KAESER COMPRESSORS

Installation Data Sheet

Series: 1:1 Direct Drive CSD.6
Document No.: TI-DATA-2023-CSD 90 110 130
***Preliminary Data* Release Date: 05/30/2023**
Version: 1.1

Model	CSD 90					CSD 110						CSD 130					
Rated Pressure [psig]	**100**	**110**	**125**	**150**	**175**	**100**	**110**	**125**	**150**	**175**	**217**	**100**	**110**	**125**	**150**	**175**	**217**
I. COOLING DATA																	
Cooling System Available [Std., Opt.]	AC / WC					AC / WC						AC / WC					
Standard Ambient Temp. Range [°F]	40-115					40-115						40-115					
VENTILATION OF COMPRESSOR ROOM																	
Air Inlet Opening [sq. ft. free area] (A/C) Z	12.9					15.1						19.4					
Air Inlet Opening [sq. ft. free area] (W/C) Z	2.2					2.2						3.2					
Solution A (forced ventilation with exhaust fan) as shown in service manual																	
Cooling Fan Capacity [CFM] (A/C)	10,006					11,772						14,714					
Cooling Fan Capacity [CFM] (W/C)	1,471					1,776						2,354					
Solution B (exhaust air used for space heating) as shown in service manual																	
Internal Cooling - Fan Capacity [CFM] (A/C)	5,003					5,886						6,474					
Internal Cooling Fan Capacity [CFM] (W/C)	1,001					1,001						1,001					
Max. Additional Pressure Drop for Ducts [inch Water Column] (A/C) | (W/C)	0.32 / 0.16					0.32 / 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.	33 x 33					33 x 33						33 x 33					

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

Solution A Exhaust Fan

Solution B Exhaust Duct

Ventilation of Compressor Room Z

Coming Soon

AIR COOLED DATA																	
Internal Cooling Fan Capacity [CFM]	5,003					5,886						6,474					
Approach Temp. [°F] — Reference conditions: 14.5 psia, 30% relative humidity and 68°F inlet air temperature.	10.8	10.8	9			14.4	12.6	10.8	9			18	16.2	14.4	12.6	10.8	9
Typical Heat Rejected [BTU / HR] — Based on highest input kW of machine.	180,000					220,000						280,000					
Fan Motor [HP]	2.5					2.5						2.5					
WATER COOLED DATA																	
Type of heat exchangers	stainless steel, plate type					stainless steel, plate type						stainless steel, plate type					
Internal Cooling Fan Capacity [CFM]	1,001					1,001						1,001					
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.	171,500					209,000						266,500					
Heat Rejected into Cooling Air [BTU / HR]	TBD					TBD						TBD					
Max. outlet temperature [°F] — Discharge temperature limited for non-treated water (to prevent calcification).	TBD					TBD						TBD					
Temperature differential between inlet water and max. discharge water temperature [°F]	TBD		TBD			TBD		TBD				TBD		TBD			
Max. inlet water temperature [°F]	TBD		TBD			TBD		TBD				TBD		TBD			
Min. cooling water flow [gpm]	TBD		TBD			TBD		TBD				TBD		TBD			
Pressure drop across compressor package [psi] WITHOUT cooling water throttling valve	TBD		TBD			TBD		TBD				TBD		TBD			
Pressure drop across compressor package [psi] WITH cooling water throttling valve	TBD		TBD			TBD		TBD				TBD		TBD			

