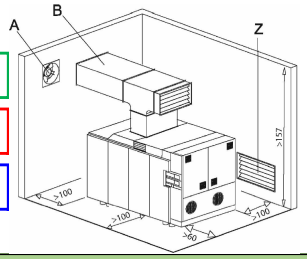
KAESER COMPRESSORS®

Installation Data Sheet

Series: Direct Drive HSD SFC
Document No.: TI-DATA-2016-SFC 515
Version: 2.4
Revision Date: 04/17/2023

Model		SFC 515					
Rated Pressure [psig]		**100**	**110**	**125**	**145**	**175**	**217**
I. COOLING DATA							
Cooling System Available [Std., Opt.]		W/C					
Standard Ambient Temp. Range [°F]		40 - 115					
VENTILATION OF COMPRESSOR ROOM							
Air Inlet Opening [sq. ft. free area] (W/C) Z		20.5					
Solution A (forced ventilation with exhaust fan) as shown in service manual							
Cooling Fan Capacity [CFM] (W/C)		15,892					
Solution B (exhaust air used for space heating) as shown in service manual							
Internal Cooling Fan Capacity [CFM] (W/C)		5,886					
Max. Additional Pressure Drop for Ducts [inch Water Column] (W/C)		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.	36 x 67					

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

WATER COOLED DATA				
Type of heat exchangers		stainless steel, plate-type		
Internal Cooling Fan Capacity [CFM]		5,886		
Approach Temp. [°F]	Reference conditions: 14.5 psia, 30% relative humidity and 68°F inlet air temperature.	1.8		
Typical Heat Rejected into Cooling Water [BTU / HR]	Based on highest input kW of machine.	1,487,500		
Heat Rejected into Cooling Air [BTU / HR]		155,000		
Max. outlet temperature [°F]	Discharge temperature limited for non-treated water (to prevent calcification).	130		
Temperature differential between inlet water and max. discharge water temperature [°F]		27	54	
Max. inlet water temperature [°F]		105	68	
Min. cooling water flow [gpm]		83.6 / 53	41.8 / 26.5	
Pressure drop across compressor package [psi] WITHOUT cooling water throttling valve		24.5 / 10	6 / 3	
Pressure drop across compressor package [psi] WITH cooling water throttling valve		33 / 14	8.5 / 4	

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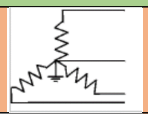
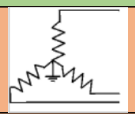
II. ELECTRICAL DATA	***Electrical data may vary in accordance with motor manufacturer's specifications. Motors are EISA compliant.***						
DRIVE MOTOR							
Motor HP	*Motor A*	450					
Insulation Class	*Motor A*	F					
Standard Voltage	*Motor A*	460V/3ph/60Hz					
Full Load Amps [FLA] @ 460V/3ph/60Hz	*Motor A*	510					
Full Load Amps [FLA] @ 575V/3ph/60Hz	*Motor A*	396					
Motor HP	*Motor B*	250					
Insulation Class	*Motor B*	F					
Standard Voltage	*Motor B*	460V/3ph/60Hz					
Full Load Amps [FLA] @ 460V/3ph/60Hz	*Motor B*	305					
Full Load Amps [FLA] @ 575V/3ph/60Hz	*Motor B*	260					
FAN MOTOR (W/C)							
Insulation Class		F					
Fan Motor [HP], Single Speed		1.1					
Full Load Amps [FLA] @ 460V/3ph/60Hz		1.2					
Full Load Amps [FLA] @ 575V/3ph/60Hz		2.4					
TOTAL PACKAGE DATA (W/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					
Control Cabinet Class (NEMA)		12					
Short Circuit Current Rating (SCCR) [kA] @ 460V/3ph/60Hz	Field installed fuse required, see below*	50					
Short Circuit Current Rating (SCCR) [kA] @ 575V/3ph/60Hz	Field installed fuse required, see below*	50					
Package Full Load Amps @ 460V/3ph/60Hz [FLA]		850					
Package Full Load Amps @ 575V/3ph/60Hz [FLA]		668					
Recommended Disconnect Fuse Size [Amps] @ 460V/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	1200					
Recommended Disconnect Fuse Size [Amps] @ 575V/3ph/60Hz		1000					
Recommended Disconnect Wire Size [AWG/kcmil] @ 460V/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.	4 x 350 kcmil per phase and ground					
Recommended Disconnect Wire Size [AWG/kcmil] @ 575V/3ph/60Hz		4 x 250 kcmil per phase and ground					

