

# BUZÇELİK

THERMIC EQUIPMENTS INDUSTRY

## KONDENSER ÜNİTELERİ

condensing units  
without compressor

BZBOX-BZSBOX  
SHBOX-SHLBOX  
EBOX-DEBOX  
MTBOX-MSBOX  
KUK-KUY  
MONOBLOK  
SERIES



[www.buzcelik.com.tr](http://www.buzcelik.com.tr)

## Hakkımızda

Buzçelik, Türkiye'de ısı deęiřtiriciler alanında lider üreticilerden biridir.

Farklı teknolojileri içeren bir ürün portföyünün yanı sıra kapsamlı bir destek sunan Buzçelik, gelişmiş makine parkuru, 30.000 m2'nin üzerinde üretim alanı ve verimli iş gücü ile komple tedarik çevrimi için uzman bir çözüm ortağıdır. 1982 yılında kuruluşundan bu yana, üstün kalite ve kusursuz ürün sunmayı ilke edinerek müşterilerinin memnuniyetini sağlamıştır.

Buzçelik, sürdürülebilir bir soğutma endüstrisi için yenilikçi ürünleri ile stratejik hedef temelleri ışığında yenilikler sunmak adına kalitesini dünya çapında geliştirmektedir. Avrupa standartlarında nitelikli ürünler ve imalat konsepti ile uzun vadeli stratejik hedefleri tanımlarken, küresel alanda güçlü bir profil ortaya koyarken, sadece Türkiye'de değil küresel pazarda da liderliği hedefleyen oyuncu olma yolunda emin adımlarla ilerlemektedir.

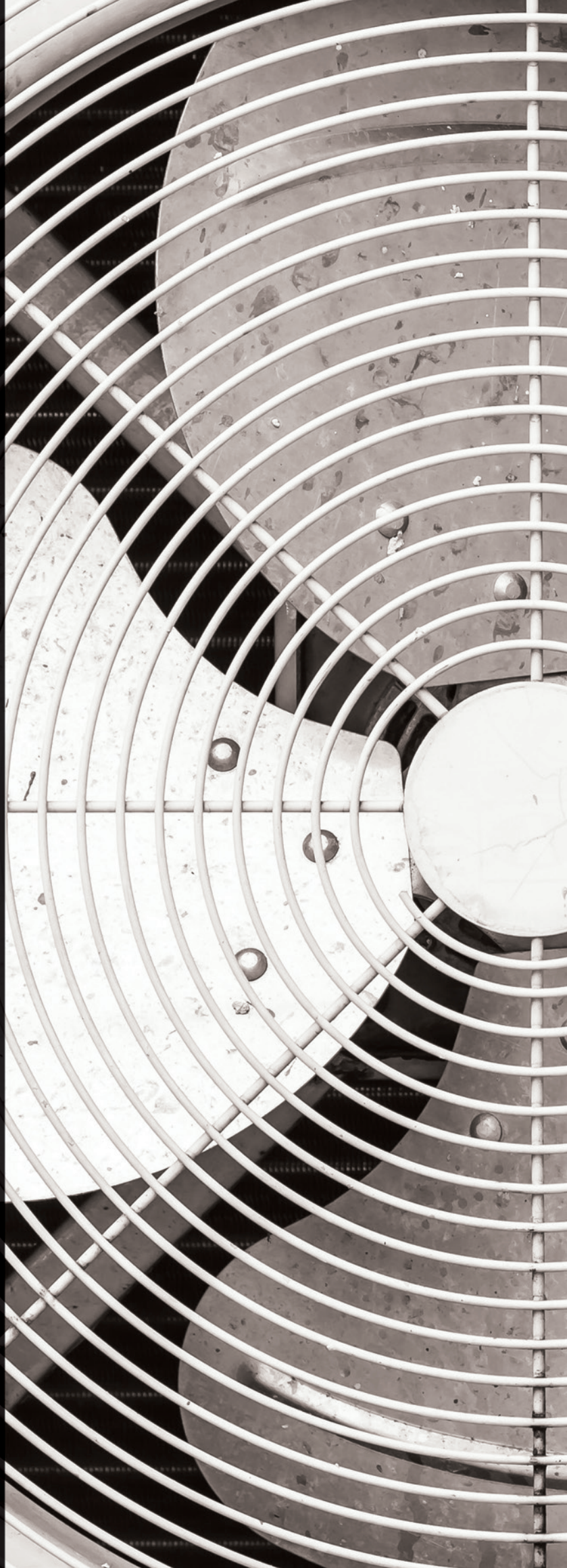
Kuruluşundan bu yana iş ortamıyla uzun vadeli ilişkiler kurmayı temel ilke olarak kabul ederek sektörün önde gelen şirketlerinden biri olmuştur ve kendini sektörde ilerletmek için hayati önlemler almıştır.

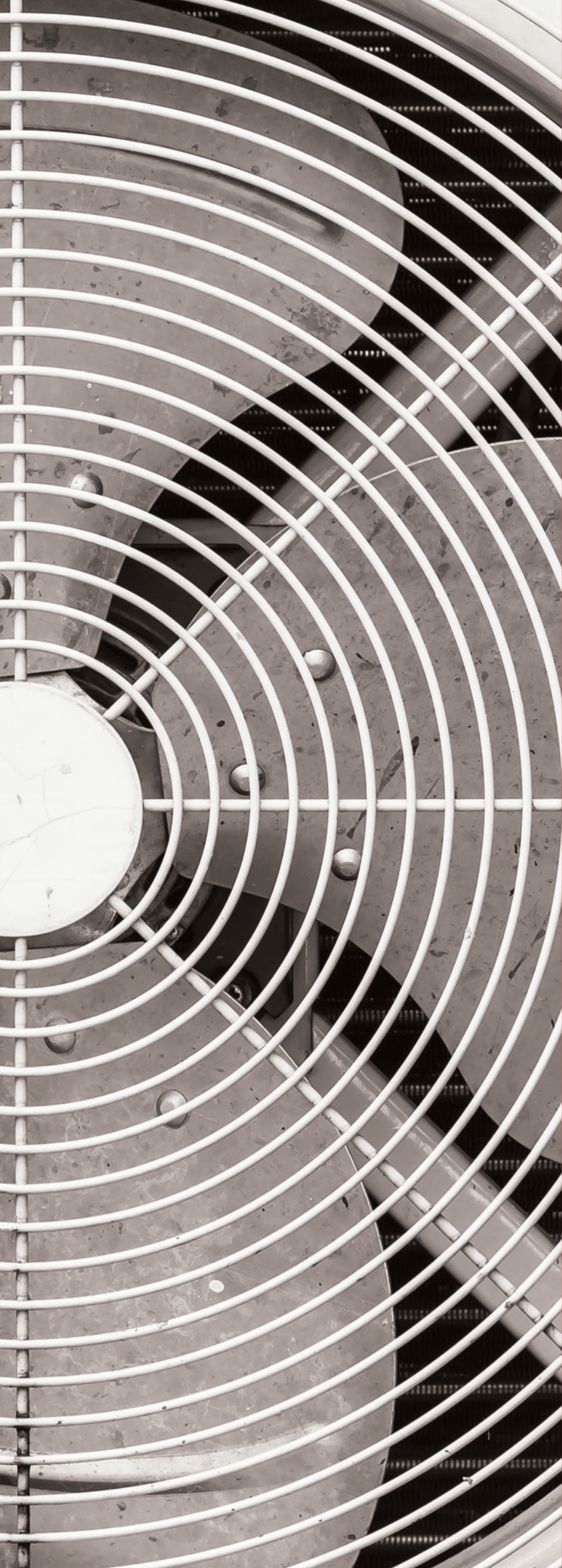
Sektörel koşulları göz önüne alan Buzçelik, bazı önemli özellikleriyle ayrılmaktadır:

- Ar-Ge faaliyetleri sürekli aralıklarla müşteri ihtiyaçlarına göre geliştirilmiş ve genişletilebilir ürün yelpazesi,
- "Profesyonel Yeterlilik" ile birlikte "Makul Maliyet" avantajı sunan fiyat politikası,
- Müşteri gereksinimlerine hızlı cevap veren üretim politikası ve kısa vadede teslimat politikası,
- Müşterilerin ürünleri kolayca görüntüleyebilmelerini ve hem teknik hem de fiyat verilerine ulaşmalarına yardımcı seçim yazılımlarıyla tüm dijital platformları (web, ios, android, masaüstü) destekler.

Standartların belgelendirilmesi sürecinde Buzçelik, rekabetçi bir organizasyon olarak etkin işgücü, müşteriler, bayiiler ve tedarikçilerle bu hedeflere ulaşmak için çalışır. Buzçelik'in büyümesinin temeli, yenilikçi gücüne bağlıdır ve ana hedefi beklentileri aşarak müşteri memnuniyetini artırmaktır. Buzçelik, müşterilerinin karşılaştığı zorlukları, destek altyapısı kapsamında en doğru çözümü bulana kadar tutku ve sebatla değerlendirir.

Buzçelik, gelecekte de müşterilerine, çalışanlarına, sanayiye, topluma ve çevreye katma değer sağlamaya devam edecek, uzun vadeli planlamalar ve gerekli yatırımları gerçekleştirerek güven sembolü olmaya devam edecektir. Buzçelik'i sektör için güçlü ve güvenilir bir ortak yapan şey budur.





## About Us

Buzcelik is one of the leading manufacturers in the field of heat exchanger in Turkey.

With a product portfolio that includes different technologies, as well as a comprehensive offering in support, Buzcelik is an expert solution partner for the complete procurement cycle with the improved machinery park, over 30.000 m2 production site and efficient labor force. Since its inception in the year 1982, it has provided customers' satisfaction faithfully by offering superior quality and faultless products.

Buzcelik improves quality worldwide to deliver innovations for a sustainable cooling industry in the light of the basis on the strategic objective with its innovative products.

While defining long-term strategic objectives with the qualified products and manufacturing concept in European Standards as putting forth powerful profile in the global arena, it is firmly advancing in line to be player aiming leadership not only in Turkey but also in the global market.

It accepts as a basic principle to establish long-term relationships with the business environment since its establishment and has been one of the leading companies in the industry and has taken vital steps to move forward on its own and the sector.

Considering the sectoral conditions Buzcelik is discriminated from the competitors by some significant specifications:

- Improving and expandable product range according to customer requirements by incessantly R&D activities,
- The price policy that offers "Reasonable Money" advantage along with "Professional Value",
- The manufacturing policy that responds to the customer needs rapidly and realize delivery in short term,
- Supporting all digital platforms (web, ios, android, desktop) software that allow the customers to view the products easily and helps reaching both technical and price data.

Certificating the standards Buzcelik, as a competitive organization, increase the effort to reach to these targets with the effective labor force, customers, dealers and suppliers.

The basis for the Buzcelik's growth depends on its innovative strength and its main goal is to exceed expectations and to improve customer satisfaction. Buzcelik consider its customers' challenges with passion and persistence until the right solution is found on the scope of support infrastructure.

Regardless of the motion task that customers face anywhere in the world, they will always find a Buzcelik solution with the global experience and the appropriate know-how from industry and variety of technologies.

On this continuum Buzcelik will continue to provide value-added for the customers, employees, industry, society and the environment in the coming period and being a symbol of trust by making to plan over the long term and to undertake significant up-front investments in the safeguarding of its future. This is what makes Buzcelik a strong and reliable partner for the industry.

**kalitenin**  
zamana  
karşı  
the zaferi  
triumph of  
**quality**  
against  
time





# KONDENSER ÜNİTELERİ

condensing units  
without compressor

BZBOX-BZSBOX SERIES  
**08-11**

SHBOX-SHLBOX SERIES  
**12-15**

EBOX SERIES  
**16-17**

DEBOX SERIES  
**18-19**

MTBOX-MSBOX SERIES  
**20-23**

KUK SERIES  
**24-27**

KUY SERIES  
**28-31**

MONOBLOK  
**32-33**



## Kondenser Üniteleri

### Condensing Units Without Compressor

## GENEL

- BZBOX, BZSBOX, SHBOX, SHLBOX, EBOX, DEBOX, MTBOX, MSBOX, KUK, KUY, MONO kondenser üniteleri 11 ana seriden oluşmaktadır.
- Tüm iklimlendirme ve soğutma uygulamalarında kullanılmak üzere, dış ortam koşullarında montaj ve çalışmaya uygun olacak şekilde, (S) Standart ses seviyeli ve (L) Düşük ses seviyeli tiplerde imal edilirler.

## BATARYA

- Ø5/16" - Ø3/8" - Ø1/2" bakır borular.
- V-tipi alüminyum lamel.
- Lamel araları 2,1-2,5 mm tasarlanmıştır.
- Giriş - çıkış kolektör malzemesi bakırdır.
- İzin verilen en yüksek çalışma basıncı Ps=21 Bar.
- Şaşırtmalı boru dizilimi.
- Bataryalarda R404A, R407C, R22, R134A soğutucu gazlarla çalışmaya uygun tasarım.
- Pozitif basınçla sevk.

