

COMPRESSOR DEFINITION

Designation	NT 2180GK
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	923HA09

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-404A		
3 Nominal voltage and frequency	220-240 / 50	[V / Hz]	
4 Application type	Low Back Pressure R404A		
4.1 Evaporating temperature range	-40°C to -10°C	(-40°F to 14°F)	
5 Motor type	CSIR		
6 Starting torque	HST - High starting torque		
7 Expansion device	Capillary tube or Expansion valve		
8 Compressor cooling	Operating voltage range		
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	-	-	-
8.2 LBP (43°C Ambient temperature)	-	-	-
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	25.2	[kgf/cm ²] (358 psig)	/ °C - °F
9.2 Peak	28.3	[kgf/cm ²] (402 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1	[hp]
2 Displacement	20.44	[cm ³] (1.247 cu.in)
2.1 Bore [mm]	36.990	
2.2 Stroke [mm]	19.030	
3 Lubricant charge	450	[ml] (15.22 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	17.4	[kg] (38.36 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm ²] (2.84 to 4.27 psig)

C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	Current Relay	
2.1 Starting device	MTRPH-59	
3 Start capacitor	130-156(330)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	T0748/G9	
6 Start winding resistance	8.40	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	1.90	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	35.00	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CCC - IRAM - VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			ASHRAELBP32 Fan		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
3190	804	935	749	4.66	21.63	4.26	1.07	1.25

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			ASHRAE32 Fan		(Condensing temperature 35°C (+95°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	1413	356	414	437	3.71	9.50	3.24	0.82	0.95
-35	(-31)	2000	504	586	509	3.91	13.49	3.92	0.99	1.15
-30	(-22)	2674	674	784	578	4.12	18.09	4.61	1.16	1.35
-25	(-13)	3432	865	1006	648	4.35	23.32	5.30	1.33	1.55
-20	(- 4)	4270	1076	1251	717	4.59	29.16	5.96	1.50	1.75
-15	(+ 5)	5185	1307	1519	789	4.85	35.62	6.58	1.66	1.93
-10	(+14)	6173	1555	1809	863	5.13	42.70	7.15	1.80	2.10

TEST CONDITIONS: @220V50Hz			ASHRAE32 Fan		(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	1285	324	377	437	3.70	8.62	2.95	0.74	0.86
-35	(-31)	1815	457	532	518	3.92	12.21	3.50	0.88	1.03
-30	(-22)	2450	618	718	600	4.16	16.55	4.08	1.03	1.20
-25	(-13)	3189	804	935	684	4.44	21.63	4.66	1.17	1.37
-20	(- 4)	4028	1015	1180	770	4.75	27.45	5.23	1.32	1.53
-15	(+ 5)	4962	1250	1454	859	5.09	34.02	5.78	1.46	1.69
-10	(+14)	5988	1509	1755	954	5.46	41.34	6.28	1.58	1.84

TEST CONDITIONS: @220V50Hz			ASHRAE32 Fan		(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	1143	288	335	427	3.69	7.65	2.67	0.67	0.78
-35	(-31)	1610	406	472	519	3.93	10.82	3.12	0.79	0.91
-30	(-22)	2203	555	646	614	4.21	14.85	3.60	0.91	1.05
-25	(-13)	2919	736	855	712	4.54	19.75	4.10	1.03	1.20
-20	(- 4)	3753	946	1100	816	4.91	25.53	4.60	1.16	1.35
-15	(+ 5)	4702	1185	1378	925	5.33	32.18	5.08	1.28	1.49
-10	(+14)	5763	1452	1689	1041	5.80	39.70	5.53	1.39	1.62

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	12.7 +0.25/-0.25	[mm]	(0.500" +0.010"/-0.010")
3.1.1 Material	Steel		
3.1.2 Shape	ROTOLOCK(Ex. thr. 1"-14UNS-2A)		
3.2 DISCHARGE	6.42 +0.08/+0.00	[mm]	(0.253" +0.003"/+0.000")
3.2.1 Material	Copper		
3.2.2 Shape	Vertical		
3.3 PROCESS	6.42 +0.08/+0.00	[mm]	(0.253" +0.003"/+0.000")
3.3.1 Material	Copper		
3.3.2 Shape	Vertical		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		