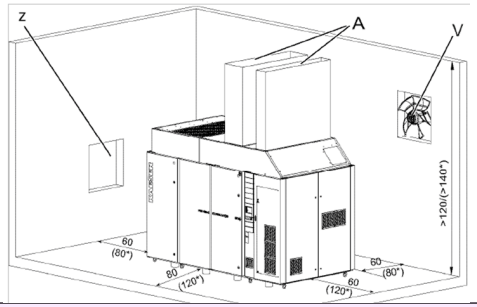
KAESER COMPRESSORS®

Dry-running Screw Compressor
Installation Data Sheet

Doc: TI-IDS-2019-FSG SFC
Version: 1.3
Rev. Date: 02/04/2022

Model	FSG 420-2 SFC			FSG 500-2 SFC		
Rated Pressure [psig]	**100**	**125**	**145**	**100**	**125**	**145**
I. Cooling Data						
Cooling System Available [Std., Opt.]	A/C, W/C			A/C, W/C		
Standard Ambient Temp. Range [°F]	40 - 115			40 - 105		
Ventilation Inlet Air Opening [sq. ft. **free area**] (A/C) **Z**	75.3			86.1		
Ventilation Inlet Air Opening [sq. ft. **free area**] (W/C) **Z**	10.8			10.8		
Max. Additional Pressure Drop for Ducts [inch Water Column] (A/C) | (W/C)	0.32 (0.08) / 0.32			0.32 (0.08) / 0.32		
Exhaust Air Opening Reference Dimensions (L x W) [in]	See Dimensional Drawing					

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

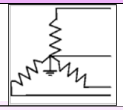
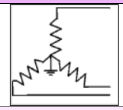


A Exhaust Air Duct

V Exhaust Fan

Z Ventilation Inlet Air Opening

***minimum clearance, if no crane is available**

Air-cooled Data						
Internal Cooling Fan Capacity [CFM]	23,543			23,543		
Approach Temp. [°F] *Reference conditions: 14.5 psia, 30% relative humidity and 68°F inlet air temperature.*	18			21.6		
Water-cooled Data						
Internal Cooling Fan Capacity [CFM]	6,474			6,474		
Approach Temp. [°F] *Reference conditions: 14.5 psia, 30% relative humidity and 68°F inlet air temperature.*	9			10.8		
Cooling Water Connection [inches NPT]	2			2		
Cooling Water Flow f. Heating Up ΔT=27°F [gal/min]	70.4			88.1		
Cooling Water Pressure Loss at ΔT=27°F [psi]	2.9			4.4		
II. Electrical Data						
Do NOT operate package on any unsymmetrical power supply. Also do NOT operate package on power supplies, 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		
Drive Motor						
Motor [hp] *Electrical data may vary in accordance with motor manufacturer's specifications. Motors are EISA compliant. Main power supply and overcurrent protection must be installed by a qualified electrician in accordance with NEC, OSHA, and any applicable local codes.*	350			450		
NEMA Nominal Efficiency %	96.80%			96.80%		
Enclosure Type	IP55 (TEFC)			IP55 (TEFC)		
Insulation Class	F			F		
Standard Voltage	460V/3ph/60Hz			460V/3ph/60Hz		
Full Load Amps [FLA]	380			485		
Fan Motor (A/C)						
Insulation Class	F			F		
Fan Motor [hp]	15			15		
Nominal Efficiency %	91.70%			91.70%		
Full Load Amps [FLA]	20			20		

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Rated Pressure [psig]		**100**	**125**	**145**	**100**	**125**	**145**
Fan Motor (W/C)							
Insulation Class			F			F	
Fan Motor [hp]			2			2	
Nominal Efficiency %			88.50%			88.50%	
Full Load Amps [FLA]			2.9			2.9	
Total Package Data (A/C)							
Control Cabinet Class (NEMA)			12			12	
Short Circuit Current Rating [kA rms sym]	Field installed fuse required, see below*		65			65	
Package Full Load Amps [FLA]			478			574	
Recommended Disconnect Fuse Size [Amps]	**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*		700			800	
Recommended Disconnect Wire Size [AWG/kcmil]	*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 x 500 kcmil per phase			3 x 300 kcmil per phase	
Minimum Recommended Ground Wire Size	*We recommend using 1 full size conductor for the ground. The minimum ground wire size given above is per the 2020 NEC Table 250.122.*		2 x 500 kcmil per phase			3 x 300 kcmil per phase	
Total Package Data (W/C)							
Package Full Load Amps [FLA]			461			557	
Recommended Disconnect Fuse Size [Amps]	**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*		600			800	
Recommended Disconnect Wire Size [AWG/kcmil]	*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 x 400 kcmil per phase			3 x 300 kcmil per phase	
Minimum Recommended Ground Wire Size	*We recommend using 1 full size conductor for the ground. The minimum ground wire size given above is per the 2020 NEC Table 250.122.*		2 x 400 kcmil per phase			3 x 300 kcmil per phase	
III. Basic Specifications							
Super Soundproofing [dB(A)] w/o ducting (A/C) | (W/C)	*Measured in dB(A) according to ISO 2151 using ISO 9614-2. Tolerance +/- 3 dB(A).*		83 / 77			84 / 77	
Super Soundproofing [dB(A)] with ducting (A/C) | (W/C)			81 / 77			82 / 77	
A/C Air Discharge [inches NPT]			6 ASME B16.5 class 150			6 ASME B16.5 class 150	
Total Oil Charge (A/C) [gal]			23			23	
Total Oil Charge (W/C) [gal]			22.5			22.5	
Maximum Altitude [ft.]	*Higher altitudes are permissibile only after consulation with the manufacturer.*		1,640			1,640	
Power Input Conduit Opening(s) [inches]			3 x Ø 3"			3 x Ø 3"	
Dimensions (W x D x H) [in.] (A/C)			152 x 81 3/4 x 107 7/8			152 x 81 3/4 x 107 7/8	
Dimensions (W x D x H) [in.] (W/C)			143 3/4 x 81 3/4 x 87 3/8			143 3/4 x 81 3/4 x 87 3/8	
Weight [lb] (A/C)			14,440			15,432	
Weight [lb] (W/C)			13,779			14,771	