KAESER COMPRESSORS

Installation Data Sheet

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

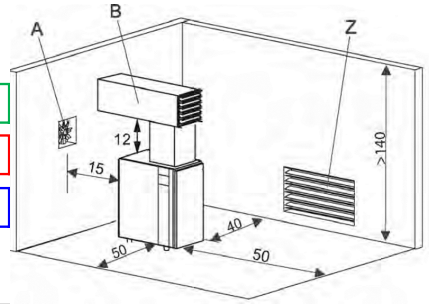
Model	BSD 40				BSD 50						BSD 60					
Rated Pressure [psig]	**110**	**125**	**145**	**175**	**110**	**125**	**145**	**175**	**190**	**217**	**110**	**125**	**145**	**175**	**190**	**217**
I. COOLING DATA																
Cooling System Available [Std., Opt.]	A/C, W/C				A/C, W/C						A/C, W/C					
Standard Ambient Temp. Range [°F]	40 - 115				40 - 115						40 - 115					
VENTILATION OF COMPRESSOR ROOM																
Air Inlet Opening [sq. ft.] (A/C) Z	8.6				10.8						12.9					
Air Inlet Opening [sq. ft.] (W/C) Z	2.2				2.2						2.2					
Solution A (forced ventilation with exhaust fan) as shown in service manual																
Cooling Fan Capacity [CFM] (A/C)	6,474				8,240						10,006					
Cooling Fan Capacity [CFM] (W/C)	1,001				1,236						1,471					
Solution B (exhaust air used for space heating) as shown in service manual																
Internal Cooling Fan Capacity [CFM] (A/C)	4,826				4,826						4,826					
Internal Cooling Fan Capacity [CFM] (W/C)	706				706						706					
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] — 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.	28 x 28				28 x 28						28 x 28					

Model shown for reference only
Actual Duct size may vary with installation

Solution A Exhaust Fan

Solution B Exhaust Duct

Ventilation of Compressor Room

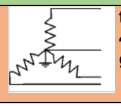
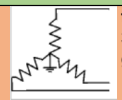


AIR COOLED DATA																
Internal Cooling Fan Capacity [CFM]	4,826				4,826						4,826					
Approach Temp. [°F] — Reference conditions: 14.5 psia, 30% relative humidity and 68°F inlet air temperature.	7.2				9		7.2		7.2		12.6		10.8		9	
Typical Heat Rejected [BTU / HR]	118,500				145,000						178,500					
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]	706				706						706					
Approach Temp. [°F] — Reference conditions: 14.5 psia, 30% relative humidity and 68°F inlet air temperature.	1.8				1.8						1.8					
Typical Heat Rejected into Cooling Water [BTU / HR] — Based on highest input kW of machine.	108,500				134,500						171,000					
Heat Rejected into Cooling Air [BTU / HR]	10,000				11,400						13,500					
Max. outlet temperature [°F] — Discharge temperature limited for non-treated water (to prevent calcification).	120				120						120					
Temperature differential between inlet water and max. discharge water temperature [°F]	20		50		20			50			20			50		
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		

KAESER COMPRESSORS®

Installation Data Sheet

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

Model		BSD 40				BSD 50						BSD 60					
Rated Pressure [psig]		**110**	**125**	**145**	**175**	**110**	**125**	**145**	**175**	**190**	**217**	**110**	**125**	**145**	**175**	**190**	**217**
II. ELECTRICAL DATA	***Electrical data may vary in accordance with motor manufacturer's specifications. Motors are EISA compliant.***																
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		1.4				1.4						1.4					
FAN MOTOR (W/C)																	
Insulation Class		F				F						F					
Fan Motor [HP], Single Speed		0.2				0.2						0.2					
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		CF				CF						CF					
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.		 **three-phase star (wye); 4-wire; grounded neutral**										 **three-phase star (wye); 3-wire; grounded neutral**					
Continuous Duty [Hours per day]		24				24						24					
Control Cabinet Class (NEMA)		12				12						12					
Short Circuit Current Rating (SCCR) [kA] @ 460V/3ph/60Hz	Field installed fuse required, see below*	50				50						50					
Short Circuit Current Rating (SCCR) [kA] @ 575V/3ph/60Hz	Field installed fuse required, see below*	30				30						30					
Package Full Load Amps @ 208V/3ph/60Hz [FLA]		116				139						-					
Package Full Load Amps @ 230V/3ph/60Hz [FLA]		108				127						-					
Package Full Load Amps @ 460V/3ph/60Hz [FLA]		54				64						79					
Package Full Load Amps @ 575V/3ph/60Hz [FLA]		43				52						64					
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	150				200						-					
Recommended Disconnect Fuse Size [Amps] @ 230V/3ph/60Hz		150				175						-					
Recommended Disconnect Fuse Size [Amps] @ 460V/3ph/60Hz		80				90						110					
Recommended Disconnect Fuse Size [Amps] @ 575V/3ph/60Hz		60				70						90					
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.	2/0 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						2 AWG per phase and ground					
Recommended Disconnect Wire Size [AWG/kcmil] @ 575V/3ph/60Hz		6 AWG per phase and ground				4 AWG per phase and ground						3 AWG per phase and ground					

