



Panel Radiator Use and Maintenance Manual



ÜNLÜSOY

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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

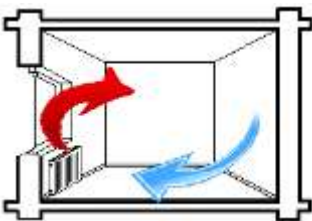
ÜNMAK panel radiators are shipped with nylon packaging on edge cardboard.

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.

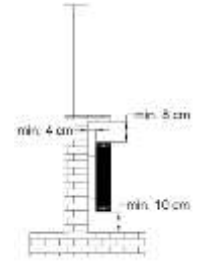
SELECTION OF INSTALLATION SITE



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 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 will also reduce heat conduction.



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items

- 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 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.



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- 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 time. When the water in the system needs to be drained, the radiator valves should be closed ensure that water remains in the radiator. Otherwise, the corrosive substances that will form the radiator will adversely affect the radiator and may damage the installation.



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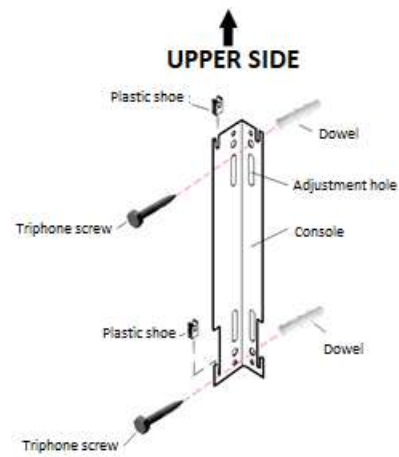
- It should not be used in open areas where there is danger of freezing. Freezing of the water in the installation can damage both the radiator and the installation. If it is necessary for the installation and the radiator to remain in an environment below 0°C, antifreeze must be added to the installation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

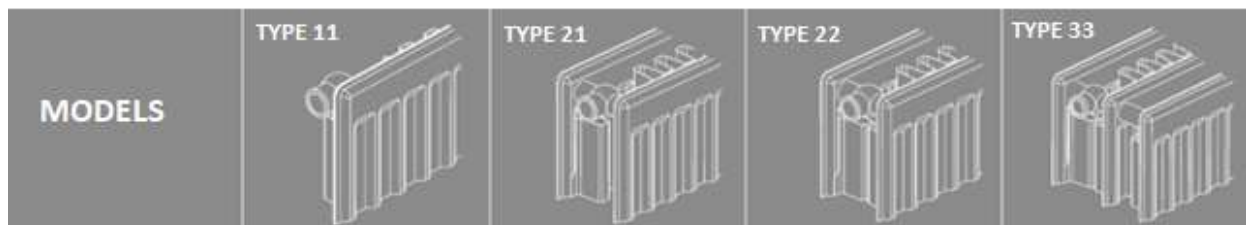
PANEL RADIATORS

Ünmak Extra panel radiators have maximum heat efficiency with their mm pitch water circulation channels and wide convector surface. Superior paint technology is cleaned by applying immersion degreasing, degreasing, iron phosphate coating and passivation processes in accordance with DIN 55900 standards. The radiators, which are primed fired with the dip wet paint method, are painted with robot guns in RAL 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 clips, dowels and triphone screws) are in the package. Installation of radiators is practical, easy and can be installed in a short time.



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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



Height	Type 10 P			Type 11 PK			Type 21 PKP			Type 22 PKKP			Type 33 PKKPKP		
	n	30 °C (W)	50 °C (W)	n	30 °C (W)	50 °C (W)	n	30 °C (W)	50 °C (W)	n	30 °C (W)	50 °C (W)	n	30 °C (W)	50 °C (W)
300	1,2359	300	565	1,2350	361	678	1,2341	433	814	1,2350	524	984	1,2341	629	1.182
400	1,2377	323	608	1,2424	413	779	1,2471	528	998	1,2424	653	1.232	1,2471	835	1.579
500	1,2395	288	542	1,2497	412	780	1,2600	590	1.124	1,2497	789	1.494	1,2600	1.131	2.152
550	1,2405	362	682	1,2534	497	943	1,2665	683	1.305	1,2534	859	1.630	1,2665	1.181	2.255
600	1,2414	376	708	1,2571	527	1.001	1,2730	739	1.417	1,2571	931	1.770	1,2730	1.307	2.504
900	1,2715	640	1.225	1,2744	810	1.554	1,2773	1.026	1.970	1,2744	1.274	2.443	1,2773	1.613	3.098

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.

	TYPE 21/400	TYPE 21/500	TYPE 21/600
MODELS	1400 1600 1800 2000 2200	1400 1600 1800 2000 2200	1400 1600 1800 2000 2200
TEST PRESSURE	13 BAR		
MAX. OPERATING PRESSURE	10 BAR		
MAX. WATER TEMPERATURE	110 °C		
WARRANTY	10 YIL		
NUMBER OF CONNECTION	6xDIN G ^{3/8}		

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.

