gorenje

NAVODILA ZA UPORABO

INSTRUCTIONS FOR USE

SL

EN

TC 120-150 SPLIT

OPOZORILA!

⚠ Aparat lahko uporabljajo otroci stari 8 let in starejši in osebe z zmanjšanimi fizičnimi, čutnimi ali mentalnimi sposobnostmi ali s pomanjkanjem izkušenj oz. znanjem če so pod nadzorom ali poučeni glede uporabe aparata na varen način in da razumejo možne nevarnosti.
⚠ Otroci se ne smejo igrati z aparatom.
⚠ Čiščenja in vzdrževanja aparata ne smejo izvajati otroci brez nadzora.
⚠ Agregat – zunanjo enoto toplotne črpalke prevažajte v navpičnem položaju, izjemoma pa jo lahko nagnete do 35° v vse smeri. Pazite, da med transportom ne poškodujete ohišja in vitalnih delov naprave.
⚠ Toplotna črpalka ni namenjena uporabi v prostorih, kjer so prisotne korozivne in eksplozivne snovi.
⚠ Priključitev toplotne črpalke na električno omrežje mora potekati v skladu s standardi za električne napeljave. Med toplotno črpalko in trajno inštalacijo mora biti vgrajena priprava za ločitev vseh polov od električnega omrežja v skladu z nacionalnimi inštalacijskimi predpisi.
⚠ Toplotna črpalka zaradi nevarnosti poškodbe agregata ne sme delovati brez vode v kotlu!
⚠ Instalacija mora biti izvedena v skladu z veljavnimi predpisi po navodilih proizvajalca. Izvesti jo mora strokovno usposobljen monter.
⚠ Na dotočno cev hladne sanitarne vode notranje enote - kotla je potrebno obvezno vgraditi varnostni ventil z nazivnim tlakom 0,6 MPa (6 bar) ali 0,9 MPa (9 bar) (glejte napisno tablico), ki preprečuje zvišanje tlaka v kotlu za več kot 0,1 MPa (1 bar) nad nazivnim.
⚠ Voda lahko kaplja iz odtočne odprtine varnostnega ventila zato mora biti odtočna odprtina odprta na atmosferski tlak.
⚠ Izpust varnostnega ventila mora biti nameščen v smeri navzdol in v območju, kjer ne zamrzuje.
⚠ Za pravilno delovanje varnostnega ventila morate sami izvajati redne kontrole, po potrebi odstraniti vodni kamen in preveriti, da varnostni ventil ni blokiran.
⚠ Med toplotno črpalko in varnostni ventil ne smete vgraditi zapornega ventila, ker bi s tem onemogočili delovanje varnostnega ventila!
⚠ Elementi v elektronski krmilni enoti so pod napetostjo tudi po pritisku polja za izklop (9) toplotne črpalke.
⚠ Poškodovano priključno vrvico in povezovalni kabel za medsebojno povezavo notranje in zunanje enote lahko zamenja samo proizvajalec, njegov serviser ali pooblaščena oseba, da se s tem izognete nevarnosti.
⚠ Če boste toplotno črpalko izključili iz omrežja, morate zaradi nevarnosti zamrznitve, vodo iz nje iztočiti.
⚠ Voda iz črpalke se izprazni skozi dotočno cev kotla. V ta namen je priporočljivo med varnostni ventil in dotočno cev namestiti poseben člen ali izpustni ventil.
⚠ Prosimo Vas, da morebitnih okvar na toplotni črpalki ne popravljate sami, ampak o njih obvestite najbližjo pooblaščeno servisno službo.
⚠ Izdelek vsebuje fluorirane toplogredne pline. Hermetično zaprto.

Naši izdelki so opremljeni z okolju in zdravju neškodljivimi komponentami in so izdelani tako, da jih lahko v njihovi zadnji življenjski fazi čim bolj enostavno razstavimo in recikliramo.
Z reciklažo materialov zmanjšujemo količine odpadkov in zmanjšamo potrebo po proizvodnji osnovnih materialov (na primer kovine), ki zahteva ogromno energije ter povzroča izpuste škodljivih snovi. Z reciklažnimi postopki tako zmanjšujemo porabo naravnih virov, saj lahko odpadne dele iz plastike in kovin ponovno vrnemo v različne proizvodne procese.
Za več informacij o sistemu odlaganja odpadkov obiščite svoj center za odlaganje odpadkov, ali trgovca, pri katerem je bil izdelek kupljen.

PREDSTAVITEV

Spoštovani kupec,
zahvaljujemo se Vam, ker ste izbrali sanitarno toplotno črpalko Gorenje. Zaupanje ste izkazali enemu najbolj izpopolnjenih aparatov te vrste. Materiali, konstrukcija in preizkusi so usklajeni s standardi, ki urejajo to področje. Prosimo Vas, da navodila pazljivo preberete; tako se boste izognili morebitnim neprijetnostim in preprečili okvare. To knjižico shranite, da jo boste lahko pogledali, kadar boste v dvomih glede delovanja ali vzdrževanja. Navodila za namestitev in uporabo so prav tako na voljo na naših spletnih straneh http://www.gorenje.com .
Vedno lahko pokličete pooblaščene serviserje za občasno vzdrževanje. Na razpolago so Vam s svojimi izkušnjami.

PODROČJE UPORABE

Ta aparat je namenjen pripravi tople sanitarne vode v gospodinjstvu in pri drugih porabnikih, kjer potrošnja tople vode (40 °C) ne presega 240 l do 300 l. Aparat mora biti priključen na hišno napeljavo sanitarne tople vode, za svoje delovanje potrebuje električno napajanje.
Če boste notranjo enoto - kotel vgradili v prostor, kjer se nahaja kopalna kad ali prha, je potrebno obvezno upoštevati zahteve standarda IEC 60364-7-701 (VDE 0100, Teil 701). Na steno ga smete pritrdite samo pokončno s stenskima vijakoma nominalnega premera minimalno 8 mm. Steno s slabo nosilnostjo morate na mestu, kamor ga boste obesili, primerno ojačiti. Zaradi lažje kontrole in menjave magnezijeve anode, vam priporočamo, da pod aparatom in tlemi pustite zadosti prostora - glejte namestitev. V nasprotnem primeru bo ob servisnem posegu potrebno aparat demontirati s stene.
Drugačna uporaba od navedene v navodilih za ta aparat ni dovoljena. Aparat ni namenjen uporabi v prostorih, kjer so prisotne korozivne in eksplozivne snovi.
Proizvajalec ne odgovarja za poškodbe nastale zaradi neprimerne vgradnje in neustrezne uporabe, ki ni v skladu z navodili za montažo in uporabo.

Navodila za uporabo so sestavni in pomemben del izdelka in morajo biti izročena kupcu. Pazljivo preberite opozorila v navodilih, ker so v njih navedeni pomembni napotki glede varnosti pri instalaciji, uporabi in vzdrževanju.
Navodila shranite za morebitno kasnejšo uporabo.

Oznaka vaše notranje enote - kotla je navedena na napisni ploščici, ki je nameščena na spodnji strani med priključnima cevema sanitarne vode ter na zunanji enoti - agregatu ob električni priključnici.

Ko odstranite embalažo, preglejte vsebino. V primeru dvoma se obrnite na dobavitelja. Elementov embalaže (spone, plastične vrečke, ekspandiran polistirol itd.) ne puščajte na dosegu otrok, ker so to potencialni viri nevarnosti, niti jih ne odložite kamorkoli v okolje.

SKLADIŠČENJE IN TRANSPORT

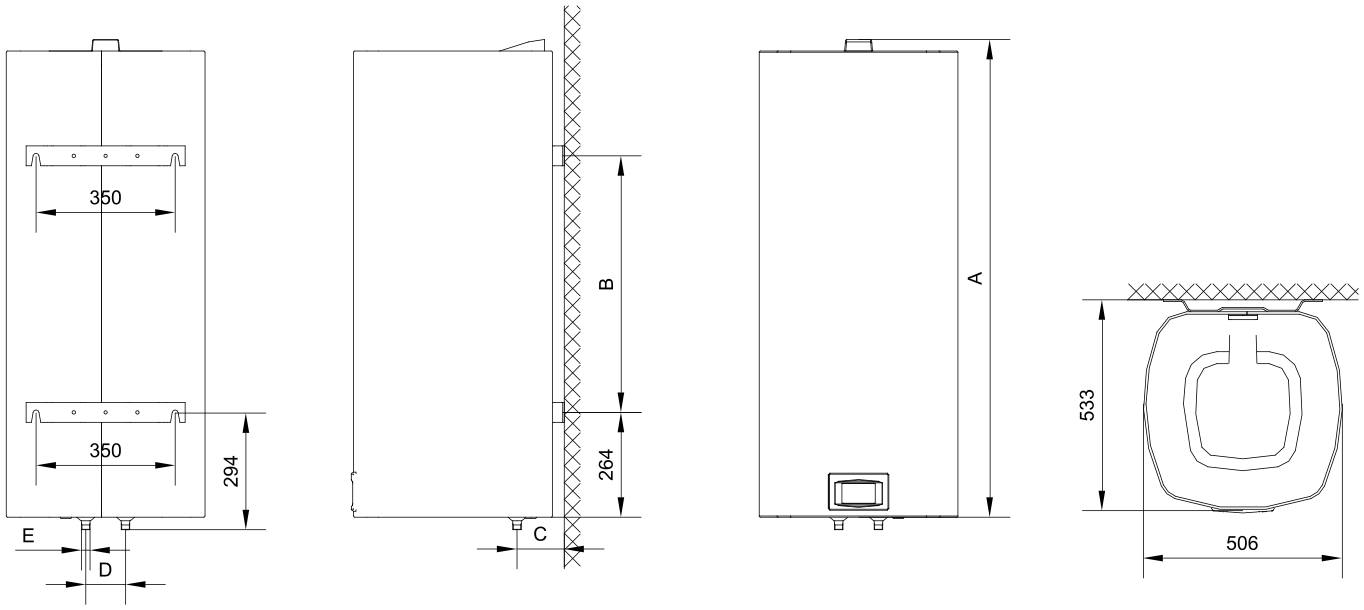
Skladiščenje zunanje enote - agregata mora biti zagotovljeno v navpičnem položaju v suhem in čistem prostoru.
Skladiščenje notranje enote - kotla mora biti zagotovljeno v suhem in čistem prostoru.

NAMESTITEV TOPLOTNE ČRPALKE

Instalacija mora biti izvedena v skladu z veljavnimi predpisi po navodilih proizvajalca. Izvesti jo mora strokovno usposobljen monter.

