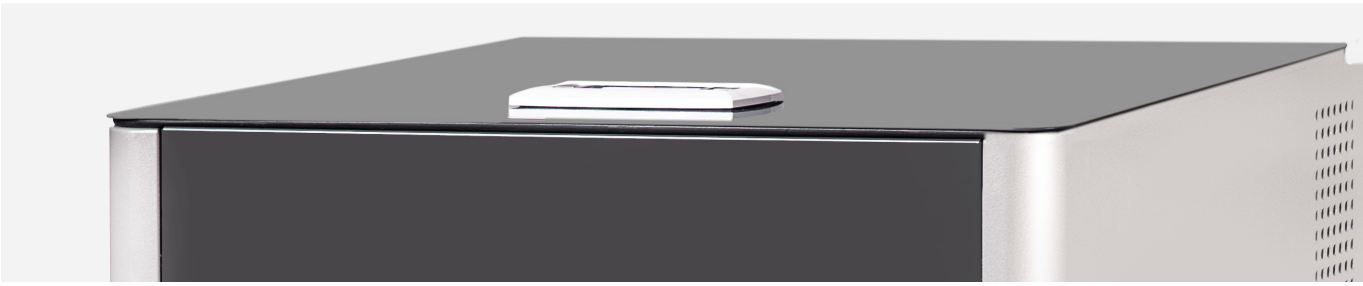
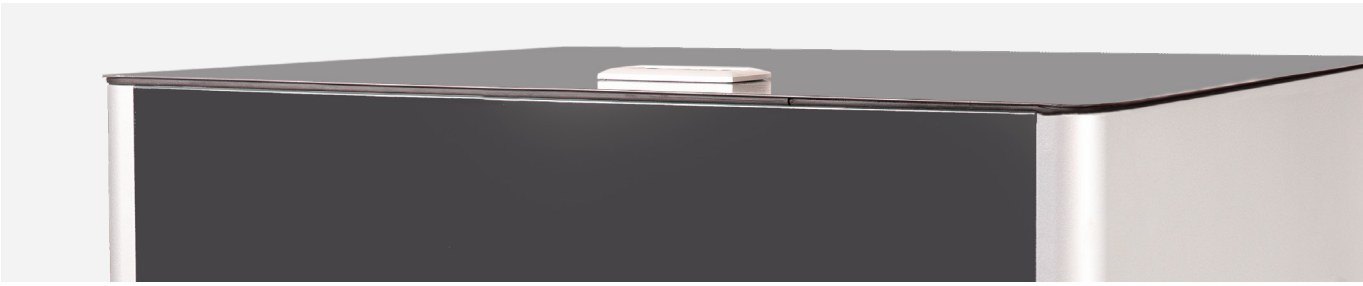
TECHNICAL DATASHEETS

Heat pumps





v2026_01

GEOSMART NETZERO+

NetZero

Technology for a sustainable future

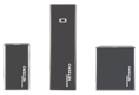
The commitment to developing highly efficient renewable climate controls systems is one of the fundamental pillars of GeoSmart´s history. This commitment has enabled the company to achieve numerous milestones in the sector, establishing it as a benchmark for innovation.

The NetZero+ water to water modulating heat pump ranges feature exclusive solutions and unique technologies in the market.

Although GeoSmart had already been committed to the use of low-environmental-impact refrigerants obtaining unique efficiencies, a new R454B water to water range has been succesfully launched.

Index

Water to water 6



NetZero+

NetZero+ BW/CW 8

NetZero+ HW 18

Water to water

NetZero water to water systems have always stood out for their technological differentiation and unique efficiencies.

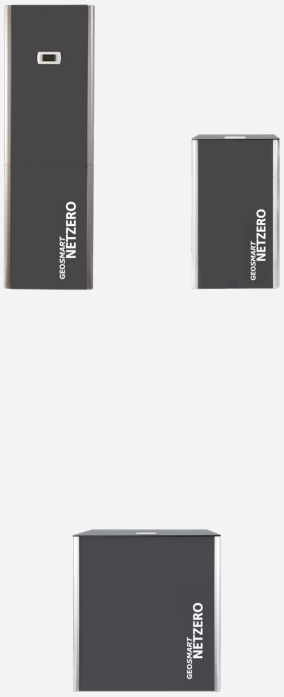
These units, which cover applications ranging from residential to commercial, feature Inverter modulation and optional reversible refrigeration circuit for cooling production as standard across all ranges.

Options for multi-source collection systems, integrated passive cooling, integrated heat recovery system, and many other features ensure the highest performance for each installation.

NetZero+

Water to water heat pumps

R454B



NetZero+ BW/CW

R454B

Models

NetZero+ 12

NetZero+ 22

Single-phase 230 Vac

Options

NetZero+ BW/CW HB	NetZero+ BW/CW PB	NetZero+ BW/CW RB	NetZero+ BW/CW BB
DHW *	DHW *	DHW *	DHW *
Heating	Heating	Heating	Heating
Pool	Pool	Pool	Pool
	Pasive cooling	Active cooling	Pasive cooling
			Active cooling

** External DHW tank in BW models*

Services

- DHW (145°F)
- Heating (140°F)
- Cooling (41°F)
- Pool (131°F)

Compatible systems

- Heat./Cool. floor
- Fancoils
- Radiators

Management of shunt groups

- x1
- x1
- x2
- x2

Performance

- Plug & Play
- Min. acoustic level
- HTR Technology (HTR)
- Lifespan

Cascade

Characteristics

- Modulating thermal output control across a wide range (15%–100%) and modulating flow control in both source and load circuits (20%–100%).
- R454B refrigerant (GWP 466).
- Variable speed Inverter technology.
- Compact design including source and load circulators, 2.1 gal and 3.2 gal expansion vessels for source and load respectively, safety valves for source and load circuits, and 3-way DHW diverting valve.
- High Temperature Recovery (HTR) system for DHW production up to 167 °F without auxiliary support and simultaneous production of DHW and heating/cooling.
- Integrated management of up to four different shunt groups, two buffer tanks (heating and cooling), one DHW tank, one swimming pool, and time scheduling of DHW recirculation.
- Integrated control of external auxiliary backup systems—on/off or modulating (electric heaters, boilers, etc.).
- Cascade management of up to three heat pumps.
- Integrated management of simultaneous heating/cooling production and emission systems, depending on the system layout.
- Passive cooling integrated in BW PB / CW PB and BW BB / CW BB models.
- Active cooling via cycle inversion integrated in BW RB / CW RB and BW BB / CW BB models.
- Integrated photovoltaic hybridisation.
- Integrated energy meters for monitoring electrical consumption, thermal output (heating/cooling), and instantaneous as well as seasonal efficiency monthly and annual.

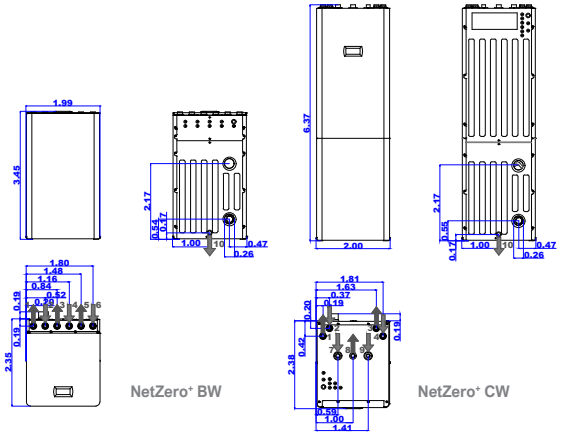
NetZero+ BW/CW 12

Water to water variable speed heat pumps with Inverter technology and R454B refrigerant

SPECIFICATIONS NetZero+ BW / CW			NetZero+ 12			
			BW HB / CW HB	BW PB / CW PB	BW RB / CW RB	BW BB / CW BB
APPLICATION	Place of installation	-	Indoor			
	Source system	-	Water loop / Ground water / Ground loop			
	DHW, Heating and Pool heating	-	▪	▪	▪	▪
	Integrated passive cooling	-	-	▪	-	▪
	Integrated active cooling	-	-	-	▪	▪
PERFORMANCE	Compressor modulation range	%	15 - 100			
	(2) Full load heating capacity (COP) - Water loop / Ground water / Ground Loop	mBTUh (-)	63.8 (3.91) / 46.1 (3.44) / 324.5 (2.92)			
	(2) Part load heating capacity (COP) - Water loop / Ground water / Ground Loop	mBTUh (-)	25.3 (4.26) / 21.2 (3.64) / 19.1 (3.31)			
	(2) Full load cooling capacity (EER) - Water loop / Ground water / Ground Loop	mBTUh (-)	-	-	40 (13.06) / 39.5 (19.29) / 41.4 (14.85)	
	(2) Part load cooling capacity (EER) - Water loop / Ground water / Ground Loop	mBTUh (-)	-	-	19.7 (14.08) / 21.8 (21.71) / 21.1 (19.31)	
	(3) Max. DHW outlet temperature without / with support	°F	145 / 176			
	(4) Noise power level (LWA)	dB (A)	46			
OPERATION LIMITS	Distribution / Set heating outlet temperature range	°F	50 - 140 / 68 - 140			
	Distribution / Set cooling outlet temperature range	°F	-	41 - 95 / 45 - 95		
	Source temperature range in heating / cooling mode	°F	-4 - 95 / 50 - 140			
	Minimum / Maximum refrigerant circuit pressure	psi	29.0 / 652.7			
	Source / Load circuit pressure range (in-built expansion vessels preload)	psi	7.3 - 43.5 (10.2) / 7.3 - 43.5 (21.8)			
	DHW tank capacity / maximum pressure	gal / psi	43.6 / 116.0 (NetZero+ CW)			
WORKING FLUIDS	R454B refrigerant load (GWP: 466)	Oz (kg)	31.7 (0.90)			
	Compressor oil type / load	Oz (kg)	POE / 41.6			
	(2) Source flow rate - Water loop / Ground water / Ground Loop	gpm	11.0 / 11.2 / 10.8			
	(2) Load flow rate - Water loop / Ground water / Ground Loop	gpm	9.7 / 9.6 / 9.7			
CONTROL ELECTRICAL DATA	(6) 1/N/PE 230 V / 50-60 Hz	-	▪			
	(7) Recommended external protection	-	C16A			
	Transformer primary circuit fuse	A	0.5			
	Transformer secondary circuit fuse	A	2.5			
HEAT PUMP ELECTRICAL DATA: SINGLE-PHASE VERSION	(6) 1/N/PE 230 V / 50-60 Hz	-	▪			
	(7) Recommended external protection	-	C50A			
	Maximum consumption (Source EFT=32°F, Load EFT=95°F)	kW / A	4.0 / 19.2			
	Maximum consumption (Source EFT=32°F, Load EFT=131°F)	kW / A	5.1 / 24.5			
	Maximum consumption	kW / A	8.0 / 47.0			
	(5) Minimum / Maximum starting current	A	1.9 / 10.1			
	Correction of cos Ø	-	0.96 / 1			
INTEGRATED SUPPORT ELECTRICAL HEATER ELECTRICAL DATA	(6) 3/PE 400 V / 50-60 Hz	-	▪			
	(7) Recommended external protection	-	C16A			
	Maximum consumption B0W35	kW / A	4.2 / 6.2			
	Maximum consumption B0W55	kW / A	5.0 / 7.2			
	Correction of cos Ø	-	0.96 / 1			
DIMENSIONS & WEIGHT	Height x width x depth	inch	B: 41.4x24.0x28.2 / C: 76.5x24.0x28.5			
	Empty weight (without packaging)	lb	B: 429.9 / C: 573.2	B: 451.9 / C: 595.2	B: 429.9 / C: 573.2	B: 451.9 / C: 595.2

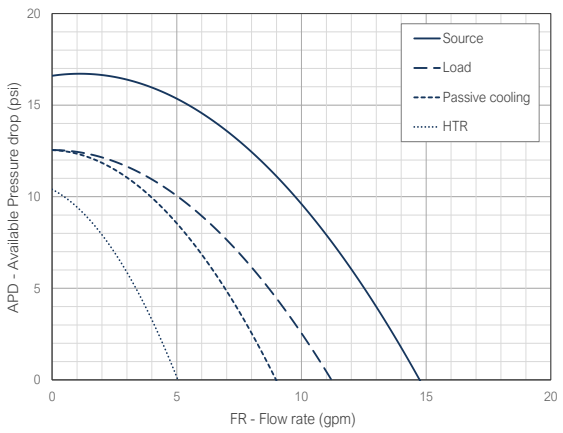
1. Air-to-water by means of a brine-to water heat pump combined with a hydraulic outdoor air unit.
2. Performance data referred to AHRI operating conditions.
3. Considering support provided by an emergency electrical heater or HTR. Max. DHW temp. with HTR can be limited by the compressor discharge temp.
4. In compliance with EN 12102.
5. Starting current depends on the working conditions of the hydraulic circuits.
6. The admissible voltage range for proper operation of the heat pump is ±10%.
7. Maximum consumption can vary significantly according to working conditions, or if the compressor´s operation range is restricted. Consult the technical service manual for more information.
8. Certification in process.

Dimensions and hydraulic connections

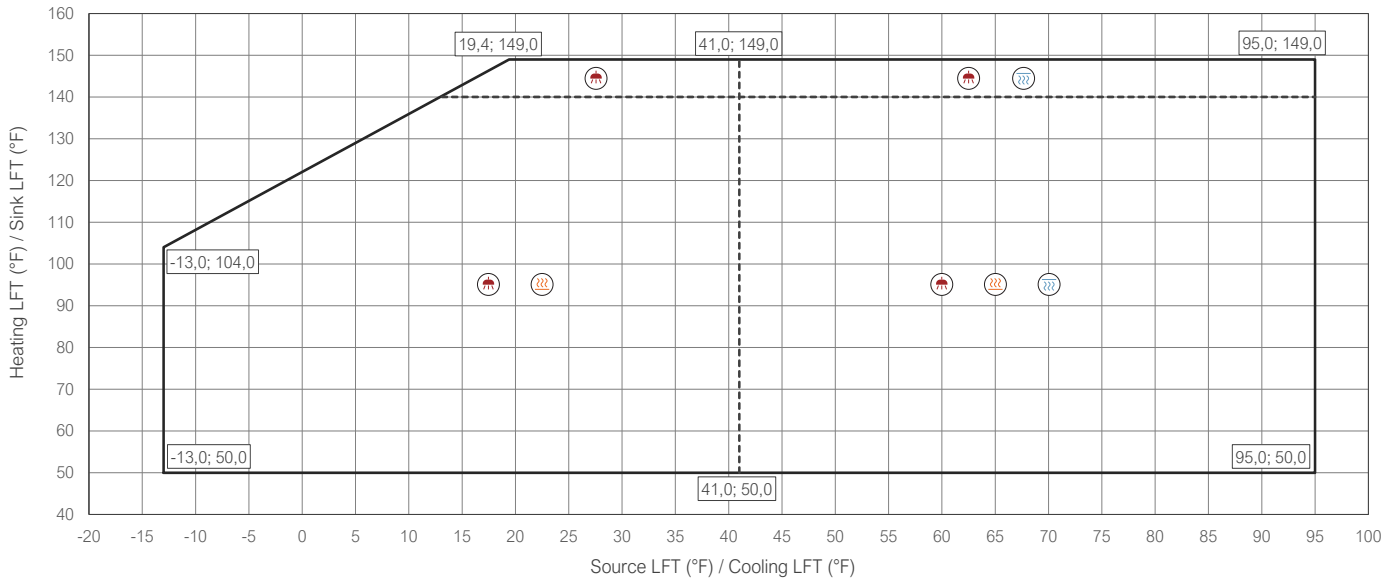


1. Heating/Cooling outlet **1 ¼" M**
2. Heating/Cooling inlet **1 ¼" M**
3. Source outlet **1 ¼" M**
4. Source inlet **1 ¼" M**
5. DHW system outlet **1 ¼" M**
6. DHW system inlet **1 ¼" M**
7. CW inlet **1" F**
8. DHW outlet **1" F**
9. DHW recirculation inlet **¾" F**
10. Drain **16mm**

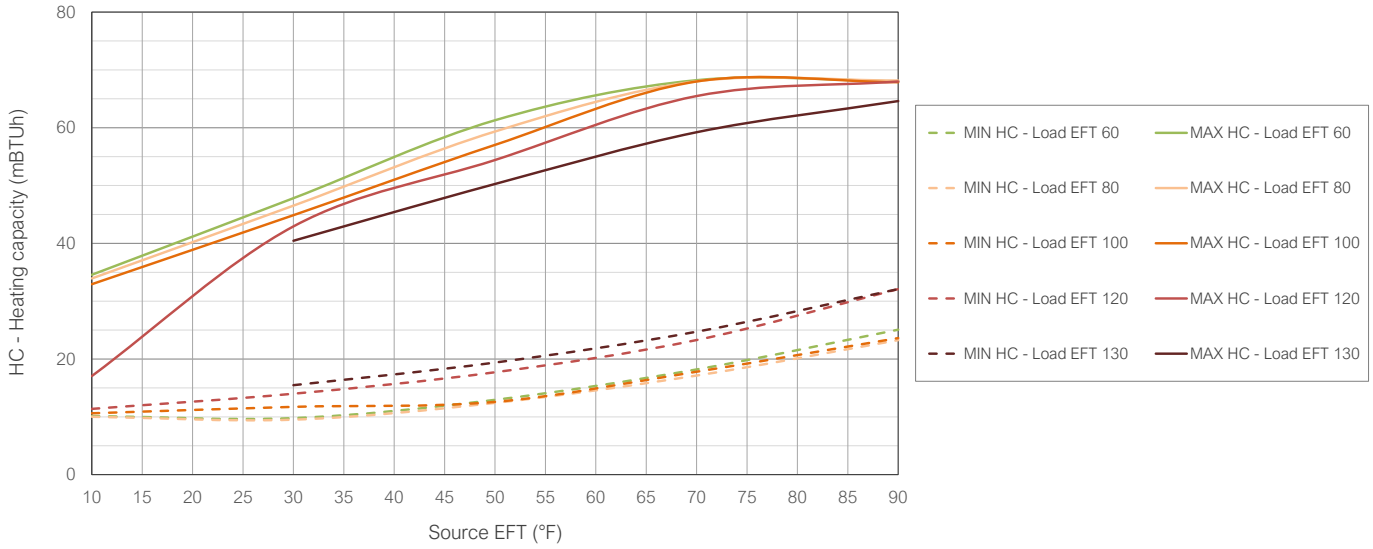
Pressure drop



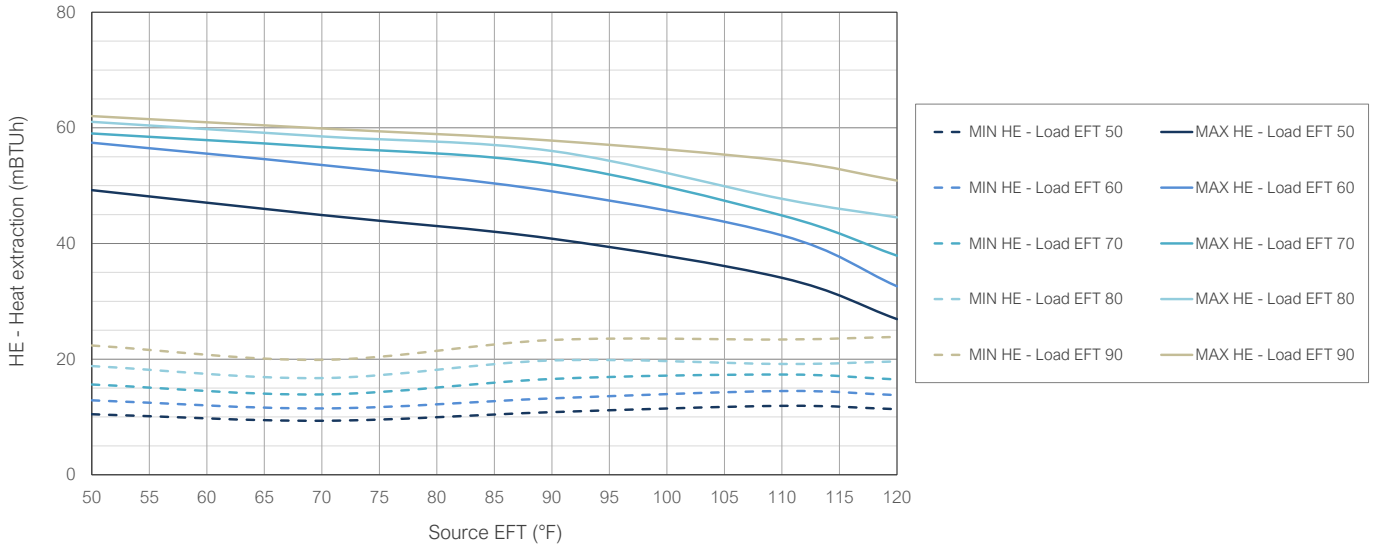
Operational chart



Heating capacity - Source EFT



Cooling capacity - Source EFT



NetZero+ BW/CW 12

Performance data **Heating**

LOAD EFT / LFT (°F): 60.0 / 78.0

SOURCE EFT / LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE APD (PSI)	LOAD FR (GPM)	LOAD APD (PSI)	HE (mBTUh)	P (kW)	HC (mBTUh)	COP (-)
10.0 / 2.8	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	2.4	16.6	1.1	12.4	7.7	0.8	10.1	3.9
	35%	2.8	16.4	1.3	12.4	9.0	0.9	11.8	4.0
	40%	3.2	16.3	1.5	12.3	10.3	1.0	13.4	4.1
	45%	3.6	16.1	1.7	12.3	11.6	1.1	15.1	4.1
	50%	4.0	15.9	1.9	12.2	12.9	1.2	16.8	4.1
	55%	4.4	15.7	2.1	12.1	14.2	1.3	18.5	4.0
	60%	4.8	15.5	2.2	12.0	15.4	1.5	20.2	4.0
	65%	5.2	15.2	2.4	12.0	16.7	1.6	21.9	4.0
	70%	5.7	14.9	2.6	11.9	18.0	1.8	23.7	3.9
	75%	6.1	14.5	2.8	11.7	19.3	1.9	25.5	3.9
	80%	6.5	14.1	3.0	11.6	20.6	2.1	27.2	3.8
	85%	6.9	13.7	3.2	11.5	21.8	2.2	29.1	3.8
	90%	7.3	13.3	3.4	11.4	23.1	2.4	30.9	3.7
	95%	7.6	12.9	3.6	11.2	24.4	2.6	32.7	3.7
	100%	8.0	12.4	3.8	11.1	25.6	2.8	34.6	3.6
30.0 / 21.0	20%	-	-	-	-	-	-	-	-
	25%	2.4	16.6	1.3	12.4	9.7	0.6	11.7	5.5
	30%	3.0	16.4	1.6	12.3	11.8	0.7	14.1	5.7
	35%	3.5	16.2	1.8	12.2	13.9	0.8	16.6	5.8
	40%	4.0	16.0	2.1	12.1	15.9	1.0	19.0	5.8
	45%	4.5	15.7	2.4	12.0	17.9	1.1	21.4	5.7
	50%	5.0	15.4	2.6	11.9	19.9	1.2	23.8	5.7
	55%	5.5	15.0	2.9	11.7	21.8	1.4	26.2	5.6
	60%	6.0	14.6	3.2	11.5	23.7	1.5	28.6	5.5
	65%	6.4	14.2	3.4	11.4	25.6	1.7	31.0	5.4
	70%	6.9	13.7	3.7	11.2	27.5	1.9	33.4	5.3
	75%	7.4	13.2	4.0	11.0	29.3	2.0	35.8	5.2
	80%	7.8	12.7	4.2	10.7	31.1	2.2	38.2	5.0
	85%	8.3	12.1	4.5	10.5	32.9	2.4	40.6	4.9
	90%	8.7	11.5	4.8	10.3	34.7	2.6	43.0	4.8
	95%	9.2	10.9	5.0	10.0	36.5	2.8	45.4	4.7
	100%	9.6	10.2	5.3	9.7	38.2	3.0	47.8	4.6
50.0 / 39.2	20%	-	-	-	-	-	-	-	-
	25%	2.9	16.4	1.7	12.3	13.7	0.6	15.5	7.9
	30%	3.5	16.2	2.1	12.1	16.5	0.7	18.7	8.0
	35%	4.0	15.9	2.4	12.0	19.3	0.8	21.9	7.9
	40%	4.6	15.6	2.8	11.8	22.0	0.9	25.1	7.8
	45%	5.2	15.2	3.1	11.6	24.7	1.1	28.2	7.7
	50%	5.7	14.8	3.5	11.3	27.4	1.2	31.3	7.5
	55%	6.3	14.3	3.8	11.1	30.0	1.4	34.4	7.3
	60%	6.8	13.8	4.2	10.8	32.5	1.5	37.5	7.1
	65%	7.3	13.2	4.5	10.5	35.0	1.7	40.5	6.9
	70%	7.8	12.6	4.8	10.2	37.5	1.9	43.5	6.7
	75%	8.3	12.0	5.2	9.9	39.9	2.1	46.5	6.5
	80%	8.8	11.3	5.5	9.5	42.2	2.3	49.5	6.3
	85%	9.3	10.7	5.8	9.1	44.5	2.5	52.5	6.1
	90%	9.8	9.9	6.2	8.8	46.8	2.7	55.4	6.0
	95%	10.3	9.2	6.5	8.3	49.0	2.9	58.4	5.8
	100%	10.7	8.4	6.8	7.9	51.2	3.2	61.3	5.7
70.0 / 57.4	20%	-	-	-	-	-	-	-	-
	25%	3.6	16.2	2.4	12.0	20.0	0.5	21.7	12.1
	30%	4.3	15.8	2.9	11.7	23.9	0.6	26.0	11.9
	35%	5.0	15.4	3.4	11.4	27.7	0.8	30.2	11.5
	40%	5.6	14.9	3.8	11.1	31.5	0.9	34.4	11.1
	45%	6.3	14.3	4.3	10.7	35.1	1.1	38.5	10.7
	50%	6.9	13.6	4.7	10.3	38.7	1.2	42.6	10.3
	55%	7.6	13.0	5.2	9.9	42.2	1.4	46.6	9.9
	60%	8.2	12.2	5.6	9.4	45.6	1.6	50.5	9.5
	65%	8.8	11.4	6.1	8.9	48.9	1.8	54.5	9.1
	70%	9.4	10.6	6.5	8.3	52.2	2.0	58.3	8.7
	75%	9.9	9.7	6.9	7.8	55.4	2.2	62.2	8.4
	80%	10.5	8.8	7.3	7.2	58.5	2.4	66.0	8.1
	85%	-	-	-	-	-	-	-	-
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
90.0 / 77.4	20%	-	-	-	-	-	-	-	-
	25%	5.0	15.3	3.3	11.5	28.1	0.5	29.5	18.7
	30%	6.0	14.6	3.9	11.0	33.2	0.6	35.0	17.7
	35%	6.9	13.7	4.5	10.5	38.2	0.7	40.4	16.6
	40%	7.7	12.8	5.1	10.0	43.1	0.9	45.7	15.6
	45%	8.6	11.7	5.7	9.3	47.8	1.0	50.9	14.7
	50%	9.4	10.5	6.2	8.7	52.4	1.2	56.1	13.9
	55%	10.2	9.3	6.8	7.9	56.9	1.4	61.1	13.1
	60%	11.0	7.9	7.3	7.2	61.3	1.6	66.1	12.4
	65%	-	-	-	-	-	-	-	-
	70%	-	-	-	-	-	-	-	-
	75%	-	-	-	-	-	-	-	-
	80%	-	-	-	-	-	-	-	-
	85%	-	-	-	-	-	-	-	-
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-

LOAD EFT / LFT (°F): 80.0 / 96.2

SOURCE EFT / LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE APD (PSI)	LOAD FR (GPM)	LOAD APD (PSI)	HE (mBTUh)	P (kW)	HC (mBTUh)	COP (-)
10.0 / 2.8	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	2.2	16.6	1.2	12.4	6.9	0.9	10.0	3.1
	35%	2.6	16.5	1.4	12.3	8.2	1.1	11.7	3.2
	40%	2.9	16.4	1.6	12.3	9.4	1.2	13.3	3.2
	45%	3.3	16.3	1.9	12.2	10.6	1.4	15.0	3.2
	50%	3.7	16.1	2.1	12.1	11.8	1.5	16.7	3.2
	55%	4.1	15.9	2.3	12.0	13.0	1.7	18.4	3.2
	60%	4.4	15.7	2.5	11.9	14.2	1.8	20.1	3.2
	65%	4.8	15.5	2.7	11.8	15.3	2.0	21.8	3.2
	70%	5.2	15.2	2.9	11.7	16.5	2.2	23.5	3.2
	75%	5.5	14.9	3.1	11.6	17.6	2.3	25.2	3.2
	80%	5.9	14.7	3.3	11.4	18.8	2.5	26.9	3.1
	85%	6.2	14.3	3.5	11.3	19.9	2.7	28.7	3.1
	90%	6.6	14.0	3.8	11.1	21.0	2.9	30.4	3.1
	95%	6.9	13.6	4.0	11.0	22.1	3.1	32.2	3.0
	100%	7.3	13.3	4.2	10.8	23.2	3.3	33.9	3.0
30.0 / 21.0	20%	-	-	-	-	-	-	-	-
	25%	2.2	16.6	1.4	12.4	8.8	0.8	11.4	4.1
	30%	2.7	16.5	1.7	12.3	10.8	1.0	13.9	4.3
	35%	3.2	16.3	2.0	12.1	12.7	1.1	16.3	4.4
	40%	3.7	16.1	2.3	12.0	14.6	1.2	18.7	4.4
	45%	4.1	15.9	2.6	11.9	16.5	1.4	21.0	4.4
	50%	4.6	15.6	2.9	11.7	18.3	1.6	23.4	4.4
	55%	5.1	15.3	3.2	11.5	20.1	1.7	25.8	4.3
	60%	5.5	15.0	3.5	11.3	21.9	1.9	28.1	4.3
	65%	5.9	14.6	3.8	11.1	23.6	2.1	30.4	4.2
	70%	6.4	14.2	4.0	10.9	25.3	2.3	32.8	4.2
	75%	6.8	13.8	4.3	10.7	27.0	2.5	35.1	4.1
	80%	7.2	13.4	4.6	10.4	28.7	2.7	37.4	4.0
	85%	7.6	12.9	4.9	10.1	30.3	2.9	39.7	4.0
	90%	8.0	12.4	5.2	9.9	31.9	3.2	42.0	3.9
	95%	8.4	11.9	5.5	9.6	33.4	3.4	44.3	3.8
	100%	8.8	11.4	5.7	9.2	34.9	3.6	46.5	3.8
50.0 / 39.2	20%	-	-	-	-	-	-	-	-
	25%	2.6	16.5	1.8	12.2	12.4	0.8	15.0	5.6
	30%	3.2	16.3	2.2	12.0	15.1	0.9	18.1	5.7
	35%	3.7	16.1	2.6	11.9	17.8	1.1	21.3	5.8
	40%	4.3	15.8	3.0	11.6	20.4	1.2	24.4	5.7
	45%	4.8	15.5	3.4	11.4	22.9	1.4	27.4	5.7
	50%	5.3	15.1	3.8	11.1	25.4	1.6	30.5	5.6
	55%	5.8	14.7	4.1	10.8	27.8	1.8	33.5	5.5
	60%	6.3	14.3	4.5	10.5	30.1	2.0	36.5	5.4
	65%	6.8	13.8	4.9	10.2	32.4	2.2	39.4	5.3
	70%	7.3	13.3	5.2	9.8	34.7	2.4	42.3	5.2
	75%	7.7	12.8	5.6	9.4	36.9	2.6	45.2	5.1
	80%	8.2	12.2	5.9	9.0	39.0	2.8	48.1	5.0
	85%	8.6	11.7	6.3	8.6	41.1	3.1	51.0	4.9
	90%	9.0	11.1	6.6	8.1	43.2	3.3	53.8	4.8
	95%	9.5	10.4	7.0	7.7	45.2	3.6	56.6	4.7
	100%	9.9	9.8	7.3	7.2	47.2	3.8	59.4	4.6
70.0 / 57.4	20%	-	-	-	-	-	-	-	-
	25%	3.3	16.3	2.5	11.9	18.2	0.7	20.6	8.2
	30%	3.9	16.0	3.1	11.6	21.9	0.9	24.8	8.2
	35%	4.6	15.6	3.6	11.3	25.6	1.0	28.9	8.1
	40%	5.2	15.2	4.1	10.9	29.1	1.2	33.0	7.9
	45%	5.8	14.7	4.6	10.5	32.6	1.4	37.1	7.7
	50%	6.4	14.1	5.1	10.0	36.0	1.6	41.0	7.5
	55%	7.0	13.6	5.5	9.5	39.2	1.8	44.9	7.3
	60%	7.6	12.9	6.0	8.9	42.4	2.0	48.8	7.1
	65%	8.2	12.2	6.5	8.3	45.5	2.2	52.6	6.9
	70%	8.7	11.5	7.0	7.7	48.6	2.5	56.4	6.7
	75%	9.2	10.8	7.4	7.0	51.5	2.7	60.1	6.5
	80%	9.8	10.0	7.9	6.4	54.4	2.9	63.7	6.3
	85%	10.3	9.2	8.3	5.6	57.2	3.2	67.3	6.2
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
90.0 / 77.4	20%	-	-	-	-	-	-	-	-
	25%	4.6	15.6	3.4	11.4	25.5	0.7	27.7	12.3
	30%	5.5	15.0	4.1	10.9	30.5	0.8	33.0	11.9
	35%	6.3	14.3	4.7	10.3	35.2	1.0	38.3	11.4
	40%	7.2	13.4	5.4	9.7	39.9	1.2	43.5	10.9
	45%	8.0	12.5	6.0	8.9	44.4	1.4	48.6	10.5
	50%	8.7	11.5	6.6	8.2	48.8	1.6	53.7	10.0
	55%	9.5	10.4	7.2	7.3	53.0	1.8	58.6	9.6
	60%	10.2	9.2	7.8	6.4	57.1	2.0	63.4	9.3
	65%	11.0	8.0	8.4	5.5	61.2	2.2	68.2	8.9
	70%	-	-	-	-	-	-	-	-
	75%	-	-	-	-	-	-	-	-
	80%	-	-	-	-	-	-	-	-
	85%	-	-	-	-	-	-	-	-
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-

LOAD EFT / LFT (°F): 100.0 / 116.2

SOURCE EFT / LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE APD (PSI)	LOAD FR (GPM)	LOAD APD (PSI)	HE (mBTUh)	P (kW)	HC (mBTUh)	COP (-)
10.0 / 2.8	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	2.3	16.6	1.4	12.3	7.3	1.3	11.6	2.6
	40%	2.6	16.5	1.6	12.3	8.4	1.5	13.2	2.6
	45%	3.0	16.4	1.8	12.2	9.5	1.7	14.9	2.6
	50%	3.3	16.3	2.0	12.1	10.6	1.8	16.5	2.6
	55%	3.6	16.1	2.2	12.0	11.6	2.0	18.2	2.6
	60%	4.0	16.0	2.4	12.0	12.6	2.2	19.8	2.6
	65%	4.3	15.8	2.6	11.8	13.7	2.4	21.4	2.6
	70%	4.6	15.6	2.9	11.7	14.6	2.6	23.1	2.6
	75%	4.9	15.4	3.1	11.6	15.6	2.8	24.7	2.6
	80%	5.2	15.2	3.3	11.5	16.6	3.0	26.4	2.6
	85%	5.5	15.0	3.5	11.4	17.5	3.2	28.0	2.5
	90%	5.8	14.7	3.7	11.2	18.5	3.5	29.7	2.5
	95%	6.1	14.5	3.9	11.1	19.4	3.7	31.3	2.5
	100%	6.4	14.2	4.1	10.9	20.3	3.9	32.9	2.5
30.0 / 21.0	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	2.4	16.6	1.7	12.3	9.7	1.2	13.6	3.3
	35%	2.9	16.4	2.0	12.2	11.5	1.4	16.0	3.4
	40%	3.3	16.3	2.3	12.0	13.2	1.6	18.3	3.4
	45%	3.7	16.1	2.5	11.9	14.9	1.8	20.6	3.4
	50%	4.2	15.9	2.8	11.7	16.6	2.0	22.9	3.4
	55%	4.6	15.6	3.1	11.6	18.2	2.2	25.2	3.4
	60%	5.0	15.4	3.4	11.4	19.8	2.4	27.4	3.4
	65%	5.3	15.1	3.7	11.2	21.3	2.6	29.7	3.3
	70%	5.7	14.8	3.9	11.0	22.8	2.8	31.9	3.3
	75%	6.1	14.5	4.2	10.8	24.3	3.1	34.1	3.3
	80%	6.4	14.1	4.5	10.5	25.7	3.3	36.3	3.2
	85%	6.8	13.8	4.7	10.3	27.1	3.5	38.5	3.2
	90%	7.1	13.4	5.0	10.0	28.4	3.8	40.6	3.1
	95%	7.5	13.1	5.3	9.8	29.7	4.1	42.8	3.1
	100%	7.8	12.7	5.5	9.5	31.0	4.3	44.9	3.0
50.0 / 39.2	20%	-	-	-	-	-	-	-	-
	25%	2.3	16.6	1.8	12.2	11.1	1.0	14.5	4.1
	30%	2.8	16.4	2.2	12.1	13.6	1.2	17.6	4.2
	35%	3.4	16.3	2.5	11.9	16.1	1.4	20.6	4.3
	40%	3.9	16.0	2.9	11.7	18.4	1.6	23.6	4.3
	45%	4.3	15.8	3.3	11.5	20.8	1.8	26.6	4.3
	50%	4.8	15.5	3.6	11.2	23.0	2.0	29.5	4.3
	55%	5.3	15.1	4.0	10.9	25.2	2.2	32.5	4.2
	60%	5.7	14.8	4.4	10.6	27.4	2.5	35.3	4.2
	65%	6.2	14.4	4.7	10.3	29.4	2.7	38.1	4.1
	70%	6.6	14.0	5.1	10.0	31.5	3.0	40.9	4.1
	75%	7.0	13.6	5.4	9.6	33.4	3.2	43.7	4.0
	80%	7.4	13.2	5.7	9.3	35.3	3.5	46.4	3.9
	85%	7.8	12.7	6.1	8.9	37.2	3.7	49.1	3.9
	90%	8.2	12.2	6.4	8.5	39.0	4.0	51.8	3.8
	95%	8.5	11.8	6.7	8.0	40.7	4.3	54.4	3.7
	100%	8.9	11.3	7.0	7.6	42.4	4.6	57.0	3.7
70.0 / 57.4	20%	-	-	-	-	-	-	-	-
	25%	2.9	16.4	2.4	12.0	16.2	1.0	19.5	5.6
	30%	3.5	16.2	2.9	11.7	19.7	1.2	23.6	5.7
	35%	4.1	15.9	3.4	11.4	23.1	1.4	27.6	5.8
	40%	4.7	15.5	3.9	11.0	26.4	1.6	31.6	5.8
	45%	5.3	15.1	4.4	10.6	29.7	1.8	35.5	5.7
	50%	5.9	14.7	4.9	10.2	32.8	2.1	39.4	5.6
	55%	6.4	14.2	5.3	9.7	35.8	2.3	43.2	5.5
	60%	7.0	13.6	5.8	9.2	38.8	2.5	46.9	5.4
	65%	7.5	13.1	6.2	8.7	41.6	2.8	50.5	5.3
	70%	8.0	12.5	6.7	8.1	44.4	3.1	54.1	5.2
	75%	8.4	11.9	7.1	7.5	47.0	3.3	57.7	5.1
	80%	8.9	11.2	7.6	6.8	49.6	3.6	61.2	5.0
	85%	9.4	10.6	8.0	6.2	52.2	3.9	64.6	4.8
	90%	9.8	9.9	8.4	5.5	54.6	4.2	68.0	4.7
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
90.0 / 77.4	20%	-	-	-	-	-	-	-	-
	25%	4.1	15.9	3.2	11.5	22.7	0.9	25.8	8.0
	30%	4.9	15.4	3.8	11.1	27.4	1.1	31.0	8.0
	35%	5.7	14.8	4.5	10.6	31.9	1.4	36.2	7.8
	40%	6.5	14.1	5.1	10.0	36.3	1.6	41.3	7.7
	45%	7.3	13.3	5.7	9.3	40.5	1.8	46.2	7.5
	50%	8.0	12.4	6.3	8.6	44.6	2.0	51.1	7.3
	55%	8.7	11.5	6.9	7.8	48.6	2.3	55.9	7.1
	60%	9.4	10.5	7.5	7.0	52.4	2.6	60.6	6.9
	65%	10.1	9.5	8.0	6.1	56.2	2.8	65.2	6.7
	70%	-	-	-	-	-	-	-	-
	75%	-	-	-	-	-	-	-	-
	80%	-	-	-	-	-	-	-	-
	85%	-	-	-	-	-	-	-	-
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-

