SECESPOL

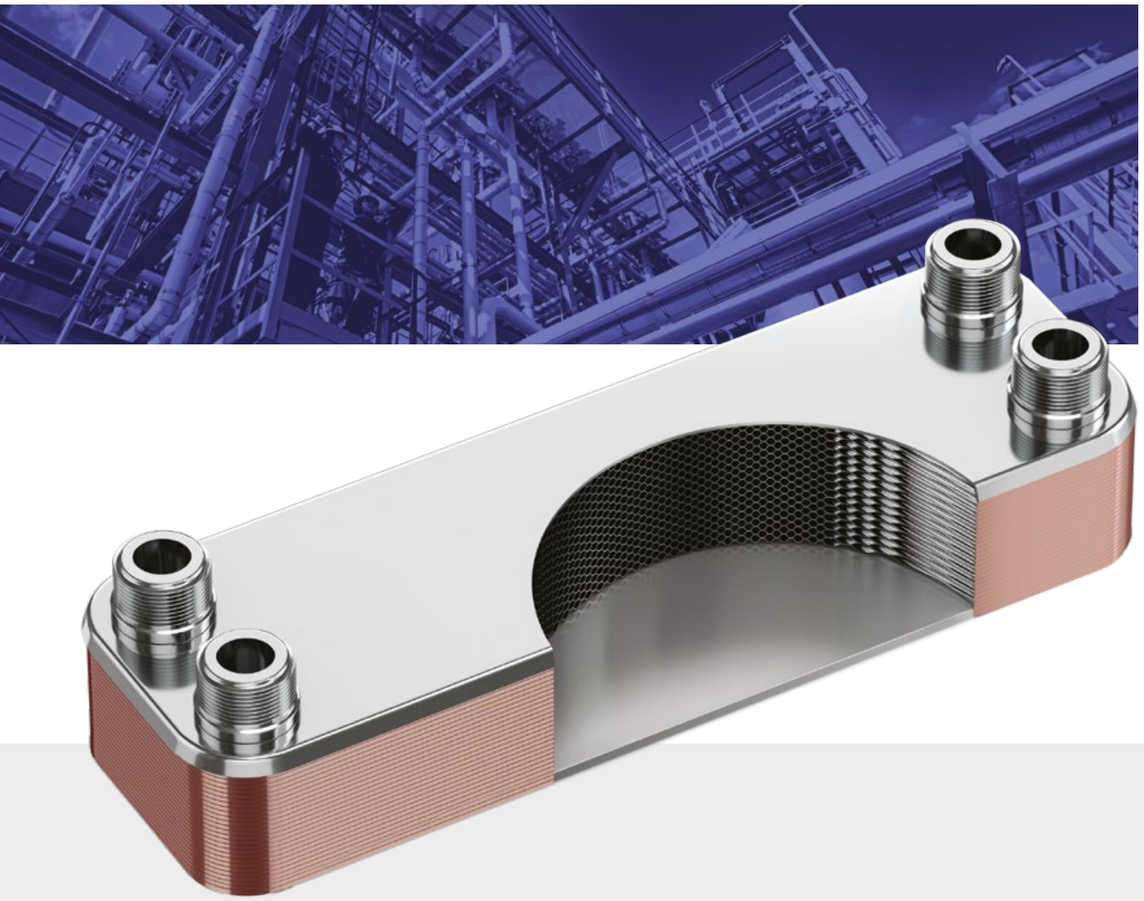
BPHE
Brazed Plate Heat Exchangers

LET'S EXCHANGE

Brazed Plate
Heat Exchangers

SECESPOL is a global company that is successful in the field of heat transfer for over 30 years. Our products work in installations all over the world.

The team of engineers develop new technological solutions that reduce costs, save time, and have a positive impact on the environment.



Why choose SECESPOL **brazed plate** heat exchangers?

HIGH PERFORMANCE

Heat exchangers are designed for very efficient operations within a wide range of applications. They guarantee compact and flexible solutions.

RELIABILITY

Advanced technology and high-quality materials offer durability and reliability.

WIDE RANGE OF APPLICATIONS

Heat exchangers are used in central heating and domestic hot water systems, ventilation, technological and air-conditioning installations, as well as in heat pumps and ice water generators.

FLEXIBILE DESIGN

We offer 1- or 2-pass versions with a choice of different types of connections such as: dual (external thread/soldering), internal thread, Victaulic, stainless steel flange, carbon steel flange.

CERTIFICATES AND STANDARDS

Manufactured in accordance with ASME, PED.

EASY SELECTION

with user-friendly CAIRO Selection Software.

L-line

Heat exchangers dedicated to standard heating or cooling systems.

