# **Customer**Service

Providing all solutions for your Heat Exchanger performance increase





### Cofimco Company is compliant with the highest safety standard OHSAS 18001

and

certified to Quality standard UNI EN ISO 9001



N. 50 100 7052



N. 50 100 13093



Cofimco Service was born to provide solutions to typical needs of Process and Maintenance Engineering in the field of heatexchanging application.

#### **LET US KNOW YOUR NEEDS**

We are experts in axial flow fans and air-cooled heat exchangers so allow Cofimco to help you by coming in and conducting a full air-cooled heat exchanger and axial fan inspection prior to a turnaround in order to help you better prioritize your needs.

#### TYPICAL NEEDS WE USUALLY SATISFY

Following, the typical process and maintenance engineering needs that Cofimco Service can satisfy

- Increase the cooling capacity
- ▶ Reduce power consumption and consequent CO₂ emissions
- Reduce activities and costs related to maintenance
- ► Reduce the fan vibration
- Assistance for fans and drive system installation
- Reduce noise level

#### **ADVANCED "KNOW HOW"**

Thanks to the application of Service Solution, there are no single issues or problems that Cofimco Service cannot solve on each air cooled applications.

### **Provided Activities**

#### **INCREASE THE COOLING PERFORMANCE**

Cofimco improve the cooling performance of ACHEs by increasing the airflow volume with installation of more efficient fans (keeping same power consumption). The innovative TANDEM Blade, with its patented design, represents the more efficient fan blade on market.

After an initial survey, in order to determine the existing conditions, we can provide a cooling increase estimation. The test will take few hours and in most cases, is not required to stop the fan.

#### SAVE ENERGY AND OBTAIN RETURN OF INVESTEMENT

Cofimco, through the innovative fan design, the selection of accessories as transmission belts and pulleys or the installation of devices to optimize the airflow, can obtain energy saving with consequent  $CO_2$  emissions reduction. We can also predict a possible return of investment, obtained with the power absorption reduction.

#### REDUCE YOUR MAINTENACE ACTIVITIES AND COSTS

Cofimco thanks to innovative products, can reduce maintenance activities and components replaced.

With our solution we can reduce loads and vibrations transmitted to supporting structure, drive system, increasing life time of all components, for example bearings, as a consequence.

With installation of anti-rotation devices, the backward rotation of fans in standstill condition, is avoided together with frequent belt breakages due to motor hard-starts.



### **Provided Activities**

#### REDUCE YOUR FAN VIBRATION LEVEL

Vibrations inside an heat exchanger is the main cause of structure loosening, drive system wear and fatigue damages. We can perform vibration analysis to find the main cause and provide the best solution to reduce vibration.

When the fan is the main vibration source, Cofimco FLEXI Blade is the answer: a fan blade with a flexible element that connect airfoil to the hub with dissipating vibration function.

#### FANS AND DRIVE COMPONENTS INSTALLATION ASSISTANCE

Your fan needs a proper installation to ensure right pitch, tip clearance, and alignment in order to maximize the performance and reliability of your fan. Also drive components, as pulleys, belts, bearings, bearings block, motor, need cares during installation and Cofimco provides installation assistance, as well as supervision.

If you need the right tools for installation, Cofimco provides CS Series: the toolkits dedicated to a specific fan or component installation.

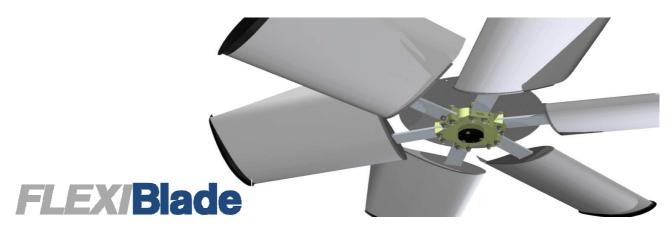
#### **NOISE LEVEL REDUCTION**

Cofimco can perform studies and surveys to identify the main noise source and provide solution for its reduction. In terms of fan application, CX Series is the Cofimco fan with the lowest noise emission in the market.



## **Revamping Solutions**

Cofimco provides fans with innovative design that will bring a lot of advantages.



FLEXI Blade is the Cofimco fan blade that with a flexible connection between the airfoil and hub, reduces vibration transmitted to the drive system and supporting structure. Available with manual or auto-variable pitch, in diameters from 5ft up to 20ft (6.1m) in different blade profile in aluminium or FRP material.

With installation of this blades you may obtain elongation of life time of fan drive system components and consequent maintenance cost reduction.



