

150-1180 BTU/hr

Liquid Cooled Air Conditioners

LIQUID COOLED

LHP SERIES

Solid-state liquid-cooled air conditioners work well in tight enclosures.

FEATURES

- No compressor, fluorocarbons or filters
- Virtually maintenance free operation
- Stainless steel exterior housing
- Mounts in any orientation
- No air exhaust

APPLICATIONS

Cools equipment racks, PCs, Drives, Amplifiers, Motor Controls and other electronic equipment.

AIR CONDITIONERS

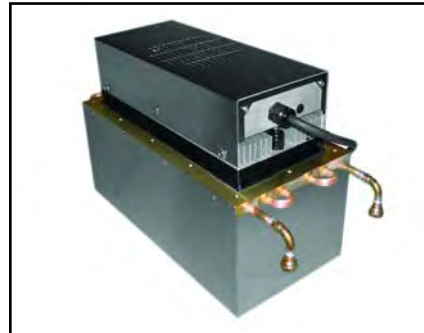
Liquid Cooled

150-1180 BTU/hr



LHP-1700FF page 74

950-1180 BTU/hr rating,
19.0" x 8.7" mounting area
120 and 240 VAC input.



LHP-1200 page 76

590-640 BTU/hr rating,
15.0" x 7.3" mounting area
120 VAC input



LHP-800FF page 78

460-540 BTU/hr rating,
6.6" x 6.6" mounting area
24 VDC for TE, 120 VAC fan



LHP-300FF page 78

150-175 BTU/hr rating,
4" x 4" mounting area
24 VDC for TE 120 VAC fan

LHP-1700FF

Liquid Cooled Air Conditioner

Liquid Cooled
Thru Mount
NEMA-12

120 VAC, 240 VAC Input

FEATURES

- Standard 19" rack mount
- Weighs only 46 lbs. (21 kg)
- Ambient range 0°C to +70°C
- Available in 120 or 240 VAC
- Adaptable to NEMA-4 and explosion proof applications
- Can be mounted entirely inside purged enclosure
- No compressor, fluorocarbons or filters
- Virtually maintenance-free operation
- Stainless steel exterior housing
- Mounts and operates in any orientation

INCLUDES

- Integral power supply
- Compression fittings
- Power cord



SPECIFICATIONS

MODEL	PART NUMBER	NOTES	PERFORMANCE RATING BTU/HR	VOLTAGE VAC 50/60 Hz	CURRENT AMPS.	Coolant Min Flow GPM	TEMP. CONTROL	OPERATING AMBIENT/COOLANT TEMPERATURE RANGE °C	OPERATING ENCLOSURE TEMPERATURE RANGE °C
LHP-1700FF	2-1090-0-000	Cool only	950-1180	120	7.0	0.3	None	0/+70	-10/+60
LHP-1700FF	2-1080-0-000	Cool only	950-1180	120	7.0	0.3	TC-6F	0/+70	-10/+60
LHP-1700FF	2-1050-0-000	Cool only	950-1180	120	7.0	0.3	EXT*	0/+70	-10/+60
LHP-1700FFHC	2-1030-1-000	Heat/Cool	950-1180	120	7.0	0.3	TC-3F	0/+70	-10/+60
LHP-1700FFHC	2-1050-1-000	Heat/Cool	950-1180	120	7.0	0.3	EXT*	0/+70	-10/+60
LHP-1702FF	2-1092-0-000	Cool only	950-1180	240	4.7	0.3	None	0/+70	-10/+60
LHP-1702FF	2-1082-0-000	Cool only	950-1180	240	4.7	0.3	TC-6F	0/+70	-10/+60
LHP-1702FF	2-1052-0-000	Cool only	950-1180	240	4.7	0.3	EXT*	0/+70	-10/+60
LHP-1702FFHC	2-1032-1-000	Heat/Cool	950-1180	240	4.7	0.3	TC-3F	0/+70	-10/+60
LHP-1702FFHC	2-1052-1-000	Heat/Cool	950-1180	240	4.7	0.3	EXT*	0/+70	-10/+60