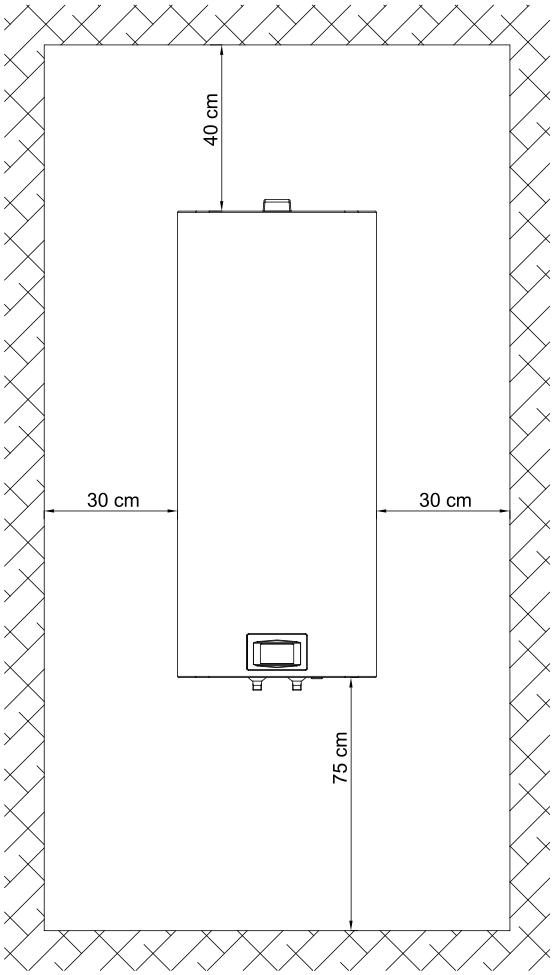
Notranja enota - kotel

Notranjo enoto - kotel morate namestiti v prostor, kjer ne zmrzuje. Pri izbiri mesta namestitve bodite pozorni tudi na trdnost stene, da lahko prenaša težo vključno z vodo v kotlu. Priporočamo namestitev, ki omogoča čim krajše plinske povezave. Pri postavitvi upoštevajte minimalne odmike aparata od stene, tal in stropa - glejte sl. 1. Odvod kondenzata je izpeljan iz notranje enote - kotla na spodnji levi strani v obliki plastične cevke zunanjega premera ø18 mm. Pojav kondenzata je zelo redek.



	A	B	C	D	E
TC120SNE	1201	645	100	100	G 1/2
TC150SNE	1416	845	100	100	G 1/2

Sl. 1: Priključne in montažne mere notranje enote - kotla (mm)

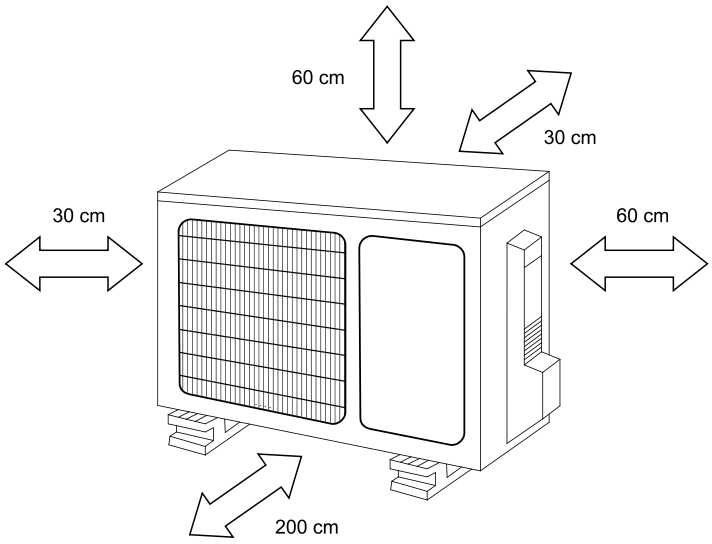


Zunanja enota - agregat

Zunanjo enoto - agregat dobro pritrdite v vodoravni položaj s sornikom in matico ø10 ali ø8 na betonski ali čvrst nosilec.

Pri tem upoštevajte spodnja opozorila:

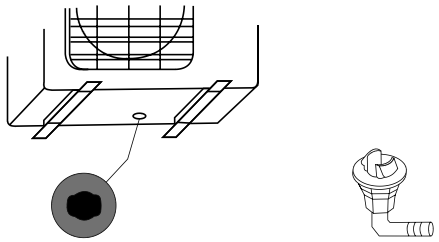
- Če je narejen nadstrešek, ki ščiti enoto pred neposrednimi sončnimi žarki ali dežjem, zagotovite neoviran pretok zraka.
- Zagotovite prostor okrog hrbtne strani in levo od naprave več kot 30 cm.
- Na sprednji strani mora biti več kot 200 cm prostora.
- Na priključni (desni) strani in nad napravo je potrebnih več kot 60 cm prostora.
- V bližini ne smejo biti živali ali rastline, ki bi jih prizadel zrak, ki izhaja iz enote.
- Upoštevajte težo zunanje enote in izberite prostor, kjer hrup in tresljaji niso moteči.
- Izberite takšno mesto, da delovanje zunanje enote ne moti sosedov.
- Če zunanjo enoto - agregat montirate na streho, jo morate izravnati.
- Zagotovite, da je strešna konstrukcija in način pritrditve primeren za namestitev naprave.
- Ob montaži na streho upoštevajte lokalne predpise.



Sl. 2: Montažne mere zunanje enote - agregata

Namestitev odtočnega nastavka

V odvodno koleno dajte tesnilo, potem odtočni nastavek vstavite v luknjo spodnje posode zunanje enote in obrnite za 90 stopinj, da sklop pritrdite. Na odtočni nastavek priključite podaljšek odtočne cevi (ni priloženo) v primeru odvoda vode iz zunanje enote med načinom ogrevanja.



Sl. 3: Namestitev odtočnega nastavka

V primeru, da zunanjo enoto - agregat montirate na strešno konstrukcijo ali zunanje stene, lahko to povzroča prekomerni hrup in tresljaje. V tem primeru lahko pride do povečane hrupnosti med delovanjem aparata. Če je zunanja enota - agregat montirana direktno na streho obstaja možnost, da zaradi montažnega posega pride do puščanja strehe.

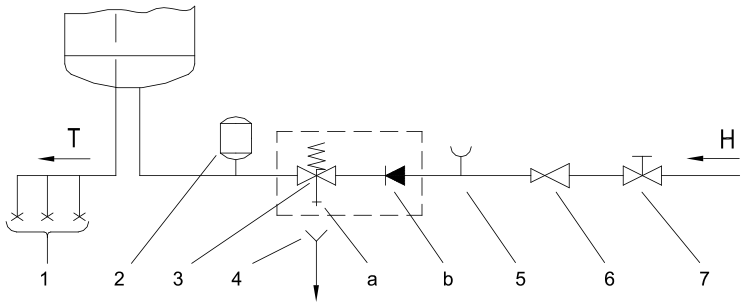
Za zmanjšanje prenosa hrupa in tresljajev preko sten v prostore, kjer bi bilo to moteče (spalnice, prostori za počitek) upoštevajte naslednje ukrepe:

- predvidite izolacijo stenskega preboja.
- predvidite primerno montažo zunanje enote- agregata.

Orodja, potrebna za montažo
- Kazalnik nivoja (libela)
- Vijačnik
- Električni vrtalnik z votlo vrtalno krono (ø65 mm)
- Orodje za robljenje
- Momentni ključi: 15 Nm 1/4" (6,35 mm), 25 Nm 3/8" (9,52mm)
- Ključ (polsklopka)
- Šestrobi ključ ustreznih dimenzij
- Detektor puščanja plina, Vakuumska črpalka, manometrski razdelilnik
- Termometer, Multimeter, Rezilo za cevi, Merilni trak
- Navodila za uporabo

PRIKLJUČITEV NA VODOVODNO OMREŽJE

Dovod in odvod vode sta na ceveh toplotne črpalke barvno označena. Dovod hladne vode je označen modro, odvod tople vode pa rdeče. Notranjo enoto - kotel lahko priključite na hišno vodovodno omrežje brez redukcijskega ventila, če je tlak v omrežju nižji od nazivnega 0,6 ali 0,9MPa (6 ali 9 bar) – glejte napisno tablico. V nasprotnem primeru je potrebno vgraditi redukcijski ventil tlaka, ki zagotavlja, da tlak na dotoku v toplotno črpalko ne presega nazivnega.
Na dotočno cev je potrebno, zaradi varnosti delovanja, obvezno vgraditi varnostni ventil, ki preprečuje zvišanje tlaka v kotlu za več kot 0,1 MPa (1 bar) nad nominalnim. Iztočna šoba na varnostnem ventilu mora imeti obvezno izhod na atmosferski tlak. Za pravilno delovanje varnostnega ventila morate sami izvajati redne kontrole, da se odstrani vodni kamen in da se preveri, da varnostni ventil ni blokiran.
Ob preverjanju morate s premikom ročke ali odvitjem matice ventila (odvisno od tipa ventila) odpreti iztok iz varnostnega ventila. Pri tem mora priteči skozi iztočno šobo ventila voda, kar je znak, da je ventil brezhiben.
Pri segrevanju vode se tlak vode v toplotni črpalki zvišuje do meje, ki je nastavljena v varnostnem ventilu. Ker je vračanje vode nazaj v vodovodno omrežje preprečeno, lahko pride do kapljanja vode iz odtočne odprtine varnostnega ventila. Kapljajočo vodo lahko speljete v odtok preko lovilnega nastavka, ki ga namestite pod varnostni ventil. Odtočna cev nameščena pod izpustom varnostnega ventila mora biti nameščena v smeri naravnost navzdol in v okolju, kjer ne zmrzuje.
V primeru, da zaradi neustrezno izvedene inštalacije nimate možnosti, da bi kapljajočo vodo iz varnostnega ventila speljali v odtok, se lahko kapljanju izognete z vgradnjo ustrezne ekspanzijske posode na dotočni cevi toplotne črpalke. Volumen ekspanzijske posode je približno 3 % volumna hranilnika.



