TCM 200 - 300

UPUTSTVO ZA UPOTREBU

INSTRUCTIONS FOR USE

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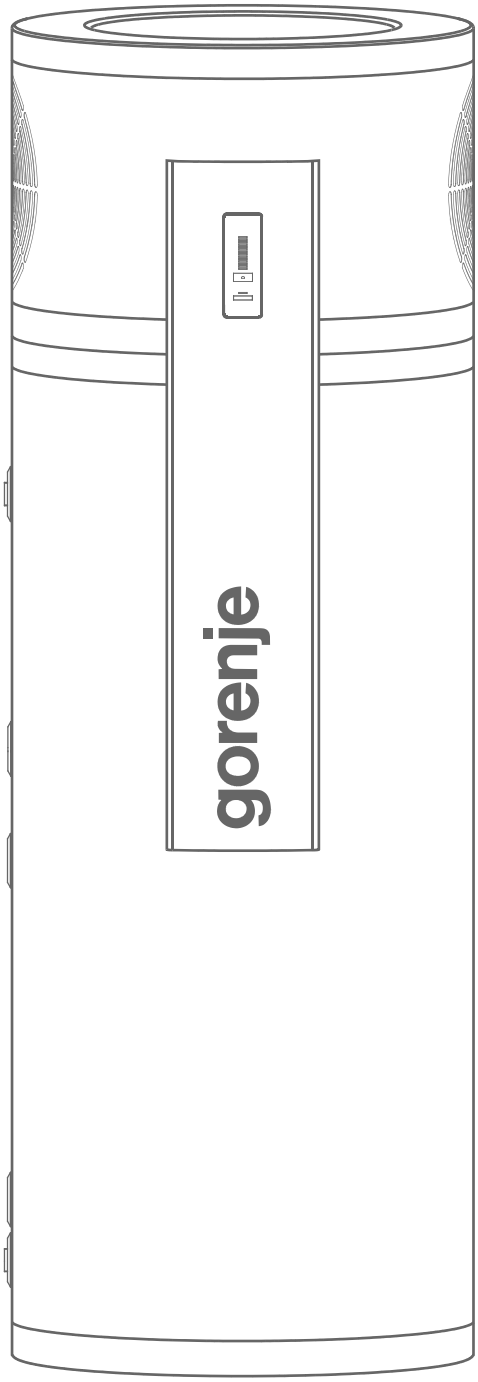

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UPOZORENJA

⚠ Deca starija od osam godina, kao i lica smanjenih fizičkih, pokretnih ili mentalnih sposobnosti, odnosno lica bez potrebnih iskustava ili znanja, smeju da koriste ovu napravu samo ako su pod nadzorom, ili ako im je pružena potrebna pomoć i uputstva za uputrebu aparata na bezbedan način, te ako razumeju eventualne opasnosti povezane sa njegovim korišćenjem.
⚠ Pazite da deca ne koriste aparat kao igračku.
⚠ Deca takođe ne smeju da učestvuju u čišćenju ili u radovima na održavanju aparata bez odgovarajućeg nadzora
⚠ Aparat treba da se prevozi u uspravnom položaju; u izuzetnim slučajevima možete da ga nagnete do ugla 35° u bilo kom smeru. Pazite da tokom transporta ne oštetite kućište i vitalne delove aparata.
⚠ Naprava nije namenjena da se koristi u prostorijama u kojima su prisutne korozivne i eksplozivne tvari.
⚠ Priključenje aparata na električnu instalaciju treba da bude obavljeno u skladu sa standardima propisanim za električne instalacije.
⚠ Između aparata i trajne instalacije mora da se ugradi naprava koja u svim polovima odvaja aparat od električne mreže u skladu sa lokalnim instalacionim propisima.
⚠ Zbog opasnosti od oštećenja agregata toplotne pumpe, naprava ne sme da bude upućivana u rad bez vode u rezervoaru!
⚠ Instalacija mora da bude urađena u skladu s važećim propisima, i prema uputstvima proizvođača, i mora da ju izvrši stručno osposobljen monter.
⚠ Kod zatvorenog, tlačnog sistema priključenja, na dovodnu cev rezervoara tople vode treba obavezno ugraditi sigurnosni ventil s nominalnim tlakom 0,6 MPa (6 bar), koji sprečava povećanje tlaka u rezervoaru za više od 0,1 MPa (1 bar) iznad nominalnog tlaka.
⚠ Iz odvodnog otvora sigurnosnog ventila može kapati voda, zato je dobro da odvodni otvor bude otvoren na atmosferski tlak.
⚠ Ispust sigurnosnog ventila mora da bude postavljen u smeru prema dole, i u području gdje nema smrzavanja.
⚠ Za pravilno delovanje sigurnosnog ventila morate sami vršiti redovne kontrole, te po potrebi odstraniti kamenac i proveriti da li je sigurnosni ventil možda blokiran.
⚠ Između rezervoara i sigurnosnog ventila ne smete ugraditi zatvarajući ventil, jer bi time onemogućili funkcionisanje sigurnosnog ventila!
⚠ Elementi u elektronskoj kontrolnoj jedinici su pod naponom i nakon pritiska na taster za isključenje aparata.
⚠ Naprava je preko dodatnog toplotnog osigurača zaštićena za slučaj otkazivanja radnog termostata, no u takvim slučajevima, u skladu sa bezbednosnim standardima voda u rezervoaru svejedno može da postigne temperaturu i do 130 °C. Zato je kod izvedbe vodovodnih instalacija obavezno potrebno uzeti u obzir mogućnost da može da dođe do navedenih temperaturnih preopterećenja.
⚠ Ako aparat isključite iz električne instalacije, zbog opasnosti od zamrzavanja treba uvek ispustiti vodu iz rezervoara.
⚠ Voda iz rezervoara prazni se kroz dovodnu cev. U tu je svrhu preporučljivo da se između sigurnosnog ventila i dovodne cevi montira poseban članak ili ispusni ventil.
⚠ Molimo Vas da eventualne kvarove na napravi ne popravljate sami, nego da o njima obavestite najbližu ovlašćenu servisnu službu.
⚠ U slučaju pada temperature dodatnog izvora grejanja, i kod omogućene cirkulacije vode kroz prenosnik toplote, može da dođe do nekontrolisanog oduzimanja toplote iz rezervoara vode. Kod priključenja na druge izvore zagrevanja treba se postarati za pravilnu izvedbu temperaturne regulacije dodatnog izvora.
⚠ U slučaju priključenja panela solarne energije kao spoljnog izvora toplote, delovanje agregata toplotne pumpe mora biti isključeno, inače bi kombinacija oba izvora toplote mogla privesti do pregrevanja sanitarne vode i posledično tome do previsokog tlaka.
⚠ Cirkulacioni vod uzrokuje dodatne toplotne gubitke u rezervoaru vode.
⚠ U izvedbi bez grejača, rezervoar tople vode nema zaštitu od zamrzavanja!
⚠ Naprava sadrži fluorisane stakleničke gasove. Hermetički zatvoreno.

Cenjeni kupci, zahvaljujemo Vam na kupovini našeg proizvoda.
MOLIMO VAS DA PRE UGRADNJE I PRVE UPOTREBE GREJALICE VODE S TOPLOTNOM PUMPOM PAŽLJIVO PROČITATE UPUTSTVA.

Bojler za toplu vodu s toplotnom pumpom izrađen je u skladu s važećim standardima koji proizvođaču dozvoljavaju upotrebu CE znaka. Njegove osnovne tehničke karakteristike navedene su na natpisnoj pločici, nalepljenoj na zadnjoj gornjoj strani rezervoara.

Priključenje bojlera s toplotnom pumpom sme da uradi samo stručno osposobljen monter. **Zahvate u njegovu unutrašnjost za izvođenje popravaka, uklanjanja kamenca, i provere ili zamene protukorozijske zaštitne anode sme obavljati samo ovlašćena servisna služba.** Naročito pažljivo pridržavajte se uputstava za ponašanje u slučaju eventualnih grešaka u radu i bezbedne upotrebe aparata.

Sačuvajte taj priručnik, da bi mogli uvek da ga pogledate kada budete u nedoumici u vezi njegova funkcionisanja ili održavanja aparata.
Uputstva za postavljanje i upotrebu takođe su dostupna na našem internetnom sajtu http://www.gorenje.com, ili na nacionalnim stranicama u rubrici 'servis' odnosno 'potpora'. Za povremeno održavanje imate uvek mogućnost da pozovete ovlašćene servisere, koji vam stoje na raspolaganju sa svojim iskustvom.

Bojler za toplu vodu s toplotnom pumpom i ugrađenim cevnim prenosnikom toplote izrađen je tako da možete koristiti i druge izvore grejanja, kao što su na primer kazan centralnog grejanja, solarni kolektori, i slično.

PODRUČJE UPOTREBE

Ovakve izvedbe bojlera sa toplotnom pumpom namenjene su pre svega zagrevanju potrošne vode u domaćinstvima i drugim ambijentima, odnosno potrošačima gde dnevna potrošnja tople vode (50 °C) ne prevazilazi 400 do 700 litara. **Podešavanje temperature na napravi neka bude takvo da pokrije stvarne potrebe. Preporučljive vrednosti podešavanja su između 45 i 55 °C. Više regulacije temperature nisu preporučljive, budući da se kod njih smanjuje efikasnost (COP – 'coefficient of performance', odnosno stepen iskorišćenja), i produžava se vreme zagrevanja, odnosno povećava se broj radnih sati.** Budući da bojler s toplotnom pumpom u svom radu ujedno hladi prostor, iskoristivost aparata je dvostruka (grejanje vode - hlađenje prostorija). Delovanje bojlera za toplu vodu s toplotnom pumpom je potpuno automatsko.

Naprava mora biti priključena na kućnu instalaciju sanitarne tople vode, i za svoj rad treba električno napajanje. Za lakšu kontrolu i servisiranje aparata oko njega ostavite dovoljno prostora (slike 2 i 3). Upotreba koja je drugačija od navedene u uputstvima za taj aparat nije dozvoljena. Naprava nije namenjena za korišćenje u prostorijama u kojima su prisutne korozivne i eksplozivne tvari. Proizvođač ne odgovara za oštećenja nastala zbog nepravilne ugradnje i neodgovarajuće upotrebe koja nije u skladu s uputstvima za montažu i upotrebu.

Uputstva za upotrebu su sastavni i veoma važan deo proizvoda, i moraju da budu uručena kupcu. Pažljivo pročitajte upozorenja u uputstvima, jer su u njima navedene važne predostrožnosti i upozorenja u vezi sa bezbednošću kod instalacije, upotrebe i održavanja aparata. Sačuvajte ove uputstva ako vam zatrebaju za eventualno kasnije korišćenje.

Oznaka vašeg aparata navedena je na natpisnoj pločici koja je fiksirana na zadnjoj gornjoj strani rezervoara.

Kada odstranite ambalažu, pregledajte sadržaj. U slučaju bilo kakve nedoumice obratite se dobavljaču. Elemente ambalaže (spone, plastične kese, ekspandirani polistiren itd.) nemojte ostavljati na domašaju dece, jer su to potencijalni izvori opasnosti, a nemojte ih ni bacati bilo kamo u okolinu.

⚠ **Naprava nije namenjena upotrebi u prostorijama u kojima su prisutne korozivne i eksplozivne tvari.**

USKLADIŠTENJE I TRANSPORT

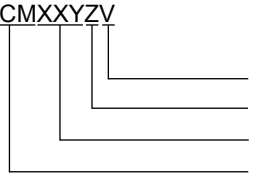
Aparat mora biti uskladišten u uspravnom položaju, u suvom i čistom prostoru.

