

# Rittal – The System.

Faster – better – everywhere.

## ► Diagrammi delle potenze – Climatizzazione



ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES

FRIEDHELM LOH GROUP



# Rittal – The System.

Faster – better – everywhere.



ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

FRIEDHELM LOH GROUP

# Diagrammi delle potenze

## Raffreddamento ad aria

<b>Ventilatori-filtro TopTherm e ventilatori-filtro TopTherm EMC</b>	
Portata d'aria 20/25 – 900 m <sup>3</sup> /h .....	4 – 7
<b>Ventilatori-filtro TopTherm con tecnologia EC</b>	
Portata d'aria 55 – 900 m <sup>3</sup> /h .....	8 – 9
<b>Ventilatori da tetto TopTherm</b>	
Portata d'aria 400 – 800 m <sup>3</sup> /h .....	10
<b>Ventilatori da tetto, soprizzo di aerazione</b>	
Portata d'aria 360 m <sup>3</sup> /h .....	10
<b>Ventilatori a cassetto per sistemi da 482,6 mm (19')</b>	
Portata d'aria 320/480 m <sup>3</sup> /h .....	11
<b>Ventilatori di pressurizzazione</b>	
Portata d'aria 320 m <sup>3</sup> /h .....	11
<b>Scambiatori di calore aria/aria TopTherm</b>	
Potenza termica specifica 17,5 – 90 W/K .....	12

## Condizionatori

<b>Condizionatore termoelettrico</b>	
Potenza frigorifera totale 100 W .....	13
<b>Condizionatori da parete TopTherm «Blue e»</b>	
Potenza frigorifera 300 – 2500 W (115/230 V, 1~, 400 V, 2~) .....	13 – 16
<b>Condizionatori da parete TopTherm «Blue e», versione slim</b>	
Potenza frigorifera 1500 W (230 V, 1~, 400/460 V, 3~) .....	17
<b>Condizionatori da parete TopTherm «Blue e»</b>	
Potenza frigorifera 1000 – 4000 W (400/460 V, 3~) .....	18 – 20
<b>Condizionatori da tetto TopTherm «Blue e»</b>	
Potenza frigorifera 500 – 2000 W (115/230 V, 1~, 400 V, 2~) .....	21 – 23
<b>Condizionatori da tetto TopTherm «Blue e»</b>	
Potenza frigorifera 3000 – 4000 W (400/460 V, 3~) .....	24
<b>Climatizzazione modulare – unità clima TopTherm «Blue e»</b>	
Potenza frigorifera 1500 – 2500 W (230 V, 1~, 400/460 V, 3~) .....	25 – 26

## Raffreddamento a liquido

<b>Scambiatori di calore aria/acqua, montaggio a parete</b>	
Potenza frigorifera 300 – 7000 W .....	27 – 36
<b>Scambiatori di calore aria/acqua, montaggio sul tetto</b>	
Potenza frigorifera 1875 – 4000 W .....	37 – 40
<b>Liquid Cooling Package</b>	
Potenza frigorifera 10 kW .....	41
<b>Chiller TopTherm</b>	
Potenza frigorifera 1 – 40 kW .....	42 – 43

## Riscaldatori anticondensa

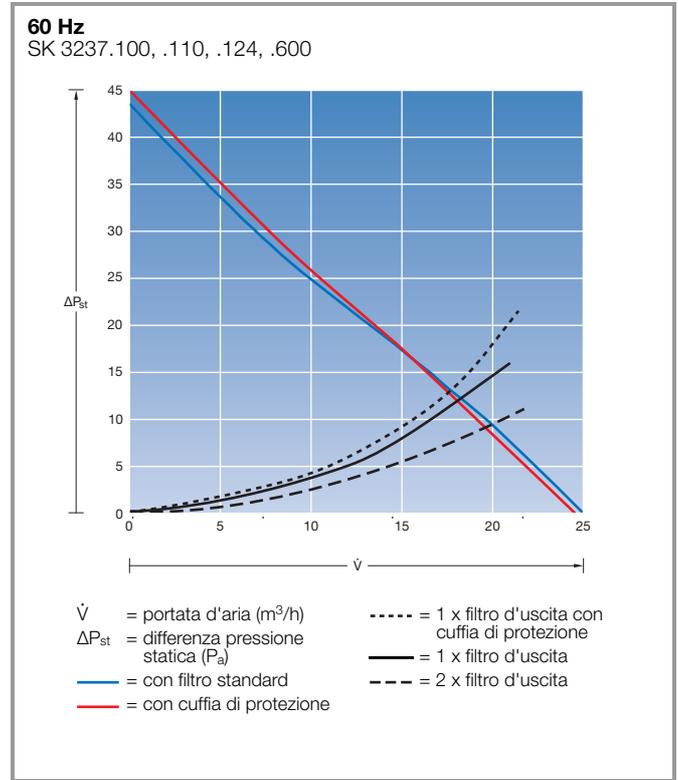
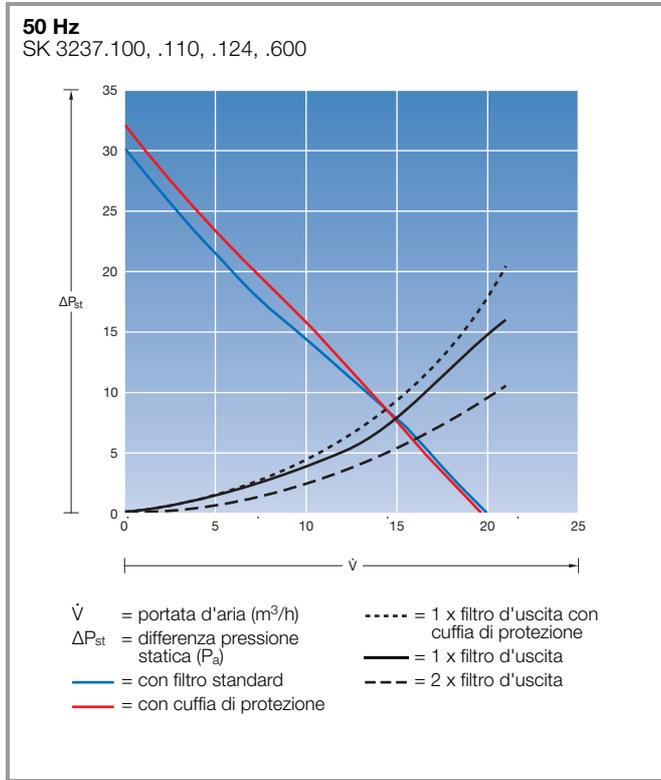
<b>Riscaldatori anticondensa senza ventilatore</b>	
Potenza termica 8 – 150 W .....	44
<b>Riscaldatori anticondensa con ventilatore</b>	
Potenza termica 250 – 800 W .....	45



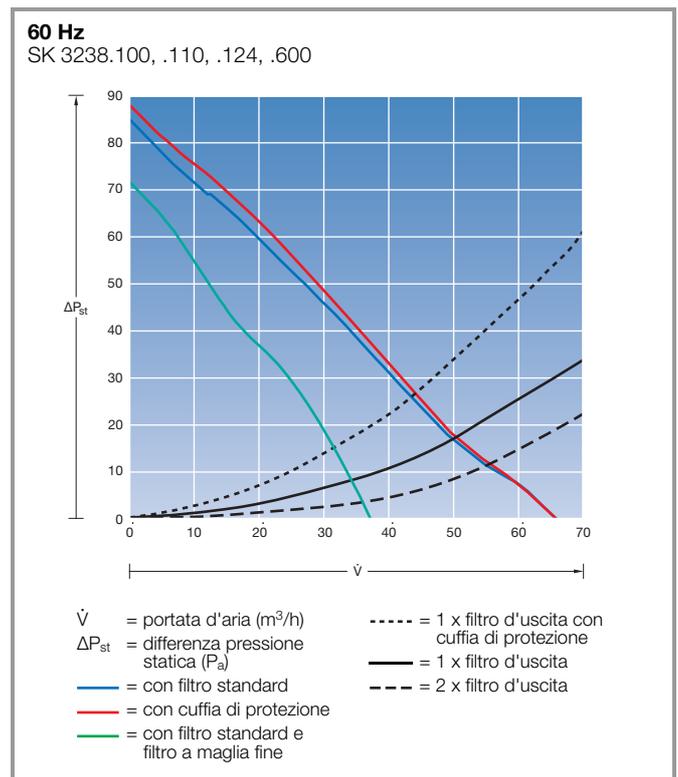
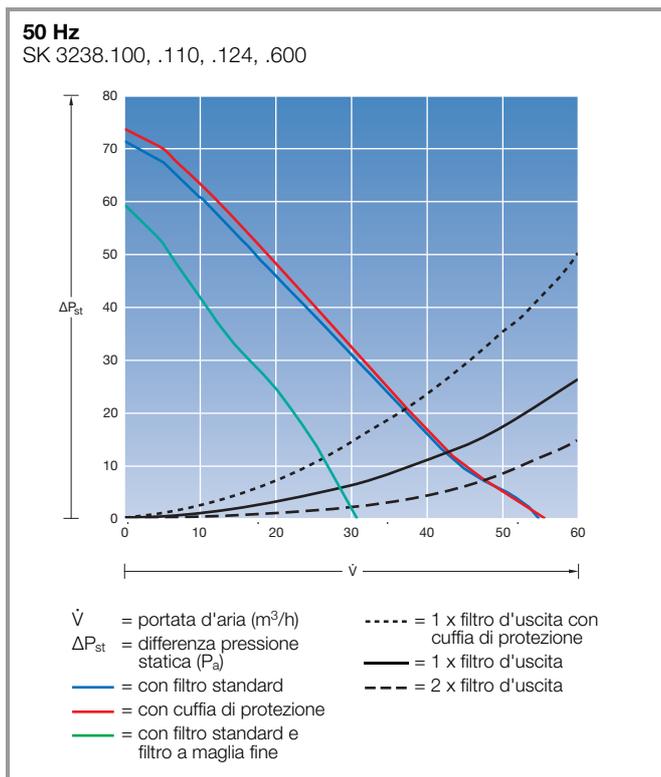
# Raffreddamento ad aria

## Ventilatori-filtro TopTherm e ventilatori-filtro TopTherm EMC

Portata d'aria 20/25 m<sup>3</sup>/h

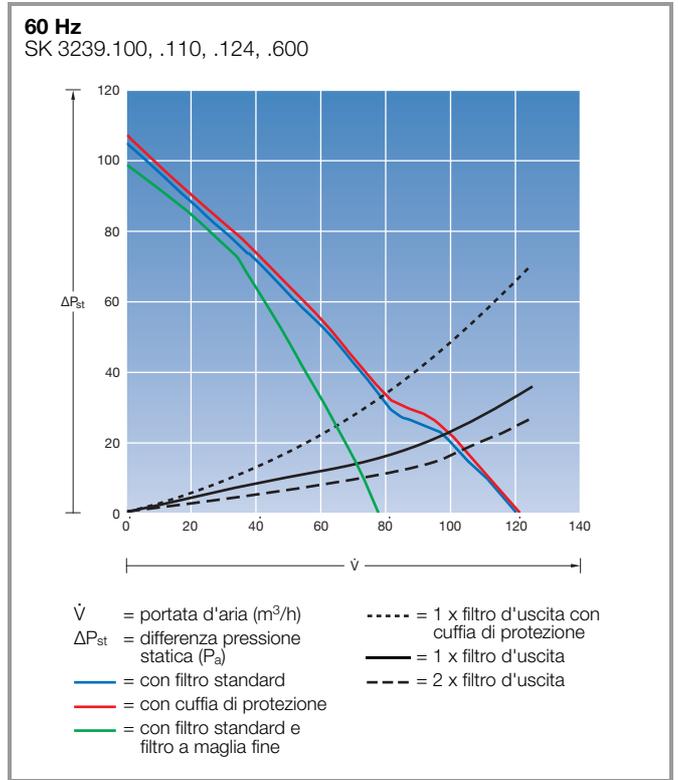
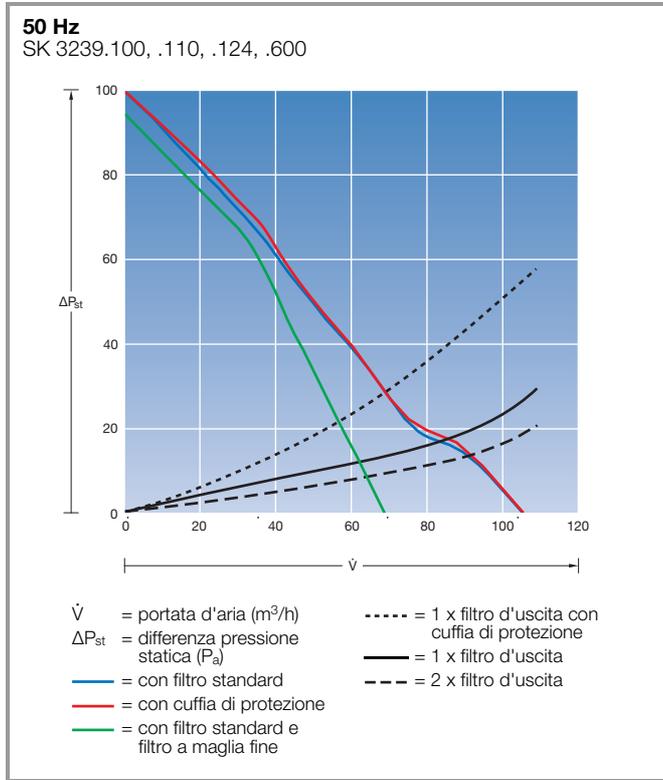


Portata d'aria 55/66 m<sup>3</sup>/h

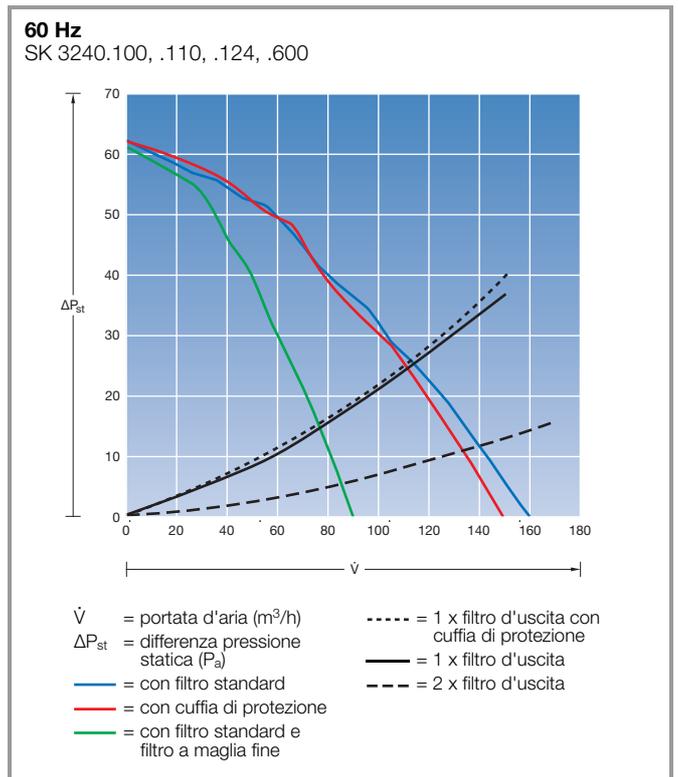
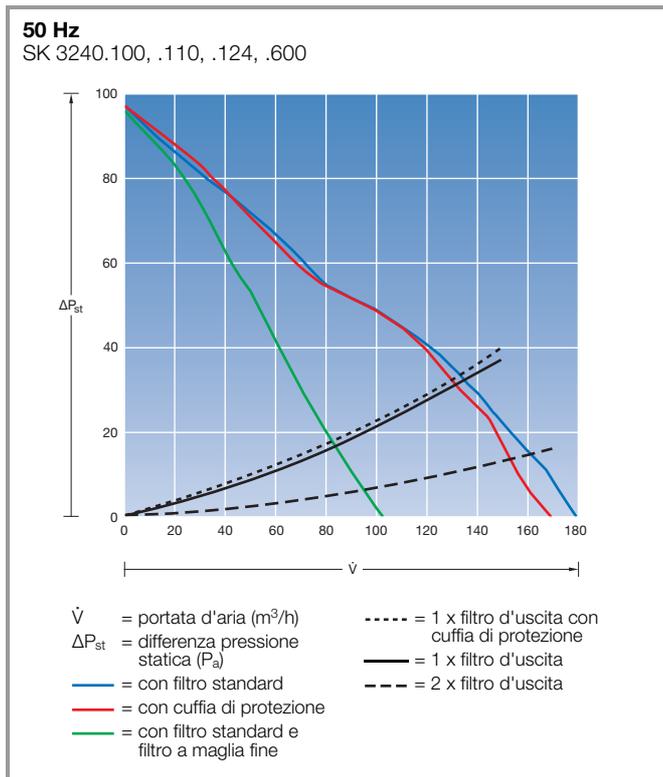


## Ventilatori-filtro TopTherm e ventilatori-filtro TopTherm EMC

Portata d'aria 105/120 m<sup>3</sup>/h



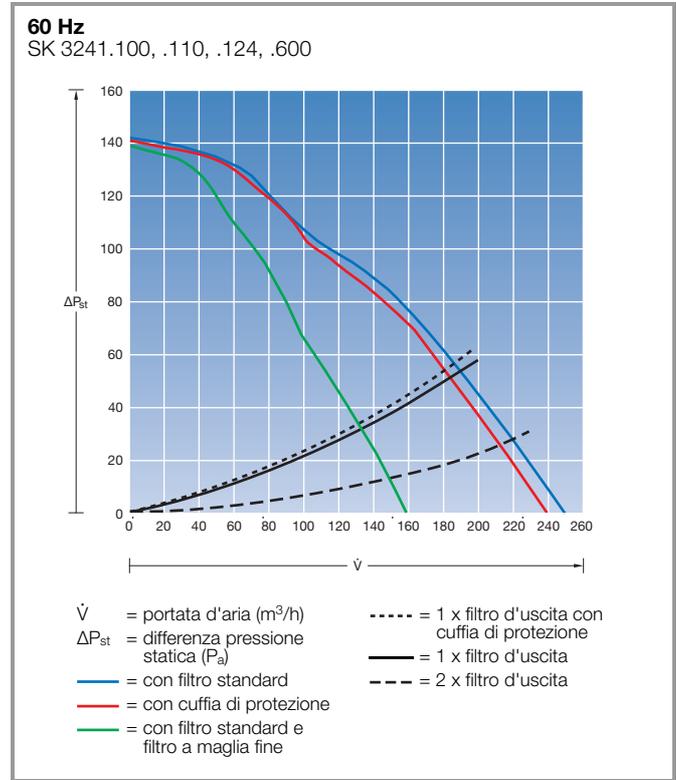
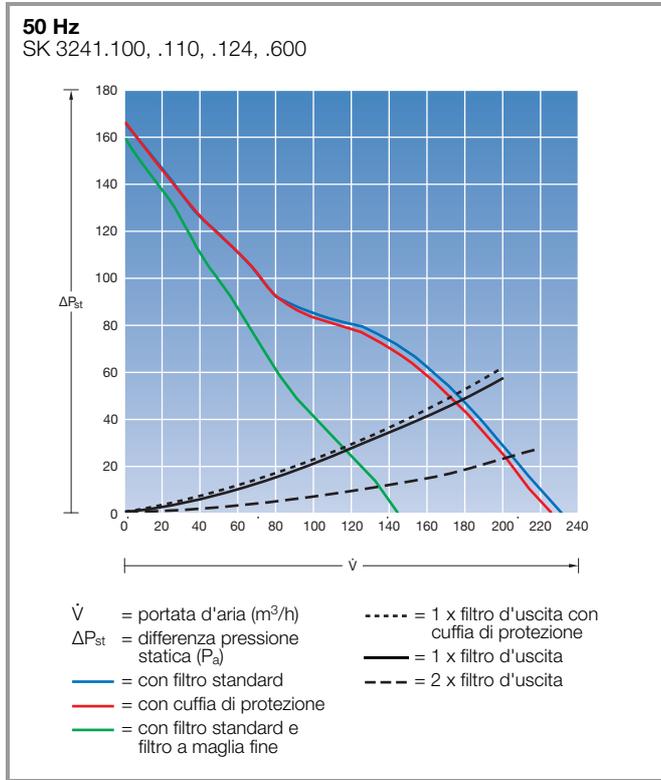
Portata d'aria 180/160 m<sup>3</sup>/h



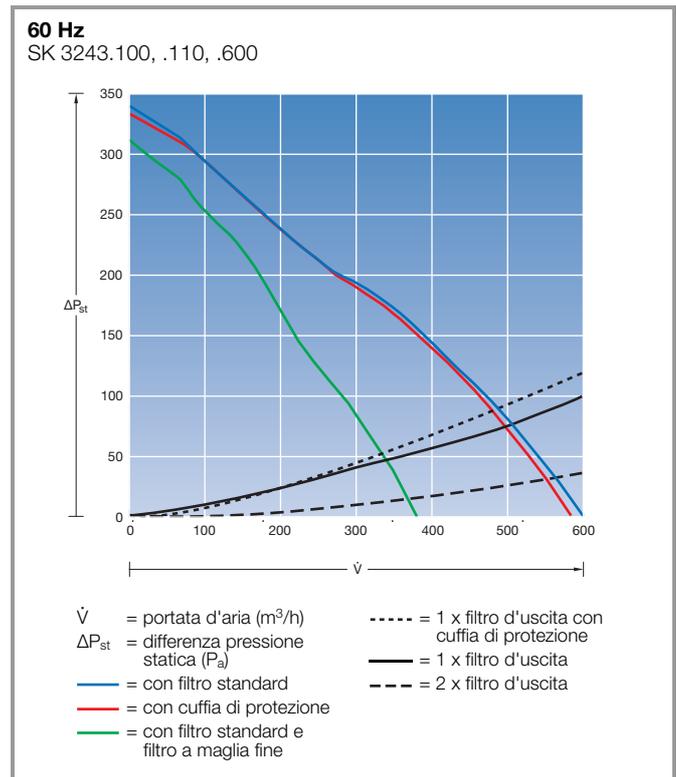
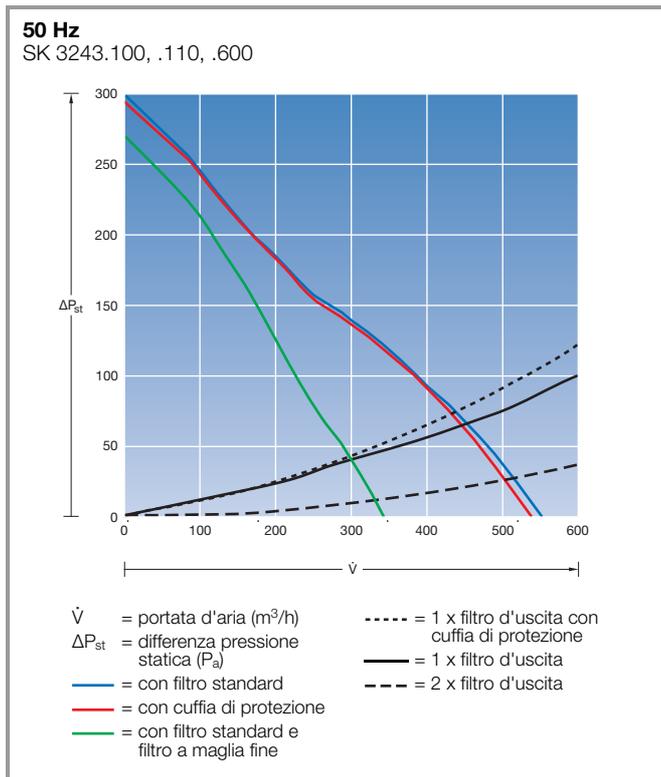
# Raffreddamento ad aria

## Ventilatori-filtro TopTherm e ventilatori-filtro TopTherm EMC

Portata d'aria 230/250 m<sup>3</sup>/h

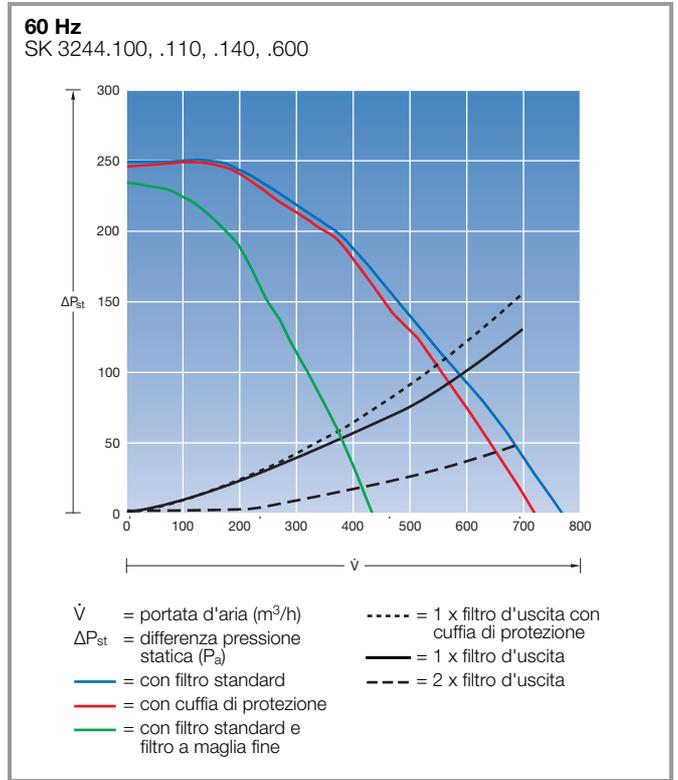
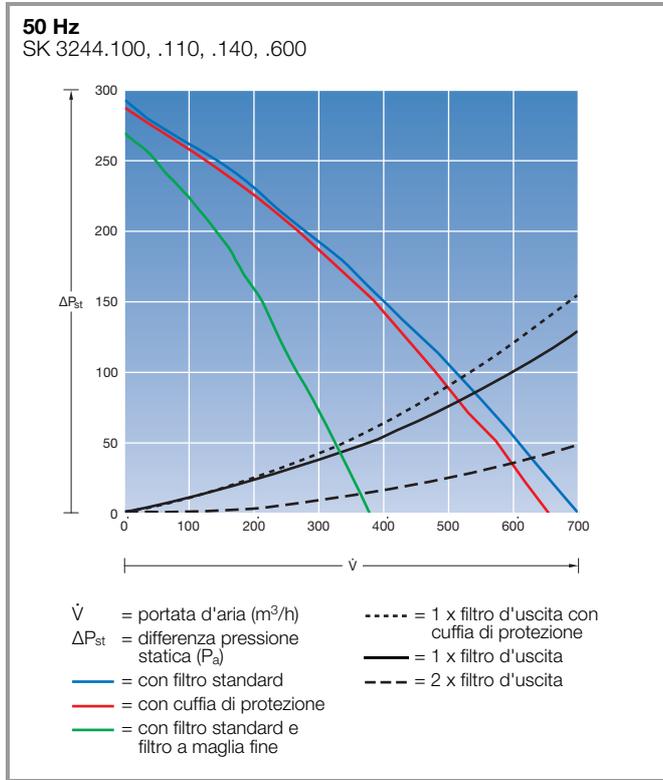