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INSTALLATION and MAINTENANCE DATA							
W/C with Super Soundproofing [dB(A)]	SOUND PRESSURE LEVEL [Measured in dB(A) according to ISO 2151 using ISO 9614-2]	76					
W/C Air Discharge [inches NPT or Flange]		6 ASME B16.5 class 150					
Cooling Water Connection [inches NPT or Flange]		4 x 2 NPT					
Power Input Conduit Opening(s) [inches]		4 x 3 in					
Condensate Drain Connection [NPT]		2 x 1/2					
Width [inches]		172					
Depth [inches]		84 1/2					
Height [inches]		92 1/2					
Floor Space [sq. ft.]		101					
Weight (W/C) [lb]	Weight may vary based on airend selected.	21,938					
COMPRESSOR FLUID DATA							
Fluid Capacity (W/C) [gal]		2 x 31.7					
Flow Rate [gal/min]		2 x 73					
Typical Oil Consumption [fl. Oz./100 h]		77.8					
Standard Fluid Type		Sigma S-460					
MAINTENANCE PARTS							
Air Inlet Filter		4E0305.0 (x2)					
Filter Mat (optional)		402703.0 (x2)					
Filter Mat for Control Cabinet		7.4519.00010 (x6); 5.3353.00020 ; 7.4519.0 (x2)					
Fluid Filter		6.4693.0 (x6)					
Fluid Separator Kit		6.3559.00010 (x2)					
Maintenance Kit for Optional 5-year warranty		ANAKHSDSFC3S					
Maintenance Kit for Optional 5-year warranty, with food-grade lubricant		ANAKHSDSFC3F					

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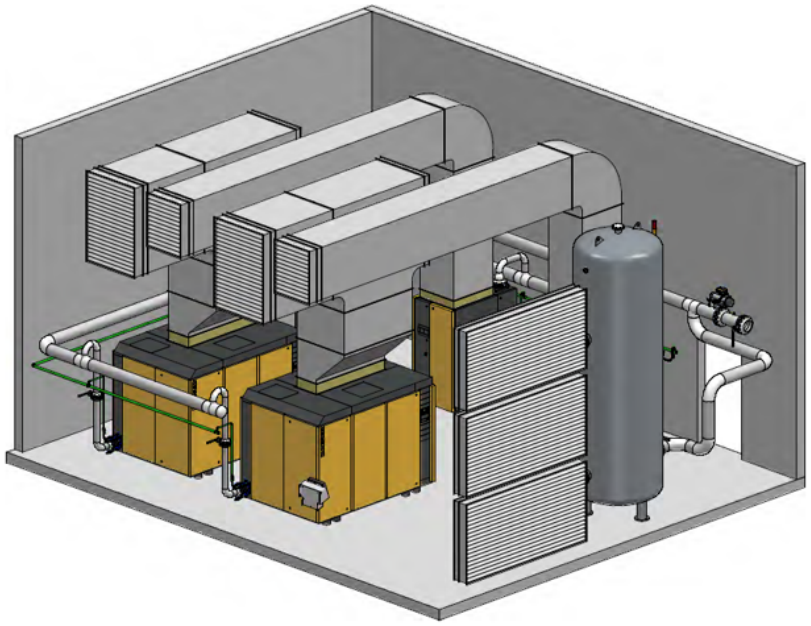
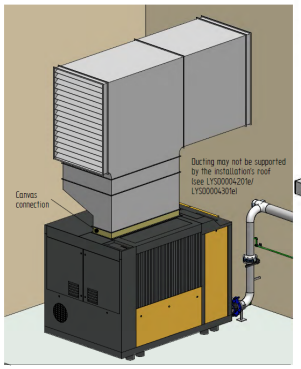
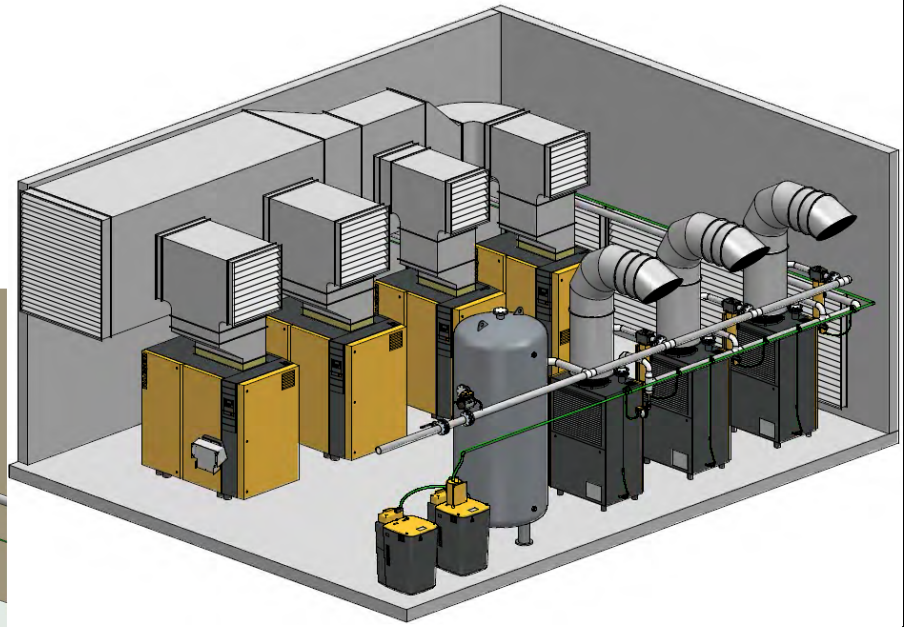
SAMPLE SKETCHES

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.