⚠ **Aparat se prevozi u uspravnom položaju. U izuzetnim slučajevima možete da ga nagnete do 35° u bilo kom smeru. Pazite da tokom transporta ne oštetite kućište i vitalne delove aparata.**

TEHNIČKE KARAKTERISTIKE APARATA

KLJUČ TIPA

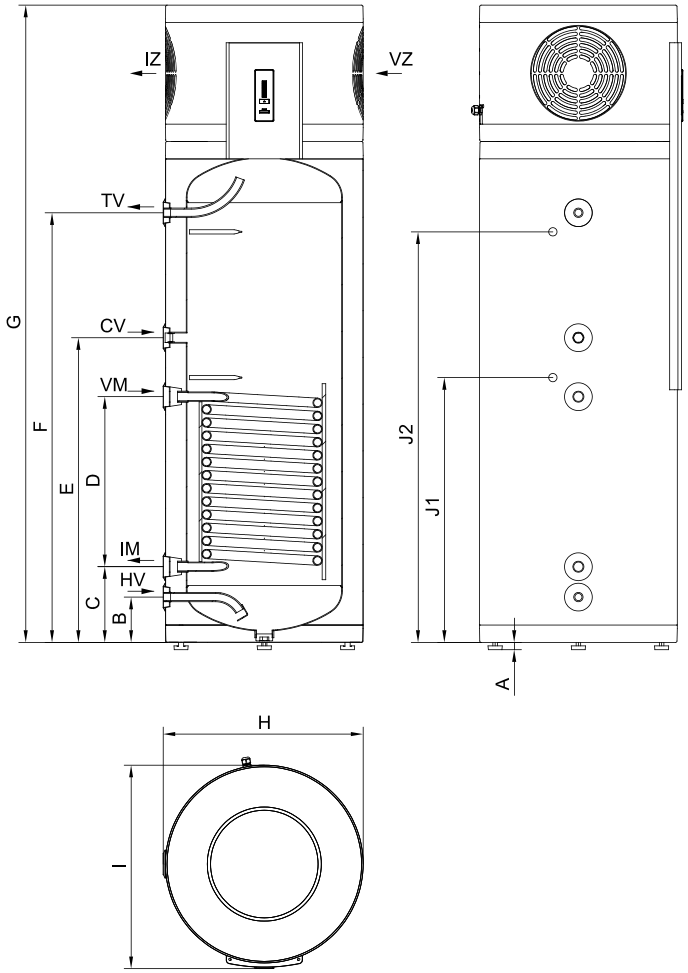
TCMXXYZV



Oznaka G – ugrađen grejač; bez oznake – nema ugrađen grejač
Pozicija agregata (oznaka Z – gore)
Zapremina, prenosnik toplote (0 – bez prenosnika, 1 – jedan prenosnik, 6 – jedan donji prenosnik)
Bojler za toplu vodu s toplotnom pumpom u metalnom omotaču

Tip		TCM200ZG	TCM201ZG	TCM300ZG	TCM306ZG
Profil korišćenja		L	L	XL	XL
Razred energetske efikasnosti [1]		A+	A+	A+	A+
Energetska efikasnost grejanja vode ηwh [1]	%	177,6	176,1	179,2	178,9
Godišnja potrošnja električne energije [1]	kWh	576	581	935	936
Dnevna potrošnja električne energije [1]	kWh	2,709	2,739	4,352	4,362
Podešena temperatura termostata	°C	55	55	55	55
Nivo jačine buke u unutrašnjim prostorijama [2]	dB (A)	58,3	58,3	59	59
Vrednost smart		0	0	0	0
Zapremina	l	200	190	285	275
Mešana voda na 40°C V40 [4]	l	265	255	395	380
Eventualne bezbednosne mere (sastav, nameštanje, održavanje)		Kod priključenja u tlačnoj izvedbi obavezna je ugradnja sigurnosnog ventila.			
Tehničke karakteristike					
Vreme zagrevanja A15 / W10-55 [3]	h:min	08:07	7:36	08:15	07:55
Vreme zagrevanja A20 / W10-55 [4]	h:min	07:19	06:59	07:14	06:57
Potrošnja energije na izabranom profilu potrošnje A15 / W10-55 [3]	kWh	3,01	3,03	4,74	4,77
Potrošnja energije na izabranom profilu potrošnje A20 / W10-55 [4]	kWh	2,72	2,75	4,36	4,37
COP_{DHW} A15/W10-55 [3]		3,9	3,9	4,0	4,0
COP_{DHW} A20/W10-55 [4]		4,3	4,3	4,4	4,4
Snaga u stanju pripremljenosti [4]	W	15	17	17	18
Rashladno sredstvo		R134a	R134a	R134a	R134a
Količina rashladnog sredstva	kg	0,950	0,950	1,100	1,100
Potencijal globalnog zagrevanja		1430	1430	1430	1430
Ekvivalent ugljenog dioksida	t	1,359	1,359	1,573	1,573
Raspon rada	°C	7 / 40	7 / 40	7 / 40	7 / 40
Električne karakteristike					
Nominalna električna snaga kompresora	W	350	350	490	490
Snaga grejača [5]	W	2000	2000	2000	2000
Maksimalna priključna snaga bez grejača/sa grejačem	W	350/2350	350/2350	490/2490	490/2490
Napon	V/Hz	230/50	230/50	230/50	230/50
Električna zaštita	A	16	16	16	16
Stepen zaštite od vlage		IP21	IP21	IP21	IP21
Rezervoar vode					
Protukorozijska zaštita kazana		Emajlirano / Mg anoda			
Nominalni tlak	MPa	0,6/0,9/1,0	0,6/0,9/1,0	0,6/0,9/1,0	0,6/0,9/1,0
Najviša temperatura vode - toplotna pumpa	°C	65	65	65	65
Najviša temperatura vode – električni grejač [5]	°C	75	75	75	75
Priključne mere					
Visina ukupno	mm	1860	1860	1960	1960
Širina	mm	570	570	670	670
Dubina	mm	585	585	685	685
Priključci na vodovodnu instalaciju		G3/4	G3/4	G1	G1
Grejana površina prenosnika toplote	m^2	/	1,1	/	1,1
Priključci prenosnika toplote		-	G1	-	G1
Neto/bruto/masa s vodom	kg	93/105/293	111/123/301	139/151/424	157/169/432
Temperatura grejnog medija u prenosniku toplote	°C	/	5 / 95	/	5 / 95
Transportni podaci					
Mere ambalaže	mm	760x760x 2060	760x760x 2060	800x800x 2160	800x800x 2160

[1] direktiva 812/2013, 814/2013, EN16147:2017, unutrašnji vazduh 20 °C
[2] po EN12102:2013
[3] ulazna temperatura vazduha 15 °C, 74% vlažnost, voda ugrejana od 10 do 55 °C po EN16147:2017
[4] ulazna temperatura vazduha 20 °C, 58% vlažnost, voda ugrejana od 10 do 55 °C po EN16147:2017
[5] izvedba s grejačem



LEGENDA	
HV	Dovod hladne vode (modra rozeta)
IM	Izlaz medija prenosnika toplote (crna rozeta)
CV	Cirkulacioni vod (crna rozeta)
VM	Ulaz medija prenosnika toplote (crna rozeta)
TV	Odvod tople vode (crvena rozeta)
J1	Cev za senzor
J2	Cev za senzor
VZ	Ulaz vazduha
IZ	Izlaz vazduha

Sl. 1: Priključne i montažne mere bojlera za toplu vodu s toplotnom pumpom [mm]

	TCM200ZG	TCM201ZG	TCM300ZG	TCM306ZG
A (mm)	25	25	25	25
B (mm)	130	130	140	140
C (mm)	/	218	/	245
D (mm)	/	490	/	490
E (mm)	880	880	880	880
F (mm)	1240	1240	1250	1250
G (mm)	1835	1835	1930	1930
H (mm)	570	570	670	670
I (mm)	585	585	685	685
J1 (mm)	/	765	/	805
J2 (mm)	/	1185	/	1185
HV	G3/4	G3/4	G1	G1
IM	/	G1	/	G1
CV	G3/4	G3/4	G3/4	G3/4
VM	/	G1	/	G1
TV	G3/4	G3/4	G1	G1

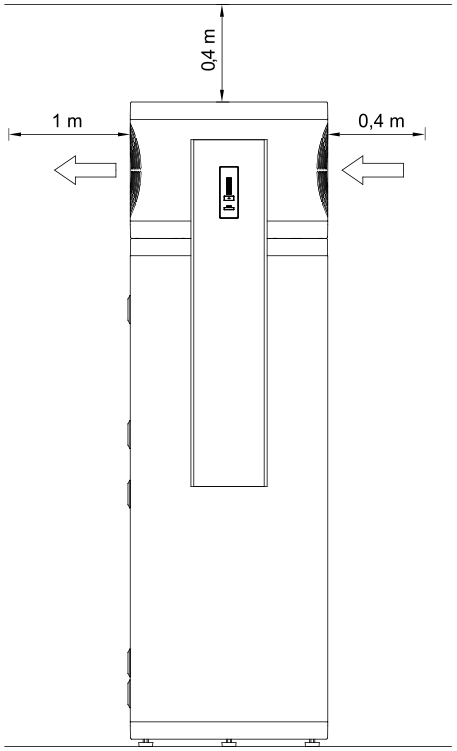
POSTAVLJANJE SENZORA SPOLJNOG IZVORA GREJANJA

Na levoj strani rezervoara tople vode nalaze se otvori (J1, J2), u koje mogu sa se stave senzori za regulaciju sistemskog spajanja rezervoara tople vode sa drugim izvorima grejanja. Maksimalni prečnik senzora je 8 mm. Dužina cevi za senzor iznosi 180 mm. Senzor umetnite u cev i fiksirajte ga:

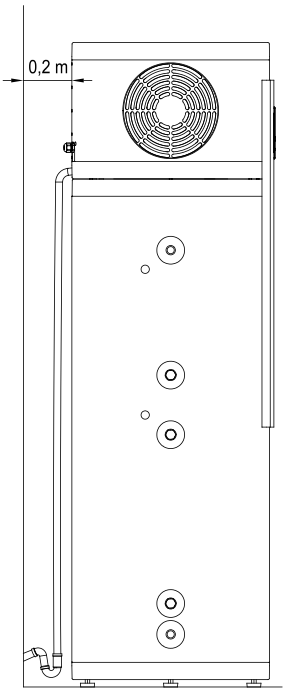
- ako senzor postavite u viši položaj, termostat će brže da reaguje, period upućivanja protočne pumpe biće kraći, a razlika između temperature vode u rezervoaru i ogrevnog medija nakon isključenja termostata biće veća, pa će posledično i količina tople vode u rezervoaru biti manja.
- ako senzor postavite na nižu poziciju, period upućivanja protočne pumpe biće duži, a razlika između temperature ogrevnog medija i postignute temperature vode u rezervoaru biće manja, čime će i količina tople vode u rezervoaru zbog toga biti veća.