LOAD EFT / LFT (°F): 120.0 / 136.2

SOURCE EFT / LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE APD (PSI)	LOAD FR (GPM)	LOAD APD (PSI)	HE (mBTUh)	P (kW)	HC (mBTUh)	COP (-)
10.0 / 2.8	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	2.0	16.6	1.4	12.3	6.5	1.6	11.7	2.1
	40%	2.3	16.6	1.6	12.3	7.4	1.8	13.3	2.1
	45%	2.6	16.5	1.8	12.2	8.3	2.0	14.9	2.2
	50%	2.9	16.4	2.0	12.1	9.2	2.2	16.4	2.2
	55%	-	-	-	-	-	-	-	-
	60%	-	-	-	-	-	-	-	-
	65%	-	-	-	-	-	-	-	-
	70%	-	-	-	-	-	-	-	-
	75%	-	-	-	-	-	-	-	-
	80%	-	-	-	-	-	-	-	-
	85%	-	-	-	-	-	-	-	-
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
30.0 / 21.0	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	2.5	16.5	2.0	12.2	10.1	1.8	15.8	2.6
	40%	2.9	16.4	2.2	12.1	11.6	2.0	18.0	2.7
	45%	3.3	16.3	2.5	11.9	13.1	2.2	20.3	2.7
	50%	3.7	16.1	2.8	11.8	14.6	2.4	22.4	2.7
	55%	4.0	16.0	3.0	11.6	15.9	2.7	24.6	2.7
	60%	4.3	15.8	3.3	11.5	17.3	2.9	26.7	2.7
	65%	4.7	15.6	3.6	11.3	18.6	3.2	28.8	2.7
	70%	5.0	15.4	3.8	11.1	19.8	3.4	30.9	2.6
	75%	5.3	15.1	4.1	10.9	21.0	3.7	33.0	2.6
	80%	5.6	14.9	4.3	10.7	22.2	4.0	35.0	2.6
	85%	5.9	14.7	4.6	10.5	23.3	4.3	37.0	2.5
	90%	6.1	14.4	4.8	10.2	24.4	4.5	39.0	2.5
	95%	6.4	14.2	5.1	10.0	25.4	4.8	41.0	2.5
	100%	6.6	14.0	5.3	9.7	26.4	5.1	42.9	2.5
50.0 / 39.2	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	3.0	16.4	2.5	11.9	14.1	1.8	20.1	3.2
	40%	3.4	16.2	2.8	11.7	16.3	2.1	23.0	3.3
	45%	3.8	16.0	3.2	11.5	18.4	2.3	25.8	3.3
	50%	4.3	15.8	3.5	11.3	20.4	2.6	28.6	3.3
	55%	4.7	15.6	3.9	11.0	22.3	2.8	31.4	3.3
	60%	5.1	15.3	4.2	10.8	24.2	3.1	34.1	3.2
	65%	5.4	15.0	4.5	10.5	26.0	3.4	36.8	3.2
	70%	5.8	14.7	4.9	10.2	27.7	3.6	39.4	3.2
	75%	6.2	14.4	5.2	9.9	29.4	3.9	42.0	3.1
	80%	6.5	14.1	5.5	9.5	31.0	4.2	44.6	3.1
	85%	6.8	13.8	5.8	9.2	32.6	4.5	47.1	3.1
	90%	7.1	13.5	6.1	8.8	34.1	4.8	49.6	3.0
	95%	7.4	13.1	6.4	8.4	35.5	5.1	52.0	3.0
	100%	7.7	12.8	6.7	8.0	36.9	5.5	54.4	2.9
70.0 / 57.4	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	3.7	16.1	3.3	11.5	20.4	1.9	26.4	4.1
	40%	4.2	15.9	3.7	11.2	23.4	2.1	30.2	4.2
	45%	4.7	15.5	4.2	10.8	26.4	2.4	34.0	4.2
	50%	5.2	15.2	4.7	10.4	29.2	2.7	37.7	4.2
	55%	5.7	14.8	5.1	9.9	31.9	2.9	41.3	4.1
	60%	6.2	14.4	5.5	9.5	34.6	3.2	44.9	4.1
	65%	6.7	13.9	6.0	9.0	37.1	3.5	48.4	4.0
	70%	7.1	13.5	6.4	8.5	39.6	3.8	51.8	4.0
	75%	7.5	13.0	6.8	7.9	42.0	4.1	55.1	3.9
	80%	7.9	12.5	7.2	7.3	44.2	4.4	58.4	3.8
	85%	8.3	12.0	7.6	6.7	46.4	4.8	61.7	3.8
	90%	8.7	11.5	8.0	6.1	48.5	5.1	64.9	3.7
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
90.0 / 77.4	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	5.1	15.3	4.2	10.8	28.2	1.9	34.1	5.4
	40%	5.8	14.7	4.8	10.2	32.2	2.1	39.0	5.4
	45%	6.5	14.1	5.4	9.6	36.2	2.4	43.8	5.4
	50%	7.2	13.4	6.0	9.0	40.0	2.7	48.5	5.3
	55%	7.8	12.7	6.6	8.3	43.6	3.0	53.1	5.2
	60%	8.5	11.9	7.1	7.5	47.2	3.3	57.6	5.1
	65%	9.1	11.0	7.7	6.7	50.6	3.6	62.0	5.0
	70%	9.7	10.1	8.2	5.8	53.8	3.9	66.3	4.9
	75%	-	-	-	-	-	-	-	-
	80%	-	-	-	-	-	-	-	-
	85%	-	-	-	-	-	-	-	-
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-

LOAD EFT / LFT (°F): 130.0 / 146.2

SOURCE EFT / LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE APD (PSI)	LOAD FR (GPM)	LOAD APD (PSI)	HE (mBTUh)	P (kW)	HC (mBTUh)	COP (-)
10.0 / 2.8	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	-	-	-	-	-	-	-	-
	40%	-	-	-	-	-	-	-	-
	45%	-	-	-	-	-	-	-	-
	50%	-	-	-	-	-	-	-	-
	55%	-	-	-	-	-	-	-	-
	60%	-	-	-	-	-	-	-	-
	65%	-	-	-	-	-	-	-	-
	70%	-	-	-	-	-	-	-	-
	75%	-	-	-	-	-	-	-	-
	80%	-	-	-	-	-	-	-	-
	85%	-	-	-	-	-	-	-	-
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
30.0 / 21.0	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	2.4	16.6	2.1	12.1	9.7	2.1	16.9	2.3
	40%	2.8	16.5	2.4	12.0	11.1	2.4	19.2	2.4
	45%	3.1	16.3	2.7	11.8	12.5	2.6	21.5	2.4
	50%	3.5	16.2	2.9	11.7	13.9	2.9	23.8	2.4
	55%	3.8	16.1	3.2	11.5	15.2	3.2	26.0	2.4
	60%	4.1	15.9	3.5	11.3	16.4	3.5	28.3	2.4
	65%	4.4	15.7	3.8	11.1	17.6	3.8	30.4	2.4
	70%	4.7	15.6	4.0	10.9	18.7	4.1	32.6	2.3
	75%	5.0	15.4	4.3	10.7	19.8	4.4	34.7	2.3
	80%	5.2	15.2	4.5	10.5	20.8	4.7	36.8	2.3
	85%	5.5	15.0	4.8	10.3	21.8	5.0	38.8	2.3
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
50.0 / 39.2	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	2.9	16.4	2.6	11.9	13.6	2.2	21.2	2.8
	40%	3.3	16.3	3.0	11.7	15.7	2.5	24.3	2.8
	45%	3.7	16.1	3.4	11.4	17.7	2.8	27.2	2.9
	50%	4.1	15.9	3.7	11.2	19.7	3.1	30.2	2.9
	55%	4.5	15.7	4.1	10.9	21.5	3.4	33.0	2.9
	60%	4.9	15.4	4.4	10.6	23.3	3.7	35.8	2.9
	65%	5.2	15.2	4.8	10.3	25.0	4.0	38.6	2.8
	70%	5.6	14.9	5.1	9.9	26.6	4.3	41.3	2.8
	75%	5.9	14.6	5.4	9.6	28.2	4.6	44.0	2.8
	80%	6.2	14.4	5.8	9.2	29.7	5.0	46.7	2.8
	85%	6.5	14.1	6.1	8.9	31.1	5.3	49.3	2.7
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
70.0 / 57.4	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	3.5	16.2	3.4	11.4	19.4	2.3	27.1	3.5
	40%	4.0	16.0	3.8	11.1	22.4	2.5	31.1	3.6
	45%	4.5	15.7	4.3	10.7	25.3	2.8	34.9	3.6
	50%	5.0	15.3	4.8	10.3	28.0	3.1	38.7	3.6
	55%	5.5	15.0	5.2	9.8	30.6	3.5	42.4	3.6
	60%	5.9	14.6	5.7	9.3	33.2	3.8	46.1	3.6
	65%	6.4	14.2	6.1	8.8	35.6	4.1	49.6	3.5
	70%	6.8	13.8	6.6	8.2	37.9	4.5	53.1	3.5
	75%	7.2	13.4	7.0	7.7	40.1	4.8	56.5	3.4
	80%	-	-	-	-	-	-	-	-
	85%	-	-	-	-	-	-	-	-
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
90.0 / 77.4	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	4.7	15.6	4.1	10.9	26.2	2.1	33.1	4.5
	40%	5.4	15.1	4.7	10.4	30.1	2.4	37.9	4.6
	45%	6.1	14.5	5.3	9.8	33.8	2.7	42.6	4.6
	50%	6.7	13.9	5.8	9.2	37.5	3.0	47.2	4.5
	55%	7.3	13.2	6.4	8.5	41.0	3.4	51.7	4.5
	60%	7.9	12.5	6.9	7.8	44.3	3.7	56.1	4.4
	65%	8.5	11.8	7.5	7.0	47.5	4.0	60.4	4.4
	70%	9.1	11.0	8.0	6.2	50.6	4.4	64.6	4.3
	75%	-	-	-	-	-	-	-	-
	80%	-	-	-	-	-	-	-	-
	85%	-	-	-	-	-	-	-	-
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-

NetZero+ BW/CW 12

Performance data **Cooling**

SOURCE EFT / LFT	SPEED	LOAD EFT / LFT °F																																							
		50.0 / 41.0								60.0 / 49.2								70.0 / 59.2								80.0 / 67.4								90.0 / 77.4							
		SOURCE		LOAD						SOURCE		LOAD						SOURCE		LOAD						SOURCE		LOAD						SOURCE		LOAD					
		FR	APD	FR	APD	HC	P	HE	EER	FR	APD	FR	APD	HC	P	HE	EER	FR	APD	FR	APD	HC	P	HE	EER	FR	APD	FR	APD	HC	P	HE	EER	FR	APD	FR	APD	HC	P	HE	EER
°F		GPM	PSI	GPM	PSI	mBTUh	kW	mBTUh	-	GPM	PSI	GPM	PSI	mBTUh	kW	mBTUh	-	GPM	PSI	GPM	PSI	mBTUh	kW	mBTUh	-	GPM	PSI	GPM	PSI	mBTUh	kW	mBTUh	-	GPM	PSI	GPM	PSI	mBTUh	kW	mBTUh	-
50.0 / 62.6	20%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25%	2.7	16.5	2.8	11.8	14.9	0.7	12.7	18.5	3.2	16.3	2.9	11.7	17.7	0.7	15.5	23.6	3.7	16.1	3.5	11.3	20.7	0.6	18.7	30.0	4.4	15.8	3.6	11.3	24.3	0.6	22.4	38.1	5.1	15.3	4.2	10.8	28.2	0.5	26.5	48.3
	30%	3.2	16.3	3.4	11.4	18.1	0.8	15.5	19.1	3.8	16.0	3.5	11.3	21.3	0.8	18.8	23.9	4.5	15.7	4.2	10.8	25.0	0.8	22.6	30.0	5.2	15.2	4.3	10.7	29.1	0.7	26.8	37.4	6.0	14.5	5.0	10.0	33.7	0.7	31.5	46.5
	35%	3.8	16.1	4.0	10.9	21.2	0.9	18.2	19.2	4.5	15.7	4.1	10.9	25.0	0.9	22.0	23.8	5.2	15.2	4.9	10.2	29.1	0.9	26.3	29.6	6.1	14.5	4.9	10.1	33.9	0.9	31.2	36.4	7.0	13.6	5.8	9.2	39.0	0.8	36.5	44.5
	40%	4.4	15.8	4.6	10.4	24.3	1.1	20.8	19.2	5.1	15.3	4.7	10.4	28.6	1.1	25.2	23.5	6.0	14.6	5.5	9.5	33.3	1.0	30.0	28.9	6.9	13.7	5.6	9.4	38.6	1.0	35.4	35.1	7.9	12.5	6.6	8.3	44.3	1.0	41.3	42.4
	45%	4.9	15.4	5.2	9.8	27.4	1.2	23.4	19.0	5.8	14.8	5.2	9.8	32.1	1.2	28.2	23.1	6.7	13.9	6.2	8.7	37.3	1.2	33.5	28.1	7.7	12.7	6.3	8.6	43.2	1.2	39.5	33.8	8.9	11.3	7.3	7.2	49.5	1.1	46.0	40.5
	50%	5.5	15.0	5.8	9.2	30.4	1.4	26.0	18.6	6.4	14.2	5.8	9.2	35.6	1.4	31.3	22.5	7.4	13.1	6.9	7.8	41.4	1.4	37.1	27.2	8.6	11.7	6.9	7.8	47.8	1.3	43.6	32.5	9.8	9.9	8.0	6.1	54.7	1.3	50.6	38.6
	55%	6.0	14.6	6.3	8.5	33.4	1.6	28.5	18.3	7.0	13.6	6.3	8.5	39.1	1.6	34.2	21.9	8.1	12.3	7.5	6.9	45.3	1.5	40.5	26.3	9.4	10.6	7.5	6.9	52.3	1.5	47.5	31.3	10.7	8.4	8.7	4.9	59.7	1.5	55.1	36.8
	60%	6.5	14.1	6.9	7.8	36.5	1.7	31.0	17.9	7.6	12.9	6.9	7.8	42.6	1.7	37.1	21.3	8.8	11.3	8.1	6.0	49.3	1.7	43.8	25.5	10.2	9.3	8.2	5.9	56.7	1.7	51.4	30.1	11.6	6.8	9.4	3.6	64.7	1.7	59.4	35.2
	65%	7.1	13.5	7.4	7.0	39.5	1.9	33.4	17.4	8.3	12.1	7.4	7.1	46.0	1.9	40.0	20.7	9.5	10.3	8.7	4.9	53.2	1.9	47.1	24.6	11.0	8.0	8.8	4.9	61.1	1.9	55.2	28.9	-	-	-	-	-	-	-	-
	70%	7.6	12.9	7.9	6.2	42.4	2.1	35.8	17.0	8.9	11.3	7.9	6.3	49.5	2.1	42.8	20.1	10.2	9.2	9.3	3.8	57.0	2.1	50.4	23.8	11.7	6.5	9.3	3.8	65.5	2.1	58.9	27.8	-	-	-	-	-	-	-	-
	75%	8.1	12.3	8.5	5.4	45.4	2.3	38.1	16.6	9.5	10.4	8.4	5.4	52.8	2.3	45.5	19.5	10.9	8.1	9.9	2.7	60.9	2.3	53.5	23.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	80%	8.7	11.6	9.0	4.5	48.3	2.5	40.4	16.1	10.1	9.5	8.9	4.6	56.2	2.5	48.2	18.9	11.6	6.8	10.5	1.6	64.6	2.5	56.6	22.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	85%	9.2	10.8	9.5	3.6	51.3	2.7	42.7	15.7	10.7	8.5	9.4	3.7	59.5	2.8	50.8	18.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	90%	9.7	10.0	10.0	2.6	54.2	2.9	44.9	15.3	11.3	7.4	9.9	2.8	62.8	3.0	53.4	17.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	95%	10.2	9.2	10.5	1.6	57.1	3.2	47.1	14.9	11.9	6.3	10.4	1.8	66.1	3.2	55.9	17.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	100%	10.8	8.3	10.9	0.6	60.0	3.4	49.2	14.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
70.0 / 82.6	20%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25%	2.6	16.5	2.5	11.9	14.4	0.9	11.5	12.5	3.0	16.4	2.6	11.9	16.9	0.9	14.0	15.6	3.5	16.2	3.1	11.6	19.7	0.9	16.9	19.5	4.1	15.9	3.2	11.5	22.8	0.8	20.2	24.3	4.7	15.5	3.8	11.1	26.3	0.8	23.8	30.3
	30%	3.1	16.3	3.1	11.6	17.5	1.1	14.0	13.1	3.7	16.1	3.2	11.5	20.5	1.1	17.1	16.1	4.3	15.8	3.8	11.1	23.8	1.0	20.5	19.9	4.9	15.4	3.9	11.1	27.6	1.0	24.4	24.5	5.7	14.8	4.5	10.5	31.7	1.0	28.7	30.1
	35%	3.7	16.1	3.7	11.2	20.6	1.2	16.6	13.4	4.3	15.8	3.7	11.2	24.0	1.2	20.1	16.4	5.0	15.3	4.4	10.6	27.9	1.2	24.0	20.0	5.8	14.7	4.5	10.5	32.2	1.2	28.5	24.3	6.6	14.0	5.3	9.7	36.9	1.1	33.4	29.5
	40%	4.2	15.8	4.2	10.8	23.6	1.4	19.0	13.5	4.9	15.4	4.3	10.7	27.5	1.4	23.0	16.4	5.7	14.8	5.1	10.0	31.9	1.4	27.5	19.9	6.6	14.0	5.2	9.9	36.8	1.4	32.5	24.0	7.6	13.0	6.0	8.9	42.1	1.3	37.9	28.7
	45%	4.8	15.5	4.8	10.3	26.6	1.6	21.5	13.5	5.6	14.9	4.8	10.2	31.0	1.6	25.9	16.3	6.4	14.2	5.7	9.3	35.9	1.6	30.8	19.6	7.4	13.1	5.8	9.2	41.3	1.6	36.4	23.5	8.5	11.8	6.7	8.0	47.2	1.5	42.4	27.9
	50%	5.3	15.1	5.3	9.7	29.5	1.8	23.8	13.4	6.2	14.4	5.3	9.7	34.4	1.8	28.7	16.1	7.1	13.4	6.3	8.6	39.8	1.8	34.1	19.2	8.2	12.2	6.4	8.5	45.8	1.8	40.2	22.9	9.4	10.6	7.4	7.0	52.2	1.7	46.7	27.0
	55%	5.8	14.7	5.8	9.2	32.5	2.0	26.1	13.2	6.8	13.8	5.8	9.1	37.8	2.0	31.5	15.8	7.8	12.6	6.9	7.8	43.7	2.0	37.3	18.8	9.0	11.1	7.0	7.7	50.1	2.0	43.9	22.3	10.2	9.2	8.1	6.0	57.1	1.9	51.0	26.2
	60%	6.3	14.2	6.3	8.6	35.4	2.2	28.4	13.0	7.4	13.2	6.3	8.5	41.2	2.2	34.2	15.5	8.5	11.8	7.5	6.9	47.5	2.2	40.5	18.4	9.8	10.0	7.5	6.9	54.5	2.2	47.5	21.7	11.1	7.7	8.7	4.9	61.9	2.2	55.1	25.3
	65%	6.9	13.7	6.8	7.9	38.3	2.4	30.6	12.8	8.0	12.5	6.8	7.9	44.5	2.4	36.8	15.2	9.2	10.8	8.1	6.1	51.2	2.4	43.5	18.0	10.5	8.7	8.1	6.0	58.7	2.4	51.0	21.1	12.0	6.1	9.4	3.7	66.7	2.4	59.1	24.5
	70%	7.4	13.2	7.3	7.2	41.2	2.6	32.8	12.6	8.6	11.7	7.3	7.2	47.8	2.7	39.4	14.8	9.9	9.8	8.6	5.1	55.0	2.7	46.5	17.5	11.3	7.4	8.7	5.1	62.9	2.7	54.5	20.4	-	-	-	-	-	-	-	-
	75%	7.9	12.6	7.8	6.5	44.0	2.8	34.9	12.3	9.2	10.9	7.8	6.5	51.0	2.9	41.9	14.5	10.5	8.8	9.2	4.2	58.6	2.9	49.4	17.1	12.0	6.0	9.2	4.1	67.0	2.9	57.8	19.8	-	-	-	-	-	-	-	-
	80%	8.4	11.9	8.2	5.8	46.8	3.1	37.0	12.1	9.7	10.0	8.2	5.8	54.2	3.1	44.3	14.2	11.2	7.6	9.7	3.2	62.3	3.1	52.3	16.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	85%	8.9	11.3	8.7	5.0	49.6	3.3	39.1	11.8	10.3	9.1	8.7	5.1	57.4	3.4	46.7	13.8	11.8	6.4	10.2	2.2	65.8	3.4	55.0	16.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	90%	9.4	10.5	9.1	4.2	52.4	3.6	41.1	11.5	10.9	8.1	9.1	4.3	60.6	3.6	49.1	13.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	95%	9.9	9.8	9.6	3.4	55.1	3.8	43.0	11.3	11.4	7.1	9.5	3.5	63.7	3.9	51.3	13.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	100%	10.4	9.0	10.0	2.6	57.9	4.1	44.9	11.0	12.0	6.1	9.9	2.7	66.8	4.2	53.6	12.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
90.0 / 102.6	20%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30%	3.1	16.4	2.8	11.7	17.1	1.3	12.8	9.5	3.6	16.2	2.9	11.7	19.8	1.3	15.5	11.6	4.1	15.9	3.4	11.4	22.9	1.3	18.6	14.1	4.7	15.5	3.5	11.3	26.3	1.3	22.2	17.1	5.4	15.1	4.1	10.8	30.1	1.3	26.0	20.7
	35%	3.6	16.2	3.4	11.4	20.1	1.5	15.1	9.9	4.2	15.9	3.4	11.4	23.3	1.5	18.3	11.9	4.8	15.5	4.1	10.9	26.8	1.5	21.9	14.4	5.5	15.0	4.1	10.8	30.9	1.5	26.0	17.3	6.3	14.3	4.8	10.2	35.2	1.5	30.5	20.7
	40%	4.1	15.9	3.9	11.1	23.0	1.7	17.4	10.0	4.8	15.5	3.9	11.0	26.7	1.7	21.1	12.1	5.5	15.0	4.7	10.4	30.8	1.7	25.2	14.5	6.3	14.3	4.7	10.3	35.3	1.7	29.8	17.3	7.2	13.4	5.5	9.5	40.2	1.7	34.9	20.6
	45%	4.6	15.6	4.4	10.6	25.9	1.9	19.7	10.1	5.4	15.1	4.4	10.6	30.1	2.0	23.8	12.1	6.2	14.4	5.3	9.8	34.6	2.0	28.3	14.4	7.1	13.5	5.3	9.7	39.7	2.0	33.5	17.2	8.1	12.3	6.2	8.7	45.2	1.9	39.1	20.3
	50%	5.2	15.2	4.9	10.2	28.8	2.2	21.8	10.1	6.0	14.6	4.9	10.2	33.4	2.2	26.4	12.0	6.9	13.7	5.8	9.2	38.4	2.2	31.4	14.3	7.9	12.6	5.9	9.1	44.0	2.2	37.1	16.9	9.0	11.1	6.9	7.8	50.0	2.2	43.2	19.9
	55%	5.7	14.8	5.3	9.7	31.6	2.4	24.0	10.0	6.6	14.0	5.4	9.7	36.7	2.4	28.9	11.9	7.6	13.0	6.4	8.5	42.2	2.4	34.4	14.2	8.7	11.6	6.4	8.4	48.3	2.4	40.6	16.7	9.8	9.9	7.5	6.9	54.8	2.4	47.2	19.5
	60%	6.2	14.4	5.8	9.2	34.4	2.6	26.0	9.9	7.2	13.4	5.8	9.2	39.9	2.7	31.4	11.8	8.2	12.2	6.9	7.8	45.9	2.7	37.3	13.9	9.4	10.5	7.0	7.7	52.5	2.7	44.0	16.4	10.7	8.5	8.1	6.0	59.5	2.7	51.1	19.0
	65%	6.7	13.9	6.2	8.7	37.2	2.9	28.1	9.8	7.7	12.8	6.3	8.6	43.1	2.9	33.8	11.6	8.9	11.3	7.4	7.0	49.5	2.9	40.2	13.7	10.1	9.4	7.5	6.9	56.6	2.9	47.2	16.0	11.5	7.0	8.7	5.0	64.1	3.0	54.8	18.6
	70%	7.2	13.4	6.7	8.1	40.0	3.1	30.0	9.7	8.3	12.1	6.7	8.1	46.3	3.2	36.2	11.4	9.5	10.3	7.9	6.2	53.1	3.2	42.9	13.4	10.9	8.1	8.0	6.1	60.6	3.2	50.4	15.7	-	-	-	-	-	-	-	-
	75%	7.7	12.9	7.1	7.5	42.7	3.4	32.0	9.5	8.9	11.3	7.1	7.5	49.4	3.4	38.5	11.2	10.2	9.4	8.4	5.4	56.6	3.5	45.6	13.2	11.6	6.8	8.5	5.3	64.6	3.5	53.6	15.3	-	-	-	-	-	-	-	-
	80%	8.1	12.3	7.5	6.9	45.4	3.6	33.8	9.3	9.4	10.5	7.5	6.9	52.5	3.7	40.7	11.0	10.8	8.3	8.9	4.6	60.1	3.7	48.2	12.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	85%	8.6	11.6	7.9	6.3	48.0	3.9	35.6	9.2	10.0	9.7	7.9	6.2	55.5	4.0	42.9	10.8	11.4	7.2	9.4	3.7	63.5	4.0	50.7	12.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	90%	9.1	11.0	8.3	5.6	50.7	4.2	37.4	9.0	10.5	8.8	8.3	5.6	58.5	4.3	45.0	10.6	12.0	6.0	9.9	2.8	66.9	4.3	53.2	12.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	95%	9.6	10.3	8.7	5.0	53.3	4.4	39.1	8.8	11.0	7.9	8.7	5.0	61.5	4.6	47.0	10.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	100%	10.0	9.6	9.1	4.3	55.9	4.7	40.8	8.6	11.6	6.9	9.1	4.3	64.4	4.9	49.0	10.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
110.0 / 122.6	20%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.5	15.7	3.0	11.6	24.9	1.8	19.2	10.8	-	-	-	-	-	-	-	-
	35%	3.5	16.2	2.9	11.7	19.6	2.0	13.2	6.6	4.0	15.9	3.0	11.7	22.5	2.0	16.0	7.9	4.6	15.6	3.5	11.3	25.7	2.0	19.1	9.5	5.2	15.2	3.6	11.2	29.3	2.0	22.8	11.2	5.9	14.6	4.2	10.8	33.1	2.0	26.7	13.3
	40%	4.0	16.0	3.4	11.4	22.4	2.2	15.2	6.8	4.6	15.6	3.4	11.4	25.8	2.3	18.5	8.2	5.3	15.1	4.1	10.9	29.4	2.3	22.1	9.7	6.0	14.5	4.2	10.8	33.6	2.3	26.2	11.5	6.8	13.8	4.9	10.2	38.0	2.3	30.7	13.5
	45%	4.5	15.7	3.8	11.1	25.2	2.5	17.2	7.0	5.2	15.2	3.9	11.1	29.0	2.5	20.9	8.3	5.9	14.6	4.6	10.4	33.1	2.5	25.0	9.8	6.8	13.8	4.7	10.3	37.8	2.6	29.6	11.6	7.7	12.8	5.5	9.5	42.7	2.5	34.6	13.6
	50%	5.0	15.3	4.2	10.7	27.9	2.7	19.1	7.0	5.8	14.8	4.3	10.7	32.2	2.8	23.2	8.3	6.6	14.0	5.1	9.9	36.8	2.8	27.7	9.9	7.5	13.0	5.2	9.8	41.9	2.8	32.9	11.6	8.5	11.8	6.1	8.8	47.4	2.8	38.4	13.6
	55%	5.5	15.0	4.7	10.4	30.6	3.0	21.0	7.0	6.3	14.3	4.7	10.3	35.3	3.1	25.5	8.3	7.2	13.3	5.6	9.4	40.3	3.1	30.4	9.9	8.2	12.1	5.7	9.3	46.0	3.1	36.0	11.6	9.3	10.6	6.7	8.1	52.0	3.1	42.1	13.5
	60%	6.0	14.6	5.1	10.0	33.2	3.3	22.8	7.0	6.9	13.7	5.1	9.9	38.3	3.3	27.7	8.3	7.9	12.6	6.1	8.8	43.8	3.4	33.0	9.8	9.0	11.2	6.2	8.7	50.0	3.4	39.1	11.5	10.1	9.4	7.2	7.3	56.5	3.4	45.6	13.3
	65%	6.4	14.2	5.4	9.6	35.9	3.5	24.5	6.9	7.4	13.1	5.5	9.5	41.4	3.6	29.8	8.2	8.5	11.8	6.6	8.2	47.3	3.7	35.6	9.7	9.7	10.1	6.7	8.1	53.9	3.7	42.1	11.3	10.9	8.0	7.8	6.5	60.9	3.7	49.1	13.2
	70%	6.9	13.7	5.8	9.2	38.4	3.8	26.2	6.9	8.0	12.5	5.9	9.1	44.3	3.9	31.8	8.1	9.1	11.0	7.0	7.6	50.7	4.0	38.0	9.6	10.4	9.0	7.1	7.5	57.7	4.0	44.9	11.2	11.7	6.6	8.3	5.6	65.2	4.0	52.4	13.0
	75%	7.4	13.2	6.2	8.7	41.0	4.1	27.8	6.8	8.5	11.8	6.3	8.6	47.3	4.2	33.8	8.0	9.7	10.1	7.5	7.0	54.0	4.3	40.4	9.4	11.0	7.8	7.6	6.8	61.5	4.3	47.7	11.0	-	-	-	-	-	-	-	-
	80%	7.8	12.7	6.5	8.3	43.5	4.4	29.4	6.7	9.0	11.1	6.6	8.2	50.1	4.5	35.7	7.9	10.3	9.1	7.9	6.3	57.3	4.6	42.6	9.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	85%	8.2	12.1	6.9	7.8	46.0	4.7	30.9	6.6	9.5	10.4	7.0	7.7	53.0	4.8	37.6	7.8	10.9	8.2	8.3	5.6	60.5	4.9	44.8	9.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	90%	8.7	11.6	7.2	7.4	48.4	5.0	32.4	6.5	10.0	9.6	7.3	7.2	55.8	5.1	39.3	7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	95%	9.1	10.9	7.5	6.9	50.8	5.3	33.8	6.4	10.5	8.8	7.6	6.8	58.5	5.5	41.1	7.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
120.0 / 132.6	20%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	35%	3.5	16.2	2.7	11.8	19.4	2.3	12.1	5.4	4.0	16.0	2.7	11.8	22.2	2.3	14.7	6.4	4.5	15.7	3.3	11.5	25.1	2.3	17.6	7.6	5.1	15.3	3.3	11.4	28.5	2.3	21.0	8.9	5.8	14.8	3.9	11.0	32.1	2.3	24.6	10.6
	40%	4.0	16.0	3.1	11.6	22.1	2.5	14.0	5.6	4.5	15.6	3.2	11.6	25.3	2.6	17.0	6.6	5.2	15.2	3.8	11.1	28.8	2.6	20.4	7.8	5.9	14.7	3.9	11.1	32.7	2.6	24.3	9.2	6.6	14.0	4.5	10.5	36.9	2.6	28.5	10.9
	45%	4.5	15.7	3.5	11.3	24.8	2.8	15.8	5.7	5.1	15.3	3.6	11.3	28.5	2.9	19.3	6.8	5.8	14.7	4.3	10.7	32.4	2.9	23.1	8.0	6.6	14.0	4.4	10.6	36.8	2.9	27.5	9.4	7.4	13.1	5.1	9.9	41.5	2.9	32.2	11.0
	50%	4.9	15.4	3.9	11.0	27.5	3.1	17.6	5.7	5.7	14.8	4.0	11.0	31.6	3.1	21.5	6.8	6.4	14.1	4.8	10.3	36.0	3.2	25.7	8.1	7.3	13.2	4.9	10.2	40.9	3.2	30.6	9.5	8.3	12.1	5.7	9.3	46.1	3.2	35.8	11.1
	55%	5.4	15.1	4.3	10.7	30.1	3.3	19.3	5.8	6.2	14.4	4.4	10.6	34.6	3.4	23.6	6.9	7.1	13.5	5.2	9.8	39.4	3.5	28.2	8.1	8.0	12.4	5.3	9.7	44.8	3.5	33.5	9.5	9.1	11.0	6.2	8.7	50.6	3.5	39.3	11.1
	60%	5.9	14.7	4.7	10.4	32.7	3.6	21.0	5.8	6.7	13.9	4.7	10.3	37.5	3.7	25.6	6.9	7.7	12.8	5.7	9.3	42.8	3.8	30.7	8.1	8.7	11.5	5.8	9.2	48.7	3.8	36.4	9.5	9.9	9.8	6.8	8.0	55.0	3.9	42.7	11.1
	65%	6.3	14.3	5.0	10.0	35.2	3.9	22.5	5.7	7.3	13.3	5.1	10.0	40.5	4.0	27.5	6.8	8.3	12.1	6.1	8.8	46.2	4.1	33.0	8.1	9.4	10.5	6.2	8.7	52.5	4.2	39.2	9.4	10.6	8.6	7.3	7.2	59.3	4.2	45.9	11.0
	70%	6.8	13.8	5.3	9.7	37.7	4.2	24.1	5.7	7.8	12.7	5.4	9.6	43.3	4.3	29.4	6.8	8.9	11.3	6.5	8.3	49.5	4.4	35.3	8.0	10.1	9.5	6.7	8.1	56.2	4.5	41.9	9.3	11.4	7.2	7.8	6.5	63.5	4.5	49.1	10.8
	75%	7.2	13.4	5.7	9.3	40.1	4.5	25.5	5.6	8.3	12.1	5.8	9.2	46.1	4.7	31.2	6.7	9.4	10.5	6.9	7.7	52.7	4.7	37.5	7.9	10.7	8.4	7.1	7.6	59.9	4.8	44.5	9.2	-	-	-	-	-	-	-	-
	80%	7.6	12.9	6.0	9.0	42.5	4.8	26.9	5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	85%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	90%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

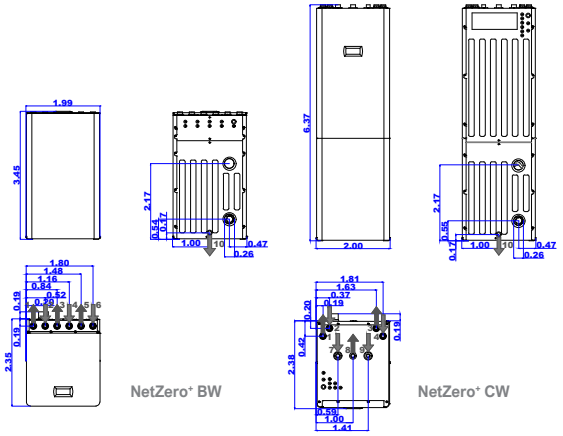
NetZero+ BW/CW 22

Water to water variable speed heat pumps with Inverter technology and R454B refrigerant

SPECIFICATIONS NetZero+ BW / CW			NetZero+ 22			
			BW HB / CW HB	BW PB / CW PB	BW RB / CW RB	BW BB / CW BB
APPLICATION	Place of installation	-	Indoor			
	Source system	-	Water loop / Ground water / Ground loop			
	DHW, Heating and Pool heating	-	▪	▪	▪	▪
	Integrated passive cooling	-	-	▪	-	▪
	Integrated active cooling	-	-	-	▪	▪
PERFORMANCE	Compressor modulation range	%	15 - 100			
	(2) Full load heating capacity (COP) - Water loop / Ground water / Ground Loop	mBTUh (-)	104.6 (3.87) / 85.6 (3.40) / 69.9 (2.92)			
	(2) Part load heating capacity (COP) - Water loop / Ground water / Ground Loop	mBTUh (-)	42.4 (5.48) / 34 (4.63) / 29.9 (4.01)			
	(2) Full load cooling capacity (EER) - Water loop / Ground water / Ground Loop	mBTUh (-)	-	-	41.1 (13.07) / 46.4 (18.71) / 42.8 (15.07)	
	(2) Part load cooling capacity (EER) - Water loop / Ground water / Ground Loop	mBTUh (-)	-	-	27.4 (14.98) / 30.4 (21.63) / 29.4 (19.4)	
	(3) Max. DHW outlet temperature without / with support	°F	145 / 176			
	(4) Noise power level (LWA)	dB (A)	46			
OPERATION LIMITS	Distribution / Set heating outlet temperature range	°F	50 - 140 / 68 - 140			
	Distribution / Set cooling outlet temperature range	°F	-	41 - 95 / 45 - 95		
	Source temperature range in heating / cooling mode	°F	-4 - 95 / 50 - 140			
	Minimum / Maximum refrigerant circuit pressure	psi	29.0 / 652.7			
	Source / Load circuit pressure range (in-built expansion vessels preload)	psi	7.3 - 43.5 (10.2) / 7.3 - 43.5 (21.8)			
	DHW tank capacity / maximum pressure	gal / psi	43.6 / 116.0 (NetZero+ CW)			
WORKING FLUIDS	R454B refrigerant load (GWP: 466)	Oz (kg)	47.6 (1.35)			
	Compressor oil type / load	Oz (kg)	POE / 41.6			
	(2) Source flow rate - Water loop / Ground water / Ground Loop	gpm	17.8 / 17.2 / 17.2			
	(2) Load flow rate - Water loop / Ground water / Ground Loop	gpm	13.2 / 12.8 / 12.8			
CONTROL ELECTRICAL DATA	(6) 1/N/PE 230 V / 50-60 Hz	-	▪			
	(7) Recommended external protection	-	C16A			
	Transformer primary circuit fuse	A	0.5			
	Transformer secondary circuit fuse	A	2.5			
HEAT PUMP ELECTRICAL DATA: SINGLE-PHASE VERSION	(6) 1/N/PE 230 V / 50-60 Hz	-	▪			
	(7) Recommended external protection	-	C50A			
	Maximum consumption (Source EFT=32°F, Load EFT=95°F)	kW / A	6.3 / 30.3			
	Maximum consumption (Source EFT=32°F, Load EFT=131°F)	kW / A	7.3 / 35.1			
	Maximum consumption	kW / A	8.0 / 47.0			
	(5) Minimum / Maximum starting current	A	1.9 / 10.1			
	Correction of cos Ø	-	0.96 / 1			
INTEGRATED SUPPORT ELECTRICAL HEATER ELECTRICAL DATA	(6) 3/PE 400 V / 50-60 Hz	-	▪			
	(7) Recommended external protection	-	1 / 2 / 3			
	Maximum consumption B0W35	kW / A	C16A / C20A / C32A			
	Maximum consumption B0W55	kW / A	2.0 / 4.0 / 6.0			
	Correction of cos Ø	-	8.8 / 17.6 / 26.4			
DIMENSIONS & WEIGHT	Height x width x depth	inch	B: 41.4x24.0x28.2 / C: 76.5x24.0x28.5			
	Empty weight (without packaging)	lb	B: 429.9 / C: 573.2	B: 451.9 / C: 595.2	B: 429.9 / C: 573.2	B: 451.9 / C: 595.2

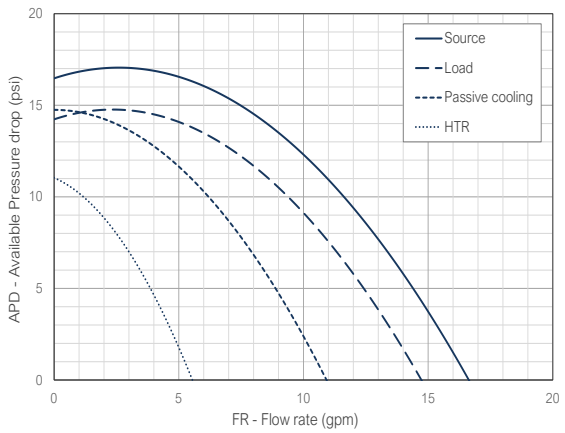
1. Air-to-water by means of a brine-to water heat pump combined with a hydraulic outdoor air unit.
2. Performance data referred to AHRI operating conditions.
3. Considering support provided by an emergency electrical heater or HTR. Max. DHW temp. with HTR can be limited by the compressor discharge temp.
4. In compliance with EN 12102.
5. Starting current depends on the working conditions of the hydraulic circuits.
6. The admissible voltage range for proper operation of the heat pump is ±10%.
7. Maximum consumption can vary significantly according to working conditions, or if the compressor´s operation range is restricted. Consult the technical service manual for more information.
8. Certification in process.