Application:

- Domestic hot water systems
- Central heating systems
- Solar and geothermic heating systems
- Installations with heat pump
- Installations with fireplace with water jacket

Advantages

- High heat transfer coefficient
- Compact size
- Easy assembly and dismantle
- Resistance to high temperature and pressure

Materials

- Stainless steel
- Copper brazing

Exemplary media

- Water
- Propylene glycol solutions
- Group II fluids
- Other (consult the manufacturer)

Working parameters

Max. temperature:	**230°C / 446°F**
LJ:	**160°C / 320°F**
Min. temperature:	**-195°C / -319°F**
for flange CS:	**0°C / 32°F**
Max.pressure:	
LA, LB, LH:	**3 MPa / 435 psi**
LM, LC, LD, LE:	**2,5 MPa / 363 psi**
LJ:	**1,6 MPa / 232 psi**

Product line

LA12 **LA14** **LA22** **LA34** **LJ30** **LH40** **LB31** **LB47** **LB60**

LM110 **LC110** **LC170** **LD235** **LE400**

Technical drawing

Standard location of connections

1-pass heat exchanger

K1/ K4 – inlet/outlet hot side

K3/ K2 – inlet/outlet cold side

2-pass heat exchanger

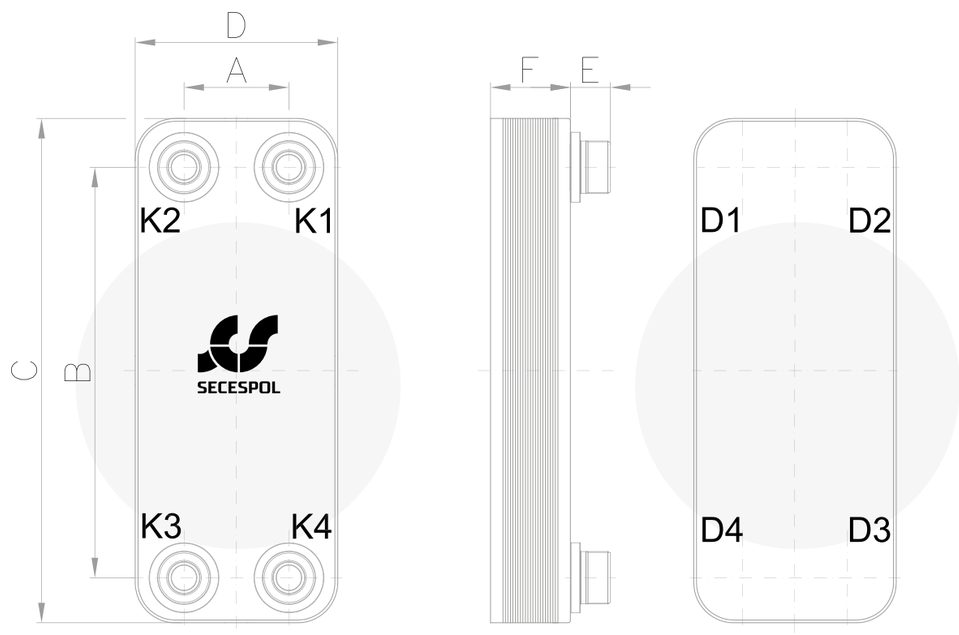
D4/ K4 – inlet/outlet hot side

K3/ D3 – inlet/outlet cold side

2-pass with 6 connections additionally:

K1 – vent connection/ inlet of central heating return

K2 – vent connection/ inlet of domestic hot water circulation return



Exemplar designation

LA12-60-2S-3/4"

L	brazed plate heat exchanger
A12-	size of plates
60-	no. of plates
2S-	2S- 2-pass with 6 connections 2- 2-pass with 4 connections no letter - 1-pass
3/4"	type and size of connections

Technical parameters

All dimensions and technical data are approximate only and may be changed without further notice.

