

# CS Series (6K-16K) Condensers

## High-Efficiency Cooling & Heating



The CS series of condensing units for boats provides heating and cooling in a highly efficient package. The hermetically sealed, high-efficiency compressor reduces amp draw while pressure switches, thermal-overload, and start components provide constant system protection and proper operation. In addition, the expansion device and check-valve assemblies control load balancing during operation. The copper-encased cupronickel condenser coils are highly resistant to corrosion caused by continuous seawater flow.

The symmetrical base design provides optimum space efficiency and installation flexibility for easy handling and positioning of the unit. A built-in hose barb aids in complete condensate removal from the drain pan. Two sets of vibration isolators ensure quiet operation.

The electrical box can be mounted remotely. It has a moisture-resistant design with a corrosion-resistant enclosure. CS Digital (CSD) units include the Passport I/O circuit board.

As with all Marine Air products, quality is assured. Each unit is pre-charged, test-run in all operating modes, and leak-checked at the factory prior to shipping. All surface components are constructed of or coated with materials resistant to fire and corrosion. Charge Guard® protection provides sealed access ports that ensure environmental protection and system integrity. All CS condensing units meet or exceed applicable ABYC and US Coast Guard regulations, CE directives, and general Air Conditioning and Refrigeration Industry (ARI) standards.

### Key Benefits

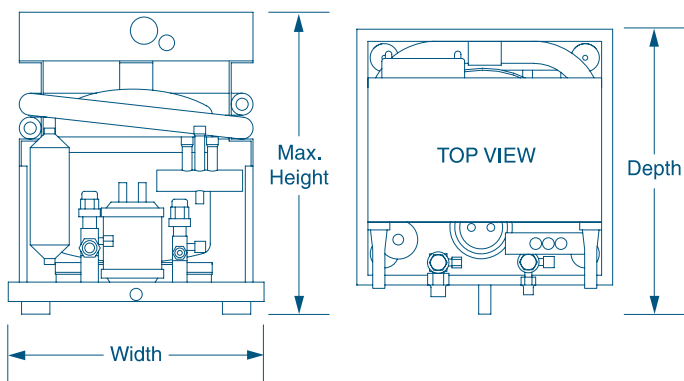
- High-efficiency condensers
- Valves and switches provide load balancing and constant system protection
- Symmetrical base for installation flexibility and ease of handling
- Electrical box can be mounted remotely
- Passport I/O circuit board included
- Charged, tested, and leak checked at the factory
- Meets or exceeds all applicable standards and regulation

### Specifications for CS Series (6K-16K) Condensers

Model <sup>(1)</sup>	CSD6			CSD9			CSD12			CSD16		
Capacity (BTU/h) <sup>(2)</sup>	6000			9000			12000			16000		
Voltage (V)	115	230	240	115	230	240	115	230	240	115	230	240
Cycle (Hz) <sup>(3)</sup> /Phase (Ph)	60/1			50/1			60/1			50/1		
Full Load Amps (FLA) Cool (A)	7	3.7	4.1	6.4	3.2	4.6	9.2	4.4	5.4	12.2	5.7	7
Full Load Amps (FLA) Heat (A)	7.7	4	4.8	7.2	3.6	5.2	11.1	5	6	13.5	6.4	8
Locked Rotor Amps (LRA) (A) <sup>(4)</sup>	34	20	21.2	40	20	25.6	50	31		75	36	39
Max. Circuit Breaker (A) <sup>(5)</sup>	20			20			35			40		
Min. Circuit Ampacity (A)	13	8	7	13	7	10	21	10	11	25	12	15
Refrigerant Type	417A			417A			417A			417A		
Max. Height (in/mm) <sup>(6)</sup>	15.2/387			15.2/387			15.2/387			15.2/387		
Width (in/mm) <sup>(7)</sup>	13.13/334			13.13/334			13.13/334			13.13/334		
Depth (in/mm) <sup>(7)</sup>	13.13/334			13.13/334			13.13/334			13.13/334		
Seawater Inlet Connection (in/mm)	5/8 /16			5/8 /16			5/8 /16			5/8 /16		
Refrigerant Line Connection-Discharge (in)	1/4			1/4			1/4			1/4		
Refrigerant Line Connection-Suction (in)	3/8			3/8			3/8			1/2		
Net Weight (lbs/kg) <sup>(8)</sup>	56/25.5			63/28.6	62.5/28.4	64/29.1	64.5/29.3		66/30	66.25/30.1	66/30	75/34.1
Gross Weight (lbs/kg) <sup>(8)</sup>	63/28.6			85.5/38.8	85/38.6	74/33.6	87/39.5		75/34.1	90/40.9	87/39.5	96/43.6