SMEŠTAJ APARATA

Bojler za toplu vodu s toplotnom pumpom namenjen je radu uz korišćenje vazduha u prostoriji. U radu aparata za grejanje sanitarne vode koristi se samo energija vazduha iz prostorije u kojoj se aparat nalazi. Napravu možete da smestite u prostoriju, u kojoj ne dolazi do zamrzavanja, po mogućnosti u blizinu drugih izvora zagrevanja, sa temperaturom od +7 do +40 °C i minimalnom zapreminom 20 m^3. Uopšteno rečeno, preporučujemo dovoljno veliku i prozračnu prostoriju, sa temperaturom iznad 15 °C, što predstavlja optimalne uslov za rad toplotne pumpe.
Poželjan stepen izmene vazduha za stambenu zgradu iznosi 0,5. To znači da se celokupna količina vazduha u zgradi zameni na svaka dva časa. U izboru prostorije za smeštanje aparata, osim prethodno navedenih smernica, treba naročito voditi računa o tome da izabrana prostorija ne bude prašnjava, budući da prašina štetno deluje na učinak toplotne pumpe.



Sl. 2: Minimalni zahtevi za postavljanje aparata



Sl. 3: Odvod kondenzata

Tokom rada toplotne pumpe u unutrašnjosti agregata stvara se kondenzat kog treba odvajati u izliv putem savitljive odvodne cevi Ø16mm za kondenzat na poleđini toplotne pumpe. Količina kondenzata ovisi o temperaturi i vlažnosti vazduha. Zbog lakšeg i bržeg odvođenja kondenzata preporučujemo naklon bojlera s toplotnom pumpom do 2° u smeru prema odvodnoj cevi (sl. 3).

Da bi prenos buke i vibracija ugrađenog ventilatora smanjili na najmanju moguću meru, treba da se pridržavate narednih uputstava kako se zvuk delovanja aparata i njegove vibracije ne bi prenosile preko stranica u prostorije u kojima bi to remetilo mir (spavaće sobe, prostorije za odmor, i sl.):
- ugradite fleksibilne spojeve za hidraulične priključke
- predvidite izolaciju vibracija prema tlu
- koristite stabilizacione noge.

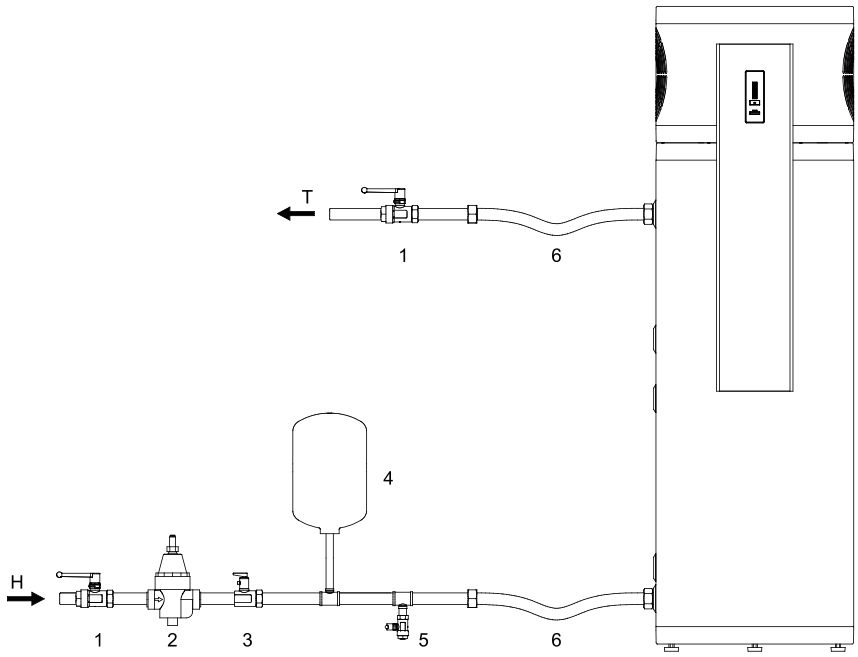
PRIKLJUČENJE NA VODOVODNU INSTALACIJU

Priključenje na vodovodnu instalaciju treba uraditi prema oznakama za priključke iz prethodnog poglavlja (sl. 1).

Zbog bezbednosti u radu aparata, na dovodnu cev obavezno treba ugraditi sigurnosni ventil koji sprečava povećanje tlaka u kotlu za više od 0,1 MPa (1 bar) iznad nominalnog. Ispusni otvor na sigurnosnom ventilu treba obavezno da ima izlaz na atmosferski tlak. Za pravilno funkcionisanje sigurnosnog ventila morate sami periodično vršiti kontrole, po potrebi odstraniti kamenac iz vode i proveriti da li sigurnosni ventil nije blokiran. Kod takvog proveravanja, pomeranjem ručice ili otpuštanjem matice ventila (ovisno o tipu ventila) treba otvoriti ispust iz sigurnosnog ventila. Pri tome kroz ispusni otvor sigurnosnog ventila mora poteći voda, što je znak da ventil funkcioniše besprekorno. Kod zagrevanja vode tlak vode u rezervoaru se povećava do granice koja je podešena u sigurnosnom ventilu. Budući da je povratak vode nazad u vodovodnu instalaciju sprečen, moglo bi doći do kapanja vode iz odvodnog otvora sigurnosnog ventila. Kapajuću vodu možete da kanalizujete u odvod preko sabirnog nastavka kog ćete montirati ispod sigurnosnog ventila. Odvodna cev, nameštena pod ispust sigurnosnog ventila, mora da bude postavljena u smeru pravo i nadole prema okolini u kojoj je temperatura takva da ne dolazi do zamrzavanja.

Ukoliko zbog neispravno izvedene instalacije nemate mogućnost da kapajuću vodu iz sigurnosnog ventila kanalizujete u odvod, takvo kapanje moguće je izbeći ugradnjom ekspanzione posude na dovodnoj cevi rezervoara. Volumen ekspanzione posude je minimalno 5% volumena rezervoara.

Rezervoar tople vode možete da spojite na kućnu vodovodnu instalaciju bez redukcionog ventila, ako je tlak u instalaciji niži od propisanog na natpisnoj tablici. U suprotnom je potrebno ugraditi redukcioni ventil tlaka, koji će obezbediti da tlak na dovodu u rezervoar tople vode ne prevazilazi nominalni tlak.



LEGENDA	
1	Pregradni ventil
2	Redukcioni ventil tlaka
3	Sigurnosni-protupovratni ventil
4	Ekspanziona posuda
5	Ispusni ventil
6	Savitljiva cev
H	Hladna voda
T	Topla voda

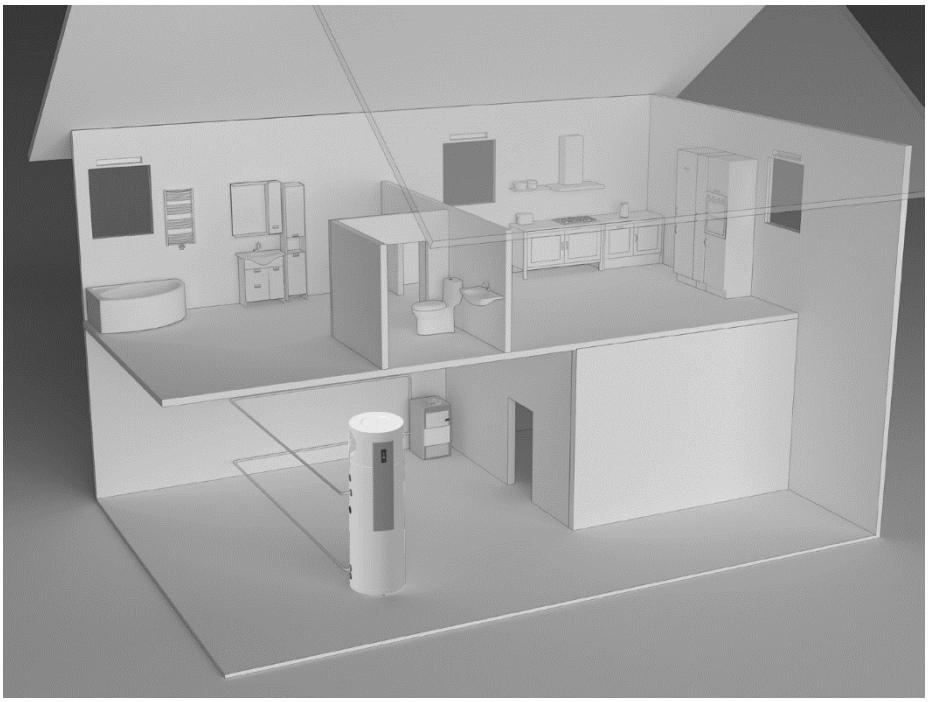
Sl. 4: Zatvoren (tlačni) sistem

⚠ **Bojler za toplu vodu s toplotnom pumpom ne sme da radi bez vode v rezervoaru zbog opasnosti od oštećenja agregata!**

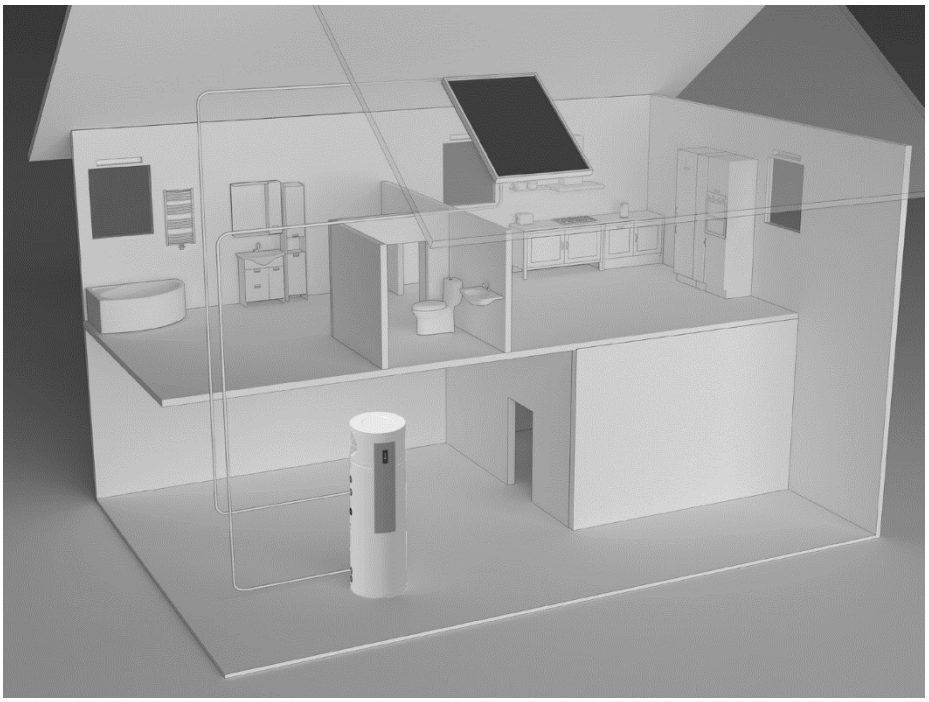
PRIKLJUČENJE NA DRUGE IZVORE GREJANJA

Bojler za toplu vodu s toplotnom pumpom i cevnim prenosnikom u rezervoaru omogućuje pripremu sanitarne vode u kombinaciji s različitim izvorima energije (npr. centralno grejanje, solarna energija, …).

Različite mogućnosti spajanja rezervoara tople vode na različite izvore grejanja prikazane su na skicama.