Sl. 4: Zaprti (tlačni) sistem

Legenda:
1 - Tlačne mešalne baterije
2 - Ekspanzijska posoda
3 - Varnostni ventil
a - Preizkusni ventil
b - Nepovratni ventil
4 - Lijak s priključkom na odtok
5 - Preizkusni nastavek
6 - Redukcijski ventil tlaka
7 - Zaporni ventil

H - Hladna voda
T - Topla voda

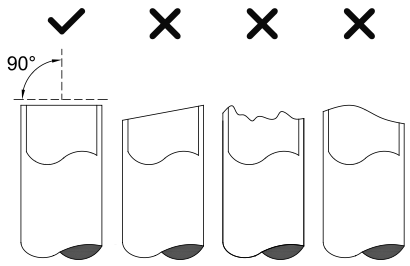
PRIKLJUČITEV CEVI ZA HLADILNI MEDIJ

Glavni vzrok za puščanje hladilnega sredstva je slabo opravljeno robljenje. Postopek pravilnega robljenja je naslednji:

Priprava cevi in povezovalnih kablov

Za plinsko povezavo med zunanjo in notranjo enoto uporabite bakrene cevi s presekom 1/4'' x 0,6 mm (ø6.35 mm x 0,6 mm) in 3/8'' x 0,6 mm (ø9.52 mm x 0,6 mm).

- Izmerite razdaljo med notranjo enoto - kotlom in zunanjo enoto - agregatom.
- Cev z namenskim orodjem odrežite malo daljšo, kot je izmerjena razdalja.
- Povezovalni kabli naj bodo cca 1,0 m daljši od dolžine cevi.



Sl. 5: Priprava cevi

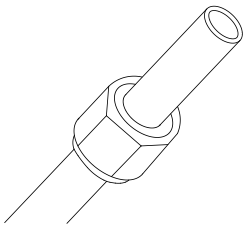
Raziglevanje

- Odstranite vse iglice iz odrezanih delov cevi.
- Bakrene cevi obrnite navzdol, ko odstranjujete iglice, da iglice ne padejo v napeljavo.

Sl. 6: Raziglevanje

Nameščanje matice

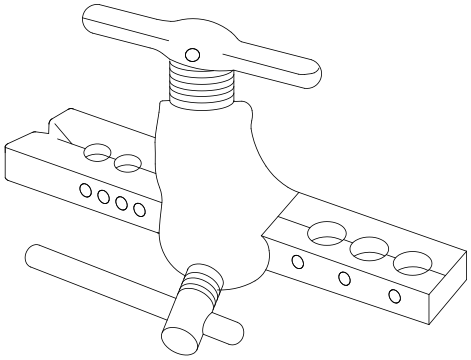
- Odstranite matice z zarobkom, ki so montirane na notranji enoti - kotlu in zunanji enoti - agregatu, dajte jih na cevi, s katerih ste odstranili iglice (ne morete jih namestiti po robljenju).

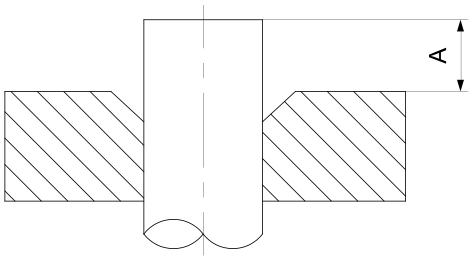


Sl. 7: Nameščanje matice

Robljenje

- Bakreno cev močno držite v orodju, mere so prikazane v spodnji tabeli.



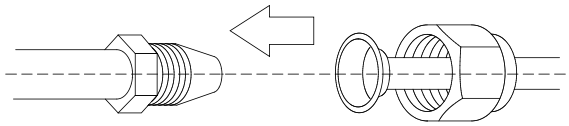


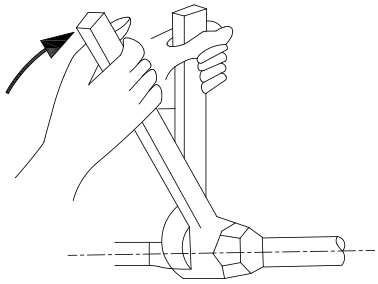
Sl. 8: Robljenje

Zunanji premer	A [mm]	
	Max.	Min.
1/4'' (Φ6.35 mm)	1,3	0,7
3/8'' (Φ9.52 mm)	1,6	1,0

Privijanje priključka

- Poravnajte središče cevi.
- Z roko privijte matice z zavihkom, potem jih privijte s ključem in momentnim ključem, kot je prikazano na sliki.





Sl. 9: Privijanje priključka

Opozorilo!
Prekomerni pritezni moment lahko prelomi matico, odvisno od pogojev montaže.

Zunanji premer	Nazivni pritezni moment [Nm]
1/4'' (Φ6.35 mm)	16
3/8'' (Φ9.52 mm)	26

VAKUMIRANJE

Zrak in vlaga imata v hladilnem sistemu neželene učinke, ki so navedeni spodaj:
- Dviganje tlaka sistema.
- Povečanje delovnega toka.
- Znižanje učinkovitosti ogrevanja.
- Vlaga lahko zamrzne v hladilni napeljavi in blokira kapilare.
- Voda lahko povzroči korozijo na delih hladilnega sistema.

Zaradi tega je potrebno notranjo enoto - kotel in napeljavo med notranjo in zunanjo enoto - agregatom pregledati, če spušča z tlačnim preizkusom in odstraniti iz sistema vse tujke, ter vlago.

Odstranjevanje zraka z vakuumsko črpalko

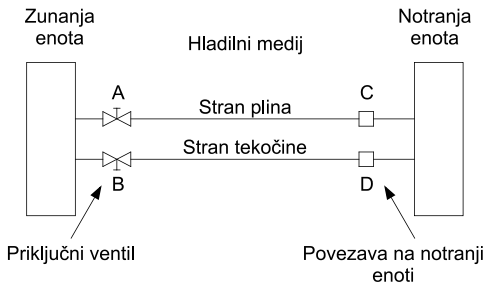
Preverite, če so vse cevi (tako na tekočinski, kot plinski strani) med notranjo in zunanjo enoto pravilno priključene in če je izvedena vsa električna napeljava za preizkusno delovanje. Odstranite pokrove delovnih ventilov tako na tekočinski kot plinski strani zunanje ter notranje enote. Delovni ventili tako na tekočinski kot plinski strani na zunanji enoti - agregatu ostanejo zaprti na tej stopnji. Na notranji enoti – kotlu je potrebno na tej stopnji ventile (C, D) odpreti!

Dolžina cevi in količina hladilnega sredstva:

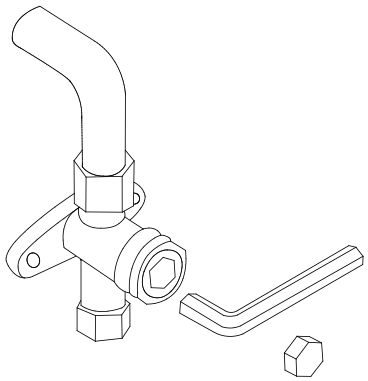
Dolžina priključne cevi	Dodatna količina hladilnega sredstva
manj kot 5 m	-
5 do 8 m	(Dolžina cevi [m] – 5 [m]) x 20 g

Če prestavite zunanjo enoto - agregat na drugo mesto, praznjenje opravite z napravo za zajemanje hladilnega sredstva.
Preverite, da je hladilno sredstvo, dodano v hladilni sistem v vsakem primeru v tekočem stanju.
Dopolnjevanje s hladilnim sredstvom je potrebno izvesti na nizkotlačnem servisnem ventilu v zunanji enoti - agregatu. Dopolnjevanje lahko izvede samo strokovno usposobljena oseba.

Opozorilo pri delu z zapornim ventilom
- Steblo ventila odpirajte, dokler ni obrnjeno proti čepu. Ne poskušajte ga še bolj odpreti.
- Pokrov stebla ventila dobro pritrdite s ključem ali podobnim orodjem.
- Pritezni moment pokrova stebla ventila (glej tabelo priteznih momentov).



Sl. 10: Povezava med notranjo in zunanjo enoto



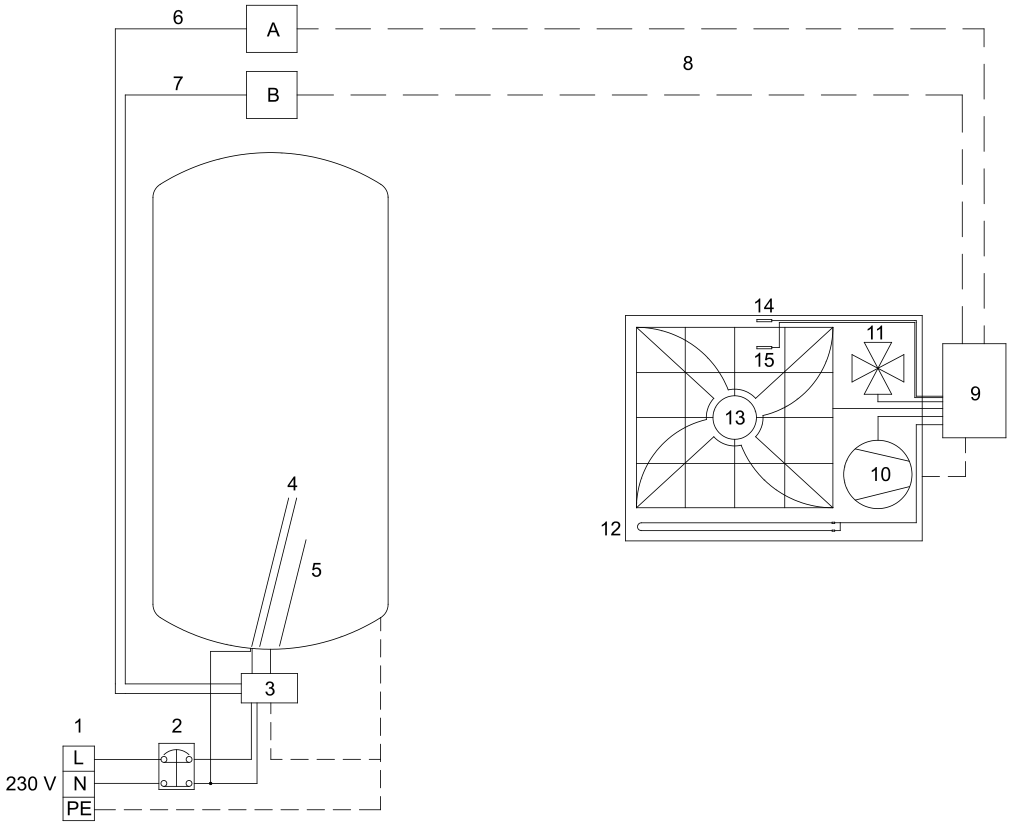
Sl. 11: Ventil

Uporaba vakumske črpalke
(Pri metodi, kjer se uporablja manometerski razdelilnik, glejte njegova navodila)
- Ventila C in D sta odprta!
- Do konca privijte matice A, B, C in D, priključite polnilno cev manometerskega razdelilnika na servisnemu ventilu notranje enote - kotla.
- Priključite centralni priključek na manometerskem setu na vakuumsko črpalko.
- Popolnoma odprite ročico Lo na manometerskem razdelilniku.
- Vključite vakuumsko črpalko.