KAESER COMPRESSORS®

Installation Data Sheet

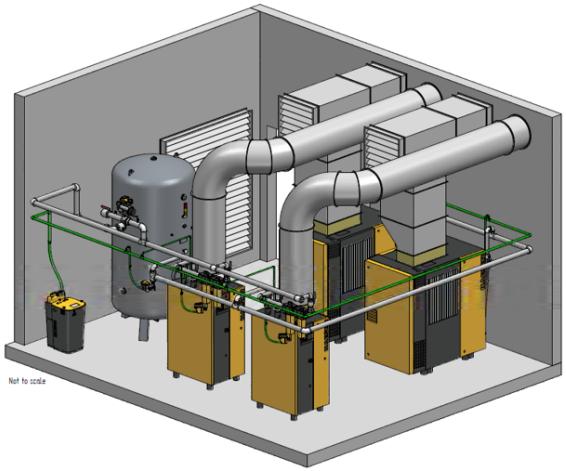
Series: 1:1 Direct Drive BSD.4
Document No.: TI-DATA-2020-BSD 40 50 60
Version: 1.3
Revision Date: 04/17/2023

Model		BSD 40				BSD 50						BSD 60					
Rated Pressure [psig]		**110**	**125**	**145**	**175**	**110**	**125**	**145**	**175**	**190**	**217**	**110**	**125**	**145**	**175**	**190**	**217**
TOTAL PACKAGE DATA (W/C)																	
Package Full Load Amps @ 208V/3ph/60Hz [FLA]		112				136						-					
Package Full Load Amps @ 230V/3ph/60Hz [FLA]		105				124						-					
Package Full Load Amps @ 460V/3ph/60Hz [FLA]		53				63						78					
Package Full Load Amps @ 575V/3ph/60Hz [FLA]		43				51						63					
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]		1/4															
Width [inches]		62 5/8															
Depth [inches]		40 1/2															
Height [inches]		66 7/8 A/C, 68 3/4 W/C															
Floor Space [sq. ft.]		17 3/5															
Weight (A/C) [lb]	Weight may vary based on airend selected.	2,072				2,172						2,238					
Weight (W/C) [lb]		2,072				2,172						2,238					
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															

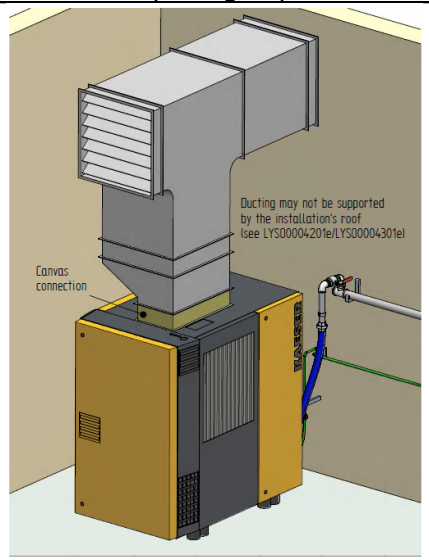
Model	BSD 40				BSD 50						BSD 60					
Rated Pressure [psig]	110	125	145	175	110	125	145	175	190	217	110	125	145	175	190	217

SAMPLE SKETCHES

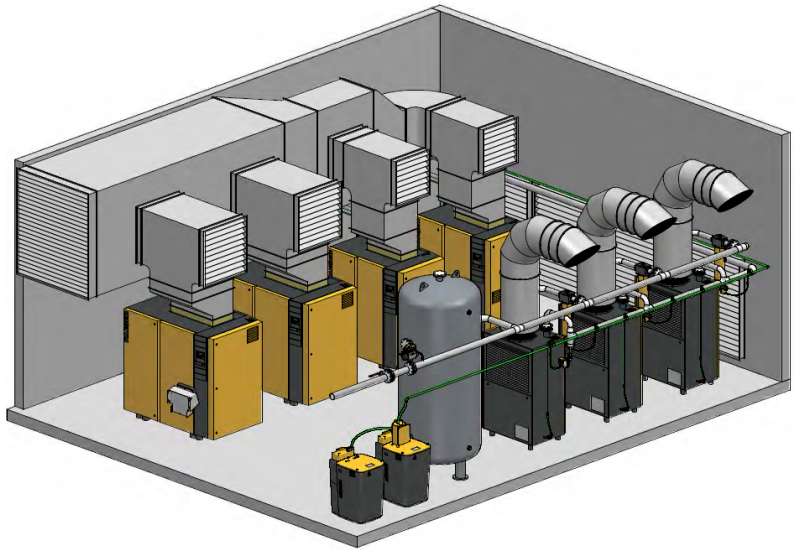
Sample Installation Planning
Examples of room ventilation and ductwork
Please note the upsizing required for compressor exhaust ducts

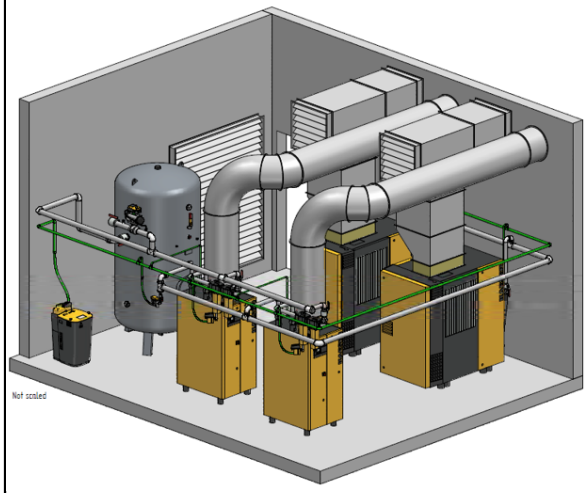


2x BSD 60 / 2x TE 102 / 2x F83 KE/ 2x F83 KA



Duct / pipe connection BSD





2x BSD 60 / 2x TE 142 / 2x F83KE / 2x F83 KA

Example designs only, not for construction purposes.