



GDK160 FS

50Hz

CCN: 47782778001
 Rev: A
 ECN: 1467100
 Sheet: 7 of 8
 Date: Jul-2022

Model		GDK160FS-7A	GDK160FS-8A	GDK160FS-10A	GDK160FS-12.5A
GENERAL PERFORMANCE DATA					
Rated discharge Pressure		7.0 barg	8.0	10.0	12.5
Maximum Operating Pressure	(2)	7.2 barg	8.2	10.2	12.7
Minimum Operating Pressure		4.5 barg	4.5	4.5	4.5
Maximum Operating Ambient Temperature		46 °C	46	46	46
Minimum Operating Ambient Temperature		2 °C	2	2	2
Maximum System Temperature Setting		109 °C	109	109	109
Nominal Power – Main Motor	(3)	160 kW	160	160	160
Main Motor Efficiency	(1)	95.6%	95.6%	95.6%	95.6%
Capacity FAD	(1)	30.6 m³/min	30.0	26.2	22.0
Package Input Power with Fan – Air Cooled	(4)	186.7 kW	192.0	186.0	176.0
Specific Power – Air Cooled	(4)(5)	6.1 kW/m³/min	6.4	7.1	8.0
SOUND LEVEL					
Noise Level Standard Package – Air Cooled	(6)	Sound Pressure - dB(A)	76	76	76
Noise Level Standard Package – Air Cooled		Sound Power - dB(A)	94	94	94
OIL CARRY OVER		mg/m³	≤3	≤3	≤3
COOLING DATA (• Maximum Ambient Temperature & Maximum Discharge Pressure)					
Heat Removal (Oil Cooler)		kW	125.3	125.3	125.3
Heat Removal (Oil and Aftercooler)		kW	157.7	157.7	157.7
Permitted Additional Static Pressure		Pa	30	30	30
Fan Air Flow		m³/min	466.0	466.0	466.0
Fan Motor Nominal Power		kW	3.9	3.9	3.9
Cooling Air Temperature Rise@46°C		°C	29	29	29
Aftercooler CTD	(7)	°C	12	12	12
AIR END DATA					
Male Rotor Speed		RPM	2917	2525	2180
Tip Speed Rotor		m/sec	35.1	30.4	26.2
Full Load Shaft Power		kW	174.4	172.8	166.4
COOLANT LUBRICATION DATA					
Total Coolant Capacity – Air Cooled	(12)	litres	94.0	94.0	94.0
PIPING CONNECTIONS					
Air Discharge	(8)	Inches G	3 INCH (FEMALE)	3 INCH (FEMALE)	3 INCH (FEMALE)
Coolant Drain – Hose Size		Inches NPT	0.5 (FEMALE)	0.5 (FEMALE)	0.5 (FEMALE)
Diameter of Power Inlet		mm (Inches)	120 (4.7)	120 (4.7)	120 (4.7)
DIMENSIONS AND WEIGHT					
Length, Width, Height		mm	2300*1500*1700	2300*1500*1700	2300*1500*1700
Net Weight – Air Cooled		kg	2980	2980	2980
GA Drawing Number – Air Cooled			47783077001	47783077001	47783077001
ELECTRICAL DATA					
Motor Protection	(13)			TEFC, IP55	
Motor Number of Poles				2	
Motor Insulation Class / Temperature Rise				Class F, 155°C	
Full Load Package Current – Air Cooled	(9)				
		Amps @ 380V		352	
		Amps @ 400V		334	
		Amps @ 415V		322	
Main Motor Locked Rotor Current	(14)				
		Amps @ 380V		3520	
		Amps @ 400V		3678	
		Amps @ 415V		3805	
Package Power Factor				0.91	
Electrical Installation					
Recommended Supply Cable Size	(10)				
		mm²/Cu (Kcmil) @ 380V		185	
		mm²/Cu (Kcmil) @ 400V		185	
		mm²/Cu (Kcmil) @ 415V		185	
Maximum Recommended Fuse Rating	(10)(11)				
		Amps @ 380V		500	
		Amps @ 400V		500	
		Amps @ 415V		500	

Notes:

- FAD (Free Air Delivery) is full package performance including all losses. Tested per ISO 1217 : 2009 Annex C
- Maximum pressure at package discharge, value at which compressor will stop when unit operating at maximum target pressure
- IE3 efficiency motor
- Measured at rated capacity and rated pressure
- Specific power guaranteed in accordance with ISO 1217 : 2009 Annex C
- Measured in free field conditions per ISO 2151 using Parallelepiped Method; ducted inlet and outlet, with + 3 dB(A) tolerance
- CTD based on 100°F/38°C inlet air at 40% Relative Humidity (For alternate conditions contact Ingersoll Rand)
- 'G' Thread for domestic standard
- Maximum current includes 5% additional current due to fouled filters and elements
- 90°C copper cables. Always apply local electrical codes for sizing cables and system protection
- Time delay fuse recommended. Apply local electrical codes for fuse sizing
- Coolant volumes listed are approximate. See operator manual for coolant fill procedure
- 50Hz (±2%) motor voltage tolerance: (400V)±10%
- Star-Delta starting current inrush is about 33% of direct starting current
- During the Star-Delta open-starting transition, the in-rush current value could instantaneously peak from 1.8 to 2.8 times the noted Locked-Rotor-Amperage (LRA) values

