



ALUVENTA®

# ALUVENTA®

High performance

## ALUMINIUM CONDENSERS

for the HVAC/R market

- Improve your product
- Save cost



## Dedicated HVAC/R

Aluventra® has done an intensive R&D in alloys, tooling and machinery, leading to the most efficient production methods and the only real bespoke solution for the HVAC/R market.

## Large size condensers

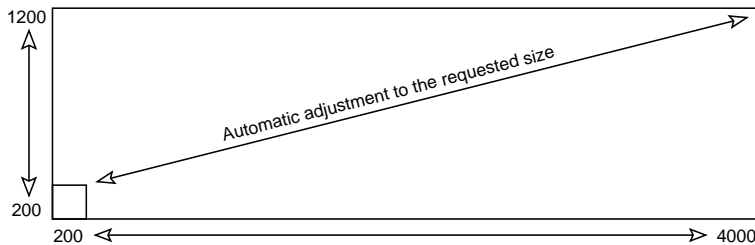
Aluventra® produces condensers from 200x200mm to 1200x4000mm. The large size condensers will avoid the problem of having to connect several smaller condensers in parallel. All condensers can be tailored to fit the application.



## Fully automated production

The production facilities at Aluventra® include the first fully automated assembly cell for small to very large condensers as well as one of the largest CAB-furnaces in the world.

The size of the condenser is simply typed in to the assembly cell, and the cell will automatically adjust to the requested size. The cell will make any number from 1 to 25.000 condensers in one order.



## Dimensioning software, *AluHex*

Aluventra® has developed an accurate software for dimensioning of our all aluminium condensers. The software is tested by Technological Institute, Denmark.

## Quality

The CuAl heat exchanger industrial standard for leak detection is a heat exchanger submerged in water. One (detected!) air bubble equals a yearly leak rate of 200-600 grams. Our helium-based leak test alarms at 2 grams a year.

## Design freedom

The parallel flow design offers great flexibility when it comes to circuiting and the condenser can even be designed with a subcooling section for improved COP. Our condensers can be customized to meet specific working conditions and can be shaped to match the application.

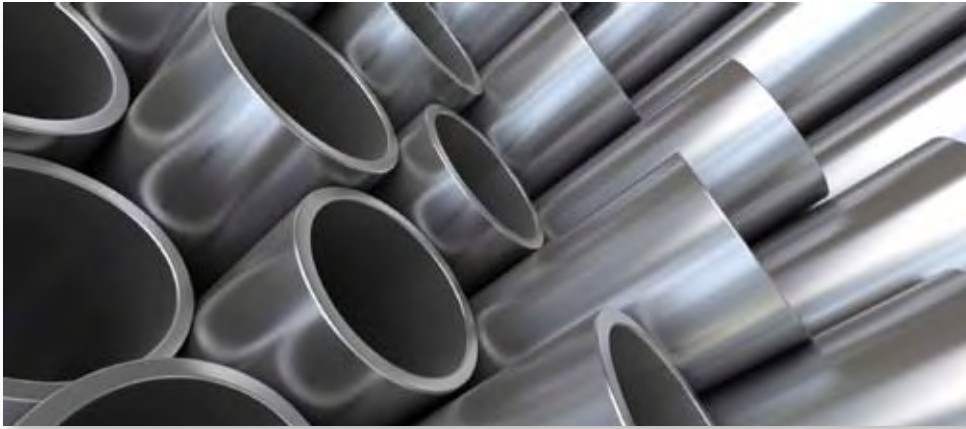
## Well known and proven design

Our products have all the best features from the automotive market, and have been further developed to meet all the demands from the HVAC/R market.

- Small to large size
- Available as one-off / batch / series
- Improved efficiency
- Balanced to work with standard fans of the business.



At this size, our competitors' solutions need a crane to move and install them.



