Panel Radiator Use and Maintenance Manual

ÜNLÜSOY

Isitma Sistemleri Sanayi ve Ticaret A.Ş..
Pancar Organize Sanayi Bölgesi, 2. Etap No:2, Torbalı – İZMİR/TURKEY
Tel: +90 444 35 32, Fax: +90 232 469 2412
www.unmak.com

INDEX

Index

ÜNMAK After Sales Service

INTRODUCTION

Thank you for choosing ÜNMAK radiator group.

Please read the user manual carefully before installing and operating your product and keep the user manual for the duration of the product's use. Do not touch or mix any part of the product other than those permitted in the user manual. Installation, maintenance and service of radiators require expert technical team. This user manual and regulations should be taken into account for the installation of radiators, the selection of the appropriate place for installation and the installation of water installation.

Radiators are used only in residential heating systems. Using it for a different purpose is out of warranty.

The user manual should be read carefully and it should be kept for the life of the boiler along with the accompanying warranty certificate.

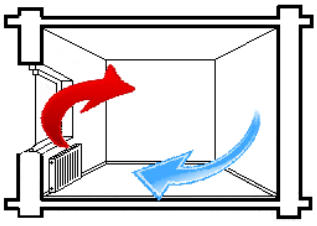
METHOD OF TRANSPORTING and HANDLING

ÜNMAK panel radiators are shipped with nylon packaging on edge cardboard.

Radiators are heavy products, so care should be taken when transporting them to the place where they will be installed. Equipment to be used to lift and transport the product must be of sufficient capacity.

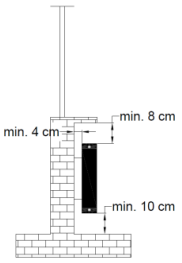
When removing the package of the radiator, hard and sharp objects should not be used in order not to damage the painted boiler sheets under the package.

SELECTION OF INSTALLATION SITE



In the selection of the radiator location, it is necessary to use the places where the air circulation of the place to be installed is good. In the places to be heated, the front of the windows are places where there is both cold and air circulation. Therefore, it is suitable to be placed under windows.

• Radiators with high radiation (radiation) ratio should be used in high ceiling structures, stairwells, vertical connection spaces in duplex structures. In such places, the heat radiated by convection by the radiator is collected in the upper parts and the lower floors remain relatively cold. However, if the rate of radiant heat dissipation in the radiators placed on the lower floors is high, this difference is largely compensated. Radiation rate is high in flat surface and thin radiators. In this respect, panel radiators with less depth (thin) and high height are the most advantageous types.



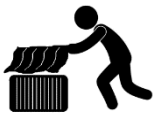
• The height of the radiators to be placed in the niche should be at least 15 cm less than the parapet height. The radiator is lifted about 7 cm from the ground. Thus, a gap of at least 8 cm is left between the radiator top and the parapet.

The places where the most heat loss is experienced in buildings are glass and exterior walls. Double glazing applications will not completely prevent heat loss, no matter how good the thermal insulation applications are. Therefore, the radiators should be designed by mounting them under the glass first.

• Radiator installations should be done by qualified installers.

• The wall of the floor where the radiator will be placed must be clean and smooth.

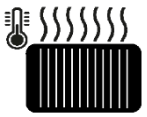
• Products should not be dropped during transportation. Since it is heavy goods, it should be carried by two people.



• Covering radiators will prevent heat transfer. As the heating capacity will decrease, it will cause more energy consumption. Efficiency loss in covered radiators will increase up to 20% depending on time. Cabinets, armchairs, etc. positioned very close to the radiators. Such items will also reduce heat conduction.

• The water inside the radiators should not be drained. Emptying the radiators at the end of the season requires a new water filling while filling them with new water, which will mean an increase in oxidation in the radiator. If there is a need to fill the radiator with water, it is not necessary to fill the hose with water before filling the radiator and after removing the remaining air, filling the radiator.

• Since the radiators will be hot while working, it is necessary to prevent the contact of children, pets, living things or objects that may be affected by the temperature.



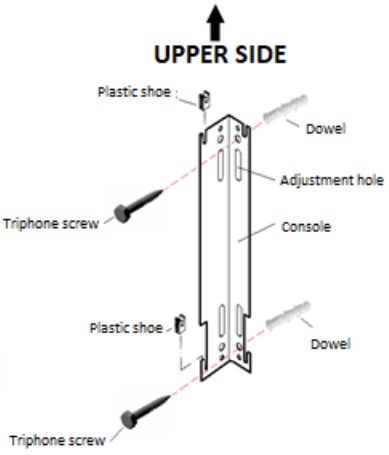
• The water in the radiators should not be drained even if the system will not be used for a long time. When the water in the system needs to be drained, the radiator valves should be closed to ensure that water remains in the radiator. Otherwise, the corrosive substances that will form inside the radiator will adversely affect the radiator and may damage the installation.

