

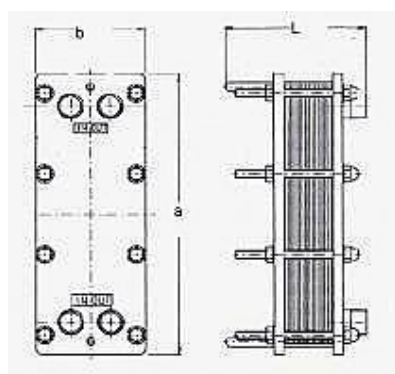
Model N6/1



Plates	Power (Kcal/h)	Exchange Flow * (lt/h)		Price €	
		Side 1	Side 2	INOX S.S.316	Titanium
11	90.000	4.522	2.922	1.730,00 €	
13	110.000	5.527	3.658	1.790,00 €	
15	140.000	7.034	4.655	1.840,00 €	
17	150.000	7.537	4.988	1.890,00 €	
19	180.000	9.044	5.985	1.950,00 €	
21	200.000	10.049	6.651	2.000,00 €	
23	230.000	11.557	7.648	2.050,00 €	
25	250.000	12.561	8.313	2.105,00 €	
27	270.000	13.566	8.978	2.160,00 €	
29	280.000	14.069	9.311	2.215,00 €	
31	300.000	15.074	9.976	2.270,00 €	
33	315.000	15.828	10.475	2.320,00 €	
35	350.000	17.586	11.639	2.375,00 €	
37	360.000	18.089	11.971	2.430,00 €	
39	370.000	18.541	12.304	2.485,00 €	
41	390.000	19.596	12.969	2.540,00 €	
43	410.000	20.601	13.634	2.595,00 €	
45	430.000	21.606	14.299	2.645,00 €	
47	450.000	22.611	14.964	2.700,00 €	
49	470.000	23.616	15.629	2.760,00 €	
51	490.000	24.621	16.294	2.810,00 €	
53	510.000	25.626	16.960	2.865,00 €	
55	530.000	26.631	17.625	2.915,00 €	

Prices and delivery time on request

Basic model nozzle diameter: DN50 (2")
- male thread S.S.316



Dimensions

Height (a) 585mm
Width (b) 180mm
Length (L) depending on plates

Components M6/1	Price €
S.S.316 plate with EPDM rubber	39,00 €
Titanium plate with EPDM rubber	upon request
EPDM or NBR rubber (for oil) Maximum temperature 140°C (160°C)	upon request
Rubber FKM-103 (for steam) Maximum temperature 200°C	upon request
Steel frame with 4 stainless steel nozzles 2"	upon request
Steel frame with 2 stainless steel nozzles and 2 titanium nozzles 2"	upon request

* The above calculations are indicative for:

T1: 80°C, T4: 60°C (Side 1)
T3: 15°C, T2: 45°C (Side 2)
Pressure drop max. 2,5mYΣ.
Equal number of plates L and H

Please contact us for a detailed calculation.