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GDK160 FS

50Hz

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Model			GDK160FS-7W	GDK160FS-8W	GDK160FS-10W	GDK160FS-12.5W
GENERAL PERFORMANCE DATA						
Rated discharge Pressure		barg	7.0	8.0	10.0	12.5
Maximum Operating Pressure	(2)	barg	7.2	8.2	10.2	12.7
Minimum Operating Pressure		barg	4.5	4.5	4.5	4.5
Maximum Operating Ambient Temperature		°C	46	46	46	46
Minimum Operating Ambient Temperature		°C	2	2	2	2
Maximum System Temperature Setting		°C	109	109	109	109
Nominal Power - Main Motor		kW	160	160	160	160
Main Motor Efficiency	(3)	%	95.6%	95.6%	95.6%	95.6%
Capacity FAD	(1)	m³/min	30.6	30.0	26.2	22.0
Package Input Power with Fan - Water Cooled	(4)	kW	180.5	186.0	180.8	171.6
Specific Power - Water Cooled	(4)(5)	kW/m³/min	5.9	6.2	6.9	7.8
SOUND LEVEL						
Noise Level Standard Package - Water Cooled	(6)	Sound Pressure - dB(A)	73	73	73	73
Noise Level Standard Package - Water Cooled		Sound Power - dB(A)	91	91	91	91
OIL CARRY OVER						
		mg/m³	≤3	≤3	≤3	≤3
COOLING DATA (• Maximum Ambient Temperature & Maximum Discharge Pressure)						
Heat Removal (Oil Cooler)		kW	125.3	125.3	125.3	125.3
Heat Removal (Oil and Aftercooler)		kW	157.7	157.7	157.7	157.7
Permitted Additional Static Pressure		Pa	30	30	30	30
Fan Air Flow		m³/min	80.0	80.0	80.0	80.0
Fan Motor Nominal Power		kW	0.5	0.5	0.5	0.5
Cooling Air Temperature Rise@46°C		°C	12	12	12	12
Cooling Water Temperature Rise@38°C		°C	13	13	13	13
Cooling Water Flow		m3/h				
@10°C			6	6	6	6
@20°C			7	7	7	7
@30°C			9	9	9	9
@38°C	(7)		13	13	13	13
Cooling Water Max Pressure		bar	4	4	4	4
Cooling Water Min Pressure		bar	2	2	2	2
Cooling Water Pressure Drop		bar	1	1	1	1
Aftercooler CTD		°C	12	12	12	12
AIR END DATA						
Male Rotor Speed		RPM	2917	2813	2525	2180
Tip Speed Rotor		m/sec	35.1	33.9	30.4	26.2
Full Load Shaft Power		kW	174.4	176.0	172.8	166.4
COOLANT LUBRICATION DATA						
Total Coolant Capacity - Water Cooled	(12)	litres	104	104	104	104
PIPING CONNECTIONS						
Air Discharge	(8)	Inches G	3 INCH (FEMALE)	3 INCH (FEMALE)	3 INCH (FEMALE)	3 INCH (FEMALE)
Coolant Drain - Hose Size		Inches NPT	0.5 (FEMALE)	0.5 (FEMALE)	0.5 (FEMALE)	0.5 (FEMALE)
Diameter of Power Inlet		mm (Inches)	120 (4.7)	120 (4.7)	120 (4.7)	120 (4.7)
DIMENSIONS AND WEIGHT						
Length, Width, Height		mm	2300*1500*1700	2300*1500*1700	2300*1500*1700	2300*1500*1700
Net Weight - Water Cooled		kg	2935	2935	2935	2935
GA Drawing Number - Water Cooled			47783078001	47783078001	47783078001	47783078001
ELECTRICAL DATA						
Motor Protection	(13)			TEFC IP55		
Motor Number of Poles				2		
Motor Insulation Class / Temperature Rise				Class F, 155°C		
Full Load Package Current - Water Cooled	(9)					
		Amps @ 380V		346		
		Amps @ 400V		329		
		Amps @ 415V		317		
Main Motor Locked Rotor Current	(14)					
		Amps @ 380V		3460		
		Amps @ 400V		3616		
		Amps @ 415V		3740		
Package Power Factor				0.91		
Electrical Installation						
Recommended Supply Cable Size	(10)					
		mm²/Cu (Kcmil) @ 380V		185		
		mm²/Cu (Kcmil) @ 400V		185		
		mm²/Cu (Kcmil) @ 415V		185		
Maximum Recommended Fuse Rating	(10)(11)					
		Amps @ 380V		500		
		Amps @ 400V		500		
		Amps @ 415V		500		

Notes:

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