• It should not be used in open areas where there is danger of freezing. Freezing of the water in the installation can damage both the radiator and the installation. If it is necessary for the installation and the radiator to remain in an environment below 0°C, antifreeze must be added to the installation water.

• The maximum operating temperature of the radiator is 120°C. It should not be used at temperatures higher than this temperature value.

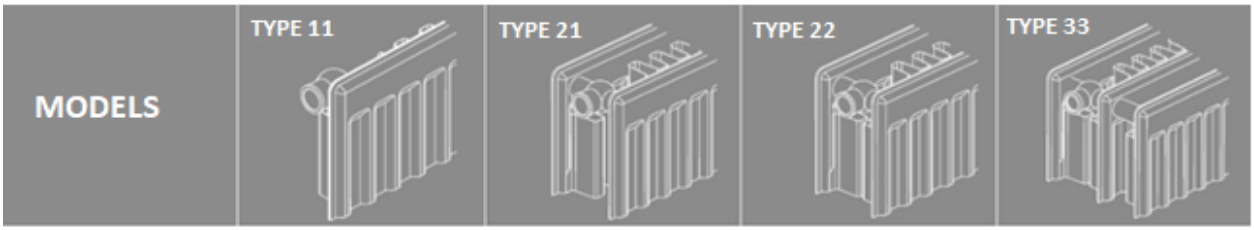
FEATURES OF RADIATORS

PANEL RADIATORS



Ünmak Extra panel radiators have maximum heat efficiency with their 33.3 mm pitch water circulation channels and wide convector surface. Superior paint technology is cleaned by applying immersion degreasing, spray degreasing, iron phosphate coating and passivation processes in accordance with DIN 55900 standards. The radiators, which are primed and fired with the dip wet paint method, are painted with robot guns in RAL 9016 color and baked with the electrostatic powder-coating method. It is packed with bubble wrap and edge cartons to be protected from external factors during transportation and assembly. Mounting materials (suspension apparatus, breather plug, blind plug, console holder clips, dowels and triphone screws) are in the package. Installation of radiators is practical, easy and can be installed in a short time.

TYPE		10 P					11 PK					21 PKP					22 PKKP					33 PKKPKP				
Height	(mm)	300	400	500	600	900	300	400	500	600	900	300	400	500	600	900	300	400	500	600	900	300	400	500	600	900
Clamp. axis	(mm)	245	345	445	545	845	245	345	445	545	845	245	345	445	545	845	245	345	445	545	845	245	345	445	545	845
Width	(mm)	49										70					104					160				
Length	(mm)	400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500, 1600, 1800, 2000, 2200, 2400, 2600, 2800, 3000																								
Volume	(Lt)	1,7	2,1	2,6	3,1	4,4	1,7	2,1	2,6	3,1	4,4	3,4	4,3	5,1	6,1	8,2	3,4	4,3	5,1	6,1	8,2	5,1	6,2	7,6	8,9	13,1
Weight	(kg/m)	6,5	7,1	9,6	11,4	17,8	9,1	11,1	14,1	16,9	25,5	14,4	21,1	25,9	29,5	40,8	17	21,5	27,2	31,9	48,5	25,1	31,9	40,3	48,5	71,6



Type	P 10		Type	PK 11		Type	PKP 21		Type	PKKP 22		Type	PKKPKP 33	
	K_M	n		K_M	n		K_M	n		K_M	n		K_M	n
300	4,0814	1,2359	300	4,9170	1,2350	300	5,9237	1,2341	300	7,1365	1,2350	300	8,5976	1,2341
400	4,3598	1,2377	400	5,4848	1,2424	400	6,9001	1,2471	400	7,5271	1,2779	400	10,9205	1,2471
500	3,8577	1,2395	500	5,3387	1,2497	500	7,3883	1,2600	500	7,9177	1,3208	500	14,1499	1,2600
600	5,0094	1,2414	600	6,6594	1,2571	600	8,8528	1,2730	600	8,3083	1,3637	600	15,6450	1,2730
900	7,7012	1,2715	900	9,6563	1,2744	900	12,1077	1,2773	900	15,1815	1,2744	900	18,9769	1,2617

VERTICAL RADIATORS

It occupies little space as it can be mounted vertically to the environment it is in. As it is preferred in narrow spaces, it also appeals to the eye as decorative.

