

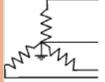
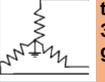


Installation Data Sheet
Series: 1:1 Direct Drive BSD.4
Document No.: TI-DATA-2020-BSD 40T 50T 60T
Version: 1.3
Revision Date: 04/17/2023

Model	BSD 40T				BSD 50T					BSD 60T						
	110	125	145	175	110	125	145	175	190	217	110	125	145	175	190	217
Rated Pressure [psig]																
I. COOLING DATA																
Cooling System Available [Std., Opt.]	A/C, W/C				A/C, W/C					A/C, W/C						
Standard Ambient Temp. Range [°F]	40 - 115				40 - 115					40 - 115						
VENTILATION OF COMPRESSOR ROOM																
Air Inlet Opening [sq. ft.] (A/C) Z	9.7				11.8					15.1						
Air Inlet Opening [sq. ft.] (W/C) Z	3.2				3.2					4.3						
Solution A (forced ventilation with exhaust fan) as shown in service manual																
Cooling Fan Capacity [CFM] (A/C)	7,652				9,417					11,772						
Cooling Fan Capacity [CFM] (W/C)	2,178				2,413					3,237						
Solution B (exhaust air used for space heating) as shown in service manual																
Internal Cooling Fan Capacity [CFM] (A/C)	Compressor 4,826		Dryer 1,295		Compressor 4,826		Dryer 1,295		Compressor 4,826		Dryer 1,295					
Internal Cooling Fan Capacity [CFM] (W/C)	2,001				2,001				2,001							
Max. Additional Pressure Drop for Ducts [inch Water Column] (A/C) (W/C)	0.24 / 0.16				0.24 / 0.16				0.24 / 0.16							
Exhaust Air Opening Reference Dimensions (L x W) [in]	28 x 28				28 x 28				28 x 28							
See drawing for actual dimensions. The actual individual duct dimension will vary for every installation based on actual length, number and type of bends, accessories etc.																
Model shown for reference only Actual Duct size may vary with installation																
Solution A Exhaust Fan																
Solution B Exhaust Duct																
Ventilation for Compressor Room Z																
AIR COOLED DATA																
Internal Cooling Fan Capacity [CFM]	4,826				4,826					4,826						
Approach Temp. [°F]	7.2				9	7.2		7.2	12.6		10.8	9				
Typical Heat Rejected [BTU / HR]	122,000				148,000					182,000						
Fan Motor [HP], oilcooler/aircooler	1				1					1						
WATER COOLED DATA																
Type of heat exchangers	stainless steel, plate-type				stainless steel, plate-type					stainless steel, plate-type						
Internal Cooling Fan Capacity [CFM]	2,001				2,001					2,001						
Approach Temp. [°F]	1.8				1.8					1.8						
Typical Heat Rejected into Cooling Water [BTU / HR]	108,500				134,500					171,000						
Heat Rejected into Cooling Air [BTU / HR]	10,000				11,400					13,500						
Max. outlet temperature [°F]	120				120					120						
Temperature differential between inlet water and max. discharge water temperature [°F]	20		50		20		50		20		50					
Min./ Max. inlet water temperature [°F]	104		70		104		70		104		70					
Min. cooling water flow [gpm]	11.1		4.8		13.5		5.7		17		6.7					
Pressure drop across compressor package [psi] WITHOUT cooling water throttling valve	10.2		1.5		14.5		2.2		21.8		2.9					
Pressure drop across compressor package [psi] WITH cooling water throttling valve	11		3		15		3		21		4					



