

## COM Oil Coolers

**Setrab**  
*OilCoolers*

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# Setrab Oil Coolers optimize design

## Setrab oil coolers an integrated part of the system

At Setrab we have long experience of developing oil coolers that function as an integral part of the hydraulic system. Current cooling needs and external dimensions are important factors influencing the choice of an appropriate cooler. In most cases it is also important to consider factors such as pressure drop of oil and air, variations in oil flow, influence of the external environment, and so on, if the maximum effect is to be obtained.

The choice of a suitable oil cooler is based on the technical specifications that are agreed with the customer. We can thus guarantee optimal functioning and durability for every installation.

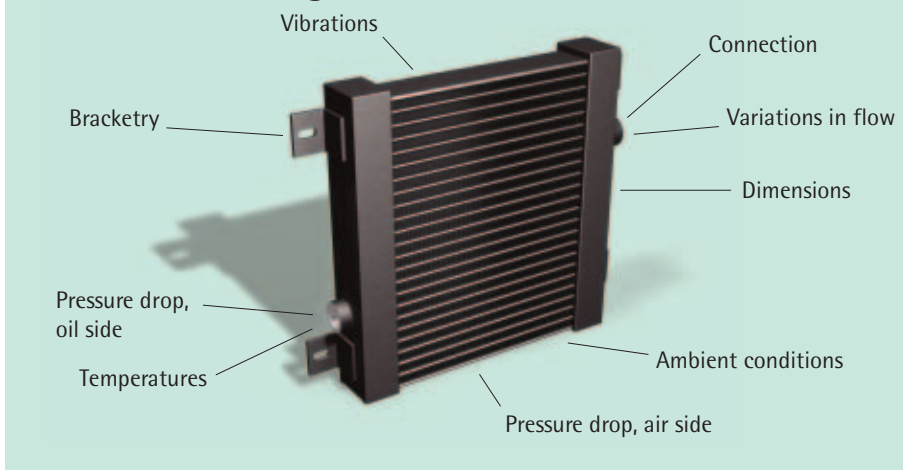
## Dimensioning for the best effect

We dimension coolers using computer programs based on theoretical models and laboratory tests. The programs have been developed as a powerful tool in finding the best technical solutions for each application. Besides simulating normal operating conditions, we can also see what happens during operation in warmer climates, cooling at high altitudes and other variables affecting the cooling result.



By combining a new 66 mm deep tube with our new type E air fins, we can achieve up to 25% more cooling performance with a typical fan. For a given core front air velocity, cooling performance increases by up to 50%.

## Factors influencing the choice of cooler



# COM Oil Cooler

## Heavy duty and flexible in size

The Setrab COM Oil Cooler is used in mobile and stationary applications where there is demanding pressure and vibrations. It can also be used in low-pressure systems requiring an exact fit of the cooler into the application.

## Technical specifications

- Maximum static pressure is 25 bar. Approved testing at a dynamic working pressure of 0–16 bar, minimum 1,000,000 pulsations in load, 2 Hz.
- Corrosion protection: Nocolok brazing process and epoxy-coating.
- Connections: BSP (G), Metric (M), JIC (AN).

## Withstands high pressures

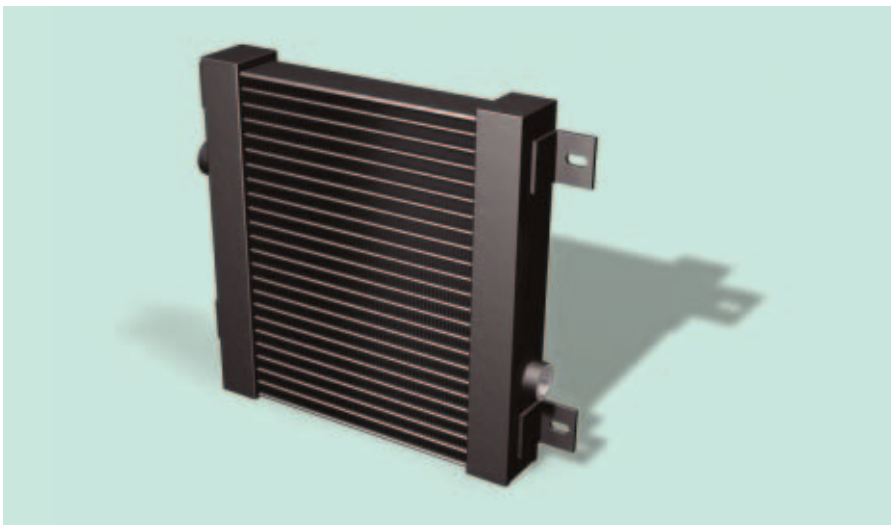
A special characteristic of the Setrab COM Cooler is its high resistance to pressure. The entire design is made to cope with high oil pressure, thanks in part to the sturdy extruded aluminium side tanks. The Nocolok brazing also contributes to the high pressure resistance.