Cofimco TANDEM Blade is the innovative fan blade composed by 2 airfoils to reach highest efficiecy levels. TANDEM Blade fans are suitable for energy saving project or, maximization of cooling capacity by incresing air flow volume keeping the same power consumptiom. TANDEM Blade is available from 8ft to 18ft (5,5m) in manual or auto-variable pitch. TANDEM Blade exploit FLEXI Blade technology with related advanteges of elongation of life time of fan drive system components and consequent maintenance cost reduction.

### **Revamping Solutions**



Cofimco 35F Blade was designed to offer a fan able to withstand severe operating conditions for the Cooling Towers and Air Cooled Condenser applications. The blade, entirely in composite material, is suitable for the more aggressive environment common in cooling towers. Material and shape, allow vibration reduction compared to traditional rigid fans. 35F Blade is available on fans with diameter from 20ft to 36ft (10,7m).

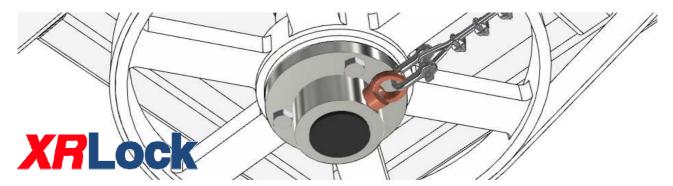


CX Series fan is the ultra low noise designed by Cofimco to meet the most stringent noise limitation. CX Series fans are available from 3ft to 18ft (5,5m).

For large fan application, are available Cofimco 50F Blade and 60F Blade, with diameter from 14ft up to 36ft (11m), that reach the lowest noise level existing in the market.



XR Series foreseen all accessories and devices that optimize performance and longevity of your ACHE



XR Lock is the Cofimco anti-rotation device that eliminates motor hard-starts caused by reverse rotation of fan during wind-milling. The Device is completely compliant with standard Atex 2014-34-EU, zone II2G/D c IIC Tx. XR Lock is installed below driven pulley. Customized solution are available.

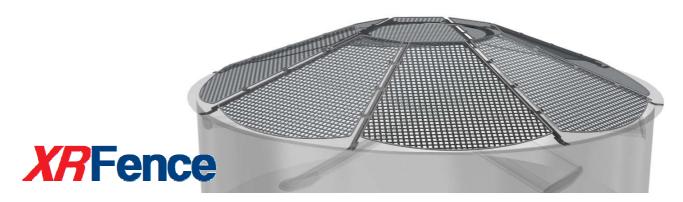


XR Inlet is an appendix that is applied below the flanged fan ring to improve the airflow entrance and fan efficiency as a result. It is available for diameters from 10ft (3m) up to 16ft (4,9m), in non metallic material with good corrosion-resistance properties.



Cofimco Bearing Block XR B-Block is built with solid body and high quality bearing to provide system extended life. XR B-Block is available with mounting feet or flanged. All dimension can be defined on demand in order to obtain a bearing block perfectly interchangeable with an existing one or suitable for an existing supporting structure.





Cofimco XR Fence is the smart fence easy to install suitable to be mounted on existing heat-exchanging unit. It is designed for improve accessibility during maintenance activities. XR Fence require few minutes to be opened or dismantled. It is available for diameter from 3ft up to 20ft (6,1m).



Cofimco provides all transmission system components you need included high efficiency belts.



CS Series is the range of Cofimco toolkits specific for installation of each fan model or component.

#### CS-B1, CS-B3, CS-B6 FOR B SERIES FAN INSTALLATION

With these toolkits, you will be able to install and set the Cofimco fans of B Series hub with the proper tools. B Series hub are foreseen for all FLEXI Blade and TANDEM Blade.

#### **CS-M FOR M SERIES FAN INSTALLATION**

CS-M are the toolkits for installation of all fans M Series, the Cofimco classic fans with traditional blade design. The right CS-M type will be provided in base to the M type (size and blade number). Contact Cofimco to have your proper CS-M.

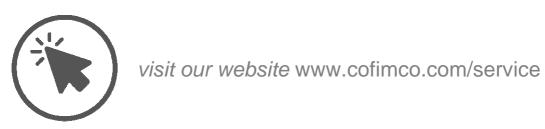
#### **CS-XRL FOR XR LOCK (ANTI-ROTATION DEVICE) INSTALLATION**

The toolkit for installation of XR Lock. The box contain tools like wrench and instruments, as dial indicator, for the right setting of XR Lock.

#### **CS-DRIVE, DRIVE TRANSMISSION TOOLKIT**

This toolkit foreseen a laser instrument for the transmission pulleys alignment and a instrument for the belts tensioning. This toolkit will help you to obtain a correct installation, replace or maintenance of your transmission components. A transmission system properly installed is more efficient and it lasts longer.





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