Portata d'aria 550/600 m<sup>3</sup>/h

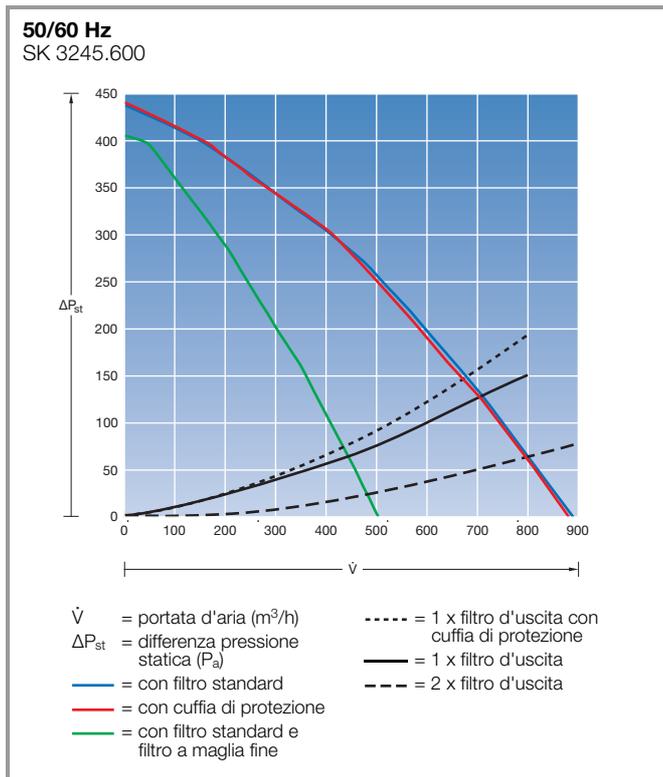


## Ventilatori-filtro TopTherm e ventilatori-filtro TopTherm EMC

Portata d'aria 700/770 m<sup>3</sup>/h



Portata d'aria 900 m<sup>3</sup>/h

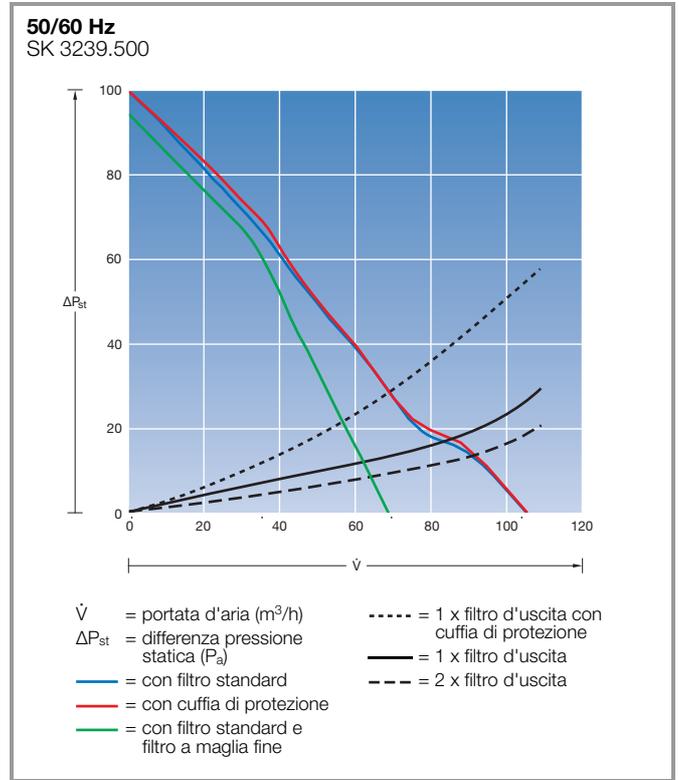
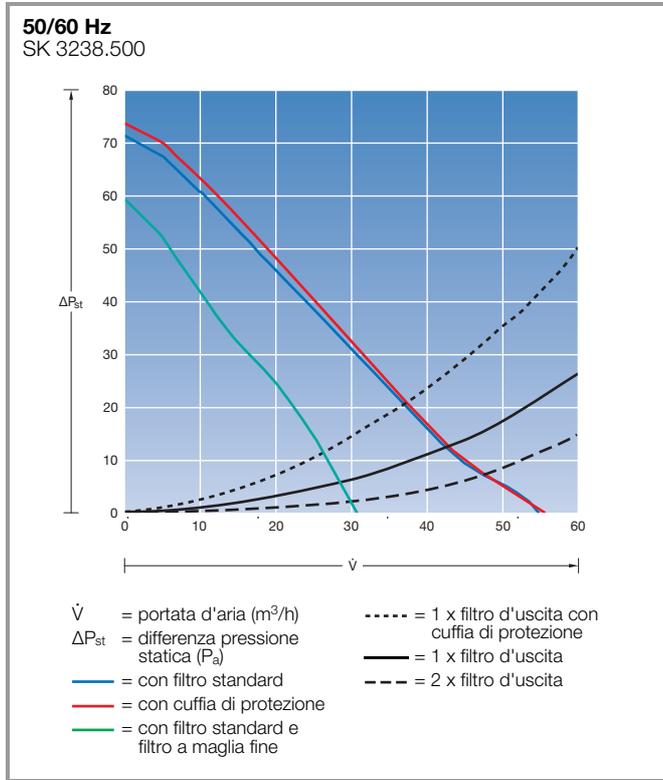


# Raffreddamento ad aria

## Ventilatori-filtro TopTherm con tecnologia EC

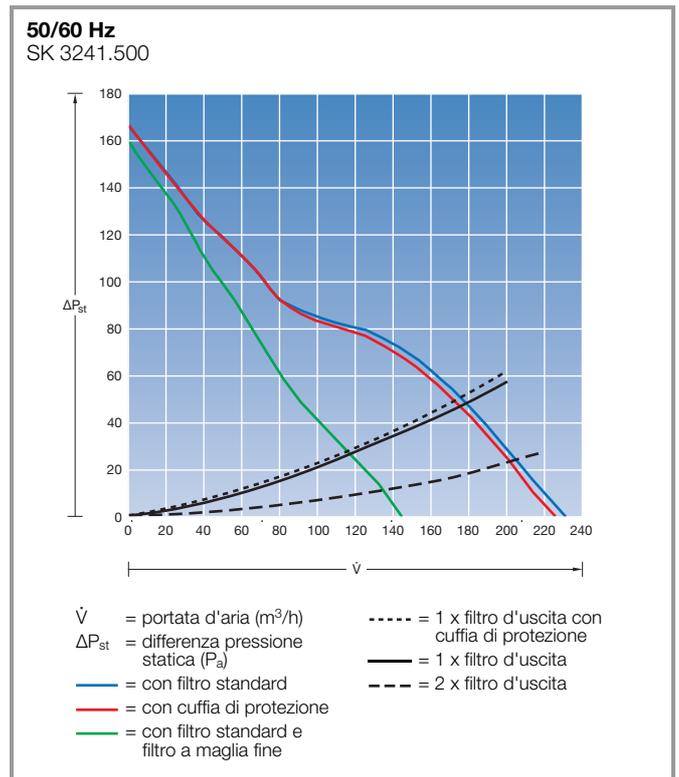
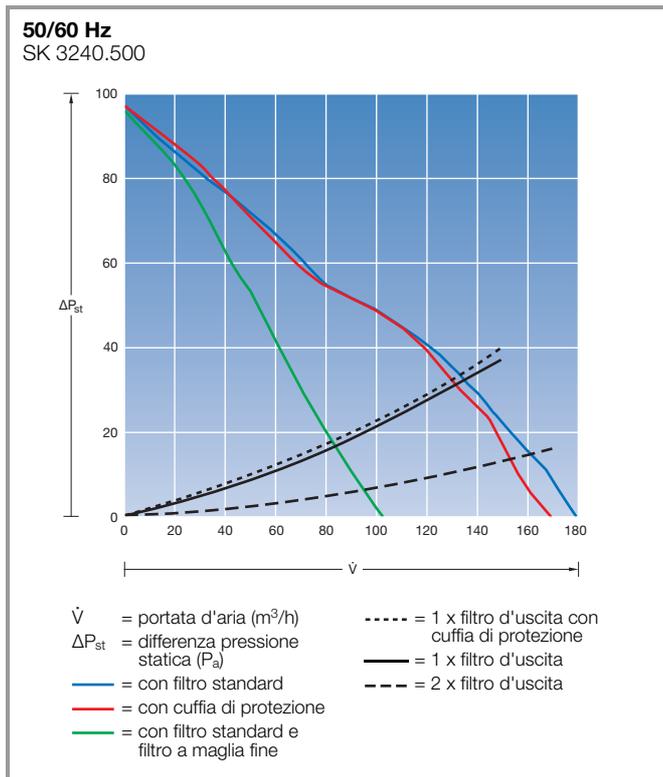
Portata d'aria 55 m<sup>3</sup>/h

Portata d'aria 105 m<sup>3</sup>/h



Portata d'aria 180 m<sup>3</sup>/h

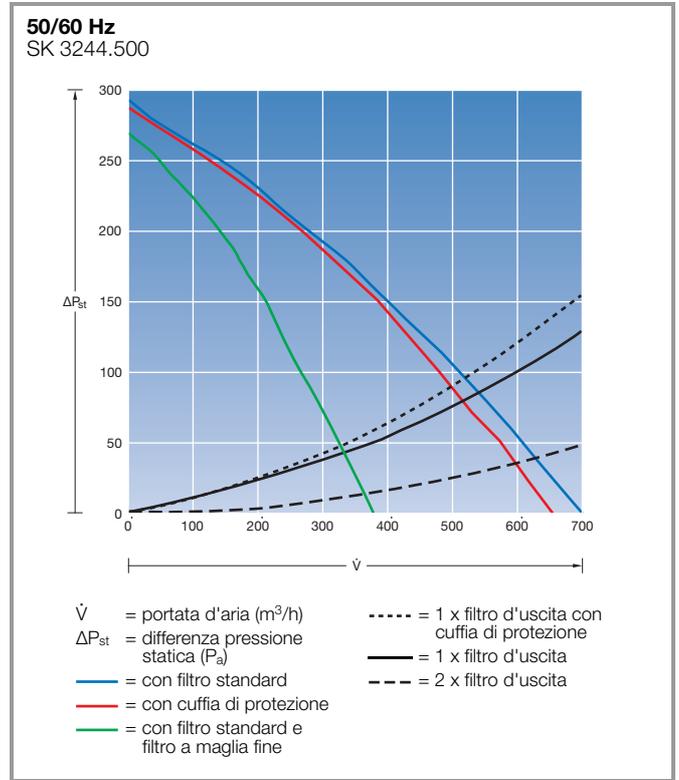
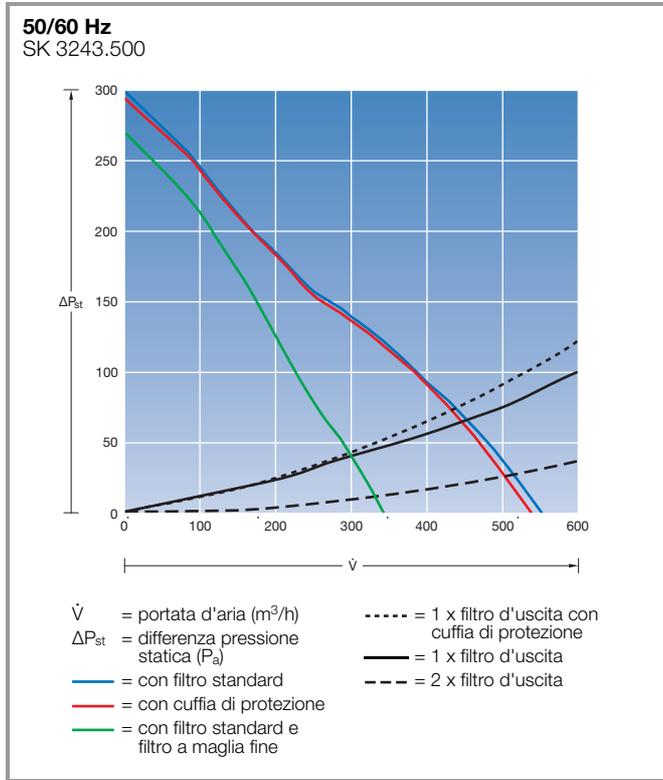
Portata d'aria 230 m<sup>3</sup>/h



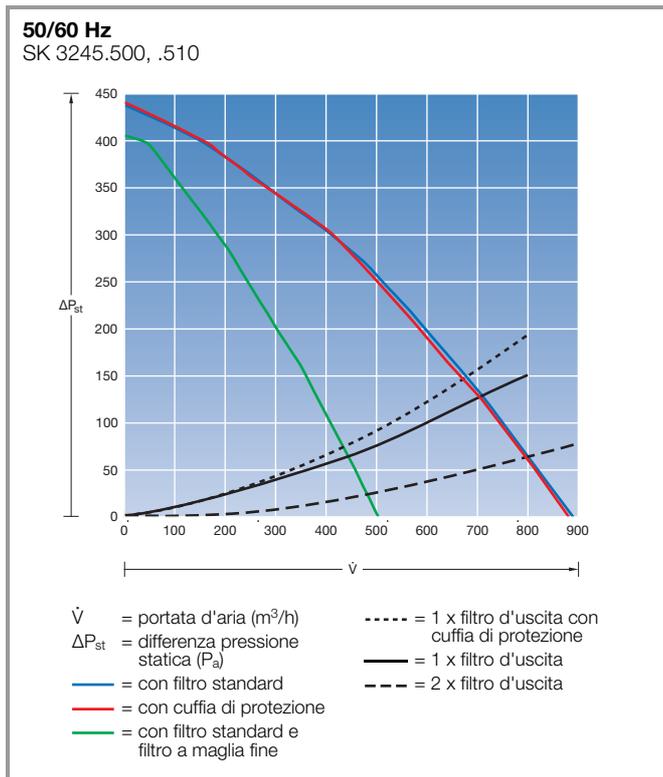
## Ventilatori-filtro TopTherm con tecnologia EC

Portata d'aria 550 m<sup>3</sup>/h

Portata d'aria 700 m<sup>3</sup>/h



Portata d'aria 900 m<sup>3</sup>/h

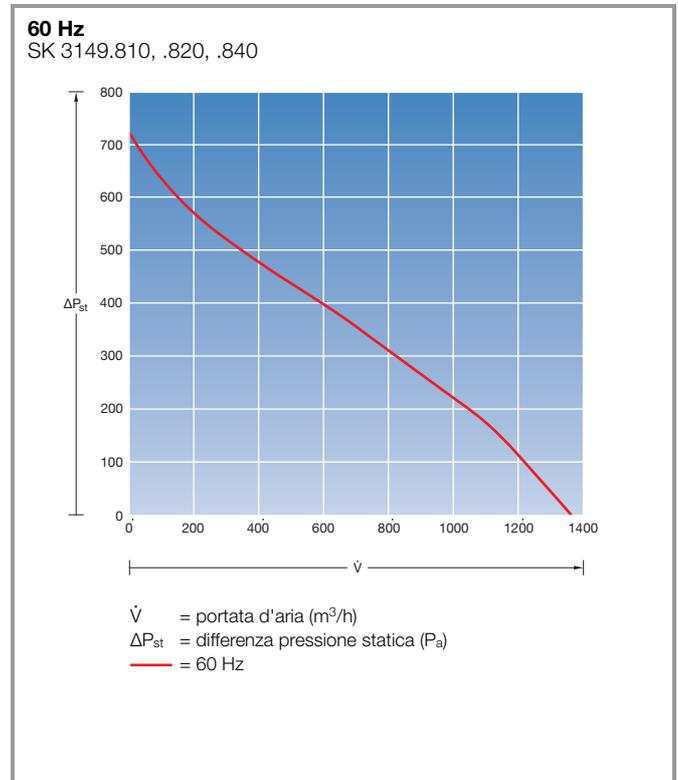
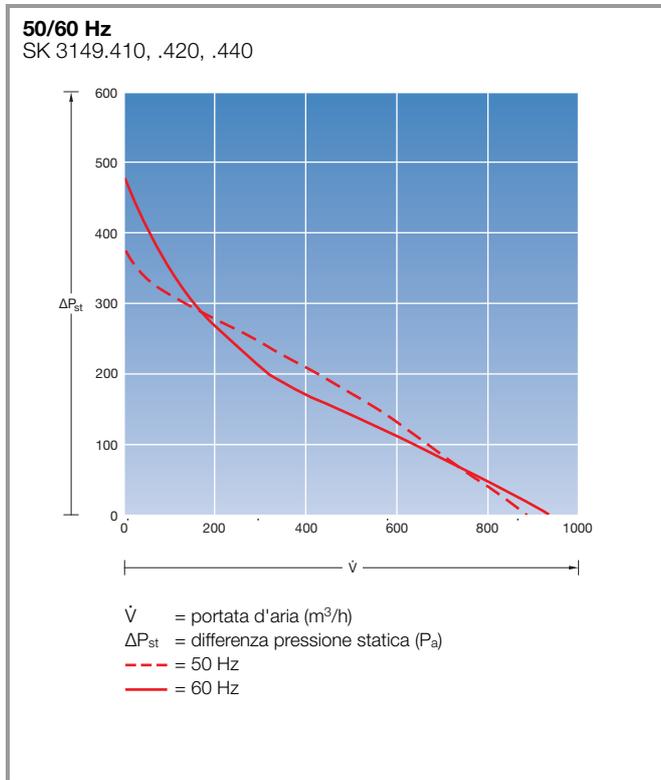


# Raffreddamento ad aria

## Ventilatori da tetto TopTherm

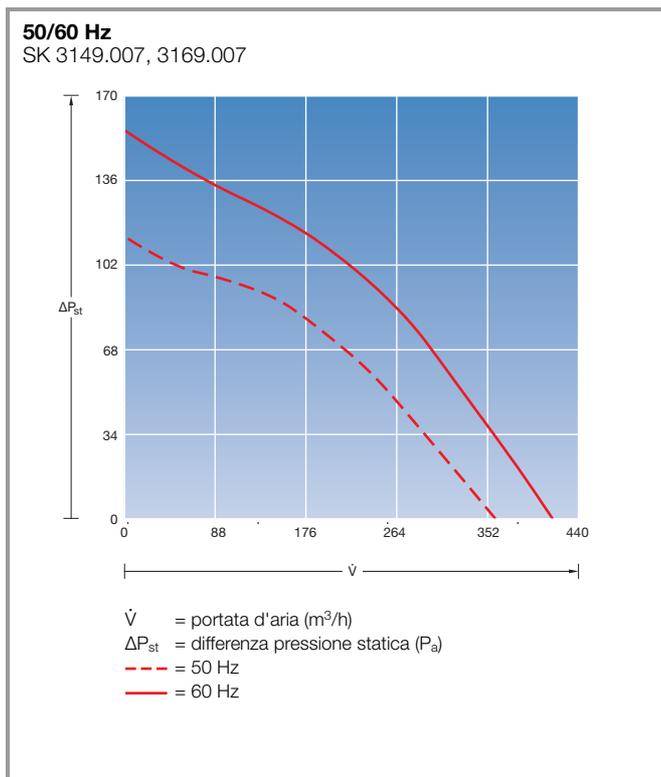
Portata d'aria 400 m<sup>3</sup>/h

Portata d'aria 800 m<sup>3</sup>/h



## Ventilatori da tetto, sopralzo di aerazione

Portata d'aria 360 m<sup>3</sup>/h

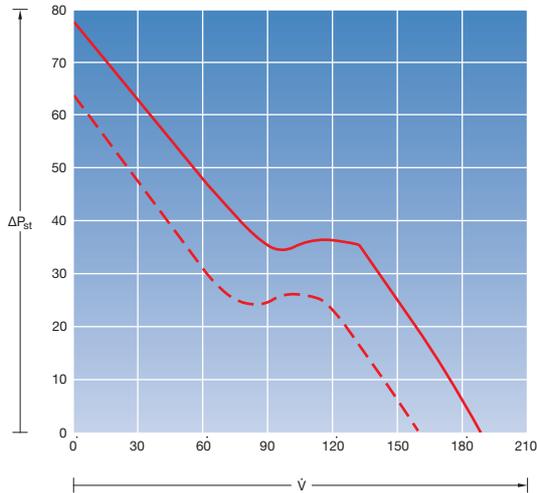


## Ventilatori a cassetto per sistemi da 482,6 mm (19")

Portata d'aria 320/480 m<sup>3</sup>/h

**50/60 Hz**

SK 3340.230, 3350.230, 3341.115, .230, 3342.024, .230, .500, 3351.230, 3352.230, .500



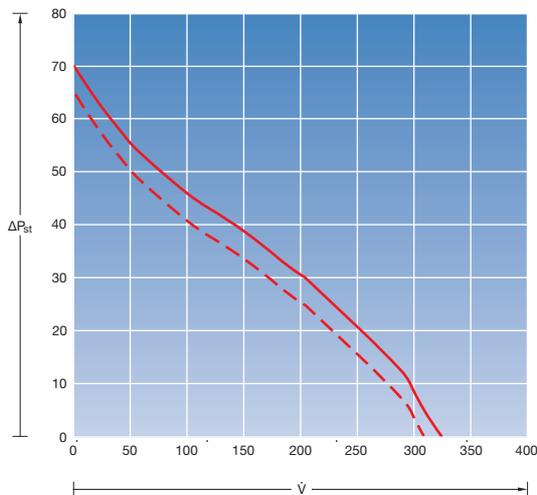
V̇ = portata d'aria (m<sup>3</sup>/h)  
 ΔP<sub>st</sub> = differenza pressione statica (Pa)  
 --- = 50 Hz  
 — = 60 Hz

## Ventilatori di pressurizzazione per sistemi da 482,6 mm (19")

Portata d'aria 320 m<sup>3</sup>/h

**50/60 Hz**

SK 3144.000, 3145.000

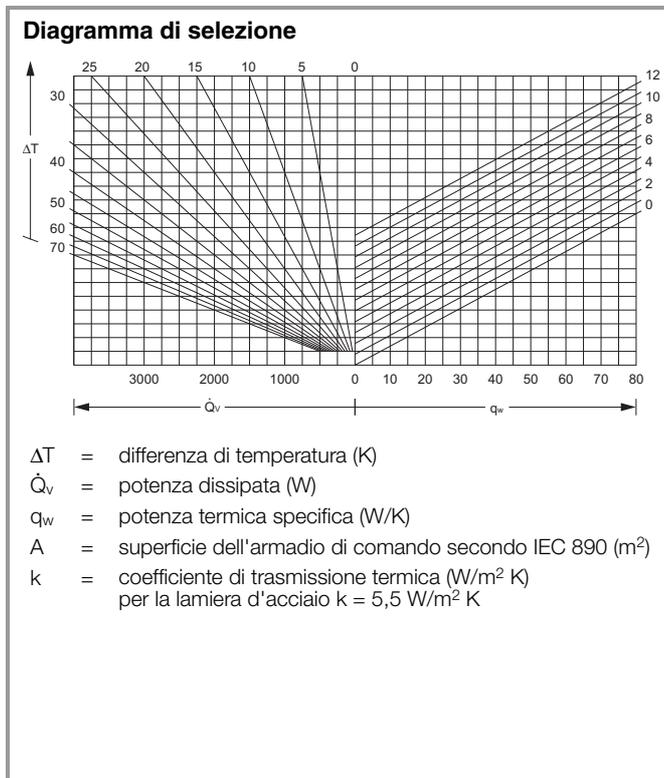
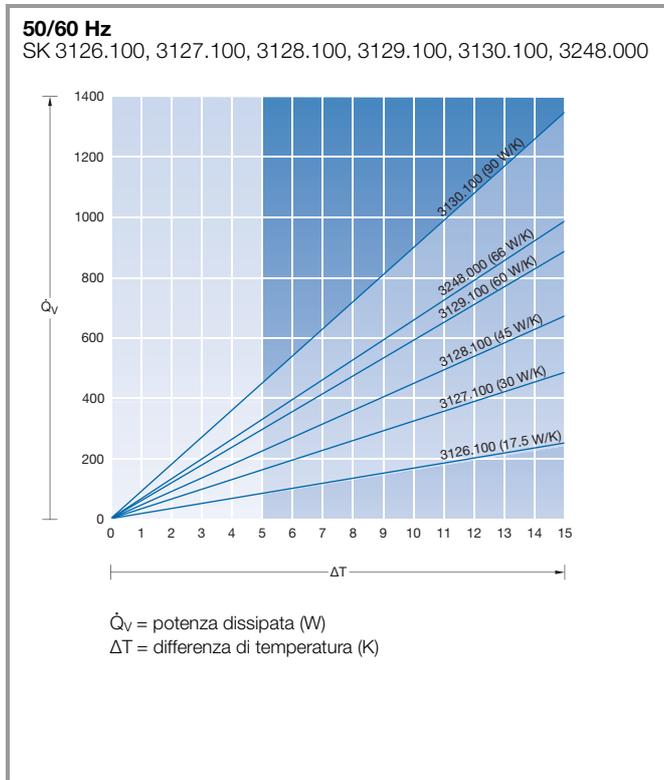


V̇ = portata d'aria (m<sup>3</sup>/h)  
 ΔP<sub>st</sub> = differenza pressione statica (Pa)  
 --- = 50 Hz  
 — = 60 Hz

