



## 20AW Commercial Heat Pump



### Introduction

Nyle Thermal 20AW is an Air to Water source heat pump, capable of averaging 20 kilowatts of heating capacity.

### Standard Features

- Low GWP Refrigerant for SNAP Compliance
- Integral Circulator with improved performance to simplify piping
- Power Monitoring for Compressor Protection
- Build America Buy America compliant
- Monobloc design for easy installation
- High efficiency, warm climate, air-source heat pump
- Industry leading factory support and order lead times
- Active defrost and two stages of onboard freeze protection

### Base Model Configurations

✓	Configuration
	Single-Pass Temperature Control OR
	Multi-Pass Temperature Control
	Ductless OR
	Ducted Configuration
	208-230V Power OR
	460V Power

### Available Options

✓	Option	Description
	Add BMS Gateway	Single heat pump communication gateway to building management systems
	Add Remote Outdoor Sensor	Allows outdoor temperature sensing for interior ducted applications
	Add Master Control Panel	Provides staging control for multiple heat pumps/tanks. Can take a BMS Gateway.
	Add Stacking Frame	A steel mounting frame to facilitate installing two 20AW's over/under each other.
	Add Extended Warranty	A 5-yr compressor warranty, required by some rebate programs.
	Add International Crating	Required for cross-border shipments.
	Add Factory Startup	Provides for a factory technician to perform the initial on-site startup process.



Unit Specifications	Single-pass	Multi-pass
Water Connections	1½" FPT Copper	
Design Water Flow Rate	11.0 GPM	19.0 GPM
Water Circuit Pressure Drop <sup>1</sup>	6.9 ft. hd	10.1 ft. hd
Heat Pump Cv Value <sup>1</sup>	6	9
External Head Allowance <sup>2</sup>	10.8 ft hd	12.2 ft hd
Min Cold Cycle Volume <sup>4</sup>	58	60
Min Warm Cycle Volume <sup>5</sup>	N/A	169
Min Tank Volume <sup>6</sup>	N/A	423
Nominal DOE Capacity	95,500 BTUs/hr	
Nominal DOE Performance	3.4 COP	
Recovery Rate <sup>3</sup>	163 Gal/hr	
Compressor Type	Scroll	
Refrigerant	R513A	
Factory Charge	21 lbs.	
Max Water Temp	155°F	
Max Working Pressure	150 psig	
Ambient Operating Range <sup>8</sup>	35° - 120°F	
Minimum Ambient Exposure	-13°F	
Dimensions	79" L x 33¾" D x 43¾" H	
Air Flow Rate	3,600 CFM	
Sound Pressure <sup>7</sup>	74.1 dB (Front), 67.8 dB (Left), 67.9 dB (Right), 71.5 dB (Rear)	
External Static Pressure for Ducting	0.94 in wcg	
Weight	Dry 795 lbs. / Operating 809 lbs.	
Salt Spray Resistance Cabinet/Evap	1000 hours	

Electrical Specifications	Single-pass		Multi-pass	
Main Power Input	208-230/3/60	460/3/60	208-230/3/60	460/3/60
Minimum Circuit Ampacity (MCA)	53	27	57	29
Maximum Overcurrent Protection (MOCP)	90	50	100	50
Rated Load Amps (RLA)	43	22	47	24
Short Circuit Current Rating (SCCR)	100	100	100	100
<b>Internal Component Data</b>				
Compressor Locked Rotor Amps (LRA)	239	125	239	125
Compressor Horsepower (HP)	10	10	10	10

**Notes:**

Certifications: UL60335-1, UL60335-2-40, CSA C22.2 60335-1, CSA 60335-2-40 (LC16116-1)

<sup>1</sup> Water Circuit Pressure Drop and Heat Pump Cv value apply to external pump applications.

<sup>2</sup> Pressure drop allowed by internal circulator for external piping, at design flow rate.

<sup>3</sup> Recovery Rate at 80 Deg. F ambient, 50 EWT, 140 LWT, 50% RH.

<sup>4</sup> Cold Cycle Volume is the volume below the cold trigger sensor. Cold "IN" water over 70 Deg. F will need more volume.

<sup>5</sup> Warm Cycle Volume is the volume below the warm/recirc trigger sensor.

<sup>6</sup> Tank volume is based on individual project demands, but cannot be lower than this minimum value in any case.

<sup>7</sup> Sound Pressure recorded 3' from unit face, 3' from ground.

**20AW Model Test Data: 50 EWT, 140 LWT, 50% RH**

Ambient Air Condition	Supply Heating Capacity (Btu/hr)	Air Cooling Capacity (Btu/hr)	Power Input (KW)	Heating COP	Cooling COP	Combined COP
90°F	100,500	68,768	9.3	3.2	2.2	5.3
80°F	90,200	58,639	9.3	2.9	1.9	4.7
70°F	80,000	48,610	9.2	2.5	1.5	4.1
60°F	71,900	41,021	9.1	2.3	1.3	3.7
50°F	63,900	33,533	8.9	2.1	1.1	3.2
40°F	57,000	26,292	9.0	1.9	0.9	2.7