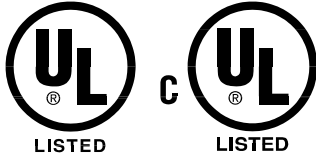


ELITE 10[™] CONDENSING UNITS EXPANSION VALVE AND RFC[™] SYSTEMS 10.00 to 12.10 SEER

HS29

*Bulletin No. 210071
April 1996
Supersedes
September 1995

*Also See:
Bulletin No. 210098
(Expanded Rating Tables)

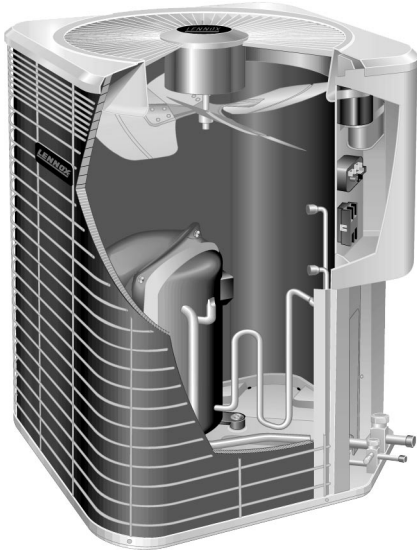


*12,000 to 62,500 Btuh (3.5 to 18.3 kW) Cooling Capacity
1 thru 5 Tons (3.5 to 17.6 kW)
*ARI and DOE Certified Ratings

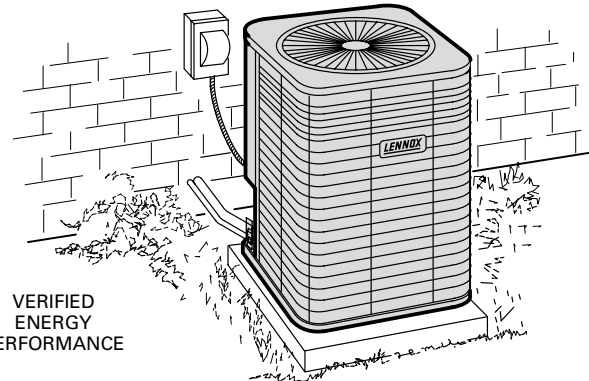


CERTIFICATION APPLIES ONLY
WHEN THE COMPLETE
SYSTEM IS LISTED
WITH ARI

ISO 9000 REGISTERED
WORLD CLASS QUALITY



Typical Application



VERIFIED
ENERGY
PERFORMANCE

FEATURES — ELITE[™] SERIES

Applications

- SEER's of up to 12.10.
- 1 through 5 ton (3.5 through 17.6 kW) matches with TXV.
- 1 through 4 ton (3.5 through 14.1 kW) matches with RFC.
- Single or three phase power supply.
- Vertical air discharge allows concealment behind shrubs at grade level or out of sight on a roof.
- Matching blower powered or add-on furnace evaporator units provide a wide range of cooling capacities and applications. See ARI Ratings table.
- For evaporator unit data, see Coils – Blower Coil Units, this section.
- Units shipped completely factory assembled, piped and wired. Each unit is test operated at the factory insuring proper operation.
- Installer must set condensing unit, connect refrigerant lines and make electrical connections to complete job.

Approvals

- Rated in accordance with ARI Standard 210/240-94.
- Sound rated in Lennox reverberant sound test room in accordance with test conditions included in ARI Standard 270-95.
- Tested in the Lennox Research Laboratory environmental test room.
- Rated according to U.S. Department of Energy (DOE) test procedures.
- Condensing units and components within bonded for grounding to meet safety standards for servicing required by U.L., N.E.C. and C.E.C.
- Units are U.L. listed and C.S.A. certified.
- Energy rating verified by C.S.A.
- Developed in accordance with ISO 9000 quality standards.

Equipment Warranty

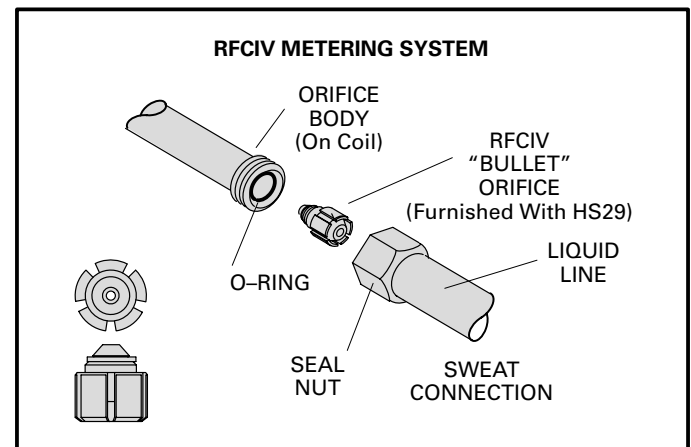
- Compressor — Ten years (residential applications), five years (non-residential applications).
- All other covered components — five years (residential), one year (non-residential applications).
- Refer to Lennox Equipment Limited Warranty certificate included with unit for specific details.

HS29 Unit Expanded Rating Tables

- See bulletin (#210098) indexed in this section for HS29 series expanded ratings with matching evaporator coils.

Refrigerant Control Choice

- Units applicable to expansion valve systems or RFC refrigerant flow control systems.



Refrigerant Flow Control

- HS29 units are applicable to Lennox RFCIV systems when matched with specific evaporator coils.
- RFCIV accurately meters refrigerant in system.
- Refrigerant control is accomplished by exact sizing of refrigerant metering orifice.
- Principle of Lennox RFCIV system involves matching evaporator coil with proper bore size of orifice in metering device.
- RFCIV system equalizes pressure shortly after compressor stops, unit starts unloaded, eliminating need for additional controls.

FEATURES — ELITE™ SERIES

Unit Cabinet

- Heavy gauge steel cabinet with five station metal wash process.
- Baked-on outdoor enamel paint finish provides rust and corrosion protection.
- Painted base section.
- Control box is conveniently located with all controls factory wired.
- Corner patch plate allows access to compressor.
- Drainage holes are provided in base section for moisture removal.

Compressor

- Designed for dependable efficiency with minimum operating cost.
- Suction cooled and overload protected with internal pressure relief.
- Hermetically sealed with built-in protection from excessive current and temperatures.
- Crankcase heater assures proper compressor lubrication (HS29-460-510-650-680 models only).
- Running gear assembly resiliently suspended internally inside case. Compressor installed in unit on resilient rubber mounts assuring low sound and vibration free operation.
- HS29-141 model equipped with rotary compressor.
- HS29-680 models equipped with Scroll compressor.