## Fully optional dimensions

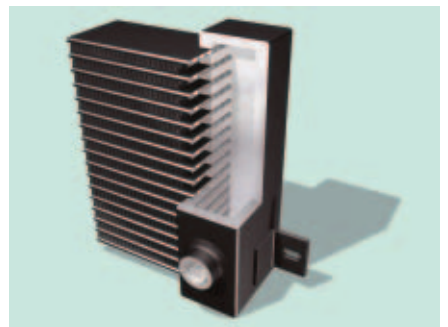
The COM Cooler is one of the most adaptable coolers on the market. It can be customized precisely for each application as regards cooling effect, dimension, connections and attachment.

## Wave-shaped air fin for dirty environment

In most cases, louvred air fins are preferred, as they provide better heat transfer than their non-louvred equivalents. However, louvred air fins should not be used in dust-laden environment, as they can easily become blocked and cause the cooler to suffer a loss in cooling efficiency. Our new type F fin is non-louvered and wave shaped, thereby improving the heat transfer of the cooler whilst minimising the chance of blockage due to build-up of dirt and debris.



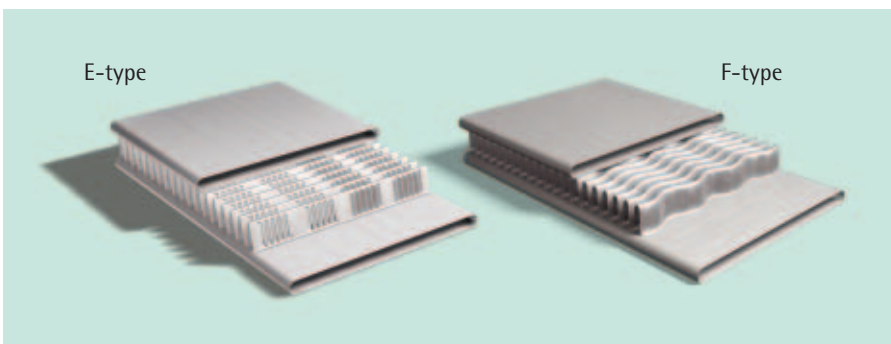
Within a max. matrix width of 650 mm and a variable height up to 450 mm the COM cooler is available in many standard dimensions.



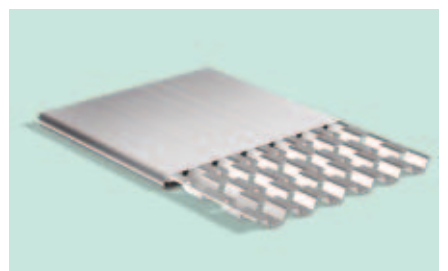
COM Coolers withstand high pressure, thanks to the sturdy tanks of extruded aluminium.



In standard design COM Coolers are delivered with brackets for mounting to a wall or in a frame.