Model N6/3

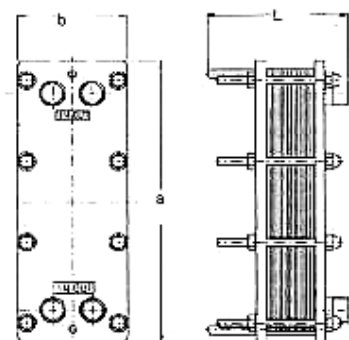
Plates	Power (Kcal/h)	Flow Supply * (lt/h)		Price € INOX S.S.316	Titanium
		Side 1	Side 2		
11	100.000	5.025	3.326	2.190,00 €	
13	120.000	6.030	3.991	2.260,00 €	
15	140.000	7.035	4.656	2.330,00 €	
17	160.000	8.040	5.321	2.400,00 €	
19	180.000	9.045	5.986	2.470,00 €	
21	200.000	10.050	6.651	2.540,00 €	
23	220.000	11.055	7.316	2.610,00 €	
25	240.000	12.059	7.981	2.680,00 €	
27	255.000	12.813	8.480	2.750,00 €	
29	270.000	13.567	8.979	2.820,00 €	
31	290.000	14.572	9.644	2.890,00 €	
33	310.000	15.577	10.309	2.960,00 €	
35	330.000	16.582	10.974	3.030,00 €	
37	350.000	17.587	11.639	3.100,00 €	
39	370.000	18.592	12.304	3.170,00 €	
41	385.000	19.345	12.803	3.240,00 €	
43	400.000	20.099	13.302	3.310,00 €	
45	420.000	21.104	13.967	3.380,00 €	
47	440.000	22.109	14.632	3.450,00 €	
49	455.000	22.863	15.131	3.520,00 €	
51	470.000	23.616	15.630	3.590,00 €	
53	485.000	24.370	16.129	3.660,00 €	
55	500.000	25.124	16.627	3.730,00 €	
57	520.000	26.129	17.293	3.800,00 €	
59	535.000	26.883	17.791	3.870,00 €	
61	550.000	27.636	18.290	3.940,00 €	
63	565.000	28.390	18.789	4.010,00 €	
65	580.000	29.144	19.288	4.080,00 €	
67	600.000	30.149	19.953	4.150,00 €	
69	615.000	30.902	20.452	4.220,00 €	
71	630.000	31.656	20.951	4.290,00 €	
73	645.000	32.410	21.449	4.360,00 €	
75	660.000	33.164	21.948	4.430,00 €	
77	675.000	33.917	22.447	4.500,00 €	
79	690.000	34.671	22.946	4.570,00 €	

Prices and delivery time on request



Basic model nozzle diameter: DN50 (2") - male thread

Caponents M6/3		Price €
S.S.316 plate with EPDM rubber		49,00 €
Titanium plate with EPDM rubber		upon request
EPDM or NBR rubber (for oil) Maximum temperature 140°C (160°C)		28,00 €
Rubber FKM-103 (for steam) Maximum temperature 200°C		upon request
Steel frame with 4 stainless steel nozzles		upon request
Steel frame with 4 stainless steel nozzles 2 1/2 "		upon request
Steel frame with 2 stainless steel nozzles and 2 titanium nozzles		upon request



Dimensions

Hight(a)	825mm
Width (b)	325mm
Length (L)	depending on plates

* The above calculations are indicative for:

T1: 80°C, T4: 60°C (Side 1)

T3: 15°C, T2: 45°C (Side 2)

Pressure drop: max.2,5mYΣ.

Equal number of plates L and H

Please contact us for a detailed calculation

Applications

Where heat exchange between two different fluids is required e.g.

- production of hot water for domestic use
- heating of swimming pools (pools)
- solar systems
- air conditioning systems
- energy recovery.

Also manages: Liquid/Liquid, Gas/Gas, Gas/Liquid, Gas/Liquid, Steam/Liquid.

Working parameters

The heating surface consists of a series of corrugated metal plates clamped together in a frame and sealed at the edges with rubber gaskets. The plates are provided with angular ports arranged and positioned in such a way that the two fluids between which the heat exchange takes place flow through alternating interstitial spaces. The flow pattern is chosen such that the direction of the media is in the opposite direction to each other.

