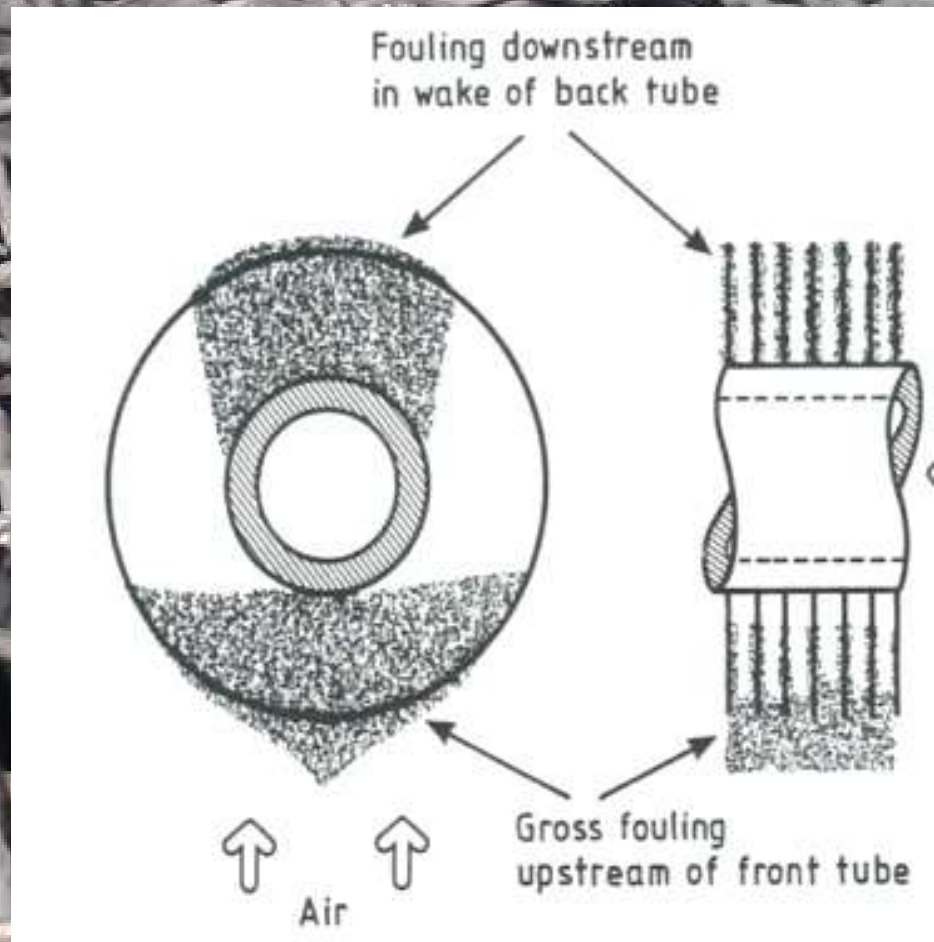


A close-up photograph of a large industrial fin fan cooler. The image shows a dense grid of metal fins and fan blades, with a large white fan blade visible in the upper left corner. The background is slightly blurred, showing more of the industrial structure. The text is overlaid on the image in a bold, green, sans-serif font with a blue outline.