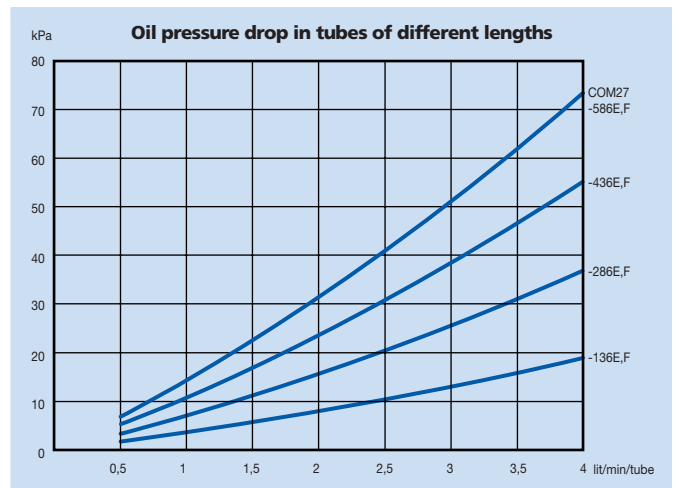
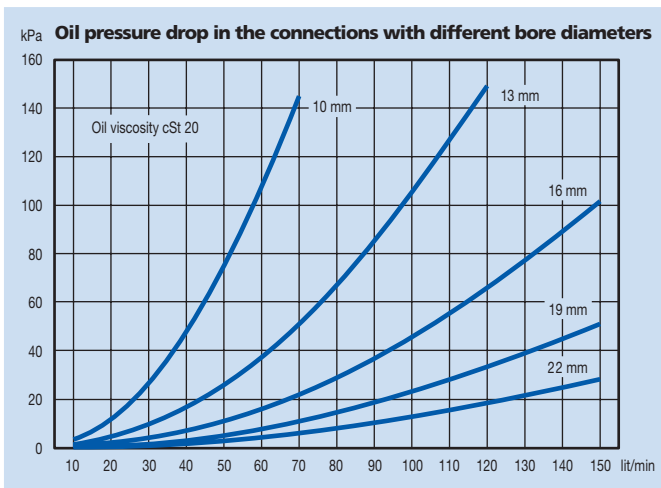
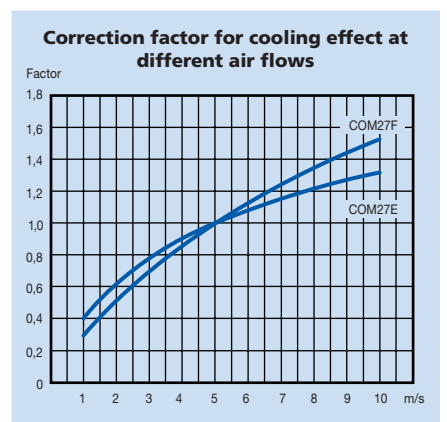
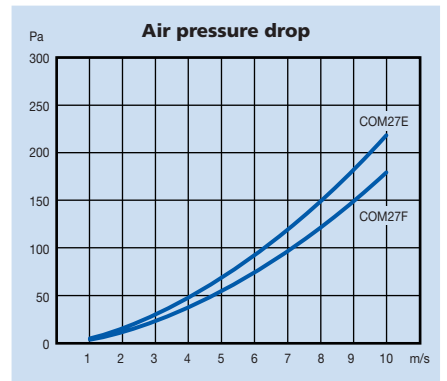
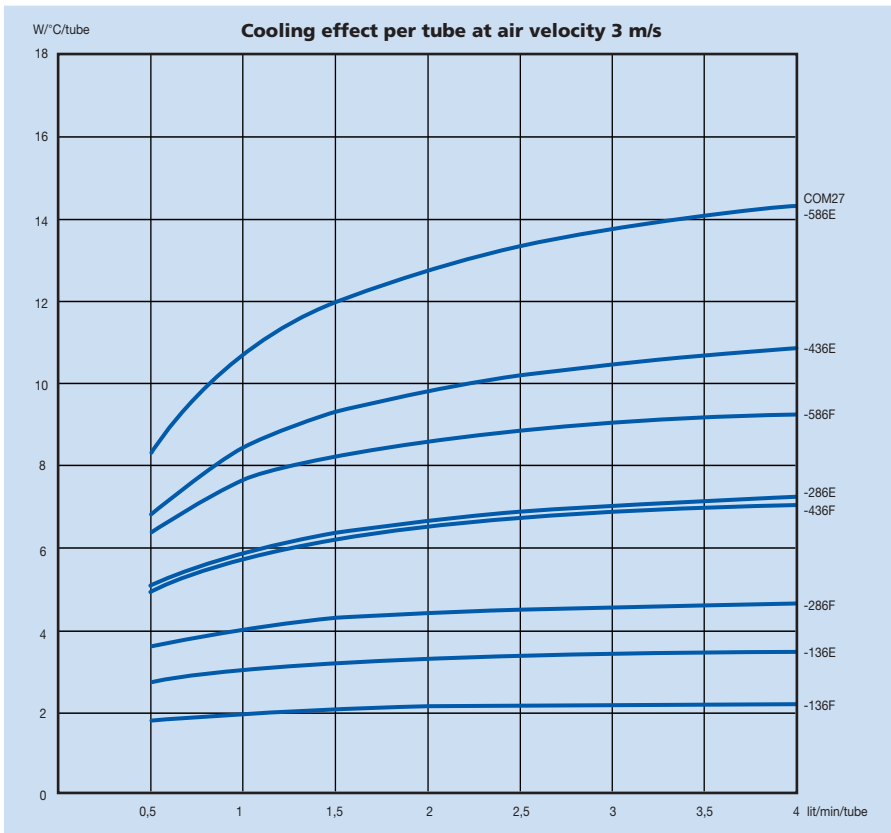


