

# Rittal – The System.

Faster – better – everywhere.

## ► Curvas características – Climatização



ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES

FRIEDHELM LOH GROUP



# Rittal – The System.

Faster – better – everywhere.



ENCLOSURE

POWER DISTRIBUTION

CLIMATE CONTROL

# Curvas características

## Refrigeração do ar

<b>Ventiladores com filtro TopTherm e ventiladores com filtro TopTherm EMC</b>	
Vazão de ar entre 20/25 e 900 m <sup>3</sup> /h.....	4 – 7
<b>Ventiladores com filtro TopTherm com tecnologia EC</b>	
Vazão de ar entre 55 e 900 m <sup>3</sup> /h.....	8 – 9
<b>Ventiladores de teto TopTherm</b>	
Vazão de ar entre 400 e 800 m <sup>3</sup> /h.....	10
<b>Ventiladores de teto, ventilação pelo teto</b>	
Vazão de ar de 360 m <sup>3</sup> /h.....	10
<b>Ventiladores modulares para 482,6 mm (19")</b>	
Vazão de ar de 320/480 m <sup>3</sup> /h.....	11
<b>Ventiladores centrífugos</b>	
Vazão de ar de 320 m <sup>3</sup> /h.....	11
<b>Trocadores de calor ar/ar TopTherm</b>	
Potência específica de aquecimento entre 17,5 e 90 W/K.....	12

## Condicionadores de ar

<b>Condicionadores de ar termelétricos</b>	
Potência de refrigeração total de 100 W.....	13
<b>Condicionadores de ar TopTherm Blue e para montagem lateral</b>	
Potência de 300 a 2500 W (115/230 V, 1~, 400 V, 2~).....	13 – 16
<b>Condicionadores de ar TopTherm Blue e modelo plano</b>	
Potência de 1500 W (230 V, 1~, 400/460 V, 3~).....	17
<b>Condicionadores de ar TopTherm Blue e para montagem lateral</b>	
Potência de 1000 a 4000 W (400/460 V, 3~).....	18 – 20
<b>Condicionadores de ar TopTherm Blue e para montagem no teto</b>	
Potência de 500 a 2000 W (115/230 V, 1~, 400 V, 2~).....	21 – 23
<b>Condicionadores de ar TopTherm Blue e para montagem no teto</b>	
Potência de 3000 a 4000 W (400/460 V, 3~).....	24
<b>Sistema modular de climatização Blue e</b>	
Potência de 1500 a 2500 W (230 V, 1~, 400/460 V, 3~).....	25 – 26

## Sistemas de refrigeração a líquido

<b>Trocadores de calor ar/água para montagem lateral</b>	
Potência entre 300 e 7000 W.....	27 – 36
<b>Trocadores de calor ar/água para montagem no teto</b>	
Potência entre 1875 e 4000 W.....	37 – 40
<b>Liquid Cooling Package</b>	
Potência de 10 kW.....	41
<b>Chiller TopTherm</b>	
Potência entre 8 e 40 kW.....	42 – 43

## Aquecedores para armários

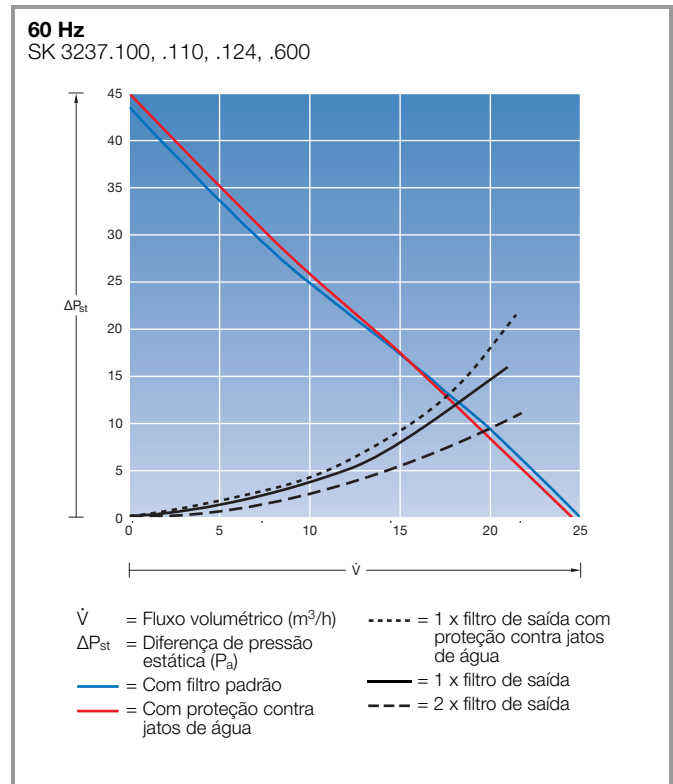
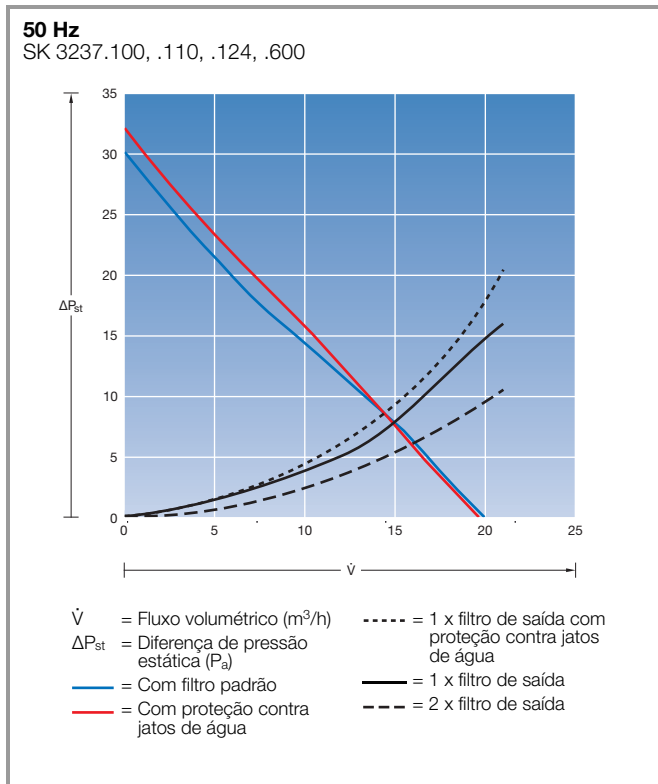
<b>Aquecedores para armários sem ventilador</b>	
Potência térmica entre 8 e 150 W.....	44
<b>Aquecedores para armários com ventilador</b>	
Potência térmica entre 250 e 800 W.....	45



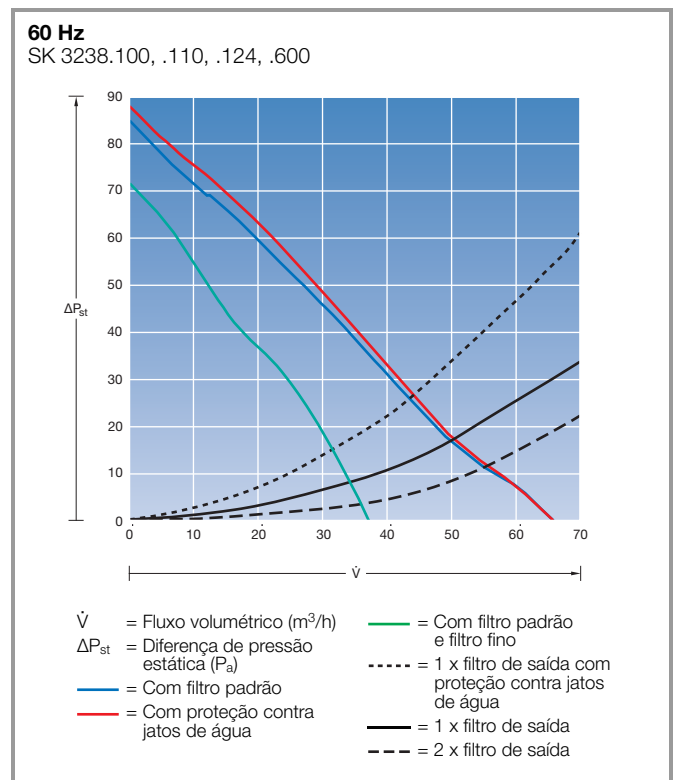
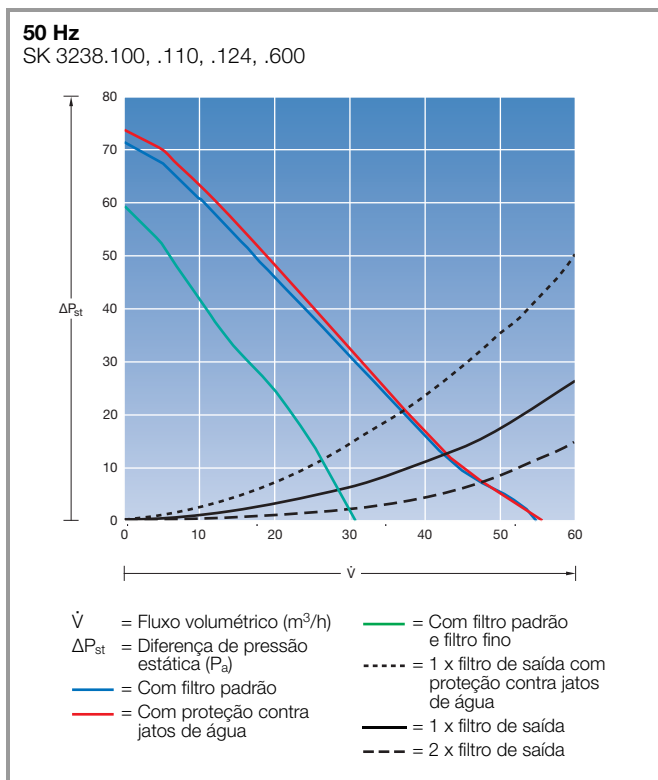
# Refrigeração de ar

## Ventiladores com filtro TopTherm e ventiladores com filtro TopTherm EMC

Vazão de ar de 20/25 m<sup>3</sup>/h

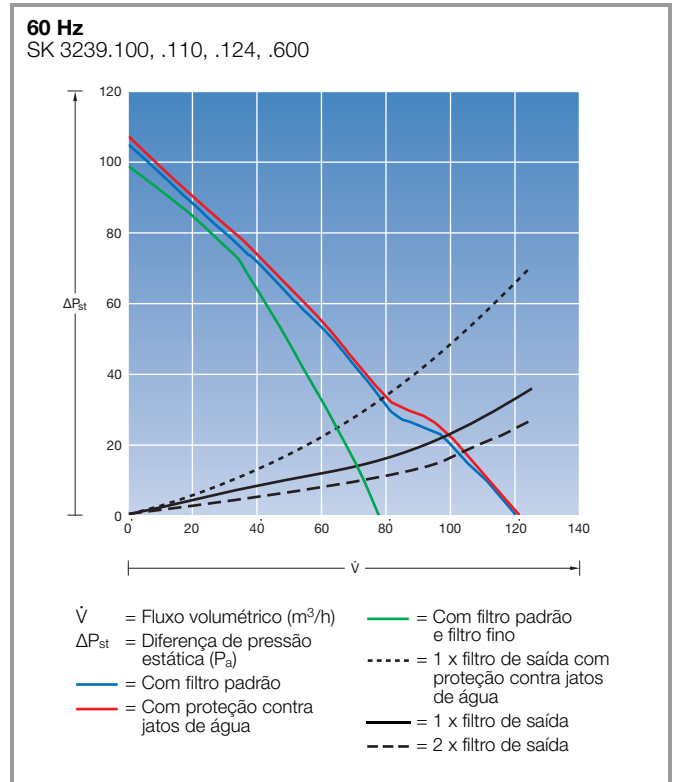
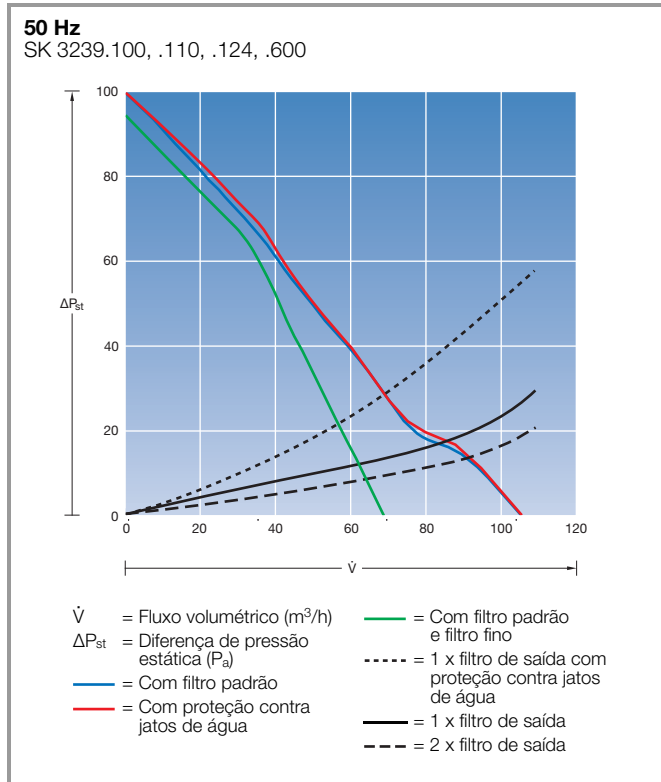


Vazão de ar de 55/66 m<sup>3</sup>/h

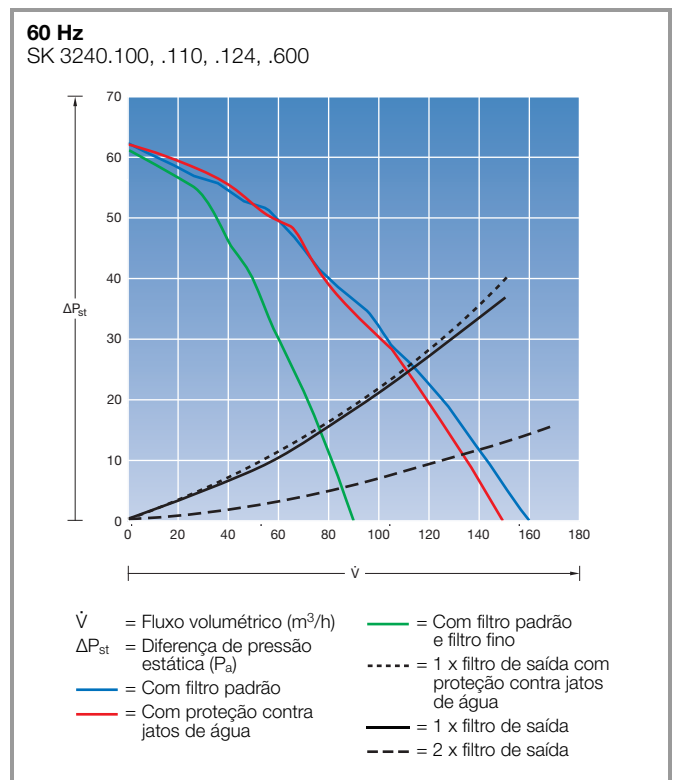
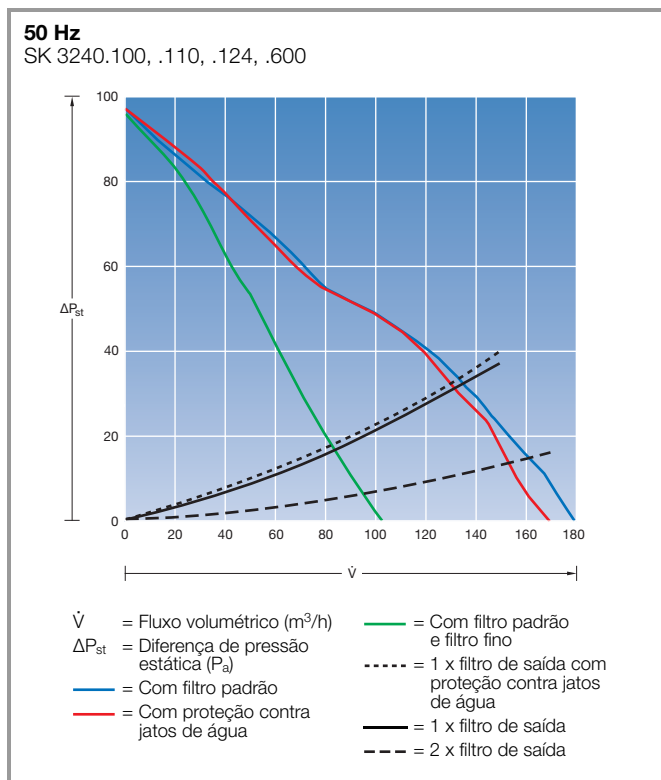


## Ventiladores com filtro TopTherm e ventiladores com filtro TopTherm EMC

Vazão de ar de 105/120 m<sup>3</sup>/h



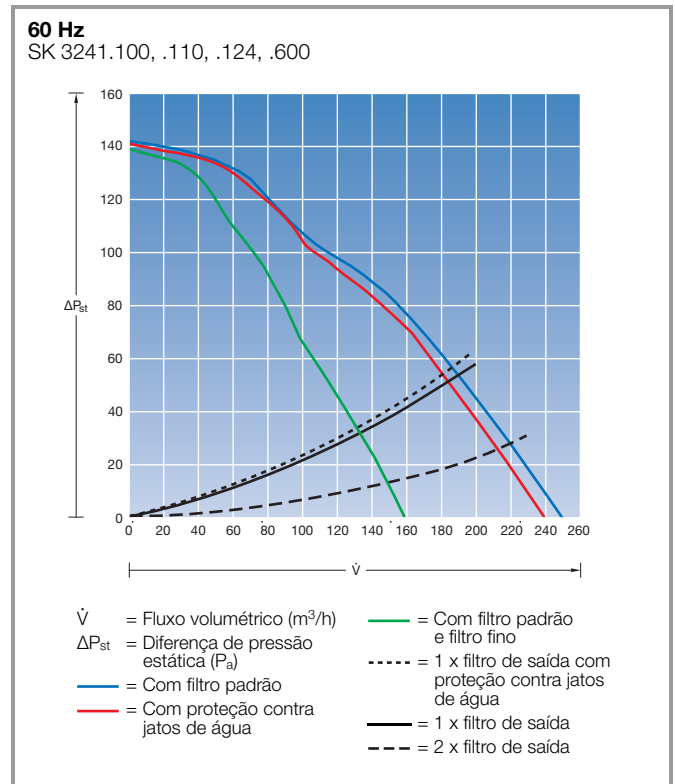
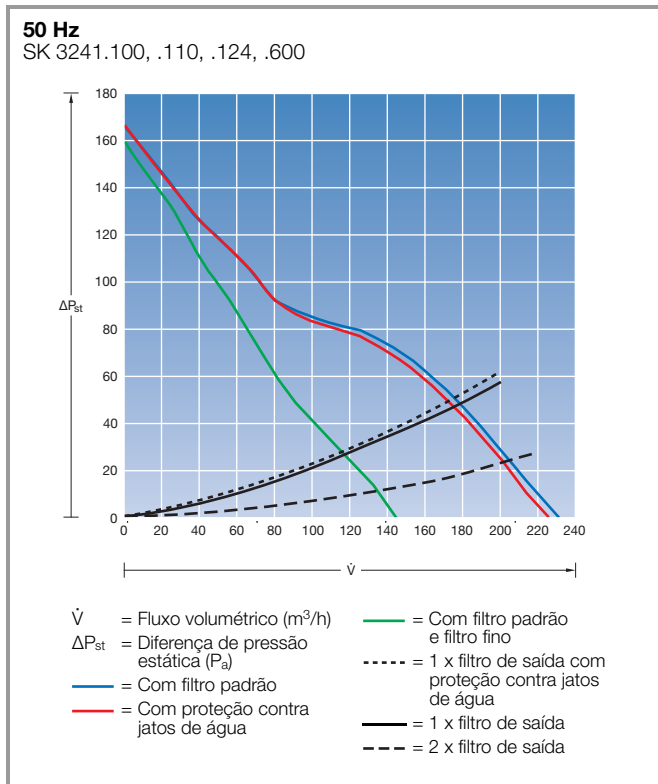
Vazão de ar de 180/160 m<sup>3</sup>/h



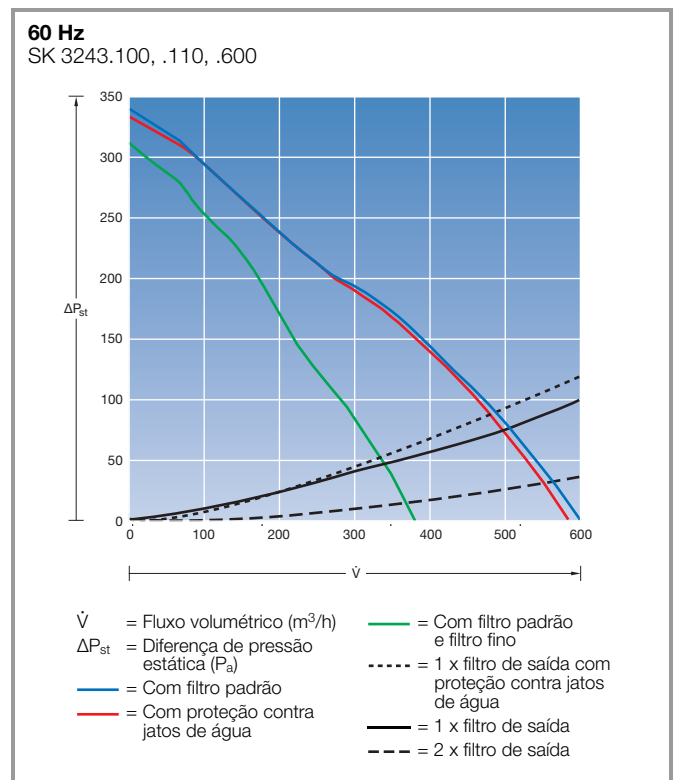
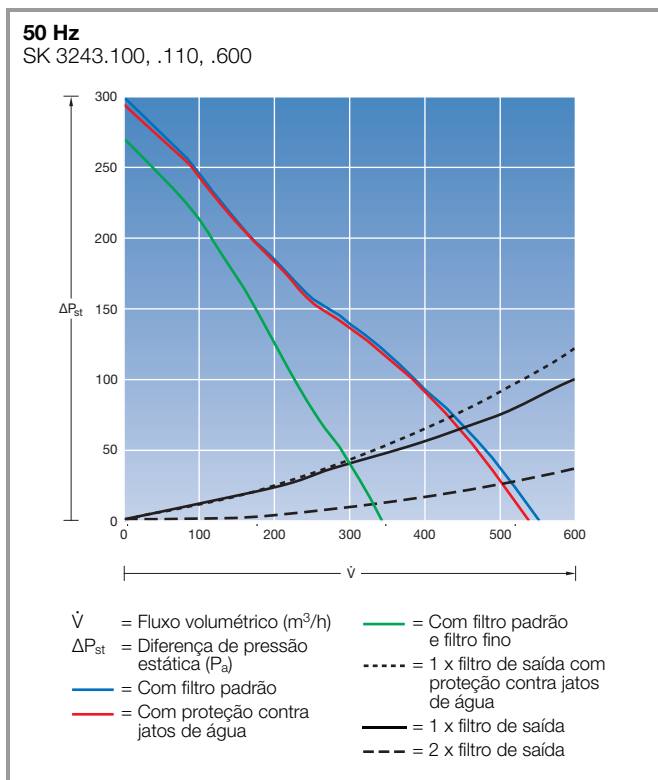
# Refrigeração de ar

## Ventiladores com filtro TopTherm e ventiladores com filtro TopTherm EMC

Vazão de ar de 230/250 m<sup>3</sup>/h

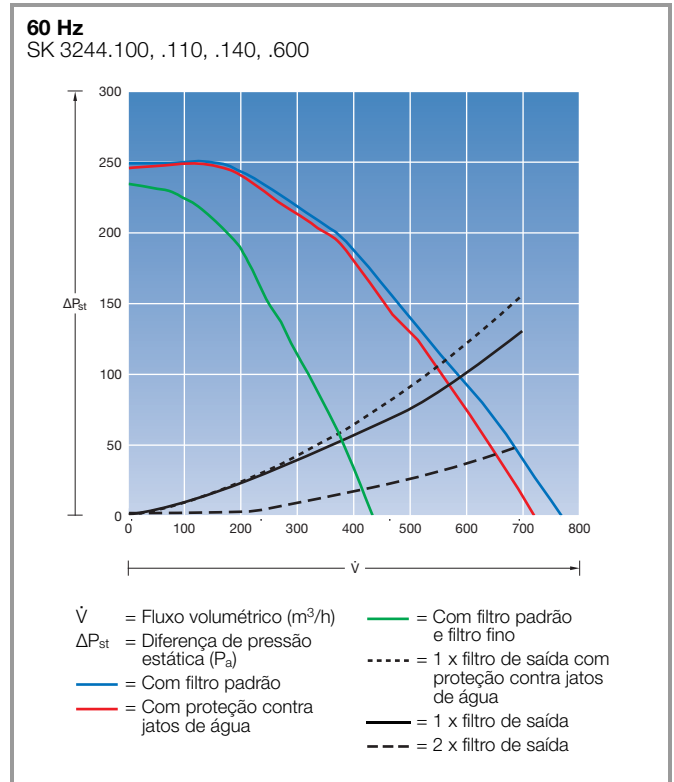
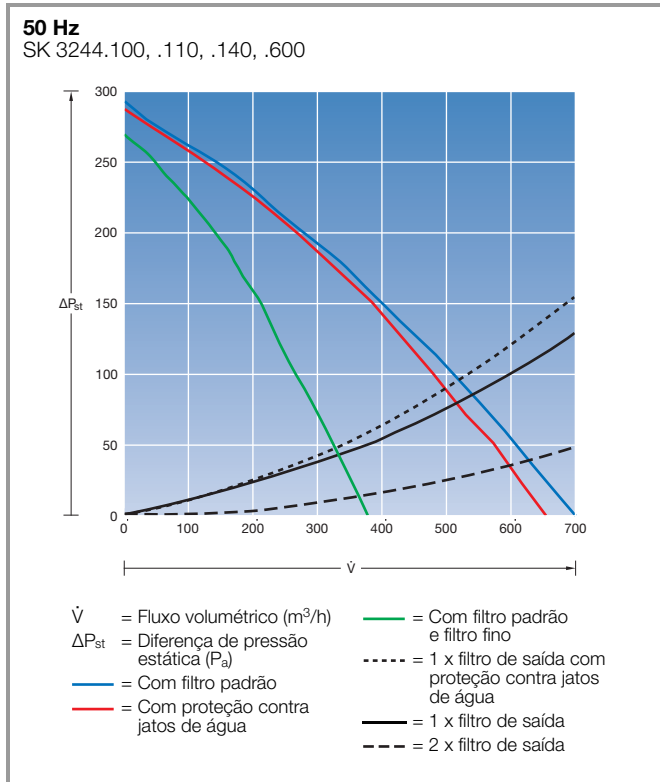


