



Submittal data Robur GAHP (Gas Absorption Heat Pump)

MODEL

GAHP AR Plus Gas Fired Reversible Heat Pump for heating or cooling

DATE

PREPARED BY

PROJECT #

CONTRACTOR

PROJECT NAME

GAS ABSORPTION HEAT PUMP MODEL

LOCATION

ADDITIONAL INFORMATION

Standard Features

- ETL Certified
- Outdoor installation only
- 230 Vac, 60 Hz, Single phase
- Completely sealed refrigerant system
- Stainless Steel Ammonia-Water Heat Exchanger
- Corrosion proof painting
- Sealed combustion chamber
- Pre-mix burner
- Ultra-Low NOx system
- Factory supplied stainless steel flue gas exhaust kit
- Manual Reset High Temperature Limit
- Flame Module Control
- Low Air/Flue Pressure Switch
- Fixed Speed Blower
- Programmable electronic mother board
- Variable speed fan
- Water Flowmeter
- On-off gas valve
- Automatic defrosting cycle
- 1-Year Limited parts warranty
- 3-Year limited sealed system warranty

Gas type

- ☐ Natural gas ☐ Propane

Accessories

- ☐ Propane gas conversion kit
- ☐ Direct Digital Control (DDC) for controlling up to 16 modules. ModBus BMS ready
- ☐ Robur Box 200 (RB200) for controlling third party units (boilers, chillers, ...), DHW valves, Primary/Secondary Water Loop Temperatures Probes, Secondary Water Pump
- ☐ Low noise kit

Sizing data GAHP AR Plus

	Btu/h	kW
Natural gas input ⁽¹⁾	95,500	28
Nominal heating capacity ⁽²⁾	131,700	38.6
Nominal cooling capacity ⁽³⁾	58,000	17
Electric consumption – Heating mode ⁽⁴⁾	-	0.90
Electric consumption – Cooling mode ⁽⁴⁾	-	0.75
	CFM	m³/h
Natural gas consumption	1.6	2.7
Condenser/Evaporator air flow	6,000	10,200
	GPM	m³/h
Nominal heating water flow	14.4	3.3
Nominal cooling water flow	12.8	2.9
Minimum heating water flow	6.0	1.4
Minimum cooling water flow	11.0	2.5
	°F	°C
Maximum supply hot water temperature	140	60
Maximum return hot water temperature	122	50
Minimum supply cold water temperature	37.4	3
Minimum return cold water temperature	42.8	6
Maximum heating operating ambient temperature	104	40
Minimum heating operating ambient temperature	-40	-40
Maximum cooling operating ambient temperature	120	49
Minimum cooling operating ambient temperature	32	0
	psi	bar
Pressure drop – Heating mode	4.7	0.32
Pressure drop – Cooling mode	4.3	0.30
	in	mm
Width	42	1,066
Length	50	1,270
Height	61	1,550
	lb	kg
Operating weight	783	355
	A	
Minimum circuit ampacity (MCA)	8.0	
Maximum over current protection (MOCP)	10.9	
	dB(A)	
Sound Pressure at 5 m (16 ft) ⁽⁵⁾	58	
	FTP	
Water connections	1" 1/4	
Gas connections	1/2"	
Nominal heating COP/GUE	1.38	
Nominal cooling COP	0.6	
AFUE ⁽⁶⁾	106	
NOx [ppm 3% O ₂] ⁽⁷⁾	11	
Power supply	230 Vac / 60 Hz / Single phase	
Refrigerant Type	Ammonia R717	
Ozone Depletion Potential (ODP)	0	
Global Warning Potential (GWP)	0	

⁽¹⁾ HHV natural gas 37.8 MJ/m³ (1,014 Btu/ft³)

⁽²⁾ Heating capacity at standard ANSI rating conditions of 8 °C (47 °F) ambient temperature (dry bulb), inlet water temperature 35 °C (95 °F)

⁽³⁾ Cooling capacity at standard ANSI conditions of 35 °C (95 °F) ambient temperature (dry bulb), inlet water temperature 13 °C (55 °F)

⁽⁴⁾ ±10% according to the power supply voltage

⁽⁵⁾ Maximum sound pressure levels in free field, directivity factor 2, in compliance with ISO 9614

⁽⁶⁾ According with ANSI Z21.40.4:2023

⁽⁷⁾ Rules 1146.2 and 1121

GAHP AR Plus Heating capacity

		P out [Btu/h] - Heating - DT 18 °F					
		T supply [°F]					
		95	104	113	122	131	140
T amb [°F]	-40	80,200	77,500	75,100	74,700	74,400	73,700
	-31	81,900	79,200	76,800	76,400	76,100	75,400
	-22	83,300	80,500	78,100	77,800	77,500	76,800
	-13	87,000	84,600	81,900	81,500	81,200	80,200
	-8	89,400	87,000	84,300	83,900	83,300	82,200
	-4	92,100	89,400	86,300	85,600	85,000	83,900
	5	98,300	95,200	91,800	90,800	89,400	88,400
	14	104,700	101,300	97,200	95,500	93,500	92,800
	19	108,500	104,700	100,700	98,600	96,200	95,500
	23	111,600	108,200	104,700	101,700	98,600	97,200
	32	119,100	117,000	114,600	109,900	105,100	101,300
	36	122,100	120,400	118,700	113,300	107,500	103,000
	41	128,300	126,600	124,900	119,100	113,300	108,800
	45	132,400	130,700	129,000	123,200	117,000	112,600
	50	134,400	132,700	131,000	125,900	120,400	117,400
	54	135,800	134,100	132,400	127,600	122,800	120,400
	59	136,500	134,800	133,100	128,600	124,500	122,100
	68	137,500	135,800	134,100	130,700	127,300	124,500
	77	137,800	136,100	134,400	131,700	129,000	127,300