Type	Dimensions mm/inch												Max no. of plates	Mass	
	A		B		C		D		E		F			kg	lb
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in			
LA12	40	1.58	154	6.06	190	7.48	72	2.84	16/20	0.63/0.79	9 + 2,45 × NP	0.35 + 0.10 x NP	60	0,4 + 0,049 x NP	0.88 + 0.11 x NP
LA14	42	1.65	164	6.46	203	7.97	81	3.17	16/20	0.63/0.79	9 + 2,30 × NP	0.35 + 0.09 x NP	60	0,6 + 0,049 x NP	1.32 + 0.11 x NP
LA22	42	1.65	260	10.24	299	11.75	81	3.17	16/20	0.63/0.79	9 +2 ,30 × NP	0.35 + 0.09 x NP	60	0,8 + 0,073 x NP	1.76 + 0.16 x NP
LA34	42	1.65	432	17.01	471	18.54	81	3.18	16/20	0.63/0.79	9 + 2,30 × NP	0.35 + 0.09 x NP	60	1,2 + 0,116 x NP	2.65 + 0.26 x NP
LJ30	46	1.81	270	10.63	318	12.52	98	3.86	20	0.79	9 + 1,70 × NP	0.35 + 0.07 x NP	60	1,1 + 0,064 x NP	2.43 + 0.14 x NP
LH40	43	1.69	415	16.34	461	18.13	89	3.50	28	1.10	10 + 2,25 × NP	0.39 + 0.09 x NP	60	1,7 + 0,134 x NP	3.75 + 0.30 x NP
LB31	68	2.68	232	9.13	286	11.27	123	4.84	28	1.10	10 + 2,35 × NP	0.39 + 0.09 x NP	150	1,6 + 0,114 x NP	3.53 + 0.25 x NP
LB47	68	2.68	360	14.17	417	16.42	123	4.84	28	1.10	10 + 2,35 × NP	0.39 + 0.09 x NP	150	2,1 + 0,168 x NP	4.63 + 0.37 x NP
LB60	68	2.68	480	18.90	538	21.17	123	4.84	28	1.10	10 + 2,35 × NP	0.39 + 0.09 x NP	150	2,6 + 0,219 x NP	5.73 + 0.48 x NP
LM110	91	3.58	520	20.47	619	24.37	190	7.48	48	1.89	10 + 2,60 × NP	0.39 + 0.10 x NP	200	8,4 + 0,408 x NP	18.52 + 0.90 x NP
LC110	170	6.69	378	14.88	466	18.35	258	10.17	28/38; 100	1.1/1.5; 3.94	11 + 2,40 × NP	0.43 + 0.09 x NP	200	8,7 + 0,408 x NP	19.18 + 0.90 x NP
LC170	170	6.69	600	23.62	688	27.09	258	10.16	28/38; 100	1.1/1.5; 3.94	11 + 2,40 × NP	0.43 + 0.09 x NP	200	11,5 + 0,617 x NP	25.35 + 1.36 x NP
LD235	204	8.03	682	26.85	788	31.02	310	12.21	100	3.94	13 + 2,5 x NP	0.51 + 0.10 x NP	280	40 + 0,828 x NP	88.18 + 1.83 x NP
LE400	240	9.45	861	33.90	1008	39.69	387	15.24	93	3.66	17 + 2,75 x NP	0.67 + 0.11 x NP	400	74,3 + 1,625 x NP	163.80 + 3.58 x NP

NP - number of plates

dim. F+/-3%

LJ30M

Microchannel Brazed Plate Heat Exchangers

LJ30M is a compact microchannel heat exchanger with exceptionally high performance. Dense system of microchannels creates large heat exchange area. Thanks to special corrugation pattern pressure loss is much lower comparing to other competitive microchannel heat exchangers.

APPLICATION

- Domestic hot water systems
- Central heating systems
- Solar and geothermic heating systems
- Heating, HVAC, technological, cooling and industry installations

Increase of heat exchange efficiency by up to 8% comparing to other competitive microchannel heat exchangers.

Reduced flow resistance by up to 9% comparing to the most efficient microchannel heat exchanger on the market.

Increase of heat exchange efficiency by 35% comparing to exchangers with standard heat plates.

Traditional plates

Microchannel plates. Higher flow turbulence enhances heat exchange thanks to optimization of flow velocity

TECHNICAL DRAWING

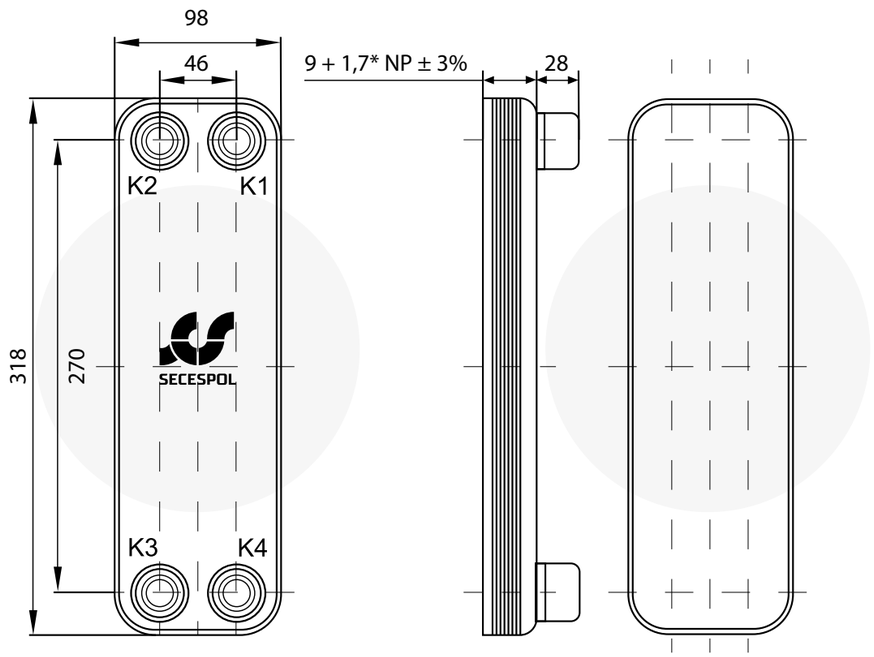
Standard location of connections:

