



LHO

Oil Line Heater - Oil to Oil Transfer Type



Features

- Rugged construction
- Compact 4-pass tube design
- Removable tube bundle
- Stainless steel tubes
- Automatic temperature control with auxiliary regulating valve
- Overpressurization protection with auxiliary relief valve

Benefits

- High efficiency heat transfer
- Long service life
- Eliminates undesirable temperature variations
- Capable of using existing transfer oil



The Hauck LHO Oil Line Heater is designed to supply the heat necessary to lower the viscosity of heavy fuel oils to that required at the burner for proper atomization. This typically requires lowering the pumping viscosity (nominal 2000 SSU maximum) to the atomizing viscosity (80 - 90 SSU). Auxiliary components can also be supplied to control fuel oil temperature and prevent overpressurization of the oil line heater. Hauck's LHO's are available in a wide range of sizes to meet specific application requirements.

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Combustion Excellence Since 1888

LHO-1



Hauck Manufacturing Company

LHO

OIL LINE HEATER - OIL TO OIL TRANSFER TYPE



ADVANTAGES OF THE LHO

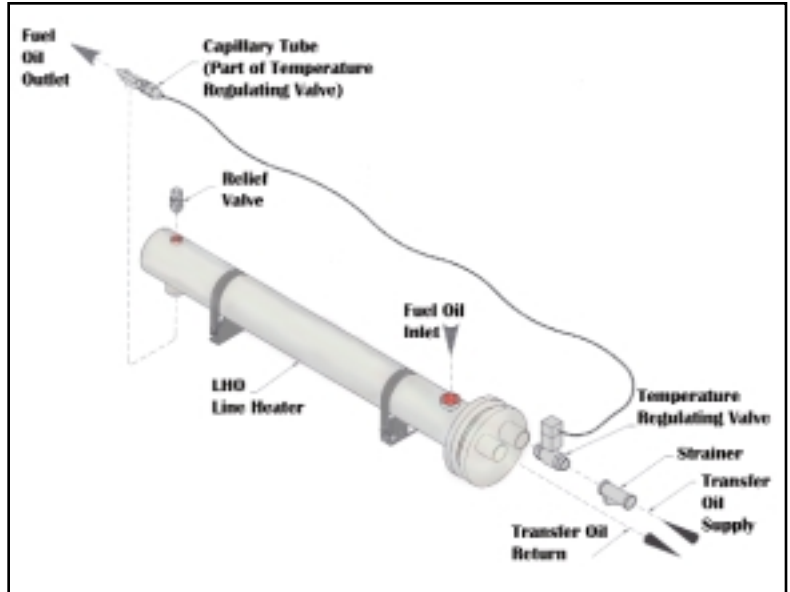
- Rugged Construction for Long Service Life
- High Efficiency Heat Transfer
- Removable Tube Bundle
- Automatic Temperature Control with Auxiliary Components

To avoid heat loss from fuel oil in transit to the burners and for quicker starting, an oil line heater should be located as close as possible to the burners. In some instances, oil supply and burners are not centrally located, making the maintenance of constant oil temperatures a problem. Through the use of Hauck LHO line heaters, the travel distance of the heated oil can be reduced to eliminate undesirable oil temperature variations caused by heat loss and oil flow rate variations in long oil lines.

Construction

Each oil line heater is composed of a steel outer shell with inlet and outlet connections for heavy fuel oil, cast iron head with inlet and outlet connections for transfer oil, 4-pass stainless steel tubes, and steel baffles. The tube bundle can be easily removed by taking of a single set of flange bolts. Each oil line heater is provided with two adjustable cradle mounting straps for supporting and bolting the heater to a foundation.

	Shell Side	Tube Side
Design Pressure psi (kPa)	150 (1035)	150 (1035)
Test Pressure psi (kPa)	300 (2070)	250 (1725)
Design Temperature °F (°C)	375 (191)	375 (191)



Oil Line Heater and Auxiliary Components

In conjunction with each oil line heater, auxiliary components are required to ensure efficient and safe operation.