## KASETLEME

- Kondenser üniteleri kendini taşıyıcı bir konstrüksiyona sahiptir ve monte edileceği zemine ilave bir konstrüksiyona ihtiyaç duymadan yerleştirilebilir. Kasetleme malzemesi olarak UV ve korozyon koruması sağlayan elektrostatik toz boya kaplı galvanizli çelik kullanılır. (Standart renk RAL 7035 veya RAL 9016)

## FAN

- Ø300-Ø350-Ø400-Ø450-Ø500-Ø630-Ø800 mm / 230V-50Hz- Monofaze 800 - 1450 d/d veya 400V-50Hz Trifaze 650, 900 d/d fanlar.
- Opsiyonel seçimler Buzçelik Teknik Uzmanı tarafından teyit edilmelidir.
- Standart veya düşük ses seviyeli bakım gerektirmeyen fan seçeneği.
- İsteğe bağlı AC ya da EC fan motor seçenekleri.
- Koruma sınıfı IP54, fan konstrüksiyonu izolasyon malzeme sınıfı F.
- Opsiyonel olarak seçilebilir fan aksesuar çeşitleri (FlowGrid gürültü düşürücüler vb.)
- Çalışma aralığı -40°C/+50°C'dir.

## KAPASİTE

- Nominal kapasiteler  $\Delta T=15^{\circ}\text{C}$  koşulunda R404A gaza göre Eurovent EN 328 standartları dikkate alınarak verilmiştir.

## SEÇENEKLER

- Farklı dış kabin rengi.
- Monofaze 220V 1~ 50Hz, Trifaze 400V 3~ 50Hz fan seçeneği.
- Kondenser üniteleri kompresörsüz imal edilirler.
- Opsiyonel olarak likit depolu veya elektrik panolu yapılırlar. Korozyif atmosferlerde çalışma durumunda epoksi, hidrofilik kaplı alüminyum katnatlar ve komple epoksi kaplı batarya opsiyonel olarak kullanılır.
- Katalogda belirtilmeyen özel ürünler için lütfen satış departmanı ile irtibata geçin.

## NOT

- Montaj, Bakım - Taşıma ve Kaldırma detayları için kullanım Kılavuzuna başvurunuz.

## General

- BZBOX, BZSBOX, SHBOX, SHLBOX, EBOX, DEBOX, MTBOX, MSBOX, KUK, KUY, MONO Condenser Unit models are designed in 11 main series.
- It's also ideal for long lasting outdoor installation of all applications in refrigeration and air conditioning. Besides, it has 2 different noise levels of (S) Standart and (L) Low Noise

## Coil

- Ø5/16" - Ø3/8" - Ø1/2" copper tubes.
- V-type aluminium fins.
- The finned coils are designed with aluminium fins spaced at 2,1 or 2,5 mm, crimped onto copper tubes.
- Header inlet and outlet tube connections made of copper.
- Maximum operating pressure 21 bar.
- Staggered copper tubes.
- The coil circuits are designed for refrigerants R404A, R407C, R22, R134A.
- Delivering under possitive pressure.

## Casing

- Condenser units with their own support system do not require extra mounting equipment for placing. Electrostatically powder painted galvanized steel, which provides excellent UV and corrosion protection, is used for casing. (Standart RAL 7035 or RAL 9016)

## Fan

- Ø300-Ø350-Ø400-Ø450-Ø500-Ø630-Ø800 mm / 230V-50Hz- Monofaze 800 - 1450 rpm/min. or 400V-50Hz-Trifaze 650, 900 rpm/min. fans.
- Selections should be confirmed by your Buzçelik Technical Specialist.
- Standard or low noise level are available.
- Different kinds of motors available as optional. (EC or AC)
- Motor protection IP54 insulation class F.
- Different kinds of accessories available as optional. (FlowGrid etc.)
- Working conditions -40°C/+50°C.

## Capacity

- The nominal capacities calculated according to Eurovent EN328 standards that refer to  $\Delta T=15^{\circ}\text{C}$  condition and are valid for R404A.

## Options

- Different casing color.
- Mono phase 220V 1~ 50Hz fan or three phase 400V 3~ 50 Hz fan.
- Condenser units are manufactured without compressors.
- As optional condenser units can be manufactured with liquid receiver or electric boards. Other materials are available as optional against corrosive atmosphere conditions: Epoxy, hydrophilic coated aluminum fins or complete epoxy coated coil is optional.
- Please keep in touch with our sales department about your special needs that are not mentioned in the catalogue.

## Note

- Please read "Installation, Operation and Maintenance Instructions" for mounting and maintenance.

Options As Listed Are Available On Request For Assistance Please Contact Buzçelik Branch



## ADLANDIRMA CLASIFICATION

# 80 KUK 311 2,1

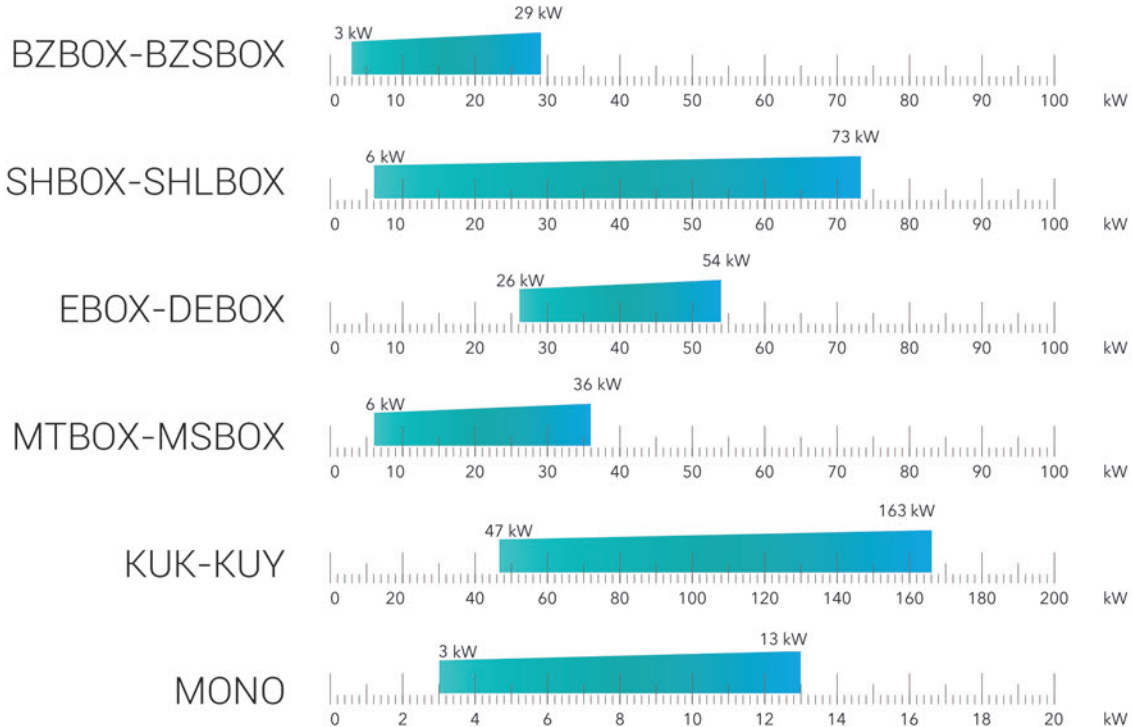
<b>Fan Çapı</b> Fan Diameter Q...cm	<b>Ticari Tip</b> Commercial Type BZBOX / SHBOX : 2522-3/8" BZSBOX / SHLBOX : 2522-5/16" EBOX / DEBOX : 3228-3/8" MTBOX / MSBOX : 2522-3/8" - 2522-5/16" KUK / KUY : 3228-3/8" - 3228-1/2"	<b>Fan Dizisi</b> Fan Array Sütun x Satır Column x Row	<b>Ürün Numarası</b> Product Number	<b>Hatve Aralığı</b> Fin Space
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## KAPASİTE STANDARTLARI CAPACITY STANDARD

Akışkan : R404A	Hava Giriş Sıcaklığı (Tai) : 25°C	Kondenzasyon Sıcaklığı (Tc) : 40°C	$\Delta T = T_c - T_{ai}$ : 40°C - 25°C = 15°C	Rakım : 0m
<b>KONDENSER SEÇİMİ</b> Nominal condenser capacity can be calculated by using formulas below.				
<b>Formül 1</b> $Q_{nk} = [(Q+N) \times f_2 \times f_3 \times f_5] / (f_4 \times f_6)$ Q <sub>nk</sub> : Nominal kondenser kapasitesi Q : Kompresörün soğutma kapasitesi N : Kompresör motorunun çektiği güç Q ve N kompresör kataloglarından bulunabilir. Detaylı bilginin olmadığı durumlarda Formül 2 uygulanır.				
<b>Formül 2</b> $Q_{nk} = [Q \times f_1 \times f_2 \times f_3 \times f_5] / (f_4 \times f_6)$				

Refrigerant : R404A	Air Inlet Temperature (Tai) : 25°C	Condensation Temperature (Tc) : 40°C	$\Delta T = T_c - T_{ai}$ : 40°C - 25°C = 15°C	Altitude : 0m
<b>CONDENSER SELECTION</b> Nominal condenser capacity can be calculated by using formulas below.				
<b>Formül 1</b> $Q_{nk} = [(Q+N) \times f_2 \times f_3 \times f_5] / (f_4 \times f_6)$ Q <sub>nk</sub> : Nominal condenser capacity Q : Refrigerating capacity of compressor N : Absorbed compressor power These data can be obtained from the compressor catalogues. If absorbed compressor power is unknown, please use Formula 2.				
<b>Formül 2</b> $Q_{nk} = [Q \times f_1 \times f_2 \times f_3 \times f_5] / (f_4 \times f_6)$				

## ÜRÜN KAPASİTE ARALIĞI CAPACITY RANGE





## Kondenser Üniteleri

Condensing Units Without Compressor

### (f<sub>1</sub>) FAKTÖRÜ / (f<sub>1</sub>) FACTOR

Açık Kompresör / Open Compressors							
Evaporasyon Sıcaklığı	Kondenzasyon Sıcaklığı / Condensation Temperature °C						
Evaporation Temperature	Condensation Temperature °C						
°C	30	35	40	45	50	55	60
-35	1,36	1,41	1,44	-	-	-	-
-30	1,31	1,36	1,40	1,44	-	-	-
-25	1,27	1,32	1,36	1,41	1,45	-	-
-20	1,24	1,28	1,31	1,35	1,39	1,44	-
-15	1,20	1,24	1,27	1,31	1,35	1,39	1,44
-10	1,18	1,21	1,24	1,27	1,31	1,35	1,40
-5	1,15	1,18	1,21	1,24	1,27	1,31	1,36
0	1,13	1,15	1,18	1,21	1,24	1,27	1,31
5	1,10	1,13	1,15	1,18	1,21	1,24	1,28
10	1,08	1,11	1,13	1,15	1,17	1,21	1,24

Hermetik ve Yarı-Hermetik Kompresör							
Hermetic and Semi-Hermetic Compressors							
Evaporasyon Sıcaklığı	Kondenzasyon Sıcaklığı						
Evaporation Temperature °C	Condensation Temperature °C						
°C	30	35	40	45	50	55	60
-40	1,64	1,69	1,76	1,86	2,03	-	-
-35	1,56	1,61	1,66	1,73	1,83	-	-
-30	1,48	1,53	1,57	1,62	1,69	-	-
-25	1,42	1,46	1,5	1,54	1,6	1,68	-
-20	1,37	1,4	1,44	1,48	1,53	1,6	-
-15	1,32	1,35	1,38	1,43	1,48	1,53	1,58
-10	1,28	1,31	1,34	1,37	1,42	1,46	1,52
-5	1,23	1,26	1,29	1,33	1,37	1,41	1,45
0	1,2	1,22	1,25	1,28	1,32	1,36	1,39
5	1,16	1,19	1,21	1,24	1,28	1,31	1,34
10	1,13	1,15	1,18	1,21	1,23	1,26	1,29

### (f<sub>2</sub>) FAKTÖRÜ / (f<sub>2</sub>) Factor = 15/T1

### (f<sub>3</sub>) FAKTÖRÜ / (f<sub>3</sub>) Factor

Hava Giriş Sıcaklığı Faktörü / Air Inlet Temperature Factor								
T(°C)	15	20	25	30	35	40	45	50
f <sub>3</sub>	0,97	0,98	1	1,02	1,04	1,06	1,08	1,1

### (f<sub>4</sub>) FAKTÖRÜ / (f<sub>4</sub>) FACTOR

Soğutucu Akışkan Faktörü / Refrigerant Factor					
R	R134A	R22	R404A/R507	R407A	R407C
f <sub>4</sub>	0,93	0,96	1	0,83	0,87





## (f<sub>5</sub>) FAKTÖRÜ / (f<sub>5</sub>) FACTOR

Rakım Faktörü / Altitude Factor							
H (m)	0	500	1000	1500	2000	2500	3000
f <sub>5</sub>	1	1,04	1,07	1,11	1,16	1,21	1,25

## (f<sub>6</sub>) FAKTÖRÜ / (f<sub>6</sub>) FACTOR

Lamel Malzemesi	Alüminyum	Kaplı Alüminyum	Bakır
Fin Material	Aluminum	Coated Aluminum	Copper
f <sub>6</sub>	1	0,97	1,03

Tablo-4 Lamel Malzemesi için Düzeltme Faktörleri			
Table-4 Fin Material Correction Factors			
Lamel Malzemesi	Alüminyum	Kaplı Alüminyum	Bakır
Fin Material	Aluminum	Coated Aluminium	Copper
K <sub>3</sub>	1	0,97	1,03

## KONDENSER ÜNİTESİ SEÇİMİ

Nominal kondenser kapasitesi aşağıdaki formüller vasıtası ile hesaplanabilir.