* Unit is set for 5-32 VDC external signal, relay(s) included

LHP-1200

Liquid Cooled Air Conditioner

Liquid Cooled
Thru Mount

120 VAC Input

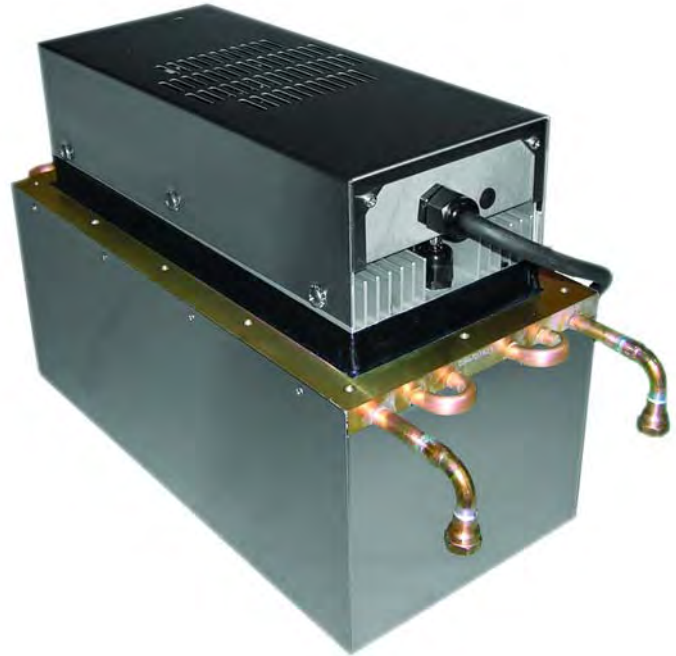
NEMA-4, 4X, C1 D2, C1 D1 & ATEX Zone 1

FEATURES

- Compact, (only 15" L X 8" W X 7.3" D)
- Can be mounted entirely inside purged enclosure or maintain purge when wall mounted
- No compressor, fluorocarbons or filters
- Virtually maintenance-free operation
- Stainless steel exterior housing
- Mounts and operates in any orientation

INCLUDES

- Integral power supply
- In/Out 1/4-18 NPT connectors for coolant
- Power cord
- Gasket and mounting hardware
- Adjustable temperature control