<sup>1</sup> 'D' in the model number indicates a digital control. Replace with 'M' for units with mechanical control. Add a 'Z' for 230V/60Hz units or 'Z50' for 240V/50Hz units. For example: CSD12K=115V/60Hz; CSD12KZ=230V/60Hz; CSD12KZ50=240V/50Hz  
<sup>2</sup> BTU and electrical data are based on a 45°F/7.2°C evaporator and 100°F/37.8°C condenser in cool mode, and a 45°F/7.2°C evaporator and 130°F/54.4°C condenser in heat mode.  
<sup>3</sup> Some 60Hz units may be operated at 50Hz but at reduced voltages that will result in a loss of capacity and higher or lower amp draw than listed. Dedicated 50Hz units are available that provide the full rated capacity, but these units must not be operated.  
<sup>4</sup> Varies with voltage and load, and may be higher or lower than listed.  
<sup>5</sup> Specification is for reverse-cycle units. Cool-only units may use smaller circuit breakers.  
<sup>6</sup> Combined height of unit and electrical box. Subtract 2.60 in. (66 mm) for remotely-mounted electrical box. All dimensions ± 0.25 in. (6 mm).  
<sup>7</sup> All dimensions ± 0.25 in. (6 mm).  
<sup>8</sup> Based on 60Hz/1-phase units. All weights ± 10%

### Dimensions



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# CS Series (24K-60K) Condensers

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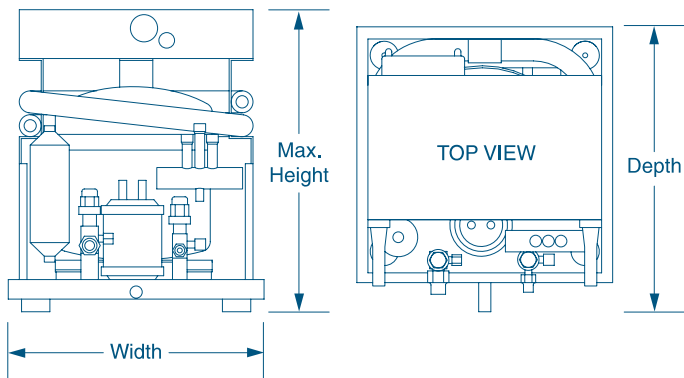
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### Specifications for CS Series (24K-60K) Condensers

Model <sup>(1)</sup>	CSD24			CSD30			CSD36				CSD48				CSD60
Capacity (BTU/h) <sup>(2)</sup>	24000			30000			36000				48000				60000
Voltage (V)	230	240	380	230	240	380	230	240	380	230	240	380	230	240	380
Cycle (Hz) <sup>(3)</sup> /Phase (Ph)	60/1	50/1	50/3	60/1	60/3	50/1	60/1	60/3	50/1	50/3	60/1	60/3	50/1	50/3	60/1
Full Load Amps (FLA) Cool (A)	7.6	6.9	2.6	7.7	6.5	8.5	9.2	7.1	11.7	4.3	11.4	8.2	22.3	5	17.2
Full Load Amps (FLA) Heat (A)	9.5	8.5	3.5	9.6		10.6	11.7	7.9	13.9	5.4	14.5	9.7	24.8	6.5	22
Locked Rotor Amps (LRA) (A) <sup>(4)</sup>	55		29	61	58	70	73	68	85	40	86	78	132.2	60	132.2
Max. Circuit Breaker (A) <sup>(5)</sup>	35	30	10	40	30	35	45	30	50	15	55	35	80	20	80
Min. Circuit Ampacity (A)	22	19	9	24	17	22	28	17	29	11	33	20	46	14	46
Refrigerant Type	417A			417A			417A				417A				417A
Max. Height (in/mm) <sup>(6)</sup>	21/534			21.5/547			25.5/648				25.5/648				28/712
Width (in/mm) <sup>(7)</sup>	16/407			16/407			16/407				16/407				24/610
Depth (in/mm) <sup>(7)</sup>	16/407			16/407			16/407				16/407				24/610
Seawater Inlet Connection (in/mm)	5/8 /16			5/8 /16			5/8 /16				5/8 /16				5/8 /16
Refrigerant Line Connection-Discharge (in)	3/8			3/8			3/8				3/8				5/8
Refrigerant Line Connection-Suction (in)	5/8			3/4			3/4				3/4				3/4
Net Weight (lbs/kg) <sup>(8)</sup>	115/52.2	123.3/56	115/52.2	127/57.7			0/0	135/61.3			145/65.8			173/78.5	
Gross Weight (lbs/kg) <sup>(8)</sup>	120/54.5	0/0	120/54.5	132/59.9			198/89.9	140/63.6			150/68.1			181/82.2	

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