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TPHX057-0417

ESE Product Data Booklet

ESE Series Scroll Central Chillers



Please keep this Product Data Booklet and all manuals, engineering prints and parts lists together for documentation of your equipment.

Date:

Number: TPHX057-0417

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Features



ESEW-0405 Water-Cooled Chiller

We manufacture all our ESE Series chillers in our ISO 9001 certified facility.

Easy to Install

Compact and easy to maneuver into position with everything factory wired and piped ready for simple field connections our chillers are easy to install.

Rugged, Compact Design

With components neatly arranged on a heavy-duty galvanized steel frame, our chillers maintain a balance between minimized floor space and easy access.

Fits through Doors

At only 24 inches wide, the single-circuit chillers provide a lot of flexibility during installation because they easily fit through standard 36-inch doors, making it possible to maneuver these chillers into tight installation spaces.

Dual Circuit Manifolds Included

Dual circuit chillers include evaporator supply and return manifolds and water-cooled condenser units include condenser water supply and return manifolds for quick and easy installation.

Electrical Components Mounted and Wired

All electrical components and sensors mounted and wired at the factory to reduce installation labor, time,

and material costs ensure the chiller is up and running quickly.

Flexible Design

Available with water-cooled or remote air-cooled condensers with the ability to configure up to 1,020 tons of system capacity using multiple chillers our chillers make chiller system design easy.

Modular Expandable System

All chillers include our modular system design controls to allow control of systems of up to six (6) chillers with twelve (12) refrigeration circuits to provide back-up and system expandability.

Multiple Back-up Controllers

Each chiller has its own controls and control circuit power supply so in a system with multiple chillers any chiller can be isolated and serviced while the other chillers continue to operate.

Single or Multiple Circuit Configurations

Dual-circuit chillers provide built in redundancy and back-up for critical processes and single-circuit chillers for dedicated processes provide a variety of chiller options to meet your process needs.

Reliable

The use of the best available components and control software combined with our extensive experience in providing industrial cooling equipment ensures our chillers provide outstanding reliability.

Direct-Drive Scroll Compressors

Direct drive hermetic scroll compressors with their proven longevity in industrial cooling applications provide outstanding reliability, low-maintenance, and high-efficiency operation.

Stainless Steel Evaporators

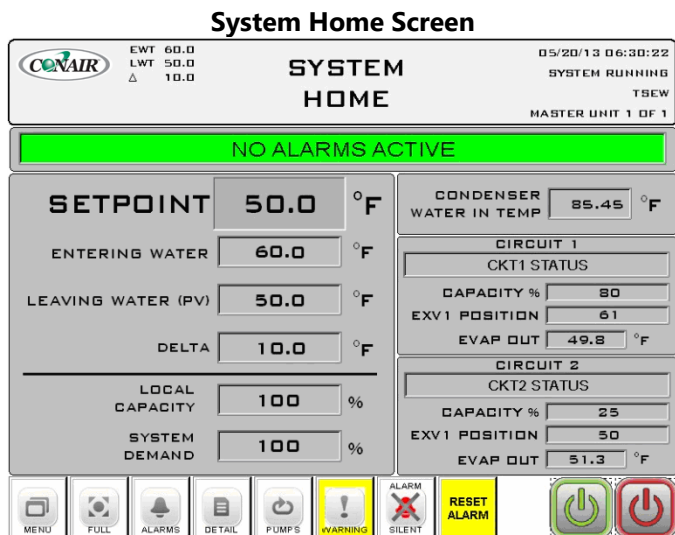
Stainless steel plate copper brazed evaporators provide maximum performance, long life, and a level of corrosion protection not available in conventional steel shell and copper tube evaporators.

Evaporator Inlet Strainer

An evaporator inlet strainer provides a built-in filtration system to keep debris in the process fluid from causing costly downtime and repair due to a clogged chiller evaporator.

Powerful PLC Control System

Our PLC control system provides an excellent combination of provide hardware and a powerful software control system for outstanding performance that is reliable and easy to use.



Color Touch-Screen Display

The high-resolution, full-color (65,000 colors), high-speed LCD touch-screen interface provides clear English text display of the chiller operation for quick and easy monitoring and control of the system.

Expandable Multiple Chiller Control

Capable of controlling up to six chillers in a common chilled water system allows for easy expansion and flexible design capabilities for systems with over 1,000 tons of chilling capacity.

Compressor Protection Technology

Our compressor protection technology provides start-to-start anti-recycle compressor control logic that limits compressor cycling under low-loads to extend compressor life.

Automatic Compressor Sequencing

The control system records and displays individual compressor running hours and automatically distributes run time among all compressors in the system.

Industrial Control Panel

Built for heavy-duty industrial operation we use a NEMA-12 control panel, high quality components, and 24 VDC control circuit power to provide safe, consistent, and reliable operation.

C-UL508A Industrial Control Panel

Our chiller includes C-UL 508A industrial control panel construction using high quality components for heavy-duty industrial production applications to provide safe and dependable operation.

High-Quality 24 VDC Power Supply

The 24-volt DC power supply provides dependable control circuit power and isolates the control circuit from static interference to ensure stable and precise operation.

Warranty

12 months parts
12 months labor

Available Options

In most situations, our standard chiller configuration is sufficient; however, there are applications where there is a need for additional features. For those applications, we have a number of available options to enhance the flexibility of our ESE Series chillers.

Hot Gas Bypass Valve

For applications where prolonged periods of low load operation are anticipated or in applications where the system fluid volume is not enough to sufficiently buffer any sudden change in system load, a hot-gas bypass valve is available to provide an added level of unloading beyond compressor staging.

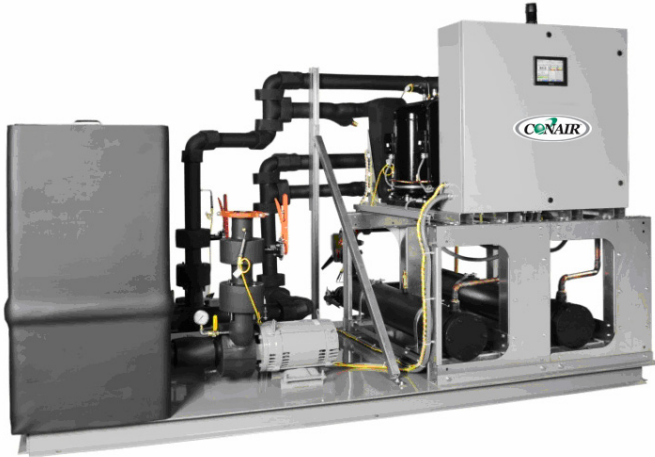
Rotary Non-Fused Disconnect Switch

This option adds a 5 kA SCCR (Short Circuit Current Rating) rotary non-fused disconnect switch to the control panel sized for the power rating of the chiller (and pumps if the chiller is purchased with the reservoir option) to allow for safely locking-out the main power while servicing the chiller.

Integral Reservoir and Pumping System

With an integral stainless steel reservoir and pumping system all piped, insulated, and wired this option makes installation of a complete chilled water system quick and easy.

ESEW-060D with Reservoir Option



Remote Condenser Coil Coating

For applications where a chiller with an outdoor remote air-cooled condenser is within 5 miles of a salt-water coast or in areas where exposure to salt vapor occurs, a remote condenser coil coating is available. This coating provides a rugged, abrasion resistant coating with very high tensile strength and flexibility to cover the aluminum fins, copper tubes, and end plates.

ModBUS RTU Communications Port

This option is available where there is a need to communicate with an external monitoring or control system using ModBUS RTU. This option provides a RS-485 connector on the PLC that is located inside the control cabinet. The chiller can operate with only one communications protocol so this option is not available with any other communications port options.

BACnet Communications Port

For applications where there is a need to communicate with an external monitoring or control system using BACnet communications a BACnet communications port is available. This option adds a ModBUS expansion cassette to the PLC, a ModBUS to BACnet gateway, as well as a RS-485 connector. The chiller can operate with only one communications protocol so this option is not available with any other communications port options.

LonWorks Communications Port

For applications where there is a need to communicate with an external monitoring or control system using LonWorks communications a LonWorks communications port is available. This option adds a ModBUS expansion cassette to the PLC, a ModBUS to LonWorks gateway, as well as a RS-485 connector. The chiller can operate with only one communications protocol so this option is not available with any other communications port options.

5 year Compressor Parts Warranty

This option extends the standard 12-month compressor parts warranty to 60 months for those applications where there is a need for an added level of compressor parts warranty coverage.

General Data

Table 1 – ESEW Series Single-Circuit Water-Cooled Condenser Chiller General Data (60 Hz)

	ESEW-010S	ESEW-015S	ESEW-020S	ESEW-025S	ESEW-030S	ESEW-040S	ESEW-050S	ESEW-060S	ESEW-080S
General									
Cooling Capacity (tons) ¹	10.9	16.1	22.2	27.3	32.6	42.2	53.3	68.4	86.2
Set Point Range (°F)	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80
Process In/Out (in) – Standard	1½	1½	2	2	2½	2½	3	3	4
Process In/Out (in) – High Flow	2	2½	2½	3	3	4	4	4	n/a
Condenser Water In/Out (in)	1½	2	2	2½	2½	3	3	4	4
Refrigerant Charge (lbs of R410A)	10	30	30	35	40	50	70	80	100
Minimum Unloaded Capacity (ton)	5.5	8.1	11.1	13.7	16.2	21.0	25.9	33.9	42.6
with HGBP Option (ton)	2.7	4.0	5.5	6.8	8.1	10.5	13.0	17.0	21.3
Dimensions, Weights, Amps (Chiller Only)									
Length (in)	68	68	68	68	72	100	100	100	105
Width (in)	24	24	24	24	24	24	30	30	30
Height (in)	69	69	69	69	69	69	69	69	69
Ship Weight (lbs)	950	1,050	1,150	1,150	1,350	1,800	1,850	2,250	2,550
Operating Weight (lbs)	965	1,070	1,180	1,183	1,387	1,860	1,920	2,336	2,640
MCA @ 460/3/60 (amps) ²	22	34	42	53	62	71	86	124	165
Dimensions, Weights, Amps (Chiller with Standard Flow Reservoir Option, 10°F ΔT Process, 10°F ΔT Chiller)									
Reservoir Capacity (gal)	275	275	275	275	275	275	275	450	450
Pump Models (Process/Chiller)	5D/1.5A	5D/1.5A	5D/1.5A	5D/1.5A	7.5D/2A	10D/2A	10D/3A	10D/3A	15D/3A
Process Connection Size (in)	1½	1½	2	2	2½	2½	3	3	4
Length (in)	84	84	84	96	96	96	96	108	108
Width (in)	72	72	76	76	76	92	92	95	100
Height (in)	75	75	75	75	75	75	75	75	75
Ship Weight (lbs)	2,650	2,750	2,850	2,950	3,250	3,800	4,000	4,700	5,500
Operating Weight (lbs)	4,950	5,050	5,150	5,250	5,550	6,100	6,300	8,450	9,250
MCA @ 460/3/60 (amps) ²	32	43	50	62	75	86	104	141	188
Dimensions, Weights, Amps (Chiller with High Process Flow Reservoir Option, 5°F ΔT Process, 10°F ΔT Chiller)									
Reservoir Capacity (gal)	400	400	400	400	400	400	400	650	650
Pump Models (Process/Chiller)	5D/1.5A	7.5D/1.5A	10D/1.5A	10D/1.5A	10D/2A	15D/2A	15D/3A	20D/3A	25D/3A
Process Connection Size (in)	2	2½	2½	3	3	4	4	4	6
Length (in)	84	84	84	96	96	96	96	108	108
Width (in)	72	72	76	76	76	92	92	95	100
Height (in)	76	76	76	76	76	76	76	76	76
Ship Weight (lbs)	2,850	2,950	3,100	3,150	3,450	4,000	4,250	4,950	5,750
Operating Weight (lbs)	6,200	6,300	6,450	6,500	6,800	7,350	7,600	10,400	11,200
MCA @ 460/3/60 (amps) ²	32	46	57	68	78	91	109	153	201

¹Cooling capacity when cooling water with 50°F set point, 60°F return, 85°F condenser water, R-410A refrigerant.

²MCA is Minimum Circuit Amps (for wire sizing), complies with NEC, Section 430-24.



Table 2 – ESEW Series Dual-Circuit Water-Cooled Condenser Chiller General Data (60 Hz)

	ESEW-020D	ESEW-030D	ESEW-040D	ESEW-050D	ESEW-060D	ESEW-080D	ESEW-0100D	ESEW-0120D	ESEW-0160D
General									
Cooling Capacity (tons) ¹	21.7	32.1	44.3	54.7	65.2	84.5	106.7	136.9	172.5
Set Point Range (°F)	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80
Process In/Out (in) - Standard	2	2½	2½	3	3	4	4	4	6
Process In/Out (in) – High Flow	2½	3	4	4	4	6	6	6	n/a
Condenser Water In/Out (in)	2	2½	3	3	4	4	4	6	6
Refrigerant Charge/Circuit (lbs of R410A)	10	30	30	35	40	50	70	80	100
Minimum Unloaded Capacity (ton)	5.5	8.0	11.1	13.7	16.2	20.9	25.9	33.9	42.6
with HGBP Option (ton)	2.7	4.0	5.5	6.8	8.1	10.5	13.0	16.9	21.3
Dimensions, Weights, Amps (Chiller Only)									
Length (in)	75	75	80	80	85	115	115	118	125
Width (in)	56	56	56	56	56	56	56	56	56
Height (in)	69	69	69	69	69	69	69	69	69
Ship Weight (lbs)	1,650	1,900	2,150	2,200	2,550	3,450	3,600	4,450	5,100
Operating Weight (lbs)	1,680	1,940	2,210	2,266	2,624	3,570	3,740	4,622	5,280
MCA @ 460/3/60 (amps) ²	42	63	76	99	115	131	161	232	311
Dimensions, Weights, Amps (Chiller with Standard Flow Reservoir Option , 10°F ΔT Process, 10°F ΔT Chiller)									
Reservoir Size (gal)	275	275	275	275	450	450	700	700	1,000
Pump Models (Process/Chiller)	5D/1.5A	7.5D/2A	10D/2A	10D/3A	10D/3A	15D/3A	15D/5A	20D/7.5F	25D/10E
Process Connection Size (in)	2	2½	2½	3	3	4	4	4	6
Length (in)	108	108	108	120	132	132	132	144	144
Width (in)	78	78	78	90	90	105 ³	110 ³	110 ³	110 ³
Height (in)	75	75	75	75	75	75	75	75	90
Ship Weight (lbs)	3,650	4,100	4,450	4,650	5,200	6,550	7,200	8,300	10,150
Operating Weight (lbs)	5,950	6,400	6,750	6,950	8,950	10,300	13,050	14,150	18,500
MCA @ 460/3/60 (amps) ²	51	76	93	117	133	154	187	269	356
Dimensions, Weights, Amps (Chiller with High Process Flow Reservoir Option, 5°F ΔT Process, 10°F ΔT Chiller)									
Reservoir Size (gal)	400	400	400	400	650	650	1,000	1,000	1,000
Pump Models (Process/Chiller)	10D/1.5A	10D/2A	15D/2A	15D/3A	20D/3A	25D/3A	30D/5A	40D/7.5F	40D/10E
Process Connection Size (in)	2½	3	4	4	4	6	6	6	6
Length (in)	108	108	108	120	132	132	144	144	144
Width (in)	78	78	78	90	90	105 ³	110 ³	110 ³	110 ³
Height (in)	76	76	76	76	76	90	90	90	90
Ship Weight (lbs)	5,950	6,400	6,750	6,950	8,950	10,300	13,050	14,150	18,500
Operating Weight (lbs)	7,200	7,650	8,000	8,200	10,900	12,250	16,250	17,250	19,500
MCA @ 460/3/60 (amps) ²	59	79	98	122	145	168	207	294	375

¹Cooling capacity when cooling water with 50°F set point, 60°F return, 85°F condenser water, R-410A refrigerant.

²MCA is Minimum Circuit Amps (for wire sizing), complies with NEC, Section 430-24.

³To keep the shipping dimensions within a 102" width for standard flatbed shipping, the condenser inlet manifold is removed for shipment.



Table 3 – ESER Series Single-Circuit Remote Air-Cooled Condenser Chiller General Data (60 Hz)

	ESER-010S	ESER-015S	ESER-020S	ESER-025S	ESER-030S	ESER-040S	ESER-050S	ESER-060S	ESER-080S
General									
Cooling Capacity (tons) ¹	10.0	14.9	20.4	25.2	30.1	38.9	48.9	63.6	78.7
Set Point Range (°F)	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80
Process In/Out (in) - Standard	1½	1½	2	2	2½	2½	3	3	4
Process In/Out (in) – High Flow	2	2½	2½	3	3	4	4	4	n/a
Refrigerant Discharge Line (in)	¾	1⅛	1⅛	1¾	1¾	1⅝	1⅝	1⅝	2⅛
Refrigerant Liquid Line (in)	⅝	¾	¾	1⅛	1⅛	1⅛	1⅛	1¾	1⅝
Refrigerant Charge (lbs. of R410A)	Varies based on refrigerant system piping								
Minimum Unloaded Capacity (ton)	5.0	7.4	10.0	12.5	14.8	19.1	23.6	30.9	38.5
with HGBP Option (ton)	2.5	3.7	5.0	6.2	7.4	9.6	11.8	15.5	19.3
Dimensions, Weights, Amps (Chiller Only)									
Length (in)	68	68	68	68	72	102	102	102	105
Width (in)	24	24	24	24	24	24	30	30	30
Height (in)	69	69	69	69	69	69	69	69	69
Ship Weight (lbs)	850	1,000	1,050	1,050	1,150	1,550	1,600	1,900	2,200
Operating Weight (lbs)	865	1,020	1,080	1,083	1,187	1,610	1,670	1,986	2,290
MCA @ 460/3/60 (amps) ²	22	34	42	53	62	71	86	124	165
Dimensions, Weights, Amps (Chiller with Standard Flow Reservoir Option , 10°F ΔT Process, 10°F ΔT Chiller)									
Reservoir Capacity (gal)	275	275	275	275	275	275	275	450	450
Pump Models (Process/Chiller)	5D/1.5A	5D/1.5A	5D/1.5A	5D/1.5A	7.5D/2A	10D/2A	10D/3A	10D/3A	15D/3A
Process Connection Size (in)	1½	1½	2	2	2½	2½	3	3	4
Length (in)	84	84	84	96	96	96	96	108	108
Width (in)	64	64	64	76	76	92	92	92	95
Height (in)	75	75	75	75	75	75	75	75	75
Ship Weight (lbs)	2,600	2,700	2,750	2,800	3,050	3,550	3,750	4,350	5,150
Operating Weight (lbs)	4,900	5,000	5,050	5,100	5,350	5,850	6,050	8,100	8,900
MCA @ 460/3/60 (amps) ²	32	43	50	62	75	86	104	141	188
Dimensions, Weights, Amps (Chiller with High Process Flow Reservoir Option, 5°F ΔT Process, 10°F ΔT Chiller)									
Reservoir Capacity (gal)	400	400	400	400	400	400	400	650	650
Pump Models (Process/Chiller)	5D/1.5A	7.5D/1.5A	10D/1.5A	10D/1.5A	10D/2A	15D/2A	15D/3A	20D/3A	25D/3A
Process Connection Size (in)	2	2½	2½	3	3	4	4	4	6
Length (in)	84	84	84	96	96	96	96	108	108
Width (in)	64	64	64	76	76	92	92	92	95
Height (in)	76	76	76	76	76	76	76	76	76
Ship Weight (lbs)	2,800	2,950	2,950	3,000	3,300	3,750	4,000	4,600	5,350
Operating Weight (lbs)	6,150	6,300	6,300	6,350	6,650	7,100	7,350	10,050	10,800
MCA @ 460/3/60 (amps) ²	32	46	57	68	78	91	109	153	201

¹Cooling capacity when cooling water with 50°F set point, 60°F return, 95°F condenser air, R-410A refrigerant.

²MCA is Minimum Circuit Amps (for wire sizing), complies with NEC, Section 430-24.



Table 4 – ESER Series Dual-Circuit Remote Air-Cooled Condenser Chiller General Data (60 Hz)

	ESER-020D	ESER-030D	ESER-040D	ESER-050D	ESER-060D	ESER-080D	ESER-0100D	ESER-0120D	ESER-0160D
General									
Cooling Capacity (tons) ¹	20.4	29.9	40.7	50.5	60.2	77.8	97.7	127.2	157.5
Set Point Range (°F)	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80	20 to 80
Process In/Out (in) – Standard	2	2½	2½	3	3	4	4	4	6
Process In/Out (in) – High Flow	2½	3	4	4	4	6	6	6	n/a
Refrigerant Discharge Line/Circuit (in)	¾	1⅛	1⅛	1¾	1¾	1⅝	1⅝	1⅝	2⅛
Refrigerant Liquid Line/Circuit (in)	⅝	¾	¾	1⅛	1⅛	1⅛	1⅛	1¾	1⅝
Refrigerant Charge/Circuit (lbs. of R410A)	Varies based on refrigeration system piping								
Minimum Unloaded Capacity (ton)	5.0	7.3	10.0	12.5	14.7	19.1	23.6	30.9	38.5
with HGBP Option (ton)	2.5	3.7	5.0	6.2	7.4	9.6	11.8	15.5	19.3
Dimensions, Weights, Amps (Chiller Only)									
Length (in)	75	75	80	80	85	105	105	110	125
Width (in)	48	48	48	48	48	48	48	48	52
Height (in)	69	69	69	69	69	69	69	69	69
Ship Weight (lbs)	1,550	1,800	1,850	1,900	2,150	2,900	3,000	3,650	4,250
Operating Weight (lbs)	1,580	1,840	1,910	1,966	2,224	3,020	3,140	3,822	4,430
MCA @ 460/3/60 (amps) ²	42	63	76	99	115	131	161	232	311
Dimensions, Weights, Amps (Chiller with Standard Flow Reservoir Option , 10°F ΔT Process, 10°F ΔT Chiller)									
Reservoir Size (gal)	275	275	275	275	450	450	700	700	1,000
Pump Models (Process/Chiller)	5D/1.5A	7.5D/2A	10D/2A	10D/3A	10D/3A	15D/3A	15D/5A	20D/7.5F	25D/10E
Process Connection Size (in)	2	2½	2½	3	3	4	4	4	6
Length (in)	108	108	108	120	132	132	132	144	144
Width (in)	74	74	74	74	74	92	102	102	102
Height (in)	75	75	75	75	75	75	75	75	90
Ship Weight (lbs)	3,500	4,000	4,200	4,350	4,800	6,000	6,600	7,500	9,300
Operating Weight (lbs)	5,800	6,300	6,500	6,650	8,550	9,750	12,450	13,350	17,650
MCA @ 460/3/60 (amps) ²	51	76	93	117	133	154	187	269	356
Dimensions, Weights, Amps (Chiller with High Process Flow Reservoir Option, 5°F ΔT Process, 10°F ΔT Chiller)									
Reservoir Size (gal)	400	400	400	400	650	650	1,000	1,000	1,000
Pump Models (Process/Chiller)	10D/1.5A	10D/2A	15D/2A	15D/3A	20D/3A	25D/3A	30D/5A	40D/7.5F	40D/10E
Process Connection Size (in)	2½	3	4	4	4	6	6	6	6
Length (in)	108	108	108	120	132	132	132	144	144
Width (in)	74	74	74	74	74	92	102	102	102
Height (in)	76	76	76	76	76	76	76	76	90
Ship Weight (lbs)	3,850	4,200	4,400	4,550	5,050	6,250	7,300	8,100	10,300
Operating Weight (lbs)	7,200	7,550	7,750	7,900	10,500	11,700	15,650	16,450	18,650
MCA @ 460/3/60 (amps) ²	59	79	98	122	145	168	207	294	375

¹Cooling capacity when cooling water with 50°F set point, 60°F return, 95°F condenser air, R-410A refrigerant.

