



AIREC

WWF[®] Climate Solver

Compact 70

Compact 70 is a compact high efficiency stainless steel heat exchanger designed to handle asymmetric flows (one side A with a flow with higher density and one side B with lower density). Normal applications for Compact 70 are a liquid on side A and a gas on side B. Compact 70 is designed for maximum efficiency on side B.

With Compact 70 it is possible to increase performance and reduce the required dimensions in applications like:

- Exhaust from stationary motors in Co-generation and ORC-systems
- Intercooler in stationary motors
- Air compressors and other high pressure gas systems
- Steam heat exchangers
- Condensation as process for separation of chemicals and fluids
- Large boilers and other heating systems
- Economizer in industrial and process applications

Design

Compact 70 is a plate heat exchanger in stainless steel. The plate design is optimized for asymmetrical heat transfer applications, normally liquid (side A) / gas (side B). The plates are bonded to each other in a controlled vacuum brazing process with copper as brazing material.

Nearly 1000 contact points between two plates are also brazed to each other giving superior mechanical strength to the construction.

All connections are integrated and brazed to the top and the bottom plate.

Welding is not required.

All outside surfaces are cooled with streaming cooler liquid from side A. This to minimize energy losses and to eliminate the need for insulation and high temperature shields.

Compact 70 is in conformance with PED 97/23/EC. *

Function

Compact 70 offers a high efficiency; often above 90%.

The reasons for this are:

- The counter flow design
- All surfaces are primary heat transfer surfaces. The two flows are streaming on one side of each wall giving excellent heat transfer.

The flow with the largest volume and the lowest density is connected on side B with the bigger connections.

Compact 70 can handle full condensation of one medium like steam or partial condensation of gas mixtures like water in a gas.

Side B is complete with two condensate connections to ensure drainage if condensation occurs.

Technical Data

Plate material:	ASTM 316L / DIN 1.4404 / SS2348
Connections / Side plates:	ASTM 304 / DIN 1.4301 / SS2333
Brazing material:	Copper
Operating pressure plate temperature at -160 to +205°C:	Brazing with C: 12 bar / 174 psi (side A) Brazing with C: 3 bar / 44 psi (side B)

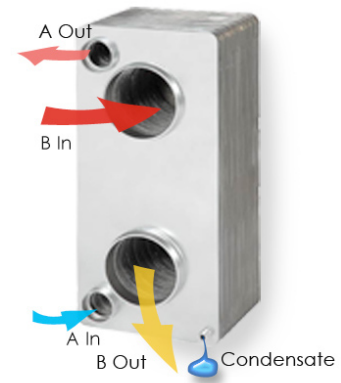
Primary heat transfer surface/n:	19 dm ²
Volume Side A / Side B channel:	0,40 / 1,0 dm ³
Weight:	15 + n x 0,65 kg
Max n:	60

n: number of plates

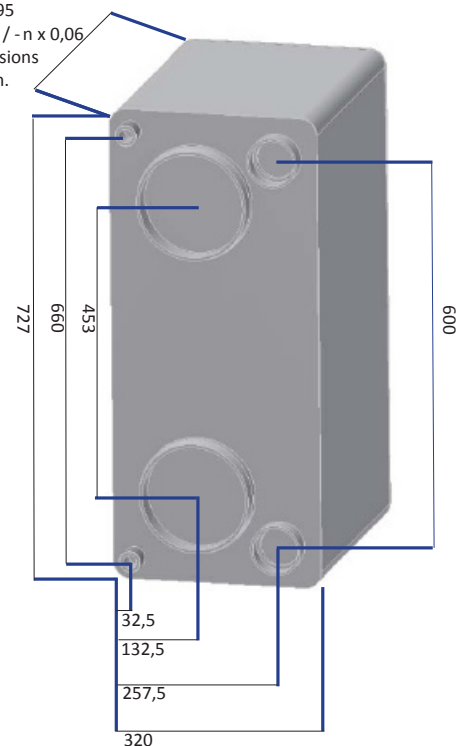
* For further information regarding PED-classifications: Please see "Compact Installation and Maintenance Manual" at www.airec.com



Compact 70 brazed with copper and nickel.



8 + n x 3,95
+ n x 0,03 / - n x 0,06
All dimensions are in mm.



