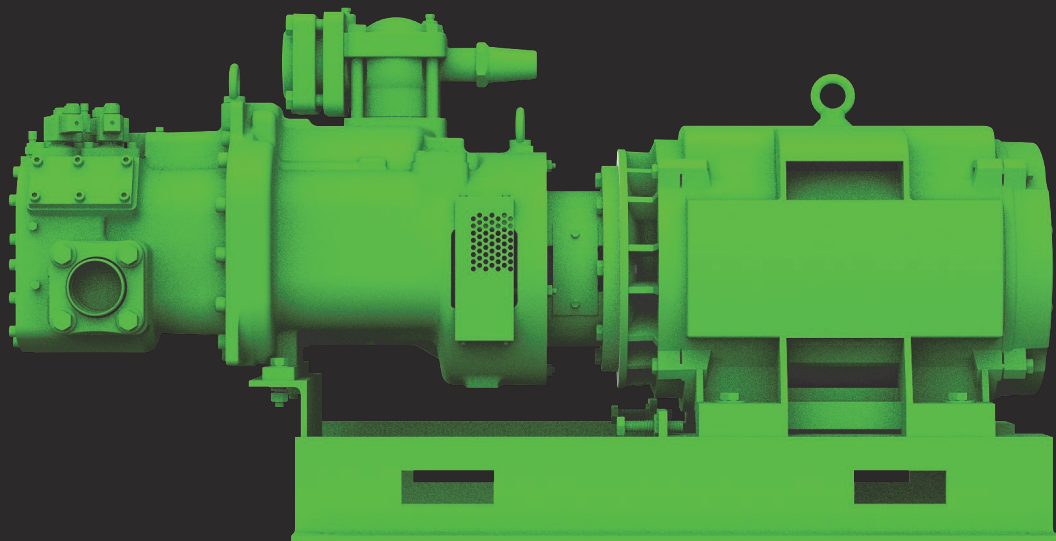




SCREW

MOTOR COMPRESSOR ASSEMBLY

SD



VP-100-6



TECHNICAL FEATURES (SD)

Compressor

- High-efficiency profile twin rotor screw
 - Speed range: 1,450 RPM - 4,000 RPM (4,500 RPM for OS'53A)
 - Max. pressure (LP/HP): 275 / 400 psi
 - Automatic start unloading and capacity control
 - Control pistons (OS'53: 100/75%; OS'74: 100/75/50%)
 - Slide valve (OS'85: infinite or 3-stage slider control with V_i compensation).
 - Optimized Slide valve (OS'95: infinite capacity control and infinite V_i control.)
 - Integrated Control Electronics with protection, auto V_i Control, slide valve position, Modbus comms (OS'95)
 - Economizer operation (ECO) capability (OS'85/95: economizer operation with part load as well)
 - High quality shaft seal with metal bellow
 - Rolling contact bearings
 - Suction shut-off valve
 - Discharge flange with solder/weld bushing
 - Oil injection nozzle
 - Integrated pressure relief valve and integrated check valve in discharge gas chamber
 - PTC 100 discharge gas temperature sensor
 - Patented sealed discharge bearing chamber
 - OS'53/74/95 NH₃ version: oil injection nozzle; oil injection kit must be ordered separately (See TB-008B)
 - OS'85: oil injection shut off valve and integrated oil management system (automatic oil stop valve, oil filter, monitoring of oil flow, direction of rotation and oil filter clogging)
 - Booster ("B") versions available
 - OSKAB85 does not come with an oil stop valve, an external solenoid valve is required
- Refer to SP-505, SP-510 and SP-520 for more information on compressor and performance data***

Motor

- NEMA premium efficiency C-face motor
- Nominal 3,600 rpm at 60Hz
- Wide range of motors and compressors combinations available
 - Smaller motor ranges suitable for booster applications
- Enclosure Option:
 - TEFC (Totally Enclosed Fan Cooled) / IP 55 enclosure. Can be used for indoor/outdoor applications. Inverter rated at 20:1 for constant torque. Premium quality motor.
 - ODP (Open Drip Proof) / IP23 enclosure. Typically used for indoor applications only. Inverter rated at 4:1 for constant torque (150HP and up rated at 2:1)

Motor Options (Contact factory for item number configuration)