Transfer Oil Strainer

Installed upstream of the temperature regulating valve, the strainer prevents foreign particles that might be present in the transfer oil from clogging the temperature regulating valve and the tubes in the oil line heater.

Automatic Temperature Regulating Valve

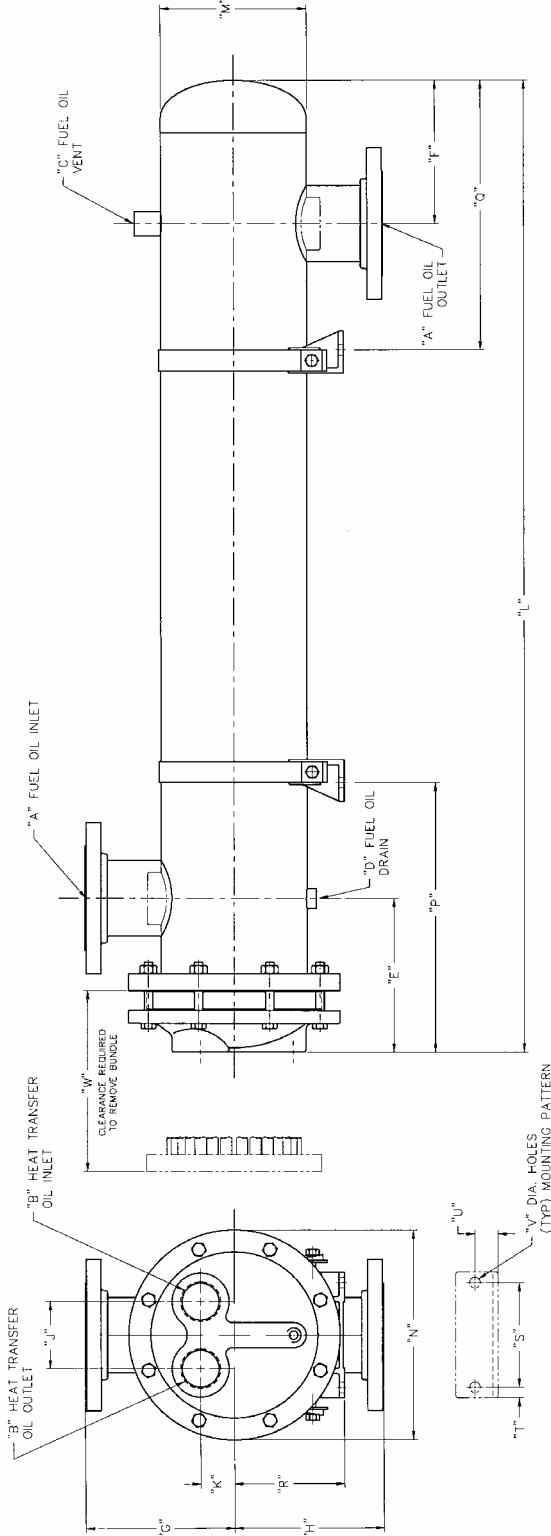
The regulating valve is installed upstream of the transfer oil inlet of the oil line heater, and the capillary tube is installed in the fuel oil outlet of the oil line heater. After the regulator is set to the desired temperature (based on viscosity testing of the fuel oil), the oil line heater automatically controls the temperature of the fuel oil via the temperature sensing capillary tube, eliminating overheating or underheating.

Relief Valve

Installed in the outer shell of the oil line heater, the relief valve will relieve excess pressure caused by thermal expansion if fuel oil valves are accidentally closed up or downstream of the oil line heater.