Vazão de ar de 550/600 m<sup>3</sup>/h

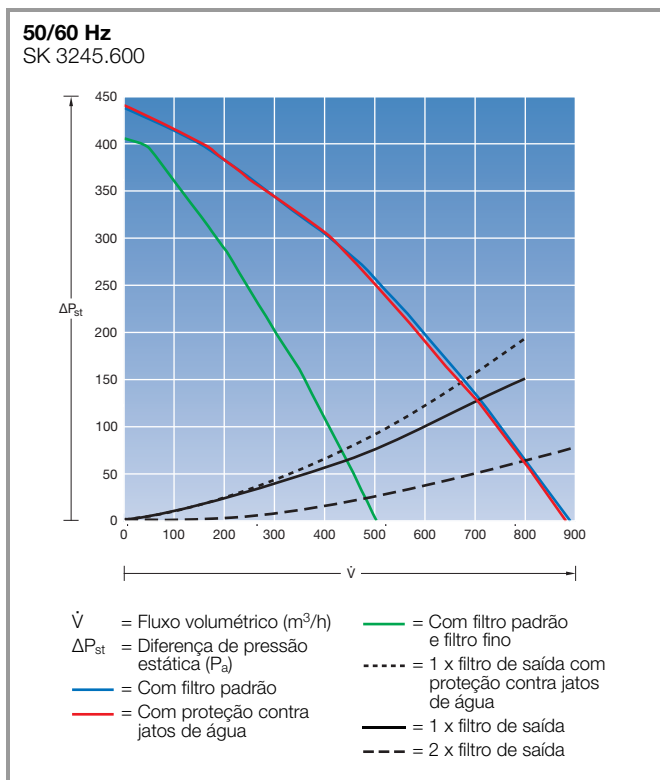


## Ventiladores com filtro TopTherm e ventiladores com filtro TopTherm EMC

Vazão de ar de 700/770 m<sup>3</sup>/h



Vazão de ar de 900 m<sup>3</sup>/h

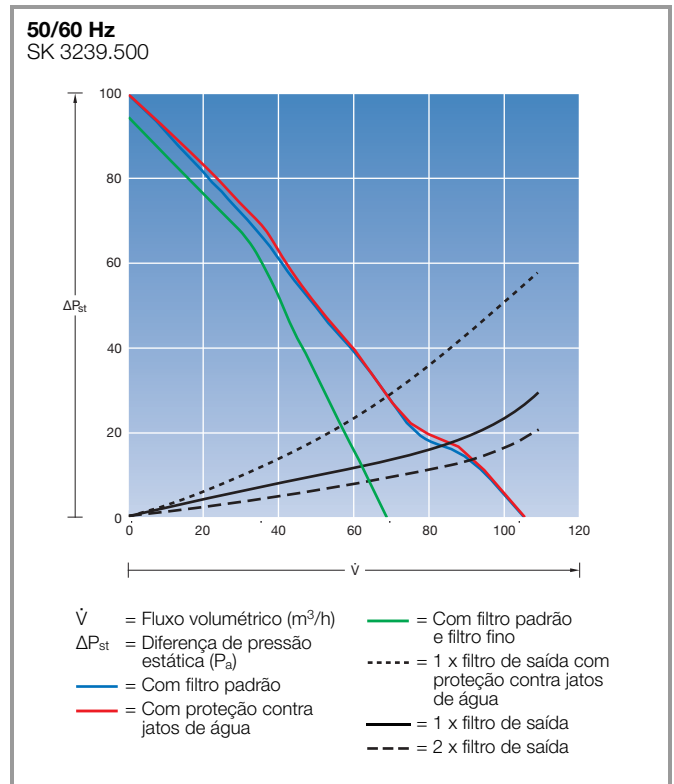
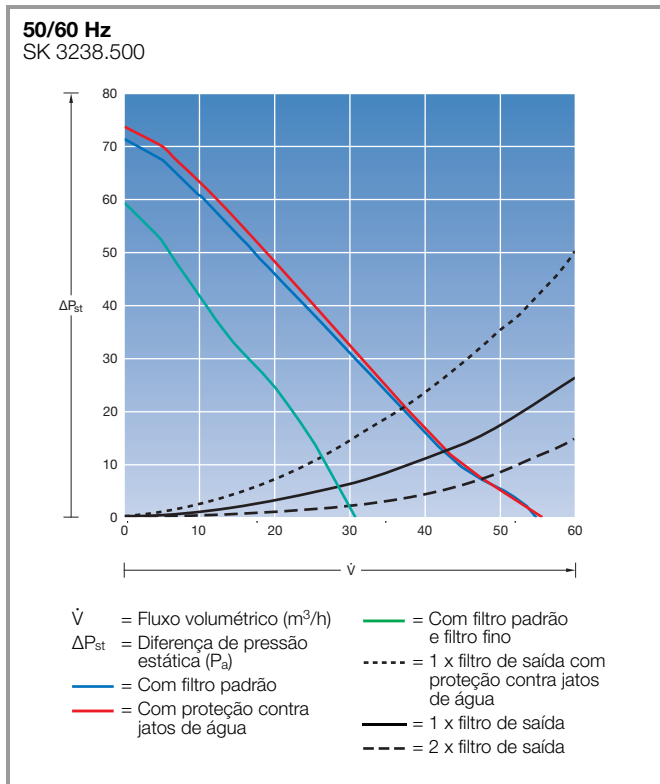


# Refrigeração de ar

## Ventiladores com filtro TopTherm com tecnologia EC

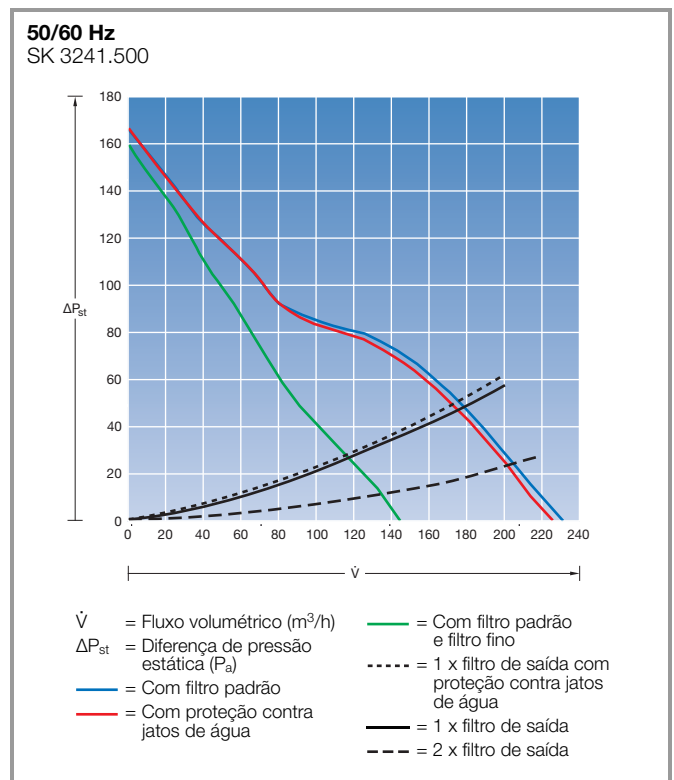
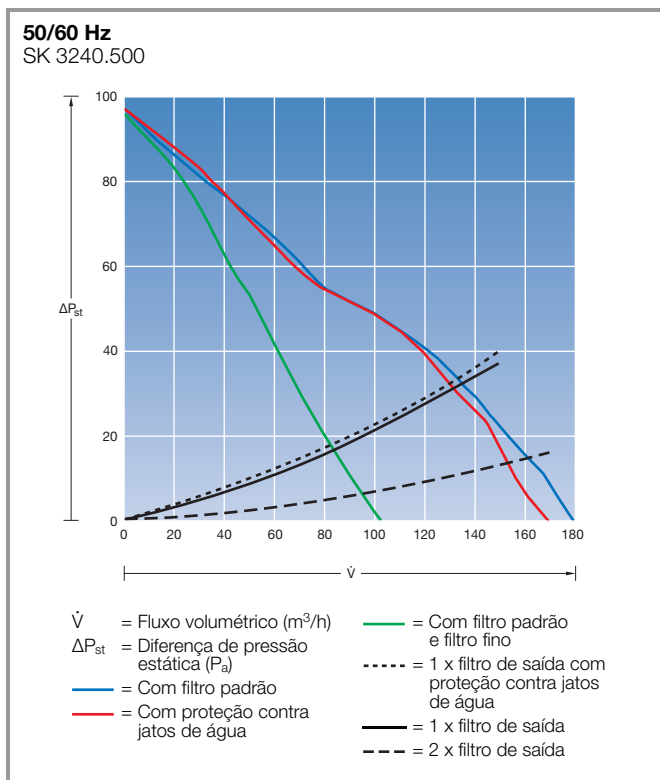
Vazão de ar de 55 m<sup>3</sup>/h

Vazão de ar de 105 m<sup>3</sup>/h



Vazão de ar de 180 m<sup>3</sup>/h

Vazão de ar de 230 m<sup>3</sup>/h

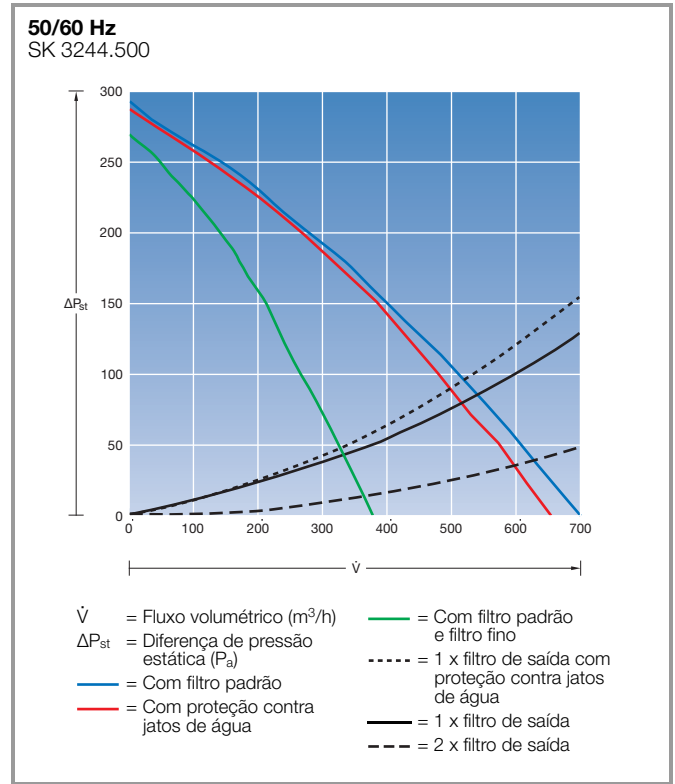
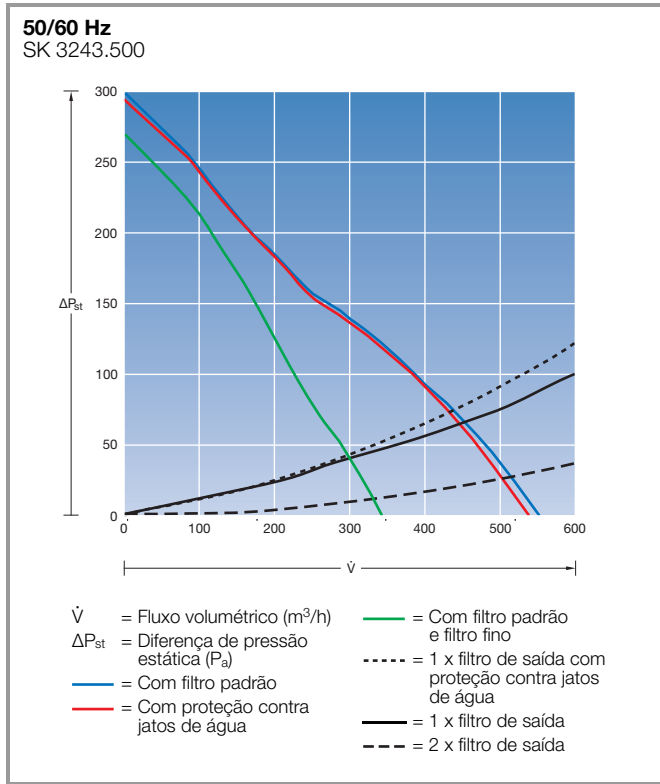




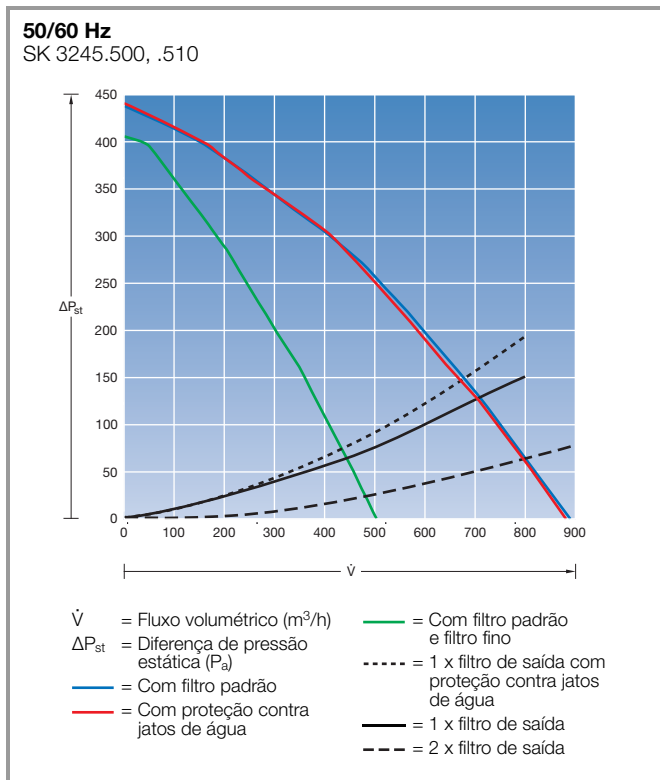
## Ventiladores com filtro TopTherm com tecnologia EC

Vazão de ar de 550 m<sup>3</sup>/h

Vazão de ar de 700 m<sup>3</sup>/h



Vazão de ar de 900 m<sup>3</sup>/h

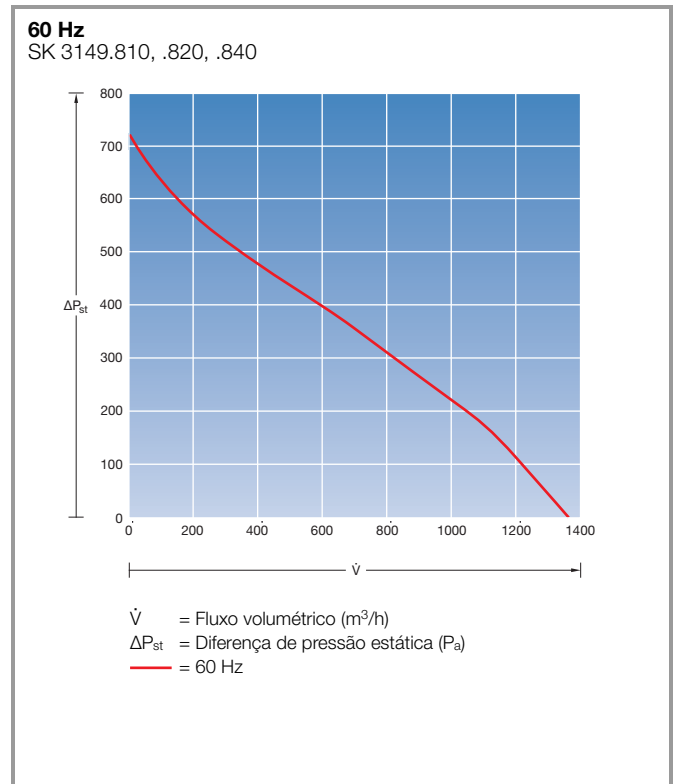
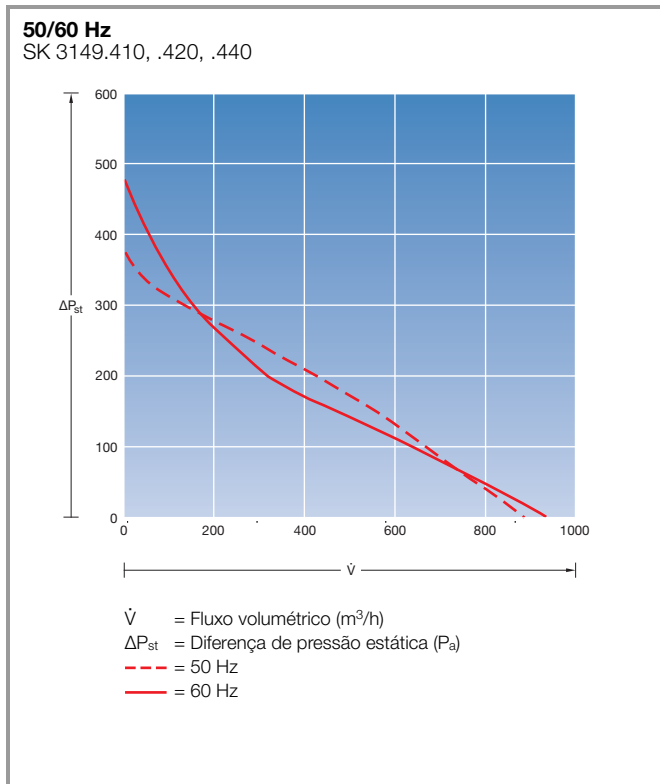


# Refrigeração de ar

## Ventiladores de teto TopTherm

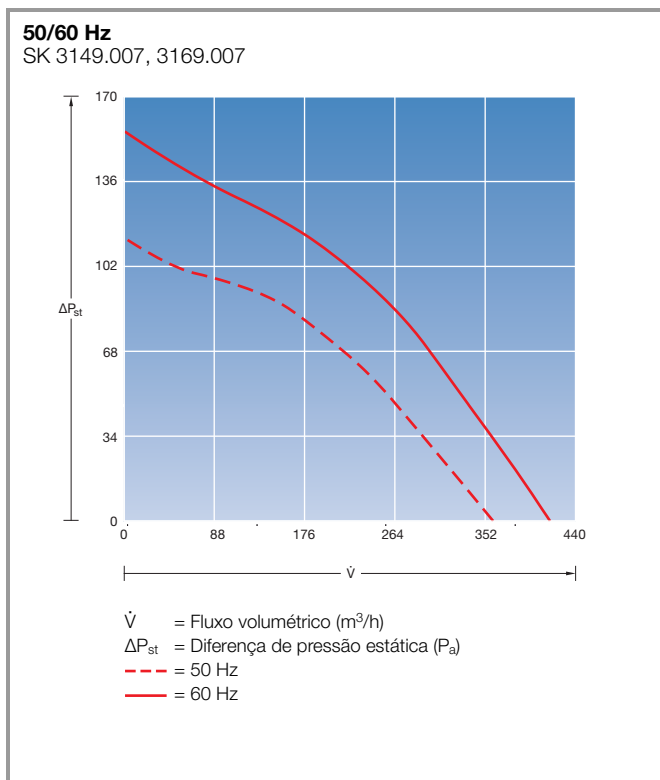
Vazão de ar de 400 m<sup>3</sup>/h

Vazão de ar de 800 m<sup>3</sup>/h



## Ventiladores de teto, ventilação pelo teto

Vazão de ar de 360 m<sup>3</sup>/h

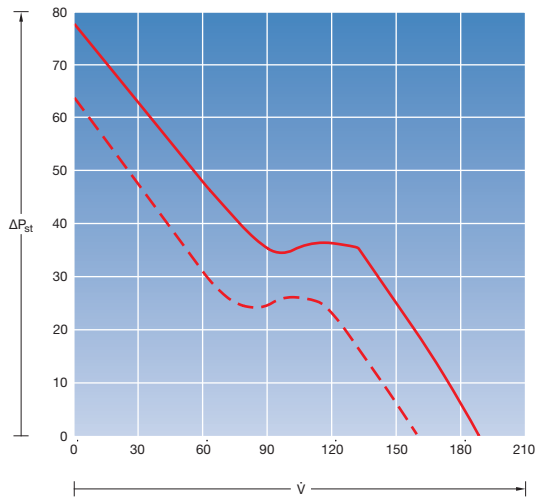


## Ventiladores modulares para 482,6 mm (19")

Vazão de ar de 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



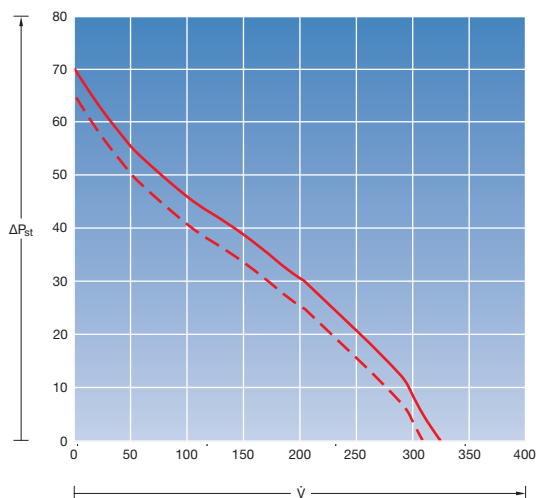
V̇ = Fluxo volumétrico (m<sup>3</sup>/h)  
 ΔP<sub>st</sub> = Diferença de pressão estática (Pa)  
 --- = 50 Hz  
 --- = 60 Hz

## Ventiladores centrífugos para 482,6 mm (19")

Vazão de ar de 320 m<sup>3</sup>/h

**50/60 Hz**

SK 3144.000, 3145.000

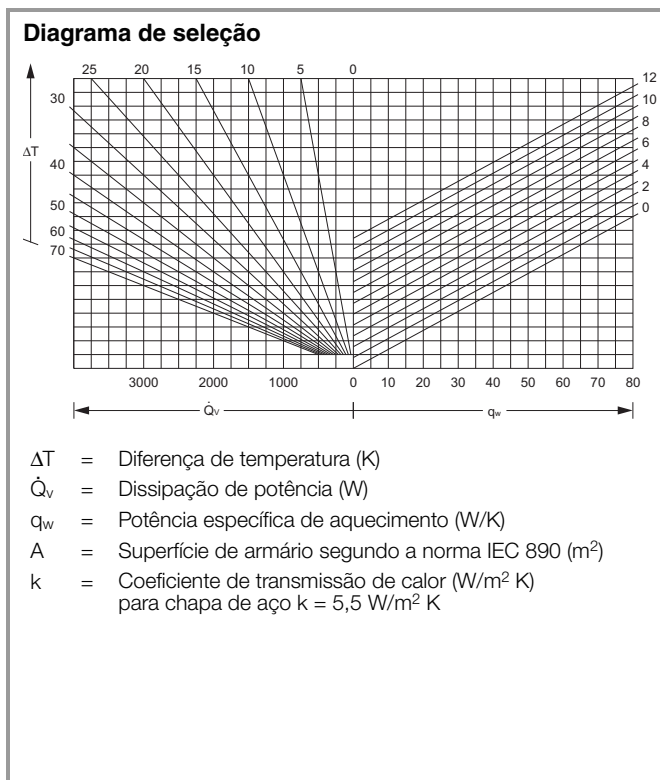
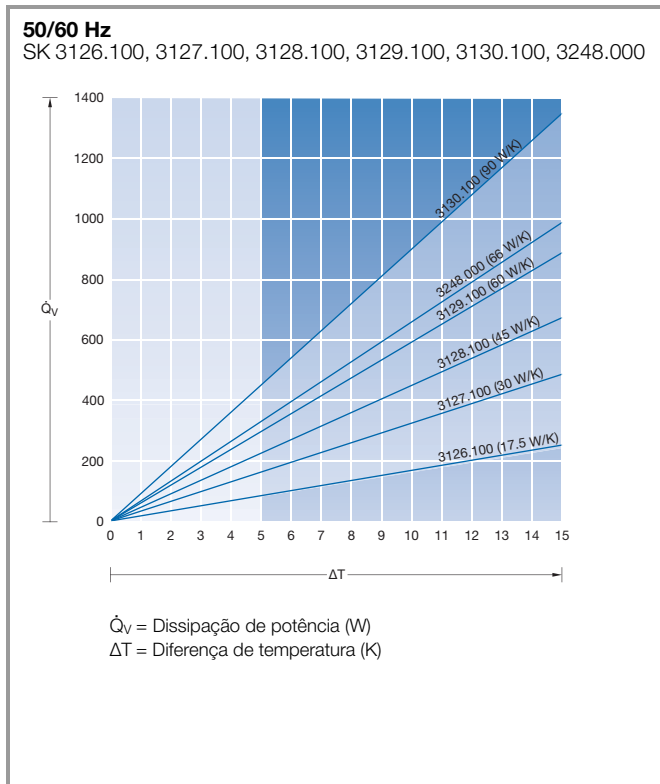


V̇ = Fluxo volumétrico (m<sup>3</sup>/h)  
 ΔP<sub>st</sub> = Diferença de pressão estática (Pa)  
 --- = 50 Hz  
 --- = 60 Hz

# Refrigeração de ar

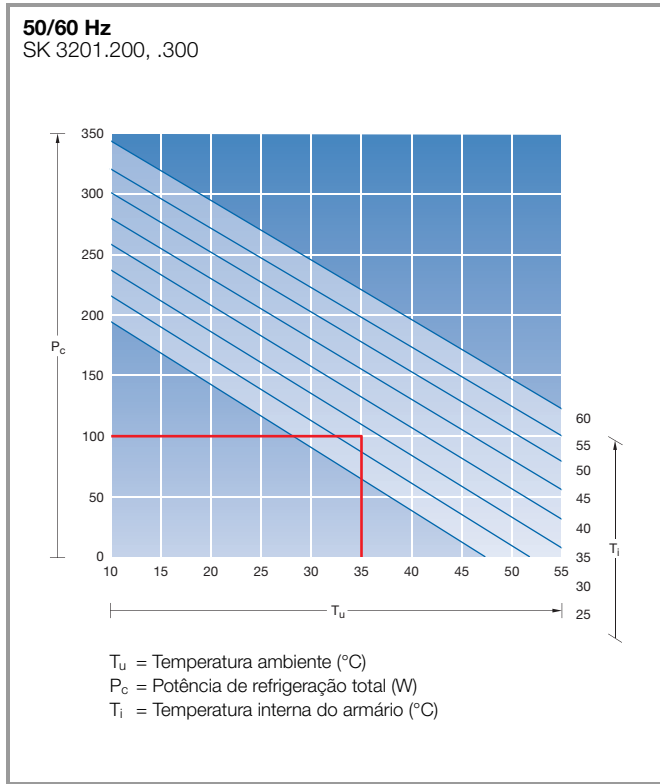
## Trocadores de calor ar/ar TopTherm

Potência específica de aquecimento entre 17,5 e 90 W/K para montagem lateral com controlador

