RefComp Series to BITZER CSH

Competitive Replacement Guideline

XR-0021-02 01/14



BITZER Screw Compressors CS High Temp Series

The intention of this document is to serve as general guidelines. The information contained is not intended to replace specific equipment and/or system manufacturer's information or guidelines. BITZER implies no liability for the information contained. It is BITZER's implicit intention that nothing contained in this guide replaces any past, present or future warranty policy of BITZER and/or any other manufacturer's equipment

These guidelines are supplied as a recommended procedure for troubleshooting the CS screw compressor

These guidelines are not a replacement for information specific to that of the manufacturer or the manufacturer's system technical product information.

Each system may vary in design, usage and specifications. This document is intended for use specific to the compressor only and not intended to be a "catch all" for any and every possible application of the compressor.

BITZER's intention is that only qualified and certified (where applicable) individuals specific to the refrigeration industry use the information contained and all standard refrigeration handling and safety practices must be followed at all times.

BITZER's intention is that all electric work is performed by qualified and certified (where applicable) individuals and all standard electrical safety practices must be followed at all times.



WARNING

This icon indicates instructions to avoid personal injury and material damage



CAUTION

This icon indicates instructions to avoid property damage and possible personal injury



HIGH VOLTAGE

This icon indicates operations with a danger of electric shock

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Scope of Standard Delivery (as supplied by Manufacturer)	Bitzer CSH	RefComp SRC
Capacity control system : 4-Steps or Infinite Continuous (See Below)	No Modification Req	Δ 3 Step
25% to 100% Capacity Control	•	•
Conversion Kit Stepped to Stepless Control	Not Required	Δ
4 Step Capacity Control	•	Δ
Infinite Capacity Control	•	Δ
Solenoid coils for capacity control	•	Δ
Volume ratio Vi, Option Vi=2.2, 2.6, 3.0, 3.5	Built In	Δ
Discharge Check Valve	• Internal	• Internal
Suction Coupling tube and/or Flange	N/A	•
Discharge Coupling tube and/or Flange	N/A	N/A
Suction Service Valve	•	Δ
Discharge Service Valve	•	•
Suction service valve location	Тор	End
Discharge service valve location	Тор	Тор
Oil Charge	•	•
Electronic Module (Rotation)	•	Δ
Electronic Module (Temperature)	•	•
PTC100 type temperature sensor	N/A	
PTC120 type temperature sensor	•	
PT100 type motor temperature sensor	PTC Sensors	
PTC110 type temperature sensor	N/A	
Screw in Discharge temperature sensor	● (251F)	• (230F)
IP-54 Terminal box	•	•
Crankcase oil heater	•	Δ
Compress chamber (Middle side) liquid inject port	•	Not Required
Motor side (Low side) liquid inject port	Not Required	Not Required
Economizer port	•	•
Oil cooling connection	•	•
Liquid injection oil cooling port	•	•
Oil drain valve	•	•
Oil level switch	Δ	Δ
Oil filter different pressure (ΔP) protector switch	Not Required	Not Required
Liquid injection expansion valve	N/A	Δ
Liquid injection solenoid valve	N/A	Δ
Safety Valve	• Internal	• Internal
Position sensor (Capacity control)	N/A	N/A
Slide fit motor	•	•
Starting type PWS	•	•
Starting type Start Delta	Δ	Δ
Jumper bars for DOL starting	•	Δ
Rubber mounting pads	•	•
Oil Separator	Intregal	Intregal
•	Applicable	-

RefComp

SRC Model Data				
Model Number	Rated Nominal Tonnage	CFM DISPL 60Hz	CFH DISPL 60Hz	Motor HP
SRC-S-113	38	84	5040	40
SRC-S-133	49	107	6420	50
SRC-S-163	55	125	7500	60
SRC-S-183	64	146	8760	70
SRC-S-213	74	169	10140	80
SRC-S-253	91	204	12240	100
SRC-S-285	100	225	13485	110
SRC-S-303	109	244	14640	120
SRC-S-353	130	287	17220	140
SRC-S-413	146	318	19080	160
SRC-S-453	168	364	21840	180
SRC-S-503	185	401	24060	200
SRC-S-553	198	429	25740	220
SRC-S-603	231	494	29652	240
	Rated Nominal	Tonnage 45/130/20/	/15 R22 +/-5%	