# Raffreddamento ad aria

## Scambiatori di calore aria/aria TopTherm

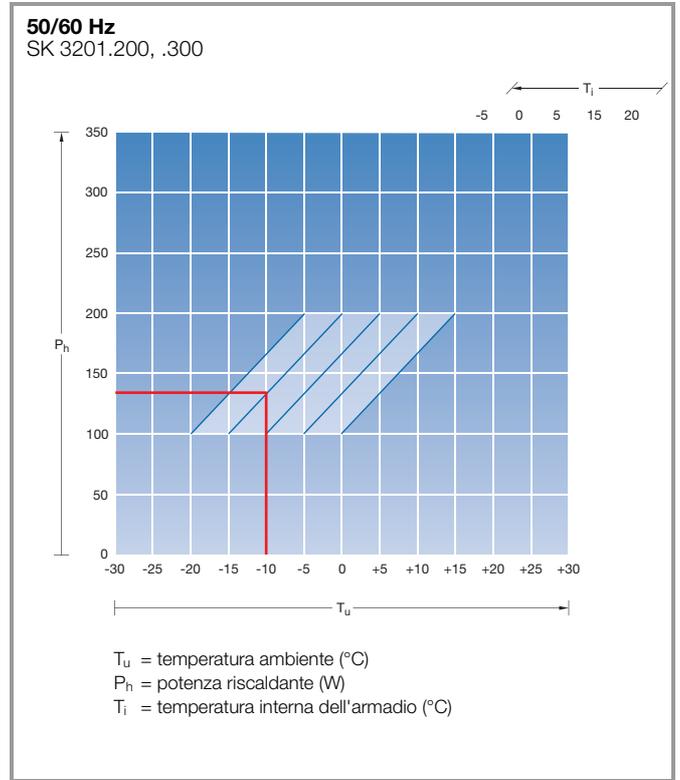
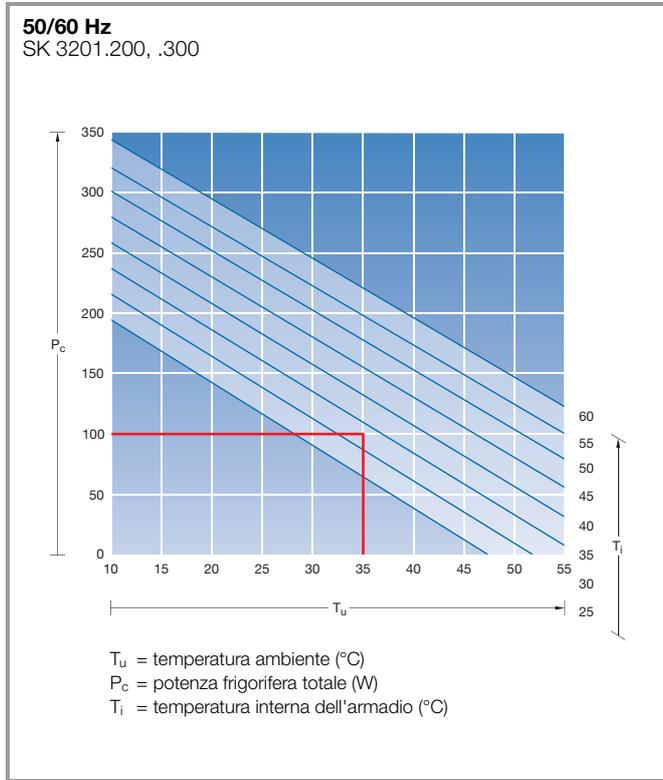
Potenza termica specifica 17,5 – 90 W/K, montaggio a parete con regolazione interna



## Condizionatore termoelettrico

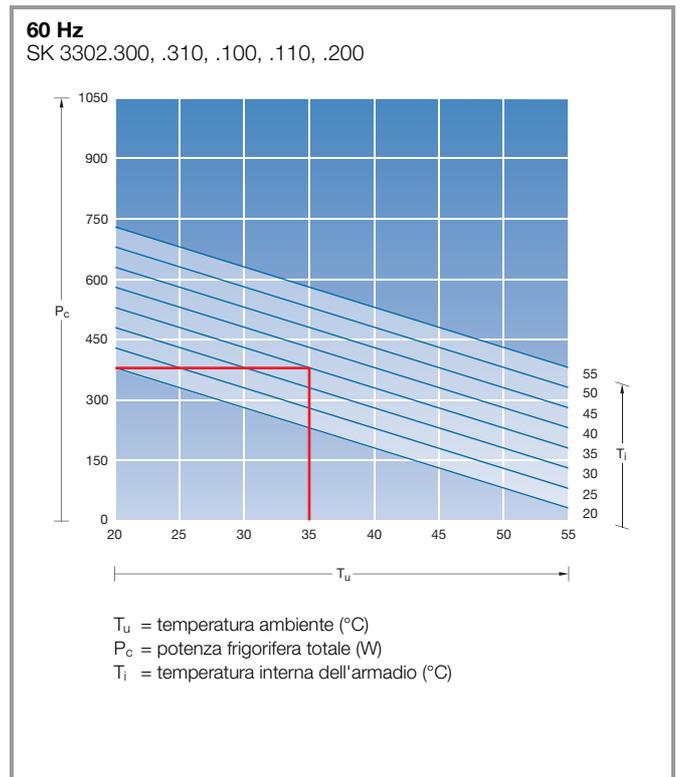
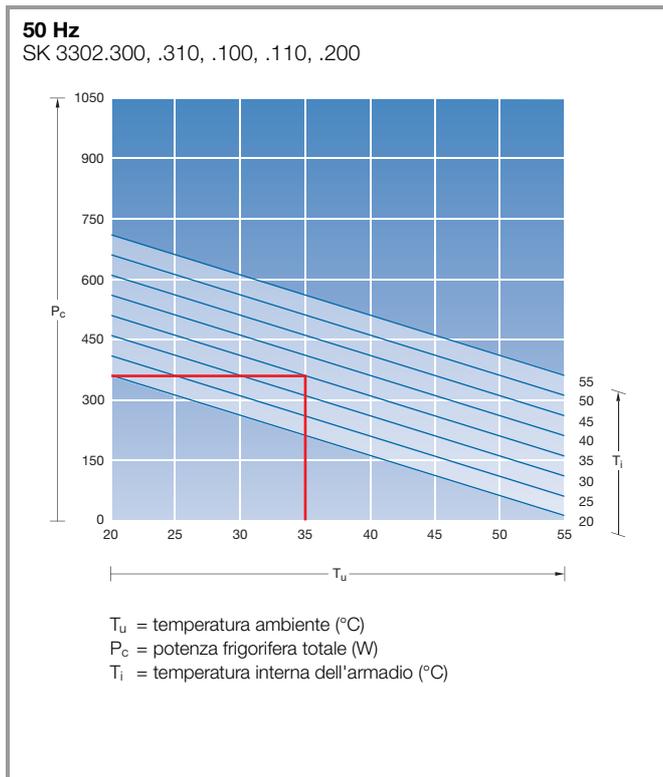
Potenza frigorifera

Potenza riscaldante



## Condizionatori da parete TopTherm

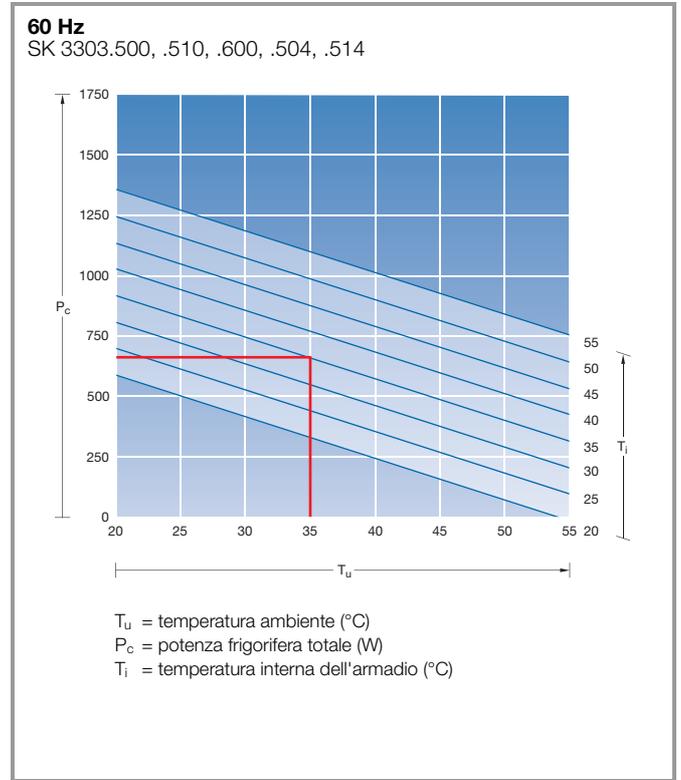
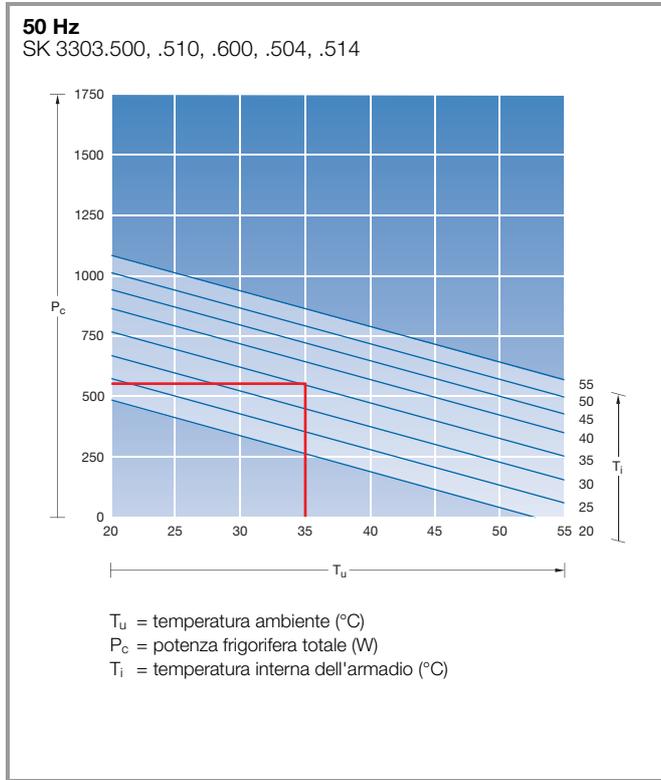
Potenza frigorifera 300 W (115/230 V, 1~)



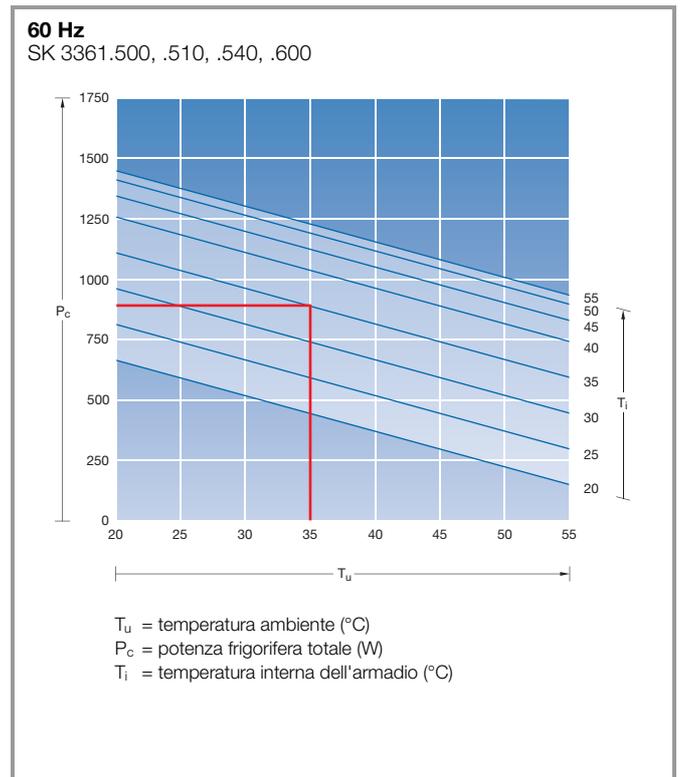
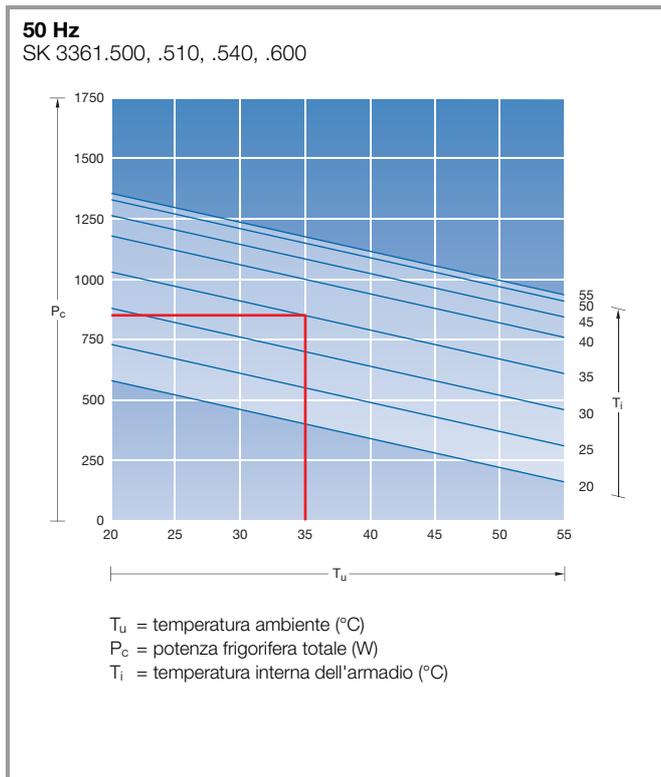
# Condizionatori

## Condizionatori da parete TopTherm «Blue e»

Potenza frigorifera 500 W (115/230 V, 1~)

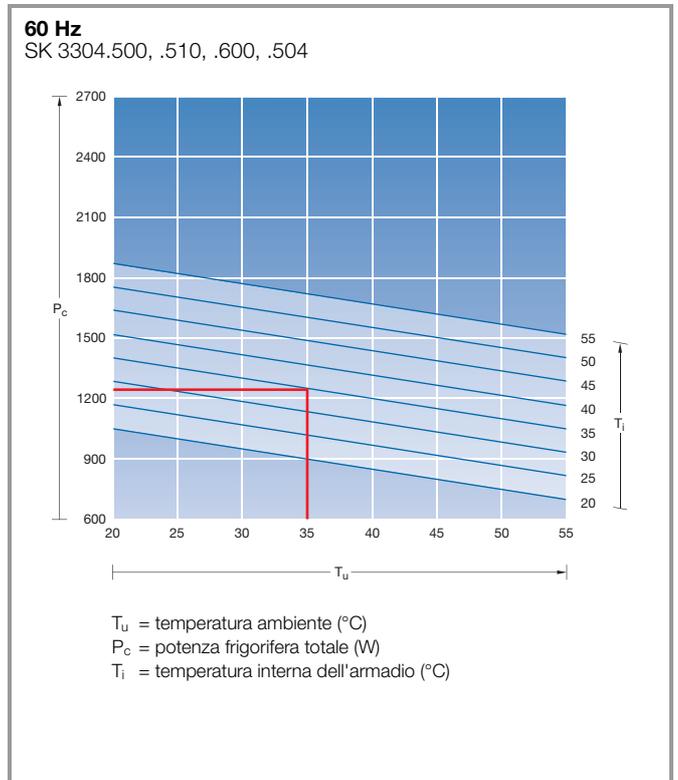
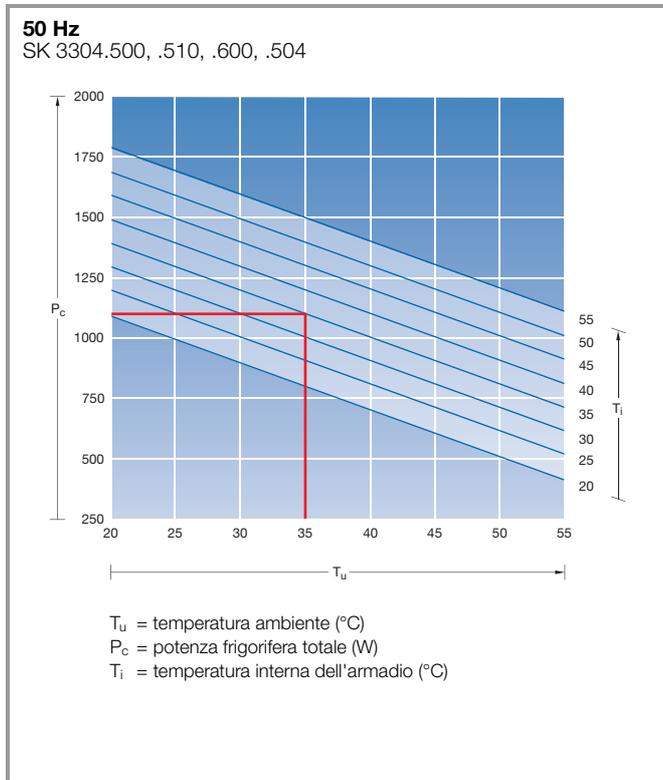


Potenza frigorifera 750 W (115/230 V, 1~, 400 V, 2~)

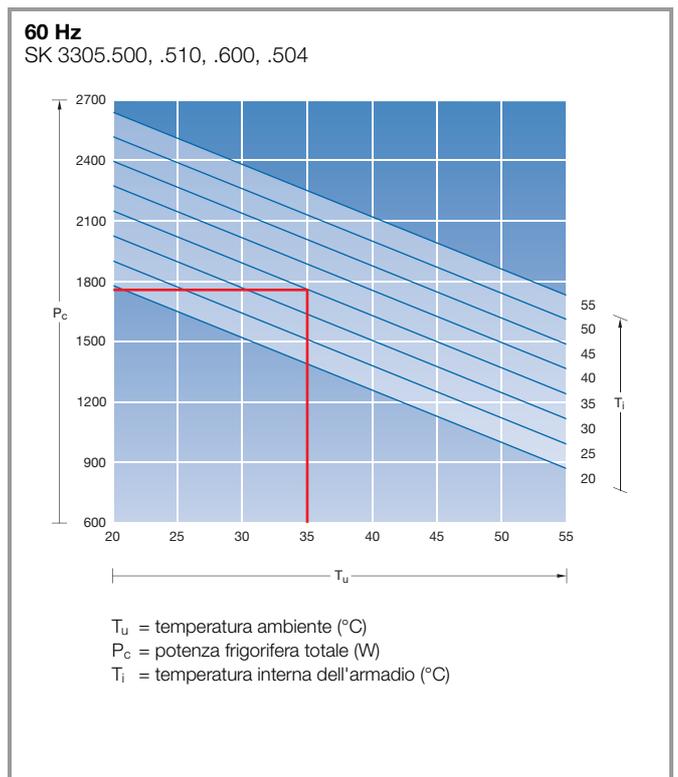
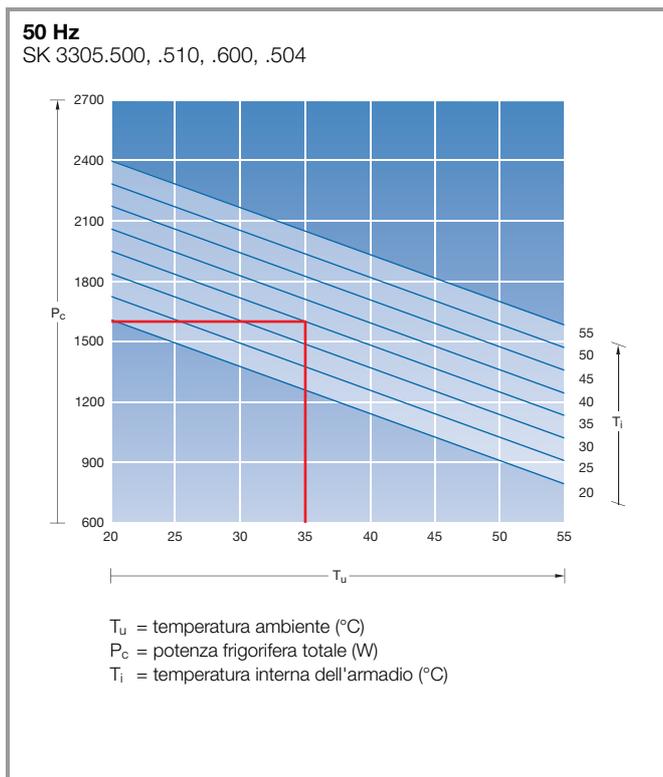


## Condizionatori da parete TopTherm «Blue e»

Potenza frigorifera 1000 W (115/230 V, 1~)



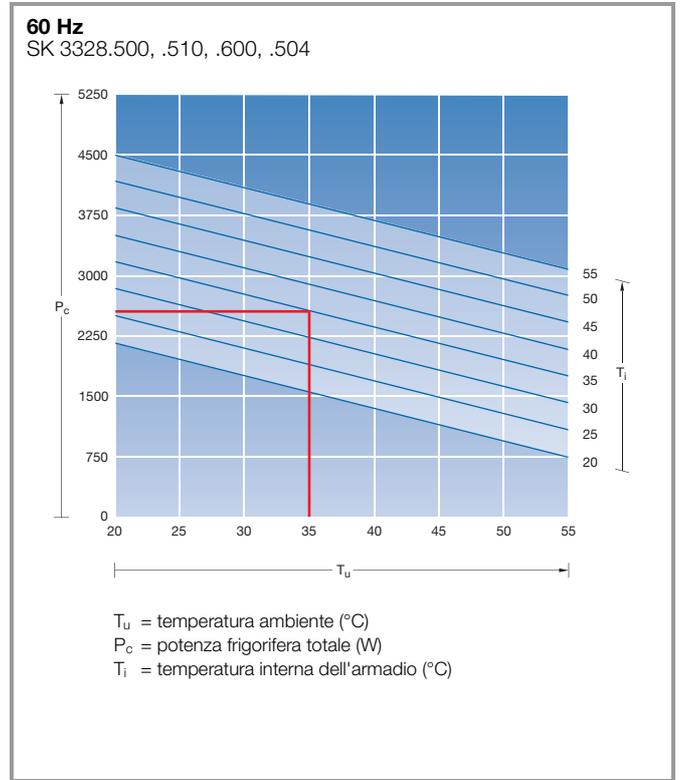
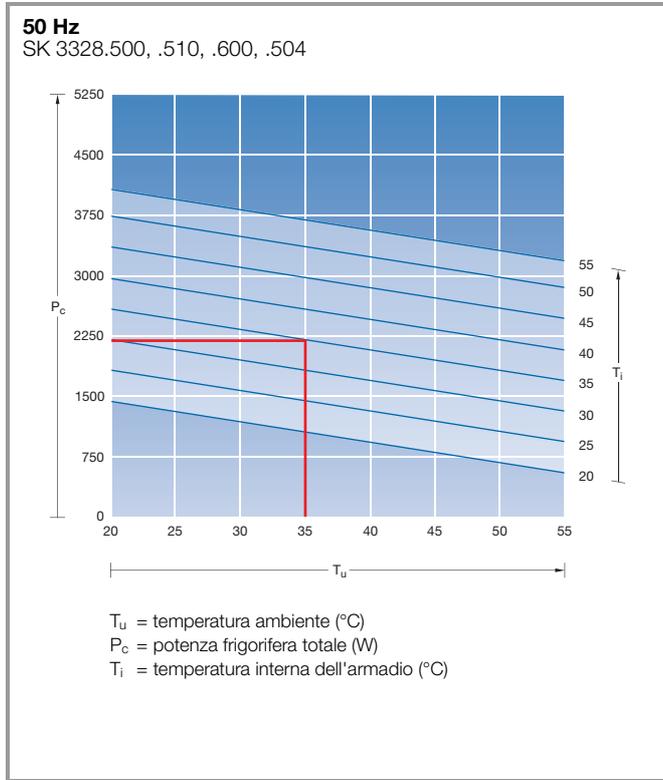
Potenza frigorifera 1500 W (115/230 V, 1~)



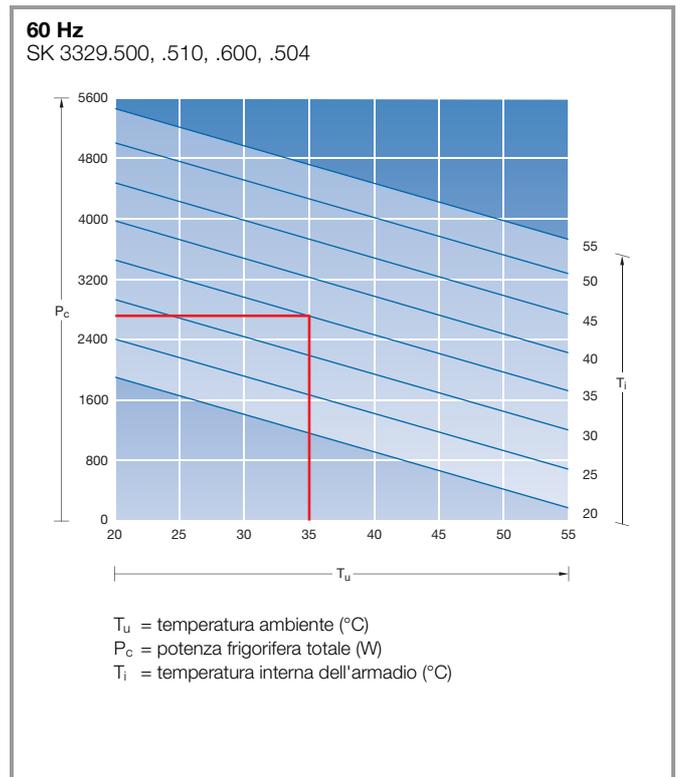
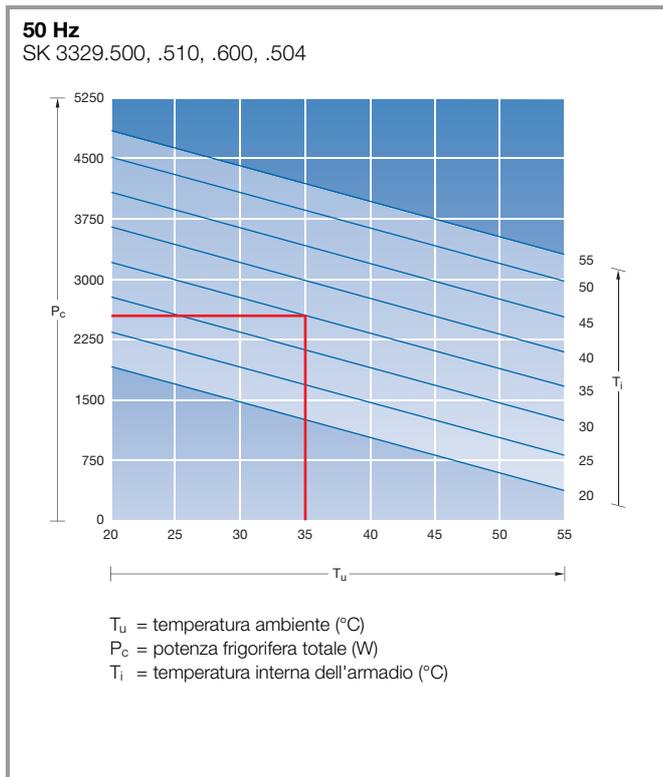
# Condizionatori

