

Type FAH Flanged Aluminum Finned Oil Immersion Heaters



Design Features

- * 3" - 150 lb rated 7 1/2" OD Aluminum Flange and Gasket
- * 2-7/8" OD Finned body designed for 3" Schedule 40 pipe
- * 2" OD x 5" long un-finned area under flange for fluid inlet
- * NEMA 1 (type 1N) Terminal Housing
- * 3-phase single circuit winding designs (48 amps max.)
- * 1/4-20 threaded studs for secure connections to power supply
- * Flange mates to standard 3" CHF Circulation Heater pipe body

Optional Features

- * Single- or three-phase designs from 120V to 600V maximum
- * Alternate terminal housings — None, NEMA 4, NEMA 4/7 or NEMA 12
- * 3" — 300 lb & 600 lb rated Aluminum mounting flanges
- * Optional internal overtemperature type K or J thermocouple sensor in heated zone. 24" pigtail leads standard in housing. (700°F maximum controller setting)
- * Alternate size ASA style Flanges — 3-1/2" & 4" in 150 lb ratings
- * Round, rectangular/square non-pressure rated Aluminum mounting flanges.
- * 3" or 4" size cast aluminum screw plug mounting in place of flange
- * Finned area watt densities 4 -16 for oil/organic fluids
- * External power wiring options including armored cable, braided or plain lead wire



Type FAH heaters are primarily designed for use in oil heating and oil separation systems at immersion media temperatures not exceeding 250°F. Heaters must be used with suitable high-limit temperature controls to keep the external aluminum finned surface area from exceeding 500-550°F. A liquid level sensor is required to insure that the heater is always fully immersed. **Heater must not be allowed to operate if not fully immersed or there is no or low liquid flow (below 2 gpm).** If used for heating static liquids in a tank, an internal high-limit thermocouple and an external temperature control set to 700°F should be used. See catalog Section 13 and 14.



Optional NEMA 4/7 Housing

FAH Immersion Heaters are designed for immersion heating of oils, heat transfer fluids, hydraulic fluids, and organic fluids non-corrosive to aluminum. The lightweight outer finned structure in contact with the heated media provides a low watt density surface in shorter immersion lengths for heating sensitive organic fluids that are susceptible to coking and carbonization.

The heaters are designed for fuel oil heating up to 250°F, and higher watt density versions are available for heat transfer fluid circulation systems up to 400°F. They are also ideal for heating glycol water solutions non-corrosive to the 6063 aluminum finned body and welded flange. They can be used in static tank heating or flowing oil applications.

The FAH series presents a smooth uniform heat transfer area to the flowing fluid, resulting in efficient heating with a minimum pressure drop. When used with a standard 3" schedule 40 pipe body it provides a 3.75 sq.in. cross-sectional flow area for the fluid. It can also be used effectively in 3-1/2" or 4" ID pipe bodies in order to provide an increased flow area for heavier, higher viscosity fluids. When used in the 3-1/2" pipe, the cross-sectional flow is 6.64 sq.in., and is 9.05 sq.in. for 4" pipe. Pipe ID's larger than this may not heat the flowing fluid properly.



Tempco Finned Aluminum Heaters have been certified as Recognized Components by Underwriters Laboratories (File Number MP4154) under CCN MDST2/8 to meet UL Standard 574 for oil heating. These heaters are also CSA certified for general immersion use under Tempco CSA File Number 043099.

If you require UL, CSA, or other NRTL agency approvals, please specify when ordering.

For Type FAH Flanged Heaters used in UL Recognized Oil Immersion Heating Applications

- The heated oil temperature cannot exceed 257°F (125°C)
- Flanged heater designs are UL rated to a maximum operating pressure of 150 psig
- Optional NPT screwplug designs are UL rated to a maximum operating pressure of 60 psig.
- The maximum finned surface area watt density is 16 watts/in²
- Maximum Wattage/Voltage: 24KW/600V

Contact Tempco for other application specific UL file information.

View Product Inventory @ www.tempco.com

Standard (Non-Stock) Flanged Aluminum Finned Immersion Heaters

Design Features

- * 3" — 150-lb ANSI Flange
- * NEMA 1 Terminal Housing
- * Three-Phase Single Circuit
- * Watt Density of 7 watts/in² on finned area

Immersed Length		KW	Part Number			Approximate Net Weight		CHF* Dimensional Drawing Number
in	mm		240V-3Ph	480V-3Ph	575V-3Ph	lbs	kgs	
20	508	3	FAH00001	FAH00002	FAH00003	21	9	—
27	686	4.5	FAH00004	FAH00005	FAH00006	23	11	3.1
35	889	6	FAH00007	FAH00008	FAH00009	26	12	3.2
42	1067	7.5	FAH00010	FAH00011	FAH00012	28	13	—
50	1270	9	FAH00013	FAH00014	FAH00015	31	14	3.3
64	1626	12	FAH00016	FAH00017	FAH00018	36	16	—
84	2134	16	FAH00019	FAH00020	FAH00021	43	20	—

* See catalog page 11-51 (Drawing Number 3) for standard flanged CHF circulation heater tank sizes available for this heater immersion length.

Design Features

- * 3" — 150-lb ANSI Flange
- * NEMA 1 Terminal Housing
- * Three-Phase Single Circuit
- * Watt Density of 12 watts/in² on finned area

Immersed Length		KW	Part Number			Approximate Net Weight		CHF* Dimensional Drawing Number
in	mm		240V-3Ph	480V-3Ph	575V-3Ph	lbs	kgs	
14	356	3	FAH00022	FAH00023	FAH00024	19	8	—
18	457	4.5	FAH00025	FAH00026	FAH00027	20	9	—
22	559	6	FAH00028	FAH00029	FAH00030	21	10	—
27	686	7.5	FAH00031	FAH00032	FAH00033	23	11	3.1
31	787	9	FAH00034	FAH00035	FAH00036	25	11	—
38	1016	12	FAH00037	FAH00038	FAH00039	27	12	3.2
50	1295	16	FAH00040	FAH00041	FAH00042	31	14	3.3
62	1575	20	—	FAH00043	FAH00044	35	16	—
74	1880	24	—	FAH00045	FAH00046	39	18	—

* See catalog page 11-51 (Drawing Number 3) for standard flanged CHF circulation heater tank sizes available for this heater immersion length.