- Ko je praznjenje končano, popolnoma zaprite ročico Lo na manometerskem razdelilniku in izklopite delovanje vakuumske črpalke.
- Praznjenje naj traja 25 minut ali več in preverite, če manometerski razdelilnik kaže – 76 cm Hg (- 1 bar)
- Obrnite steblo zapornega ventila B za približno 45 ° v nasprotno smer urnih kazalcev za 6 ~ 7 sekund; ko začne plin izhajati, ponovno zaprite zaporni ventil B.
- Preverite, če je prikaz tlaka na manometerskem razdelilniku nekoliko višji od atmosferskega tlaka.
- Odstranite polnilno cev iz servisnega ventila notranje enote - kotla.
- Popolnoma odprite stebli A in B zapornih ventilov.
- Dobro privijte pokrov zapornega ventila.

PRIKLJUČITEV NA ELEKTRIČNO OMREŽJE

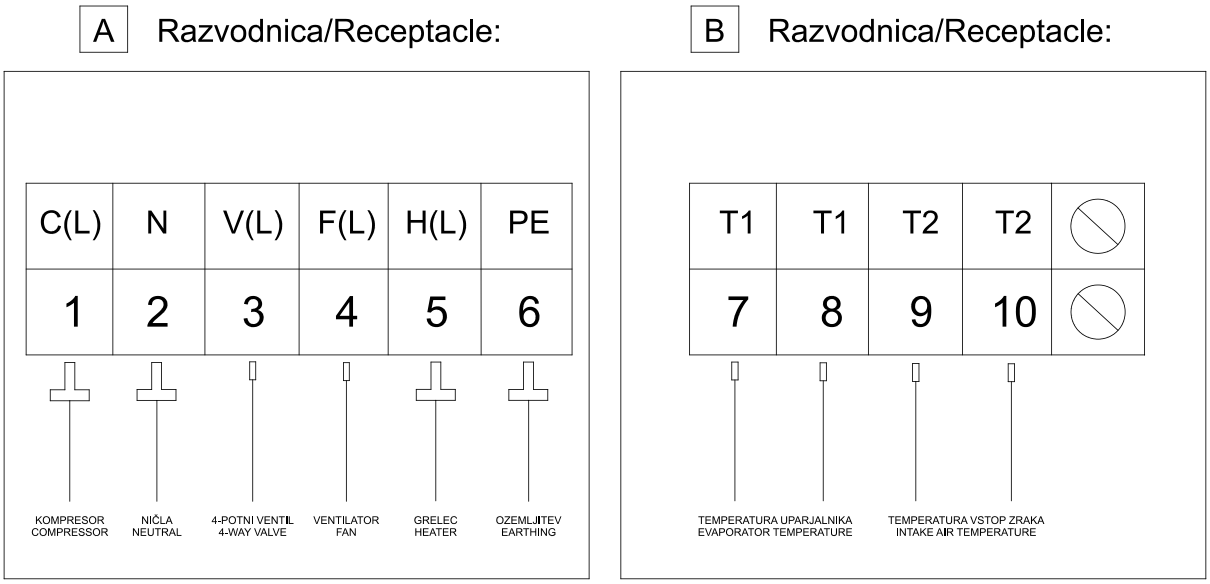
Pred priključitvijo v električno omrežje je potrebno v notranjo enoto - kotlom vgraditi priključno vrvico minimalnega preseka vsaj 1,5 mm^2 (H05VV-F 3G 1,5 mm^2). Da to lahko storite, morate s toplotne črpalke odstraniti zaščitni pokrov. Priključitev toplotne črpalke na električno omrežje mora potekati v skladu s standardi za električne napeljave. Med notranjo enoto - kotlom in trajno inštalacijo mora biti vgrajena priprava za ločitev vseh polov od električnega omrežja v skladu z nacionalnimi inštalacijskimi predpisi.



Sl. 12: Električna shema

Legenda:
1 - Priključna sponka
2 - Bimetalna varovalka
3 - Elektronski regulator
4 - Grelci (2x1000W)
5 - Temperaturno tipalo kotla
6 - Krmilna povezava
7 - Senzorska povezava
8 - Zunanja povezava med enotami
9 - Priključni terminal zunanje enote (pod pokrovom)
10 - Kompresor
11 - 4-potni ventil
12 - Grelec zunanje enote
13 - Ventilator
14 - Senzor temperature zraka
15 - Senzor temperature uparjalnika

Notranja enota - priključni terminali v razvodnicah



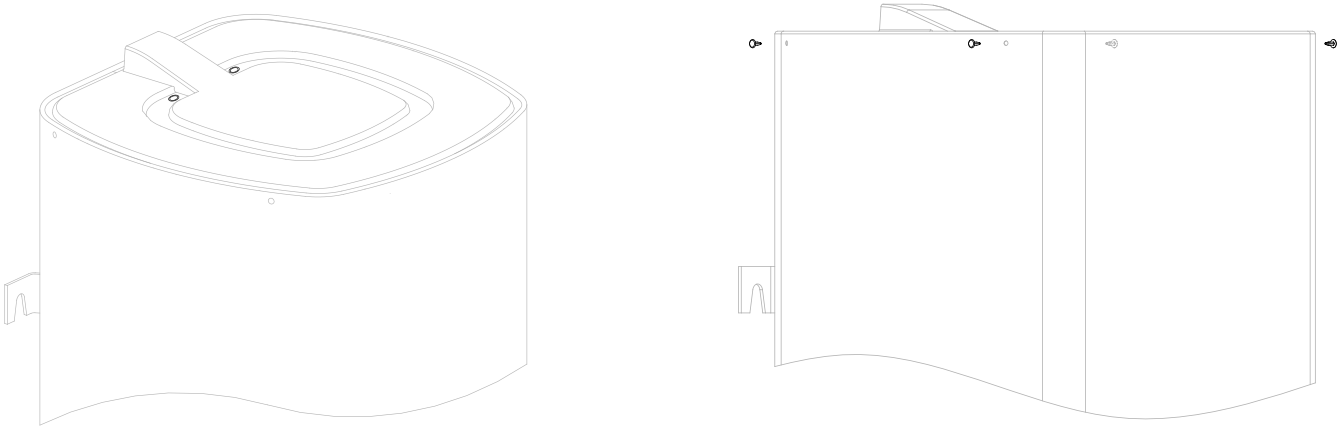
Sl. 13: Priključni terminali v razvodnicah A in B

Povezava notranje enote – kotla in zunanje enote – agregata

K črpalki je priložen povezovalni signalni kabel za povezavo zunanje enote - agregata in notranje enote - kotla, kateri prenaša informacijo iz temperaturnih senzorjev. Napajalni kabel za povezavo med notranjo enoto - kotlom in zunanjo enoto - agregatom ni priložen! Kabel mora zadoščati minimalni kakovosti H05RN-F s presekom od 1,0 do 1,5 mm^2. Na zunanji strani naj bodo povezovalni kabli dodatno zaščiteni pred atmosferskimi vplivi in drugimi potencialnimi nevarnostmi.

Priključitev kabla na notranjo enoto

- Na zgornji strani pokrova odvijte matici (sl. 14a), izvlecite štiri čepe (sl. 14b), in z notranje enote snemite pokrov.
- Kable priključite na priključne sponke, kot je označeno s številkami na priključni letvi notranje enote.
- Pri ponovni namestitvi pokrova uporabite nove priložene čepe.

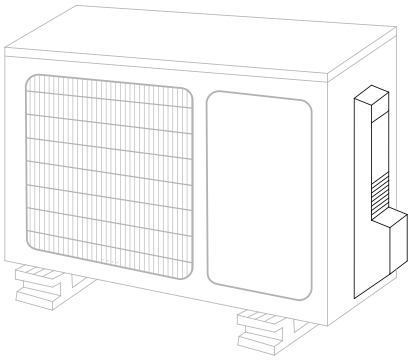


14a 14b

Sl. 14: Odstranitev zaščitnega pokrova notranje enote

Priključitev kabla na zunanjo enoto

- Odvijte vijak in z zunanje enote snemite pokrov električne upravljalne plošče.
- Kable priključite na priključne sponke, kot je označeno s številkami na priključni letvi zunanje enote.
- S kabelsko sponko pritrdite kabel na upravljalno ploščo.
- Da preprečite vstop vode, naredite zanko s priključnim kablom, katera omogoča, da kapljice vode katere nastajajo na kablu vedno odtečejo stran od enote.
- Vodnike na zunanji enoti lahko menja le proizvajalec, njegov serviser ali pooblaščena oseba!



Sl. 15: Odstranitev zaščitnega pokrova zunanje enote

TEST DELOVANJA

Preizkus električne varnosti

Ko zaključite z montažo, opravite preizkus električne varnosti:
1. Izolacijska upornost
Izolacijska upornost mora biti večja od 2 MΩ.
2. Ozemljitev
Po ozemljitvi zmerite upornost ozemljitve z vizualnim zaznavanjem in preizkusno napravo odpornosti ozemljitve.
3. Preizkus odvodnih tokov (izvedeno med preizkusnim delovanjem)
Med preizkusnim delovanjem, ko končate z montažo, lahko serviser uporabi tipalo napetosti in multimeter, da izvede preizkus odvodnih tokov. Če se pojavijo odvodni tokovi, napravo takoj izklopite. Preglejte in iščite rešitev, dokler enota ne deluje pravilno.

Pregled puščanja plina

1. Način z milnico
Milnico ali nevtralno čistilno sredstvo nanesite z mehko ščetko na priključek notranje enote ali priključke zunanje enote, da preverite puščanje priključnih točk napeljave. Če se pojavijo mehurčki, cevi puščajo.
2. Detektor puščanja
Za kontrolo puščanja uporabite detektor puščanja.

Preizkusno delovanje

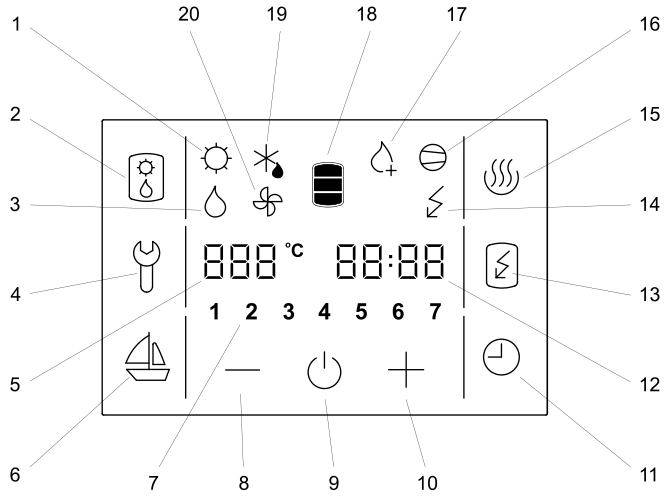
Ko opravite preizkus puščanja plina na priključkih maticah z zavihkom in pregled električne varnosti, opravite preizkusno delovanje.