### Formül 1

$$Q_{nk} = [(Q+N) \times f_2 \times f_3 \times f_5] / (f_4 \times f_6)$$

Q<sub>nk</sub> : Nominal kondenser kapasitesi

Q : Kompresörün soğutma kapasitesi

N : Kompresör motorunun çektiği güç

Q ve N kompresör kataloglarından bulunabilir.

Detaylı bilginin olmadığı durumlarda Formül 2 uygulanır.

### Formül 2

$$Q_{nk} = [Q \times f_1 \times f_2 \times f_3 \times f_5] / (f_4 \times f_6)$$

## CONDENSING UNIT SELECTION

Nominal condenser capacity can be calculated by using formulas below.

### Formula 1

$$Q_{nk} = [(Q+N) \times f_2 \times f_3 \times f_5] / (f_4 \times f_6)$$

Q<sub>nk</sub> : Nominal condenser capacity

Q : Refrigerating capacity of compressor

N : Absorbed compressor power

These data can be obtained from the compressor catalogues. If absorbed compressor power is unknown, please use Formula 2.

### Formula 2

$$Q_{nk} = [Q \times f_1 \times f_2 \times f_3 \times f_5] / (f_4 \times f_6)$$

ÖRNEK SEÇİM / SELECTION EXAMPLE	
Kompresörün Soğutma Kapasitesi / Refrigerating Capacity of Compressor	: 55.800 W
Kompresör Motorunun Çektiği Güç / Absorbed Compressor Power	: 17.200 W
Kompresör Tipi / Compressor Type	: Semi-Hermetic
Evaporasyon Sıcaklığı / Evaporation Temperature	: -10°C
Hava Giriş Sıcaklığı / Air Inlet Temperature	: +30°C
Kondenzasyon Sıcaklığı / Condensation Temperature	: +40°C
Rakım / Altitude	: 1000m
Soğutucu Akışkan / Refrigerant	: R404A
Lamel Malzemesi / Fin Material	: Aluminium
f <sub>2</sub> =1,5 / f <sub>3</sub> = 1,02 / f <sub>4</sub> =1 / f <sub>5</sub> =1,07 / f <sub>6</sub> =1	: 119.500 W
Seçilen Kondenser / Selected Condenser	: 80KUK311 2,5



## BZBOX SERİSİ BZBOX SERIES

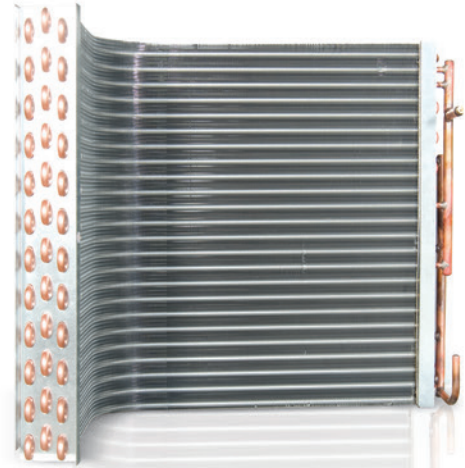
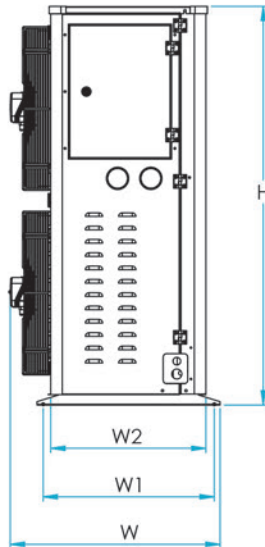
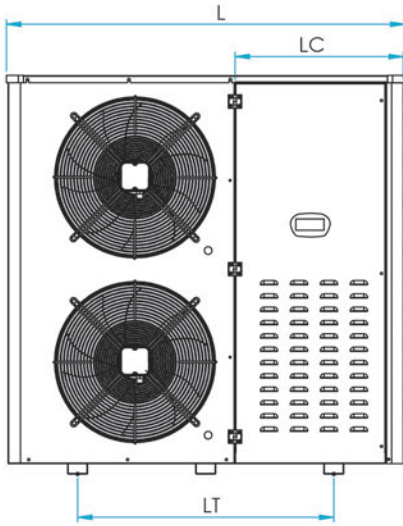
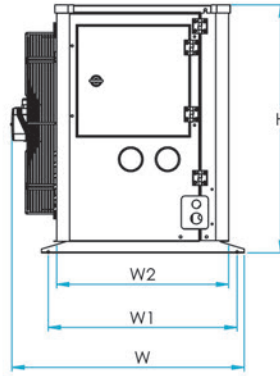
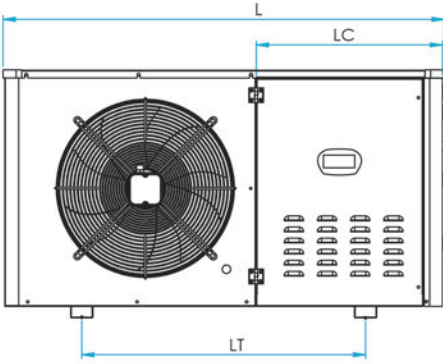
### TEKNİK BİLGİLER

Technical Information

Bakır Boru / Copper Tube : 3/8"  
Kalıp / Geometry : 25 mm x 22 mm

Belirtilen kapasiteler EBM, Ziehl - Abegg ve muadili fanlara göre hesaplanmıştır.

Capacities are calculated according to EBM or Ziehl-Abegg or equivalent brand fans.







Bakır Boru / Copper Tube

3/8"

Kalıp / Geometry

25 mm x 22 mm

Model Model	Yüzey Area	Boru Hacmi Tube Volume	Kapasite Capacity $\Delta t = T_c - T_a = 15^\circ C$		Fanlar Fans			
			S	L	Adet Qty	Çap Diameter	S	L
			1/ 230V AC 50Hz 1400 rpm	1/ 230V AC 50Hz 900 rpm			Hava Debisi Air Flow 1400 rpm	Hava Debisi Air Flow 900 rpm
m <sup>2</sup>	dm <sup>3</sup>	W	W	(n)	mm	m <sup>3</sup> /h	m <sup>3</sup> /h	
BZBOX 07	6,19	0,8	3.120	2.700	1 	300	2.150	1.670
BZBOX 10	11,92	1,2	4.850	3.950		300	2.080	1.530
BZBOX 15	12,08	1,5	6.170	5.180		350	2.800	2.120
BZBOX 20NR	16,67	1,8	8.580	7.410		400	4.220	3.270
BZBOX 30NR	20,74	2,7	10.870	8.870		450	5.000	3.610
BZBOX 40NR	21,85	3,2	14.678	10.801		500	7.848	4.725
BZBOX 50NR	37,21	4,7	18.350	16.000	2 	400	8.590	6.760
BZBOX 60NR	38,20	4,8	20.660	16.960		450	9.890	7.110
BZBOX 70NR	46,48	5,8	22.810	18.710		450	10.160	7.400
BZBOX 20TR	23,82	2,6	10.730	8.750	1 	400	3.950	2.900
BZBOX 30TR	29,67	3,8	13.490	10.690		450	4.750	3.370
BZBOX 40TR	32,79	4,2	18.124	13.201		500	7.096	4.305
BZBOX 50TR	53,98	6,6	23.500	19.280	2 	400	8.140	6.130
BZBOX 60TR	55,45	6,8	26.010	20.530		450	9.350	6.610
BZBOX 70TR	68,69	8,6	28.860	22.910		450	9.790	7.030

Model Model	Boyutlar Dimensions							Bağlantılar Connections	
	L	H	W	L <sub>T</sub>	L <sub>C</sub>	W <sub>1</sub>	W <sub>2</sub>	Giriş Input	Çıkış Output
	cm	cm	cm	cm	cm	cm	cm	mm/"	mm/"
BZBOX 07	90	53	53	49,5	30	40	36	3/8	3/8
BZBOX 10	90	53	53	49,5	30	40	36	5/8	1/2
BZBOX 15	90	53	53	49,5	30	40	36	5/8	1/2
BZBOX 20NR	102	67	64	49,5	43	50	47	5/8	1/2
BZBOX 30NR	122	67	64	77	50	50	47	5/8	1/2
BZBOX 40NR	122	72	64	77	50	50	47	19	1/2
BZBOX 50NR	122	121	64	77	50	50	47	22	5/8
BZBOX 60NR	122	121	64	77	50	50	47	22	5/8
BZBOX 70NR	122	121	64	77	50	50	47	22	5/8
BZBOX 20TR	102	67	64	77	43	50	47	5/8	1/2
BZBOX 30TR	122	67	64	77	50	50	47	5/8	1/2
BZBOX 40TR	122	72	64	77	50	50	47	19	1/2
BZBOX 50TR	122	121	64	77	50	50	47	22	5/8
BZBOX 60TR	122	121	64	77	50	50	47	22	5/8
BZBOX 70TR	122	121	64	77	50	50	47	22	5/8



## BZSBOX SERİSİ

BZSBOX SERIES

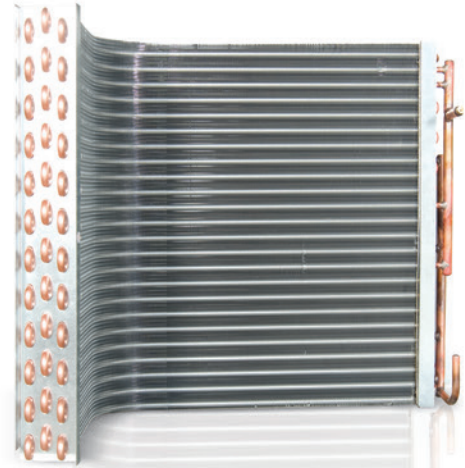
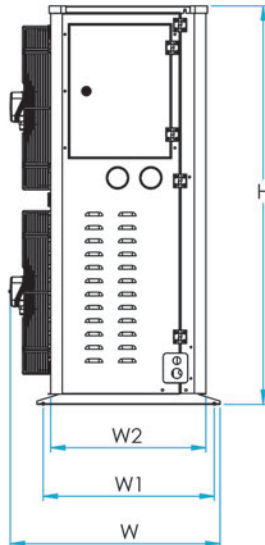
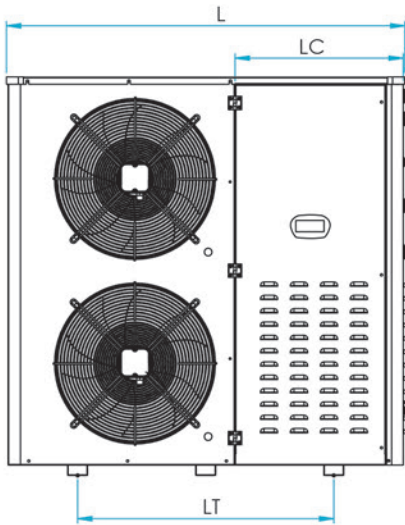
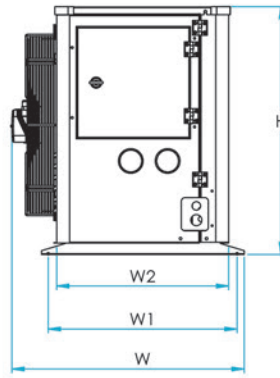
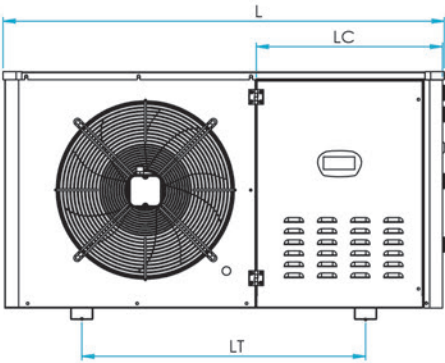
### TEKNİK BİLGİLER

Technical Information

Bakır Boru / Copper Tube : 5/16"  
Kalıp / Geometry : 25 mm x 22 mm

Belirtilen kapasiteler EBM, Ziehl - Abegg ve muadili fanlara göre hesaplanmıştır.





Capacities are calculated according to EBM or Ziehl-Abegg or equivalent brand fans.