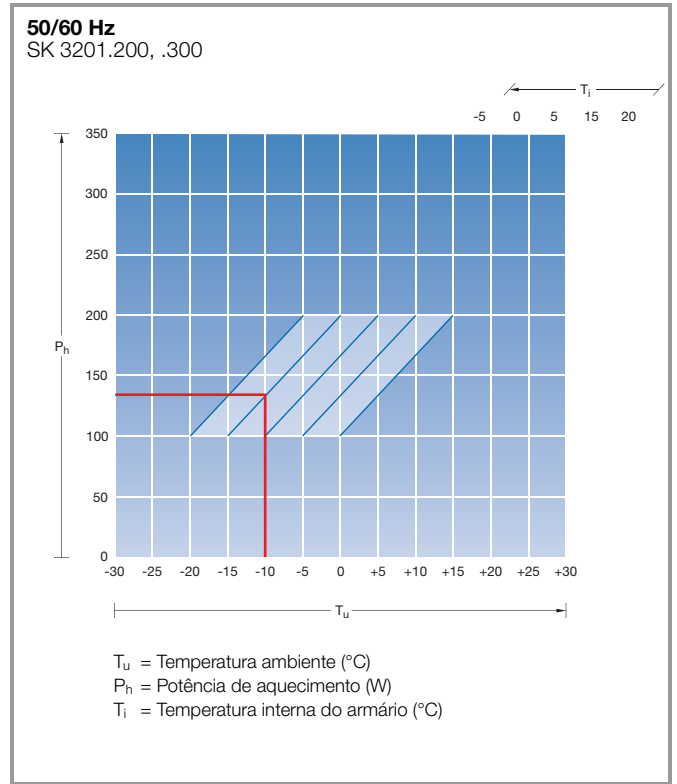


## Condicionadores de ar termelétricos

### Potência de refrigeração

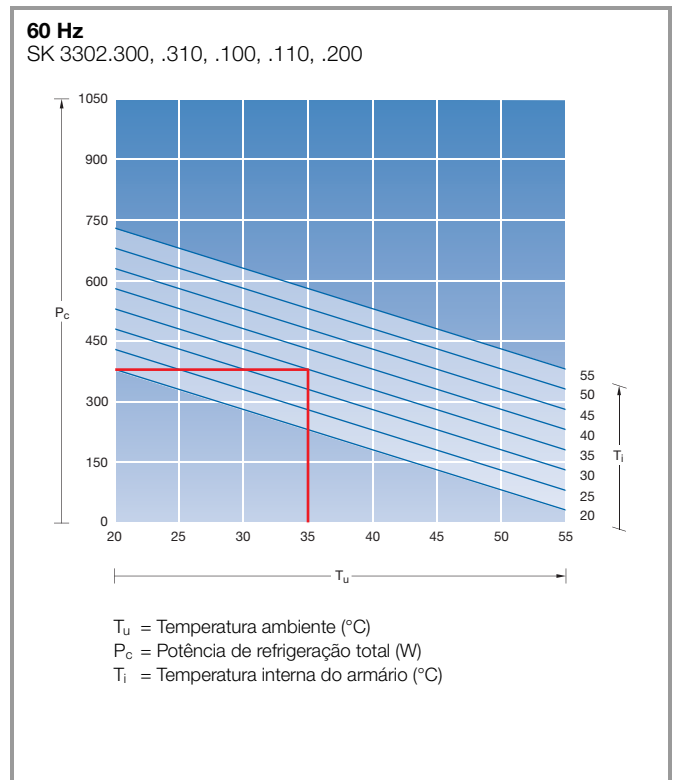
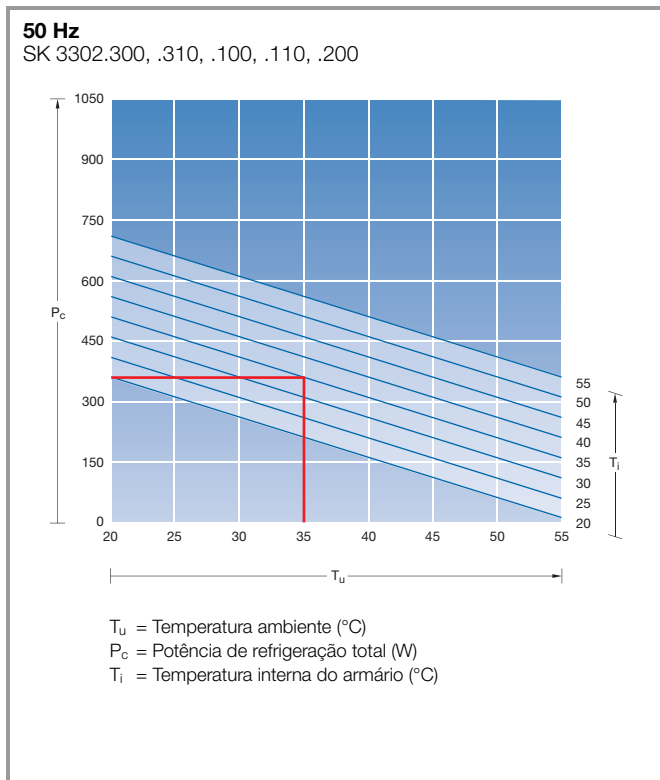


### Potência de aquecimento



## Condicionadores de ar TopTherm para montagem lateral

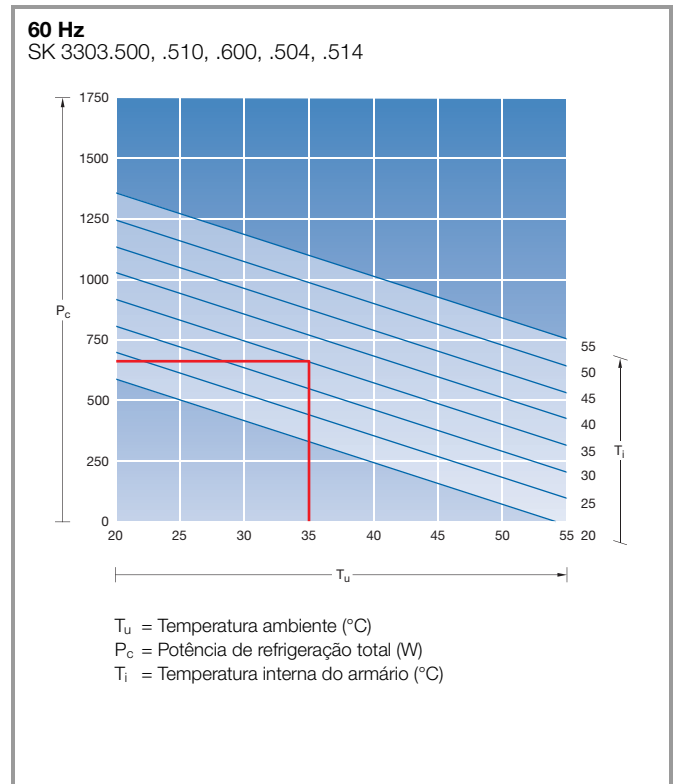
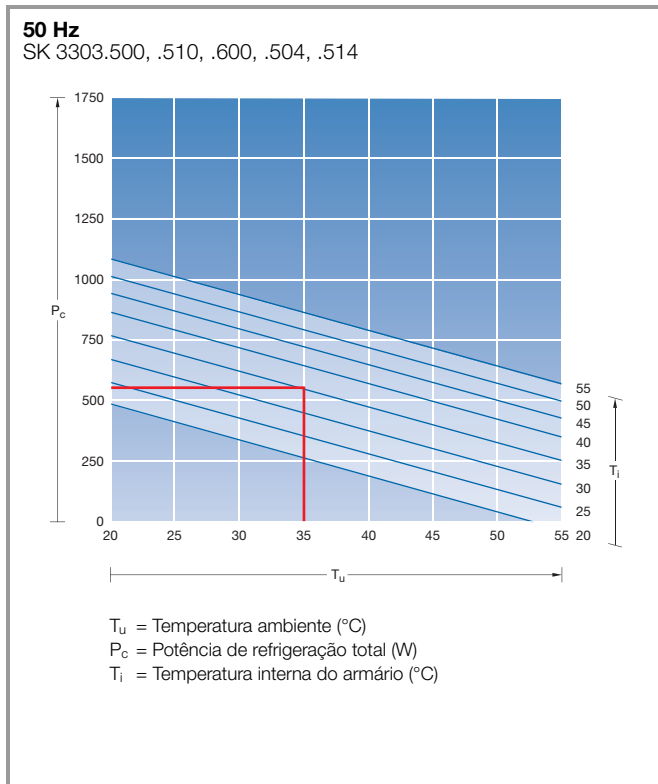
### Potência de 300 W (115/230 V, 1~)



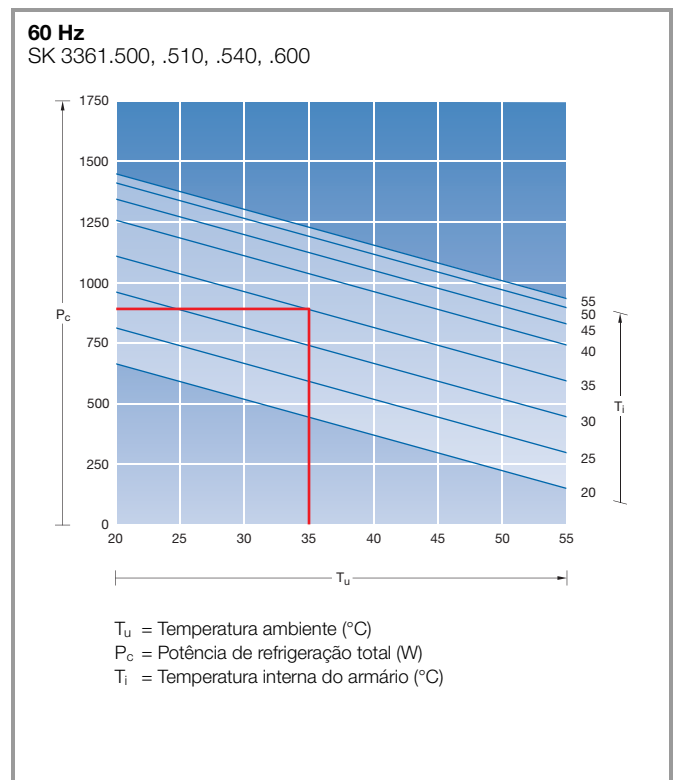
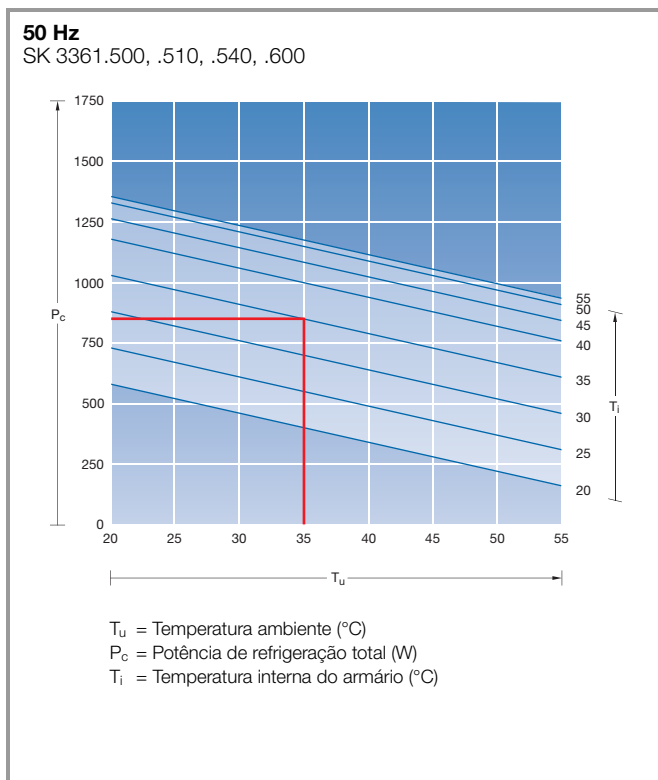
# Condicionadores de ar

## Condicionadores de ar TopTherm Blue e para montagem lateral

Potência de 500 W (115/230 V, 1~)

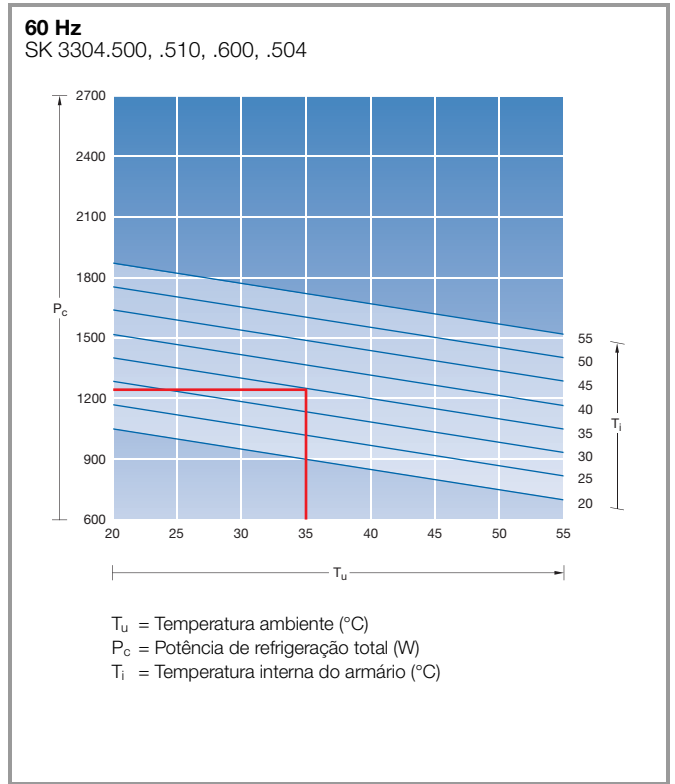
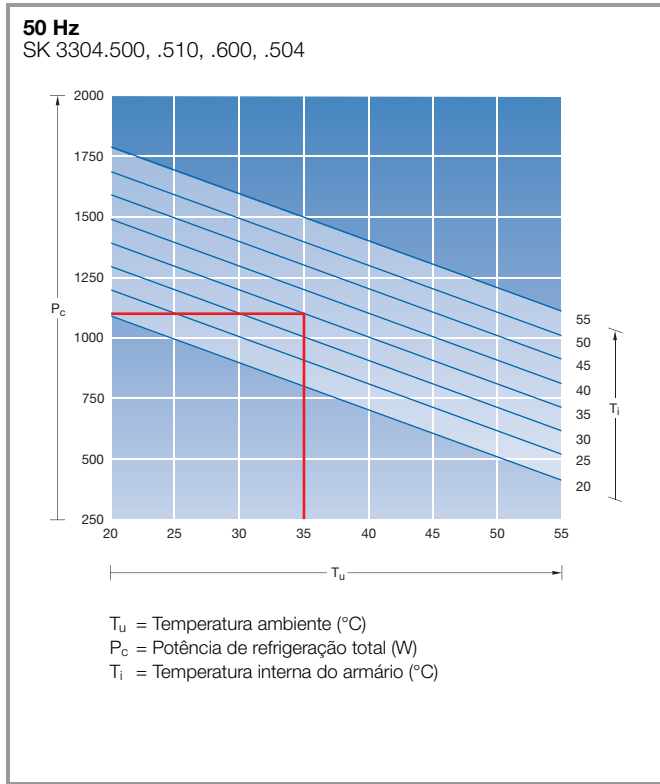


Potência de 750 W (115/230 V, 1~, 400 V, 2~)

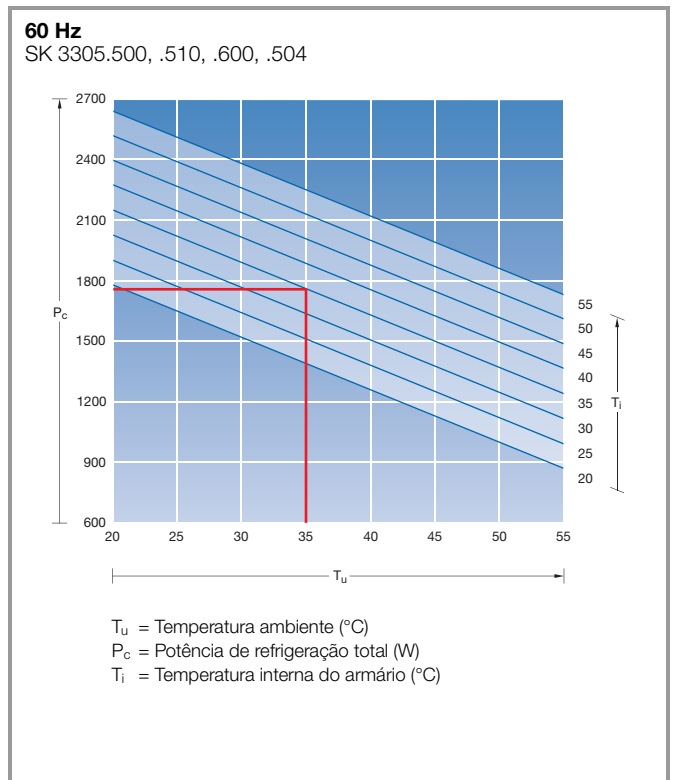
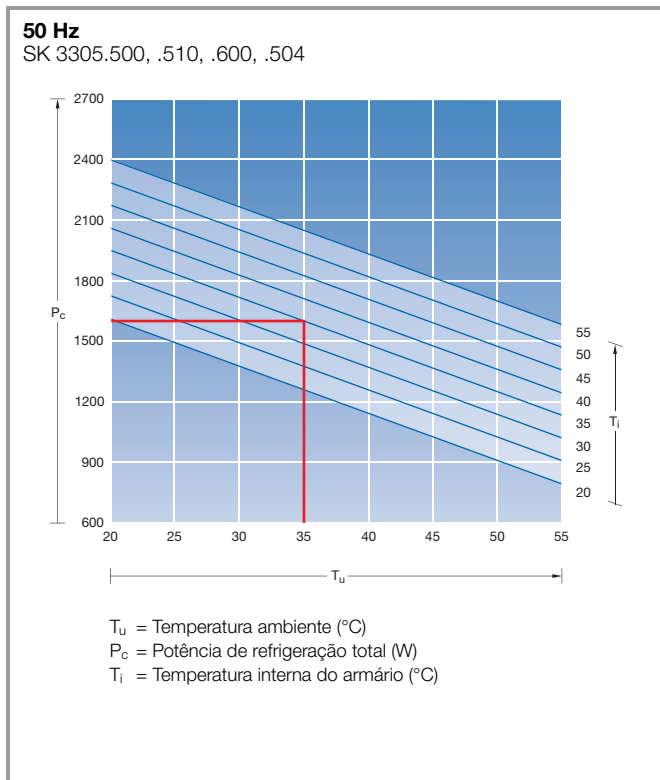


## Condicionadores de ar TopTherm Blue e para montagem lateral

Potência de 1000 W (115/230 V, 1~)



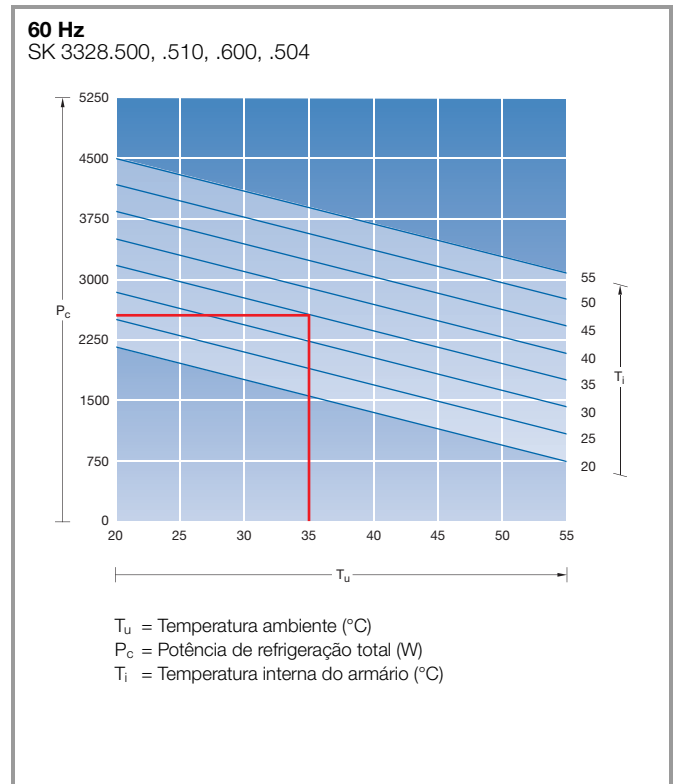
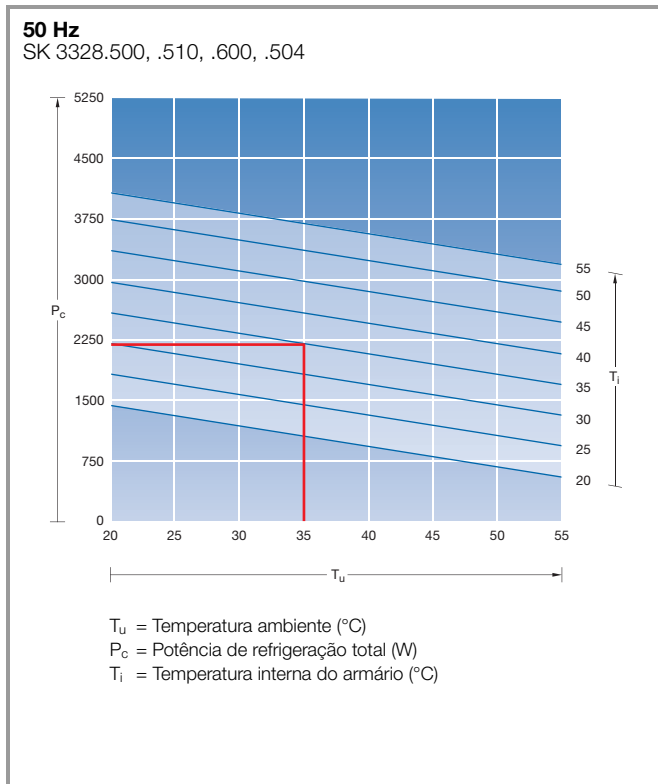
Potência de 1500 W (115/230 V, 1~)



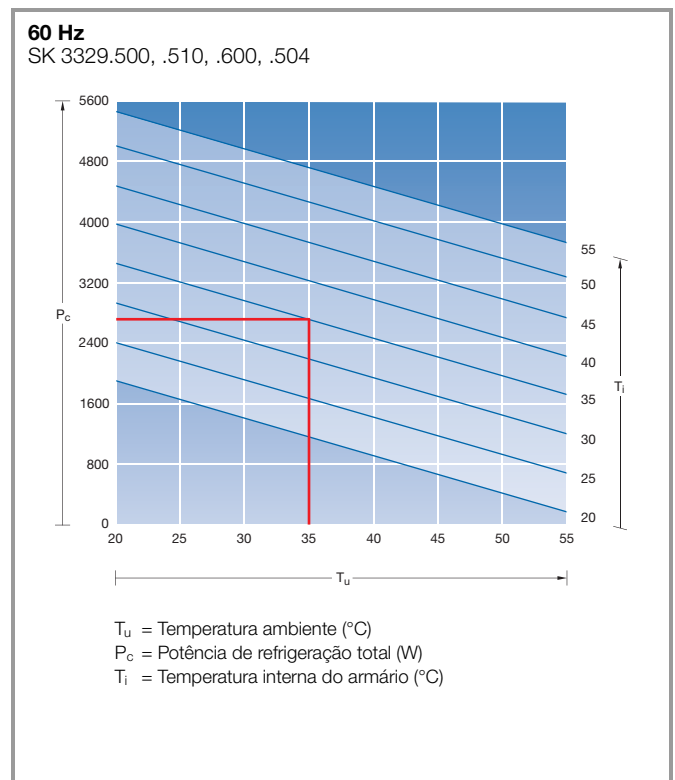
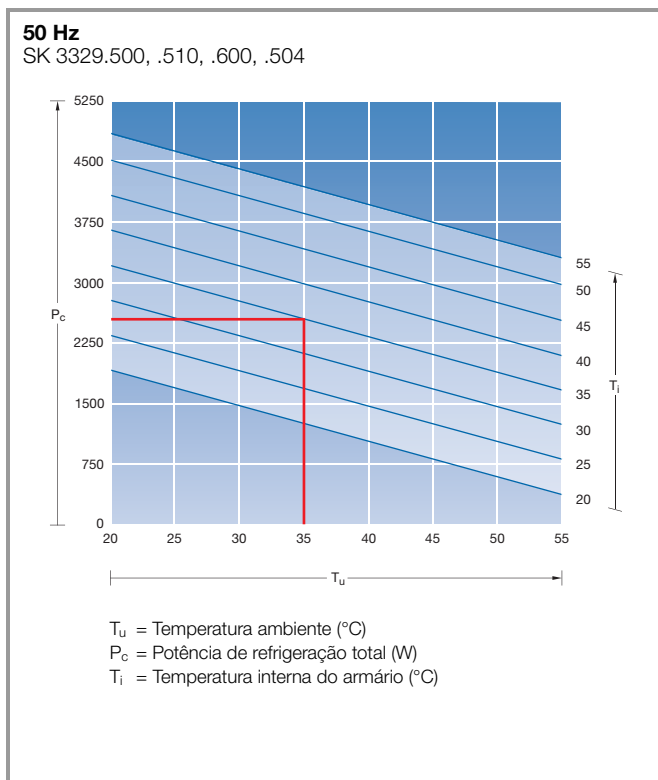
# Condicionadores de ar

## Condicionadores de ar TopTherm Blue e para montagem lateral

Potência de 2000 W (115/230 V, 1~)



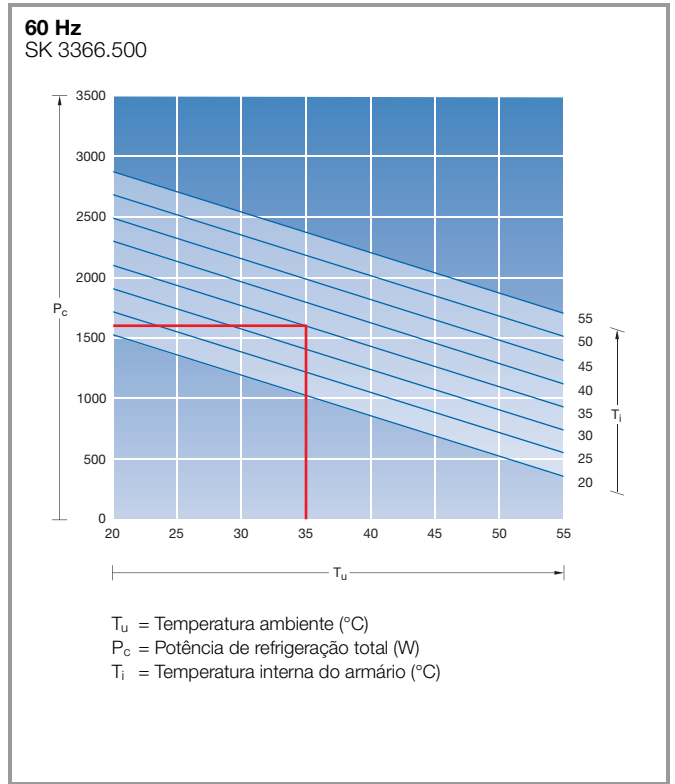
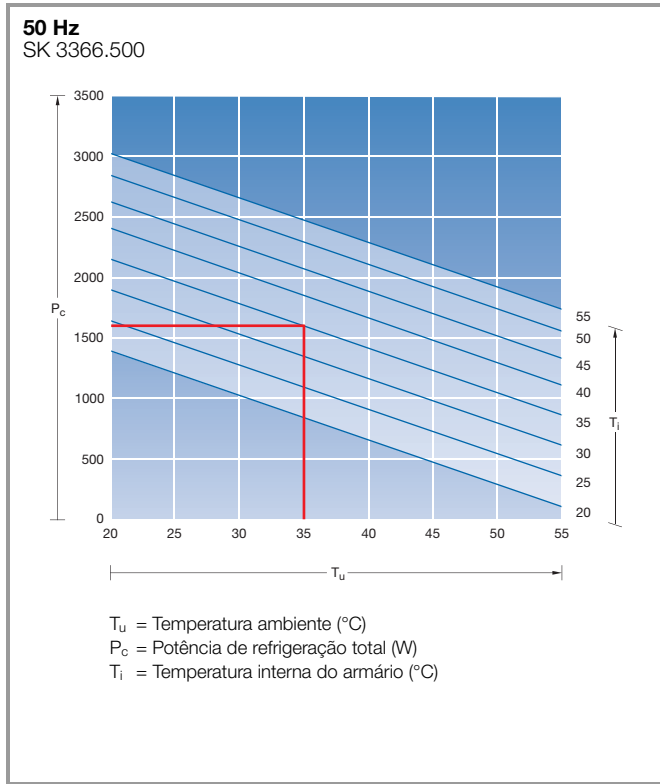
Potência de 2500 W (115/230 V, 1~)