K1/ K4 – inlet/ outlet hot side

K3/ K2 – inlet/ outlet cold side

TECHNICAL PARAMETERS

- Max. temperature 160°C /320°F
- Min. temperature -195°C /-319°F
- Max. pressure 1,6 MPa /232 psi



LUNA

Heat exchangers entirely made of stainless materials designed to work in increased sanitary requirements

Application:

WHEN RELIABILITY IS ESSENTIAL

- Central heating systems
- Systems with aggressive media
- Systems with galvanized pipes
- Industrial cooling systems
- Hydraulic oil cooling

When high level of hygiene is crucial

- Cooling systems with high hygienic standards
- Domestic hot water systems
- Systems with demineralized water

Advantages

- Made completely of stainless materials
- The use of stainless brazing allows homogeneous material construction
- Higher level of hygiene
- Resistant to pressure and temperature changes as well as corrosion
- High durability
- A wide range of applications

Materials

- Stainless steel
- Stainless brazing

Exemplary media

- Water
- Propylene
- Group II fluids
- Other (consult the manufacturer)

TECHNICAL PARAMETERS

Max. temperature:	**200°C / 392°F**
Min. temperature	**-195°C / -319°F**
LM LN:	**101°C / -150°F**
Max. pressure:	
LA LN, LB LN:	**2 MPa / 290 psi**
LM LN,LC LN, LD LN:	**1,6 MPa / 232 psi**

Product line

LA14LN LA22LN LA34LN LB31LN LB47LN LB60LN

LM110LN LC110LN LC170LN LD235LN

Technical drawing

Standard location of connections

1-pass heat exchanger

K1/ K4 – inlet/outlet hot side

K3/ K2 – inlet/outlet cold side

2-pass heat exchanger

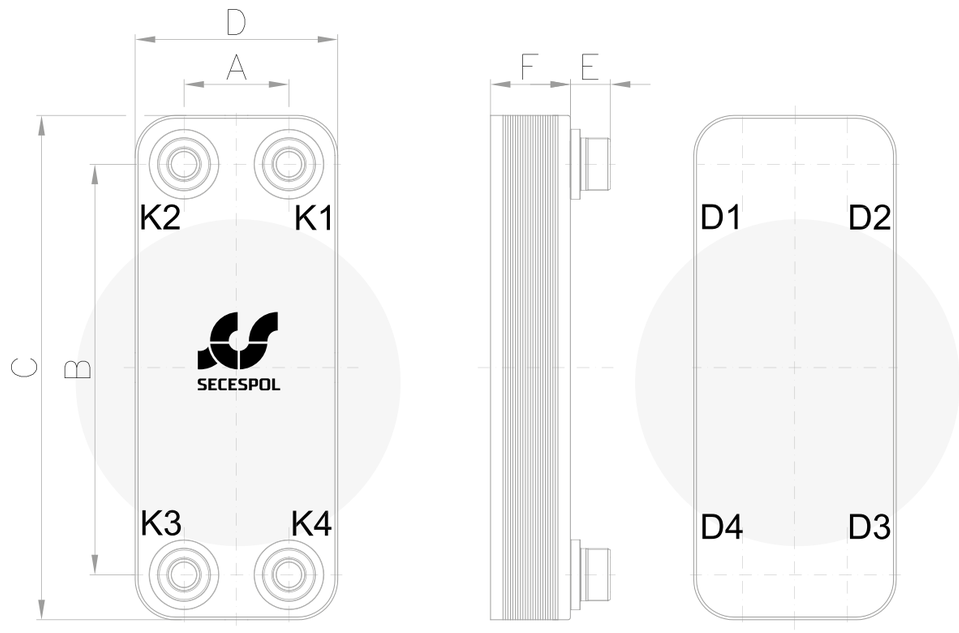
D4/ K4 – inlet/outlet hot side

K3/ D3 – inlet/outlet cold side

2-pass with 6 connections additionally

K1 – vent connection/ inlet of central heating return

K2 – vent connection/ inlet of domestic hot water circulation return



Exemplar designation

LA14LN-60-2S-3/4"

L	brazed plate heat exchanger
A14	size of plate
LN-	stainless brazing
60-	no. of plates
2S-	2S- 2-pass with 6 connections 2- 2-pass with 4 connections no letter - 1-pass
3/4"	type and size of connections

Technical parameters

All dimensions and technical data are approximate only and may be changed without further notice.