## Condizionatori da parete TopTherm «Blue e»

Potenza frigorifera 2000 W (115/230 V, 1~)

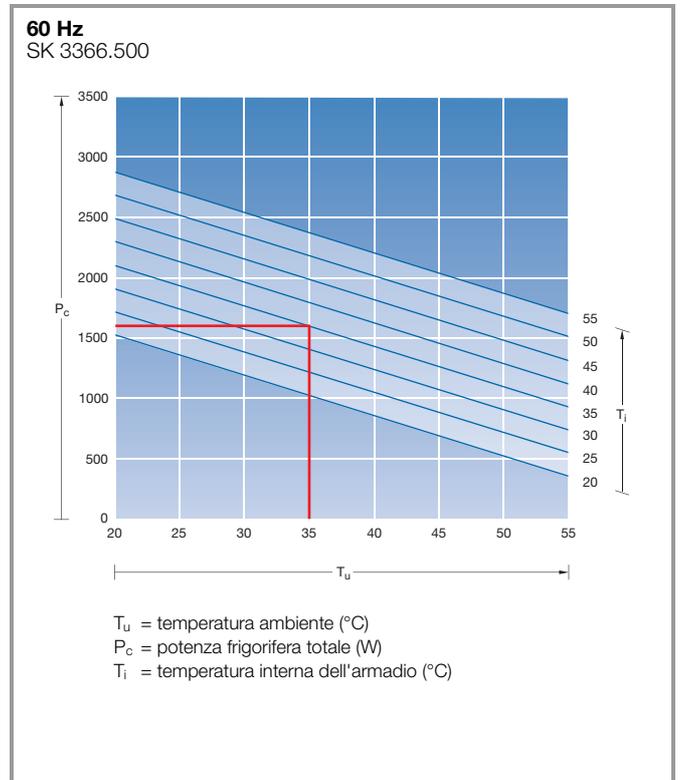
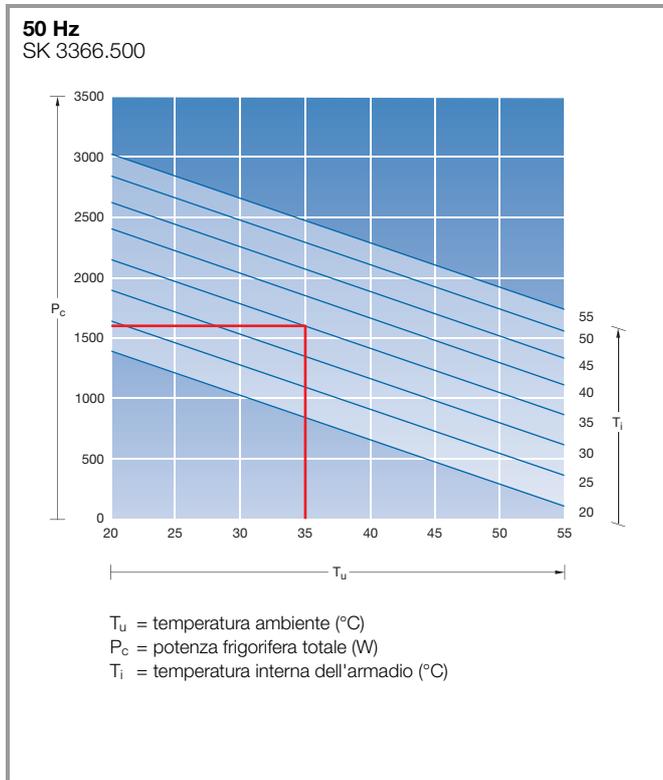


Potenza frigorifera 2500 W (115/230 V, 1~)

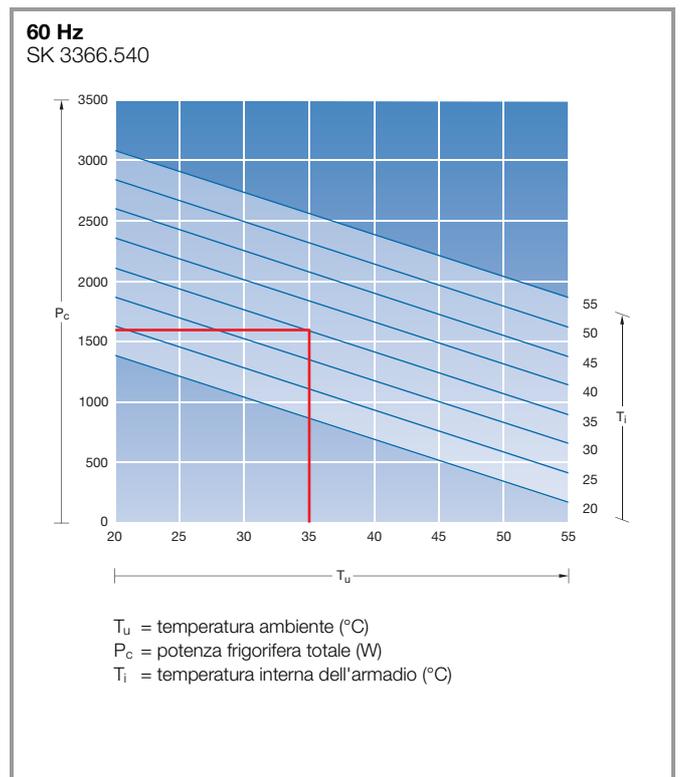
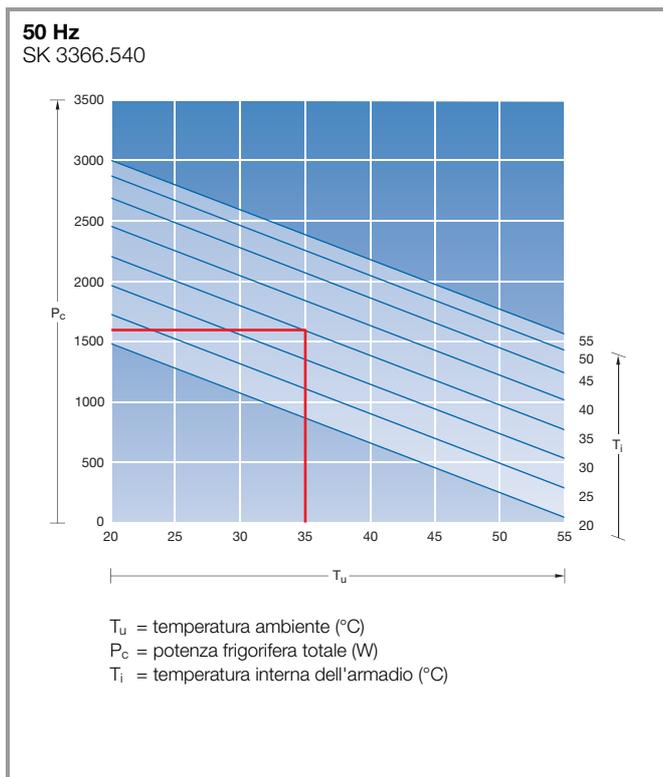


## Condizionatori da parete TopTherm «Blue e», versione slim

Potenza frigorifera 1500 W (230 V, 1~)



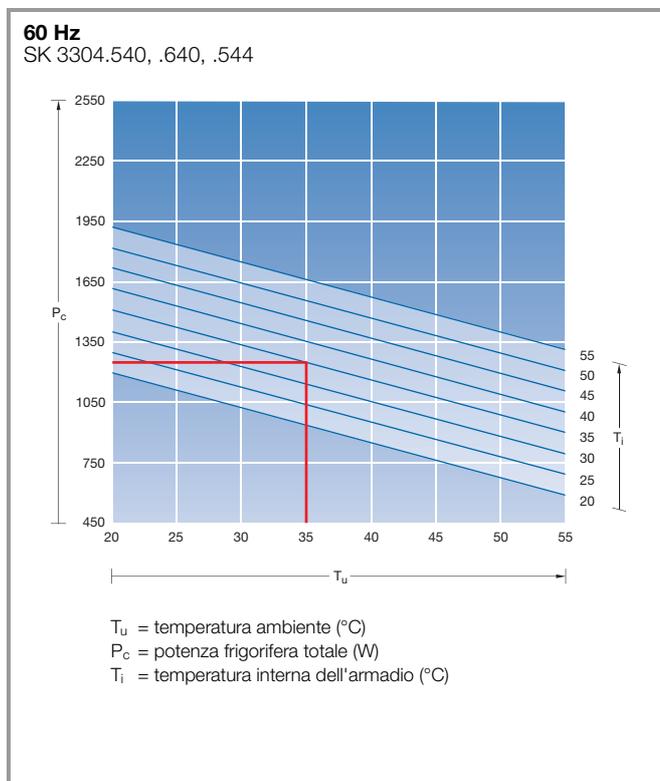
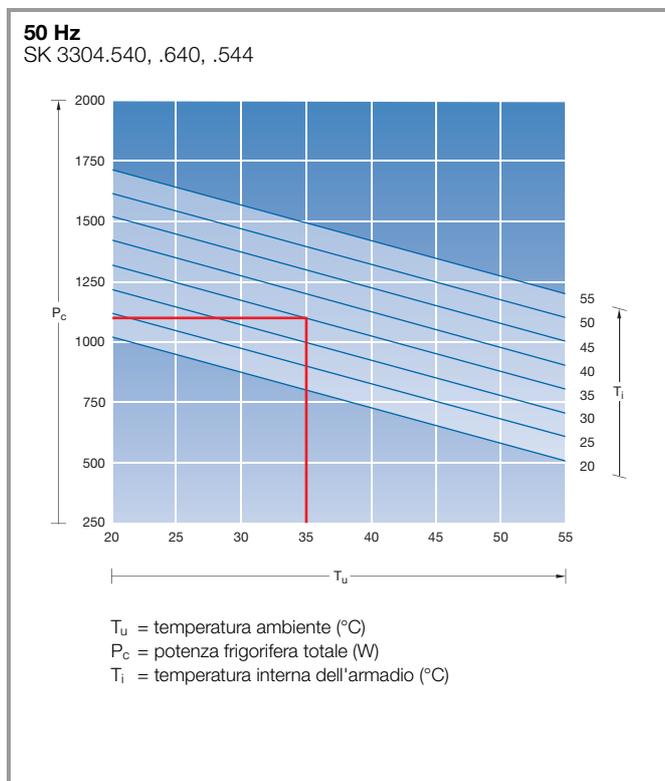
Potenza frigorifera 1500 W (400/460 V, 3~)



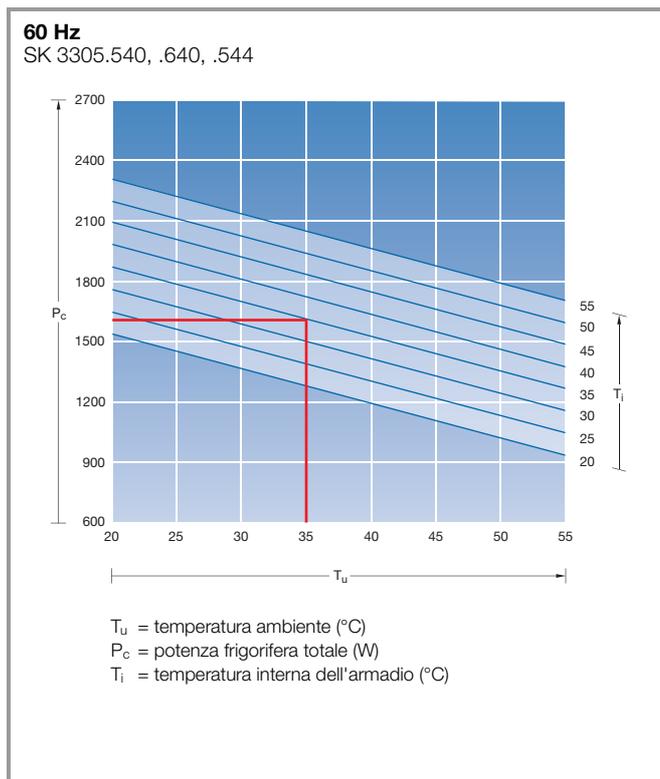
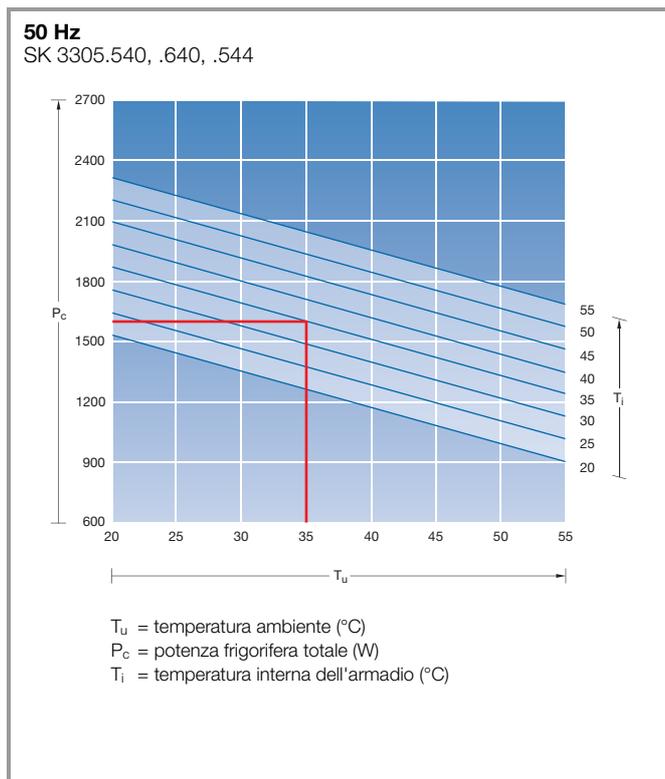
# Condizionatori

## Condizionatori da parete TopTherm «Blue e»

Potenza frigorifera 1000 W (400/460 V, 3~)



Potenza frigorifera 1500 W (400/460 V, 3~)

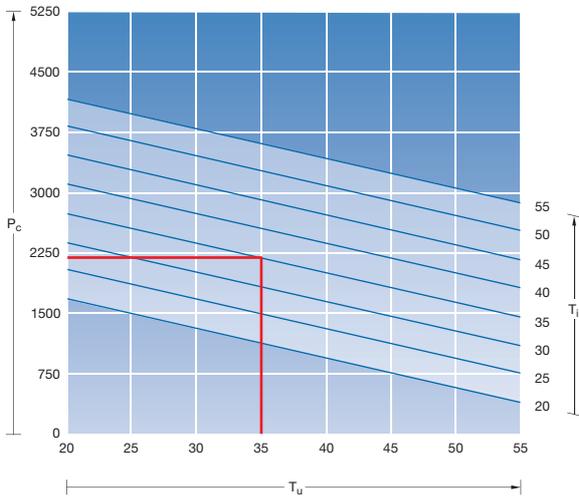


## Condizionatori da parete TopTherm «Blue e»

Potenza frigorifera 2000 W (400/460 V, 3~)

**50 Hz**

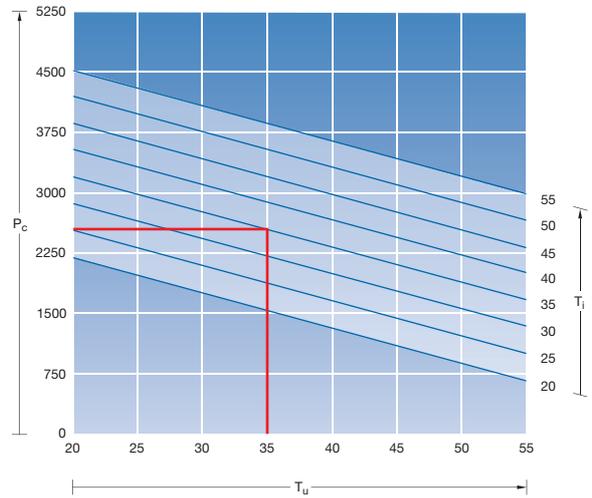
SK 3328.540, .640, .544



$T_u$  = temperatura ambiente (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

**60 Hz**

SK 3328.540, .640, .544

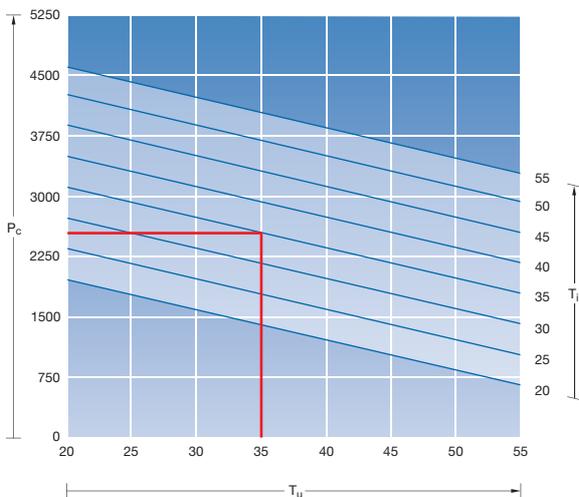


$T_u$  = temperatura ambiente (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

Potenza frigorifera 2500 W (400/460 V, 3~)

**50 Hz**

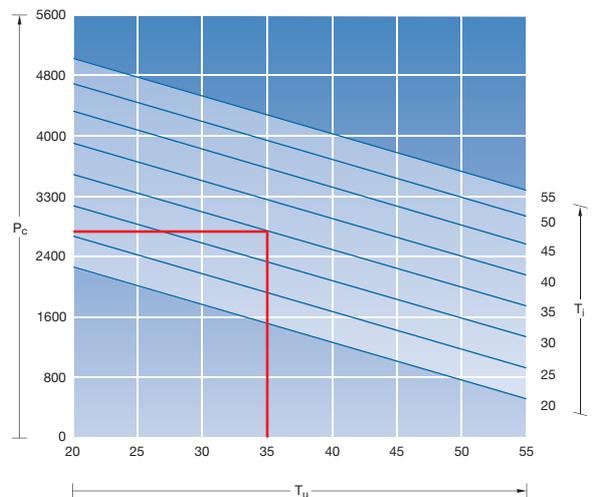
SK 3329.540, .640, .544



$T_u$  = temperatura ambiente (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

**60 Hz**

SK 3329.540, .640, .544

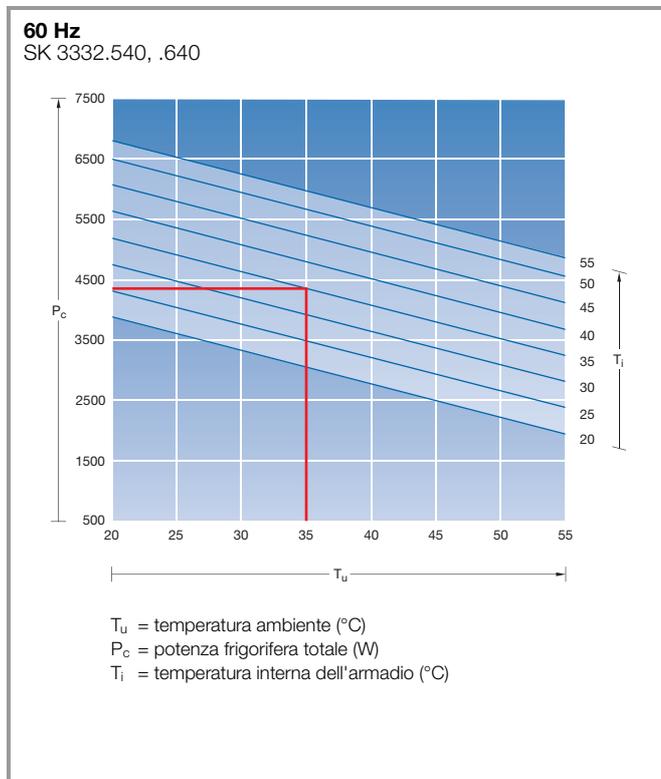
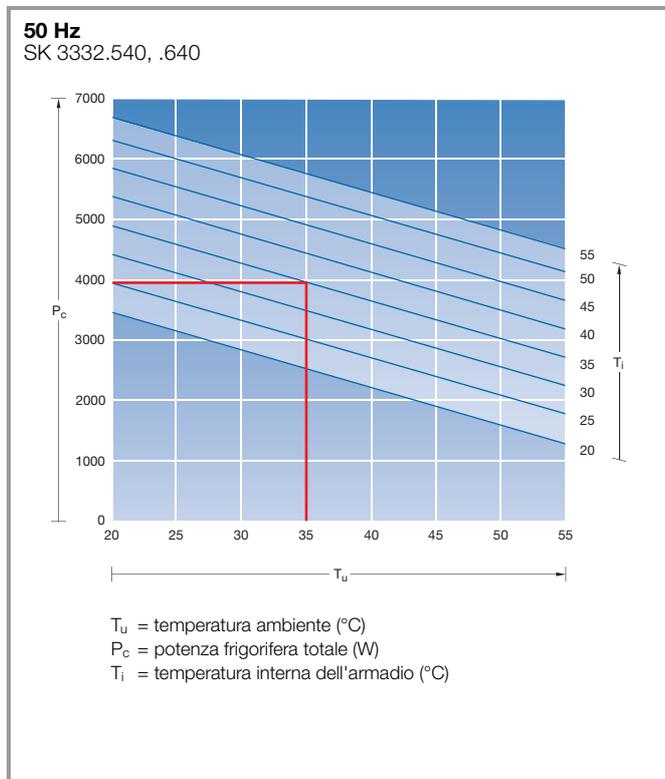


$T_u$  = temperatura ambiente (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

# Condizionatori

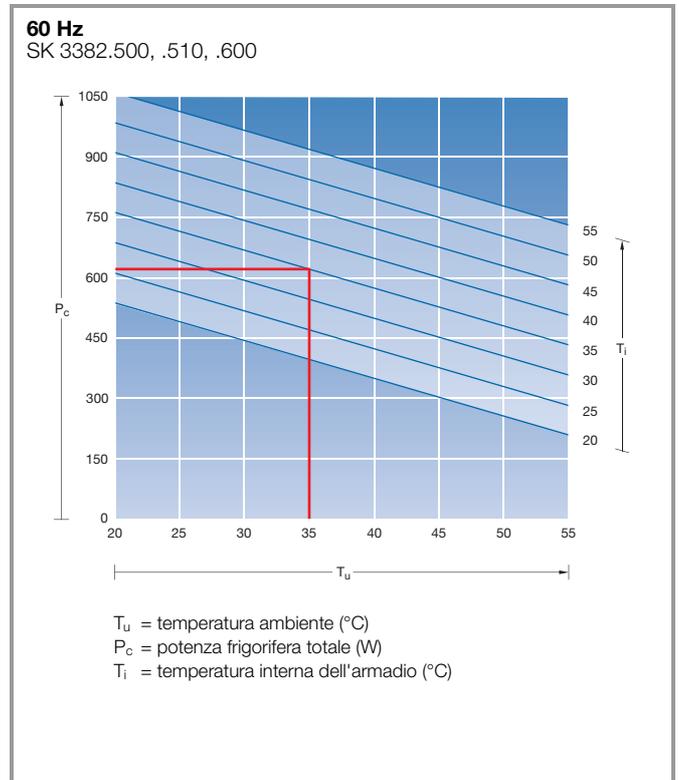
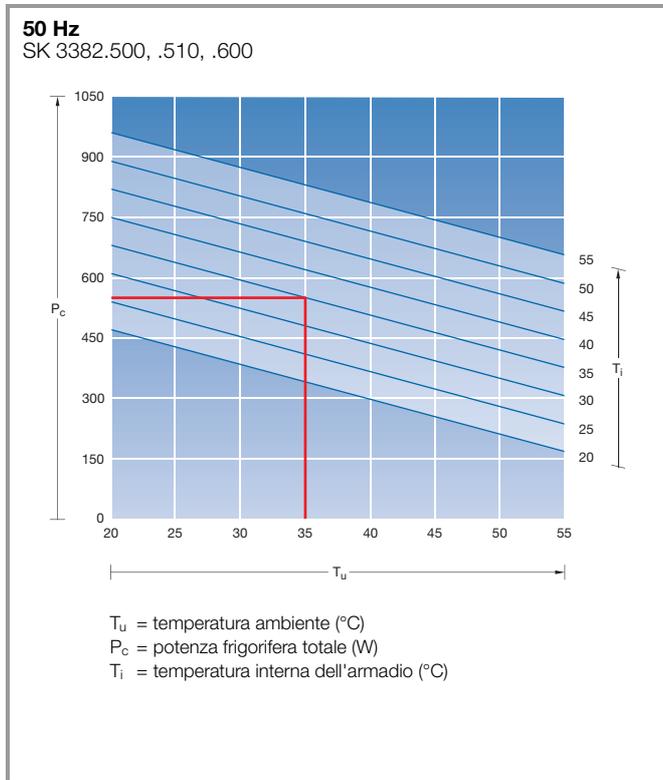
## Condizionatori da parete TopTherm «Blue e»

Potenza frigorifera 4000 W (400/460 V, 3~)