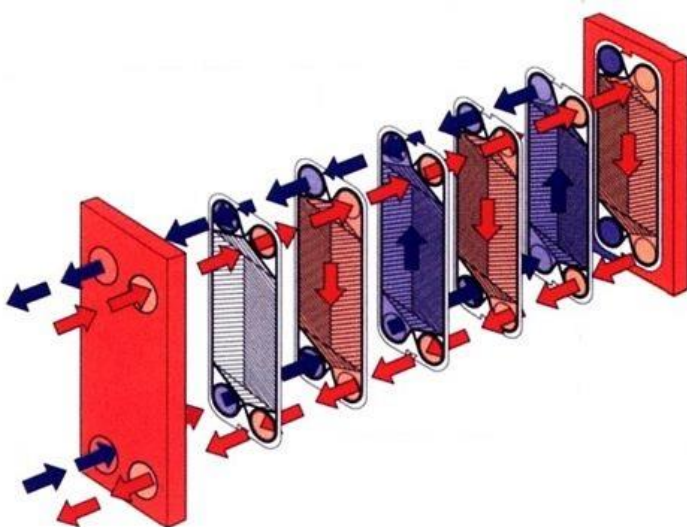
Design

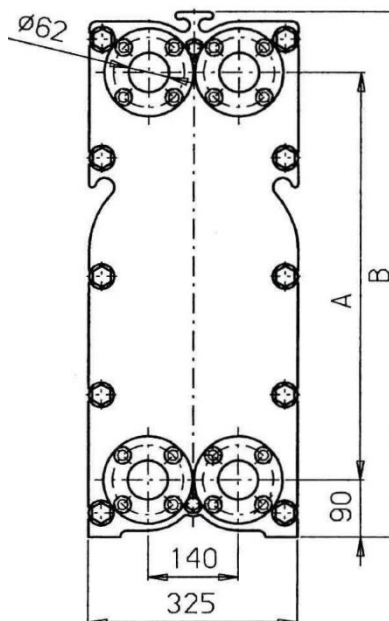
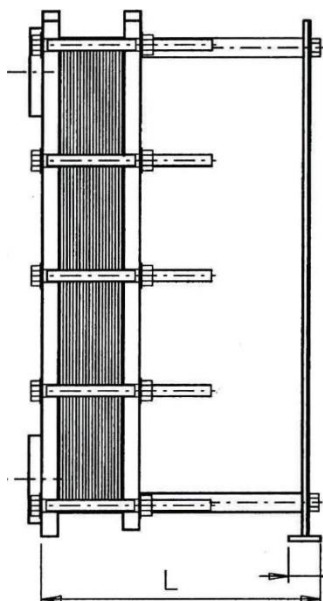
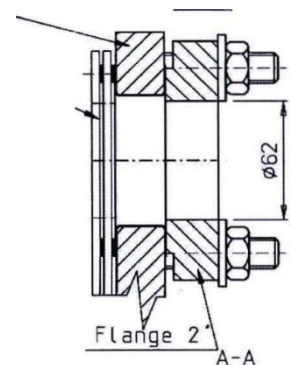
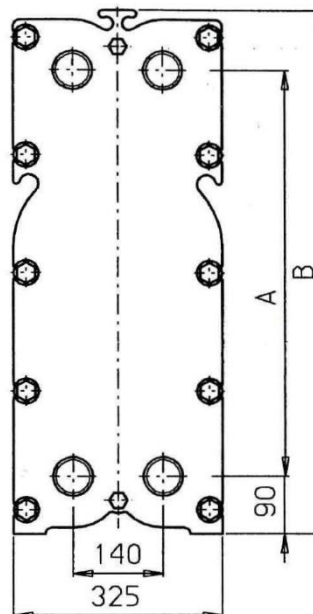
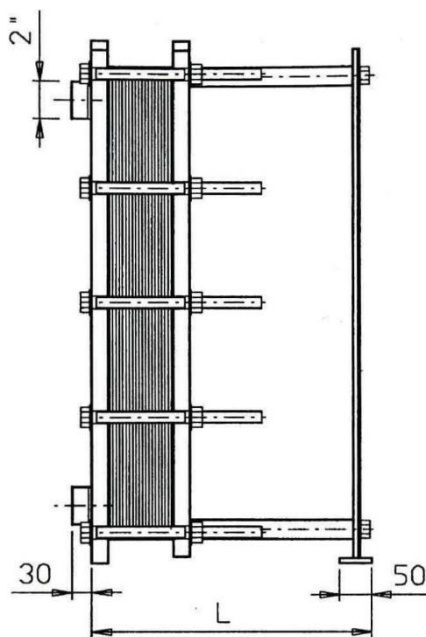
The external metal frame holds the internal heat exchange plates. The frame has a fixed end to which the upper and lower support rods are connected. Each plate shall fit the transfer bars with a recess at each end. The set of plates is compressed by a movable pressure plate at the end opposite the fixed frame and clamped firmly by side bolts.