CSH Model Data					
Model Number	Rated Nominal Tonnage	CFM DISPL 60Hz	CFH DISPL 60Hz	Motor HP	
CSH6553-50	42	97	5830	50	
CSH6563-60	53	121	7244	60	
CSH7553-70	61	140	8410	70	
CSH7563-80	71	161	9682	80	
CSH7573-90	83	183	10989	90	
CSH8553-110	100	224	13428	110	
CSH8563-125	116	255	15300	125	
CSH8573-140	135	292	17491	140	
CSH9553-180	171	380	22802	180	
CSH9561-210	201	437	26212	210	
CSH9573-240	234	497	29835	240	
CSH9583-280	263	572	34310	280	
CSH9593-300	298	646	38786	300	
	Rated Nominal Tonnage 45/130/20/15 R22 +/-5%				

	SRC Model Data				
Model Number	Rated Nominal Tonnage	CFM DISPL 60Hz	CFH DISPL 60Hz	Motor HP	
SRC-S-113	47	84	5040	40	
SRC-S-133	60	107	6420	50	
SRC-S-163	66	125	7500	60	
SRC-S-183	76	146	8760	70	
SRC-S-213	88	169	10140	80	
SRC-S-253	108	204	12240	100	
SRC-S-285	121	225	13485	110	
SRC-S-303	131	244	14640	120	
SRC-S-353	156	287	17220	140	
SRC-S-413	174	318	19080	160	
SRC-S-453	196	364	21840	180	
SRC-S-503	215	401	24060	200	
SRC-S-553	230	429	25740	220	
SRC-S-603	267	494	29652	240	
	Rated Nominal Tonnage 45/105/20/15 R22 +/-5%				

CSH Model Data					
Model Number	Rated Nominal Tonnage	CFM DISPL 60Hz	CFH DISPL 60Hz	Motor HP	
CSH6553-50	49	97	5830	50	
CSH6563-60	61	121	7244	60	
CSH7553-70	72	140	8410	70	
CSH7563-80	83	161	9682	80	
CSH7573-90	100	183	10989	90	
CSH8553-110	120	224	13428	110	
CSH8563-125	138	255	15300	125	
CSH8573-140	159	292	17491	140	
CSH9553-180	206	380	22802	180	
CSH9563-210	245	437	26212	210	
CSH9573-240	282	497	29835	240	
CSH9583-280	315	572	34310	280	
CSH9593-300	357	646	38786	300	
	Rated Nominal Tonnage 45/105/20/15 R22				

134 S and XS Model Data				
Model Number	Nominal Tonnage	CFH DISPL 60Hz	Motor HP	
134-XS-40	34	6180	40	
134-XS-50	41	7416	50	
134-XS-60	49	8828	60	
134-S-71	71	9534	70	
134-S-81	80	10841	80	
134-S-91	90	12148	90	
134-S-101	97	13419	100	
134-S-110	111	14584	110	
134-S-120	125	16951	120	
134-S-140	145	19776	140	
134-S-160	168	22601	160	
134-S-180	190	24426	180	
134-S-210	203	28428	210	
134-S-220	215	30017	220	
134-S-240	238	32136	240	
134-S-270	269	35314	270	
134-S-300	300	38846	300	
R	Rated Nominal Tonnage 45/105/20/15 R134A +/-5%			

CSW Model Data					
Model Number	Rated Nominal Tonnage	CFH DISPL 60Hz	Motor HP		
CSH6553-35Y	35	5830	35		
CSH6563-40Y	44	7244	40		
CSW6583-40Y	50	8299	40		
CSW7573-60Y	69	10989	60		
CSW7583-70Y	78	12572	70		
CSW7593-80Y	89	14338	80		
CSW8573-90Y	111	17491	90		
CSW8573-90Y	111	17491	90		
CSW8583-110Y	120	20024	110		
CSW8593-125Y	137	22602	125		
CSW9563-140Y	167	26212	140		
CSW9573-160Y	191	29835	160		
CSW9583-180Y	217	34310	180		
CSW9583-180Y	217	34310	180		
CSW9593-210Y	246	38786	210		
CSW95103-240Y	266	43261	240		
CSW95113-280Y	295	47711	280		
	Rated Nominal Tonnage 45/105/20/15 R134A +/-5%				