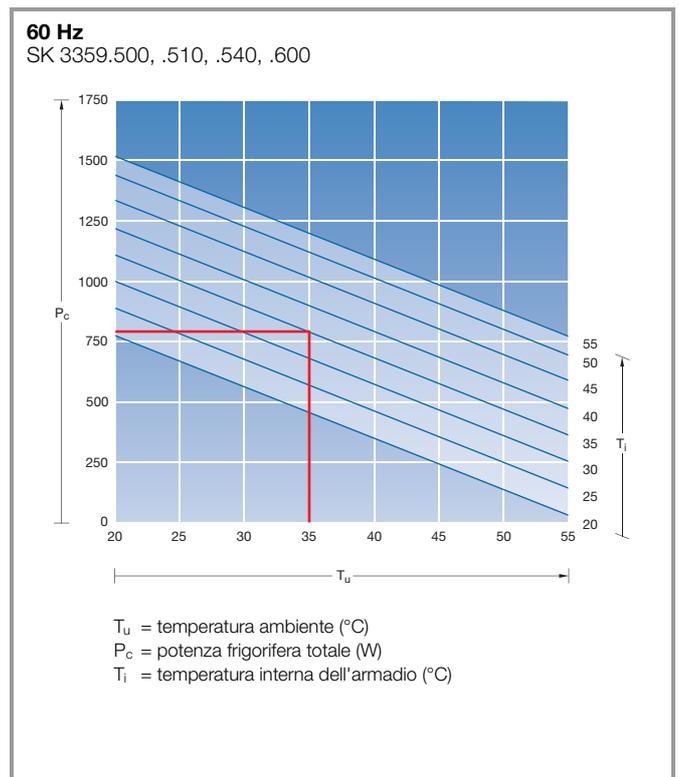
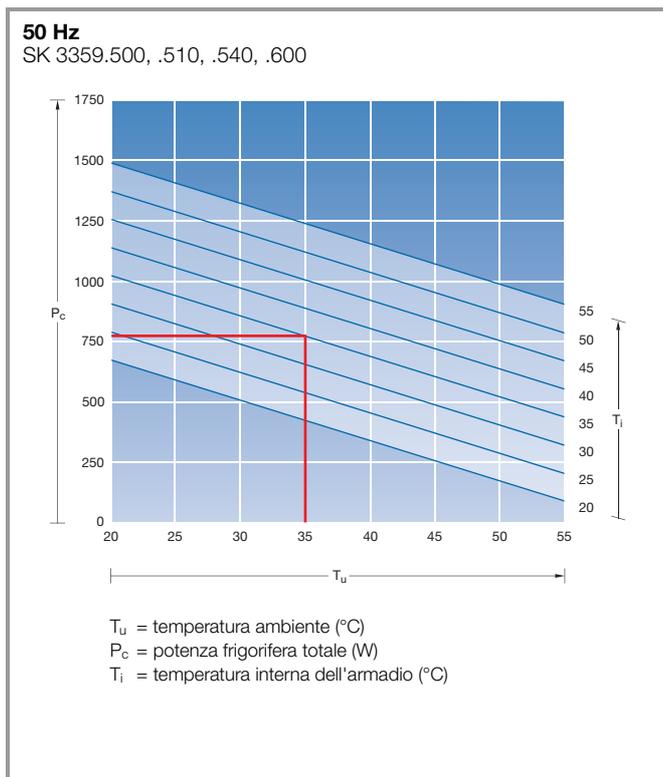


## Condizionatori da tetto TopTherm «Blue e»

Potenza frigorifera 500 W (115/230 V, 1~)



Potenza frigorifera 750 W (115/230 V, 1~, 400 V, 2~)



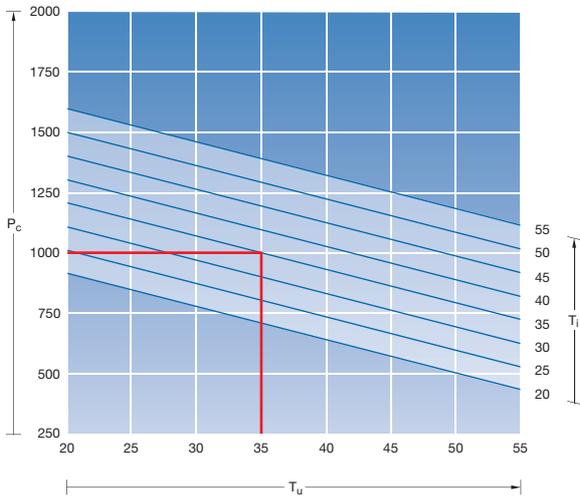
# Condizionatori

## Condizionatori da tetto TopTherm «Blue e»

Potenza frigorifera 1000 W (115/230 V, 1~, 400 V, 2~)

**50 Hz**

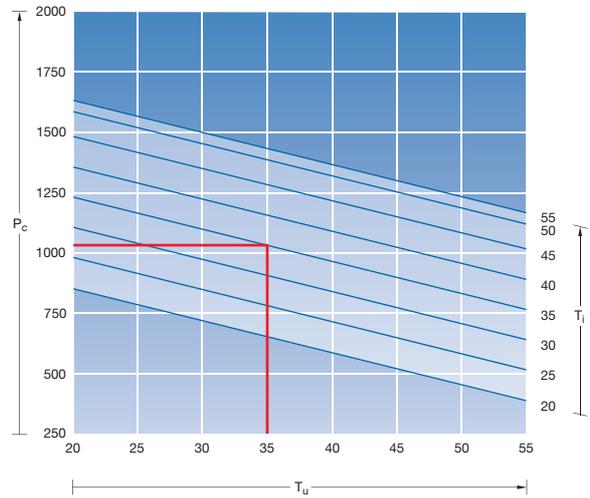
SK 3383.500, .510, .540, .600



$T_u$  = temperatura ambiente (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

**60 Hz**

SK 3383.500, .510, .540, .600

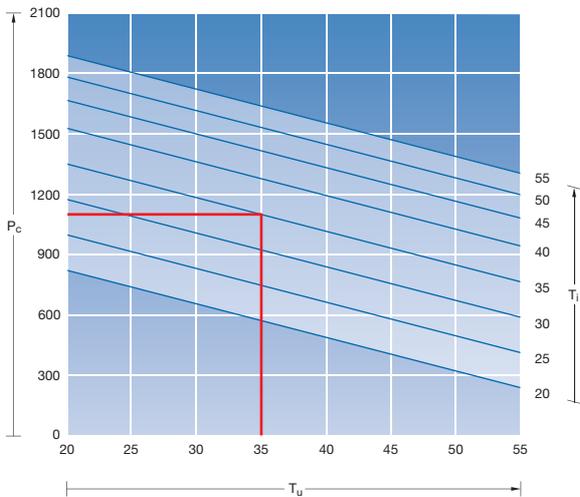


$T_u$  = temperatura ambiente (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

Potenza frigorifera 1100 W (115/230 V, 1~)

**50 Hz**

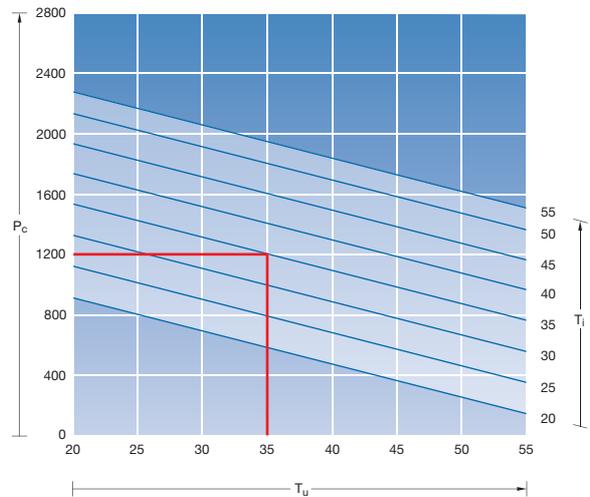
SK 3273.500, .515



$T_u$  = temperatura ambiente (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

**60 Hz**

SK 3273.500, .515



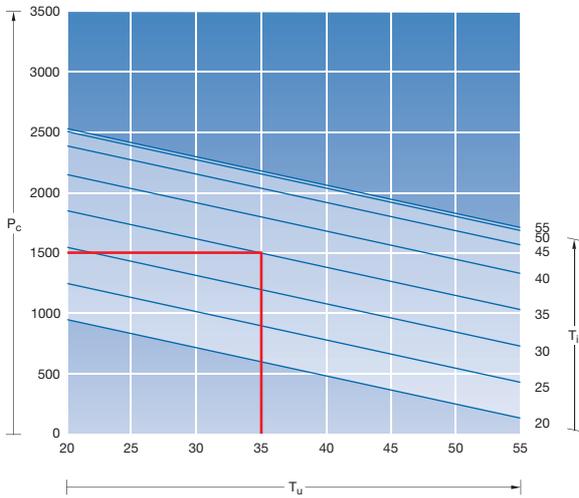
$T_u$  = temperatura ambiente (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

## Condizionatori da tetto TopTherm «Blue e»

Potenza frigorifera 1500 W (115/230 V, 1~, 400 V, 2~)

**50 Hz**

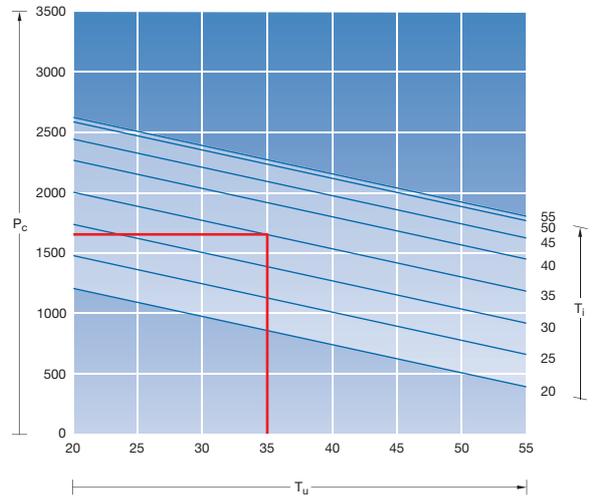
SK 3384.500, .510, .540, .600



$T_u$  = temperatura ambiente (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

**60 Hz**

SK 3384.500, .510, .540, .600

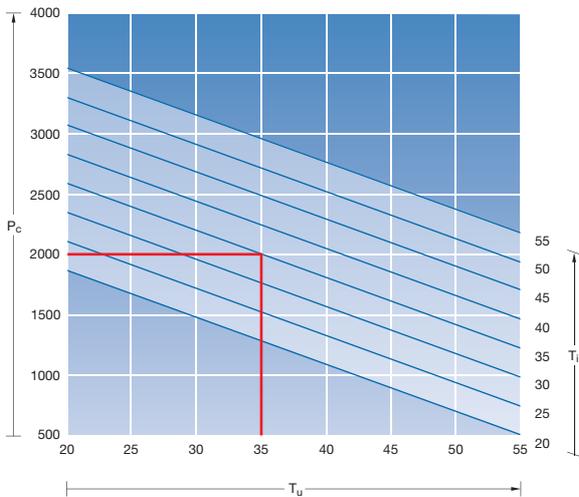


$T_u$  = temperatura ambiente (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

Potenza frigorifera 2000 W (115/230 V, 1~, 400 V, 2~)

**50 Hz**

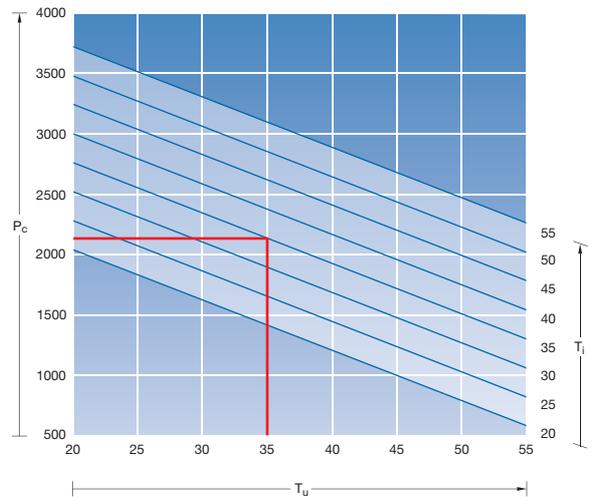
SK 3385.500, .510, .540, .600, .640



$T_u$  = temperatura ambiente (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

**60 Hz**

SK 3385.500, .510, .540, .600, .640

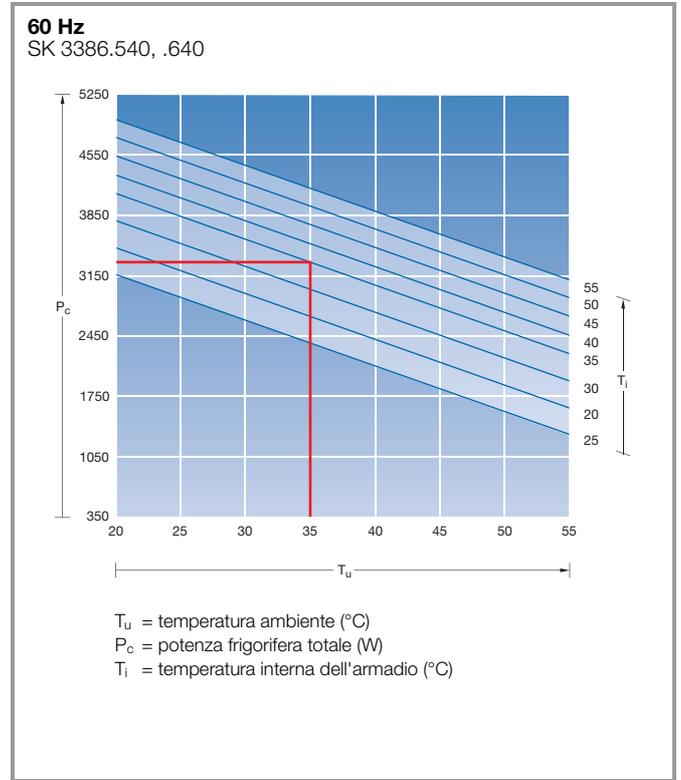
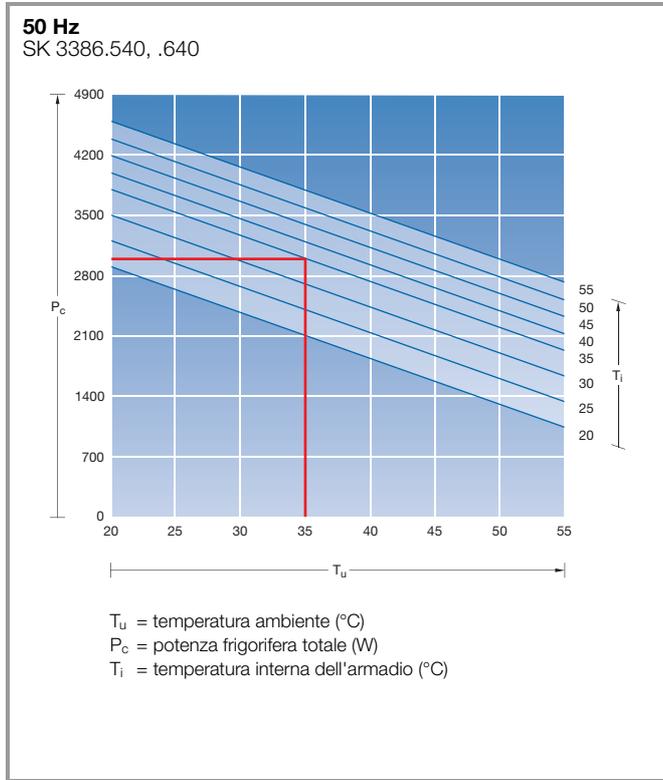


$T_u$  = temperatura ambiente (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

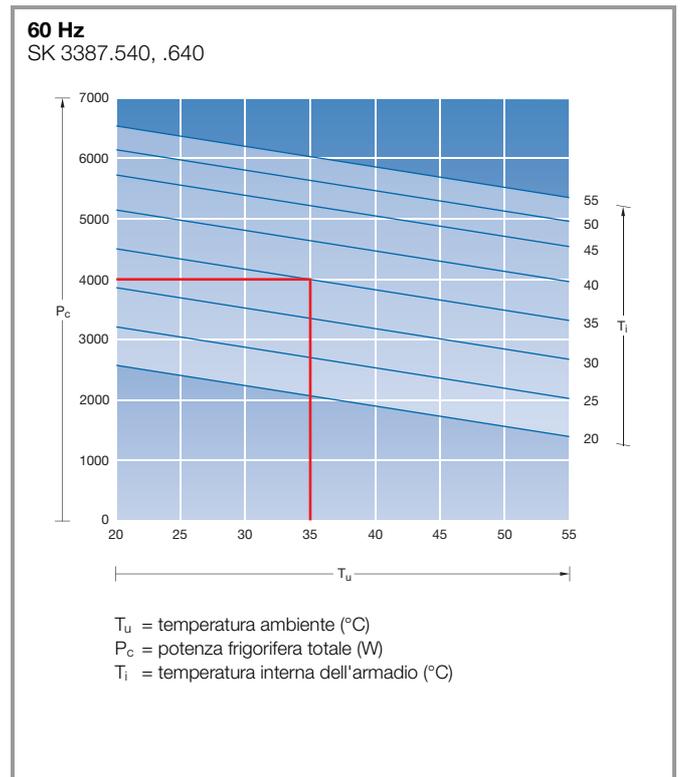
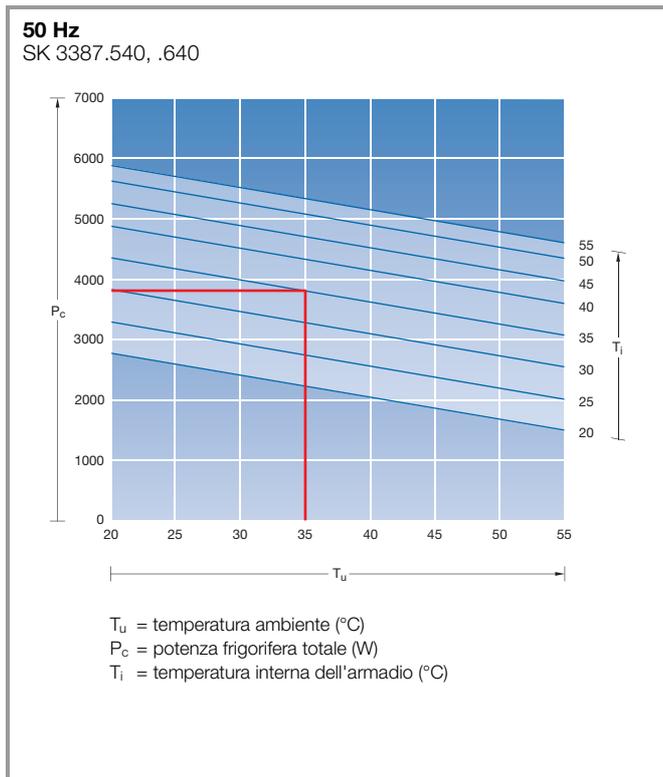
# Condizionatori

## Condizionatori da tetto TopTherm «Blue e»

Potenza frigorifera 3000 W (400/460 V, 3~)

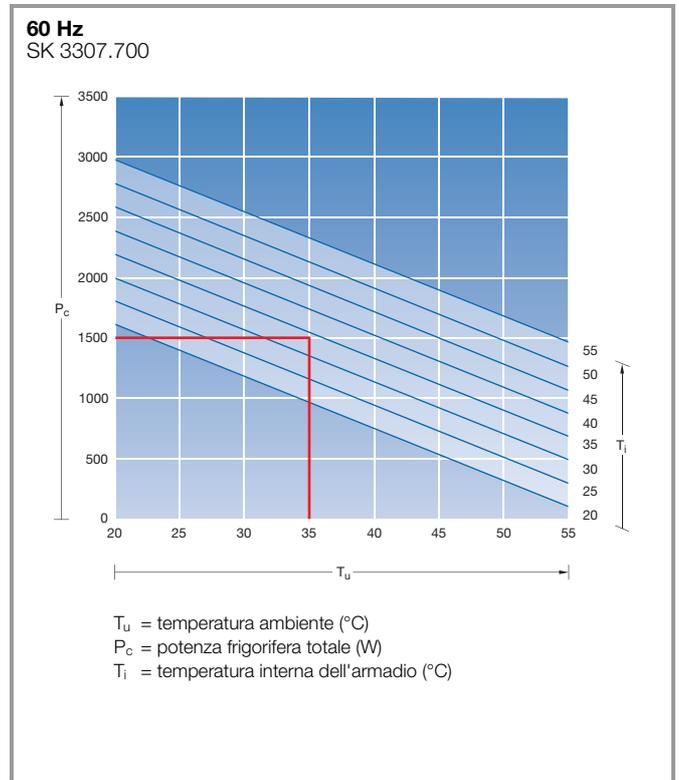
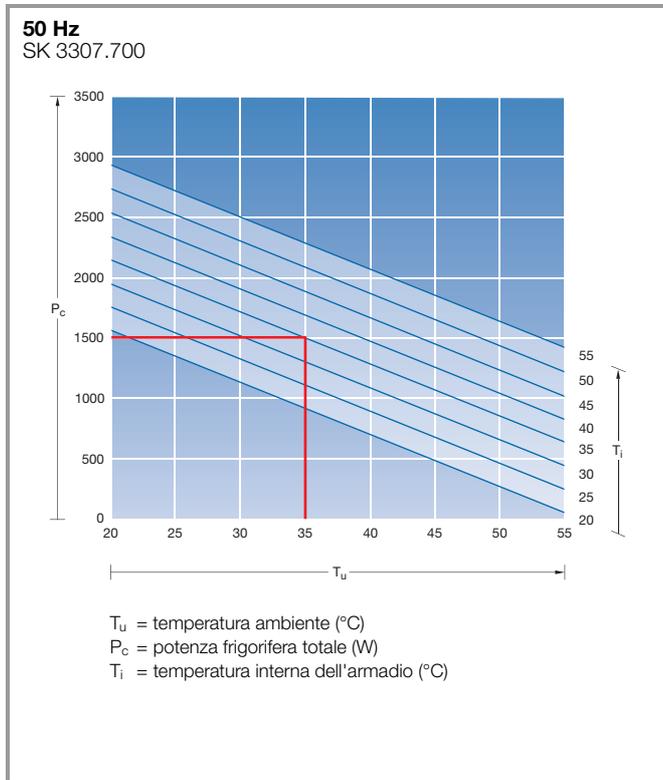


Potenza frigorifera 4000 W (400/460 V, 3~)

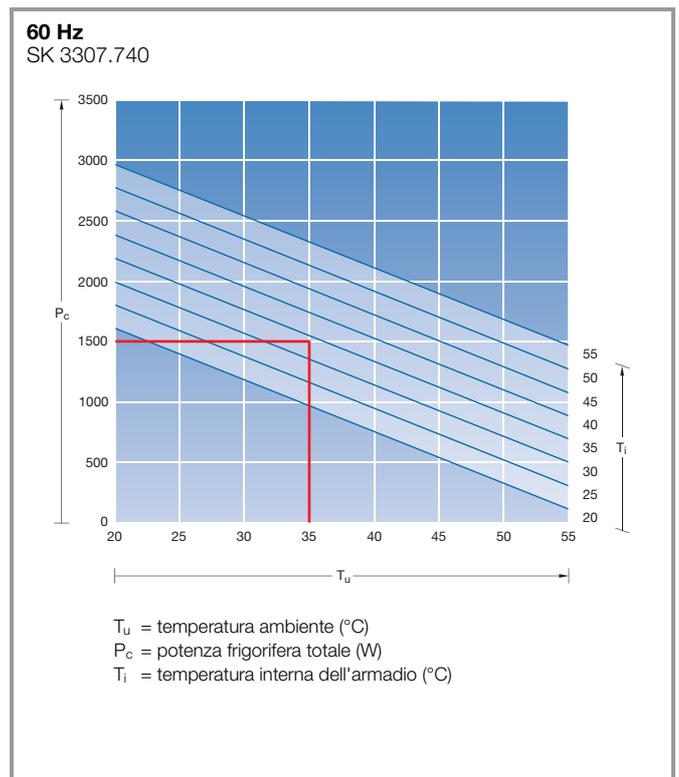
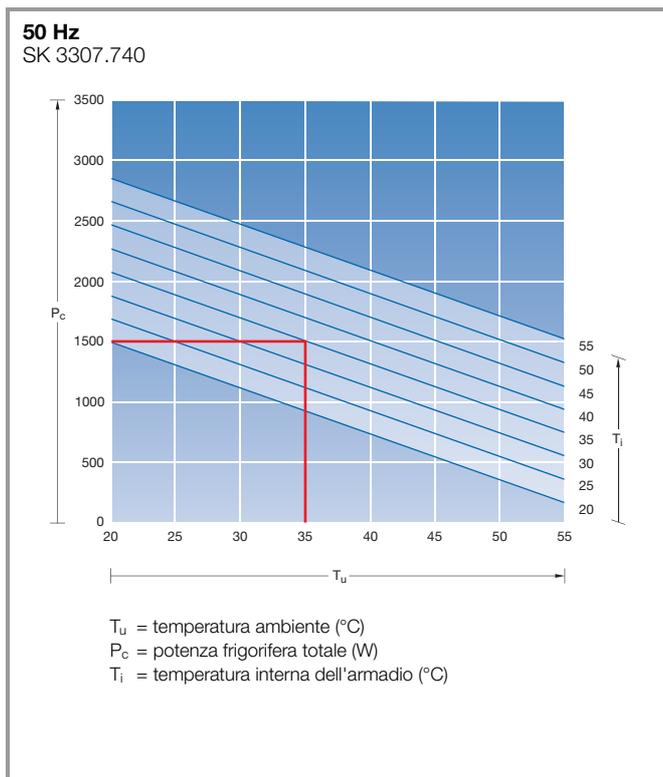


## Climatizzazione modulare – unità clima TopTherm «Blue e»

Potenza frigorifera 1500 W (230 V, 1~)