Type	Dimensions mm/inch												Max no. of plates	Mass	
	A		B		C		D		E		F				
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in		kg	lb
LA14LN	42	1.7	164	6.5	203	8.0	81	3.2	16	0.6	9 + 2,3 x NP	0.35 + 0.09 x NP	60	0,6 + 0,054 x NP	1.32 + 0.12 x NP
LA22LN	42	1.7	260	10.2	299	11.8	81	3.2	16	0.6	9 + 2,3 x NP	0.35 + 0.09 x NP	60	0,8 + 0,075 x NP	1.76 + 0.17 x NP
LA34LN	42	1.7	432	17.0	471	18.5	81	3.2	16	0.6	9 + 2,3 x NP	0.35 + 0.09 x NP	60	1,2 + 0,112 x NP	2.65 + 0.25 x NP
LB31LN	68	2.7	232	9.1	286	11.3	123	4.8	28	1.1	10 + 2,35 x NP	0.39 + 0.09 x NP	150	1,6 + 0,126 x NP	3.53 + 0.28 x NP
LB47LN	68	2.7	360	14.2	417	16.4	123	4.8	28	1.1	10 + 2,35 x NP	0.39 + 0.09 x NP	150	2,2 + 0,174 x NP	4.85 + 0.38 x NP
LB60LN	68	2.7	480	18.9	538	21.2	123	4.8	28	1.1	10 + 2,35 x NP	0.39 + 0.09 x NP	150	2,7 + 0,219 x NP	5.95 + 0.48 x NP
LM110LN	91	3.6	520	20.5	619	24.4	190	7.5	48	1.9	10 + 2,6 x NP	0.39 + 0.10 x NP	180	14,68 + 0,864 x NP	6.66 + 0.392 x NP
LC110LN	170	6.7	378	14.9	466	18.4	258	10.2	28; 100	1.1; 3.9	11 + 2,4 x NP	0.43 + 0.09 x NP	180	9,1 + 0,454 x NP	20.06 + 0.99 x NP
LC170LN	170	6.7	600	23.6	688	27.1	258	10.2	28; 100	1.1; 3.9	11 + 2,4 x NP	0.43 + 0.09 x NP	180	11,9 + 0,642 x NP	26.24 + 1.41 x NP
LD235LN	204	8.0	682	26.9	788	31.0	310	12.2	100	3.9	13 + 2,5 x NP	0.51 + 0.1 x NP	160	40,8 + 0,049 x NP	89.95 + 0.11 x NP

NP - number of plates

dim. F+/-3%

R-line

Brazed plate heat exchangers designed for use in cooling or heating installations.
Refrigerant evaporators and condensers.

Application:

- **Refrigeration units**
- **Ice water generators**
- **Installations with heat pump**
- **Cooling systems with special construction**

Advantages

- Special channel pattern ensures effective evaporation or condensation
- Optimized for R410A refrigerant, the RH version enables work with pressure up to 4,5 MPa /653 psi

Condensers

Hot refrigerant vapours are sent to the top welded connection of the exchanger. Flowing through the channels they condense while acquiring the required degree of subcooling. Water and glycol flows in counter-current flow.

Evaporators

A two-phase refrigerant is sent to the bottom welded connection of the exchanger. Flowing through the channels it evaporates completely while acquiring the required degree of overheating. Water or glycol flows in counter-current flow.

Product line

RA14

RA22

RA34

RB31

Materials

- Stainless steel
- Copper brazing

Exemplary media

Refrigerant side

- Refrigerants

Other side

- Water
- Propylene glycol solutions
- Group II fluids
- Other (consult the manufacturer)

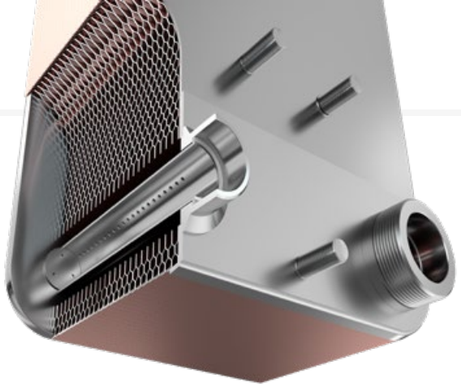
TECHNICAL PARAMETERS

Max. temperature:	**150°C / 302°F**
Min. temperature:	**-195°C / -319°F**
Max. pressure:	
refrigerant side:	
R:	**3,2 MPa / 465 psi**
RH:	**4,5 MPa / 653 psi**
water, glycol side:	**2,5 MPa / 363 psi**

RB47

RB60

RC110



RDS system

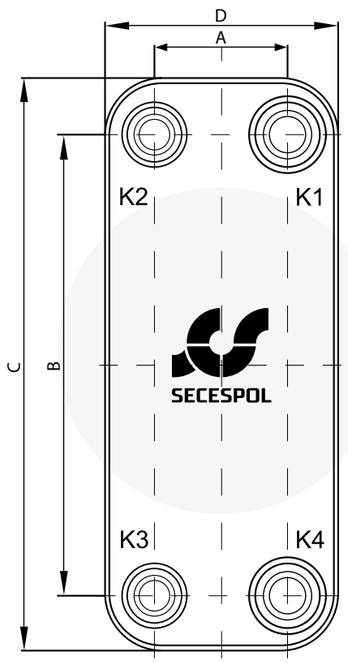
Refrigerant Distribution System is a unique system of dynamical distribution of a boiling agent which has been developed by SECESPOL for evaporators with higher refrigerating capacity.