Air fins are available in louvred and non-louvred options. The choice is decided by the actual operating conditions and working environment. E- and F-fins are newly developed.

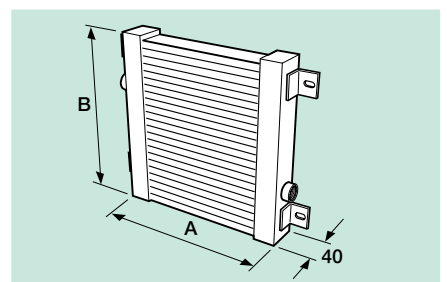


The turbulator, which controls the oil flow so that the maximum heat transfer is obtained, is designed for low oil pressure drop without the formation of a heat-insulating boundary layer in the oil tube.

# COM 27



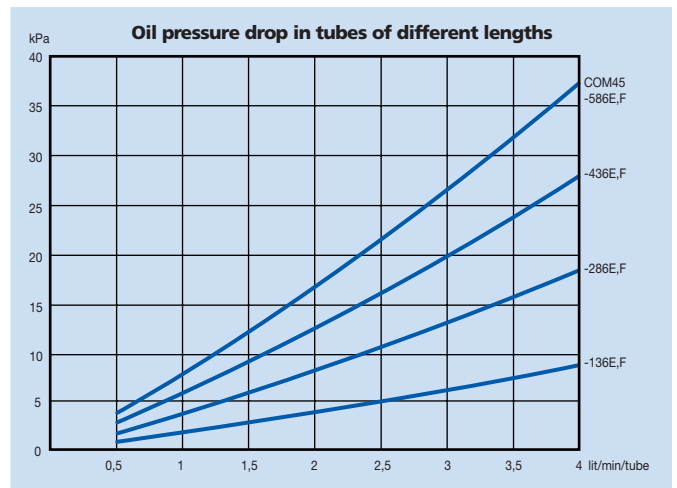
