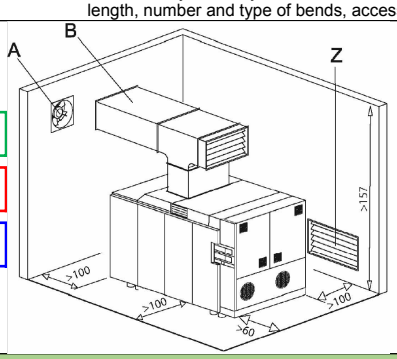
Installation Data Sheet
Series: Direct Drive HSD 60Hz
Document No.: TI-DATA-2016-HSD 500 550 600 650
Version: 2.6
Revision Date: 04/17/2023

Model	HSD 500			HSD 550			HSD 600			HSD 650		
Rated Pressure [psig]	**100**	**125**	**175**	**125**	**175**	**217**	**125**	**175**	**217**	**125**	**175**	**217**
I. COOLING DATA												
Cooling System Available [Std., Opt.]	W/C			W/C			W/C			W/C		
Standard Ambient Temp. Range [°F]	40 - 115			40 - 115			40 - 115			40 - 115		
VENTILATION OF COMPRESSOR ROOM												
Air Inlet Opening [sq. ft. free area] (W/C) Z	14			15			16.2			18.3		
Solution A (forced ventilation with exhaust fan) as shown in service manual												
Cooling Fan Capacity [CFM] (W/C)	10,594			11,772			12,949			14,126		
Solution B (exhaust air used for space heating) as shown in service manual												
Internal Cooling Fan Capacity [CFM] (W/C)	5,886			5,886			5,886			5,886		
Max. Additional Pressure Drop for Ducts [inch Water Column] (W/C)	0.16			0.16			0.16			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			36 x 67			36 x 67			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		stainless steel, plate-type		stainless steel, plate-type		stainless steel, plate-type		
Internal Cooling Fan Capacity [CFM]	5,886		5,886		5,886		5,886		
Approach Temp. [°F] — Reference conditions: 14.5 psia, 30% relative humidity and 68°F inlet air temperature.	1.8		1.8		1.8		1.8		
Typical Heat Rejected into Cooling Water [BTU / HR] — Based on highest input kW of machine.	1,282,000		1,419,500		1,593,500		1,767,500		
Heat Rejected into Cooling Air [BTU / HR]	72,000		80,000		90,000		94,000		
Max. outlet temperature [°F] — Discharge temperature limited for non-treated water (to prevent calcification).	130		130		130		130		
Temperature differential between inlet water and max. discharge water temperature [°F]	27	54	27	54	27	54	27	54	
Max. inlet water temperature [°F]	105	68	105	68	105	68	105	68	
Min. cooling water flow [gpm]	53 / 44	26.5 / 22	53 / 53	26.5 / 26.5	66 / 53	33 / 26.5	66 / 66	33 / 33	
Pressure drop across compressor package [psi] WITHOUT cooling water throttling valve	10 / 7.5	3.0 / 3.0	10 / 10	3.0 / 3.0	14.5 / 10	3.0 / 3.0	14.5 / 14.5	3.0 / 3.0	
Pressure drop across compressor package [psi] WITH cooling water throttling valve	14 / 10	4.0 / 4.0	14 / 14	4.0 / 4.0	20 / 14	4.0 / 4.0	20 / 20	4.0 / 4.0	