The plates are corrugated to improve heat transfer efficiency and to make them rigid. Due to its design, the ORAN plate heat exchanger can be easily dismantled for inspection and cleaning. Moreover, it can be easily extended or reconfigured to perform different functions



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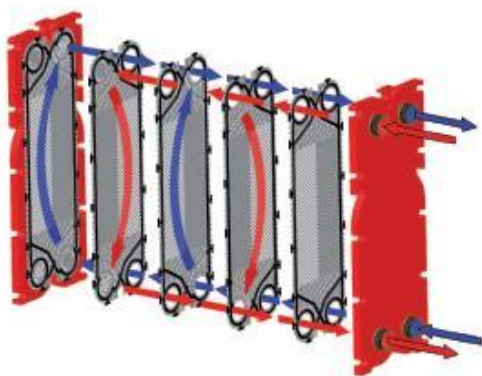


Size(mm)	N6/1	N6/3	N6/5	N6/7	N6/9
A	400	640	880	1120	1360
B	585	825	1065	1305	1545

*Length (L) as function of number of plates		
Number of plates (N)	Max. No of plates	Length (L)
		(mm)
5-21	31	347
23-37	55	447
39-61	91	617
63-79	119	747
81-103	155	897
105-125	187	1037
127-155	233	1247
155-255	255	1347



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Applications

Exchange processes involving heating, cooling or pasteurization. Also manages: Liquid/Liquid, Steam/Liquid, Compressed Air/Liquid.

Operation principles

The heating surface consists of a series of corrugated metal plates clamped together in a frame and sealed at the edges with rubber gaskets. The plates are equipped with corner ports arranged and placed in such a way that the two fluids between which the heat is exchanged, flow through alternating interlayer spaces. The flow pattern has been chosen so that the direction of the media is in opposite flow to each other. The grooves in the corrugated plates have strong rigidity to enhance heat transfer.