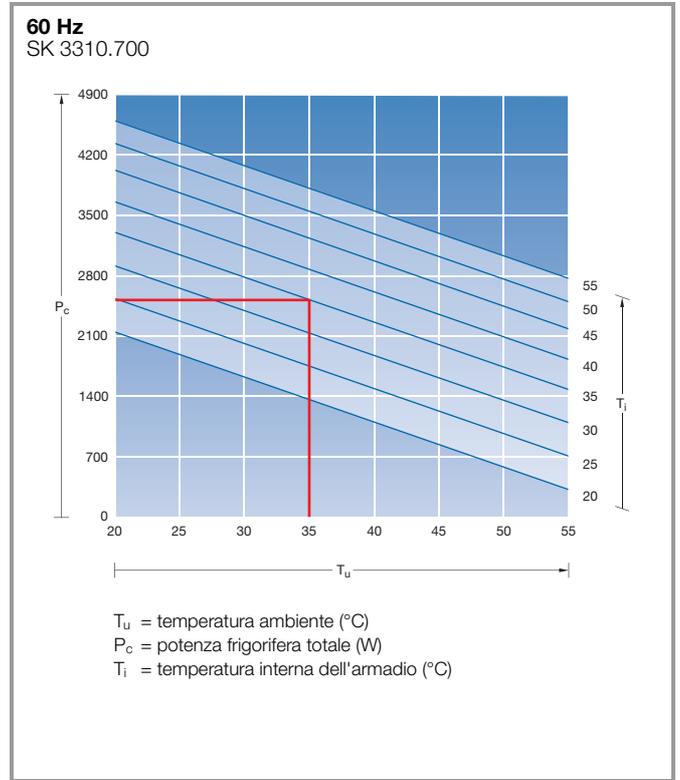
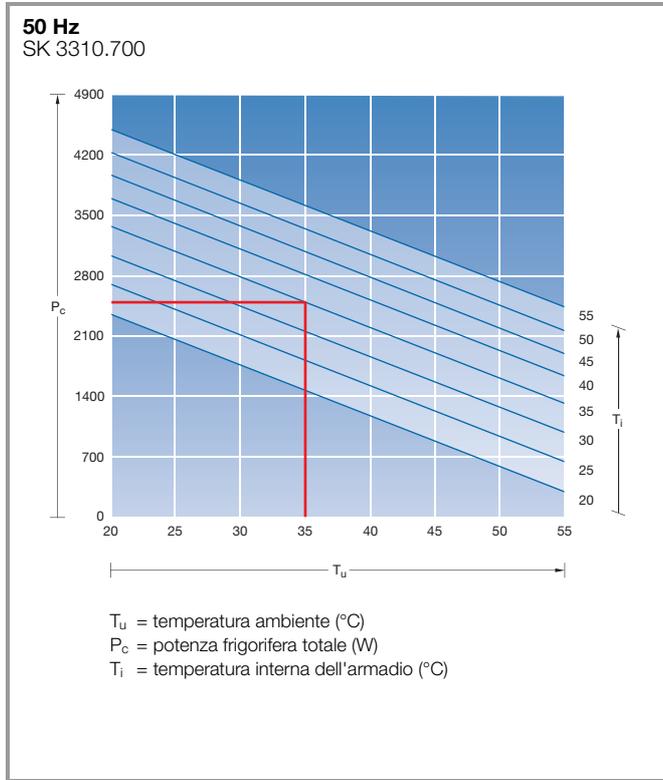
Potenza frigorifera 1500 W (400/460 V, 3~)



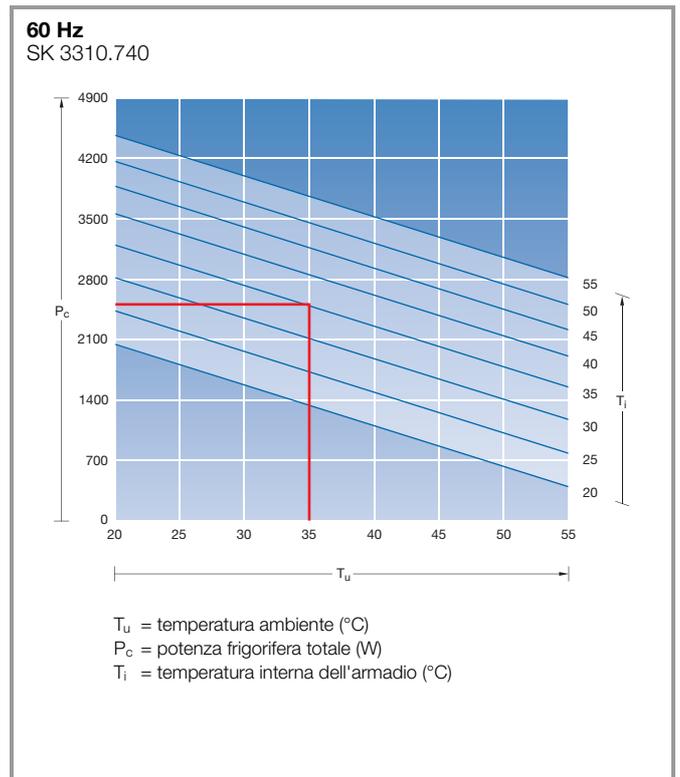
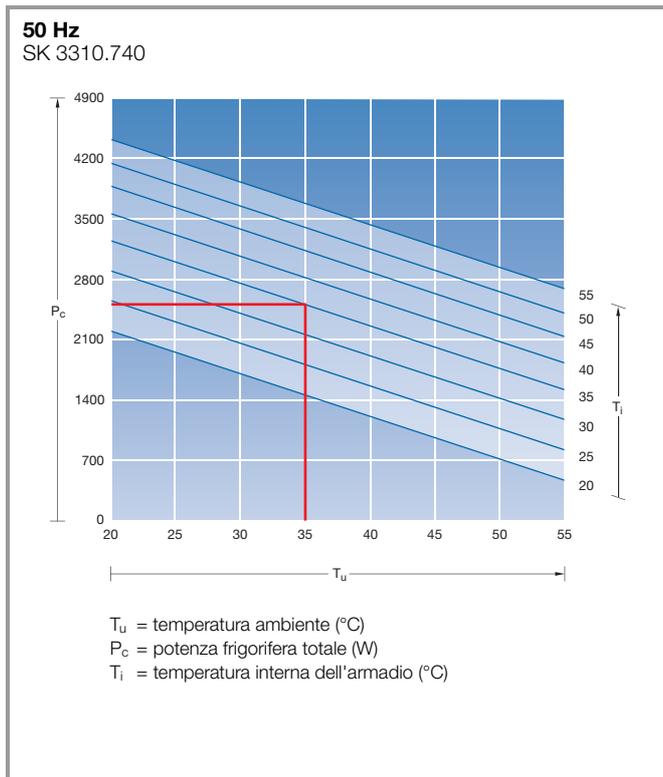
# Condizionatori

## Climatizzazione modulare – unità clima TopTherm «Blue e»

Potenza frigorifera 2500 W (230 V, 1~)



Potenza frigorifera 2500 W (400/460 V, 3~)

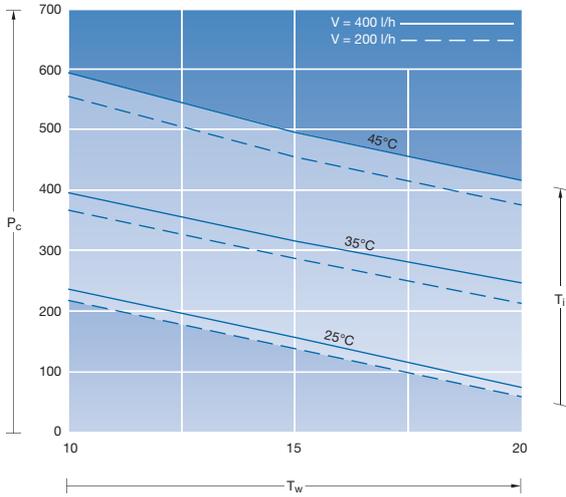


## Scambiatori di calore aria/acqua, montaggio a parete

Potenza frigorifera 300 W

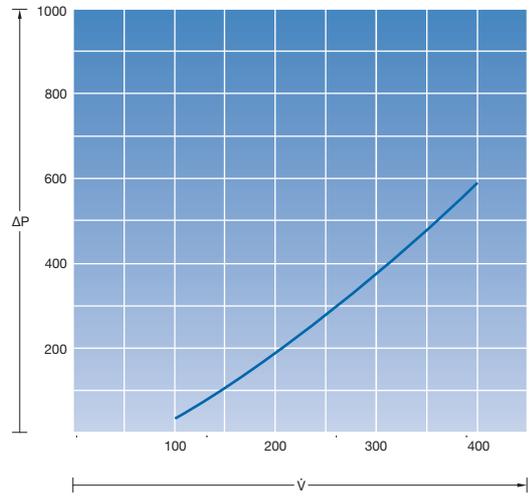
Componenti del circuito acqua: Rame/ottone (Cu/CuZn)

50/60 Hz  
SK 3212.024, .115, .230



$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

Caratteristica resistiva dell'acqua  
SK 3212.024, .115, .230

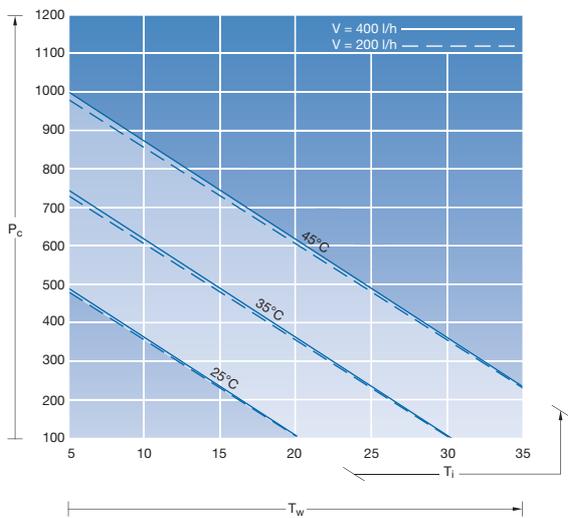


$\dot{V}$  = portata d'acqua in ingresso (l/h)  
 $\Delta P$  = resistenza dell'acqua (mbar)

Potenza frigorifera 600 W

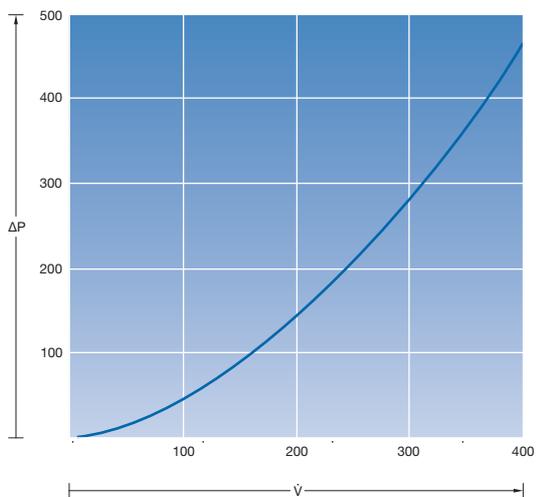
Componenti del circuito acqua: Rame/ottone (Cu/CuZn)

50/60 Hz  
SK 3214.100



$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

Caratteristica resistiva dell'acqua  
SK 3214.100



$\dot{V}$  = portata d'acqua in ingresso (l/h)  
 $\Delta P$  = resistenza dell'acqua (mbar)

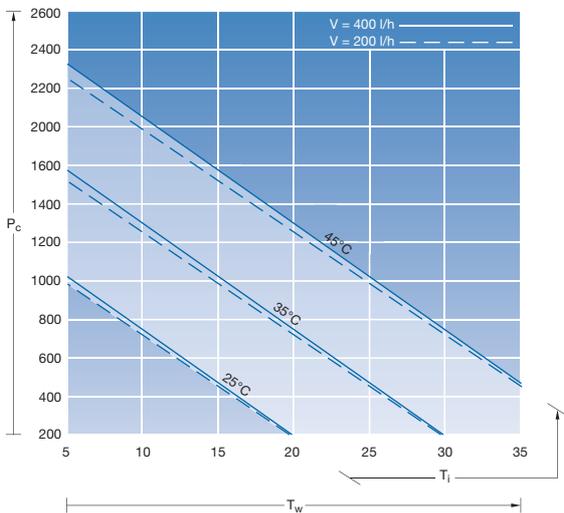
# Raffreddamento a liquido

## Scambiatori di calore aria/acqua, montaggio a parete

Potenza frigorifera 1250 W

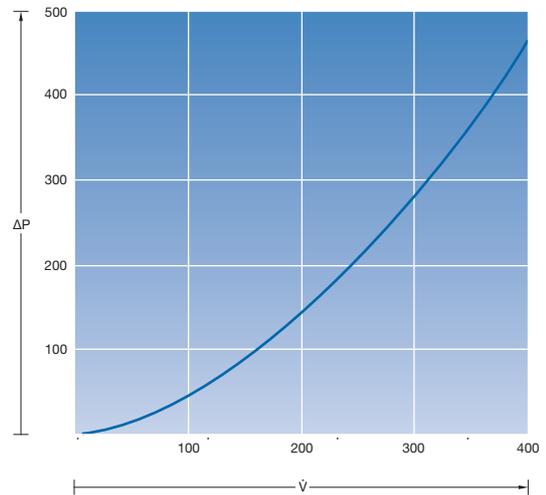
Componenti del circuito acqua: Rame/ottone (Cu/CuZn)

50/60 Hz  
SK 3215.100



$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

Caratteristica resistiva dell'acqua  
SK 3215.100

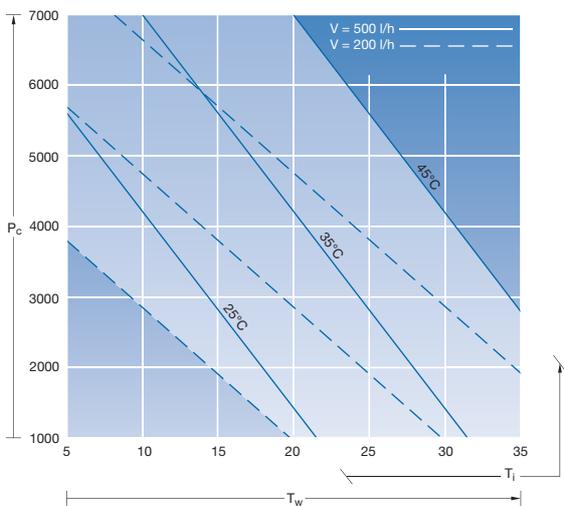


$\dot{V}$  = portata d'acqua in ingresso (l/h)  
 $\Delta P$  = resistenza dell'acqua (mbar)

Potenza frigorifera 7000 W

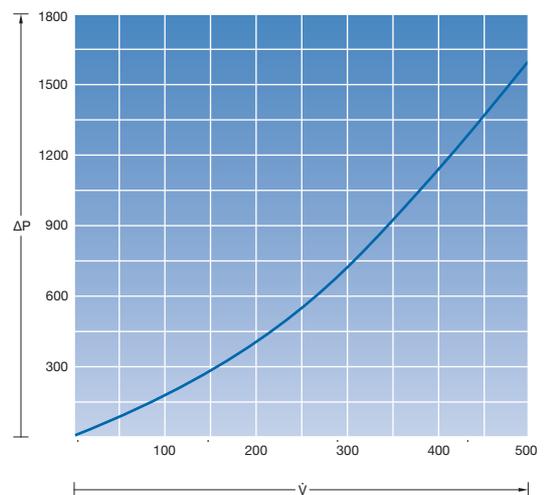
Componenti del circuito acqua: Rame/ottone (Cu/CuZn)

50/60 Hz  
SK 3216.480



$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

Caratteristica resistiva dell'acqua  
SK 3216.480



$\dot{V}$  = portata d'acqua in ingresso (l/h)  
 $\Delta P$  = resistenza dell'acqua (mbar)

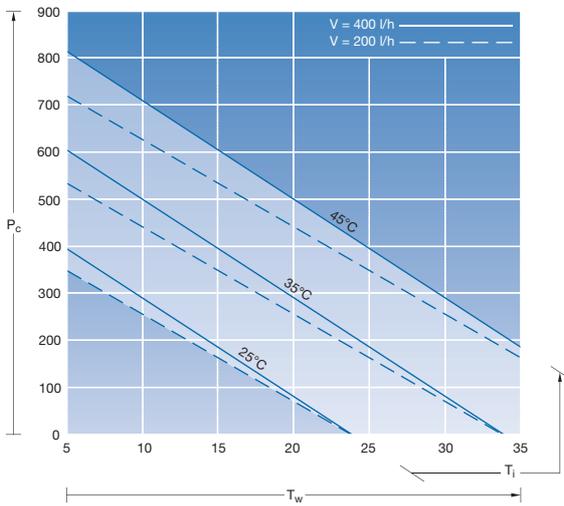
## Scambiatori di calore aria/acqua, montaggio a parete

Potenza frigorifera 500 W

Componenti del circuito acqua: Rame/ottone (Cu/CuZn)

**50 Hz**

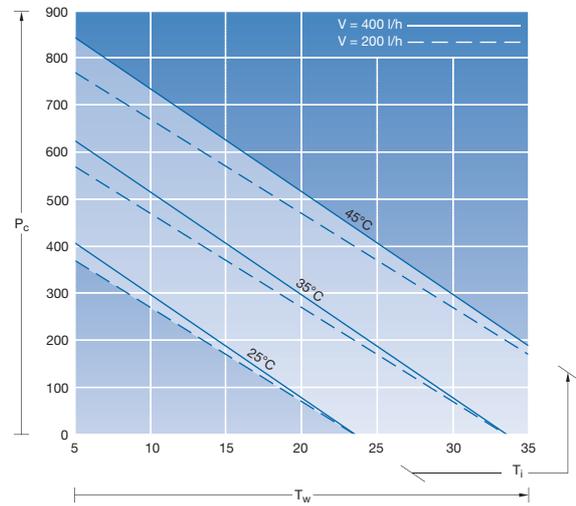
SK 3363.100, .500



$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

**60 Hz**

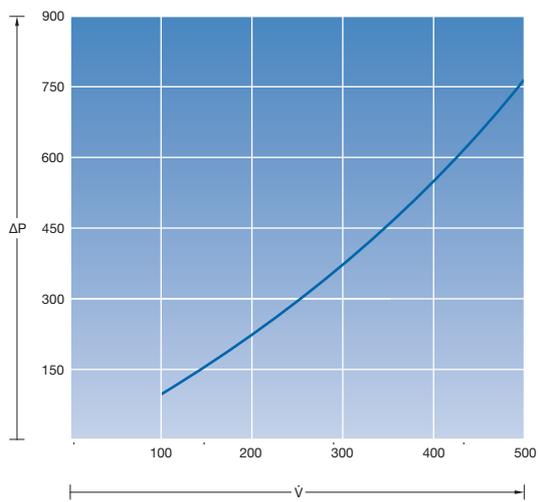
SK 3363.100, .500



$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

### Caratteristica resistiva dell'acqua

SK 3363.100, .500



$\dot{V}$  = portata d'acqua in ingresso (l/h)  
 $\Delta P$  = resistenza dell'acqua (mbar)

# Raffreddamento a liquido

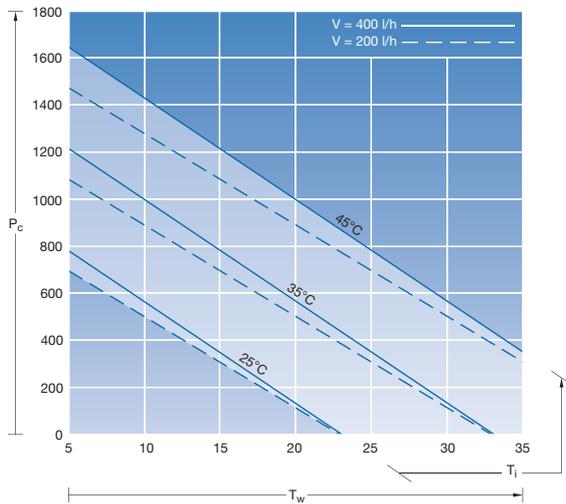
## Scambiatori di calore aria/acqua, montaggio a parete

Potenza frigorifera 1000 W

Componenti del circuito acqua: Rame/ottone (Cu/CuZn)

**50 Hz**

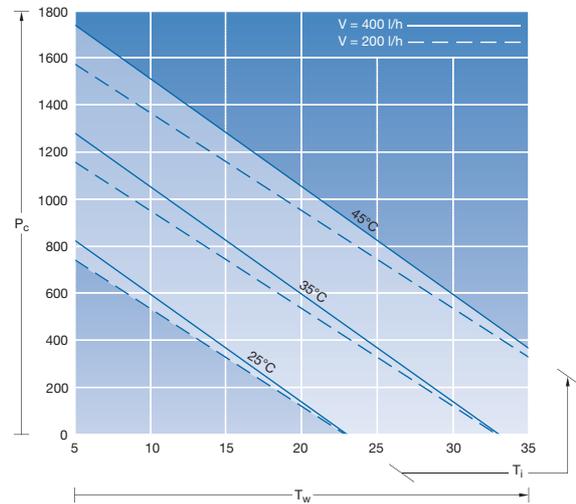
SK 3364.100, .500



$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

**60 Hz**

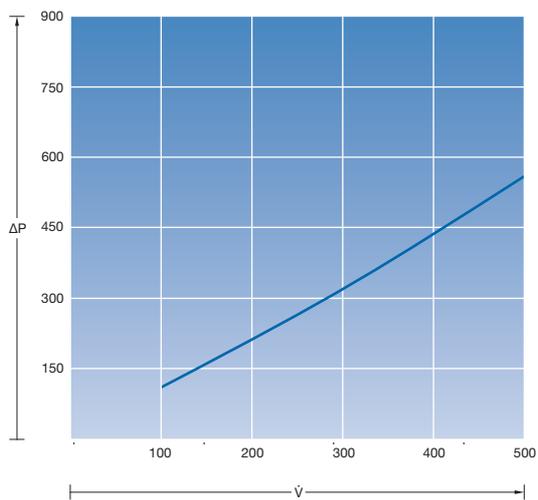
SK 3364.100, .500



$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

### Caratteristica resistiva dell'acqua

SK 3364.100, .500



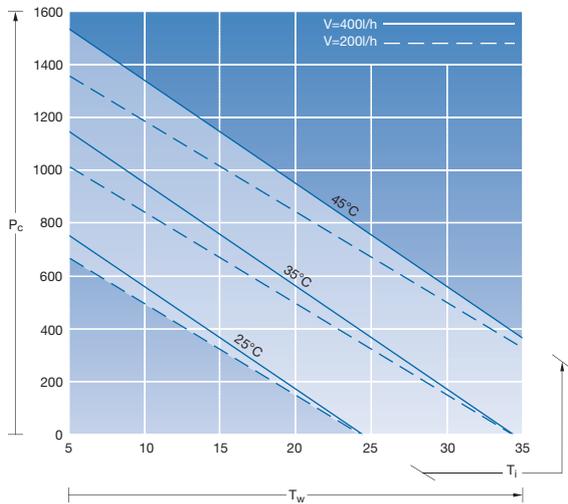
$\dot{V}$  = portata d'acqua in ingresso (l/h)  
 $\Delta P$  = resistenza dell'acqua (mbar)

## Scambiatori di calore aria/acqua, montaggio a parete

Potenza frigorifera 1000 W

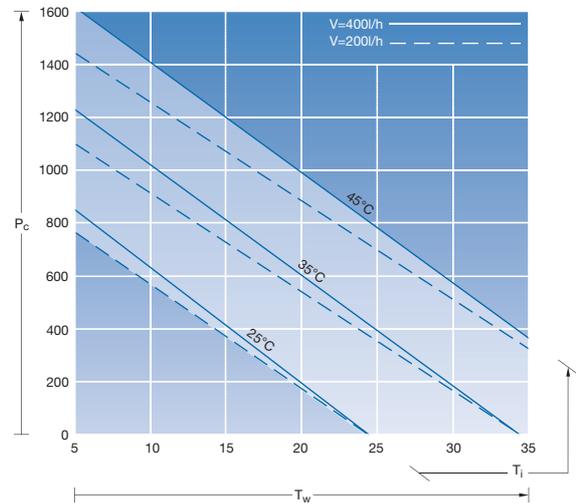
Componenti del circuito acqua: Acciaio inox (1.4571)

**50 Hz**  
SK 3364.504



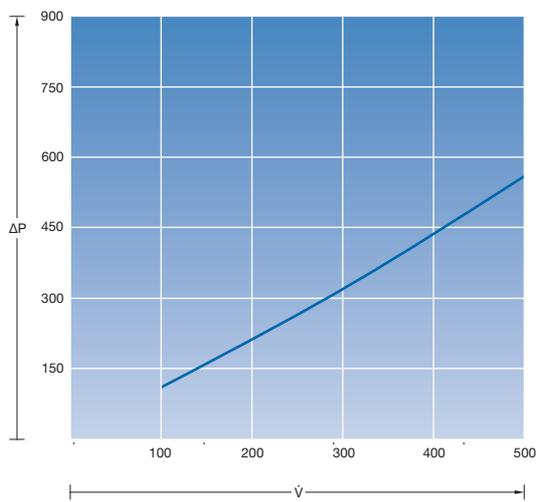
$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