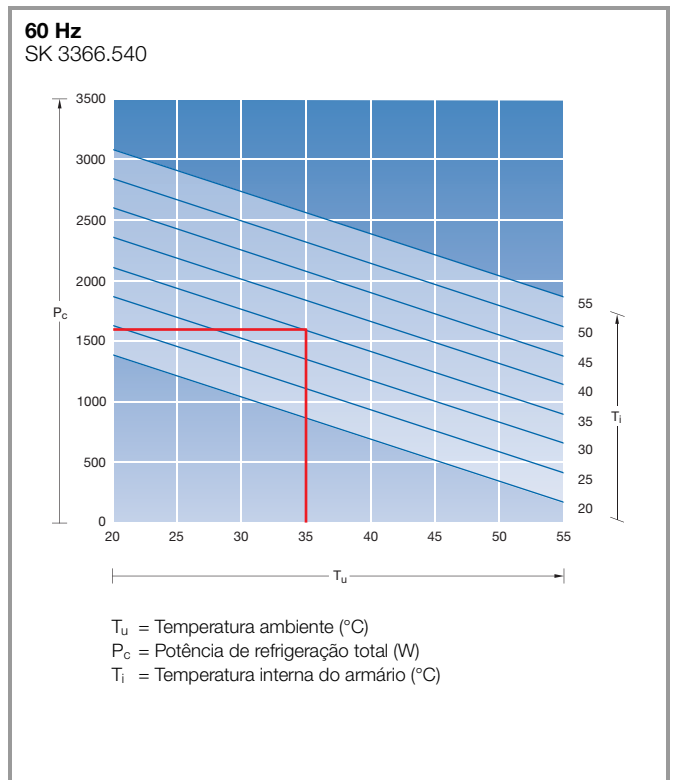
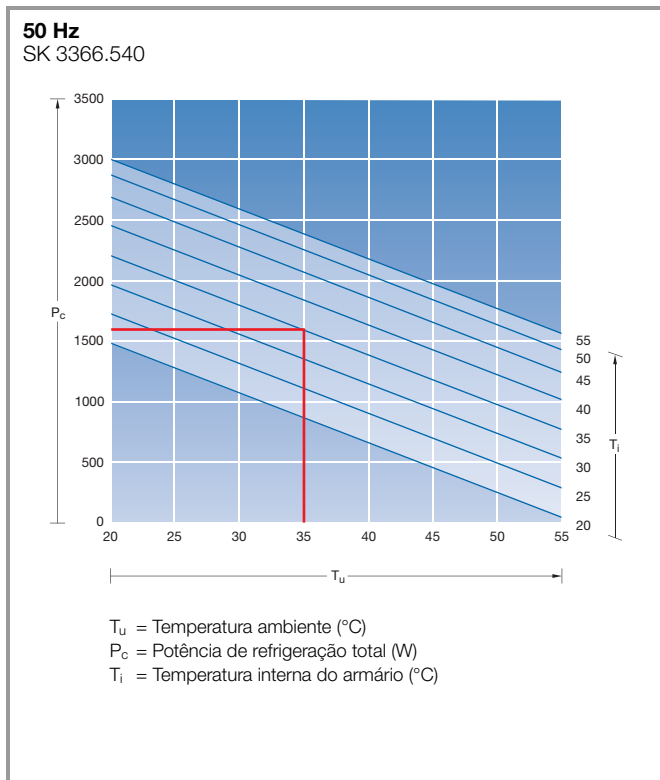


## Condicionadores de ar TopTherm Blue e modelo plano

Potência de 1500 W (230 V, 1~)



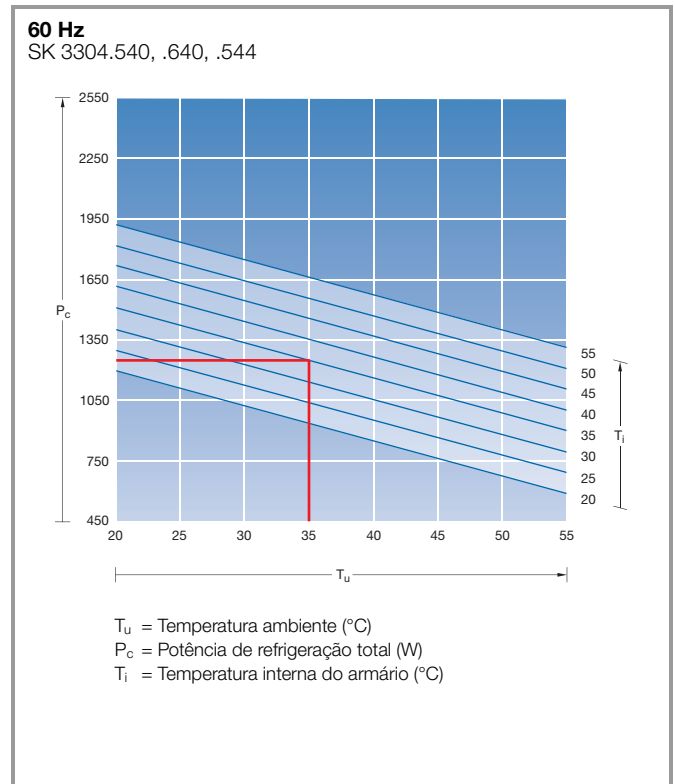
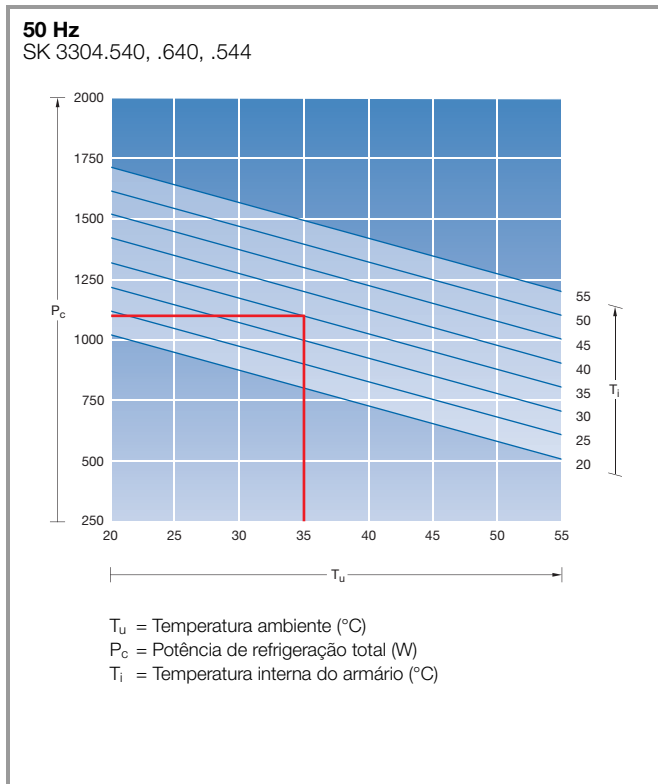
Potência de 1500 W (400/460 V, 3~)



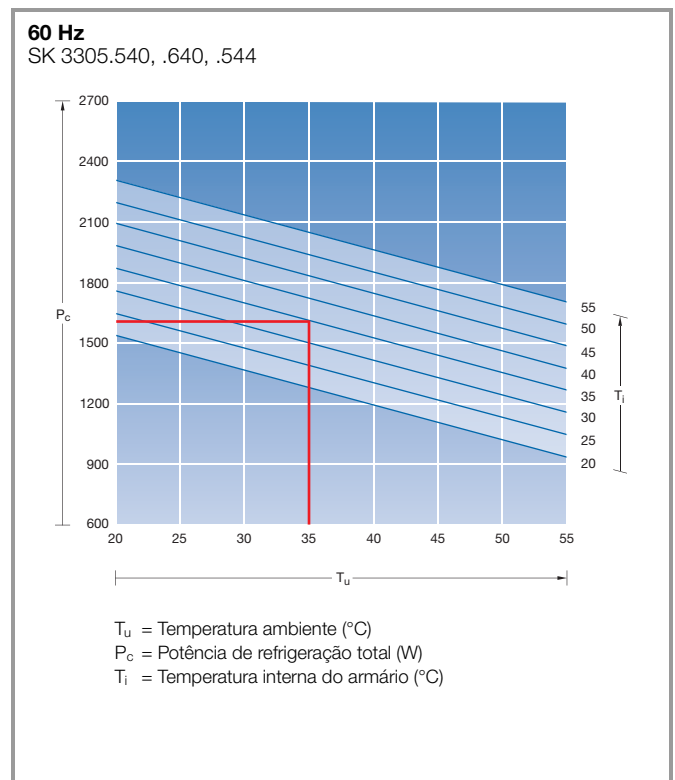
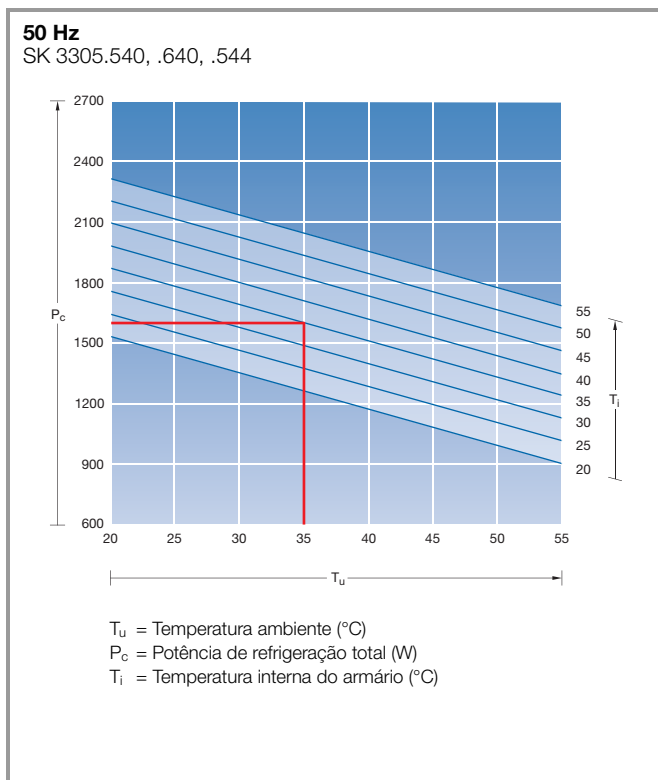
# Condicionadores de ar

## Condicionadores de ar TopTherm Blue e para montagem lateral

Potência de 1000 W (400/460 V, 3~)

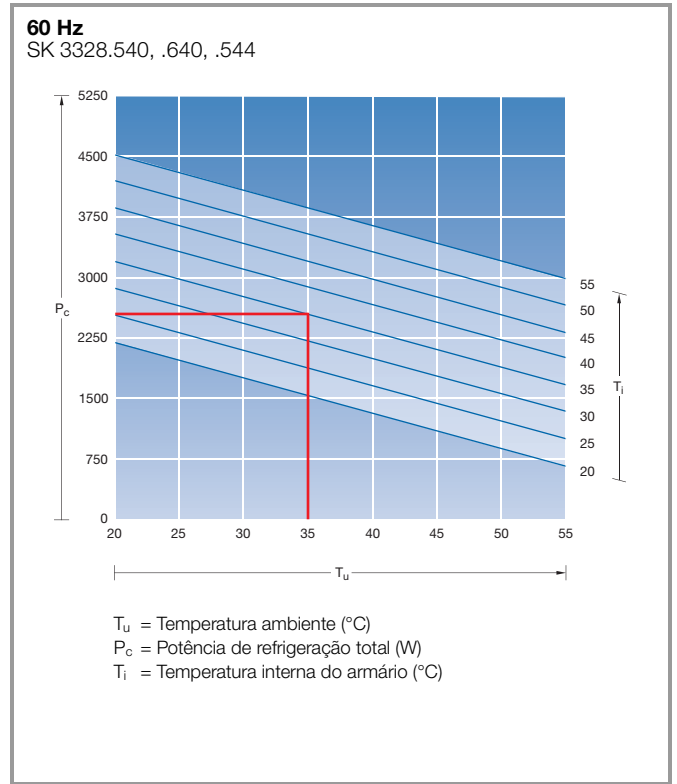
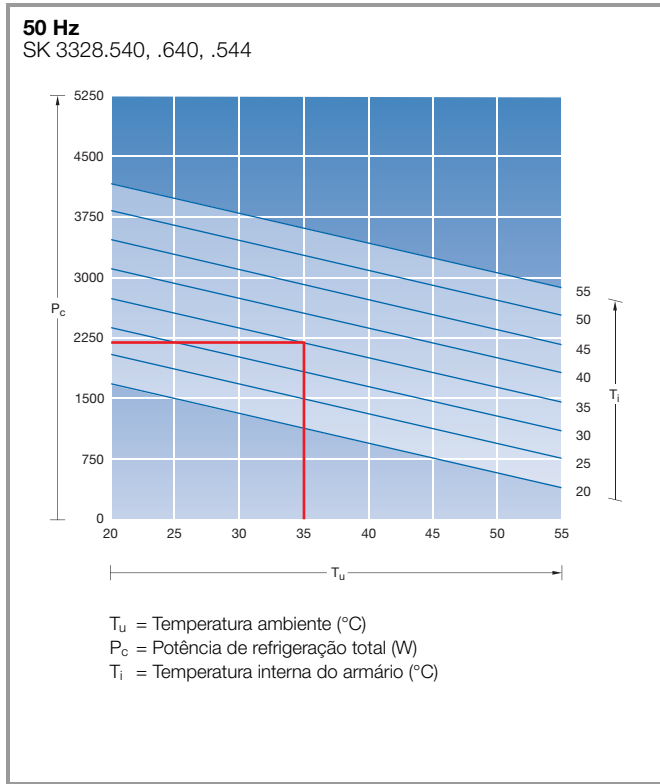


Potência de 1500 W (400/460 V, 3~)

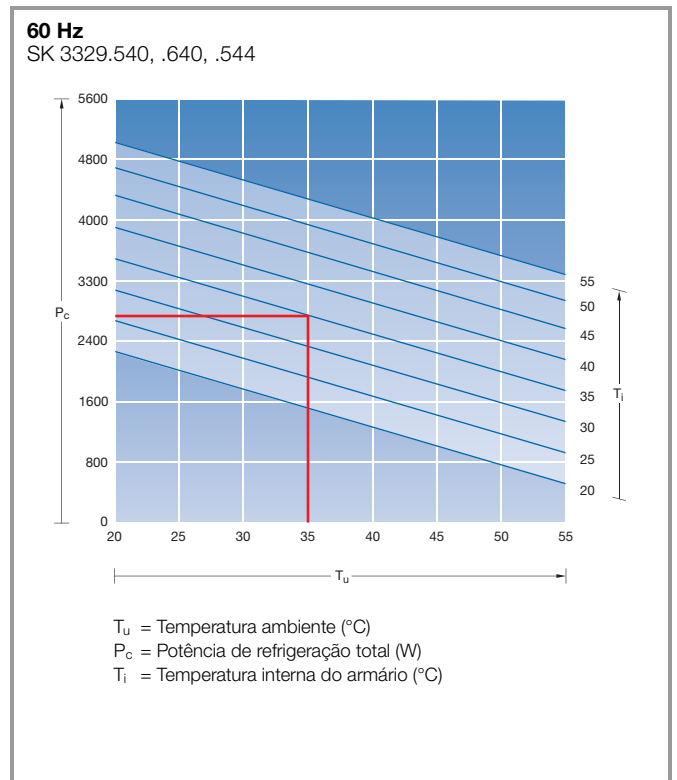
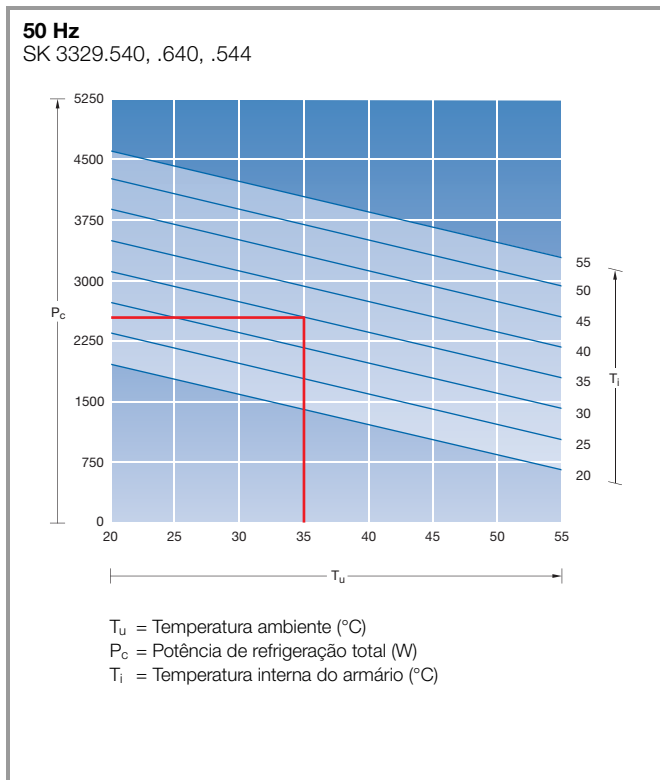


## Condicionadores de ar TopTherm Blue e para montagem lateral

Potência de 2000 W (400/460 V, 3~)



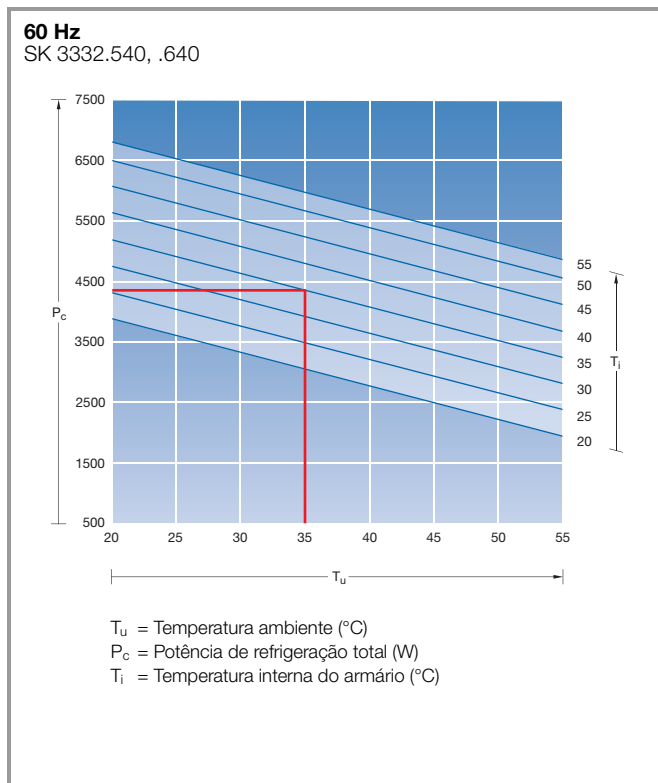
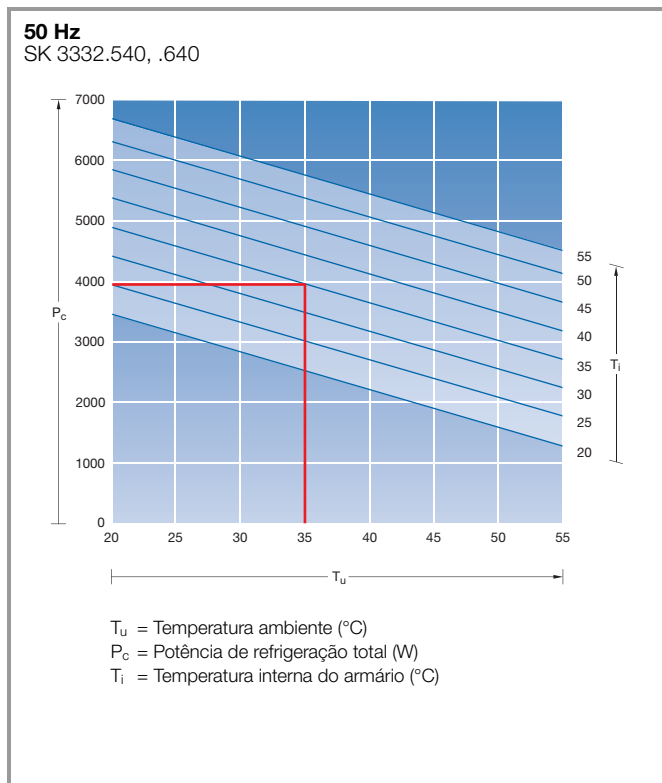
Potência de 2500 W (400/460 V, 3~)



# Condicionadores de ar

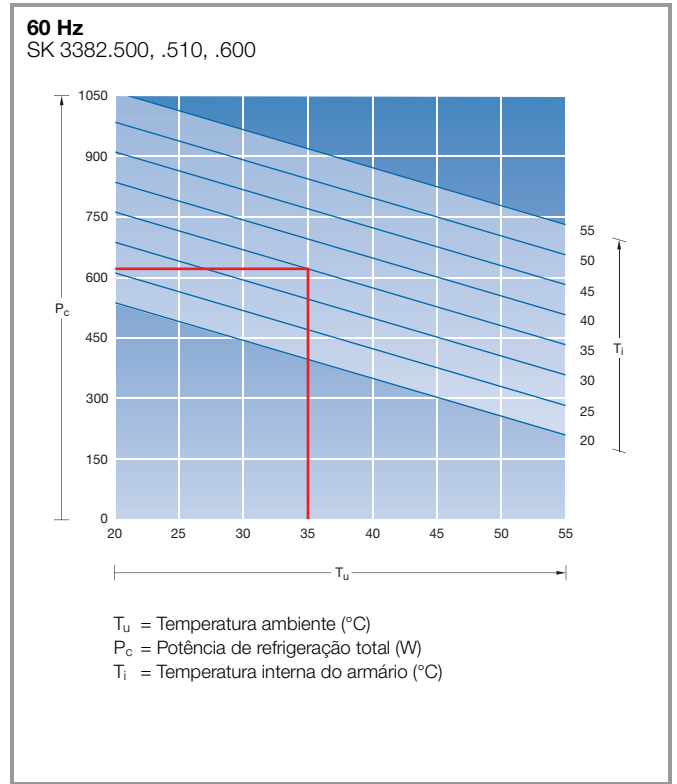
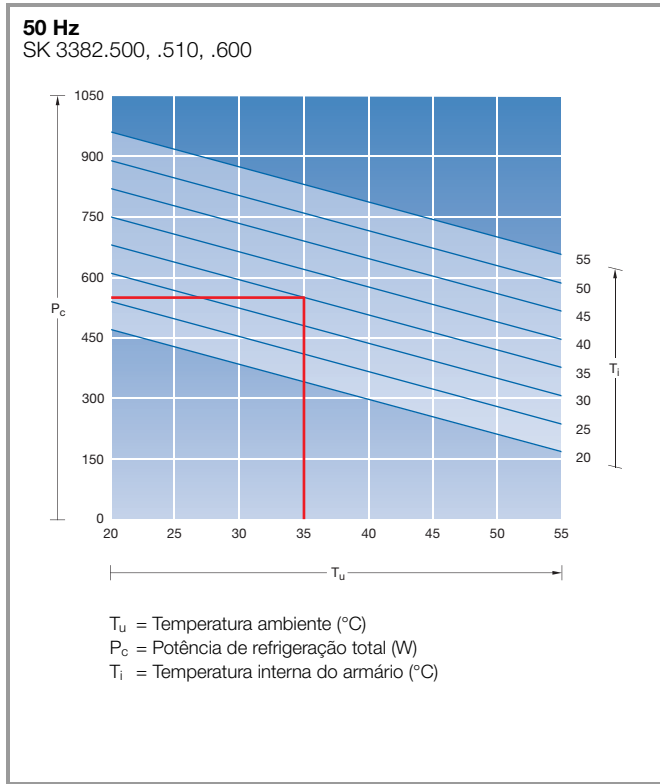
## Condicionadores de ar TopTherm Blue e para montagem lateral

Potência de 4000 W (400/460 V, 3~)

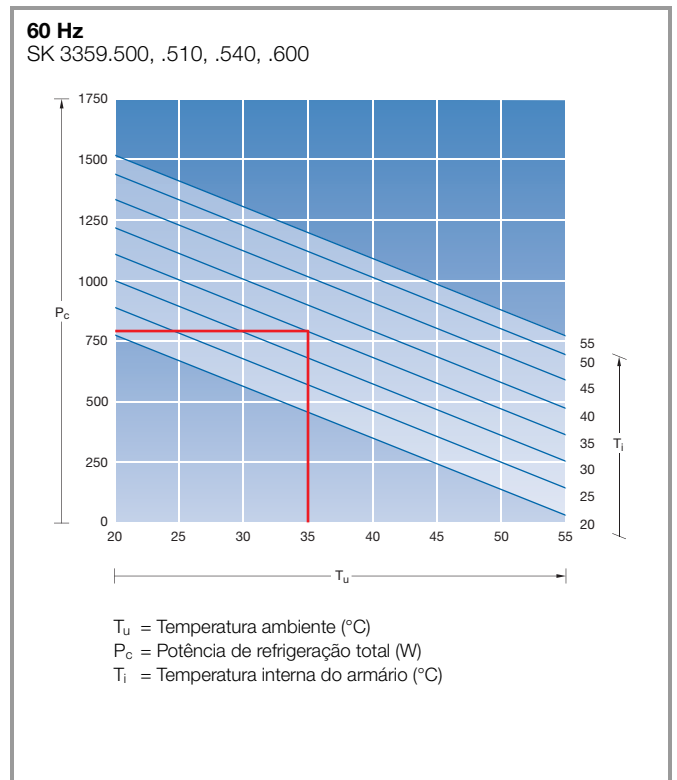
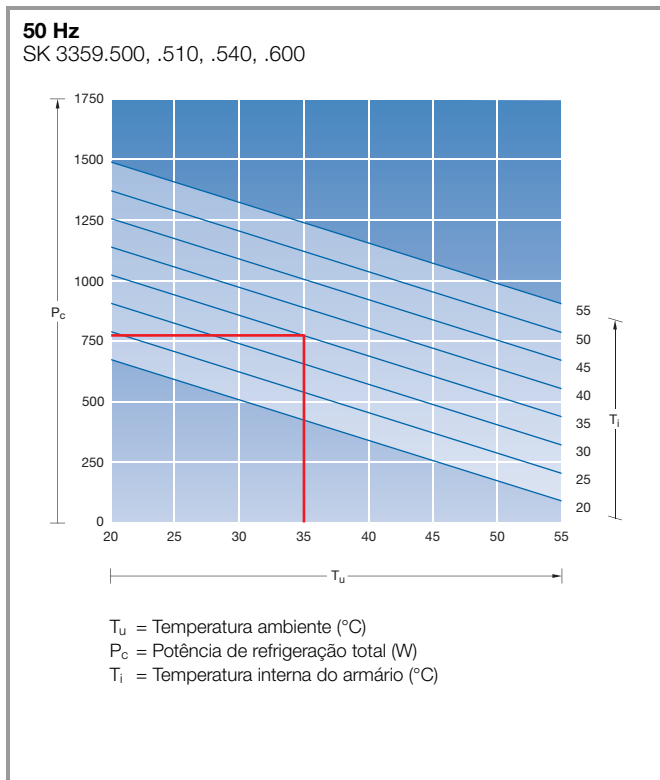


## Condicionadores de ar TopTherm Blue e para montagem no teto

Potência de 500 W (115/230 V, 1~)



