Gardner Denver

GDK220

50Hz

Engineering parameter table

CCN: 47760269001
Rev.: A
ECN: 1452279
1 of 1
Tabular data Dec-2021

model			GDK220-A7.5	GDK220-A8.5	GDK220-A10
Performance parameters					
Maximum target operating pressure	(2)	barg (psig)	7.5 (109)	8.5 (123)	10.0 (145)
Rated exhaust pressure		barg (psig)	7.0 (102)	8.0 (116)	9.5 (138)
Minimum operating pressure		barg (psig)	4.5 (65)	4.5 (65)	4.5 (65)
Maximum operating ambient		°C (°F)	46 (115) 2	46 (115) 2	46 (115) 2
temperature Minimum operating		°C (°F)	(36)	(36)	(36)
ambient temperature Maximum		°C (°F)	109 (228)	109 (228)	109 (228)
system temperature setting Main		kW (HP)	225 (302)	225 (302)	225 (302)
motor nominal power Main motor efficiency	(3) %		95.1%	95.1%	95.1%
Air volume FAD	(1)	m³/min (CFM) (4)	45.6 (1610)	43.2 (1526)	38.8 (1370)
Unit input power (including fan) - Air-cooled air-	kW		279.1	279.9	273.2
cooled unit specific power	(4)(5) kW/m3 /min (kW/100CFM)		6.12 (17.3)	6.48 (18.3)	7.04 (19.9)
Noise level	(6)				
Noise level of air-cooled unit		Sound pressure - dB(A)	81	81	81
Noise level of air-cooled unit		Sound power - dB(A)	100	100	100
Cooling data (maximum ambient temperature & maximum exhaust pressure)					
Oil cooling heat dissipation		kW (1000 Btu/hr)	208.0 (710)	211.2 (721)	209.2 (714)
Oil cooling and aftercooling heat dissipation		kW (1000 Btu/hr)	272.2 (929)	274.2 (935)	268.1 (915)
Allow additional static pressure		Pa (in H2O)	64 (.25)	64 (.25)	64 (.25)
Cooling fan air volume Fan motor nominal power		m³/min (CFM) kW	470 (16598) 11.0	470 (16598) 11.0	470 (16598) 11.0
Cooling air temperature rise @ 30°C		°C (°F)	31 (57)	32 (57)	31 (56)
Aftercooling CTD	(7)	°C (°F)	10.5 (19)	10.5 (19)	10.5 (19)
Host parameters					
Male screw speed		RPM	1459	1408	1263
Screw tooth top speed		m/sec	25.37	24.47	21.96
Full load shaft power		kW	253.9	254.7	248.3
Coolant parameters	(12)				
Total amount of coolant for air-cooled units		litres (US gal)	128 (33.8)	128 (33.8)	128 (33.8)
Pipe	(8)				
connection		Inches BSPT	3 INCH	3 INCH	3 INCH
exhaust port Unit condensate		Inches BSPT	.5 INCH (FEMALE)	.5 INCH (FEMALE)	.5 INCH (FEMALE)
automatic drain port Coolant		Inches	0.875	0.875	0.875
discharge pipe size Power inlet hole diameter		mm (Inches)	100 (3.9)	100 (3.9)	100 (3.9)
Size and weight					
Length, width, height,		mm (inches) kg	4000, 1930, 2146 (157.5 76, 84.5)	4000, 1930, 2146 (157.5 76, 84.5)	4000, 1930, 2146 (157.5 76, 84.5)
net weight, dimensions		(lb.)	5584 (12311)	5584 (12311)	5584 (12311)
of air-cooled units Drawing No. - air-cooled			47760679001	47760679001	47760679001
Electrical	(13)				
parameters Motor protection level			ODP, IP23	ODP, IP23	ODP, IP23
Full load current of air-cooled unit	(9)				
		Amps @ 380V	572	574	560
		Amps @ 400V	543	545	532
		Amps @ 415V	524	525	513
Main motor stall current	(14)				
		Amps @ 380V	3426	3438	3354
		Amps @ 400V	3258	3264	3186
		Amps @ 415V	3138	3150	3072
Unit power factor			0.82	0.82	0.82
Recommended	W				
power supply cable sizes for electrical installation	(10)				
		mm²/Cu (AWG) @ 380V	240 (N/A)	240 (N/A)	240 (N/A)
		mm²/Cu (AWG) @ 400V	240 (N/A)	240 (N/A)	240 (N/A)
		mm²/Cu (AWG) @ 415V	240 (N/A)	240 (N/A)	240 (N/A)
Maximum recommended fuse rating	(10)(11)				
		Amps @ 380V	800	800	800
		Amps @ 400V	800	800	800
		Amps @ 415V	800	800	800

Notes

1. FAD (free air flow) refers to the exhaust flow of the unit (including all internal losses of the unit), measured according to ISO1217:2009 Annex C standard
2. The maximum exhaust pressure of the unit. When the unit operates at the maximum target pressure and reaches this value, the unit will automatically shut down.
3. IE2 efficiency motor
4. Measured at rated gas volume and rated pressure
5. Specific power is guaranteed to comply with ISO 1217:2009 Annex C standard
6. Tested in a free sound field according to ISO 2151 using the parallelepiped method with air guides installed at the inlet and outlet, with an allowable error of + 3 dB(A)
7. CTD based on 100°F / 38°C inlet air temperature and 40% relative humidity (Contact Gardner Denver for other conditions)
8. BSPT or NPT, depending on regional standards
9. If there is a filter or other component failure, the maximum current may exceed 10%.
10. For 90°C copper cables, please use cable sizes and electrical system protection that meet local standards.
11. It is recommended to use a fuse with a time delay function. Please use a fuse specification that meets local standards.
12. The coolant dosage listed above is approximate. Please refer to the operating manual for the coolant addition process.
13. The allowable error of 50Hz (±2%) motor voltage is: (230)±10%; (380)-6/+10%; (400) ±10%; (415)-10/+6%; (6000)-/+10%; (10000)-/+10%
14. The star-delta starting current is about one-third of the direct starting current
15. During star-delta starting transition, the starting current value can instantly rise to 1.8 to 2.8 times the locked rotor current (LRA) value.