Sl. 5a: Priključenje na centralno grejanje



Sl. 5b: Priključenje na solarni kolektor

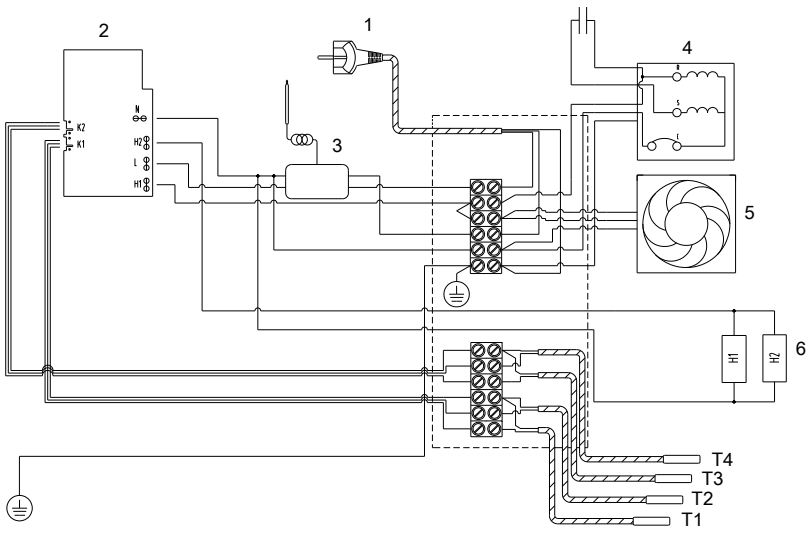
⚠ **U slučaju pada temperature dodatnog izvora grejanja, i kod omogućenog cirkulisanja vode kroz prenosnik toplote, može da se desi nekontrolisano oduzimanje toplote iz rezervoara vode. Kod priključenja na druge izvore grejanja treba zato ispravno izvesti temperaturnu regulaciju dodatnog izvora.**

⚠ **U slučaju priključenja panela solarne energije kao spoljnog izvora toplote, delovanje agregata mora biti isključeno, inače bi kombinacija oba izvora toplote mogla uzrokovati pregrevanje sanitarne vode, a time i posledično previsok tlak.**

⚠ **Cirkulacioni vod može uzrokovati dodatne toplotne gubitke u rezervoaru vode.**

PRIKLJUČENJE NA ELEKTRIČNU INSTALACIJU

Za priključenje aparata treba imati na raspolaganju utičnicu koja je primerena za strujno opterećenje navedeno u tabeli s tehničkim podacima. Priključenje aparata na električnu instalaciju mora da bude urađeno u skladu sa važećim standardima za električne instalacije. Između aparata i trajne instalacije mora da se ugradi naprava koja u svim polovima odvaja aparat od električne mreže u skladu s lokalnim instalacionim propisima.

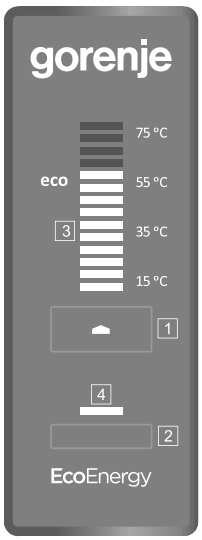


LEGENDA	
1	Priključni kabl
2	Elektronski modul
3	Termički osigurač
4	Kompresor
5	Ventilator
6	Električni grejač
T1	Temperaturni senzor (električni grejač)
T2	Temperaturni senzor (toplotna pumpa)
T3	Temperaturni senzor (vazduh)
T4	Temperaturni senzor (isparivač)

Sl. 6: Shema električnih spojeva

RUKOVANJE APARATOM

Nakon priključenja aparata na vodovodnu i električnu instalaciju, te vodom napunjenim rezervoarom, aparat je spreman za rad. Nakon priključenja na električni napon toplotna pumpa prelazi u stanje pripremljenosti. U stanju pripremljenosti toplotna pumpa održava temperaturu vode na 10 °C.
Toplotna pumpa zagreva vodu na temperaturu u rasponu od 10 °C do 65 °C. Od 65 °C do 75 °C vodu zagreva električni grejač.



LEGENDA	
1	Taster uključenje/isključenje toplotne pumpe, podešavanje temperature vode
2	Taster za uključenje/isključenje električnog grejača
3	Indikator podešene/stvarne temperature vode u rezervoaru, signalizacija grešaka
4	Indikacija delovanja električnog grejača i funkcije "TURBO"

Sl. 7: Kontrolna tabla

Uključenje / isključenje toplotne pumpe

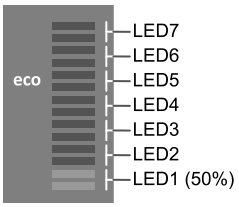
Toplotnu pumpu uključite pritiskom na taster 1 dugim najmanje 3 sekunde.
Ponovnim pritiskom na taster 1 dugim najmanje 3 sekunde toplotna pumpa uvek prelazi u stanje pripremljenosti.

Podešavanje temperature

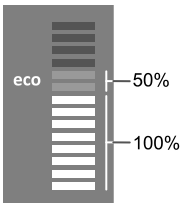
Temperaturu podešavate pritiskanjem tastera 1 dok ne dođete na potreban temperaturni nivo (fabrički zadana temperatura je 55 °C). Raspon podešavanja temperature je od 10 °C do 75 °C, u koracima od 5 °C. Kada ste pritiskanjem došli do maksimalnog nivoa 75 °C, narednim pritiskom tastera 1 vraćate se na minimalni nivo 10 °C. Preporučujemo da izaberete regulaciju "eco". Na tom nivou podešenosti temperatura vode biće približno 55 °C, a taloženje kamenca iz vode kao i toplotni gubici biće manji nego kod izbora viših temperatura. Nakon poslednjeg pritiska tastera 1 regulacija će biti memorisana, a nakon izvesnog vremena (otprilike 5 sek.) na indikatoru 3 biće prikazana momentalan temperaturni nivo vode u kazanu.
Ako aparat isključite iz električne instalacije, zbog opasnosti od zamrzavanja morate obavezno da ispraznite vodu iz rezervoara.

U donjoj tabeli prikazano je osvetljenje LED diodama za pojedini nivo temperature.

Oznaka	LED segment	Osvetljenje za pojedini nivo temperature	
		50%	100%
/	LED7 (LED1-LED6 100%)	70 °C	75 °C
/	LED6 (LED1-LED5 100%)	60 °C	65 °C
eco	LED5 (LED1-LED4 100%)	50 °C	55 °C
/	LED4 (LED1-LED3 100%)	40 °C	45 °C
/	LED3 (LED1-LED2 100%)	30 °C	35 °C
/	LED2 (LED1 100%)	20 °C	25 °C
/	LED1	10 °C	15 °C



Sl. 8a: Primer podešavanja temperature na 10 °C



Sl. 8b: Primer podešavanja temperature na 50 °C

Zaštita za slučaj prekida napajanja električnom energijom

U slučaju prekida napajanja električnom energijom, podaci o svim funkcijama i podešavanjima ostaju trajno pohranjeni u memoriju. Nakon ponovnog uspostavljanja napona, naprava će nastaviti s radom u istom režimu kakav je bio podešen pre nestanka struje.

Uključenje načina rada "TURBO"

Ovaj način rada pogodan je pre svega u slučajevima kada u kratkom vremenu trebate veću količinu tople vode. U režimu rada "TURBO" voda u rezervoaru zagreva se istovremeno delovanjem toplotne pumpe i električnog grejača. To znači brže zagrevanje vode na temperaturni nivo kog ste izabrali.

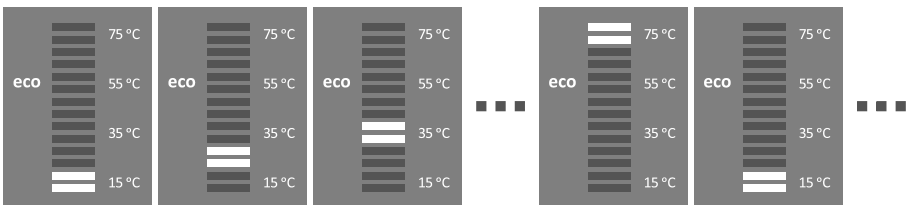
Za ovu funkciju imate na raspolaganju dve opcije: jednokratno ili konstantno uključenje "TURBO" funkcije.
Za jednokratno uključenje na kratko pritisnite taster 2 . Radu u režimu "TURBO" pokaže indikator 4, koji svetli sve dok se voda u rezervoaru ne zagreje do izabrane temperature. Nakon što je podešena temperatura postignuta, funkcija se automatski isključi, a indikator 4 se ugasi.

Za konstantno uključenje „TURBO“ režima rada pritisnite taster 2 i držite ga pritisnutog izvesno vreme (najmanje 3 sekunde). Rad u konstantnom režimu "TURBO" rada stoji na indikatoru 4, koji svetli. Nakon što je podešena temperatura postignuta, funkcija se ne isključi automatski. Funkciju morate da isključite sami, kratkim pritiskom na taster 2, nakon čega se indikator 4 ugasi.

Za vreme aktivirane funkcije "TURBO" rada moguće je podešavanje temperature, isključenje funkcije, i isključenje aparata.

Program protiv legionele

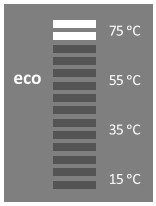
Ako voda u rezervoaru u roku 14 dana ne postigne temperaturu od 65 °C, uključi se program protiv legionele, i vodu u rezervoaru zagreje na 70 °C. U periodu izvođenja tog anti-legionelnog programa, na indikatoru 3 uzastopce se pale pojedini segmenti, kao što to prikazuje slika 9. Tokom rada programa protiv legionele nije moguće podešavati odnosno menjati temperaturu, ali je moguće uključenje i isključenje funkcije "TURBO".
Ako isključite aparat ili ako dođe do prekida napajanja električnom energijom dok je anti-legionelni program aktiviran, nakon ponovnog uspostavljanja napona i uključenja aparata, delovanje anti-legionelnog programa nastaviće se.



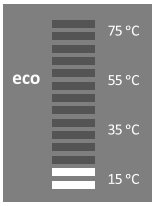
Sl. 9: Signalizacija aktivnog anti-legionelnog programa

⚠ **Upozorenje: nakon zagrevanja vode za anti-legionelni program, temperatura vode u kazanu je 65 °C ili više, bez obzira na prethodno podešenu temperaturu na napravi.**

Uključenje / isključenje anti-legionelnog programa
Pritiskom na taster 1 dugim najmanje 3 sekunde aparat isključite. Elektronika prelazi u stanje pripremljenosti. Ako taster 1 kratko pritisnete sedam puta (7x) uzastopce, prikazaće se momentalno stanje funkcije anti-legionelnog programa. Stanje funkcije prikazuju signalne lampice LED1 ili LED7. Ako svetli LED1, to znači da je funkcija anti-legionelnog programa isključena (slika 10b). Ako svetli LED7, to znači da je funkcija anti-legionelnog programa uključena (slika 10a). Ponovnim kratkim pritiskom na taster 1 menjate podešavanje. Izabrana regulacija memorisana je ako nema pritiska na taster 1 u narednih 5 sekundi. Elektronika se vraća u stanje pripremljenosti. Aparat ponovno uključujete pritiskom na taster 1 dugim najmanje 3 sekunde.



Sl. 10a: Uključen anti-legionelni program



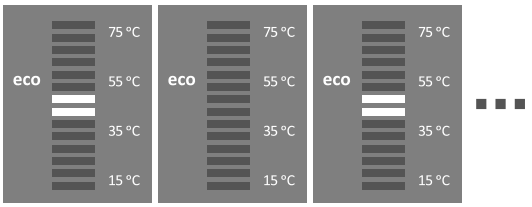
Sl. 10b: Isključen anti-legionelni program

Rezervni režim rada

Ako je temperatura ulaznog vazduha niža od 7 °C ili viša od 40 °C, naprava prelazi u rezervni režim rada. Kompresor i ventilator ne rade, a za zagrevanje sanitarne vode uključi se električni grejač. Bojler za toplu vodu s toplotnom pumpom radi u rezervnom režimu. Mogućnost prebacivanja naprave na normalan režim rada proverava se u pravilnim razmacima. Kada je utvrđeno da su ispunjeni temperaturni uslovi za normalan rad toplotne pumpe, naprava prelazi u normalan režim rada. Grejač se tada isključi.
Rad u rezervnom režimu prikazuje indikator 4, koji trepće sve dok se naprava ne prebaci u normalan režim delovanja.