**60 Hz**  
SK 3364.504



$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

**Caratteristica resistiva dell'acqua**  
SK 3364.504



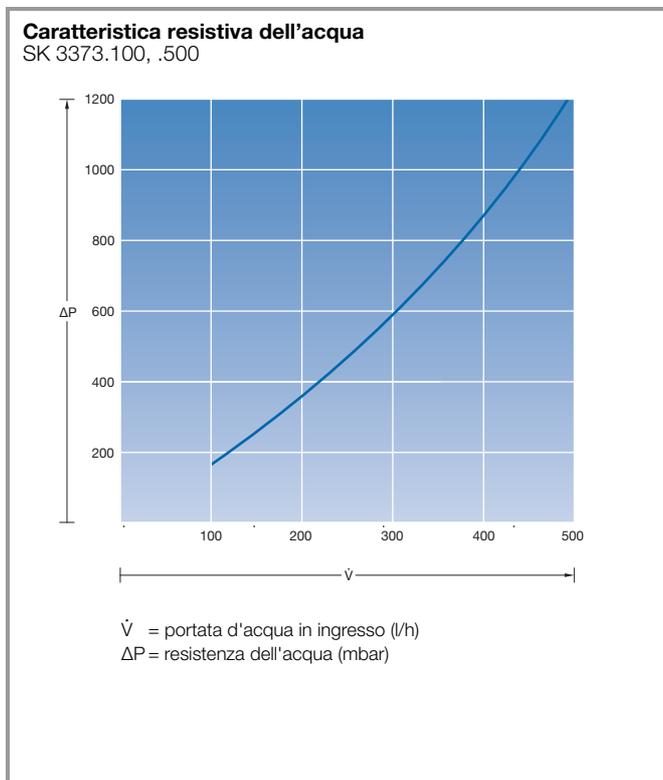
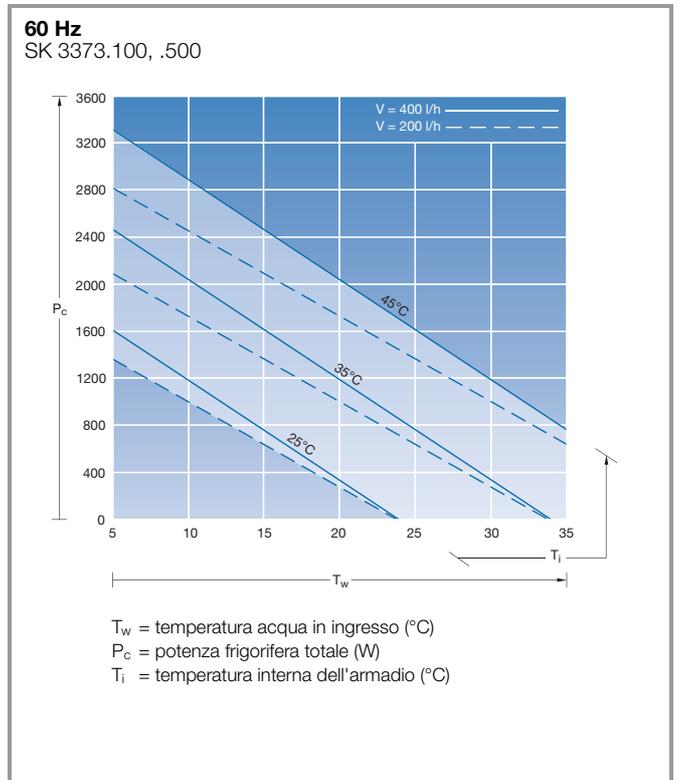
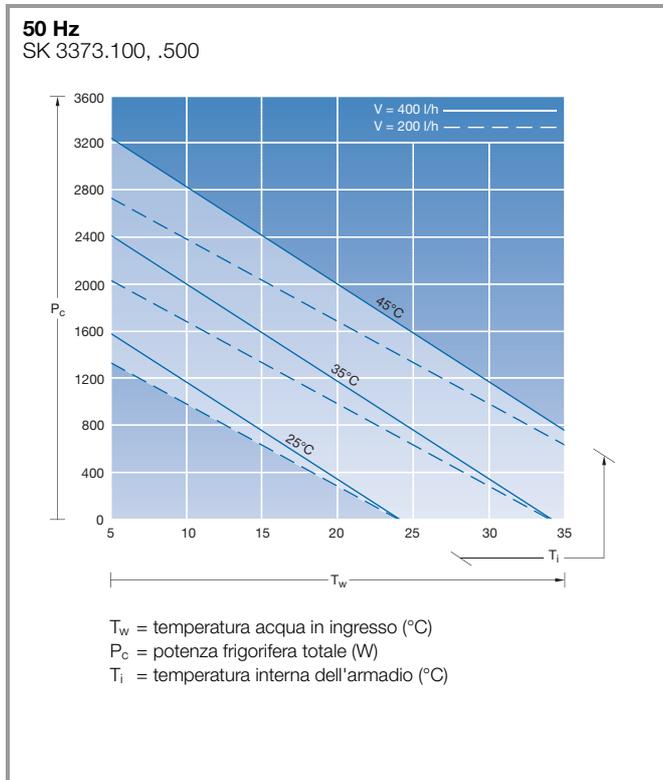
$\dot{V}$  = portata d'acqua in ingresso (l/h)  
 $\Delta P$  = resistenza dell'acqua (mbar)

# Raffreddamento a liquido

## Scambiatori di calore aria/acqua, montaggio a parete

Potenza frigorifera 2000 W

Componenti del circuito acqua: Rame/ottone (Cu/CuZn)



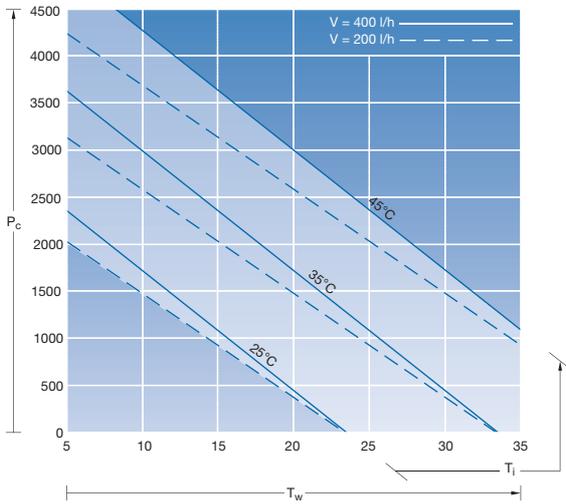
## Scambiatori di calore aria/acqua, montaggio a parete

Potenza frigorifera 3000 W

Componenti del circuito acqua: Rame/ottone (Cu/CuZn)

**50 Hz**

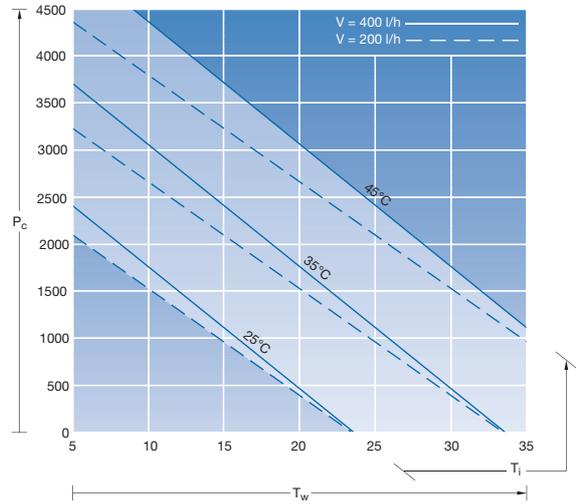
SK 3374.100, .500



$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

**60 Hz**

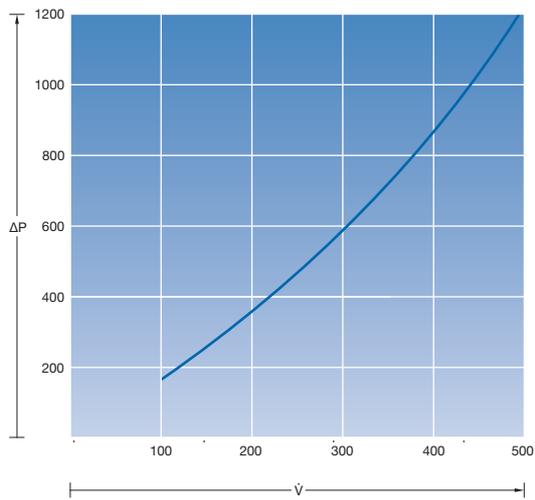
SK 3374.100, .500



$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

### Caratteristica resistiva dell'acqua

SK 3374.100, .500



$\dot{V}$  = portata d'acqua in ingresso (l/h)  
 $\Delta P$  = resistenza dell'acqua (mbar)

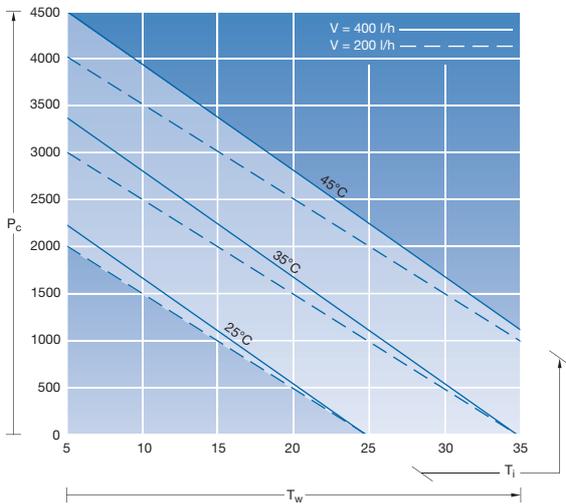
# Raffreddamento a liquido

## Scambiatori di calore aria/acqua, montaggio a parete

Potenza frigorifera 2500 W

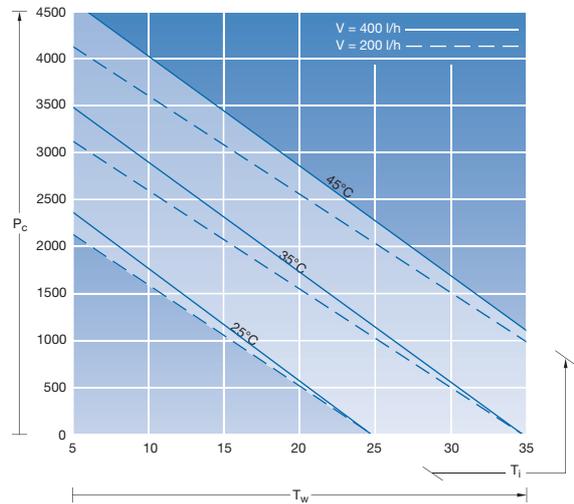
Componenti del circuito acqua: Acciaio inox (1.4571)

**50 Hz**  
SK 3374.504



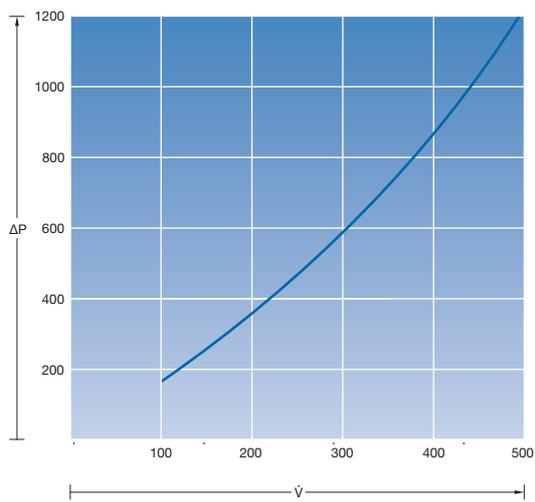
$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

**60 Hz**  
SK 3374.504



$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

**Caratteristica resistiva dell'acqua**  
SK 3374.504



$\dot{V}$  = portata d'acqua in ingresso (l/h)  
 $\Delta P$  = resistenza dell'acqua (mbar)

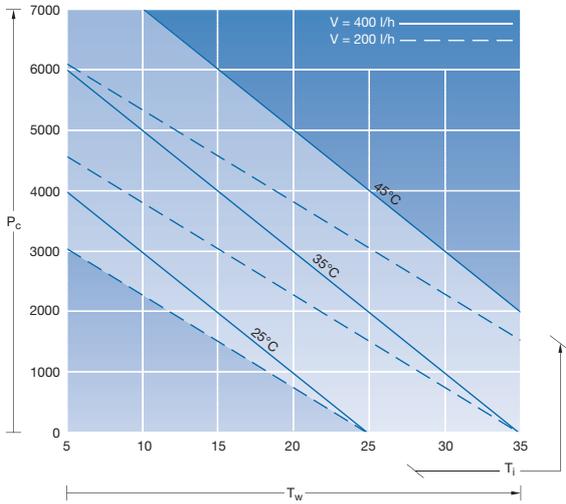
## Scambiatori di calore aria/acqua, montaggio a parete

Potenza frigorifera 5000 W

Componenti del circuito acqua: Rame/ottone (Cu/CuZn)

**50 Hz**

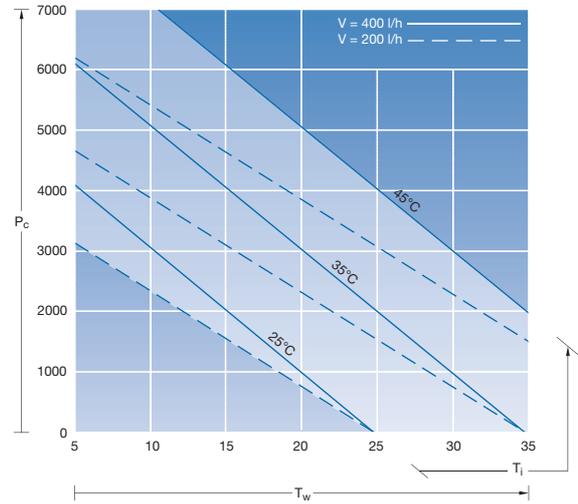
SK 3375.100, .500



$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

**60 Hz**

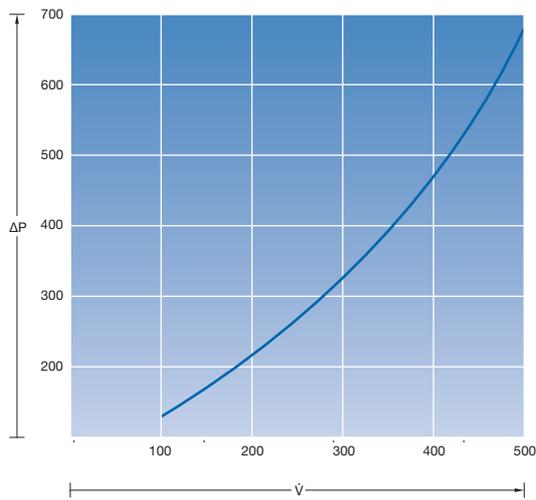
SK 3375.100, .500



$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

### Caratteristica resistiva dell'acqua

SK 3375.100, .500



$\dot{V}$  = portata d'acqua in ingresso (l/h)  
 $\Delta P$  = resistenza dell'acqua (mbar)

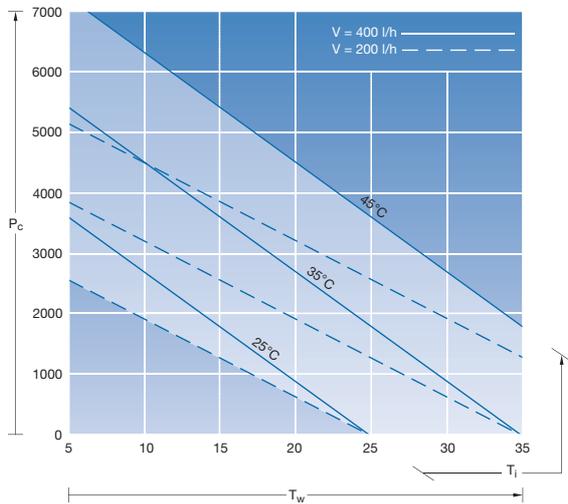
# Raffreddamento a liquido

## Scambiatori di calore aria/acqua, montaggio a parete

Potenza frigorifera 4000 W

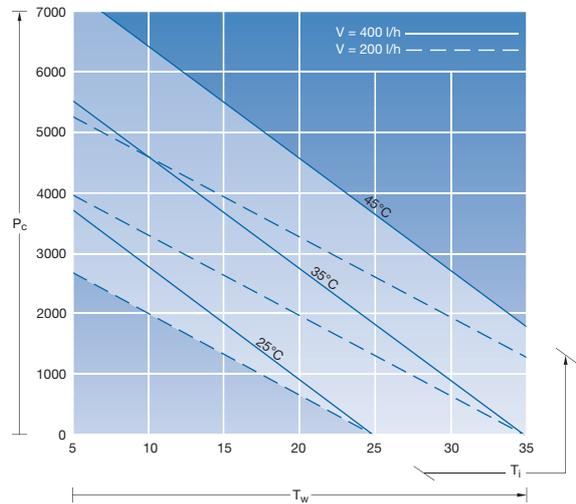
Componenti del circuito acqua: Acciaio inox (1.4571)

**50 Hz**  
SK 3375.504



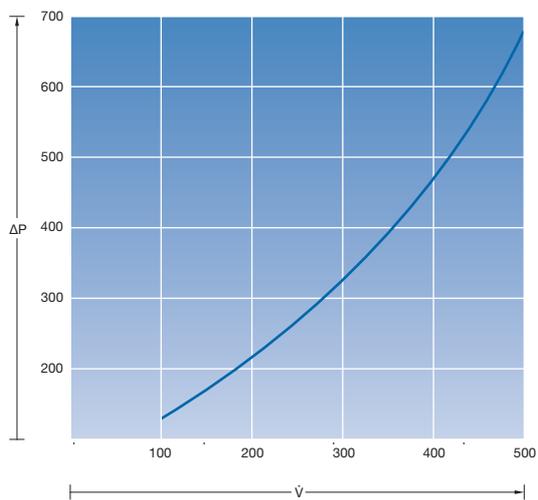
$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

**60 Hz**  
SK 3375.504



$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

**Caratteristica resistiva dell'acqua**  
SK 3375.504



$\dot{V}$  = portata d'acqua in ingresso (l/h)  
 $\Delta P$  = resistenza dell'acqua (mbar)

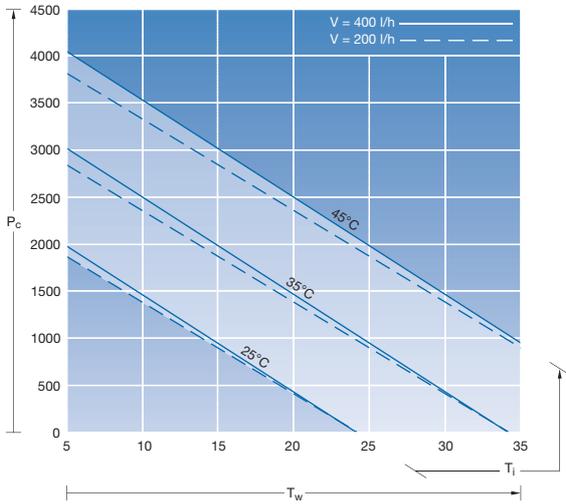
## Scambiatori di calore aria/acqua, montaggio sul tetto

Potenza frigorifera 2500 W

Componenti del circuito acqua: Rame/ottone (Cu/CuZn)

**50 Hz**

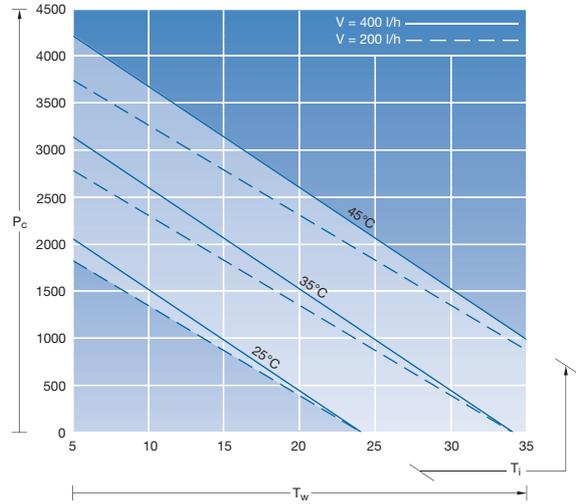
SK 3209.100, .500



$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

**60 Hz**

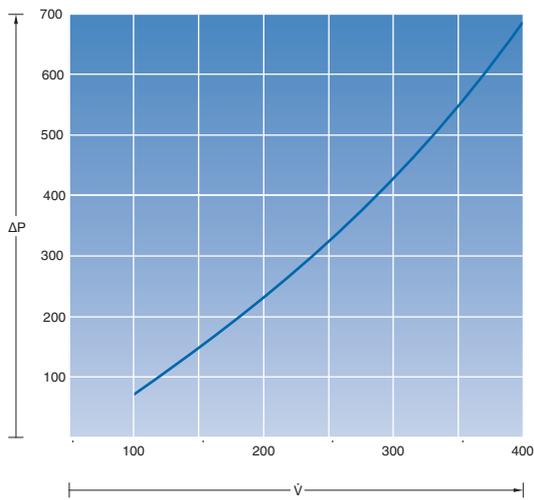
SK 3209.100, .500



$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

### Caratteristica resistiva dell'acqua

SK 3209.100, .500



$\dot{V}$  = portata d'acqua in ingresso (l/h)  
 $\Delta P$  = resistenza dell'acqua (mbar)

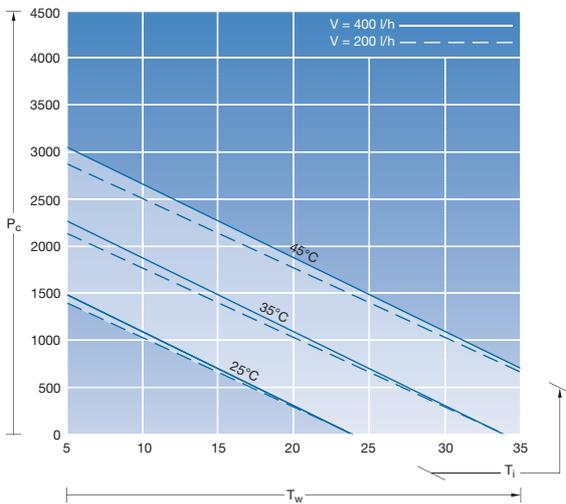
# Raffreddamento a liquido

## Scambiatori di calore aria/acqua, montaggio sul tetto

Potenza frigorifera 1875 W

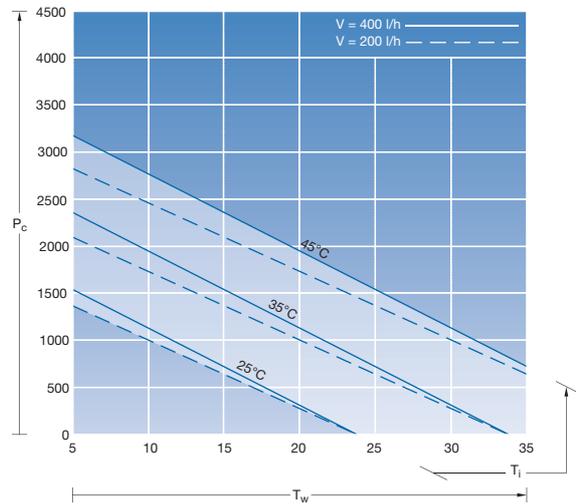
Componenti del circuito acqua: Acciaio inox (1.4571)

**50 Hz**  
SK 3209.504



$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

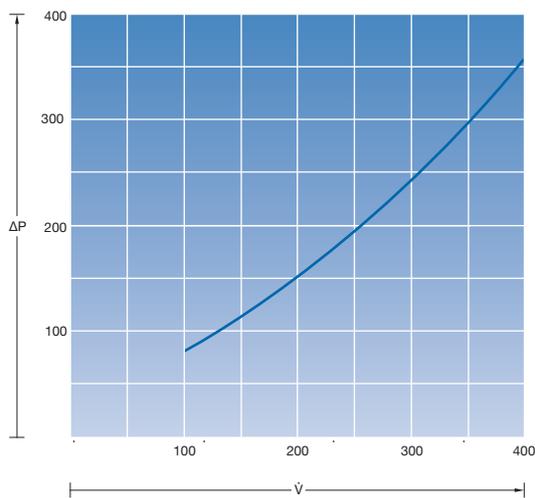
**60 Hz**  
SK 3209.504



$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

### Caratteristica resistiva dell'acqua

SK 3209.504



$\dot{V}$  = portata d'acqua in ingresso (l/h)  
 $\Delta P$  = resistenza dell'acqua (mbar)

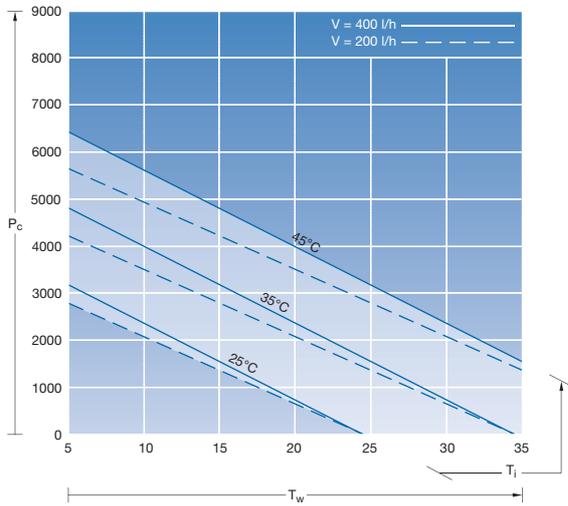
## Scambiatori di calore aria/acqua, montaggio sul tetto

Potenza frigorifera 4000 W

Componenti del circuito acqua: Rame/ottone (Cu/CuZn)

**50 Hz**

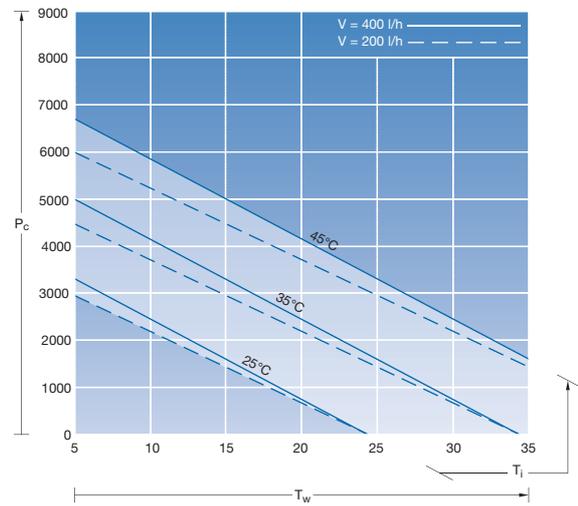
SK 3210.100, .500



$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

**60 Hz**

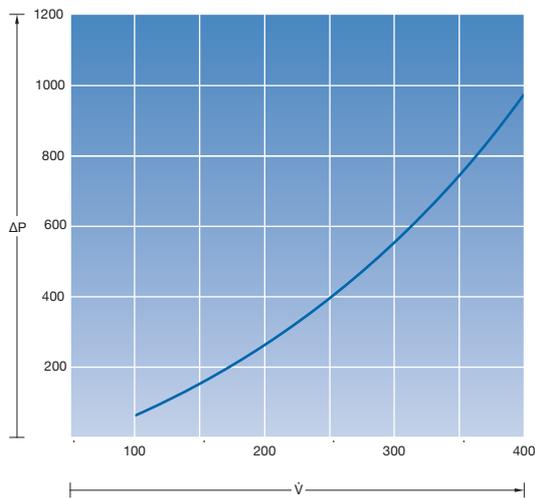
SK 3210.100, .500



$T_w$  = temperatura acqua in ingresso (°C)  
 $P_c$  = potenza frigorifera totale (W)  
 $T_i$  = temperatura interna dell'armadio (°C)