Each radiator is subject to 13 bar pressure test and is resistant to 10 bar operating pressure. It is offered to the consumer with a 10-year guarantee. Superior paint technology is cleaned by applying immersion degreasing, spray degreasing, iron phosphate coating and passivation processes in accordance with DIN 55900 standards. The radiators, which are primed and fired with the dip wet paint method, are painted with the electrostatic powder-coating method with robot guns and then fired. Mounting materials (suspension apparatus, breather plug, blind plug, console holder clips, dowels and triphone screws) are in the package. Installation of radiators is practical, easy and can be installed in a short time.

MODELS	TYPE 21/400	TYPE 21/500	TYPE 21/600
	1400 1600 1800 2000 2200	1400 1600 1800 2000 2200	1400 1600 1800 2000 2200

TEST PRESSURE	MAX. OPERATING PRESSURE	MAX. WATER TEMPERATURE	WARRANTY	NUMBER OF CONNECTION
13 BAR	10 BAR	110 °C	10 YIL	6xDIN G½

TOWEL RADIATORS

Towel radiators offer ideal solutions for spaces such as bathrooms and kitchens. It both heats the place where it is located and is used for towel drying. It is fixed to the wall from 4 points, two from the top and two from the bottom.

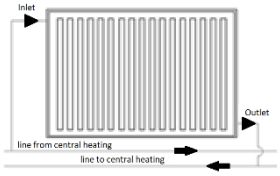
Flat-shaped towel radiators are available in two different coatings, either white or chrome. Oval shaped towel radiators are also prepared in two different coatings, white painted and chrome.

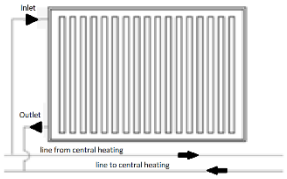
MODELS CHROMIM/WHITE FLAT/OVAL	400		500		600	
	700 800 1000 1100	1200 1400 1600 1800	700 800 1000 1100	1200 1400 1600 1800	700 800 1000 1100	1200 1400 1600 1800

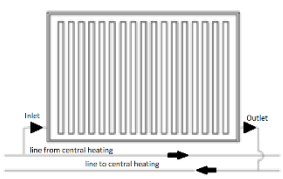
SIZE					HEATING TABLE			
Widht	Height	Attachment Distance	Number Of Pipes	Water Capacity	Electrostatic Painted		Chroma Coated	
(A) mm	(H) mm	(L) mm		(L) mm	Watt	kcal/h	Watt	kcal/h
400	700	356	15	2,90	277	238	183	157
400	800	356	17	3,28	314	270	207	178
400	1000	356	20	3,95	379	326	250	215
400	1100	356	23	4,43	436	375	288	247
400	1200	356	25	4,82	464	399	306	263
400	1400	356	28	5,49	529	455	349	300
400	1600	356	33	6,35	616	529	406	349
500	700	456	15	3,37	327	281	216	185
500	800	456	17	3,81	371	319	245	210
500	1000	456	20	4,58	445	383	294	253
500	1100	456	23	5,15	512	441	338	291
500	1200	456	25	5,60	546	470	360	310
500	1400	456	28	6,37	622	534	410	353
500	1600	456	33	7,39	723	622	477	410
600	700	556	15	3,84	384	330	253	218
600	800	556	17	4,35	436	375	288	248
600	1000	556	20	5,21	524	451	346	297
600	1100	556	23	5,87	594	511	392	337
600	1200	556	25	6,39	645	555	426	366
600	1400	556	28	7,25	734	631	484	417
600	1600	556	33	8,43	857	737	565	486

INSTALLATION DIAGRAM

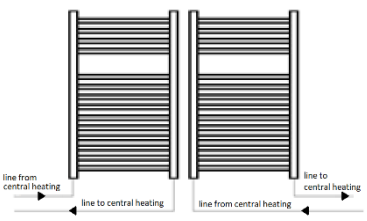
The most preferred mounting method in radiators is the top entry and the bottom exit from the diagonal corner. The water entering from the top right leaves the radiator from the bottom left or vice versa, the water entering from the top left leaves the radiator from the bottom right.







The second type of mounting is the one in which the same direction is entered from the top and exited from the bottom. It can be done on the right or left hand.



It is not preferred in panel radiator mounting, but in case of necessity, it can be mounted as input from the bottom right, exit from the bottom left or vice versa, entry from the bottom left and exit from the bottom right.