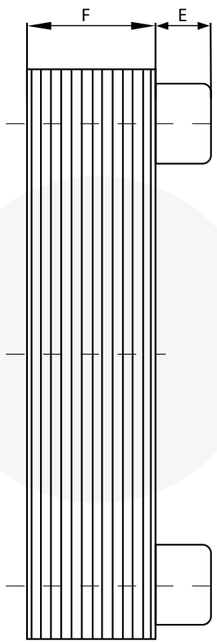
This system ensures a balanced distribution of the agent inside the channels and simultaneously reduces the fluctuations in vapour overheating.

Technical drawing

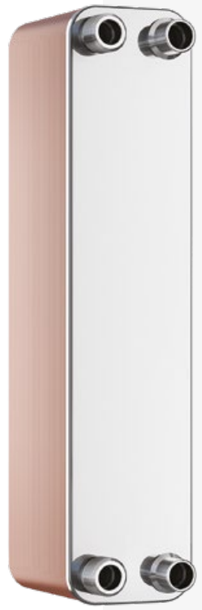
Standard location of connections (depending on whether it is evaporator or condenser)

K4/ K1 – inlet or outlet of refrigerant
K3/ K2 – inlet or outlet of water or glycol





Exemplar designation



RA14-10

R	brazed plate heat exchanger for refrigerating systems
A14-	size of heating plate
10	no. of heating plates

Technical parameters

All dimensions and technical data are approximate only and may be changed without further notice.

Type	Dimensions [mm/inch]												Max. no. of plates	Mass	
	A		B		C		D		E		F				
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in		kg	lb
RA14	42	1.7	164	6.5	203	8.0	81	3.2	16	0.6	9 + 2,3 × NP	0.35 + 0.09 x NP	60	0,7 + 0,049 × NP	1.54 + 0.11*NP
RA22	42	1.7	260	10.2	299	11.8	81	3.2	16	0.6	9 + 2,3 × NP	0.35 + 0.09 x NP	60	0,9 + 0,073 × NP	1.98 + 0.16*NP
RA34	42	1.7	432	17.0	471	18.5	81	3.2	16	0.6	9 + 2,3 × NP	0.35 + 0.09 x NP	60	1,3 + 0,116 × NP	2.87 + 0.26*NP
RB31	68	2.7	232	9.1	286	11.3	123	4.8	28	1.1	10 + 2,35 × NP	0.39 + 0.09 x NP	100	1,7 + 0,114 × NP	3.75 + 0.25*NP
RB47	68	2.7	360	14.2	417	16.4	123	4.8	28	1.1	10 + 2,35 × NP	0.39 + 0.09 x NP	100	2,3 + 0,168 × NP	5.07 + 0.37*NP
RB60	68	2.7	480	18.9	538	21.2	123	4.8	28	1.1	10 + 2,35 × NP	0.39 + 0.09 x NP	100	2,8 + 0,219 × NP	6.17 + 0.48*NP
RC110	170	6.7	378	14.9	466	18.4	258	10.2	28	1.1	11 + 2,4 × NP	0.43 + 0.09 x NP.	100	8,8 + 0,409 × NP	19.40 + 0.90*NP
RHA14	42	1.7	164	6.5	203	8.0	81	3.2	16	0.6	11 + 2,3 × NP	0.43 + 0.09 x NP	60	1 + 0,049 × NP	2.20 + 0.11*NP
RHA22	42	1.7	260	10.2	299	11.8	81	3.2	16	0.6	11 + 2,3 × NP	0.43 + 0.09 x NP	60	1,4 + 0,073 × NP	3.09 + 0.16*NP
RHA34	42	1.7	432	17.0	471	18.5	81	3.2	16	0.6	11 + 2,3 × NP	0.43 + 0.09 x NP	60	2,1 + 0,116 × NP	4.63 + 0.26*NP
RHB31	68	2.7	232	9.1	286	11.3	123	4.8	28	1.1	12 + 2,35 × NP	0.47 + 0.09 x NP	100	2,6 + 0,114 × NP	5.73 + 0.25*NP
RHB47	68	2.7	360	14.2	417	16.4	123	4.8	28	1.1	12 + 2,35 × NP	0.47 + 0.09 x NP	100	3,7 + 0,168 × NP	8.16 + 0.37*NP
RHB60	68	2.7	480	18.9	538	21.2	123	4.8	28	1.1	12 + 2,35 x NP	0.47 + 0.09 x NP	100	4,7 + 0,219 x NP	10.36 + 0.48*NP
RHC110	170	6.7	378	14.9	466	18.4	258	10.2	28	1.1	13 + 2,4 x NP	0.51 + 0.09 x NP	100	10,5 + 0,409 x NP	23.15 + 0.90*NP

NP - numer of plates

dim. F+/-3%

SafePLATE double wall

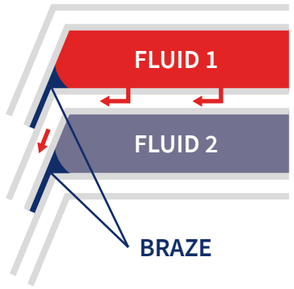
Heat exchangers designed for applications where it is crucial to double-protect media from mixing and quickly detect any potential internal leak.