134 S and XS Model Data					
Model Number	Rated Nominal Tonnage	CFH DISPL 60Hz	Motor HP		
134-XS-40	29	6180	40		
134-XS-50	34	7416	50		
134-XS-60	42	8828	60		
134-S-71	58	9534	70		
134-S-81	65	10841	80		
134-S-91	73	12148	90		
134-S-101	79	13419	100		
134-S-110	94	14584	110		
134-S-120	106	16951	120		
134-S-140	122	19776	140		
134-S-160	142	22601	160		
134-S-180	161	24426	180		
134-S-210	172	28428	210		
134-S-220	182	30017	220		
134-S-240	201	32136	240		
134-S-270	227	35314	270		
134-S-300	254	38846	300		
R	Rated Nominal Tonnage 45/130/20/15 R134A +/-5%				

CSH Model Data					
Model Number	Rated Nominal Tonnage	CFH DISPL 60Hz	Motor HP		
CSH6553-35Y	29	5830	35		
CSH6563-40Y	36	7244	40		
CSH6583-50Y	42	8299	50		
CSH7573-70Y	56	10989	70		
CSH7583-80Y	65	12572	80		
CSH7593-90Y	74	14338	90		
CSH8563-90Y	79	15300	90		
CSH8573-110Y	92	17491	110		
CSH8583-125Y	102	20024	125		
CSH8593-140Y	116	22602	140		
CSH9563-160Y	137	26212	160		
CSH9573-180Y	161	29835	180		
CSH9583-210Y	183	34310	210		
CSH9583-210Y	183	34310	210		
CSH9593-240Y	209	38786	240		
CSH95103-280Y	225	43261	280		
	Rated Nominal Tonnage 45/130/20/15 R134A +/-5%				

RefComp SRC-S-183-L-"4" or "Z" (Original Model Number)

SRC = Semi Hermetic Refrigerant Screw Compressor

S = S Series

183 = kW

L = Electrical Devices

L = 220 volt / **M** = 110 volt / **Y** = 24 volt

U = 220 volt UL / **V** = 110 volt UL

1 = 2 Step Capacity Control Model (134-XS-040 / SRC-XS)

2 = 2 Step Capacity Control Model (134-XS-050/060)

4 = 4 Step Capacity Control Model (134-S / SRC-S)

Z = Infinite Capacity Control Model (SRC-S)



RefComp 134-S-300-L-4 (New Model Number / 13 Models)

134 = R134A Semi Hermetic Refrigerant Screw Compressor

S = S Series

300 = Nominal Horsepower

L = Electrical Devices

L = 220 volt / **M** = 110 volt / **Y** = 24 volt

U = 220 volt UL / **V** = 110 volt UL

1 = 2 Step Capacity Control Model (134-XS-040 / SRC-XS)

2 = 2 Step Capacity Control Model (134-XS-050/060)

4 = 4 Step Capacity Control Model (134-S / SRC-S)

Z = Infinite Capacity Control Model (SRC-S)



RefComp 134-XS-40-L-4 (New Model Number / 3 Models)

134 = R134A Semi Hermetic Refrigerant Screw Compressor

XS = XS Series Ultra Compact

40 = Nominal Horsepower

L = Electrical Devices

L = 220 volt / M = 110 volt / Y = 24 volt

U = 220 volt UL / **V** = 110 volt UL

1 = 2 Step Capacity Control Model (134-XS-040 / SRC-XS)

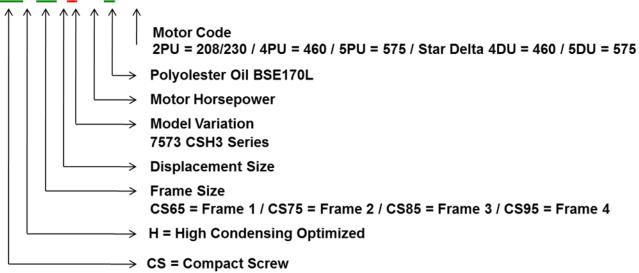
2 = 2 Step Capacity Control Model (134-XS-050/060)

4 = 4 Step Capacity Control Model (134-S / SRC-S)

Z = Infinite Capacity Control Model (SRC-S)



CSH7573-70Y-4PU



[&]quot;Y" after the 11th Digit is Oil Type (when required)

CSW6583-40Y-4PU



[&]quot;Y" after the 11th Digit is Oil Type (when required)

[&]quot;Y" = BSE170 for HFC's / If no "Y" in Model Number = B320SH for R22

[&]quot;Y" = BSE170 for R407C / If no "Y" in Model Number = B320SH for R22

[&]quot;Y" = BSE170L for R134A Only

To aid in the conversion from a RefComp Horizontal Screw Compressor to a BITZER CS Compressor the following information has been assembled.