FIRST START-UP

To fill the heating system with water, it must be connected with a hose from the lowest code inlet of the system. The air vent should be left open to allow air to escape from the highest point of the system. This is not necessary in systems using open expansion. The tap should be opened and the environment should be filled with water, then the water should be connected to the point to be pumped. If the lowest code is on the radiator, while pumping water into the system, if there is a manometer on the heating device, the system should be brought to around 1-1.5 bar by observing it with a manometer.

Care must be taken to ensure that no air remains in the system. Do not test radiators with mains pressure. If you have to test, be sure to have a manometer on hand. After applying the necessary pressure, close the inlet line to the radiators. Do not leave radiators under mains pressure.

Do not leave radiators under mains pressure.

MAINTENANCE AND CLEANING

Regular checks:

- It should be checked whether there is a water leak (leakage), and if there is a water leak, the installer should be contacted.
- Radiators should only be cleaned with a lint-free cloth with warm water and no chemicals.

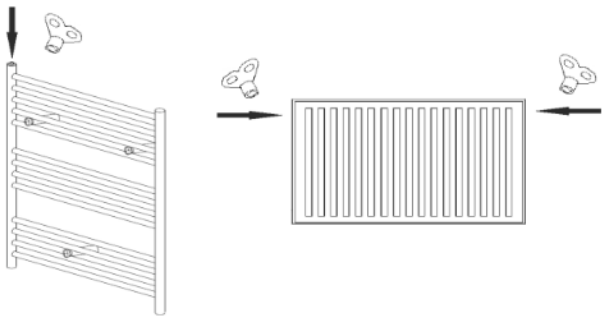
Periodic checks:

- By separating the sides of the panel radiators, the grids on them can be removed and the gaps between the convectors can be cleaned, or by blowing air from above with a hair dryer without removing the grille, the dust can be poured from below.
- While the system is running, the radiator surfaces should be checked manually from bottom to top to see if there is a cold zone. Being a cold zone indicates that there is air remaining in the radiator.Sezonluk kontroller:

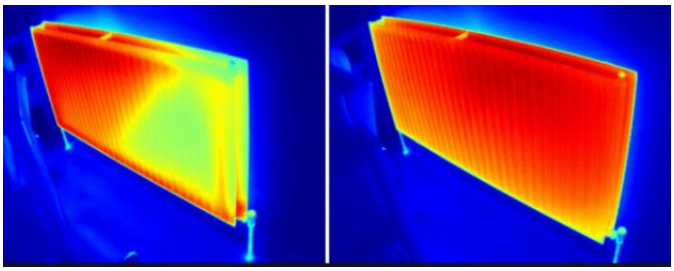
- Radiator convector cleaning can be done by professional cleaning companies.

RADIATOR BLEEDING

It is taken from the places shown in the figure, the air vents. A deep container should be found and precautions should be taken for the dirty water to come out. The system should be started and the pressure should be increased up to 2 bar. With the air vent wrench or flat screwdriver, the screw on the air vent should be turned counter clockwise slowly. If air is trapped in the system, it will come out at this time. When the water starts to flow properly, its air will be taken. Then the pressure of the system should be checked and brought to around 1-1.5 bar.



In order to understand whether there is air in the system, it is sufficient to check the radiators by touching them while the system is running. The lower sides of the air radiators will be cooler than the upper ones. Below are the thermal camera images of the air-containing radiator and the vented radiator.



CE LABEL

CE

1783

ÜNLÜSOY Isıtma Sistemleri Sanayi ve Ticaret A.Ş.
Pancar OSB, 10. Cadde No:2
Torbalı - İZMİR
Tel: 444 35 32, www.unmak.com
18
UB-04

EN-442-1:2014

Çelik Panel Radyatör, Tip: PKKP 22
Yükseklik: 600 Uzunluk: 1000

Binalarda Isıtma Amaçlı

Ateşe Tepki: A1

Tehlikeli Madde: None

Sızdırmazlık: 1300 kPa

Basınç Dayanımı: 1690 kPa

Maksimum Çalışma Basıncı: 1000 kPa

Yüzey Sıcaklığı: Maksimum 120 °C

Nominal Isıl Güç:
ΔT= 30 °C → 859 W
ΔT= 50 °C → 1723 W

$Q=K_M*\Delta T^n$

KM= 8,3083 n= 1,3637

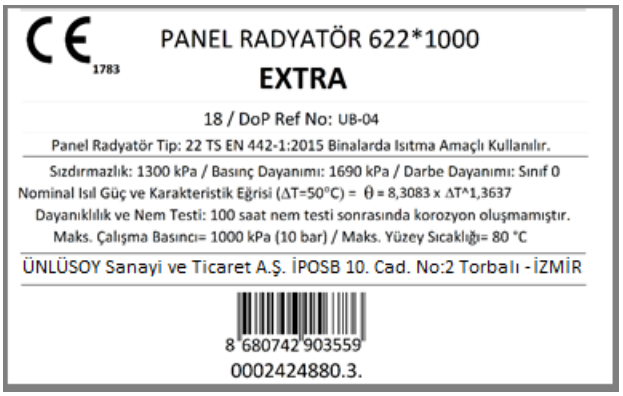
Korozyona Karşı Direnç: 100 saat nem testi sonrasında korozyon gözlemlenmemiştir.