²MCA is Minimum Circuit Amps (for wire sizing), complies with NEC, Section 430-24.



Table 5 – ESEW & ESER Single-Circuit Chiller Electrical Data (60 Hz)

Model	Main Power (3-phase, 60 Hz)			Compressors			Chiller	
	Rated	Allowable		Qty	RLA ¹ (each)	LRA ² (each)	MCA ³	MOPD ⁴
		Min	Max					
ESEW-010S & ESER-010S	208	187	253	2	19.0	123	43	60
	230	187	253	2	19.0	123	43	70
	460	414	508	2	9.7	62	22	35
	575	518	632	2	7.4	50	18	25
ESEW-015S & ESER-015S	208	187	253	2	29.5	195	67	110
	230	187	253	2	29.5	195	67	110
	460	414	508	2	14.7	95	34	50
	575	518	632	2	12.2	80	29	45
ESEW-020S & ESER-020S	208	187	253	2	33.3	239	76	125
	230	187	253	2	33.3	239	76	125
	460	414	508	2	17.9	125	42	60
	575	518	632	2	12.8	80	30	45
ESEW-025S & ESER-025S	208	187	253	2	51.3	300	117	175
	230	187	253	2	51.3	300	117	175
	460	414	508	2	23.1	150	53	80
	575	518	632	2	19.9	109	46	70
ESEW-030S & ESER-030S	208	187	253	2	55.8	340	127	200
	230	187	253	2	55.8	340	127	200
	460	414	508	2	26.9	173	62	100
	575	518	632	2	23.7	132	55	80
ESEW-040S & ESER-040S	208	187	253	2	72.4	538	164	250
	230	187	253	2	72.4	538	164	250
	460	414	508	2	30.8	229	71	110
	575	518	632	2	25.0	180	58	90
ESEW-050S & ESER-050S	208	187	253	2	85.3	605	193	300
	230	187	253	2	85.3	605	193	300
	460	414	508	2	37.8	320	86	125
	575	518	632	2	34.6	250	79	125
ESEW-060S & ESER-060S	208	187	253	2	109.6	599	248	400
	230	187	253	2	109.6	599	248	400
	460	414	508	2	54.5	310	124	200
	575	518	632	2	49.4	239	112	175
ESEW-080S & ESER-080S	208	187	253	2	N/A	N/A	N/A	N/A
	230	187	253	2	N/A	N/A	N/A	N/A
	460	414	508	2	73.0	368	165	250
	575	518	632	2	N/A	N/A	N/A	N/A

¹RLA is Rated Load Amps.

²LRA is Locked Rotor Amps.

³MCA is Minimum Circuit Amps (for wire sizing), complies with NEC, Section 430-24.

⁴MOPD is Maximum Overcurrent Protection Device, complies with NEC, Section 430-53.



Table 6 – ESEW & ESER Single-Circuit Chiller with Standard Flow Reservoir Option Electrical Data (60 Hz)

Model	Main Power (3-phase, 60 Hz)			Compressors			Pumps				Chiller	
	Rated	Allowable		Qty	RLA ¹ (ea)	LRA ² (ea)	Process Pump		Chiller Pump		MCA ⁴	MOPD ⁵
		Min	Max				Qty	FLA ³	Qty	FLA ³		
ESEW-010S & ESER-010S	208	187	253	2	19.0	123	1	16.6	1	5.3	65	80
	230	187	253	2	19.0	123	1	15.0	1	4.8	63	80
	460	414	508	2	9.7	62	1	7.5	1	2.4	32	40
	575	518	632	2	7.4	50	1	6.0	1	1.9	25	30
ESEW-015S & ESER-015S	208	187	253	2	29.5	195	1	16.6	1	5.3	88	110
	230	187	253	2	29.5	195	1	15.0	1	4.8	86	110
	460	414	508	2	14.7	95	1	7.5	1	2.4	43	50
	575	518	632	2	12.2	80	1	6.0	1	1.9	35	45
ESEW-020S & ESER-020S	208	187	253	2	33.3	239	1	16.6	1	5.3	97	125
	230	187	253	2	33.3	239	1	15.0	1	4.8	95	125
	460	414	508	2	17.9	125	1	7.5	1	2.4	50	60
	575	518	632	2	12.8	80	1	6.0	1	1.9	37	50
ESEW-025S & ESER-025S	208	187	253	2	51.3	300	1	16.6	1	5.3	137	175
	230	187	253	2	51.3	300	1	15.0	1	4.8	135	175
	460	414	508	2	23.1	150	1	7.5	1	2.4	62	80
	575	518	632	2	19.9	109	1	6.0	1	1.9	53	70
ESEW-030S & ESER-030S	208	187	253	2	55.8	340	1	24.3	1	6.6	157	200
	230	187	253	2	55.8	340	1	22.0	1	6.0	154	200
	460	414	508	2	26.9	173	1	11.0	1	3.0	75	100
	575	518	632	2	23.7	132	1	8.8	1	2.4	65	80
ESEW-040S & ESER-040S	208	187	253	2	72.4	538	1	31.0	1	6.6	200	250
	230	187	253	2	72.4	538	1	28.0	1	6.0	197	250
	460	414	508	2	30.8	229	1	14.0	1	3.0	86	110
	575	518	632	2	25.0	180	1	11.2	1	2.4	70	90
ESEW-050S & ESER-050S	208	187	253	2	85.3	605	1	31.0	1	10.0	233	300
	230	187	253	2	85.3	605	1	28.0	1	9.0	229	300
	460	414	508	2	37.8	320	1	14.0	1	4.5	104	125
	575	518	632	2	34.6	250	1	11.2	1	3.6	93	125
ESEW-060S & ESER-060S	208	187	253	2	109.6	599	1	31.0	1	10.0	288	350
	230	187	253	2	109.6	599	1	28.0	1	9.0	284	350
	460	414	508	2	54.5	310	1	14.0	1	4.5	141	175
	575	518	632	2	49.4	239	1	11.2	1	3.6	126	175
ESEW-080S & ESER-080S	208	187	253	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	230	187	253	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	460	414	508	2	73.0	368	1	19.0	1	4.5	188	250
	575	518	632	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

¹RLA is Rated Load Amps.

²LRA is Locked Rotor Amps.

³FLA is Full Load Amps.

⁴MCA is Minimum Circuit Amps (for wire sizing), complies with NEC, Section 430-24.

⁵MOPD is Maximum Overcurrent Protection Device, complies with NEC, Section 430-53.



Table 7 – ESEW & ESER Single-Circuit Chiller w/High Process Flow Reservoir Option Electrical Data (60 Hz)

Model	Main Power (3-phase, 60 Hz)			Compressors			Pumps				Chiller	
	Rated	Allowable Min Max		Qty	RLA ¹ (ea)	LRA ² (ea)	Process Pump Qty FLA ³		Chiller Pump Qty FLA ³		MCA ⁴	MOPD ⁵
ESEW-010S & ESER-010S	208	187	253	2	19.0	123	1	16.6	1	5.3	65	80
	230	187	253	2	19.0	123	1	15.0	1	4.8	63	80
	460	414	508	2	9.7	62	1	7.5	1	2.4	32	40
	575	518	632	2	7.4	50	1	6.0	1	1.9	25	30
ESEW-015S & ESER-015S	208	187	253	2	29.5	195	1	24.3	1	5.3	96	125
	230	187	253	2	29.5	195	1	22.0	1	4.8	93	110
	460	414	508	2	14.7	95	1	11.0	1	2.4	46	60
	575	518	632	2	12.2	80	1	8.8	1	1.9	38	50
ESEW-020S & ESER-020S	208	187	253	2	33.3	239	1	31.0	1	5.3	111	125
	230	187	253	2	33.3	239	1	28.0	1	4.8	108	125
	460	414	508	2	17.9	125	1	14.0	1	2.4	57	70
	575	518	632	2	12.8	80	1	11.2	1	1.9	42	50
ESEW-025S & ESER-025S	208	187	253	2	51.3	300	1	31.0	1	5.3	152	200
	230	187	253	2	51.3	300	1	28.0	1	4.8	148	200
	460	414	508	2	23.1	150	1	14.0	1	2.4	68	90
	575	518	632	2	19.9	109	1	11.2	1	1.9	58	70
ESEW-030S & ESER-030S	208	187	253	2	55.8	340	1	31.0	1	6.6	163	200
	230	187	253	2	55.8	340	1	28.0	1	6.0	160	200
	460	414	508	2	26.9	173	1	14.0	1	3.0	78	100
	575	518	632	2	23.7	132	1	11.2	1	2.4	67	90
ESEW-040S & ESER-040S	208	187	253	2	72.4	538	1	42.0	1	6.6	212	250
	230	187	253	2	72.4	538	1	38.0	1	6.0	207	250
	460	414	508	2	30.8	229	1	19.0	1	3.0	91	110
	575	518	632	2	25.0	180	1	15.2	1	2.4	74	90
ESEW-050S & ESER-050S	208	187	253	2	85.3	605	1	42.0	1	10.0	244	300
	230	187	253	2	85.3	605	1	38.0	1	9.0	239	300
	460	414	508	2	37.8	320	1	19.0	1	4.5	109	125
	575	518	632	2	34.6	250	1	15.2	1	3.6	97	125
ESEW-060S & ESER-060S	208	187	253	2	109.6	599	1	57.5	1	10.0	314	400
	230	187	253	2	109.6	599	1	52.0	1	9.0	308	400
	460	414	508	2	54.5	310	1	26.0	1	4.5	153	200
	575	518	632	2	49.4	239	1	20.8	1	3.6	136	175
ESEW-080S & ESER-080S	208	187	253	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	230	187	253	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	460	414	508	2	73.0	368	1	32.0	1	4.5	201	250
	575	518	632	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

¹RLA is Rated Load Amps.

²LRA is Locked Rotor Amps.

³FLA is Full Load Amps.

⁴MCA is Minimum Circuit Amps (for wire sizing), complies with NEC, Section 430-24.

⁵MOPD is Maximum Overcurrent Protection Device, complies with NEC, Section 430-53.



Table 8 – ESEW & ESER Dual-Circuit Chiller Electrical Data (60 Hz)

Model	Main Power (3-phase, 60 Hz)			Compressors			Chiller	
	Rated	Allowable		Qty	RLA ¹ (each)	LRA ² (each)	MCA ³	MOPD ⁴
Min		Max						
ESEW-020D & ESER-020D	208	187	253	4	19.0	123	81	100
	230	187	253	4	19.0	123	81	100
	460	414	508	4	9.7	62	42	50
	575	518	632	4	7.4	50	32	35
ESEW-030D & ESER-030D	208	187	253	4	29.5	195	126	150
	230	187	253	4	29.5	195	126	150
	460	414	508	4	14.7	95	63	70
	575	518	632	4	12.2	80	52	60
ESEW-040D & ESER-040D	208	187	253	4	33.3	239	142	175
	230	187	253	4	33.3	239	142	175
	460	414	508	4	17.9	125	76	90
	575	518	632	4	12.8	80	55	60
ESEW-050D & ESER-050D	208	187	253	4	51.3	300	219	250
	230	187	253	4	51.3	300	219	250
	460	414	508	4	23.1	150	99	110
	575	518	632	4	19.9	109	85	100
ESEW-060D & ESER-060D	208	187	253	4	55.8	340	238	250
	230	187	253	4	55.8	340	238	250
	460	414	508	4	26.9	173	115	125
	575	518	632	4	23.7	132	101	110
ESEW-080D & ESER-080D	208	187	253	4	72.4	538	308	350
	230	187	253	4	72.4	538	308	350
	460	414	508	4	30.8	229	131	150
	575	518	632	4	25.0	180	107	125
ESEW-0100D & ESER-0100D	208	187	253	4	85.3	605	363	400
	230	187	253	4	85.3	605	363	400
	460	414	508	4	37.8	320	161	175
	575	518	632	4	34.6	250	148	175
ESEW-0120D & ESER-0120D	208	187	253	4	109.6	599	466	500
	230	187	253	4	109.6	599	466	500
	460	414	508	4	54.5	310	232	250
	575	518	632	4	49.4	239	210	250
ESEW-0160D & ESER-0160D	208	187	253	4	N/A	N/A	N/A	N/A
	230	187	253	4	N/A	N/A	N/A	N/A
	460	414	508	4	73.0	368	311	350
	575	518	632	4	N/A	N/A	N/A	N/A

¹RLA is Rated Load Amps.

²LRA is Locked Rotor Amps.

³MCA is Minimum Circuit Amps (for wire sizing), complies with NEC, Section 430-24.

⁴MOPD is Maximum Overcurrent Protection Device, complies with NEC, Section 430-53.



Table 9 – ESEW & ESER Dual-Circuit Chiller with Standard Flow Reservoir Option Electrical Data (60 Hz)

Model	Main Power (3-phase, 60 Hz)			Compressors			Pumps				Chiller	
	Rated	Allowable Min Max		Qty	RLA ¹ (ea)	LRA ² (ea)	Process Pump Qty FLA ³		Chiller Pump Qty FLA ³		MCA ⁴	MOPD ⁵
ESEW-020D & ESER-020D	208	187	253	4	19.0	123	1	16.6	1	5.3	103	110
	230	187	253	4	19.0	123	1	15.0	1	4.8	101	110
	460	414	508	4	9.7	62	1	7.5	1	2.4	51	60
	575	518	632	4	7.4	50	1	6.1	1	2.4	40	45
ESEW-030D & ESER-030D	208	187	253	4	29.5	195	1	24.3	1	6.6	156	175
	230	187	253	4	29.5	195	1	22.0	1	6.0	153	175
	460	414	508	4	14.7	95	1	11.0	1	3.0	76	90
	575	518	632	4	12.2	80	1	9.0	1	2.7	64	70
ESEW-040D & ESER-040D	208	187	253	4	33.3	239	1	31.0	1	6.6	179	200
	230	187	253	4	33.3	239	1	28.0	1	6.0	176	200
	460	414	508	4	17.9	125	1	14.0	1	3.0	93	110
	575	518	632	4	12.8	80	1	11.0	1	2.7	68	80
ESEW-050D & ESER-050D	208	187	253	4	51.3	300	1	31.0	1	10.0	259	300
	230	187	253	4	51.3	300	1	28.0	1	9.0	255	300
	460	414	508	4	23.1	150	1	14.0	1	4.5	117	125
	575	518	632	4	19.9	109	1	11.0	1	3.9	99	110
ESEW-060D & ESER-060D	208	187	253	4	55.8	340	1	31.0	1	10.0	278	300
	230	187	253	4	55.8	340	1	28.0	1	9.0	274	300
	460	414	508	4	26.9	173	1	14.0	1	4.5	133	150
	575	518	632	4	23.7	132	1	11.0	1	4.5	116	125
ESEW-080D & ESER-080D	208	187	253	4	72.4	538	1	42.0	1	10.0	360	400
	230	187	253	4	72.4	538	1	38.0	1	9.0	355	400
	460	414	508	4	30.8	229	1	19.0	1	4.5	154	175
	575	518	632	4	25.0	180	1	17.0	1	3.9	127	150
ESEW-0100D & ESER-0100D	208	187	253	4	85.3	605	1	42.0	1	16.6	421	500
	230	187	253	4	85.3	605	1	38.0	1	15.0	416	500
	460	414	508	4	37.8	320	1	19.0	1	7.5	187	225
	575	518	632	4	34.6	250	1	17.0	1	6.1	170	200
ESEW-0120D & ESER-0120D	208	187	253	4	109.6	599	1	57.5	1	24.3	548	600
	230	187	253	4	109.6	599	1	52.0	1	22.0	540	600
	460	414	508	4	54.5	310	1	26.0	1	11.0	269	300
	575	518	632	4	49.4	239	1	22.0	1	6.1	238	250
ESEW-0160D & ESER-0160D	208	187	253	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	230	187	253	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	460	414	508	4	73.0	368	1	32.0	1	14.0	356	400
	575	518	632	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

¹RLA is Rated Load Amps.

²LRA is Locked Rotor Amps.

³FLA is Full Load Amps.

⁴MCA is Minimum Circuit Amps (for wire sizing), complies with NEC, Section 430-24.

⁵MOPD is Maximum Overcurrent Protection Device, complies with NEC, Section 430-53.



Table 10 – ESEW & ESER Dual-Circuit Chiller w/High Process Flow Reservoir Option Electrical Data (60 Hz)

Model	Main Power (3-phase, 60 Hz)			Compressors			Pumps				Chiller	
	Rated	Allowable Min Max		Qty	RLA ¹ (ea)	LRA ² (ea)	Process Pump Qty FLA ³		Chiller Pump Qty FLA ³		MCA ⁴	MOPD ⁵
ESEW-020D & ESER-020D	208	187	253	4	19.0	123	1	31.0	1	5.3	120	125
	230	187	253	4	19.0	123	1	28.0	1	4.8	116	125
	460	414	508	4	9.7	62	1	14.0	1	2.4	59	60
	575	518	632	4	7.4	50	1	6.1	1	2.4	40	45
ESEW-030D & ESER-030D	208	187	253	4	29.5	195	1	31.0	1	6.6	163	175
	230	187	253	4	29.5	195	1	28.0	1	6.0	159	175
	460	414	508	4	14.7	95	1	14.0	1	3.0	79	90
	575	518	632	4	12.2	80	1	9.0	1	2.7	64	70
ESEW-040D & ESER-040D	208	187	253	4	33.3	239	1	42.0	1	6.6	192	200
	230	187	253	4	33.3	239	1	38.0	1	6.0	187	200
	460	414	508	4	17.9	125	1	19.0	1	3.0	98	110
	575	518	632	4	12.8	80	1	11.0	1	2.7	68	80
ESEW-050D & ESER-050D	208	187	253	4	51.3	300	1	42.0	1	10.0	270	300
	230	187	253	4	51.3	300	1	38.0	1	9.0	265	300
	460	414	508	4	23.1	150	1	19.0	1	4.5	122	125
	575	518	632	4	19.9	109	1	11.0	1	3.9	99	110
ESEW-060D & ESER-060D	208	187	253	4	55.8	340	1	57.5	1	10.0	305	350
	230	187	253	4	55.8	340	1	52.0	1	9.0	298	350
	460	414	508	4	26.9	173	1	26.0	1	4.5	145	150
	575	518	632	4	23.7	132	1	11.0	1	4.5	116	125
ESEW-080D & ESER-080D	208	187	253	4	72.4	538	1	70.8	1	10.0	388	450
	230	187	253	4	72.4	538	1	64.0	1	9.0	381	450
	460	414	508	4	30.8	229	1	32.0	1	4.5	168	175
	575	518	632	4	25.0	180	1	17.0	1	3.9	127	150
ESEW-0100D & ESER-0100D	208	187	253	4	85.3	605	1	86.3	1	16.6	466	500
	230	187	253	4	85.3	605	1	78.0	1	15.0	456	500
	460	414	508	4	37.8	320	1	39.0	1	7.5	207	225
	575	518	632	4	34.6	250	1	17.0	1	6.1	170	200
ESEW-0120D & ESER-0120D	208	187	253	4	109.6	599	1	112.8	1	24.3	604	600
	230	187	253	4	109.6	599	1	102.0	1	22.0	590	600
	460	414	508	4	54.5	310	1	51.0	1	11.0	294	300
	575	518	632	4	49.4	239	1	22.0	1	6.1	238	250
ESEW-0160D & ESER-0160D	208	187	253	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	230	187	253	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	460	414	508	4	73.0	368	1	51.0	1	14.0	375	400
	575	518	632	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

¹RLA is Rated Load Amps.

²LRA is Locked Rotor Amps.

³FLA is Full Load Amps.

⁴MCA is Minimum Circuit Amps (for wire sizing), complies with NEC, Section 430-24.

⁵MOPD is Maximum Overcurrent Protection Device, complies with NEC, Section 430-53.



Table 11 – Single-Circuit Remote Condenser Electrical Data (60 Hz)

Model	Main Power (3-phase, 60 Hz)			Variable-Speed Fan (1-phase)			Constant Speed Fans (3-phase)			Total FLA ²	MCA ³	MOPD ⁴
	Rated	Allowable		Qty	Motor (hp)	FLA ¹ Each	Qty	Motor (hp)	FLA ¹ Each			
		Min	Max									
KCM014	208	187	253	1	½	3.6	1	¾	2.3	4.6	5.2	15
	230	187	253	1	½	3.6	1	¾	2.3	4.6	5.2	15
	460	414	508	1	½	1.7	1	¾	1.2	2.3	2.6	15
	575	518	632	1	½	1.4	1	¾	0.9	1.8	2.0	15
KCL023	208	187	253	1	½	3.6	1	2	6.6	13.2	16.0	20
	230	187	253	1	½	3.6	1	2	6.6	13.2	16.0	20
	460	414	508	1	½	1.7	1	2	3.1	6.2	7.0	15
	575	518	632	1	½	1.4	1	2	2.5	5.0	5.6	15
KCL030	208	187	253	1	½	3.6	1	2	6.6	13.2	16.0	20
	230	187	253	1	½	3.6	1	2	6.6	13.2	16.0	20
	460	414	508	1	½	1.7	1	2	3.1	6.2	7.0	15
	575	518	632	1	½	1.4	1	2	2.5	5.0	5.6	15
KCL037	208	187	253	1	½	3.6	1	2	6.6	13.2	16.0	20
	230	187	253	1	½	3.6	1	2	6.6	13.2	16.0	20
	460	414	508	1	½	1.7	1	2	3.1	6.2	7.0	15
	575	518	632	1	½	1.4	1	2	2.5	5.0	5.6	15
KCL045	208	187	253	1	½	3.6	2	2	6.6	19.8	21.5	25
	230	187	253	1	½	3.6	2	2	6.6	19.8	21.5	25
	460	414	508	1	½	1.7	2	2	3.1	9.3	10.1	15
	575	518	632	1	½	1.4	2	2	2.5	7.5	8.1	15
KCL056	208	187	253	1	½	3.6	2	2	6.6	19.8	21.5	25
	230	187	253	1	½	3.6	2	2	6.6	19.8	21.5	25
	460	414	508	1	½	1.7	2	2	3.1	9.3	10.1	15
	575	518	632	1	½	1.4	2	2	2.5	7.5	8.1	15
KCL068	208	187	253	1	½	3.6	3	2	6.6	26.4	31.0	35
	230	187	253	1	½	3.6	3	2	6.6	26.4	31.0	35
	460	414	508	1	½	1.7	3	2	3.1	12.4	16.0	20
	575	518	632	1	½	1.4	3	2	2.5	10.0	10.6	15
KCL095	208	187	253	1	½	3.6	4	2	6.6	33.0	41.0	45
	230	187	253	1	½	3.6	4	2	6.6	33.0	41.0	45
	460	414	508	1	½	1.7	4	2	3.1	15.5	16.0	20
	575	518	632	1	½	1.4	4	2	2.5	12.5	16.0	20
KCL110	208	187	253	1	½	3.6	5	2	6.6	39.6	46.0	50
	230	187	253	1	½	3.6	5	2	6.6	39.6	46.0	50
	460	414	508	1	½	1.7	5	2	3.1	18.6	21.0	25
	575	518	632	1	½	1.4	5	2	2.5	15.0	16.0	20

¹FLA is Full Load Amps.