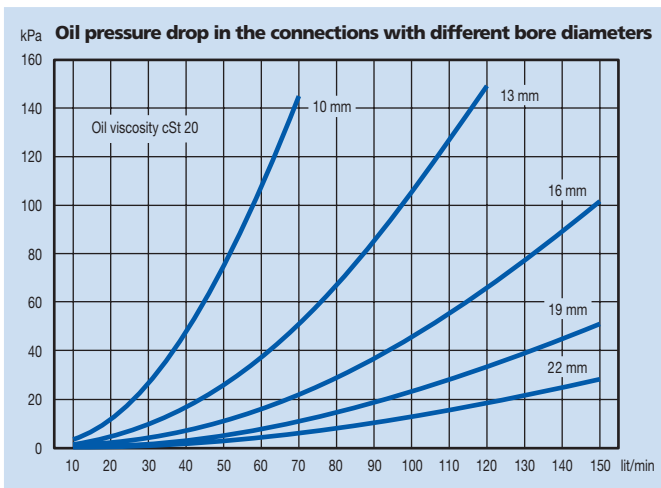
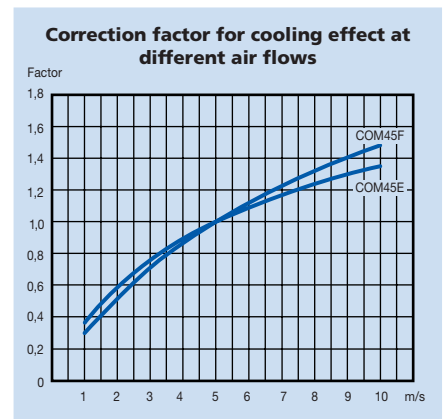
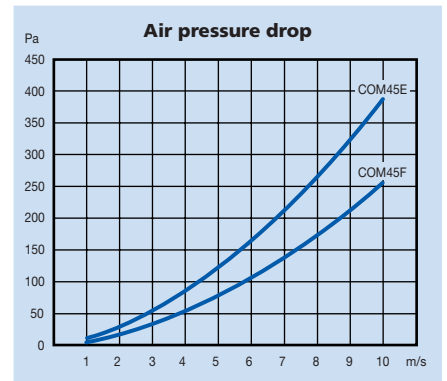
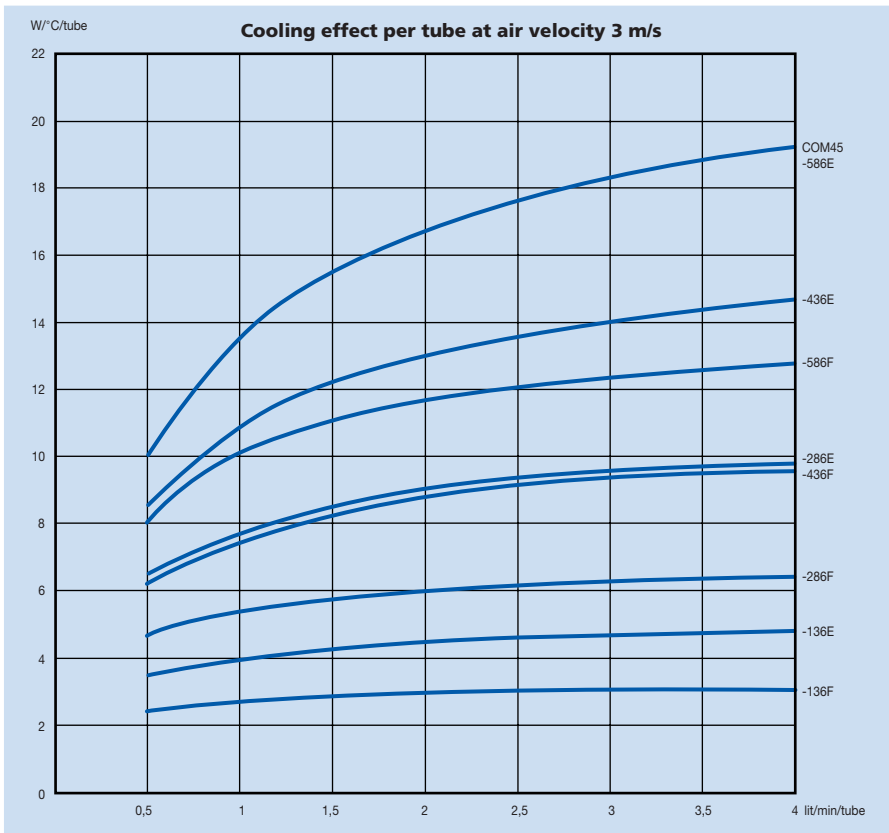
Standard dimension A		B-dimension	
Matrix length mm	A	No. of tubes	B
136	206	5	50
186	256	10	100
236	306	15	150
286	356	20	200
336	406	25	250
386	456	30	300
436	506	35	350
486	556	40	400
536	606		450
586	656		500
636	706		



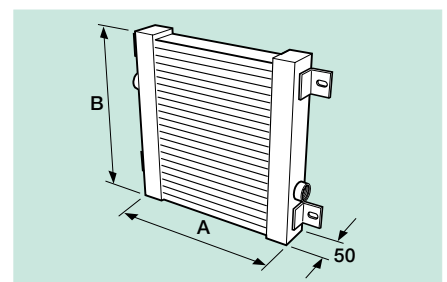
Measurement data for Setrab COM 27 Oil Cooler.