Darbe Dayanımı: Sınıf 0

Ünmak Extra brand radiators have been tested by the organization called "Notified Body" in accordance with EU legislation and officially appointed by the ministry responsible for executing the regulations, and the values declared on the label have been found.

The label of the 22 type and 1000 mm long radiator is given as an example on the side.

There is a horizontal, barcoded label on the packaging containing the same information.



INFORMATION ON USAGE ERRORS

PROBLEM	CAUSE	SOLUTION
There are cold parts in the radiator	• There may be air trapped inside	• Bleeding the radiator according to the instructions in “Bleeding the radiator”
There is a water leak from under the radiator	• Montage error	• Contact your installer company.
The last radiator in the installation does not heat up	• The pump may be insufficient. • There may be air in the radiator	• Increase the pump stage • Call the installer company • Bleed the air according to the instructions on the “Bleeding the radiator” page.

TERMS of GUARANTEE

1. Radiators whose initial operation is not performed by Ünmak Authorized Services are not covered by the warranty.
2. The warranty period is ten (10) years. It commences from the date of delivery of the goods to the consumer when warnings and conditions specified in the user manual are followed. The maximum repair time is 20 days.
3. Our company will not be responsible for any damages and malfunctions due to the improper usage of this product without concerning the user manual.
4. Malfunctions caused by inadequate, incorrect cleaning and improper maintenance are not covered by the warranty.
5. Invoice issued for the purchased goods do not replace the warranty document. Nevertheless, the invoice issued as a result of repair and replacement of the parts at the service stations replaces the warranty document.
6. In case of failure, the time spent in repair is added to the warranty period.
7. The maximum repair time is 20 days. This period starts from the date of notification to the service station of the error related to the product; the seller, dealer, agent and representative can also acceptable when service station is not available. Consumer failure notification is possible to make by phone, fax, e-mail, registered letter or similar method. Neverthless, in the event of dispute, consumer responsible for obligation of the proof.
8. If the malfunction cannot be resolved within 20 working days, our company offer another goods with the same specification to the use of the consumer until the repair of the goods is completed.
9. This warranty certificate only valid for panel radiator. It is not covers other parts such as pipeline, valves, fittings, etc.
10. The warranty is not valid when the destruction (erasure, scratch) of the seller and manufacturer part or any part on the certificate observed.
11. The radiator is not covered by the warranty, which does not comply with the user manual of the device or any application specified in the user manual.
12. Errors arising from user and radiator placement, errors due to natural disasters, freezing due to climatic conditions are out of warranty.
13. Errors caused by the incorrect selected radiator capacity are not covered by the warranty.
14. Errors arising from transportation after the radiator is delivered to the customer are out of warranty.
15. Damage that may occur on painted surfaces is not covered by the warranty.
16. Cases where the warranty certificate can not be shown are considered outside the scope of the warranty.
17. If the maintenance specified in the user's manual is not done by consumer, the errors that occur are out of the scope of the radiator warranty.
18. Radiators are out of warranty when the commissioning or initial service has not been performed by Ünmak Authorized Services.

Manufacturer

Title :	**Ünlüsoy Isıtma Sistemleri Sanayi ve Ticaret A.Ş.**
Address:	**Pancar Organize Sanayi Bölgesi, 2. Etap No:2, Torbalı – İZMİR/TURKEY**
Tel – Fax:	**+90 444 3532 – +90232 469 2412**

Authorized person signature & stamp:

Seller

Title :

Address:

Invoice Date & Number:

Authorized person signature & stamp:

Product Details

Description:	RADIATOR
Brand/Model:	ÜNMAK

WARRANTY

WARRANTY

10 YEARS

After Sales Services Competence Certificates
Chapter: TS 12676, Document No: 37278

This warranty document was made in accordance with the Law No. 6502 and the Regulation on the Principles of Guarantee Certificate issued based on this Law. The use of this warranty document is subject to the permission General Directorate of Consumer Protection and Competition of the Ministry of Industry and Trade.