²Total FLA as provided by the remote condenser manufacturer.

³MCA is Minimum Circuit Amps (for wire sizing) as provided by the remote condenser manufacturer.

⁴MOPD is Maximum Overcurrent Protection Device as provided by the remote condenser manufacturer.



Table 12 – Dual-Circuit Remote Condenser Electrical Data (60 Hz)

Model	Main Power (3-phase, 60 Hz)			Variable-Speed Fan (1-phase)			Constant Speed Fans (3-phase)			Total FLA ²	MCA ³	MOPD ⁴
	Rated	Allowable		Qty	Motor (hp)	FLA ¹ Each	Qty	Motor (hp)	FLA ¹ Each			
		Min	Max									
KCM034	208	187	253	2	½	3.6	2	¾	2.3	9.2	9.8	15
	230	187	253	2	½	3.6	2	¾	2.3	9.2	9.8	15
	460	414	508	2	½	1.7	2	¾	1.2	4.6	4.9	15
	575	518	632	2	½	1.4	2	¾	0.9	3.6	3.8	15
KCL047	208	187	253	2	½	3.6	2	2	6.6	26.4	31.0	35
	230	187	253	2	½	3.6	2	2	6.6	26.4	31.0	35
	460	414	508	2	½	1.7	2	2	3.1	12.4	16.0	20
	575	518	632	2	½	1.4	2	2	2.5	10.0	10.6	15
KCL060	208	187	253	2	½	3.6	2	2	6.6	26.4	31.0	35
	230	187	253	2	½	3.6	2	2	6.6	26.4	31.0	35
	460	414	508	2	½	1.7	2	2	3.1	12.4	16.0	20
	575	518	632	2	½	1.4	2	2	2.5	10.0	10.6	15
KCL074	208	187	253	2	½	3.6	2	2	6.6	26.4	31.0	35
	230	187	253	2	½	3.6	2	2	6.6	26.4	31.0	35
	460	414	508	2	½	1.7	2	2	3.1	12.4	16.0	20
	575	518	632	2	½	1.4	2	2	2.5	10.0	10.6	15
KCL090	208	187	253	2	½	3.6	4	2	6.6	39.6	46.0	50
	230	187	253	2	½	3.6	4	2	6.6	39.6	46.0	50
	460	414	508	2	½	1.7	4	2	3.1	18.6	21.0	25
	575	518	632	2	½	1.4	4	2	2.5	15.0	16.0	20
KCL112	208	187	253	2	½	3.6	4	2	6.6	39.6	46.0	50
	230	187	253	2	½	3.6	4	2	6.6	39.6	46.0	50
	460	414	508	2	½	1.7	4	2	3.1	18.6	21.0	25
	575	518	632	2	½	1.4	4	2	2.5	15.0	16.0	20
KCL137	208	187	253	2	½	3.6	6	2	6.6	52.8	61.0	70
	230	187	253	2	½	3.6	6	2	6.6	52.8	61.0	70
	460	414	508	2	½	1.7	6	2	3.1	24.8	31.0	35
	575	518	632	2	½	1.4	6	2	2.5	20.0	21.0	25
KCL190	208	187	253	2	½	3.6	8	2	6.6	66.0	81.0	90
	230	187	253	2	½	3.6	8	2	6.6	66.0	81.0	90
	460	414	508	2	½	1.7	8	2	3.1	31.0	36.0	40
	575	518	632	2	½	1.4	8	2	2.5	25.0	31.0	35
KCL224	208	187	253	2	½	3.6	10	2	6.6	79.2	91.0	100
	230	187	253	2	½	3.6	10	2	6.6	79.2	91.0	100
	460	414	508	2	½	1.7	10	2	3.1	37.2	46.0	50
	575	518	632	2	½	1.4	10	2	2.5	30.0	36.0	40

¹FLA is Full Load Amps.

²Total FLA as provided by the remote condenser manufacturer.

³MCA is Minimum Circuit Amps (for wire sizing) as provided by the remote condenser manufacturer.

⁴MOPD is Maximum Overcurrent Protection Device as provided by the remote condenser manufacturer.



Performance Data

Table 13 – ESEW Series Water Cooled Condenser Chiller Performance Data (60 Hz)

Leaving Coolant Temp	Model	Entering Condenser Water Temperature											
		80°F			85°F			90°F			95°F		
		Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)
20°F	ESEW-010S	6.1	8.3	16.9	5.8	8.7	16.2	5.5	9.2	15.5	5.3	9.9	14.7
	ESEW-015S	9.2	11.3	25.7	8.9	11.9	24.9	8.7	12.8	24.1	8.4	13.6	23.3
	ESEW-020S	12.7	14.6	35.4	12.2	15.6	34.0	11.7	16.7	32.5	11.1	17.9	31.1
	ESEW-025S	15.8	18.7	44.0	15.3	19.7	42.7	14.8	20.9	41.4	14.3	22.2	40.0
	ESEW-030S	18.7	21.7	52.3	18.2	23.1	50.7	17.6	24.4	49.0	17.0	26.0	47.4
	ESEW-040S	24.4	29.2	68.0	23.7	30.9	66.0	22.9	32.7	64.0	22.2	34.7	61.9
	ESEW-050S	30.4	36.2	84.8	29.4	38.4	82.2	28.5	41.1	79.4	27.4	43.6	76.6
	ESEW-060S	39.3	46.5	109.6	38.1	49.3	106.3	36.9	52.4	102.8	35.6	55.6	99.2
	ESEW-080S	49.6	58.3	138.3	47.9	61.3	133.7	46.3	64.7	129.1	44.6	68.3	124.5
	ESEW-020D	12.1	16.6	33.8	11.6	17.6	32.4	11.1	18.8	30.9	10.5	19.9	29.4
	ESEW-030D	18.4	22.7	51.4	17.9	24.2	49.8	17.3	25.6	48.3	16.7	27.2	46.7
	ESEW-040D	25.4	29.3	70.9	24.4	31.3	68.0	23.3	33.5	65.1	22.3	36.2	62.2
	ESEW-050D	31.5	37.3	88.0	30.6	39.6	85.4	29.6	42.0	82.7	28.7	44.8	80.0
	ESEW-060D	37.5	43.7	104.5	36.3	46.2	101.4	35.2	49.1	98.1	34.0	52.1	94.7
	ESEW-080D	48.7	58.3	135.9	47.3	61.8	132.0	45.9	65.7	128.0	44.4	69.6	123.8
	ESEW-0100D	60.8	72.6	169.6	58.9	77.2	164.3	56.9	82.1	158.8	54.9	87.7	153.1
ESEW-0120D	78.6	93.2	219.2	76.2	98.7	212.6	73.7	104.7	205.6	71.1	111.2	198.4	
ESEW-0160D	99.1	116.5	276.6	95.9	122.9	267.4	92.6	129.6	258.2	89.3	136.9	249.1	
25°F	ESEW-010S	6.8	8.2	18.4	6.5	8.7	17.7	6.3	9.3	17.0	6.0	9.9	16.2
	ESEW-015S	10.2	11.4	27.7	9.9	12.0	26.9	9.6	12.8	26.0	9.3	13.6	25.2
	ESEW-020S	14.1	14.6	38.3	13.6	15.6	36.9	13.1	16.8	35.4	12.5	17.9	33.9
	ESEW-025S	17.5	18.9	47.3	17.0	20.0	46.0	16.5	21.2	44.6	15.9	22.4	43.1
	ESEW-030S	20.8	22.0	56.4	20.2	23.3	54.7	19.6	24.7	53.0	18.9	26.1	51.2
	ESEW-040S	27.0	29.3	73.2	26.2	31.0	71.1	25.4	32.9	69.0	24.6	34.9	66.8
	ESEW-050S	33.8	36.4	91.6	32.8	38.7	88.9	31.7	41.1	86.0	30.6	43.7	83.1
	ESEW-060S	43.6	46.9	118.4	42.4	49.8	114.9	41.0	52.7	111.3	39.7	56.0	107.5
	ESEW-080S	54.9	59.3	148.8	53.1	62.4	144.0	51.3	65.8	139.1	49.5	69.4	134.3
	ESEW-020D	13.6	16.6	36.8	13.1	17.6	35.5	12.5	18.6	34.0	12.0	19.9	32.4
	ESEW-030D	20.4	22.9	55.3	19.8	24.2	53.7	19.2	25.7	52.1	18.6	27.4	50.4
	ESEW-040D	28.3	29.5	76.7	27.2	31.4	73.8	26.1	33.5	70.8	25.0	36.0	67.8
	ESEW-050D	34.9	37.7	94.7	33.9	40.0	92.0	32.9	42.5	89.2	31.8	45.0	86.3
	ESEW-060D	41.6	44.1	112.7	40.4	46.7	109.5	39.1	49.4	106.0	37.8	52.4	102.4
	ESEW-080D	54.0	58.8	146.3	52.4	62.2	142.2	50.9	66.0	138.0	49.3	70.1	133.6
	ESEW-0100D	67.6	73.0	183.2	65.6	77.5	177.7	63.5	82.5	172.1	61.3	87.8	166.2
ESEW-0120D	87.3	94.1	236.7	84.8	99.7	229.8	82.1	105.6	222.6	79.3	112.0	215.1	
ESEW-0160D	109.7	118.7	297.6	106.2	125.0	287.9	102.6	131.8	278.3	99.1	139.1	268.6	
30°F	ESEW-010S	7.6	8.2	20.0	7.3	8.7	19.3	7.0	9.2	18.5	6.7	9.7	17.8
	ESEW-015S	11.3	11.5	29.7	10.9	12.1	28.9	10.6	12.8	28.0	10.3	13.7	27.2
	ESEW-020S	15.7	14.8	41.4	15.1	15.7	39.9	14.6	16.8	38.4	14.0	18.0	36.9
	ESEW-025S	19.3	19.0	50.9	18.7	20.1	49.5	18.2	21.4	48.0	17.6	22.6	46.5
	ESEW-030S	23.0	22.2	60.7	22.3	23.4	59.0	21.7	24.9	57.2	20.9	26.2	55.3
	ESEW-040S	29.8	29.5	78.6	29.0	31.3	76.5	28.1	33.1	74.3	27.3	35.2	72.0
	ESEW-050S	37.4	36.6	98.8	36.3	38.8	95.9	35.2	41.3	93.0	34.1	44.0	89.9
	ESEW-060S	48.3	47.5	127.6	47.0	50.3	123.9	45.5	53.2	120.2	44.0	56.3	116.2
	ESEW-080S	60.6	60.3	160.0	58.7	63.5	154.9	56.8	66.9	149.8	54.8	70.4	144.7
	ESEW-020D	15.1	16.5	39.9	14.6	17.5	38.5	14.0	18.5	37.1	13.5	19.8	35.5
	ESEW-030D	22.5	23.0	59.5	21.9	24.4	57.8	21.2	25.8	56.1	20.6	27.5	54.3
	ESEW-040D	31.3	29.7	82.7	30.2	31.5	79.8	29.1	33.7	76.8	27.9	36.0	73.8
	ESEW-050D	38.5	38.1	101.8	37.5	40.4	98.9	36.4	42.9	96.0	35.2	45.4	93.0
	ESEW-060D	46.0	44.6	121.4	44.7	47.1	117.9	43.3	49.8	114.4	41.9	52.8	110.6
	ESEW-080D	59.6	59.2	157.3	58.0	62.7	153.0	56.3	66.5	148.5	54.5	70.4	144.0
	ESEW-0100D	74.8	73.4	197.6	72.7	77.9	191.9	70.5	82.8	186.0	68.1	88.0	179.8
ESEW-0120D	96.7	95.2	255.1	93.9	100.6	247.9	91.1	106.6	240.3	88.1	113.0	232.5	
ESEW-0160D	121.2	120.7	320.0	117.4	127.0	309.8	113.5	133.8	299.7	109.7	141.1	289.5	

¹Cap = Capacity in tons of refrigeration based on a coolant temperature rise of 10°F, a cooler fouling factor of 0.0001 ft² • hr • °F/Btu, condenser fouling factor of 0.00025 ft² • hr • °F/Btu, the use of an appropriate ethylene glycol solution where needed, and R410A refrigerant.
²kW = Total compressor input power at rated voltage.



Table 13 – ESEW Series Water Cooled Condenser Chiller Performance Data (60 Hz) – Continued

Leaving Coolant Temp	Model	Entering Condenser Water Temperature											
		80°F			85°F			90°F			95°F		
		Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)
35°F	ESEW-010S	8.4	8.2	21.5	8.1	8.6	20.9	7.8	9.1	20.1	7.5	9.7	19.3
	ESEW-015S	12.4	11.5	32.0	12.1	12.2	31.1	11.7	12.9	30.2	11.4	13.8	29.2
	ESEW-020S	17.3	14.9	44.5	16.7	15.8	43.0	16.1	16.8	41.5	15.5	17.9	40.0
	ESEW-025S	21.2	19.2	54.6	20.6	20.3	53.1	20.0	21.5	51.6	19.4	22.8	50.0
	ESEW-030S	25.3	22.4	65.2	24.6	23.7	63.4	23.9	25.0	61.5	23.2	26.6	59.6
	ESEW-040S	32.8	29.8	84.4	31.9	31.5	82.2	31.0	33.3	79.8	30.1	35.4	77.4
	ESEW-050S	41.3	37.0	106.3	40.2	39.2	103.3	39.0	41.6	100.3	37.7	44.1	97.1
	ESEW-060S	53.3	48.1	137.2	51.9	50.9	133.4	50.3	53.7	129.4	48.7	56.9	125.3
	ESEW-080S	66.8	61.2	172.0	64.8	64.5	166.6	62.7	67.8	161.2	60.6	71.4	155.9
	ESEW-020D	16.7	16.3	43.1	16.2	17.4	41.7	15.6	18.4	40.3	15.0	19.5	38.7
	ESEW-030D	24.8	23.1	63.9	24.1	24.5	62.1	23.4	26.0	60.3	22.7	27.6	58.4
	ESEW-040D	34.6	30.0	89.0	33.5	31.8	86.1	32.3	33.8	83.1	31.1	36.2	79.9
	ESEW-050D	42.5	38.6	109.2	41.3	40.8	106.2	40.1	43.3	103.2	38.9	45.9	100.0
	ESEW-060D	50.7	45.1	130.4	49.3	47.5	126.8	47.8	50.2	123.1	46.3	53.2	119.1
	ESEW-080D	65.6	59.6	168.8	63.9	63.2	164.3	62.0	66.8	159.6	60.2	70.9	154.8
ESEW-0100D	82.6	74.1	212.6	80.3	78.4	206.6	77.9	83.1	200.5	75.5	88.4	194.1	
ESEW-0120D	106.7	96.3	274.5	103.7	101.7	266.8	100.6	107.6	258.9	97.4	114.0	250.6	
ESEW-0160D	133.7	122.7	343.9	129.5	128.9	333.2	125.3	135.6	322.5	121.2	143.0	311.7	
40°F	ESEW-010S	9.2	8.1	23.2	9.0	8.6	22.5	8.7	9.1	21.8	8.4	9.7	21.0
	ESEW-015S	13.7	11.6	34.3	13.3	12.3	33.4	12.9	13.0	32.4	12.5	13.8	31.4
	ESEW-020S	19.0	15.1	47.7	18.4	15.9	46.3	17.8	16.9	44.8	17.2	18.1	43.2
	ESEW-025S	23.3	19.4	58.6	22.7	20.6	57.0	22.0	21.7	55.4	21.4	23.1	53.7
	ESEW-030S	27.9	22.8	69.9	27.1	24.0	68.1	26.3	25.3	66.1	25.5	26.8	64.0
	ESEW-040S	36.0	30.0	90.5	35.1	31.8	88.1	34.1	33.6	85.7	33.1	35.6	83.1
	ESEW-050S	45.5	37.4	114.1	44.2	39.5	111.0	43.0	41.9	107.9	41.6	44.3	104.5
	ESEW-060S	58.7	48.8	147.4	57.1	51.5	143.3	55.4	54.3	139.1	53.7	57.5	134.8
	ESEW-080S	73.6	62.2	184.7	71.3	65.3	179.1	69.1	68.7	173.4	66.8	72.3	167.7
	ESEW-020D	18.5	16.3	46.4	17.9	17.3	45.0	17.3	18.3	43.5	16.7	19.4	42.0
	ESEW-030D	27.3	23.3	68.6	26.6	24.7	66.7	25.8	26.2	64.8	25.0	27.7	62.8
	ESEW-040D	38.0	30.2	95.4	36.9	32.0	92.6	35.6	33.9	89.5	34.4	36.3	86.3
	ESEW-050D	46.7	39.0	117.2	45.4	41.3	114.0	44.1	43.7	110.7	42.7	46.2	107.3
	ESEW-060D	55.7	45.6	139.9	54.2	48.1	136.1	52.6	50.7	132.2	51.0	53.7	128.1
	ESEW-080D	72.1	60.2	181.0	70.2	63.6	176.2	68.2	67.3	171.3	66.2	71.3	166.3
ESEW-0100D	90.9	74.9	228.3	88.4	79.1	222.1	85.9	83.7	215.7	83.3	88.9	209.1	
ESEW-0120D	117.4	97.6	294.7	114.2	103.0	286.6	110.8	108.8	278.3	107.3	115.1	269.6	
ESEW-0160D	147.1	124.5	369.4	142.6	130.7	358.1	138.1	137.4	346.8	133.6	144.7	335.5	
45°F	ESEW-010S	10.2	8.1	24.4	9.9	8.5	23.7	9.6	9.1	23.0	9.3	9.6	22.2
	ESEW-015S	15.0	11.7	36.1	14.6	12.4	35.1	14.2	13.1	34.1	13.8	13.9	33.0
	ESEW-020S	20.9	15.2	50.0	20.3	16.1	48.6	19.6	17.0	47.1	19.0	18.2	45.5
	ESEW-025S	25.6	19.7	61.5	24.9	20.8	59.8	24.2	22.0	58.1	23.5	23.3	56.4
	ESEW-030S	30.6	23.1	73.3	29.8	24.4	71.4	28.9	25.6	69.4	28.0	27.0	67.3
	ESEW-040S	39.6	30.4	94.9	38.5	32.0	92.5	37.5	33.9	89.9	36.4	35.9	87.3
	ESEW-050S	49.9	37.9	119.8	48.6	39.9	116.6	47.3	42.3	113.4	45.9	44.7	110.0
	ESEW-060S	64.5	49.5	154.7	62.7	52.1	150.5	60.9	55.0	146.1	59.0	58.1	141.6
	ESEW-080S	80.9	63.1	194.2	78.5	66.2	188.3	76.1	69.5	182.5	73.6	73.1	176.6
	ESEW-020D	20.4	16.2	48.9	19.8	17.2	47.5	19.2	18.2	46.0	18.5	19.3	44.4
	ESEW-030D	30.1	23.5	72.2	29.2	24.8	70.2	28.4	26.3	68.1	27.5	27.9	66.1
	ESEW-040D	41.7	30.5	100.0	40.5	32.2	97.2	39.3	34.2	94.2	38.0	36.5	91.1
	ESEW-050D	51.3	39.5	123.0	49.9	41.7	119.7	48.5	44.2	116.2	47.0	46.7	112.7
	ESEW-060D	61.1	46.3	146.6	59.5	48.7	142.8	57.9	51.4	138.8	56.1	54.3	134.6
	ESEW-080D	79.2	60.9	189.9	77.1	64.2	184.9	75.0	67.9	179.8	72.8	71.8	174.6
ESEW-0100D	99.9	76.0	239.6	97.2	80.0	233.3	94.5	84.5	226.8	91.7	89.5	220.0	
ESEW-0120D	129.0	99.1	309.4	125.5	104.4	301.0	121.8	110.1	292.3	118.1	116.5	283.2	
ESEW-0160D	161.9	126.4	388.3	157.0	132.5	376.6	152.1	139.1	364.9	147.2	146.2	353.2	

¹Cap = Capacity in tons of refrigeration based on a coolant temperature rise of 10°F, a cooler fouling factor of 0.0001 ft² • hr • °F/Btu, condenser fouling factor of 0.00025 ft² • hr • °F/Btu, the use of an appropriate ethylene glycol solution where needed, and R410A refrigerant.

²kW = Total compressor input power at rated voltage.