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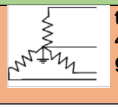
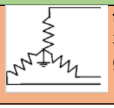
II. ELECTRICAL DATA	***Electrical data may vary in accordance with motor manufacturer's specifications. Motors are EISA compliant.***																	
DRIVE MOTOR																		
Motor HP		60					75						100					
Insulation Class		F					F						F					
Standard Voltage		460/3/60					460/3/60						460/3/60					
Full Load Amps [FLA] @ 208V/3ph/60Hz		154					187						N/A					
Full Load Amps [FLA] @ 230V/3ph/60Hz		141					172						N/A					
Full Load Amps [FLA] @ 460V/3ph/60Hz		69					85						114					
Full Load Amps [FLA] @ 575V/3ph/60Hz		57					69						93					
FAN MOTOR (A/C)																		
Insulation Class		F					F						F					
Fan Motor [HP]		2.5					2.5						2.5					
Full Load Amps [FLA] @ 230V/3ph/60Hz		TBD					TBD						TBD					
Full Load Amps [FLA] @ 460V/3ph/60Hz		TBD					TBD						TBD					
Full Load Amps [FLA] @ 575V/3ph/60Hz		TBD					TBD						TBD					
FAN MOTOR (W/C)																		
Insulation Class		F					F						F					
Fan Motor [HP], Single Speed		0.13					0.13						0.13					
Full Load Amps [FLA] @ 208V/3ph/60Hz		1.45					N/A						N/A					
Full Load Amps [FLA] @ 230V/3ph/60Hz		1.45					1.45						N/A					
Full Load Amps [FLA] @ 460V/3ph/60Hz		1.45					1.45						1.45					
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*	50					50						50					
Package Full Load Amps @ 208V/3ph/60Hz [FLA]		182					218						N/A					
Package Full Load Amps @ 230V/3ph/60Hz [FLA]		167					200						N/A					
Package Full Load Amps @ 460V/3ph/60Hz [FLA]		82					99						123					
Package Full Load Amps @ 575V/3ph/60Hz [FLA]		67					80						100					
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	250					N/A						N/A					
Recommended Disconnect Fuse Size [Amps] @ 230V/3ph/60Hz		250					300						N/A					
Recommended Disconnect Fuse Size [Amps] @ 460V/3ph/60Hz		125					150						175					
Recommended Disconnect Fuse Size [Amps] @ 575V/3ph/60Hz		100					110						150					
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.	300 kcmil per phase and ground					N/A						N/A					
Recommended Disconnect Wire Size [AWG/kcmil] @ 230V/3ph/60Hz		250 kcmil per phase and ground					350 kcmil per phase and ground						N/A					
Recommended Disconnect Wire Size [AWG/kcmil] @ 460V/3ph/60Hz		1 AWG per phase and ground					1/0 AWG per phase and ground						3/0 AWG per phase and ground					
Recommended Disconnect Wire Size [AWG/kcmil] @ 575V/3ph/60Hz		3 AWG per phase and ground					1 AWG per phase and ground						1/0 AWG per phase and ground					
TOTAL PACKAGE DATA (W/C)																		
Package Full Load Amps @ 208V/3ph/60Hz [FLA]		176					-						-					
Package Full Load Amps @ 230V/3ph/60Hz [FLA]		161					195						-					
Package Full Load Amps @ 460V/3ph/60Hz [FLA]		79					96						120					
Package Full Load Amps @ 575V/3ph/60Hz [FLA]		65					78						98					

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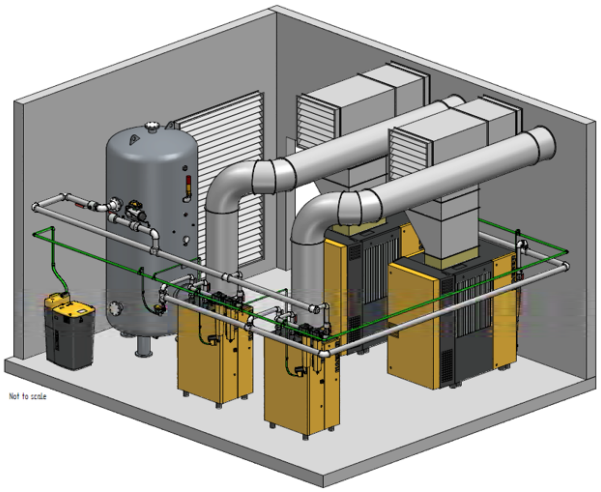
INSTALLATION and MAINTENANCE DATA																		
A/C with Super Soundproofing [dB(A)]	SOUND PRESSURE LEVEL [Measured in dB(A) according to ISO 2151 using ISO 9614-2]	67					69						72					
W/C with Super Soundproofing [dB(A)]		69					69						74					
A/C Air Discharge [inches NPT or Flange]		2 NPT																
W/C Air Discharge [inches NPT or Flange]		2 NPT																
Cooling Water Connection [inches NPT or Flange]		1-1/4 NPT																
Power Input Conduit Opening(s) [inches]		2-1/4 NPT																
Condensate Drain Connection [NPT]		1/4 NPT																
Width [inches]		70.5																
Depth [inches]		43.25																
Height [inches]		74.75																
Floor Space [sq. ft.]		21.2																
Weight (A/C) [lb]	Weight may vary based on airend selected.	2,954					3,109						3,968					
Weight (W/C) [lb]		2,954					3,109						3,527					
COMPRESSOR FLUID DATA																		
Fluid Capacity (A/C) [gal]		9.2					9.8						9.8					
Fluid Capacity (W/C) [gal]		8.1					8.7						8.7					
Flow Rate [gal/min]		21.1					21.1						21.1					
Typical Oil Consumption [fl. Oz./100 h]		8.5					10.2						13.1					
Standard Fluid Type		S-460					S-460						S-460					
MAINTENANCE PARTS																		
Air Inlet Filter		4E0302.0																
Filter Mat (optional)		6.1687.0 (x2)																
Filter Mat for Control Cabinet		7.4519.0 (x2)																
Fluid Filter		6.4493.0																
Fluid Separator Kit		6.3571.0																
Maintenance Kit for Optional 5-year warranty		ANAKCSD6S																
Maintenance Kit for Optional 5-year warranty, with food-grade lubricant		ANAKCSD6F																