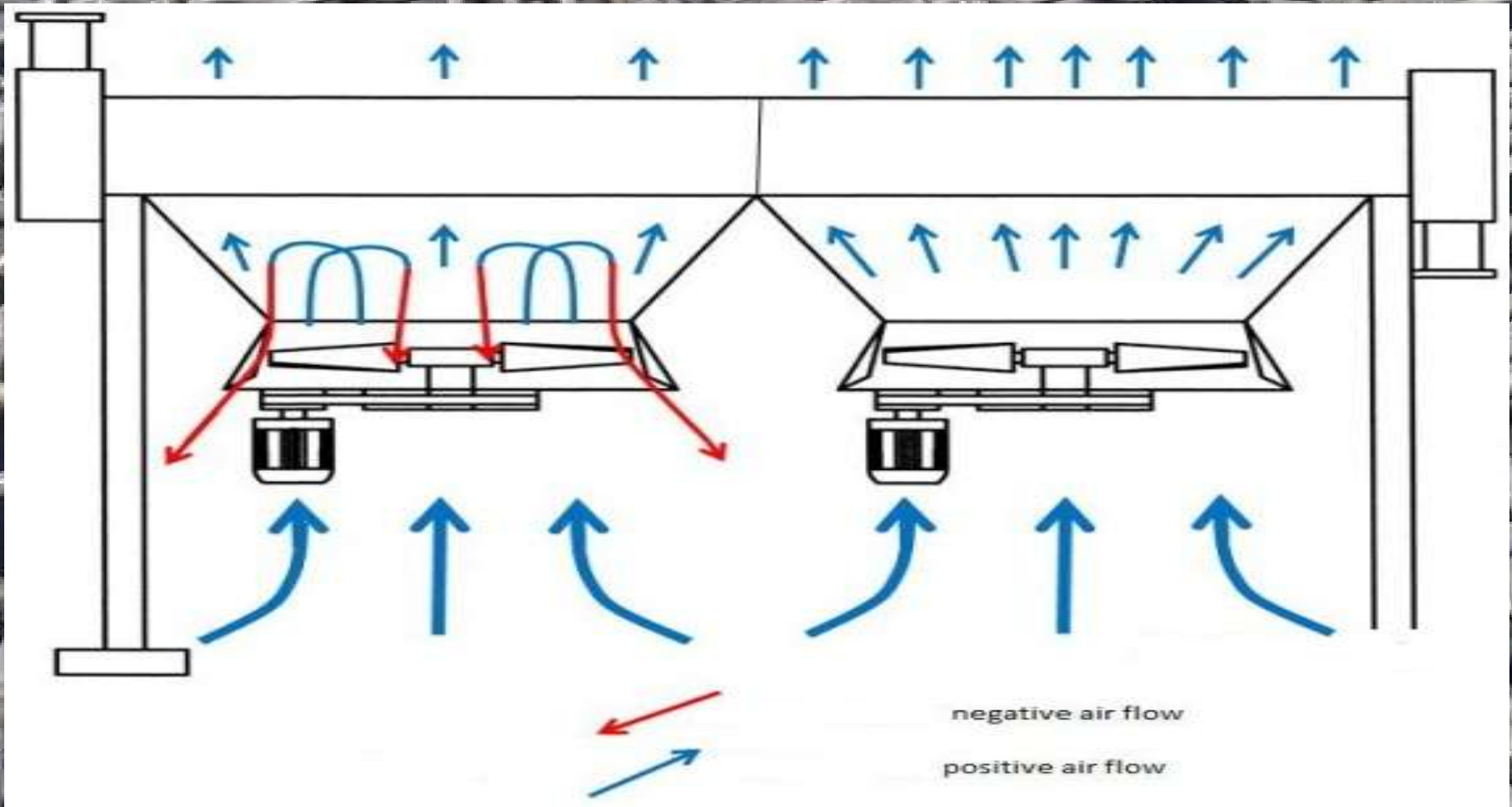
# AFC CLEANING

EXTERNAL  
CLEANING OF FIN  
FAN COOLERS

# Fouling on Heat exchangers



# Fouling Effect on Heatexchanger



# Comparison to manual cleaning



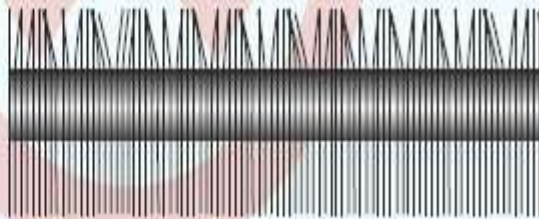
**Classic Manual Cleaning with hand lance:**

- causes fins damage
- not efficient (bundles remain dirty inside)

High pressure water can flatten and damage fragile cooling fins and will compact the dirt and debris toward the center of the heat exchanger. Over time, these conditions contribute to the breakdown of the cooling process, long term damage, reduced production, and increased cost.