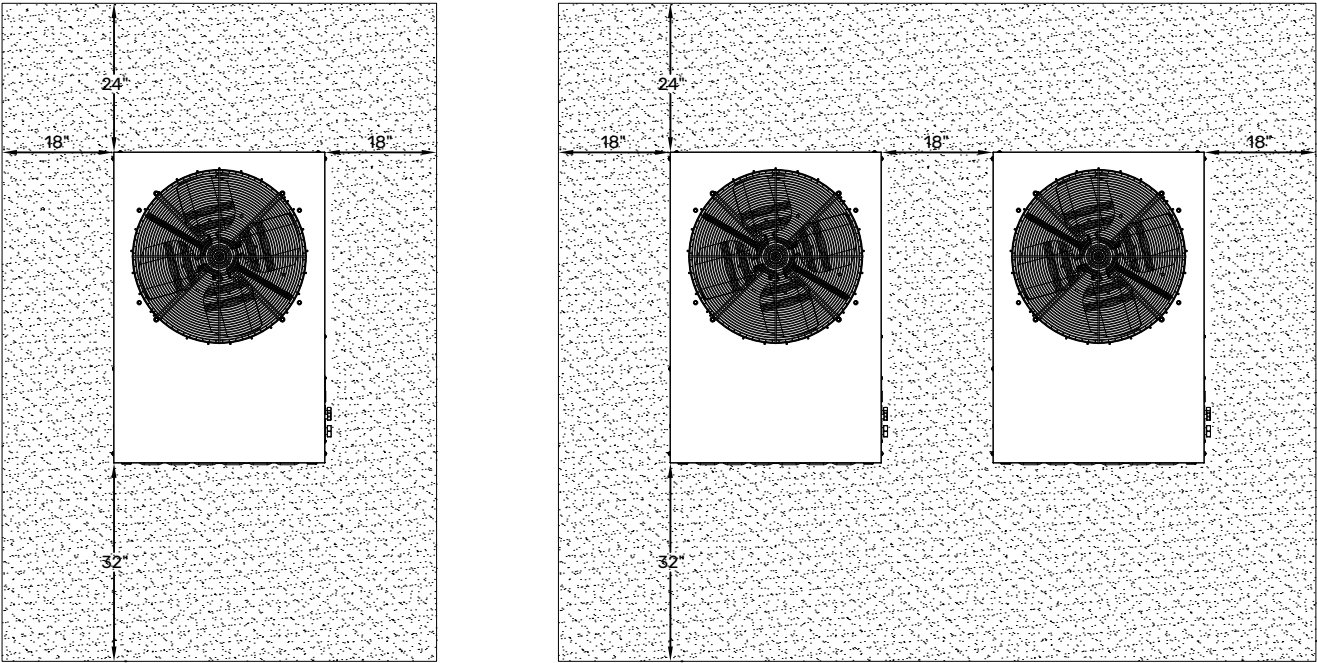
		P out [kW] - Heating - DT 10 °C					
		T supply [°C]					
		35	40	45	50	55	60
T amb [°C]	-40	23.5	22.7	22.0	21.9	21.8	21.6
	-35	24.0	23.2	22.5	22.4	22.3	22.1
	-30	24.4	23.6	22.9	22.8	22.7	22.5
	-25	25.5	24.8	24.0	23.9	23.8	23.5
	-22	26.2	25.5	24.7	24.6	24.4	24.1
	-20	27.0	26.2	25.3	25.1	24.9	24.6
	-15	28.8	27.9	26.9	26.6	26.2	25.9
	-10	30.7	29.7	28.5	28.0	27.4	27.2
	-7	31.8	30.7	29.5	28.9	28.2	28.0
	-5	32.7	31.7	30.7	29.8	28.9	28.5
	0	34.9	34.3	33.6	32.2	30.8	29.7
	2	35.8	35.3	34.8	33.2	31.5	30.2
	5	37.6	37.1	36.6	34.9	33.2	31.9
	7	38.8	38.3	37.8	36.1	34.3	33.0
	10	39.4	38.9	38.4	36.9	35.3	34.4
	12	39.8	39.3	38.8	37.4	36.0	35.3
	15	40.0	39.5	39.0	37.7	36.5	35.8
	20	40.3	39.8	39.3	38.3	37.3	36.5
	25	40.4	39.9	39.4	38.6	37.8	37.3

GAHP AR Plus Cooling capacity

		P out [Btu/h] - Cooling - DT 9 °F				
		T supply [°F]				
		37	41	45	50	64
T amb [°F]	59	63,463	63,804	63,804	64,487	64,487
	68	62,781	63,122	63,463	64,146	64,146
	77	60,051	61,416	62,440	63,463	63,804
	86	54,251	57,663	60,734	61,757	62,781
	95	44,015	50,839	57,663	59,369	60,734
	104	-	-	51,180	54,592	57,322
	113	-	-	-	46,062	51,180

		P out [kW] - Cooling - DT 5 °C				
		T supply [°C]				
		3	5	7	10	18
T amb [°C]	15	18.6	18.7	18.7	18.9	18.9
	20	18.4	18.5	18.6	18.8	18.8
	25	17.6	18.0	18.3	18.6	18.7
	30	15.9	16.9	17.8	18.1	18.4
	35	12.9	14.9	16.9	17.4	17.8
	40	-	-	15.0	16.0	16.8
	45	-	-	-	13.5	15.0

Clearances



Dimensions