Application:

- Tap water heating systems
- Central heating systems
- Technological systems

Advantages

- Effective leak detection
- Preventing media from mixing in case of an internal leakage (leading the leak outside).



Double-wall system

In case of failure, either corrosion or pressure induced, special arrangement of double walls and interspace in sidewalls prevents fluids from mixing and allow visual detection of a leakage.

Product line

LA14SP

LB31SP

LB60SP

LC110SP

MATERIALS

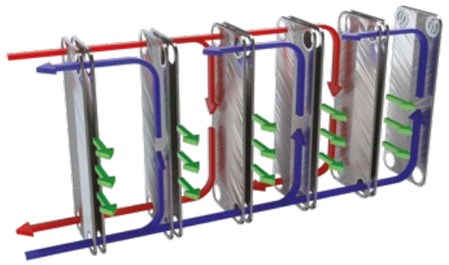
- Stainless steel
- Copper brazing

Exemplary media

- Water
- Propylene glycol solutions
- Group II fluids
- Other (consult the manufacturer)

WORKING PARAMETERS

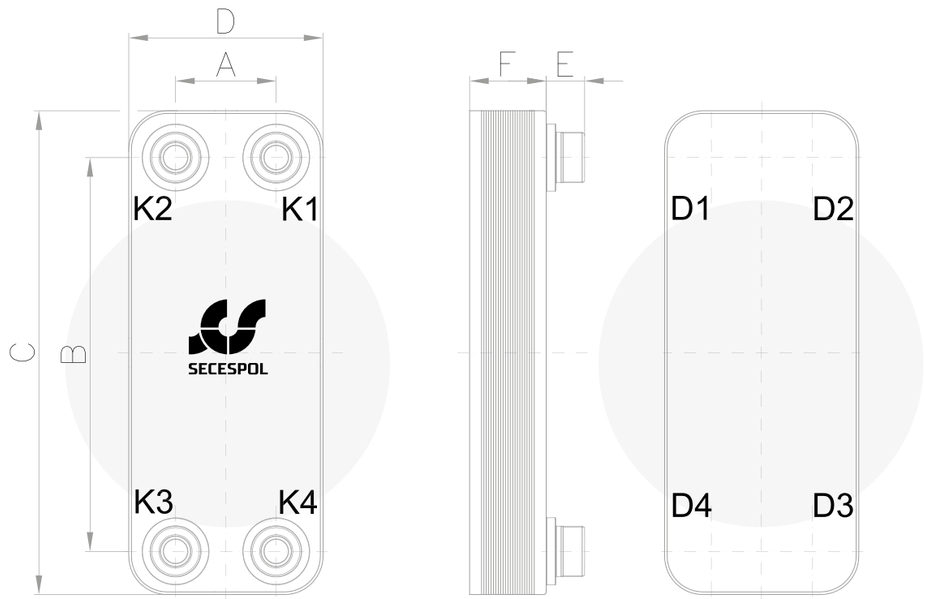
Max. temperature:	**230°C / 446°F**
Min. temperature:	**-195°C / -319°F**
Max. pressure:	
LA SP, LB SP:	**3 MPa / 435 psi**
LC SP:	**2 MPa / 290 psi**



TECHNICAL DRAWING

Standard location of connections

K1/ K4 – inlet/outlet hot side
K3/ K2 – inlet/outlet cold side



Double-wall heat exchangers have been designed to prevent media from mixing and enable quick leak detection. However, it should be remembered that no heat exchangers of this type guarantee the reliability of such operation and cannot be used instead of other safety systems.

Exemplar designation

LA14SP-40-3/4"

L	brazed plate heat exchanger
A14	size of heating plate
SP-	double wall heating plate
40-	no. of heating plates
3/4"	type and size of connections

Technical parameters

All dimensions and technical data are approximate only and may be changed without further notice.