Table 13 – ESEW Series Water Cooled Condenser Chiller Performance Data (60 Hz) – Continued

Leaving Coolant Temp	Model	Entering Condenser Water Temperature											
		80°F			85°F			90°F			95°F		
		Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)
50°F	ESEW-010S	11.2	8.0	26.8	10.9	8.5	26.1	10.5	9.0	25.3	10.2	9.5	24.5
	ESEW-015S	16.5	11.8	39.5	16.0	12.5	38.4	15.5	13.2	37.3	15.1	14.0	36.2
	ESEW-020S	22.7	15.3	54.5	22.1	16.2	53.1	21.5	17.2	51.6	20.8	18.3	49.9
	ESEW-025S	28.0	19.9	67.3	27.3	21.1	65.4	26.5	22.3	63.6	25.7	23.6	61.6
	ESEW-030S	33.3	23.5	80.0	32.5	24.7	78.0	31.6	26.0	75.8	30.6	27.4	73.6
	ESEW-040S	43.2	30.7	103.7	42.1	32.4	101.0	41.0	34.2	98.3	39.8	36.2	95.5
	ESEW-050S	54.5	38.5	130.8	53.1	40.5	127.5	51.7	42.7	124.0	50.2	45.2	120.4
	ESEW-060S	70.4	50.3	169.0	68.5	52.9	164.5	66.6	55.8	159.7	64.5	58.8	154.9
	ESEW-080S	88.6	64.0	212.6	86.0	67.1	206.4	83.4	70.3	200.1	80.7	73.8	193.7
	ESEW-020D	22.3	16.1	53.6	21.7	17.1	52.1	21.1	18.1	50.6	20.4	19.2	48.9
	ESEW-030D	32.9	23.7	79.0	32.0	25.0	76.8	31.1	26.5	74.6	30.2	28.1	72.4
	ESEW-040D	45.5	30.8	109.1	44.3	32.5	106.2	43.0	34.5	103.1	41.6	36.6	99.8
	ESEW-050D	56.0	40.0	134.5	54.5	42.2	130.8	53.0	44.6	127.1	51.4	47.2	123.3
	ESEW-060D	66.7	47.1	160.0	65.0	49.5	155.9	63.2	52.1	151.6	61.3	54.9	147.1
	ESEW-080D	86.4	61.5	207.4	84.2	64.9	202.1	81.9	68.5	196.6	79.6	72.4	191.0
ESEW-0100D	109.0	77.2	261.6	106.2	81.1	254.9	103.3	85.5	248.0	100.3	90.3	240.8	
ESEW-0120D	140.9	100.7	338.0	137.0	105.9	328.9	133.1	111.6	319.5	129.1	117.9	309.7	
ESEW-0160D	177.2	128.1	425.3	172.0	134.2	412.7	166.7	140.7	400.1	161.4	147.7	387.5	
55°F	ESEW-010S	12.2	8.0	29.3	11.9	8.4	28.5	11.5	8.9	27.7	11.2	9.5	26.8
	ESEW-015S	18.0	11.9	43.2	17.5	12.6	42.0	17.0	13.3	40.8	16.5	14.1	39.6
	ESEW-020S	24.7	15.5	59.3	24.1	16.3	57.8	23.4	17.3	56.2	22.7	18.4	54.5
	ESEW-025S	30.6	20.3	73.4	29.7	21.3	71.4	28.9	22.5	69.4	28.0	23.8	67.3
	ESEW-030S	36.3	24.0	87.1	35.4	25.2	84.9	34.4	26.4	82.6	33.4	27.8	80.2
	ESEW-040S	47.1	31.2	113.0	45.9	32.8	110.2	44.7	34.6	107.2	43.4	36.5	104.2
	ESEW-050S	59.3	39.3	142.4	57.9	41.2	138.9	56.3	43.3	135.2	54.7	45.7	131.4
	ESEW-060S	76.7	51.2	184.2	74.6	53.7	179.2	72.5	56.6	174.1	70.3	59.7	168.8
	ESEW-080S	96.8	64.9	232.5	94.0	67.9	225.7	91.2	71.1	218.9	88.3	74.5	212.1
	ESEW-020D	24.4	16.0	58.6	23.8	17.0	57.0	23.1	18.0	55.4	22.4	19.1	53.7
	ESEW-030D	36.0	23.9	86.4	35.0	25.2	84.0	34.0	26.7	81.6	33.0	28.2	79.2
	ESEW-040D	49.4	31.0	118.6	48.2	32.8	115.7	46.9	34.7	112.5	45.4	36.8	109.1
	ESEW-050D	61.2	40.6	146.8	59.5	42.8	142.8	57.8	45.2	138.7	56.0	47.6	134.6
	ESEW-060D	72.5	48.0	174.1	70.7	50.4	169.8	68.8	52.9	165.2	66.8	55.7	160.4
	ESEW-080D	94.2	62.4	226.1	91.8	65.7	220.3	89.3	69.2	214.4	86.8	73.1	208.4
ESEW-0100D	118.7	78.7	284.9	115.7	82.5	277.8	112.6	86.7	270.5	109.5	91.5	262.8	
ESEW-0120D	153.4	102.4	368.4	149.3	107.6	358.4	145.0	113.3	348.2	140.6	119.4	337.7	
ESEW-0160D	193.6	129.9	464.9	188.0	135.8	451.4	182.4	142.3	437.8	176.7	149.2	424.2	
60°F	ESEW-010S	13.3	7.9	32.0	13.0	8.4	31.1	12.6	8.8	30.3	12.2	9.3	29.4
	ESEW-015S	19.6	11.9	47.2	19.1	12.7	45.9	18.6	13.4	44.6	18.0	14.1	43.3
	ESEW-020S	26.8	15.6	64.3	26.1	16.4	62.8	25.5	17.5	61.2	24.7	18.5	59.4
	ESEW-025S	33.3	20.6	79.9	32.4	21.7	77.7	31.5	22.8	75.6	30.5	24.1	73.3
	ESEW-030S	39.3	24.5	94.5	38.4	25.7	92.2	37.4	27.0	89.7	36.3	28.3	87.2
	ESEW-040S	51.2	31.7	123.0	49.9	33.2	119.9	48.6	35.0	116.7	47.2	36.8	113.4
	ESEW-050S	64.4	40.2	154.7	62.8	42.0	150.9	61.2	44.1	147.0	59.5	46.4	143.0
	ESEW-060S	83.3	52.1	200.2	81.1	54.7	194.8	78.8	57.6	189.3	76.4	60.6	183.6
	ESEW-080S	105.4	65.7	253.2	102.6	68.7	246.4	99.6	71.9	239.1	96.5	75.3	231.8
	ESEW-020D	26.6	15.9	63.9	25.9	16.8	62.3	25.2	17.8	60.6	24.5	18.9	58.8
	ESEW-030D	39.3	24.0	94.3	38.2	25.4	91.7	37.1	26.8	89.1	36.0	28.4	86.5
	ESEW-040D	53.5	31.2	128.6	52.3	33.0	125.6	50.9	34.9	122.3	49.5	37.1	118.8
	ESEW-050D	66.5	41.2	159.7	64.7	43.3	155.5	62.9	45.7	151.2	61.0	48.2	146.6
	ESEW-060D	78.7	49.2	189.0	76.8	51.5	184.4	74.7	53.9	179.5	72.6	56.7	174.3
	ESEW-080D	102.4	63.4	245.9	99.8	66.5	239.7	97.2	70.0	233.4	94.5	73.9	226.8
ESEW-0100D	128.8	80.5	309.4	125.7	84.2	301.9	122.4	88.2	294.1	119.1	92.9	286.0	
ESEW-0120D	166.7	104.4	400.3	162.2	109.6	389.6	157.6	115.2	378.5	152.9	121.4	367.1	
ESEW-0160D	210.8	131.4	506.3	205.2	137.5	492.7	199.1	143.8	478.2	193.0	150.6	463.6	

¹Cap = Capacity in tons of refrigeration based on a coolant temperature rise of 10°F, a cooler fouling factor of 0.0001 ft² • hr • °F/Btu, condenser fouling factor of 0.00025 ft² • hr • °F/Btu, the use of an appropriate ethylene glycol solution where needed, and R410A refrigerant.

²kW = Total compressor input power at rated voltage.



Table 13 – ESEW Series Water Cooled Condenser Chiller Performance Data (60 Hz) – Continued

Leaving Coolant Temp	Model	Entering Condenser Water Temperature											
		80°F			85°F			90°F			95°F		
		Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)
65°F	ESEW-010S	14.5	7.8	34.8	14.1	8.3	34.0	13.8	8.8	33.0	13.4	9.3	32.1
	ESEW-015S	21.4	12.0	51.4	20.8	12.7	50.0	20.2	13.4	48.6	19.6	14.2	47.2
	ESEW-020S	28.9	15.7	69.5	28.3	16.6	68.0	27.6	17.6	66.3	26.8	18.6	64.5
	ESEW-025S	36.3	21.0	87.3	35.2	22.0	84.6	34.2	23.1	82.1	33.2	24.4	79.7
	ESEW-030S	42.6	25.2	102.3	41.6	26.3	99.8	40.5	27.6	97.2	39.3	28.8	94.5
	ESEW-040S	55.5	32.2	133.2	54.2	33.8	130.1	52.8	35.5	126.7	51.3	37.3	123.2
	ESEW-050S	69.7	41.2	167.6	68.1	43.0	163.6	66.4	45.0	159.4	64.6	47.3	155.1
	ESEW-060S	90.3	53.3	217.0	87.9	55.8	211.2	85.4	58.6	205.2	82.9	61.7	199.1
	ESEW-080S	115.1	66.8	276.6	111.6	69.4	268.1	108.4	72.6	260.3	105.2	76.0	252.8
	ESEW-020D	29.0	15.8	69.6	28.3	16.7	67.9	27.5	17.6	66.1	26.7	18.7	64.2
	ESEW-030D	42.8	24.2	102.8	41.6	25.5	100.0	40.5	27.0	97.2	39.3	28.6	94.3
	ESEW-040D	57.8	31.4	138.9	56.6	33.2	136.0	55.2	35.2	132.6	53.7	37.4	129.0
	ESEW-050D	72.7	42.2	174.6	70.4	44.1	169.2	68.3	46.3	164.2	66.4	48.9	159.4
	ESEW-060D	85.2	50.5	204.6	83.1	52.7	199.7	81.0	55.2	194.5	78.7	57.9	189.0
	ESEW-080D	110.9	64.4	266.5	108.3	67.6	260.2	105.5	71.0	253.5	102.6	74.7	246.4
ESEW-0100D	139.5	82.6	335.1	136.2	86.2	327.1	132.7	90.1	318.9	129.2	94.6	310.3	
ESEW-0120D	180.7	106.7	434.0	175.8	111.7	422.4	170.8	117.3	410.4	165.7	123.4	398.1	
ESEW-0160D	230.3	133.8	553.2	223.2	139.0	536.1	216.7	145.1	520.6	210.4	152.0	505.5	
70°F	ESEW-010S	15.7	7.7	37.8	15.4	8.2	36.9	15.0	8.7	36.0	14.6	9.3	35.0
	ESEW-015S	23.3	12.1	55.9	22.6	12.8	54.4	22.0	13.5	52.9	21.4	14.3	51.3
	ESEW-020S	31.2	15.8	74.9	30.5	16.7	73.4	29.8	17.7	71.7	29.1	18.8	69.8
	ESEW-025S	34.7	18.3	83.4	36.6	21.2	87.8	37.2	23.6	89.4	36.0	24.7	86.5
	ESEW-030S	46.0	26.0	110.5	44.9	27.1	107.9	43.7	28.2	105.1	42.5	29.5	102.2
	ESEW-040S	60.2	33.0	144.7	58.6	34.3	140.8	57.1	36.0	137.2	55.6	37.8	133.6
	ESEW-050S	75.3	42.5	181.0	73.6	44.2	176.8	71.8	46.1	172.4	69.9	48.3	167.9
	ESEW-060S	97.7	54.6	234.7	95.1	57.1	228.4	92.4	59.8	221.9	89.6	62.8	215.3
	ESEW-080S	112.4	59.6	270.2	118.5	68.3	284.8	118.1	73.5	283.7	114.4	76.6	274.8
	ESEW-020D	31.5	15.6	75.7	30.7	16.5	73.9	30.0	17.5	72.0	29.1	18.5	69.9
	ESEW-030D	46.5	24.3	111.8	45.3	25.7	108.8	44.0	27.1	105.8	42.7	28.6	102.7
	ESEW-040D	62.3	31.6	149.8	61.1	33.5	146.7	59.7	35.5	143.4	58.1	37.7	139.6
	ESEW-050D	69.4	36.8	166.8	73.1	42.5	175.7	74.4	47.2	178.8	72.0	49.5	173.0
	ESEW-060D	92.0	52.0	221.0	89.8	54.2	215.8	87.5	56.6	210.2	85.1	59.2	204.4
	ESEW-080D	120.4	66.0	289.3	117.2	68.8	281.7	114.2	72.1	274.4	111.2	75.8	267.2
ESEW-0100D	150.7	85.1	362.0	147.2	88.5	353.6	143.5	92.3	344.8	139.7	96.6	335.7	
ESEW-0120D	195.3	109.1	469.4	190.1	114.2	456.8	184.7	119.7	443.9	179.2	125.7	430.6	
ESEW-0160D	224.9	119.3	540.3	237.0	136.7	569.5	236.1	147.0	567.3	228.7	153.2	549.6	
75°F	ESEW-010S	17.1	7.7	41.1	16.7	8.1	40.1	16.3	8.6	39.1	15.8	9.1	38.0
	ESEW-015S	25.3	12.2	60.8	24.6	12.9	59.1	23.9	13.6	57.5	23.2	14.3	55.8
	ESEW-020S	33.6	15.9	80.7	32.9	16.8	79.0	32.2	17.9	77.3	31.4	19.0	75.4
	ESEW-025S	32.6	15.8	78.4	34.8	18.5	83.6	36.6	21.3	87.9	38.1	24.4	91.5
	ESEW-030S	49.5	26.8	119.1	48.4	27.9	116.3	47.2	29.1	113.3	45.9	30.4	110.2
	ESEW-040S	59.8	30.5	143.7	63.4	35.1	152.4	61.8	36.7	148.6	60.1	38.4	144.5
	ESEW-050S	81.2	44.0	195.1	79.3	45.5	190.6	77.4	47.4	185.9	75.3	49.4	181.1
	ESEW-060S	105.1	55.8	252.6	102.5	58.4	246.4	99.6	61.1	239.5	96.7	64.2	232.3
	ESEW-080S	105.5	50.9	253.5	112.7	59.1	270.8	118.7	67.7	285.2	123.6	76.8	296.9
	ESEW-020D	34.2	15.5	82.2	33.4	16.4	80.2	32.5	17.3	78.2	31.6	18.3	76.0
	ESEW-030D	50.6	24.4	121.6	49.2	25.8	118.2	47.8	27.2	114.9	46.4	28.7	111.6
	ESEW-040D	67.1	31.9	161.4	65.7	33.7	158.0	64.3	35.7	154.5	62.7	37.9	150.7
	ESEW-050D	65.3	31.7	156.9	69.6	37.0	167.2	73.2	42.7	175.9	76.2	48.9	183.1
	ESEW-060D	99.1	53.8	238.1	96.8	55.9	232.6	94.3	58.2	226.6	91.7	60.7	220.4
	ESEW-080D	119.6	61.1	287.3	126.8	70.3	304.8	123.7	73.5	297.2	120.2	76.9	288.9
ESEW-0100D	162.4	88.0	390.1	158.6	91.2	381.1	154.7	94.8	371.8	150.7	99.0	362.1	
ESEW-0120D	210.2	111.6	505.2	205.1	116.9	492.9	199.3	122.4	478.9	193.3	128.3	464.5	
ESEW-0160D	211.0	101.9	507.0	225.4	118.2	541.6	237.4	135.4	570.4	247.1	153.7	593.8	

¹Cap = Capacity in tons of refrigeration based on a coolant temperature rise of 10°F, a cooler fouling factor of 0.0001 ft² • hr • °F/Btu, condenser fouling factor of 0.00025 ft² • hr • °F/Btu, the use of an appropriate ethylene glycol solution where needed, and R410A refrigerant.

²kW = Total compressor input power at rated voltage.



Table 13 – ESEW Series Water Cooled Condenser Chiller Performance Data (60 Hz) – Continued

Leaving Coolant Temp	Model	Entering Condenser Water Temperature											
		80°F			85°F			90°F			95°F		
		Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)
65°F	ESEW-010S	16.8	7.1	40.4	17.6	7.8	42.3	17.6	8.5	42.3	17.2	9.0	41.2
	ESEW-015S	24.9	11.4	59.8	26.1	12.5	62.8	25.9	13.6	62.3	25.2	14.4	60.6
	ESEW-020S	32.3	14.9	77.6	33.7	16.0	81.0	34.6	18.0	83.1	33.8	19.1	81.1
	ESEW-025S	32.0	15.8	76.9	33.1	16.3	79.5	35.0	18.8	84.1	36.6	21.5	87.9
	ESEW-030S	51.9	27.9	124.8	52.0	28.9	125.0	50.7	30.0	121.9	49.4	31.3	118.7
	ESEW-040S	57.5	28.1	138.1	61.2	32.2	147.1	64.4	36.7	154.8	63.6	39.0	152.9
	ESEW-050S	86.0	45.3	206.6	83.7	46.7	201.3	81.5	48.5	195.8	79.1	50.4	190.1
	ESEW-060S	106.3	54.4	255.4	107.7	59.4	258.8	104.2	62.0	250.5	100.7	64.9	242.1
	ESEW-080S	103.6	48.8	248.9	110.5	56.1	265.4	116.3	63.7	279.6	121.3	72.0	291.6
	ESEW-020D	33.6	14.3	80.8	35.2	15.6	84.6	35.2	17.1	84.7	34.3	18.1	82.5
	ESEW-030D	49.8	22.9	119.6	52.3	25.2	125.7	51.9	27.3	124.6	50.4	28.9	121.1
	ESEW-040D	64.6	29.8	155.1	67.4	32.0	162.0	69.1	36.0	166.1	67.5	38.2	162.3
	ESEW-050D	64.0	31.6	153.8	66.2	32.8	159.1	70.0	37.7	168.2	73.2	43.0	175.9
	ESEW-060D	103.8	55.8	249.5	104.0	57.8	250.0	101.5	60.1	243.8	98.8	62.6	237.4
	ESEW-080D	114.9	56.3	276.2	122.4	64.4	294.3	128.8	73.4	309.6	127.3	78.1	305.9
ESEW-0100D	171.9	90.6	413.1	167.5	93.5	402.5	162.9	96.9	391.6	158.2	100.8	380.3	
ESEW-0120D	212.5	108.8	510.7	215.3	118.9	517.5	208.5	124.2	501.0	201.5	130.0	484.2	
ESEW-0160D	207.1	97.7	497.7	220.9	112.1	530.9	232.7	127.5	559.2	242.6	144.1	583.1	

¹Cap = Capacity in tons of refrigeration based on a coolant temperature rise of 10°F, a cooler fouling factor of 0.0001 ft² · hr · °F/Btu, condenser fouling factor of 0.00025 ft² · hr · °F/Btu, the use of an appropriate ethylene glycol solution where needed, and R410A refrigerant.

²kW = Total compressor input power at rated voltage.

Table 14 – ESER Series Remote Air Cooled Condenser Chiller Performance Data (60 Hz)

Leaving Coolant Temp	Model	Entering Condenser Air Temperature											
		85°F			90°F			95°F			100°F		
		Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)
20°F	ESER-010S	6.0	8.5	16.6	5.7	8.9	16.0	5.5	9.5	15.2	5.5	10.1	15.3
	ESER-015S	9.1	11.5	25.4	8.9	12.3	24.7	8.6	13.0	23.9	8.8	13.8	24.5
	ESER-020S	12.4	15.0	34.7	12.0	16.2	33.4	11.4	17.1	31.9	11.6	18.6	32.3
	ESER-025S	15.5	19.1	43.3	15.1	20.4	42.1	14.6	21.5	40.7	15.0	23.1	41.8
	ESER-030S	18.5	22.4	51.5	17.9	23.7	50.0	17.3	25.0	48.3	17.6	26.8	49.0
	ESER-040S	23.9	30.1	66.7	23.2	31.9	64.8	22.6	34.8	62.9	21.8	35.8	60.8
	ESER-050S	29.7	37.7	83.0	28.8	40.1	80.4	27.9	42.7	77.8	26.9	45.5	75.0
	ESER-060S	38.8	47.5	108.3	37.6	50.2	105.0	36.5	53.4	101.7	35.2	56.5	98.3
	ESER-080S	48.5	60.1	135.3	46.9	63.2	130.9	45.4	66.7	126.7	43.8	70.3	122.3
	ESER-020D	12.1	16.6	33.8	11.7	17.7	32.6	11.1	18.5	31.1	11.3	19.8	31.5
	ESER-030D	18.2	23.2	50.8	17.7	24.6	49.4	17.1	26.0	47.8	17.6	27.9	49.1
	ESER-040D	24.9	30.3	69.4	23.9	32.4	66.7	22.9	34.7	63.8	23.2	37.4	64.6
	ESER-050D	31.1	38.5	86.7	30.2	40.8	84.3	29.2	43.1	81.5	30.0	46.2	83.7
	ESER-060D	36.9	44.9	103.0	35.9	48.9	100.0	34.6	50.2	96.6	35.2	53.7	98.1
	ESER-080D	47.8	60.4	133.4	46.5	65.7	129.6	45.1	69.6	125.8	43.6	71.8	121.6
ESER-0100D	59.5	75.7	165.9	57.6	80.3	160.7	55.8	88.0	155.6	53.7	91.0	149.9	
ESER-0120D	77.6	95.2	216.5	75.3	100.8	210.0	72.9	106.8	203.5	70.5	116.1	196.7	
ESER-0160D	97.0	120.4	270.7	93.9	126.8	261.8	90.8	136.4	253.4	87.7	143.8	244.6	

¹Cap = Capacity in tons of refrigeration based on a coolant temperature rise of 10°F, a cooler fouling factor of 0.0001 ft² · hr · °F/Btu, the use of an appropriate ethylene glycol solution where needed, R410A refrigerant, and operating at sea level. For higher elevations, reduce capacity by applying the following capacity factors for elevations above sea level: 1,000 feet elevation = 0.98, 2,000 feet elevation = 0.95, 3,000 feet elevation = 0.93, 4,000 feet elevation = 0.91, 5,000 feet elevation = 0.89, 6,000 feet elevation = 0.87, 7,000 feet elevation = 0.85, 8,000 feet elevation = 0.81, more than 8,000 feet elevation consult factory.

²kW = Total compressor input power at rated voltage.