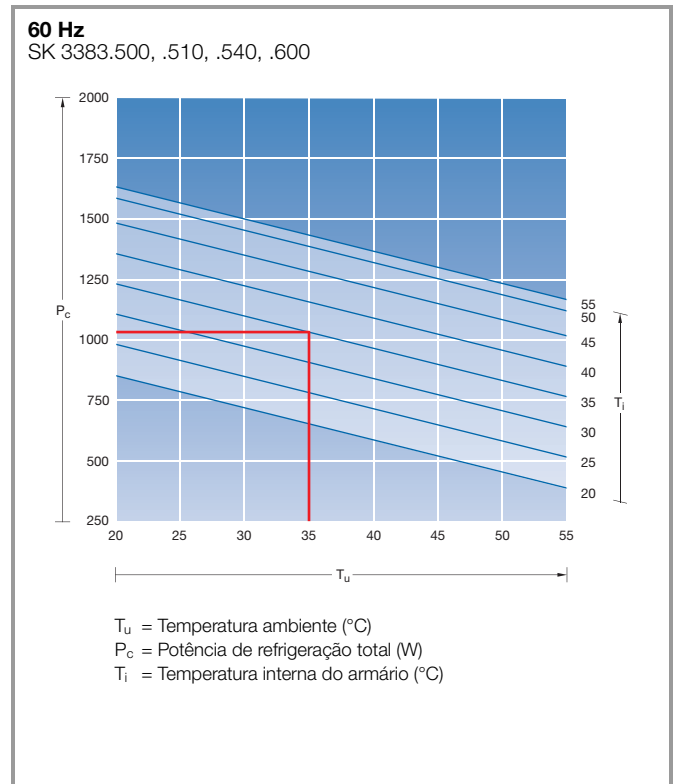
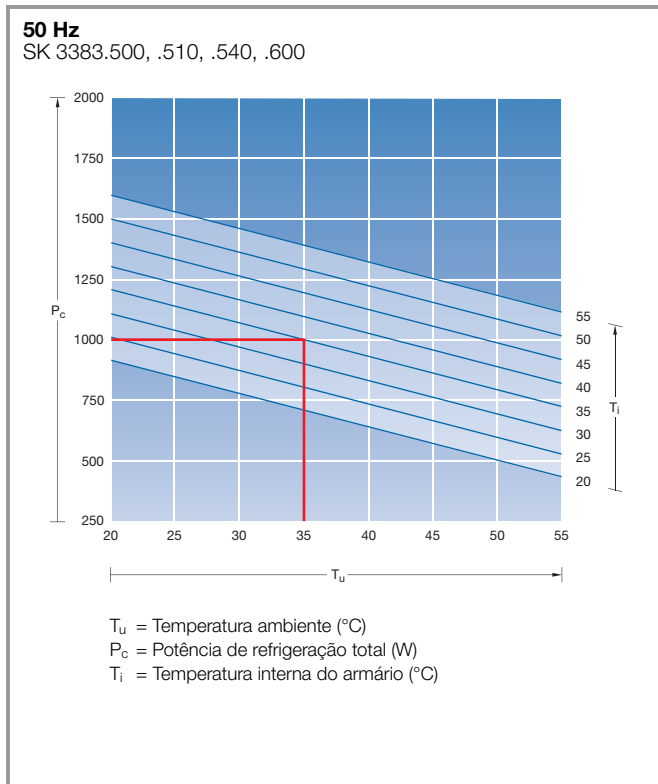
Potência de 750 W (115/230 V, 1~, 400 V, 2~)



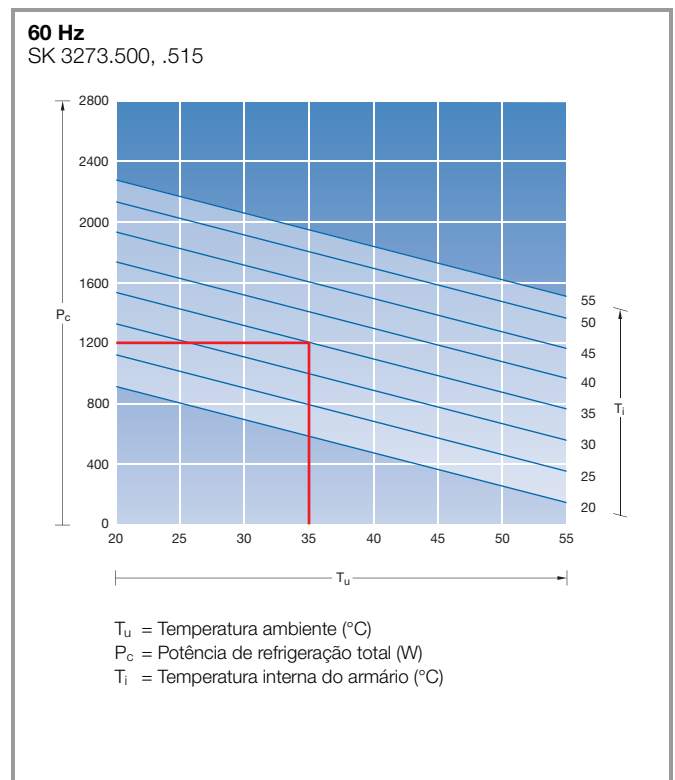
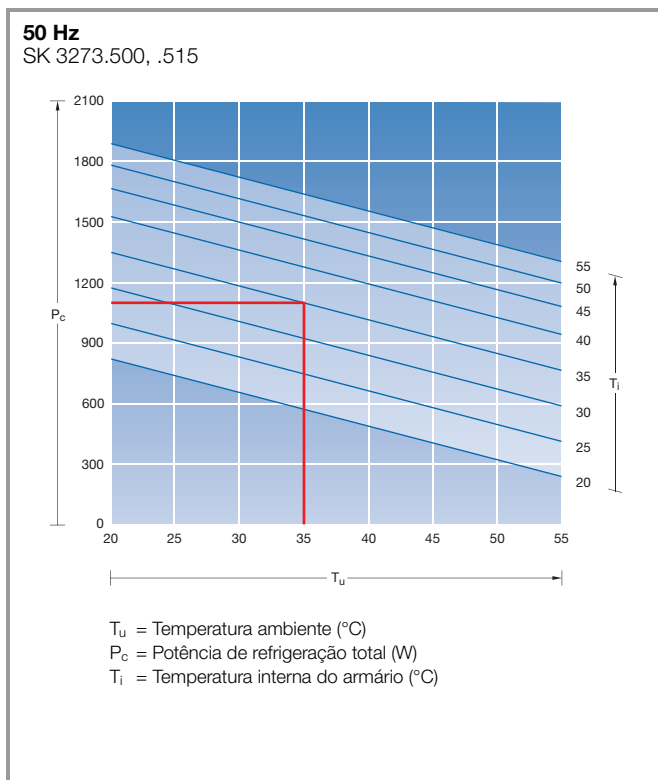
# Condicionadores de ar

## Condicionadores de ar TopTherm Blue e para montagem no teto

Potência de 1000 W (115/230 V, 1~, 400 V, 2~)

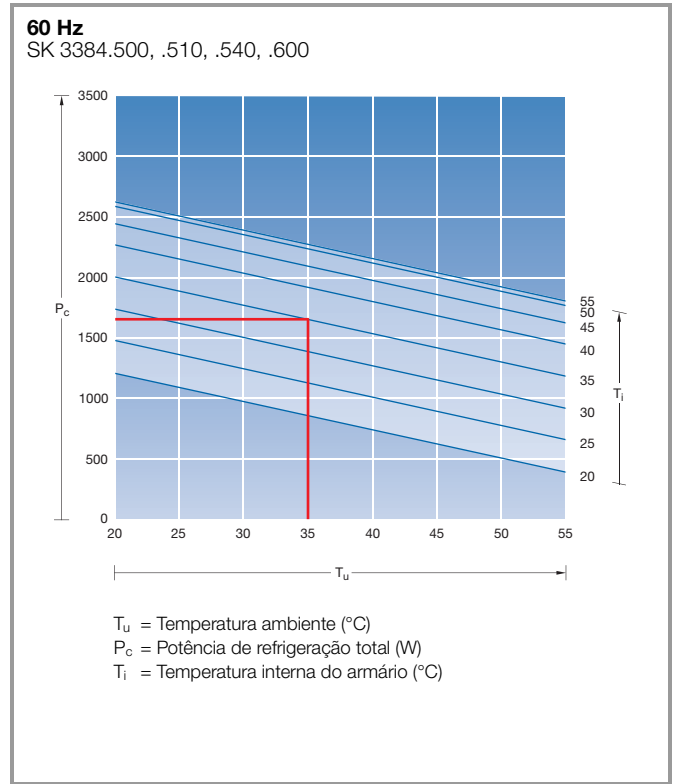
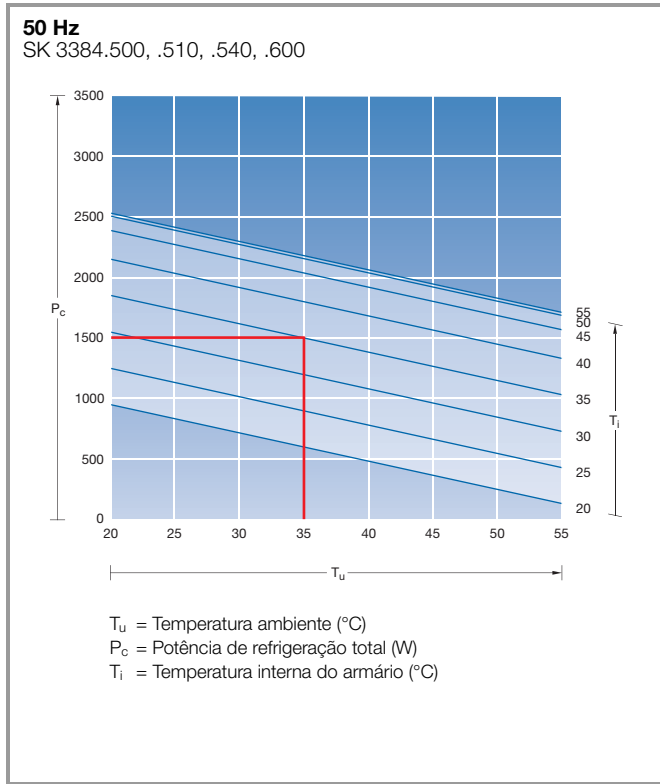


Potência de 1100 W (115/230 V, 1~)

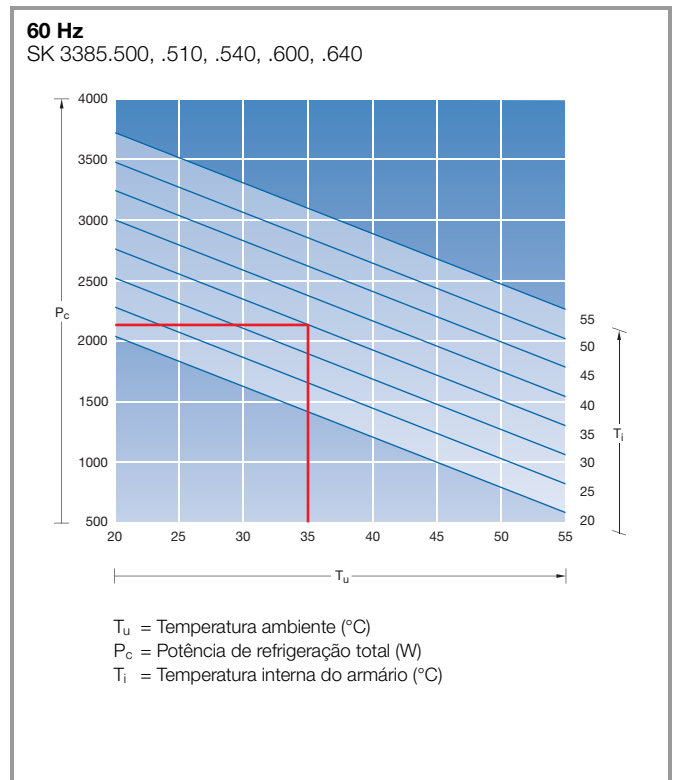
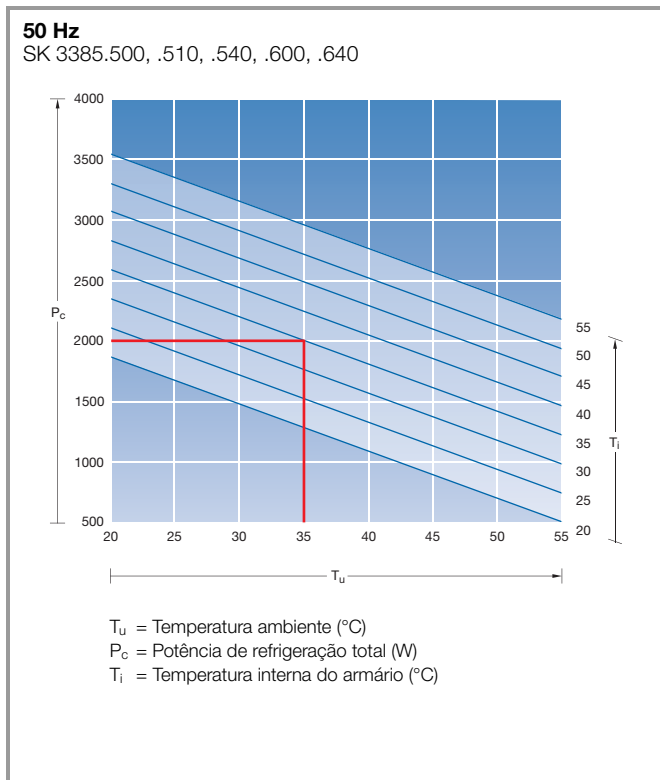


## Condicionadores de ar TopTherm Blue e para montagem no teto

Potência de 1500 W (115/230 V, 1~, 400 V, 2~)



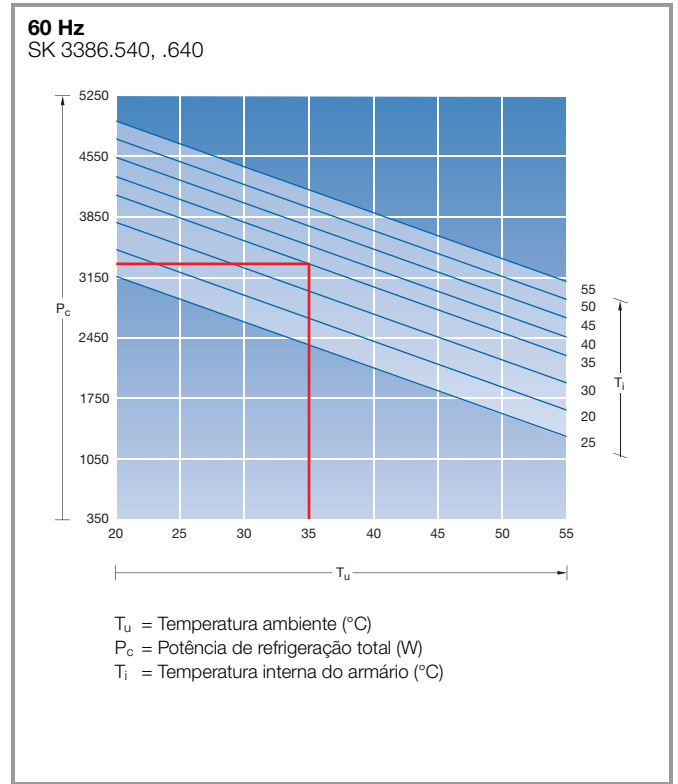
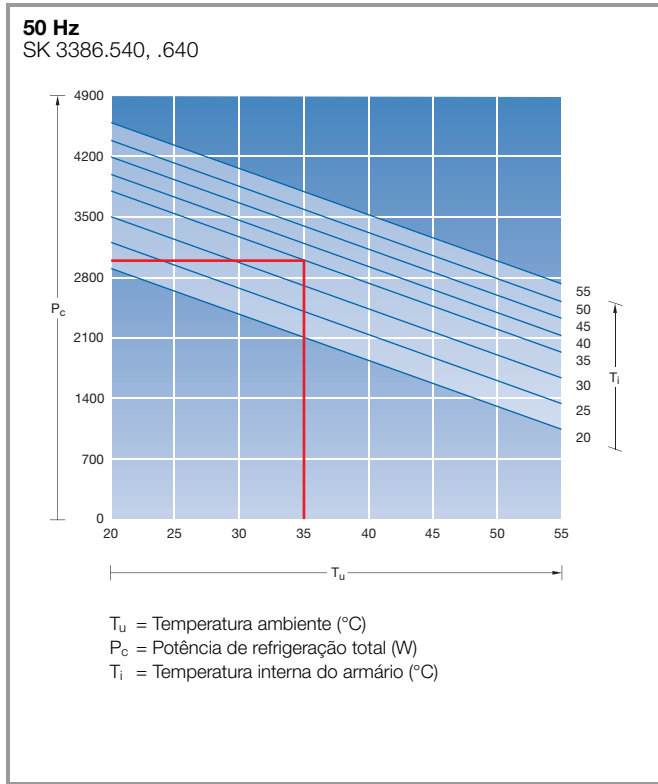
Potência de 2000 W (115/230 V, 1~, 400 V, 2~)



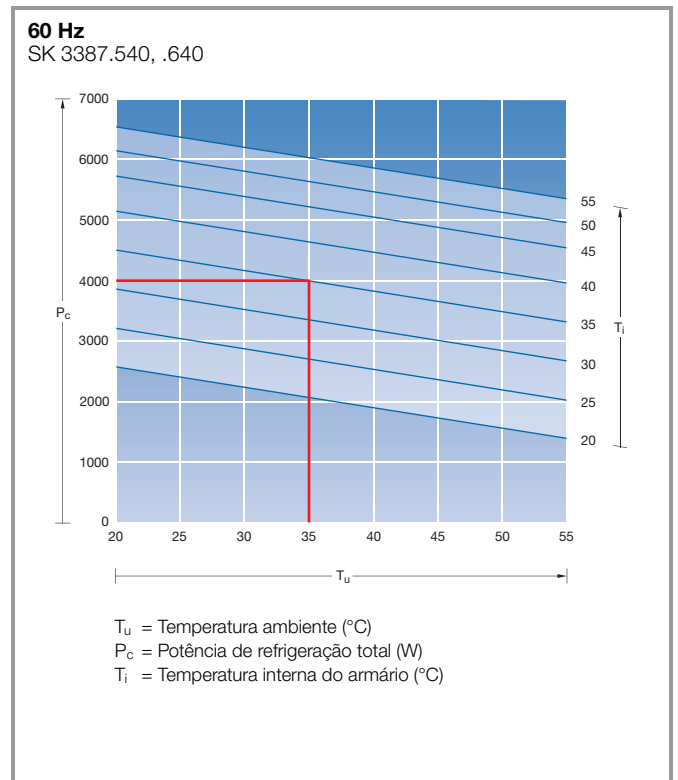
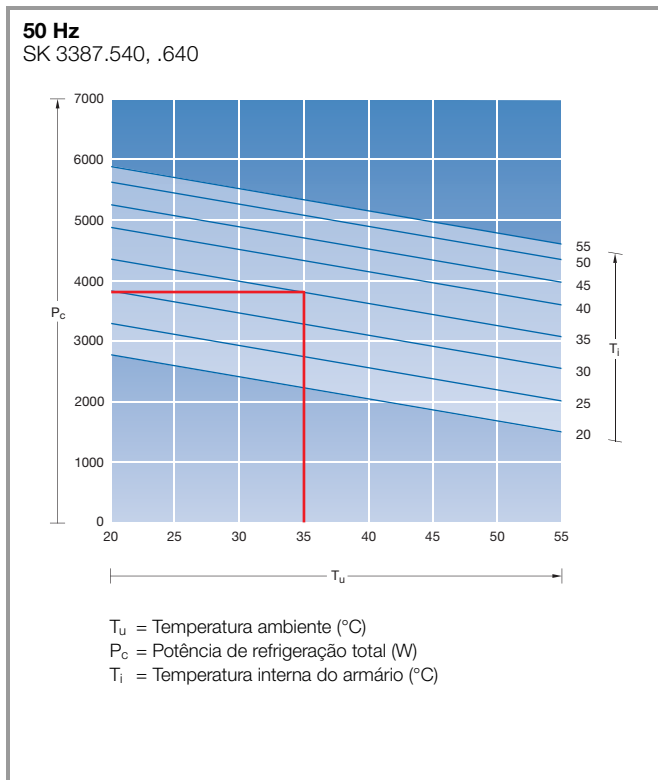
# Condicionadores de ar

## Condicionadores de ar TopTherm Blue e para montagem no teto

Potência de 3000 W (400/460 V, 3~)

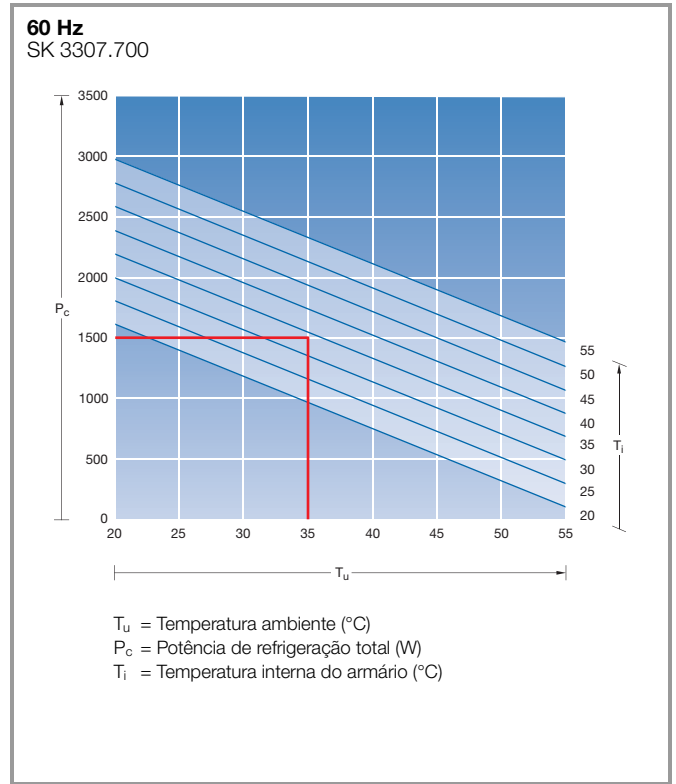
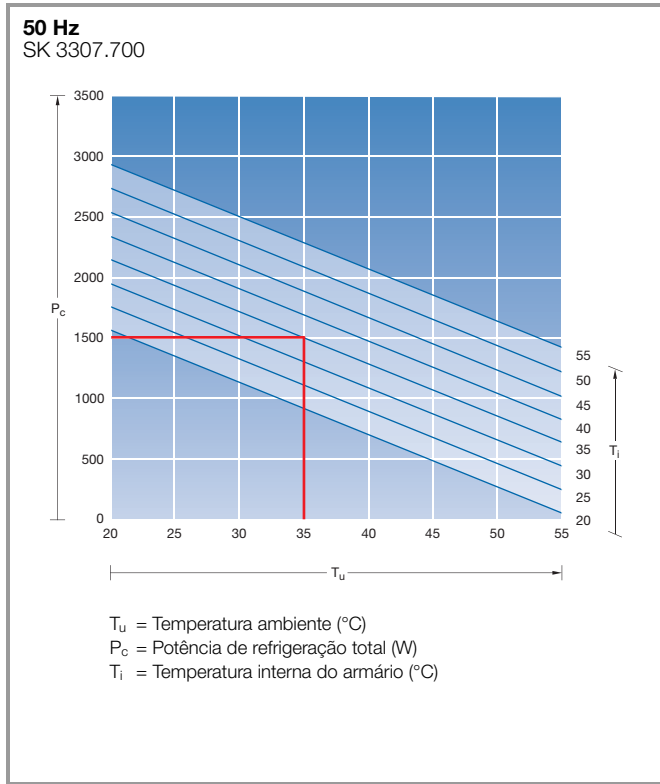


Potência de 4000 W (400/460 V, 3~)

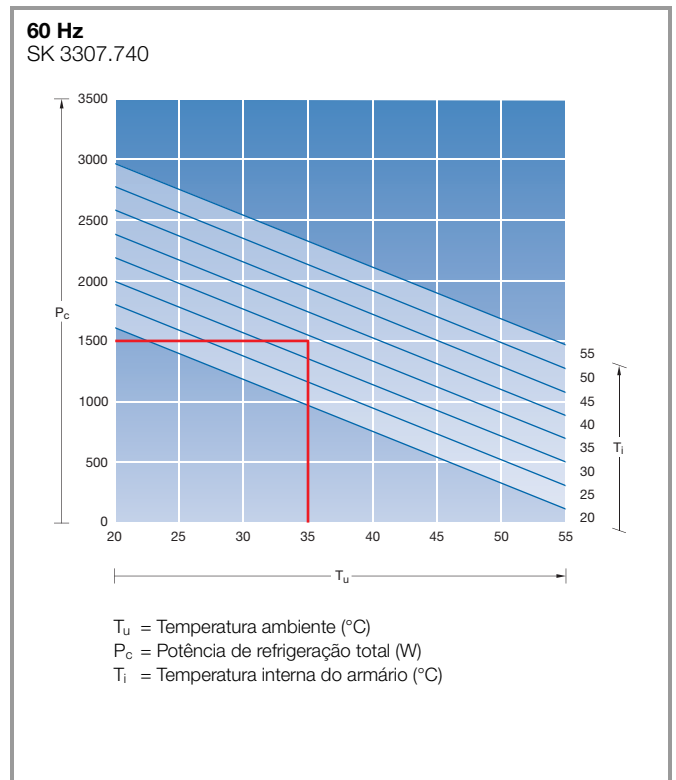
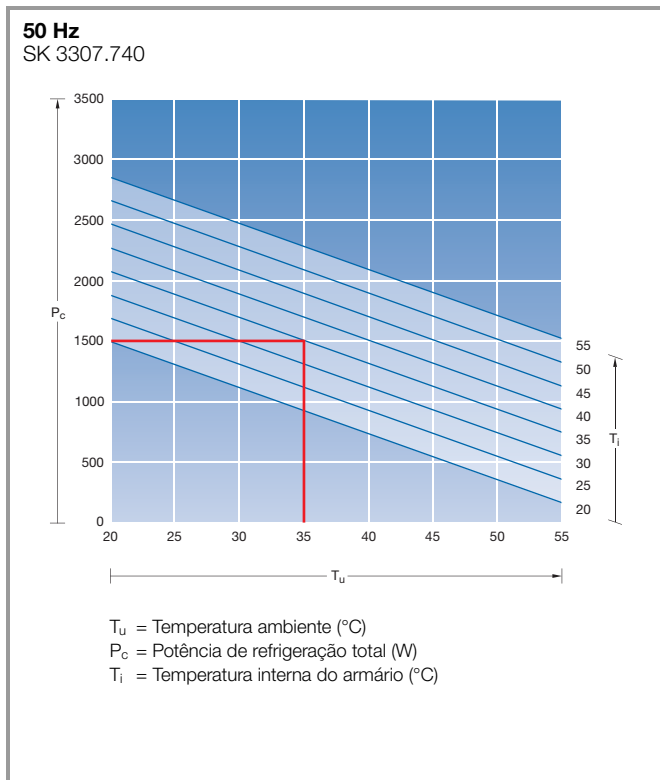




## Sistema modular de climatização Blue e Potência de 1500 W (230 V, 1~)

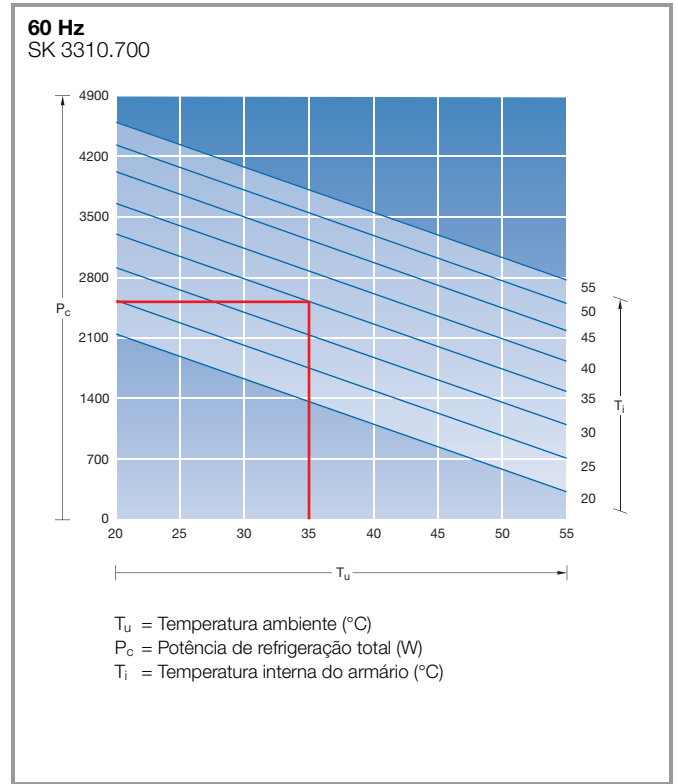
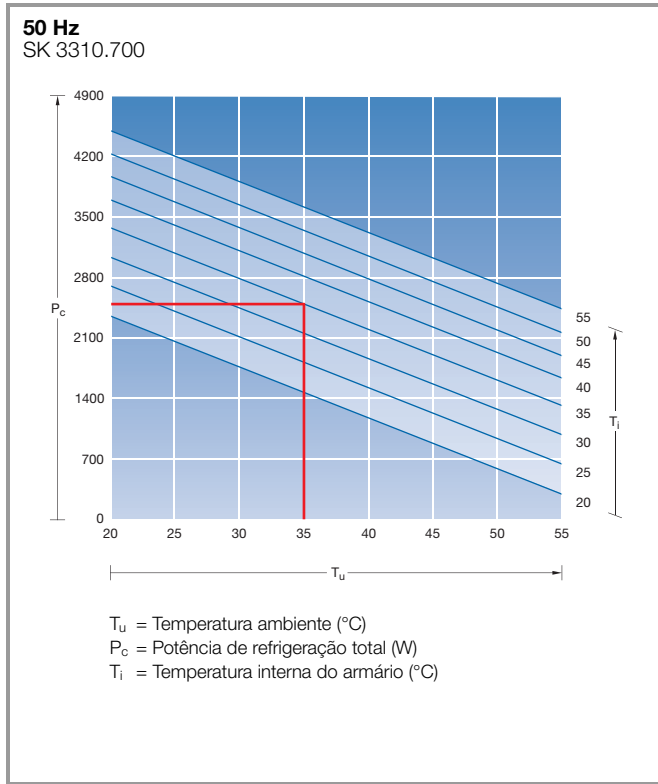