Copper Tube/Enhanced Fin Coil

- Lennox designed and fabricated coil.
- Ripple-edged aluminum fins.
- Copper tube construction.
- Lanced fins provide maximum exposure of fin surface to air stream resulting in excellent heat transfer.
- Fin collars grip tubing for maximum contact area.
- Flared shoulder tubing connections/silver soldering construction.
- Coil is factory tested under high pressure to insure leakproof construction.
- Entire coil is accessible for cleaning.
- PVC coated steel wire coil guard furnished as standard.

Condenser Fan

- Direct drive fan moves large air volumes uniformly through entire condenser coil for high refrigerant cooling capacity.
- Vertical air discharge minimizes operating sounds and eliminates damage to lawn and shrubs.
- Fan motor has sleeve bearings and is inherently protected.
- Motor totally enclosed for maximum protection from weather, dust and corrosion.
- Rain shield on motor provides additional protection from moisture.
- Louvered steel top fan guard furnished as standard.
- Fan service access accomplished by removal of top panel.

Refrigerant Line Connections, Electrical Inlets, Service Valves

- Sweat connection suction and liquid lines are located on corner of unit cabinet.
- Fully serviceable brass service valves prevent corrosion and provide access to refrigerant system. Suction valve can be fully shut off, while liquid valve may be front seated to manage refrigerant charge while servicing system.
- 45° elbow furnished for ease of suction line connection.
- HS29-141-211-261-311 models are stubbed with 3/8 in. (9.5 mm) liquid line connection. 3/8 in. x 5/16 in. (9.5 mm x 7.9 mm) reducer bushing furnished for liquid line connection.
- Field installed thermometer well furnished for installation in the liquid line to check refrigerant charge.
- Refrigerant line connections and field wiring inlets are located in one central area of cabinet for easy access. See dimension drawing.

Start Controls

- Furnished on HS29-461, -511 and -651 1 phase models.
- Provides assistance for compressor start under loaded conditions or in case of low voltage.

OPTIONAL ACCESSORIES (Must Be Ordered Extra)

Thermostat (Optional)

- Thermostat not furnished with unit. See Thermostats bulletin in Accessories Section and Lennox Price Book.

Expansion Valve Kits (Optional For Expansion Valve Systems)

- Must be ordered extra and field installed on certain evaporator units. See ARI Ratings table.

Low Ambient Kit (Optional For Expansion Valve Systems Only)

- Condensing units operate satisfactorily down to 45°F (7°C) outdoor air temperature without any additional controls.
- Low Ambient Control Kit LB-57113BC (**24H77**) can be field installed, allowing unit operation down to 30°F (-1°C).

Refrigerant Line Kits (Optional)

- Refrigerant lines (suction & liquid) are shipped refrigeration clean. Lines are cleaned, dried, pressurized and sealed at factory.
- Suction line fully insulated.
- L15 lines are stubbed at both ends.
- See Refrigerant Line Kit table for selection.
- Kits are not available for HS29-650 and -680 models and must be field fabricated.

Crankcase Heater (Optional)

- Crankcase heater P-8-8852 (**68887**) prevents migration of liquid refrigerant into compressor and ensures proper compressor lubrication.
- Furnished as standard on HS29-460-510-650-680 models.

Timed-Off Control (Optional)

- Kit LB-61378A (**47J35**) prevents compressor short-cycling and allows time for suction and discharge pressure to equalize.
- Permits compressor start-up in an unloaded condition.
- Automatic reset with 5 minute delay between compressor shut-off and start-up.

Unit Stand-Off Kit (Optional)

- Black high density polyethylene feet (**94J45**) are available to raise unit off of mounting surface away from damaging moisture. Four feet are furnished per order number.

Mounting Base (Optional)

- MB2-S (**69J06**) high density polyethylene mounting base is lightweight, sturdy, sound absorbing and will withstand the effects of sun, heat, cold, moisture, oil and refrigerant.
- Provides permanent foundation for condensing units.
- 22-1/4" x 22-1/4" x 3" (565 mm x 565 mm x 76 mm) shipping weight 6 lbs. (3 kg) each.

❖ Compressor Monitor (Optional)

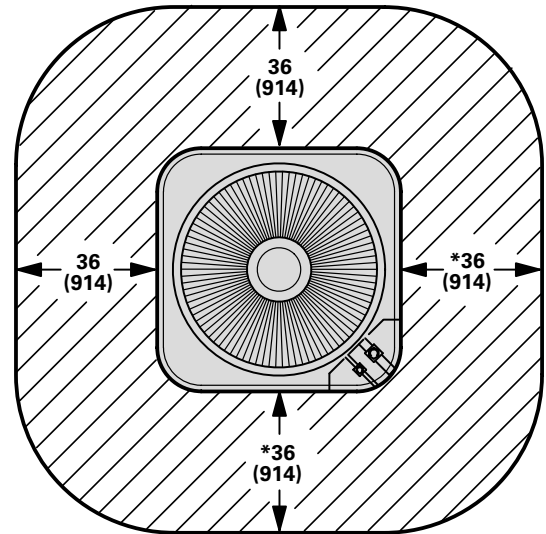
- Compressor monitor T6-1469 (**45F08**) can be field installed.
- Non-adjustable switch (low ambient cut-out) prevents compressor operation when outdoor temperature is below 35°F (2°C).

REFRIGERANT LINE KITS

Condensing Unit Model No.	Line Set Model No.	Length of Lines		Liquid Line Outside Dia.		Suction Line Outside Dia.	
		ft.	m	in.	mm	in.	mm
HS29-141 HS29-211 HS29-261	L15-21-20	20	6	5/16	7.9	5/8	15.9
	L15-21-25	25	8				
	L15-21-35	35	11				
	L15-21-50	50	15				
HS29-311	L15-31-20	20	6	5/16	7.9	3/4	19
	L15-31-30	30	9				
	L15-31-40	40	12				
	L15-31-50	50	15				
HS29-410	L15-41-20	20	6	3/8	9.5	3/4	19
	L15-41-30	30	9				
	L15-41-40	40	12				
	L15-41-50	50	15				
HS29-460 HS29-510	L15-65-30	30	9	3/8	9.5	7/8	22.2
	L15-65-40	40	12				
	L15-65-50	50	15				
HS29-650 HS29-680	*Not available		3/8	9.5	1-1/8	28.5	

*Field fabricate.