Dimensions and hydraulic connections

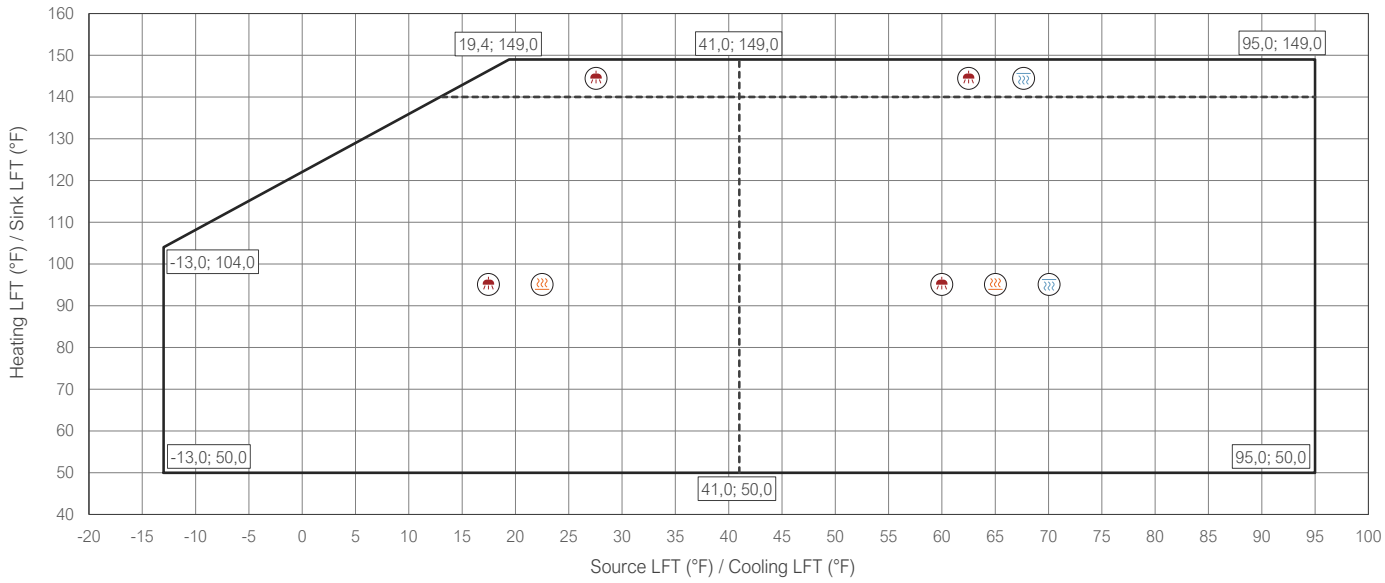


1. Heating/Cooling outlet **1 ¼" M**
2. Heating/Cooling inlet **1 ¼" M**
3. Source outlet **1 ¼" M**
4. Source inlet **1 ¼" M**
5. DHW system outlet **1 ¼" M**
6. DHW system inlet **1 ¼" M**
7. CW inlet **1" F**
8. DHW outlet **1" F**
9. DHW recirculation inlet **¾" F**
10. Drain **16mm**

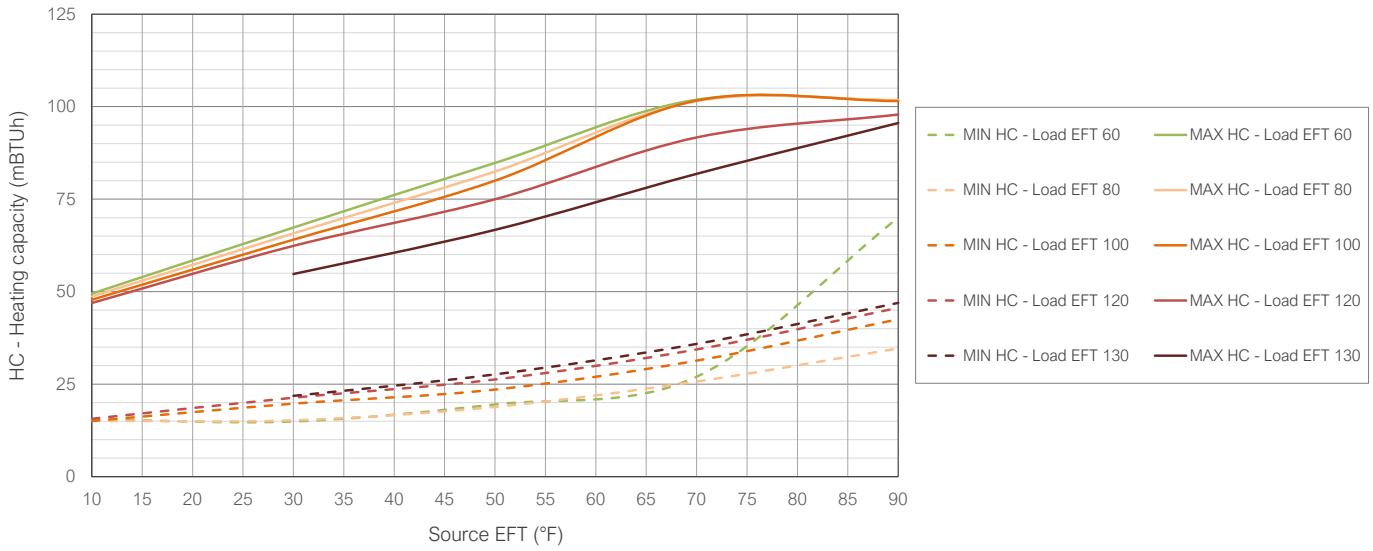
Pressure drop



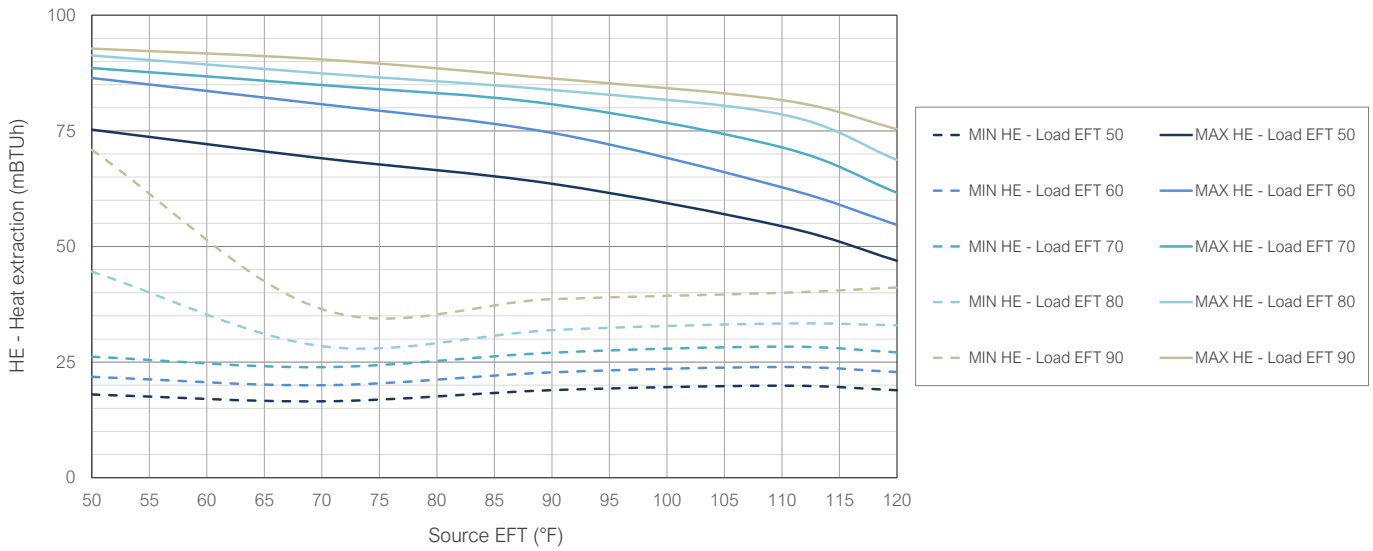
Operational chart



Heating capacity - Source EFT



Cooling capacity - Source EFT



NetZero+ BW/CW 22

Performance data **Heating**

LOAD EFT / LFT °F: **60.0 / 78.0**

SOURCE EFT / LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE APD (PSI)	LOAD FR (GPM)	LOAD APD (PSI)	LOAD HE (mBTUh)	LOAD P (kW)	LOAD HC (mBTUh)	LOAD COP (-)
10.0 / 1.0	20%	-	-	-	-	-	-	-	-
10.0 / 1.0	25%	-	-	-	-	-	-	-	-
10.0 / 1.0	30%	3.3	17.01	1.7	14.73	13.1	1.3	15.5	3.6
10.0 / 1.0	35%	3.9	16.92	2.0	14.75	15.3	1.4	18.0	3.7
10.0 / 1.0	40%	4.4	16.77	2.3	14.77	17.5	1.6	20.5	3.7
10.0 / 1.0	45%	4.9	16.58	2.6	14.76	19.7	1.8	23.0	3.7
10.0 / 1.0	50%	5.5	16.34	2.8	14.74	21.8	2.0	25.5	3.7
10.0 / 1.0	55%	6.0	16.06	3.1	14.71	23.8	2.2	27.9	3.7
10.0 / 1.0	60%	6.5	15.75	3.4	14.67	25.8	2.4	30.3	3.7
10.0 / 1.0	65%	7.0	15.40	3.6	14.61	27.8	2.7	32.8	3.6
10.0 / 1.0	70%	7.4	15.01	3.9	14.53	29.7	2.9	35.2	3.6
10.0 / 1.0	75%	7.9	14.60	4.2	14.45	31.5	3.1	37.5	3.5
10.0 / 1.0	80%	8.4	14.16	4.4	14.35	33.4	3.4	39.9	3.4
10.0 / 1.0	85%	8.8	13.68	4.7	14.23	35.2	3.7	42.3	3.4
10.0 / 1.0	90%	9.3	13.18	5.0	14.11	37.0	3.9	44.7	3.3
10.0 / 1.0	95%	9.7	12.65	5.2	13.97	38.7	4.2	47.1	3.3
10.0 / 1.0	100%	10.2	12.10	5.5	13.81	40.5	4.5	49.4	3.2
30.0 / 17.4	20%	-	-	-	-	-	-	-	-
30.0 / 17.4	25%	3.0	17.04	2.0	14.75	16.5	1.0	17.9	5.1
30.0 / 17.4	30%	3.6	16.97	2.4	14.77	19.9	1.2	21.5	5.2
30.0 / 17.4	35%	4.2	16.84	2.8	14.75	23.2	1.4	25.0	5.3
30.0 / 17.4	40%	4.7	16.66	3.2	14.70	26.4	1.6	28.5	5.2
30.0 / 17.4	45%	5.3	16.43	3.5	14.63	29.5	1.8	31.9	5.1
30.0 / 17.4	50%	5.8	16.15	3.9	14.53	32.5	2.0	35.3	5.1
30.0 / 17.4	55%	6.4	15.83	4.3	14.40	35.4	2.3	38.6	4.9
30.0 / 17.4	60%	6.9	15.47	4.7	14.25	38.3	2.5	41.9	4.8
30.0 / 17.4	65%	7.4	15.08	5.0	14.08	41.1	2.8	45.2	4.7
30.0 / 17.4	70%	7.9	14.66	5.4	13.88	43.8	3.1	48.4	4.6
30.0 / 17.4	75%	8.3	14.21	5.7	13.66	46.4	3.4	51.6	4.5
30.0 / 17.4	80%	8.8	13.74	6.1	13.42	49.0	3.7	54.8	4.4
30.0 / 17.4	85%	9.2	13.23	6.4	13.15	51.5	4.0	58.0	4.3
30.0 / 17.4	90%	9.7	12.71	6.8	12.87	54.0	4.3	61.1	4.2
30.0 / 17.4	95%	10.1	12.16	7.1	12.56	56.4	4.6	64.2	4.1
30.0 / 17.4	100%	10.5	11.59	7.5	12.23	58.8	5.0	67.3	4.0
50.0 / 33.8	20%	-	-	-	-	-	-	-	-
50.0 / 33.8	25%	3.2	17.03	2.6	14.76	22.7	1.0	23.3	7.2
50.0 / 33.8	30%	3.8	16.93	3.1	14.71	27.1	1.1	27.9	7.2
50.0 / 33.8	35%	4.4	16.77	3.6	14.62	31.5	1.3	32.4	7.1
50.0 / 33.8	40%	5.0	16.56	4.1	14.48	35.7	1.6	36.8	6.9
50.0 / 33.8	45%	5.5	16.30	4.6	14.29	39.7	1.8	41.1	6.7
50.0 / 33.8	50%	6.1	16.00	5.0	14.07	43.6	2.0	45.4	6.5
50.0 / 33.8	55%	6.6	15.66	5.5	13.81	47.4	2.3	49.6	6.3
50.0 / 33.8	60%	7.1	15.28	6.0	13.51	51.1	2.6	53.7	6.1
50.0 / 33.8	65%	7.6	14.87	6.4	13.18	54.6	2.9	57.7	5.9
50.0 / 33.8	70%	8.1	14.43	6.9	12.81	58.1	3.2	61.7	5.7
50.0 / 33.8	75%	8.6	13.96	7.3	12.41	61.5	3.5	65.7	5.5
50.0 / 33.8	80%	9.0	13.47	7.7	11.98	64.7	3.8	69.6	5.3
50.0 / 33.8	85%	9.5	12.96	8.2	11.52	67.9	4.2	73.4	5.1
50.0 / 33.8	90%	9.9	12.42	8.6	11.02	71.0	4.5	77.3	5.0
50.0 / 33.8	95%	10.3	11.87	9.0	10.50	74.1	4.9	81.0	4.8
50.0 / 33.8	100%	10.7	11.31	9.4	9.95	77.0	5.3	84.8	4.7
70.0 / 52.0	20%	-	-	-	-	-	-	-	-
70.0 / 52.0	25%	4.1	16.87	3.5	14.63	32.4	0.9	31.9	10.6
70.0 / 52.0	30%	4.8	16.63	4.2	14.43	38.4	1.1	37.9	10.3
70.0 / 52.0	35%	5.5	16.31	4.9	14.16	44.1	1.3	43.7	9.9
70.0 / 52.0	40%	6.2	15.91	5.5	13.82	49.6	1.5	49.3	9.5
70.0 / 52.0	45%	6.9	15.45	6.1	13.42	54.9	1.8	54.9	9.0
70.0 / 52.0	50%	7.5	14.94	6.7	12.95	60.0	2.0	60.3	8.6
70.0 / 52.0	55%	8.2	14.37	7.3	12.42	65.0	2.3	65.5	8.2
70.0 / 52.0	60%	8.8	13.77	7.9	11.84	69.8	2.6	70.7	7.8
70.0 / 52.0	65%	9.3	13.12	8.4	11.21	74.4	3.0	75.8	7.5
70.0 / 52.0	70%	9.9	12.44	9.0	10.53	78.8	3.3	80.8	7.2
70.0 / 52.0	75%	10.4	11.73	9.5	9.81	83.2	3.7	85.7	6.9
70.0 / 52.0	80%	11.0	10.99	10.1	9.03	87.4	4.0	90.6	6.6
70.0 / 52.0	85%	11.5	10.22	10.6	8.22	91.4	4.4	95.3	6.3
70.0 / 52.0	90%	12.0	9.44	11.1	7.36	95.4	4.8	100.0	6.1
70.0 / 52.0	95%	-	-	-	-	-	-	-	-
70.0 / 52.0	100%	-	-	-	-	-	-	-	-
90.0 / 72.0	20%	-	-	-	-	-	-	-	-
90.0 / 72.0	25%	-	-	-	-	-	-	-	-
90.0 / 72.0	30%	-	-	-	-	-	-	-	-
90.0 / 72.0	35%	-	-	-	-	-	-	-	-
90.0 / 72.0	40%	-	-	-	-	-	-	-	-
90.0 / 72.0	45%	9.2	13.28	7.9	11.77	73.3	1.7	71.3	12.0
90.0 / 72.0	50%	10.0	12.30	8.7	10.93	79.7	2.0	78.0	11.2
90.0 / 72.0	55%	10.8	11.26	9.4	10.01	85.8	2.3	84.4	10.5
90.0 / 72.0	60%	11.5	10.16	10.1	9.01	91.8	2.7	90.7	9.9
90.0 / 72.0	65%	12.2	9.00	10.8	7.94	97.5	3.0	96.9	9.4
90.0 / 72.0	70%	-	-	-	-	-	-	-	-
90.0 / 72.0	75%	-	-	-	-	-	-	-	-
90.0 / 72.0	80%	-	-	-	-	-	-	-	-
90.0 / 72.0	85%	-	-	-	-	-	-	-	-
90.0 / 72.0	90%	-	-	-	-	-	-	-	-
90.0 / 72.0	95%	-	-	-	-	-	-	-	-
90.0 / 72.0	100%	-	-	-	-	-	-	-	-

LOAD EFT / LFT °F: **80.0 / 96.2**

SOURCE EFT / LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE APD (PSI)	LOAD FR (GPM)	LOAD APD (PSI)	LOAD HE (mBTUh)	LOAD P (kW)	LOAD HC (mBTUh)	LOAD COP (-)
10.0 / 1.0	20%	-	-	-	-	-	-	-	-
10.0 / 1.0	25%	-	-	-	-	-	-	-	-
10.0 / 1.0	30%	2.9	17.04	1.9	14.74	11.7	1.6	15.1	2.8
10.0 / 1.0	35%	3.5	16.98	2.2	14.76	13.9	1.8	17.7	2.9
10.0 / 1.0	40%	4.0	16.87	2.5	14.76	16.1	2.0	20.2	3.0
10.0 / 1.0	45%	4.5	16.72	2.8	14.75	18.1	2.2	22.8	3.0
10.0 / 1.0	50%	5.0	16.53	3.1	14.71	20.1	2.5	25.2	3.0
10.0 / 1.0	55%	5.5	16.31	3.4	14.66	22.0	2.7	27.7	3.0
10.0 / 1.0	60%	6.0	16.05	3.7	14.59	23.9	3.0	30.1	3.0
10.0 / 1.0	65%	6.4	15.77	4.0	14.50	25.7	3.2	32.5	2.9
10.0 / 1.0	70%	6.9	15.46	4.3	14.40	27.4	3.5	34.9	2.9
10.0 / 1.0	75%	7.3	15.13	4.6	14.28	29.1	3.8	37.2	2.9
10.0 / 1.0	80%	7.7	14.77	4.9	14.15	30.8	4.1	39.5	2.8
10.0 / 1.0	85%	8.1	14.40	5.2	14.00	32.4	4.4	41.8	2.8
10.0 / 1.0	90%	8.5	14.01	5.4	13.84	33.9	4.7	44.1	2.8
10.0 / 1.0	95%	8.9	13.61	5.7	13.67	35.5	5.0	46.4	2.7
10.0 / 1.0	100%	9.3	13.18	6.0	13.48	37.0	5.3	48.7	2.7
30.0 / 17.4	20%	-	-	-	-	-	-	-	-
30.0 / 17.4	25%	2.7	17.05	2.2	14.76	15.1	1.3	17.4	3.9
30.0 / 17.4	30%	3.3	17.01	2.6	14.76	18.4	1.5	21.0	4.0
30.0 / 17.4	35%	3.9	16.92	3.0	14.72	21.5	1.8	24.6	4.1
30.0 / 17.4	40%	4.4	16.77	3.5	14.65	24.6	2.0	28.0	4.1
30.0 / 17.4	45%	4.9	16.58	3.9	14.54	27.5	2.3	31.4	4.0
30.0 / 17.4	50%	5.4	16.36	4.3	14.40	30.3	2.6	34.7	4.0
30.0 / 17.4	55%	5.9	16.10	4.7	14.24	33.0	2.8	38.0	3.9
30.0 / 17.4	60%	6.4	15.81	5.1	14.04	35.6	3.1	41.2	3.8
30.0 / 17.4	65%	6.8	15.49	5.5	13.82	38.2	3.5	44.4	3.8
30.0 / 17.4	70%	7.3	15.15	5.9	13.57	40.6	3.8	47.6	3.7
30.0 / 17.4	75%	7.7	14.78	6.3	13.30	43.0	4.1	50.7	3.6
30.0 / 17.4	80%	8.1	14.40	6.6	13.00	45.4	4.5	53.7	3.5
30.0 / 17.4	85%	8.5	14.00	7.0	12.67	47.6	4.8	56.8	3.5
30.0 / 17.4	90%	8.9	13.58	7.4	12.33	49.8	5.2	59.8	3.4
30.0 / 17.4	95%	9.3	13.15	7.8	11.96	51.9	5.6	62.8	3.3
30.0 / 17.4	100%	9.7	12.71	8.1	11.56	54.0	5.9	65.7	3.2
50.0 / 33.8	20%	-	-	-	-	-	-	-	-
50.0 / 33.8	25%	2.9	17.04	2.8	14.75	20.9	1.3	22.6	5.3
50.0 / 33.8	30%	3.5	16.98	3.3	14.67	25.2	1.5	27.1	5.3
50.0 / 33.8	35%	4.1	16.86	3.9	14.54	29.3	1.7	31.6	5.3
50.0 / 33.8	40%	4.6	16.69	4.4	14.35	33.2	2.0	35.9	5.2
50.0 / 33.8	45%	5.2	16.48	5.0	14.11	37.0	2.3	40.2	5.1
50.0 / 33.8	50%	5.7	16.23	5.5	13.83	40.7	2.6	44.3	5.0
50.0 / 33.8	55%	6.2	15.95	6.0	13.50	44.2	2.9	48.4	4.9
50.0 / 33.8	60%	6.6	15.64	6.5	13.13	47.6	3.2	52.4	4.7
50.0 / 33.8	65%	7.1	15.30	7.0	12.72	50.9	3.6	56.4	4.6
50.0 / 33.8	70%	7.5	14.94	7.4	12.27	54.1	3.9	60.2	4.5
50.0 / 33.8	75%	8.0	14.55	7.9	11.79	57.1	4.3	64.1	4.4
50.0 / 33.8	80%	8.4	14.15	8.4	11.27	60.1	4.7	67.8	4.2
50.0 / 33.8	85%	8.8	13.74	8.8	10.72	63.0	5.1	71.5	4.1
50.0 / 33.8	90%	9.2	13.31	9.3	10.13	65.8	5.5	75.2	4.0
50.0 / 33.8	95%	9.6	12.86	9.7	9.51	68.5	5.9	78.9	3.9
50.0 / 33.8	100%	9.9	12.41	10.2	8.86	71.1	6.4	82.5	3.8
70.0 / 52.0	20%	-	-	-	-	-	-	-	-
70.0 / 52.0	25%	3.7	16.94	3.8	14.57	29.9	1.2	30.5	7.4
70.0 / 52.0	30%	4.4	16.75	4.5	14.32	35.5	1.5	36.4	7.3
70.0 / 52.0	35%	5.1	16.49	5.2	13.99	41.0	1.7	42.1	7.1
70.0 / 52.0	40%	5.8	16.17	5.9	13.57	46.2	2.0	47.6	6.9
70.0 / 52.0	45%	6.4	15.78	6.6	13.07	51.2	2.3	53.0	6.7
70.0 / 52.0	50%	7.0	15.35	7.2	12.50	56.0	2.7	58.3	6.4
70.0 / 52.0	55%	7.6	14.87	7.8	11.86	60.7	3.0	63.5	6.2
70.0 / 52.0	60%	8.2	14.36	8.5	11.16	65.1	3.4	68.6	6.0
70.0 / 52.0	65%	8.7	13.81	9.1	10.41	69.4	3.7	73.5	5.8
70.0 / 52.0	70%	9.2	13.24	9.7	9.59	73.5	4.1	78.4	5.6
70.0 / 52.0	75%	9.7	12.64	10.3	8.73	77.5	4.5	83.2	5.4
70.0 / 52.0	80%	10.2	12.02	10.8	7.81	81.4	5.0	87.9	5.2
70.0 / 52.0	85%	10.7	11.39	11.4	6.84	85.1	5.4	92.5	5.0
70.0 / 52.0	90%	11.1	10.74	12.0	5.83	88.7	5.9	97.0	4.8
70.0 / 52.0	95%	11.6	10.07	12.5	4.77	92.2	6.3	101.5	4.7
70.0 / 52.0	100%	-	-	-	-	-	-	-	-
90.0 / 72.0	20%	-	-	-	-	-	-	-	-
90.0 / 72.0	25%	5.2	16.48	5.0	14.08	41.2	1.2	40.7	10.3
90.0 / 72.0	30%	6.1	16.00	5.9	13.54	48.4	1.4	47.9	9.9
90.0 / 72.0	35%	6.9	15.42	6.8	12.87	55.3	1.7	55.0	9.5
90.0 / 72.0	40%	7.8	14.73	7.6	12.07	61.9	2.0	61.9	9.0
90.0 / 72.0	45%	8.6	13.96	8.5	11.17	68.3	2.3	68.5	8.6
90.0 / 72.0	50%	9.3	13.12	9.3	10.16	74.3	2.7	75.0	8.2
90.0 / 72.0	55%	10.1	12.22	10.0	9.06	80.2	3.1	81.3	7.8
90.0 / 72.0	60%	10.8	11.27	10.8	7.88	85.8	3.5	87.5	7.4
90.0 / 72.0	65%	11.4	10.28	11.6	6.61	91.1	3.9	93.5	7.1
90.0 / 72.0	70%	12.1	9.25	12.3	5.27	96.3	4.3	99.4	6.8
90.0 / 72.0	75%	-	-	-	-	-	-	-	-
90.0 / 72.0	80%	-	-	-	-	-	-	-	-
90.0 / 72.0	85%	-	-	-	-	-	-	-	-
90.0 / 72.0	90%	-	-	-	-	-	-	-	-
90.0 / 72.0	95%	-	-	-	-	-	-	-	-
90.0 / 72.0	100%	-	-	-	-	-	-	-	-

LOAD EFT / LFT °F: **100.0 / 116.2**

SOURCE EFT / LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE APD (PSI)	LOAD FR (GPM)	LOAD APD (PSI)	LOAD HE (mBTUh)	LOAD P (kW)	LOAD HC (mBTUh)	LOAD COP (-)
10.0 / 1.0	20%	-	-	-	-	-	-	-	-
10.0 / 1.0	25%	-	-	-	-	-	-	-	-
10.0 / 1.0	30%	-	-	-	-	-	-	-	-
10.0 / 1.0	35%	3.0	17.04	2.1	14.76	12.0	2.2	17.2	2.3
10.0 / 1.0	40%	3.5	16.98	2.4	14.77	14.0	2.5	19.8	2.3
10.0 / 1.0	45%	4.0	16.88	2.8	14.75	16.0	2.8	22.4	2.4
10.0 / 1.0	50%	4.5	16.74	3.1	14.72	17.9	3.0	24.9	2.4
10.0 / 1.0	55%	4.9	16.58	3.4	14.67	19.7	3.3	27.3	2.4
10.0 / 1.0	60%	5.4	16.39	3.7	14.60	21.4	3.6	29.7	2.4
10.0 / 1.0	65%	5.8	16.17	4.0	14.52	23.1	3.9	32.1	2.4
10.0 / 1.0	70%	6.2	15.94	4.3	14.42	24.6	4.2	34.4	2.4
10.0 / 1.0	75%	6.6	15.69	4.5	14.31	26.2	4.6	36.7	2.4
10.0 / 1.0	80%	6.9	15.43	4.8	14.18	27.6	4.9	39.0	2.3
10.0 / 1.0	85%	7.3	15.15	5.1	14.04	29.0	5.3	41.2	2.3
10.0 / 1.0	90%	7.6	14.87	5.4	13.89	30.3	5.6	43.4	2.3
10.0 / 1.0	95%	7.9	14.58	5.6	13.73	31.6	6.0	45.6	2.2
10.0 / 1.0	100%	8.3	14.29	5.9	13.55	32.9	6.3	47.8	2.2
30.0 / 17.4	20%	-	-	-	-	-	-	-	-
30.0 / 17.4	25%	-	-	-	-	-	-	-	-
30.0 / 17.4	30%	2.9	17.04	2.5	14.76	16.3	2.0	20.5	3.0
30.0 / 17.4	35%	3.5	16.99	3.0	14.73	19.3	2.3	24.0	3.1
30.0 / 17.4	40%	4.0	16.89	3.4	14.66	22.2	2.6	27.4	3.1
30.0 / 17.4	45%	4.5	16.75	3.8	14.57	24.9	2.9	30.8	3.1
30.0 / 17.4	50%	4.9	16.58	4.2	14.44	27.5	3.2	34.0	3.1
30.0 / 17.4	55%	5.4	16.38	4.6	14.28	30.0	3.5	37.3	3.1
30.0 / 17.4	60%	5.8	16.16	5.0	14.09	32.4	3.9	40.4	3.1
30.0 / 17.4	65%	6.2	15.91	5.4	13.89	34.7	4.2	43.5	3.0
30.0 / 17.4	70%	6.6	15.65	5.8	13.65	37.0	4.6	46.6	3.0
30.0 / 17.4	75%	7.0	15.37	6.1	13.40	39.1	5.0	49.6	2.9
30.0 / 17.4	80%	7.4	15.07	6.5	13.12	41.1	5.4	52.6	2.9
30.0 / 17.4	85%	7.7	14.77	6.9	12.82	43.1	5.8	55.5	2.8
30.0 / 17.4	90%	8.1	14.46	7.2	12.50	45.0	6.2	58.4	2.8
30.0 / 17.4	95%	8.4	14.14	7.6	12.15	46.8	6.6	61.2	2.7
30.0 / 17.4	100%	8.7	13.82	7.9	11.79	48.6	7.1	64.0	2.7
50.0 / 33.8	20%	-	-	-	-	-	-	-	-
50.0 / 33.8	25%	-	-	-	-	-	-	-	-
50.0 / 33.8	30%	3.2	17.03	3.2	14.69	22.7	2.0	26.2	3.9
50.0 / 33.8	35%	3.7	16.95	3.8	14.57	26.5	2.3	30.6	3.9
50.0 / 33.8	40%	4.2	16.83	4.3	14.40	30.2	2.6	34.9	3.9
50.0 / 33.8	45%	4.7	16.67	4.8	14.18	33.8	2.9	39.1	3.9
50.0 / 33.8	50%	5.2	16.47	5.3	13.91	37.2	3.3	43.1	3.8
50.0 / 33.8	55%	5.6	16.25	5.8	13.61	40.4	3.7	47.1	3.8
50.0 / 33.8	60%	6.1	16.00	6.3	13.26	43.6	4.0	51.0	3.7
50.0 / 33.8	65%	6.5	15.74	6.8	12.88	46.6	4.4	54.9	3.6
50.0 / 33.8	70%	6.9	15.45	7.2	12.47	49.5	4.9	58.6	3.5
50.0 / 33.8	75%	7.3	15.15	7.7	12.01	52.2	5.3	62.3	3.5
50.0 / 33.8	80%	7.7	14.84	8.1	11.53	54.9	5.7	66.0	3.4
50.0 / 33.8	85%	8.0	14.51	8.6	11.02	57.4	6.2	69.5	3.3
50.0 / 33.8	90%	8.4	14.18	9.0	10.48	59.9	6.6	73.1	3.2
50.0 / 33.8	95%	8.7	13.84	9.5	9.91	62.3	7.1	76.6	3.2
50.0 / 33.8	100%	9.0	13.50	9.9	9.31	64.5	7.6	80.0	3.1
70.0 / 52.0	20%	-	-	-	-	-	-	-	-
70.0 / 52.0	25%	-	-	-	-	-	-	-	-
70.0 / 52.0	30%	4.0	16.87	4.3	14.40	32.1	2.0	34.8	5.2
70.0 / 52.0	35%	4.7	16.68	5.0	14.10	37.3	2.3	40.4	5.1
70.0 / 52.0	40%	5.3	16.42	5.7	13.71	42.2	2.7	45.8	5.0
70.0 / 52.0	45%	5.9	16.12	6.3	13.25	46.9	3.0	51.2	4.9
70.0 / 52.0	50%	6.5	15.77	7.0	12.73	51.4	3.4	56.3	4.8
70.0 / 52.0	55%	7.0	15.38	7.6	12.13	55.7	3.8	61.4	4.7
70.0 / 52.0	60%	7.5	14.96	8.2	11.49	59.9	4.2	66.3	4.6
70.0 / 52.0	65%	8.0	14.51	8.8	10.78	63.8	4.7	71.1	4.5
70.0 / 52.0	70%	8.5	14.05	9.4	10.02	67.6	5.1	75.9	4.3
70.0 / 52.0	75%	8.9	13.56	9.9	9.22	71.3	5.6	80.5	4.2
70.0 / 52.0	80%	9.4	13.06	10.5	8.37	74.8	6.1	85.0	4.1
70.0 / 52.0	85%	9.8	12.54	11.1	7.47	78.2	6.6	89.5	4.0
70.0 / 52.0	90%	10.2	12.02	11.6	6.53	81.4	7.1	93.9	3.9
70.0 / 52.0	95%	10.6	11.49	12.1	5.55	84.5	7.6	98.2	3.8
70.0 / 52.0	100%	-	-	-	-	-	-	-	-
90.0 / 72.0	20%	-	-	-	-	-	-	-	-
90.0 / 72.0	25%	-	-	-	-	-	-	-	-
90.0 / 72.0	30%	5.5	16.32	5.6	13.75	43.8	2.0	45.4	6.7
90.0 / 72.0	35%	6.3	15.85	6.5	13.14	50.4	2.3	52.3	6.6
90.0 / 72.0	40%	7.1	15.29	7.3	12.41	56.7	2.7	59.1	6.4
90.0 / 72.0	45%	7.9	14.65	8.1	11.58	62.7	3.1	65.6	6.2
90.0 / 72.0	50%	8.6	13.95	8.9	10.65	68.4	3.5	72.0	6.0
90.0 / 72.0	55%	9.3	13.19	9.7	9.63	73.9	4.0	78.2	5.8
90.0 / 72.0	60%	9.9	12.39	10.4	8.52	79.1	4.4	84.2	5.6
90.0 / 72.0	65%	10.6	11.56	11.1	7.34	84.2	4.9	90.1	5.4
90.0 / 72.0	70%	11.2	10.69	11.8	6.09	89.0	5.4	95.9	5.2
90.0 / 72.0	75%	11.7	9.80	12.5	4.77	93.6	5.9	101.5	5.0
90.0 / 72.0	80%	-	-	-	-	-	-	-	-
90.0 / 72.0	85%	-	-	-	-	-	-	-	-
90.0 / 72.0	90%	-	-	-	-	-	-	-	-
90.0 / 72.0	95%	-	-	-	-	-	-	-	-
90.0 / 72.0	100%	-	-	-	-	-	-	-	-

