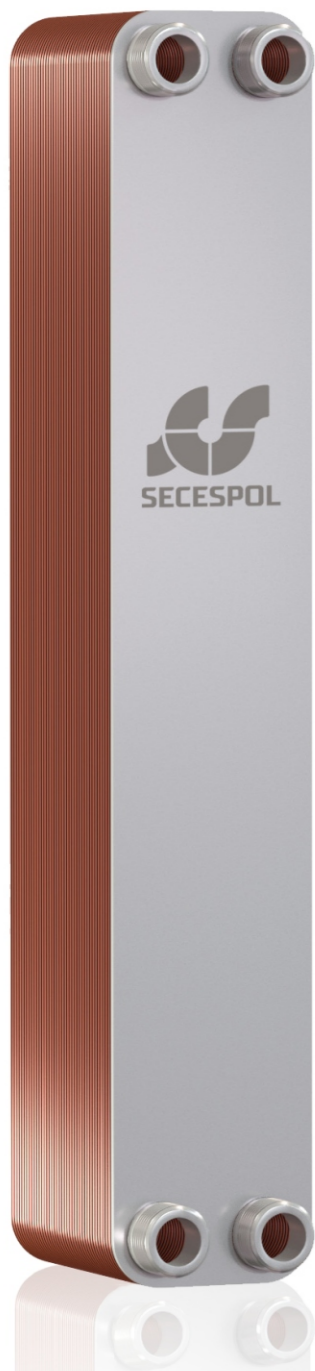




## L-LINE

brazed plate  
heat exchangers

>>> effective heat transfer >>>



L-line heat exchangers are copper or nickel brazed exchangers dedicated to standard heating or cooling installations of liquid-liquid type. Special corrugation pattern of the plates ensures compromise between low flow resistance and high heat exchange efficiency. Vacuum furnace technology ensures integrity and permanent fusion of plates which enables the unit to withstand high-pressure and high-temperature conditions. It is an ideal solution for heating, HVAC, technological, cooling and industry installations. There are many connection types to be chosen as well as one- or two-pass variants.

### APPLICATION

- tap water heating systems
- central heating systems
- solar and geothermic heating systems
- installations with heat pump
- installations with fireplace with water jacket
- heating, HVAC, technological, cooling and industry installations

### CONSTRUCTION

L-line brazed plate heat exchangers are counter current flow devices. Heat exchange area is created by stainless steel corrugated plates brazed together with copper or nickel brazing as a non-dismountable unit. Media flow is arranged so that the two media go through every other channel formed by heat plates. Connections, threaded or flanged, are placed in cover plates.

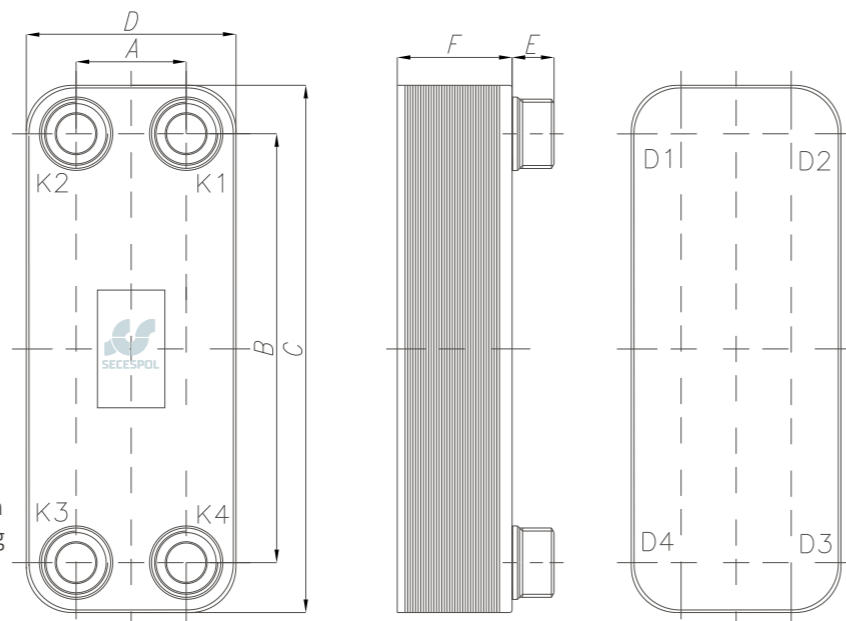
### TECHNICAL DRAWING

**Standard location of connections – one-pass:**  
 K1/K4 – inlet/outlet hot side  
 K3/K2 – inlet/outlet cold side

**Standard location of connections – two-pass:**  
 D4/K4 – inlet/outlet hot side  
 K3/D3 – inlet/outlet cold side

**In two-pass with 6 connections:**

K1 – vent connection/ inlet of central heating return  
 K2 – vent connection/ inlet of tap water heating circulation return