Table 14 – ESER Series Remote Air Cooled Condenser Chiller Performance Data (60 Hz) - Continued

Leaving Coolant Temp	Model	Entering Condenser Air Temperature											
		85°F			90°F			95°F			100°F		
		Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)
25°F	ESER-010S	6.6	8.4	18.0	6.4	9.0	17.3	6.1	9.5	16.6	5.8	9.9	15.9
	ESER-015S	10.0	11.6	27.3	9.8	12.4	26.5	9.5	13.2	25.7	9.2	14.0	24.8
	ESER-020S	13.8	15.4	37.3	13.3	16.4	35.9	12.8	17.6	34.6	12.2	18.7	33.1
	ESER-025S	17.1	19.6	46.4	16.6	20.7	45.1	16.1	21.9	43.8	15.6	23.3	42.2
	ESER-030S	20.4	22.8	55.3	19.8	24.1	53.6	19.2	25.5	52.0	18.5	26.9	50.2
	ESER-040S	26.4	30.7	71.5	25.6	32.4	69.5	24.8	34.3	67.4	24.1	36.5	65.3
	ESER-050S	32.9	38.3	89.2	31.9	40.7	86.5	30.9	43.3	83.7	29.8	46.0	80.9
	ESER-060S	42.9	48.4	116.4	41.7	51.3	113.0	40.4	54.3	109.4	39.0	57.4	105.8
	ESER-080S	53.4	61.7	144.9	51.7	64.9	140.2	50.0	68.4	135.6	48.3	72.1	131.0
	ESER-020D	13.5	16.7	36.6	13.0	17.6	35.3	12.5	18.7	33.9	12.0	19.9	32.4
	ESER-030D	20.1	23.5	54.5	19.5	24.9	52.9	19.0	26.5	51.4	18.3	27.9	49.7
	ESER-040D	27.5	30.7	74.7	26.5	32.8	71.9	25.5	35.1	69.2	24.4	37.5	66.1
	ESER-050D	34.3	39.3	92.9	33.3	41.5	90.2	32.3	44.0	87.7	31.2	46.6	84.6
	ESER-060D	40.8	45.8	110.6	39.6	48.4	107.3	38.4	51.3	104.0	37.0	54.1	100.4
ESER-080D	52.7	61.4	143.0	51.2	65.0	138.9	49.7	68.9	134.8	48.2	73.1	130.6	
ESER-0100D	65.8	76.8	178.4	63.8	81.5	173.0	61.7	86.6	167.3	59.6	92.2	161.7	
ESER-0120D	85.9	97.1	232.9	83.3	102.6	226.0	80.7	108.6	218.9	78.0	115.0	211.6	
ESER-0160D	106.9	123.7	289.8	103.4	130.0	280.4	100.0	136.9	271.2	96.6	144.3	262.1	
30°F	ESER-010S	7.3	8.5	19.4	7.1	9.1	18.7	6.8	9.5	18.0	6.5	10.1	17.3
	ESER-015S	11.1	11.9	29.2	10.7	12.5	28.3	10.4	13.3	27.5	10.1	14.1	26.7
	ESER-020S	15.2	15.6	40.1	14.6	16.5	38.7	14.1	17.7	37.2	13.6	19.0	35.8
	ESER-025S	18.8	20.0	49.6	18.3	21.2	48.2	17.7	22.3	46.8	17.2	23.8	45.3
	ESER-030S	22.4	23.2	59.3	21.8	24.5	57.5	21.1	25.9	55.7	20.4	27.4	53.9
	ESER-040S	29.0	31.2	76.5	28.2	33.1	74.4	27.3	34.9	72.2	26.5	37.0	69.9
	ESER-050S	36.3	39.0	95.7	35.2	41.3	92.9	34.1	43.9	89.9	32.9	46.6	86.9
	ESER-060S	47.3	49.4	124.9	46.0	52.3	121.3	44.5	55.2	117.6	43.1	58.5	113.7
	ESER-080S	58.7	63.3	155.0	56.9	66.7	150.1	55.0	70.1	145.2	53.1	73.7	140.3
	ESER-020D	15.0	16.8	39.5	14.5	17.8	38.1	13.9	18.8	36.7	13.4	20.0	35.3
	ESER-030D	22.1	23.9	58.4	21.5	25.3	56.7	20.8	26.7	55.0	20.2	28.4	53.4
	ESER-040D	30.4	31.3	80.2	29.3	33.3	77.3	28.2	35.5	74.4	27.1	38.0	71.6
	ESER-050D	37.7	40.1	99.4	36.6	42.3	96.6	35.5	44.8	93.7	34.4	47.6	90.8
	ESER-060D	44.9	46.6	118.5	43.6	49.2	115.0	42.2	52.0	111.4	40.9	55.2	107.9
ESER-080D	58.0	62.6	153.0	56.3	66.1	148.7	54.7	70.1	144.3	53.0	74.3	139.8	
ESER-0100D	72.5	78.0	191.5	70.4	82.8	185.8	68.1	87.8	179.9	65.8	93.3	173.7	
ESER-0120D	94.7	99.1	249.9	91.9	104.7	242.6	89.1	110.7	235.1	86.1	117.0	227.4	
ESER-0160D	117.4	126.8	309.9	113.7	133.3	300.1	110.0	140.3	290.3	106.3	147.8	280.5	
35°F	ESER-010S	8.1	8.6	20.8	7.8	9.1	20.1	7.5	9.6	19.4	7.2	10.1	18.6
	ESER-015S	12.1	12.0	31.2	11.8	12.8	30.3	11.4	13.4	29.4	11.1	14.3	28.5
	ESER-020S	16.7	15.9	42.9	16.1	16.8	41.5	15.5	17.9	40.0	14.9	19.0	38.5
	ESER-025S	20.6	20.4	53.0	20.0	21.5	51.5	19.4	22.8	50.0	18.8	24.1	48.4
	ESER-030S	24.6	23.7	63.4	23.9	25.0	61.6	23.2	26.4	59.7	22.4	27.9	57.7
	ESER-040S	31.8	31.8	81.8	30.9	33.6	79.5	30.0	35.6	77.1	29.1	37.7	74.7
	ESER-050S	39.9	39.8	102.5	38.7	42.1	99.5	37.5	44.6	96.4	36.2	47.2	93.2
	ESER-060S	52.0	50.6	133.8	50.5	53.4	129.9	49.0	56.4	126.0	47.4	59.6	121.9
	ESER-080S	64.4	65.0	165.6	62.4	68.3	160.5	60.4	71.8	155.3	58.4	75.6	150.1
	ESER-020D	16.5	16.8	42.4	16.0	17.9	41.1	15.4	18.8	39.6	14.8	19.9	38.1
	ESER-030D	24.3	24.3	62.4	23.6	25.7	60.7	22.9	27.2	58.9	22.2	28.9	57.0
	ESER-040D	33.4	31.9	85.9	32.3	33.9	83.0	31.1	36.0	80.0	29.9	38.5	76.9
	ESER-050D	41.3	40.9	106.2	40.1	43.2	103.2	38.9	45.7	100.1	37.7	48.4	96.9
	ESER-060D	49.3	47.6	126.8	47.8	50.1	123.1	46.4	53.0	119.3	44.8	55.9	115.4
ESER-080D	63.6	63.8	163.5	61.8	67.4	159.0	60.0	71.3	154.3	58.1	75.5	149.5	
ESER-0100D	79.7	79.5	205.1	77.4	84.3	199.1	75.0	89.4	192.9	72.5	94.8	186.5	
ESER-0120D	104.0	101.3	267.5	101.0	106.9	259.8	97.9	112.9	251.9	94.7	119.3	243.7	
ESER-0160D	128.8	130.1	331.3	124.7	136.5	320.9	120.7	143.6	310.6	116.7	151.1	300.3	

Cap = Capacity in tons of refrigeration based on a coolant temperature rise of 10°F, a cooler fouling factor of 0.0001 ft² • hr • °F/Btu, the use of an appropriate ethylene glycol solution where needed, R410A refrigerant, and operating at sea level. For higher elevations, reduce capacity by applying the following capacity factors for elevations above sea level: 1,000 feet elevation = 0.98, 2,000 feet elevation = 0.95, 3,000 feet elevation = 0.93, 4,000 feet elevation = 0.91, 5,000 feet elevation = 0.89, 6,000 feet elevation = 0.87, 7,000 feet elevation = 0.85, 8,000 feet elevation = 0.81, more than 8,000 feet elevation consult factory.

² kW = Total compressor input power at rated voltage.



Table 14 – ESER Series Remote Air Cooled Condenser Chiller Performance Data (60 Hz) - Continued

Leaving Coolant Temp	Model	Entering Condenser Air Temperature											
		85°F			90°F			95°F			100°F		
		Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)
40°F	ESER-010S	8.9	8.7	22.3	8.6	9.2	21.6	8.3	9.7	20.9	8.0	10.3	20.1
	ESER-015S	13.3	12.3	33.3	12.9	13.0	32.4	12.5	13.7	31.5	12.1	14.5	30.5
	ESER-020S	18.3	16.2	45.9	17.7	17.2	44.4	17.1	18.3	42.9	16.4	19.4	41.3
	ESER-025S	22.5	20.8	56.6	21.9	22.0	55.0	21.2	23.2	53.3	20.6	24.7	51.6
	ESER-030S	26.9	24.2	67.7	26.2	25.6	65.7	25.4	27.0	63.7	24.6	28.5	61.7
	ESER-040S	34.7	32.4	87.2	33.8	34.3	84.8	32.8	36.2	82.3	31.8	38.3	79.8
	ESER-050S	43.6	40.5	109.6	42.4	42.9	106.4	41.1	45.4	103.2	39.8	48.2	99.8
	ESER-060S	56.9	51.7	142.9	55.3	54.6	138.8	53.6	57.6	134.6	51.9	60.8	130.3
	ESER-080S	70.4	66.5	176.9	68.3	69.9	171.4	66.1	73.4	166.0	63.9	77.1	160.5
	ESER-020D	18.1	16.9	45.5	17.6	17.9	44.1	17.0	19.0	42.7	16.4	20.1	41.1
	ESER-030D	26.6	24.8	66.7	25.8	26.1	64.8	25.1	27.7	62.9	24.3	29.3	61.0
	ESER-040D	36.6	32.5	91.8	35.4	34.5	88.8	34.2	36.7	85.8	32.9	39.1	82.6
	ESER-050D	45.1	41.7	113.3	43.8	44.0	110.1	42.5	46.6	106.8	41.2	49.3	103.4
	ESER-060D	53.9	48.6	135.3	52.4	51.3	131.5	50.8	54.1	127.5	49.1	57.1	123.3
	ESER-080D	69.5	65.0	174.4	67.6	68.7	169.6	65.6	72.6	164.7	63.6	76.9	159.6
ESER-0100D	87.3	81.3	219.1	84.8	85.9	212.8	82.2	91.0	206.3	79.5	96.4	199.6	
ESER-0120D	113.8	103.5	285.8	110.6	109.3	277.7	107.2	115.3	269.3	103.8	121.8	260.6	
ESER-0160D	140.9	133.3	353.7	136.5	139.8	342.9	132.2	146.9	332.0	127.9	154.5	321.1	
45°F	ESER-010S	9.8	8.8	23.4	9.5	9.3	22.7	9.1	9.7	21.9	8.8	10.3	21.1
	ESER-015S	14.5	12.5	34.9	14.1	13.2	33.9	13.7	14.0	32.9	13.3	14.8	31.9
	ESER-020S	20.0	16.5	47.9	19.4	17.5	46.4	18.7	18.6	44.9	18.0	19.7	43.3
	ESER-025S	24.6	21.3	59.0	23.9	22.5	57.3	23.2	23.8	55.6	22.4	25.1	53.8
	ESER-030S	29.4	24.8	70.6	28.6	26.2	68.6	27.7	27.5	66.5	26.8	29.0	64.4
	ESER-040S	37.9	33.1	91.0	36.9	35.0	88.5	35.8	36.9	85.9	34.7	39.0	83.3
	ESER-050S	47.7	41.5	114.4	46.3	43.8	111.2	44.9	46.3	107.8	43.5	49.0	104.4
	ESER-060S	62.2	53.0	149.2	60.4	55.8	144.9	58.6	58.9	140.5	56.7	62.2	136.0
	ESER-080S	77.0	68.2	184.7	74.7	71.5	179.1	72.3	75.0	173.5	70.0	78.9	167.8
	ESER-020D	19.9	17.0	47.7	19.3	18.0	46.3	18.7	19.0	44.8	18.0	20.1	43.3
	ESER-030D	29.1	25.2	69.7	28.3	26.7	67.8	27.4	28.1	65.8	26.6	29.8	63.8
	ESER-040D	39.9	33.1	95.8	38.7	35.1	92.9	37.4	37.3	89.8	36.1	39.7	86.6
	ESER-050D	49.3	42.7	118.2	47.9	45.1	114.9	46.5	47.7	111.4	45.0	50.4	107.9
	ESER-060D	58.8	49.8	141.1	57.2	52.5	137.2	55.5	55.3	133.0	53.7	58.4	128.7
	ESER-080D	75.8	66.3	181.9	73.8	70.1	177.0	71.6	74.0	171.8	69.4	78.2	166.6
ESER-0100D	95.3	83.1	228.7	92.7	87.8	222.3	89.9	92.8	215.6	87.0	98.3	208.8	
ESER-0120D	124.4	106.2	298.3	120.8	111.8	289.8	117.2	118.0	281.1	113.4	124.5	272.1	
ESER-0160D	154.0	136.5	369.5	149.3	143.1	358.2	144.6	150.2	347.0	139.9	157.8	335.7	
50°F	ESER-010S	10.6	8.8	25.5	10.3	9.3	24.8	10.0	9.9	24.0	9.6	10.3	23.1
	ESER-015S	15.8	12.7	38.0	15.4	13.5	36.9	14.9	14.2	35.8	14.5	15.1	34.7
	ESER-020S	21.7	16.9	52.0	21.0	17.8	50.5	20.4	19.0	48.9	19.7	20.2	47.2
	ESER-025S	26.7	21.8	64.1	26.0	23.1	62.3	25.2	24.4	60.4	24.4	25.7	58.5
	ESER-030S	31.9	25.5	76.6	31.0	26.8	74.5	30.1	28.2	72.3	29.1	29.7	69.9
	ESER-040S	41.2	33.9	98.8	40.0	35.6	96.1	38.9	37.7	93.3	37.7	39.8	90.5
	ESER-050S	51.8	42.6	124.3	50.3	44.8	120.8	48.9	47.4	117.3	47.3	50.1	113.6
	ESER-060S	67.5	54.4	162.0	65.6	57.3	157.4	63.6	60.3	152.7	61.6	63.6	147.8
	ESER-080S	83.8	69.8	201.0	81.2	73.1	195.0	78.7	76.6	188.9	76.2	80.5	182.9
	ESER-020D	21.7	17.1	52.1	21.1	18.1	50.6	20.4	19.0	49.0	19.8	20.3	47.4
	ESER-030D	31.6	25.6	75.9	30.7	27.0	73.8	29.8	28.6	71.6	28.9	30.2	69.4
	ESER-040D	43.4	33.8	104.1	42.1	35.8	101.0	40.7	38.0	97.8	39.3	40.4	94.4
	ESER-050D	53.5	43.7	128.5	52.0	46.1	124.8	50.4	48.6	121.1	48.8	51.3	117.2
	ESER-060D	63.8	51.1	153.2	62.1	53.8	149.0	60.2	56.6	144.5	58.3	59.6	139.9
	ESER-080D	82.3	67.7	197.6	80.1	71.5	192.2	77.8	75.5	186.7	75.4	79.8	181.0
ESER-0100D	103.5	85.2	248.5	100.7	89.9	241.6	97.7	94.9	234.5	94.6	100.3	227.1	
ESER-0120D	135.0	108.9	324.0	131.2	114.6	314.8	127.2	120.7	305.3	123.2	127.4	295.6	
ESER160D	167.5	139.7	402.1	162.5	146.3	390.0	157.5	153.6	377.9	152.4	161.2	365.7	

¹Cap = Capacity in tons of refrigeration based on a coolant temperature rise of 10°F, a cooler fouling factor of 0.0001 ft² • hr • °F/Btu, the use of an appropriate ethylene glycol solution where needed, R410A refrigerant, and operating at sea level. For higher elevations, reduce capacity by applying the following capacity factors for elevations above sea level: 1,000 feet elevation = 0.98, 2,000 feet elevation = 0.95, 3,000 feet elevation = 0.93, 4,000 feet elevation = 0.91, 5,000 feet elevation = 0.89, 6,000 feet elevation = 0.87, 7,000 feet elevation = 0.85, 8,000 feet elevation = 0.81, more than 8,000 feet elevation consult factory.

²kW = Total compressor input power at rated voltage.



Table 14 – ESER Series Remote Air Cooled Condenser Chiller Performance Data (60 Hz) - Continued

Leaving Coolant Temp	Model	Entering Condenser Air Temperature											
		85°F			90°F			95°F			100°F		
		Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)
55°F	ESER-010S	11.6	8.9	27.8	11.2	9.3	27.0	10.9	9.9	26.1	10.5	10.5	25.2
	ESER-015S	17.2	13.0	41.3	16.7	13.7	40.1	16.2	14.5	38.9	15.7	15.3	37.7
	ESER-020S	23.5	17.2	56.4	22.8	18.2	54.8	22.1	19.3	53.1	21.4	20.6	51.3
	ESER-025S	28.9	22.4	69.5	28.1	23.6	67.5	27.3	24.9	65.5	26.4	26.3	63.4
	ESER-030S	34.5	26.2	82.9	33.6	27.6	80.6	32.6	29.0	78.2	31.6	30.5	75.8
	ESER-040S	44.6	34.6	107.1	43.4	36.5	104.2	42.1	38.4	101.2	40.9	40.7	98.1
	ESER-050S	56.0	43.7	134.6	54.5	46.0	130.9	52.9	48.5	127.1	51.3	51.3	123.2
	ESER-060S	73.1	55.9	175.4	71.0	58.8	170.4	68.9	61.9	165.3	66.7	65.2	160.0
	ESER-080S	90.9	71.4	218.3	88.2	74.7	211.8	85.5	78.3	205.3	82.8	82.2	198.8
	ESER-020D	23.6	17.1	56.7	23.0	18.2	55.1	22.3	19.2	53.5	21.5	20.2	51.7
	ESER-030D	34.4	26.2	82.5	33.4	27.6	80.2	32.4	29.1	77.9	31.4	30.8	75.5
	ESER-040D	47.0	34.6	112.7	45.6	36.5	109.5	44.2	38.8	106.1	42.7	41.2	102.6
	ESER-050D	57.9	44.7	139.1	56.4	47.3	135.3	54.7	49.9	131.2	52.9	52.5	127.0
	ESER-060D	69.1	52.6	165.8	67.2	55.3	161.3	65.2	58.1	156.5	63.1	61.1	151.5
	ESER-080D	89.2	69.4	214.1	86.8	73.1	208.3	84.3	77.2	202.3	81.7	81.4	196.2
ESER-0100D	112.1	87.6	269.1	109.0	92.1	261.8	105.9	97.3	254.2	102.6	102.7	246.3	
ESER-0120D	146.1	111.8	350.9	142.0	117.7	340.9	137.7	123.8	330.6	133.3	130.4	320.1	
ESER-0160D	181.8	142.9	436.6	176.4	149.6	423.6	171.0	156.7	410.6	165.6	164.5	397.5	
60°F	ESER-010S	12.5	8.9	30.1	12.2	9.5	29.3	11.8	10.0	28.4	11.4	10.5	27.4
	ESER-015S	18.6	13.2	44.7	18.1	14.0	43.5	17.6	14.8	42.2	17.0	15.6	40.9
	ESER-020S	25.3	17.5	60.9	24.6	18.6	59.2	23.9	19.7	57.4	23.1	20.9	55.5
	ESER-025S	31.1	22.8	74.7	30.3	24.1	72.8	29.5	25.6	70.8	28.5	26.9	68.5
	ESER-030S	37.3	27.1	89.5	36.2	28.3	87.0	35.2	29.8	84.5	34.1	31.3	81.8
	ESER-040S	48.2	35.5	115.7	46.9	37.4	112.6	45.5	39.3	109.4	44.2	41.6	106.0
	ESER-050S	60.5	45.1	145.3	58.9	47.4	141.4	57.2	49.9	137.3	55.4	52.6	133.1
	ESER-060S	78.9	57.6	189.4	76.6	60.4	184.0	74.3	63.5	178.4	71.9	66.8	172.7
	ESER-080S	98.0	72.6	235.3	95.4	76.2	229.2	92.7	80.1	222.5	89.7	83.8	215.5
	ESER-020D	25.6	17.2	61.6	24.9	18.2	59.9	24.2	19.2	58.1	23.4	20.3	56.3
	ESER-030D	37.3	26.7	89.5	36.2	28.1	87.0	35.2	29.7	84.4	34.1	31.4	81.9
	ESER-040D	50.7	35.3	121.8	49.3	37.4	118.4	47.8	39.6	114.8	46.2	42.0	111.1
	ESER-050D	62.3	45.6	149.6	60.7	48.2	145.8	59.1	51.1	141.9	57.2	53.8	137.3
	ESER-060D	74.5	54.2	179.0	72.5	56.9	174.1	70.3	59.6	168.9	68.1	62.7	163.6
	ESER-080D	96.4	71.2	231.4	93.7	74.8	225.1	91.1	79.0	218.7	88.3	83.3	212.1
ESER-0100D	121.0	90.3	290.6	117.7	94.8	282.7	114.3	99.8	274.6	110.8	105.3	266.2	
ESER-0120D	157.7	115.1	378.8	153.2	120.9	368.0	148.6	127.2	356.9	143.9	133.9	345.5	
ESER-0160D	195.9	145.2	470.6	190.9	152.7	458.4	185.3	160.1	445.1	179.5	167.8	431.0	
65°F	ESER-010S	13.5	8.9	32.5	13.2	9.5	31.7	12.8	10.1	30.7	12.4	10.7	29.7
	ESER-015S	20.1	13.5	48.3	19.6	14.3	47.1	19.0	15.0	45.7	18.4	15.9	44.3
	ESER-020S	27.2	17.9	65.4	26.6	19.1	63.8	25.8	20.2	61.9	24.9	21.4	59.9
	ESER-025S	33.6	23.5	80.6	32.6	24.7	78.3	31.6	26.0	75.9	30.7	27.5	73.7
	ESER-030S	40.1	28.0	96.3	39.0	29.3	93.7	37.8	30.6	90.9	36.7	32.3	88.1
	ESER-040S	51.7	36.2	124.1	50.4	38.2	121.2	49.1	40.4	117.9	47.6	42.6	114.3
	ESER-050S	65.1	46.6	156.4	63.4	48.9	152.2	61.6	51.4	147.9	59.7	54.1	143.4
	ESER-060S	84.8	59.2	203.6	82.4	62.2	198.0	79.9	65.3	192.0	77.4	68.8	185.8
	ESER-080S	105.7	74.1	254.0	102.6	77.3	246.5	99.8	81.2	239.8	97.0	85.5	233.0
	ESER-020D	27.7	17.2	66.5	27.0	18.2	64.9	26.2	19.3	63.1	25.4	20.4	61.1
	ESER-030D	40.2	27.1	96.6	39.2	28.7	94.1	38.0	30.2	91.4	36.9	32.0	88.6
	ESER-040D	54.5	36.0	130.8	53.1	38.2	127.6	51.5	40.5	123.8	49.9	43.0	119.8
	ESER-050D	67.3	46.9	161.6	65.3	49.3	156.9	63.3	51.8	152.1	61.5	54.9	147.7
	ESER-060D	80.2	56.1	192.6	78.0	58.7	187.3	75.7	61.5	181.8	73.3	64.5	176.1
	ESER-080D	103.3	72.5	248.2	100.9	76.7	242.4	98.2	80.9	235.8	95.2	85.3	228.7
ESER-0100D	130.2	93.3	312.8	126.7	97.8	304.4	123.1	102.8	295.8	119.4	108.3	286.8	
ESER-0120D	169.5	118.5	407.2	164.8	124.5	396.0	159.8	130.8	384.0	154.7	137.5	371.7	
ESER-0160D	211.5	148.3	508.1	205.2	154.7	493.0	199.6	162.5	479.6	194.0	171.1	466.1	

¹Cap = Capacity in tons of refrigeration based on a coolant temperature rise of 10°F, a cooler fouling factor of 0.0001 ft² · hr · °F/Btu, the use of an appropriate ethylene glycol solution where needed, R410A refrigerant, and operating at sea level. For higher elevations, reduce capacity by applying the following capacity factors for elevations above sea level: 1,000 feet elevation = 0.98, 2,000 feet elevation = 0.95, 3,000 feet elevation = 0.93, 4,000 feet elevation = 0.91, 5,000 feet elevation = 0.89, 6,000 feet elevation = 0.87, 7,000 feet elevation = 0.85, 8,000 feet elevation = 0.81, more than 8,000 feet elevation consult factory.

²kW = Total compressor input power at rated voltage.