LOAD EFT / LFT °F: **120.0 / 136.2**

SOURCE EFT / LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE APD (PSI)	LOAD FR (GPM)	LOAD APD (PSI)	LOAD HE (mBTUh)	LOAD P (kW)	LOAD HC (mBTUh)	LOAD COP (-)
10.0 / 1.0	20%	-	-	-	-	-	-	-	-
10.0 / 1.0	25%	-	-	-	-	-	-	-	-
10.0 / 1.0	30%	-	-	-	-	-	-	-	-
10.0 / 1.0	35%	2.4	17.05	2.1	14.76	9.5	2.9	16.7	1.7
10.0 / 1.0	40%	2.9	17.05	2.4	14.77	11.4	3.2	19.4	1.8
10.0 / 1.0	45%	3.3	17.01	2.7	14.75	13.3	3.5	22.0	1.9
10.0 / 1.0	50%	3.8	16.93	3.0	14.72	15.1	3.8	24.5	1.9
10.0 / 1.0	55%	4.2	16.83	3.3	14.67	16.8	4.1	27.0	1.9
10.0 / 1.0	60%	4.6	16.70	3.6	14.61	18.4	4.5	29.4	1.9
10.0 / 1.0	65%	5.0	16.56	3.9	14.53	19.9	4.8	31.7	1.9
10.0 / 1.0	70%	5.3	16.40	4.2	14.44	21.3	5.2	34.0	1.9
10.0 / 1.0	75%	5.7	16.23	4.5	14.33	22.6	5.6	36.3	1.9
10.0 / 1.0	80%	6.0	16.06	4.8	14.21	23.8	5.9	38.5	1.9
10.0 / 1.0	85%	6.3	15.88	5.0	14.08	25.0	6.3	40.7	1.9
10.0 / 1.0	90%	6.6	15.69	5.3	13.94	26.1	6.7	42.8	1.9
10.0 / 1.0	95%	6.8	15.51	5.5	13.79	27.2	7.1	44.9	1.8
10.0 / 1.0	100%	7.1	15.32	5.8	13.63	28.1	7.5	46.9	1.8
30.0 / 17.4	20%	-	-	-	-	-	-	-	-
30.0 / 17.4	25%	-	-	-	-	-	-	-	-
30.0 / 17.4	30%	-	-	-	-	-	-	-	-
30.0 / 17.4	35%	3.0	17.04	2.9	14.74	16.5	3.0	23.4	2.3
30.0 / 17.4	40%	3.4	16.99	3.3	14.68	19.2	3.3	26.8	2.4
30.0 / 17.4	45%	3.9	16.91	3.7	14.59	21.7	3.7	30.2	2.4
30.0 / 17.4	50%	4.3	16.79	4.1	14.46	24.2	4.0	33.4	2.4
30.0 / 17.4	55%	4.7	16.65	4.5	14.32	26.5	4.4	36.6	2.4
30.0 / 17.4	60%	5.1	16.50	4.9	14.14	28.6	4.8	39.7	2.4
30.0 / 17.4	65%	5.5	16.32	5.3	13.94	30.7	5.2	42.7	2.4
30.0 / 17.4	70%	5.9	16.13	5.6	13.73	32.7	5.7	45.7	2.4
30.0 / 17.4	75%	6.2	15.93	6.0	13.49	34.5	6.1	48.6	2.3
30.0 / 17.4	80%	6.5	15.73	6.4	13.23	36.3	6.5	51.4	2.3
30.0 / 17.4	85%	6.8	15.51	6.7	12.95	38.0	7.0	54.2	2.3
30.0 / 17.4	90%	7.1	15.30	7.0	12.65	39.6	7.4	57.0	2.2
30.0 / 17.4	95%	7.4	15.08	7.4	12.34	41.1	7.9	59.7	2.2
30.0 / 17.4	100%	7.6	14.87	7.7	12.01	42.5	8.4	62.4	2.2
50.0 / 33.8	20%	-	-	-	-	-	-	-	-
50.0 / 33.8	25%	-	-	-	-	-	-	-	-
50.0 / 33.8	30%	-	-	-	-	-	-	-	-
50.0 / 33.8	35%	3.2	17.02	3.7	14.60	23.2	3.0	29.7	2.9
50.0 / 33.8	40%	3.7	16.94	4.2	14.44	26.7	3.4	33.9	2.9
50.0 / 33.8	45%	4.2	16.84	4.7	14.24	30.0	3.8	38.0	2.9
50.0 / 33.8	50%	4.6	16.70	5.2	13.99	33.1	4.2	42.0	2.9
50.0 / 33.8	55%	5.0	16.54	5.7	13.71	36.1	4.6	45.9	2.9
50.0 / 33.8	60%	5.4	16.36	6.1	13.39	38.9	5.1	49.7	2.9
50.0 / 33.8	65%	5.8	16.16	6.6	13.03	41.6	5.5	53.4	2.8
50.0 / 33.8	70%	6.2	15.95	7.0	12.64	44.2	6.0	57.1	2.8
50.0 / 33.8	75%	6.5	15.73	7.5	12.22	46.7	6.5	60.7	2.7
50.0 / 33.8	80%	6.8	15.50	7.9	11.78	49.0	7.0	64.2	2.7
50.0 / 33.8	85%	7.1	15.26	8.3	11.30	51.2	7.5	67.6	2.7
50.0 / 33.8	90%	7.4	15.02	8.8	10.80	53.4	8.0	71.0	2.6
50.0 / 33.8	95%	7.7	14.78	9.2	10.28	55.4	8.5	74.3	2.6
50.0 / 33.8	100%	-	-	-	-	-	-	-	-
70.0 / 52.0	20%	-	-	-	-	-	-	-	-
70.0 / 52.0	25%	-	-	-	-	-	-	-	-
70.0 / 52.0	30%	-	-	-	-	-	-	-	-
70.0 / 52.0	35%	4.1	16.85	4.8	14.20	33.0	3.1	38.8	3.6
70.0 / 52.0	40%	4.7	16.66	5.4	13.84	37.6	3.5	44.1	3.7
70.0 / 52.0	45%	5.3	16.43	6.1	13.42	42.0	4.0	49.3	3.6
70.0 / 52.0	50%	5.8	16.17	6.7	12.93	46.2	4.4	54.4	3.6
70.0 / 52.0	55%	6.3	15.87	7.3	12.39	50.2	4.9	59.3	3.6
70.0 / 52.0	60%	6.8	15.54	7.9	11.78	54.0	5.4	64.1	3.5
70.0 / 52.0	65%	7.2	15.19	8.5	11.13	57.6	5.9	68.8	3.4
70.0 / 52.0	70%	7.7	14.83	9.1	10.43	61.1	6.4	73.4	3.4
70.0 / 52.0	75%	8.1	14.45	9.6	9.68	64.4	6.9	77.9	3.3
70.0 / 52.0	80%	8.5	14.06	10.2	8.89	67.5	7.5	82.3	3.2
70.0 / 52.0	85%	8.9	13.66	10.7	8.06	70.5	8.0	86.6	3.2
70.0 / 52.0	90%	9.2	13.26	11.2	7.19	73.4	8.6	90.8	3.1
70.0 / 52.0	95%	-	-	-	-	-	-	-	-
70.0 / 52.0	100%	-	-	-	-	-	-	-	-
90.0 / 72.0	20%	-	-	-	-	-	-	-	-
90.0 / 72.0	25%	-	-	-	-	-	-	-	-
90.0 / 72.0	30%	-	-	-	-	-	-	-	-
90.0 / 72.0	35%	5.6	16.26	6.1	13.39	44.8	3.2	49.7	4.6
90.0 / 72.0	40%	6.4	15.82	7.0	12.72	50.7	3.6	56.3	4.5
90.0 / 72.0	45%	7.1	15.31	7.7	11.96	56.4	4.1	62.8	4.5
90.0 / 72.0	50%	7.8	14.75	8.5	11.10	61.8	4.6	69.0	4.4
90.0 / 72.0	55%	8.4	14.14	9.3	10.15	66.9	5.1	75.1	4.3
90.0 / 72.0	60%	9.0	13.49	10.0	9.13	71.8	5.6	81.0	4.2
90.0 / 72.0	65%	9.6	12.81	10.7	8.03	76.5	6.2	86.7	4.1
90.0 / 72.0	70%	10.2	12.10	11.4	6.87	80.9	6.7	92.4	4.0
90.0 / 72.0	75%	10.7	11.38	12.1	5.64	85.2	7.3	97.9	3.9
90.0 / 72.0	80%	-	-	-	-	-	-	-	-
90.0 / 72.0	85%	-	-	-	-	-	-	-	-
90.0 / 72.0	90%	-	-	-	-	-	-	-	-
90.0 / 72.0	95%	-	-	-	-	-	-	-	-
90.0 / 72.0	100%	-	-	-	-	-	-	-	-

LOAD EFT / LFT °F: **130.0 / 146.2**

SOURCE EFT / LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE APD (PSI)	LOAD FR (GPM)	LOAD APD (PSI)	LOAD HE (mBTUh)	LOAD P (kW)	LOAD HC (mBTUh)	LOAD COP (-)
10.0 / 1.0	20%	-	-	-	-	-	-	-	-
10.0 / 1.0	25%	-	-	-	-	-	-	-	-
10.0 / 1.0	30%	-	-	-	-	-	-	-	-
10.0 / 1.0	35%	-	-	-	-	-	-	-	-
10.0 / 1.0	40%	-	-	-	-	-	-	-	-
10.0 / 1.0	45%	-	-	-	-	-	-	-	-
10.0 / 1.0	50%	-	-	-	-	-	-	-	-
10.0 / 1.0	55%	-	-	-	-	-	-	-	-
10.0 / 1.0	60%	-	-	-	-	-	-	-	-
10.0 / 1.0	65%	-	-	-	-	-	-	-	-
10.0 / 1.0	70%	-	-	-	-	-	-	-	-
10.0 / 1.0	75%	-	-	-	-	-	-	-	-
10.0 / 1.0	80%	-	-	-	-	-	-	-	-
10.0 / 1.0	85%	-	-	-	-	-	-	-	-
10.0 / 1.0	90%	-	-	-	-	-	-	-	-
10.0 / 1.0	95%	-	-	-	-	-	-	-	-
10.0 / 1.0	100%	-	-	-	-	-	-	-	-
30.0 / 17.4	20%	-	-	-	-	-	-	-	-
30.0 / 17.4	25%	-	-	-	-	-	-	-	-
30.0 / 17.4	30%	-	-	-	-	-	-	-	-
30.0 / 17.4	35%	2.7	17.05	2.9	14.74	14.9	3.4	23.2	2.0
30.0 / 17.4	40%	3.1	17.03	3.3	14.68	17.5	3.8	26.6	2.1
30.0 / 17.4	45%	3.6	16.97	3.7	14.59	20.0	4.2	29.9	2.1
30.0 / 17.4	50%	4.0	16.88	4.1	14.47	22.3	4.6	33.2	2.1
30.0 / 17.4	55%	4.4	16.78	4.5	14.33	24.5	5.0	36.3	2.1
30.0 / 17.4	60%	4.8	16.65	4.9	14.16	26.5	5.4	39.4	2.1
30.0 / 17.4	65%	5.1	16.51	5.2	13.97	28.5	5.8	42.4	2.1
30.0 / 17.4	70%	5.4	16.35	5.6	13.76	30.3	6.3	45.3	2.1
30.0 / 17.4	75%	5.8	16.19	5.9	13.52	32.1	6.7	48.1	2.1
30.0 / 17.4	80%	6.0	16.03	6.3	13.27	33.7	7.2	50.9	2.1
30.0 / 17.4	85%	6.3	15.86	6.6	13.00	35.2	7.7	53.7	2.1
30.0 / 17.4	90%	-	-	-	-	-	-	-	-
30.0 / 17.4	95%	-	-	-	-	-	-	-	-
30.0 / 17.4	100%	-	-	-	-	-	-	-	-
50.0 / 33.8	20%	-	-	-	-	-	-	-	-
50.0 / 33.8	25%	-	-	-	-	-	-	-	-
50.0 / 33.8	30%	-	-	-	-	-	-	-	-
50.0 / 33.8	35%	3.0	17.04	3.6	14.61	21.4	3.5	29.3	2.5
50.0 / 33.8	40%	3.4	16.99	4.1	14.46	24.7	3.9	33.5	2.5
50.0 / 33.8	45%	3.9	16.91	4.6	14.26	27.9	4.3	37.6	2.5
50.0 / 33.8	50%	4.3	16.80	5.1	14.02	30.9	4.8	41.5	2.6
50.0 / 33.8	55%	4.7	16.67	5.6	13.75	33.7	5.2	45.4	2.6
50.0 / 33.8	60%	5.1	16.52	6.1	13.44	36.4	5.7	49.1	2.5
50.0 / 33.8	65%	5.4	16.36	6.5	13.09	39.0	6.2	52.8	2.5
50.0 / 33.8	70%	5.8	16.18	7.0	12.72	41.4	6.6	56.4	2.5
50.0 / 33.8	75%	6.1	15.99	7.4	12.31	43.7	7.2	59.9	2.5
50.0 / 33.8	80%	6.4	15.80	7.8	11.89	45.9	7.7	63.3	2.4
50.0 / 33.8	85%	6.7	15.61	8.2	11.43	47.9	8.2	66.7	2.4
50.0 / 33.8	90%	-	-	-	-	-	-	-	-
50.0 / 33.8	95%	-	-	-	-	-	-	-	-
50.0 / 33.8	100%	-	-	-	-	-	-	-	-
70.0 / 52.0	20%	-	-	-	-	-	-	-	-
70.0 / 52.0	25%	-	-	-	-	-	-	-	-
70.0 / 52.0	30%	-	-	-	-	-	-	-	-
70.0 / 52.0	35%	3.8	16.92	4.7	14.24	30.6	3.6	38.0	3.1
70.0 / 52.0	40%	4.4	16.77	5.4	13.90	35.1	4.1	43.3	3.1
70.0 / 52.0	45%	4.9	16.58	6.0	13.49	39.3	4.5	48.5	3.1
70.0 / 52.0	50%	5.4	16.35	6.6	13.02	43.3	5.0	53.5	3.1
70.0 / 52.0	55%	5.9	16.10	7.2	12.50	47.2	5.5	58.4	3.1
70.0 / 52.0	60%	6.4	15.82	7.8	11.92	50.8	6.0	63.1	3.1
70.0 / 52.0	65%	6.8	15.52	8.4	11.29	54.3	6.5	67.7	3.0
70.0 / 52.0	70%	7.2	15.20	8.9	10.61	57.5	7.1	72.2	3.0
70.0 / 52.0	75%	7.6	14.87	9.5	9.89	60.7	7.7	76.7	2.9
70.0 / 52.0	80%	8.0	14.54	10.0	9.13	63.6	8.2	81.0	2.9
70.0 / 52.0	85%	-	-	-	-	-	-	-	-
70.0 / 52.0	90%	-	-	-	-	-	-	-	-
70.0 / 52.0	95%	-	-	-	-	-	-	-	-
70.0 / 52.0	100%	-	-	-	-	-	-	-	-
90.0 / 72.0	20%	-	-	-	-	-	-	-	-
90.0 / 72.0	25%	-	-	-	-	-	-	-	-
90.0 / 72.0	30%	-	-	-	-	-	-	-	-
90.0 / 72.0	35%	4.7	16.68	6.0	13.51	37.3	3.2	48.3	4.4
90.0 / 72.0	40%	5.3	16.41	6.8	12.89	42.4	3.6	54.8	4.4
90.0 / 72.0	45%	5.9	16.10	7.5	12.16	47.2	4.1	61.1	4.4
90.0 / 72.0	50%	6.5	15.74	8.3	11.35	51.7	4.6	67.3	4.3
90.0 / 72.0	55%	7.0	15.35	9.0	10.45	56.1	5.0	73.2	4.3
90.0 / 72.0	60%	7.6	14.93	9.8	9.48	60.2	5.5	79.0	4.2
90.0 / 72.0	65%	8.0	14.49	10.5	8.44	64.1	6.0	84.7	4.1
90.0 / 72.0	70%	8.5	14.03	11.1	7.33	67.7	6.6	90.2	4.0
90.0 / 72.0	75%	8.9	13.57	11.8	6.16	71.2	7.1	95.6	3.9
90.0 / 72.0	80%	-	-	-	-	-	-	-	-
90.0 / 72.0	85%	-	-	-	-	-	-	-	-
90.0 / 72.0	90%	-	-	-	-	-	-	-	-
90.0 / 72.0	95%	-	-	-	-	-	-	-	-
90.0 / 72.0	100%	-	-	-	-	-	-	-	-

NetZero+ BW/CW 22

Performance data **Cooling**

SOURCE EFT / LFT	SPEED	LOAD EFT / LFT °F																																					
		50.0 / 37.4								60.0 / 45.6								70.0 / 53.8								80.0 / 63.8								90.0 / 73.8							
		SOURCE		LOAD						SOURCE		LOAD						SOURCE		LOAD						SOURCE		LOAD						SOURCE		LOAD					
		FR	APD	FR	APD	HC	P	HE	EER	FR	APD	FR	APD	HC	P	HE	EER	FR	APD	FR	APD	HC	P	HE	EER	FR	APD	FR	APD	HC	P	HE	EER	FR	APD	FR	APD	HC	P	HE	EER
°F		GPM	PSI	GPM	PSI	mBTUh	kW	mBTUh	-	GPM	PSI	GPM	PSI	mBTUh	kW	mBTUh	-	GPM	PSI	GPM	PSI	mBTUh	kW	mBTUh	-	GPM	PSI	GPM	PSI	mBTUh	kW	mBTUh	-	GPM	PSI	GPM	PSI	mBTUh	kW	mBTUh	-
50.0 / 68.0	20%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25%	3.0	17.04	3.4	14.66	24.2	0.9	21.6	24.6	3.6	16.97	3.6	14.61	28.5	0.8	26.0	30.6	4.2	16.83	3.8	14.56	33.4	0.8	30.9	38.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30%	3.7	16.96	4.1	14.47	29.1	1.1	25.9	24.5	4.3	16.81	4.3	14.40	34.1	1.0	31.0	30.0	5.0	16.56	4.5	14.31	39.7	1.0	36.7	36.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	35%	4.3	16.82	4.8	14.20	33.9	1.3	30.1	24.0	5.0	16.56	5.0	14.10	39.6	1.2	35.9	29.0	5.8	16.18	5.2	13.97	45.9	1.2	42.3	35.1	6.7	15.62	6.1	13.40	53.1	1.2	49.6	41.8	-	-	-	-	-	-	-	-
	40%	4.8	16.62	5.4	13.86	38.6	1.5	34.2	23.3	5.7	16.25	5.6	13.72	45.0	1.5	40.7	27.8	6.5	15.71	5.9	13.56	52.0	1.4	47.7	33.3	7.5	14.95	6.9	12.79	59.9	1.4	55.7	39.2	-	-	-	-	-	-	-	-
	45%	5.4	16.36	6.1	13.44	43.2	1.7	38.1	22.4	6.3	15.86	6.3	13.28	50.3	1.7	45.2	26.6	7.3	15.15	6.5	13.08	58.0	1.7	53.0	31.5	8.4	14.18	7.6	12.10	66.6	1.7	61.6	36.7	9.5	12.91	8.8	10.82	75.8	1.7	70.9	42.2
	50%	6.0	16.05	6.7	12.97	47.8	1.9	42.0	21.6	7.0	15.40	6.9	12.77	55.5	2.0	49.7	25.3	8.0	14.51	7.2	12.53	63.9	2.0	58.0	29.7	9.2	13.30	8.3	11.34	73.1	2.0	67.3	34.3	10.4	11.75	9.5	9.79	83.0	2.0	77.3	39.1
	55%	6.6	15.69	7.3	12.44	52.3	2.2	45.7	20.7	7.6	14.87	7.5	12.21	60.7	2.2	54.0	24.1	8.7	13.79	7.8	11.94	69.6	2.2	62.9	28.1	10.0	12.32	9.0	10.51	79.6	2.3	72.9	32.2	11.3	10.47	10.3	8.68	90.1	2.3	83.4	36.4
	60%	7.1	15.27	7.8	11.86	56.8	2.5	49.4	19.9	8.3	14.29	8.1	11.60	65.7	2.5	58.2	23.0	9.5	12.98	8.4	11.29	75.3	2.5	67.7	26.6	10.8	11.26	9.7	9.62	85.9	2.6	78.2	30.2	12.2	9.09	11.0	7.51	97.1	2.6	89.3	33.9
	65%	7.7	14.81	8.4	11.24	61.2	2.8	52.9	19.1	8.9	13.64	8.7	10.94	70.7	2.8	62.3	21.9	10.2	12.11	8.9	10.60	80.9	2.9	72.3	25.2	11.6	10.10	10.3	8.69	92.1	2.9	83.4	28.4	-	-	-	-	-	-	-	-
	70%	8.2	14.30	8.9	10.57	65.6	3.1	56.4	18.3	9.5	12.93	9.2	10.25	75.6	3.2	66.2	20.9	10.8	11.17	9.5	9.87	86.4	3.2	76.8	23.9	12.3	8.86	10.9	7.70	98.1	3.3	88.4	26.8	-	-	-	-	-	-	-	-
	75%	8.8	13.75	9.5	9.87	69.9	3.4	59.7	17.6	10.1	12.17	9.7	9.52	80.5	3.5	70.1	19.9	11.5	10.16	10.0	9.11	91.8	3.6	81.1	22.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	80%	9.3	13.15	10.0	9.13	74.2	3.7	63.0	16.8	10.7	11.36	10.3	8.75	85.3	3.9	73.8	19.0	12.2	9.08	10.5	8.31	97.1	4.0	85.3	21.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	85%	9.8	12.51	10.5	8.36	78.4	4.1	66.2	16.2	11.3	10.49	10.8	7.96	90.0	4.3	77.4	18.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	90%	10.4	11.82	11.0	7.56	82.6	4.5	69.3	15.6	11.9	9.57	11.2	7.14	94.7	4.7	81.0	17.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	95%	10.9	11.10	11.5	6.74	86.7	4.8	72.3	15.0	12.5	8.60	11.7	6.30	99.4	5.1	84.4	16.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	100%	11.4	10.33	11.9	5.90	90.9	5.2	75.2	14.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
70.0 / 88.0	20%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25%	2.9	17.04	3.2	14.70	23.4	1.2	19.9	17.2	3.4	16.99	3.3	14.68	27.4	1.1	23.9	21.0	4.0	16.88	3.5	14.64	31.8	1.1	28.4	25.6	4.6	16.69	4.2	14.46	36.9	1.1	33.6	30.7	5.3	16.40	4.9	14.16	42.6	1.1	39.3	36.3
	30%	3.5	16.98	3.8	14.56	28.2	1.4	24.0	17.3	4.1	16.85	4.0	14.51	32.9	1.4	28.7	20.9	4.8	16.64	4.2	14.44	38.0	1.4	33.9	25.0	5.5	16.32	4.9	14.13	43.9	1.3	39.8	29.6	6.3	15.86	5.7	13.67	50.3	1.3	46.3	34.6
	35%	4.1	16.85	4.4	14.35	32.9	1.6	27.9	17.1	4.8	16.63	4.6	14.27	38.2	1.6	33.3	20.4	5.5	16.31	4.8	14.17	44.1	1.6	39.2	24.2	6.4	15.82	5.7	13.71	50.7	1.6	45.8	28.3	7.3	15.17	6.5	13.07	57.9	1.6	53.0	32.7
	40%	4.7	16.67	5.0	14.07	37.5	1.9	31.8	16.8	5.5	16.34	5.2	13.96	43.5	1.9	37.7	19.8	6.3	15.88	5.5	13.83	50.0	1.9	44.3	23.3	7.2	15.22	6.4	13.21	57.3	1.9	51.6	27.0	8.2	14.34	7.3	12.36	65.2	1.9	59.5	30.9
	45%	5.3	16.43	5.6	13.73	42.0	2.2	35.5	16.3	6.1	15.99	5.8	13.60	48.6	2.2	42.0	19.1	7.0	15.37	6.1	13.43	55.8	2.2	49.2	22.3	8.0	14.51	7.1	12.63	63.8	2.2	57.2	25.6	9.1	13.40	8.1	11.57	72.4	2.3	65.7	29.1
	50%	5.8	16.14	6.2	13.34	46.5	2.5	39.0	15.8	6.7	15.56	6.4	13.18	53.7	2.5	46.2	18.4	7.7	14.78	6.7	12.98	61.5	2.5	53.9	21.3	8.8	13.71	7.7	11.99	70.2	2.6	62.5	24.3	10.0	12.34	8.9	10.69	79.5	2.6	71.7	27.4
	55%	6.4	15.81	6.7	12.91	50.9	2.8	42.5	15.3	7.4	15.08	7.0	12.71	58.7	2.8	50.2	17.7	8.4	14.11	7.2	12.48	67.1	2.9	58.5	20.3	9.6	12.81	8.4	11.29	76.5	2.9	67.7	23.1	10.8	11.16	9.6	9.75	86.4	3.0	77.5	25.9
	60%	6.9	15.43	7.3	12.43	55.2	3.1	45.8	14.8	8.0	14.54	7.5	12.21	63.6	3.2	54.0	17.0	9.1	13.37	7.8	11.94	72.6	3.2	62.9	19.4	10.4	11.83	9.0	10.54	82.6	3.3	72.7	21.9	11.7	9.89	10.3	8.75	93.1	3.4	83.0	24.5
	65%	7.5	15.00	7.8	11.92	59.5	3.4	49.1	14.3	8.6	13.94	8.0	11.66	68.4	3.5	57.8	16.3	9.8	12.57	8.3	11.37	78.0	3.6	67.1	18.5	11.1	10.76	9.6	9.75	88.6	3.7	77.5	20.8	12.5	8.52	10.9	7.70	99.7	3.8	88.4	23.2
	70%	8.0	14.53	8.3	11.37	63.7	3.8	52.2	13.7	9.2	13.29	8.5	11.09	73.2	3.9	61.4	15.6	10.5	11.70	8.8	10.76	83.3	4.0	71.2	17.7	11.9	9.62	10.1	8.93	94.5	4.1	82.1	19.8	-	-	-	-	-	-	-	-
	75%	8.5	14.02	8.8	10.80	67.8	4.2	55.3	13.3	9.8	12.59	9.0	10.49	77.8	4.3	64.9	15.0	11.1	10.77	9.3	10.13	88.5	4.4	75.2	17.0	12.6	8.41	10.7	8.07	100.3	4.6	86.6	18.9	-	-	-	-	-	-	-	-
	80%	9.0	13.47	9.2	10.20	71.9	4.6	58.2	12.8	10.4	11.85	9.5	9.86	82.5	4.7	68.3	14.4	11.8	9.78	9.8	9.48	93.7	4.9	79.0	16.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	85%	9.5	12.89	9.7	9.58	75.9	5.0	61.0	12.3	10.9	11.05	9.9	9.22	87.0	5.2	71.5	13.9	12.4	8.74	10.2	8.80	98.7	5.3	82.8	15.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	90%	10.0	12.26	10.1	8.94	79.9	5.4	63.8	11.9	11.5	10.21	10.4	8.56	91.5	5.6	74.7	13.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	95%	10.5	11.60	10.6	8.29	83.9	5.8	66.5	11.5	12.0	9.32	10.8	7.88	95.9	6.1	77.8	12.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	100%	11.0	10.90	11.0	7.62	87.8	6.2	69.1	11.1	12.6	8.39	11.2	7.19	100.3	6.5	80.7	12.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
90.0 / 108.0	20%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30%	3.4	16.99	3.5	14.64	27.4	1.7	22.0	12.6	4.0	16.89	3.7	14.60	31.7	1.8	26.4	15.0	4.6	16.71	3.9	14.55	36.5	1.8	31.2	17.8	5.3	16.44	4.5	14.31	42.0	1.8	36.6	20.8	6.0	16.04	5.3	13.95	47.9	1.8	42.6	24.0
	35%	4.0	16.88	4.1	14.47	32.0	2.0	25.8	12.7	4.6	16.69	4.3	14.41	37.0	2.1	30.8	14.9	5.3	16.41	4.5	14.33	42.5	2.1	36.2	17.5	6.1	15.99	5.2	13.97	48.6	2.1	42.4	20.3	6.9	15.42	6.1	13.45	55.3	2.1	49.0	23.2
	40%	4.6	16.71	4.7	14.25	36.5	2.3	29.4	12.5	5.3	16.42	4.9	14.16	42.2	2.4	35.0	14.7	6.1	16.01	5.1	14.06	48.3	2.4	41.0	17.1	6.9	15.43	5.9	13.55	55.2	2.4	47.8	19.6	7.9	14.66	6.8	12.85	62.6	2.5	55.2	22.3
	45%	5.1	16.49	5.2	13.97	41.0	2.7	32.9	12.3	5.9	16.09	5.4	13.86	47.2	2.7	39.0	14.3	6.8	15.54	5.6	13.73	54.0	2.8	45.7	16.6	7.7	14.78	6.6	13.06	61.5	2.8	53.1	18.9	8.7	13.79	7.5	12.17	69.6	2.9	61.1	21.3
	50%	5.7	16.23	5.8	13.65	45.3	3.0	36.2	12.1	6.5	15.70	6.0	13.51	52.2	3.1	42.9	13.9	7.5	14.99	6.2	13.35	59.5	3.1	50.1	16.0	8.5	14.03	7.2	12.52	67.8	3.2	58.2	18.2	9.6	12.80	8.2	11.42	76.5	3.3	66.8	20.4
	55%	6.2	15.91	6.3	13.29	49.6	3.4	39.4	11.7	7.2	15.25	6.5	13.13	57.0	3.5	46.6	13.5	8.2	14.37	6.7	12.93	65.0	3.5	54.4	15.4	9.3	13.20	7.8	11.93	73.9	3.6	63.0	17.4	10.5	11.71	8.9	10.62	83.3	3.7	72.2	19.5
	60%	6.8	15.56	6.8	12.90	53.8	3.7	42.6	11.4	7.8	14.75	7.0	12.70	61.8	3.8	50.2	13.1	8.8	13.69	7.2	12.48	70.4	3.9	58.5	14.9	10.0	12.28	8.4	11.29	79.8	4.0	67.7	16.7	11.3	10.52	9.6	9.76	89.8	4.2	77.4	18.6
	65%	7.3	15.16	7.2	12.47	57.9	4.1	45.5	11.1	8.3	14.19	7.5	12.25	66.5	4.3	53.7	12.6	9.5	12.94	7.7	12.00	75.6	4.4	62.5	14.3	10.8	11.29	8.9	10.62	85.7	4.5	72.2	16.0	12.1	9.25	10.2	8.86	96.3	4.6	82.5	17.7
	70%	7.8	14.72	7.7	12.02	62.0	4.5	48.4	10.7	8.9	13.59	7.9	11.78	71.1	4.7	57.0	12.2	10.1	12.13	8.2	11.49	80.8	4.8	66.3	13.8	11.5	10.23	9.4	9.92	91.4	5.0	76.5	15.4	-	-	-	-	-	-	-	-
	75%	8.3	14.25	8.1	11.55	66.0	4.9	51.2	10.4	9.5	12.94	8.4	11.28	75.6	5.1	60.2	11.8	10.8	11.26	8.6	10.96	85.8	5.3	69.9	13.3	12.2	9.10	10.0	9.19	97.0	5.5	80.6	14.7	-	-	-	-	-	-	-	-
	80%	8.8	13.74	8.5	11.07	70.0	5.3	53.9	10.1	10.1	12.24	8.8	10.76	80.1	5.6	63.3	11.4	11.4	10.34	9.1	10.41	90.8	5.8	73.5	12.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	85%	9.3	13.19	9.0	10.56	73.9	5.8	56.4	9.7	10.6	11.50	9.2	10.23	84.5	6.1	66.3	11.0	12.0	9.37	9.5	9.85	95.7	6.3	76.9	12.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	90%	9.8	12.61	9.3	10.05	77.7	6.2	58.9	9.4	11.1	10.72	9.6	9.69	88.8	6.5	69.2	10.6	12.6	8.35	9.9	9.28	100.5	6.8	80.1	11.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	95%	10.2	12.00	9.7	9.53	81.5	6.7	61.3	9.1	11.7	9.90	10.0	9.14	93.1	7.0	71.9	10.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	100%	10.7	11.36	10.1	9.00	85.3	7.2	63.6	8.8	12.2	9.05	10.4	8.59	97.3	7.6	74.6	9.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
110.0 / 128.0	20%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	35%	3.9	16.91	3.6	14.62	30.9	2.7	22.7	8.4	4.5	16.75	3.8	14.57	35.5	2.7	27.2	9.9	5.1	16.51	4.0	14.52	40.6	2.8	32.1	11.5	5.8	16.17	4.6	14.26	46.2	2.8	37.6	13.3	6.6	15.69	5.4	13.88	52.3	2.9	43.6	15.1
	40%	4.4	16.76	4.1	14.46	35.3	3.1	26.0	8.5	5.1	16.51	4.3	14.39	40.6	3.1	31.1	10.0	5.8	16.16	4.5	14.31	46.2	3.2	36.6	11.5	6.6	15.67	5.3	13.94	52.6	3.2	42.7	13.2	7.5	15.01	6.1	13.42	59.3	3.3	49.4	14.9
	45%	5.0	16.56	4.6	14.26	39.7	3.4	29.2	8.5	5.7	16.21	4.8	14.17	45.5	3.5	34.8	9.9	6.5	15.73	5.0	14.07	51.8	3.6	40.9	11.4	7.4	15.08	5.9	13.57	58.8	3.7	47.6	12.9	8.3	14.22	6.8	12.88	66.2	3.8	54.9	14.6
	50%	5.5	16.32	5.1	14.02	43.9	3.8	32.3	8.5	6.3	15.86	5.3	13.91	50.3	3.9	38.4	9.8	7.2	15.24	5.6	13.78	57.2	4.0	45.0	11.2	8.1	14.40	6.5	13.14	64.8	4.1	52.3	12.6	9.2	13.32	7.4	12.28	73.0	4.2	60.2	14.2
	55%	6.0	16.03	5.6	13.75	48.1	4.2	35.2	8.3	6.9	15.44	5.8	13.62	55.0	4.4	41.8	9.6	7.8	14.67	6.0	13.46	62.5	4.5	48.9	10.9	8.9	13.63	7.0	12.67	70.7	4.6	56.8	12.3	10.0	12.33	8.1	11.63	79.5	4.7	65.2	13.7
	60%	6.5	15.70	6.0	13.46	52.2	4.6	38.0	8.2	7.5	14.98	6.3	13.29	59.6	4.8	45.1	9.4	8.5	14.04	6.5	13.11	67.7	5.0	52.7	10.6	9.6	12.80	7.5	12.17	76.5	5.1	61.1	12.0	10.8	11.25	8.7	10.94	85.9	5.3	70.1	13.3
	65%	7.0	15.34	6.5	13.14	56.1	5.1	40.7	8.0	8.1	14.47	6.7	12.95	64.2	5.3	48.2	9.1	9.1	13.36	6.9	12.73	72.7	5.4	56.3	10.3	10.3	11.89	8.1	11.64	82.2	5.6	65.2	11.6	11.6	10.08	9.2	10.22	92.2	5.8	74.7	12.8
	70%	7.5	14.94	6.9	12.80	60.1	5.5	43.3	7.8	8.6	13.92	7.1	12.58	68.6	5.8	51.2	8.9	9.8	12.62	7.4	12.34	77.7	5.9	59.7	10.0	11.0	10.92	8.5	11.08	87.7	6.2	69.1	11.2	12.3	8.83	9.8	9.47	98.3	6.4	79.1	12.4
	75%	8.0	14.50	7.3	12.45	63.9	6.0	45.7	7.6	9.2	13.33	7.5	12.21	72.9	6.3	54.0	8.6	10.4	11.83	7.8	11.93	82.6	6.5	63.0	9.7	11.7	9.88	9.0	10.51	93.2	6.7	72.9	10.8	-	-	-	-	-	-	-	-
	80%	8.5	14.04	7.6	12.09	67.7	6.5	48.0	7.4	9.7	12.69	7.9	11.82	77.2	6.8	56.8	8.4	11.0	10.99	8.2	11.51	87.4	7.0	66.1	9.4	12.4	8.79	9.4	9.92	98.5	7.3	76.5	10.5	-	-	-	-	-	-	-	-
	85%	9.0	13.54	8.0	11.72	71.4	7.0	50.3	7.2	10.2	12.02	8.2	11.42	81.4	7.3	59.4	8.1	11.6	10.10	8.5	11.08	92.0	7.6	69.1	9.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	90%	9.4	13.02	8.3	11.34	75.1	7.5	52.4	7.0	10.7	11.31	8.6	11.02	85.5	7.8	61.8	7.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	95%	9.9	12.47	8.6	10.96	78.6	8.0	54.4	6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
120.0 / 138.0	20%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	35%	3.8	16.92	3.3	14.68	30.4	3.1	20.9	6.7	4.4	16.78	3.5	14.64	34.9	3.2	25.2	7.9	5.0	16.56	3.7	14.60	39.7	3.2	29.8	9.2	5.7	16.25	4.3	14.39	45.0	3.3	35.0	10.6	6.6	15.65	5.2	13.98	52.8	3.1	42.2	13.6
	40%	4.4	16.78	3.8	14.56	34.8	3.5	24.1	6.9	5.0	16.55	4.0	14.50	39.8	3.6	28.9	8.1	5.7	16.23	4.2	14.43	45.3	3.7	34.1	9.3	6.4	15.77	4.9	14.13	51.3	3.7	39.9	10.7	7.5	14.95	5.9	13.56	59.9	3.6	47.8	13.4
	45%	4.9	16.59	4.3	14.39	39.1	3.9	27.2	7.0	5.6	16.27	4.5	14.32	44.7	4.0	32.5	8.1	6.4	15.82	4.7	14.23	50.7	4.1	38.2	9.3	7.2	15.21	5.5	13.80	57.4	4.2	44.6	10.6	8.4	14.12	6.6	13.04	67.0	4.0	53.3	13.2
	50%	5.4	16.36	4.8	14.20	43.3	4.3	30.1	7.0	6.2	15.92	5.0	14.10	49.5	4.5	35.9	8.1	7.0	15.35	5.2	13.98	56.1	4.6	42.2	9.2	8.0	14.56	6.1	13.44	63.4	4.7	49.1	10.5	9.3	13.16	7.3	12.44	74.1	4.5	58.8	13.1
	55%	5.9	16.08	5.2	13.97	47.4	4.8	32.9	6.9	6.8	15.53	5.4	13.85	54.1	4.9	39.2	8.0	7.7	14.80	5.7	13.71	61.3	5.1	45.9	9.1	8.7	13.84	6.6	13.03	69.2	5.2	53.4	10.2	10.2	12.05	7.9	11.75	81.2	5.0	64.3	13.0
	60%	6.5	15.77	5.6	13.72	51.4	5.2	35.6	6.8	7.4	15.09	5.9	13.57	58.6	5.4	42.3	7.8	8.3	14.20	6.1	13.40	66.4	5.6	49.5	8.9	9.4	13.04	7.1	12.59	74.9	5.7	57.5	10.0	11.1	10.80	8.6	10.97	88.3	5.4	69.9	12.9
	65%	6.9	15.42	6.0	13.45	55.3	5.7	38.1	6.7	7.9	14.60	6.3	13.28	63.1	5.9	45.2	7.7	9.0	13.55	6.5	13.08	71.4	6.1	52.9	8.7	10.1	12.17	7.6	12.13	80.5	6.3	61.4	9.8	12.0	9.42	9.3	10.10	95.5	5.9	75.4	12.8
	70%	7.4	15.03	6.4	13.17	59.1	6.1	40.5	6.6	8.5	14.07	6.7	12.97	67.4	6.4	48.0	7.5	9.6	12.84	6.9	12.74	76.2	6.6	56.2	8.5	10.8	11.24	8.0	11.64	85.9	6.9	65.2	9.5	-	-	-	-	-	-	-	-
	75%	7.9	14.62	6.8	12.87	62.9	6.6	42.7	6.4	9.0	13.51	7.0	12.65	71.7	6.9	50.7	7.3	10.2	12.09	7.3	12.39	81.0	7.2	59.2	8.3	11.5	10.25	8.5	11.14	91.3	7.5	68.7	9.2	-	-	-	-	-	-	-	-
	80%	8.4	14.18	7.1	12.57	66.6	7.1	44.9	6.3	9.5	12.90	7.4	12.32	75.8	7.5	53.2	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	85%	8.8	13.71	7.4	12.26	70.2	7.7	46.9	6.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	90%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NetZero+ HW

R454B

Models

NetZero+ 70

NetZero+ 100

Three-Phase
400 V / 575V

Options

NetZero+ HW H

DHW *
Heating
Pasive cooling **
Pool

NetZero+ HW R

DHW *
Heating
Pool
Pasive cooling **
Active cooling

** DHW production with an external tank*
*** External passive cooling management*

Services

DHW (145°F) · Heating (140°F) · Cooling (41°F) · Pool (131°F)

Compatible production systems

Heat./Cool. floor · Fancoils · Radiators

Management of shunt groups

x1 · x1 · x1 · x4

Performance

Simultaneous production · Hybrid source · HTR Technology · Lifespan

Cascade

Characteristics

- Modulating thermal output control across a wide range (25%–100%) and modulating flow control in both source and load circuits (20%–100%).
- R454B refrigerant (GWP 466).
- Variable speed Inverter technology.
- Single scroll compressor unit.
- High Temperature Recovery (HTR) system for DHW production up to 167 °F without auxiliary support and simultaneous production of DHW and heating/cooling.
- Integrated management of up to five different shunt groups, two buffer tanks (heating and cooling), one DHW tank, one swimming pool, and time scheduling of DHW recirculation.
- Integrated control of external auxiliary backup systems—on/off or modulating (electric heaters, boilers, etc.).
- Cascade control of up to six heat pumps via cascade manager.
- Multi-source loop management via source manager.
- Integrated management of simultaneous heating/cooling production and emission systems, depending on the installation layout.
- External passive cooling management.
- Active cooling via cycle inversion integrated in HW R models.
- Available in three-phase version 400Vac and 575Vac.
- Integrated photovoltaic hybridisation.
- Integrated energy meters for monitoring electrical consumption, thermal output (heating/cooling), and instantaneous as well as seasonal efficiency—monthly and annual.