INSTALLATION CLEARANCES – inches (mm)



NOTE – 48 inch (1219 mm) clearance required on top of unit.
 *NOTE – One side must be 36 inches (914 mm) for service.
 Two of the remaining three sides may be 12 inches (305 mm).

SPECIFICATIONS

Model No.			HS29-141	HS29-211	HS29-261	HS29-311
Condenser Coil	Net face area - sq. ft. (m ²)	Outer coil	7.56 (0.70)	11.33 (1.05)	11.33 (1.05)	13.22 (1.23)
		Inner coil	----	----	----	----
	Tube diameter – in. (mm) & no. of rows		5/16 (7.9) – 1	5/16 (7.9) – 1	5/16 (7.9) – 1	5/16 (7.9) – 1
	Fins per inch (m)		22 (866)	22 (866)	22 (866)	22 (866)
Condenser Fan	Diameter – in. (mm) & no. of blades		18 (457) – 3	18 (457) – 3	18 (457) – 3	18 (457) – 3
	Motor hp (W)		1/6 (124)	1/6 (124)	1/6 (124)	1/6 (124)
	Cfm (L/s)		2400 (1135)	2400 (1135)	2400 (1135)	2460 (1160)
	Rpm		1105	1105	1105	1125
	Watts		180	180	180	170
*Refrigerant charge furnished (HCFC-22)			2 lbs. 12 oz. (1.25 kg)	3 lbs. 10 oz. (1.64 kg)	3 lbs. 14 oz. (1.76 kg)	4 lbs. 2 oz. (1.87 kg)
Liquid line – in. (mm) o.d. connection (sweat)			†3/8 (9.5)	†3/8 (9.5)	†3/8 (9.5)	†3/8 (9.5)
Suction line – in. (mm) o.d. connection (sweat)			5/8 (15.9)	5/8 (15.9)	5/8 (15.9)	3/4 (19.1)
Shipping weight – lbs. (kg) 1 package			146 (66)	146 (66)	148 (67)	157 (71)

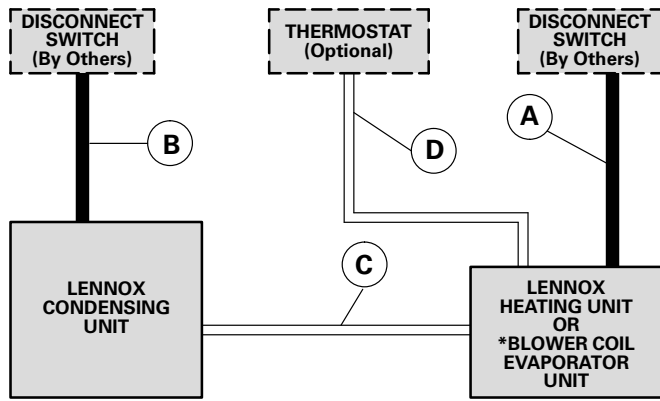
*Refrigerant charge sufficient for 20 ft. (6.0 m) length of refrigerant lines.
 †3/8 x 5/16 in. (9.5 x 7.9 mm) adaptor furnished for liquid line connection.

SPECIFICATIONS

Model No.			HS29-411 HS29-413	HS29-461 HS29-463	HS29-511 HS29-513	HS29-651 HS29-653	HS29-681 HS29-683
Condenser Coil	Net face area - sq. ft. (m ²)	Outer coil	15.11 (1.40)	15.11 (1.40)	15.11 (1.40)	15.11 (1.40)	21.11 (1.96)
		Inner coil	----	5.40 (0.50)	5.40 (0.50)	14.40 (1.34)	20.3 (1.89)
	Tube diameter – in. (mm) & no. of rows		5/16 (7.9) – 1	5/16 (7.9) – 1.37	5/16 (7.9) – 1.37	5/16 (7.9) – 2	5/16 (7.9) – 2
Fins per inch (m)		22 (866)	22 (866)	22 (866)	22 (866)	22 (866)	
Condenser Fan	Diameter – in. (mm) & no. of blades		18 (457) – 4	18 (457) – 4	18 (457) – 4	18 (457) – 4	18 (457) – 4
	Motor hp (W)		1/6 (124)	1/6 (124)	1/3 (249)	1/3 (249)	1/3 (249)
	Cfm (L/s)		2520 (1190)	2500 (1180)	2950 (1390)	2930 (1385)	2930 (1385)
	Rpm		1100	1100	1100	1100	1100
	Watts		200	200	310	310	310
*Refrigerant charge furnished (HCFC-22)			5 lbs. 0 oz. (2.26 kg)	5 lbs. 9 oz. (2.52 kg)	6 lbs. 3 oz. (2.81 kg)	7 lbs. 10 oz. (3.46 kg)	12 lbs. 0 oz. (5.44 kg)
Liquid line – in. (mm) o.d. connection (sweat)			3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
Suction line – in. (mm) o.d. connection (sweat)			3/4 (19.1)	7/8 (22.2)	7/8 (22.2)	1-1/8 (28.6)	1-1/8 (28.6)
Shipping weight – lbs. (kg) 1 package			165 (75)	191 (87)	196 (89)	212 (96)	254 (115)

*Refrigerant charge sufficient for 20 ft. (6.0 m) length of refrigerant lines.

FIELD WIRING



- A – Two Wire Power
- B – Two or Three Wire Power – See Electrical Data
- C – Two Wire Low Voltage – 18 ga. minimum
- D – Four Wire Low Voltage (Electro-Mechanical) 18 ga. minimum
Five Wire Low Voltage (Electronic) 18 ga. minimum

NOTE – Field Wiring Not Furnished

All wiring must conform to NEC or CEC and local electrical codes.

ELECTRICAL DATA

Model No.		HS29-141	HS29-211	HS29-261	HS29-311	HS29-411	HS29-413	
Line voltage data – 60 hz		208/230v 1ph	208/230v 1ph	208/230v 1ph	208/230v 1ph	208/230v 1ph	208/230v 3ph	460v 3ph
Compressor	Rated load amps	4.9	7.9	9.8	13.7	16.2	10.3	4.3
	Power factor	.97	.97	.96	.92	.90	.83	.83
	Locked rotor amps	26.3	48.3	56.0	75.0	96.0	75.0	40.0
Condenser Coil Fan Motor	Full load amps	1.1	1.1	1.1	1.1	1.1	1.1	0.55
	Locked rotor amps	1.9	1.9	1.9	1.9	1.9	1.9	1.0
Rec. maximum fuse or circuit breaker size (amps)		15	15	20	30	35	20	10
*Minimum circuit ampacity		7.3	11.0	13.5	18.4	21.4	14.0	6.5

*Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

NOTE – Extremes of operating range are plus 10% and minus 5% of line voltage.