**Calculation service:** Contact us if you need help to dimension a cooler for your needs.

# COM 45



Standard dimensions A		B-dimension	
Matrix length mm	A	No. of tubes	
136	204	5	50
186	254	10	100
236	304	15	150
286	354	20	200
336	404	25	250
386	454	30	300
436	504	35	350
486	554	40	400
536	604		450
586	654		500
636	704		



Measurement data for Setrab COM 45 Oil Cooler.

**Calculation service:** Contact us if you need help to dimension a cooler for your needs.

# COM 66

## Knowledge we invest in product development

By engaging in an intensive programme of development and collaboration with our customers, we have reached a proven level of expertise in calculating and sizing coolers. We have invested this wealth of experience into further product development and we can therefore claim that one of the most efficient, most robust, flexible oil coolers currently available on the market, the Setrab COM, has now become even better. Our new 66 mm wide tube and the new E- and F-type air fins are examples of our development work.

## Greater depth – greater heat transfer

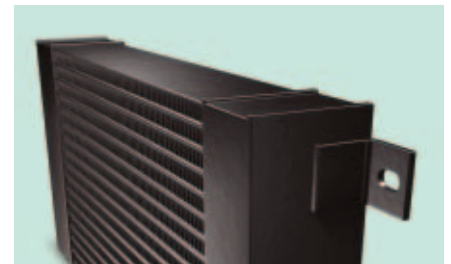
Our new COM tube is 66mm in depth, compared to our current range, which offer 27 mm and 45 mm depth. This increases the heat transfer between the air and the oil.

## New louvered air fin increases heat transfer

Through an intensive development programme we have improved the characteristics of our louvered type E fin. The result is a 15% increase in cooling efficiency for a typical fan. For a given core front air velocity, the performance increase is 20%.

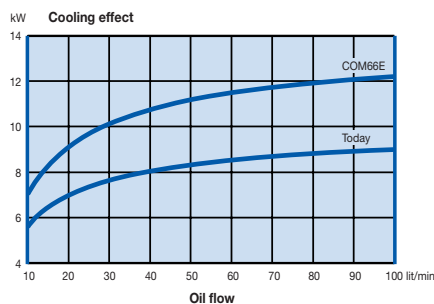
## A powerful combination

By combining a 66mm tube and our new type E air fin, we can achieve a 25-50% increase in cooling performance. This is essential to meet today's ever increasing demands on cooling performance.

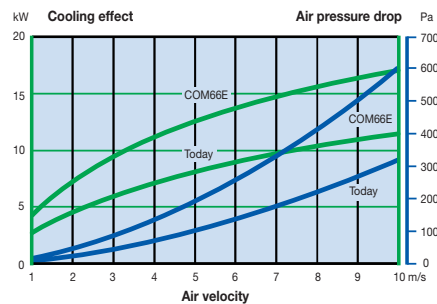


With the wider 66 mm tube profile the cooling effect increases by 10-30% for an equivalent cross-sectional area.

The new COM 66 cooler has top and bottom plates that protect the outermost air fins, leading to a neater design with virtually flat surfaces at top and bottom.