Bakır Boru / Copper Tube 5/16"

Kalıp / Geometry 25 mm x 22 mm

Model Model	Yüzey Area	Boru Hacmi Tube Volume	Kapasite Capacity $\Delta t = T_c - T_a = 15^\circ C$		Fanlar Fans			
			S	L	Adet Qty	Çap Diameter	S	L
			1/ 230V AC 50Hz 1400 rpm	1/ 230V AC 50Hz 900 rpm			Hava Debisi Air Flow 1400 rpm	Hava Debisi Air Flow 900 rpm
m <sup>2</sup>	dm <sup>3</sup>	W	W	(n)	mm	m <sup>3</sup> /h	m <sup>3</sup> /h	
BZSBOX 07	6,49	0,5	2.902	2.606	1 	300	2.133	1.738
BZSBOX 10	12,84	0,9	4.690	4.098		300	2.065	1.656
BZSBOX 15	12,98	1,1	5.865	5.045		350	2.813	2.200
BZSBOX 20NR	19,56	1,4	8.668	7.578		400	4.291	3.428
BZSBOX 30NR	21,89	1,8	10.266	8.494		450	4.987	3.625
BZSBOX 40NR	22,56	1,9	13.474	10.284		500	8.230	4.903
BZSBOX 50NR	40,90	3,2	17.274	15.386		400	8.622	6.916
BZSBOX 60NR	40,90	3,2	18.476	15.685	2 	450	9.915	7.167
BZSBOX 70NR	49,90	3,9	20.670	17.472		450	10.109	7.400
BZSBOX 20TR	27,76	2,0	10.137	8.754	1 	400	4.074	3.119
BZSBOX 30TR	31,24	2,6	11.309	10.179		450	4.765	3.400
BZSBOX 40TR	33,84	2,9	16.024	12.307		500	7.489	4.501
BZSBOX 50TR	58,43	4,7	22.447	19.072	2 	400	8.198	6.328
BZSBOX 60TR	58,43	4,7	24.329	19.790		450	9.394	6.699
BZSBOX 70TR	72,04	5,9	26.749	21.774		450	9.732	6.999

Model Model	Boyutlar Dimensions							Bağlantılar Connections	
	L	H	W	L <sub>T</sub>	L <sub>C</sub>	W <sub>1</sub>	W <sub>2</sub>	Giriş Input	Çıkış Output
	cm	cm	cm	cm	cm	cm	cm	mm/"	mm/"
BZSBOX 07	90	53	53	49,5	30	40	36	3/8	3/8
BZSBOX 10	90	53	53	49,5	30	40	36	5/8	1/2
BZSBOX 15	90	53	53	49,5	30	40	36	5/8	1/2
BZSBOX 20NR	102	67	64	49,5	43	50	47	5/8	1/2
BZSBOX 30NR	122	67	64	77	50	50	47	5/8	1/2
BZSBOX 40NR	122	72	64	77	50	50	47	19	1/2
BZSBOX 50NR	122	121	64	77	50	50	47	22	5/8
BZSBOX 60NR	122	121	64	77	50	50	47	22	5/8
BZSBOX 70NR	122	121	64	77	50	50	47	22	5/8
BZSBOX 20TR	102	67	64	77	43	50	47	5/8	1/2
BZSBOX 30TR	122	67	64	77	50	50	47	5/8	1/2
BZSBOX 40TR	122	72	64	77	50	50	47	19	1/2
BZSBOX 50TR	122	121	64	77	50	50	47	22	5/8
BZSBOX 60TR	122	121	64	77	50	50	47	22	5/8
BZSBOX 70TR	122	121	64	77	50	50	47	22	5/8



## SHBOX SERİSİ SHBOX SERIES

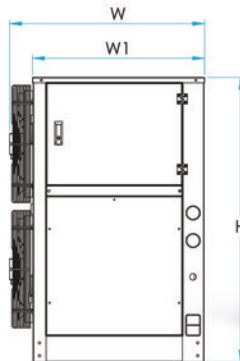
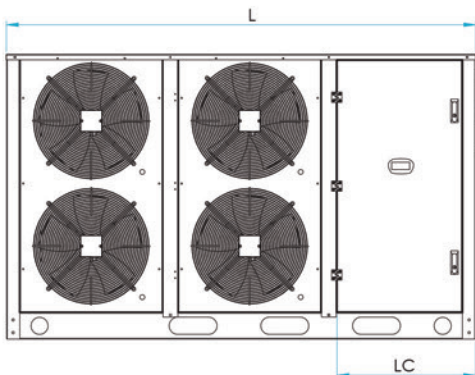
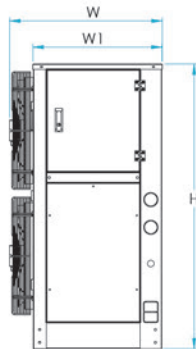
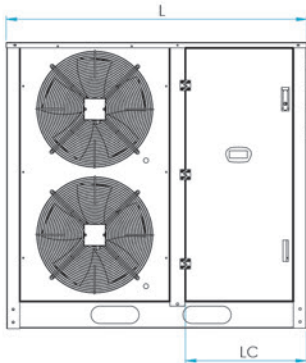
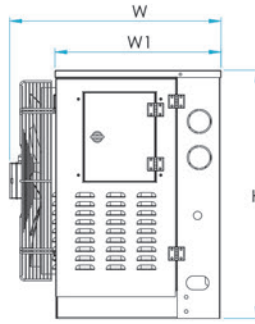
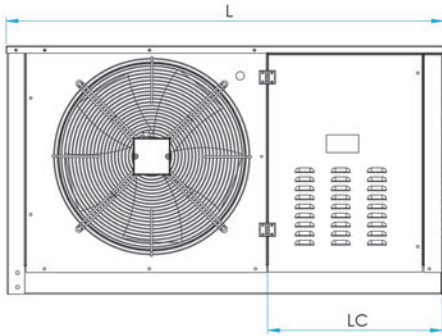
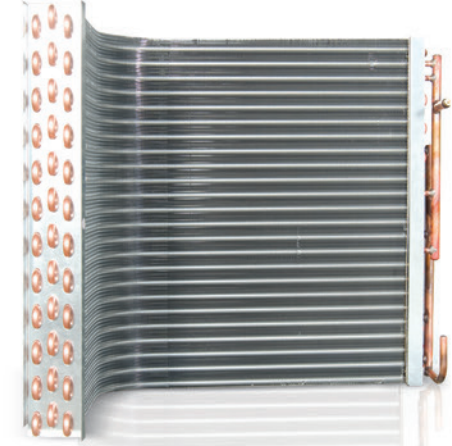
### TEKNİK BİLGİLER

Technical Information

Bakır Boru / Copper Tube : 3/8"  
Kalıp / Geometry : 25 mm x 22 mm

Belirtilen kapasiteler EBM, Ziehl - Abegg ve muadili fanlara göre hesaplanmıştır.

Capacities are calculated according to EBM or Ziehl-Abegg or equivalent brand fans.





Bakır Boru / Copper Tube

3/8"

Kalıp / Geometry

25 mm x 22 mm

Model Model	Yüzey Area	Boru Hacmi Tube Volume	Kapasite Capacity $\Delta t = T_c - T_a = 15^\circ C$		Adet Qty	Fanlar Fans		
			S 1/ 230V AC 50Hz 1400 rpm	L 1/ 230V AC 50Hz 900 rpm		Çap Diameter	S Hava Debisi Air Flow 1400 rpm	L Hava Debisi Air Flow 900 rpm
			W	W			mm	m <sup>3</sup> /h
35SHBOX1 110	17,06	1,8	7.010	6.120	1 	350	2.940	2.370
40SHBOX1 110	17,24	2,2	9.120	7.780		400	4.240	3.300
35SHBOX1 111	25,01	2,7	8.770	7.320		350	2.840	2.200
40SHBOX1 111	25,27	3,2	11.260	9.250		400	4.000	2.960
45SHBOX2 110	21,82	2,8	11.090	9.010		450	5.040	3.650
50SHBOX2 110	21,82	2,8	14.190	12.530		500	7.570	6.130
45SHBOX2 111 2,5	27,33	4,1	12.810	10.190		450	4.890	3.510
50SHBOX2 111 2,5	27,33	4,1	16.380	14.130		500	7.120	5.660
45SHBOX2 111	32,15	4,1	13.920	10.960		450	4.830	3.450
50SHBOX2 111	32,15	4,1	17.730	15.200		500	6.930	5.490
45SHBOX3 120	48,23	6,2	23.320	18.970	2 	450	10.200	7.430
50SHBOX3 120	48,23	6,2	30.160	26.740		500	15.560	12.710
45SHBOX3 121 2,5	60,50	9,1	27.020	21.510		450	9.950	7.180
50SHBOX3 121 2,5	60,50	9,1	34.970	30.350		500	14.730	11.830
45SHBOX3 121	71,17	9,1	29.290	23.110		450	9.840	7.080
50SHBOX3 121	71,17	9,1	37.940	32.640		500	14.440	11.520
40SHBOX4 220	89,49	11,5	41.260	35.710		400	17.610	14.160
45SHBOX4 220	89,49	11,5	45.110	36.610		450	20.210	14.700
50SHBOX4 220	89,49	11,5	57.930	51.190		500	30.490	24.790
40SHBOX4 221 2,5	113,11	17,0	47.660	40.250		4 	400	17.180
45SHBOX4 221 2,5	113,11	17,0	52.340	41.600	450		19.670	14.160
50SHBOX4 221 2,5	113,11	17,0	67.230	58.040	500		28.830	22.980
40SHBOX4 221	133,06	17,0	51.630	43.080	400		16.990	13.250
45SHBOX4 221	133,06	17,0	56.820	44.770	450		19.460	13.960
50SHBOX4 221	133,06	17,0	72.870	62.490	500		28.130	22.340

Model Model	Boyutlar Dimensions					Bağlantılar Connections	
	L	H	W	L <sub>c</sub>	W <sub>1</sub>	Giriş Input	Çıkış Output
	cm	cm	cm	cm	cm	mm/"	mm/"
35SHBOX1 110	102	68,5	58	43	46	5/8	1/2
40SHBOX1 110	102	68,5	58	43	46	5/8	1/2
35SHBOX1 111	102	68,5	58	43	46	5/8	1/2
40SHBOX1 111	102	68,5	58	43	46	5/8	1/2
45SHBOX2 110	122	68,5	58	48	46	19	5/8
50SHBOX2 110	122	68,5	58	48	46	19	5/8
45SHBOX2 111 2,5	122	68,5	58	48	46	19	5/8
50SHBOX2 111 2,5	122	68,5	58	48	46	19	5/8
45SHBOX2 111	122	68,5	58	48	46	19	5/8
50SHBOX2 111	122	68,5	58	48	46	19	5/8
45SHBOX3 120	142	134	74	56	61	22	19
50SHBOX3 120	142	134	74	56	61	22	19
45SHBOX3 121 2,5	142	134	74	56	61	28	22
50SHBOX3 121 2,5	142	134	74	56	61	28	22
45SHBOX3 121	142	134	74	56	61	28	22
50SHBOX3 121	142	134	74	56	61	28	22
40SHBOX4 220	222	134	94	65	81	35	28
45SHBOX4 220	222	134	94	65	81	35	28
50SHBOX4 220	222	134	94	65	81	35	28
40SHBOX4 221 2,5	222	134	94	65	81	35	28
45SHBOX4 221 2,5	222	134	94	65	81	35	28
50SHBOX4 221 2,5	222	134	94	65	81	35	28
40SHBOX4 221	222	134	94	65	81	35	28
45SHBOX4 221	222	134	94	65	81	35	28
50SHBOX4 221	222	134	94	65	81	35	28



## SHLBOX SERİSİ SHLBOX SERIES

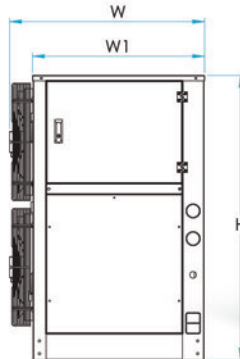
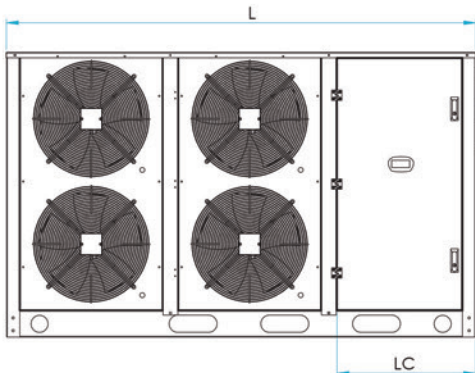
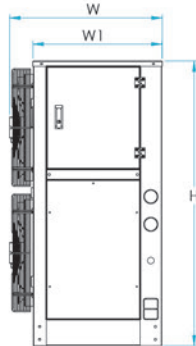
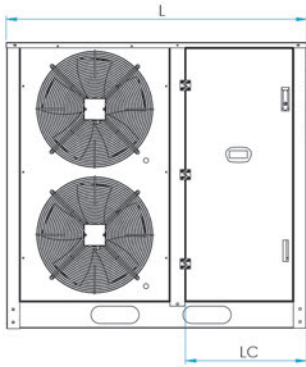
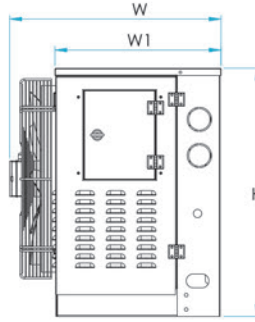
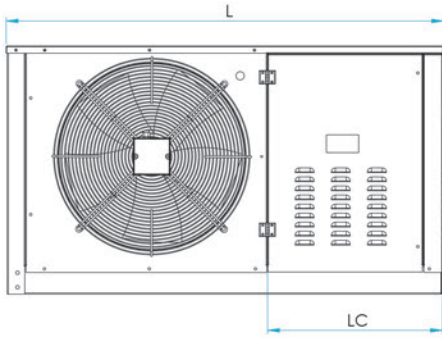
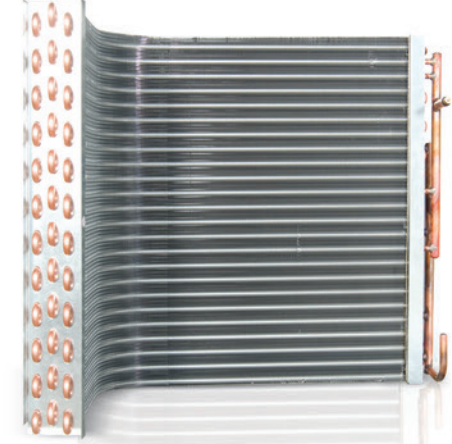
### TEKNİK BİLGİLER

Technical Information

Bakır Boru / Copper Tube : 5/16"  
Kalıp / Geometry : 25 mm x 22 mm

Belirtilen kapasiteler EBM, Ziehl - Abegg ve muadili fanlara göre hesaplanmıştır.