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Rated Pressure [psig]																	
II. ELECTRICAL DATA																	
<i>Electrical data may vary in accordance with motor manufacturer's specifications. Motors are EISA compliant.</i>																	
DRIVE MOTOR																	
Motor HP	40				50						60						
Insulation Class	F				F						F						
Standard Voltage	460V/3ph/60Hz				460V/3ph/60Hz						460V/3ph/60Hz						
Full Load Amps [FLA] @ 208V/3ph/60Hz	103				125						-						
Full Load Amps [FLA] @ 230V/3ph/60Hz	96				114						-						
Full Load Amps [FLA] @ 460V/3ph/60Hz	48				57						69						
Full Load Amps [FLA] @ 575V/3ph/60Hz	39				47						56						
FAN MOTOR (A/C)																	
Insulation Class	F				F						F						
Fan Motor [HP], oilcooler aircooler	1				1						1						
Full Load Amps [FLA] @ 208V/3ph/60Hz	3.6				3.6						-						
Full Load Amps [FLA] @ 230V/3ph/60Hz	3.5				3.5						-						
Full Load Amps [FLA] @ 460V/3ph/60Hz	1.8				1.8						1.8						
Full Load Amps [FLA] @ 575V/3ph/60Hz	1.7				1.7						1.7						
FAN MOTOR (W/C)																	
Insulation Class	F				F						F						
Fan Motor [HP], Single Speed	0.25				0.25						0.25						
Full Load Amps [FLA] @ 208V/3ph/60Hz	-				-						-						
Full Load Amps [FLA] @ 230V/3ph/60Hz	-				-						-						
Full Load Amps [FLA] @ 460V/3ph/60Hz	0.6				0.6						0.6						
Full Load Amps [FLA] @ 575V/3ph/60Hz	3				3						3						
TOTAL PACKAGE DATA (A/C)																	
Do NOT operate package on any unsymmetrical power supply. Also do NOT operate package on power supplies like, for example, a three-phase (open) delta or three-phase star with non-grounded neutral. The machine requires a symmetrical three-phase power supply transformer with a WYE configuration output as shown on the right. In a symmetrical three-phase supply the phase angles and voltages are all the same. Other power supplies are not suitable.																	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>three-phase star (wye); 4-wire; grounded neutral</p> </div> <div style="text-align: center;">  <p>three-phase star (wye) 3-wire; grounded neutral</p> </div> </div>																	
Continuous Duty [Hours per day]	24				24						24						
Control Cabinet Class (NEMA)	12				12						12						
Short Circuit Current Rating (SCCR) [kA] @ 460V/3ph/60Hz	50				50						50						
Short Circuit Current Rating (SCCR) [kA] @ 575V/3ph/60Hz	30				30						30						
Package Full Load Amps @ 208V/3ph/60Hz [FLA]	124				148						-						
Package Full Load Amps @ 230V/3ph/60Hz [FLA]	116				135						-						
Package Full Load Amps @ 460V/3ph/60Hz [FLA]	58				68						83						
Package Full Load Amps @ 575V/3ph/60Hz [FLA]	46				55						67						
Recommended Disconnect Fuse Size [Amps] @ 208V/3ph/60Hz	*Time delay (dual element) fuse: Class J ≤ 600A (e.g. AJT) / Class L > 600A (e.g. A4BQ). Based on 2020 NEC 240.6, 430.52, and Tables 430.52, 430.248, and 430.250				175						200						
Recommended Disconnect Fuse Size [Amps] @ 230V/3ph/60Hz					150						200						
Recommended Disconnect Fuse Size [Amps] @ 460V/3ph/60Hz					80						100						
Recommended Disconnect Fuse Size [Amps] @ 575V/3ph/60Hz					60						80						
Recommended Disconnect Wire Size [AWG/kcmil] @ 208V/3ph/60Hz	The following multi-strand copper core wires are given according to 2020 NEC 310.14, 310.15, 310.16 and table 310.16 adjusted for 40°C ambient temperature. If other local conditions prevail, for example high temperature, the cross section should be checked and adjusted according to 2020 NEC 110.14(C), 220.3, 310.14, 310.15, 310.16, 430.6, 430.22, 430.24, 670.4(A) and other local codes.				3/0 AWG per phase and ground				4/0 AWG per phase and ground				-				
Recommended Disconnect Wire Size [AWG/kcmil] @ 230V/3ph/60Hz					2/0 AWG per phase and ground				3/0 AWG per phase and ground				-				
Recommended Disconnect Wire Size [AWG/kcmil] @ 460V/3ph/60Hz					4 AWG per phase and ground				3 AWG per phase and ground				1 AWG per phase and ground				
Recommended Disconnect Wire Size [AWG/kcmil] @ 575V/3ph/60Hz					4 AWG per phase and ground				4 AWG per phase and ground				3 AWG per phase and ground				
TOTAL PACKAGE DATA (W/C)																	
Package Full Load Amps @ 208V/3ph/60Hz [FLA]	121				145						-						
Package Full Load Amps @ 230V/3ph/60Hz [FLA]	112				132						-						
Package Full Load Amps @ 460V/3ph/60Hz [FLA]	57				66						81						
Package Full Load Amps @ 575V/3ph/60Hz [FLA]	46				54						66						