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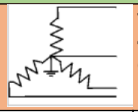
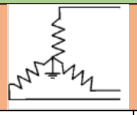
II. ELECTRICAL DATA	***Electrical data may vary in accordance with motor manufacturer's specifications. Motors are EISA compliant.***												
DRIVE MOTOR													
Motor HP		500			550			650			700		
Insulation Class	*Motor A*	F			F			F			F		
Standard Voltage	*Motor A*	460V/3ph/60Hz			460V/3ph/60Hz			460V/3ph/60Hz			460V/3ph/60Hz		
Full Load Amps [FLA] @ 460V/3ph/60Hz	*Motor A*	305			305			380			380		
Full Load Amps [FLA] @ 575V/3ph/60Hz	*Motor A*	245			245			305			305		
Insulation Class	*Motor B*	F			F			F			F		
Standard Voltage	*Motor B*	460V/3ph/60Hz			460V/3ph/60Hz			460V/3ph/60Hz			460V/3ph/60Hz		
Full Load Amps [FLA] @ 460V/3ph/60Hz	*Motor B*	305			305			305			390		
Full Load Amps [FLA] @ 575V/3ph/60Hz	*Motor B*	245			245			245			310		
FAN MOTOR (W/C)													
Insulation Class		F			F			F			F		
Fan Motor [HP], Single Speed @ 460V/3ph/60Hz		2 x 0.4			2 x 0.4			2 x 0.4			2 x 0.4		
Fan Motor [HP], Single Speed @ 575V/3ph/60Hz		2 x 0.8			2 x 0.8			2 x 0.8			2 x 0.8		
Full Load Amps [FLA] @ 460V/3ph/60Hz		1.2			1.2			1.2			1.2		
Full Load Amps [FLA] @ 575V/3ph/60Hz		2.4			2.4			2.4			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			24			24			24		
Control Cabinet Class (NEMA)		12			12			12			12		
Short Circuit Current Rating (SCCR) [kA] @ 460V/3ph/60Hz	Field installed fuse required, see below*	50			50			50			50		
Short Circuit Current Rating (SCCR) [kA] @ 575V/3ph/60Hz	Field installed fuse required, see below*	50			50			50			50		
Package Full Load Amps @ 460V/3ph/60Hz [FLA]		587			648			727			807		
Package Full Load Amps @ 575V/3ph/60Hz [FLA]		492			554			620			686		
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	800			800			1000			1200		
Recommended Disconnect Fuse Size [Amps] @ 575V/3ph/60Hz		700			800			800			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 4/0 AWG per phase and ground			4 x 250 kcmil per phase and ground			4 x 300 kcmil per phase and ground			4 x 350 kcmil per phase and ground		
Recommended Disconnect Wire Size [AWG/kcmil] @ 575V/3ph/60Hz		3 x 250 kcmil per phase and ground			3 x 300 kcmil per phase and ground			3 x 350 kcmil per phase and ground			3 x 400 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]	73			74			74			75		
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]	3 (x 4)			3 (x 4)			3 (x 4)			3 (x 4)		
Condensate Drain Connection [NPT]	2 @ 1/2			2 @ 1/2			2 @ 1/2			2 @ 1/2		
Width [inches]	140 1/2			140 1/2			140 1/2			140 1/2		
Depth [inches]	84 1/2			84 1/2			84 1/2			84 1/2		
Height [inches]	92 1/2			92 1/2			92 1/2			92 1/2		
Floor Space [sq. ft.]	82 4/9			82 4/9			82 4/9			82 4/9		
Weight (W/C) [lb] — Weight may vary based on airend selected.	16,493			18,082			18,594			19,105		
COMPRESSOR FLUID DATA												
Fluid Capacity (W/C) [gal]	2 x 31.7			2 x 31.7			2 x 31.7			2 x 31.7		
Flow Rate [gal/min]	2 x 73			2 x 73			2 x 73			2 x 73		
Typical Oil Consumption [fl. Oz./100 h]	57.6			62.4			68.4			74.3		
Standard Fluid Type	Sigma S-460			Sigma S-460			Sigma S-460			Sigma S-460		
MAINTENANCE PARTS												
Air Inlet Filter	4E0304.0 (x2)											
Filter Mat for Control Cabinet	7.4519.0 x 4											
Fluid Filter	6.4693.0 x 6											
Fluid Separator Kit	6.3559.00010 x 2											

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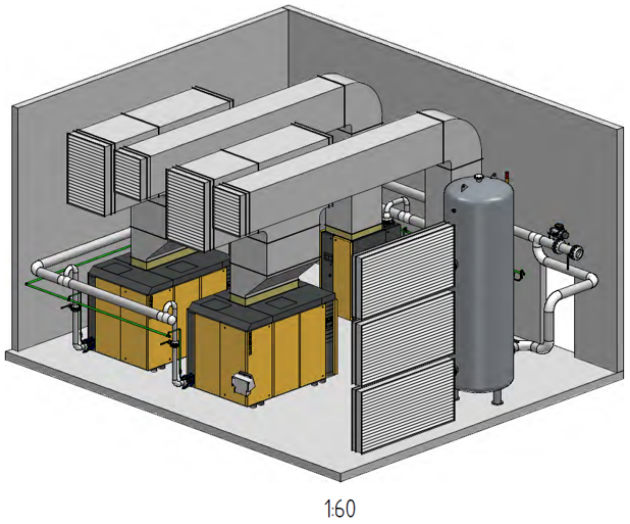
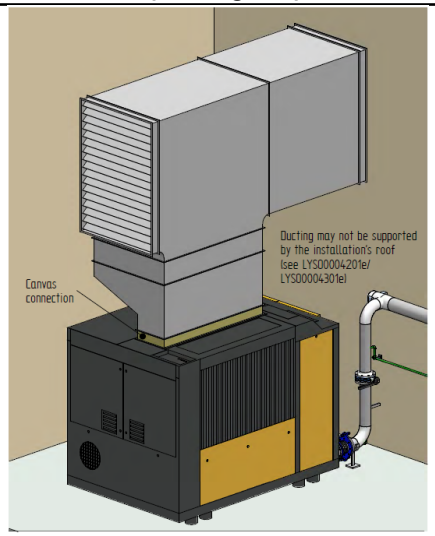
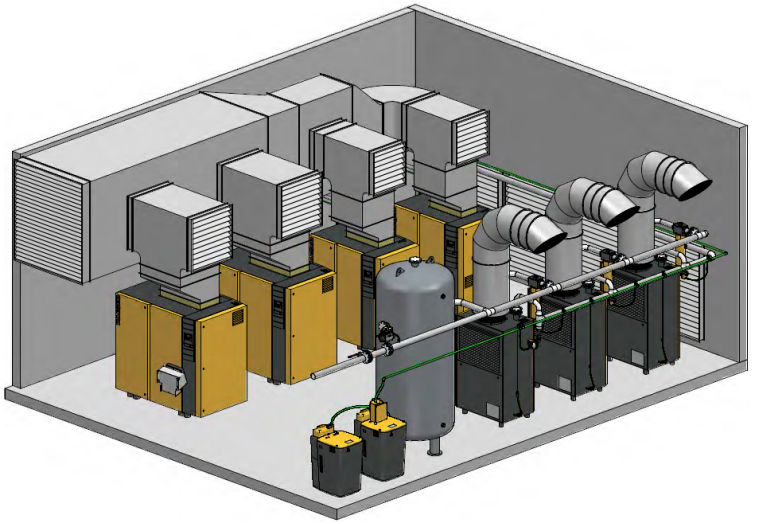
SAMPLE SKETCHES

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.