High pressure cleaning from above & below compacts debris towards the center of heat exchanger

**COSTLY FIN DAMAGE**





Mobile Semi-automatic AFC cleaning system

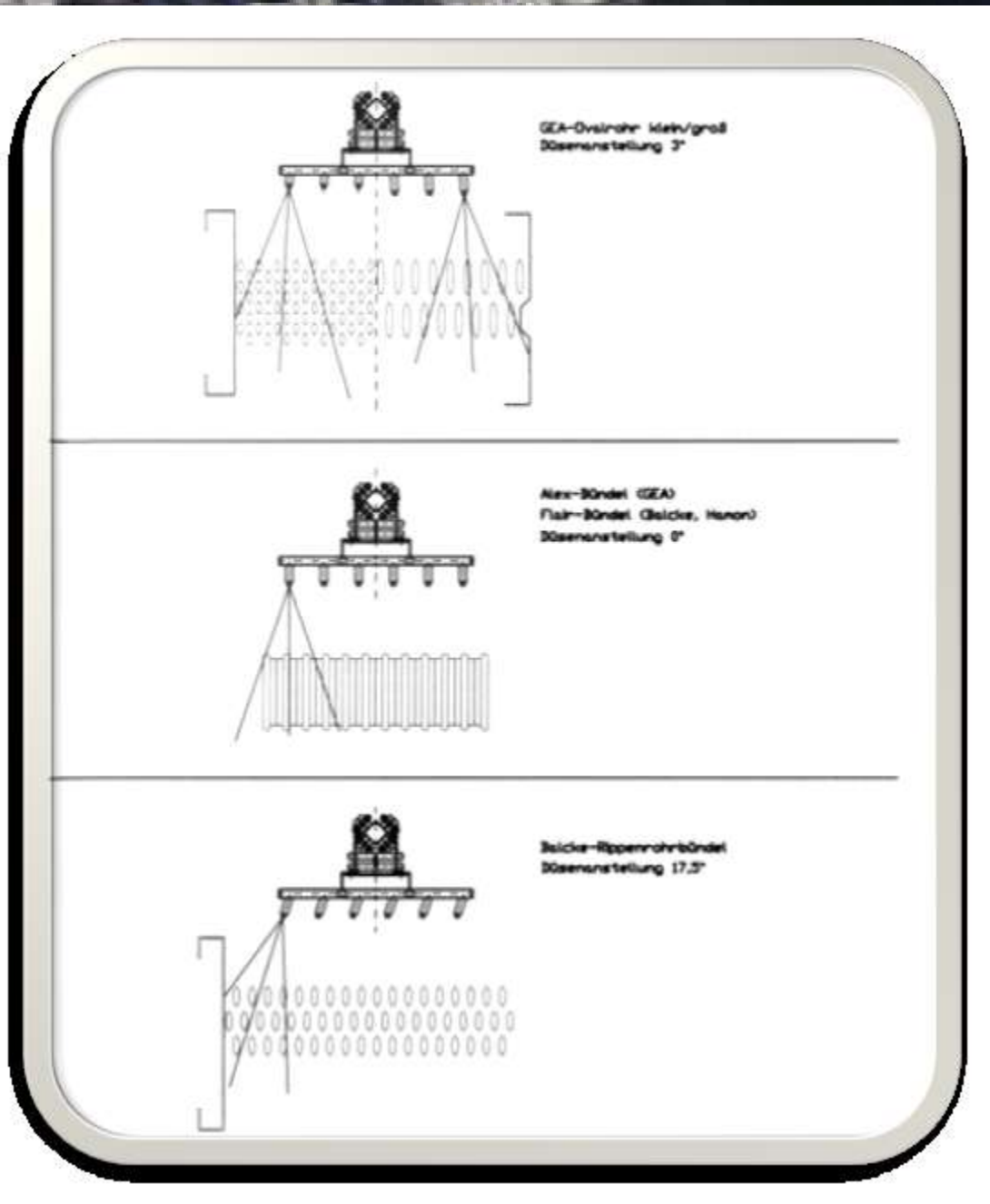
# THE PROCESS

- AFC USES A SPECIALLY DESIGNED AFC-NOZZLE SYSTEM FOR THE CLEANING OF AIR FIN COOLERS.
- CLEANING IS DONE AT A CONSTANT PRESSURE AND HEIGHT ABOVE THE TUBE FINS.
- WE GUARANTEE NO DAMAGE TO THE FINS DURING THE CLEANING.



# Different AFC-Nozzle Configurations for different Air-Fin-Coolers

**CORRECT**



# Operation

- NO **DANGEROUS** CHEMICALS ARE USED FOR THE CLEANING, ONLY CLEAN WATER;
- OUR SYSTEM CAN BE USED WHILST THE AIR FIN COOLERS ARE **ONLINE**;
- ONLY THE FAN MOTOR, IN THE SECTION WHERE THE CLEANING IS IN PROCESS NEEDS TO BE SWITCHED OFF;



# SAFETY

- The AFC cleaning system is build for **safety**, the operator is not put in any risk by the systems;
- The operator does **not** work near the Water spray nozzles;
- The spray nozzles are **not** hand held, they run on a patented trolley along a aluminium frame;
- The Risk Factor during operation is very low due to the semi-automatic controlled system;



HORIZONTAL AIR-FIN-COOLER CLEANING WITH  
EXISTING HAIL SCREENS

# References

1		5.9	3.8		2.3	4		4.3	0.1		0.5	3.5		13.2	
3.1		7.1	9.2		7.9	8.3		7.8	9		4	5.7		16.2	
20				16				12				8		4	
8.9		3.9	8.2		3.1	1.4		0.8	0.3		1.2	2.3		0.1	
9.8		5.8	10.9		6.5	3		8.8	9		2.7	3.8		7	
19				15				11				7		3	
0.7		0.3	1		1.7	4.4		1.6	6.2		2.8	2.6		7	
5.6		2	1.8		1.8	8.7		4	10.1		5.9	11.7		10.6	