Table 14 – ESER Series Remote Air Cooled Condenser Chiller Performance Data (60 Hz) - Continued

Leaving Coolant Temp	Model	Entering Condenser Air Temperature											
		85°F			90°F			95°F			100°F		
		Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)	Cap ¹	Input kW ²	Evap Flow (gpm)
70°F	ESER-010S	14.6	9.0	35.1	14.2	9.5	34.1	13.8	10.1	33.2	13.4	10.7	32.1
	ESER-015S	21.7	13.7	52.1	21.1	14.5	50.6	20.5	15.3	49.3	19.9	16.2	47.8
	ESER-020S	29.2	18.3	70.2	28.4	19.4	68.3	27.7	20.7	66.5	26.8	21.9	64.5
	ESER-025S	36.4	24.5	87.5	35.2	25.5	84.5	34.0	26.7	81.7	32.9	28.1	79.0
	ESER-030S	43.0	29.0	103.3	41.8	30.3	100.5	40.6	31.7	97.6	39.3	33.2	94.5
	ESER-040S	55.5	37.2	133.4	54.0	39.1	129.7	52.6	41.2	126.3	51.2	43.7	122.9
	ESER-050S	69.9	48.3	167.9	68.0	50.5	163.4	66.1	53.0	158.8	64.1	55.7	154.1
	ESER-060S	90.8	61.0	218.2	88.2	64.0	212.0	85.7	67.3	206.0	83.0	70.8	199.3
	ESER-080S	114.6	76.4	275.4	110.8	79.2	266.1	107.4	82.6	258.1	104.1	86.5	250.0
	ESER-020D	29.9	17.2	72.0	29.1	18.2	70.0	28.3	19.3	68.1	27.5	20.5	66.1
	ESER-030D	43.3	27.5	104.1	42.1	29.0	101.2	41.0	30.7	98.6	39.8	32.5	95.6
	ESER-040D	58.4	36.7	140.4	56.9	38.9	136.7	55.4	41.5	133.0	53.7	44.0	129.0
	ESER-050D	73.0	48.9	175.5	70.5	50.9	169.4	68.1	53.2	163.7	65.9	56.0	158.3
	ESER-060D	86.0	58.1	206.6	83.7	60.8	201.0	81.2	63.6	195.1	78.7	66.7	189.0
ESER-080D	111.1	74.6	266.9	108.0	78.2	259.4	105.2	82.6	252.7	102.3	87.3	245.9	
ESER-0100D	139.7	96.6	335.7	136.0	101.1	326.9	132.2	106.2	317.6	128.2	111.6	308.1	
ESER-0120D	181.7	122.2	436.5	176.5	128.1	424.0	171.4	134.8	411.9	165.9	141.6	398.7	
ESER-0160D	229.3	153.0	550.9	221.5	158.4	532.3	214.8	165.4	516.2	208.1	173.0	500.1	
75°F	ESER-010S	15.8	9.1	37.9	15.3	9.6	36.8	14.8	10.1	35.7	14.4	10.7	34.6
	ESER-015S	23.4	14.0	56.2	22.7	14.7	54.6	22.0	15.5	53.0	21.4	16.4	51.4
	ESER-020S	31.3	18.8	75.3	30.5	19.9	73.3	29.6	21.1	71.2	28.7	22.4	69.0
	ESER-025S	37.8	23.9	90.7	38.1	26.6	91.6	36.7	27.7	88.2	35.3	28.8	84.9
	ESER-030S	46.0	30.2	110.5	44.7	31.4	107.5	43.4	32.8	104.3	42.0	34.3	101.0
	ESER-040S	59.8	38.6	143.8	58.0	40.3	139.4	56.3	42.3	135.4	54.7	44.6	131.5
	ESER-050S	74.7	50.1	179.5	72.7	52.3	174.7	70.7	54.8	169.8	68.5	57.4	164.7
	ESER-060S	97.3	63.3	233.8	94.5	66.3	227.0	91.6	69.4	220.2	88.6	72.8	213.0
	ESER-080S	123.8	78.7	297.5	120.0	81.8	288.4	116.1	85.0	278.9	112.1	88.3	269.4
	ESER-020D	32.3	17.4	77.7	31.5	18.4	75.6	30.6	19.4	73.5	29.7	20.6	71.3
	ESER-030D	46.8	28.2	112.4	45.4	29.6	109.1	44.1	31.2	105.9	42.8	33.0	102.8
	ESER-040D	62.7	37.7	150.6	61.0	39.9	146.6	59.2	42.3	142.3	57.5	45.0	138.1
	ESER-050D	75.3	47.3	180.9	76.4	53.2	183.7	73.6	55.3	176.9	70.9	57.7	170.3
	ESER-060D	92.0	60.4	221.0	89.4	62.9	214.9	86.8	65.8	208.6	84.1	68.8	202.0
ESER-080D	119.7	77.5	287.6	116.0	80.7	278.8	112.7	84.8	270.7	109.5	91.5	263.1	
ESER-0100D	149.4	100.2	358.9	145.4	104.7	349.4	141.3	109.7	339.6	137.1	115.1	329.4	
ESER-0120D	194.6	129.0	467.6	188.9	132.5	454.0	183.2	141.6	440.3	177.3	145.9	426.1	
ESER-0160D	247.6	161.5	595.1	240.0	163.7	576.9	232.1	170.0	557.8	224.3	181.2	538.9	
80°F	ESER-010S	16.9	9.1	40.6	16.5	9.7	39.7	16.0	10.2	38.5	15.5	10.8	37.3
	ESER-015S	25.1	14.2	60.3	24.5	15.1	58.8	23.8	16.0	57.1	23.1	16.9	55.4
	ESER-020S	33.4	19.2	80.3	32.7	20.5	78.5	31.8	21.8	76.4	30.8	23.1	74.1
	ESER-025S	36.1	20.6	86.8	38.0	24.5	91.3	39.1	28.3	94.0	38.1	30.1	91.5
	ESER-030S	49.1	31.5	118.1	47.8	32.8	114.9	46.3	34.2	111.3	44.7	35.6	107.4
	ESER-040S	62.8	39.6	151.0	60.8	41.3	146.2	58.9	43.3	141.5	56.9	45.4	136.7
	ESER-050S	77.9	51.4	187.2	75.6	53.6	181.7	73.3	56.0	176.1	70.7	58.4	170.0
	ESER-060S	101.0	64.7	242.8	97.8	67.6	235.0	94.5	70.7	227.0	91.1	74.0	218.9
	ESER-080S	122.3	74.0	294.0	124.6	82.9	299.4	120.1	85.9	288.6	115.6	89.2	277.9
	ESER-020D	34.6	17.3	83.1	33.9	18.4	81.5	33.0	19.5	79.3	32.0	20.7	77.0
	ESER-030D	50.2	28.6	120.5	49.0	30.3	117.7	47.5	31.9	114.3	46.1	33.7	110.9
	ESER-040D	66.8	38.5	160.7	65.4	41.2	157.1	63.5	43.6	152.7	61.7	46.4	148.2
	ESER-050D	72.0	40.9	173.0	75.7	48.4	182.0	78.1	56.1	187.7	76.3	59.9	183.5
	ESER-060D	98.3	63.1	236.2	95.7	65.8	229.9	92.6	68.4	222.6	89.4	71.3	214.9
ESER-080D	125.7	79.4	302.0	121.7	82.8	292.5	117.8	86.7	283.1	113.8	90.9	273.4	
ESER-0100D	155.8	103.0	374.4	151.2	107.3	363.5	146.5	112.1	352.2	141.5	117.1	339.9	
ESER-0120D	202.1	129.5	485.6	195.6	135.3	470.1	188.9	141.4	454.0	182.2	148.0	437.9	
ESER-0160D	244.6	148.0	587.9	249.2	165.8	598.9	240.2	171.9	577.3	231.3	178.7	555.8	

¹Cap = Capacity in tons of refrigeration based on a coolant temperature rise of 10°F, a cooler fouling factor of 0.0001 ft² • hr • °F/Btu, the use of an appropriate ethylene glycol solution where needed, R410A refrigerant, and operating at sea level. For higher elevations, reduce capacity by applying the following capacity factors for elevations above sea level: 1,000 feet elevation = 0.98, 2,000 feet elevation = 0.95, 3,000 feet elevation = 0.93, 4,000 feet elevation = 0.91, 5,000 feet elevation = 0.89, 6,000 feet elevation = 0.87, 7,000 feet elevation = 0.85, 8,000 feet elevation = 0.81, more than 8,000 feet elevation consult factory.

²kW = Total compressor input power at rated voltage.

Coolant and Condenser Circuit Pressure Drop

Figure 1 – Standard Flow Chiller Coolant Circuit Pressure Drop (10 through 30 Ton Single-Circuit Chillers)

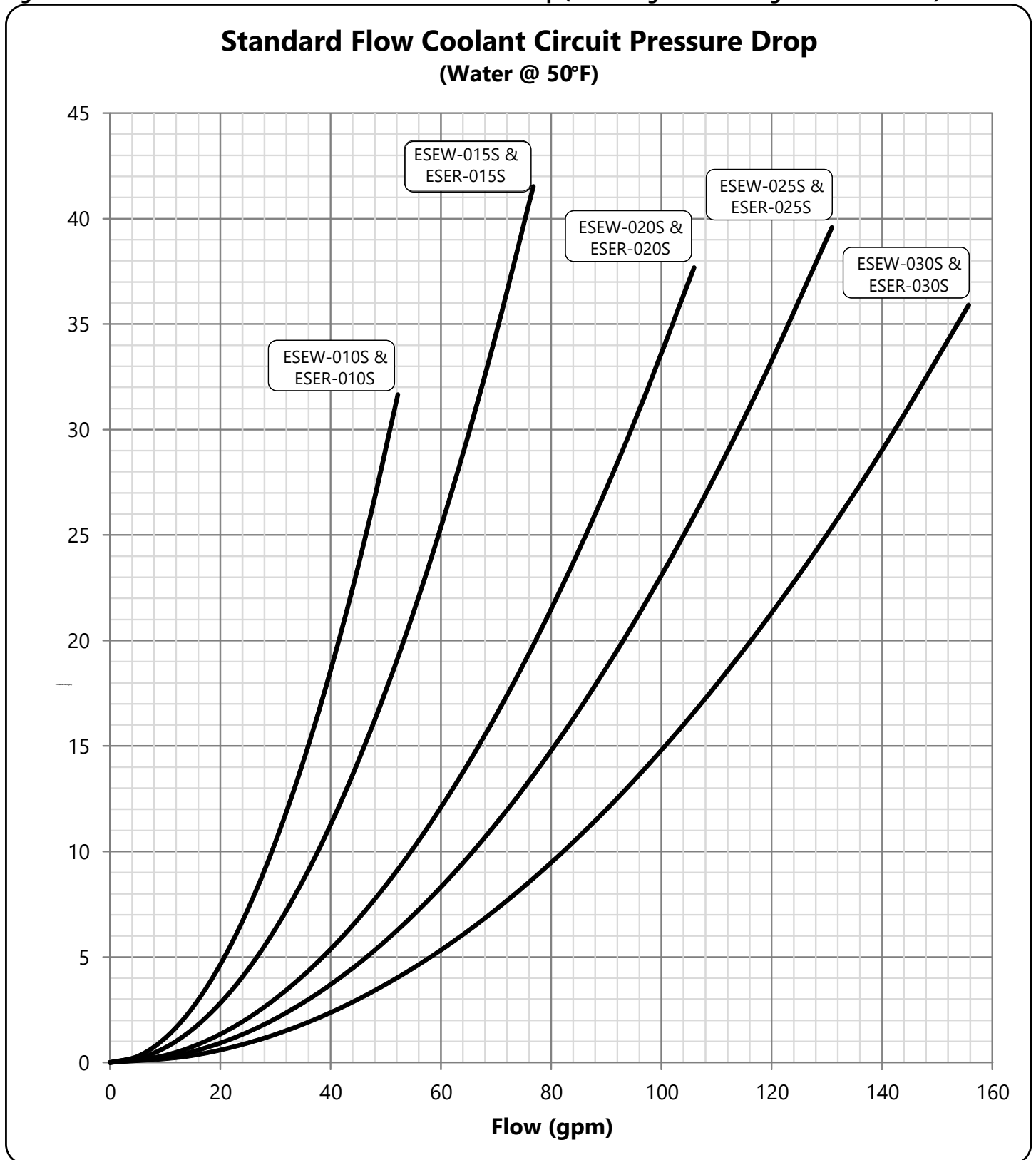


Figure 2 – Standard Flow Chiller Coolant Circuit Pressure Drop (40 through 80 Ton Single-Circuit Chillers)

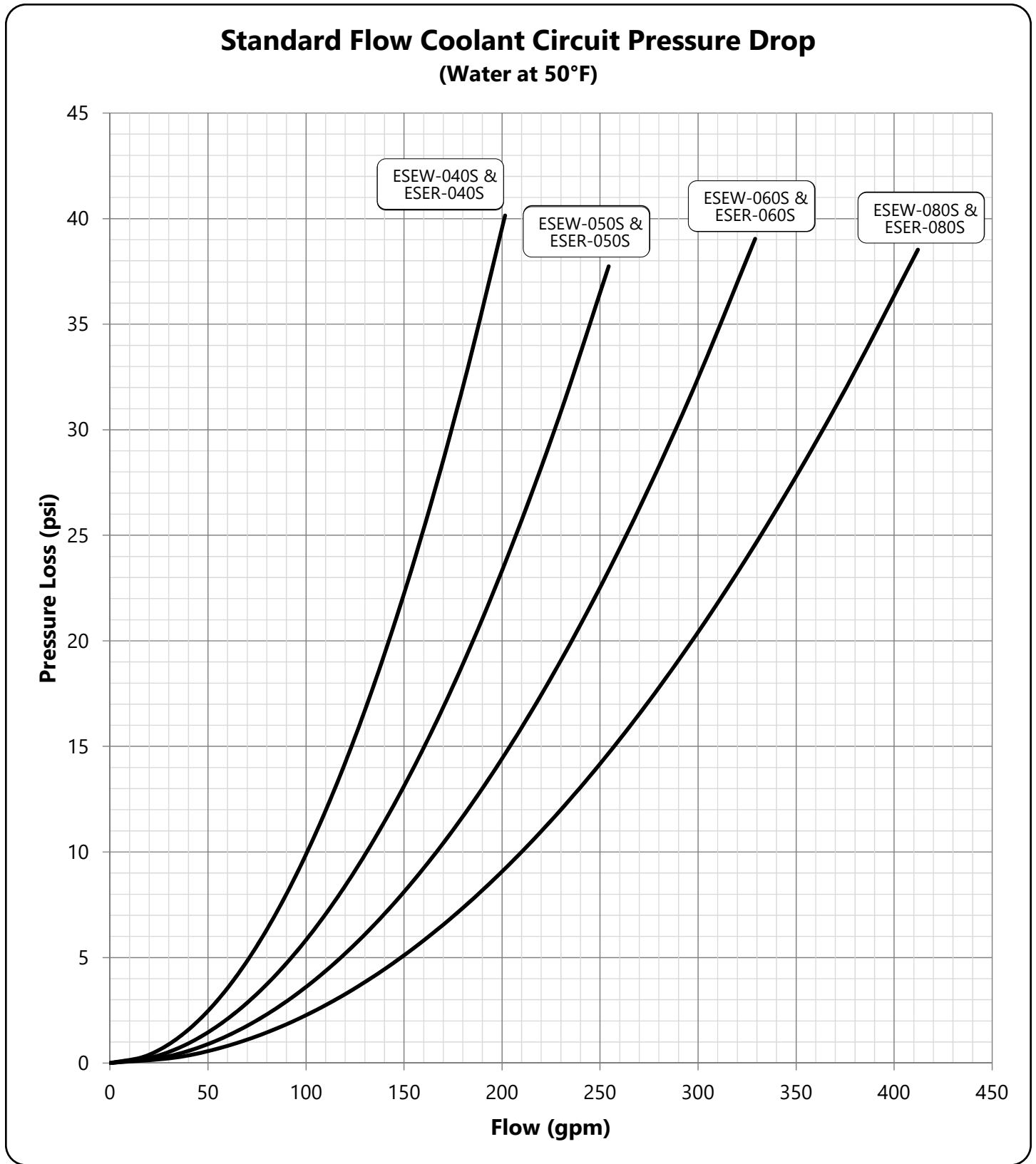


Figure 3 – Standard Flow Chiller Coolant Circuit Pressure Drop (20 through 60 ton Dual-Circuit Chillers)

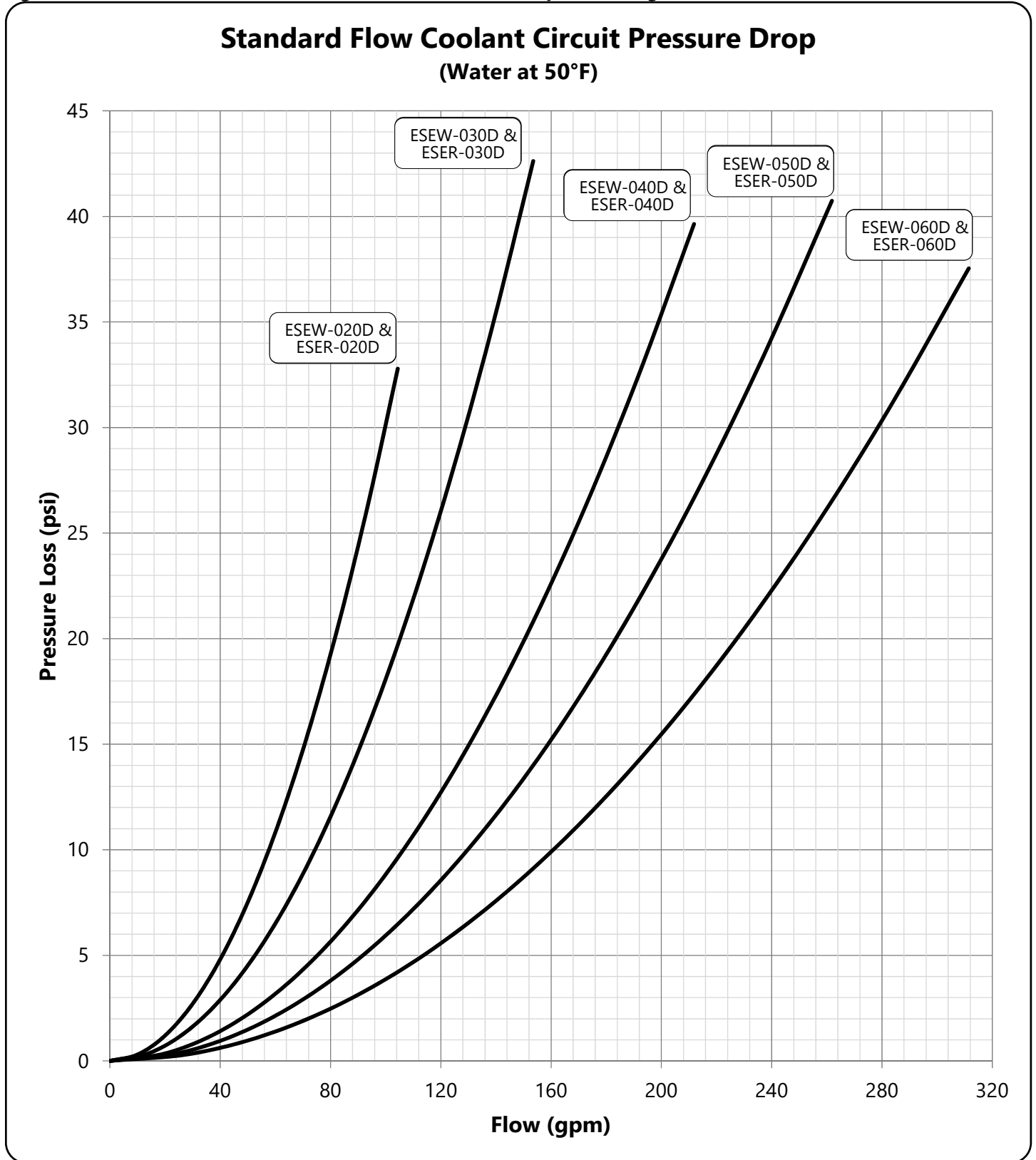


Figure 4 – Standard Flow Chiller Coolant Circuit Pressure Drop (80 through 160 ton Dual-Circuit Chillers)

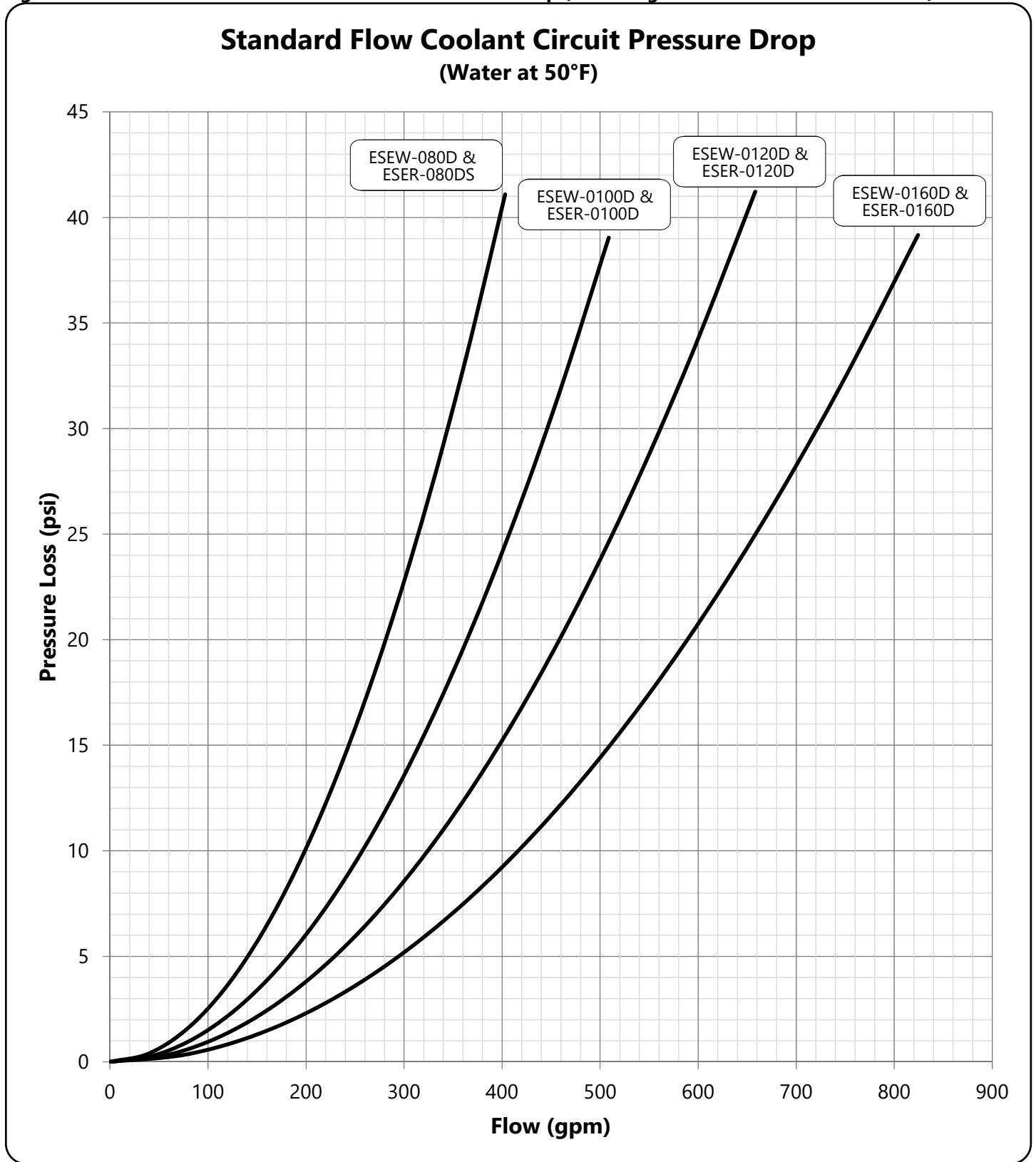


Figure 5 – High Flow Chiller Coolant Circuit Pressure Drop (10 through 30 ton Single-Circuit Chillers)