- Thermistors embedded in windings of motor
- Recommended for use with VFD:
 - NEMA Frames 404/5 and larger: Insulated bearings and grounding of the shaft through Aegis ring
 - NEMA Frames 364/5 and smaller: Grounding of the shaft through Aegis ring
- Heaters embedded in windings of motors

Assembly

- Compressor and motor mounted on rigid frame and connected via a direct drive coupling and coupling housing.
- Standard Frame (OS'53/74/85):
 - Rigid structural steel frame (*6 x 3.5 x 3/8" angle base*)
 - Forklift holes for ease of transportation
 - Mounting holes
- Heavy Duty Frame (Contact factory for item number configuration for OS'53/74/85. Standard for OS'95):
 - 6 x 3 x 3/8" Rectangular structural tubing base (in lieu of angle base). Must be welded in place.
- Robust direct drive couplings and coupling housings

MODEL NUMBER DESIGNATION

S	D	7	4	7	1	K	1	0	0	2	L	A
---	---	---	---	---	---	---	---	---	---	---	---	---

Model

S = screw compressor

S	D	7	4	7	1	K	1	0	0	2	L	A
---	---	---	---	---	---	---	---	---	---	---	---	---

Drive type

D = direct drive

S	D	7	4	7	1	K	1	0	0	2	L	A
---	---	---	---	---	---	---	---	---	---	---	---	---

Compressor model

E.g.: 5341, 7471, ...

S	D	7	4	7	1	K	1	0	0	2	L	A
---	---	---	---	---	---	---	---	---	---	---	---	---

Application range

N = low temperature application

K = medium/high temperature application

H = high temperature application

B = booster application

S	D	7	4	7	1	K	1	0	0	2	L	A
---	---	---	---	---	---	---	---	---	---	---	---	---

Horsepower

3 digits required

S	D	7	4	7	1	K	1	0	0	2	L	A
---	---	---	---	---	---	---	---	---	---	---	---	---

Voltage and motor type

1 = 208-230/3/60; TEFC/IP55

2 = 208/230-460/3/60; TEFC/IP55

4 = 440-480/3/60; TEFC/IP55

5 = 575/3/60; TEFC/IP55

6 = 208-230/3/60; ODP/IP23

7 = 208/230-460/3/60; ODP/IP23

8 = 440-480/3/60; ODP/IP23

9 = 575/3/60; ODP/IP23

S	D	7	4	7	1	K	1	0	0	2	L	A
---	---	---	---	---	---	---	---	---	---	---	---	---

Terminal box mount (looking at the shaft)

L = left mount

R = right mount

T = top mount

S	D	7	4	7	1	K	1	0	0	2	L	A
---	---	---	---	---	---	---	---	---	---	---	---	---

Variant

A = ammonia (NH₃) compressor

Note: Additional suffix may exist for BOM variations



COMPRESSOR/MOTOR HORSEPOWER COMBINATIONS

Compressor Model Series	TEFC Motor (HP)	ODP Motor (HP)	NEMA Frame Size	Compressor Shaft Diameter	Motor Shaft Diameter	Drive Package Part Number	Coupling Type	CFM Range	RPM Range
OS'53 Series	25	30	284TSC	34 mm	1-5/8"	A810-6918-01	KS-620	59-84	1450-4000
	30	40	286TSC						
	40	50	324TSC						
	50	60	326TSC						
	60	75	364/5TSC						
	75	100							
OS'74 Series	25	30	284TSC	48 mm	1-5/8"	A810-6920-02	KS-720	117-178	
	30	40	286TSC						
	40	50	324TSC						
	50	60	326TSC						
	60	75	364/5TSC		1-7/8"	A810-6920-03	KS-730		
	75	100							
	100	125	404/5TSC		2-1/8"	A810-6920-04			
	150								
OS'85 Series	60	75	364/5TSC	1-7/8"	A810-6920-06	KS-800	224-377		
	75	100							
	100	125	404/5TSC	2-1/8"	A810-6920-05				
		150							
	125	200	444/5TSC	2-3/8"	A810-6920-07				
	150	250	444/5TSC	2-3/8"	A810-6920-07				
	200	300	445/7TSC	2-3/8"	A810-6920-07				
	250								
	300								
350	350	447/9TSC	2-3/8"	A810-6920-07					
OS'95 Series	125	125	404/5TSC	67 mm	2-3/8"	A810-6920-05	KS-900	597-721	
	150	150							
	200	200							
	250	250	445/7TSC						
	300	300							
	350	350	447/9TSC						
	400	400							