SPECIFICATIONS

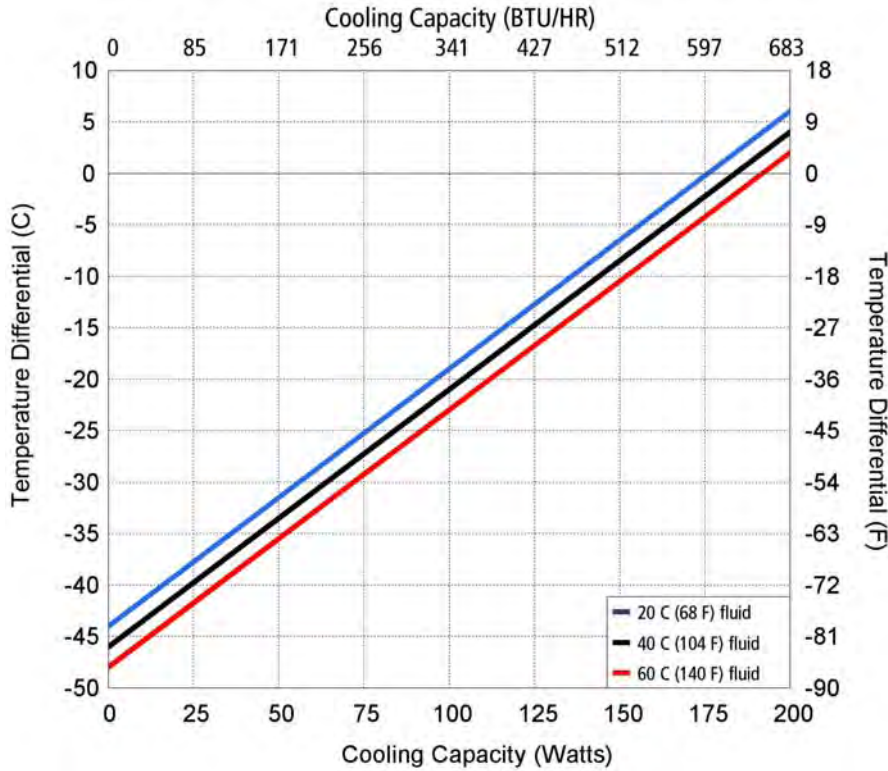
	MODEL	PART NUMBER	NOTES	PERFORMANCE RATING BTU/HR	VOLTAGE VAC 50/60 Hz	CURRENT AMPS.	Coolant Min Flow GPM	WEIGHT LBS. (kg)	TEMP. CONTROL	OPERATING AMBIENT/Coolant TEMPERATURE RANGE °C	OPERATING ENCLOSURE TEMPERATURE RANGE °C
NEMA 4	LHP-1200XE	2-3090-4-000	Cool only	590-640	120	3.7	0.3	21(9.5)	None	0/+70	-10/+60
	LHP-1200XE	2-3080-4-000	Cool only	590-640	120	3.7	0.3	21(9.5)	TC-6F	0/+70	-10/+60
	LHP-1200XE	2-30F0-4-000	Cool only	590-640	120	3.7	0.3	21(9.5)	85°F (30°)	0/+70	-10/+60
	LHP-1200XE	2-3050-4-000	Cool only	590-640	120	3.7	0.3	21(9.5)	EXT*	0/+70	-10/+60
	LHP-1200XEHC	2-3030-5-000	Heat/Cool	590-640	120	3.7	0.3	21(9.5)	TC-3F	0/+70	-10/+60
	LHP-1200XEHC	2-3050-5-000	Heat/Cool	590-640	120	3.7	0.3	21(9.5)	EXT*	0/+70	-10/+60
C1 D2	LHP-1200XP †	2-3090-2-027	Cool only	590-640	120	3.7	0.3	21(9.5)	None	0/+71	-10/+50
	LHP-1200XP †	2-3080-2-028	Cool only	590-640	120	3.7	0.3	21(9.5)	TC-6F	0/+71	-10/+50
	LHP-1200XP †	2-30F0-2-029	Cool only	590-640	120	3.7	0.3	21(9.5)	85°F (30°)	0/+71	-10/+50
	LHP-1200XP †	2-3050-2-030	Cool only	590-640	120	3.7	0.3	21(9.5)	SSR drive	0/+71	-10/+50
	LHP-1200XPHC †	2-3030-3-031	Heat/Cool	590-640	120	3.7	0.3	21(9.5)	TC-3F	0/+71	-10/+50
	LHP-1200XPHC †	2-3050-3-032	Heat/Cool	590-640	120	3.7	0.3	21(9.5)	SSR drive	0/+71	-10/+50
C1 D1	LHP-1200XP †	2-3090-2-021	Cool only	590-640	120	3.7	0.3	30(13.6)	none	0/+50	-10/+50
	LHP-1200XP †	2-3080-2-022	Cool only	590-640	120	3.7	0.3	30(13.6)	TC-6F	0/+50	-10/+50
	LHP-1200XP †	2-30F0-2-023	Cool only	590-640	120	3.7	0.3	30(13.6)	85°F (30°)	0/+50	-10/+50
	LHP-1200XP †	2-3050-2-024	Cool only	590-640	120	3.7	0.3	30(13.6)	SSR drive	0/+50	-10/+50
	LHP-1200XPHC †	2-3030-3-025	Heat/Cool	590-640	120	3.7	0.3	30(13.6)	TC-3F	0/+50	-10/+50
	LHP-1200XPHC †	2-3050-3-026	Heat/Cool	590-640	120	3.7	0.3	30(13.6)	SSR drive	0/+50	-10/+50

* Unit is set for 5-32 VDC external signal, relay(s) included

† Agency approvals pending; ATEX certification will require full system approval; All specifications subject to change without notice

LHP-1200

PERFORMANCE CURVE



Equation of line: $y = \Delta T(^{\circ}C)$ $x = \text{Capacity (Watts)}$

Fluid Temp	20°C	40°C	60°C
Enclosure Air	$y = .25x - 44.0$	$y = .25x - 46.0$	$y = .25x - 48.0$
Cold Sink	$y = .19x - 44.0$	$y = .19x - 46.0$	$y = .19x - 48.0$