Specifičnosti u radu toplotne pumpe

Kompresor i ventilator toplotne pumpe nakon uključenja uvek rade najmanje 5 minuta (minimalan period delovanja kompresora).
Kompresor i ventilator toplotne pumpe nakon isključenja ne rade najmanje 20 minuta (minimalan period mirovanja kompresora).
Ukoliko u tom periodu dođe do zahteva za uključenje kompresora, to neće biti izvršeno. Na indikatoru 3 (slika 11) polagano pulsira signalna lampica LED4 (interval 5 sekundi). Nakon isteka vremena mirovanja, kompresor i ventilator automatsko se ponovno pokreću u rad. Na indikatoru 3 stoji momentalan temperaturni nivo vode u rezervoaru. U periodu mirovanja kompresora moguće je podešavanje temperature, uključenje funkcije "TURBO", i isključenje aparata.



Sl. 11: Mirovanje kompresora

Prikazivanje grešaka u radu

U slučaju greške u radu, kontrolne lampice na indikatoru 3 počnu pulsirati. U periodu prikazivanja grešaka u radu nema mogućnosti podešavanje temperature niti uključenja funkcije "TURBO", moguće je samo isključenje aparata.

Greška	Opis greške	Signalizacija	Rešenje
E2	Greška temperaturnog senzora (toplotna pumpa)	Ponavljajuće 2x brzo pulsiranje indikatora 3.	Pozovite servis (toplotna pumpa svejedno radi).
E3	Greška temperaturnog senzora (električni grejač)	Ponavljajuće 3x brzo pulsiranje indikatora 3.	Pozovite servis (toplotna pumpa svejedno radi, električni grejač ne deluje).
E4	Greška temperaturnog senzora (isparivač)	Ponavljajuće 4x brzo pulsiranje indikatora 3.	Pozovite servis (toplotna pumpa svejedno radi).
E5	Greška temperaturnog senzora (vazduh)	Ponavljajuće 5x brzo pulsiranje indikatora 3.	Pozovite servis (toplotna pumpa svejedno radi).
E6	Pregrevanje (temperatura > 90 °C)	Ponavljajuće 6x brzo pulsiranje indikatora 3.	Isključite toplotnu pumpu iz električne instalacije, pozovite servis.

Ako se pojavi više grešaka istovremeno, one će uzastopce biti prikazane na indikatoru 3 (npr. kod istovremene greške E4 i E5 ponavljajuće se prikazuje: 4x brzo pulsiranje kontrolnih lampica, pauza, 5x brzo pulsiranje kontrolnih lampica, pauza).

Ako se istovremeno pojave greške E2 i E3, toplotna pumpa i električni grejač ne rade.
Ako se istovremeno pojave greške E4 i E5 naprava prelazi u rezervni režim rada.

UPOTREBA I ODRŽAVANJE

Nakon priključenja na vodovodnu instalaciju te na druge izvore grejanja, bojler za toplu vodu s toplotnom pumpom pripremljen je za upotrebu. Kada postoji opasnost da bi voda u rezervoaru tople vode mogla da se smrzne, morate isprazniti rezervoar. Pri tome otvorite ručicu za toplu vodu na jednoj od kućnih slavina koja je priključena na rezervoar tople vode. Vodu iz rezervoara tople vode ispustite kroz ispusni ventil na dovodnoj cevi, predviđen u tu svrhu.

Spoljašnjost aparata čistite mekom krpom i blagim tečnim sredstvima za čišćenje. Nemojte koristiti sredstva za čišćenje koja sadrže alkohol, ili abraziona sredstva. Ukoliko je naprava ispostavljena prašini, mogu da se zapuše lamele isparivača, što će štetno uticati na njen rad.

Redovnim servisnim pregledima omogućujete besprekoran rad i dug životni vek bojlera s toplotnom pumpom. Garancija za rđanje kazana važi samo ako ste vršili propisane redovne preglede istrošenosti zaštitne anode. Period između pojedinih redovnih pregleda ne sme biti duži nego što je navedeno u garancijskoj izjavi. Preglede moraju obaviti stručno osposobljeni ovlašćeni serviseri, koji će Vam pregled evidentirati na garantnom listu proizvoda. Prilikom pregleda serviser proveri istrošenost antikorozijske zaštitne anode, i po potrebi očisti kamenac koji se, obzirom na kvalitet, količinu, i temperaturu potrošene vode nataloži u unutrašnjosti rezervoara. Nakon pregleda rezervoara tople vode, a u ovisnosti o utvrđenom stanju, Servisna služba preporučiće vam i datum naredne kontrole.

Usprkos brižljivoj proizvodnji i kontroli, u radu bojlera za vodu s toplotnom pumpom može doći do određenih poteškoća i grešaka u radu, koje u pravilu mora otkloniti ovlašćeni serviser.

Pre prijave eventualne greške, svejedno proverite sledeće:
- Da li je sa dovodom električne energije sve u redu?
- Da li je izlaz vazduha na bilo kakav način ometan?
- Da li je temperatura okoline preniska ili previsoka?
- Da li se čuje rad kompresora i ventilatora?

⚠ **Molimo Vas da eventualne kvarove na napravi ne popravljate sami, nego da o njima obavestite najbližu servisnu službu!**

Naši proizvodi opremljeni su komponentama, koje nisu štetne za okolinu i za zdravlje ljudi, i izrađeni su tako da ih u poslednjoj fazi njihovog životnog veka možete što jednostavnije rastaviti i reciklirati.
Recikliranjem materijala smanjujemo količine otpadaka i smanjujemo potrebu za proizvodnjom osnovnih materijala (na primer metala) koja iziskuje ogromno energije i uzrokuje ispuste štetnih tvari u okolinu. Reciklažnim postupcima tako smanjujemo potrošnju prirodnih resursa, jer otpadne delove iz plastike i metala možemo ponovno vratiti u različite proizvodne procese.
Za više informacija o sistemu odlaganja otpadaka posetite vaš centar za odlaganje otpadaka, ili prodavca kod kog ste proizvod kupili.

PRIDRŽAVAMO PRAVO NA IZMENE KOJE NE UTIČU NA FUNKCIONALNOST APARATA.
Uputstva za upotrebu naći ćete takođe i na našem internet sajtu http://www.gorenje.com.

WARNINGS

⚠ The appliance may be used by children aged 8 and older and persons with physical, sensory or mental disabilities or lacking experience or knowledge, if they are under supervision or taught about safe use of the appliance and if they are aware of the potential dangers.
⚠ Children should not play with the appliance.
⚠ Children should not clean or maintain the appliance without supervision.
⚠ During transport, the appliance must be placed in the upright position. In exceptional cases, it may be inclined by up to 35° in all directions. Make sure the housing or vital parts of the product are not damaged during transport.
⚠ The appliance must not be placed in a closed space containing corrosive and explosive materials.
⚠ The connection of the appliance to the power supply must be performed in accordance with the standards for electrical installations.
⚠ A device for the disconnection from the electrical network must be installed between the appliance and the electrical network in accordance with the national installation regulations.
⚠ In order to avoid damage to the heat pump power unit, never operate the appliance without any water in the tank!
⚠ The installation should be performed in accordance with the valid regulations and the instructions of the manufacturer. It should be performed by a professionally trained installation expert.
⚠ In case of a closed pressurized system, it is obligatory to install a safety valve with a rated pressure of 0.6 MPa (6 bar) on the inlet pipe of the hot water storage tank to prevent the elevation of pressure in the tank by more than 0.1 MPa (1 bar) above the rated pressure.
⚠ Water may drip from the outlet opening of the safety valve. Therefore, so the outlet opening should be set to atmospheric pressure.
⚠ The outlet of the safety valve should be installed facing downwards and in a non-freezing area.
⚠ To ensure proper functioning of the safety valve, the user should perform regular controls to remove limescale and make sure the safety valve is not blocked.
⚠ Do not install a shut-off valve between the water tank and the safety valve, as this would disable the operation of the safety valve!
⚠ Elements in the electronic control unit are energised even after you press the appliance off key.
⚠ The storage tank is protected in case of failure of the operating thermostat with an additional thermal cut-out. In case of thermostat failure, water in the storage tank may reach the temperature of up to 130 °C in accordance with safety standards. The possibility of such temperature overload should be taken into consideration in the execution of plumbing.
⚠ Should you choose to disconnect the power, the storage tank should be drained thoroughly before the onset of freezing conditions.
⚠ Water from the storage tank is drained through the inlet pipe of the tank. For this purpose, a special fitting (T-fitting) with an outlet valve must be mounted between the safety valve and the inlet pipe.
⚠ Please, do not try to fix any defects of the appliance on your own. Call the nearest authorised service provider.
⚠ The decline in temperature of an additional heating source and the enabled water circulation via the heat exchanger can cause an uncontrolled removal of heat from the water tank. When connecting to other heating sources it is necessary to ensure proper temperature regulation of the additional heating source.
⚠ When connecting to sources of solar energy as an external heating source the aggregate of the heat pump must be disconnected. The combination of both heating systems can lead to overheating of water and consequently to excessive pressure.
⚠ Circulation leads to additional heat loss in the water tank.
⚠ In models without a heater, the hot water storage tank is not protected from freezing!
⚠ This appliance contains fluorinated greenhouse gases. Hermetically sealed.

Dear buyer, thank you for purchasing our product.
PRIOR TO THE INSTALLATION AND FIRST USE OF HEAT PUMP WATER HEATER, PLEASE READ THESE INSTRUCTIONS CAREFULLY.

This heat pump water heater has been manufactured in compliance with the relevant Standards, which allow the manufacturer the use of the CE sign. The technical characteristics of the product are listed on the label attached to the protective cover.

The connection of the heat pump water heater to the plumbing and power networks must be carried out by qualified staff only. **All repairs and maintenance work in the interior of the storage tank, as well as limestone removal or testing or replacement of the corrosion protection anode, may only be carried out by an approved maintenance service provider.** Be especially careful when following instructions for potential errors and safe use of the appliance.

Store this booklet for times of doubt upon the functioning or maintenance.
The installation manual is available on our webpage **http://www.gorenje.com** or the webpages per country in the service and support section.
Authorised maintenance personnel are available for occasional maintenance. They will help you with their vast experience.

The design of the heat pump water heater and built-in shell and tube heat exchanger also allows using other heating sources, such as the central heating tank, solar panels etc.

USE

This heat pump water heater is designed for production of sanitary water in households and at premises where daily consumption of hot water (50 °C) does not exceed 400 l to 700 l. **The set temperature should suffice actual needs. Recommended temperature settings are between 45 and 55 °C. Higher temperatures are not recommended as they reduce the efficiency (COP) and extend the time of heating or increase the number of operating hours.** Because the heat pump water heater cools its surroundings during operation, the usefulness of the appliance is doubled (heating water – cooling air). The operation of the heat pump water heater is fully automatic.

The appliance must be connected to water supply mains and to the power supply grid. Leave enough room above the appliance for easier control and appliance servicing (figures 2 and 3). The appliance may not be used for purposes other than those defined in these Instructions. The appliance is not designed for use in rooms where corrosive or explosive substances are present.
The manufacturer shall not assume any liability for damages caused by incorrect installation or misuse that are not in compliance with the Instructions for installation and use.