For replacement compressor selection a capacity comparison of each compressor is listed in the charts provided and dimensional information is given.

The suction and discharge connection sizes are different between the FuSheng and the BITZER CS compressors.

The RefComp Screw has the suction valve located on the end and the discharge valve located on top. The BITZER CS compressors have the service valves located on the top of the compressor for the CS65, 75 and 85 series.

The suction valve connection is located on the end for the CSH9553-180 through the CSH9573-240.

The suction and discharge isolation valves as well as the discharge check valve can be removed from the existing piping on the RefComp. The BITZER CS compressors are supplied with suction and discharge service valves and an internal check valve.

The weights of the compressors are similar and listed for comparison.

The control wiring for these compressors also has some differences.

The RefComp utilizes an INT69 RCY compressor protection module.

The control circuit is wired through terminals 11 & 14 and module power is connected to L & N.

The BITZER CS utilizes a SE-E1 compressor electronic module.

The control circuit is wired through terminals 11 & 14 and module power is connected to L & N.

There is an additional connection on the BITZER CS protection module at terminal 12. This can be used to indicate a general compressor failure.

The reverse phase and high discharge temperature protection that was used for the RefComp must be removed as this function is incorporated into the BITZER CS protection module.

The loading and unloading between the compressors is very similar.

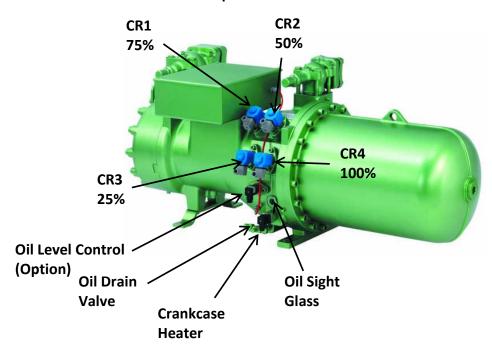
Capacity Control				
For the RefComp	Screw Compres	sor-50%-100% Infi	nite Control	
Operation	Solenoid 14	Solenoid 15	Solenoid 16/19	
Capacity Variation	De-energized	De-energized	Energized	
Stationary	De-energized	De-energized	De-energized	
50%	De-energized	Energized	De-energized	
Start/stop	Energized	De-energized	De-energized	

For the RefComp Screw Compressor-100% Minimum Step				
Operation	Solenoid 14	Solenoid 15	Solenoid 16/19	
Capacity Variation	De-energized	De-energized	Energized	
Stationary	De-energized	De-energized	De-energized	
Minimum Capacity	Energized	De-energized	De-energized	
Start/stop	Energized	De-energized	De-energized	

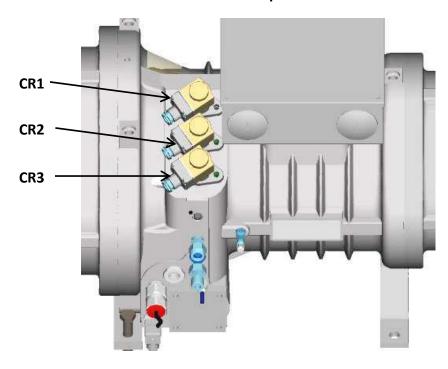
For the Bitzer Screw Compressor-4-Step Capacity Control						
Operation	Solenoid 1	Solenoid 1 Solenoid 2 Solenoid 3 Solenoi				
Start/stop	De-energized	De-energized	Energized	De-energized		
Capacity 25%	De-energized	De-energized	Energized	De-energized		
Capacity 50%	De-energized	Energized	De-energized	De-energized		
Capacity 75%	Energized	De-energized	De-energized	De-energized		
Capacity 100%	De-energized	De-energized	De-energized	Energized		

For the Bitzer Screw Compressor-Infinite Capacity Control 25-100%					
Operation Solenoid 3 Solenoid 4					
Start/stop	Energized De-energized				
Loading	De-energized Energized				
Unloading	Energized De-energized				
Constant Load	Pulsing	Pulsing			