Pred električno priključitvijo notranjo enoto - kotel napolnite z vodo.
Preglejte, če so vse cevne in električne napeljave pravilno priključene.
Zagotovite, da so delovni ventili na plinski in tekočinski strani popolnoma odprti.

Preizkusno delovanje mora trajati približno 30 minut.

UPRAVLJANJE TOPLOTNE ČRPALKE

Toplotno črpalko upravljate preko LCD zaslona občutljivega na dotik. S pritiskom kjerkoli na zaslon se le-ta osvetli. Po priključitvi toplotne črpalke na vodovodno in električno omrežje, ter z vodo napolnjenim kotlom, je le-ta pripravljena na delovanje. Toplotna črpalka segreva vodo v območju 10 °C - 55 °C, od 55 °C - 75 °C vodo segrevajo električna grela.



Sl. 16: Zaslon za upravljanje

Legenda:

1 - Signalizacija delovanja solarnih kolektorjev**
2 - Vklop alternativnega vira (grela)
3 - Signalizacija delovanja oljnega kotla**
4 - Indikacija, pregled napak delovanja, vstop v servisni meni
5 - Prikaz in nastavitev temperature v °C
6 - Vklop in nastavitev programa dopust
7 - Prikaz dneva v tednu (1.. ponedeljek, …, 7.. nedelja)
8 - Zmanjševanje vrednosti
9 - Vklop / izklop toplotne črpalke
10 - Povečevanje vrednosti
11 - Vklop in nastavitev časovnih načinov delovanja
12 - Prikaz in nastavitev časa
13 - Vklop pospešenega gretja "TURBO"
14 - Signalizacija delovanja grel
15 - Vklop gretja na najvišji temperaturni nivo
16 - Signalizacija delovanja kompresorja
17 - Signalizacija delovanja protilegionelnega programa
18 - Prikaz količine tople vode
19 - Signalizacija odtaljevanja
20 - Signalizacija delovanja ventilatorja

** funkcija ni uporabljena

Vklop / izklop toplotne črpalke

• Za vklop toplotne črpalke pritisnite na polje **9**.

Pri zagonu aparata se najprej vklopi ventilator zunanje enote. (prikazan je simbol 20). Če je temperatura zunanjega zraka primerna, krmilnik vklopi še kompresor in toplotna črpalka deluje v normalnem režimu (prikazana sta simbola 16 in 20). Toplotna črpalka je vklopljena, zaslon je neosvetljen.
V 60 sekundah po zadnjem pritisku kjerkoli na zaslonu, se osvetlitev ugasne, kar ne vpliva na delovanje toplotne črpalke. Prvi pritisk kjerkoli na zaslonu, ponovno aktivira njegovo osvetlitev.
V primeru poskusa vklopa pri nižjih temperaturah poglejte poglavje "Delovanje pri nižjih temperaturah".

• Z daljšim pritiskom na polje **9**, toplotno črpalko izklopite. Aparat ne deluje, na zaslonu je vidno le polje 9. (Če boste toplotno črpalko za dalj časa izklopili, morate ob nevarnosti zamrznitve vodo iz nje iztočiti).

Zaščita pri izpadu električne energije

V primeru izpada električne energije ostanejo podatki o nastavitvah shranjeni nekaj ur.
Po ponovnem zagonu deluje toplotna črpalka v enakem režimu, kot je bil pred prekinitvijo napajanja.

Delovanje pri nižjih temperaturah

Pri zagonu aparata se najprej vklopi ventilator (prikazan je simbol **20**). Če je temperatura zunanjega zraka nižja od -7 °C se ventilator izklopi. Za segrevanje sanitarne vode se vklopi grelec. Toplotna črpalka deluje v rezervnem režimu (prikazan je simbol **14**). Možnost preklopa na normalni režim delovanja se ciklično preverja. Če je temperatura zunanjega zraka višja od -7 °C preide toplotna črpalka v normalen režim delovanja (prikazana sta

simbola **16** in **20**). Grelec se izklopi. Toplotna črpalka je vklopljena, zaslon je neosvetljen.

Pri nižjih temperaturah zraka se po potrebi sproži cikel odtaljevanja uparjalnika v zunanji enoti. Na zaslonu se prižge simbol **19**. Polja **2**, **4**, **6**, **11**, **13** in **15** so neaktivna. Odtaljevanje traja dokler niso doseženi pogoji za normalno delovanje toplotne črpalke.
Po uspešnem odtaljevanju se toplotna črpalka povrne v normalno delovanje. (prikazana sta simbola **16** in **20**).
Če je odtaljevanje neuspešno, krmilnik javi napako. Polje **4** na zaslonu začne utripati, spremljajo ga opozorilni piski. V polju **12** se izpiše koda napake E247, izvede se avtomatski preklop na ogrevanje z električnim grelcem. Na zaslonu je prikazan simbol **14**. Kodo napake lahko v vsakem trenutku zbrišete s pritiskom na polje **4**. V polju **12** je ponovno prikazan čas.

Nastavitev časa in dneva v tednu
- Za daljši časa pritisnite na polje **12**, dokler se v polju **7** ne prikaže utripajoča številka dneva v tednu.
- S pritiskom na polje **+** ali **–** nastavite št. dneva v tednu (1.. ponedeljek, …, 7.. nedelja).
- Ponovno pritisnite na polje **12** (prikaže se utripajoče nastavljena ura).
- S pritiskom na polje **+** ali **–** nastavite uro (s pritiskom za dalj časa na polje **+** ali **–** nastavitev pospešite).
- Ponovno pritisnite na polje **12**.
- Prikažejo se utripajoče nastavljene minute.
- S pritiskom na polje **+** ali **–** nastavite minute (s pritiskom za dalj časa na polje **+** ali **–** nastavitev pospešite).
- Nastavitev je shranjena s ponovnim pritiskom na polje **12**, oziroma ko polje **12** preneha utripati.

Nastavitev temperature
- Pritisnite na polje **5** (prikaže se utripajoče nastavljena temperatura).
- S pritiskom na polje **+** ali **–** spreminjate nastavitev temperature od 10 do 75 °C (prednastavljeno na ekonomično temperaturo 55 °C).
- Nastavitev je shranjena s ponovnim pritiskom na polje **5**, oziroma ko polje **5** preneha utripati. Na zaslonu se čez nekaj sekund prikaže dejanska temperatura.
- Ob izpadu omrežne napetosti se ohrani zadnja shranjena vrednost.

Vklop načina delovanja "TURBO"
- V kolikor v kratkem času potrebujete več tople vode kot jo lahko sproti ogreje toplotna črpalka, na zaslonu pritisnite polje **13** (vklop "TURBO" delovanja). Hkrati delujeta toplotna črpalka in električni grelec. Na zaslonu so prikazani simboli **14**, **16** in **20**. Ko temperatura doseže 55 °C se črpalka povrne v delovanje pred vklopom "TURBO" načina delovanja.

Vklop načina delovanja "HOT"
- Če želite vodo segreti na maksimalno temperaturo 75 °C na zaslonu pritisnite polje **15**. Toplotna črpalka bo segrela vodo do 55 °C. Na zaslonu sta prikazana simbola **16** in **20**. Ko temperatura v kotlu doseže 55 °C se vključi električni grelec, ki bo segrel vodo do 75 °C. Na zaslonu je prikazan simbol **14**. Ko temperatura doseže 75 °C se črpalka povrne v delovanje pred vklopom "HOT" načina delovanja.

Prikaz vsebnosti tople vode v toplotni črpalki

Na zaslonu je prikazan simbol:
- ni tople vode
- manjša količina tople vode
- večja količina tople vode

Nastavitev načina delovanja dopust
V načinu delovanja dopust nastavite število dni (maksimalno 100), ko naj toplotna črpalka vzdržuje minimalno temperaturo vode (pribl. 10 °C).
- Za dalj časa pritisnite na polje **6** (polji **5** in **6** pričneta utripati).
- S pritiskom na polje **+** ali **–** nastavite število dni dopusta, ki jih prikazuje polje **5**.
- S ponovnim pritiskom na polje **6**, oziroma ko polje **6** preneha utripati se nastavljeno število dni shrani.
- Če nastavite vrednost na 000, potem po potrditvi nastavitve toplotna črpalka preide v normalni način delovanja, osvetlitev polja **6** se ugasne.
- Po preteku nastavljenega števila dni toplotna črpalka preide v predhodno nastavljeni način delovanja, osvetlitev polja **6** se ugasne.

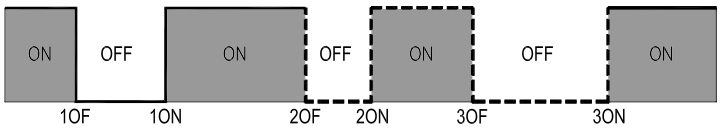
Nastavitev časovnega načina delovanja
V časovnem načinu delovanja nastavite čas vklopov in izklopov gretja vode. Za vsako kombinacijo časovnega obdobja je možno nastaviti do tri časovne periode v katerih toplotna črpalka ne bo segrevala vode.

a) Nastavitev časovnih period

- Za dalj časa pritisnite na polje **11** (polji **7** in **11** pričneta utripati).
- S pritiskom na polje **+** ali **–** izberete med tremi kombinacijami časovnih načinov delovanja:
  - časovni način delovanja toplotne črpalke za ves teden (v polju **7** utripajo številke 1 do 7),
  - časovni način delovanja za obdobje od ponedeljka do petka in od sobote do nedelje (v polju **7** utripajo številke 1 do 5 in nato številki 6 in 7),
  - časovni način delovanja za vsak posamezen dan (v polju **7** utripajo posamezne številke 1 do 7). Za izbor posameznega dneva v tednu pritisnite na polje **+** ali **–** .
- Za nastavitev časa pritisnite polje **12**.
- Na polju **5** se prikaže napis 1OF, polje **12** utripa.
- S pritiskom na polje **+** ali **–** nastavite čas izklopa toplotne črpalke.
- Ponovno pritisnite na polje **12**.
- Na polju **5** se prikaže napis 1ON, polje **12** utripa.
- S pritiskom na polje **+** ali **–** nastavite čas vklopa toplotne črpalke.
- S ponovnim pritiskom na polje **12** lahko po zgornjem postopku nastavite tudi drugo in tretjo periodo.
- V primeru, da ne boste nastavljali druge in tretje periode, nastavitev potrdite s pritiskom na polje **11** oziroma počakajte, da polje **12** preneha utripati ter se nastavitev samodejno shrani.
- V primeru nastavljanja druge in tretje periode, nastavite začetke ter konce period 2 in 3 ter nastavitev potrdite po zgornjem postopku s pritiskom na polje **11** oziroma počakajte, da polje **12** preneha utripati ter se nastavitev samodejno shrani.
- V primeru nastavljanja časovnega načina delovanja "za vsak posamezen dan v tednu" oz. "za obdobje od ponedeljka do petka in od sobote do nedelje" je potrebno nastaviti vse 3 časovne periode po zgoraj opisanem postopku.

b) Vklop, izklop časovnika

- S pritiskom na polje **11** vklopite nastavljen časovni način delovanja.
- Toplotna črpalka segreva vodo v periodah ON (glede na nastavljeno temperaturo), v periodah OFF vode ne segreva.
- S ponovnim pritiskom na polje **11** izklopite nastavljen časovni način delovanja.



