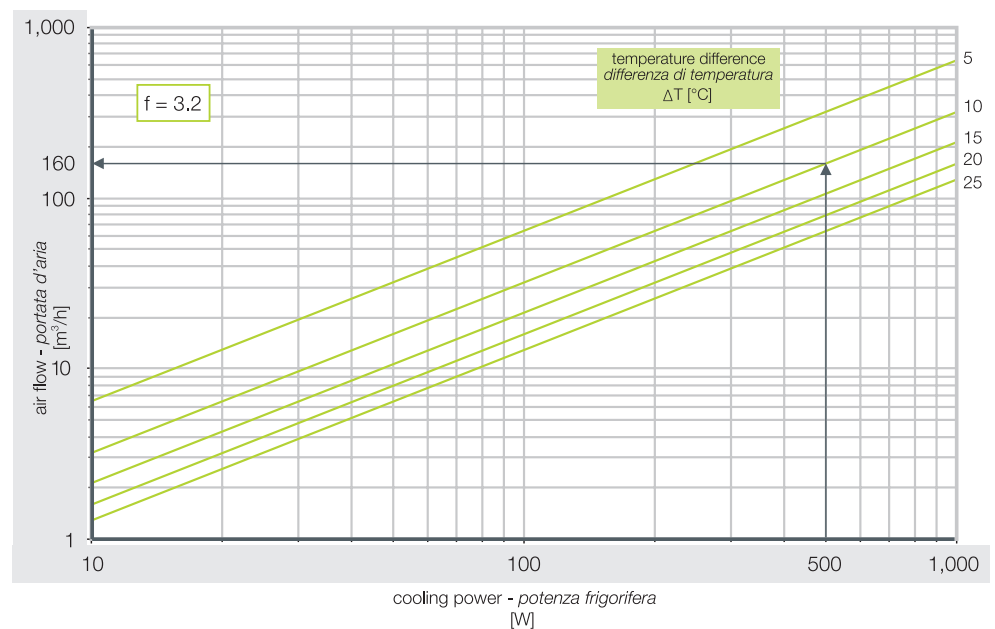
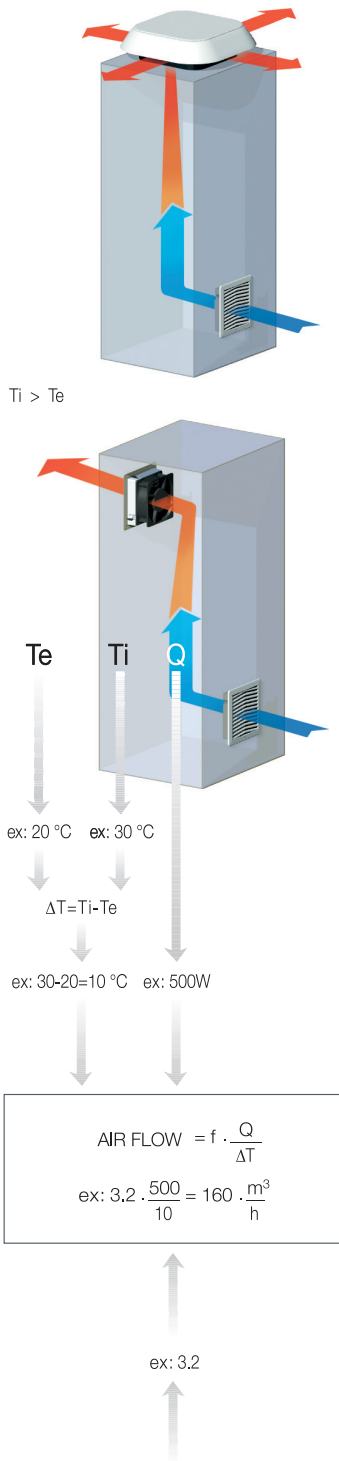


## Sizing

When we use fan filters, we must accept a target temperature inside the cabinet greater than ambient temperature outside the cabinet. So the difference  $\Delta T$  between inside and outside temperature is always positive. We can calculate the fan-filter air flow by the ratio between the thermal power  $Q$  and the difference of temperature  $\Delta T$  and multiplying by a coefficient of heat transfer ( $f$ ) which consider the physical properties of the air such as the specific heat and density which changes with the altitude.



### Nomenclature:

$T_i$  = target temperature inside the cabinet  
 $T_e$  = ambient temperature outside the cabinet  
 $\Delta T$  = temperature difference between inside and outside the cabinet  
 $Q$  = active thermal load inside the cabinet  
 $f$  = coefficient of heat transfer