Bitzer Screw Compressors Frame 2 Shown

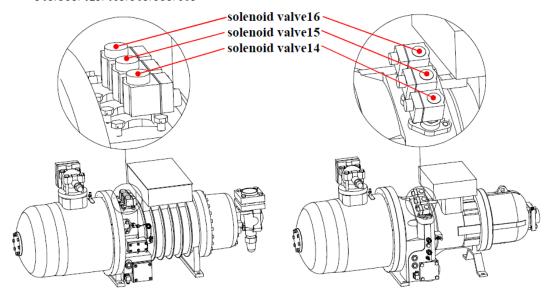


RefComp SRC



SRC-S-113/133/163/183/213/253/ 303/353/413/463/503/553/603

SRC-S-255/285/305/755



	Solenoid valves		
Load (capacity steps)	16	15	14
100%	Off	Off	Off
75%	On	Off	Off
50%	Off	On	Off
Minimum step (start up and stop)	Off	Off	On

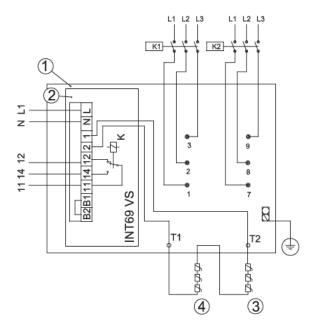
		so	LENOID VA	ALVE
Phase	Regolation	14	15	16
1	Start-up	ON	OFF	OFF
2	Loading > 50%	OFF	OFF	ON
3	Unloading to 50 %	OFF	ON	OFF
4	Modulation	OFF	ON/OFF	ON/OFF
5	Unloading to 25%	ON	OFF	OFF
6	Stop	ON	OFF	OFF

The last thing that needs to be checked is starting. In applications where reduced voltage starting is used the RefComp will use Part Winding Start or have a Star - Delta starter which is different than the BITZER CS compressor.

BITZER CS compressors utilize Part Winding Start or Direct on Line on all CS65, 75 and 85 compressors and Star Delta reduced voltage starting. Full voltage or direct on line starting is the same for both compressors.

The overload relay and the contactors must be checked for proper sizing.

SRC Series Typical Terminal Box Wiring

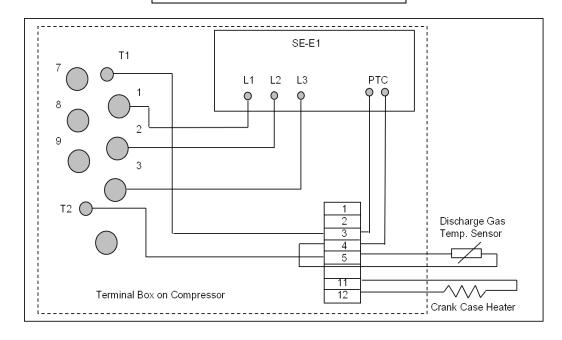


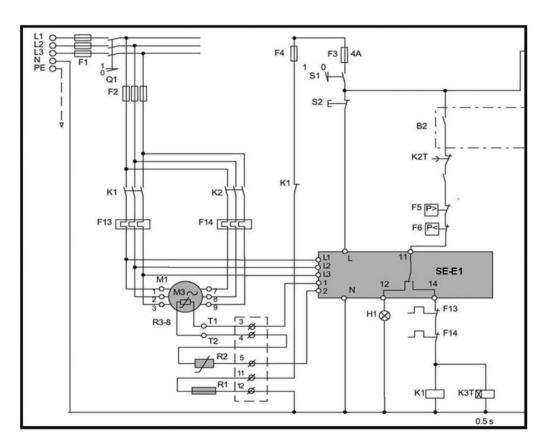
INT69 VS

KEY

- 1) Terminal box
- 2) Motor protection device INT 69 VS
- 3-4) Motor thermistors PTC
- L1-L2-L3) Power supply
- PW motor: K1 PW contactor 50%
 - K2 PW contactor 50%, delay 0,6 sec.
- Y/Δ motor: K1-K3 start contactors (Y)
 - K1-K2 run contactors (Δ)
- L1/N) Phase + neutral 230V-50/60Hz
- 11/14) Control circuit
- 1/2) Connection cables to thermistors
- K) Relay AC 250V, max. 5A, 300VA
- 12) Signal lamp (Temperature)
- B1/B2) Link for automatic reset

BITZER CS Series Typical Terminal Box





The SE-E1 is a dual voltage 115V / 230V Standard and 24V AC is available as an option.