## Potência de 1500 W (400/460 V, 3~)

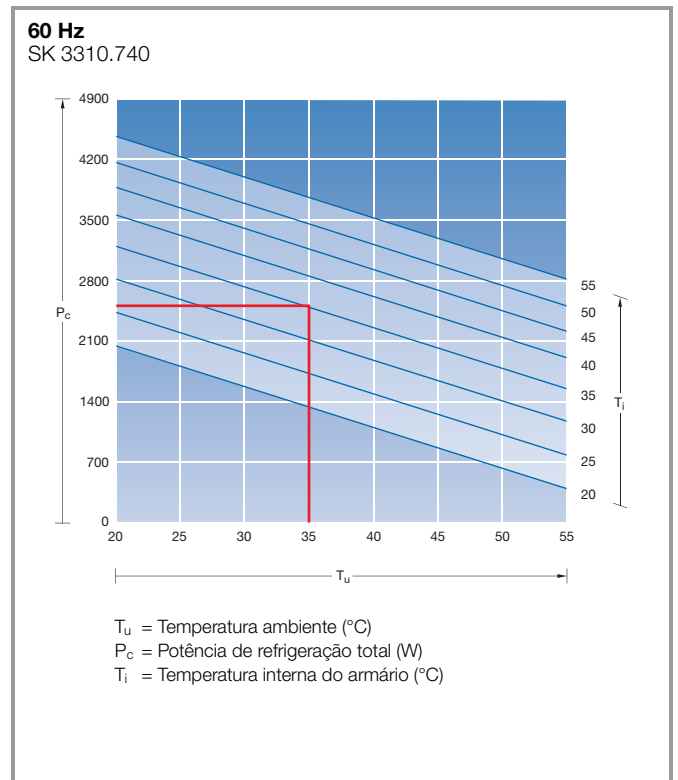
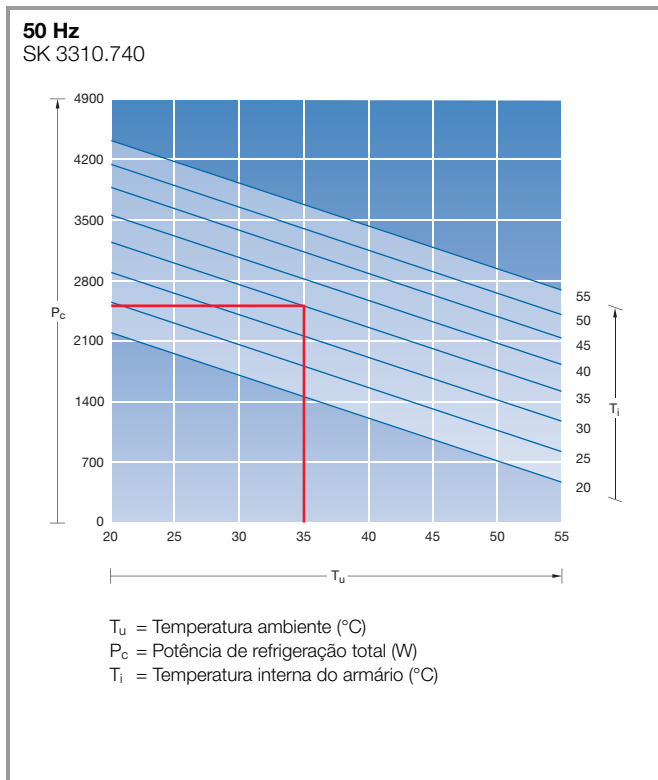


# Condicionadores de ar

## Sistema modular de climatização Blue e Potência de 2500 W (230 V, 1~)



## Potência de 2500 W (400/460 V, 3~)



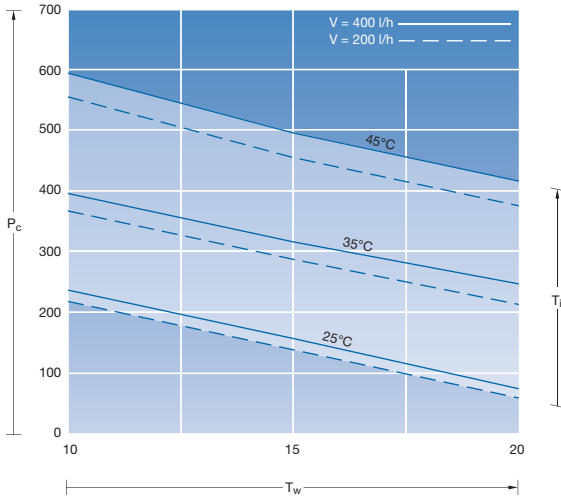
## Trocadores de calor ar/água para montagem lateral

Potência de 300 W

Peças em contato com a água: Cobre/latão (Cu/CuZn)

50/60 Hz

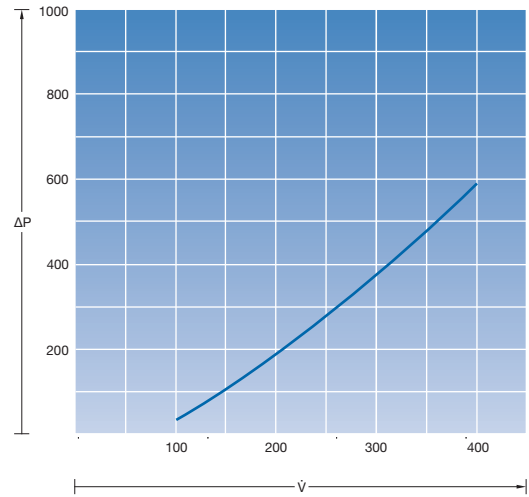
SK 3212.024, .115, .230



$T_w$  = Temperatura de entrada da água (°C)  
 $P_c$  = Potência de refrigeração total (W)  
 $T_i$  = Temperatura interna do armário (°C)

Curva característica de resistência à água

SK 3212.024, .115, .230



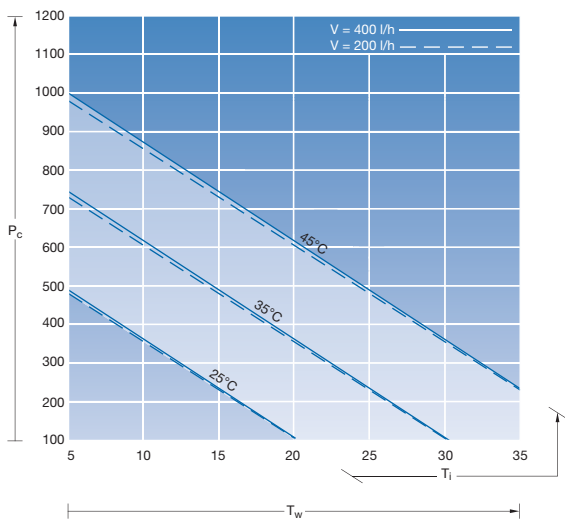
$\dot{V}$  = Fluxo volumétrico (l/h)  
 $\Delta P$  = Resistência à água (mbar)

Potência de 600 W

Peças em contato com a água: Cobre/latão (Cu/CuZn)

50/60 Hz

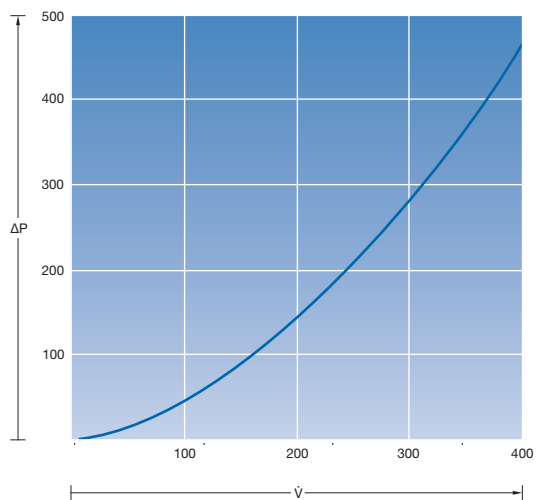
SK 3214.100



$T_w$  = Temperatura de entrada da água (°C)  
 $P_c$  = Potência de refrigeração total (W)  
 $T_i$  = Temperatura interna do armário (°C)

Curva característica de resistência à água

SK 3214.100



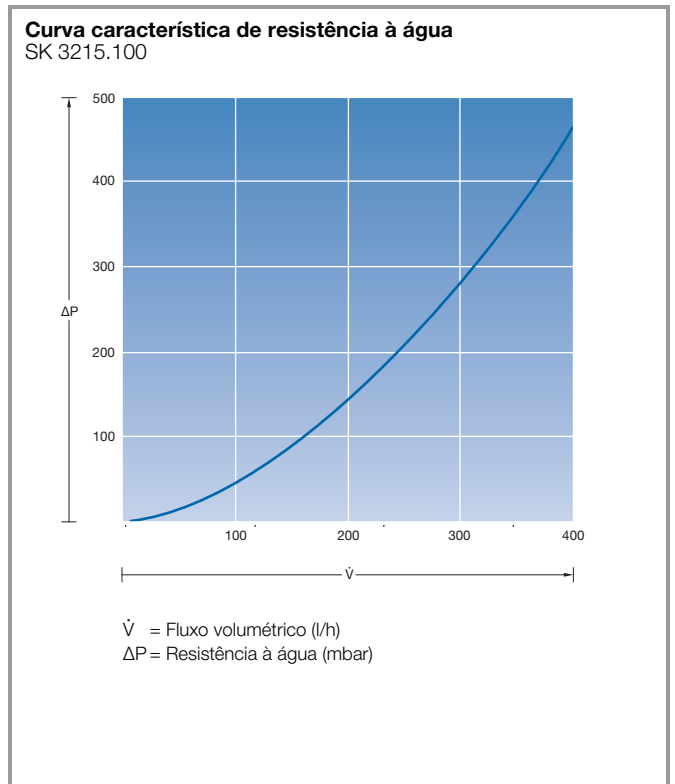
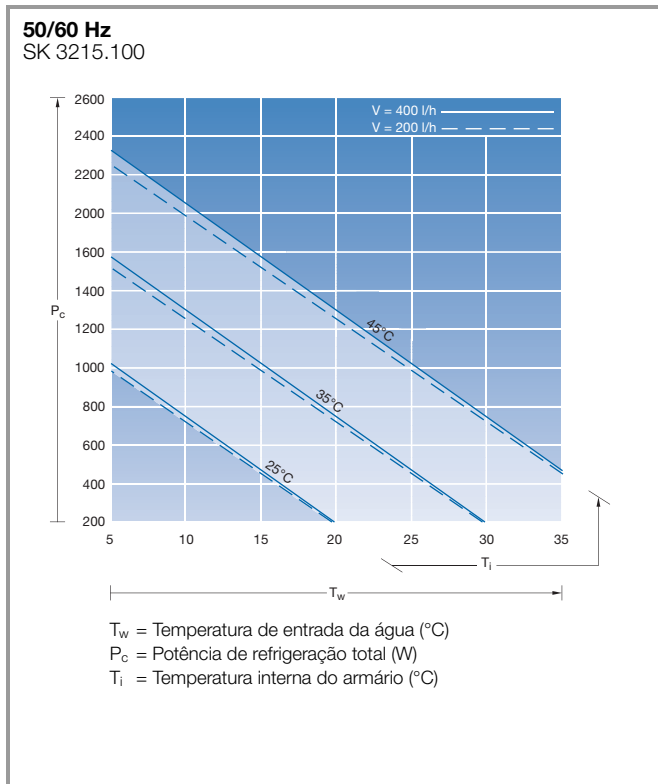
$\dot{V}$  = Fluxo volumétrico (l/h)  
 $\Delta P$  = Resistência à água (mbar)

# Sistema de refrigeração a líquido

## Trocadores de calor ar/água para montagem lateral

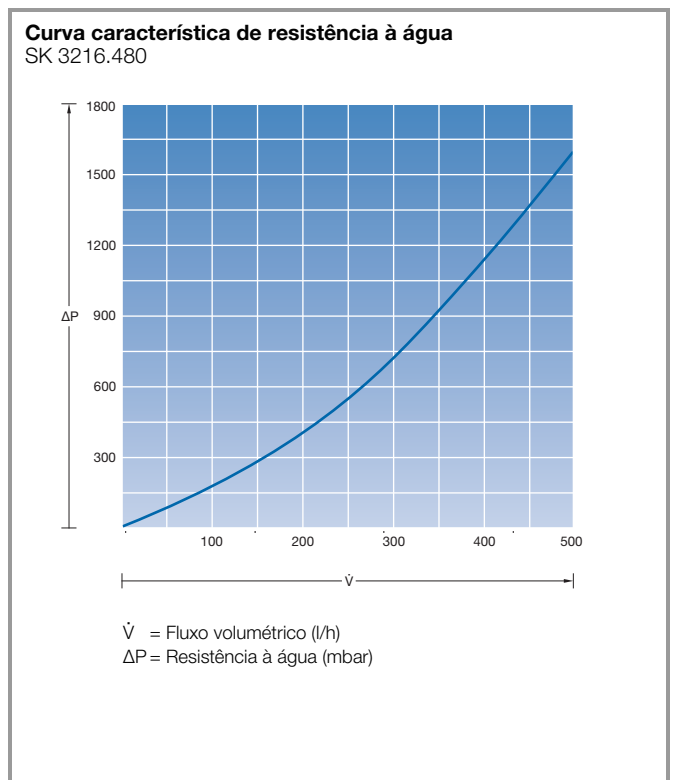
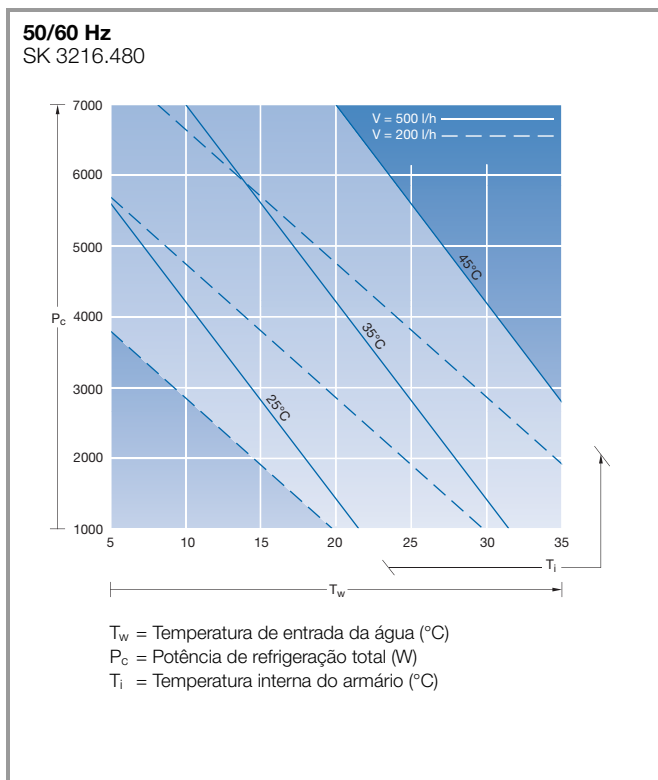
Potência de 1250 W

Peças em contato com a água: Cobre/latão (Cu/CuZn)



Potência de 7000 W

Peças em contato com a água: Cobre/latão (Cu/CuZn)



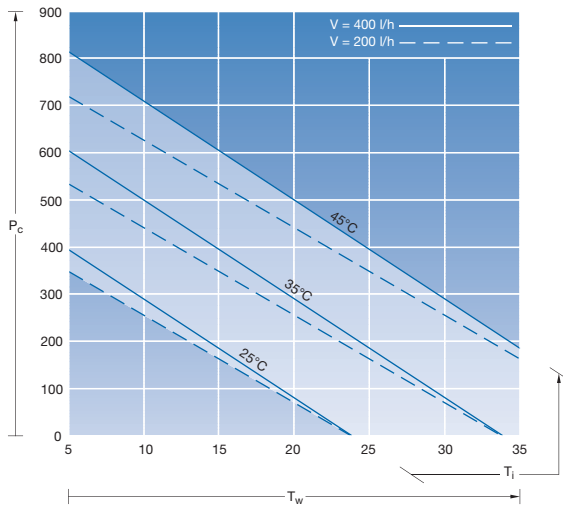
## Trocadores de calor ar/água para montagem lateral

Potência de 500 W

Peças em contato com a água: Cobre/latão (Cu/CuZn)

**50 Hz**

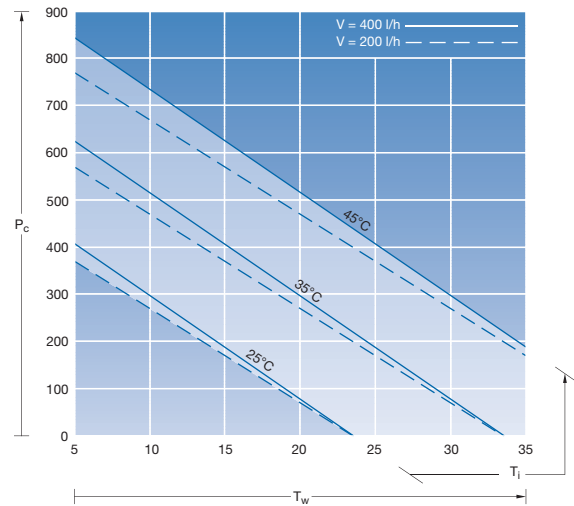
SK 3363.100, .500



$T_w$  = Temperatura de entrada da água (°C)  
 $P_c$  = Potência de refrigeração total (W)  
 $T_i$  = Temperatura interna do armário (°C)

**60 Hz**

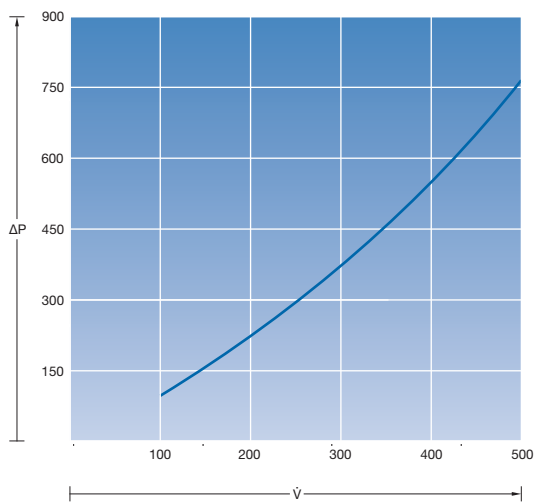
SK 3363.100, .500



$T_w$  = Temperatura de entrada da água (°C)  
 $P_c$  = Potência de refrigeração total (W)  
 $T_i$  = Temperatura interna do armário (°C)

### Curva característica de resistência à água

SK 3363.100, .500



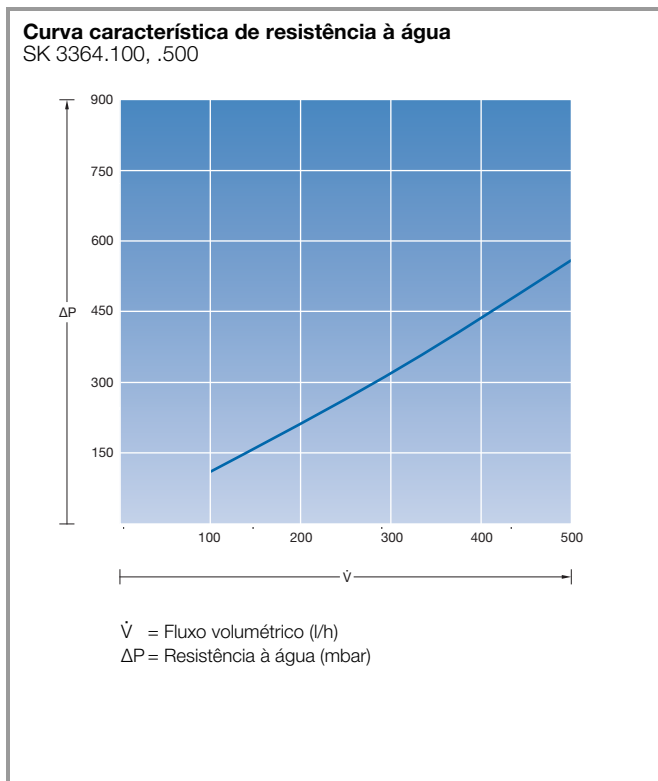
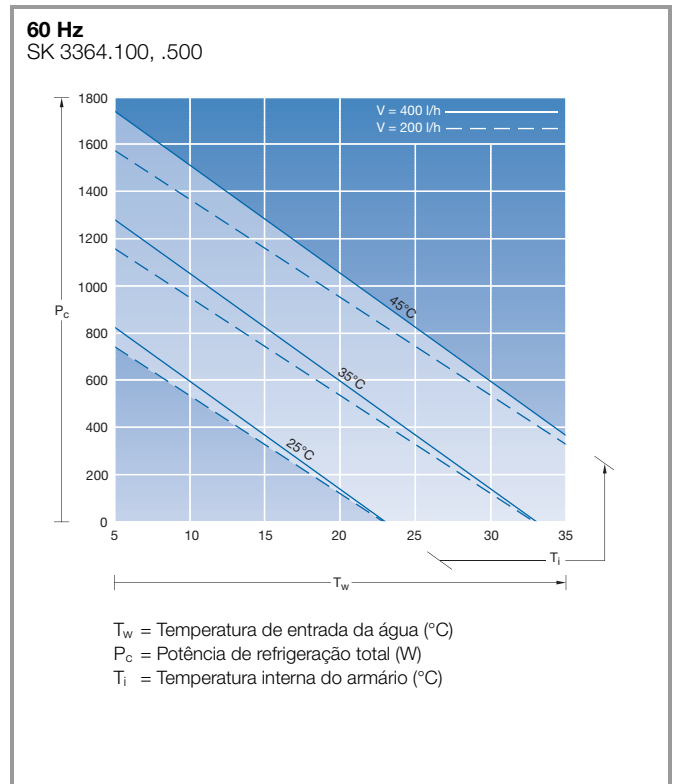
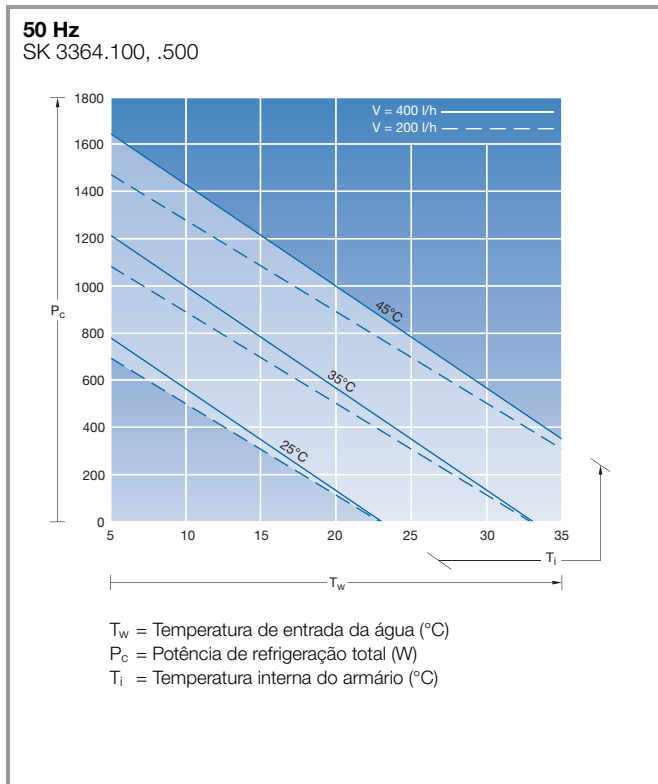
$\dot{V}$  = Fluxo volumétrico (l/h)  
 $\Delta P$  = Resistência à água (mbar)

# Sistema de refrigeração a líquido

## Trocadores de calor ar/água para montagem lateral

Potência de 1000 W

Peças em contato com a água: Cobre/latão (Cu/CuZn)

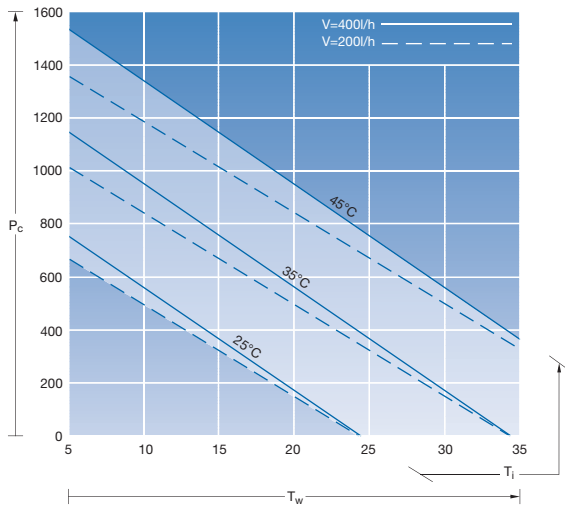


## Trocadores de calor ar/água para montagem lateral

Potência de 1000 W

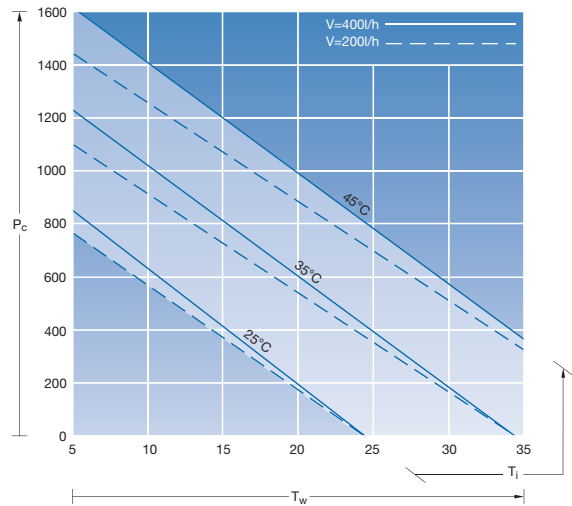
Peças em contato com a água: Aço inoxidável (1.4571)

**50 Hz**  
SK 3364.504



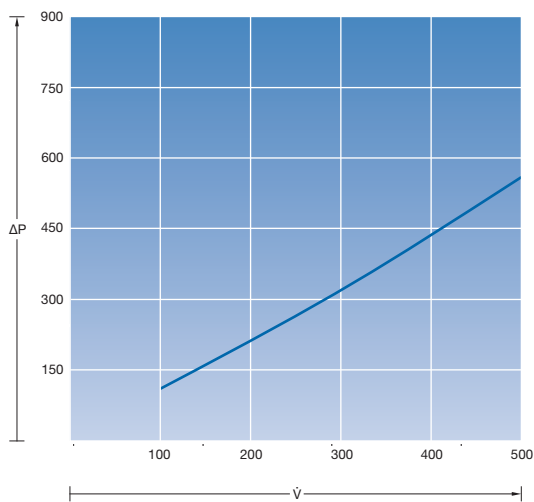
$T_w$  = Temperatura de entrada da água (°C)  
 $P_c$  = Potência de refrigeração total (W)  
 $T_i$  = Temperatura interna do armário (°C)