ELECTRICAL DATA

Model No.		HS29-461	HS29-463		HS29-511	HS29-513		
Line voltage data – 60 hz		208/230v 1ph	208/230v 3ph	460v 3ph	208/230v 1ph	208/230v 3ph	460v 3ph	575v 3ph
Compressor	Rated load amps	17.5	12.8	6.4	23.4	14.0	7.1	5.8
	Power factor	.98	.93	.93	.98	.88	.88	.88
	Locked rotor amps	92.0	87.0	44.0	110.0	91.0	46.0	37.0
Condenser Coil Fan Motor	Full load amps	1.1	1.1	0.55	1.9	1.9	0.90	0.90
	Locked rotor amps	1.9	1.9	1.0	4.1	4.1	2.1	2.1
Rec. maximum fuse or circuit breaker size (amps)		40	25	15	50	30	15	10
*Minimum circuit ampacity		23.0	17.1	8.6	31.2	19.4	9.8	8.2

*Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

NOTE – Extremes of operating range are plus 10% and minus 5% of line voltage.

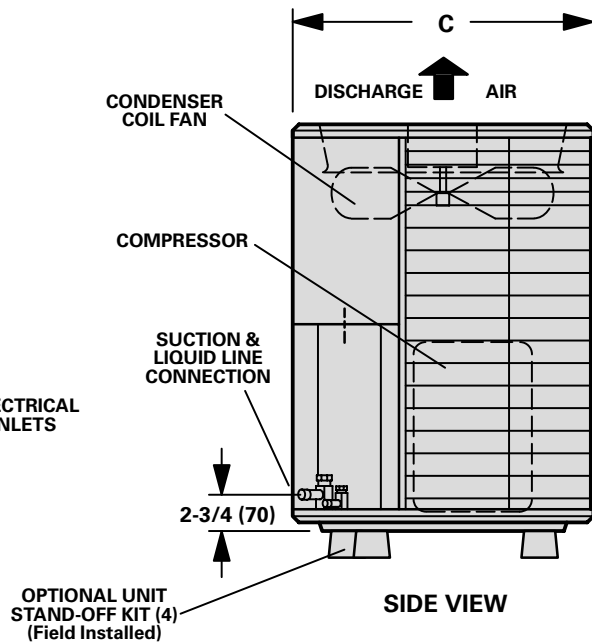
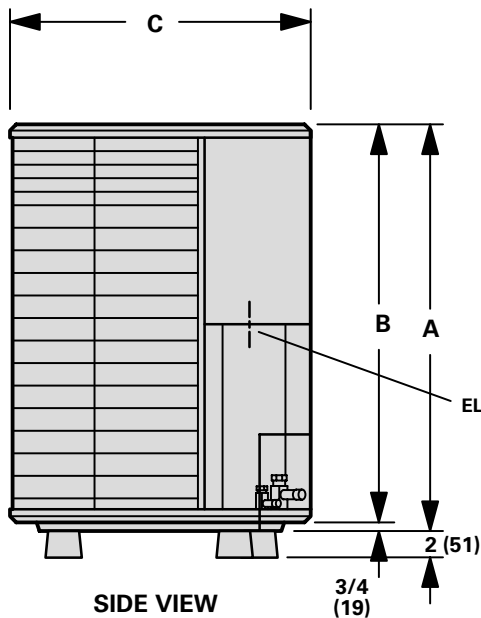
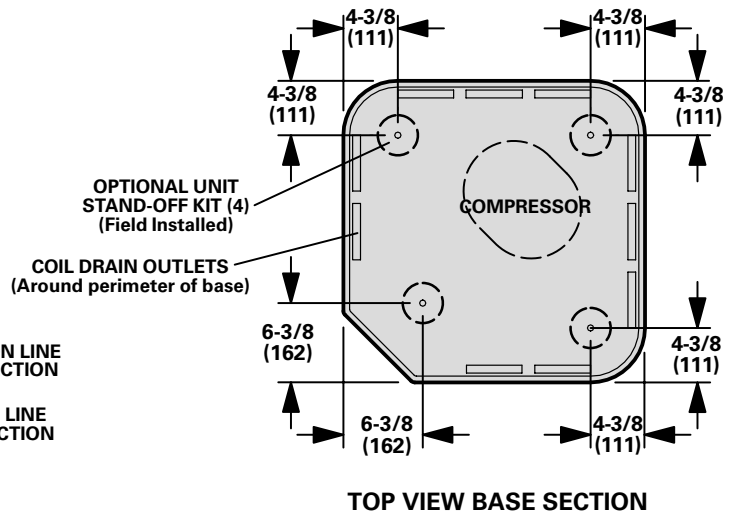
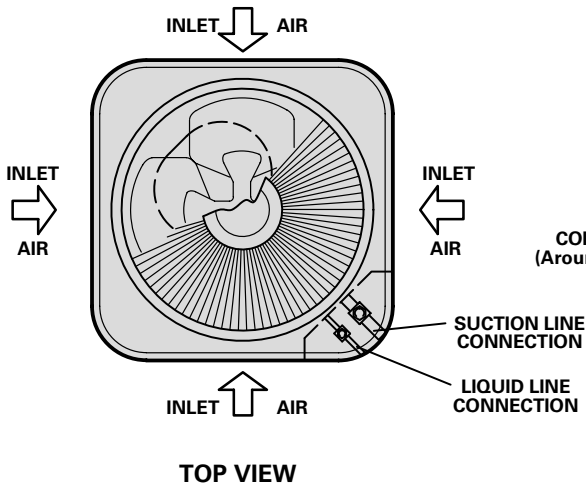
ELECTRICAL DATA

Model No.		HS29-651	HS29-653			HS29-681	HS29-683	
Line voltage data – 60 hz		208/230v 1ph	208/230v 3ph	460v 3ph	575v 3ph	208/230v 1ph	208/230v 3ph	460v 3ph
Compressor	Rated load amps	26.9	17.3	9.0	7.1	27.1	18.6	7.9
	Power factor	.98	.86	.86	.86	.97	.86	.86
	Locked rotor amps	123.0	128.0	64.0	51.0	175.0	128.0	63.0
Condenser Coil Fan Motor	Full load amps	1.9	1.9	0.90	0.90	1.9	1.9	0.90
	Locked rotor amps	4.1	4.1	2.1	2.1	4.1	2.1	2.1
Rec. maximum fuse or circuit breaker size (amps)		60	40	20	15	60	40	15
*Minimum circuit ampacity		35.5	23.5	12.2	9.8	35.8	24.2	10.8

*Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

NOTE – Extremes of operating range are plus 10% and minus 5% of line voltage.