### TECHNICAL PARAMETERS

| Type  | Dimensions |            |            |            |                    |                           | Capacity of one channel | Max. no. of plates | Weight                   |
|-------|------------|------------|------------|------------|--------------------|---------------------------|-------------------------|--------------------|--------------------------|
|       | mm / inch  |            |            |            |                    |                           |                         |                    |                          |
|       | A          | B          | C          | D          | E                  | F                         | L / gal                 | kg / lb            |                          |
| LA12  | 40 / 1.6   | 154 / 6.1  | 192 / 7.6  | 74 / 2.9   | 16 / 0.8           | 9+2,45*NP / 0.35+0.1*NP   | 0,024 / 0.006           | 60                 | 0,5+0,04*NP / 1.1+0.1*NP |
| LA14  | 42 / 1.7   | 164 / 6.5  | 201 / 7.9  | 80 / 3.2   | 16 / 0.6           | 9+2,3*NP / 0.35+0.09*NP   | 0,022 / 0.006           | 60                 | 0,6+0,05*NP / 1.3+0.1*NP |
| LA22  | 42 / 1.7   | 260 / 10.2 | 300 / 11.8 | 80 / 3.2   | 16 / 0.6           | 9+2,3*NP / 0.35+0.09*NP   | 0,035 / 0.009           | 60                 | 0,7+0,07*NP / 1.5+0.2*NP |
| LA34  | 42 / 1.7   | 432 / 17.0 | 469 / 18.5 | 80 / 3.2   | 16 / 0.6           | 9+2,3*NP / 0.35+0.09*NP   | 0,054 / 0.014           | 60                 | 0,9+0,11*NP / 2.0+0.2*NP |
| LH40  | 43 / 1.7   | 415 / 16.3 | 463 / 18.2 | 89 / 3.5   | 28 / 1.1           | 10+2,25*NP / 0.39+0.09*NP | 0,075 / 0.200           | 60                 | 1,4+0,12*NP / 3.1+0.3*NP |
| LB31  | 68 / 2.7   | 232 / 9.1  | 286 / 11.3 | 117 / 4.6  | 28 / 1.1           | 10+2,35*NP / 0.39+0.09*NP | 0,047 / 0.012           | 150                | 1,5+0,15*NP / 3.3+0.3*NP |
| LB47  | 68 / 2.7   | 360 / 14.2 | 414 / 16.3 | 117 / 4.6  | 28 / 1.1           | 10+2,35*NP / 0.39+0.09*NP | 0,072 / 0.019           | 150                | 2,1+0,15*NP / 4.6+0.3*NP |
| LB60  | 68 / 2.7   | 480 / 18.9 | 534 / 21.0 | 117 / 4.6  | 28 / 1.1           | 10+2,35*NP / 0.39+0.09*NP | 0,091 / 0.024           | 150                | 2,5+0,21*NP / 5.5+0.5*NP |
| LM110 | 91 / 3.6   | 520 / 20.5 | 619 / 24.4 | 190 / 7.5  | 28 / 1.1           | 10+2,6*NP / 0.39+0.1*NP   | 0,242 / 0.064           | 200                | 4,5+0,40*NP / 9.9+0.9*NP |
| LC110 | 170 / 6.7  | 378 / 14.9 | 463 / 18.2 | 255 / 10.0 | 28; 100 / 1.1; 3.9 | 12+2,4*NP / 0.47+0.09*NP  | 0,162 / 0.043           | 200                | 5,1+0,46*NP / 11.2+1*NP  |
| LC170 | 170 / 6.7  | 600 / 23.6 | 685 / 27.0 | 255 / 10.0 | 28; 100 / 1.1; 3.9 | 12+2,4*NP / 0.47+0.09*NP  | 0,255 / 0.067           | 200                | 10,9+0,59*NP / 24+1.3*NP |
| LD235 | 204 / 8.0  | 682 / 26.9 | 784 / 30.9 | 306 / 12.1 | 100 / 3.9          | 16+2,5*NP / 0.63+0.1*NP   | 0,398 / 0.105           | 280                | 39+0,85*NP / 86+1.9*NP   |

dim. F+/-3%

NP – number of plates

### FLOW TYPES



### FLOW CHANNELS ARRANGEMENT



one-pass channels are paralleled

two-pass plates divided into two groups which are connected in series

### INSULATION

Two part insulation for L-line is made of polyurethane foam covered with aluminium (APFI). Parts are fastened with latch clamps.

Working parameters:

- max. working temperature: 135 °C / 275 °F
- thickness: 30 mm / 1,19 in
- thermal conductivity: 0,024 W / mK  
0.0139 Btu / ft. hour °F

### WORKING PARAMETERS

- max. temperature: 230 °C / 446 °F
- min. temperature: -195 °C / 0 °C (for flange CS)  
-319 °F / 32 °F (for flange CS)
- max. pressure: LA, LB, LH: 3 MPa / 435 PSI  
LM, LC, LD: 2,5 MPa / 363 PSI

### MATERIALS

- stainless steel
- copper or nickel brazing

### MEDIA

- water
- air
- neutral liquids and gases
- other liquids and gases consulted with the producer

### TYPE AND SIZE OF CONNECTIONS

| Type  | thread SS | flange SS or CS |
|-------|-----------|-----------------|
| LA12  | 3/4"      |                 |
| LA14  | 3/4"      |                 |
| LA22  | 3/4"      |                 |
| LA34  | 3/4"      |                 |
| LH40  | 3/4"; 1"  |                 |
| LB31  | 1"; 5/4"  |                 |
| LB47  | 1"; 5/4"  |                 |
| LB60  | 1"; 5/4"  |                 |
| LM110 | 2"        |                 |
| LC110 | 2"; 5/2"  | DN50            |
| LC170 | 2"; 5/2"  | DN50            |
| LD235 |           | DN80            |

SS – stainless steel

CS – carbon steel



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