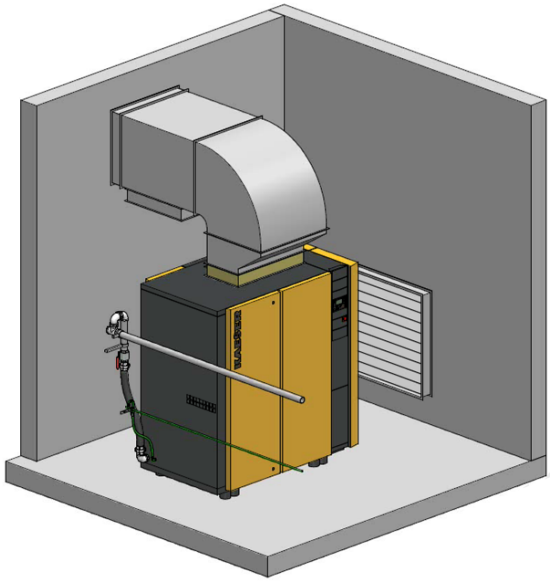
Model	CSD 90					CSD 110						CSD 130					
Rated Pressure [psig]	100	110	125	150	175	100	110	125	150	175	217	100	110	125	150	175	217

SAMPLE SKETCHES

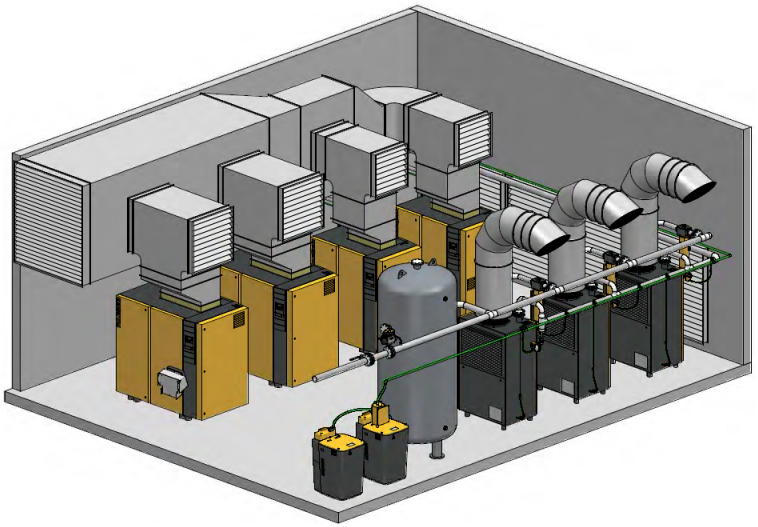
Sample Installation Planning
Examples of room ventilation and ductwork
Please note the upsizing required for compressor exhaust ducts

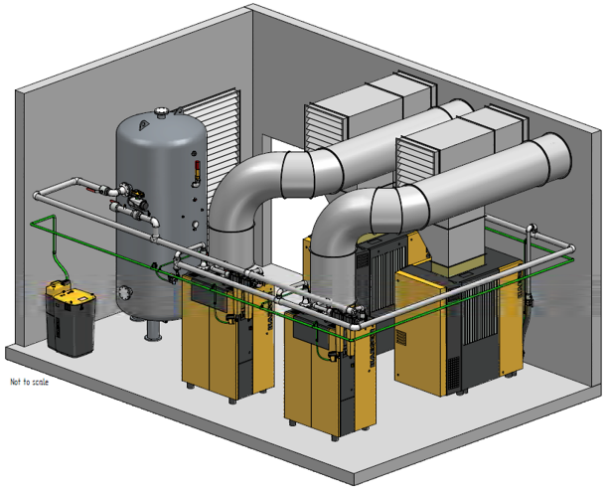


2x CSD 100S / 2x TE 122 / 2x F142 KE / 2x F142KA



Duct / Pipe connection CSD.6





2x CSD 100S / 2x TF 230 / 2x F142 KE,KA

Example designs only, not for construction purposes.