DIMENSIONS – inches (mm)



Model No.		A	B	C
HS29-141 HS29-211 HS29-261	in.	25	24-1/4	24-1/4
	mm	635	616	616
HS29-311	in.	29	28-1/4	24-1/4
	mm	737	718	616
HS29-411-413 HS29-461-463 HS29-511-513 HS29-651-653	in.	33	32-1/4	24-1/4
	mm	838	819	616
HS29-681-683	in.	37-1/4	36-1/2	28-1/4
	mm	946	927	718

ARI RATINGS — EXPANSION VALVE SYSTEMS

Unit Size & Model No. *Sound Rating Number (db)	★ARI Standard 210/240 Ratings					Up-Flow	Down-Flow	Horizontal	**Expansion Valve Kit Required
	Cooling Cap.		SEER	EER	Total Unit Watts				
	Btuh	kW				Evaporator Coils	Evaporator Coils	Evaporator Coils	
1 Ton HS29-141 (74)	12,500	3.7	11.00	10.05	1245	↕C26-21(FC)	----	----	●Factory Installed
	12,500	3.7	10.75	10.10	1235	C23-26(W)(FC)	----	----	LB-85663L (26K49)
	12,700	3.7	11.00	10.15	1250	↕C26-26(W)(FC)	----	----	●Factory Installed
	12,300	3.6	11.00	9.90	1245	----	CR26-21	----	LB-85663L (26K49)
	12,000	3.5	10.00	9.70	1235	----	----	CH23-21	
	Btuh	kW	SEER	EER	Watts	Blower Coil Units			Valve
	12,800	3.8	10.50	10.15	1260	↕CB29M-21/26 (Multi-Position)			●Factory Installed
	13,200	3.9	11.05	10.25	1290	↕CB30M-21/26 (Multi-Position)			
12,400	3.6	11.00	9.95	1245	↕CVP10-26/EC10Q3	----	----		
1.5 Ton HS29-211 (76)	Btuh	kW	SEER	EER	Watts	Evaporator Coils			Valve
	19,000	5.6	11.55	11.00	1730	↕C26-21(FC)	----	----	●Factory Installed
	19,000	5.6	11.50	10.95	1735	C23-26(W)(FC)	----	----	LB-85663L (26K49)
	19,400	5.7	11.75	11.15	1740	↕C26-26(W)(FC)	----	----	●Factory Installed
	19,800	5.8	12.10	11.15	1775	↕C26-26(W)(FC)+G25MV3	----	----	LB-85663L (26K49)
	19,000	5.6	11.50	11.00	1730	----	CR26-21	----	
	19,800	5.8	12.10	11.15	1775	----	CR26-21+G25MV3	----	
	18,000	5.3	11.20	10.45	1720	----	----	CH23-21	
	Btuh	kW	SEER	EER	Watts	Blower Coil Units			Valve
	19,000	5.6	11.50	11.00	1725	↕CB29M-21/26 (Multi-Position)			●Factory Installed
	19,600	5.7	12.00	11.15	1755	↕CB30M-21/26 (Multi-Position)			
18,900	5.5	11.50	10.90	1730	↕CVP10-26/EC10Q3	----	----		
2 Ton HS29-261 (76)	Btuh	kW	SEER	EER	Watts	Evaporator Coils			Valve
	23,800	7.0	11.00	9.90	2405	↕C26-21(FC)	----	----	●Factory Installed
	24,200	7.1	11.00	10.00	2420	C23-26(W)(FC)	----	----	LB-85663L (26K49)
	24,400	7.1	11.05	10.05	2425	C23-31(W)(FC)	----	----	●Factory Installed
	24,800	7.3	11.20	10.20	2435	↕C26-26(W)(FC)	----	----	
	25,800	7.6	11.50	10.45	2470	↕C26-31(W)(FC)	----	----	●Factory Installed
	25,400	7.4	12.10	10.80	2350	↕C26-31(W)(FC)+G25MV3	----	----	LB-85663L (26K49)
	23,200	6.8	10.60	9.70	2390	----	CR26-21	----	
	25,400	7.4	11.30	10.35	2455	----	CR26-31	----	
	25,400	7.4	12.10	10.80	2350	----	CR26-31+G25MV3	----	
	24,000	7.0	10.85	9.95	2415	----	----	CH23-31	
	Btuh	kW	SEER	EER	Watts	Blower Coil Units			Valve
	23,800	7.0	11.05	9.95	2390	↕CB29M-21/26 (Multi-Position)			●Factory Installed
	24,000	7.0	11.05	9.90	2425	↕CB29M-31 (Multi-Position)			
25,000	7.3	11.50	10.20	2450	↕CB30M-21/26 (Multi-Position)				
26,000	7.6	12.05	10.80	2410	↕CB30M-31 (Multi-Position)				
24,200	7.1	11.00	10.00	2420	↕CVP10-26/EC10Q3	----	----		

★Rated in accordance with ARI Standard 210/240; 95°F (35°C) outdoor air temperature, 80°F (27°C) db / 67°F (19°C) wb entering evaporator air with 25 ft. (7.6 m) of connecting refrigerant lines.

*Sound Rating Number rated in accordance with test conditions included in ARI Standard 270.

** Kit is required and must be ordered extra, unless shown as factory installed.

●Furnished as standard with coil.

↕Start Kit is required with 1 phase models for proper system operation. Must be ordered extra. See Repair Parts Master Price List Card PL1 or Logic Software Repair Parts Handbook System for correct kit.

NOTE – For expanded ratings, see Expanded Rating Tables Bulletin indexed in this tab section.