- Each module is pre-wired inside the terminal box. The module monitors discharge gas / oil temperature via a PTC sensor. The module also monitors motor winding temperature via the motor sensors embedded into the motor windings which are wired in series and connected to the module. Phase sequence control for direction of rotation is also monitored.
- As mentioned above, each module is pre-wired inside the terminal box. The following connections should be checked for tightness.

Voltage / Phase Connections:

- L-1 (black) connected to L-1 spade connection on the terminal plate.
- L-2 (brown) connected to L-2 spade connection on the terminal plate.
- L-3 (blue) connected to L-3 spade connection on the terminal plate.

Note: Each lead is identified at the plug connector with number markings and can also be found laser etched on the front of the module.

Motor Winding Temperature Connections:

- T-1 (brown) connected to number 1 on the module.
- T-2 (brown) connected to position 5 on the connector strip.

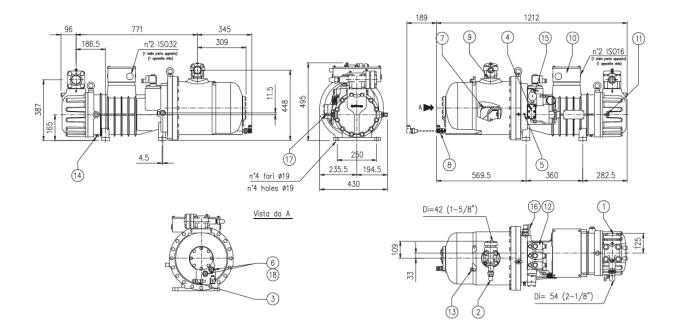
Discharge Gas / Oil Temperature Sensor PTC120:

The blue wire is connected to the opposite side of position 5 with the T-2 connection.

The brown wire connected to number 2 on the module.

- Compressor Control Circuit is wired through terminal 11 and 14.
- Terminal 12 can be utilized as a general compressor fault output. It will be powered whenever the module trips.

Oil Types				
RefCompSRC SeriesR22 OilCPI4214-320				
Bitzer	CSH Series	R22 Oil	CPI4214-320	



- 1) Suction shut-off valve (optional)
- 2) Discharge shut-off valve
- 3) Oil fill / drain valve 3/8" SAE-FLARE
- Oil cooler connections (optional on mod. 113-133-163)
- 5) Oil pressure 1/4" SAE-FLARE
- 6) Oil sight glass
- 7) Oil filter
- 8) Crankcase heater
- 9) Non return valve
- 10) Electrical box
- 11) Low pressure gas 1/4" SAE-FLARE
- 12) Solenoid valves for part-load operation

- 13) High pressure gas 1/4" SAE-FLARE
- 14) Oil drain motor housing M14 (M16 on mod. 113-133-163)
- Solenoid valve connection (step-less capacity control - only for SRC-S)
- Liquid injection Φ 16 / Economizer Φ 22 (optional)
- Discharge temperature sensor 1/8" NPT (optional)
- 18) Oil level control (optional)

RefComp						
Model Number	Dimens	sions L x W	x H (in)	Disch. Conn. (in)	Suction Conn. (in)	Shipping Weight (lb)
SRC-S-113 / SRC-XS-40	47.72	16.93	24.95	1 5/8	2 1/8	716
SRC-S-133 / SRC-XS-50	47.72	16.93	24.95	1 5/8	2 1/8	728
SRC-S-163 / SRC-XS-60	47.72	16.93	24.95	1 5/8	2 1/8	739
SRC-S-183	56.30	18.23	25.00	2 1/8	2 1/8	1124
SRC-S-213	56.30	18.23	25.00	2 1/8	2 1/8	1135
SRC-S-255	59.67	19.84	25.79	2 1/8	3 1/8	1290
SRC-S-285	59.67	19.84	25.79	2 1/8	3 1/8	1301
SRC-S-305	59.67	19.84	25.79	2 1/8	3 1/8	1378
SRC-S-353	63.78	21.02	30.04	3 1/8	3 5/8	1312
SRC-S-413	63.78	21.02	30.04	3 1/8	3 5/8	1609
SRC-S-463	63.78	21.02	30.04	3 1/8	3 5/8	1631
SRC-S-503	67.91	23.23	32.05	3 1/8	4 1/8	1709
SRC-S-553	67.91	23.23	32.05	3 1/8	4 1/8	2359
SRC-S-603	67.91	23.23	32.05	3 1/8	4 1/8	2403
Length of the RefComp Compressor is with the Suction and Discharge Service Valves						