Sl. 17: Časovne periode

Protilegionelni program:

- Deluje samo pri vključeni toplotni črpalki. Ko je aktiviran je prikazan simbol **17**.
- Avtomatski vklop: vsakih 14 dni delovanja toplotne črpalke, če v preteklem 14-dnevnem obdobju temperatura vode ni vsaj 1 uro nepretrgoma presegala 65 °C.
- Protilegionelni program lahko vklopite ročno s pritiskom na polje **15** (segrevanje vode na temperaturo 75 °C).

Signalizacija delovanja:

protilegionelnega programa:
program vključen – kontrolno polje **17** je prikazano
program izključen – kontrolno polje **17** ni prikazano

električnih grelcev:
grelci vklopljeni – kontrolno polje **14** je prikazano
grelci izklopljeni – kontrolno polje **14** ni prikazano

toplotne črpalke:
toplotna črpalka segreva vodo – kontrolno polje **16** je prikazano
toplotna črpalka ne segreva vode – kontrolno polje **16** ni prikazano

vklopa/izklopa:
toplotna črpalka vključena – poleg polja **9** so na zaslonu vidna tudi druga polja
toplotna črpalka izključena – na zaslonu je vidno le polje **9**

odtaljevanja:
toplotna črpalka je v režimu odtaljevanja – kontrolno polje **19** je prikazano
toplotna črpalka ni v režimu odtaljevanja – kontrolno polje **19** ni prikazano

vklop/ izklop ventilatorja:
ventilator deluje – kontrolno polje **20** je prikazano
ventilator ne deluje – kontrolno polje **20** ni prikazano

vklop alternativnega vira – električna grela: (polje **2**)
preklop na vir električnega grelca - kontrolno polje **14** je prikazano
polji **1** in **3** nista aktivni pri teh izvedbah toplotne črpalke

VZDRŽEVANJE IN SERVISIRANJE

Zunanjost toplotne črpalke čistite z mehko krpo in blagimi tekočimi čistili. Ne uporabljajte čistil, ki vsebujejo alkohol ali abrazivna sredstva.
V primeru, da je bila toplotna črpalka izpostavljena prahu se lahko zamašijo lamele uparjalnika, kar škodljivo vpliva na njeno delovanje. V tem primeru je potrebno uparjalnik očistiti. Čiščenje uparjalnika mora biti izvedeno s strani pooblaščenega serviserja.
Z rednimi servisnimi pregledi boste zagotovili brezhibno delovanje in dolgo življenjsko dobo toplotne črpalke.
Garancija za izdelek velja skladno s pogoji iz garancijske izjave.

Pred prijavo morebitne napake pa preverite sledeče:
- Če je z dovodom električne energije vse v redu?
- Če ima izhajajoči zrak ovire?
- Če je temperatura okolice prenizka?
- Če se sliši delovanje kompresorja in ventilatorja?

Prosimo Vas, da morebitnih okvar na toplotni črpalki ne popravljate sami, ampak o njih obvestite najbližjo pooblaščeno servisno službo.

MOTNJE V DELOVANJU

Kljub skrbni proizvodnji in kontroli lahko pride pri delovanju toplotne črpalke do motenj, katere mora odpraviti pooblaščeni serviser.

Indikacija napak
- V primeru napake na aparatu piskač prične piskati in polje **4** utripati. Ob pritisku na polje **4** se na polju **12** izpiše koda napake.

Napaka	Opis napake	Rešitev
E004	Zmrzovanje. Napaka se pojavi, če je temperatura v toplotni črpalki nižja od 4 °C.	Kličite servis.
E005	Pregrevanje (temperatura > 85 °C, odpoved elektronskega regulatorja).	Odklopite toplotno črpalko iz električnega omrežja, kličite servis.
E006	Napaka delovanja Mg anode.	Kličite servis (toplotna črpalka normalno deluje).
E007	Napaka senzorjev volumna in/ali temperature.	Kličite servis.
E042	Napaka funkcije protilegionele.	S pritiskom na polje **4** izbrišete napako.
E247	Napaka odtaljevanja.	Avtomatsko se vklopi segrevanje z električnim grelom. Po izbrisu napake se ponovno omogoči delovanje agregata.
E361	Napaka senzorja zunanjega zraka.	Kličite servis (avtomatski preklop na segrevanje z električnim grelcem).
E363	Napaka senzorja odtaljevanja.	Kličite servis (avtomatski preklop na segrevanje z električnim grelcem).

TEHNIČNE LASTNOSTI

Tip		TC120SNE	TC150SNE
Določeni profil obremenitve		M	L
Razred energijske učinkovitosti [1]		A+	A
Energijska učinkovitost pri ogrevanju vode (ηwh) [1]	[%]	101,9	111,2
Letna poraba električne energije [1]	[kWh]	504	921
Dnevna poraba električne energije [2]	[kWh]	2,397	4,302
Nastavitev temperature termostata	[°C]	55	55
Vrednost "smart"		0	0
Prostornina	[l]	117,6	146,6
Količina mešane vode pri 40 °C V40 [2]	[l]	151	199
Nazivni tlak	[MPa (bar)]	0,6 (6) / 0,9 (9)	
Masa kotla / napolnjen z vodo	[kg]	51 / 169	59 / 206
Masa zunanje enote (prazna)	[kg]	29	
Protikorozijska zaščita kotla		Emajlirano / Mg anoda	
Debelina izolacije	[mm]	40 - 85	
Stopnja zaščite pred vlago		IP24	
Maksimalna priključna moč	[W]	2850	
Napetost		230 V / 50 Hz	
Število el. grelcev x moč	[W]	2 x 1000	
Električno varovanje	[A]	16	
Nastavljena temperatura vode	[°C]	55	
Najvišja temperatura (TČ / el. grelec)	[°C]	55 / 75	
Protilegionelni program	[°C]	70	
Temperaturno območje postavitve kotla	[°C]	2 ÷ 35	
Območje delovanja - zrak	[°C]	-7 ÷ 35	
Hladivo		R134a	
Količina hladiva	[kg]	1,000	1,000
Potencial globalnega segrevanja		1430	1430
Ekvivalent ogljikovega dioksida	[t]	1,430	1,430
Čas segrevanja A7 / W10-55 [3]	[h:min]	4:10	5:16
COP_{DHW} pri izbranem ciklu izpustov A7 / W10-55 [3]		2,44	2,71
Moč v stanju pripravljenosti po EN16147	[W]	19	20
Zvočna moč / Zvočni tlak na 1m (zunanja enota – agregat)	[dB(A)]	56 / 46	

1) Uredba komisije EU 812/2013; EN 50440
2) EN 50440
3) Merjeno pri temperaturi vstopnega zraka 7 °C, 89% vlagi in vstopni temperaturi vode 10 °C za segrevanje vode do 55 °C. Skladno s standardom EN16147.

PRIDRŽUJEMO SI PRAVICO DO SPREMEMB, KI NE VPLIVAJO NA FUNKCIONALNOST APARATA.

WARNINGS!

⚠ The appliance may be used by children older than 8 years old, elderly persons and persons with physical, sensory or mental disabilities or lacking experience and 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.
⚠ Always transport the outdoor unit of the heat pump in an upright position; exceptionally, it may be tilted by 35° in all directions. Be careful not to damage the housing or the vital component parts of the appliance during transport.
⚠ The heat pump is not intended for industrial use and use in premises where corrosive and explosive substances are present.
⚠ The connection of the heat pump to the mains should be performed in accordance with standards for electrical appliances. An all-poles disconnect switch should be installed between the heat pump and the mains in accordance with the national installation standards.
⚠ The heat pump should not be in operation without water in the boiler, because this could destroy the aggregate!
⚠ 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.
⚠ It is necessary to install a safety valve with a rated pressure of 0.6 MPa (6 bar) or 0.9 MPa (9 bar) (see nameplate), to prevent the pressure in the boiler from rising by more than 0.1 MPa (1 bar) above the rated pressure.
⚠ Water may drip from the outlet opening of the safety valve, 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 stop valve between the heat pump and the safety valve, because it will impair the functioning of the safety valve!
⚠ The elements in the electronic control unit are live even after pressing the off field (9) on the heat pump.
⚠ To avoid danger, a damaged connecting line and connecting cable for connecting the indoor and outdoor units can only be replaced by the manufacturer, its service provider or an authorised person.
⚠ If you disconnect the heat pump from the power supply, please drain any water from the pump to prevent freezing.
⚠ Water can be drained from the pump through the boiler inlet pipe. For this purpose it is advisable to install a special element or outlet valve between the inlet pipe and the safety valve.
⚠ Please do not try to fix any defects of the heat pump on your own. Call the nearest authorised service company.
⚠ This product contains fluorinated greenhouse gases. Hermetically sealed.

Our products are equipped with 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.

PRESENTATION

Dear Customer,
Thank you for purchasing the Gorenje heat pump for heating sanitary water, one of the most advanced appliances in its class. Its materials, design and testing were made in compliance with related applicable standards.
Please read these instructions carefully before use in order to prevent potential problems that may cause damage to the product.
Keep this Manual for future reference, as a source of information on the details of the heat pump operation or its maintenance. Instructions for installation and use can also be found on our website http://www.gorenje.com .
Of course, you can always contact any of our experienced authorised servicing technicians for occasional maintenance

AREA OF USE

This appliance is designed for production of sanitary water in households and at premises where daily consumption of hot water (40 °C) does not exceed 240 l to 300 l. The appliance must be connected to water supply mains and to the power supply grid.
In case of installing the indoor unit – the boiler in a room with a bathtub or shower tub, take into account the requirements defined in the IEC 60364-7-701 standard (VDE 0100, Teil 701). To mount the unit on the wall, use special wall bolts with a nominal diameter of min. 8 mm and always mount the unit in an upright position. Make sure the mounting location on the wall is adequately reinforced if the wall is not strong enough. We recommend leaving enough space between the floor and the unit as to provide easy access to the Mg anode (se Installation). If not, the unit will need to be dismounted from the wall before servicing.