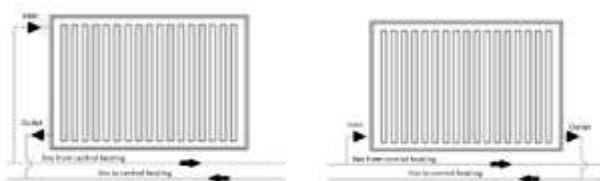
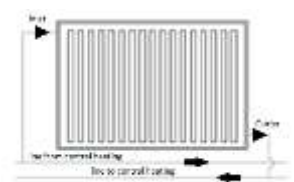
Flat-shaped towel radiators are available in two different coatings, either white or chrome. Oval shaped towel radiators are also prepared in two different coatings, white painted and chrome.

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

SIZE					HEATING TABLE			
Width	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

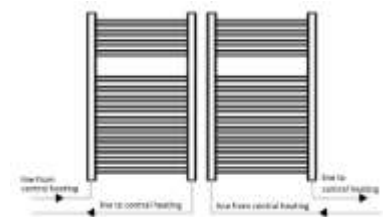
INSTALLATION DIAGRAM

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

In order to fill the heating system with water, it must be connected with a hose from the lowest code entry of the system. The vent must be left open for air to exit from the highest point of the system. This is not necessary in open expansion systems. The environment should be filled with water by opening the faucet, then it should be connected to the point where the water will be pumped. If the lowest code is in the radiator, while the system is flooding, if there is a manometer in the heating device, it should be observed with a manometer and the system should be brought to around 1-1.5 bar.

Care should be taken not to leave any air in the system.

MAINTENANCE AND CLEANING

Regular checks:

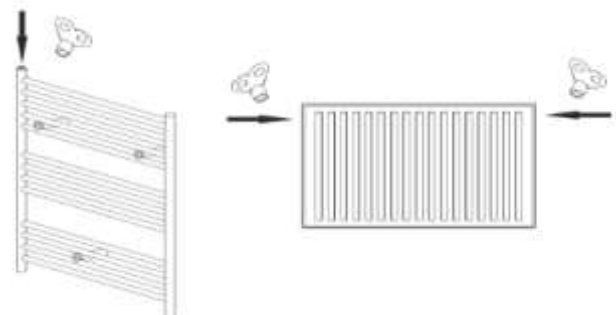
- It should be checked whether there is a water leak (leakage), and if there is a water leak, the installer should be contacted.
- Radiators should only be cleaned with a lint-free cloth with warm water and no chemicals.

Periodic checks:

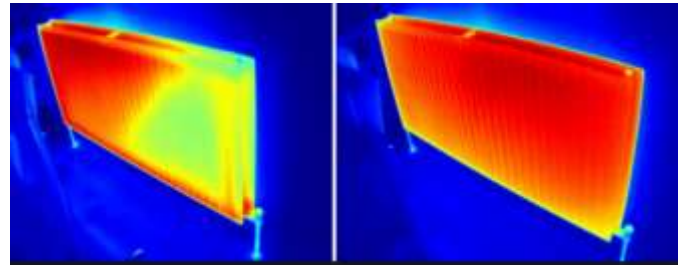
- By separating the sides of the panel radiators, the grids on them can be removed and the gaps between the convectors can be cleaned, or by blowing air from above with a hair dryer without removing the grille, the dust can be poured from below.
- While the system is running, the radiator surfaces should 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.



INFORMATION ON USAGE ERRORS

PROBLEM	CAUSE	SOLUTION
There are cold parts in the radiator	<ul style="list-style-type: none"> • There may be air trapped inside 	<ul style="list-style-type: none"> • Bleeding the radiator according to the instructions in “Bleeding the radiator”
There is a water leak from under the radiator	<ul style="list-style-type: none"> • Montage error 	<ul style="list-style-type: none"> • Contact your installer company.
The last radiator in the installation does not heat up	<ul style="list-style-type: none"> • The pump may be insufficient. • There may be air in the radiator 	<ul style="list-style-type: none"> • 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. The service life recommended by the Ministry for this product is fifteen (15) years.
6. 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.
7. In case of failure, the time spent in repair is added to the warranty period.
8. 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. Nevertheless, in the event of dispute, consumer responsible for obligation of the proof.
9. 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.
10. This warranty certificate only valid for panel radiator. It is not covers other parts such as pipeline, valves, fittings, etc.
11. The warranty is not valid when the destruction (erasure, scratch) of the seller and manufacturer part or any part on the certificate observed.
12. 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.
13. Errors arising from user and radiator placement, errors due to natural disasters, freezing due to climatic conditions are out of warranty.
14. Errors caused by the incorrect selected radiator capacity are not covered by the warranty.
15. Errors arising from transportation after the radiator is delivered to the customer are out of warranty.
16. Damage that may occur on painted surfaces is not covered by the warranty.
17. Cases where the warranty certificate can not be shown are considered outside the scope of the warranty.
18. 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.
19. Radiators are out of warranty when the commissioning or initial service has not been performed by Ünmak Authorized Services.

Producer

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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

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