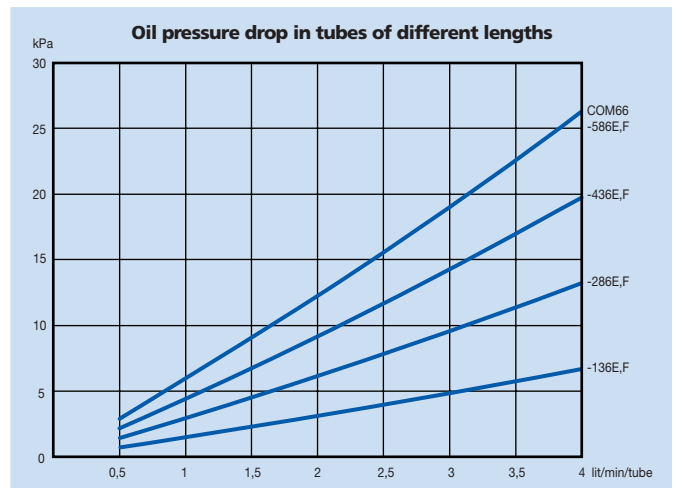
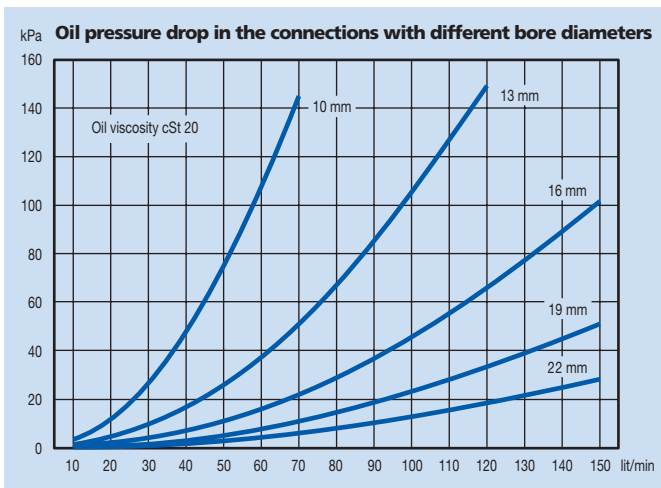
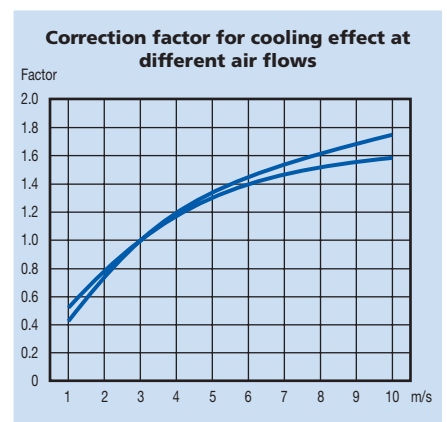
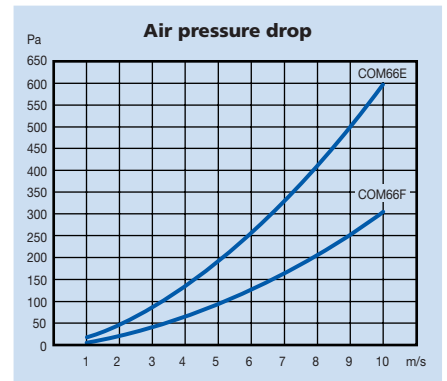
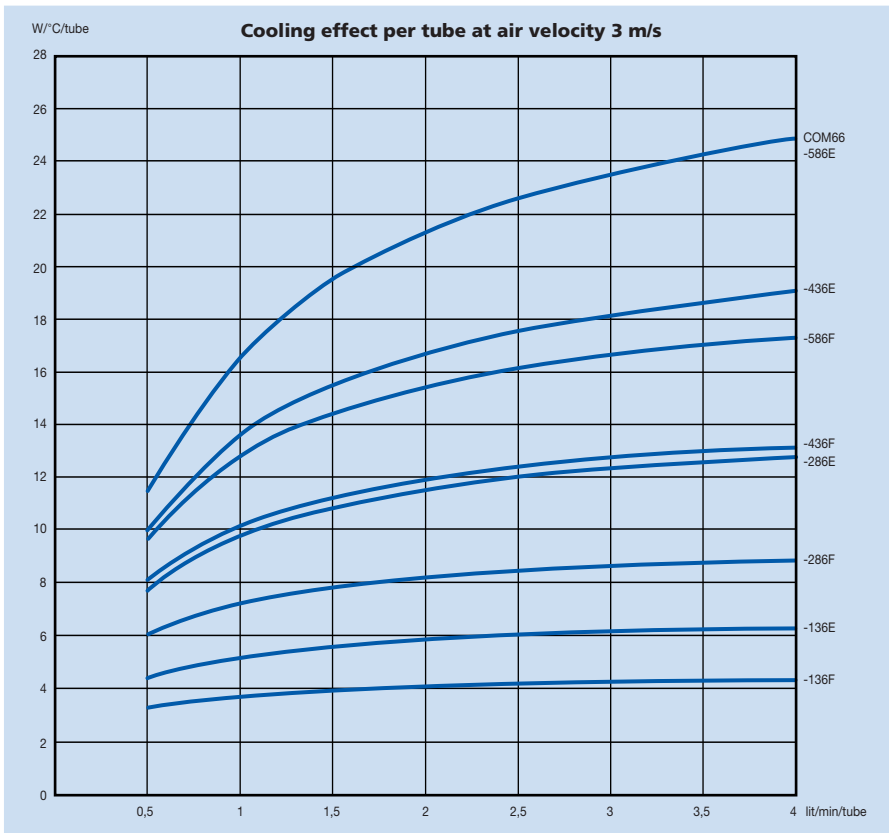