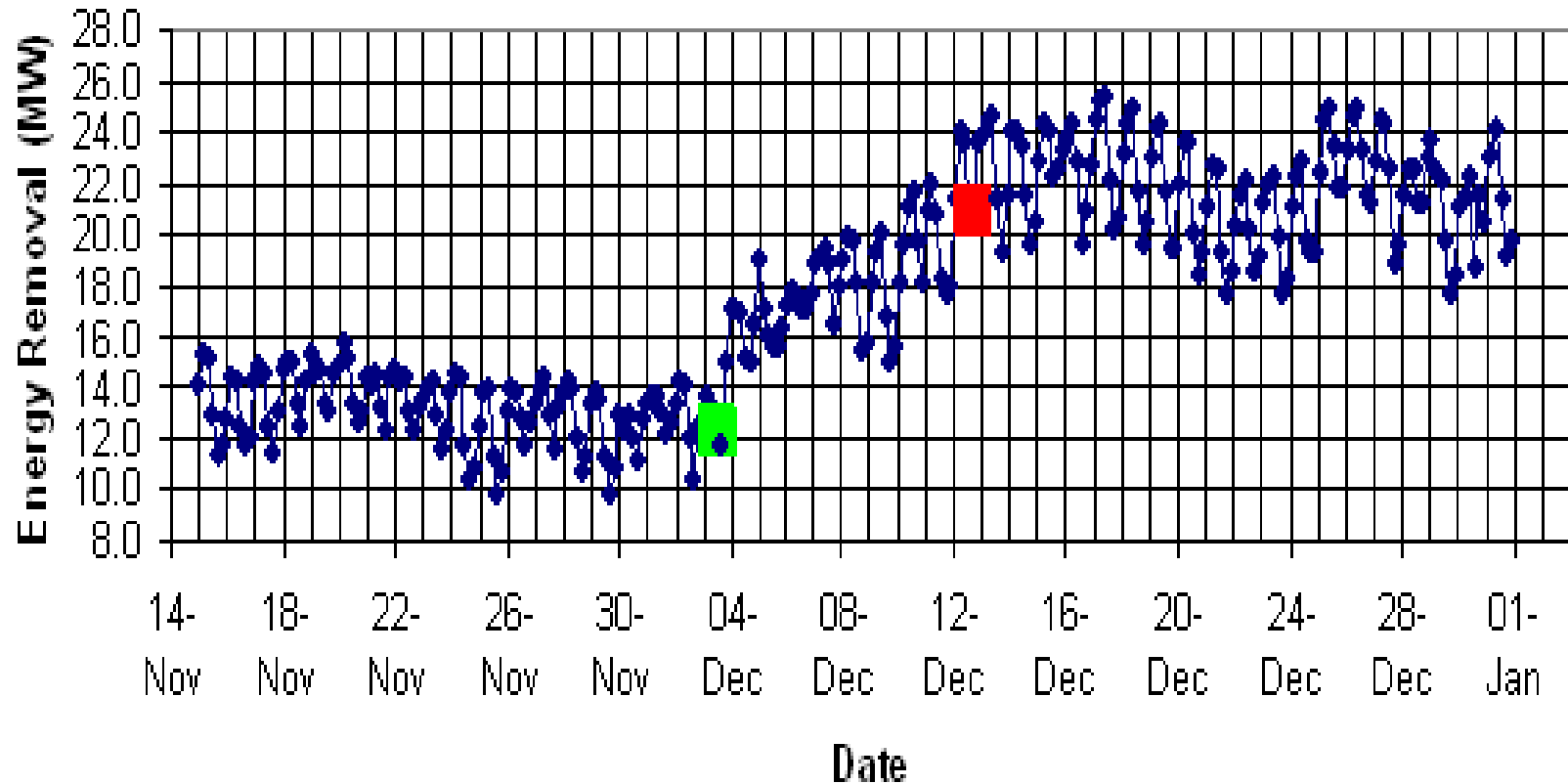
before external cleaning      Fan 8 not running.  
after external cleaning

Mesurements are taken in Knots

0.8		0.6	0.8		0.8	1		1.9	2.5		1.7	3.3		5.2	
2.7		6.7	7		1.4	4.4		3.9	3.1		2.6	6.1		6	
18				14				10				6		2	
0.8		1.5	3.1		1.3	2.2		1.1	7.4		1.4	0.6		6.6	
5.9		4.2	4.9		4.1	3.8		1.4	7.6		6.4	6.5		7.9	
17				13				9				5		1	
1.9		1.5	2.3		1.1	1.1		2.2	10		2.9	10.3		10	
3.7		3	8.3		5.5	3.2		5.5	15.1		1.5	11.9		14.7	