NetZero+ HW 70

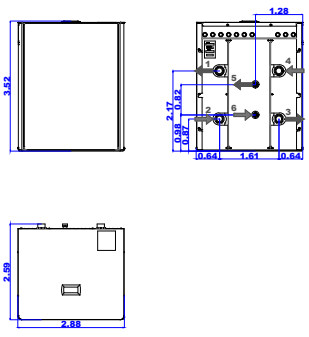
Water to water variable speed heat pumps with Inverter technology and R454B refrigerant

SPECIFICATIONS NetZero+ HW			NetZero+ 70	
			HW H	HW R
APPLICATION	Place of installation	-	Indoor	
	Source system	-	Water loop / Ground water / Ground loop	
	DHW, Heating and Pool heating	-	▪	▪
	External passive cooling control	-	▪	▪
	Integrated active cooling	-	-	▪
PERFORMANCE	Compressor modulation range	%	25 - 100	
	(2) Full load heating capacity (COP) - Water loop / Ground water / Ground Loop	mBTUh (-)	264.2 (4.11) / 212.5 (3.53) / 168.5 (2.99)	
	(2) Part load heating capacity (COP) - Water loop / Ground water / Ground Loop	mBTUh (-)	114.2 (5.57) / 89.2 (4.33) / 74.5 (3.84)	
	(2) Full load cooling capacity (EER) - Water loop / Ground water / Ground Loop	mBTUh (-)	-	226.1 (55.4) / 275.5 (62.5) / 256.6 (57.9)
	(2) Part load cooling capacity (EER) - Water loop / Ground water / Ground Loop	mBTUh (-)	-	99 (22.2) / 112.1 (25.3) / 107.9 (24.3)
	(3) Max. DHW outlet temperature without / with support	°F	140 / 176	
	(4) Noise power level (LWA)	dB (A)	71	
OPERATION LIMITS	Distribution / Set heating outlet temperature range	°F	50 - 140 / 68 - 140	
	Distribution / Set cooling outlet temperature range	°F	-	41 - 95 / 45 - 95
	Source temperature range in heating / cooling mode	°F	-4 - 95 / 50 - 140	
	Minimum / Maximum refrigerant circuit pressure	psi	29.0 / 652.7	
	Source / Load circuit pressure range	psi	7.3 - 145.0 / 7.3 - 145.0	
WORKING FLUIDS	R454B refrigerant load (GWP: 466)	Oz (kg)	199.3 (5.65)	
	Compressor oil type / load	Oz (kg)	POE 160SZ / 105.8 (3.0)	
	Source flow rate - Water loop / Ground water / Ground Loop	gpm	45.3 / 34.6 / 25.6	
	Load flow rate - Water loop / Ground water / Ground Loop	gpm	58.7 / 47.2 / 37.4	
CONTROL ELECTRICAL DATA	(6) 1/N/PE 230 V / 50-60 Hz	-	▪	
	(7) Recommended external protection	-	C1A	
	Transformer primary circuit fuse	A	0.63	
	Transformer secondary circuit fuse	A	4.0	
HEAT PUMP ELECTRICAL DATA: THREE-PHASE VERSION - 400Vac	(6) 3/PE 380-480V / 50-60Hz	-	▪	
	(7) Recommended external protection	-	C50A	
	Maximum consumption (Source EFT=32°F, Load EFT=95°F)	kW / A	13.9 / 21.8	
	Maximum consumption (Source EFT=32°F, Load EFT=131°F)	kW / A	19.3 / 30.2	
	Maximum consumption	kW / A	18.5 / 42.6	
	(5) Minimum / Maximum starting current	A	7.0 / 24.0	
	Correction of cos Ø	-	0.96 / 1	
HEAT PUMP ELECTRICAL DATA: THREE-PHASE VERSION - 575Vac	(6) 3/PE 525-600V / 50-60Hz	-	▪	
	(7) Recommended external protection	-	C63A	
	Maximum consumption (Source EFT=32°F, Load EFT=95°F)	kW / A	13.9 / 15.1	
	Maximum consumption (Source EFT=32°F, Load EFT=131°F)	kW / A	19.3 / 21.0	
	Maximum consumption	kW / A	37.0 / 49.0	
	(5) Minimum / Maximum starting current	A	4.9 / 16.7	
	Correction of cos Ø	-	0.96 / 1	
DIMENSIONS & WEIGHT	Height x width x depth	inch	42.3 x 34.6 x 31.1	
	Empty weight (without packaging)	lb	709.9	740.8

1. Air-to-water by means of a brine-to water heat pump combined with a hydraulic outdoor air unit.
2. Performance data referred to AHRI operating conditions.
3. Considering support provided by an emergency electrical heater or HTR. Max. DHW temp. with HTR can be limited by the compressor discharge temp.
4. In compliance with EN 12102.
5. Starting current depends on the working conditions of the hydraulic circuits.
6. The admissible voltage range for proper operation of the heat pump is ±10%.
7. Maximum consumption can vary significantly according to working conditions, or if the compressor´s operation range is restricted. Consult the technical service manual for more information.
8. Certification in process.

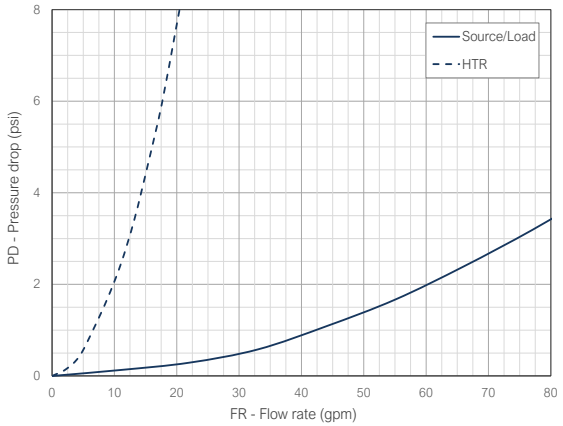
Dimensions and hydraulic connections

NetZero+ HW

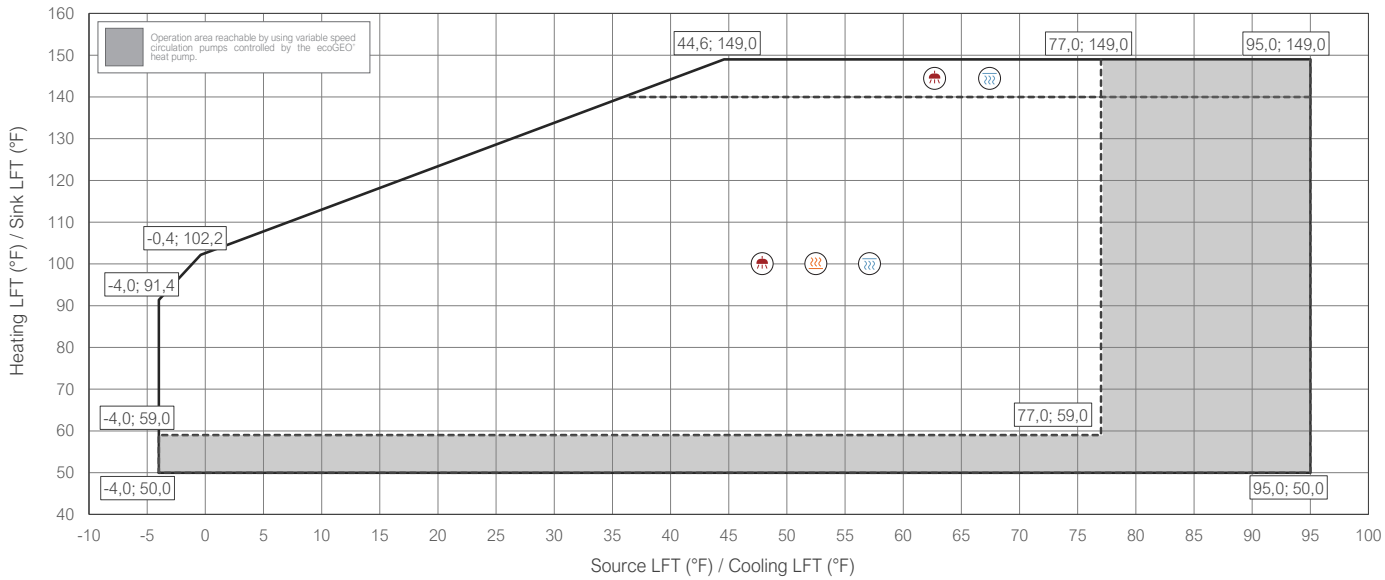


1. Load outlet **2" M**
2. Load inlet **2" M**
3. Source outlet **2" M**
4. Source inlet **2" M**
5. HTR outlet **1 ¼" M**
6. HTR inlet **1 ¼" M**

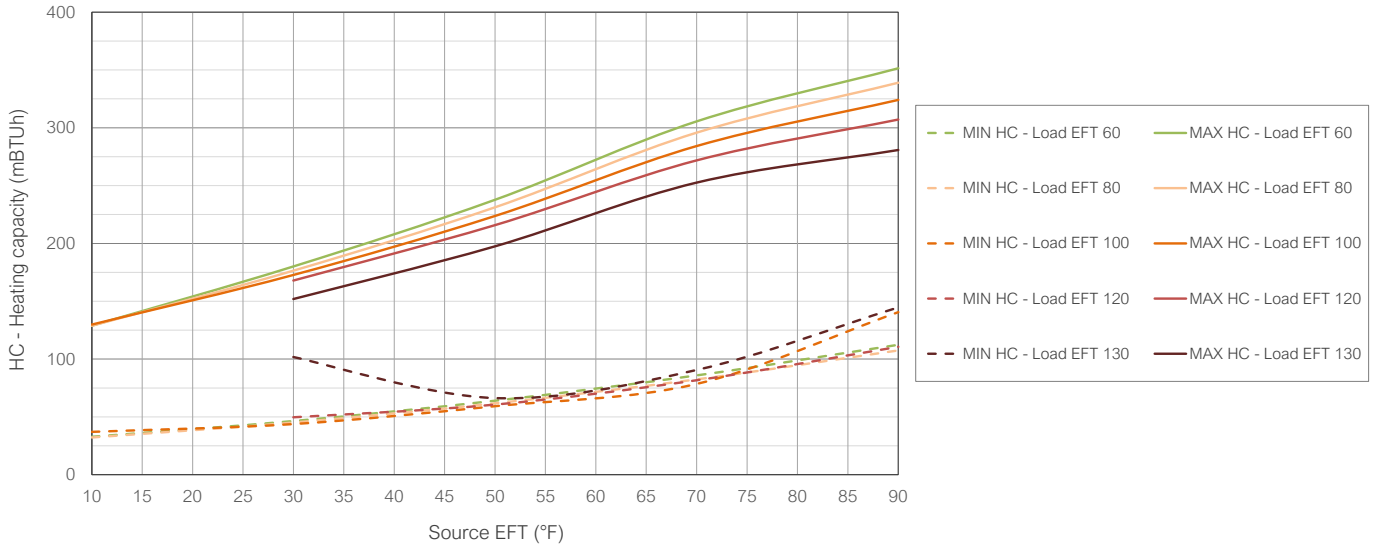
Pressure drop



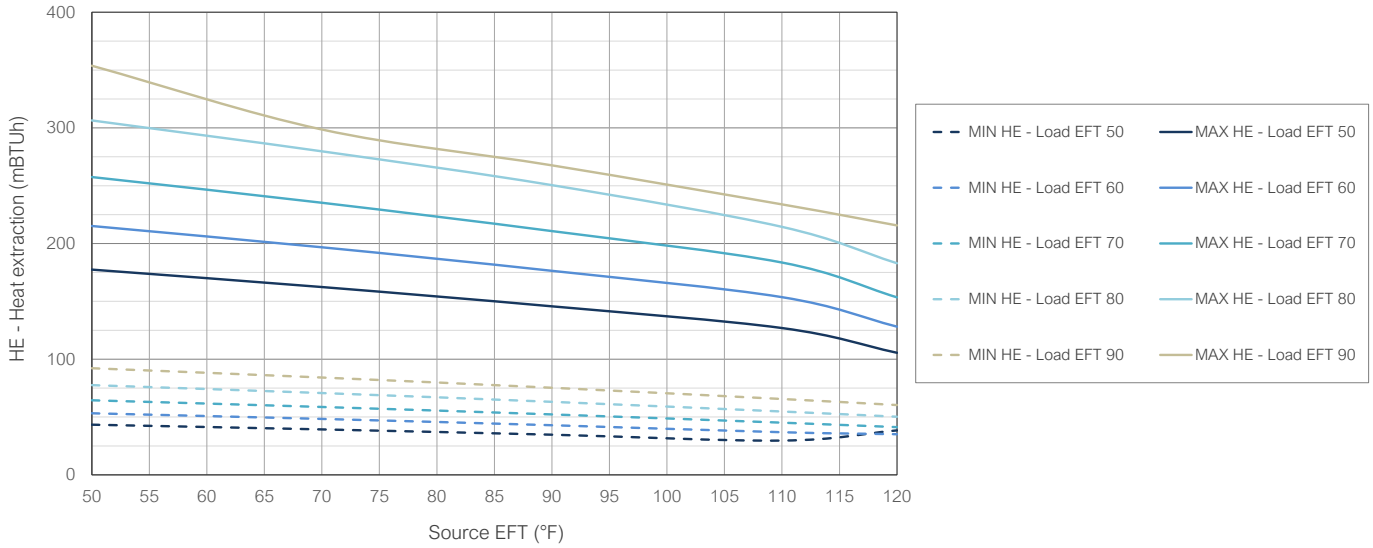
Operational chart



Heating capacity - Source EFT



Cooling capacity - Source EFT



NetZero+ HW 70

Performance data **Heating**

LOAD EFT / LFT (°F): 60.0 / 72.6

SOURCE EFT/LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE PD (PSI)	LOAD FR (GPM)	LOAD PD (PSI)	HE (mBTUh)	P (kW)	HC (mBTUh)	COP (-)
10.0 / 4.6	20%	-	-	-	-	-	-	-	-
	25%	10.9	0.09	5.2	0.03	26.0	2.1	32.8	4.5
	30%	13.1	0.13	6.3	0.04	31.4	2.5	39.5	4.6
	35%	15.4	0.16	7.3	0.05	36.8	2.9	46.2	4.6
	40%	17.6	0.21	8.4	0.06	42.1	3.3	52.9	4.6
	45%	19.8	0.25	9.5	0.07	47.3	3.8	59.6	4.6
	50%	21.9	0.30	10.5	0.09	52.4	4.3	66.3	4.5
	55%	24.0	0.36	11.6	0.10	57.5	4.8	72.9	4.5
	60%	26.1	0.42	12.6	0.12	62.5	5.3	79.6	4.4
	65%	28.2	0.48	13.7	0.13	67.4	5.8	86.2	4.3
	70%	30.2	0.54	14.7	0.15	72.2	6.4	92.8	4.3
	75%	32.3	0.61	15.8	0.17	77.1	7.0	99.5	4.2
	80%	34.2	0.68	16.8	0.19	81.8	7.6	106.1	4.1
	85%	36.2	0.76	17.9	0.21	86.5	8.2	112.8	4.1
	90%	38.2	0.84	19.0	0.23	91.2	8.8	119.4	4.0
	95%	40.1	0.92	20.0	0.26	95.8	9.4	126.1	3.9
	100%	-	-	-	-	-	-	-	-
30.0 / 24.6	20%	-	-	-	-	-	-	-	-
	25%	16.8	0.19	7.4	0.05	40.2	1.9	46.4	7.0
	30%	20.2	0.26	8.9	0.07	48.4	2.3	55.9	7.0
	35%	23.6	0.35	10.4	0.08	56.3	2.8	65.3	6.8
	40%	26.8	0.44	11.8	0.11	64.0	3.3	74.5	6.7
	45%	30.0	0.53	13.3	0.13	71.6	3.8	83.7	6.5
	50%	33.1	0.64	14.7	0.15	79.0	4.3	92.8	6.3
	55%	36.1	0.75	16.2	0.18	86.2	4.9	101.8	6.1
	60%	39.1	0.87	17.6	0.21	93.3	5.4	110.7	6.0
	65%	42.0	1.00	19.0	0.24	100.3	6.0	119.6	5.8
	70%	44.8	1.13	20.4	0.27	107.1	6.7	128.4	5.7
	75%	47.6	1.27	21.8	0.30	113.8	7.3	137.1	5.5
	80%	50.3	1.41	23.1	0.33	120.3	8.0	145.8	5.4
	85%	53.0	1.56	24.5	0.37	126.7	8.7	154.4	5.2
	90%	55.7	1.71	25.9	0.41	133.0	9.4	163.0	5.1
	95%	58.3	1.86	27.2	0.45	139.2	10.1	171.6	5.0
	100%	60.8	2.02	28.6	0.49	145.3	10.9	180.1	4.8
50.0 / 41.0	20%	-	-	-	-	-	-	-	-
	25%	14.8	0.15	10.2	0.08	58.9	1.6	64.0	11.7
	30%	17.7	0.21	12.2	0.11	70.4	2.0	76.9	11.2
	35%	20.5	0.27	14.2	0.14	81.6	2.5	89.5	10.7
	40%	23.2	0.34	16.2	0.18	92.5	3.0	101.8	10.1
	45%	25.9	0.41	18.1	0.22	103.0	3.5	114.0	9.6
	50%	28.4	0.49	20.0	0.26	113.2	4.1	126.0	9.1
	55%	30.9	0.57	21.9	0.30	123.1	4.7	137.8	8.7
	60%	33.3	0.65	23.7	0.35	132.7	5.3	149.5	8.3
	65%	35.7	0.74	25.6	0.40	142.0	6.0	160.9	7.9
	70%	38.0	0.83	27.4	0.45	151.1	6.7	172.3	7.5
	75%	40.2	0.92	29.1	0.51	160.0	7.4	183.5	7.2
	80%	42.3	1.02	30.9	0.57	168.7	8.2	194.6	6.9
	85%	44.5	1.11	32.6	0.63	177.1	9.0	205.5	6.7
	90%	46.5	1.21	34.4	0.69	185.3	9.9	216.4	6.4
	95%	48.5	1.32	36.1	0.75	193.3	10.7	227.1	6.2
	100%	50.5	1.42	37.7	0.82	201.2	11.6	237.8	6.0
70.0 / 61.0	20%	-	-	-	-	-	-	-	-
	25%	20.8	0.28	13.6	0.13	82.7	1.0	85.9	24.0
	30%	24.7	0.38	16.3	0.18	98.4	1.4	102.7	21.6
	35%	28.5	0.49	18.9	0.23	113.5	1.8	119.1	19.2
	40%	32.1	0.61	21.5	0.29	128.0	2.3	135.1	17.2
	45%	35.7	0.74	23.9	0.36	142.0	2.9	150.8	15.4
	50%	39.0	0.87	26.4	0.42	155.4	3.5	166.1	14.0
	55%	42.3	1.01	28.8	0.50	168.4	4.2	181.2	12.8
	60%	45.4	1.16	31.1	0.57	180.9	4.9	195.9	11.8
	65%	48.5	1.31	33.4	0.65	193.0	5.7	210.4	10.9
	70%	51.4	1.47	35.7	0.74	204.7	6.5	224.6	10.2
	75%	54.3	1.63	37.9	0.83	216.1	7.4	238.6	9.5
	80%	57.0	1.79	40.1	0.92	227.1	8.3	252.4	8.9
	85%	59.7	1.95	42.2	1.01	237.7	9.2	266.0	8.4
	90%	62.3	2.12	44.4	1.11	248.1	10.2	279.4	8.0
	95%	64.8	2.28	46.4	1.21	258.1	11.3	292.6	7.6
	100%	67.3	2.45	48.5	1.31	267.9	12.3	305.6	7.3
90.0 / 79.2	20%	-	-	-	-	-	-	-	-
	25%	23.4	0.34	17.8	0.21	112.0	0.2	112.4	175.3
	30%	27.8	0.47	21.2	0.29	132.7	0.4	133.7	88.6
	35%	31.9	0.60	24.5	0.37	152.3	0.8	154.5	55.4
	40%	35.8	0.74	27.7	0.46	171.1	1.3	174.6	39.3
	45%	39.5	0.89	30.8	0.56	188.9	1.9	194.2	30.2
	50%	43.1	1.05	33.9	0.67	206.0	2.6	213.2	24.4
	55%	46.5	1.22	36.8	0.78	222.4	3.3	231.8	20.5
	60%	49.8	1.38	39.7	0.90	238.1	4.2	250.0	17.6
	65%	53.0	1.55	42.5	1.02	253.2	5.1	267.8	15.5
	70%	56.0	1.73	45.3	1.15	267.8	6.1	285.2	13.8
	75%	59.0	1.91	48.0	1.29	281.8	7.1	302.2	12.5
	80%	61.8	2.08	50.6	1.43	295.3	8.2	319.0	11.4
	85%	64.5	2.26	53.2	1.57	308.4	9.3	335.4	10.6
	90%	67.2	2.45	55.8	1.72	321.0	10.5	351.5	9.8
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-

LOAD EFT / LFT (°F): 80.0 / 92.6

SOURCE EFT/LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE PD (PSI)	LOAD FR (GPM)	LOAD PD (PSI)	HE (mBTUh)	P (kW)	HC (mBTUh)	COP (-)
10.0 / 4.6	20%	-	-	-	-	-	-	-	-
	25%	9.6	0.08	5.1	0.03	23.1	2.8	32.2	3.3
	30%	11.8	0.10	6.2	0.04	28.1	3.3	38.8	3.4
	35%	13.9	0.14	7.2	0.05	33.1	3.8	45.4	3.5
	40%	15.9	0.17	8.3	0.06	38.1	4.3	52.1	3.5
	45%	18.0	0.21	9.3	0.07	42.9	4.9	58.6	3.5
	50%	19.9	0.26	10.4	0.08	47.7	5.4	65.2	3.5
	55%	21.9	0.30	11.4	0.10	52.3	6.0	71.8	3.5
	60%	23.8	0.35	12.5	0.11	57.0	6.6	78.4	3.5
	65%	25.8	0.41	13.5	0.13	61.6	7.3	85.0	3.4
	70%	27.7	0.46	14.5	0.15	66.1	7.9	91.6	3.4
	75%	29.5	0.52	15.6	0.17	70.5	8.6	98.3	3.4
	80%	31.4	0.58	16.7	0.19	75.0	9.3	104.9	3.3
	85%	33.2	0.65	17.7	0.21	79.3	10.0	111.5	3.3
	90%	35.0	0.71	18.8	0.23	83.7	10.7	118.2	3.2
	95%	36.8	0.78	19.8	0.25	88.0	11.4	124.8	3.2
	100%	-	-	-	-	-	-	-	-
30.0 / 24.6	20%	-	-	-	-	-	-	-	-
	25%	15.2	0.16	7.2	0.05	36.3	2.7	45.1	4.8
	30%	18.4	0.22	8.6	0.06	43.9	3.2	54.4	4.9
	35%	21.5	0.29	10.1	0.08	51.3	3.8	63.5	4.9
	40%	24.5	0.37	11.5	0.10	58.5	4.4	72.6	4.9
	45%	27.4	0.45	13.0	0.12	65.5	5.0	81.6	4.8
	50%	30.3	0.55	14.4	0.15	72.4	5.6	90.5	4.7
	55%	33.1	0.64	15.8	0.17	79.2	6.3	99.3	4.6
	60%	35.9	0.75	17.2	0.20	85.8	6.9	108.1	4.6
	65%	38.6	0.85	18.5	0.23	92.2	7.7	116.8	4.5
	70%	41.3	0.97	19.9	0.26	98.6	8.4	125.5	4.4
	75%	43.9	1.09	21.3	0.29	104.8	9.1	134.1	4.3
	80%	46.4	1.21	22.6	0.32	110.9	9.9	142.6	4.2
	85%	48.9	1.33	24.0	0.36	116.8	10.7	151.2	4.1
	90%	51.4	1.46	25.3	0.39	122.7	11.5	159.6	4.1
	95%	53.8	1.60	26.7	0.43	128.5	12.3	168.1	4.0
	100%	56.1	1.73	28.0	0.47	134.1	13.2	176.5	3.9
50.0 / 41.0	20%	-	-	-	-	-	-	-	-
	25%	13.5	0.13	9.8	0.08	53.6	2.5	61.8	7.1
	30%	16.2	0.18	11.8	0.10	64.3	3.1	74.2	7.0
	35%	18.8	0.23	13.7	0.13	74.7	3.7	86.4	6.9
	40%	21.3	0.29	15.6	0.17	84.8	4.3	98.5	6.7
	45%	23.7	0.35	17.5	0.20	94.5	4.9	110.3	6.5
	50%	26.1	0.42	19.4	0.24	104.0	5.6	122.0	6.3
	55%	28.4	0.49	21.2	0.29	113.2	6.4	133.5	6.2
	60%	30.7	0.56	23.0	0.33	122.2	7.1	144.9	6.0
	65%	32.9	0.63	24.8	0.38	130.9	7.9	156.1	5.8
	70%	35.0	0.71	26.5	0.43	139.4	8.7	167.2	5.6
	75%	37.1	0.79	28.3	0.48	147.7	9.6	178.1	5.5
	80%	39.1	0.88	30.0	0.54	155.7	10.5	189.0	5.3
	85%	41.1	0.96	31.7	0.59	163.6	11.4	199.7	5.2
	90%	43.0	1.05	33.4	0.65	171.2	12.3	210.3	5.0
	95%	44.9	1.13	35.1	0.71	178.7	13.3	220.8	4.9
	100%	46.7	1.22	36.7	0.78	185.9	14.3	231.3	4.7
70.0 / 61.0	20%	-	-	-	-	-	-	-	-
	25%	19.0	0.24	13.1	0.12	75.6	2.2	82.5	11.2
	30%	22.6	0.32	15.7	0.17	90.1	2.7	98.7	10.7
	35%	26.1	0.42	18.2	0.22	104.1	3.3	114.5	10.2
	40%	29.5	0.52	20.6	0.27	117.6	3.9	130.0	9.7
	45%	32.8	0.63	23.1	0.33	130.5	4.6	145.2	9.2
	50%	35.9	0.75	25.4	0.40	143.1	5.4	160.1	8.7
	55%	39.0	0.87	27.7	0.46	155.1	6.2	174.7	8.3
	60%	41.9	1.00	30.0	0.54	166.8	7.0	189.0	7.9
	65%	44.7	1.13	32.2	0.61	178.1	7.9	203.1	7.5
	70%	47.5	1.26	34.4	0.69	189.0	8.9	216.9	7.2
	75%	50.1	1.40	36.6	0.77	199.6	9.9	230.5	6.8
	80%	52.7	1.54	38.7	0.86	209.9	10.9	244.0	6.6
	85%	55.2	1.68	40.8	0.95	219.9	11.9	257.2	6.3
	90%	57.6	1.82	42.9	1.04	229.5	13.0	270.2	6.1
	95%	60.0	1.97	44.9	1.14	238.9	14.2	283.1	5.8
	100%	62.3	2.11	47.0	1.24	248.0	15.4	295.8	5.6
90.0 / 79.2	20%	-	-	-	-	-	-	-	-
	25%	21.5	0.29	17.1	0.20	102.8	1.5	107.5	20.7
	30%	25.5	0.40	20.3	0.27	121.9	2.0	128.1	18.6
	35%	29.3	0.51	23.5	0.34	140.0	2.6	148.0	16.7
	40%	32.9	0.64	26.6	0.43	157.4	3.3	167.4	15.0
	45%	36.4	0.77	29.6	0.52	174.0	4.0	186.3	13.6
	50%	39.7	0.90	32.5	0.62	189.9	4.9	204.8	12.3
	55%	42.9	1.04	35.4	0.73	205.2	5.8	222.8	11.3
	60%	46.0	1.19	38.2	0.84	219.9	6.7	240.4	10.5
	65%	49.0	1.34	40.9	0.95	234.0	7.8	257.7	9.7
	70%	51.8	1.49	43.6	1.07	247.6	8.9	274.5	9.1
	75%	54.6	1.64	46.2	1.20	260.8	10.0	291.1	8.5
	80%	57.2	1.80	48.8	1.33	273.4	11.2	307.4	8.0
	85%	59.8	1.96	51.3	1.46	285.7	12.5	323.3	7.6
	90%	62.2	2.11	53.8	1.60	297.5	13.8	339.0	7.2
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-

LOAD EFT / LFT (°F): 100.0 / 112.6

SOURCE EFT/LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE PD (PSI)	LOAD FR (GPM)	LOAD PD (PSI)	HE (mBTUh)	P (kW)	HC (mBTUh)	COP (-)
10.0 / 4.6	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	10.2	0.08	6.1	0.04	24.5	4.3	38.4	2.6
	35%	12.2	0.11	7.1	0.05	29.1	4.9	45.0	2.7
	40%	14.1	0.14	8.2	0.06	33.6	5.5	51.5	2.7
	45%	15.9	0.17	9.2	0.07	38.1	6.2	58.1	2.7
	50%	17.7	0.21	10.3	0.08	42.4	6.9	64.7	2.8
	55%	19.5	0.25	11.3	0.10	46.7	7.6	71.3	2.7
	60%	21.3	0.29	12.4	0.11	50.9	8.3	77.8	2.7
	65%	23.1	0.33	13.4	0.13	55.1	9.1	84.5	2.7
	70%	24.8	0.38	14.5	0.15	59.2	9.9	91.1	2.7
	75%	26.5	0.43	15.5	0.17	63.3	10.7	97.7	2.7
	80%	28.2	0.48	16.6	0.19	67.4	11.5	104.4	2.7
	85%	29.9	0.53	17.6	0.21	71.4	12.3	111.1	2.6
	90%	31.5	0.59	18.7	0.23	75.3	13.2	117.8	2.6
	95%	33.2	0.64	19.8	0.25	79.2	14.0	124.5	2.6
	100%	-	-	-	-	-	-	-	-
30.0 / 24.6	20%	-	-	-	-	-	-	-	-
	25%	13.4	0.13	7.0	0.05	31.9	3.7	43.8	3.5
	30%	16.3	0.18	8.4	0.06	39.0	4.3	52.8	3.6
	35%	19.1	0.24	9.8	0.08	45.7	5.0	61.8	3.6
	40%	21.9	0.30	11.2	0.10	52.3	5.7	70.6	3.7
	45%	24.6	0.37	12.6	0.12	58.8	6.4	79.4	3.6
	50%	27.2	0.45	14.0	0.14	65.1	7.1	88.1	3.6
	55%	29.8	0.53	15.4	0.16	71.3	7.9	96.8	3.6
	60%	32.3	0.62	16.7	0.19	77.3	8.7	105.4	3.5
	65%	34.8	0.71	18.1	0.22	83.2	9.5	113.9	3.5
	70%	37.2	0.80	19.4	0.25	89.0	10.4	122.5	3.5
	75%	39.6	0.90	20.8	0.28	94.6	11.3	130.9	3.4
	80%	41.9	1.00	22.1	0.31	100.2	12.2	139.4	3.4
	85%	44.2	1.10	23.5	0.34	105.6	13.1	147.8	3.3
	90%	46.4	1.21	24.8	0.38	110.9	14.0	156.1	3.3
	95%	48.6	1.32	26.1	0.42	116.2	15.0	164.5	3.2
	100%	50.7	1.43	27.4	0.45	121.3	16.0	172.8	3.2
50.0 / 41.0	20%	-	-	-	-	-	-	-	-
	25%	12.0	0.11	9.4	0.07	47.7	3.6	59.3	4.8
	30%	14.4	0.15	11.3	0.10	57.5	4.3	71.2	4.9
	35%	16.8	0.19	13.2	0.13	67.0	5.0	83.0	4.9
	40%	19.1	0.24	15.0	0.16	76.2	5.7	94.6	4.8
	45%	21.4	0.29	16.8	0.19	85.1	6.5	106.1	4.8
	50%	23.6	0.35	18.6	0.23	93.8	7.4	117.4	4.7
	55%	25.7	0.40	20.4	0.27	102.2	8.2	128.6	4.6
	60%	27.7	0.46	22.2	0.31	110.4	9.1	139.6	4.5
	65%	29.7	0.53	23.9	0.35	118.4	10.0	150.5	4.4
	70%	31.7	0.59	25.6	0.40	126.1	11.0	161.3	4.3
	75%	33.6	0.66	27.3	0.45	133.7	11.9	171.9	4.2
	80%	35.4	0.73	29.0	0.50	141.0	12.9	182.5	4.1
	85%	37.2	0.80	30.6	0.56	148.2	14.0	192.9	4.0
	90%	38.9	0.87	32.3	0.61	155.1	15.1	203.3	4.0
	95%	40.6	0.94	33.9	0.67	161.9	16.2	213.6	3.9
	100%	42.3	1.01	35.5	0.73	168.5	17.3	223.8	3.8
70.0 / 61.0	20%	-	-	-	-	-	-	-	-
	25%	17.0	0.19	12.5	0.11	67.7	3.4	78.5	6.8
	30%	20.3	0.27	14.9	0.16	81.0	4.1	94.0	6.8
	35%	23.5	0.34	17.3	0.20	93.7	4.8	109.2	6.6
	40%	26.6	0.43	19.7	0.25	106.0	5.6	124.1	6.4
	45%	29.6	0.52	22.0	0.31	117.9	6.5	138.6	6.3
	50%	32.5	0.62	24.3	0.36	129.4	7.4	152.9	6.1
	55%	35.3	0.72	26.5	0.43	140.4	8.3	167.0	5.9
	60%	37.9	0.83	28.7	0.49	151.1	9.3	180.8	5.7
	65%	40.5	0.94	30.9	0.56	161.5	10.4	194.4	5.5
	70%	43.1	1.05	33.0	0.64	171.5	11.4	207.8	5.3
	75%	45.5	1.16	35.1	0.72	181.2	12.5	220.9	5.2
	80%	47.8	1.28	37.1	0.80	190.5	13.7	233.9	5.0
	85%	50.1	1.40	39.2	0.88	199.6	14.9	246.7	4.9
	90%	52.3	1.52	41.2	0.97	208.4	16.1	259.4	4.7
	95%	54.5	1.64	43.2	1.05	216.9	17.4	271.9	4.6
	100%	56.5	1.76	45.1	1.15	225.2	18.7	284.3	4.5
90.0 / 79.2	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	26.5	0.43	22.3	0.31	126.6	4.4	140.5	9.3
	40%	29.8	0.53	25.3	0.39	142.5	5.3	159.1	8.8
	45%	33.0	0.64	28.1	0.48	157.7	6.2	177.2	8.4
	50%	36.0	0.75	30.9	0.57	172.3	7.2	194.9	7.9
	55%	39.0	0.87	33.7	0.66	186.3	8.2	212.1	7.5
	60%	41.8	0.99	36.4	0.76	199.8	9.4	229.1	7.2
	65%	44.5	1.12	39.0	0.87	212.7	10.5	245.6	6.8
	70%	47.1	1.24	41.6	0.98	225.2	11.8	261.9	6.5
	75%	49.6	1.37	44.1	1.10	237.3	13.0	277.9	6.2
	80%	52.1	1.50	46.6	1.22	248.9	14.4	293.6	6.0
	85%	54.4	1.64	49.1	1.34	260.1	15.8	309.0	5.7
	90%	56.7	1.77	51.5	1.47	270.9	17.2	324.2	5.5
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-

LOAD EFT / LFT (°F): 120.0 / 132.6

SOURCE EFT/LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE PD (PSI)	LOAD FR (GPM)	LOAD PD (PSI)	HE (mBTUh)	P (kW)	HC (mBTUh)	COP (-)
10.0 / 4.6	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	-	-	-	-	-	-	-	-
	40%	-	-	-	-	-	-	-	-
	45%	-	-	-	-	-	-	-	-
	50%	-	-	-	-	-	-	-	-
	55%	-	-	-	-	-	-	-	-
	60%	-	-	-	-	-	-	-	-
	65%	-	-	-	-	-	-	-	-
	70%	-	-	-	-	-	-	-	-
	75%	-	-	-	-	-	-	-	-
	80%	-	-	-	-	-	-	-	-
	85%	-	-	-	-	-	-	-	-
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
30.0 / 24.6	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	14.0	0.14	8.2	0.06	33.3	5.6	51.5	2.7
	35%	16.5	0.18	9.5	0.07	39.4	6.4	60.1	2.8
	40%	19.0	0.23	10.9	0.09	45.3	7.3	68.8	2.8
	45%	21.4	0.29	12.3	0.11	51.1	8.1	77.3	2.8
	50%	23.7	0.35	13.6	0.13	56.7	9.0	85.8	2.8
	55%	26.0	0.41	15.0	0.16	62.2	10.0	94.3	2.8
	60%	28.3	0.48	16.3	0.18	67.5	10.9	102.8	2.8
	65%	30.4	0.55	17.7	0.21	72.7	11.9	111.2	2.7
	70%	32.6	0.62	19.0	0.24	77.9	12.9	119.6	2.7
	75%	34.7	0.70	20.3	0.27	82.9	14.0	128.0	2.7
	80%	36.7	0.78	21.6	0.30	87.7	15.1	136.3	2.7
	85%	38.7	0.86	23.0	0.33	92.5	16.2	144.6	2.6
	90%	40.7	0.94	24.3	0.36	97.2	17.3	153.0	2.6
	95%	42.6	1.03	25.6	0.40	101.8	18.5	161.3	2.6
	100%	-	-	-	-	-	-	-	-
50.0 / 41.0	20%	-	-	-	-	-	-	-	-
	25%	10.8	0.09	9.6	0.08	43.0	5.2	60.7	3.4
	30%	13.1	0.12	11.6	0.10	52.2	6.1	72.9	3.5
	35%	15.3	0.16	13.5	0.13	61.1	7.0	85.0	3.6
	40%	17.5	0.20	15.4	0.16	69.7	8.0	96.9	3.6
	45%	19.6	0.25	17.2	0.20	78.0	9.0	108.6	3.5
	50%	21.6	0.30	19.1	0.24	86.1	10.0	120.3	3.5
	55%	23.6	0.35	20.9	0.28	93.9	11.1	131.8	3.5
	60%	25.5	0.40	22.7	0.32	101.5	12.2	143.1	3.4
	65%	27.3	0.45	24.5	0.37	108.8	13.4	154.4	3.4
	70%	29.1	0.51	26.3	0.42	115.9	14.6	165.6	3.3
	75%	30.8	0.56	28.0	0.47	122.8	15.8	176.7	3.3
	80%	32.5	0.62	29.8	0.53	129.4	17.1	187.6	3.2
	85%	34.1	0.68	31.5	0.59	135.8	18.4	198.5	3.2
	90%	35.7	0.74	33.2	0.65	142.1	19.7	209.4	3.1
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
70.0 / 61.0	20%	-	-	-	-	-	-	-	-
	25%	16.0	0.18	13.0	0.12	63.8	5.2	81.7	4.6
	30%	19.2	0.24	15.5	0.17	76.7	6.2	97.8	4.6
	35%	22.3	0.31	18.0	0.22	89.0	7.2	113.6	4.6
	40%	25.3	0.39	20.5	0.27	100.9	8.3	129.2	4.6
	45%	28.2	0.48	22.9	0.33	112.3	9.4	144.4	4.5
	50%	31.0	0.57	25.3	0.39	123.3	10.6	159.4	4.4
	55%	33.6	0.66	27.6	0.46	133.9	11.8	174.1	4.3
	60%	36.2	0.76	30.0	0.53	144.1	13.1	188.7	4.2
	65%	38.6	0.86	32.2	0.61	153.9	14.4	203.0	4.1
	70%	41.0	0.96	34.5	0.69	163.4	15.7	217.1	4.0
	75%	43.3	1.06	36.7	0.78	172.5	17.2	231.0	3.9
	80%	45.5	1.16	38.9	0.87	181.3	18.6	244.8	3.9
	85%	47.6	1.27	41.0	0.96	189.7	20.1	258.4	3.8
	90%	49.7	1.37	43.2	1.05	197.8	21.7	271.8	3.7
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
90.0 / 79.2	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	20.3	0.26	18.1	0.22	96.9	5.4	114.2	6.2
	35%	23.4	0.34	21.0	0.28	111.8	6.4	132.2	6.1
	40%	26.4	0.42	23.8	0.35	126.0	7.4	149.7	5.9
	45%	29.2	0.51	26.5	0.43	139.6	8.5	166.8	5.7
	50%	32.0	0.60	29.1	0.51	152.7	9.7	183.6	5.5
	55%	34.6	0.70	31.7	0.59	165.3	10.9	200.0	5.4
	60%	37.1	0.79	34.3	0.69	177.4	12.2	216.1	5.2
	65%	39.5	0.89	36.8	0.78	189.0	13.5	231.9	5.0
	70%	41.9	1.00	39.3	0.88	200.1	14.9	247.4	4.9
	75%	44.1	1.10	41.7	0.99	210.9	16.4	262.7	4.7
	80%	46.3	1.20	44.1	1.10	221.2	17.9	277.7	4.5
	85%	48.4	1.31	46.4	1.21	231.1	19.5	292.5	4.4
	90%	50.4	1.41	48.8	1.33	240.7	21.1	307.2	4.3
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-