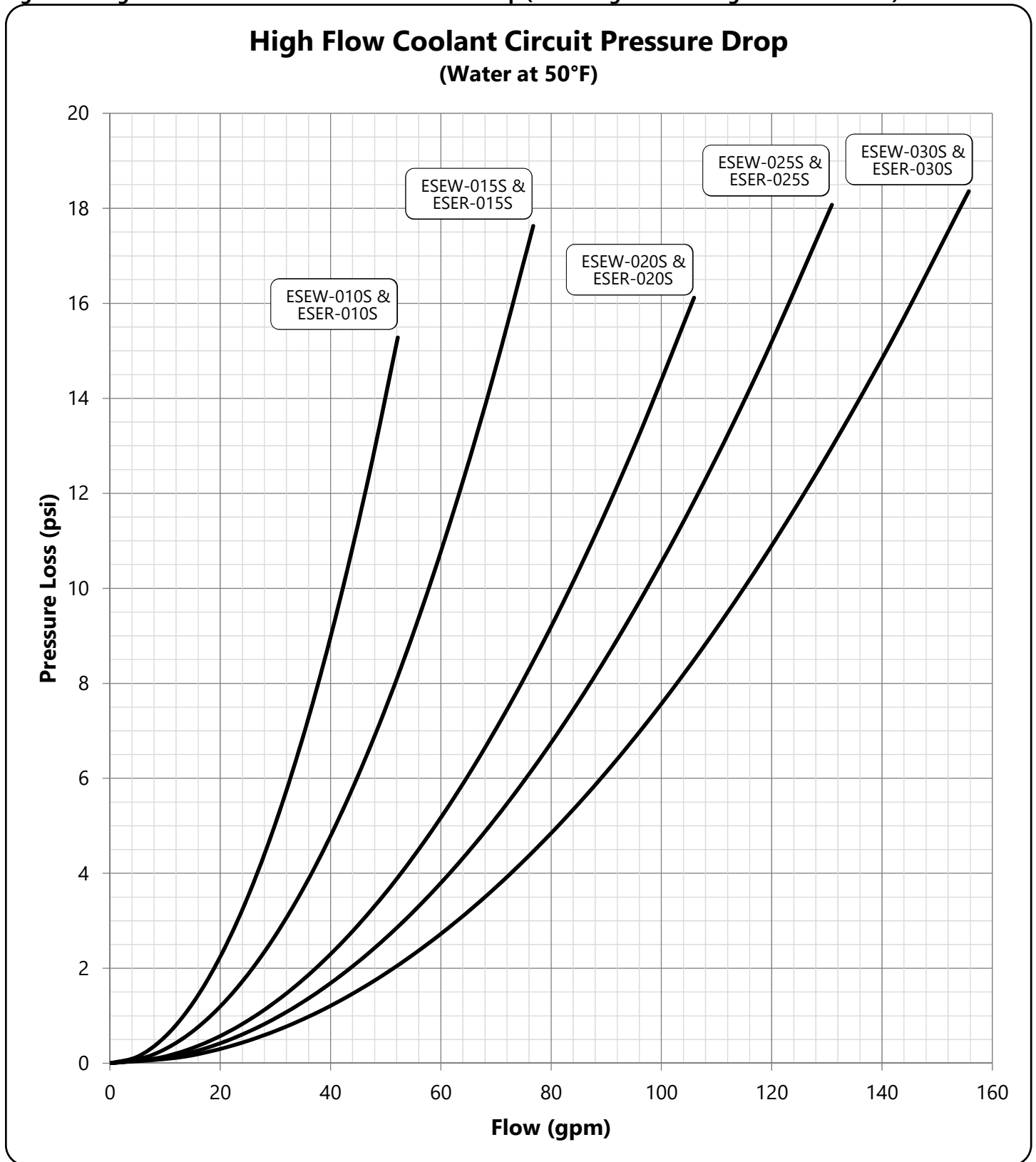


Figure 6 – High Flow Chiller Coolant Pressure Drop (40 through 80 ton Single-Circuit Chillers)

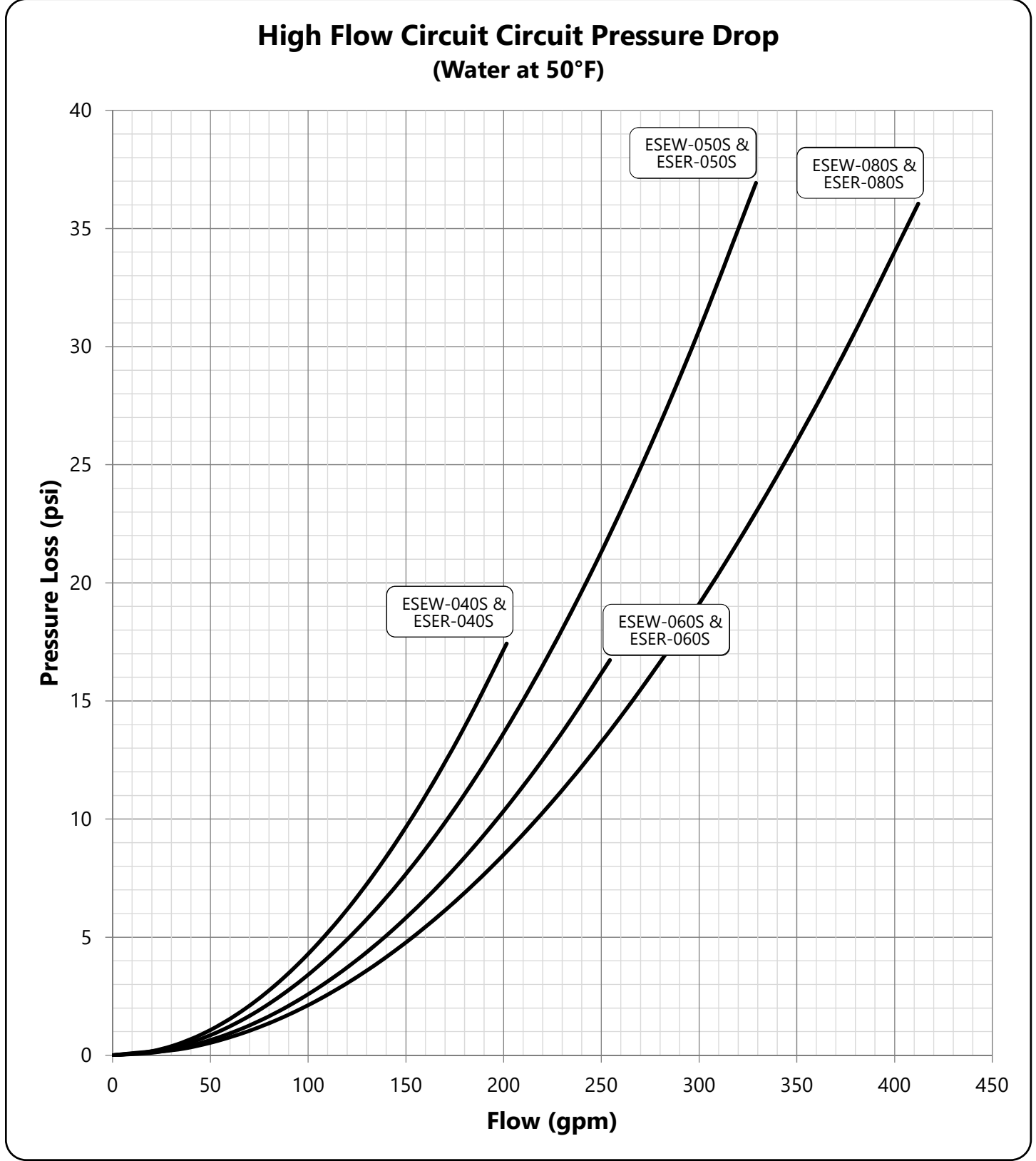


Figure 7 – High Flow Chiller Coolant Pressure Drop (20 through 60 ton Dual-Circuit Chillers)

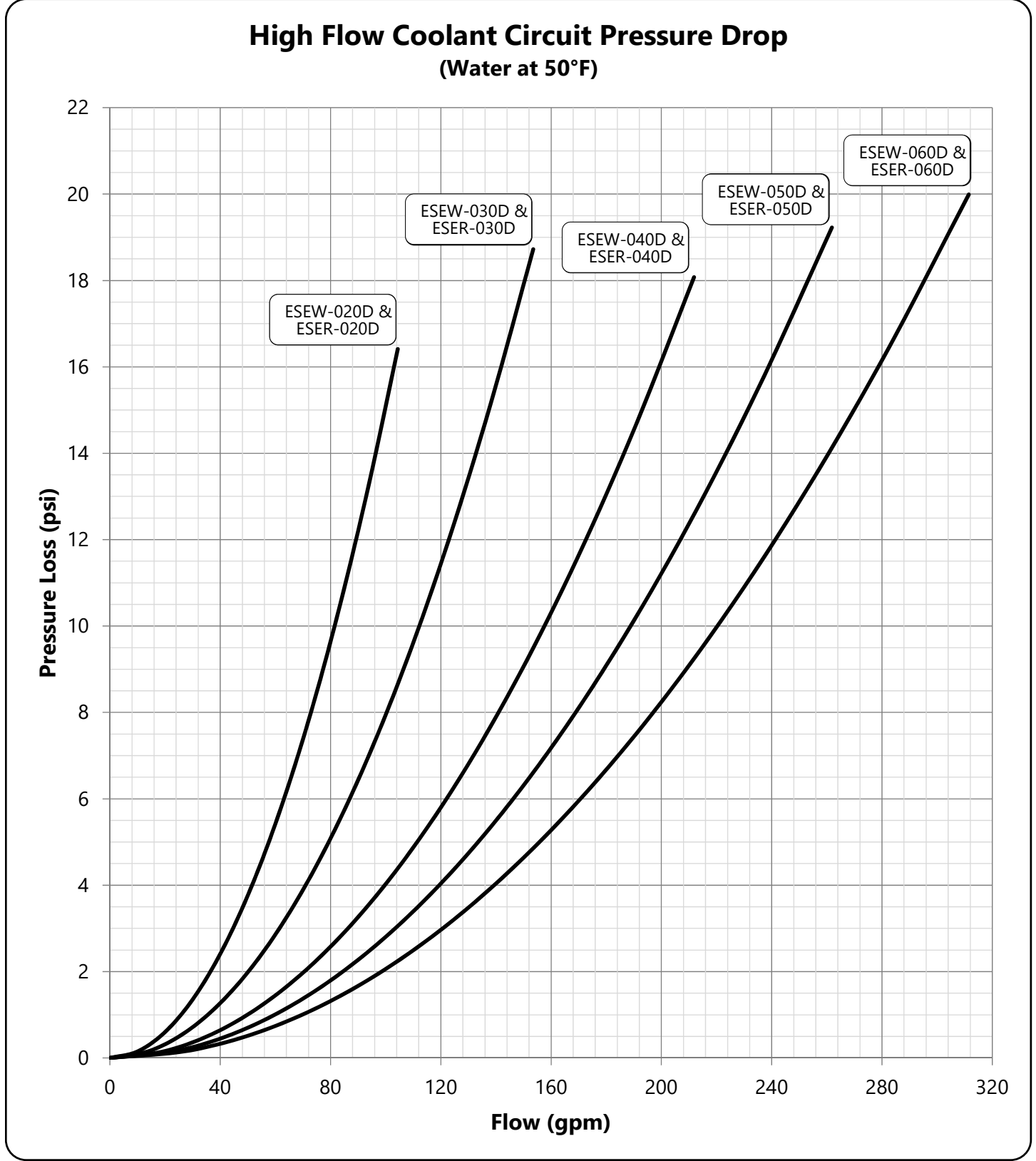


Figure 8 – High Flow Chiller Coolant Pressure Drop (80 through 100 ton Dual-Circuit Chillers)

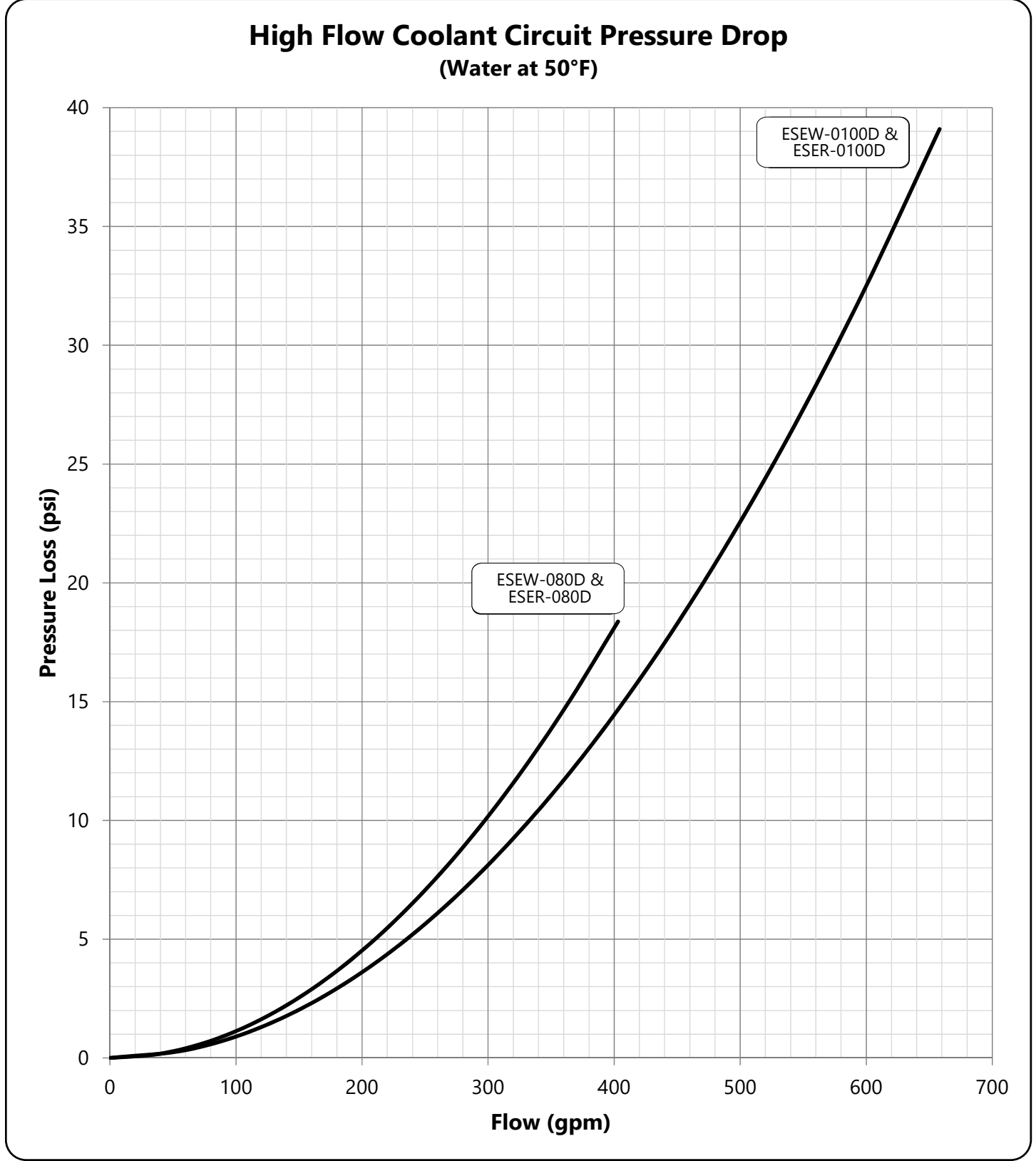


Figure 9 – Condenser Water Circuit Pressure Drop (10 through 30 ton Single-Circuit Chillers)

Condenser Water Circuit Pressure Drop (Water at 85°F with Condenser Water Regulating Valve 100% Open)

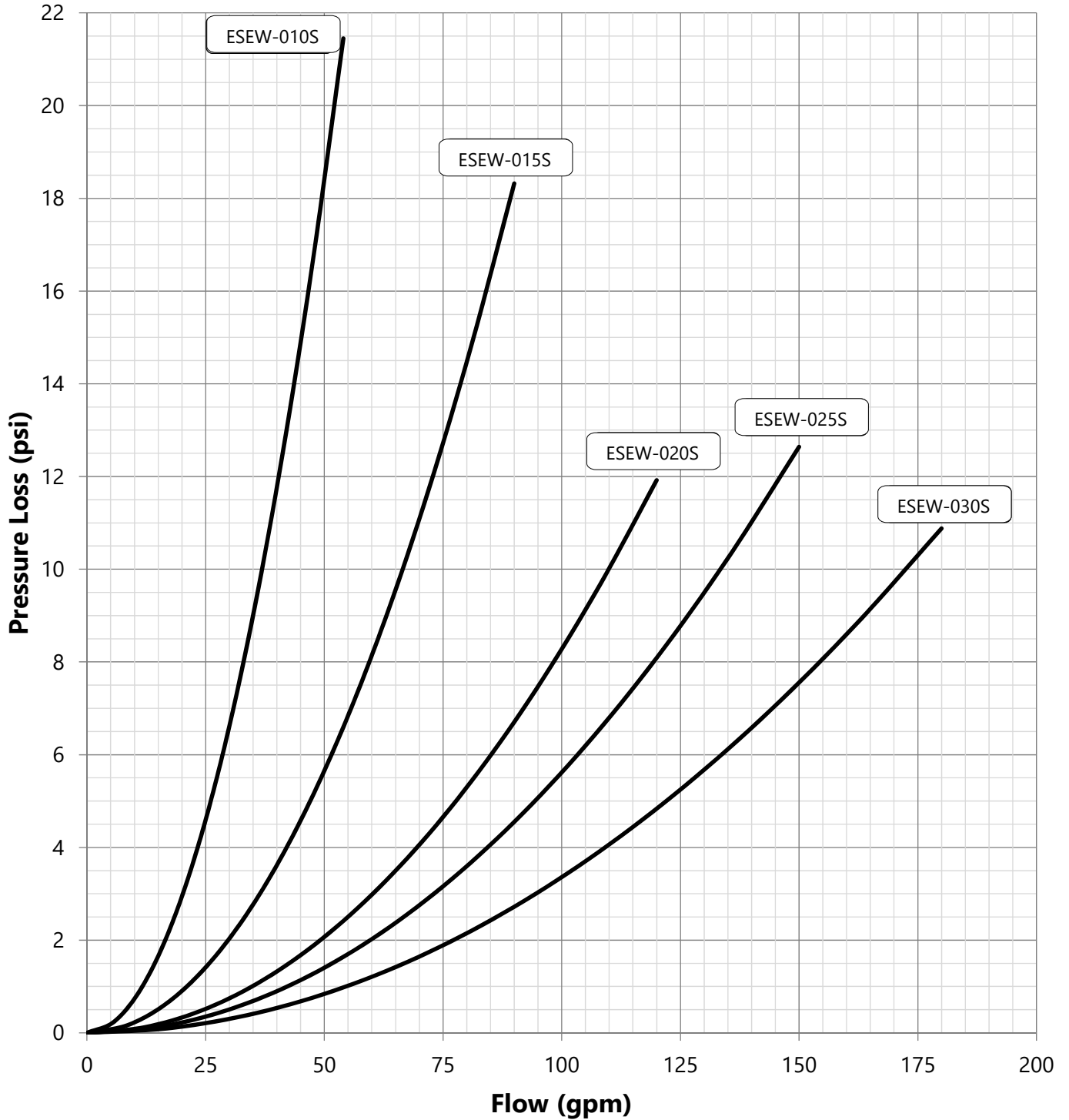


Figure 10 – Condenser Water Circuit Pressure Drop (40 through 80 ton Single-Circuit Chillers)

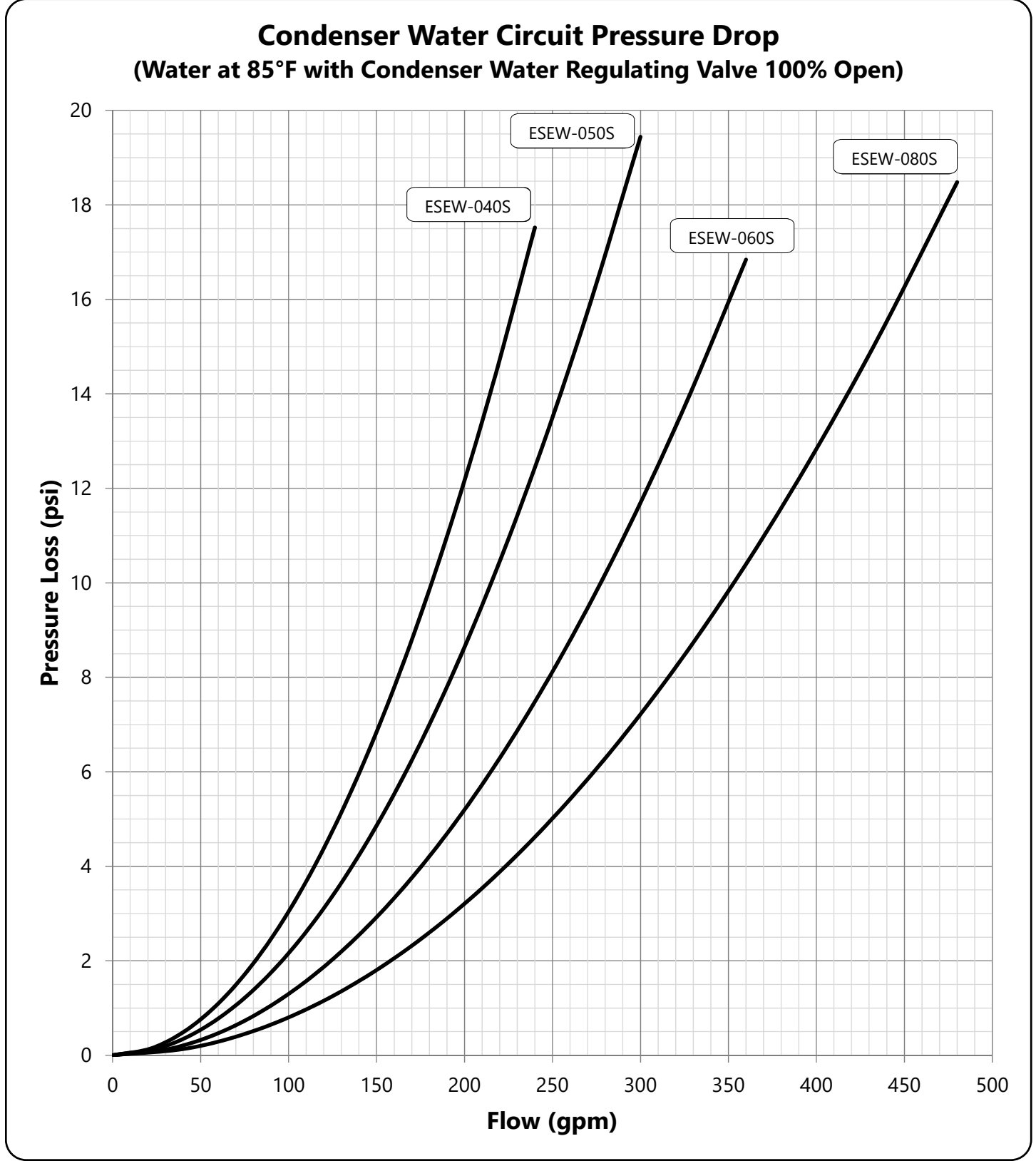


Figure 11 – Condenser Water Circuit Pressure Drop (20 through 60 ton Dual-Circuit Chillers)