### Caratteristica resistiva dell'acqua

SK 3210.100, .500



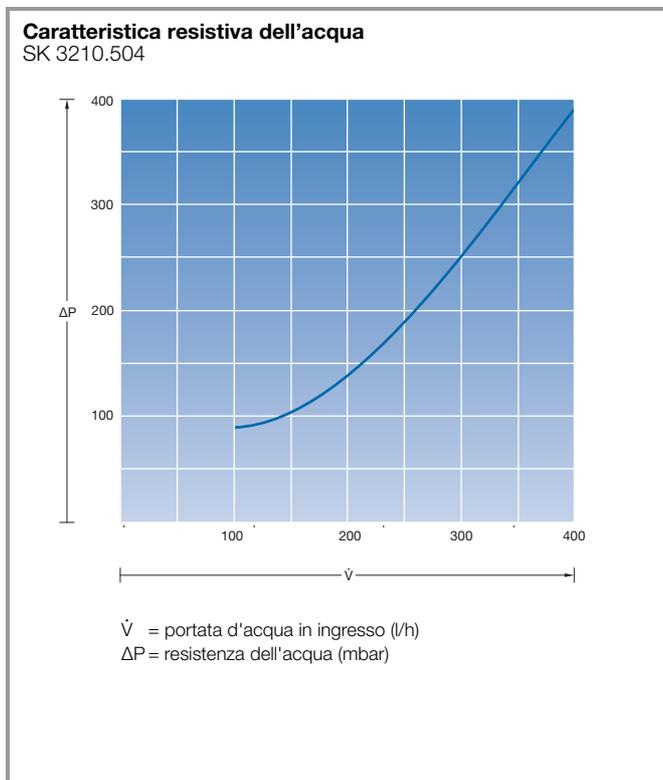
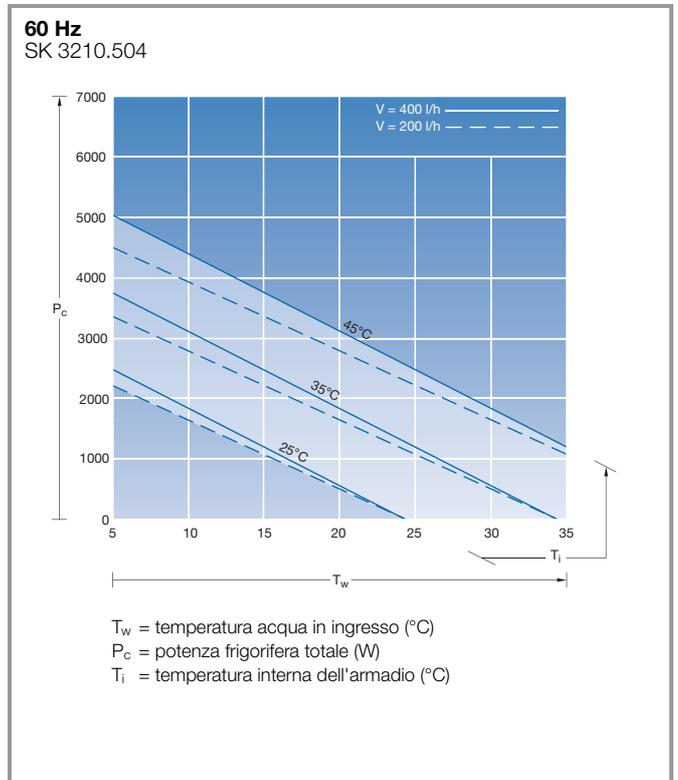
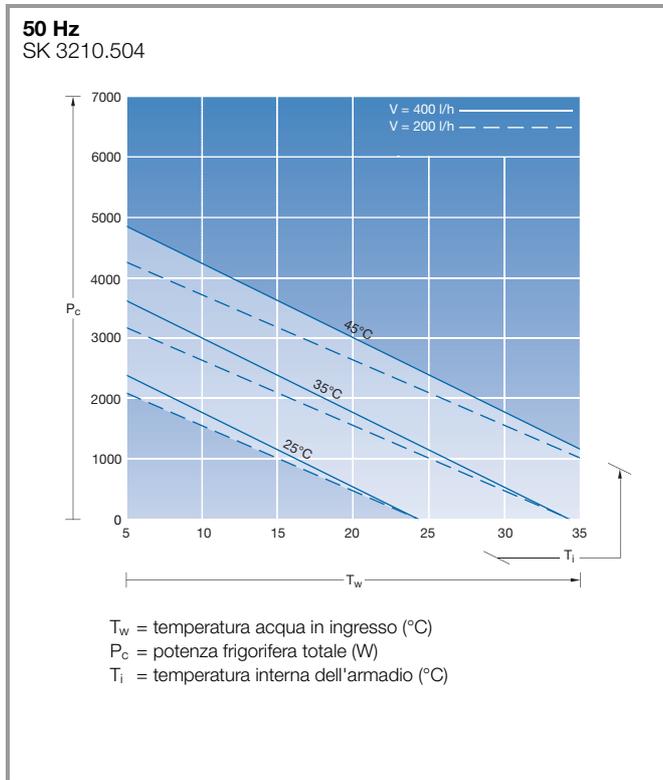
$\dot{V}$  = portata d'acqua in ingresso (l/h)  
 $\Delta P$  = resistenza dell'acqua (mbar)

# Raffreddamento a liquido

## Scambiatori di calore aria/acqua, montaggio sul tetto

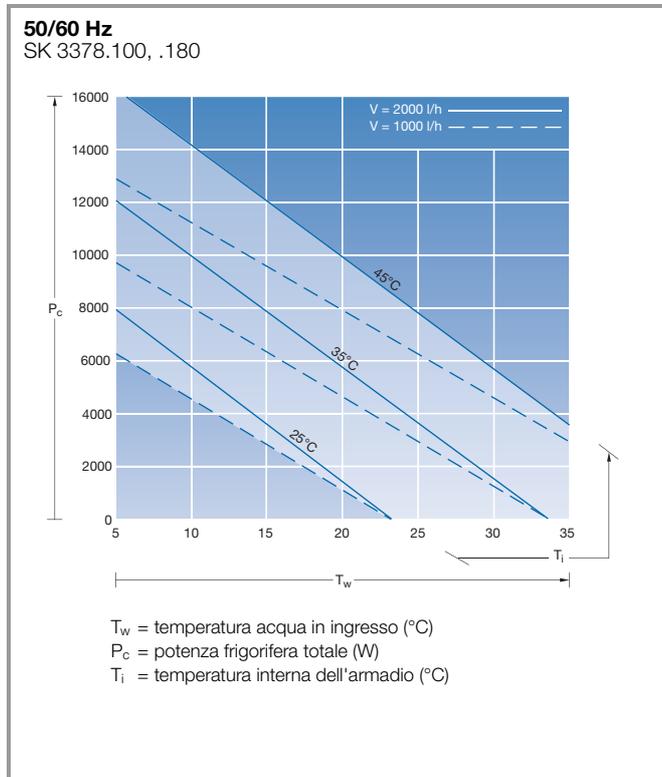
Potenza frigorifera 3000 W

Componenti del circuito acqua: Acciaio inox (1.4571)



## Liquid Cooling Package

Potenza frigorifera 10 kW, LCP Rack per l'industria  
Componenti del circuito acqua: Rame/ottone (Cu/CuZn)

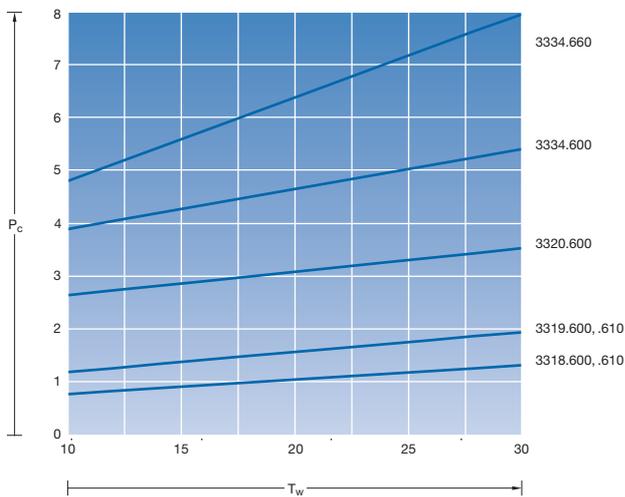


# Raffreddamento a liquido

## Chiller TopTherm

Potenza frigorifera 1 – 6 kW

50 Hz a  $T_u = 32^\circ\text{C}$  (temperatura ambiente)

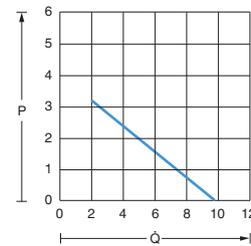


$T_w$  = temperatura acqua in ingresso ( $^\circ\text{C}$ )  
 $P_c$  = potenza frigorifera totale (kW)

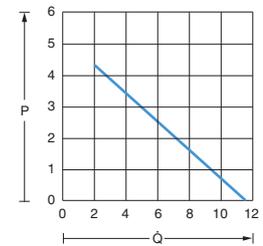
Curve caratteristiche pompe

SK 3318.600/SK 3318.610/SK 3319.600/SK 3319.610

50 Hz

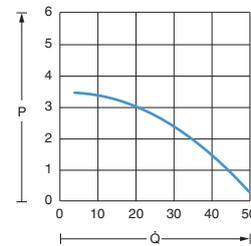


60 Hz

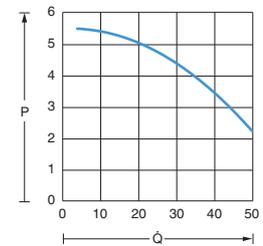


SK 3320.600/SK 3334.600/SK 3334.660

50 Hz



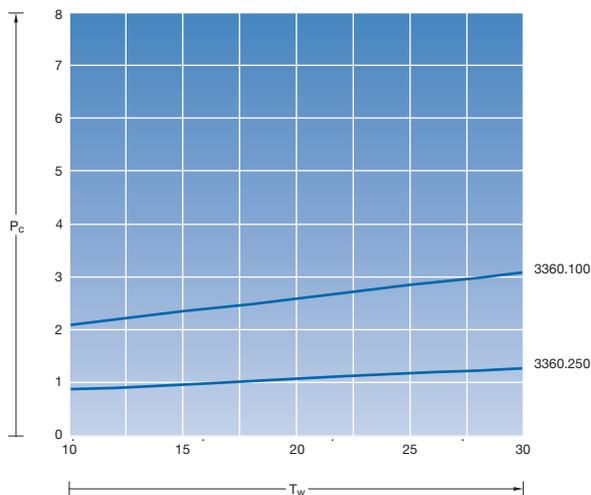
60 Hz



P = pressione di pompaggio [bar]  
 $\dot{Q}$  = portata Q [l/min]

Potenza frigorifera 1 – 2,5 kW, montaggio a parete

50 Hz a  $T_u = 32^\circ\text{C}$  (temperatura ambiente)

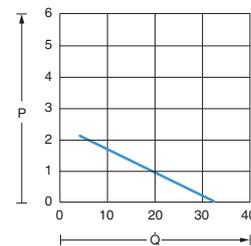


$T_w$  = temperatura acqua in ingresso ( $^\circ\text{C}$ )  
 $P_c$  = potenza frigorifera totale (kW)

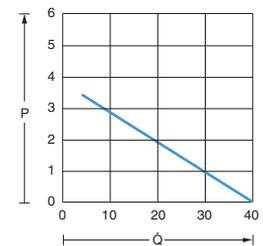
Curve caratteristiche pompe

SK 3360.100, .250

50 Hz



60 Hz

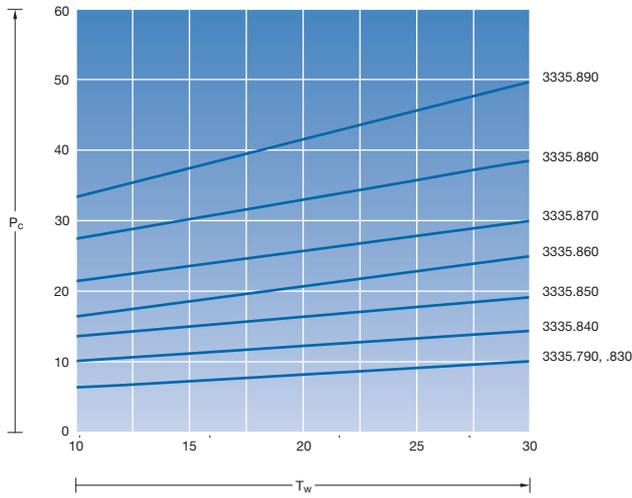


P = pressione di pompaggio [bar]  
 $\dot{Q}$  = portata Q [l/min]

## Chiller TopTherm

Potenza frigorifera 8 – 40 kW

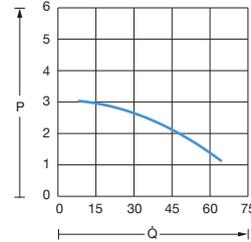
50 Hz a  $T_u = 32^\circ\text{C}$  (temperatura ambiente)



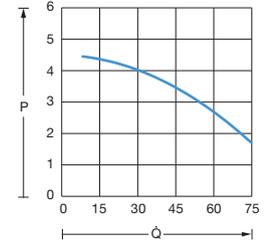
$T_w$  = temperatura acqua in ingresso ( $^\circ\text{C}$ )  
 $P_c$  = potenza frigorifera totale (kW)

Curve caratteristiche pompe  
 SK 3335.850

50 Hz

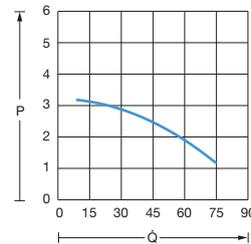


60 Hz

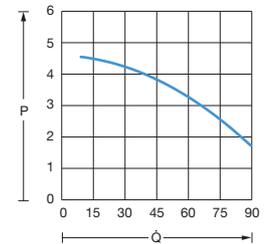


SK 3335.860

50 Hz

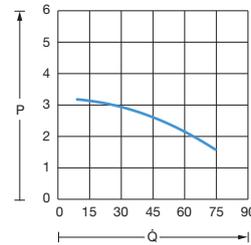


60 Hz

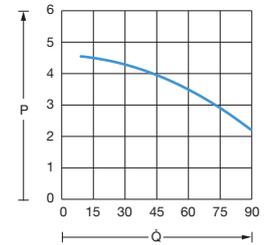


SK 3335.870

50 Hz

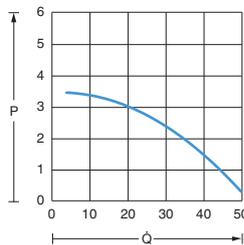


60 Hz

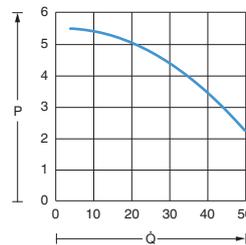


Curve caratteristiche pompe  
 SK 3335.790, .830

50 Hz

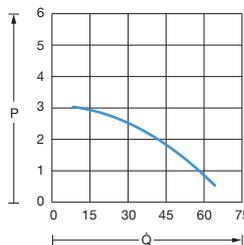


60 Hz

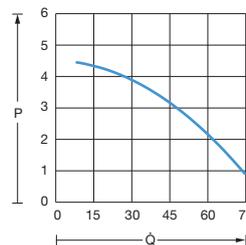


SK 3335.840

50 Hz

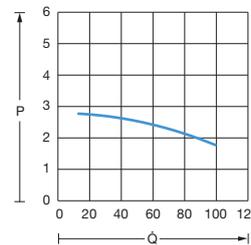


60 Hz

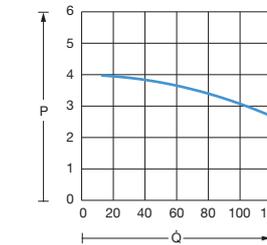


SK 3335.880

50 Hz

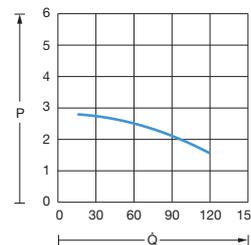


60 Hz

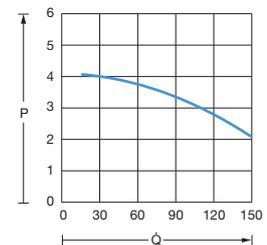


SK 3335.890

50 Hz



60 Hz



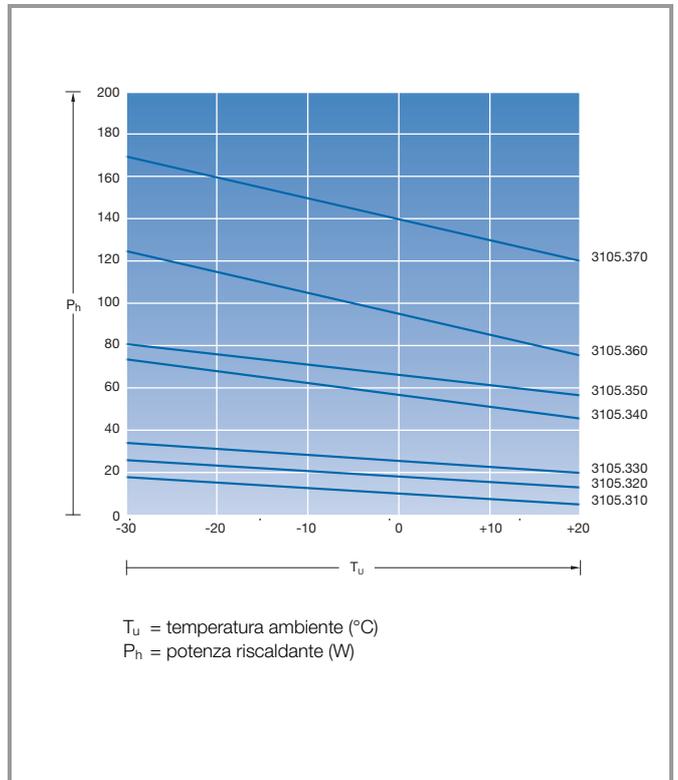
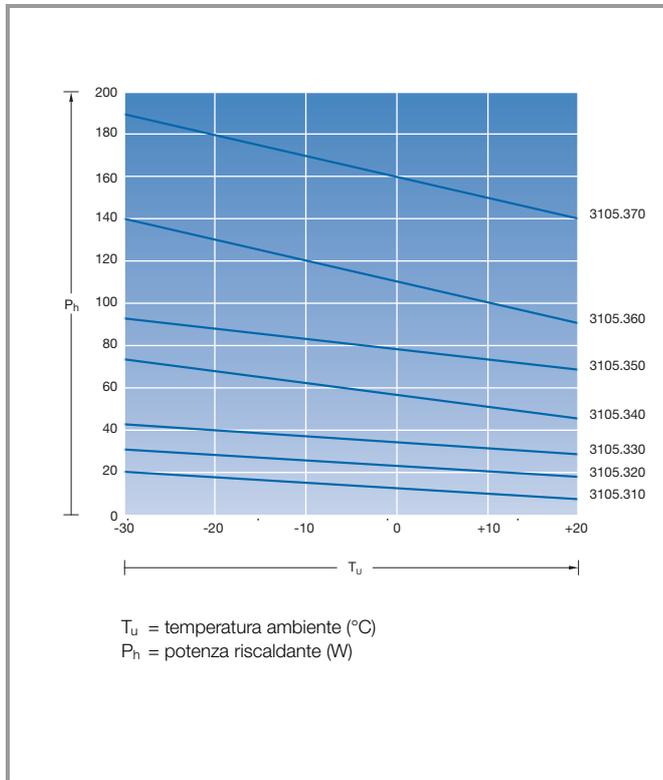
$P$  = pressione di pompaggio [bar]  
 $\dot{Q}$  = portata Q [l/min]

# Riscaldatori anticondensa

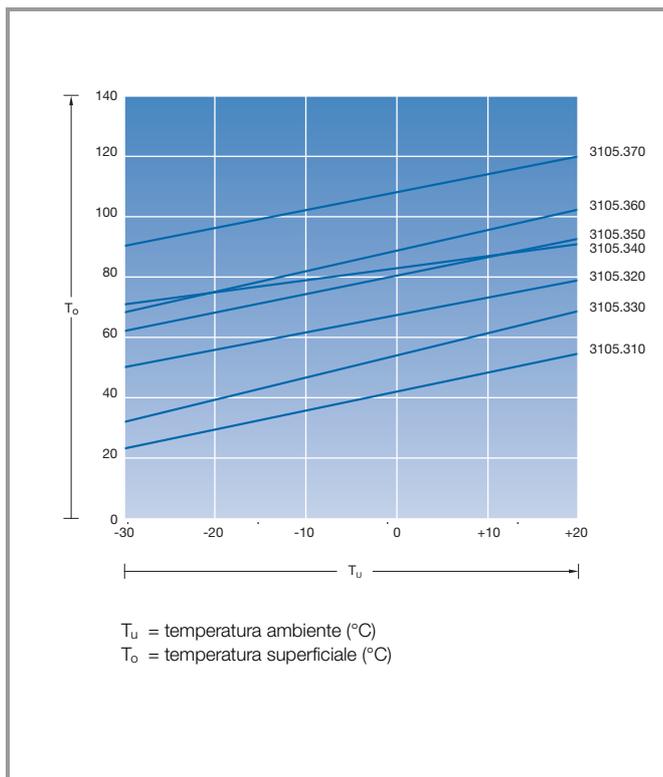
## Riscaldatori anticondensa senza ventilatore

230 V

110 V



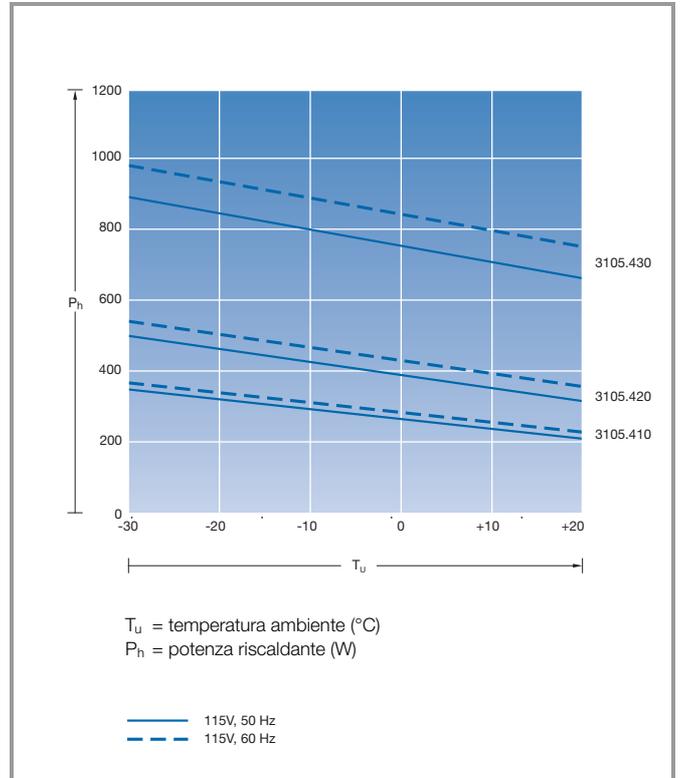
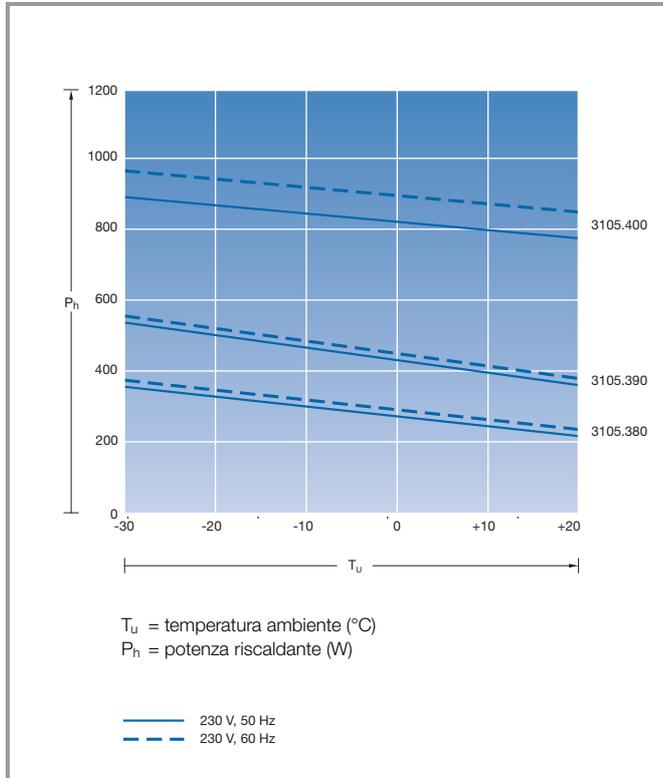
## Temperatura superficiale massima



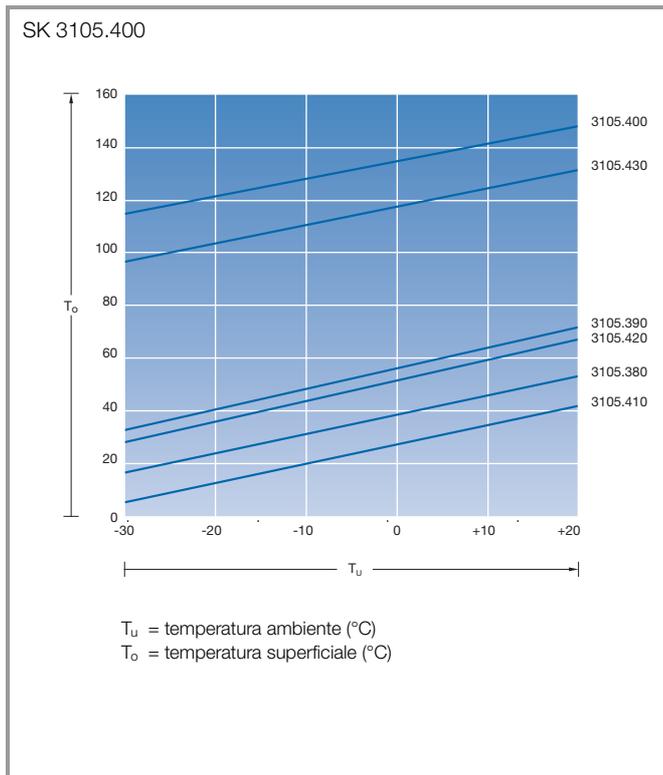
## Riscaldatori anticondensa con ventilatore

230 V, 50/60 Hz

115 V, 50/60 Hz



## Temperatura superficiale massima







# Rittal – The System.

Faster – better – everywhere.

- Armadi di comando
- Distribuzione di corrente
- Sistemi di climatizzazione
- Infrastrutture IT
- Software & Service

Qui trovi i contatti  
di Rittal nel mondo.



[www.rittal.com/contact](http://www.rittal.com/contact)

ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES



FRIEDHELM LOH GROUP