MOTOR DATA—TEFC OS'53 & OS'74

Compressor Model Series	HP	KW	NEMA Frame Size	Rated Speed	Service Factor	FL Amps (A)	Locked Rotor Current (I _L /I _n)	FL Efficiency (%)	Full Load Torque (ft.lb)	Altitude (ft)	Ambient Temperature (°F)	Degree of Protection
OS'53 Series	20	15	254/6T	3520	1.25	23.2	6.0	91.0	29.4	3280	-4°F - +104°F	IP55
	25	18.5	284TSC	3535	1.25	28.5	6.3	91.7	36.6	3280	-4°F - +104°F	IP55
	30	22	286TSC	3535	1.25	33.8	6.3	91.7	44.0	3280	-4°F - +104°F	IP55
	40	30	324TSC	3555	1.25	45.8	6.4	92.4	58.3	3280	-4°F - +104°F	IP55
	50	37	326TSC	3550	1.25	56.1	6.2	93.0	73.0	3280	-4°F - +104°F	IP55
	60	45	364/5TSC	3560	1.25	67.0	6.6	93.6	87.3	3280	-4°F - +104°F	IP55
	75	55		3555	1.25	81.9	6.6	93.6	109	3280	-4°F - +104°F	IP55
OS'74 Series	30	22	286TSC	3535	1.25	33.8	6.3	91.7	44.0	3280	-4°F - +104°F	IP55
	40	30	324TSC	3555	1.25	45.8	6.4	92.4	58.3	3280	-4°F - +104°F	IP55
	50	37	326TSC	3550	1.25	56.1	6.2	93.0	73.0	3280	-4°F - +104°F	IP55
	60	45	364/5TSC	3560	1.25	67.0	6.6	93.6	87.3	3280	-4°F - +104°F	IP55
	75	55		3555	1.25	81.9	6.6	93.6	109	3280	-4°F - +104°F	IP55
	100	75	404/5TS	3555	1.25	110.0	6.5	94.1	146	3280	-4°F - +104°F	IP55
	125	90	444/5TS	3570	1.15	134.0	6.6	95.0	181	3280	-4°F - +104°F	IP55
150	110	3570		1.15	161.0	6.5	95.0	218	3280	-4°F - +104°F	IP55	