LOAD EFT / LFT (°F): 130.0 / 142.6

SOURCE EFT/LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE PD (PSI)	LOAD FR (GPM)	LOAD PD (PSI)	HE (mBTUh)	P (kW)	HC (mBTUh)	COP (-)
10.0 / 4.6	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	-	-	-	-	-	-	-	-
	40%	-	-	-	-	-	-	-	-
	45%	-	-	-	-	-	-	-	-
	50%	-	-	-	-	-	-	-	-
	55%	-	-	-	-	-	-	-	-
	60%	-	-	-	-	-	-	-	-
	65%	-	-	-	-	-	-	-	-
	70%	-	-	-	-	-	-	-	-
	75%	-	-	-	-	-	-	-	-
	80%	-	-	-	-	-	-	-	-
	85%	-	-	-	-	-	-	-	-
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
30.0 / 24.6	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	-	-	-	-	-	-	-	-
	40%	-	-	-	-	-	-	-	-
	45%	-	-	-	-	-	-	-	-
	50%	25.2	0.39	16.2	0.18	60.2	12.2	101.8	2.4
	55%	27.7	0.46	17.8	0.21	66.1	13.4	111.9	2.4
	60%	30.1	0.54	19.4	0.24	71.8	14.7	121.9	2.4
	65%	32.4	0.62	20.9	0.28	77.4	16.0	132.0	2.4
	70%	34.7	0.70	22.5	0.32	82.8	17.3	142.0	2.4
	75%	36.9	0.78	24.1	0.36	88.1	18.7	152.0	2.4
	80%	-	-	-	-	-	-	-	-
	85%	-	-	-	-	-	-	-	-
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
50.0 / 41.0	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	11.5	0.10	10.9	0.09	45.8	6.7	68.6	3.0
	35%	13.5	0.13	12.7	0.12	53.8	7.6	79.9	3.1
	40%	15.5	0.16	14.5	0.15	61.5	8.7	91.1	3.1
	45%	17.3	0.20	16.2	0.18	69.0	9.7	102.2	3.1
	50%	19.1	0.24	18.0	0.21	76.2	10.8	113.1	3.1
	55%	20.9	0.28	19.7	0.25	83.2	12.0	124.0	3.0
	60%	22.6	0.32	21.4	0.29	89.9	13.1	134.7	3.0
	65%	24.2	0.36	23.1	0.33	96.4	14.3	145.3	3.0
	70%	25.8	0.41	24.8	0.38	102.7	15.6	155.9	2.9
	75%	27.3	0.45	26.4	0.42	108.8	16.9	166.4	2.9
	80%	28.8	0.50	28.1	0.47	114.6	18.2	176.8	2.8
	85%	30.2	0.54	29.7	0.53	120.3	19.6	187.2	2.8
	90%	31.6	0.59	31.4	0.58	125.8	21.0	197.5	2.8
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
70.0 / 61.0	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	16.9	0.19	14.4	0.15	67.3	6.8	90.6	3.9
	35%	19.7	0.25	16.7	0.19	78.3	7.9	105.3	3.9
	40%	22.3	0.31	19.0	0.24	88.9	9.0	119.6	3.9
	45%	24.9	0.38	21.2	0.29	99.0	10.2	133.7	3.9
	50%	27.3	0.45	23.4	0.34	108.8	11.4	147.7	3.8
	55%	29.7	0.53	25.6	0.40	118.2	12.6	161.4	3.7
	60%	32.0	0.60	27.8	0.46	127.3	14.0	174.9	3.7
	65%	34.1	0.68	29.9	0.53	136.0	15.3	188.2	3.6
	70%	36.2	0.76	32.0	0.60	144.3	16.7	201.4	3.5
	75%	38.3	0.84	34.0	0.68	152.3	18.2	214.4	3.5
	80%	40.2	0.92	36.1	0.75	160.1	19.7	227.2	3.4
	85%	42.1	1.00	38.1	0.83	167.5	21.3	240.0	3.3
	90%	43.8	1.09	40.1	0.92	174.6	22.9	252.6	3.2
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
90.0 / 79.2	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	-	-	-	-	-	-	-	-
	40%	24.5	0.37	23.0	0.33	117.2	8.6	144.7	4.9
	45%	27.2	0.45	25.6	0.40	130.0	9.8	161.3	4.8
	50%	29.8	0.53	28.2	0.48	142.2	11.0	177.5	4.7
	55%	32.2	0.61	30.7	0.56	154.0	12.4	193.4	4.6
	60%	34.6	0.70	33.2	0.65	165.3	13.7	209.1	4.5
	65%	36.9	0.78	35.6	0.74	176.1	15.2	224.5	4.3
	70%	39.0	0.87	38.0	0.83	186.5	16.7	239.6	4.2
	75%	41.1	0.96	40.4	0.93	196.5	18.2	254.5	4.1
	80%	43.1	1.05	42.7	1.03	206.1	19.8	269.2	4.0
	85%	-	-	-	-	-	-	-	-
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-

NetZero+ HW 70

Performance data **Cooling**

LOAD EFT / LFT (°F): 50.0 / 41.0

SOURCE EFT/LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE PD (PSI)	LOAD FR (GPM)	LOAD PD (PSI)	HC (mBTUh)	P (kW)	HE (mBTUh)	EER (-)
50.0 / 62.6	20%	-	-	-	-	-	-	-	-
	25%	8.8	0.06	9.7	0.08	48.9	1.7	43.4	25.5
	30%	10.7	0.09	11.7	0.10	59.4	2.1	52.7	25.4
	35%	12.5	0.12	13.8	0.14	69.9	2.5	61.9	24.9
	40%	14.4	0.15	15.8	0.17	80.5	2.9	71.1	24.4
	45%	16.3	0.18	17.8	0.21	91.1	3.4	80.2	23.7
	50%	18.3	0.22	19.9	0.25	101.8	3.9	89.3	23.1
	55%	20.2	0.26	21.9	0.30	112.5	4.4	98.4	22.4
	60%	22.1	0.31	23.9	0.35	123.2	4.9	107.3	21.7
	65%	24.0	0.36	25.8	0.41	134.0	5.5	116.3	21.1
	70%	26.0	0.41	27.8	0.47	144.8	6.1	125.2	20.5
	75%	27.9	0.47	29.8	0.53	155.7	6.8	134.0	19.8
	80%	29.9	0.53	31.7	0.59	166.6	7.4	142.8	19.3
	85%	31.8	0.60	33.7	0.66	177.5	8.1	151.6	18.7
	90%	33.8	0.67	35.6	0.74	188.5	8.8	160.3	18.2
	95%	35.8	0.74	37.5	0.81	199.6	9.6	168.9	17.6
	100%	37.8	0.82	39.5	0.89	210.6	10.4	177.5	17.2
70.0 / 82.6	20%	-	-	-	-	-	-	-	-
	25%	8.5	0.06	8.7	0.06	47.4	2.5	39.3	15.7
	30%	10.3	0.08	10.6	0.09	57.5	3.0	47.9	16.0
	35%	12.1	0.11	12.5	0.12	67.7	3.5	56.4	16.1
	40%	14.0	0.14	14.4	0.15	77.9	4.1	64.8	16.0
	45%	15.8	0.17	16.3	0.18	88.2	4.6	73.2	15.8
	50%	17.7	0.21	18.1	0.22	98.4	5.2	81.6	15.6
	55%	19.5	0.25	20.0	0.26	108.8	5.9	89.9	15.4
	60%	21.4	0.29	21.8	0.30	119.1	6.5	98.2	15.1
	65%	23.2	0.34	23.6	0.35	129.6	7.2	106.4	14.8
	70%	25.1	0.39	25.5	0.40	140.0	7.9	114.6	14.5
	75%	27.0	0.44	27.3	0.45	150.5	8.7	122.7	14.2
	80%	28.9	0.50	29.1	0.51	161.0	9.4	130.7	13.9
	85%	30.8	0.56	30.8	0.56	171.6	10.2	138.7	13.6
	90%	32.7	0.63	32.6	0.62	182.1	11.0	146.7	13.3
	95%	34.6	0.70	34.4	0.69	192.8	11.9	154.6	13.0
	100%	36.5	0.77	36.1	0.75	203.4	12.8	162.4	12.7
90.0 / 102.6	20%	-	-	-	-	-	-	-	-
	25%	8.2	0.06	7.7	0.05	45.7	3.4	34.7	10.2
	30%	10.0	0.08	9.4	0.07	55.5	4.0	42.5	10.6
	35%	11.7	0.10	11.2	0.10	65.3	4.6	50.3	10.8
	40%	13.5	0.13	12.9	0.12	75.1	5.3	58.0	10.9
	45%	15.2	0.16	14.6	0.15	85.0	6.0	65.6	10.9
	50%	17.0	0.19	16.3	0.18	94.9	6.7	73.2	10.9
	55%	18.8	0.23	17.9	0.21	104.8	7.5	80.7	10.8
	60%	20.6	0.27	19.6	0.25	114.8	8.3	88.2	10.7
	65%	22.4	0.32	21.2	0.29	124.8	9.1	95.6	10.6
	70%	24.2	0.36	22.9	0.33	134.8	9.9	102.9	10.4
	75%	26.0	0.41	24.5	0.37	144.9	10.7	110.2	10.3
	80%	27.8	0.47	26.1	0.42	154.9	11.6	117.5	10.1
	85%	29.6	0.52	27.7	0.46	165.0	12.5	124.6	9.9
	90%	31.4	0.58	29.3	0.51	175.2	13.5	131.7	9.8
	95%	33.2	0.65	30.8	0.56	185.3	14.5	138.8	9.6
	100%	35.1	0.71	32.4	0.62	195.5	15.5	145.8	9.4
110.0 / 122.6	20%	-	-	-	-	-	-	-	-
	25%	7.9	0.06	6.6	0.04	44.2	4.5	29.6	6.6
	30%	9.6	0.07	8.1	0.06	53.6	5.2	36.6	7.0
	35%	11.3	0.10	9.7	0.08	63.0	6.0	43.5	7.2
	40%	13.0	0.12	11.2	0.10	72.4	6.8	50.3	7.4
	45%	14.7	0.15	12.7	0.12	81.8	7.7	57.1	7.4
	50%	16.4	0.18	14.2	0.14	91.3	8.5	63.8	7.5
	55%	18.1	0.22	15.6	0.17	100.8	9.4	70.4	7.5
	60%	19.8	0.25	17.1	0.20	110.4	10.3	77.0	7.4
	65%	21.5	0.29	18.6	0.23	119.9	11.3	83.5	7.4
	70%	23.2	0.34	20.0	0.26	129.5	12.3	89.9	7.3
	75%	25.0	0.38	21.4	0.29	139.1	13.3	96.3	7.2
	80%	26.7	0.43	22.8	0.33	148.8	14.3	102.6	7.2
	85%	28.4	0.49	24.2	0.36	158.4	15.4	108.8	7.1
	90%	30.2	0.54	25.5	0.40	168.1	16.5	114.9	7.0
	95%	31.9	0.60	26.9	0.44	177.9	17.6	121.0	6.9
	100%	33.6	0.66	28.2	0.48	187.6	18.8	127.0	6.8
120.0 / 132.6	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	11.1	0.09	8.8	0.07	61.9	6.8	39.7	5.8
	40%	12.8	0.12	10.2	0.08	71.1	7.7	46.1	6.0
	45%	14.4	0.15	11.6	0.10	80.3	8.6	52.3	6.1
	50%	16.1	0.18	13.0	0.12	89.6	9.6	58.6	6.1
	55%	17.7	0.21	14.4	0.15	98.9	10.6	64.7	6.1
	60%	19.4	0.24	15.7	0.17	108.2	11.6	70.8	6.1
	65%	21.1	0.28	17.1	0.20	117.6	12.6	76.8	6.1
	70%	22.8	0.32	18.4	0.22	126.9	13.7	82.7	6.0
	75%	24.5	0.37	19.7	0.25	136.3	14.8	88.5	6.0
	80%	26.1	0.42	21.0	0.28	145.8	15.9	94.3	5.9
	85%	27.8	0.47	22.2	0.31	155.2	17.1	100.0	5.8
	90%	29.5	0.52	23.5	0.34	164.7	18.3	105.6	5.8
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-

LOAD EFT / LFT (°F): 60.0 / 49.2

SOURCE EFT/LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE PD (PSI)	LOAD FR (GPM)	LOAD PD (PSI)	HC (mBTUh)	P (kW)	HE (mBTUh)	EER (-)
50.0 / 62.6	20%	-	-	-	-	-	-	-	-
	25%	10.4	0.09	9.9	0.08	58.2	1.5	53.3	35.1
	30%	12.7	0.12	12.0	0.11	70.6	1.9	64.6	34.6
	35%	14.9	0.15	14.1	0.14	83.2	2.3	75.9	33.6
	40%	17.2	0.20	16.1	0.18	95.7	2.7	87.1	32.4
	45%	19.4	0.24	18.2	0.22	108.3	3.2	98.2	31.2
	50%	21.7	0.30	20.2	0.26	120.9	3.6	109.2	29.9
	55%	23.9	0.36	22.3	0.31	133.5	4.2	120.2	28.7
	60%	26.2	0.42	24.3	0.36	146.2	4.7	131.0	27.6
	65%	28.5	0.49	26.3	0.42	158.9	5.4	141.8	26.5
	70%	30.8	0.56	28.3	0.48	171.7	6.0	152.6	25.5
	75%	33.1	0.64	30.2	0.54	184.4	6.7	163.2	24.5
	80%	35.4	0.73	32.2	0.61	197.3	7.4	173.7	23.6
	85%	37.7	0.82	34.1	0.68	210.1	8.1	184.2	22.7
	90%	40.0	0.91	36.0	0.75	223.0	8.9	194.6	21.9
	95%	42.3	1.02	38.0	0.83	235.9	9.7	204.9	21.1
	100%	44.6	1.12	39.9	0.91	248.8	10.6	215.2	20.4
70.0 / 82.6	20%	-	-	-	-	-	-	-	-
	25%	10.1	0.08	9.0	0.07	56.1	2.4	48.4	20.3
	30%	12.2	0.11	10.9	0.09	68.1	2.9	58.8	20.4
	35%	14.4	0.15	12.8	0.12	80.1	3.4	69.2	20.3
	40%	16.5	0.18	14.7	0.15	92.2	4.0	79.5	20.1
	45%	18.7	0.23	16.6	0.19	104.3	4.6	89.7	19.7
	50%	20.9	0.28	18.5	0.22	116.4	5.2	99.8	19.3
	55%	23.1	0.33	20.3	0.27	128.6	5.8	109.9	18.8
	60%	25.2	0.39	22.2	0.31	140.8	6.5	119.8	18.4
	65%	27.4	0.46	24.0	0.36	153.0	7.2	129.7	17.9
	70%	29.6	0.52	25.8	0.41	165.2	8.0	139.6	17.5
	75%	31.8	0.60	27.7	0.46	177.5	8.8	149.3	17.0
	80%	34.0	0.68	29.4	0.52	189.7	9.6	159.0	16.6
	85%	36.2	0.76	31.2	0.58	202.0	10.5	168.5	16.1
	90%	38.4	0.85	33.0	0.64	214.4	11.3	178.0	15.7
	95%	40.7	0.94	34.7	0.70	226.7	12.3	187.5	15.3
	100%	42.9	1.04	36.4	0.77	239.1	13.2	196.8	14.9
90.0 / 102.6	20%	-	-	-	-	-	-	-	-
	25%	9.6	0.08	8.0	0.06	53.8	3.4	42.9	12.8
	30%	11.7	0.10	9.7	0.08	65.3	4.0	52.4	13.2
	35%	13.8	0.14	11.5	0.10	76.8	4.6	61.8	13.3
	40%	15.8	0.17	13.2	0.13	88.3	5.3	71.1	13.4
	45%	17.9	0.21	14.9	0.15	99.9	6.0	80.4	13.3
	50%	20.0	0.26	16.6	0.19	111.5	6.8	89.6	13.2
	55%	22.1	0.31	18.3	0.22	123.1	7.6	98.6	13.0
	60%	24.2	0.36	19.9	0.26	134.7	8.4	107.6	12.8
	65%	26.2	0.42	21.6	0.30	146.3	9.2	116.5	12.6
	70%	28.3	0.48	23.2	0.34	157.9	10.1	125.4	12.4
	75%	30.4	0.55	24.8	0.38	169.6	11.0	134.1	12.2
	80%	32.5	0.62	26.4	0.43	181.3	12.0	142.7	11.9
	85%	34.6	0.70	28.0	0.47	193.0	13.0	151.3	11.7
	90%	36.7	0.78	29.6	0.52	204.7	14.0	159.8	11.4
	95%	38.8	0.86	31.1	0.57	216.4	15.0	168.1	11.2
	100%	40.9	0.95	32.7	0.63	228.1	16.1	176.4	11.0
110.0 / 122.6	20%	-	-	-	-	-	-	-	-
	25%	9.2	0.07	6.8	0.04	51.5	4.5	36.9	8.2
	30%	11.2	0.10	8.4	0.06	62.4	5.3	45.3	8.6
	35%	13.2	0.13	9.9	0.08	73.3	6.1	53.7	8.8
	40%	15.1	0.16	11.5	0.10	84.3	6.9	61.9	9.0
	45%	17.1	0.20	13.0	0.12	95.2	7.8	70.1	9.0
	50%	19.0	0.24	14.5	0.15	106.2	8.7	78.2	9.0
	55%	21.0	0.28	16.0	0.17	117.2	9.6	86.2	9.0
	60%	23.0	0.33	17.4	0.20	128.2	10.6	94.1	8.9
	65%	25.0	0.38	18.9	0.23	139.2	11.6	101.9	8.8
	70%	26.9	0.44	20.3	0.26	150.2	12.6	109.6	8.7
	75%	28.9	0.50	21.7	0.30	161.2	13.7	117.2	8.6
	80%	30.9	0.57	23.1	0.33	172.3	14.8	124.7	8.4
	85%	32.9	0.63	24.5	0.37	183.3	15.9	132.1	8.3
	90%	34.9	0.71	25.8	0.41	194.4	17.1	139.4	8.2
	95%	36.8	0.78	27.1	0.45	205.5	18.3	146.6	8.0
	100%	38.8	0.86	28.5	0.49	216.5	19.5	153.6	7.9
120.0 / 132.6	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	10.9	0.09	7.7	0.05	61.0	6.0	41.4	6.9
	35%	12.8	0.12	9.1	0.07	71.6	6.9	49.2	7.1
	40%	14.7	0.15	10.5	0.09	82.2	7.8	56.9	7.3
	45%	16.7	0.19	11.9	0.11	92.9	8.8	64.5	7.3
	50%	18.6	0.23	13.3	0.13	103.5	9.8	72.0	7.4
	55%	20.5	0.27	14.7	0.15	114.2	10.8	79.4	7.4
	60%	22.4	0.32	16.0	0.18	124.8	11.8	86.6	7.3
	65%	24.3	0.37	17.4	0.20	135.5	12.9	93.8	7.3
	70%	26.2	0.42	18.7	0.23	146.2	14.0	100.9	7.2
	75%	28.1	0.48	20.0	0.26	156.9	15.2	107.9	7.1
	80%	30.1	0.54	21.3	0.29	167.7	16.4	114.7	7.0
	85%	32.0	0.60	22.5	0.32	178.4	17.6	121.5	6.9
	90%	33.9	0.67	23.7	0.35	189.1	18.9	128.1	6.8
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-

LOAD EFT / LFT (°F): 70.0 / 59.2

SOURCE EFT/LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE PD (PSI)	LOAD FR (GPM)	LOAD PD (PSI)	HC (mBTUh)	P (kW)	HE (mBTUh)	EER (-)
50.0 / 62.6	20%	-	-	-	-	-	-	-	-
	25%	12.3	0.11	11.9	0.11	68.5	1.3	64.5	50.9
	30%	14.9	0.16	14.5	0.15	83.2	1.6	78.2	49.4
	35%	17.6	0.21	17.0	0.19	97.9	1.9	91.7	47.2
	40%	20.2	0.26	19.5	0.25	112.7	2.4	105.2	44.7
	45%	22.9	0.33	22.0	0.30	127.4	2.8	118.5	42.2
	50%	25.5	0.40	24.4	0.37	142.2	3.3	131.7	39.9
	55%	28.2	0.48	26.8	0.44	157.0	3.8	144.8	37.7
	60%	30.8	0.56	29.2	0.51	171.8	4.4	157.8	35.6
	65%	33.5	0.66	31.6	0.59	186.7	5.1	170.7	33.7
	70%	36.2	0.76	34.0	0.67	201.6	5.7	183.4	32.0
	75%	38.8	0.86	36.3	0.76	216.5	6.4	196.1	30.4
	80%	41.5	0.98	38.6	0.86	231.4	7.2	208.6	28.9
	85%	44.2	1.10	40.9	0.95	246.3	8.0	221.0	27.6
	90%	46.9	1.23	43.2	1.06	261.3	8.9	233.3	26.3
	95%	49.5	1.37	45.5	1.16	276.3	9.8	245.5	25.2
	100%	52.2	1.51	47.7	1.27	291.3	10.7	257.5	24.1
70.0 / 82.6	20%	-	-	-	-	-	-	-	-
	25%	11.8	0.10	10.9	0.09	65.9	2.2	58.7	26.3
	30%	14.3	0.14	13.2	0.13	79.9	2.7	71.2	26.3
	35%	16.9	0.19	15.5	0.17	94.0	3.2	83.7	25.9
	40%	19.4	0.24	17.8	0.21	108.1	3.8	96.0	25.3
	45%	21.9	0.30	20.0	0.26	122.3	4.4	108.2	24.7
	50%	24.5	0.37	22.3	0.31	136.4	5.0	120.3	23.9
	55%	27.0	0.44	24.5	0.37	150.6	5.7	132.3	23.2
	60%	29.6	0.52	26.7	0.43	164.8	6.4	144.2	22.4
	65%	32.1	0.61	28.9	0.50	179.0	7.2	156.0	21.7
	70%	34.6	0.70	31.1	0.57	193.2	8.0	167.7	21.0
	75%	37.2	0.80	33.2	0.65	207.4	8.8	179.2	20.3
	80%	39.7	0.90	35.3	0.72	221.6	9.7	190.7	19.7
	85%	42.3	1.02	37.4	0.81	235.9	10.6	202.0	19.0
	90%	44.9	1.13	39.5	0.89	250.1	11.6	213.2	18.4
	95%	47.4	1.26	41.5	0.98	264.4	12.6	224.3	17.8
	100%	50.0	1.39	43.6	1.07	278.6	13.6	235.3	17.3
90.0 / 102.6	20%	-	-	-	-	-	-	-	-
	25%	11.3	0.10	9.7	0.08	62.8	3.3	52.2	16.0
	30%	13.7	0.13	11.8	0.10	76.2	3.9	63.6	16.3
	35%	16.1	0.18	13.9	0.14	89.6	4.6	74.9	16.4
	40%	18.5	0.22	15.9	0.17	103.0	5.3	86.0	16.3
	45%	20.9	0.28	18.0	0.21	116.4	6.0	97.1	16.1
	50%	23.3	0.34	20.0	0.26	129.9	6.8	108.0	15.9
	55%	25.7	0.40	22.0	0.31	143.3	7.6	118.8	15.6
	60%	28.1	0.48	24.0	0.36	156.7	8.5	129.5	15.3
	65%	30.5	0.55	25.9	0.41	170.2	9.4	140.1	14.9
	70%	32.9	0.64	27.9	0.47	183.6	10.3	150.5	14.6
	75%	35.3	0.73	29.8	0.53	197.1	11.3	160.9	14.3
	80%	37.8	0.82	31.7	0.59	210.5	12.3	171.1	13.9
	85%	40.2	0.92	33.6	0.66	223.9	13.3	181.2	13.6
	90%	42.6	1.03	35.4	0.73	237.4	14.4	191.2	13.3
	95%	45.0	1.14	37.2	0.80	250.8	15.5	201.1	12.9
	100%	47.4	1.26	39.0	0.87	264.3	16.7	210.8	12.6
110.0 / 122.6	20%	-	-	-	-	-	-	-	-
	25%	10.7	0.09	8.4	0.06	59.6	4.5	45.1	10.0
	30%	13.0	0.12	10.2	0.08	72.3	5.3	55.2	10.5
	35%	15.2	0.16	12.1	0.11	84.9	6.1	65.2	10.7
	40%	17.5	0.20	13.9	0.14	97.5	7.0	75.1	10.8
	45%	19.8	0.25	15.7	0.17	110.1	7.9	84.8	10.8
	50%	22.0	0.31	17.5	0.20	122.8	8.8	94.4	10.7
	55%	24.3	0.36	19.2	0.24	135.4	9.8	103.9	10.6
	60%	26.5	0.43	21.0	0.28	148.0	10.8	113.3	10.5
	65%	28.8	0.50	22.7	0.32	160.6	11.8	122.6	10.4
	70%	31.1	0.57	24.4	0.37	173.2	12.9	131.7	10.2
	75%	33.3	0.65	26.1	0.41	185.8	14.0	140.7	10.0
	80%	35.6	0.73	27.7	0.46	198.4	15.2	149.5	9.8
	85%	37.9	0.82	29.3	0.51	211.0	16.4	158.2	9.6
	90%	40.1	0.92	30.9	0.57	223.6	17.7	166.8	9.4
	95%	42.4	1.02	32.5	0.62	236.2	19.0	175.3	9.2
	100%	44.6	1.12	34.0	0.68	248.8	20.3	183.6	9.1
120.0 / 132.6	20%	-	-	-	-	-	-	-	-
	25%	10.4	0.09	7.6	0.05	58.1	5.2	41.2	7.9
	30%	12.6	0.12	9.4	0.07	70.3	6.1	50.6	8.4
	35%	14.8	0.15	11.1	0.09	82.5	7.0	59.9	8.6
	40%	17.0	0.19	12.8	0.12	94.7	7.9	69.1	8.7
	45%	19.2	0.24	14.5	0.15	106.9	8.9	78.1	8.8
	50%	21.4	0.29	16.1	0.18	119.0	9.9	87.0	8.8
	55%	23.5	0.34	17.7	0.21	131.2	11.0	95.8	8.7
	60%	25.7	0.40	19.4	0.24	143.4	12.1	104.5	8.7
	65%	27.9	0.47	20.9	0.28	155.6	13.2	113.0	8.6
	70%	30.1	0.54	22.5	0.32	167.8	14.4	121.4	8.4
	75%	32.3	0.61	24.0	0.36	180.0	15.6	129.6	8.3
	80%	34.5	0.69	25.5	0.40	192.1	16.9	137.7	8.2
	85%	36.6	0.78	27.0	0.44	204.3	18.2	145.7	8.0
	90%	38.8	0.86	28.4	0.49	216.5	19.5	153.5	7.9
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-

LOAD EFT / LFT (°F): 80.0 / 67.4

SOURCE EFT/LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE PD (PSI)	LOAD FR (GPM)	LOAD PD (PSI)	HC (mBTUh)	P (kW)	HE (mBTUh)	EER (-)
50.0 / 62.6	20%	-	-	-	-	-	-	-	-
	25%	14.4	0.15	12.3	0.11	80.5	0.9	77.5	83.7
	30%	17.5	0.20	14.9	0.15	97.7	1.2	94.0	79.1
	35%	20.6	0.27	17.5	0.20	114.9	1.5	110.2	73.1
	40%	23.7	0.35	20.0	0.26	132.1	1.9	126.2	67.0
	45%	26.8	0.44	22.6	0.32	149.4	2.3	142.1	61.4
	50%	29.9	0.53	25.1	0.39	166.6	2.8	157.9	56.3
	55%	33.0	0.64	27.5	0.46	183.9	3.3	173.4	51.8
	60%	36.1	0.75	30.0	0.54	201.2	3.9	188.8	47.8
	65%	39.2	0.88	32.4	0.62	218.5	4.6	204.1	44.3
	70%	42.3	1.01	34.8	0.70	235.8	5.3	219.2	41.2
	75%	45.4	1.16	37.2	0.80	253.1	6.1	234.1	38.5
	80%	48.5	1.31	39.5	0.89	270.4	6.9	248.9	36.0
	85%	51.6	1.48	41.8	0.99	287.8	7.8	263.5	33.9
	90%	54.7	1.65	44.1	1.10	305.1	8.7	278.0	31.9
	95%	57.8	1.84	46.4	1.21	322.4	9.7	292.3	30.2
	100%	60.9	2.03	48.7	1.32	339.8	10.7	306.4	28.6
70.0 / 82.6	20%	-	-	-	-	-	-	-	-
	25%	13.8	0.14	11.2	0.10	77.1	2.0	70.7	35.4
	30%	16.8	0.19	13.6	0.13	93.5	2.4	85.7	35.0
	35%	19.7	0.25	16.0	0.17	110.0	3.0	100.5	34.0
	40%	22.7	0.32	18.3	0.22	126.4	3.5	115.2	32.8
	45%	25.6	0.40	20.6	0.27	142.8	4.1	129.7	31.6
	50%	28.6	0.49	22.9	0.33	159.3	4.8	144.1	30.3
	55%	31.5	0.59	25.1	0.39	175.7	5.5	158.4	29.0
	60%	34.5	0.69	27.4	0.45	192.2	6.2	172.5	27.8
	65%	37.4	0.81	29.6	0.52	208.7	7.0	186.4	26.6
	70%	40.4	0.93	31.8	0.60	225.1	7.9	200.2	25.5
	75%	43.3	1.06	33.9	0.67	241.6	8.8	213.8	24.4
	80%	46.3	1.20	36.1	0.75	258.0	9.7	227.3	23.4
	85%	49.2	1.35	38.2	0.84	274.5	10.7	240.6	22.5
	90%	52.2	1.51	40.3	0.93	290.9	11.7	253.8	21.6
	95%	55.1	1.68	42.4	1.02	307.4	12.8	266.9	20.8
	100%	58.1	1.85	44.4	1.11	323.8	14.0	279.7	20.0
90.0 / 102.6	20%	-	-	-	-	-	-	-	-
	25%	13.1	0.12	10.0	0.08	73.2	3.1	63.1	20.1
	30%	15.9	0.17	12.2	0.11	88.8	3.8	76.6	20.4
	35%	18.7	0.23	14.3	0.14	104.3	4.4	90.0	20.3
	40%	21.5	0.29	16.4	0.18	119.9	5.2	103.3	20.0
	45%	24.3	0.36	18.5	0.22	135.4	5.9	116.4	19.7
	50%	27.1	0.44	20.5	0.27	150.9	6.7	129.3	19.2
	55%	29.9	0.53	22.6	0.32	166.4	7.6	142.1	18.7
	60%	32.6	0.63	24.6	0.37	182.0	8.5	154.8	18.3
	65%	35.4	0.73	26.6	0.43	197.5	9.4	167.3	17.8
	70%	38.2	0.84	28.5	0.49	213.0	10.4	179.7	17.3
	75%	41.0	0.96	30.5	0.55	228.4	11.4	191.9	16.8
	80%	43.7	1.08	32.4	0.62	243.9	12.5	203.9	16.3
	85%	46.5	1.21	34.3	0.68	259.3	13.6	215.8	15.8
	90%	49.3	1.35	36.1	0.76	274.8	14.8	227.5	15.4
	95%	52.0	1.50	38.0	0.83	290.2	16.0	239.1	14.9
	100%	54.8	1.66	39.8	0.90	305.6	17.3	250.5	14.5
110.0 / 122.6	20%	-	-	-	-	-	-	-	-
	25%	12.4	0.11	8.7	0.06	69.1	4.4	54.7	12.4
	30%	15.0	0.16	10.6	0.09	83.6	5.2	66.7	12.8
	35%	17.6	0.21	12.5	0.11	98.2	6.1	78.6	12.9
	40%	20.2	0.26	14.3	0.14	112.7	7.0	90.3	13.0
	45%	22.8	0.33	16.2	0.18	127.3	7.9	101.9	12.9
	50%	25.4	0.40	18.0	0.21	141.8	8.9	113.3	12.8
	55%	28.0	0.47	19.8	0.25	156.3	9.9	124.5	12.6
	60%	30.6	0.56	21.5	0.29	170.7	10.9	135.6	12.4
	65%	33.2	0.65	23.3	0.34	185.2	12.0	146.5	12.2
	70%	35.8	0.74	25.0	0.38	199.6	13.2	157.2	11.9
	75%	38.4	0.85	26.6	0.43	214.0	14.4	167.8	11.7
	80%	41.0	0.96	28.3	0.48	228.4	15.6	178.3	11.4
	85%	43.5	1.07	29.9	0.53	242.8	16.9	188.5	11.1
	90%	46.1	1.19	31.5	0.59	257.2	18.3	198.6	10.9
	95%	48.7	1.32	33.1	0.64	271.5	19.6	208.5	10.6
	100%	-	-	-	-	-	-	-	-
120.0 / 132.6	20%	-	-	-	-	-	-	-	-
	25%	12.0	0.11	8.0	0.06	67.0	5.2	50.2	9.7
	30%	14.5	0.15	9.7	0.08	81.0	6.1	61.4	10.1
	35%	17.0	0.19	11.5	0.10	95.0	7.0	72.4	10.4
	40%	19.5	0.25	13.2	0.13	109.0	8.0	83.3	10.5
	45%	22.1	0.31	14.9	0.16	123.0	9.0	94.0	10.5
	50%	24.6	0.37	16.6	0.19	136.9	10.0	104.5	10.4
	55%	27.1	0.44	18.2	0.22	150.8	11.1	114.9	10.3
	60%	29.6	0.52	19.9	0.25	164.8	12.3	125.2	10.2
	65%	32.0	0.61	21.5	0.29	178.7	13.5	135.2	10.0
	70%	34.5	0.69	23.0	0.33	192.5	14.7	145.1	9.8
	75%	37.0	0.79	24.6	0.37	206.4	16.0	154.8	9.7
	80%	39.5	0.89	26.1	0.42	220.3	17.4	164.4	9.5
	85%	42.0	1.00	27.6	0.46	234.1	18.8	173.7	9.3
	90%	44.5	1.11	29.0	0.50	247.9	20.2	182.9	9.1
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-

LOAD EFT / LFT (°F): 90.0 / 77.4

SOURCE EFT/LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE PD (PSI)	LOAD FR (GPM)	LOAD PD (PSI)	HC (mBTUh)	P (kW)	HE (mBTUh)	EER (-)
50.0 / 62.6	20%	-	-	-	-	-	-	-	-
	25%	16.8	0.19	14.6	0.15	93.7	0.5	92.2	184.0
	30%	20.4	0.27	17.7	0.21	113.6	0.7	111.6	162.4
	35%	24.0	0.36	20.8	0.28	133.6	0.9	130.7	138.1
	40%	27.5	0.46	23.8	0.35	153.6	1.3	149.7	117.2
	45%	31.1	0.57	26.7	0.43	173.5	1.7	168.4	100.2
	50%	34.7	0.70	29.7	0.53	193.5	2.2	186.9	86.8
	55%	38.3	0.84	32.6	0.62	213.4	2.7	205.2	76.0
	60%	41.9	1.00	35.4	0.73	233.4	3.3	223.2	67.3
	65%	45.4	1.16	38.3	0.84	253.3	4.0	241.1	60.3
	70%	49.0	1.34	41.1	0.96	273.3	4.8	258.7	54.4
	75%	52.6	1.53	43.8	1.09	293.2	5.6	276.2	49.5
	80%	56.2	1.74	46.6	1.22	313.2	6.5	293.4	45.3
	85%	59.7	1.95	49.3	1.35	333.1	7.4	310.4	41.8
	90%	63.3	2.18	52.0	1.50	353.1	8.5	327.3	38.7
	95%	66.9	2.43	54.6	1.65	373.0	9.5	343.9	36.0
	100%	-	-	-	-	-	-	-	-
70.0 / 82.6	20%	-	-	-	-	-	-	-	-
	25%	16.1	0.18	13.4	0.13	89.5	1.7	84.1	49.8
	30%	19.5	0.25	16.2	0.18	108.5	2.1	101.8	48.5
	35%	22.9	0.33	18.9	0.23	127.5	2.6	119.3	46.3
	40%	26.3	0.42	21.7	0.30	146.4	3.1	136.6	43.9
	45%	29.7	0.53	24.4	0.37	165.4	3.7	153.7	41.4
	50%	33.1	0.64	27.1	0.44	184.4	4.4	170.6	39.0
	55%	36.5	0.77	29.7	0.53	203.3	5.1	187.3	36.8
	60%	39.9	0.91	32.3	0.62	222.3	5.9	203.8	34.7
	65%	43.3	1.06	34.9	0.71	241.2	6.7	220.1	32.8
	70%	46.6	1.22	37.5	0.81	260.1	7.6	236.2	31.0
	75%	50.0	1.39	40.0	0.91	279.0	8.6	252.1	29.4
	80%	53.4	1.58	42.5	1.02	297.9	9.6	267.8	27.9
	85%	56.8	1.77	45.0	1.14	316.7	10.7	283.3	26.6
	90%	60.2	1.98	47.4	1.26	335.5	11.8	298.6	25.3
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
90.0 / 102.6	20%	-	-	-	-	-	-	-	-
	25%	15.2	0.16	11.9	0.11	84.7	2.9	75.3	25.7
	30%	18.4	0.22	14.5	0.15	102.6	3.5	91.2	25.7
	35%	21.6	0.30	17.0	0.19	120.5	4.2	107.0	25.3
	40%	24.8	0.38	19.5	0.25	138.4	4.9	122.5	24.8
	45%	28.0	0.47	21.9	0.30	156.2	5.7	137.9	24.1
	50%	31.2	0.58	24.3	0.37	174.0	6.6	153.1	23.4
	55%	34.4	0.69	26.7	0.43	191.8	7.4	168.1	22.6
	60%	37.6	0.81	29.0	0.50	209.6	8.4	182.9	21.8
	65%	40.8	0.95	31.4	0.58	227.4	9.4	197.5	21.1
	70%	44.0	1.09	33.6	0.66	245.1	10.4	211.9	20.3
	75%	47.1	1.24	35.9	0.75	262.8	11.5	226.1	19.6
	80%	50.3	1.41	38.1	0.84	280.4	12.7	240.2	18.9
	85%	53.5	1.58	40.3	0.93	298.1	13.9	254.0	18.3
	90%	56.6	1.76	42.5	1.02	315.7	15.2	267.6	17.6
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
110.0 / 122.6	20%	-	-	-	-	-	-	-	-
	25%	14.3	0.14	10.4	0.09	79.5	4.3	65.6	15.2
	30%	17.3	0.20	12.6	0.12	96.2	5.1	79.7	15.5
	35%	20.2	0.26	14.9	0.15	112.9	6.0	93.6	15.6
	40%	23.2	0.34	17.0	0.19	129.5	6.9	107.3	15.6
	45%	26.2	0.42	19.2	0.24	146.1	7.8	120.9	15.4
	50%	29.2	0.51	21.3	0.29	162.7	8.9	134.2	15.2
	55%	32.1	0.61	23.4	0.34	179.2	9.9	147.4	14.9
	60%	35.1	0.72	25.5	0.40	195.7	11.0	160.3	14.5
	65%	38.1	0.83	27.5	0.46	212.2	12.2	173.1	14.2
	70%	41.0	0.96	29.5	0.52	228.6	13.4	185.6	13.8
	75%	43.9	1.09	31.4	0.58	245.0	14.7	198.0	13.5
	80%	46.9	1.23	33.4	0.65	261.4	16.0	210.1	13.1
	85%	49.8	1.38	35.3	0.72	277.7	17.4	222.1	12.8
	90%	52.7	1.54	37.1	0.79	294.0	18.8	233.8	12.4
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
120.0 / 132.6	20%	-	-	-	-	-	-	-	-
	25%	13.8	0.14	9.6	0.07	76.8	5.1	60.3	11.8
	30%	16.7	0.19	11.7	0.10	92.8	6.0	73.5	12.2
	35%	19.5	0.25	13.7	0.13	108.8	7.0	86.4	12.4
	40%	22.4	0.32	15.7	0.17	124.8	8.0	99.2	12.5
	45%	25.2	0.39	17.7	0.21	140.7	9.0	111.7	12.4
	50%	28.1	0.47	19.7	0.25	156.6	10.1	124.1	12.3
	55%	30.9	0.57	21.6	0.30	172.4	11.3	136.2	12.1
	60%	33.8	0.67	23.5	0.34	188.3	12.5	148.2	11.9
	65%	36.6	0.77	25.4	0.40	204.1	13.7	159.9	11.6
	70%	39.4	0.89	27.2	0.45	219.8	15.0	171.5	11.4
	75%	42.2	1.01	29.0	0.50	235.5	16.4	182.8	11.1
	80%	45.1	1.14	30.8	0.56	251.2	17.8	194.0	10.9
	85%	47.9	1.28	32.5	0.62	266.9	19.3	204.9	10.6
	90%	50.7	1.43	34.2	0.68	282.5	20.9	215.6	10.3
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-