Capacities are calculated according to EBM or Ziehl-Abegg or equivalent brand fans.







Bakır Boru / Copper Tube 5/16"

Kalıp / Geometry 25 mm x 22 mm

Model Model	Yüzey Area	Boru Hacmi Tube Volume	Kapasite Capacity $\Delta t = T_c - T_a = 15^\circ C$		Adet Qty	Fanlar Fans			
			S 1/ 230V AC 50Hz 1400 rpm	L 1/ 230V AC 50Hz 900 rpm		Çap Diameter	S Hava Debisi Air Flow 1400 rpm	L Hava Debisi Air Flow 900 rpm	
			W	W			m <sup>3</sup> /h	m <sup>3</sup> /h	
m <sup>2</sup>	dm <sup>3</sup>	W	W	(n)	mm	m <sup>3</sup> /h	m <sup>3</sup> /h		
35SHLBOX1 110	17,65	1,3	6.202	4.732	1	350	3.041	2.001	
40SHLBOX1 110	17,80	1,5	7.451	6.181		400	3.843	2.843	
35SHLBOX1 111	25,88	1,9	8.000	5.941		350	2.930	1.919	
40SHLBOX1 111	26,10	2,2	9.490	7.668		400	3.670	2.683	
45SHLBOX2 110	22,54	1,9	9.617	8.497		450	5.150	4.211	
50SHLBOX2 110	22,54	1,9	12.777	9.569		500	8.417	5.108	
45SHLBOX2 111 2,5	28,16	2,8	11.568	10.120		450	4.986	4.046	
50SHLBOX2 111 2,5	28,16	2,8	15.000	11.321		500	8.010	4.819	
45SHLBOX2 111	33,21	2,8	12.308	10.679		450	4.925	3.988	
50SHLBOX2 111	33,21	2,8	16.519	11.960		500	7.842	4.716	
45SHLBOX3 120	49,82	4,3	20.366	18.000	2	450	10.415	8.545	
50SHLBOX3 120	49,82	4,3	27.242	20.350		500	17.136	10.403	
45SHLBOX3 121 2,5	62,35	6,3	24.287	21.305		450	10.120	8.258	
50SHLBOX3 121 2,5	62,35	6,3	32.106	23.457		500	16.430	9.936	
45SHLBOX3 121	73,52	6,3	26.043	22.626		450	10.005	8.141	
50SHLBOX3 121	73,52	6,3	35.369	25.562		500	16.142	9.730	
40SHLBOX4 220	92,43	7,9	34.018	28.285		4	400	15.752	11.791
45SHLBOX4 220	92,43	7,9	40.059	35.510			450	20.667	16.891
50SHLBOX4 220	92,43	7,9	52.112	38.930			500	33.827	20.507
40SHLBOX4 221 2,5	116,56	11,8	39.800	32.494			400	15.398	11.438
45SHLBOX4 221 2,5	116,56	11,8	47.227	41.334	450		20.044	16.305	
50SHLBOX4 221 2,5	116,56	11,8	61.251	44.941	500		32.310	19.500	
40SHLBOX4 221	137,44	11,8	43.459	35.153	400		15.259	11.278	
45SHLBOX4 221	137,44	11,8	51.678	44.970	450		19.798	16.047	
50SHLBOX4 221	137,44	11,8	67.809	49.046	500		31.681	19.088	

Model Model	Boyutlar Dimensions					Bağlantılar Connections	
	L	H	W	L <sub>c</sub>	W <sub>1</sub>	Giriş Input	Çıkış Output
	cm	cm	cm	cm	cm	mm/"	mm/"
35SHLBOX1 110	102	68,5	58	43	46	22	19
40SHLBOX1 110	102	68,5	58	43	46	22	19
35SHLBOX1 111	102	68,5	58	43	46	22	19
40SHLBOX1 111	102	68,5	58	43	46	28	22
45SHLBOX2 110	122	68,5	58	48	46	28	22
50SHLBOX2 110	122	68,5	58	48	46	28	22
45SHLBOX2 111 2,5	122	68,5	58	48	46	28	22
50SHLBOX2 111 2,5	122	68,5	58	48	46	35	28
45SHLBOX2 111	122	68,5	58	48	46	35	28
50SHLBOX2 111	122	68,5	58	48	46	35	28
45SHLBOX3 120	142	134	74	56	61	35	28
50SHLBOX3 120	142	134	74	56	61	35	28
45SHLBOX3 121 2,5	142	134	74	56	61	35	28
50SHLBOX3 121 2,5	142	134	74	56	61	42	35
45SHLBOX3 121	142	134	74	56	61	42	35
50SHLBOX3 121	142	134	74	56	61	42	35
40SHLBOX4 220	222	134	94	65	81	42	35
45SHLBOX4 220	222	134	94	65	81	42	35
50SHLBOX4 220	222	134	94	65	81	54	42
40SHLBOX4 221 2,5	222	134	94	65	81	54	42
45SHLBOX4 221 2,5	222	134	94	65	81	54	42
50SHLBOX4 221 2,5	222	134	94	65	81	54	42
40SHLBOX4 221	222	134	94	65	81	54	42
45SHLBOX4 221	222	134	94	65	81	54	42
50SHLBOX4 221	222	134	94	65	81	54	42



## EBOX SERİSİ EBOX SERIES

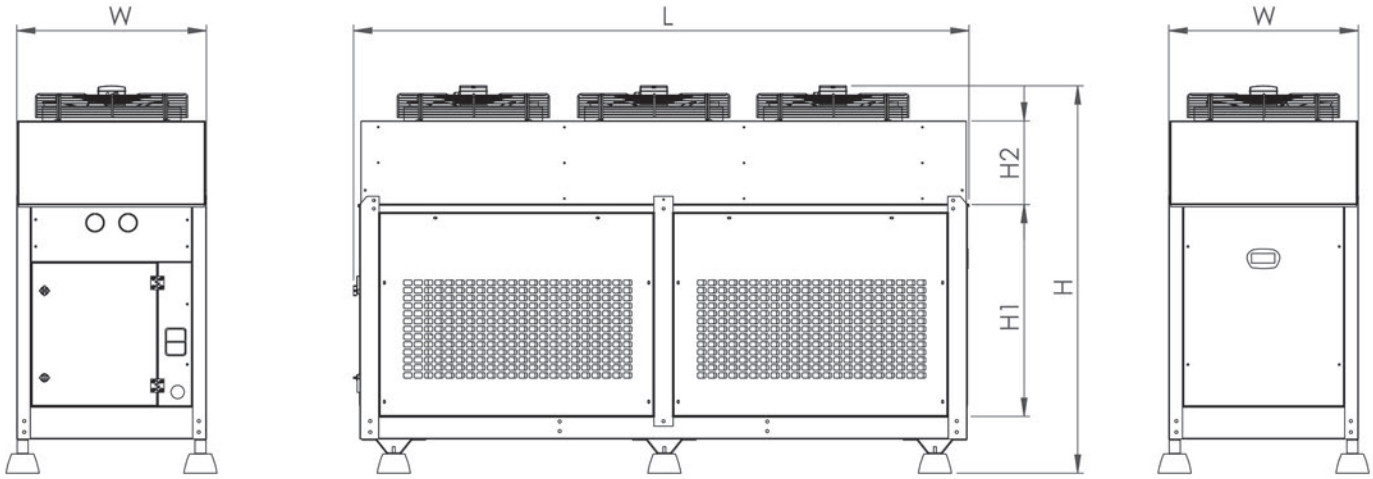
### TEKNİK BİLGİLER

Technical Information

Bakır Boru / Copper Tube : 3/8"  
Kalıp / Geometry : 32 mm x 28 mm

Belirtilen kapasiteler EBM, Ziehl - Abegg ve muadili fanlara göre hesaplanmıştır.

Capacities are calculated according to EBM or Ziehl-Abegg or equivalent brand fans.







Bakır Boru / Copper Tube

3/8"

Kalıp / Geometry

32 mm x 28 mm

Model Model	Yüzey Area	Boru Hacmi Tube Volume	Kapasite Capacity $\Delta t=T_c-T_a=15^\circ C$		Fanlar Fans			
			S 1/ 230V AC 50Hz 1400 rpm	L 1/ 230V AC 50Hz 900 rpm	Adet Qty	Çap Diameter	S Hava Debisi Air Flow 1/ 230V AC 1400 rpm	L Hava Debisi Air Flow 1/ 230V AC 900 rpm
			(kW)	(kW)			(m <sup>3</sup> /h)	(m <sup>3</sup> /h)
EBOX53 50211	53,80	4,8	27,77	20,75	2 	500	13.418	8.142
EBOX63 50211	63,60	4,8	29,84	21,94		500	12.974	7.844
EBOX71 50212	71,73	6,4	31,72	22,87		500	12.228	7.378
EBOX84 50212	84,80	6,4	33,83	-		500	11.744	-
EBOX89 50213	89,66	8,0	34,80	-		500	11.220	-
EBOX94 50311	95,40	7,2	45,86	33,68	3 	500	19.461	11.766
EBOX106 50312	107,60	9,6	48,91	35,18		500	18.342	11.067
EBOX126 50312	127,20	9,6	52,12	-		500	17.616	-
EBOX133 50313	134,49	12,0	53,12	-		500	16.830	-
EBOX157 50313	159,02	12,0	54,48	-		500	15.700	-

Model Model	Boyutlar Dimensions					Bağlantılar Connections	
	L	H	W	H <sub>1</sub>	H <sub>2</sub>	Giriş Input	Çıkış Output
	(cm)	(cm)	(cm)	(cm)	(cm)	(mm/")	(mm/")
EBOX53 50211	159	140	69	77	30	28	22
EBOX63 50211	159	140	69	77	30	28	22
EBOX71 50212	159	140	69	77	30	28	22
EBOX84 50212	159	140	69	77	30	28	22
EBOX89 50213	159	140	69	77	30	28	22
EBOX94 50311	224	140	69	77	30	28	22
EBOX106 50312	224	140	69	77	30	28	22
EBOX126 50312	224	140	69	77	30	35	28
EBOX133 50313	224	140	69	77	30	35	28
EBOX157 50313	224	140	69	77	30	35	28



## DEBOX SERİSİ DEBOX SERIES

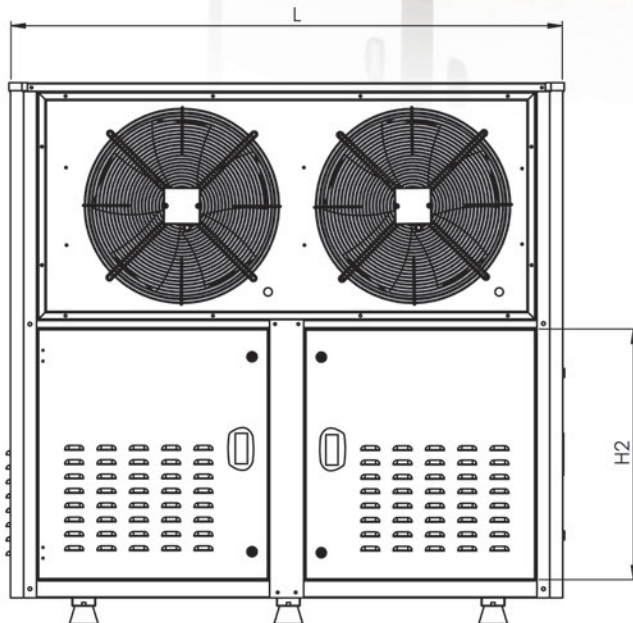
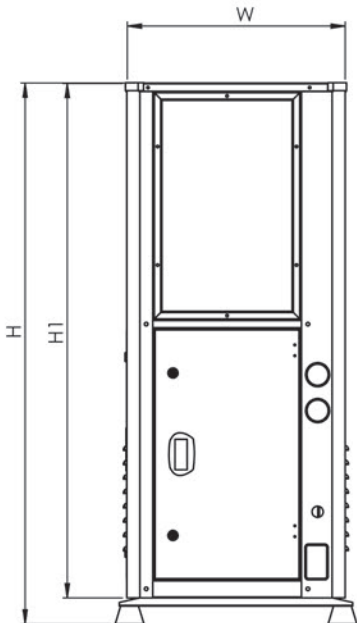
### TEKNİK BİLGİLER

Technical Information

Bakır Boru / Copper Tube : 3/8"  
Kalıp / Geometry : 32 mm x 28 mm

Belirtilen kapasiteler EBM, Ziehl - Abegg ve muadili fanlara göre hesaplanmıştır.

Capacities are calculated according to EBM or Ziehl-Abegg or equivalent brand fans.