MOTOR DATA—ODP

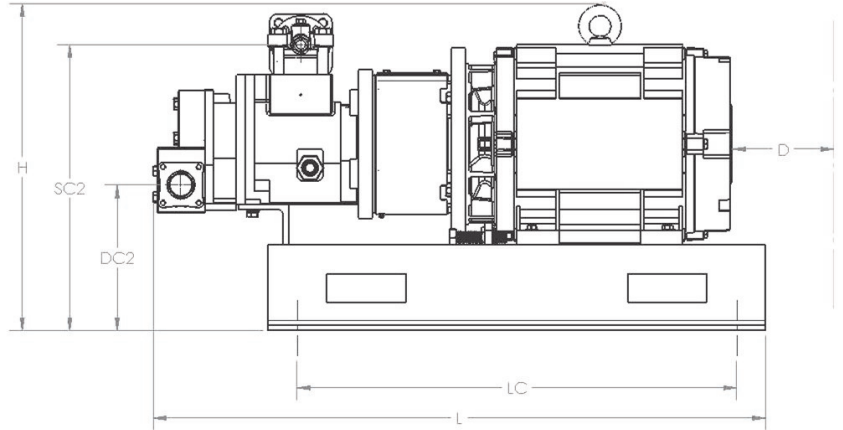
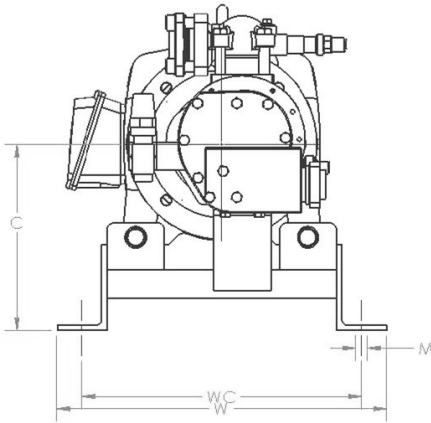
Compressor Model Series	HP	KW	NEMA Frame Size	Rated Speed	Service Factor	FL Amps (A)	Locked Rotor Current (I _L /I _n)	FL Efficiency (%)	Full Load Torque (ft.lb)	Altitude (ft)	Ambient Temperature (°F)	Degree of Protection
OS'53 Series	20	15	254/6T	3525	1.15	23.8	5.8	91.0	29.4	3280	-4°F - +104°F	IP23
	25	18.5		3530	1.15	29.1	6.3	91.7	36.7	3280	-4°F - +104°F	IP23
	30	22	284TSC	3540	1.15	34.7	6.4	92.4	43.9	3280	-4°F - +104°F	IP23
	40	30	286TSC	3535	1.15	47.1	6.4	93.0	58.6	3280	-4°F - +104°F	IP23
	50	37	324TSC	3555	1.15	59.1	6.4	93.6	72.9	3280	-4°F - +104°F	IP23
	60	45	326TSC	3555	1.15	71	6.2	93.6	87.4	3280	-4°F - +104°F	IP23
	75	55	364/5TSC	3550	1.15	81.5	6.5	94.1	109	3280	-4°F - +104°F	IP23
	100	75		3550	1.15	111	6.7	94.5	146	3280	-4°F - +104°F	IP23
OS'74 Series	30	22	284TSC	3540	1.15	34.7	6.4	92.4	43.9	3280	-4°F - +104°F	IP23
	40	30	286TSC	3535	1.15	47.1	6.4	93.0	58.6	3280	-4°F - +104°F	IP23
	50	37	324TSC	3555	1.15	59.1	6.4	93.6	72.9	3280	-4°F - +104°F	IP23
	60	45	326TSC	3555	1.15	71	6.2	93.6	87.4	3280	-4°F - +104°F	IP23
	75	55	364/5TSC	3550	1.15	81.5	6.5	94.1	109	3280	-4°F - +104°F	IP23
	100	75		3550	1.15	111	6.7	94.5	146	3280	-4°F - +104°F	IP23
	125	90	404/5TSC	3550	1.15	136	6.5	94.5	182	3280	-4°F - +104°F	IP23
	150	110		3555	1.15	162	6.6	94.5	219	3280	-4°F - +104°F	IP23
OS'85 Series	50	37	324TSC	3555	1.15	59.1	6.4	93.6	72.9	3280	-4°F - +104°F	IP23
	60	45	326TSC	3555	1.15	71	6.2	93.6	87.4	3280	-4°F - +104°F	IP23
	75	55	364/5TSC	3550	1.15	81.5	6.5	94.1	109	3280	-4°F - +104°F	IP23
	100	75		3550	1.15	111	6.7	94.5	146	3280	-4°F - +104°F	IP23
	125	90	404/5TSC	3550	1.15	136	6.5	94.5	182	3280	-4°F - +104°F	IP23
	150	110		3555	1.15	162	6.6	94.5	219	3280	-4°F - +104°F	IP23
	200	150	444/5TSC	3575	1.15	223	6.5	95.0	290	3280	-4°F - +104°F	IP23
	250	185	444/5TSC	3564	1.15	272	6.0	95.0	363	3280	-4°F - +104°F	IP23
	300	220	445/7TSC	3536	1.15	322	6.3	95.4	436	3280	-4°F - +104°F	IP23
	350	260	447/9TSC	3565	1.15	384	6.5	95.4	509	3280	-4°F - +104°F	IP23
OS'95 Series	125	90	404/5TSC	3550	1.15	136	6.5	94.5	182	3280	-4°F - +104°F	IP23
	150	110		3555	1.15	162	6.6	94.5	219	3280	-4°F - +104°F	IP23
	200	150	444/5TSC	3575	1.15	223	6.5	95.0	290	3280	-4°F - +104°F	IP23
	250	185	444/5TSC	3564	1.15	272	6.0	95.0	363	3280	-4°F - +104°F	IP23
	300	220	445/7TSC	3536	1.15	322	6.3	95.4	436	3280	-4°F - +104°F	IP23
	350	260	447/9TSC	3565	1.15	384	6.5	95.4	509	3280	-4°F - +104°F	IP23
	400	298	447/9TSC	3565	1.15	384	6.5	95.4	581	3280	-4°F - +104°F	IP24