**60 Hz**  
SK 3364.504



$T_w$  = Temperatura de entrada da água (°C)  
 $P_c$  = Potência de refrigeração total (W)  
 $T_i$  = Temperatura interna do armário (°C)

**Curva característica de resistência à água**  
SK 3364.504



$\dot{V}$  = Fluxo volumétrico (l/h)  
 $\Delta P$  = Resistência à água (mbar)

# Sistema de refrigeração a líquido

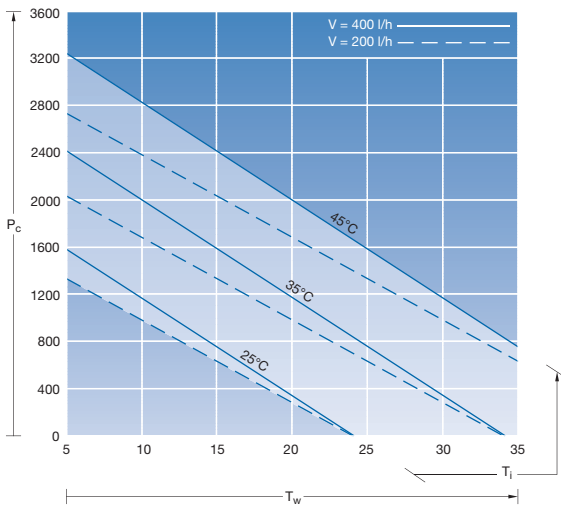
## Trocadores de calor ar/água para montagem lateral

Potência de 2000 W

Peças em contato com a água: Cobre/latão (Cu/CuZn)

**50 Hz**

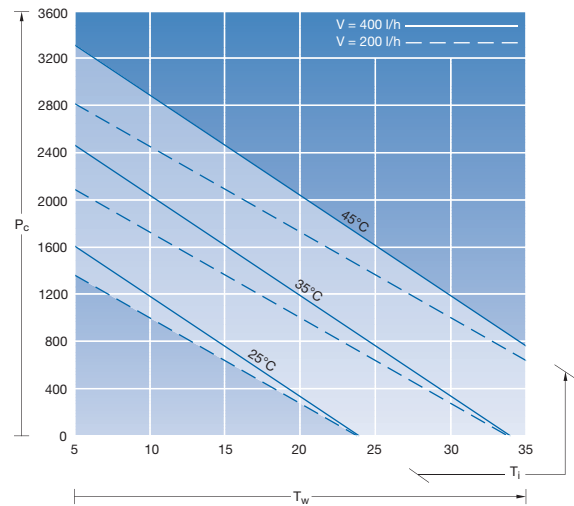
SK 3373.100, .500



$T_w$  = Temperatura de entrada da água (°C)  
 $P_c$  = Potência de refrigeração total (W)  
 $T_i$  = Temperatura interna do armário (°C)

**60 Hz**

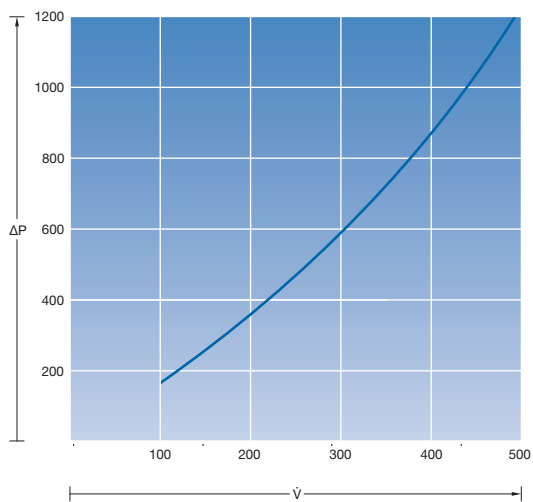
SK 3373.100, .500



$T_w$  = Temperatura de entrada da água (°C)  
 $P_c$  = Potência de refrigeração total (W)  
 $T_i$  = Temperatura interna do armário (°C)

### Curva característica de resistência à água

SK 3373.100, .500



$\dot{V}$  = Fluxo volumétrico (l/h)  
 $\Delta P$  = Resistência à água (mbar)



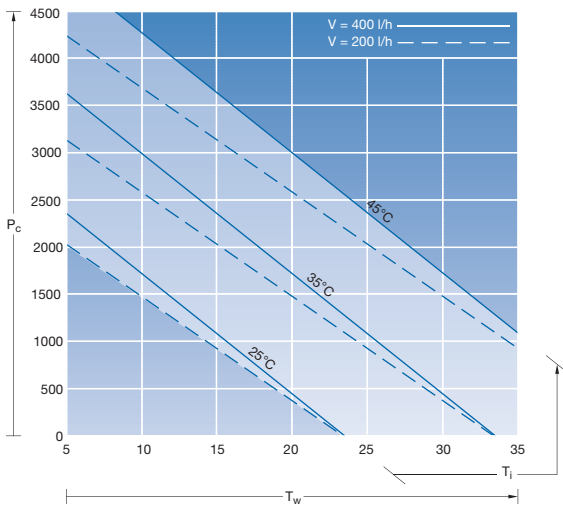
## Trocadores de calor ar/água para montagem lateral

Potência de 3000 W

Peças em contato com a água: Cobre/latão (Cu/CuZn)

**50 Hz**

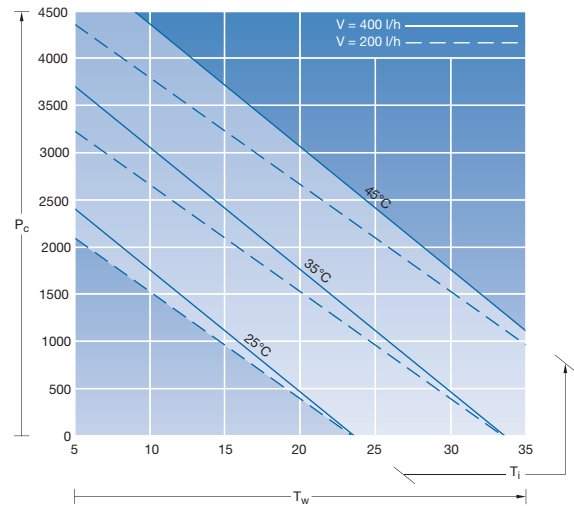
SK 3374.100, .500



$T_w$  = Temperatura de entrada da água ( $^\circ\text{C}$ )  
 $P_c$  = Potência de refrigeração total (W)  
 $T_i$  = Temperatura interna do armário ( $^\circ\text{C}$ )

**60 Hz**

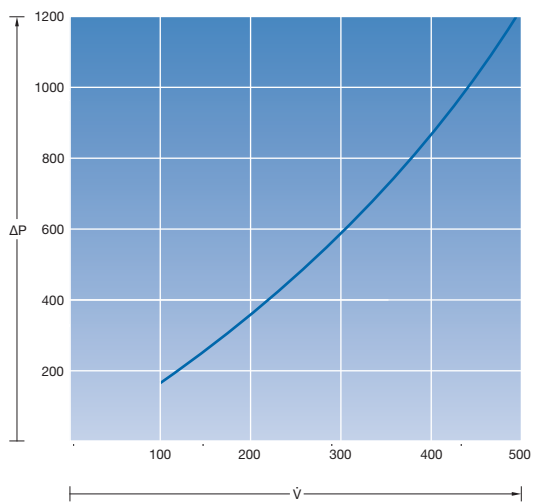
SK 3374.100, .500



$T_w$  = Temperatura de entrada da água ( $^\circ\text{C}$ )  
 $P_c$  = Potência de refrigeração total (W)  
 $T_i$  = Temperatura interna do armário ( $^\circ\text{C}$ )

### Curva característica de resistência à água

SK 3374.100, .500



$\dot{V}$  = Fluxo volumétrico (l/h)  
 $\Delta P$  = Resistência à água (mbar)

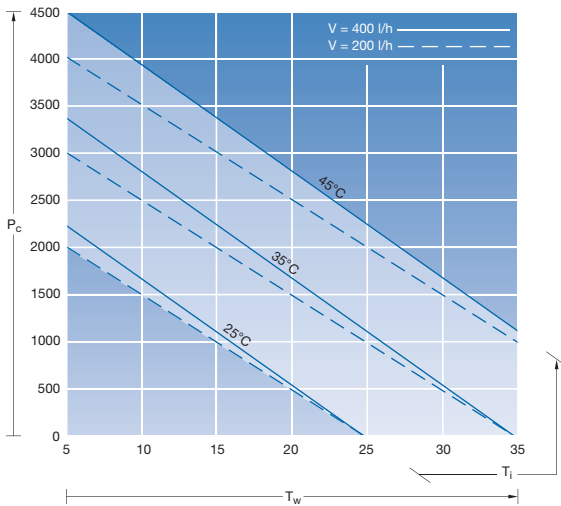
# Sistema de refrigeração a líquido

## Trocadores de calor ar/água para montagem lateral

Potência de 2500 W

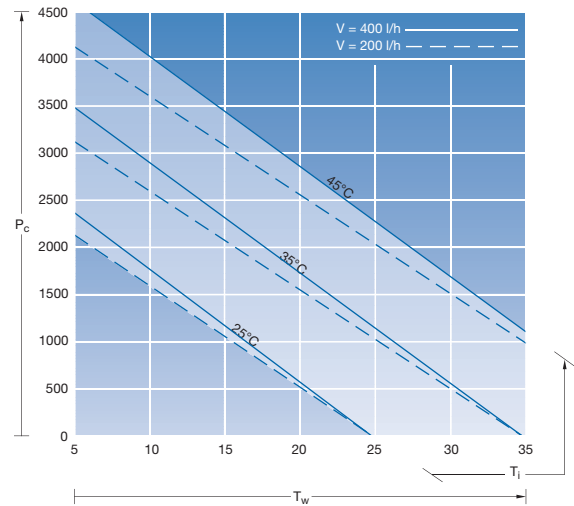
Peças em contato com a água: Aço inoxidável (1.4571)

**50 Hz**  
SK 3374.504



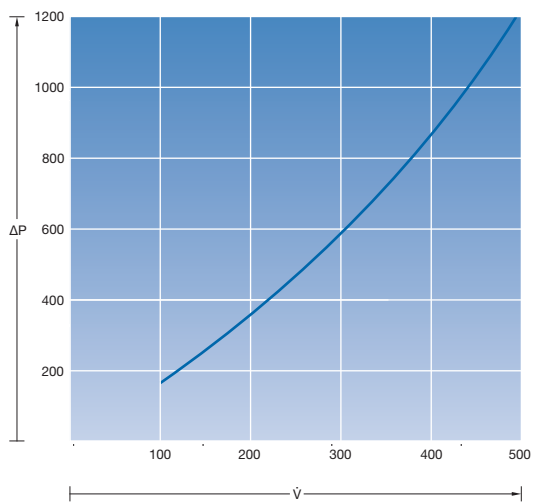
$T_w$  = Temperatura de entrada da água (°C)  
 $P_c$  = Potência de refrigeração total (W)  
 $T_i$  = Temperatura interna do armário (°C)

**60 Hz**  
SK 3374.504



$T_w$  = Temperatura de entrada da água (°C)  
 $P_c$  = Potência de refrigeração total (W)  
 $T_i$  = Temperatura interna do armário (°C)

**Curva característica de resistência à água**  
SK 3374.504



$\dot{V}$  = Fluxo volumétrico (l/h)  
 $\Delta P$  = Resistência à água (mbar)

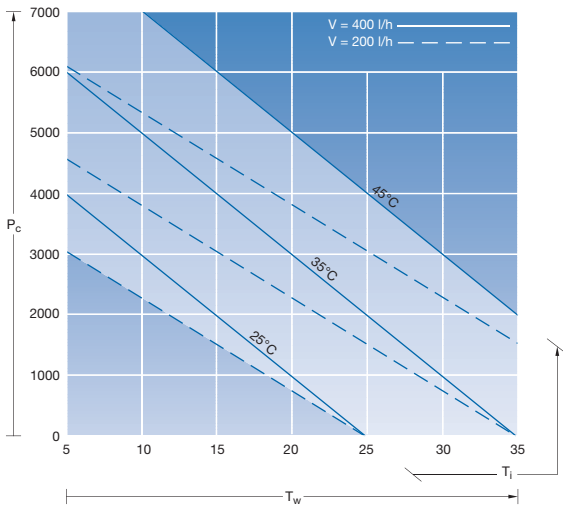
## Trocadores de calor ar/água para montagem lateral

Potência de 5000 W

Peças em contato com a água: Cobre/latão (Cu/CuZn)

**50 Hz**

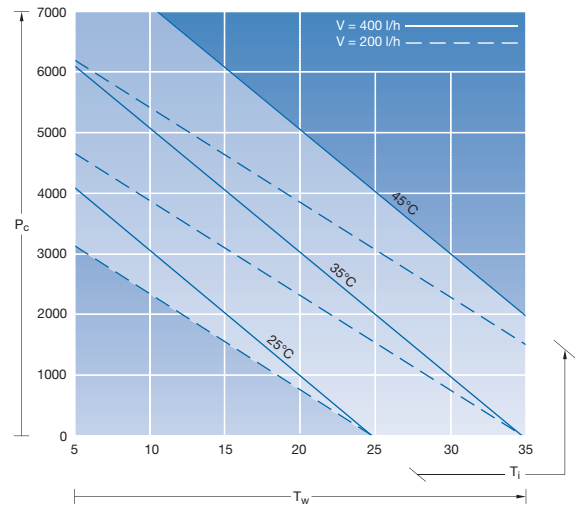
SK 3375.100, .500



$T_w$  = Temperatura de entrada da água (°C)  
 $P_c$  = Potência de refrigeração total (W)  
 $T_i$  = Temperatura interna do armário (°C)

**60 Hz**

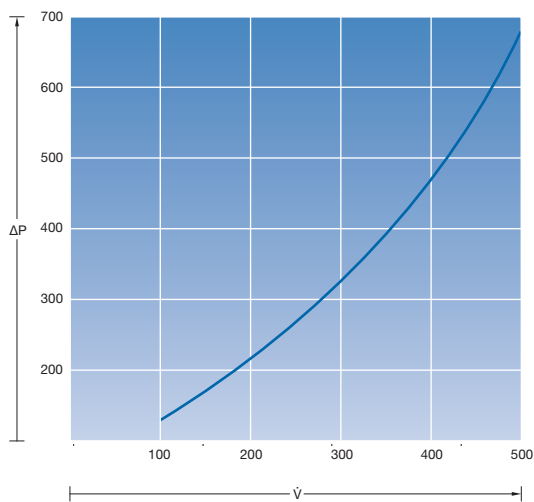
SK 3375.100, .500



$T_w$  = Temperatura de entrada da água (°C)  
 $P_c$  = Potência de refrigeração total (W)  
 $T_i$  = Temperatura interna do armário (°C)

### Curva característica de resistência à água

SK 3375.100, .500



$\dot{V}$  = Fluxo volumétrico (l/h)  
 $\Delta P$  = Resistência à água (mbar)

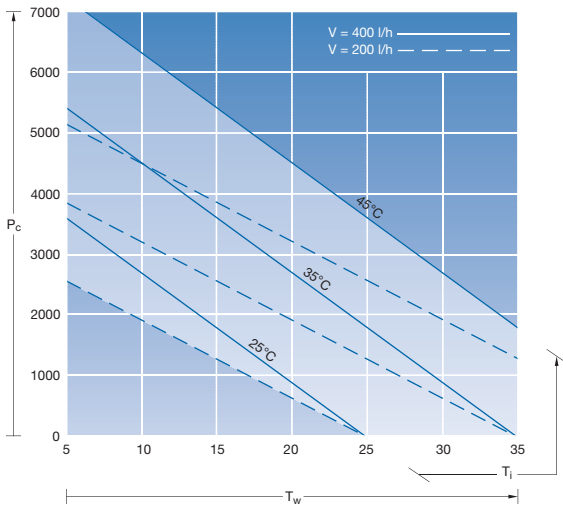
# Sistema de refrigeração a líquido

## Trocadores de calor ar/água para montagem lateral

Potência de 4000 W

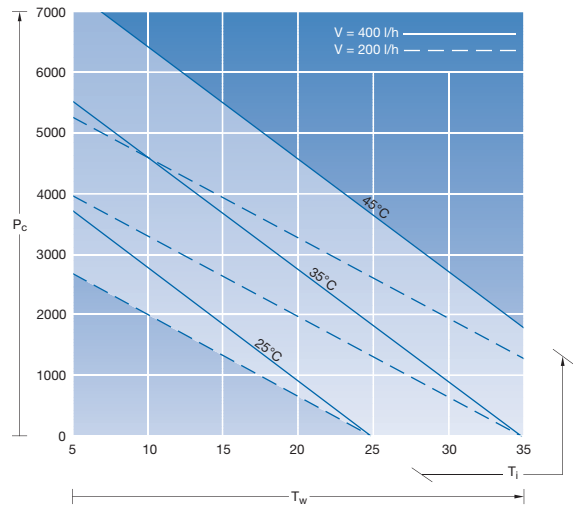
Peças em contato com a água: Aço inoxidável (1.4571)

**50 Hz**  
SK 3375.504



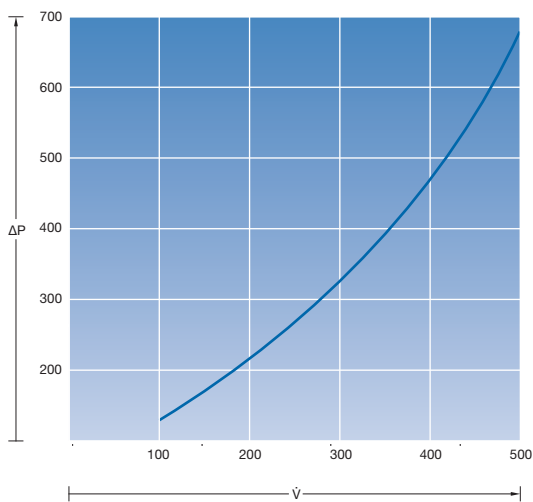
$T_w$  = Temperatura de entrada da água (°C)  
 $P_c$  = Potência de refrigeração total (W)  
 $T_i$  = Temperatura interna do armário (°C)

**60 Hz**  
SK 3375.504



$T_w$  = Temperatura de entrada da água (°C)  
 $P_c$  = Potência de refrigeração total (W)  
 $T_i$  = Temperatura interna do armário (°C)

**Curva característica de resistência à água**  
SK 3375.504



$\dot{V}$  = Fluxo volumétrico (l/h)  
 $\Delta P$  = Resistência à água (mbar)

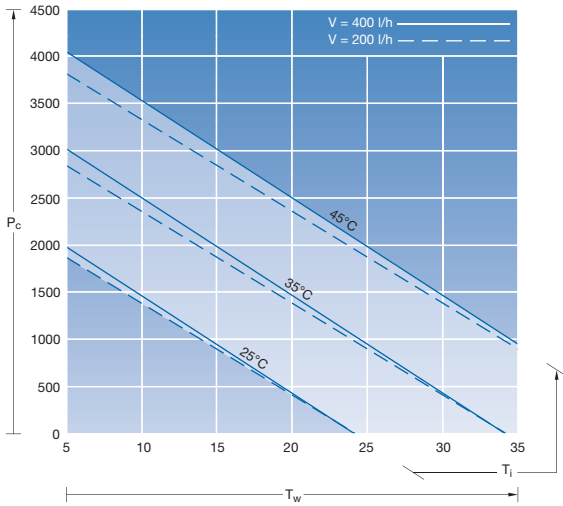
## Trocadores de calor ar/água para montagem no teto

Potência de 2500 W

Peças em contato com a água: Cobre/latão (Cu/CuZn)

**50 Hz**

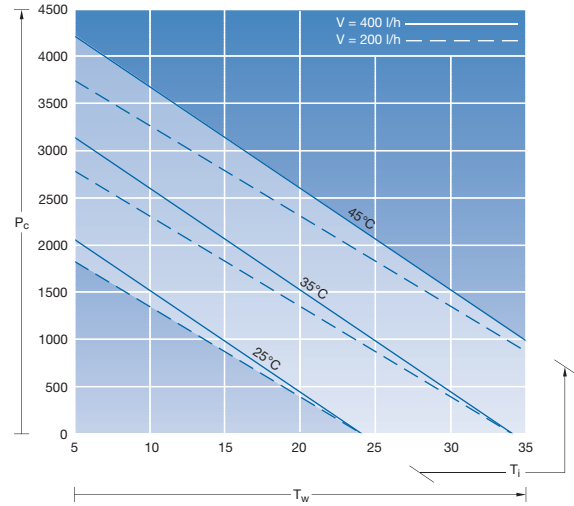
SK 3209.100, .500



$T_w$  = Temperatura de entrada da água (°C)  
 $P_c$  = Potência de refrigeração total (W)  
 $T_i$  = Temperatura interna do armário (°C)

**60 Hz**

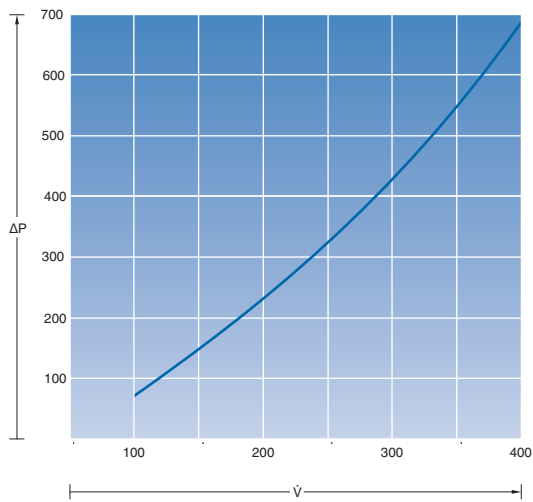
SK 3209.100, .500



$T_w$  = Temperatura de entrada da água (°C)  
 $P_c$  = Potência de refrigeração total (W)  
 $T_i$  = Temperatura interna do armário (°C)

### Curva característica de resistência à água

SK 3209.100, .500



$\dot{V}$  = Fluxo volumétrico (l/h)  
 $\Delta P$  = Resistência à água (mbar)

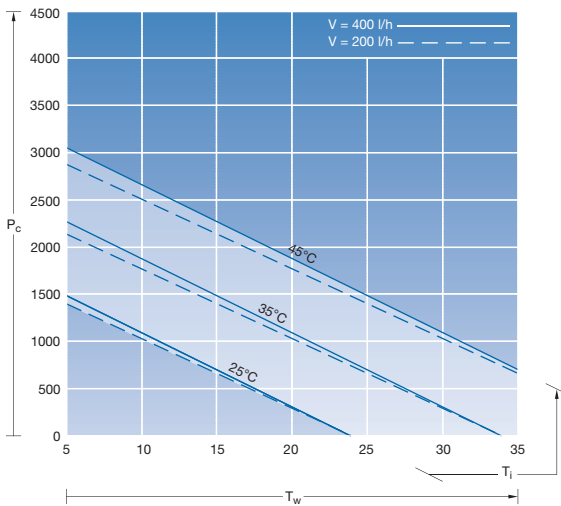
# Sistema de refrigeração a líquido

## Trocadores de calor ar/água para montagem no teto

Potência de 1875 W

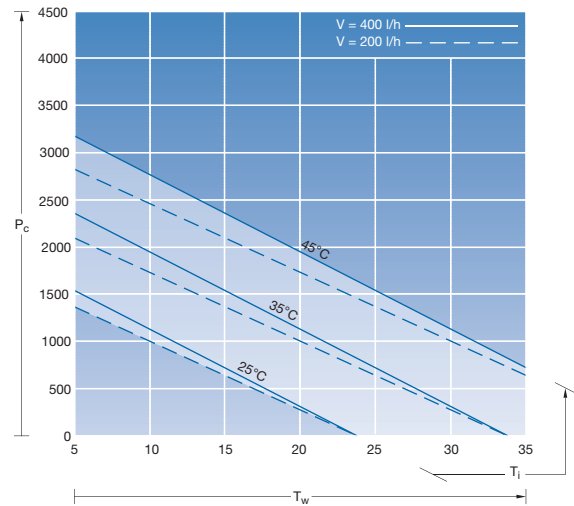
Peças em contato com a água: Aço inoxidável (1.4571)

**50 Hz**  
SK 3209.504



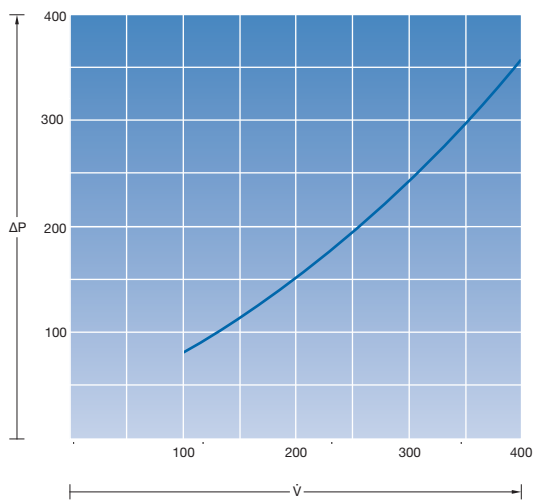
$T_w$  = Temperatura de entrada da água (°C)  
 $P_c$  = Potência de refrigeração total (W)  
 $T_i$  = Temperatura interna do armário (°C)

**60 Hz**  
SK 3209.504



$T_w$  = Temperatura de entrada da água (°C)  
 $P_c$  = Potência de refrigeração total (W)  
 $T_i$  = Temperatura interna do armário (°C)

**Curva característica de resistência à água**  
SK 3209.504



$\dot{V}$  = Fluxo volumétrico (l/h)  
 $\Delta P$  = Resistência à água (mbar)

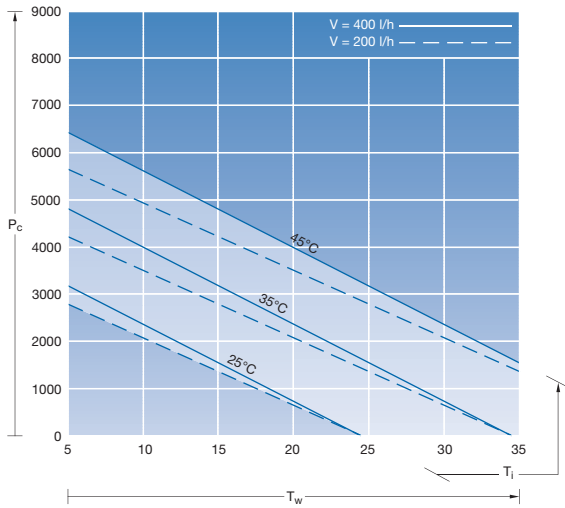
## Trocadores de calor ar/água para montagem no teto

Potência de 4000 W

Peças em contato com a água: Cobre/latão (Cu/CuZn)

**50 Hz**

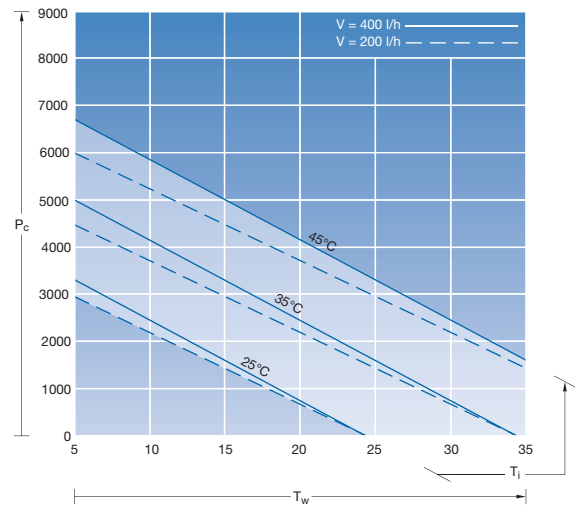
SK 3210.100, .500



$T_w$  = Temperatura de entrada da água (°C)  
 $P_c$  = Potência de refrigeração total (W)  
 $T_i$  = Temperatura interna do armário (°C)