MOUNTING STYLE

Thru Mount

ENVIRONMENTS SERVED

NEMA-4 IP 56

Class I Div 2 and NEMA-4X IP 56

Class I Div 1 and ATEX Zone 1

RATING (TRADITIONAL)

613 BTU/hr @ 0 °F ΔT

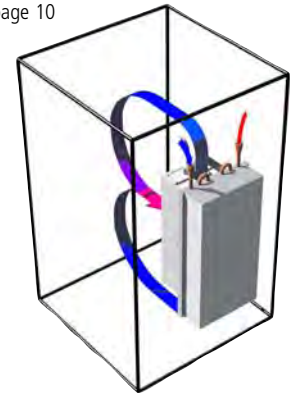
770 BTU/hr @ +20 °F ΔT *

RATING (DIN 3168)

180 Watts L35 L35

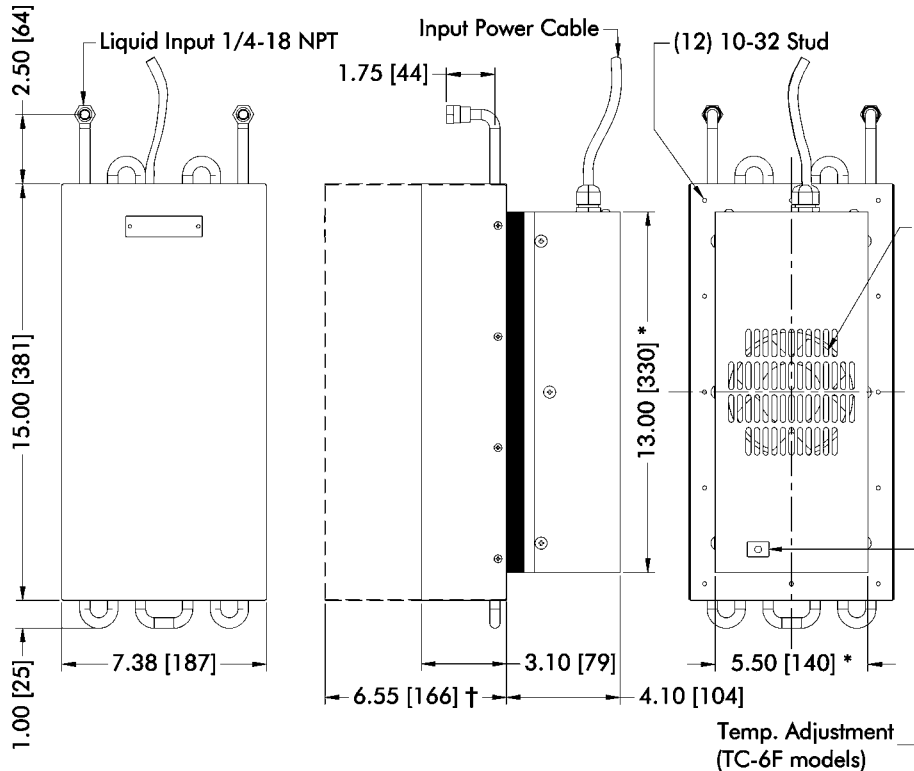
125 Watts L35 L50

* See page 10

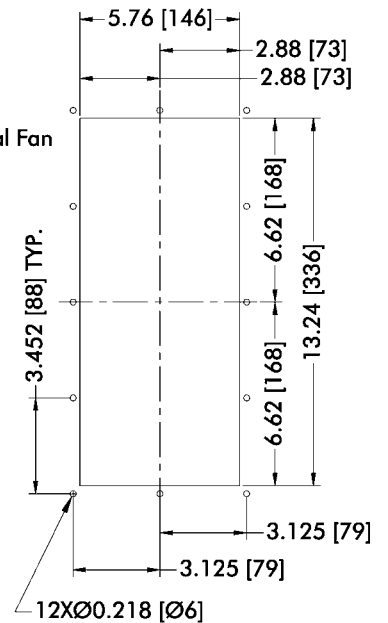


Air Flow Pattern

DIMENSIONS



MOUNTING CUTOUT DIMENSIONS



* Dimension does not include hardware. Mounting hardware and gasket included but not shown.

† Dimension applies to XP versions.