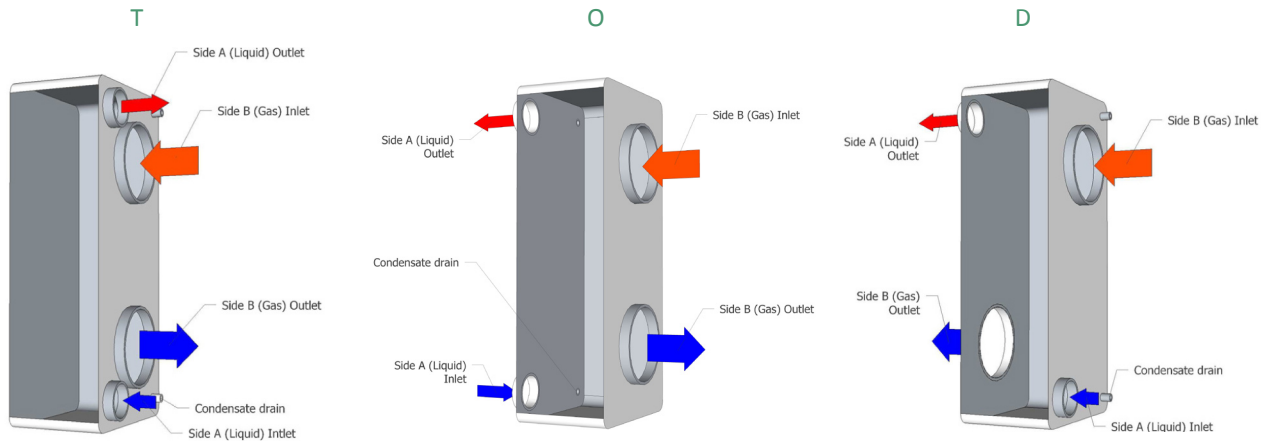


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Version



Top plate connections

All connections on the top plate.

Opposite

Gas + condensate connections on the top plate.
Liquid and condensate connections on the bottom plate.
Reduced heat transfer by $n > 30$.

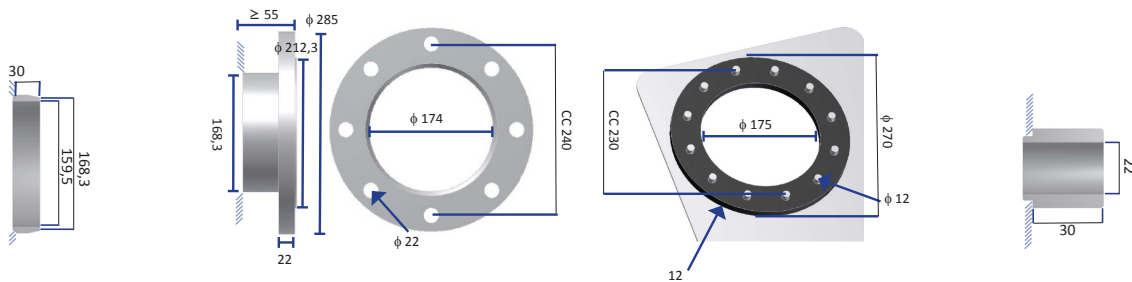
Diagonal

Both mediums enter on the top plate and exit on the bottom plate.
Notice: Both mediums have to enter on the same side.
Increased pressure drops by $n > 30$.

Connection options

Compact 70 has 3 connection options each for A and B connections.
All dimensions in mm.

Side B



W 160

It is suitable to butt weld a tube with outside dimension of 168,3 mm or use a fill weld, in an inside mounted tube with OD 159 mm.

DN 150 (PN 16)

Tube in stainless steel 304/1.4301
Galvanized loose flange ring

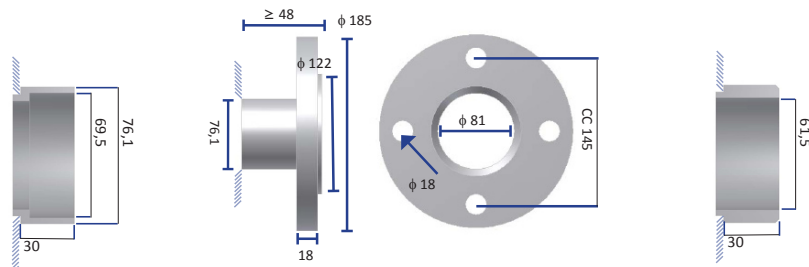
Ring

Stainless steel 304/1.4301
After welding of connecting DN 150-tube inside the ring is the set mounted and bolted against the connection opening.

Condensate

G1 (outside thread) with sockets
Stainless steel 304/1.4301

Side A



W 70

It is suitable to butt weld a tube with outside dimension of 76,1 mm or use a fill weld, in an inside mounted tube with OD 68 mm.

DN 65 (PN 16)

Tube in stainless steel 304/1.4301.
Galvanized loose flange ring.

G 2,5

(Outside thread)



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Specification code Compact 70

Example:

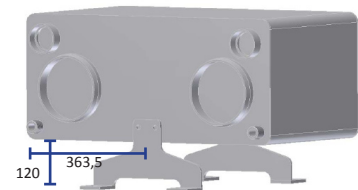
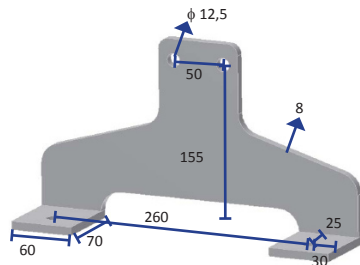
Compact 70/C/30/T/W160/G2,5

Brazed with copper, 30 plates
Version T with all connections on the top plate
W 160 as B side connections
G 2,5 as A side connections

COMPACT 70 / u / n / x / y / z / o	
Brazing material C (copper)	
Number of plates 10 - 60	
Version T (Top plate) O (Opposite) D (Diagonal)	
B (gas side) connections W 160 Ring DN 150	
A (liquid side) connections G 2,5 W 70 DN 65	
Customized options Drawing no.	

Welding bolts and mounting legs

Galvanized steel.
All dimensions in mm.



High pressure design



Compact 70 can be delivered with double top- and bottomplates for operating pressure 16 bar / 5 bar (side A / side B).
With bolted extra side plates can pressure up to 16 bar on side B also be achieved.
Material: Painted steel.



Compact 70 can also be delivered in non standard designs with non standard connection options.

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