Bakır Boru / Copper Tube

3/8"

Kalıp / Geometry

32 mm x 28 mm

Model Model	Yüzey Area	Boru Hacmi Tube Volume	Kapasite Capacity $\Delta t = T_c - T_a = 15^\circ C$		Fanlar Fans			
			S Ø630mm 1/ 230V AC 50Hz 1400 rpm	L Ø630mm 1/ 230V AC 50Hz 900 rpm	Adet Qty	Çap Diameter	S Hava Debisi Air Flow 1/ 230V AC 1400 rpm	L Hava Debisi Air Flow 1/ 230V AC 900 rpm
			(kW)	(kW)			(m <sup>3</sup> /h)	(m <sup>3</sup> /h)
DEBOX53 50211	53,80	4,8	27,77	20,75	2 	500	13.418	8.142
DEBOX63 50211	63,60	4,8	29,84	21,94		500	12.974	7.844
DEBOX71 50212	71,73	6,4	31,72	22,87		500	12.228	7.378
DEBOX84 50212	84,80	6,4	33,83	-		500	11.744	-
DEBOX89 50213	89,66	8,0	34,80	-		500	11.220	-
DEBOX94 50311	95,40	7,2	45,86	33,68	3 	500	19.461	11.766
DEBOX106 50312	107,60	9,6	48,91	35,18		500	18.342	11.067
DEBOX126 50312	127,20	9,6	52,12	-		500	17.616	-
DEBOX133 50313	134,49	12,0	53,12	-		500	16.830	-
DEBOX157 50313	159,02	12,0	54,48	-		500	15.700	-

Model Model	Boyutlar Dimensions					Bağlantılar Connections	
	L	H	W	H <sub>1</sub>	H <sub>2</sub>	Giriş Input	Çıkış Output
	(cm)	(cm)	(cm)	(cm)	(cm)	(mm/")	(mm/")
DEBOX53 50211	155	147	62	140	67	28	22
DEBOX63 50211	155	147	62	140	67	28	22
DEBOX71 50212	155	147	62	140	67	28	22
DEBOX84 50212	155	147	62	140	67	28	22
DEBOX89 50213	155	147	62	140	67	28	22
DEBOX94 50311	220	147	62	140	67	28	22
DEBOX106 50312	220	147	62	140	67	28	22
DEBOX126 50312	220	147	62	140	67	35	28
DEBOX133 50313	220	147	62	140	67	35	28
DEBOX157 50313	220	147	62	140	67	35	28



## MTBOX SERİSİ MTBOX SERIES

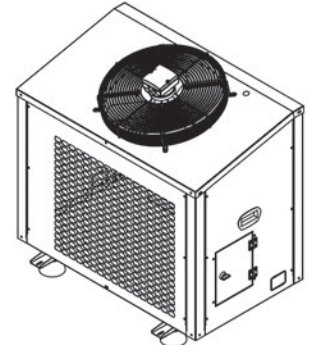
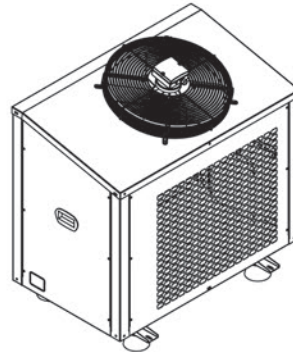
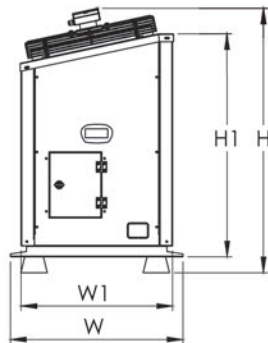
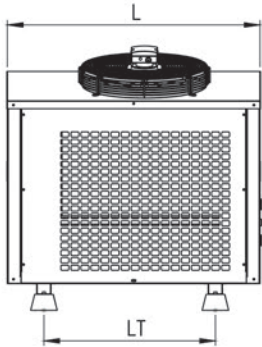
### TEKNİK BİLGİLER

Technical Information

Bakır Boru / Copper Tube : 3/8"  
Kalıp / Geometry : 25 mm x 22 mm

Belirtilen kapasiteler EBM, Ziehl - Abegg ve muadili fanlara göre hesaplanmıştır.

Capacities are calculated according to EBM or Ziehl-Abegg or equivalent brand fans.





Bakır Boru / Copper Tube

3/8"

Kalıp / Geometry

25 mm x 22 mm

Model Model	Yüzey Area	Boru Hacmi Tube Volume	Kapasite Capacity $\Delta t = T_c - T_a = 15^\circ C$		Fanlar Fans				
			S 1/ 230V AC 50Hz 1400 rpm	L 1/ 230V AC 50Hz 900 rpm	Adet Qty	Çap Diameter	S Hava Debisi Air Flow 1400 rpm	L Hava Debisi Air Flow 900 rpm	
			W	W			(n)	mm	m <sup>3</sup> /h
MTBOX 15	14,90	1,9	6.690	5.027	1		350	2.880	1.884
MTBOX 20	20,53	2,9	9.303	7.403			400	3.388	2.443
MTBOX 30	29,80	3,8	12.416	10.002			450	3.863	2.887
MTBOX 35	35,41	5,1	17.382	13.844	2		400	6.574	4.702
MTBOX 40	40,11	5,1	18.359	14.518			400	6.448	4.598
MTBOX 45	45,46	6,9	19.365	15.084			400	6.176	4.390
MTBOX 50	51,21	6,9	20.166	15.594			400	6.050	4.294
MTBOX 60	59,10	8,9	25.623	21.064			450	8.455	6.465
MTBOX 70	69,63	8,9	34.763	24.200			500	11.601	7.002
MTBOX 80	79,83	11,1	36.257	25.514			500	10.816	6.903

Model Model	Boyutlar Dimensions								Bağlantılar Connections	
	L	H	W	L <sub>T</sub>	L <sub>C</sub>	H <sub>1</sub>	H <sub>2</sub>	W <sub>1</sub>	Giriş Input	Çıkış Output
	cm	cm	cm	cm	cm	cm	cm	cm	mm	mm
MTBOX 15	96	100	65	77	--	84,5	--	57,5	19	16
MTBOX 20	96	100	65	77	--	84,5	--	57,5	22	19
MTBOX 30	96	100	65	77	--	84,5	--	57,5	22	19
MTBOX 35	131	131	80	112	--	114,5	--	73	22	19
MTBOX 40	131	131	80	112	--	114,5	--	73	28	22
MTBOX 45	131	131	80	112	--	114,5	--	73	28	22
MTBOX 50	131	131	80	112	--	114,5	--	73	28	22
MTBOX 60	161	131	80	143	--	114,5	--	73	42	35
MTBOX 70	161	131	80	143	--	114,5	--	73	42	35
MTBOX 80	161	131	80	143	--	114,5	--	73	42	35



**MSBOX SERİSİ**  
MSBOX SERIES

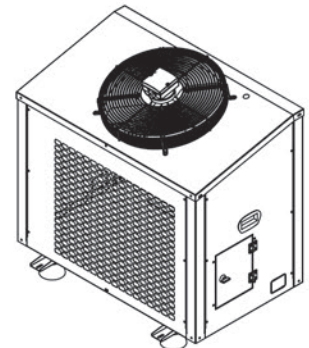
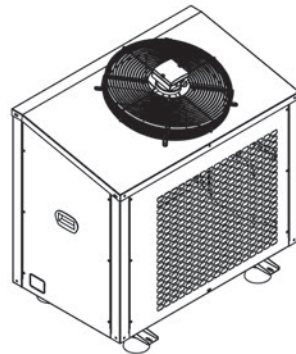
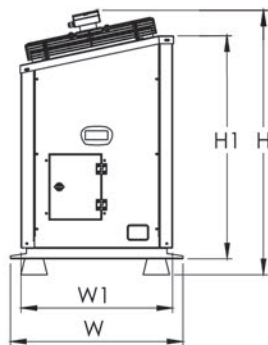
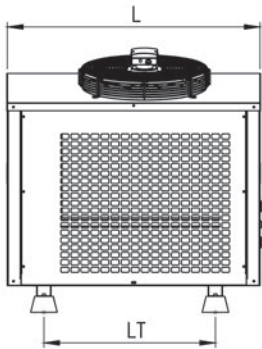
## TEKNİK BİLGİLER

Technical Information

Bakır Boru / Copper Tube : 5/16"  
Kalıp / Geometry : 25 mm x 22 mm

Belirtilen kapasiteler EBM, Ziehl - Abegg ve muadili fanlara göre hesaplanmıştır.

Capacities are calculated according to EBM or Ziehl-Abegg or equivalent brand fans.









Bakır Boru / Copper Tube 5/16"

Kalıp / Geometry 25 mm x 22 mm

Model Model	Yüzey Area	Boru Hacmi Tube Volume	Kapasite Capacity $\Delta t = T_c - T_a = 15^\circ C$		Fanlar Fans			
			S 1/ 230V AC 50Hz 1400 rpm	L 1/ 230V AC 50Hz 900 rpm	Adet Qty	Çap Diameter	S Hava Debisi Air Flow 1400 rpm	L Hava Debisi Air Flow 900 rpm
			W	W			(n)	mm
MSBOX 15	15,39	1,3	6.078	4.665	1 	350	2.991	1.966
MSBOX 20	21,18	2,0	8.443	6.836		400	3.616	2.627
MSBOX 30	30,78	2,6	12.116	10.109		450	4.273	3.273
MSBOX 35	36,52	3,6	16.015	13.102	2 	400	7.080	5.143
MSBOX 40	41,33	3,4	17.012	13.792		400	6.985	5.062
MSBOX 45	46,80	4,7	18.298	14.605		400	6.764	4.870
MSBOX 50	52,81	4,7	19.317	15.302		400	6.650	4.774
MSBOX 60	60,91	6,2	24.551	20.973		450	9.152	7.250
MSBOX 70	71,82	6,2	34.233	24.612		500	13.302	8.069
MSBOX 80	82,23	7,5	36.158	25.464		500	12.608	7.621

Model Model	Boyutlar Dimensions								Bağlantılar Connections	
	L	H	W	L <sub>T</sub>	L <sub>C</sub>	H <sub>1</sub>	H <sub>2</sub>	W <sub>1</sub>	Giriş Input	Çıkış Output
	cm	cm	cm	cm	cm	cm	cm	cm	mm	mm
MSBOX 15	96	100	65	77	--	84,5	--	57,5	19	16
MSBOX 20	96	100	65	77	--	84,5	--	57,5	22	19
MSBOX 30	96	100	65	77	--	84,5	--	57,5	22	19
MSBOX 35	131	131	80	112	--	114,5	--	73	22	19
MSBOX 40	131	131	80	112	--	114,5	--	73	28	22
MSBOX 45	131	131	80	112	--	114,5	--	73	28	22
MSBOX 50	131	131	80	112	--	114,5	--	73	28	22
MSBOX 60	161	131	80	143	--	114,5	--	73	42	35
MSBOX 70	161	131	80	143	--	114,5	--	73	42	35
MSBOX 80	161	131	80	143	--	114,5	--	73	42	35



## 63 KUK SERİSİ 63 KUK SERIES

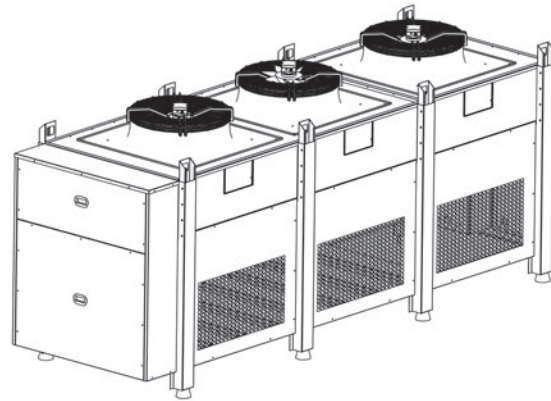
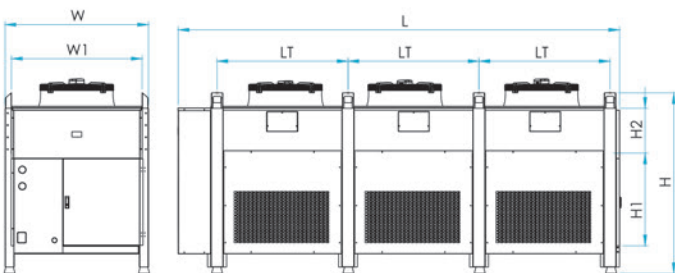
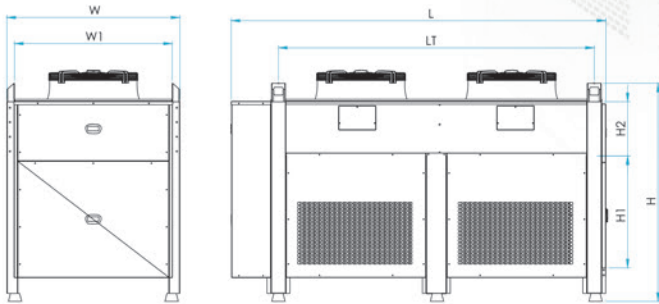
### TEKNİK BİLGİLER

Technical Information

Bakır Boru / Copper Tube : 3/8"  
Kalıp / Geometry : 32 mm x 28 mm

Belirtilen kapasiteler EBM, Ziehl - Abegg ve muadili fanlara göre hesaplanmıştır.

Capacities are calculated according to EBM or Ziehl-Abegg or equivalent brand fans.