	Bitzer CSH					
Model Number	Dimens	ions L x W	x H (in)	Disch. Conn. (in)	Suction Conn. (in)	Shipping Weight (lb)
CSH6553-50	43.57	22.13	22.44	1 5/8	2 1/8	671
CSH6563-60	43.57	22.13	22.44	1 5/8	2 1/8	693
CSH7553-70	52.94	22.25	24.19	2 1/8	3 1/8	1058
CSH7563-80	52.94	22.25	24.19	2 1/8	3 1/8	1076
CSH7573-90	52.94	22.25	24.19	2 1/8	3 1/8	1091
CSH8553-110	60.63	27.8	29.19	3 1/8	4 1/8	1749
CSH8563-125	60.63	27.8	29.19	3 1/8	4 1/8	1762
CSH8573-140	60.63	27.8	29.19	3 1/8	4 1/8	1784
CSH9553-180	72.19	27.63	33.26	3 1/8	4 1/8	2734
CSH9561-210	72.19	27.63	33.26	3 1/8	4 1/8	2778
CSH9573-240	72.19	27.63	33.26	3 1/8	4 1/8	2800
CSH9583-280	72.71	26.73	34.17	4 1/8	5.00	3043
CSH9593-300	72.71	26.73	34.17	4 1/8	5.00	3087
Compressor is with the Suction and Discharge Service Valves						

CSH / Crankcase Heater - Special Voltage Heater Part # (Voltage) Model 343213-07 (230V)(200W) (CS 65 - CS 75) 343213-02 (230V)(300W) (CS 85 - CS 95)

Oil Level Control - Mechanical (CSH Series)		
Part # Model		
347403-05	(CSH 65)	
347403-03	(CSH 75 - CSH 85)	
347403-06 (CSH 95)		

Oil Level Control – Electronic (CSH3 and CSW Series)			
Part # Voltage			
347962-02	115V		
347962-01	230V		
347962-03 24VAC			

Liquid Injection Adapter Kit (CSH3 Series)	
Part #	
361332-10	

Liquid Injection Controller (CSH3 Series)	
Part #	
085-0164-17	

Economiz	Economizer Adapter (CSH3 Series)		
Model:	Part #		
CSH65	361329-16		
CSH75	361329-16		
CSH85	361330-05		
CSH95	361330-07		
Economiz	zer Adapter (CSW Series)		
Model:	Part #		
CSW65	361330-01		
CSW75	361330-03		
CSW85	361330-15		
CSW95	361330-16		

CSH / CSW Screw Accessories			
ater		Pressure Controller with 1/4" NPT Transducer Sensor	
		Kit Part #	
75)	999-0005-01 (see TB-0012 for complete details)		

Pressure Controller with 0-200 psig Transducer Sensor		
Kit Part #		
835-0003-01KIT (See TB-0039 for complete details)		

Temperature - Strap On Sensor with Capacity Controller		
Kit Part #		
835-0003-02KIT (See TB-0039 for complete details)		

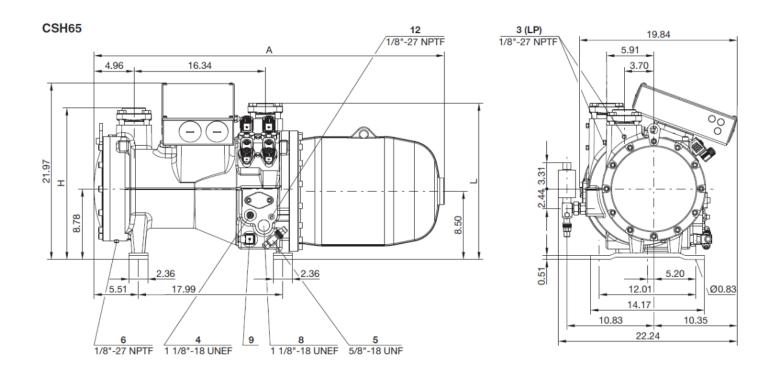
BITZER Oils for CS Series				
Model	Refrigerant	Oil		
CSH	R22	B320SH		
СОП	R134a/R407C/R404A/R507A	BSE170		
CSW	R22	B320SH		
CSVV	R134a	BSE170L		