GEOSMART NETZERO+

NetZero+ HW 100

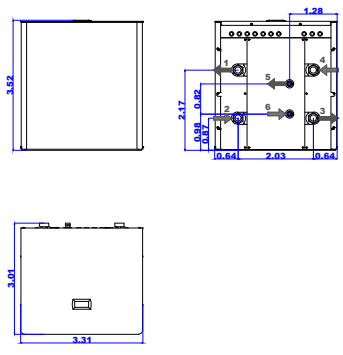
Water to water variable speed heat pumps with Inverter technology and R454B refrigerant

SPECIFICATIONS ecoGEO+ HW			NetZero+ 100	
			HW H	HW R
APPLICATION	Place of installation	-	Indoor	
	Source system	-	Water loop / Ground water / Ground loop	
	DHW, Heating and Pool heating	-	▪	▪
	External passive cooling control	-	▪	▪
	Integrated active cooling	-	-	▪
PERFORMANCE	Compressor modulation range	%	25 - 100	
	(2) Full load heating capacity (COP) - Water loop / Ground water / Ground Loop	mBTUh (-)	392.9 (4.57) / 313.5 (3.86) / 252.8 (3.48)	
	(2) Part load heating capacity (COP) - Water loop / Ground water / Ground Loop	mBTUh (-)	172 (5.65) / 134.6 (4.41) / 104.4 (3.93)	
	(2) Full load cooling capacity (EER) - Water loop / Ground water / Ground Loop	mBTUh (-)	-	226.1 (11.52) / 275.5 (16.26) / 256.6 (12.54)
	(2) Part load cooling capacity (EER) - Water loop / Ground water / Ground Loop	mBTUh (-)	-	99 (14.9) / 112.1 (28.99) / 107.9 (22.47)
	(3) Max. DHW outlet temperature without / with support	°F	140 / 176	
	(4) Noise power level (LWA)	dB (A)	72	
OPERATION LIMITS	Distribution / Set heating outlet temperature range	°F	50 - 140 / 68 - 140	
	Distribution / Set cooling outlet temperature range	°F	-	41 - 95 / 45 - 95
	Source temperature range in heating / cooling mode	°F	-4 - 95 / 50 - 140	
	Minimum / Maximum refrigerant circuit pressure	psi	29.0 / 652.7	
	Source / Load circuit pressure range	psi	7.3 - 145.0 / 7.3 - 145.0	
WORKING FLUIDS	R454B refrigerant load (GWP: 466)	Oz (kg)	289.2 (8.2)	
	Compressor oil type / load	Oz (kg)	POE 160SZ / 236.3 (6.7) - 271.6 (7.7)	
	Source flow rate - Water loop / Ground water / Ground Loop	gpm	69.0 / 52.2 / 40.1	
	Load flow rate - Water loop / Ground water / Ground Loop	gpm	87.3 / 69.7 / 56.2	
CONTROL ELECTRICAL DATA	(6) 1/N/PE 230 V / 50-60 Hz	-	▪	
	(7) Recommended external protection	-	C1A	
	Transformer primary circuit fuse	A	0.63	
	Transformer secondary circuit fuse	A	4.0	
HEAT PUMP ELECTRICAL DATA: THREE-PHASE VERSION - 400Vac	(6) 3/PE 380-480V / 50-60Hz	-	▪	
	(7) Recommended external protection	-	C63A	
	Maximum consumption (Source EFT=32°F, Load EFT=95°F)	kW / A	19.8 / 30.9	
	Maximum consumption (Source EFT=32°F, Load EFT=131°F)	kW / A	26.0 / 40.7	
	Maximum consumption	kW / A	30.0 / 55.0	
	(5) Minimum / Maximum starting current	A	7.2 / 25.1	
	Correction of cos Ø	-	0.96 / 1	
HEAT PUMP ELECTRICAL DATA: THREE-PHASE VERSION - 575Vac	(6) 3/PE 525-600V / 50-60Hz	-	▪	
	(7) Recommended external protection	-	C63A	
	Maximum consumption (Source EFT=32°F, Load EFT=95°F)	kW / A	13.9 / 15.1	
	Maximum consumption (Source EFT=32°F, Load EFT=131°F)	kW / A	19.3 / 21.0	
	Maximum consumption	kW / A	37.0 / 49.0	
	(5) Minimum / Maximum starting current	A	4.9 / 16.7	
	Correction of cos Ø	-	0.96 / 1	
DIMENSIONS & WEIGHT	Height x width x depth	inch	42.3 x 39.7 x 36.1	
	Empty weight (without packaging)	lb	992.1	1025.1

1. Air-to-water by means of a brine-to water heat pump combined with a hydraulic outdoor air unit.
2. Performance data referred to AHRI operating conditions.
3. Considering support provided by an emergency electrical heater or HTR. Max. DHW temp. with HTR can be limited by the compressor discharge temp.
4. In compliance with EN 12102.
5. Starting current depends on the working conditions of the hydraulic circuits.
6. The admissible voltage range for proper operation of the heat pump is ±10%.
7. Maximum consumption can vary significantly according to working conditions, or if the compressor´s operation range is restricted. Consult the technical service manual for more information.
8. Certification in process.

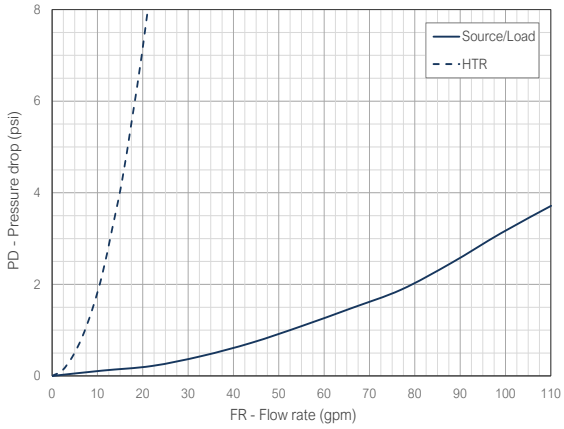
Dimensions and hydraulic connections

NetZero+ HW

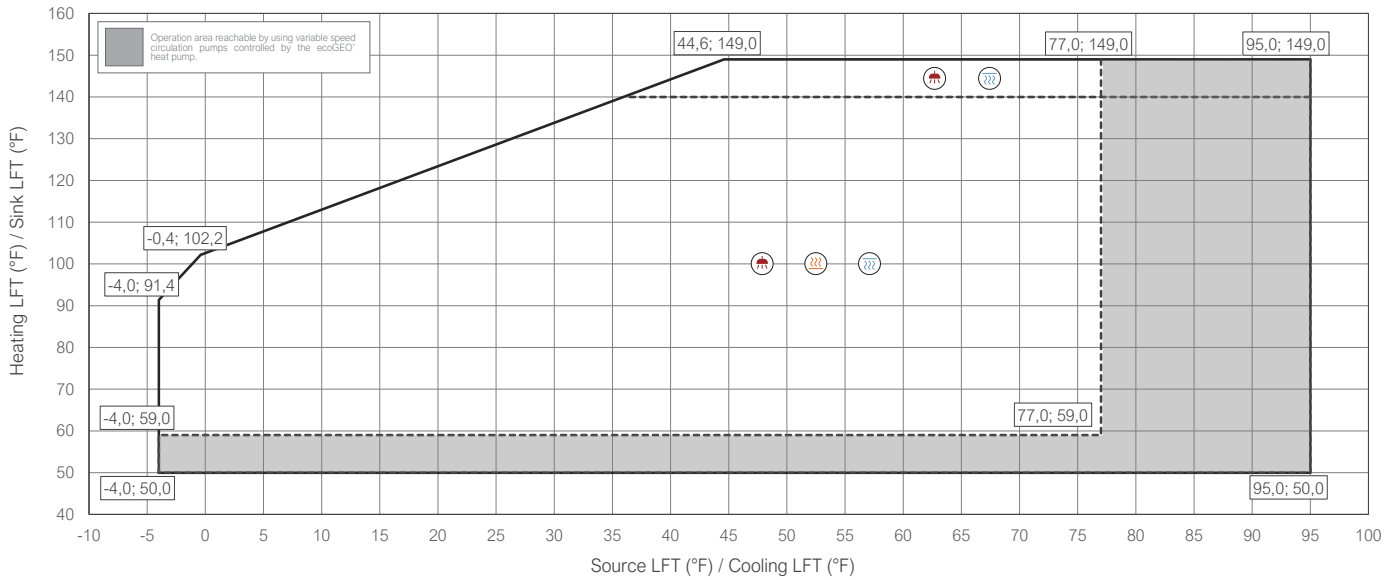


1. Load outlet **2 ½" M**
2. Load inlet **2 ½" M**
3. Source outlet **2 ½" M**
4. Source inlet **2 ½" M**
5. HTR outlet **1 ¼" M**
6. HTR inlet **1 ¼" M**

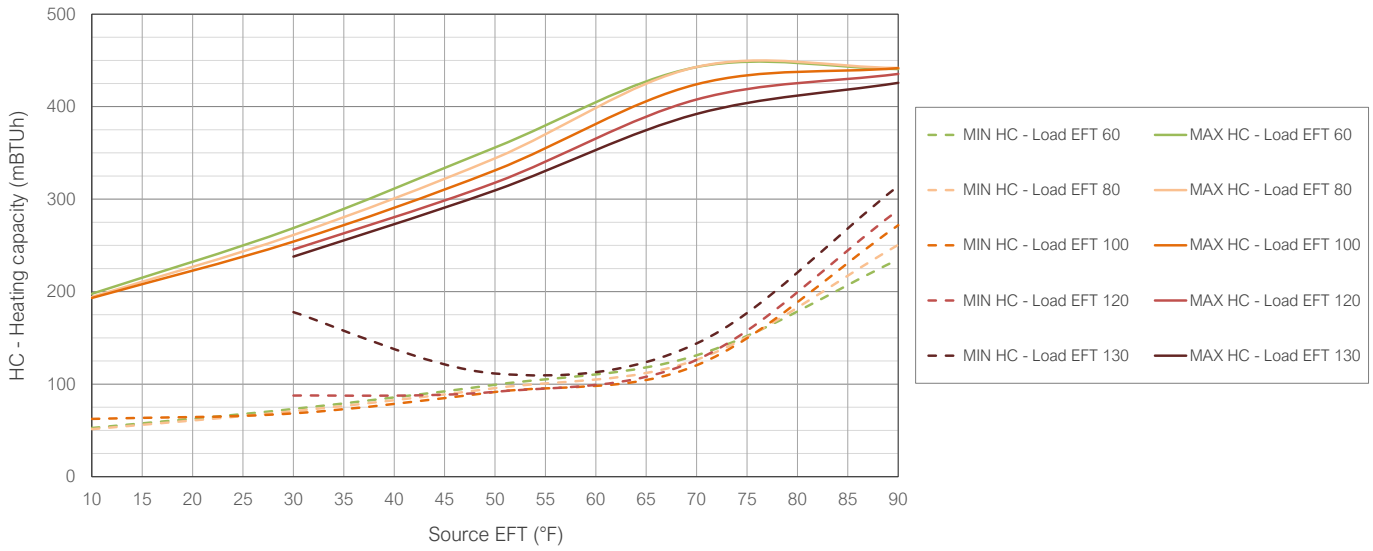
Pressure drop



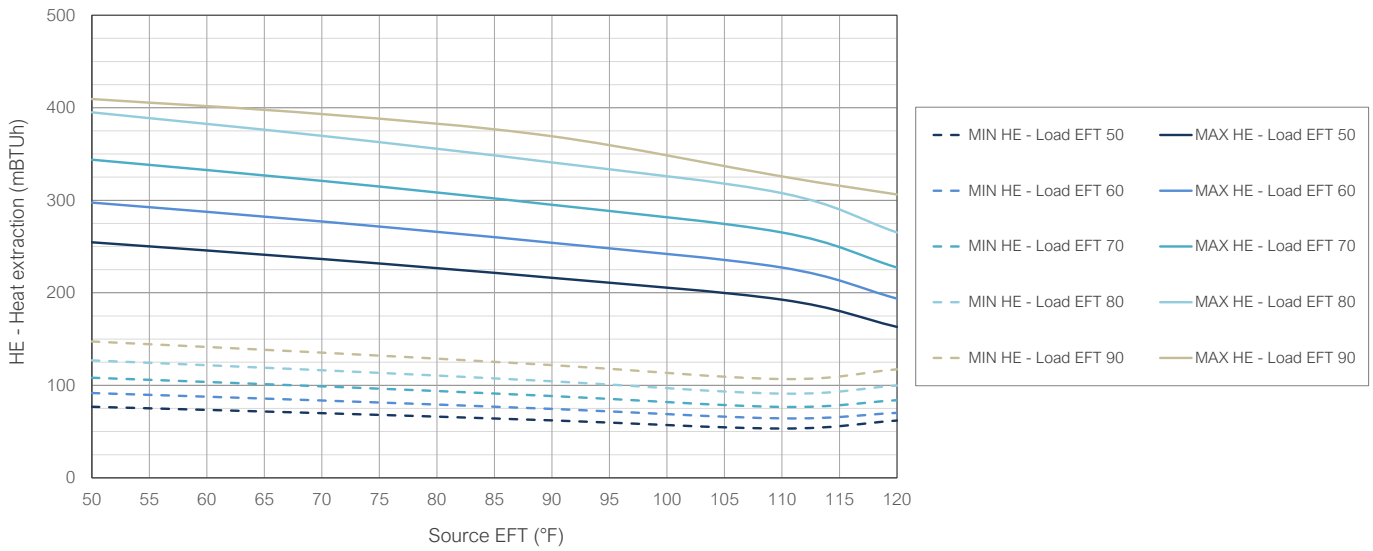
Operational chart



Heating capacity - Source EFT



Cooling capacity - Source EFT



NetZero+ HW 100

Performance data **Heating**

LOAD EFT / LFT (°F): **60.0 / 72.6**

SOURCE EFT/LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE PD (PSI)	LOAD FR (GPM)	LOAD PD (PSI)	LOAD HE (mBTUh)	LOAD P (kW)	LOAD HC (mBTUh)	COP (-)
10.0 / 4.6	20%	-	-	-	-	-	-	-	-
	25%	18.3	0.17	8.3	0.06	43.7	3.1	52.6	5.0
	30%	21.7	0.22	9.9	0.08	51.8	3.7	62.5	4.9
	35%	25.1	0.28	11.5	0.09	59.9	4.4	72.3	4.9
	40%	28.4	0.34	13.0	0.11	67.8	5.0	82.1	4.8
	45%	31.7	0.41	14.6	0.12	75.6	5.7	91.9	4.7
	50%	34.9	0.48	16.1	0.14	83.4	6.4	101.7	4.7
	55%	38.1	0.55	17.7	0.16	91.1	7.1	111.4	4.6
	60%	41.3	0.63	19.2	0.19	98.7	7.8	121.1	4.6
	65%	44.4	0.72	20.8	0.21	106.2	8.5	130.7	4.5
	70%	47.5	0.81	22.3	0.23	113.6	9.2	140.4	4.4
	75%	50.6	0.90	23.8	0.26	120.9	10.0	150.0	4.4
	80%	53.7	1.00	25.3	0.28	128.2	10.8	159.5	4.3
	85%	56.7	1.10	26.8	0.31	135.4	11.6	169.1	4.3
	90%	59.7	1.21	28.4	0.34	142.6	12.4	178.6	4.2
	95%	62.6	1.32	29.9	0.37	149.6	13.2	188.1	4.2
	100%	65.5	1.43	31.4	0.40	156.6	14.0	197.6	4.1
30.0 / 24.6	20%	-	-	-	-	-	-	-	-
	25%	27.4	0.32	11.6	0.09	65.6	3.0	73.2	7.2
	30%	32.5	0.42	13.8	0.12	77.6	3.6	86.9	7.1
	35%	37.4	0.54	16.0	0.14	89.4	4.3	100.5	6.9
	40%	42.3	0.66	18.1	0.17	101.1	4.9	114.0	6.8
	45%	47.1	0.80	20.2	0.20	112.5	5.7	127.4	6.6
	50%	51.8	0.94	22.3	0.23	123.8	6.4	140.7	6.4
	55%	56.4	1.09	24.4	0.27	134.8	7.2	153.9	6.3
	60%	61.0	1.26	26.5	0.30	145.7	8.0	167.0	6.2
	65%	65.5	1.43	28.6	0.34	156.4	8.8	180.0	6.0
	70%	69.9	1.61	30.6	0.38	167.0	9.6	192.9	5.9
	75%	74.2	1.79	32.7	0.43	177.4	10.5	205.8	5.8
	80%	78.5	1.99	34.7	0.47	187.6	11.4	218.5	5.6
	85%	82.7	2.19	36.7	0.52	197.7	12.3	231.2	5.5
	90%	86.9	2.39	38.7	0.57	207.6	13.2	243.8	5.4
	95%	91.0	2.61	40.7	0.62	217.4	14.1	256.3	5.3
	100%	95.0	2.83	42.7	0.67	227.0	15.1	268.7	5.2
50.0 / 41.0	20%	-	-	-	-	-	-	-	-
	25%	23.7	0.26	15.8	0.14	94.5	2.4	99.3	11.9
	30%	28.0	0.33	18.7	0.18	111.5	3.0	117.7	11.4
	35%	32.2	0.42	21.6	0.22	128.2	3.7	135.8	10.9
	40%	36.3	0.51	24.4	0.27	144.5	4.3	153.8	10.4
	45%	40.3	0.61	27.2	0.32	160.5	5.1	171.6	9.9
	50%	44.2	0.71	30.0	0.37	176.0	5.9	189.2	9.4
	55%	48.0	0.82	32.8	0.43	191.3	6.7	206.6	9.0
	60%	51.8	0.94	35.5	0.49	206.2	7.6	223.9	8.7
	65%	55.5	1.06	38.3	0.56	220.8	8.5	241.0	8.3
	70%	59.0	1.19	40.9	0.63	235.2	9.5	257.9	8.0
	75%	62.6	1.32	43.6	0.70	249.2	10.5	274.6	7.7
	80%	66.0	1.45	46.2	0.77	262.9	11.5	291.1	7.4
	85%	69.4	1.59	48.8	0.85	276.4	12.6	307.5	7.2
	90%	72.7	1.73	51.4	0.93	289.7	13.7	323.8	6.9
	95%	76.0	1.87	54.0	1.01	302.6	14.8	339.9	6.7
	100%	79.2	2.02	56.5	1.10	315.4	15.9	355.8	6.5
70.0 / 61.0	20%	-	-	-	-	-	-	-	-
	25%	33.0	0.44	20.8	0.21	131.5	1.3	131.2	29.7
	30%	38.9	0.57	24.6	0.27	154.8	1.7	155.1	26.1
	35%	44.5	0.72	28.4	0.34	177.4	2.3	178.6	22.9
	40%	50.1	0.89	32.1	0.41	199.3	2.9	201.9	20.1
	45%	55.4	1.06	35.7	0.50	220.7	3.7	224.8	17.9
	50%	60.6	1.24	39.3	0.58	241.5	4.5	247.5	16.0
	55%	65.7	1.44	42.8	0.68	261.7	5.4	269.8	14.5
	60%	70.6	1.64	46.3	0.77	281.3	6.4	291.9	13.3
	65%	75.5	1.85	49.8	0.88	300.5	7.5	313.7	12.3
	70%	80.2	2.06	53.2	0.99	319.2	8.6	335.2	11.4
	75%	84.7	2.29	56.6	1.10	337.5	9.8	356.4	10.6
	80%	89.2	2.51	59.9	1.22	355.2	11.1	377.4	10.0
	85%	93.6	2.75	63.2	1.34	372.6	12.3	398.1	9.5
	90%	97.8	2.98	66.4	1.47	389.6	13.6	418.5	9.0
	95%	102.0	3.23	69.7	1.60	406.2	15.0	438.7	8.6
	100%	-	-	-	-	-	-	-	-
90.0 / 79.2	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	-	-	-	-	-	-	-	-
	40%	55.7	1.07	41.0	0.63	266.4	0.6	258.2	130.1
	45%	61.5	1.28	45.6	0.75	294.0	1.3	287.1	63.0
	50%	67.1	1.49	50.1	0.89	320.8	2.2	315.5	41.4
	55%	72.5	1.72	54.5	1.03	346.6	3.3	343.4	30.8
	60%	77.8	1.95	58.9	1.18	371.7	4.4	371.0	24.8
	65%	82.9	2.19	63.2	1.34	396.0	5.6	398.1	20.8
	70%	87.8	2.44	67.4	1.51	419.6	6.9	424.8	18.0
	75%	-	-	-	-	-	-	-	-
	80%	-	-	-	-	-	-	-	-
	85%	-	-	-	-	-	-	-	-
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-

LOAD EFT / LFT (°F): **80.0 / 92.6**

SOURCE EFT/LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE PD (PSI)	LOAD FR (GPM)	LOAD PD (PSI)	LOAD HE (mBTUh)	LOAD P (kW)	LOAD HC (mBTUh)	COP (-)
10.0 / 4.6	20%	-	-	-	-	-	-	-	-
	25%	16.4	0.15	8.2	0.06	39.3	4.0	51.4	3.7
	30%	19.6	0.19	9.7	0.07	46.7	4.8	61.1	3.7
	35%	22.6	0.24	11.2	0.09	54.1	5.6	70.8	3.7
	40%	25.7	0.29	12.8	0.10	61.4	6.4	80.5	3.7
	45%	28.7	0.35	14.3	0.12	68.6	7.2	90.2	3.7
	50%	31.7	0.41	15.8	0.14	75.8	8.0	99.8	3.6
	55%	34.7	0.47	17.4	0.16	82.8	8.8	109.3	3.6
	60%	37.6	0.54	18.9	0.18	89.8	9.7	118.9	3.6
	65%	40.5	0.61	20.4	0.20	96.7	10.5	128.4	3.6
	70%	43.3	0.69	21.9	0.23	103.5	11.4	137.9	3.5
	75%	46.2	0.77	23.4	0.25	110.3	12.3	147.3	3.5
	80%	49.0	0.85	24.9	0.28	117.0	13.2	156.8	3.5
	85%	51.8	0.94	26.4	0.30	123.7	14.1	166.2	3.5
	90%	54.5	1.03	27.9	0.33	130.3	15.0	175.5	3.4
	95%	57.3	1.12	29.4	0.36	136.8	15.9	184.9	3.4
	100%	60.0	1.22	30.8	0.39	143.3	16.9	194.2	3.4
30.0 / 24.6	20%	-	-	-	-	-	-	-	-
	25%	24.8	0.27	11.2	0.09	59.4	4.0	70.8	5.1
	30%	29.5	0.36	13.4	0.11	70.5	4.9	84.2	5.1
	35%	34.1	0.46	15.5	0.14	81.5	5.7	97.5	5.0
	40%	38.6	0.57	17.6	0.16	92.2	6.5	110.7	5.0
	45%	43.0	0.68	19.7	0.19	102.8	7.4	123.8	4.9
	50%	47.4	0.80	21.7	0.22	113.2	8.3	136.8	4.8
	55%	51.7	0.94	23.8	0.26	123.5	9.2	149.7	4.8
	60%	55.9	1.08	25.8	0.29	133.5	10.1	162.4	4.7
	65%	60.0	1.22	27.8	0.33	143.4	11.1	175.1	4.6
	70%	64.1	1.38	29.8	0.37	153.2	12.0	187.6	4.6
	75%	68.1	1.53	31.8	0.41	162.8	13.0	200.1	4.5
	80%	72.1	1.70	33.7	0.45	172.3	14.0	212.5	4.5
	85%	76.0	1.87	35.7	0.50	181.6	15.0	224.8	4.4
	90%	79.8	2.05	37.6	0.54	190.8	16.0	237.0	4.3
	95%	83.6	2.23	39.6	0.59	199.8	17.0	249.2	4.3
	100%	87.4	2.42	41.5	0.64	208.8	18.1	261.2	4.2
50.0 / 41.0	20%	-	-	-	-	-	-	-	-
	25%	21.6	0.22	15.2	0.13	85.9	3.9	95.8	7.3
	30%	25.6	0.29	18.1	0.17	101.8	4.7	113.7	7.1
	35%	29.5	0.36	20.9	0.21	117.3	5.5	131.5	7.0
	40%	33.3	0.44	23.7	0.25	132.4	6.4	149.0	6.8
	45%	37.0	0.53	26.4	0.30	147.2	7.3	166.3	6.7
	50%	40.6	0.62	29.1	0.35	161.7	8.3	183.4	6.5
	55%	44.1	0.71	31.8	0.41	175.8	9.3	200.3	6.3
	60%	47.6	0.81	34.5	0.47	189.7	10.3	217.0	6.2
	65%	51.0	0.92	37.1	0.53	203.2	11.3	233.5	6.0
	70%	54.4	1.02	39.7	0.59	216.5	12.4	249.8	5.9
	75%	57.6	1.14	42.2	0.66	229.5	13.5	266.0	5.8
	80%	60.8	1.25	44.8	0.73	242.3	14.7	281.9	5.6
	85%	64.0	1.37	47.3	0.80	254.8	15.8	297.7	5.5
	90%	67.1	1.49	49.7	0.88	267.1	17.0	313.3	5.4
	95%	70.1	1.62	52.2	0.95	279.1	18.2	328.8	5.3
	100%	73.1	1.74	54.6	1.03	290.9	19.4	344.1	5.2
70.0 / 61.0	20%	-	-	-	-	-	-	-	-
	25%	30.1	0.37	20.1	0.20	120.0	3.2	126.5	11.6
	30%	35.6	0.49	23.8	0.26	141.7	4.0	149.9	11.1
	35%	40.9	0.62	27.5	0.32	162.8	4.8	172.9	10.6
	40%	46.0	0.76	31.1	0.39	183.3	5.7	195.6	10.1
	45%	51.0	0.92	34.6	0.47	203.1	6.7	217.9	9.6
	50%	55.9	1.07	38.1	0.55	222.5	7.7	239.9	9.1
	55%	60.6	1.24	41.5	0.64	241.3	8.8	261.5	8.7
	60%	65.2	1.42	44.9	0.73	259.6	9.9	282.8	8.3
	65%	69.7	1.60	48.2	0.83	277.4	11.1	303.8	8.0
	70%	74.0	1.78	51.5	0.93	294.8	12.4	324.5	7.7
	75%	78.3	1.98	54.8	1.04	311.8	13.7	344.9	7.4
	80%	82.5	2.17	58.0	1.15	328.4	15.0	365.0	7.1
	85%	86.5	2.38	61.1	1.26	344.5	16.4	384.9	6.9
	90%	90.5	2.58	64.2	1.38	360.3	17.8	404.5	6.7
	95%	94.3	2.79	67.3	1.50	375.7	19.2	423.8	6.5
	100%	98.1	3.00	70.3	1.63	390.8	20.7	442.9	6.3
90.0 / 79.2	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	-	-	-	-	-	-	-	-
	40%	51.4	0.93	39.8	0.60	245.8	4.2	250.5	17.5
	45%	56.8	1.11	44.2	0.71	271.6	5.2	278.6	15.6
	50%	62.1	1.30	48.6	0.84	296.6	6.4	306.2	14.1
	55%	67.1	1.49	52.9	0.98	320.7	7.6	333.2	12.9
	60%	72.0	1.70	57.1	1.12	344.1	8.9	359.8	11.8
	65%	76.8	1.91	61.3	1.27	366.8	10.3	385.9	11.0
	70%	81.4	2.12	65.3	1.42	388.8	11.7	411.6	10.3
	75%	85.8	2.34	69.3	1.58	410.2	13.2	436.8	9.7
	80%	-	-	-	-	-	-	-	-
	85%	-	-	-	-	-	-	-	-
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-

LOAD EFT / LFT (°F): **100.0 / 112.6**

SOURCE EFT/LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE PD (PSI)	LOAD FR (GPM)	LOAD PD (PSI)	LOAD HE (mBTUh)	LOAD P (kW)	LOAD HC (mBTUh)	COP (-)
10.0 / 4.6	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	20.0	0.20	11.1	0.09	47.7	7.2	70.2	2.8
	40%	22.7	0.24	12.7	0.10	54.3	8.2	79.8	2.8
	45%	25.4	0.29	14.2	0.12	60.7	9.2	89.3	2.8
	50%	28.1	0.33	15.7	0.14	67.2	10.2	98.9	2.8
	55%	30.8	0.39	17.2	0.16	73.6	11.2	108.4	2.8
	60%	33.4	0.44	18.7	0.18	79.9	12.3	117.9	2.8
	65%	36.0	0.50	20.2	0.20	86.1	13.3	127.4	2.8
	70%	38.6	0.57	21.7	0.22	92.3	14.3	136.8	2.8
	75%	41.2	0.63	23.2	0.25	98.5	15.4	146.2	2.8
	80%	43.8	0.70	24.7	0.27	104.6	16.5	155.7	2.8
	85%	46.3	0.77	26.2	0.30	110.7	17.5	165.0	2.8
	90%	48.8	0.85	27.7	0.33	116.7	18.6	174.4	2.7
	95%	51.4	0.93	29.2	0.36	122.7	19.7	183.8	2.7
	100%	53.8	1.01	30.7	0.39	128.7	20.8	193.1	2.7
30.0 / 24.6	20%	-	-	-	-	-	-	-	-
	25%	22.0	0.23	10.9	0.08	52.5	5.3	68.4	3.8
	30%	26.2	0.30	12.9	0.11	62.5	6.3	81.5	3.8
	35%	30.3	0.38	15.0	0.13	72.5	7.4	94.4	3.8
	40%	34.4	0.47	17.0	0.16	82.2	8.4	107.2	3.7
	45%	38.4	0.56	19.0	0.18	91.8	9.4	119.9	3.7
	50%	42.4	0.66	21.0	0.21	101.2	10.5	132.5	3.7
	55%	46.3	0.77	23.0	0.24	110.5	11.6	145.1	3.7
	60%	50.1	0.89	25.0	0.28	119.7	12.6	157.5	3.6
	65%	53.9	1.01	27.0	0.31	128.7	13.8	169.8	3.6
	70%	57.6	1.13	28.9	0.35	137.6	14.9	182.1	3.6
	75%	61.2	1.27	30.8	0.39	146.3	16.0	194.3	3.6
	80%	64.8	1.40	32.8	0.43	155.0	17.1	206.4	3.5
	85%	68.4	1.55	34.7	0.47	163.5	18.3	218.4	3.5
	90%	71.9	1.69	36.6	0.52	171.9	19.5	230.4	3.5
	95%	75.4	1.85	38.5	0.56	180.2	20.6	242.2	3.4
	100%	78.8	2.00	40.3	0.61	188.3	21.8	254.1	3.4
50.0 / 41.0	20%	-	-	-	-	-	-	-	-
	25%	19.2	0.18	14.5	0.12	76.4	5.4	91.6	5.0
	30%	22.8	0.24	17.3	0.16	90.8	6.4	108.9	5.0
	35%	26.3	0.30	20.0	0.20	104.9	7.4	126.0	5.0
	40%	29.8	0.37	22.7	0.24	118.7	8.5	142.9	4.9
	45%	33.2	0.44	25.3	0.28	132.1	9.6	159.5	4.8
	50%	36.5	0.51	27.9	0.33	145.3	10.8	176.0	4.8
	55%	39.7	0.59	30.5	0.38	158.2	11.9	192.2	4.7
	60%	42.9	0.68	33.1	0.44	170.8	13.1	208.3	4.7
	65%	46.0	0.76	35.6	0.49	183.2	14.3	224.2	4.6
	70%	49.0	0.85	38.1	0.55	195.3	15.6	240.0	4.5
	75%	52.0	0.95	40.6	0.62	207.2	16.8	255.5	4.5
	80%	55.0	1.04	43.0	0.68	218.9	18.1	270.9	4.4
	85%	57.8	1.14	45.4	0.75	230.3	19.4	286.2	4.3
	90%	60.7	1.24	47.8	0.82	241.6	20.7	301.3	4.3
	95%	63.4	1.35	50.2	0.89	252.6	22.0	316.2	4.2
	100%	66.1	1.45	52.6	0.96	263.4	23.4	331.1	4.1
70.0 / 61.0	20%	-	-	-	-	-	-	-	-
	25%	26.9	0.31	19.1	0.18	107.3	5.1	120.4	6.9
	30%	31.9	0.41	22.7	0.24	127.1	6.1	143.0	6.9
	35%	36.8	0.52	26.2	0.30	146.4	7.2	165.2	6.7
	40%	41.5	0.64	29.7	0.37	165.1	8.3	186.9	6.6
	45%	46.0	0.76	33.1	0.44	183.3	9.5	208.3	6.4
	50%	50.5	0.90	36.4	0.51	201.0	10.8	229.4	6.2
	55%	54.8	1.04	39.7	0.59	218.2	12.0	250.2	6.1
	60%	59.0	1.18	43.0	0.68	235.0	13.4	270.6	5.9
	65%	63.1	1.34	46.2	0.77	251.3	14.7	290.7	5.8
	70%	67.1	1.49	49.3	0.86	267.3	16.1	310.6	5.7
	75%	71.0	1.65	52.4	0.96	282.8	17.5	330.1	5.5
	80%	74.8	1.82	55.5	1.06	298.0	19.0	349.4	5.4
	85%	78.6	1.99	58.5	1.17	312.8	20.5	368.4	5.3
	90%	82.2	2.16	61.5	1.28	327.3	22.0	387.2	5.2
	95%	85.8	2.34	64.4	1.39	341.5	23.6	405.8	5.0
	100%	89.2	2.52	67.3	1.50	355.4	25.1	424.1	4.9
90.0 / 79.2	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	-	-	-	-	-	-	-	-
	40%	-	-	-	-	-	-	-	-
	45%	-	-	-	-	-	-	-	-
	50%	56.4	1.09	46.5	0.78	269.3	10.2	292.9	8.4
	55%	61.0	1.26	50.6	0.90	291.6	11.6	318.8	8.0
	60%	65.5	1.43	54.7	1.03	313.1	13.1	344.3	7.7
	65%	69.9	1.61	58.6	1.17	334.0	14.7	369.2	7.4
	70%	74.1	1.79	62.5	1.31	354.3	16.3	393.8	7.1
	75%	78.2	1.98	66.3	1.46	374.0	17.9	417.9	6.8
	80%	82.3	2.16	70.1	1.62	393.1	19.6	441.6	6.6
	85%	-	-	-	-	-	-	-	-
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-

LOAD EFT / LFT (°F): **120.0 / 132.6**

SOURCE EFT/LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE PD (PSI)	LOAD FR (GPM)	LOAD PD (PSI)	LOAD HE (mBTUh)	LOAD P (kW)	LOAD HC (mBTUh)	COP (-)
10.0 / 4.6	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	-	-	-	-	-	-	-	-
	40%	-	-	-	-	-	-	-	-
	45%	-	-	-	-	-	-	-	-
	50%	-	-	-	-	-	-	-	-
	55%	-	-	-	-	-	-	-	-
	60%	-	-	-	-	-	-	-	-
	65%	-	-	-	-	-	-	-	-
	70%	-	-	-	-	-	-	-	-
	75%	-	-	-	-	-	-	-	-
	80%	-	-	-	-	-	-	-	-
	85%	-	-	-	-	-	-	-	-
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
30.0 / 24.6	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	25.0	0.28	14.7	0.13	59.8	9.6	92.7	2.8
	40%	28.5	0.34	16.7	0.15	68.0	10.9	105.2	2.8
	45%	31.8	0.41	18.7	0.18	76.1	12.2	117.6	2.8
	50%	35.2	0.48	20.6	0.21	84.0	13.5	130.0	2.8
	55%	38.5	0.56	22.6	0.24	91.9	14.8	142.3	2.8
	60%	41.7	0.64	24.5	0.27	99.6	16.1	154.6	2.8
	65%	44.9	0.73	26.5	0.30	107.2	17.4	166.7	2.8
	70%	48.0	0.82	28.4	0.34	114.8	18.8	178.8	2.8
	75%	51.1	0.92	30.3	0.38	122.2	20.1	190.9	2.8
	80%	54.2	1.02	32.2	0.42	129.5	21.5	202.9	2.8
	85%	57.2	1.12	34.1	0.46	136.7	22.9	214.8	2.8
	90%	60.2	1.23	36.0	0.50	143.9	24.3	226.7	2.7
	95%	63.2	1.34	37.9	0.55	150.9	25.7	238.5	2.7
	100%	-	-	-	-	-	-	-	-
50.0 / 41.0	20%	-	-	-	-	-	-	-	-
	25%	16.6	0.15	14.6	0.12	65.9	7.5	91.7	3.6
	30%	19.8	0.19	17.3	0.16	78.7	8.9	108.9	3.6
	35%	22.9	0.24	20.0	0.20	91.2	10.2	126.0	3.6
	40%	25.9	0.29	22.7	0.24	103.3	11.6	142.9	3.6
	45%	28.9	0.35	25.3	0.28	115.3	13.0	159.5	3.6
	50%	31.9	0.41	27.9	0.33	126.9	14.4	176.0	3.6
	55%	34.7	0.47	30.5	0.38	138.4	15.8	192.4	3.6
	60%	37.6	0.54	33.1	0.44	149.6	17.3	208.5	3.5
	65%	40.3	0.61	35.6	0.49	160.5	18.8	224.5	3.5
	70%	43.0	0.68	38.2	0.55	171.3	20.3	240.4	3.5
	75%	45.7	0.75	40.7	0.62	181.8	21.8	256.1	3.4
	80%	48.2	0.83	43.1	0.68	192.1	23.3	271.7	3.4
	85%	50.8	0.91	45.6	0.75	202.3	24.9	287.2	3.4
	90%	53.3	0.99	48.0	0.82	212.2	26.5	302.5	3.3
	95%	55.7	1.07	50.4	0.90	222.0	28.1	317.8	3.3
	100%	-	-	-	-	-	-	-	-
70.0 / 61.0	20%	-	-	-	-	-	-	-	-
	25%	24.9	0.28	20.0	0.20	99.1	8.0	126.3	4.6
	30%	29.6	0.36	23.8	0.26	117.8	9.4	149.9	4.7
	35%	34.2	0.46	27.5	0.32	136.0	10.9	173.2	4.7
	40%	38.6	0.57	31.1	0.39	153.7	12.4	196.0	4.6
	45%	42.9	0.68	34.7	0.47	170.9	14.0	218.5	4.6
	50%	47.1	0.80	38.2	0.56	187.6	15.6	240.7	4.5
	55%	51.2	0.92	41.7	0.64	203.8	17.2	262.5	4.5
	60%	55.1	1.05	45.1	0.74	219.6	18.9	284.1	4.4
	65%	59.0	1.18	48.5	0.84	235.0	20.6	305.3	4.3
	70%	62.8	1.32	51.8	0.94	250.0	22.4	326.3	4.3
	75%	66.4	1.47	55.1	1.05	264.6	24.2	347.0	4.2
	80%	70.0	1.61	58.3	1.16	278.8	26.0	367.5	4.1
	85%	73.5	1.76	61.6	1.28	292.7	27.8	387.7	4.1
	90%	76.9	1.91	64.7	1.40	306.3	29.7	407.7	4.0
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
90.0 / 79.2	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	-	-	-	-	-	-	-	-
	40%	-	-	-	-	-	-	-	-
	45%	-	-	-	-	-	-	-	-
	50%	-	-	-	-	-	-	-	-
	55%	51.3	0.92	47.3	0.80	245.0	15.5	297.9	5.6
	60%	55.1	1.05	51.1	0.92	263.1	17.2	321.8	5.5
	65%	58.7	1.18	54.8	1.04	280.7	18.9	345.2	5.4
	70%	62.3	1.31	58.5	1.17	297.7	20.7	368.3	5.2
	75%	65.7	1.44	62.1	1.30	314.2	22.5	391.0	5.1
	80%	69.1	1.57	65.6	1.43	330.2	24.4	413.3	5.0
	85%	72.4	1.71	69.1	1.57	345.8	26.2	435.3	4.9
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-