The instructions for use are a component and important part of this product and must be delivered to the customer. Read the warnings carefully, as they contain important directions related to safety during operation, use and maintenance.
Keep these Instructions for later use.

The marking of the appliance is stated on the nameplate located on the bottom side of the unit, between both inlet pipes for sanitary water.

Once the packaging is removed, check the contents. When in doubt, contact your dealer. Never let children play with the packaging parts (clamping, plastic bags, expanded polystyrene, etc.) – potential risk. Make sure to remove and dispose of the packaging safely and in an environmentally friendly way.

⚠ **The appliance is not intended for use in closed space, containing corrosive and explosive materials.**

STORAGE AND TRANSPORT

Store the appliance in an upright position, in a clean and dry place.

⚠ **During transport, the appliance must be placed in the upright position and may only be inclined by up to 35° in all directions in exceptional cases. Please make sure no damage of the casing and other vital parts of the appliance occurs during transport.**

TECHNICAL CHARACTERISTICS

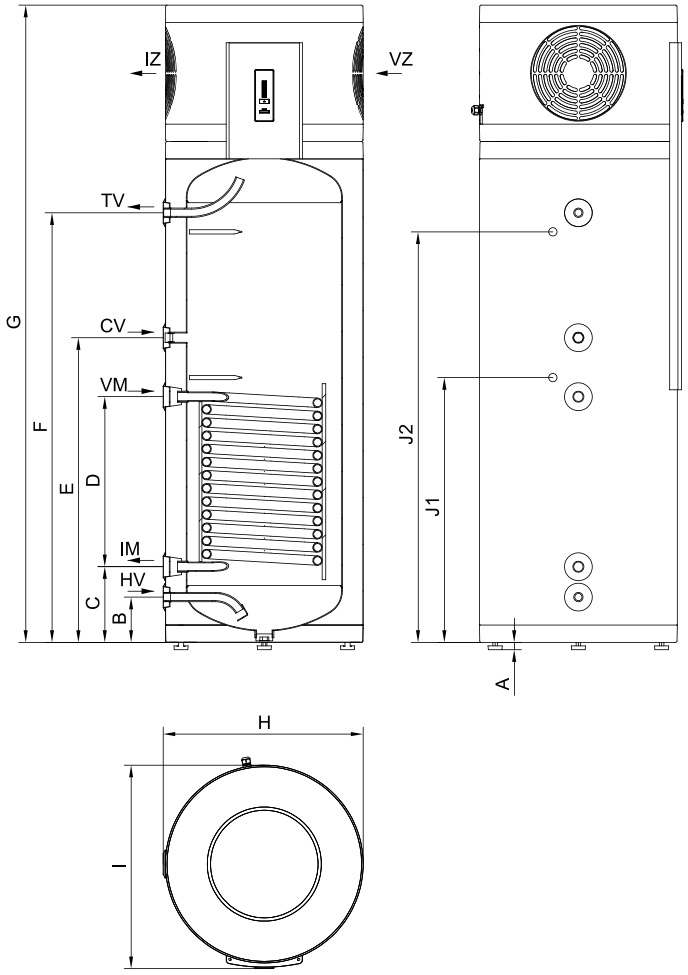
KEY TYPE

TCMXXYZV

- Indication G – integrated heater; without indication – no heater installed
- Position of the heat pump power unit (indication Z – top)
- Volume, heat exchanger (0 – no heat exchanger, 1 – one heat exchanger, 6 – one bottom heat exchanger)
- Heat pump water heater with metal lining

Type		TCM200ZG	TCM201ZG	TCM300ZG	TCM306ZG
Use profile		L	L	XL	XL
Energy efficiency class [1]		A+	A+	A+	A+
Energy efficiency of water heating ηwh [1]	%	177,6	176,1	179,2	178,9
Annual electrical energy consumption [1]	kWh	576	581	935	936
Daily electrical energy consumption [1]	kWh	2,709	2,739	4,352	4,362
Set thermostat temperature	°C	55	55	55	55
Level of indoor sound power [2]	dB (A)	58,3	58,3	59	59
Smart value		0	0	0	0
Storage volume	l	200	190	285	275
Mixed water at 40°C V40 [4]	l	265	255	395	380
Potential safety measures (assembly, installation, maintenance)		Compulsory use of a safety valve with the pressure connection.			
Technical characteristics					
Heating time A15 / W10-55 [3]	h:min	08:07	7:36	08:15	07:55
Heating time A20 / W10-55 [4]	h:min	07:19	06:59	07:14	06:57
Energy consumption with selected use profile A15 / W10-55 [3]	kWh	3,01	3,03	4,74	4,77
Energy consumption with selected use profile A20 / W10-55 [4]	kWh	2,72	2,75	4,36	4,37
COP_{DHW} A15/W10-55 [3]		3,9	3,9	4,0	4,0
COP_{DHW} A20/W10-55 [4]		4,3	4,3	4,4	4,4
Power in standby mode [4]	W	15	17	17	18
Refrigerating agent		R134a	R134a	R134a	R134a
Quantity of refrigerant	kg	0,950	0,950	1,100	1,100
Global Warming Potential		1430	1430	1430	1430
Carbon dioxide equivalent	t	1,359	1,359	1,573	1,573
Operation area	°C	7 / 40	7 / 40	7 / 40	7 / 40
Electrical characteristics					
Specified power of the compressor	W	350	350	490	490
Heater power [5]	W	2000	2000	2000	2000
Maximum connection power without heater/with heater	W	350/2350	350/2350	490/2490	490/2490
Voltage	V/Hz	230/50	230/50	230/50	230/50
Electrical protection	A	16	16	16	16
Moisture protection		IP21	IP21	IP21	IP21
Water tank					
Anti-corrosion protection of tank		Enamelled / Mg Anode			
Nominal pressure	MPa	0,6/0,9/1,0	0,6/0,9/1,0	0,6/0,9/1,0	0,6/0,9/1,0
The highest water temperature - heat pump	°C	65	65	65	65
The highest water temperature - electrical heater [5]	°C	75	75	75	75
Connection measurements					
Total height	mm	1860	1860	1960	1960
Width	mm	570	570	670	670
Depth	mm	585	585	685	685
Inlet/outlet water connections		G3/4	G3/4	G1	G1
Heated surface of the heat exchanger	m^2	/	1,1	/	1,1
Exchanger connectors		-	G1	-	G1
Net/gross weight/weight incl. water	kg	93/105/293	111/123/301	139/151/424	157/169/432
The temperature of the heating medium in the heat exchanger	°C	/	5 / 95	/	5 / 95
Transport data					
Packaging	mm	760x760x 2060	760x760x 2060	800x800x 2160	800x800x 2160

[1] Directive 812/2013, 814/2013, EN16147:2017, indoor air 20 °C
[2] In accordance with EN12102:2013
[3] Inlet air temperature 15 °C, 74% humidity, water temperature between 10 and 55 °C in accordance with EN16147:2017
[4] Inlet air temperature 20 °C, 58% humidity, water temperature between 10 and 55 °C in accordance with EN16147:2017
[5] Model with heater



LEGEND	
HV	Cold water inlet (H – blue rosette)
IM	Heat exchanger medium outlet (black rosette)
CV	Circulation pipeline (black rosette)
VM	Heat exchanger medium inlet (black rosette)
TV	Hot water outlet (T – red rosette)
J1	Sensor pipe
J2	Sensor pipe
VZ	Air inlet
IZ	Air outlet

Fig. 1: Connection and installation tank dimensions [mm]

	TCM200ZG	TCM201ZG	TCM300ZG	TCM306ZG
A (mm)	25	25	25	25
B (mm)	130	130	140	140
C (mm)	/	218	/	245
D (mm)	/	490	/	490
E (mm)	880	880	880	880
F (mm)	1240	1240	1250	1250
G (mm)	1835	1835	1930	1930
H (mm)	570	570	670	670
I (mm)	585	585	685	685
J1 (mm)	/	765	/	805
J2 (mm)	/	1185	/	1185
HV	G3/4	G3/4	G1	G1
IM	/	G1	/	G1
CV	G3/4	G3/4	G3/4	G3/4
VM	/	G1	/	G1
TV	G3/4	G3/4	G1	G1

OTHER HEATING SOURCES - SENSOR INSTALLATION

On the left side of the hot water storage tank are two openings (J1, J2), where the sensors for the control system of the connection of the hot water tank to other heating sources. The maximum diameter of the probe is 8 mm. The length of the sensor tube is 180 mm. Insert the sensor into the tube and attach it:

- If the sensor is installed in the top (higher) position, then the thermostat will respond sooner, operating intervals of the circulation pump will be sorter, difference between water temperature in the hot water storage tank and the heating medium after the thermostat is switched off; as a result, the amount of hot water in the hot water storage tank will be lower.
- If you install the sensor in the bottom (lower) position, the circulation pump operating intervals will be longer, the difference between the temperature of the heating medium and the actual water temperature in the hot water storage tank will be lower, and as a result, the amount of hot water in the hot water storage tank will be greater.

INSTALLATION OF HEAT PUMP WATER HEATER

Heat pump water heater is intended for operation with surrounding air. During operation, only the energy from the air in the room where the appliance is installed is used for heating the domestic hot water. The appliance may be installed in a room where temperatures are above freezing point, preferably close to other sources of heat or heating devices, with a temperature between 7 °C and 40 °C, and minimum volume of 20 m^3. In general, we recommend a sufficiently large and well-ventilated room with a temperature above 15 °C, which represents ideal conditions for heat pump operation. Desired level of air exchange for a residential building is 0.5. This means that the entire amount of air in the building is exchanged every 2 hours.
When choosing the room for installing the appliance, care should also be taken, in addition to the above instructions, that there should not be a considerable amount of dust in the room, as dust has a detrimental effect on the heat pump effect.

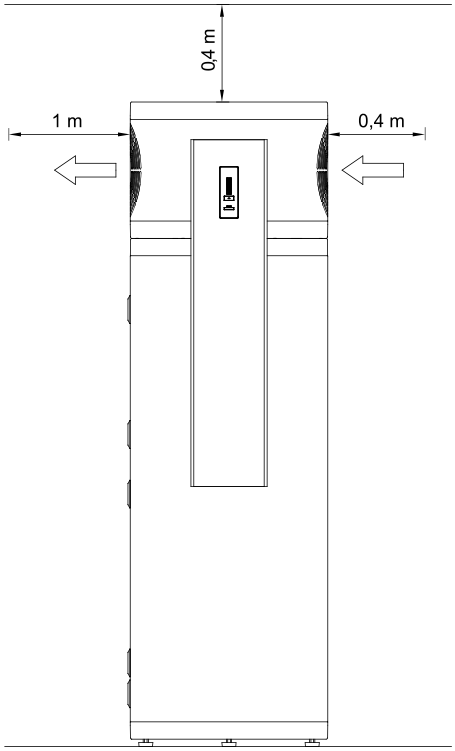


Fig. 2: Minimum requirements for installation of the appliance

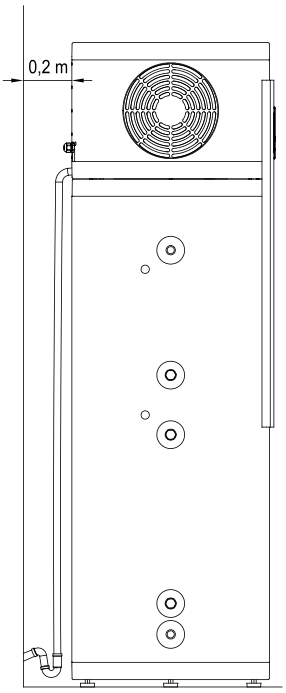


Fig. 3: Condensate discharge

During operation of the heat pump, condensate forms in the aggregate. The condensate should be drained to the sewage system via a flexible tube ø16mm on the rear side of the heat pump. The quantity of condensate depends on air temperature and humidity. For easier and faster condensate drain, we recommend installing the water heater with a heat pump with a 2° inclination toward the drain hose (Fig. 3).