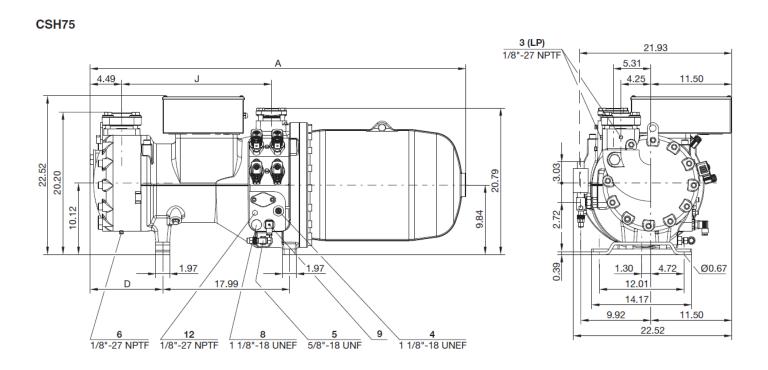
B320SH Polyolester Oil		
Unit of Measurement	Part #	
1 gallon	793-3320-01	
5 gallon	793-3320-34	

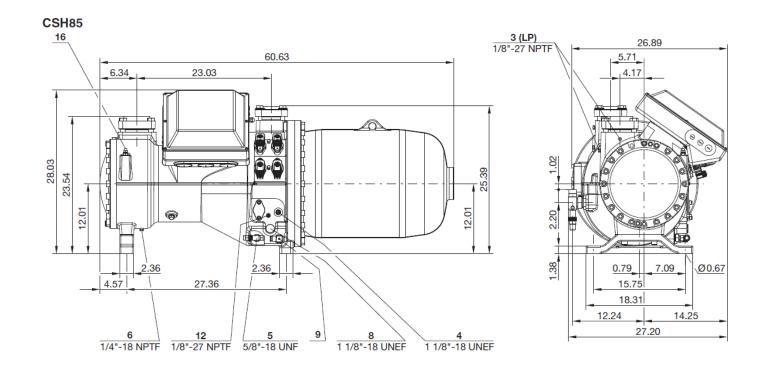
BSE 170 Polyolester Oil		
Unit of Measurement	Part #	
1 gallon	793-1170-34	
5 gallon	793-3170-34	

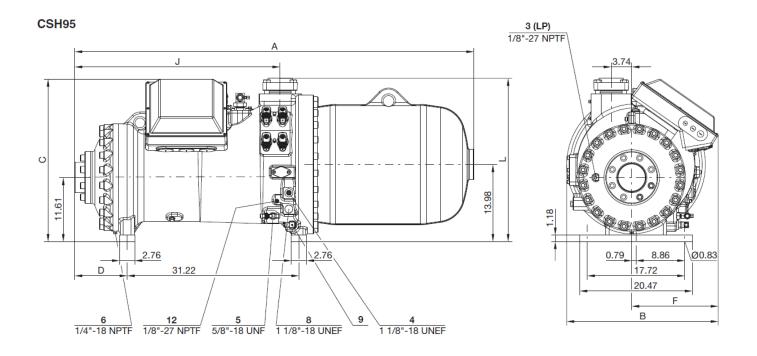
BSE 170 L Polyolester Oil		
Unit of Measurement	Part #	
1 liter	915118-06	
5 liter	915118-01	
10 liter	915118-02	

BITZER CSH Screw Compressor Dimensional Data









NOTES

Please Note:

The advice given herein and/or any conclusions made by BITZER US, Inc. represent BITZER US, Inc's best advice and judgment under the circumstances, but such advice and/or conclusions made or results obtained shall be deemed used at your sole risk. For further assistance, please contact our application engineering department using the contact information on the back page of this booklet.



Date: _____

Name				
Company Name				
Address				
City, State, Zip				
Phone				
Cell Phone				
Email				
Customer's Name				
Address				
Brand of the compressor	you are replacing:			
Compressor Model No.:_	Serial No.:			
System Manufacturer (OE	EM) and Unit Model #:			
Please specify single circ	cuit or compressor is in parallel:			
Type of refrigerant used:	Tonnage requirement:			
Operating condition:	Evaporating:			
	Condensing:			
	Suction superheat:			
	Subcooling:			
	Voltage:			
Reason for replacement:				
How many compressors	are you looking to replace?:			
Please provide any additional comments:				