LOAD EFT / LFT (°F): **130.0 / 142.6**

SOURCE EFT/LFT (°F)	SPEED	SOURCE FR (GPM)	SOURCE PD (PSI)	LOAD FR (GPM)	LOAD PD (PSI)	LOAD HE (mBTUh)	LOAD P (kW)	LOAD HC (mBTUh)	COP (-)
10.0 / 4.6	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	-	-	-	-	-	-	-	-
	40%	-	-	-	-	-	-	-	-
	45%	-	-	-	-	-	-	-	-
	50%	-	-	-	-	-	-	-	-
	55%	-	-	-	-	-	-	-	-
	60%	-	-	-	-	-	-	-	-
	65%	-	-	-	-	-	-	-	-
	70%	-	-	-	-	-	-	-	-
	75%	-	-	-	-	-	-	-	-
	80%	-	-	-	-	-	-	-	-
	85%	-	-	-	-	-	-	-	-
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
30.0 / 24.6	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	-	-	-	-	-	-	-	-
	40%	-	-	-	-	-	-	-	-
	45%	-	-	-	-	-	-	-	-
	50%	44.3	0.72	28.2	0.34	105.8	21.1	177.8	2.5
	55%	48.5	0.84	30.9	0.39	115.8	23.1	194.6	2.5
	60%	52.6	0.97	33.5	0.45	125.6	25.1	211.3	2.5
	65%	56.6	1.10	36.2	0.51	135.4	27.1	228.0	2.5
	70%	-	-	-	-	-	-	-	-
	75%	-	-	-	-	-	-	-	-
	80%	-	-	-	-	-	-	-	-
	85%	-	-	-	-	-	-	-	-
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
50.0 / 41.0	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	18.9	0.18	17.7	0.16	75.2	10.6	111.5	3.1
	35%	21.9	0.23	20.4	0.20	87.2	12.2	128.8	3.1
	40%	24.9	0.28	23.2	0.25	99.0	13.7	145.9	3.1
	45%	27.8	0.33	25.9	0.29	110.6	15.3	162.9	3.1
	50%	30.6	0.38	28.5	0.34	121.9	16.9	179.7	3.1
	55%	33.4	0.44	31.2	0.40	133.0	18.6	196.4	3.1
	60%	36.1	0.51	33.8	0.45	143.9	20.2	212.9	3.1
	65%	38.8	0.57	36.4	0.51	154.6	21.9	229.3	3.1
	70%	41.4	0.64	39.0	0.58	165.0	23.6	245.6	3.0
	75%	44.0	0.71	41.6	0.64	175.3	25.4	261.8	3.0
	80%	46.5	0.78	44.1	0.71	185.3	27.1	277.8	3.0
	85%	49.0	0.85	46.6	0.78	195.2	28.9	293.7	3.0
	90%	51.4	0.93	49.1	0.86	204.9	30.7	309.5	3.0
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
70.0 / 61.0	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	26.9	0.31	22.9	0.24	107.3	10.8	144.0	3.9
	35%	31.1	0.40	26.4	0.30	124.1	12.4	166.3	3.9
	40%	35.2	0.49	29.9	0.37	140.4	14.0	188.2	3.9
	45%	39.2	0.58	33.3	0.44	156.2	15.7	209.7	3.9
	50%	43.1	0.68	36.7	0.52	171.6	17.4	231.0	3.9
	55%	46.9	0.79	40.0	0.60	186.6	19.2	252.0	3.9
	60%	50.5	0.90	43.3	0.69	201.3	21.0	272.8	3.8
	65%	54.1	1.02	46.6	0.78	215.5	22.8	293.2	3.8
	70%	57.6	1.13	49.8	0.88	229.4	24.6	313.5	3.7
	75%	61.0	1.26	52.9	0.98	242.9	26.5	333.5	3.7
	80%	64.3	1.38	56.1	1.08	256.1	28.5	353.2	3.6
	85%	67.5	1.51	59.2	1.19	269.0	30.4	372.8	3.6
	90%	70.7	1.64	62.3	1.30	281.6	32.4	392.2	3.5
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-
90.0 / 79.2	20%	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-
	35%	-	-	-	-	-	-	-	-
	40%	-	-	-	-	-	-	-	-
	45%	-	-	-	-	-	-	-	-
	50%	-	-	-	-	-	-	-	-
	55%	-	-	-	-	-	-	-	-
	60%	54.2	1.02	49.9	0.88	259.1	19.6	314.3	4.7
	65%	57.9	1.15	53.5	1.00	276.8	21.4	337.3	4.6
	70%	61.5	1.28	57.1	1.12	294.0	23.3	359.9	4.5
	75%	65.0	1.41	60.7	1.25	310.7	25.3	382.2	4.4
	80%	68.4	1.55	64.2	1.38	326.9	27.2	404.1	4.3
	85%	71.7	1.68	67.6	1.51	342.7	29.3	425.8	4.3
	90%	-	-	-	-	-	-	-	-
	95%	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-

NetZero+ HW 100

Performance data **Cooling**

SOURCE EFT/LFT	SPEED	LOAD EFT / LFT °F																																							
		50.0 / 41.0								60.0 / 49.2								70.0 / 59.2								80.0 / 67.4								90.0 / 77.4							
		SOURCE		LOAD						SOURCE		LOAD						SOURCE		LOAD						SOURCE		LOAD						SOURCE		LOAD					
		FR	PD	FR	PD	HC	P	HE	EER	FR	PD	FR	PD	HC	P	HE	EER	FR	PD	FR	PD	HC	P	HE	EER	FR	PD	FR	PD	HC	P	HE	EER	FR	PD	FR	PD	HC	P	HE	EER
°F		GPM	PSI	GPM	PSI	mBTUh	kW	mBTUh	-	GPM	PSI	GPM	PSI	mBTUh	kW	mBTUh	-	GPM	PSI	GPM	PSI	mBTUh	kW	mBTUh	-	GPM	PSI	GPM	PSI	mBTUh	kW	mBTUh	-	GPM	PSI	GPM	PSI	mBTUh	kW	mBTUh	-
50.0 / 62.6	20%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25%	15.4	0.13	17.1	0.16	85.8	2.8	76.8	27.5	17.8	0.17	17.0	0.15	99.4	2.4	91.7	37.9	20.5	0.20	20.0	0.20	114.1	1.9	108.1	57.1	23.4	0.25	20.1	0.20	130.5	1.2	126.9	109.1	26.5	0.30	23.4	0.25	147.8	0.2	147.3	647.2
	30%	18.2	0.17	20.1	0.20	101.5	3.4	90.6	26.8	21.1	0.21	20.0	0.20	117.4	3.0	107.9	36.4	24.1	0.26	23.5	0.25	134.6	2.4	127.1	53.8	27.5	0.32	23.6	0.25	153.6	1.5	148.9	97.4	31.2	0.40	27.4	0.32	173.8	0.5	172.5	371.3
	35%	21.0	0.21	23.1	0.25	116.9	4.0	104.1	26.0	24.2	0.26	22.9	0.24	135.1	3.6	123.8	34.8	27.7	0.33	26.9	0.31	154.7	2.9	145.5	50.2	31.6	0.41	27.0	0.31	176.3	2.0	170.1	85.7	35.7	0.50	31.2	0.40	199.1	0.8	196.8	239.1
	40%	23.7	0.26	26.0	0.30	132.2	4.7	117.2	25.1	27.4	0.32	25.8	0.29	152.5	4.2	139.2	33.2	31.3	0.40	30.3	0.38	174.4	3.5	163.3	46.7	35.6	0.49	30.3	0.38	198.5	2.5	190.6	75.5	40.2	0.60	34.9	0.48	223.9	1.3	220.1	170.3
	45%	26.4	0.30	28.9	0.35	147.2	5.4	130.0	24.3	30.4	0.38	28.6	0.34	169.7	4.9	154.2	31.7	34.8	0.47	33.5	0.44	193.8	4.1	180.6	43.6	39.5	0.59	33.4	0.44	220.3	3.1	210.5	67.0	44.5	0.72	38.5	0.56	248.2	1.9	242.6	130.1
	50%	29.1	0.35	31.7	0.41	162.0	6.1	142.5	23.5	33.5	0.45	31.3	0.40	186.6	5.6	168.8	30.2	38.2	0.55	36.6	0.52	212.8	4.9	197.4	40.7	43.3	0.69	36.5	0.51	241.7	3.8	229.7	59.9	48.8	0.85	42.0	0.65	272.0	2.5	264.4	104.4
	55%	31.7	0.41	34.4	0.47	176.6	6.8	154.8	22.7	36.4	0.51	33.9	0.45	203.2	6.3	183.0	28.9	41.5	0.64	39.6	0.59	231.6	5.6	213.8	38.1	47.1	0.80	39.4	0.59	262.7	4.6	248.3	54.1	53.0	0.98	45.3	0.74	295.4	3.3	285.5	86.8
	60%	34.3	0.46	37.1	0.53	191.1	7.6	166.8	22.0	39.4	0.59	36.5	0.51	219.6	7.1	196.9	27.6	44.8	0.73	42.5	0.67	250.0	6.4	229.7	35.8	50.8	0.91	42.3	0.66	283.4	5.4	266.5	49.2	57.1	1.12	48.6	0.84	318.3	4.1	305.8	74.2
	65%	36.8	0.52	39.7	0.59	205.4	8.4	178.5	21.3	42.3	0.66	39.0	0.58	235.8	7.9	210.5	26.5	48.1	0.83	45.4	0.75	268.2	7.3	245.2	33.7	54.5	1.03	45.1	0.74	303.7	6.3	284.1	45.2	61.1	1.26	51.7	0.94	340.9	5.0	325.6	64.7
	70%	39.4	0.58	42.2	0.66	219.5	9.2	190.0	20.6	45.2	0.74	41.4	0.64	251.8	8.8	223.7	25.4	51.3	0.93	48.2	0.83	286.1	8.2	260.3	31.9	58.1	1.15	47.8	0.82	323.7	7.2	301.2	41.7	65.1	1.41	54.7	1.04	363.1	6.0	344.8	57.4
	75%	41.9	0.65	44.7	0.73	233.4	10.0	201.3	20.0	48.0	0.82	43.8	0.70	267.6	9.7	236.7	24.4	54.5	1.03	51.0	0.91	303.8	9.1	275.1	30.3	61.6	1.28	50.5	0.90	343.4	8.2	317.8	38.7	69.0	1.57	57.7	1.14	384.9	7.1	363.4	51.5
	80%	44.3	0.72	47.2	0.80	247.2	10.9	212.3	19.5	50.8	0.91	46.2	0.77	283.1	10.6	249.4	23.5	57.6	1.14	53.6	1.00	321.2	10.1	289.5	28.8	65.1	1.41	53.0	0.98	362.9	9.2	334.1	36.2	72.9	1.73	60.6	1.24	406.4	8.2	381.5	46.8
	85%	46.8	0.79	49.6	0.87	260.9	11.8	223.2	18.9	53.5	1.00	48.5	0.84	298.5	11.5	261.8	22.7	60.7	1.25	56.2	1.09	338.5	11.1	303.5	27.5	68.5	1.55	55.5	1.06	382.0	10.3	349.9	33.9	76.7	1.90	63.4	1.35	427.5	9.3	399.2	42.9
	90%	49.2	0.86	52.0	0.95	274.4	12.7	233.8	18.4	56.3	1.09	50.7	0.91	313.8	12.5	274.0	21.9	63.7	1.36	58.8	1.18	355.4	12.1	317.3	26.2	71.9	1.69	58.0	1.15	400.9	11.4	365.3	32.0	-	-	-	-	-	-	-	-
	95%	51.6	0.93	54.3	1.02	287.8	13.6	244.3	17.9	59.0	1.18	53.0	0.98	328.8	13.5	285.9	21.2	66.8	1.48	61.3	1.27	372.2	13.2	330.7	25.1	75.2	1.84	60.4	1.24	419.5	12.6	380.4	30.2	-	-	-	-	-	-	-	-
	100%	54.0	1.01	56.6	1.10	301.1	14.6	254.5	17.5	61.6	1.28	55.1	1.05	343.7	14.5	297.6	20.5	69.7	1.60	63.7	1.36	388.8	14.3	343.9	24.1	78.5	1.99	62.7	1.32	437.9	13.8	395.1	28.7	-	-	-	-	-	-	-	-
70.0 / 82.6	20%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25%	14.9	0.13	15.5	0.14	83.0	4.1	69.9	17.2	17.2	0.16	15.5	0.14	96.1	3.9	83.6	21.5	19.8	0.19	18.3	0.17	110.3	3.6	98.8	27.6	22.6	0.24	18.5	0.17	126.2	3.1	116.2	37.3	25.7	0.29	21.5	0.22	143.2	2.5	135.3	54.5
	30%	17.6	0.16	18.4	0.17	98.4	4.9	82.8	17.0	20.4	0.20	18.3	0.17	113.8	4.7	98.8	21.2	23.4	0.25	21.6	0.22	130.5	4.3	116.7	27.0	26.7	0.31	21.7	0.22	149.1	3.8	136.9	36.0	30.3	0.38	25.3	0.28	168.9	3.1	159.1	51.4
	35%	20.4	0.20	21.2	0.21	113.6	5.7	95.3	16.8	23.5	0.25	21.1	0.21	131.2	5.5	113.7	20.8	27.0	0.31	24.8	0.27	150.3	5.1	133.9	26.2	30.8	0.39	24.9	0.28	171.5	4.6	156.9	34.4	34.8	0.47	28.9	0.35	193.9	3.8	182.0	48.0
	40%	23.1	0.24	23.9	0.26	128.6	6.5	107.6	16.5	26.6	0.31	23.7	0.26	148.4	6.3	128.1	20.3	30.4	0.38	27.9	0.33	169.7	5.9	150.7	25.4	34.7	0.47	28.0	0.33	193.4	5.4	176.3	32.9	39.2	0.58	32.4	0.42	218.4	4.6	204.0	44.8
	45%	25.7	0.29	26.6	0.31	143.3	7.4	119.6	16.2	29.6	0.36	26.3	0.30	165.2	7.2	142.2	19.8	33.9	0.45	30.9	0.39	188.7	6.8	167.0	24.6	38.5	0.56	31.0	0.39	214.8	6.2	195.0	31.4	43.5	0.69	35.8	0.50	242.4	5.4	225.4	41.8
	50%	28.3	0.34	29.2	0.36	157.8	8.2	131.3	15.9	32.6	0.43	28.9	0.35	181.7	8.1	155.9	19.4	37.2	0.53	33.9	0.45	207.4	7.7	182.8	23.7	42.3	0.66	33.8	0.45	235.8	7.1	213.2	30.0	47.7	0.81	39.0	0.58	265.8	6.3	246.0	39.1
	55%	30.9	0.39	31.7	0.41	172.2	9.1	142.8	15.7	35.5	0.49	31.4	0.40	198.0	9.0	169.3	18.9	40.5	0.61	36.7	0.52	225.8	8.6	198.2	23.0	46.0	0.76	36.6	0.52	256.4	8.1	230.8	28.6	51.8	0.94	42.2	0.66	288.8	7.3	265.9	36.6
	60%	33.4	0.44	34.2	0.46	186.3	10.0	154.1	15.4	38.4	0.56	33.8	0.45	214.1	9.9	182.3	18.4	43.7	0.70	39.5	0.59	243.9	9.6	213.2	22.2	49.6	0.87	39.4	0.58	276.7	9.0	247.9	27.4	55.8	1.07	45.3	0.74	311.3	8.3	285.2	34.5
	65%	35.9	0.50	36.7	0.52	200.3	11.0	165.1	15.1	41.2	0.63	36.1	0.51	229.9	10.9	195.1	18.0	46.9	0.79	42.2	0.66	261.6	10.6	227.8	21.5	53.2	0.99	42.0	0.65	296.5	10.1	264.6	26.3	59.8	1.21	48.3	0.83	333.3	9.3	304.0	32.5
	70%	38.4	0.56	39.1	0.58	214.0	11.9	175.8	14.8	44.0	0.71	38.4	0.56	245.5	11.8	207.6	17.6	50.1	0.89	44.8	0.73	279.1	11.6	242.1	20.9	56.7	1.10	44.6	0.72	316.1	11.1	280.8	25.2	63.7	1.36	51.1	0.92	355.0	10.5	322.2	30.8
	75%	40.8	0.62	41.4	0.64	227.7	12.8	186.4	14.5	46.8	0.79	40.7	0.62	260.8	12.8	219.8	17.1	53.1	0.98	47.4	0.81	296.3	12.6	256.0	20.3	60.1	1.23	47.1	0.80	335.3	12.2	296.5	24.2	67.5	1.51	54.0	1.01	376.2	11.6	339.8	29.3
	80%	43.2	0.69	43.7	0.70	241.1	13.8	196.8	14.3	49.5	0.87	42.9	0.68	276.0	13.8	231.7	16.8	56.2	1.09	49.9	0.88	313.3	13.7	269.6	19.7	63.5	1.35	49.5	0.87	354.2	13.4	311.9	23.3	71.2	1.66	56.7	1.10	397.1	12.8	357.0	27.9
	85%	45.6	0.75	46.0	0.76	254.4	14.8	207.0	14.0	52.2	0.95	45.1	0.74	291.0	14.9	243.4	16.4	59.2	1.19	52.4	0.96	330.0	14.8	282.9	19.1	66.9	1.48	51.9	0.94	372.7	14.5	326.9	22.5	74.9	1.82	59.3	1.20	417.7	14.0	373.8	26.6
	90%	48.0	0.82	48.2	0.83	267.6	15.8	217.0	13.8	54.8	1.04	47.2	0.80	305.8	15.9	254.9	16.0	62.1	1.30	54.8	1.04	346.5	15.9	295.9	18.6	70.1	1.62	54.2	1.02	391.1	15.7	341.5	21.7	78.5	1.99	61.9	1.29	437.9	15.3	390.1	25.5
	95%	50.3	0.89	50.4	0.90	280.6	16.8	226.8	13.5	57.5	1.13	49.3	0.86	320.4	17.0	266.1	15.7	65.1	1.41	57.2	1.12	362.7	17.0	308.6	18.1	73.4	1.76	56.5	1.10	409.1	16.9	355.7	21.0	-	-	-	-	-	-	-	-
	100%	52.6	0.97	52.6	0.96	293.5	17.8	236.5	13.3	60.0	1.22	51.3	0.93	334.8	18.0	277.1	15.4	67.9	1.53	59.5	1.20	378.7	18.2	321.0	17.7	76.6	1.90	58.7	1.17	426.9	18.1	369.7	20.4	-	-	-	-	-	-	-	-
90.0 / 102.6	20%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25%	14.3	0.12	13.8	0.12	79.8	5.5	62.1	11.3	16.5	0.15	13.8	0.12	92.1	5.4	74.5	13.7	18.9	0.18	16.4	0.15	105.5	5.3	88.4	16.7	21.6	0.22	16.6	0.15	120.6	5.0	104.3	20.7	24.5	0.27	19.3	0.19	136.8	4.7	121.9	26.2
	30%	17.0	0.15	16.4	0.15	94.8	6.5	73.8	11.4	19.6	0.19	16.4	0.15	109.3	6.4	88.5	13.8	22.4	0.23	19.4	0.19	125.1	6.3	104.8	16.7	25.6	0.29	19.6	0.19	142.8	6.0	123.5	20.5	29.0	0.35	22.8	0.24	161.8	5.6	143.9	25.7
	35%	19.6	0.19	19.0	0.18	109.5	7.5	85.4	11.4	22.6	0.24	18.9	0.18	126.1	7.4	102.1	13.7	25.9	0.29	22.4	0.23	144.3	7.3	120.7	16.5	29.5	0.36	22.5	0.24	164.5	7.0	142.0	20.2	33.4	0.44	26.2	0.30	186.2	6.6	165.2	25.1
	40%	22.3	0.23	21.5	0.22	124.1	8.5	96.6	11.4	25.6	0.29	21.4	0.22	142.8	8.5	115.4	13.6	29.2	0.36	25.2	0.28	163.1	8.3	136.2	16.3	33.3	0.44	25.4	0.28	185.8	8.1	159.9	19.8	37.7	0.54	29.5	0.36	210.0	7.6	185.7	24.4
	45%	24.8	0.27	23.9	0.26	138.4	9.5	107.7	11.3	28.5	0.34	23.8	0.26	159.1	9.5	128.4	13.5	32.6	0.43	28.0	0.33	181.6	9.4	151.3	16.1	37.1	0.53	28.2	0.34	206.6	9.1	177.3	19.4	41.8	0.65	32.6	0.43	233.3	8.7	205.6	23.7
	50%	27.4	0.32	26.3	0.30	152.6	10.6	118.5	11.2	31.4	0.40	26.1	0.30	175.2	10.6	141.1	13.3	35.8	0.50	30.7	0.39	199.7	10.5	166.0	15.8	40.7	0.62	30.8	0.39	227.0	10.2	194.2	19.0	45.9	0.76	35.7	0.50	256.1	9.8	224.8	22.9
	55%	29.9	0.37	28.7	0.35	166.6	11.6	129.1	11.1	34.3	0.46	28.4	0.34	191.1	11.7	153.5	13.1	39.0	0.58	33.4	0.44	217.6	11.6	180.3	15.5	44.3	0.72	33.4	0.44	247.1	11.4	210.6	18.5	49.9	0.88	38.7	0.57	278.4	11.0	243.5	22.2
	60%	32.3	0.42	31.0	0.39	180.4	12.7	139.4	11.0	37.1	0.53	30.7	0.39	206.7	12.8	165.6	13.0	42.2	0.66	36.0	0.50	235.1	12.7	194.3	15.3	47.8	0.82	36.0	0.50	266.7	12.5	226.6	18.1	53.9	1.01	41.5	0.64	300.3	12.2	261.6	21.5
	65%	34.8	0.47	33.3	0.44	194.0	13.8	149.6	10.9	39.8	0.60	32.9	0.43	222.1	13.9	177.4	12.8	45.3	0.74	38.5	0.56	252.4	13.9	207.9	15.0	51.3	0.92	38.4	0.56	286.1	13.7	242.2	17.7	57.7	1.14	44.3	0.72	321.8	13.4	279.2	20.9
	70%	37.2	0.53	35.5	0.49	207.5	14.9	159.6	10.7	42.6	0.67	35.0	0.48	237.3	15.0	189.1	12.6	48.3	0.83	41.0	0.63	269.4	15.0	221.2	14.7	54.7	1.04	40.9	0.62	305.0	14.9	257.3	17.2	61.5	1.28	47.0	0.79	342.8	14.6	296.3	20.2
	75%	39.6	0.59	37.7	0.54	220.8	15.9	169.5	10.6	45.2	0.74	37.1	0.53	252.2	16.1	200.4	12.4	51.3	0.93	43.4	0.69	286.2	16.2	234.2	14.4	58.1	1.15	43.2	0.69	323.7	16.2	272.1	16.8	65.2	1.42	49.7	0.87	363.5	15.9	312.9	19.6
	80%	42.0	0.65	39.8	0.60	234.0	17.0	179.1	10.5	47.9	0.82	39.2	0.58	267.0	17.3	211.6	12.3	54.3	1.02	45.7	0.76	302.7	17.4	246.9	14.2	61.4	1.27	45.5	0.75	342.1	17.4	286.5	16.5	68.8	1.56	52.2	0.95	383.8	17.3	329.1	19.1
	85%	44.3	0.72	41.9	0.65	247.0	18.1	188.6	10.4	50.5	0.90	41.2	0.63	281.7	18.4	222.5	12.1	57.2	1.12	48.0	0.82	318.9	18.6	259.4	13.9	64.6	1.39	47.7	0.81	360.2	18.7	300.6	16.1	72.4	1.71	54.7	1.04	403.7	18.6	344.8	18.5
	90%	46.6	0.78	44.0	0.71	259.9	19.3	197.9	10.3	53.1	0.98	43.2	0.69	296.1	19.6	233.2	11.9	60.1	1.22	50.3	0.89	335.0	19.8	271.5	13.7	67.8	1.52	49.9	0.88	378.0	20.0	314.4	15.7	75.9	1.87	57.2	1.12	423.4	20.0	360.2	18.0
	95%	48.9	0.85	46.0	0.77	272.7	20.4	207.1	10.2	55.7	1.07	45.1	0.74	310.3	20.8	243.7	11.7	62.9	1.33	52.5	0.96	350.8	21.1	283.5	13.5	70.9	1.65	52.0	0.95	395.5	21.3	327.8	15.4	-	-	-	-	-	-	-	-
	100%	51.2	0.92	48.0	0.82	285.3	21.5	216.1	10.0	58.2	1.16	47.1	0.79	324.4	21.9	254.1	11.6	65.7	1.44	54.7	1.03	366.5	22.3	295.1	13.2	74.0	1.79	54.1	1.02	412.8	22.6	341.0	15.1	-	-	-	-	-	-	-	-
110.0 / 122.6	20%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25%	13.8	0.12	11.8	0.09	76.9	7.3	53.3	7.3	15.8	0.14	11.9	0.09	88.0	7.3	64.3	8.8	18.0	0.17	14.2	0.12	100.2	7.3	76.7	10.5	20.5	0.20	14.4	0.12	114.2	7.2	91.0	12.6	23.2	0.25	17.0	0.15	129.4	7.0	106.8	15.3
	30%	16.4	0.15	14.2	0.12	91.2	8.5	63.7	7.5	18.7	0.18	14.2	0.12	104.4	8.5	76.8	9.0	21.3	0.22	16.9	0.15	118.9	8.5	91.4	10.7	24.3	0.27	17.2	0.16	135.4	8.4	108.2	12.8	27.5	0.32	20.1	0.20	153.2	8.2	126.8	15.4
	35%	18.9	0.18	16.4	0.15	105.4	9.7	73.9	7.6	21.6	0.22	16.5	0.15	120.5	9.8	88.9	9.1	24.6	0.27	19.6	0.19	137.2	9.8	105.7	10.8	28.0	0.33	19.8	0.19	156.1	9.7	124.9	12.9	31.7	0.41	23.2	0.25	176.5	9.5	146.1	15.4
	40%	21.4	0.22	18.7	0.18	119.4	11.0	84.0	7.7	24.5	0.27	18.7	0.18	136.4	11.0	100.9	9.2	27.8	0.33	22.2	0.23	155.2	11.0	119.6	10.9	31.6	0.41	22.4	0.23	176.4	10.9	141.2	12.9	35.7	0.50	26.2	0.30	199.3	10.7	164.8	15.3
	45%	23.9	0.26	20.9	0.21	133.3	12.2	93.9	7.7	27.3	0.32	20.8	0.21	152.2	12.3	112.5	9.2	31.0	0.39	24.7	0.27	172.9	12.3	133.3	10.8	35.2	0.48	24.9	0.28	196.4	12.2	157.0	12.8	39.8	0.59	29.0	0.35	221.7	12.1	182.9	15.2
	50%	26.4	0.30	23.0	0.24	147.0	13.5	103.6	7.7	30.1	0.37	23.0	0.24	167.7	13.5	124.0	9.2	34.1	0.46	27.2	0.32	190.4	13.6	146.6	10.8	38.7	0.57	27.4	0.32	216.0	13.6	172.4	12.7	43.7	0.70	31.8	0.41	243.6	13.4	200.6	15.0
	55%	28.8	0.35	25.1	0.28	160.6	14.7	113.1	7.7	32.8	0.43	25.0	0.28	183.0	14.8	135.2	9.1	37.2	0.53	29.6	0.36	207.6	14.9	159.6	10.7	42.2	0.66	29.8	0.37	235.3	14.9	187.4	12.6	47.5	0.81	34.6	0.47	265.0	14.8	217.7	14.7
	60%	31.2	0.40	27.2	0.32	174.0	16.0	122.5	7.7	35.5	0.49	27.1	0.32	198.1	16.1	146.2	9.1	40.3	0.61	31.9	0.41	224.5	16.2	172.3	10.6	45.6	0.75	32.1	0.41	254.2	16.2	202.0	12.4	51.3	0.93	37.2	0.53	286.1	16.2	234.3	14.5
	65%	33.6	0.45	29.3	0.36	187.3	17.2	131.7	7.6	38.2	0.56	29.1	0.35	213.1	17.4	156.9	9.0	43.3	0.69	34.2	0.46	241.3	17.6	184.8	10.5	48.9	0.85	34.3	0.46	272.9	17.6	216.3	12.3	55.0	1.05	39.8	0.60	306.8	17.6	250.6	14.3
	70%	36.0	0.50	31.3	0.40	200.5	18.5	140.8	7.6	40.9	0.62	31.0	0.39	227.8	18.7	167.5	9.0	46.2	0.77	36.5	0.51	257.7	18.9	196.9	10.4	52.2	0.95	36.6	0.52	291.3	19.0	230.3	12.1	58.7	1.17	42.3	0.66	327.2	19.0	266.4	14.0
	75%	38.3	0.56	33.3	0.44	213.6	19.8	149.7	7.6	43.5	0.69	33.0	0.43	242.4	20.0	177.9	8.9	49.1	0.86	38.7	0.57	274.0	20.2	208.9	10.3	55.5	1.06	38.7	0.57	309.4	20.4	243.9	11.9	62.3	1.31	44.7	0.73	347.2	20.5	281.8	13.8
	80%	40.6	0.62	35.2	0.49	226.5	21.1	158.5	7.5	46.1	0.77	34.8	0.48	256.9	21.3	188.1	8.8	52.0	0.95	40.9	0.62	290.1	21.6	220.6	10.2	58.7	1.17	40.8	0.62	327.2	21.8	257.2	11.8	65.8	1.44	47.1	0.80	366.9	22.0	296.8	13.5
	85%	42.9	0.68	37.2	0.53	239.3	22.4	167.2	7.5	48.6	0.84	36.7	0.52	271.2	22.7	198.2	8.7	54.9	1.04	43.0	0.68	305.9	23.0	232.0	10.1	61.8	1.29	42.9	0.68	344.8	23.3	270.2	11.6	69.3	1.58	49.4	0.87	386.3	23.5	311.4	13.3
	90%	45.2	0.74	39.1	0.58	252.1	23.7	175.8	7.4	51.2	0.92	38.5	0.56	285.3	24.0	208.0	8.7	57.7	1.14	45.1	0.74	321.6	24.4	243.3	10.0	64.9	1.41	44.9	0.73	362.1	24.7	283.0	11.5	72.7	1.73	51.7	0.94	405.4	25.0	325.8	13.0
	95%	47.5	0.81	40.9	0.63	264.7	25.0	184.2	7.4	53.7	1.00	40.3	0.61	299.3	25.4	217.7	8.6	60.5	1.24	47.1	0.80	337.1	25.8	254.3	9.9	68.0	1.53	46.9	0.79	379.2	26.2	295.5	11.3	-	-	-	-	-	-	-	-
	100%	49.7	0.87	42.8	0.67	277.2	26.3	192.5	7.3	56.2	1.09	42.1	0.66	313.2	26.7	227.3	8.5	63.2	1.34	49.1	0.86	352.4	27.2	265.2	9.8	71.0	1.66	48.9	0.85	396.1	27.6	307.7	11.1	-	-	-	-	-	-	-	-
120.0 / 132.6	20%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	25%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	30%	-	-	-	-	-	-	-	-	18.3	0.17	13.0	0.11	102.0	9.8	70.2	7.2	20.7	0.21	15.5	0.14	115.7	9.8	83.9	8.5	23.6	0.25	15.8	0.14	131.4	9.8	99.8	10.2	26.6	0.31	18.6	0.18	148.5	9.7	117.3	12.1
	35%	18.6	0.18	15.0	0.13	103.6	11.1	67.6	6.1	21.1	0.21	15.1	0.13	117.7	11.2	81.6	7.3	23.9	0.26	18.0	0.17	133.5	11.2	97.3	8.7	27.2	0.32	18.3	0.17	151.5	11.2	115.5	10.3	30.7	0.39	21.5	0.22	171.1	11.0	135.5	12.3
	40%	21.0	0.21	17.1	0.16	117.3	12.5	76.9	6.2	23.9	0.26	17.2	0.16	133.2	12.5	92.7	7.4	27.1	0.32	20.4	0.20	151.0	12.6	110.4	8.8	30.7	0.39	20.8	0.21	171.2	12.6	130.7	10.4	34.7	0.47	24.3	0.27	193.2	12.5	153.1	12.3
	45%	23.5	0.25	19.1	0.18	130.9	13.8	86.1	6.2	26.6	0.31	19.2	0.19	148.5	13.9	103.6	7.5	30.2	0.38	22.8	0.24	168.2	14.0	123.2	8.8	34.2	0.46	23.1	0.25	190.7	14.0	145.6	10.4	38.6	0.56	27.0	0.31	215.0	13.9	170.3	12.3
	50%	25.9	0.29	21.1	0.21	144.3	15.2	95.2	6.3	29.4	0.36	21.2	0.21	163.7	15.3	114.3	7.5	33.2	0.44	25.1	0.28	185.3	15.4	135.7	8.8	37.6	0.54	25.4	0.29	209.8	15.4	160.1	10.4	42.4	0.66	29.7	0.37	236.3	15.3	187.0	12.2
	55%	28.3	0.34	23.1	0.25	157.7	16.6	104.1	6.3	32.1	0.41	23.1	0.25	178.7	16.7	124.8	7.5	36.2	0.51	27.4	0.32	202.1	16.8	147.9	8.8	41.0	0.63	27.7	0.33	228.6	16.9	174.3	10.3	46.1	0.77	32.3	0.42	257.3	16.8	203.2	12.1
	60%	30.7	0.39	25.1	0.28	170.9	18.0	112.9	6.3	34.7	0.47	25.0	0.28	193.6	18.1	135.2	7.5	39.2	0.58	29.6	0.36	218.7	18.2	159.9	8.8	44.3	0.72	29.9	0.37	247.2	18.3	188.2	10.3	49.8	0.88	34.8	0.47	277.9	18.3	219.0	11.9
	65%	33.0	0.44	27.0	0.31	184.0	19.4	121.5	6.3	37.4	0.53	26.9	0.31	208.3	19.5	145.3	7.5	42.2	0.66	31.8	0.41	235.1	19.7	171.7	8.7	47.6	0.81	32.0	0.41	265.4	19.8	201.7	10.2	53.5	1.00	37.2	0.53	298.2	19.9	234.4	11.8
	70%	35.3	0.49	28.9	0.35	197.1	20.7	130.1	6.3	40.0	0.60	28.8	0.35	222.8	20.9	155.3	7.4	45.1	0.74	33.9	0.46	251.3	21.1	183.2	8.7	50.8	0.91	34.1	0.46	283.5	21.3	214.9	10.1	57.1	1.12	39.6	0.59	318.2	21.4	249.5	11.7
	75%	37.7	0.54	30.8	0.39	210.0	22.1	138.5	6.3	42.5	0.67	30.6	0.38	237.2	22.4	165.1	7.4	47.9	0.82	36.0	0.50	267.3	22.6	194.5	8.6	54.0	1.01	36.2	0.51	301.2	22.8	227.9	10.0	60.6	1.24	41.9	0.65	337.8	23.0	264.2	11.5
	80%	40.0	0.60	32.6	0.43	222.8	23.5	146.8	6.2	45.1	0.74	32.4	0.42	251.5	23.8	174.8	7.3	50.8	0.91	38.1	0.55	283.1	24.1	205.6	8.5	57.2	1.12	38.2	0.56	318.8	24.3	240.6	9.9	64.1	1.37	44.2	0.71	357.2	24.6	278.5	11.3
	85%	42.2	0.66	34.4	0.47	235.5	25.0	155.0	6.2	47.6	0.81	34.1	0.46	265.6	25.2	184.3	7.3	53.6	1.00	40.1	0.60	298.8	25.6	216.5	8.5	60.3	1.23	40.2	0.61	336.1	25.9	253.0	9.8	67.5	1.51	46.4	0.78	376.3	26.2	292.6	11.2
	90%	44.5	0.72	36.3	0.51	248.2	26.4	163.1	6.2	50.2	0.89	35.9	0.50	279.6	26.7	193.7	7.3	56.4	1.09	42.1	0.66	314.2	27.0	227.2	8.4	63.4	1.35	42.1	0.66	353.2	27.4	265.2	9.7	70.9	1.65	48.6	0.84	395.1	27.8	306.3	11.0
	95%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Glossary

Abbreviation	Description
Units	
lb	Pound.
inch	Inch (").
Oz	Ounce.
GPM	Galons Per Minute.
PSI	Pounds per Square Inch.
BTUh	British Thermal Unit per hour.
mBTUh	1000 British Thermal Unit per hour.
W	Watt.
kW	KiloWatt (1000 W).
Properties	
SPEED	Compressor speed (%).
EFT	Entering fluid temperature (°F).
LFT	Leaving fluid temperature (°F).
FR	Flow Rate (GPM).
PD	Pressure Drop (PSI).
APD	Available Pressure Drop (PSI), meaning the affordable pressure drop for units including circulating pumps.
HE	Heat Extraction (mBTUh), meaning heat source capacity in heating mode and cooling capacity in cooling mode.
P	Electrical Power input (kW).
HC	Heating Capacity (mBTUh), meaning heating capacity in heating mode and heat sink capacity in cooling mode.
COP	Coefficient Of Performance used to measure heating efficiency (BTUh output / BTUh input).
EER	Energy Efficiency Ratio used to measure cooling efficiency (BTUh output / W input).
Terms	
Source	Primary circuit of the heat pump, meaning heat source in heating mode and heat sink in cooling mode.
Load	Secondary circuit of the heat pump, meaning heat sink in heating mode and heat source in cooling mode.
HTR	High Temperature Recovery de-superheater system. Option available in all models. HTR allows simultaneous heating and DHW / pool heating production in heating mode, and simultaneous cooling and DHW / pool heating production in cooling mode.
Inverter	Fully modulating variable compressor speed technology. This continuous (non-step) modulation allows the heat pump to adapt the heating/cooling power output to the building's current heating/cooling load optimising efficiency.

Notes

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