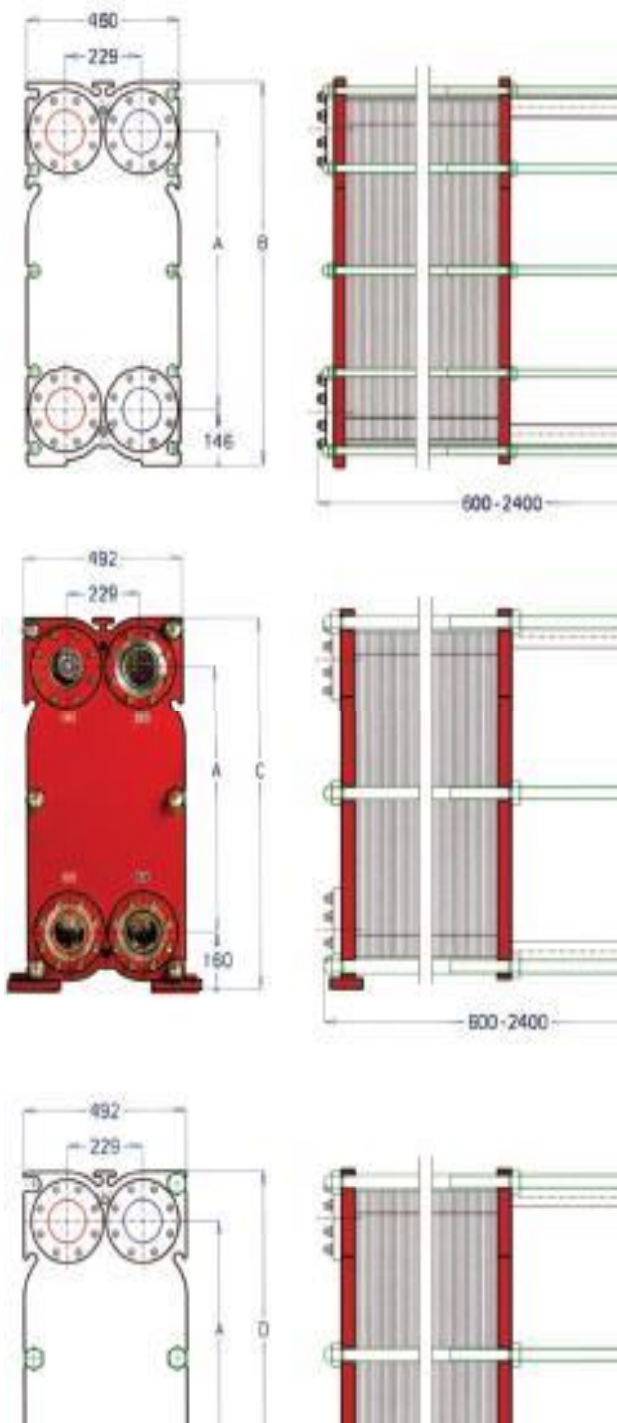
Design

The outer metal frame holds the inner heat exchange plates. The frame has a fixed end to which the upper and lower load-bearing rods are attached. Each plate fits the transfer bars with one recess at each end. The set of plates is compressed by a movable pressure plate at the end opposite the fixed frame and firmly clamped with side screws.

The plates are corrugated to improve heat transfer efficiency and to make them rigid. Due to its design, the ORAN plate heat exchanger can be easily disassembled for inspection and cleaning. In addition, it can be expanded or rearranged without difficulty to perform different functions

Advantages

- Plates made of high-quality metals (stainless steel, titanium, etc.
- High heat exchange rates
- Easy disassembly for internal inspection, cleaning and maintenance
- Easily adapts to changes in working conditions, changing the number of plates or changing the flow patterns
- Strong sealing gasket that does not require glue



■ Model calculation

With a computer program depending on the fluid, operating temperatures and pressure drop.

Maximum performance

up to 180,000 kg/hour, depending on the types of liquids, the permitted pressure drop and the temperature requirements.

Construction Materials

Outer frame

- Steel, painted with double layer paint, red color

Internal plates - nozzles

Nozzles:

- AISI 316 or 304 epoxy polyester heat treated stainless steel
- ASTM 516 gr 70 heat resistant steel heat treated epoxy polyester

Plates:

- AISI 316 or 304 stainless steel
- Stainless steel AVESTA 254 SMO
- Stainless steel 904 L

Rubbers:

- NBR
- VITON
- HNBR
- FKM (for high-temperature steam)
- EPDM
- High temperature resistant EPDM
- Lined nozzles

- Carbon steel
- Stainless steel AISI 304
- Stainless steel AISI 316L
- Titanium
- Titanium / Palladium

■ Maximum operating/test pressure

- IG - 10/13 bar
- IS - 16/21 bar
- IX - 25/37 bar

- Maximum operating temperature
- EPDM rubber gaskets: 160°C
- NBR rubber gaskets: 140°C
- Viton rubber gaskets: 200°C
- HNBR rubber gaskets: 225°C

■ Plate types

N-10-B = 2,5mm

N- 10-M =3.9mm

■ Maximum number of plates

N-10-B : 425 N-10-M : 251

Size(mm)	N-10/0	N-10/1	N-10/2	N-10/3	N-10/4	N-10/5	N-10/6	N-10/7	N-10/8	N-10/9	N-10/10	N-10/11	N-10/12
A	354	479	604	729	854	979	1104	1229	1354	1479	1604	1729	1854
B	631	756	881	1006	1131	1256	1381	1506	1631	1756	1881	2006	2136
C	646	771	896	1021	1146	1271	1396	1521	1646	1771	1896	2021	2146
D	650	775	900	1025	1150	1275	1400	1525	1650	1775	1900	2025	2150