ARI RATINGS – EXPANSION VALVE SYSTEMS

Unit Size & Model No. *Sound Rating Number (db)	★ARI Standard 210/240 Ratings					Up-Flow	Down-Flow	Horizontal	**Expansion Valve Kit Required	
	Cooling Cap.		SEER	EER	Total Unit Watts					Evaporator Coils
	Btuh	kW								
2.5 Ton HS29-311 (76)	28,600	8.4	10.00	9.35	3055	C23-31(W)(FC)	----	----	LB-85663L (26K49)	
	29,000	8.5	10.00	9.45	3065	C23-41(W)(FC)	----	----		
	30,400	8.9	10.50	9.80	3105	◆C26-31(W)(FC)	----	----		
	30,800	9.0	10.50	9.80	3135	◆C26-41(FC)	----	----	●Factory Installed	
	29,800	8.7	11.10	9.90	3010	◆C26-41(FC)+G25MV3	----	----		
	29,000	8.5	10.00	9.40	3090	----	CR26-31	----	LB-85663L (26K49)	
	30,600	9.0	10.50	9.80	3125	----	CR26-41(N)(W)	----		
	29,800	8.7	10.90	9.90	3010	----	CR26-41(N)(W)+G25MV3	----		
	28,200	8.3	10.00	9.30	3040	----	----	CH23-31		
	29,000	8.5	10.00	9.40	3085	----	----	CH23-41		
						Blower Coil Units				Valve
	28,600	8.4	10.05	9.60	2980	◆CB29M-21/26 (Multi-Position)			●Factory Installed	
	28,600	8.4	10.05	9.30	3070	◆CB29M-31 (Multi-Position)				
	29,000	8.5	10.05	9.40	3085	◆CB29M-41 (Multi-Position)				
	29,200	8.6	10.50	9.80	2980	◆CB30M-21/26 (Multi-Position)				
	30,600	9.0	10.80	10.10	3035	◆CB30M-31 (Multi-Position)				
	30,800	9.0	10.50	10.00	3085	◆CB30M-41 (Multi-Position)				
	31,000	9.1	11.00	10.50	2955	◆CB31MV-41 (Multi-Position)				
	28,800	8.4	10.00	9.40	3060	⊕	◆CVP10-31/EC10Q3	----		----
29,400	8.6	10.00	9.55	3080	⊕	◆CVP10-41/EC10Q3	----	----		
3 Ton HS29-411 (76) HS29-413 (78)						Evaporator Coils			Valve	
	34,000	10.0	10.00	9.40	3620	C23-41(W)(FC)	----	----	LB-85663L (26K49)	
	34,800	10.2	10.00	9.80	3560	◆C26-31(W)(FC)	----	----	●Factory Installed	
	35,400	10.4	10.00	9.60	3685	C23-46(FC)	----	----	LB-85663L (26K49)	
	36,200	10.6	10.00	9.80	3700	◆C26-41(FC)	----	----	●Factory Installed	
	36,600	10.7	10.00	9.85	3725	◆C26-46(FC)	----	----		
	36,800	10.8	10.00	9.85	3740	C23-51(FC)	----	----	LB-85663L (26K49)	
	36,600	10.7	10.45	9.65	3790	◆C26-46(FC)+G25MV3	----	----	●Factory Installed	
	35,800	10.5	10.00	9.80	3655	----	CR26-41(N)(W)	----	LB-85663L (26K49)	
	36,600	10.7	10.45	9.65	3790	----	CR26-41(N)(W)+G25MV3	----		
	35,600	10.4	10.00	9.65	3695	----	----	CH23-41		
						Blower Coil Units				Valve
	33,400	9.8	10.05	9.40	3560	◆CB29M-31 (Multi-Position)			●Factory Installed	
	34,000	10.0	10.05	9.25	3675	◆CB29M-41 (Multi-Position)				
	35,000	10.3	10.80	9.65	3625	◆CB30M-31 (Multi-Position)				
	36,000	10.5	10.50	9.60	3750	◆CB29M-46 (Multi-Position)				
	36,400	10.7	10.30	9.50	3830	◆CB30M-41 (Multi-Position)				
	36,400	10.7	10.50	10.00	3645	◆CB30M-46 (Multi-Position)				
	36,400	10.7	10.50	10.10	3600	◆CB31MV-41 (Multi-Position)				
	37,000	10.8	10.70	10.10	3660	◆CB30M-51 (Multi-Position)				
37,400	11.0	11.05	10.55	3535	◆CB31MV-51 (Multi-Position)					
35,400	10.4	10.00	9.65	3675	⊕	◆CVP10-41/EC10Q3	----	----		
					⊕	◆CVP10-46/EC10Q4	----	----		

★Rated in accordance with ARI Standard 210/240; 95°F (35°C) outdoor air temperature, 80°F (27°C) db / 67°F (19°C) wb entering evaporator air with 25 ft. (7.6 m) of connecting refrigerant lines.

*Sound Rating Number rated in accordance with test conditions included in ARI Standard 270.

** Kit is required and must be ordered extra, unless shown as factory installed.

●Furnished as standard with coil.

◆Start Kit is required with 1 phase models for proper system operation. Must be ordered extra. See Repair Parts Master Price List Card PL1 or Logic Software Repair Parts Handbook System for correct kit.

NOTE – For expanded ratings, see Expanded Rating Tables Bulletin indexed in this tab section.

