



ENGINEERING DATA SHEET

GDK185FS-W 400V

50Hz

CCN: 47908022004
 Rev.: B
 ECN: 1544147
 Sheet: 1 of 1
 Date: Jul-2025

Model		GDK185FS-7W	GDK185FS-8W	GDK185FS-10W
GENERAL PERFORMANCE DATA				
Maximum Target Operating Pressure	⁽²⁾ barg (psig)	7.5 (109)	8.5 (123)	10.0 (145)
Rated Discharge Pressure	barg (psig)	7.0 (102)	8.0 (116)	10.0 (145)
Minimum Operating Pressure	barg (psig)	6 (87)	6 (87)	6 (87)
Maximum Operating Ambient Temperature	°C (°F)	46 (115)	46 (115)	46 (115)
Minimum Operating Ambient Temperature	°C (°F)	2 (36)	2 (36)	2 (36)
Maximum System Temperature Setting	°C (°F)	109 (228)	109 (228)	109 (228)
Nominal Power - Main Motor	kW (HP)	185 (248)	185 (248)	185 (248)
Main Motor Efficiency-ODP(TEFC)	⁽³⁾ %	95.0%(95.9%)	95.0%(95.9%)	95.0%(95.9%)
Capacity FAD	⁽¹⁾ m³/min (CFM)	37.0 (1305)	35.7 (1262)	32.4 (1144)
Package Input Power with Fan - Water Cooled	⁽⁴⁾ kW	214	215	217
Specific Power - Water Cooled	⁽⁴⁾⁽⁵⁾ kW/m³/min (kW/100CFM)	5.80 (16.4)	6.00 (17.0)	6.70 (19.0)
SOUND LEVEL				
Noise Level Standard Package - Water Cooled	⁽⁶⁾ Sound Pressure - dB(A)	73	73	73
Noise Level Standard Package - Water Cooled	Sound Power - dB(A)	92	92	92
COOLING DATA (@ Maximum Ambient Temperature & Maximum Discharge Pressure)				
Heat Removal (Oil Cooler)	kW (1000 Btu/hr)	170.7 (582)	175.7 (599)	173.5 (592)
Heat Removal (Oil and Aftercooler)	kW (1000 Btu/hr)	224.4 (766)	229.9 (784)	225.0 (768)
Permitted Additional Static Pressure	Pa (in H ₂ O)	63 (.25)	63 (.25)	63 (.25)
Fan Air Flow	m³/min (CFM)	150 (5297)	150 (5297)	150 (5297)
Fan Motor Nominal Power	kW	0.96	0.96	0.96
Cooling Air Temperature Rise @ 30°C	°C (°F)	10 (18)	10 (18)	10 (18)
Cooling Water Temperature Rise @ 30°C	°C (°F)	13 (23)	13 (23)	13 (23)
Cooling Water Flow	⁽¹⁶⁾ l/min (US gal/min)			
@ 20 °C (68 °F)	l/min (US gal/min)	240.0 (63.4)	240.0 (63.4)	250.6 (66.2)
@ 30 °C (86 °F)	l/min (US gal/min)	250.0 (66.0)	250.0 (66.0)	261.0 (69.0)
@ 40 °C (104 °F)	l/min (US gal/min)			
Cooling Water Max Pressure	bar (psi)	4 (58)	4 (58)	4 (58)
Cooling Water Min Pressure	bar (psi)	2 (22)	2 (22)	2 (22)
Cooling Water Pressure Drop @ 30°C	bar (psi)	0.40 (6)	0.40 (6)	0.40 (6)
Aftercooler CTD	°C (°F)	10.0 (18)	10.0 (18)	10.0 (18)
AIR END DATA				
Male Rotor Speed	RPM	1658	1607	1462
Tip Speed Rotor	m/sec	25.70	24.90	22.66
Full Load Shaft Power	kW	201.6	205.2	205.3
COOLANT LUBRICATION DATA				
Total Coolant Capacity - Water Cooled	⁽¹²⁾ litres (US gal)	130 (34.3)	130 (34.3)	130 (34.3)
PIPING CONNECTIONS				
Air Discharge	⁽⁸⁾ FLANGE	3.0 INCH (4xM16)	3.0 INCH (4xM16)	3.0 INCH (4xM16)
Diameter of Power Inlet	mm (Inches)	100 (3.9)	100 (3.9)	100 (3.9)
Water Inlet and Outlet Connections	Inches BSPP	2.00	2.00	2.00
DIMENSIONS AND WEIGHT				
Length, Width, Height	mm (inches)	3626, 1983, 2097 (142.8, 78.1, 82.6)	3626, 1983, 2097 (142.8, 78.1, 82.6)	3626, 1983, 2097 (142.8, 78.1, 82.6)
Net Weight - Water Cooled	kg (lb.)	4610(10142)	4610(10142)	4610(10142)
GA Drawing Number - Water Cooled		47760616	47760616	47760616
ELECTRICAL DATA				
Motor Protection	⁽¹³⁾	ODP(IP23)/TEFC(IP55)	ODP(IP23)/TEFC(IP55)	ODP(IP23)/TEFC(IP55)
Full Load Package Current - Water Cooled	⁽⁹⁾			
Amps @ 380V		414	422	422
Amps @ 400V		394	401	401
Main Motor Locked Rotor Current	⁽¹⁴⁾			
Amps @ 400V		2483	2483	2483
Package Power Factor		0.87	0.87	0.87
Electrical Installation				
Recommended Supply Cable Size	⁽¹⁰⁾ mm²/Cu @ 400V	300	300	300
Maximum Recommended Fuse Rating	⁽¹⁰⁾⁽¹¹⁾ Amps @ 400V	630	630	630
Notes:				
1. FAD (Free Air Delivery) is full package performance including all losses. Tested per ISO 1217 : 2009 Annex C				
2. Maximum pressure at package discharge, value at which compressor can be set and operate, and will unload if pressure reaches to Maxium pressure+0.2bar.				
3. IE2 efficiency motor for ODP; IE3 efficiency motor for TEFC;				
4. Measured at rated capacity and rated pressure				
5. Specific power guaranteed in accordance with ISO 1217 : 2009 Annex C				
6. Measured in free field conditions per ISO 2151 using Hemispherical Method; ducted inlet and outlet, with + 3 dB(A) tolerance				
8. BSPT or NPT, depending on regional standard				
9. Maximum current includes 10% additional current due to fouled filters and elements				
10. 90°C copper cables. Always apply local electrical codes for sizing cables and system protection				
11. Time delay fuse recommended. Apply local electrical codes for fuse sizing				
12. Coolant volumes listed are approximate. See operator manual for coolant fill procedure				
13. 50Hz (±2%) motor voltage tolerance: (230)±10% ; (380)-6/+10% ; (400) ±10% ; (415)-10/+6%				
14. Star-Delta starting current inrush is about 33% of direct starting current				
15. 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				

Product Improvement is a continuing goal at Ingersoll Rand. Design and specifications are subject to change without notice or obligation.