# References

## Air-cooler Performance



Types  
of  
Air  
Fin  
Coolers





Penetration see during AFC cleaning in progress



**AFC external cleaning**



**CONTAMINATION WASHED OUT DURING AIR-FIN-COOLER CLEANING**



**CALCIUM LAYER BEFORE CLEANING**



**CALCIUM REMOVED**





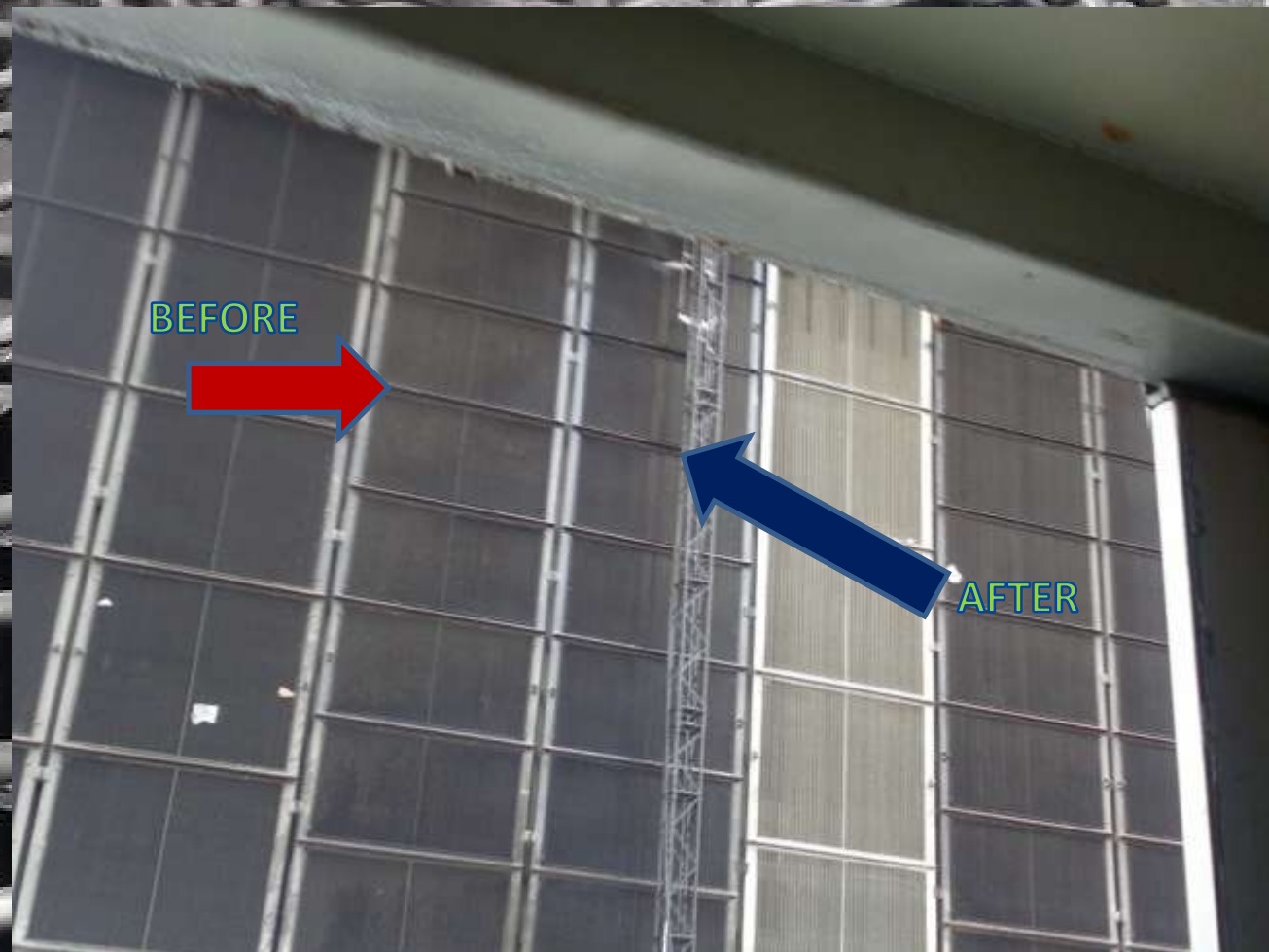


# AFC cleaning at natural draft cooling towers





# AFC cleaning of vertical Air Fin Coolers



Design & manufacture of  
Custom made permanently  
installed Air Fin Cooler  
cleaning systems (Designed  
and manufactured in South  
Africa)





Custom made  
Nozzle beams of  
different  
configurations for  
of Air Fin Coolers





# AFC Cleaning

Contact Details:

[info@afccleaning.co.za](mailto:info@afccleaning.co.za)

( Tassilo Matthiessen, +27 83 255 9884)

(Paul Swarts, +27 78 276 9688)

[www.afccleaning.co.za](http://www.afccleaning.co.za)