Bakır Boru / Copper Tube

3/8"

Kalıp / Geometry

32 mm x 28 mm

Model Model	Yüzey Area	Boru Hacmi Tube Volume	Kapasite Capacity $\Delta t = T_c - T_a = 15^\circ C$		Fanlar Fans			
			S 1/ 230V AC 50Hz 880 rpm	L 3/ 400V AC 50Hz 620 rpm	Adet Qty	Çap Diameter	S Hava Debisi Air Flow 1/ 230V AC 880 rpm	L Hava Debisi Air Flow 3/ 400V AC 620 rpm
			kW	kW			m <sup>3</sup> /h	m <sup>3</sup> /h
63KUK211 2,5	115,87	10,3	46,01	37,36	2	630	18.570	13.298
63KUK212 2,5	154,50	13,7	52,94	42,12		630	17.567	12.463
63KUK311 2,5	173,81	15,5	69,02	56,04	3	630	27.855	19.947
63KUK312 2,5	231,75	20,6	79,41	63,18		630	26.351	18.695
63KUK211 2,1	136,99	10,3	49,84	40,10	2	630	18.215	13.019
63KUK212 2,1	182,65	13,7	55,99	44,12		630	17.150	12.470
63KUK311 2,1	205,49	15,5	74,76	60,15	3	630	27.010	20.050
63KUK312 2,1	273,98	20,6	83,99	66,18		630	25.380	18.700

Model Model	Boyutlar Dimensions								Bağlantılar Connections		
	L	H	W	L <sub>T</sub>	L <sub>C</sub>	H <sub>1</sub>	H <sub>2</sub>	W <sub>1</sub>	Adet Qty	Giriş Input	Çıkış Output
	cm	cm	cm	cm	cm	cm	cm	cm	ad	mm	mm
63KUK211 2,5	245	165	112	200	--	84	41	100	1	35	28
63KUK212 2,5	245	165	112	200	--	84	41	100	1	35	28
63KUK311 2,5	345	165	112	100	--	84	41	100	1	42	35
63KUK312 2,5	345	165	112	100	--	84	41	100	1	42	35
63KUK211 2,1	245	165	112	200	--	84	41	100	1	35	28
63KUK212 2,1	245	165	112	200	--	84	41	100	1	35	28
63KUK311 2,1	345	165	112	100	--	84	41	100	1	42	35
63KUK312 2,1	345	165	112	100	--	84	41	100	1	42	35



## 80 KUK SERİSİ 80 KUK SERIES

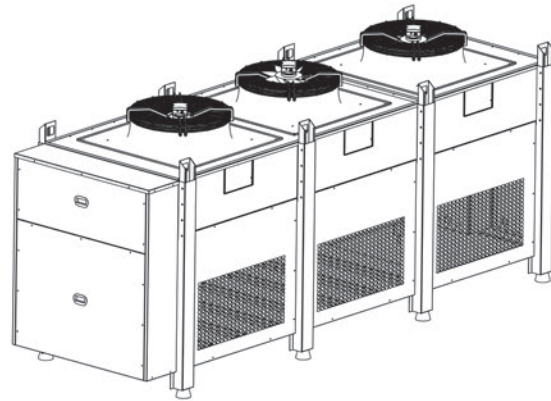
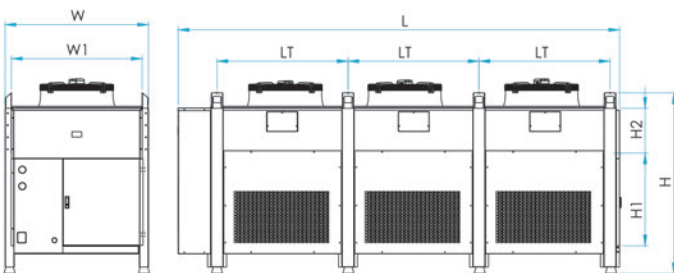
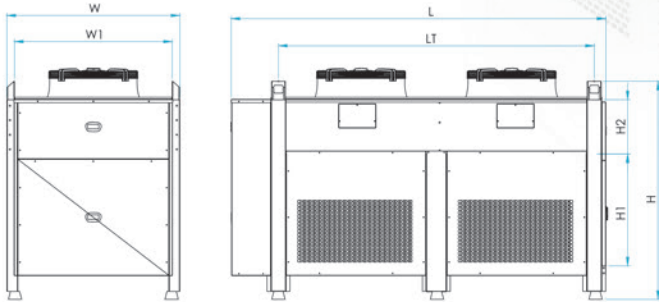
### TEKNİK BİLGİLER

Technical Information

Bakır Boru / Copper Tube : 3/8"  
Kalıp / Geometry : 32 mm x 28 mm

Belirtilen kapasiteler EBM, Ziehl - Abegg ve muadili fanlara göre hesaplanmıştır.

Capacities are calculated according to EBM or Ziehl-Abegg or equivalent brand fans.





Bakır Boru / Copper Tube

3/8"

Kalıp / Geometry

32 mm x 28 mm

Model Model	Yüzey Area	Boru Hacmi Tube Volume	Kapasite Capacity $\Delta t = T_c - T_a = 15^\circ C$		Fanlar Fans			
			S 3/ 400V AC 50Hz 880 rpm	L 3/ 400V AC 50Hz 670 rpm	Adet Qty	Çap Diameter	S Hava Debisi Air Flow 3/ 400V AC 880 rpm	L Hava Debisi Air Flow 3/ 400V AC 670 rpm
			kW	kW			(n)	mm
80KUK211 2,5	168,84	15,0	81,97	70,42	2	800	39.970	30.670
80KUK212 2,5	225,12	20,0	97,65	83,00		800	36.930	28.500
80KUK311 2,5	253,26	22,5	122,96	105,63	3	800	59.955	46.005
80KUK312 2,5	337,68	30,0	146,48	124,50		800	55.395	42.750
80KUK211 2,1	199,61	15,0	89,52	76,51	2	800	38.910	29.910
80KUK212 2,1	266,14	20,0	104,27	88,11		800	35.710	27.620
80KUK311 2,1	296,19	22,5	134,28	114,77	3	800	58.365	44.865
80KUK312 2,1	394,92	30,0	156,41	132,17		800	53.565	41.430

Model Model	Boyutlar Dimensions								Bağlantılar Connections		
	L	H	W	L <sub>T</sub>	L <sub>C</sub>	H <sub>1</sub>	H <sub>2</sub>	W <sub>1</sub>	Adet Qty	Giriş Input	Çıkış Output
	cm	cm	cm	cm	cm	cm	cm	cm	ad	mm	mm
80KUK211 2,5	285	165	132	240	--	84	41	120	1	42	35
80KUK212 2,5	285	165	132	240	--	84	41	120	1	42	35
80KUK311 2,5	405	165	132	120	--	84	41	120	1	64	54
80KUK312 2,5	405	165	132	120	--	84	41	120	1	64	54
80KUK211 2,1	285	165	132	240	--	84	41	120	1	42	35
80KUK212 2,1	285	165	132	240	--	84	41	120	1	42	35
80KUK311 2,1	405	165	132	120	--	84	41	120	1	64	54
80KUK312 2,1	405	165	132	120	--	84	41	120	1	64	54



## 63 KUY SERİSİ 63 KUY SERIES

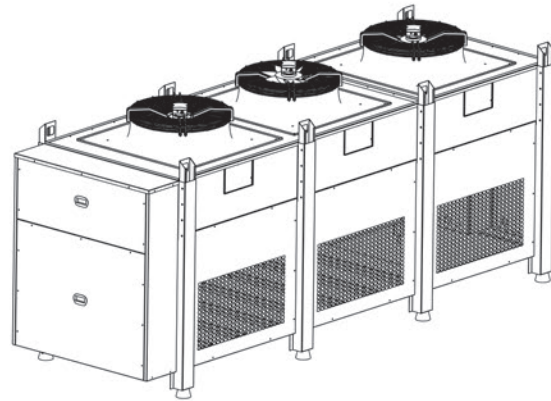
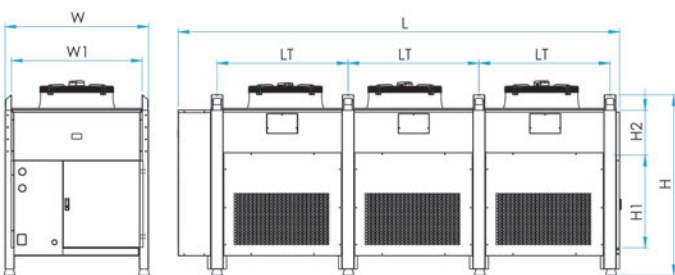
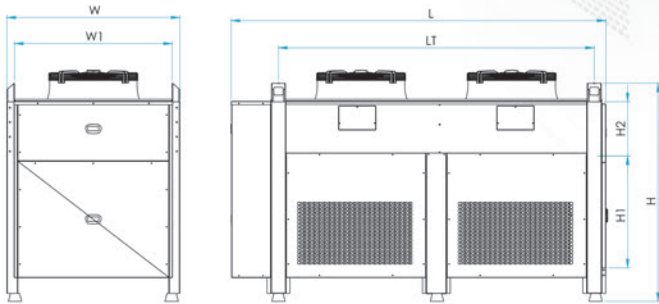
### TEKNİK BİLGİLER

Technical Information

Bakır Boru / Copper Tube : 1/2"  
Kalıp / Geometry : 32 mm x 28 mm

Belirtilen kapasiteler EBM, Ziehl - Abegg ve muadili fanlara göre hesaplanmıştır.

Capacities are calculated according to EBM or Ziehl-Abegg or equivalent brand fans.





Bakır Boru / Copper Tube

1/2"

Kalıp / Geometry

32 mm x 28 mm

Model Model	Yüzey Area	Boru Hacmi Tube Volume	Kapasite Capacity $\Delta t = T_c - T_a = 15^\circ C$		Fanlar Fans			
			S 1/ 230V AC 50Hz 880 rpm	L 3/ 400V AC 50Hz 620 rpm	Adet Qty	Çap Diameter	S Hava Debisi Air Flow 1/ 230V AC 880 rpm	L Hava Debisi Air Flow 3/ 400V AC 620 rpm
			kW	kW			m <sup>3</sup> /h	m <sup>3</sup> /h
63KUY211 2,5	110,10	19,0	47,40	38,56	2	630	17.410	12.860
63KUY212 2,5	146,80	25,4	54,17	43,15		630	16.220	11.930
63KUY311 2,5	165,15	28,5	72,06	58,61	3	630	26.120	19.290
63KUY312 2,5	220,20	38,1	81,62	65,10		630	24.340	17.900
63KUY211 2,1	129,80	19,0	50,77	40,89	2	630	16.970	12.500
63KUY212 2,1	173,06	25,4	56,20	44,84		630	15.760	11.610
63KUY311 2,1	194,70	28,5	77,14	62,14	3	630	25.460	18.760
63KUY312 2,1	259,59	38,1	84,86	67,56		630	23.640	17.410

Model Model	Boyutlar Dimensions								Bağlantılar Connections		
	L	H	W	L <sub>T</sub>	L <sub>C</sub>	H <sub>1</sub>	H <sub>2</sub>	W <sub>1</sub>	Adet Qty	Giriş Input	Çıkış Output
	cm	cm	cm	cm	cm	cm	cm	cm	ad	mm	mm
63KUY211 2,5	245	165	112	200	--	84	41	100	1	35	28
63KUY212 2,5	245	165	112	200	--	84	41	100	1	35	28
63KUY311 2,5	345	165	112	100	--	84	41	100	1	42	35
63KUY312 2,5	345	165	112	100	--	84	41	100	1	42	35
63KUY211 2,1	245	165	112	200	--	84	41	100	1	35	28
63KUY212 2,1	245	165	112	200	--	84	41	100	1	35	28
63KUY311 2,1	345	165	112	100	--	84	41	100	1	42	35
63KUY312 2,1	345	165	112	100	--	84	41	100	1	42	35



## 80 KUY SERİSİ 80 KUY SERIES

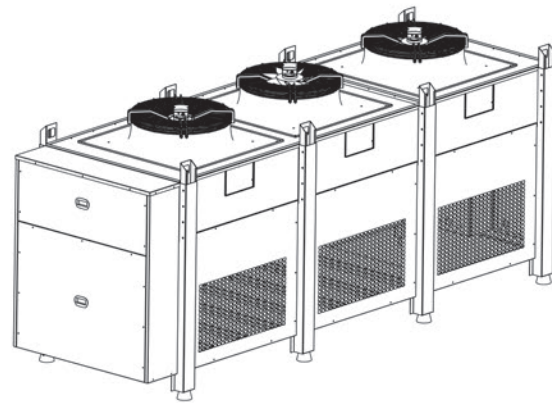
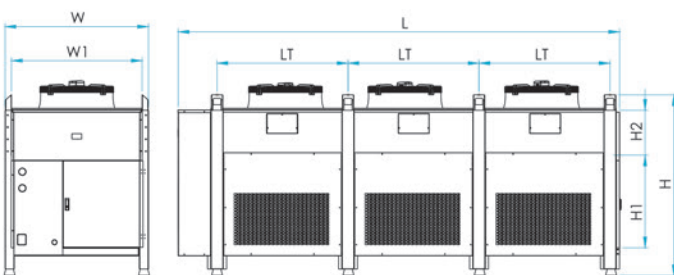
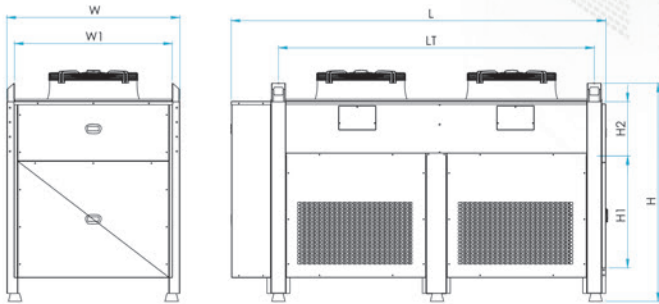
### TEKNİK BİLGİLER

Technical Information

Bakır Boru / Copper Tube : 1/2"  
Kalıp / Geometry : 32 mm x 28 mm

Belirtilen kapasiteler EBM, Ziehl - Abegg ve muadili fanlara göre hesaplanmıştır.