To reduce noise and vibrations of the installed fan, take the following steps to prevent the noise and vibrations from being transmitted through walls into rooms where it would be disturbing (bedrooms, restrooms):

- install flexible connectors for hydraulic jacks
- Install sound insulation on the floor below the heat pump to dampen the vibrations
- use support elements.

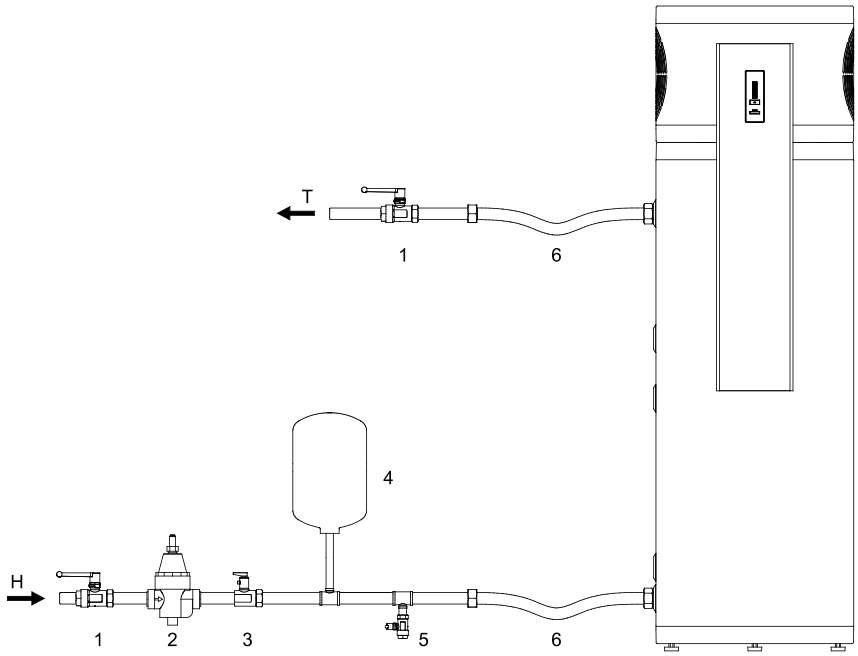
CONNECTION TO WATER SUPPLY MAINS

Connect the water pipeline system according to the attachment signs from the previous chapter (Fig. 1).

Installing a safety valve is mandatory in order to assure safe operation. The valve prevents an increase of the pressure in the boiler by any more than 0.1 MPa (1 bar) above the nominal pressure. The outflow nozzle on the safety valve must have an outlet into the atmosphere. To assure correct operation of the safety valve, check the valve regularly and, if necessary, remove the limescale and check that the safety valve is not blocked. When checking the valve, push the lever or unscrew the nut of the valve (depending on the type of the valve) and open the drain from the safety valve. Water must flow from the valve nozzle, showing that the valve operation is faultless. During the heating of water, the water pressure in the hot water storage tank is increased up to the level present in the safety valve. Since the system prevents backflow of water into the water supply mains, water may be dripping from the outlet opening on the safety valve. The dripping water may be drained via trap into the drains; the trap is mounted under the safety valve. The outlet pipe, which is mounted under the safety valve, must be directed downwards, in a place with a temperature above freezing.

If the installation does not allow draining of the water from the safety valve into the drains, dripping can be avoided by installing an expansion vessel onto the inlet pipe of the hot water storage tank. The volume of the expansion vessel must be ca. 5% of the hot water tank volume.

The hot water storage tank is designed for connection to indoor water supply mains without using the relief valve if the pressure in the supply mains is lower than prescribed on the appliance. If the pressure is higher, a relief valve needs to be installed so as to provide that the pressure at the inlet to the hot water tank does not exceed the nominal pressure.



LEGEND	
1	Stop valve
2	Pressure reduction valve
3	Safety non-return valve
4	Expansion tank
5	Drain valve
6	Flexible hose
H	Cold water
T	Hot water

Fig. 4: Closed pressure system

⚠ **To avoid damage to the heat pump power unit, the heat pump water heater must not operate without any water in the tank!**

CONNECTION TO OTHER HEATING SOURCES

Heat pump water heater with a shell and tube heat exchanger in the hot water storage tank allows preparation of domestic hot water in combination with different sources of energy (e.g. central heating, solar power etc.).

Connection options to different heating sources are shown below.

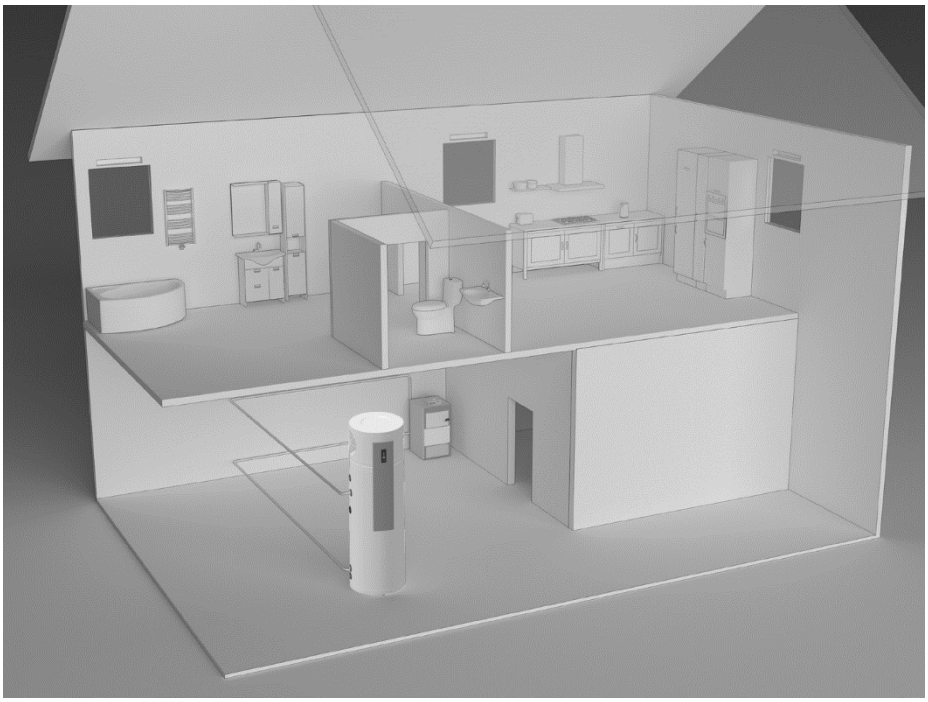


Fig. 5a: Connection to central heating

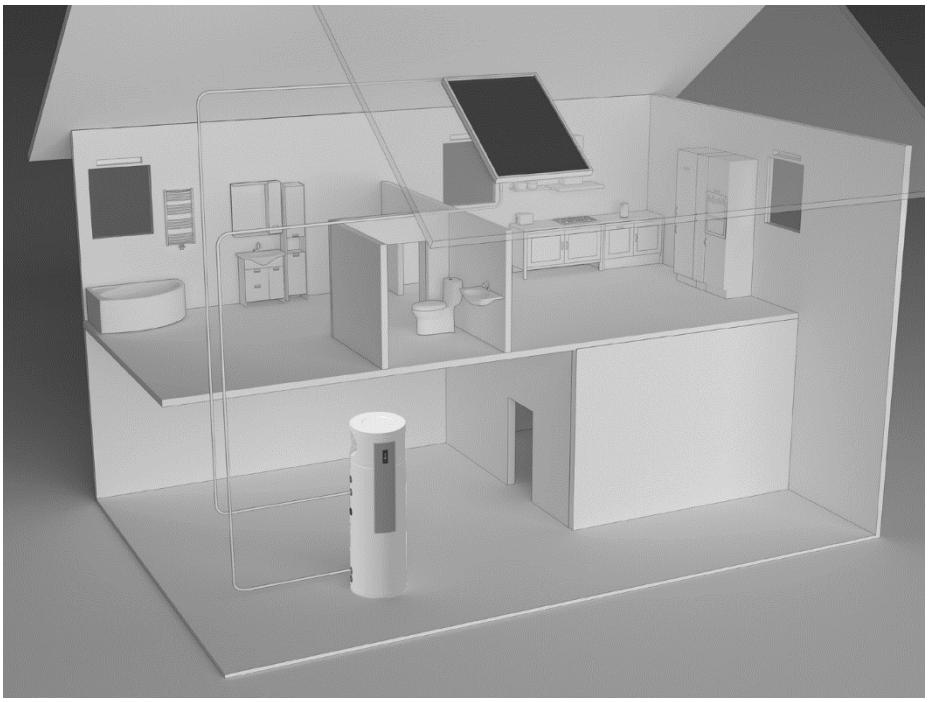


Fig. 5b: Connection to a solar collector

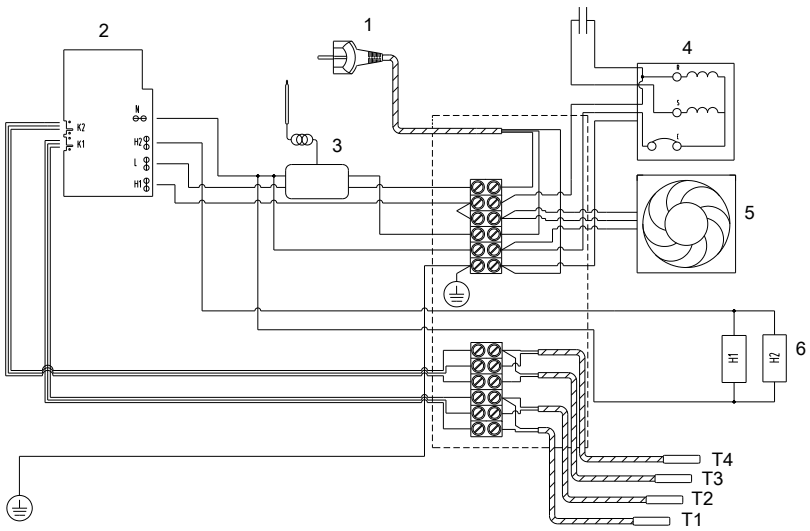
⚠ **With a temperature decline of an additional heating source and with an enabled water circulation through the heat exchanger proper temperature control of the additional source must be ensured.**

⚠ **If the additional energy source is solar power, the operation of the aggregate of the heat pump must be shut off. The combination of two heating sources can lead to overheating of the hot water and thus to excessive pressures.**

⚠ **The circulation pipeline causes additional temperature decline in the hot water storage tank.**

CONNECTION TO THE POWER SUPPLY NETWORK

Appliance connection requires an electrical outlet suitable for current load specified in the technical information table.
Connecting the appliance to the power supply network must take place in accordance with the standards for electric appliances. To comply with the national installation regulations, an all poles disconnect switch must be installed between the appliance and the power supply network.