**60 Hz**

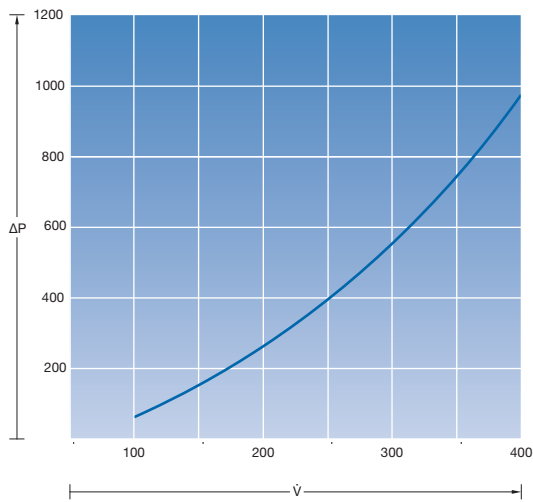
SK 3210.100, .500



$T_w$  = Temperatura de entrada da água (°C)  
 $P_c$  = Potência de refrigeração total (W)  
 $T_i$  = Temperatura interna do armário (°C)

### Curva característica de resistência à água

SK 3210.100, .500



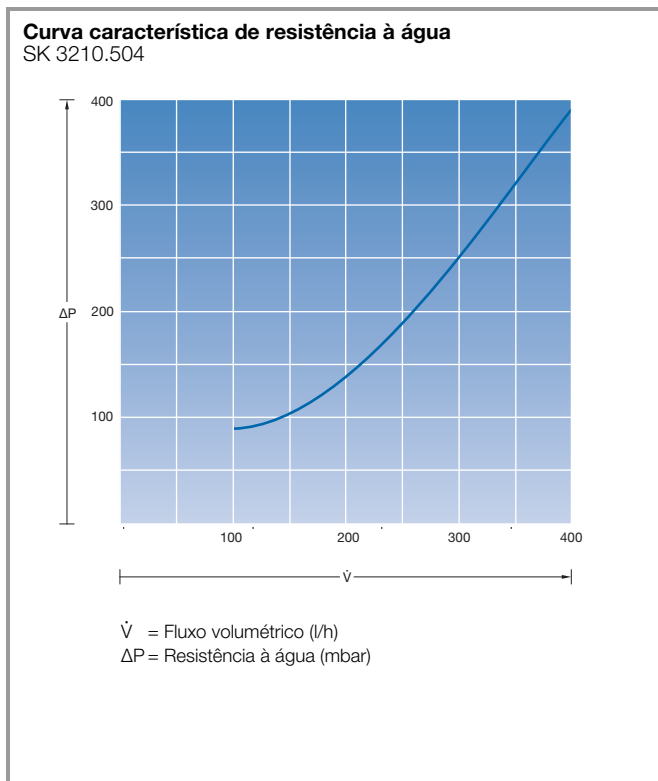
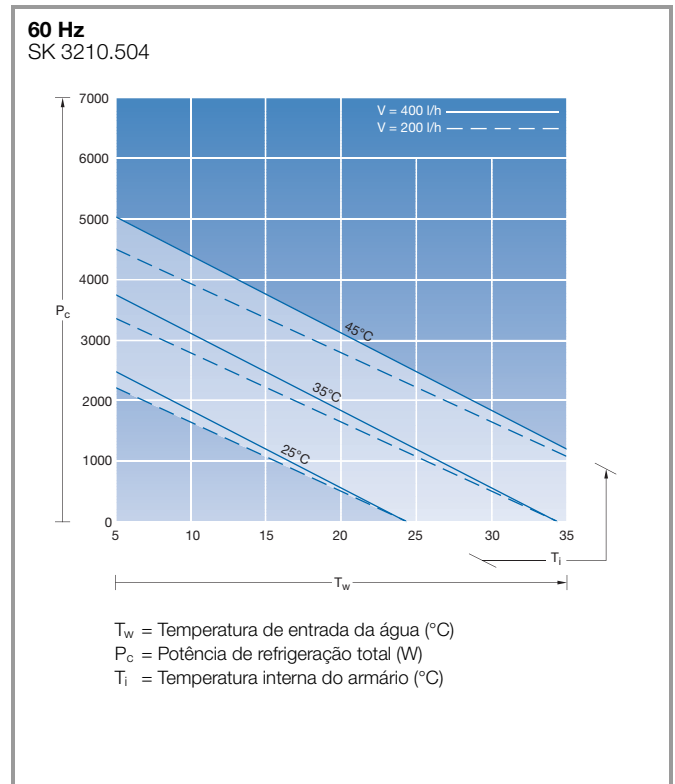
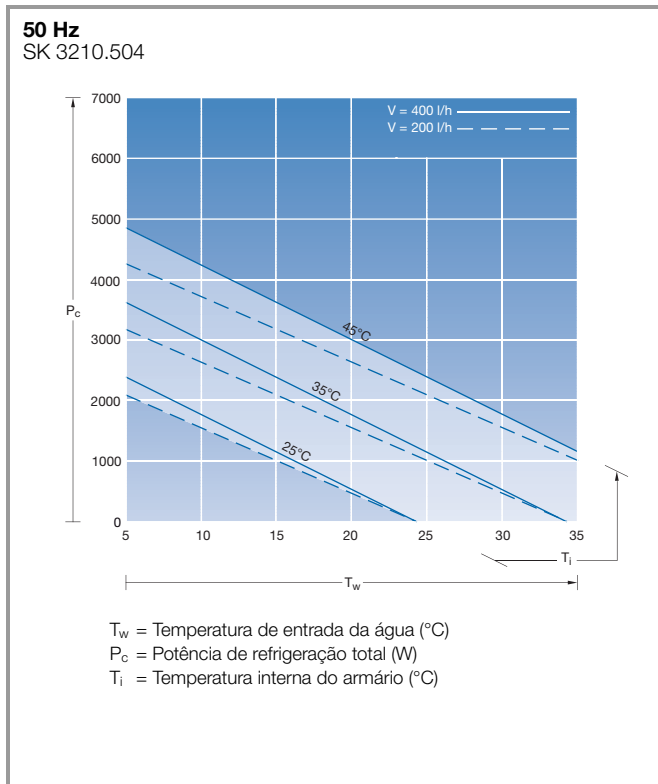
$\dot{V}$  = Fluxo volumétrico (l/h)  
 $\Delta P$  = Resistência à água (mbar)

# Sistema de refrigeração a líquido

## Trocadores de calor ar/água para montagem no teto

Potência de 3000 W

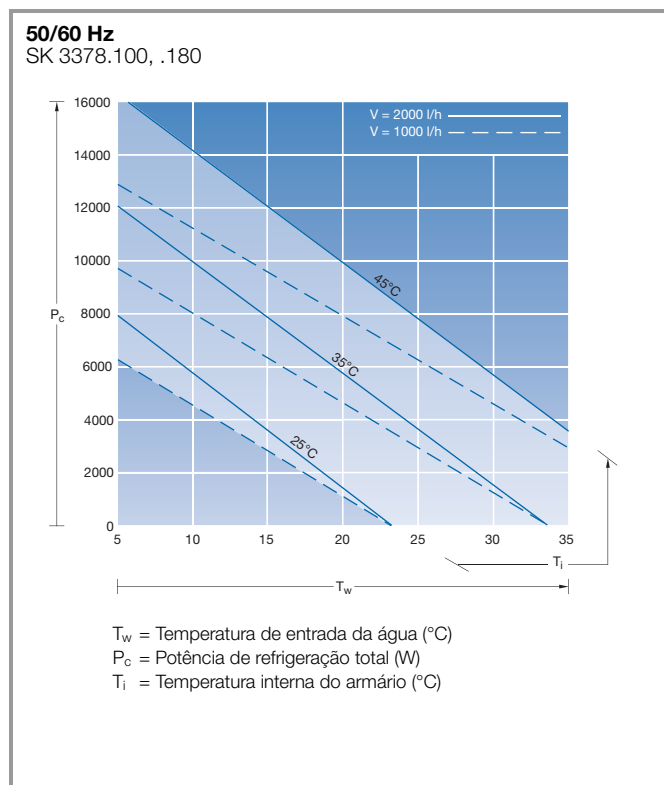
Peças em contato com a água: Aço inoxidável (1.4571)





## Liquid Cooling Package

Potência de 10 kW, LCP Rack para aplicações industriais  
Peças em contato com a água: Cobre/latão (Cu/CuZn)

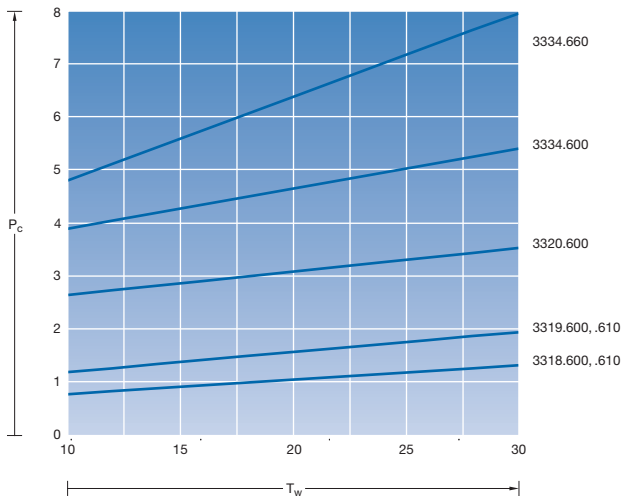


# Sistema de refrigeração a líquido

## Chiller TopTherm

Potência entre 1 e 6 kW

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

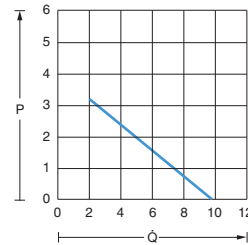


$T_w$  = Temperatura de entrada da água ( $^\circ\text{C}$ )  
 $P_c$  = Potência de refrigeração total (kW)

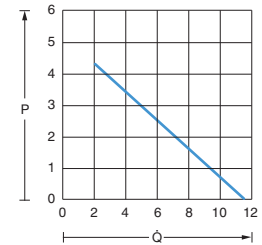
Curvas características da bomba

SK 3318.600/SK 3318.610/SK 3319.600/SK 3319.610

50 Hz

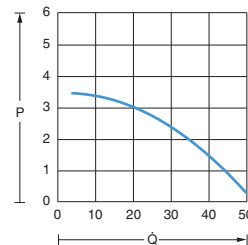


60 Hz

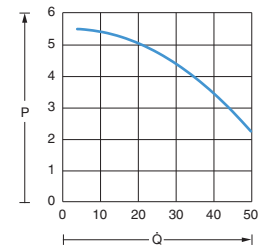


SK 3320.600/SK 3334.600/SK 3334.660

50 Hz



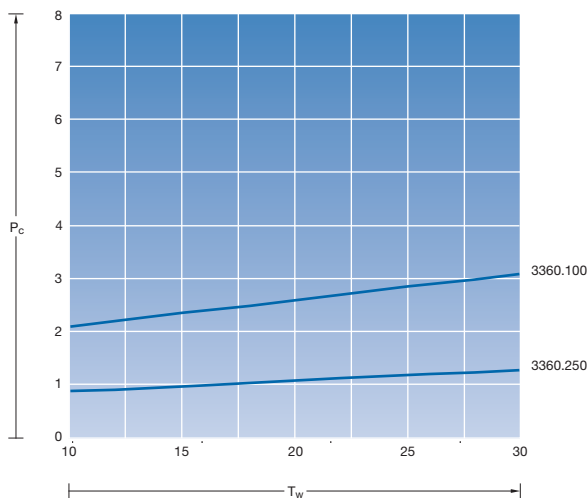
60 Hz



P = Pressão de descarga [bar]  
 $\dot{Q}$  = Vazão Q [l/min]

Potência entre 1 e 2,5 kW, para montagem lateral

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

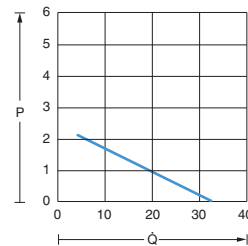


$T_w$  = Temperatura de entrada da água ( $^\circ\text{C}$ )  
 $P_c$  = Potência de refrigeração total (kW)

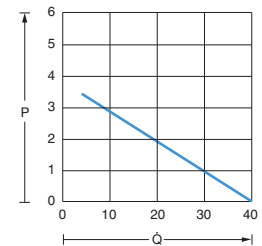
Curvas características da bomba

SK 3360.100, .250

50 Hz



60 Hz

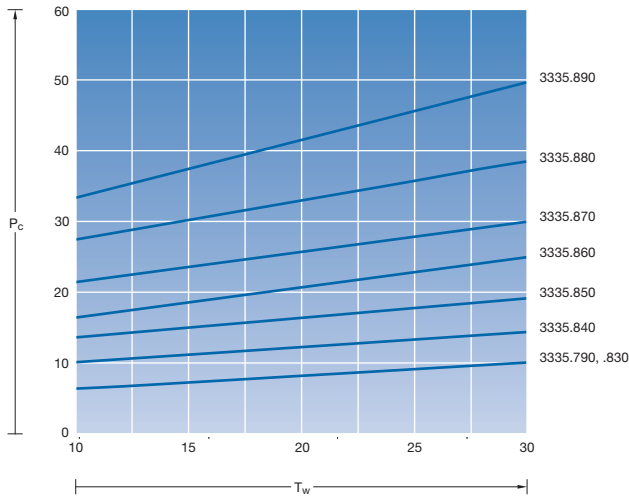


P = Pressão de descarga [bar]  
 $\dot{Q}$  = Vazão Q [l/min]

## Chiller TopTherm

Potência entre 8 e 40 kW

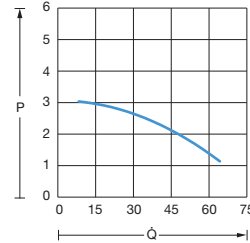
50 Hz com  $T_w = 32^\circ\text{C}$  (temperatura ambiente)



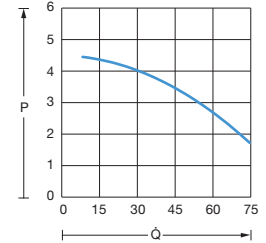
$T_w$  = Temperatura de entrada da água ( $^\circ\text{C}$ )  
 $P_c$  = Potência de refrigeração total (kW)

Curvas características da bomba  
 SK 3335.850

50 Hz

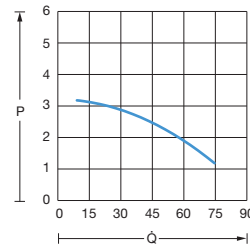


60 Hz

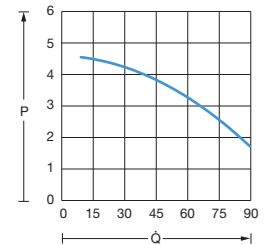


SK 3335.860

50 Hz

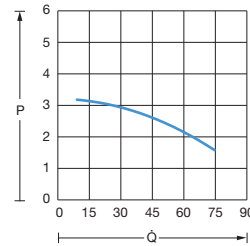


60 Hz

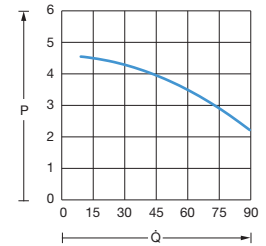


SK 3335.870

50 Hz

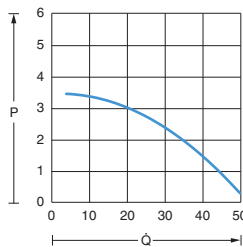


60 Hz

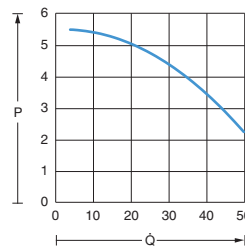


Curvas características da bomba  
 SK 3335.790, .830

50 Hz

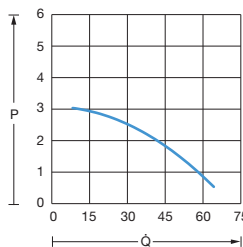


60 Hz

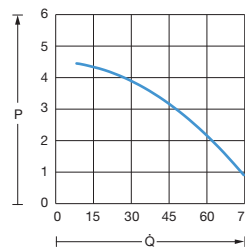


SK 3335.840

50 Hz

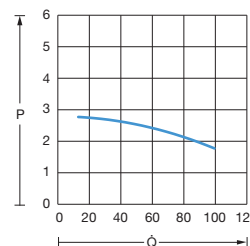


60 Hz

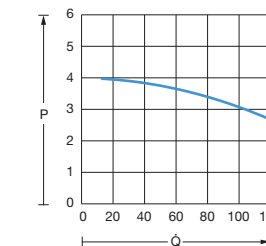


SK 3335.880

50 Hz

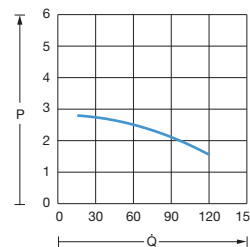


60 Hz

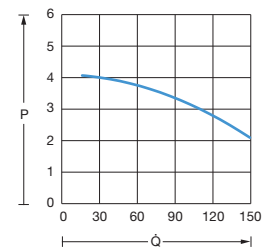


SK 3335.890

50 Hz



60 Hz

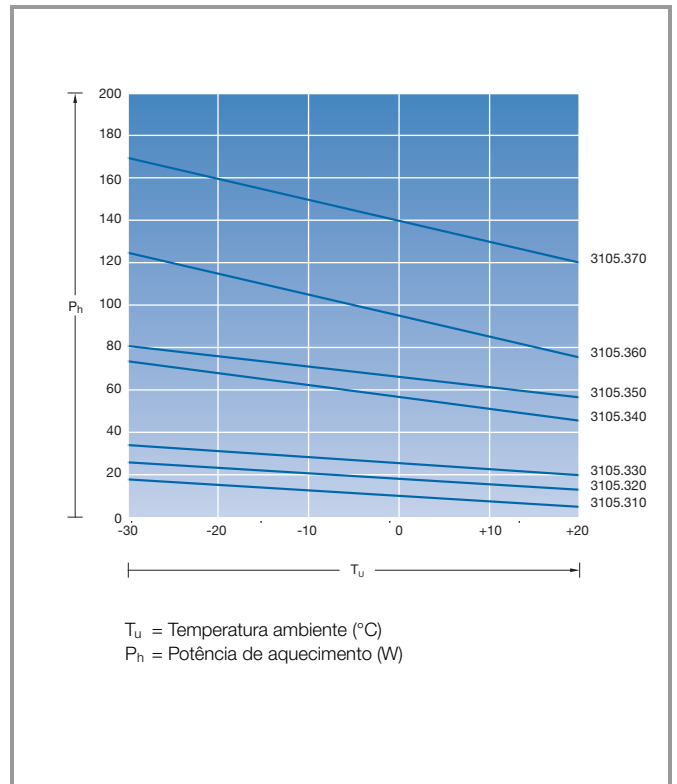
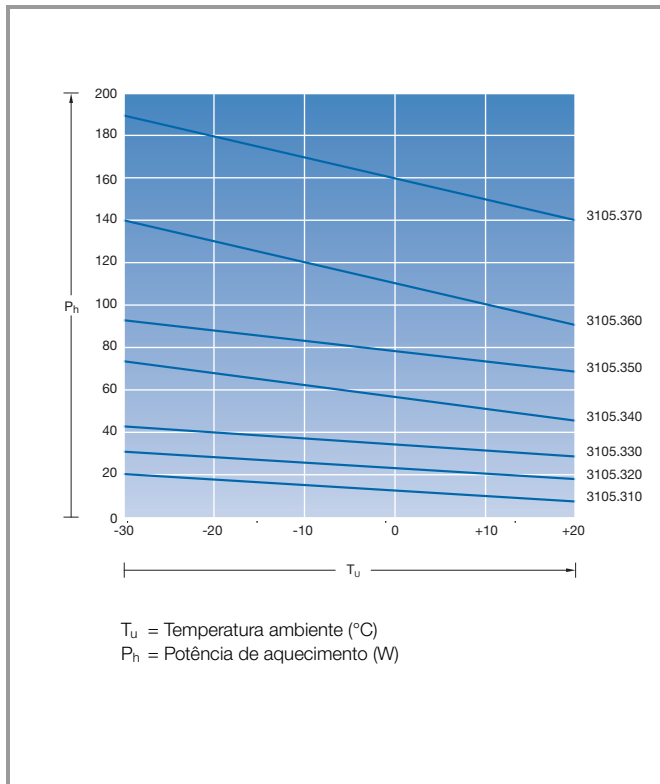


$P$  = Pressão de descarga [bar]  
 $\dot{Q}$  = Vazão  $\dot{Q}$  [l/min]

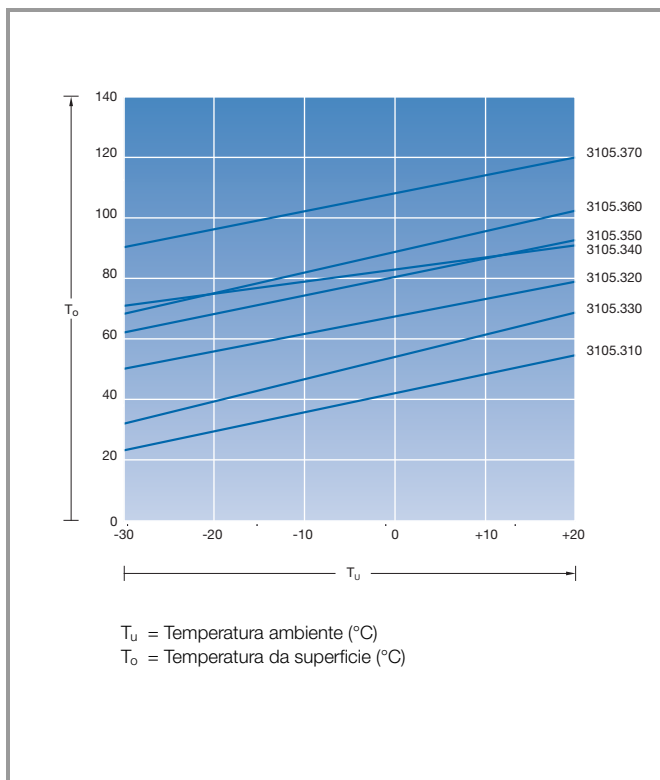
# Aquecedores para armários

## Aquecedores para armários sem ventilador 230 V

110 V



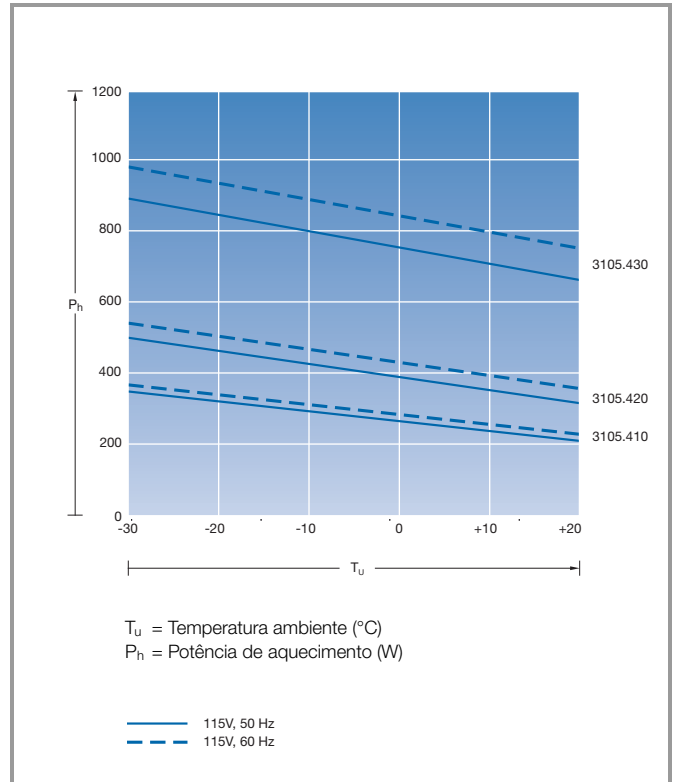
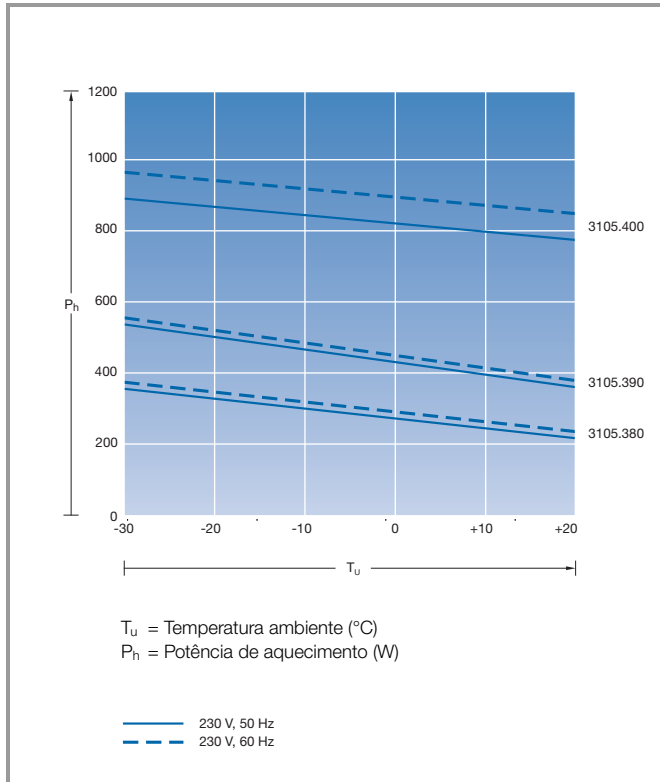
## Temperatura máxima da superfície



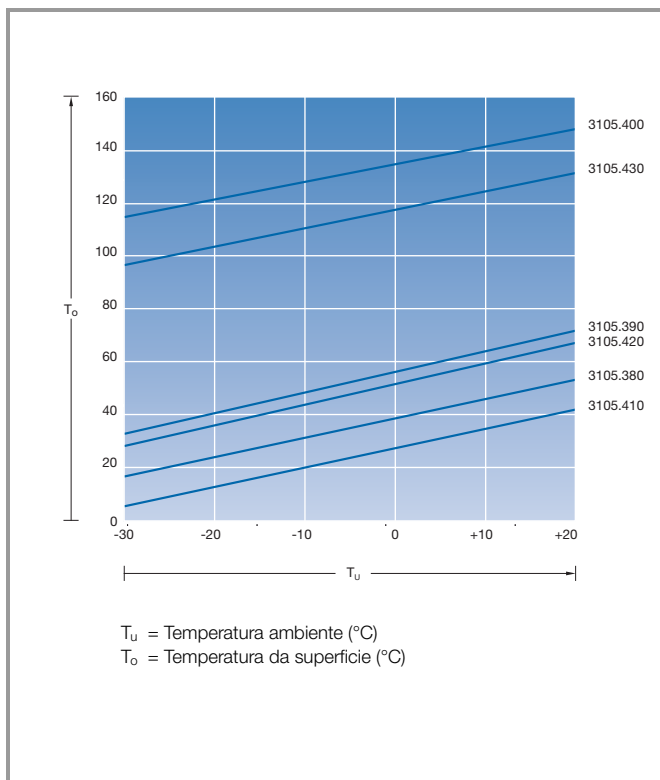
## Aquecedores para armários com ventilador

230 V, 50/60 Hz

115 V, 50/60 Hz



## Temperatura máxima da superfície







# Rittal – The System.

Faster – better – everywhere.

- Caixas e armários
- Distribuição de energia
- Climatização
- Infraestrutura para TI
- Software e serviços

Você pode encontrar os detalhes de contato de todas as empresas Rittal no mundo, aqui.



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

ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES



FRIEDHELM LOH GROUP