LHO OIL LINE HEATER OIL-TO-OIL TYPE

LHO 06 - 060 THROUGH 10 - 060



MODEL NO.	APPROX. NET WT.																					
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	O	R	S	T	U	V	W	DRY
LHO 06-060	2 1/2 NPT	1 1/2 NPT	3/4 NPT	1/2 NPT	6 1/8	12 1/4	5 1/8	5 1/8	3 1/8	1 5/8	67 1/4	6 5/8	10 1/2	13 1/2	5 1/2	4 3/4	5/8	1 1/4	5/8	64	190 LB	260 LB
LHO 08-048	4 FLG	2 NPT	3/4 NPT	1/2 NPT	9 1/8	8 1/2	8 13/16	8 13/16	4	2	57 5/8	8 5/8	12 1/2	16 1/2	6 1/2	6 1/4	5/8	1 3/8	5/8	52	290 LB	390 LB
LHO 08-060	4 FLG	2 NPT	3/4 NPT	1/2 NPT	9 1/8	8 1/2	8 13/16	8 13/16	4	2	69 5/8	8 5/8	12 1/2	16 1/2	6 1/2	6 1/4	5/8	1 3/8	5/8	64	330 LB	460 LB
LHO 10-048	4 FLG	3 NPT	3/4 NPT	1/2 NPT	9 3/4	9	9 7/8	9 7/8	4 3/4	2 3/8	58 3/4	10 3/4	14 5/8	17 1/2	7 1/2	8	3/4	1 5/8	3/4	52	400 LB	570 LB
LHO 10-060	4 FLG	3 NPT	3/4 NPT	1/2 NPT	9 3/4	9	9 7/8	9 7/8	4 3/4	2 3/8	71 3/4	10 3/4	14 5/8	17 1/2	7 1/2	8	3/4	1 5/8	3/4	64	460 LB	660 LB

Y7688
(NOT TO SCALE)

NOTES:
1. FUEL OIL INLET/OUTLET FLANGES ARE ANSI 150 LB RAISED FACE FLANGES.
2. CRADLE MOUNTING STRAP LOCATIONS SHOWN ("P" AND "Q") ARE TYPICAL AND CAN BE ADJUSTED UPON INSTALLATION AS REQUIRED.

(See Reverse Side for Metric Dimensions)

In accordance with Hauck's commitment to Total Quality Improvement, Hauck reserves the right to change the specifications of products without prior notice.



SUPPLEMENTAL DATA

**LHO OIL-TO-OIL LINE HEATER
SELECTION FOR ASPHALT BURNERS**

ECO-STAR BURNERS

BURNER		LHO		
MODEL NO.	CAPACITY (MMBtu/hr)	MODEL NO.	NO. 6 FUEL OIL FLOW RATE (gpm)	TRANSFER FLOW RATE (gpm)
ES 25	25	06-060	3.2	18.7
ES 50	50	06-060	6.4	37.5
ESII 75	75	08-048	9.5	56.2
ESII 100	100	08-060	12.7	74.9
ESII 125	125	08-060	15.9	93.6
ESII 150	150	10-048	19.1	112
ESII 175	175	10-060	22.3	131
ESII 200	200	10-060	25.5	150

STARJET BURNERS

BURNER		LHO		
MODEL NO.	CAPACITY (MMBtu/hr)	MODEL NO.	NO. 6 FUEL OIL FLOW RATE (gpm)	TRANSFER FLOW RATE (gpm)
SJ 075	15.2	06-060	1.9	11.1
150	27.9	06-060	3.6	21.0
200	40.5	06-060	5.1	30.0
260	49.3	06-060	6.2	36.7
360	75.6	08-048	9.5	56.2
520	96.8	08-060	12.3	72.7
580	120	08-060	15.3	90.0
750	150	10-048	19.1	112
980	200	10-060	25.5	150

NOTES:

1. Burner capacities based on No. 6 fuel oil with higher heating value of 157,194 Btu/gal.
2. LHO No. 6 fuel oil flow rate includes additional 20% flow rate above burner capacity to allow for recycle back to the oil storage tank.
3. LHO Model No. selection based on No. 6 fuel oil temperature rise from 125°F to 225°F and transfer oil temperature fall from 320°F to 300°F.

(Metric Data On Reverse Side)