ARI RATINGS — EXPANSION VALVE SYSTEMS

Unit Size & Model No. *Sound Rating Number (db)	★ARI Standard 210/240 Ratings					Up-Flow	Down-Flow	Horizontal	**Expansion Valve Kit Required	
	Cooling Cap.		SEER	EER	Total Unit Watts					Evaporator Coils
	Btuh	kW								
3.5 Ton HS29-461 (80) HS29-463 (82)	39,000	11.4	10.00	9.05	4305	C23-46(FC)	----	----	LB-85663K (26K35)	
	39,000	11.4	10.00	9.30	4200	C26-41(FC)	----	----	●Factory Installed	
	40,500	11.9	10.00	9.25	4370	C26-46(FC)	----	----		
	41,000	12.0	10.00	9.35	4380	C23-51(FC)	----	----	LB-85663K (26K35)	
	41,000	12.0	10.00	9.30	4415	C26-51(FC)	----	----	●Factory Installed	
	41,500	12.2	10.75	9.90	4190	C26-51(FC)+G25MV5	----	----		
	40,500	11.9	10.00	9.35	4335	----	CR26-51(N)(W)	----	LB-85663K (26K35)	
	41,500	12.2	10.75	9.90	4190	----	CR26-51(N)(W)+G25MV5	----		
	39,500	11.6	10.00	9.20	4295	----	----	CH23-41		
	40,500	11.9	10.00	9.30	4355	----	----	CH23-51		
		Btuh	kW	SEER	EER	Watts	Blower Coil Units			Valve
		39,500	11.6	10.30	9.35	4220	CB30M-41 (Multi-Position)			●Factory Installed
		39,500	11.6	10.35	9.40	4205	CB31MV-41 (Multi-Position)			
		40,000	11.7	10.20	9.05	4425	CB29M-46 (Multi-Position)			
		40,500	11.9	10.05	9.05	4485	CB29M-51 (Multi-Position)			
		41,000	12.0	10.50	9.60	4280	CB30M-46 (Multi-Position)			
		41,500	12.2	10.60	9.65	4300	CB30M-51 (Multi-Position)			
		42,000	12.3	10.60	10.00	4200	CB31MV-51 (Multi-Position)			
		39,000	11.4	10.00	9.05	4305	⊕ CVP10-46/EC10Q4	----	----	
	39,500	11.6	10.00	9.20	4285	⊕ CVP10-51/EC10Q4	----	----		
4 Ton HS29-511 (82) HS29-513 (84)		Btuh	kW	SEER	EER	Watts	Evaporator Coils			Valve
		43,500	12.7	10.00	9.20	4730	C26-41(FC)	----	----	●Factory Installed
		45,000	13.2	10.00	9.25	5705	C26-46(FC)	----	----	
		46,000	13.5	10.00	9.25	4980	C23-51(FC)	----	----	LB-85663K (26K35)
		46,000	13.5	10.00	9.25	4975	C26-51(FC)	----	----	●Factory Installed
		46,000	13.5	10.00	9.25	4980	C26-65(FC)	----	----	
		47,000	13.8	10.00	9.35	5020	C23-51/65(FC)	----	----	LB-85663K (26K35)
		48,000	14.1	10.00	9.50	5065	C26-65(FC)EAP	----	----	
		48,000	14.1	10.40	9.80	4900	C26-65(FC)+G25MV5	----	----	●Factory Installed
		48,500	14.2	10.50	9.90	4900	C26-65(FC)EAP+G25MV5	----	----	
		46,000	13.5	10.00	9.25	4975	----	CR26-51(N)(W)	----	LB-85663K (26K35)
		46,500	13.6	10.00	9.30	5010	----	CR26-65(N)(W)	----	
		48,000	14.1	10.40	9.80	4900	----	CR26-65(N)(W)+G25MV5	----	
		45,500	13.3	10.00	9.15	4970	----	----	CH23-51	
		46,000	13.5	10.00	9.20	4990	----	----	CH23-65	
		48,000	14.1	10.00	9.50	5065	----	----	CH23-68	
		48,500	14.2	10.50	9.90	4900	----	----	CH23-68+G25MV5	
		Btuh	kW	SEER	EER	Watts	Blower Coil Units			Valve
		43,500	12.7	10.20	9.35	4655	CB30M-41 (Multi-Position)			●Factory Installed
		43,500	12.7	10.25	9.35	4640	CB31MV-41 (Multi-Position)			
	45,000	13.2	10.05	9.00	5000	CB29M-51 (Multi-Position)				
	45,000	13.2	10.50	9.50	4725	CB30M-46 (Multi-Position)				
	45,500	13.3	10.00	9.0	5050	CB29M-65 (Multi-Position)				
	46,000	13.5	10.50	9.45	4855	CB30M-51 (Multi-Position)				
	46,000	13.5	10.60	9.55	4805	CB31MV-51 (Multi-Position)				
	46,500	13.6	10.50	9.35	4965	CB30M-65 (Multi-Position)				
	47,000	13.8	10.70	9.60	4885	CB31MV-65 (Multi-Position)				
	44,500	13.0	10.00	9.05	4915	⊕ CVP10-51/EC10Q4	----	----		
	45,500	13.3	10.00	9.15	4965	⊕ CVP10-65/EC10Q5	----	----		

★ Rated in accordance with ARI Standard 210/240; 95°F (35°C) outdoor air temperature, 80°F (27°C) db / 67°F (19°C) wb entering evaporator air with 25 ft. (7.6 m) of connecting refrigerant lines.

* Sound Rating Number rated in accordance with test conditions included in ARI Standard 270.

** Kit is required and must be ordered extra, unless shown as factory installed.

● Furnished as standard with coil.

NOTE — Shaded area denotes most popular evaporator coil.

NOTE — For expanded ratings, see Expanded Rating Tables Bulletin indexed in this tab section.

ARI RATINGS – EXPANSION VALVE SYSTEMS

Unit Size & Model No. *Sound Rating Number (db)	★ARI Standard 210/240 Ratings					Up-Flow	Down-Flow	Horizontal	**Expansion Valve Kit Required
	Cooling Cap.		SEER	EER	Total Unit Watts				
	Btuh	kW							
5 Ton HS29-651 (82) HS29-653 (84)	55,500	16.3	10.00	8.85	6285	C26-51(FC)	----	----	●Factory Installed
	56,500	16.6	10.00	9.30	6065	C26-65(FC)	----	----	
	57,500	16.8	10.00	9.20	6245	C23-51/65(FC)	----	----	LB-85663K (26K35)
	58,500	17.1	10.00	9.35	6270	C26-65(FC)EAP	----	----	●Factory Installed
	56,500	16.6	10.65	9.50	5950	C26-65(FC)+G25MV5	----	----	
	58,500	17.1	10.70	9.40	6220	C26-65(FC)EAP+G25MV5	----	----	LB-85663K (26K35)
	55,500	16.3	10.00	9.30	5980	----	CR26-51(N)(W)	----	
	57,500	16.8	10.00	9.50	6060	----	CR26-65(N)(W)	----	
	56,500	16.6	10.65	9.50	5950	----	CR26-65(N)(W)+G25MV5	----	
	58,000	17.0	10.00	9.30	6250	----	----	CH23-65	
	58,500	17.1	10.00	9.35	6270	----	----	CH23-68	
	58,500	17.1	10.70	9.40	6220	----	----	CH23-68+G25MV5	
	Btuh	kW	SEER	EER	Watts	Blower Coil Units			
	55,000	16.1	10.05	8.65	6360	CB29M-51 (Multi-Position)			●Factory Installed
	55,500	16.3	10.05	8.80	6315	CB29M-65 (Multi-Position)			
	56,000	16.4	10.50	9.45	5915	CB30M-51 (Multi-Position)			
	56,000	16.4	10.60	9.55	5865	CB31MV-51 (Multi-Position)			
	57,500	16.8	10.50	9.30	6190	CB30M-65 (Multi-Position)			
	57,500	16.8	10.60	9.35	6155	CB31MV-65 (Multi-Position)			
	54,500	16.0	10.00	9.20	5935	⊕ CVP10-51/EC10Q4	----	----	
56,000	16.4	10.00	9.30	6010	⊕ CVP10-65/EC10Q5	----	----		
5 Ton + HS29-681 HS29-683 (82)	Btuh	kW	SEER	EER	Watts	Evaporator Coils			Valve
	58,500	17.1	10.05	9.60	6085	C26-51(FC)	----	----	●Factory Installed
	58,500	17.1	10.25	9.55	6115	C26-65(FC)	----	----	
	60,000	17.6	10.50	9.60	6255	C23-51/65(FC)	----	----	LB-85663K (26K35)
	62,500	18.3	10.75	10.05	6230	C26-65(FC)EAP	----	----	●Factory Installed
	55,500	16.3	10.00	9.15	6055	----	CR26-51(N)(W)	----	LB-85663K (26K35)
	58,500	17.1	10.00	9.40	6235	----	CR26-65(N)(W)	----	
	59,000	17.3	10.00	9.45	6245	----	----	CH23-65	
	62,500	18.3	10.75	10.05	6230	----	----	CH23-68	
	Btuh	kW	SEER	EER	Watts	Blower Coil Units			
	58,000	17.0	11.05	10.60	5460	CB30M-51 (Multi-Position)			●Factory Installed
	58,000	17.0	11.10	10.70	5410	CB31MV-51 (Multi-Position)			
	59,000	17.3	10.05	9.85	5995	CB29M-65 (Multi-Position)			
	59,500	17.4	11.05	10.50	5665	CB30M-65 (Multi-Position)			
	60,000	17.6	11.30	10.65	5635	CB31MV-65 (Multi-Position)			
58,000	17.0	10.00	9.40	6170	⊕ CVP10-65/EC10Q5	----	----		