The heat pump may not be used for purposes other than those defined in these Instructions. The unit is not designed for industrial use or 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 installation, use and maintenance.
Keep these Instructions for later use.

The marking of the indoor unit – the boiler is stated on the nameplate located on the bottom side of the unit, between both inlet pipes for sanitary water. The marking of the outdoor unit – the aggregate is located next to the electric terminal plate.

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 polystyrol, etc.) as these present a potential risk. Do not dispose of these materials in the environment.

STORAGE AND TRANSPORT

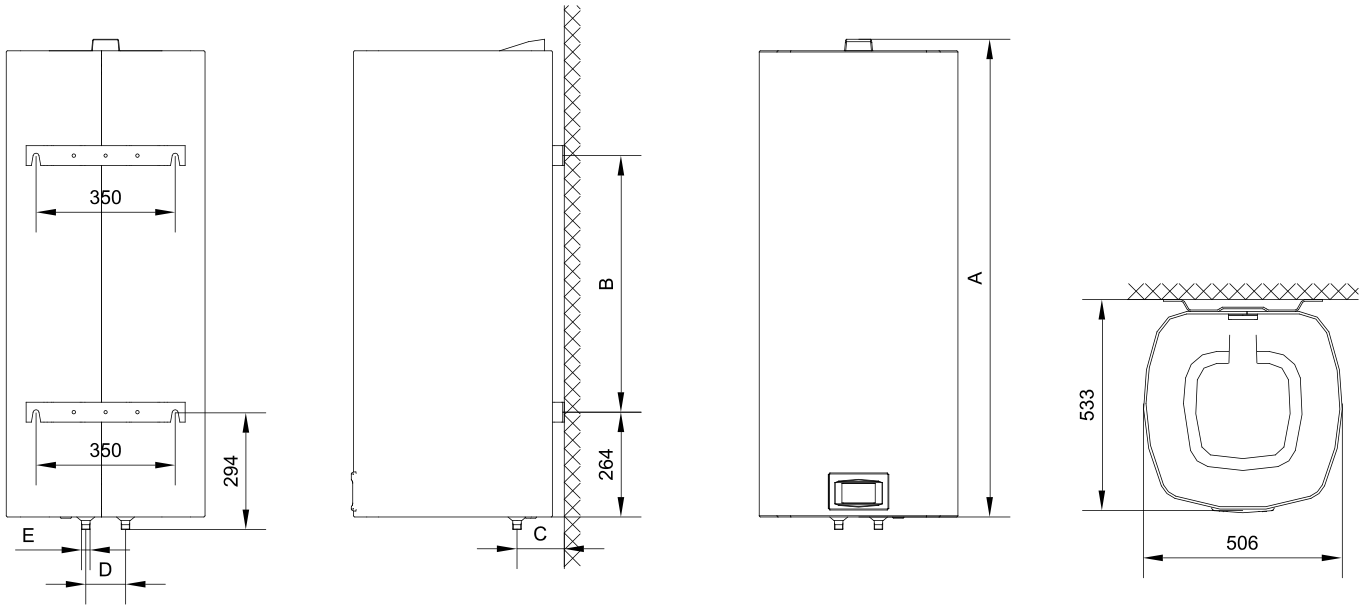
Store the outdoor unit – the aggregate of the heat pump in an upright position, in a clean and dry place. Store the indoor unit – the boiler in an upright position, in a clean and dry place.

INSTALLATION OF THE HEAT PUMP

Installation must be carried out in accordance with the manufacturer's instruction by a qualified installation expert.

Indoor unit - boiler

The indoor unit – boiler must be installed in a frost-free room. When selecting the place of installation, pay attention to the solidity of the wall – can it take the weight of the heat pump together with the weight of the water inside the boiler? It is recommended to choose a place that enables installation with minimum gas pipeline length. During installation, please bear in mind the minimum distances from the wall, ground and ceiling – see Figure 1. The condensate outlet from the heat pump is placed on the bottom left side in the form of a plastic tube with an external diameter of ø18 mm. Condensate appears very seldom.



	A	B	C	D	E
TC120SNE	1201	645	100	100	G 1/2
TC150SNE	1416	845	100	100	G 1/2

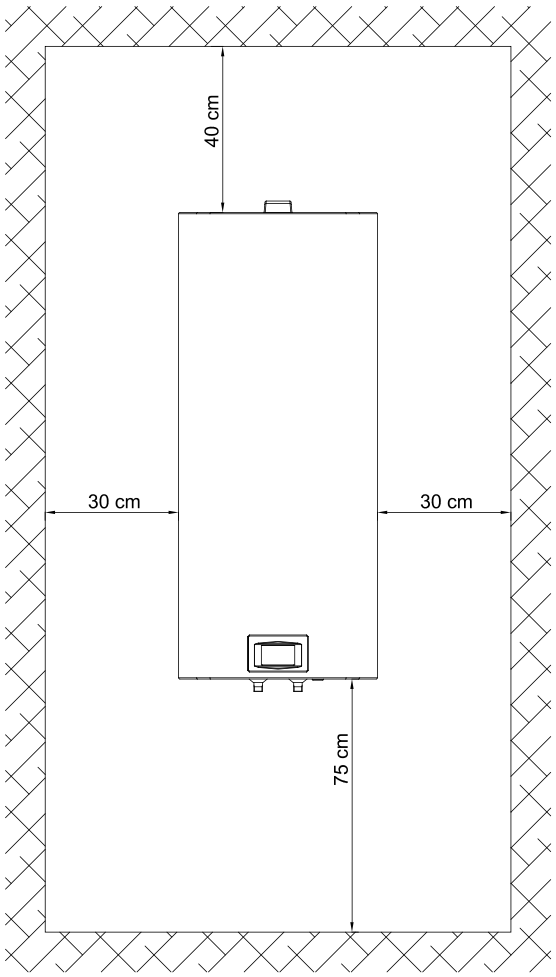


Fig. 1: Connection and installation dimensions of the indoor unit - boiler [mm]

Outdoor unit - aggregate

Mount the outdoor unit – aggregate in a horizontal position using a nut and bolt with a diameter of ø10 or ø8 to a concrete or other solid base.

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Please take notice of the following warnings:

- If an awning is built to protect the unit from direct sunlight or rain, please make sure the air flow is not restricted.
- Make sure you leave more than 30 cm at the back and left side of the unit.
- At the front side, leave more than 200 cm of clearance.
- At the connection (right) side and above the unit, please make sure to leave more than 60 cm of space.
- Make sure there are no animals or plants nearby that could be harmed by the air coming out of the unit.
- Take into account the weight of the outdoor unit and choose an area where noise and vibrations will not be an issue.
- Please make sure you select a spot where the outdoor unit will not bother the neighbours.
- If the outdoor unit – aggregate is mounted to a roof, make sure to level the unit.
- Please make sure the roof structure and anchoring method are appropriate for the unit.
- When mounting the unit on the roof, please take into account the local regulations.

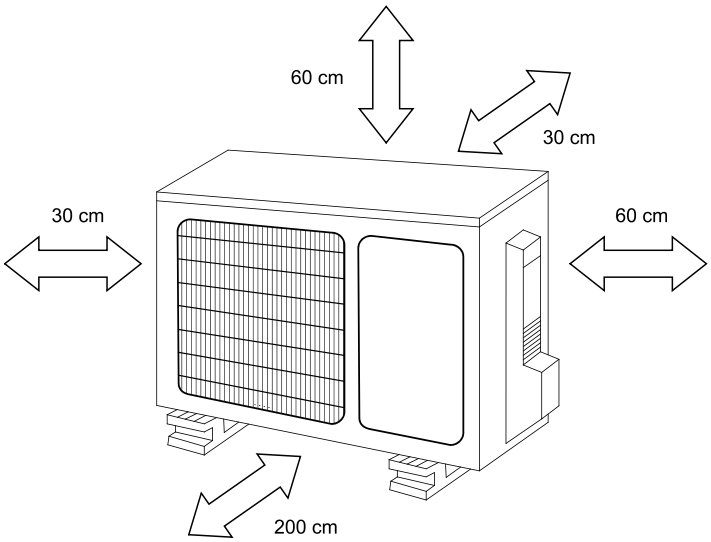


Fig. 2: installation dimensions of the outdoor unit – the aggregate

Installation of the outlet element

Insert a gasket into the outlet elbow, insert the outlet element into the opening in the lower container of the outdoor unit and turn by 90 degrees to attach the element. Connect a pipe extension to the outlet element (not included) in case of water outlet from the outdoor unit.

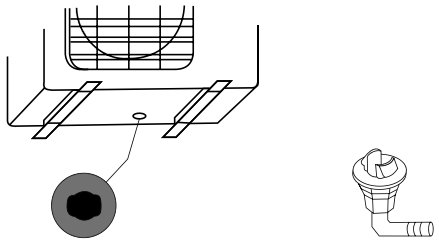


Fig. 3: Installing the outlet element

If the outdoor unit – aggregate is mounted on a roof construction or outside walls, this can cause excessive noise and vibrations. In this case the unit can generate excessive noise while operating. If the outdoor unit – aggregate is mounted directly on a roof there is a chance that the installation process will cause the roof to leak.

To reduce the transfer of noise and vibrations through walls into the premises where this could be a problem (bedrooms, rest areas), please take the following measures.

- Make sure the place of wall penetration is properly insulated.
- Make sure the outdoor unit – aggregate is mounted in an appropriate way.

Tools necessary for the installation

- Level indicator (hand level)
- Wrench
- Electric drill with a hollow bit (ø65 mm)
- Flaring tools
- Torque wrenches: 15 Nm 1/4" (6.35 mm), 25 Nm 3/8" (9.52 mm)
- Spanner (half union)
- Hexagonal wrench of suitable dimensions
- Gas-leak detector, Vacuum pump, Gauge manifold
- Thermometer, Multimeter, Pipe cutter, Measuring tape
- User's manual

CONNECTION TO WATER SUPPLY MAINS

Water inlet and outlet on the heat pump pipes are colour-coded. Cold water inlet is marked with blue, and warm water outlet is marked with red. The indoor unit is designed for connection to indoor water supply mains without using the relief valve if the pressure in the supply mains is lower than 0.6 or 0.9 MPa (6 or 9 bar respectively, see nameplate). If the pressure is higher, a relief valve needs to be installed to make sure the pressure at the inlet to the boiler does not exceed the nominal pressure.
Installing a safety valve is mandatory in order to assure safe operation. The valve prevents an increase of the pressure in the boiler by more than 0.1 MPa (1 bar) above the rated pressure. The outflow nozzle on the safety valve must have an outlet into the atmosphere. To assure correct operation of the safety valve, the valve must be regularly checked to remove limescale and check if the safety valve is 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 boiler is increased up to the level pre-set in the safety valve. Since the system prevents backflow of water into the water supply mains, water may drip from the outlet opening on the safety valve. The dripping water may be drained via a 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 heat pump inlet pipe. The volume of the expansion vessel must be approximately 3% of the hot water tank volume.