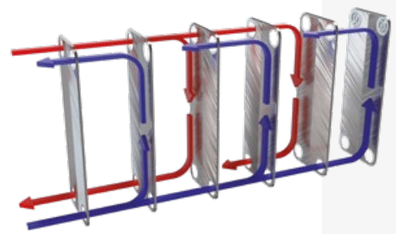
Type	Dimensions [mm/inch]												Max. no. of plates	Mass	
	A		B		C		D		E		F			kg	lb
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in			
LA14SP	42	1.7	164	6.5	203	8.0	81	3.2	16	0.6	9 + 2,5 × NP	0.35 + 0.1 x NP	40	0,6 + 0,064 × NP	1.32 +0.14 x NP
LB31SP	68	2.7	232	9.1	286	11.3	123	4.8	28	1.1	10 + 2,5 × NP	0.39 + 0.1 x NP	100	1,6 + 0,114 × NP	3.53 +0.25 x NP
LB60SP	68	2.7	480	18.9	538	21.2	123	4.8	28	1.1	10 + 2,5 × NP	0.39 + 0.1 x NP	100	2,6 + 0,247 × NP	5.73 +0.54 x NP
LC110SP	170	6.7	378	14.9	466	18.3	258	10.2	28	1.1	11 + 2,5 × NP	0.43 + 0.1 x NP	150	8,7 + 0,777 × NP	19.18 +1.71 x NP

NP- no. of plates

dim. F+/-3%

Flow arrangement

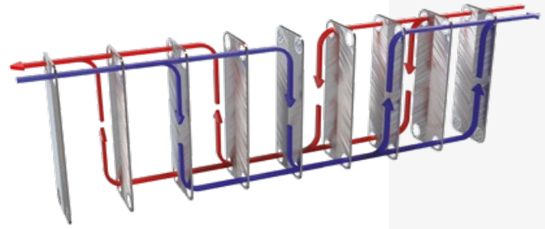
One-pass



Channels are parallel

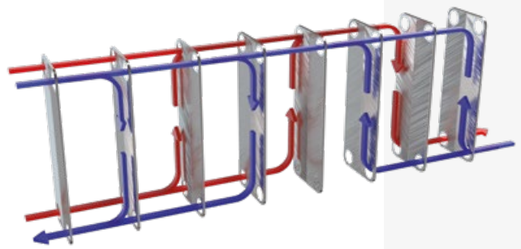
Two-pass

with 4 connections



Plates divided into two groups which are connected in series

with 6 connections



Plates divided into two groups which are connected in series

Type and size of connections

Safe PLATE	Luna	R-line		L-line	CONNECTIONS										
					3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	DN50	DN80	DN100
				LA12	○ ⊙	○ ⊙	○ ⊙								
LA14SP	LA14LN	RA14	RHA14	LA14	○ ⊙ ⊕	○ ⊙ ⊕	○ ⊙ ⊕								
	LA22LN	RA22	RHA22	LA22	○ ⊙ ⊕	○ ⊙ ⊕	○ ⊙ ⊕								
	LA34LN	RA34	RHA34	LA34	○ ⊙ ⊕	○ ⊙ ⊕	○ ⊙ ⊕								
				LJ30			○ ⊙	⊙							
				LH40			○ ⊙	⊙							
LB31SP	LB31LN	RB31	RHB31	LB31			○ ⊙ △ ⊕	○ ⊙ △ ⊕	○ ⊙ △ ⊕	△ ⊕					
	LB47LN	RB47	RHB47	LB47			○ ⊙ △ ⊕	○ ⊙ △ ⊕	○ ⊙ △ ⊕	△ ⊕					
LB60SP	LB60LN	RB60	RHB60	LB60			○ ⊙ △ ⊕	○ ⊙ △ ⊕	○ ⊙ △ ⊕	△ ⊕					
	LM110LN			LM110							⊙				
LC110SP	LC110LN	RC110	RHC110	LC110				○ ⊕	○ ⊙ △ ⊕	○ ⊙ △ ⊕	⊙ △ ⊕	⊙ △ ⊕	⊕ ⊕		
	LC170LN			LC170				○	○ ⊙ △	○ ⊙ △	⊙ △	⊙ △	⊕		
	LD235LN			LD235										⊕	
				LE400											⊕

○ internal thread

⊙ dual (external thread and soldering)

⊕ welded connection for R-line ID 16,1 mm

⊕ welded connection for R-line ID 22,4 mm

⊕ welded connection for R-line ID 35,2 mm

△ Victaulic

⊕ flange

Mounting brackets

Mounting brackets are manufactured using stainless steel or carbon zinc-plated steel.

- MNT LA - for LA heat exchangers
- MNT LB - for LB heat exchangers
- MNT LC/LD - for LC and LD heat exchangers
- MNT LM - for LM heat exchangers

Insulation

Insulation made of polyurethane foam covered with aliminum (APFI)

- max. working temperature: 135°C / 275°F
- thickness: 30mm / 1.18 inch
- thermal conductivity: 0,026 W/mK / 0.015 Btu/ft. hour °F

Insulation made of expanded polypropylene (EPPI)

- max. working temperature: 110°C / 230°F
- thickness: 28 mm / 1.10 inch
- thermal conductivity: 0,035 W/mK / 0.202 Btu/ft. hour °F

Cold insulation

for R-line heat exchangers

- working temperature range: - 40°C to 110°C / -40°F to 230°F
- thickness: 20 mm / 0.787 inch
- thermal conductivity: 0,037 W/mK / 0.213 Btu/ft. hour °F

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