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INSTALLATION and MAINTENANCE DATA																	
A/C with Super Soundproofing [dB(A)]	SOUND PRESSURE LEVEL [Measured in dB(A) according to ISO 2151 using ISO 9614-2]										72		72		73		
W/C with Super Soundproofing [dB(A)]											69		69		70		
A/C Air Discharge [inches NPT or Flange]											1 1/2 NPT						
W/C Air Discharge [inches NPT or Flange]											1 1/2 NPT						
Cooling Water Connection [inches NPT or Flange]											1 NPT						
Power Input Conduit Opening(s) [inches]											2 1/4						
Condensate Drain Connection [NPT]											2 @ 1/4						
Width [inches]											78 3/8						
Depth [inches]											40 1/2						
Height [inches]											66 7/8 A/C, 68 3/4 W/C						
Floor Space [sq. ft.]											22						
Weight (A/C) [lb]	Weight may vary based on airend selected.										2,359		2,458		2,524		
Weight (W/C) [lb]											2,359		2,458		2,524		
COMPRESSOR FLUID DATA																	
Fluid Capacity (A/C) [gal]	6.9				6.9						6.9						
Fluid Capacity (W/C) [gal]	5.9				5.9						5.9						
Flow Rate [gal/min]	14.5				14.5						14.5						
Typical Oil Consumption [fl. Oz./100 h]	4.8				5.9						7.2						
Standard Fluid Type	Sigma S-460				Sigma S-460						Sigma S-460						
MAINTENANCE PARTS																	
Air Inlet Filter											6.4139.0						
Filter Mat (optional)											6.1943.0 (2x)						
Filter Mat for Control Cabinet											7.4519.0 (2x)						
Fluid Filter											6.4493.0						
Fluid Separator Kit											6.3569.0						
Maintenance Kit for Optional 5-year warranty											ANAKBSD3S						
Maintenance Kit for Optional 5-year warranty, with food-grade lubricant											ANAKBSD3F						
DRYER DATA - FOR T MODELS																	
Dryer Model	ABT 83				ABT 83						ABT 83						
Maximum Inlet Air Pressure (Compressed Air at Inlet to Dryer) [psig]	232				232						232						
Nominal Pressure Drop at Rated Flow [psid]	1.5				1.5						1.5						
Rated Pressure Dewpoint [°F] at Standard Conditions	Reference conditions: 14.5 psia, 30% relative humidity and 68°F inlet air temperature.										38		38		38		
Pressure Dewpoint per ISO 8573-1.											Class 4 - 6 based on ambient conditions.						
REFRIGERATION SYSTEM DATA - FOR T MODELS																	
Compressor Type											ZR22K3E-TFD						
BTU/Refrigeration ASHRAE											12,400						
Outlet Air Temperature (Nominal at Rated Conditions) [°F]	Reference conditions: 14.5 psia, 30% relative humidity and 68°F inlet air temperature.										73						
Refrigerant Type											R-513A						
GWP (Global Warming Potential)											631						
CO2 equivalent [t]											0.7						
Refrigerant Charge [lb]											2.4						
Air Flow Across Condenser [CFM]											1,295						

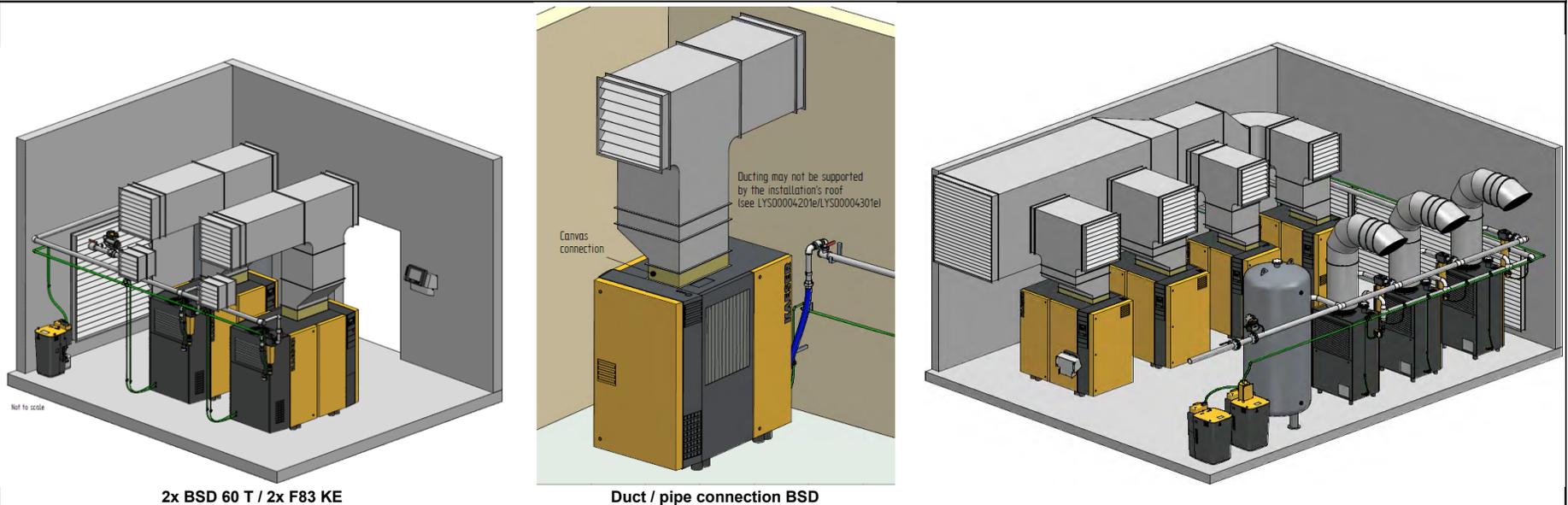


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SAMPLE SKETCHES

Sample Installation Planning
Examples of room ventilation and ductwork
Please note the upsizing required for compressor exhaust ducts



Example designs only, not for construction purposes.