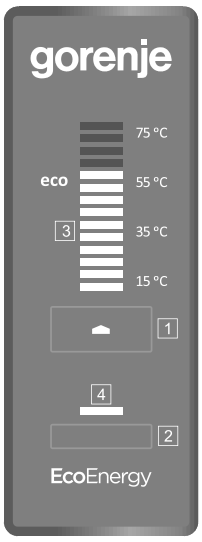


LEGEND	
1	Power cord
2	Electronic module
3	Thermal cut-out
4	Compressor
5	Fan
6	Electrical heater
T1	Temperature sensor (electric heater)
T2	Temperature sensor (heat pump)
T3	Temperature sensor (air)
T4	Temperature sensor (evaporator)

Fig. 6: Connection to the power supply network

OPERATING THE APPLIANCE

After connecting the appliance to the water and power network and to the hot water storage tank filled with water, it is ready for operation. Upon connection to the supply voltage, the heat pump switches to standby mode. In the standby mode, the heat pump maintains a water temperature of 10 °C.
The heat pump heats the water in the range from 10 °C to 65 °C. From 65 °C to 75 °C, the water is heated by an electric heater.



LEGEND	
1	Heat upon on/off key, water temperature setting
2	Electric heater on/off key
3	Display for set/actual water temperature in the hot water storage tank, error indicator
4	Indicator for electric heater and "TURBO" function operation

Fig. 7: Control panel

Heat pump on/off

Switch on the heat pump by pressing the 1 key and holding it (for 3 seconds).
Press and hold (for 3 s) the 1 key again to switch the heat pump to standby mode.

Temperature adjustment

Use the 1 key to set the desired temperature (factory setting is 55 °C). Water temperature can be set in the range from 10 °C to 75 °C with 5 °C increments. When the maximum level of 75 °C is reached, the next time you press the 1 key, the setting returns to the minimum level of 10 °C. We recommend the "eco" setting. With this setting, water temperature will be at approximately 55 °C, and formation of limescale deposits and heat losses will be lower than at higher temperature settings. When you last press the 1 key, the setting is stored. After a while (approx. 5 seconds), the current temperature in the hot water storage tank is displayed on the display unit 3.
If the appliance is disconnected from the power mains and there is a danger of freezing, then water has to be drained from the hot water storage tank.

The table below shows the LED lighting for respective temperature levels.

Indication	LED segment	Lighting for respective temperature levels	
		50%	100%
/	LED7 (LED1-LED6 100%)	70 °C	75 °C
/	LED6 (LED1-LED5 100%)	60 °C	65 °C
eco	LED5 (LED1-LED4 100%)	50 °C	55 °C
/	LED4 (LED1-LED3 100%)	40 °C	45 °C
/	LED3 (LED1-LED2 100%)	30 °C	35 °C
/	LED2 (LED1 100%)	20 °C	25 °C
/	LED1	10 °C	15 °C

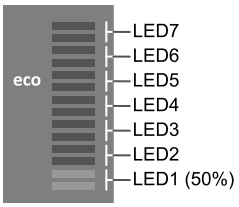


Figure 8a: Example for temperature setting at 10 °C

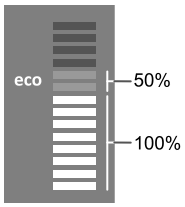


Figure 8b: Example for temperature setting at 50 °C

Power supply failure protection

In case of power supply failure, the settings remain permanently stored.
After restart, the appliance operates in the same regime as before the power supply failure.

Activation of the "TURBO" mode

This operating mode is suitable especially when you need a large amount of hot water quickly. In the "TURBO" mode, the water in the hot water storage tank is heated with the heat pump and the electric heater simultaneously. This means faster heating of water to the set temperature.

You can choose between one-off and continuous activation of the "TURBO" function.
For one-off activation, briefly press the 2 key. Operation in the "TURBO" mode is indicated by the indicator 4 which is lit until water in the hot water storage tank is heated to the set temperature. When the temperature is reached, the function is switched off automatically and the indicator 4 is turned off.

For constant activation, press and hold (3 seconds) the key 2. Operation in the constant "TURBO" mode is indicated by the indicator 4 that is lit. When the temperature is reached, the function is not switched off automatically. To deactivate the function, briefly press the 2 key, and the indicator 4 will be turned off.

During operation of the "TURBO" function, the user can set the temperature, deactivate the function, and switch off the appliance.

Anti-Legionella program

If the water in the hot water storage tank is below 65 °C for 14 days, the anti-Legionella program is activated to heat the water in the hot water storage tank to a temperature of 70 °C. During the anti-Legionella program operation, respective segments will be consecutively lit on the display unit 3, as indicated on Figure 9. During operation of the anti-Legionella program, temperature setting is not possible; however, the "TURBO" function can be activated and deactivated.
If the appliance is switched off or there is a power supply failure while the anti-Legionella program is in progress, the anti-Legionella program will resume when the appliance is switched back on or power supply to the appliance is restored.

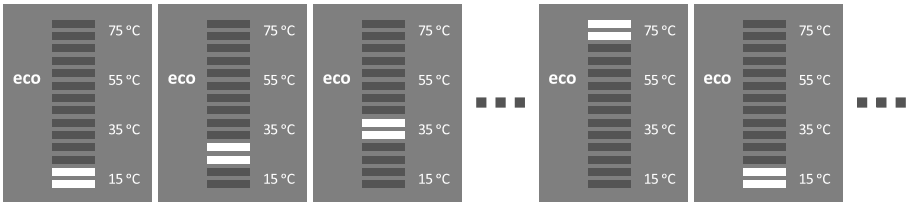


Fig. 9: Indication of the anti-Legionella program

⚠ **Warning: after heating up in the anti-Legionella program, the temperature of the water in the tank is 65 °C or more, regardless of the temperature set for the appliance.**

Switching the anti-Legionella program on and off
Press and hold (3 seconds) the 1 key to switch off the heat pump. The electronic controls switch to standby mode. Press the 1 key briefly for seven (7) times to display the current anti-Legionella function status. The function status is indicated by LED1 or LED7. If LED1 is lit, then the anti-Legionella program function is switched off (Figure 10b). If LED7 is lit, then the anti-Legionella program function is switched on (Figure 10a). Briefly press the 1 key again to change the setting. The setting is stored when the 1 key is not pressed for 5 seconds. The electronic controls return to standby mode. Press and hold (for 3 seconds) the 1 key to switch on the appliance again.

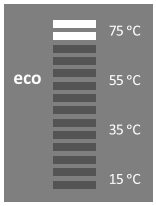


Fig. 10a: Anti-Legionella program activated

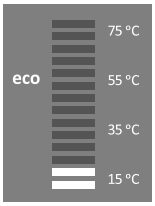


Fig. 10b: Anti-Legionella program deactivated

Backup operating mode

If the inlet air temperature is lower than 7 °C or higher than 40 °C, the appliance switches to backup operating mode. The compressor and fan do not operate, and the electric heater is switched on the heat the domestic hot water. The heat pump water heater operates in the backup operating mode. Possibility to switch to normal operating regime is checked cyclically. When the temperature conditions for normal heat pump operation are met, the appliance switches to normal operating regime. The heater is then switched off.
Operation in the backup regime is indicated by the 4 indicator that flashes until the appliance switches to normal operating regime.

Special aspects of heat pump operation

After the heat pump is switched on, the compressor and the fan always operate for at least 5 minutes (minimum compressor operation time).
After the heat pump is switched off, the compressor and the fan are switched off for at least 20 minutes (minimum compressor down (off) time). If there is a request for compressor activation within this period of time, the compressor is not switched on. LED4 slowly flashes on the display unit 3 (Figure 11) (5-second interval). After the down (off) time, the compressor and the fan are switched on automatically. Current temperature level of the water in the tank is displayed on the display unit 3. Temperature adjustment, activation of the "TURBO" function, and switching off of the appliance are possible while the compressor is off.

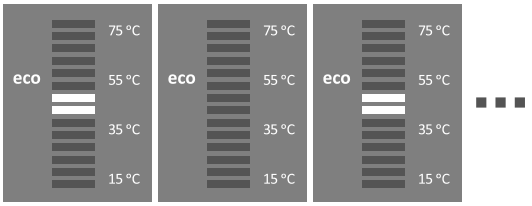


Fig. 11: Compressor unit is switched off

Error indication

In case of an error, the control lamps start flashing on the display unit 3. Temperature adjustment and activation of the "TURBO" function are not possible while errors are displayed or indicated; the appliance can only be switched off.

Error	Error description	Indication	Solution
E2	Temperature sensor error (heat pump)	Repeated 2x rapid flashing of the indicator 3.	Call service (Heat pump operates nevertheless).
E3	Temperature sensor error (electric heater)	Repeated 3x rapid flashing of the indicator 3.	Call service (The heat pump operates, but the electric heater does not operate.)
E4	Temperature sensor error (evaporator)	Repeated 4x rapid flashing of the indicator 3.	Call service (Heat pump operates nevertheless).
E5	Temperature sensor error (air)	Repeated 5x rapid flashing of the indicator 3.	Call service (Heat pump operates nevertheless).
E6	Overheating (Temperature > 90 °C)	Repeated 6x rapid flashing of the indicator 3.	Disconnect the heat pump from the power mains; call service.

If several errors occur simultaneously, they are displayed on the display unit 3 in succession (e.g. in case of simultaneous occurrence of errors E4 and E5, the following is displayed repeatedly: 4x rapid flashing of control lamps, pause, 5x rapid flashing of control lamps, pause).

If the errors E2 and E3 occur simultaneously, the heat pump and the electric heater do not operate.
If the errors E4 and E5 occur simultaneously, the appliance switches to back-up operating mode.

SERVICE AND MAINTENANCE

After the connection to the water supply mains and other heating sources heat pump water heater is ready for use. If there is any possibility the water in the tank could freeze, you must drain the water from the tank. To do so, open the hot water lever at one of the mixing batteries, connected to the hot water tank. The water is drained via a drain valve on the inlet water pipe.

To clean the exterior of the appliance, use a soft cloth and a mild detergent. Avoid cleaning agents containing alcohol and abrasive cleaners. If the appliance is exposed to dust, evaporator lamellas might become blocked, which can have a detrimental effect on the functioning of the appliance.

By providing regular service check-ups, you can ensure flawless operation and long life of the heat pump. The corrosion warranty for the tank only applies if you carry out regular inspections of the protective anode. The period between regular inspections should not be longer than stated in the warranty certificate. The inspection must be performed by an authorised expert. The inspection must be marked on the warranty document of the product. The inspection will check the anti-corrosion protection anode and if necessary clean the limescale, which builds up in the tank depending on the quality, quantity and temperature of water. The maintenance expert will recommend the date for the next inspection.

Despite careful production and control, errors may occur during heat pump water heater operation, which must be resolved by an authorised service technician.

Before calling your maintenance provider, check the following:
- Is everything OK with the power supply network?
- Is the air outlet obstructed?
- Is the environment temperature too low or too high?
- Can you hear the operation of the compressor and fan?

⚠ **Do not try to eliminate malfunctions by yourself, call your nearest authorized service provider!**

Our products incorporate components that are both environmentally safe and harmless to health, so they can be disassembled as easily as possible and recycled once they reach their final life stage.
Recycling of materials reduces the quantity of waste and the need for production of raw materials (e.g. metals) which requires a substantial amount of energy and causes release of harmful substances. Recycling procedures reduce the consumption of natural resources, as the waste parts made of plastic and metal can be returned to various production processes.
For more information on waste disposal, please visit your waste collection centre or the store where the product was purchased.

WE RESERVE THE RIGHT TO ANY MODIFICATIONS NOT AFFECTING THE FUNCTIONALITY OF THE APPLIANCE.
The instructions for use are also available on our website http://www.gorenje.com.