MOTOR DATA—TEFC OS'85 & OS'95

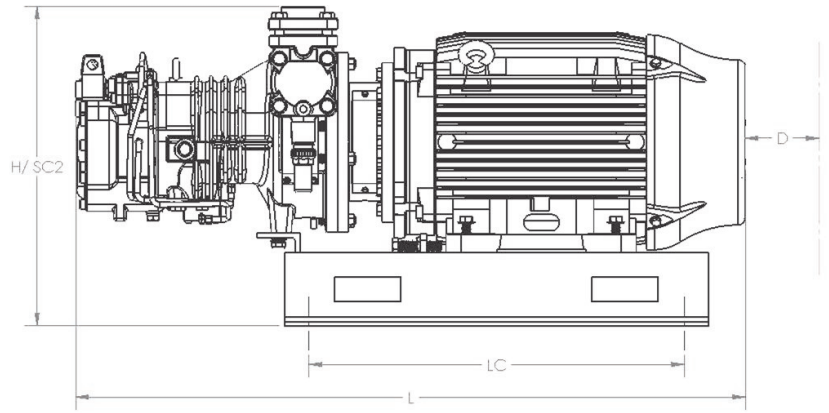
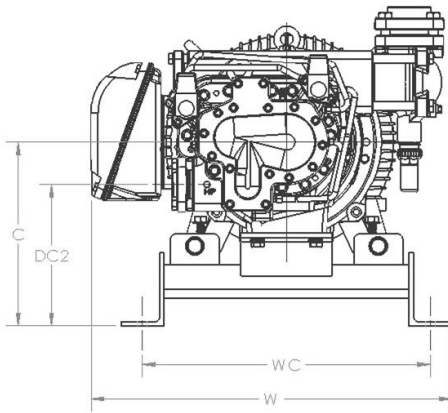
Compressor Model Series	HP	KW	NEMA Frame Size	Rated Speed	Service Factor	FL Amps (A)	Locked Rotor Current (I _L /I _n)	FL Efficiency (%)	Full Load Torque (ft.lb)	Altitude (ft)	Ambient Temperature (°F)	Degree of Protection
OS'85 Series	40	30	324TSC	3555	1.25	45.8	6.4	92.4	58.3	3280	-4°F - +104°F	IP55
	50	37	326TSC	3550	1.25	56.1	6.2	93.0	73.0	3280	-4°F - +104°F	IP55
	60	45	364/5TSC	3560	1.25	67.0	6.6	93.6	87.3	3280	-4°F - +104°F	IP55
	75	55		3555	1.25	81.9	6.6	93.6	109	3280	-4°F - +104°F	IP55
	100	75	404/5TS	3555	1.25	110.0	6.5	94.1	146	3280	-4°F - +104°F	IP55
	125	90	444/5TS	3570	1.15	134.0	6.6	95.0	181	3280	-4°F - +104°F	IP55
	150	110		3570	1.15	161.0	6.5	95.0	218	3280	-4°F - +104°F	IP55
	200	150	445/7TS	3575	1.15	222	6.8	95.4	290	3280	-4°F - +104°F	IP55
	250	185		3575	1.15	269	7.0	95.8	362	3280	-4°F - +104°F	IP55
	300	220	447/9TS	3580	1.15	317	6.5	95.8	434	3280	-4°F - +104°F	IP55
350	260	3580		1.15	373	6.6	96.2	507	3280	-4°F - +104°F	IP55	
OS'95 Series	125	90	444/5TS	3570	1.15	134.0	6.6	95.0	181	3280	-4°F - +104°F	IP55
	150	110		3570	1.15	161.0	6.5	95.0	218	3280	-4°F - +104°F	IP55
	200	150	445/7TS	3575	1.15	222	6.8	95.4	290	3280	-4°F - +104°F	IP55
	250	185		3575	1.15	269	7.0	95.8	362	3280	-4°F - +104°F	IP55
	300	220	447/9TS	3580	1.15	317	6.5	95.8	434	3280	-4°F - +104°F	IP55
	350	260		3580	1.15	373	6.6	96.2	507	3280	-4°F - +104°F	IP55
	400	298	L447/9TS	3580	1.15	373	6.7	96.2	580	3280	-4°F - +104°F	IP56