## ALL ALUMINIUM CONDENSERS

- Reduces fan power - low air pressure drop
- Increases working life – no galvanic corrosion
- Reduces noise – low air pressure drop
- Reduces refrigerant charge up to 85%
- Reduces coil depth and space up to 75%
- Reduces coil weight by up to 70%
- Provides maximum protection for the environment.
- Enables all refrigerants – also Ammonia, Hydro Carbons (and CO2)



The all-aluminium  
condensers are 100%  
recyclable



### The technology

The Aluventia® high performance condenser is developed with 4 significant drivers in mind:

- A thermodynamic design giving a high heat transfer on both the refrigerant and the air side.
- A product which can be made on a fully automated production line.
- A product with a high and uniform quality.
- A product and production set-up meeting the drivers on the HVAC/R market.

Our condensers will improve your product and minimize your cost.

### Aluminium/copper joints

All-aluminium condensers can be integrated with copper tubing by soldering or press fittings.



# ALUVENTA®



# Improve your product Save cost

THE FACTS  
ARE  
HARD TO BEAT

The All-aluminium condensers (MCT) offers large improvements compared to ordinary CuAl condensers.

<b>PRECONDITIONS</b>		CuAl	25 mm MCT
Face area (L x H)	m	2 x 1	
Capacity	kW	98	
Face velocity	m/s	3	
Air temperature	°C	35	
Condensing temperature	°C	55	
Refrigerant		134 a	

## COMPARISON A

<b>RESULTS</b>		CuAl	25 mm MCT	<b>IMPROVEMENT</b>	<b>BENEFITS</b>
Depth	mm	89	25	72,0%	Smaller cabinet
Weight	kg	76	29	61,8%	Reduced transport cost • easy handling
Air side presure drop	Pa	98	78	20,4%	Smaller or less fans • reduced fan speed (less noise) • reduced energy consumption
Refrigerant pressure drop	kPa	55	27	51,9%	Increased performance • improved efficiency
Internal volume	Liters	23,0	4,3	81,3%	Reduced refrigerant charge - strong environmental profile

<b>PRECONDITIONS</b>		CuAl	18 mm MCT
Face area (L x H)	m	1,0 x 0,6	
Face velocity	m/s	2	
Air temperature	°C	30	
Condensing temperature	°C	50	
Refrigerant		404a	

## COMPARISON B

<b>RESULTS</b>		CuAl	18 mm MCT	<b>IMPROVEMENT</b>	<b>BENEFITS</b>
Capacity	kW	17,8	20,0	12,1%	Increased capacity
Depth	mm	67	18	73,2%	Smaller cabinet
Weight	kg	21,0	6,5	69,0%	Reduced transport cost • easy handling
Air side presure drop	Pa	31	24	22,6%	Smaller or less fans • reduced fan speed (less noise) • reduced energy consumption
Refrigerant pressure drop	kPa	14	11	21,4%	Increased performance • improved efficiency
Internal volume	Liters	5,0	0,8	84,0%	Reduced refrigerant charge - strong environmental profile



## ALUVENTA® A/S

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Aluventa® is a registered trademark.

Aluventa® is a worldleading manufacturer of all-aluminium heat exchangers for the Heating, Ventilation, Air Condition and Refrigeration market.

We provide complete, highly effective and competitive solutions that significantly improve on other products in today's marketplace by increasing effectiveness while reducing the restrictions of weight and space as well as minimizing refrigerant charge.

Our modern and flexible production facilities enable cost effective solutions to Batch and Series production ranging from small to very large condensers. Our production methods apply the world's most modern technology with a dedication to protect the environment.

We work in close co-operation with our customers from research and design to production. We therefore offer extensive support and ongoing assistance for present and future projects.

In 2005 the company was awarded with "The Golden Rivet" for having a great impact on development in Denmark and being a source of inspiration.

Aluventa® is ISO 9001 certified.



QUALITY SYSTEM  
DS/EN  
ISO 9001



ALUVENTA®