Dimensions: Inches [Millimeters]

LHP-800FF

LHP-300FF

Liquid Cooled
Thru Mount
NEMA-12

Liquid Cooled Air Conditioner

General Purpose VDC Input



LHP-800FF



LHP-300FF

FEATURES

- Compact
- Light weight
- Ambient range 0°C to +70°C
- No compressor, fluorocarbons or filters
- Adaptable to NEMA-4 and explosion proof applications. Can be mounted entirely inside purged enclosure
- Virtually maintenance-free operation
- Mounts and operates in any orientation

INCLUDES

- Compression fittings
- Terminal strip for wire hook up

SPECIFICATIONS LHP-800FF

MODEL	PART NUMBER	NOTES	PERFORMANCE RATING BTU/HR	VOLTAGE VDC	CURRENT AMPS.	FAN VOLTAGE VDC	WEIGHT LBS (kg)	COOLANT MIN FLOW GPM	OPERATING AMBIENT/COOLANT TEMPERATURE RANGE °C	OPERATING ENCLOSURE TEMPERATURE RANGE °C
LHP-800FF	2-5095-0-000	Cool only	460-540	24	14	24	6(2.7)	0.3	0/+70	-10/+60
LHP-800FFHC	2-5099-1-000	Heat/Cool	460-540	24	14	24	6(2.7)	0.3	0/+70	-10/+60

Note: No provision for temperature control is included. Consult factory for options.

See also , "Power Supplies" , P. 141

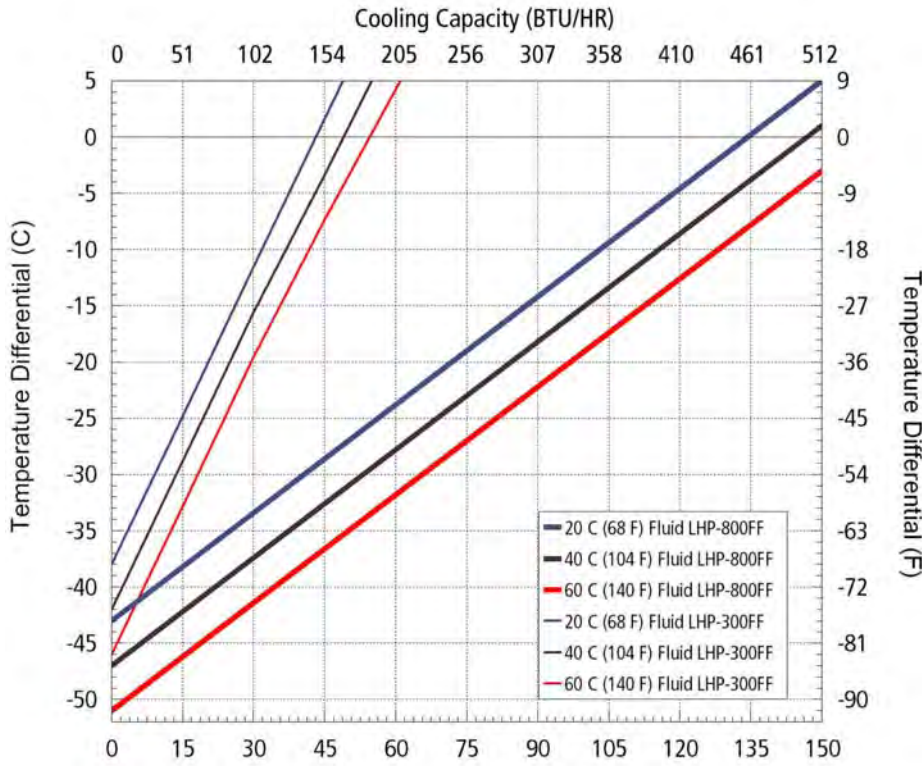
SPECIFICATIONS LHP-300FF

MODEL	PART NUMBER	NOTES	PERFORMANCE RATING BTU/HR	VOLTAGE VDC	CURRENT AMPS.	HEAT WATTS	WEIGHT LBS (kg)	COOLANT MIN FLOW GPM	OPERATING AMBIENT/COOLANT TEMPERATURE RANGE °C	OPERATING ENCLOSURE TEMPERATURE RANGE °C
LHP-300FF	2-7098-0-000	Cool only	150-175	12/24	12/6	N/A	2.75(1.25)	0.3	0/+70	-10/+60
LHP-300FFHC	2-7095-1-000	Heat/Cool	150-175	24	6	75	2.75(1.25)	0.3	0/+70	-10/+60

Note: No provision for temperature control is included. Consult factory for options.