★Rated in accordance with ARI Standard 210/240; 95°F (35°C) outdoor air temperature, 80°F (27°C) db / 67°F (19°C) wb entering evaporator air with 25 ft. (7.6 m) of connecting refrigerant lines.

*Sound Rating Number rated in accordance with test conditions included in ARI Standard 270.

** Kit is required and must be ordered extra, unless shown as factory installed.

●Furnished as standard with coil.

NOTE – Shaded area denotes most popular evaporator coil.

NOTE – For expanded ratings, see Expanded Rating Tables Bulletin indexed in this tab section.

ARI RATINGS — RFCIV SYSTEMS ONLY

Unit Size & Model No. *Sound Rating Number (db)	★ARI Standard 210/240 Ratings					Up-Flow	Down-Flow	Horizontal	**RFCIV Metering Orifice Size Required
	Cooling Cap.		SEER	EER	Total Unit Watts				
	Btuh	kW							
1 Ton HS29-141 (74)	12,500	3.7	10.50	10.10	1235	C23-26(W)(FC)	----	----	0.047 (42J35)
	12,300	3.6	10.05	9.90	1245	----	CR26-21	----	
	12,000	3.5	10.00	9.70	1235	----	----	CH23-21	
1.5 Ton HS29-211 (76)	19,000	5.6	11.50	10.95	1735	C23-26(W)(FC)	----	----	0.055 (42J39)
	18,600	5.4	11.00	10.80	1725	----	CR26-21	----	
	18,000	5.3	11.00	10.45	1720	----	----	CH23-21	
2 Ton HS29-261 (76)	24,200	7.1	11.00	10.00	2420	C23-26(W)(FC)	----	----	0.062 (66J87)
	24,400	7.1	11.05	10.05	2425	C23-31(W)(FC)	----	----	
	23,200	6.8	10.00	9.70	2390	----	CR26-21	----	
	25,400	7.4	11.00	10.35	2455	----	CR26-31	----	
	24,000	7.0	10.65	9.95	2415	----	----	CH23-31	
2.5 Ton HS29-311 (76)	28,600	8.4	10.00	9.40	3050	C23-31(W)(FC)	----	----	0.065 (42J44)
	29,000	8.5	10.00	9.45	3065	C23-41(W)(FC)	----	----	
	29,000	8.5	10.00	9.40	3090	----	CR26-31	----	
	30,200	8.8	10.50	9.65	3125	----	CR26-41(N)(W)	----	
	28,200	8.3	10.00	9.30	3040	----	----	CH23-31	
	29,000	8.5	10.00	9.40	3085	----	----	CH23-41	
3 Ton HS29-411 (76) HS29-413 (78)	34,000	10.0	10.00	9.50	3615	C23-41(W)(FC)	----	----	0.074 (42J49)
	35,200	10.3	10.00	9.55	3685	C23-46(FC)	----	----	
	36,400	10.7	10.00	9.75	3740	C23-51(FC)	----	----	
	35,600	10.4	10.00	9.75	3655	----	CR26-41(N)(W)	----	
	35,400	10.4	10.00	9.60	3695	----	----	CH23-41	
3.5 Ton HS29-461 (80) HS29-463 (82)	39,000	11.4	10.00	9.10	4290	C23-46(FC)	----	----	0.080 (42J52)
	40,500	11.9	10.00	9.25	4380	C23-51(FC)	----	----	
	40,500	11.9	10.00	9.35	4335	----	CR26-51(N)(W)	----	
	39,500	11.6	10.00	9.20	4305	----	----	CH23-41	
	40,000	11.7	10.00	9.20	4355	----	----	CH23-51	
4 Ton HS29-511 (82) HS29-513 (84)	46,000	13.5	10.00	9.25	4960	C23-51(FC)	----	----	0.086 (42J55)
	47,000	13.8	10.00	9.35	5020	C23-51/65(FC)	----	----	
	46,000	13.5	10.00	9.25	4975	----	CR26-51(N)(W)	----	
	46,500	13.6	10.00	9.30	5010	----	CR26-65(N)(W)	----	
	45,500	13.3	10.00	9.15	4970	----	----	CH23-51	
	46,000	13.5	10.00	9.20	4990	----	----	CH23-65	

★Rated in accordance with ARI Standard 210/240; 95°F (35°C) outdoor air temperature, 80°F (27°C) db / 67°F (19°C) wb entering evaporator air with 25 ft. (7.6 m) of connecting refrigerant lines.

*Sound Rating Number rated in accordance with test conditions included in ARI Standard 270.

** RFCIV metering device furnished with HS29 condensing unit for field installation in evaporator coil.

NOTE — Shaded area denotes most popular evaporator coil.

NOTE — HS29-651–653 Units Are Not Rated With RFCIV Systems.

NOTE — For expanded ratings, see Expanded Rating Tables Bulletin indexed in this tab section.