DIMENSIONAL DRAWINGS

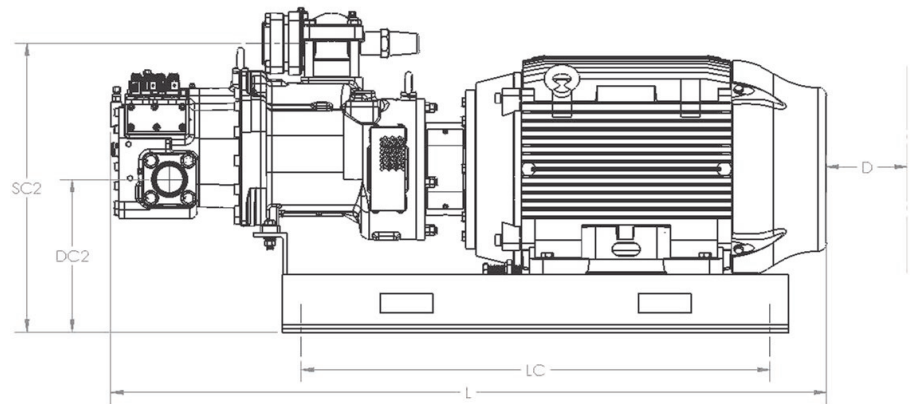
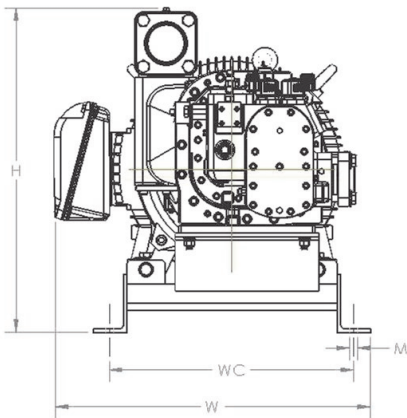
OS'53 Series



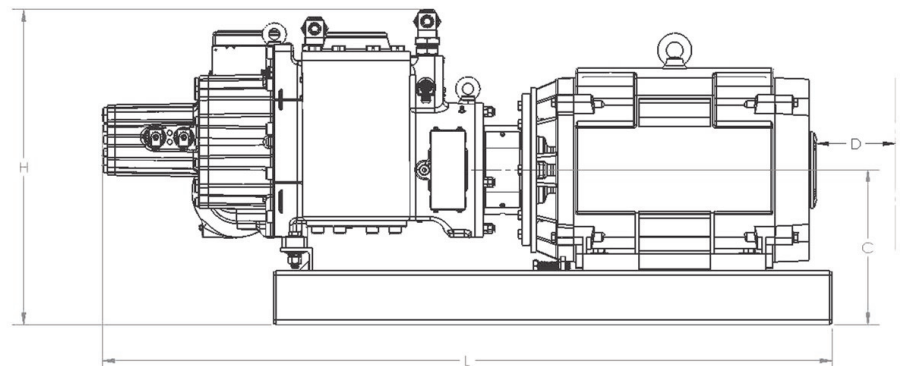
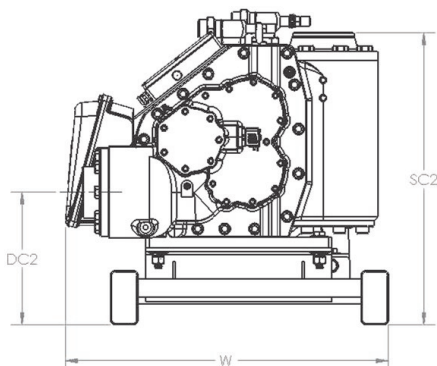
OS'74 Series