See also , "Power Supplies" , P. 141

PERFORMANCE CURVE



Equation of line: $y = \Delta T(^{\circ}C)$ $x = \text{Capacity (Watts)}$

Fluid Temp	20°C	40°C	60°C
LHP-800FF	$y = .32x - 43.0$	$y = .32x - 47.0$	$y = .32x - 51.0$
LHP-300FF	$y = .88x - 38.0$	$y = .88x - 42.0$	$y = .88x - 46.0$

LHP-800FF

MOUNTING STYLE

Internal

RATING (TRADITIONAL)

500 BTU/hr @ 0 °F ΔT

615 BTU/hr @ +20 °F ΔT *

RATING (DIN 3168)

146 Watts L35 L35

105 Watts L35 L50

LHP-300FF

MOUNTING STYLE

Internal

RATING (TRADITIONAL)

160 BTU/hr @ 0 °F ΔT

200 BTU/hr @ +20 °F ΔT *

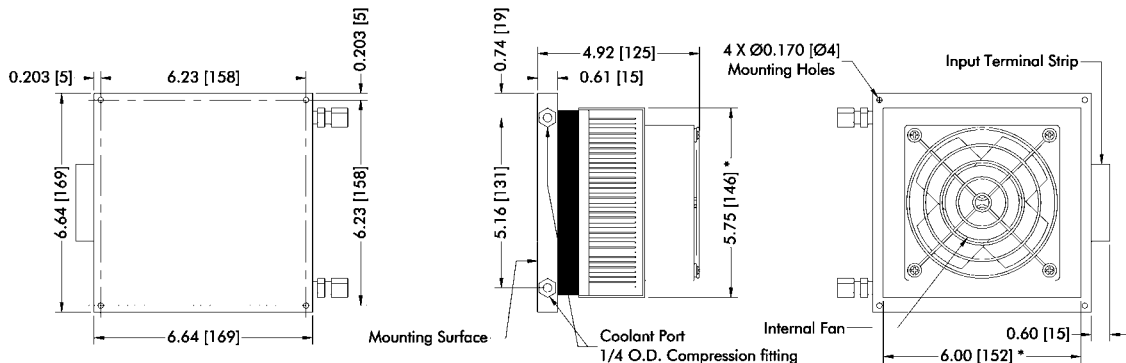
RATING (DIN 3168)

48 Watts L35 L35

34 Watts L35 L50

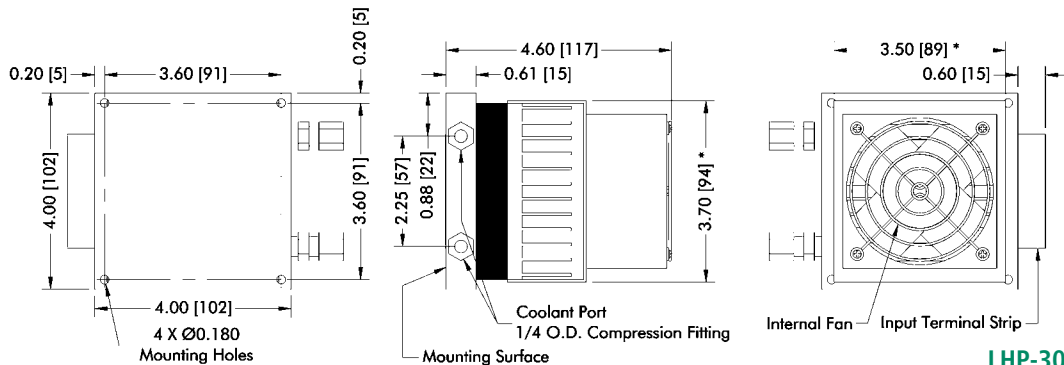
* See page 10

DIMENSIONS



* Dimension does not include hardware and sealant. Dimensions: Inches [Millimeters]

LHP-800FF



* Dimension does not include hardware and sealant. Dimensions: Inches [Millimeters]

LHP-300FF