We have achieved a 25% increase in cooling effect for a typical fan with COM 66 cooler, in which we have combined our new 66 mm wide tube with the new E-type air fins.

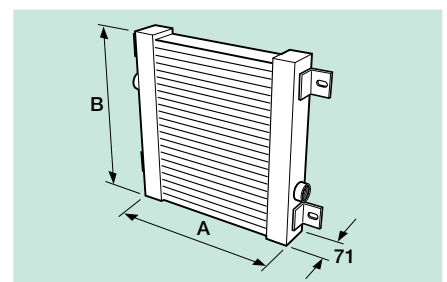


The increase in cooling effect will be more than 50% a given core front air velocity. However the pressure drop across the cooler increases, due to the cooler's greater depth.

# COM 66



Standard dimension A		B-dimension	
Matrix length mm	A	No. of tubes	
136	216	5	50
186	266	10	100
236	316	15	150
286	366	20	200
336	416	25	250
386	466	30	300
436	516	35	350
486	566	40	400
536	616		450
586	666		500



Measurement data for Setrab COM 66 Oil Cooler.

**Calculation service:** Contact us if you need help to dimension a cooler for your needs.

# We know no limits

## We are everywhere

We have been manufacturing heat exchangers for about 25 years and today we are well established in many fields all over the world.

The headquarter and production plant are located in Malmö, Sweden. We have subsidiary sales offices in Great Britain, Germany and the USA. We are also represented by specially selected distributors in over 20 other countries.

## We cover all sectors

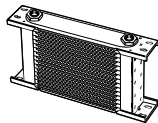
Setrab Oil Coolers are used in mobile and stationary applications on construction equipment, in the process industry, energy supply, the engineering industry, agriculture, automobile industry and racing etc. By using coolers for engines, hydraulic systems, transmissions, compressors, and electronics, you prolong the life of the system, and increase the efficiency, since all components can work at the optimum temperature.

Contact us if you need cooling for your equipment or products. We almost certainly have a solution to suit your needs.

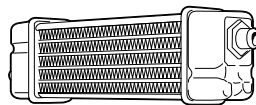
## Quality

Quality always takes top priority at Setrab and is a key word when it comes to service and design, production and distribution.

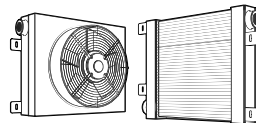
## Other products



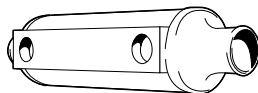
**STD**  
Air-cooled oil cooler.



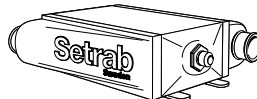
**SLM**  
Air-cooled oil cooler.



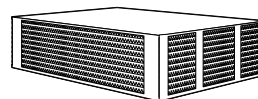
**CP**  
Air-cooled oil cooler with built-in fan.



**TOC**  
Water-cooled oil cooler.



**LOC**  
Water-cooled oil cooler.



**LIC**  
Water-cooled charge-air cooler.

**Setrab**  
OilCoolers

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