OS'85 Series



OS'95 Series



DIMENSIONAL DRAWINGS

Model Number	Weight (lb) WT	Dimension (in)									
		H	W	L	LC	WC	DC2	SC2	C	M	D
SD53XX(B-N)030(6-9)XXXX	639	22.65	23.00	42.91	30.63	19.50	10.17	19.93	13.00	0.81	4.00
SD53XX(B-N)040(6-9)XXXX	684			43.66							
SD53XX(B-N)025(1-5)XXXX	694			45.20							
SD53XX(B-N)030(1-5)XXXX	724	22.15	23.29	43.00							
SD53XX(B-N)050(6-9)XXXX	864			24.25			44.50				
SD53XX(B-N)060(6-9)XXXX	861			24.00			46.45				
SD53XX(B-N)040(1-5)XXXX	881	24.75	24.07	46.45							
SD53XX(B-N)050(1-5)XXXX	914	24.40	23.15	47.93							
SD74XX(B-N)025(1-5)XXXX	951	24.10	24.31	47.30							
SD74XX(B-N)030(1-5)XXXX	980			48.80							
SD74XX(B-N)030(6-9)XXXX	896			46.50							
SD74XX(B-N)040(6-9)XXXX	941			47.00							
SD74XX(B-N)050(6-9)XXXX	1119	25.10	24.60	48.50							
SD74XX(B-N)060(6-9)XXXX	1116			50.44							
SD74XX(B-N)040(1-5)XXXX	1136			51.91							
SD74XX(B-N)050(1-5)XXXX	1169			51.72							
SD74XX(B-N)075(6-9)XXXX	1403	27.22	30.14	51.72							
SD74XX(B-N)100(6-9)XXXX	1465	26.10	29.50	54.69							
SD74XX(B-N)060(1-5)XXXX	1514			54.69							
SD74XX(B-N)075(1-5)XXXX	1525			53.56							
SD74XX(B-N)125(6-9)XXXX	1615	27.88	30.00	53.56							
SD74XX(B-N)150(6-9)XXXX	1680	27.10	29.50	58.96							
SD74XX(B-N)100(1-5)XXXX	1759			58.96							
SD85XX(B-N)060(1-5)XXXX	1769			31.92	29.42	67.83					
SD85XX(B-N)075(1-5)XXXX	2006	67.83									
SD85XX(B-N)075(6-9)XXXX	1835	65.63									
SD85XX(B-N)100(6-9)XXXX	1805	32.84	30.00	64.23							
SD85XX(B-N)125(6-9)XXXX	2004			64.23							
SD85XX(B-N)150(6-9)XXXX	2069			69.76							
SD85XX(B-N)100(1-5)XXXX	2148	33.84	34.68	71.00							
SD85XX(B-N)200(6-9)XXXX	2496			71.00							
SD85XX(B-N)250(6-9)XXXX	2601			71.00							
SD85XX(B-N)300(6-9)XXXX	2698			71.00							
SD85XX(B-N)125(1-5)XXXX	2834			74.91							
SD85XX(B-N)150(1-5)XXXX	2942			74.91							
SD85XX(B-N)200(1-5)XXXX	3247			78.42							
SD85XX(B-N)250(1-5)XXXX	3478	34.50	37.50	84.00							
SD95XX(B-N)125(1-5)XXXX	3610			84.00							
SD95XX(B-N)125(6-9)XXXX	2825			74.50							
SD95XX(B-N)150(1-5)XXXX	3718			84.00							
SD95XX(B-N)150(6-9)XXXX	2890	33.00	74.50								
SD95XX(B-N)200(1-5)XXXX	3599	36.20	38.50	87.00							
SD95XX(B-N)200(6-9)XXXX	3275	34.35	35.35	80.00							
SD95XX(B-N)250(1-5)XXXX	2455	36.20	38.50	87.00							
SD95XX(B-N)250(6-9)XXXX	3377	34.35	35.35	80.00							
SD95XX(B-N)300(1-5)XXXX	4600	36.20	39.00	92.00							
SD95XX(B-N)300(6-9)XXXX	3475	34.35	35.35	80.00							
SD95XX(B-N)350(1-5)XXXX	4757	36.20	39.00	92.00							
SD95XX(B-N)350(6-9)XXXX	3842	34.35	38.75	88.00							
SD95XX(B-N)400(1-5)XXXX	5067	34.50	42.06	96.00							
SD95XX(B-N)400(6-9)XXXX	3942	34.35	38.75	88.00							



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Fax: 770-503-9440
Email: sales@bitzerus.com

24h Emergency Replacement Hotline for US Customers:
1.888.GO BITZER [1.888.462.4893]

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Fax: 514-697-9768
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