Capacities are calculated according to EBM or Ziehl-Abegg or equivalent brand fans.







Bakır Boru / Copper Tube

1/2"

Kalıp / Geometry

32 mm x 28 mm

Model Model	Yüzey Area	Boru Hacmi Tube Volume	Kapasite Capacity $\Delta t = T_c - T_a = 15^\circ C$		Fanlar Fans			
			S 3/ 400V AC 50Hz 880 rpm	L 3/ 400V AC 50Hz 670 rpm	Adet Qty	Çap Diameter	S Hava Debisi Air Flow 3/ 400V AC 880 rpm	L Hava Debisi Air Flow 3/ 400V AC 660 rpm
			m <sup>2</sup>	dm <sup>3</sup>			kW	kW
80KUY211 2,5	160,44	27,6	88,21	74,97	2	800	37.060	28.610
80KUY212 2,5	213,90	37,0	101,10	84,74				
80KUY311 2,5	240,66	41,4	132,65	113,34	3	800	55.590	42.920
80KUY312 2,5	320,85	55,5	154,71	128,96				
80KUY211 2,1	189,12	27,6	95,82	80,86	2	800	35.830	27.730
80KUY212 2,1	252,18	37,0	108,02	89,44				
80KUY311 2,1	283,68	41,4	144,14	121,47	3	800	53.750	41.600
80KUY312 2,1	378,27	55,5	162,89	134,62				

Model Model	Boyutlar Dimensions								Bağlantılar Connections		
	L	H	W	L <sub>T</sub>	L <sub>C</sub>	H <sub>1</sub>	H <sub>2</sub>	W <sub>1</sub>	Adet Qty	Giriş Input	Çıkış Output
	cm	cm	cm	cm	cm	cm	cm	cm	ad	mm	mm
80KUY211 2,5	285	165	132	240	--	84	41	120	1	54	42
80KUY212 2,5	285	165	132	240	--	84	41	120	1	54	42
80KUY311 2,5	405	165	132	120	--	84	41	120	1	64	54
80KUY312 2,5	405	165	132	120	--	84	41	120	1	64	54
80KUY211 2,1	285	165	132	240	--	84	41	120	1	54	42
80KUY212 2,1	285	165	132	240	--	84	41	120	1	54	42
80KUY311 2,1	405	165	132	120	--	84	41	120	1	64	54
80KUY312 2,1	405	165	132	120	--	84	41	120	1	64	54



## MONOBLOK KONDENSER ÜNİTELERİ

### MONOBLOCK WITHOUT COMPRESSOR

## TEKNİK BİLGİLER

### Technical Information

Ticari ve endüstriyel soğutma uygulamaları için monoblok cihazlar. Pozitif ve negatif sıcaklıktaki odalar için uygun cihazlar. Hızlı kurulum, kolay kullanım ve bakım. R404, R134A, R452 soğutucu akışkanlar veya talebe göre diğer soğutucu akışkanlar için üretilmektedir.

MONO kompresörsüz monoblock üniteleri evaporatör ve kondenseri bütün olarak kompakt yapıda birleşik bir çözüm sunmak için tasarlanmıştır.

Compact monoblocks for commercial and industrial refrigeration. Units suitable to control positive and negative cold rooms, quick to install, simple to use, easy to maintain. R404A, R134a, R452A refrigerant, other on request.

MONO monoblock without compressor units are designed to provide a unified solution of the evaporator and condenser as a whole in a compact structure.

## BATARYA

- Ø5/16" - Ø3/8" - Ø1/2" bakır borular.
- V-tipi alüminyum lamel.
- Giriş - çıkış kolektör malzemesi bakırdır.
- İzin verilen en yüksek çalışma basıncı Ps=21 Bar.
- Şaşırtmalı boru dizilimi.
- Bataryalarda R404A, R407C, R22, R134A soğutucu gazlarla çalışmaya uygun tasarım.
- Pozitif basınçla sevk.

## Coil

- Ø5/16" - Ø3/8" - Ø1/2" copper tubes.
- V-type aluminium fins.
- Header inlet and outlet tube connections made of copper.
- Maximum operating pressure 21 bar.
- Staggered copper tubes.
- The coil circuits are designed for refrigerants R404A, R407C, R22, R134A.
- Delivering under positive pressure.

## KASETLEME

- Monoblock üniteleri yüksek kalite beklentisi ve uygulama gereksinimlerini karşılayacak şekilde standart olarak evaporatör kısmı komple alüminyum üzeri ESB boyalı, kondenser kısmı komple galvaniz kabin üzeri ESB boyalı olarak imal edilmektedir.

## Casing

- Monoblock units are manufactured as evaporator cabin electrostatic powder coated RAL 9016 aluminium and condenser cabin made electrostatic powder coated RAL 9016 galvanized steel for standard in order to meet high quality expectations and application requirements.

- \* Belirtilen kapasiteler EBM, Ziehl - Abegg ve muadili fanlara göre hesaplanmıştır.
- \* Belirtilen kondenser kapasiteleri  $\Delta T=12^{\circ}\text{C}$  'ye göre hesaplanmıştır.

- \* Capacities are calculated according to EBM or Ziehl-Abegg or equivalent brand fans.
- \* Condenser's capacities are calculated for  $\Delta T=12^{\circ}\text{C}$ .

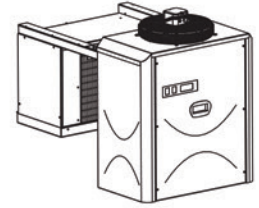




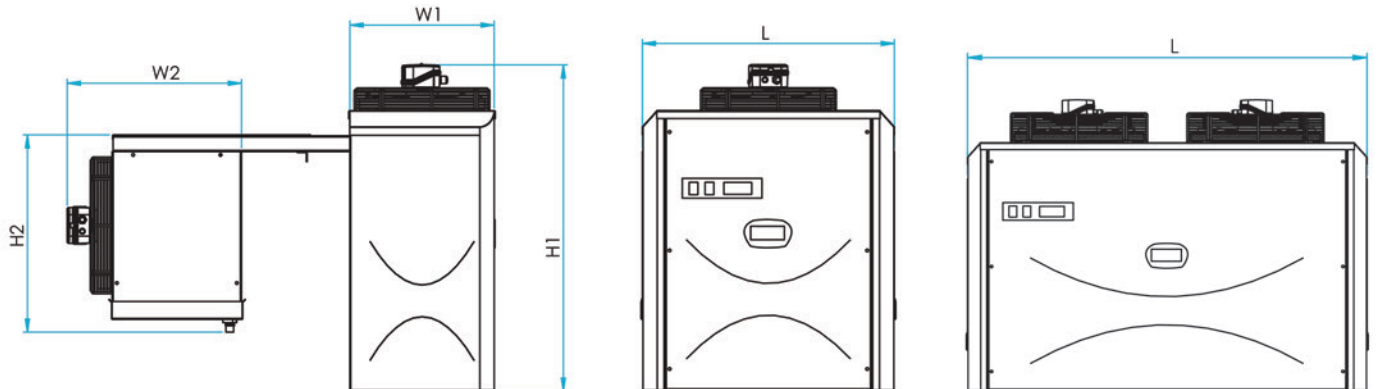
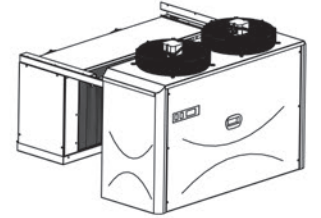
Monoblock Modeli Monoblock Model	Uyumlu Kompresör Modeli Compatible Compressor Model	(HP)	Soğutucu Akışkan Refrigerant	KOMPRESÖR COMPRESSOR		EVAPORATÖR AIR UNIT						KONDENSER CONDENSER		
				Soğuma Gücü	Motor Gücü	SC2 (Eurovent)	Yüzey Surface Area	Fan Fans	Hava Debisi	Boru Hacmi	Giriş Çıkış	Kapasite Capacity	Yüzey Surface Area	Fan Fans
				Evap. = -8°C Cond. = +45°C		Te= -8°C To= 0°C	(m²)	Qty x Ø	m³/h	dm³	nxØ	(Δt=12)	m²	Qty x Ø
MONO 3P	CAJ 9480 Z	3/4 HP	R404A	1.265 Watt	716 Watt	1.272 Watt	4,39	1x300	1466	0,90	2x3/16-2x5/8	2.334 Watt	5,68	1X300
MONO 10P	CAJ 9510 Z	1 HP		1.584 Watt	874 Watt	1.598 Watt	5,85	1x300	1389	1,20	2x3/16-2x5/8	2.707 Watt	7,90	1X300
MONO 15P	CAJ 4519 Z	1,5 HP		2.947 Watt	1.649 Watt	2.811 Watt	9,54	1x350	2353	1,80	3x3/16-3x19	4.550 Watt	10,72	1x350
MONO 20P	TFH 4524 Z	2 HP		3.373 Watt	1.818 Watt	3.135 Watt	11,47	1X350	2229	2,20	4x3/16-4x22	5.237 Watt	16,74	1x350
MONO 30P	TFH 4540 Z	3 HP		5.661 Watt	3.008 Watt	5.745 Watt	19,20	2X350	4707	3,90	5x3/16-5x28	9.121 Watt	22,92	2X350
MONO 45P	TAG 4553 Z	4,5 HP		6.924 Watt	3.532 Watt	6.922 Watt	27,20	2X350	4309	4,60	7x3/16-7x28	10.100 Watt	30,56	2X350

Monoblock Modeli Monoblock Model	Uyumlu Kompresör Modeli Compatible Compressor Model	(HP)	Soğutucu Akışkan Refrigerant	KOMPRESÖR COMPRESSOR		EVAPORATÖR AIR UNIT						KONDENSER CONDENSER		
				Soğuma Gücü	Motor Gücü	SC3 (Eurovent)	Yüzey Surface Area	Fan Fans	Hava Debisi	Boru Hacmi	Giriş Çıkış	Kapasite Capacity	Yüzey Surface Area	Fan Fans
				Evap. = -25°C Cond. = +45°C		Te= -25°C To= -18°C	(m²)	Qty x Ø	m³/h	dm³	nxØ	(Δt=12)	m²	Qty x Ø
MONO 10N	CAJ 2446 Z	1 HP	R404A	1.005 Watt	823 Watt	1.045 Watt	4,30	1X300	1494	1,40	1X1/2-1X1/2	2.334 Watt	5,68	1X300
MONO 15N	CAJ 2464 Z	1,5 HP		1.285 Watt	1.109 Watt	1.275 Watt	5,73	1X300	1422	1,80	2X1/4-2X1/9	2.707 Watt	7,90	1X300
MONO 20N	TFH 2480 Z	2 HP		1.865 Watt	1.585 Watt	1.888 Watt	11,14	1X300	1247	2,70	2X1/4-2X1/9	3.522 Watt	16,71	1X300
MONO 30N	TFH 2511 Z	3 HP		2.528 Watt	1.976 Watt	2.587 Watt	11,35	2X300	2845	3,30	3X1/4-3X22	5.755 Watt	18,00	2X300
MONO 50N	TAG 2516 Z	5 HP		3.697 Watt	2.825 Watt	3.600 Watt	19,38	2X300	2555	5,40	5X1/4-5X28	6.500 Watt	30,08	2X300

Monoblock Modeli Monoblock Model	Uyumlu Kompresör Modeli Compatible Compressor Model	(HP)	MONOBLOK BOYUTLAR				
			L	H1	H2	W1	W2
			mm	mm	mm	mm	mm
MONO 3P	CAJ 9480 Z	3/4 HP	635	825	485	400	440
MONO 10P	CAJ 9510 Z	1 HP	635	825	485	400	440
MONO 15P	CAJ 4519 Z	1,5 HP	685	825	550	450	440
MONO 20P	TFH 4524 Z	2 HP	685	825	550	450	440
MONO 30P	TFH 4540 Z	3 HP	1140	825	550	450	440
MONO 45P	TAG 4553 Z	4,5 HP	1140	825	550	450	440



Monoblock Modeli Monoblock Model	Uyumlu Kompresör Modeli Compatible Compressor Model	(HP)	MONOBLOK BOYUTLAR				
			L	H1	H2	W1	W2
			mm	mm	mm	mm	mm
MONO 10N	CAJ 2446 Z	1 HP	635	825	500	400	440
MONO 15N	CAJ 2464 Z	1,5 HP	635	825	500	400	440
MONO 20N	TFH 2480 Z	2 HP	635	825	500	400	500
MONO 30N	TFH 2511 Z	3 HP	1040	825	500	400	440
MONO 50N	TAG 2516 Z	5 HP	1040	825	500	400	440



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