Condenser Water Circuit Pressure Drop (Water at 85°F with Condenser Water Regulating Valve 100% Open)

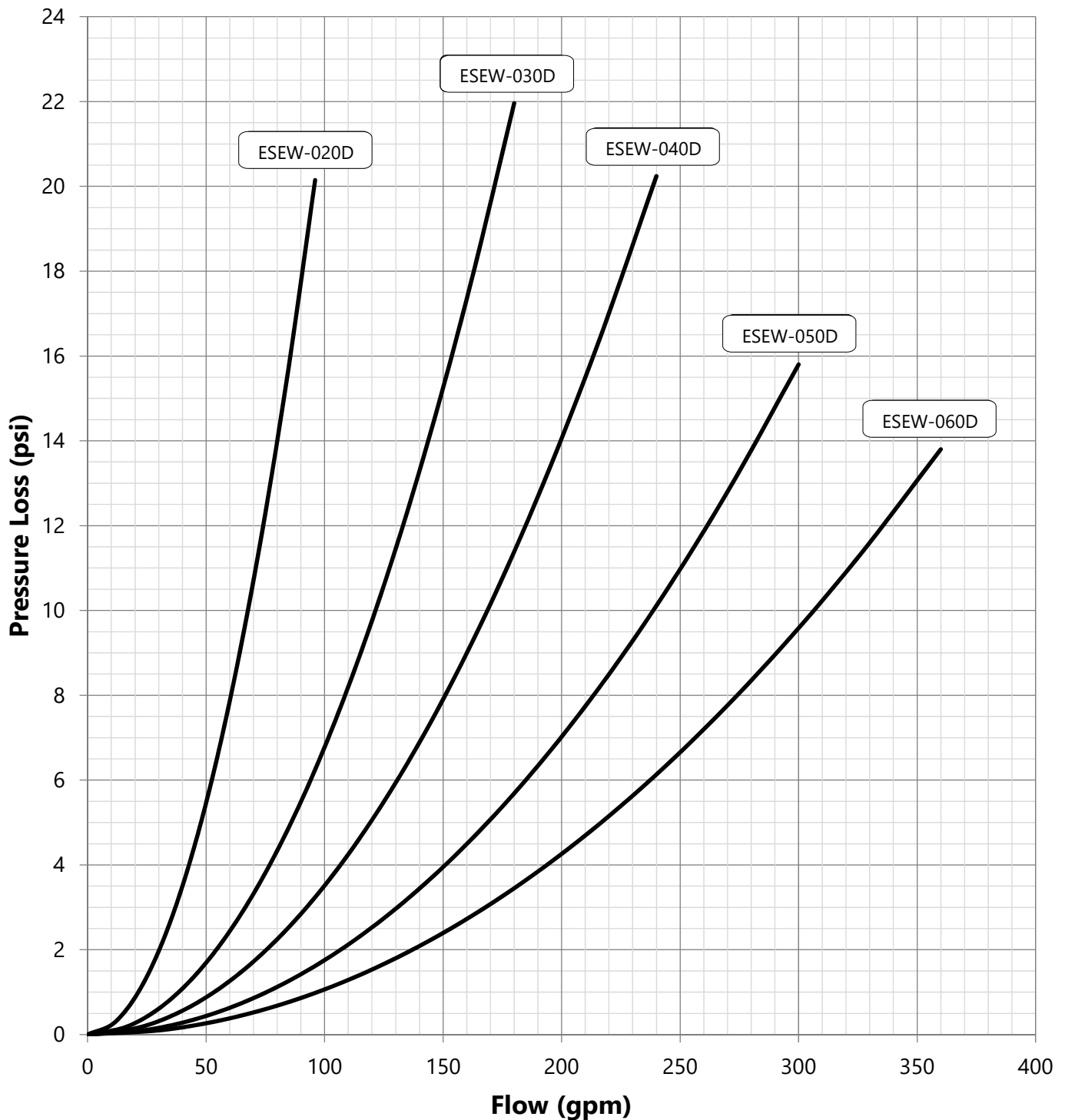


Figure 12 – Condenser Water Circuit Pressure Drop (80 through 160 ton Dual-Circuit Chillers)

Condenser Water Circuit Pressure Drop (Water at 85°F with Condenser Water Regulating valve 100% Open)

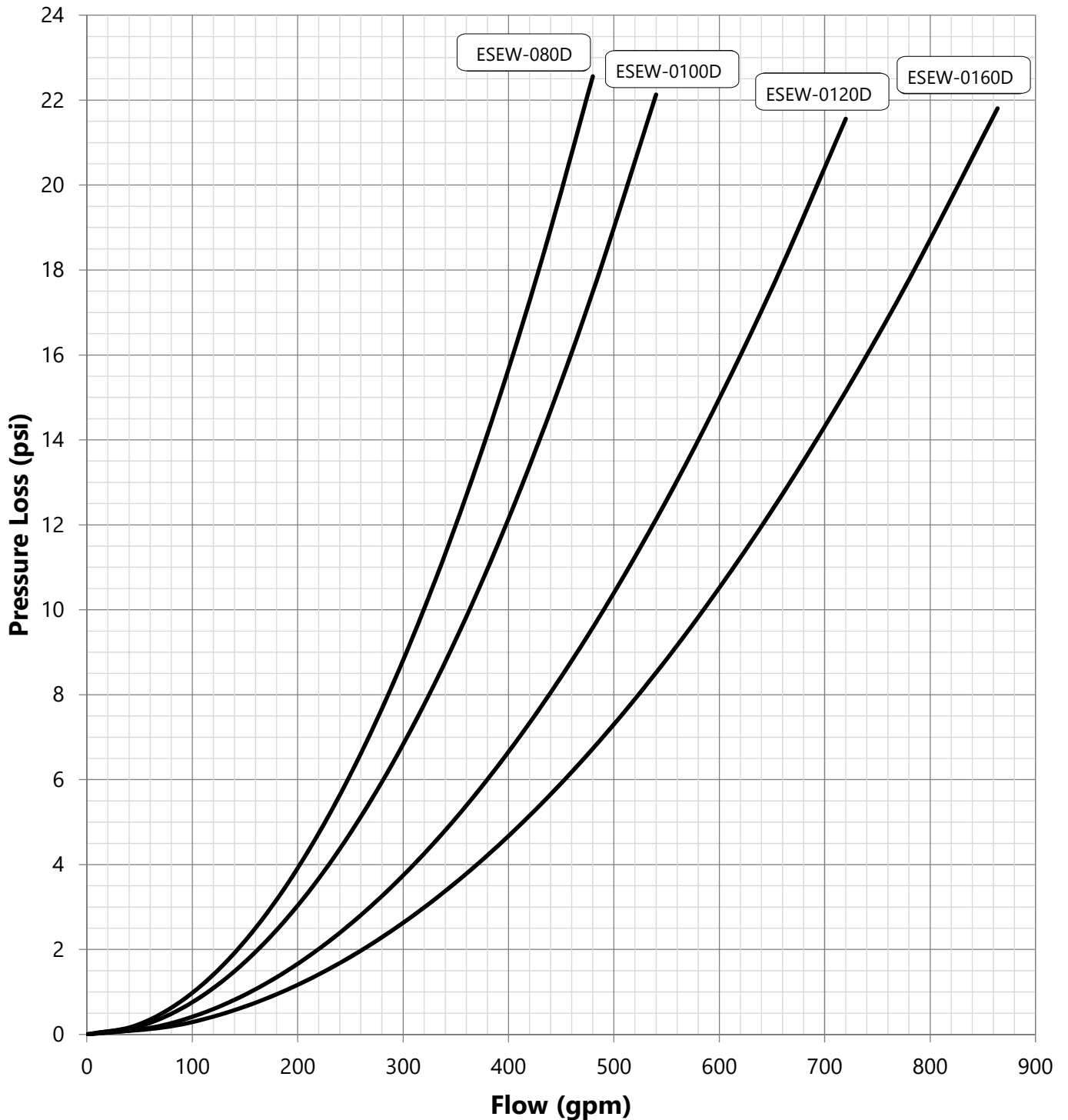
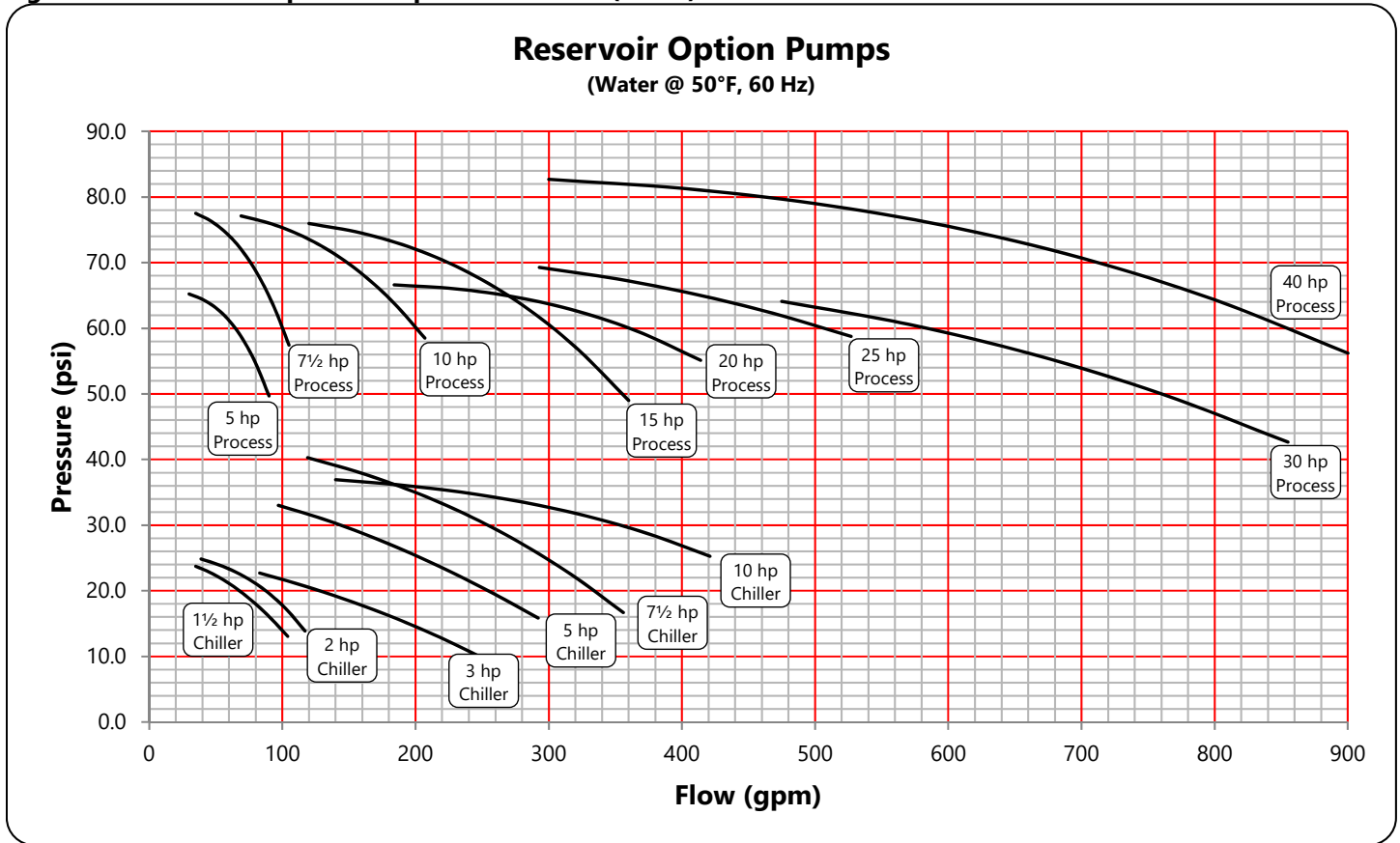


Figure 13 – Reservoir Option Pump Performances (60 Hz)



Application Considerations

The following sections describe various application topics that are important for many industrial cooling system designs. As is the case with all chilled water system designs, we recommend care be taken to ensure all aspects of the system operating extremes are reviewed and accounted for. If your application is outside the application considerations shown in this section, contact your local sales representative for assistance.

Unit Location

The chiller is for indoor installation in an area where the temperature is between 60°F and 110°F on rigid, non-warping mounting pads or a concrete foundation suitable to support the full operating weight of the equipment. When installed the equipment must be level within ¼ inch over its length and width.

Serviceability is an important factor to consider when deciding on the location of the chiller. Do not compromise this feature by locating the chiller in an inaccessible area. When locating the chiller it is

important to consider accessibility to the components to allow for proper maintenance and servicing of the unit. In general, allow a minimum of 36 inches of clearance around all sides and above the unit. There should be no piping or conduit located over the unit. This will ensure easy access with an overhead crane or lift that may be needed to lift out heavier components should they need to be replaced or serviced.

Proper ventilation is another important consideration when locating the unit. Place the unit in an area that will not rise above 110°F. In addition, ensure the condenser and evaporator refrigerant pressure relief valves can vent in accordance with all local and national codes.

If the chiller has a remote air-cooled condenser, the remote condenser should be located outside and should be level to ensure proper operation. Allow a minimum of 48 inches of clearance between the remote condenser and any walls or obstructions. For installations with multiple condensers, allow a minimum of 96 inches between condensers placed side-by-side or 48 inches for condensers placed end-to-end.

Unit Sizing

The Performance Data section lists the various chiller performances at a select set of set points and condenser fluid or air conditions that cover the majority of design conditions common in industrial chiller applications. Over-sizing chillers is sometimes necessary to allow for future growth. While this practice may be necessary, it is best if chillers operate at 50% load or more to avoid unwanted reductions in system efficiency, excessive electrical power use, and compressor cycling due to reduced chiller loading. If the system design requires prolonged operating at reduced loads, we recommend considering the use of the hot gas bypass option for capacity control. An even better solution is to use two smaller chillers as operating smaller chillers at higher loads is preferred to operating one larger chiller at or near its minimum load capacity or with hot gas bypass for capacity control.

Process Fluid Temperature

The chiller can operate with a variety of different supply and return temperatures. The standard operating range for the fluid is 20°F to 80°F with a minimum entering coolant temperature of 22.5°F. The chiller can handle an initial pull down of a reservoir or process fluid loop on start-up up to 95°F entering fluid temperature. Under normal continuous operation, we recommend the entering water temperature not exceed 90°F.

Process Fluid Flow

The standard unit ratings and performance in this publication are for a coolant temperature rise of 10°F. The chiller is capable of operating with different operating temperature differentials within certain flow limitations and with correction to capacity, pressure drops, and other operating parameters. The minimum flow rate recommended to prevent fouling and to ensure the chiller stays within normal refrigerant operating conditions is approximately 1.2 gpm per nominal ton of cooling capacity. The fouling factor used to calculate the ratings of the vessels are $0.00010 \text{ Ft}^2 \cdot \text{Hr} \cdot \text{°F/Btu}$.

If the process flow requirement is less than 1.2 gpm per nominal ton of cooling capacity, multiple smaller chillers may be used. Another alternative is to use a primary pumping loop designed for lower flow at a higher temperature rise through the process and a secondary pumping loop designed for a higher flow and lower temperature drop through the chiller. If a secondary pumping loop is used, the mixed temperature of coolant entering the evaporator must be a minimum of at least 5°F above the set point of the chiller.

The maximum flow limitation is determined based upon a 5°F drop across the cooler at the maximum capacity of the chiller; however, the flows often times result in impractical pressure drops through the chiller and are therefore not likely for system design. For systems designed for a temperature rise through the process of less than 10°F make sure to check the pressure loss through the chiller as shown in Figures 1 through 8 to ensure the pumping system is sufficiently sized.

If the pressure loss through the chiller at design flow is excessive, a bypass around the chiller may be used. Another alternative is to use a primary pumping loop designed for higher flow and lower temperature rise through the process and a secondary pumping loop designed for lower flow and higher temperature drop through the chiller. If a secondary pumping loop is used, the mixed temperature of coolant entering the chiller must be a minimum of at least 5°F above the set point.

The use of varying coolant flows is sometimes necessary; however, it is highly recommended to use a dedicated evaporator circulation pump to provide increased system stability. The controls of the chiller are very adaptable and are capable of adjusting to variations in the flow of water through the system and will load and unload compressors and actuate any optional hot gas bypass valves as needed to maintain tight control of the leaving water temperature of the system.

If the cooler flow is varied, the minimum fluid loop volume must be in excess of 3 gallons of coolant per ton of cooling and the flow rate must change at a rate of no greater than 10% per minute in order to maintain $\pm 2^\circ\text{F}$ leaving coolant temperature accuracy. The 3 gallons of coolant per ton of cooling is a practical minimal amount of coolant volume required to buffer fluctuations in the process enough that the chiller will generally see gradual rates of change in the inlet water temperature. This ensures the chiller is able to accurately load or unload the compressors that in turn will allow for very consistent and stable supply temperatures to the process. Use a system volume of 6 to 10 gallons of coolant per ton if the flow rate changes more rapidly than 10% per minute. If the chiller sees a net rate of change greater than 10% per minute it may result in temporary supply temperature fluctuations greater than $\pm 1^\circ\text{F}$. The chiller can tolerate up to 30% per minute coolant flow variation as long as the flow is between the minimum and maximum flow limitations.

Condenser Water Temperature & Flow

All water-cooled condenser chillers include a factory mounted mechanical condenser water-regulating valve to regulate the flow of condenser water to maintain the proper refrigerant pressures. The valve regulates the flow of water through the condenser in order to maintain the refrigerant pressure set point. The valve only passes as much water as is required to maintain the refrigerant pressure, so less water will be required if the water temperature is lower than the design 85°F.

The minimum flow rate is approximately 0.5 gpm per nominal cooling ton to prevent fouling and to ensure the chiller stays within normal refrigerant operating conditions. The fouling factor used to calculate the ratings of the vessels are $0.00025 \text{ Ft}^2 \cdot \text{Hr} \cdot ^\circ\text{F}/\text{Btu}$.

The maximum flow occurs at about 20 psi, which is the practical pressure drop limitation of the condenser. The chiller will start and operate with an inlet water temperature between 55°F and 95°F. The actual flow requirements will vary.

The chiller has a wide operating range for the condenser water supplied so it can operate in a variety of different systems with varying tower water temperatures. The chiller controls and the standard condenser water-regulating valve maximize the flexibility of the chiller while ensuring dependable operation over a broad range of loads by allowing the chiller to adjust to changing condenser water temperatures. Lowering the condenser water supply temperature below 85°F is an effective way to reduce the overall cooling system input power requirements. The added cost of increased cooling tower size, cooling tower fan power, and pump power needed to lower the condenser water temperature is often times justified due to the energy savings realized by lowering the condensing temperatures in the chiller. There are practical limits to this trade-off. Please contact your system provider for more information.

Condenser Air Temperature

All remote air-cooled condenser chillers have a factory selected remote air-cooled condenser designed specifically to meet the needs of the chiller module to which it is connected. The remote condensers have fan cycling and variable speed fan controls to maintain proper refrigerant pressures. The chiller controls allow the unit to start and operate when the chiller is has load and the inlet air temperature is between -20°F and 110°F. The minimum ambient air temperature at which the chiller will start is -20°F based on still air.

System Fluid Freeze Protection

For applications where system fluid will be exposed to ambient conditions of 32°F or colder and/or the set point of the system will be below 45°F, add antifreeze to the system fluid to protect the chiller and system piping from potential damage. The amount of antifreeze will vary depending on the actual desired operating conditions and should be enough to provide freeze protection to temperatures 15°F colder than the coldest temperature anticipated. Use only antifreeze solutions designed for heat exchanger duty. Do not use automotive antifreeze because there is a potential for fouling that can occur once its relatively short-lived inhibitors break down.

Strainers

Each evaporator has a 20-mesh inlet strainer to protect the evaporator. For units with water-cooled condensers, we recommend a filtration system capable of filtering down to a minimum of a 20 mesh to protect the condenser from contamination.

Remote Condenser Selection

The ESE Series of chillers using remote air-cooled condensers include a properly sized and selected remote condenser so there is no need for a separate remote condenser selection. For installation and line size guidelines please refer to the ESE Series Installation, Operation, and Maintenance Manual.


We're Here to Help

Conair has made the largest investment in customer support in the plastics industry. Our service experts are available to help with any problem you might have installing and operating your equipment. Your Conair sales representative also can help analyze the nature of your problem, assuring that it did not result from misapplication or improper use.

How to Contact Customer Service

To contact Customer Service personnel, call:



 **NOTE:** Normal operating hours are 8:00 am - 5:00 pm (EST). After hours emergency service is available at the same phone number.

From outside the United States, call: 814-437-6861

You can commission Conair service personnel to provide on-site service by contacting the Customer Service Department. Standard rates include an on-site hourly rate, with a one-day minimum plus expenses.

Before You Call...

If you do have a problem, please complete the following checklist before calling Conair:

- Make sure you have all model, control type from the serial tag, and parts list numbers for your particular equipment. Service personnel will need this information to assist you.
- Make sure power is supplied to the equipment.
- Make sure that all connectors and wires within and between control systems and related components have been installed correctly.
- Check the troubleshooting guide of this manual for a solution.
- Thoroughly examine the instruction manual(s) for associated equipment, especially controls. Each manual may have its own troubleshooting guide to help you.
- Check that the equipment has been operated as described in this manual.
- Check accompanying schematic drawings for information on special considerations.

Equipment Guarantee

Conair guarantees the machinery and equipment on this order, for a period as defined in the quotation from date of shipment, against defects in material and workmanship under the normal use and service for which it was recommended (except for parts that are typically replaced after normal usage, such as filters, liner plates, etc.). Conair's guarantee is limited to replacing, at our option, the part or parts determined by us to be defective after examination. The customer assumes the cost of transportation of the part or parts to and from the factory.

Performance Warranty

Conair warrants that this equipment will perform at or above the ratings stated in specific quotations covering the equipment or as detailed in engineering specifications, provided the equipment is applied, installed, operated and maintained in the recommended manner as outlined in our quotation or specifications.

Should performance not meet warranted levels, Conair at its discretion will exercise one of the following options:

- Inspect the equipment and perform alterations or adjustments to satisfy performance claims. (Charges for such inspections and corrections will be waived unless failure to meet warranty is due to misapplication, improper installation, poor maintenance practices or improper operation.)
- Replace the original equipment with other Conair equipment that will meet original performance claims at no extra cost to the customer.
- Refund the invoiced cost to the customer. Credit is subject to prior notice by the customer at which time a Return Goods Authorization Number (RGA) will be issued by Conair's Service Department. Returned equipment must be well crated and in proper operating condition, including all parts. Returns must be prepaid.

Purchaser must notify Conair in writing of any claim and provide a customer receipt and other evidence that a claim is being made.

Warranty Limitations

Except for the Equipment Guarantee and Performance Warranty stated above, Conair disclaims all other warranties with respect to the equipment, express or implied, arising by operation of law, course of dealing, usage of trade or otherwise, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.