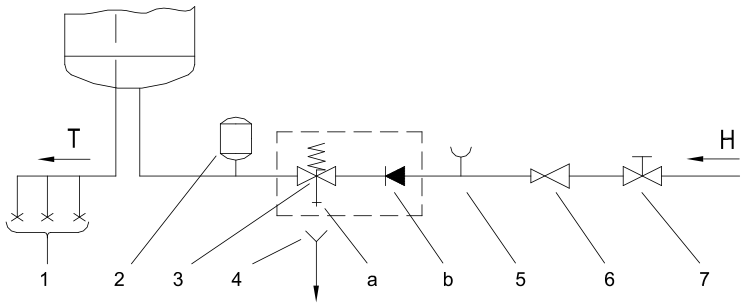


Fig. 4: Closed (pressure) system

Legend:
1 - Pressure mixer taps
2 - Expansion tank
3 - Safety valve
a - Test valve
b - Non-return valve
4 - Funnel with outlet connection
5 - Checking fitting
6 - Pressure reduction valve
7 - Closing valve

H - Cold water
T - Hot water

REFRIGERANT PIPES CONNECTION

The main reason for refrigerant leakage is poor flaring. The proper flaring procedure is as follows:

EN

Preparation of pipes and connecting cables

For gas connection between the outdoor and indoor unit, please use copper pipes with a diameter of 1/4'' x 0.6 mm (Φ6.35 mm x 0.6 mm) and 3/8'' x 0.6 mm (Φ9.52 mm x 0.6 mm).

- Measure the distance between the indoor unit – boiler and the outdoor unit – the aggregate.
- With appropriate tools, cut the pipe a little longer than the measured distance.
- Connecting cables should be about 1.0 m longer than the pipe length.

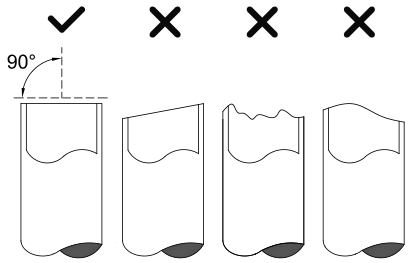


Fig. 5: Pipe preparation

Deburring

- Completely remove all burrs from the cut cross section of pipe.
- Point the end of the copper pipe in a downward direction as you remove burrs in order to avoid dropping burrs into the pipe.

Fig. 6: Deburring

Putting the nut on

- Remove the flare nuts attached to the indoor and outdoor unit, and then put them on the pipe having completed burr removal (it is not possible to put them on after flaring work).

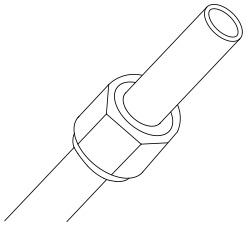


Fig. 7: Putting the nut on

Flaring

- Firmly hold copper pipe in a die (bar) in the dimension shown in the table below.

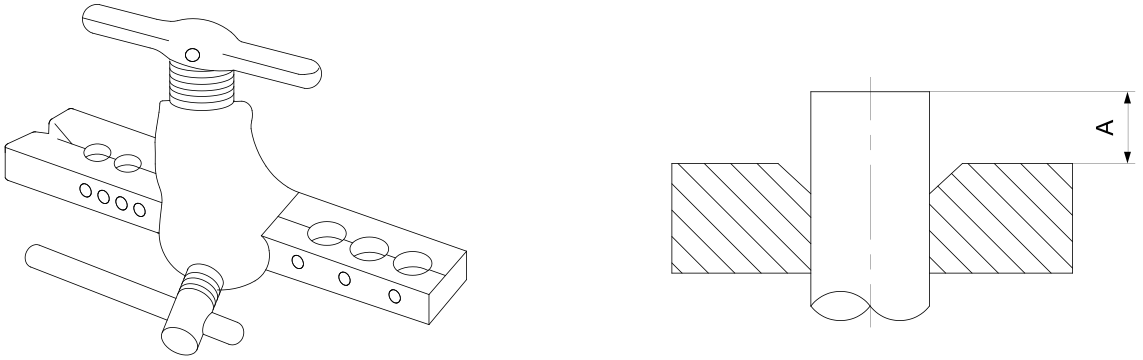


Fig. 8: Flaring

Outer diameter	A [mm]	
	Max.	Min.
1/4'' (Φ6.35 mm)	1.3	0.7
3/8'' (Φ9.52 mm)	1.6	1.0

Tightening the connection

- Align the centre of the pipes.
- Sufficiently tighten the flare nuts with your fingers, and then tighten them with a spanner and torque wrench as shown.

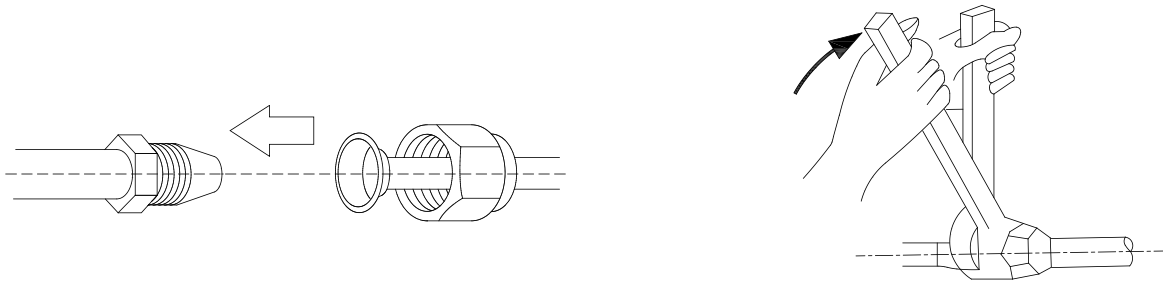


Fig. 9: Tightening the connection

Warning!
Excessive torque can break the nut depending on installation conditions.

Outer diameter	Rated tightening torque [Nm]
1/4'' (Φ6.35 mm)	16
3/8'' (Φ9.52 mm)	26

VACUUMING

EN

Air and moisture in the refrigerant system have undesirable effects as indicated below:
- Pressure in the system rises.
- Operating current rises.
- Cooling or heating efficiency drops.
- Moisture in the refrigerant circuit may freeze and block capillary tubing.
- Water may lead to corrosion of parts in the refrigeration system.

Therefore, the indoor unit and pipes between the indoor and outdoor unit must be leak tested with a pressure test and evacuated to remove any foreign bodies and moisture from the system.

Air purging with a vacuum pump

Check that each pipe (both liquid and gas side pipes) between the indoor and outdoor units have been properly connected and all wiring for the test run has been completed. Remove the service valve caps from both the gas and the liquid side on the outdoor unit. Note that both the liquid and the gas side service valves on the outdoor unit are kept closed at this stage. On the indoor unit the valves (C, D) need to be opened at this stage!

Pipe length and quantity of refrigerant:

Connective pipe length	Additional quantity of refrigerant
Less than 5 m	-
5 to 8 m	(pipe length [m] – 5 [m]) x 20 g

When relocating the outdoor unit to another place, perform evacuation using a refrigerant pumping device.
Make sure the refrigerant added into the air conditioner is in the liquid form.
The adding of a refrigerant should be carried out on a low-pressure service valve in the outdoor unit – the aggregate. The process can only be performed by a qualified person.

Caution in handling the stop valve
- Open the valve stem until it hits against the stopper. Do not try to open it further.
- Securely tighten the valve stem cap with a spanner or a similar tool.
- Valve stem cap tightening torque (See the table of tightening torques).

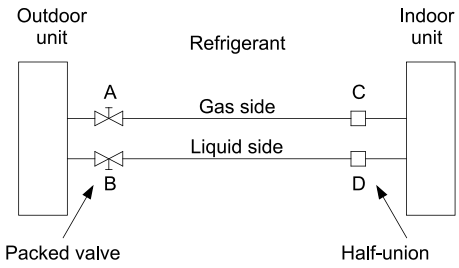


Fig. 10: Connection between the outdoor and the indoor unit

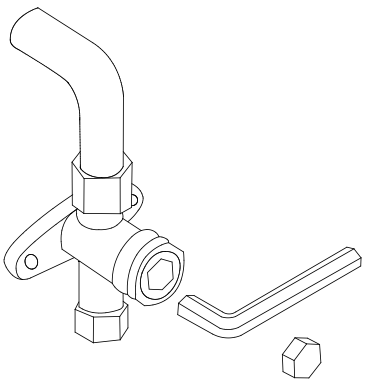


Fig. 11: Valve

Use of a vacuum pump
(For method of using a manifold valve, refer to its operation manual.)
- The C and D valves are open!
- Completely tighten the flare nuts, A, B, C, D, connect the manifold valve charge pipe to a charge port of the service valve on the indoor unit.
- Connect the pressure gauge set hose connection to the vacuum pump.
- Fully open the Lo handle of the pressure gauge manifold.
- Operate the vacuum pump to evacuate.
- After the evacuation is complete, fully close the Lo handle of the pressure gauge manifold and stop the operation of the vacuum pump.

- Let evacuation take place for 25 minutes or more and check that the pressure gauge indicates -76 cm Hg (-1 bar).
- Turn the stem of the stop valve B about 45° counter clockwise for 6~7 seconds; when the gas is coming out, tighten the stop valve B again.
- Make sure the pressure display in the pressure indicator is a little higher than the atmosphere pressure.
- Remove the charge hose from the service valve charge port on the indoor unit.
- Fully open the stop valve stems B and A.
- Securely tighten the cap of the stop valve.

CONNECTING TO THE POWER SUPPLY NETWORK

Before connecting the unit to the power supply network a connecting cable with a minimum cross sectional area of at least 1.5 mm^2 (H05VV-F 3G 1.5 mm^2) should be installed in the indoor unit. To do that, the protective cover must be removed from the heat pump. The connection of the heat pump to the mains should be performed in accordance with standards for electrical appliances. An all-poles disconnect switch should be installed between the indoor unit and the mains in accordance with the national installation standards.

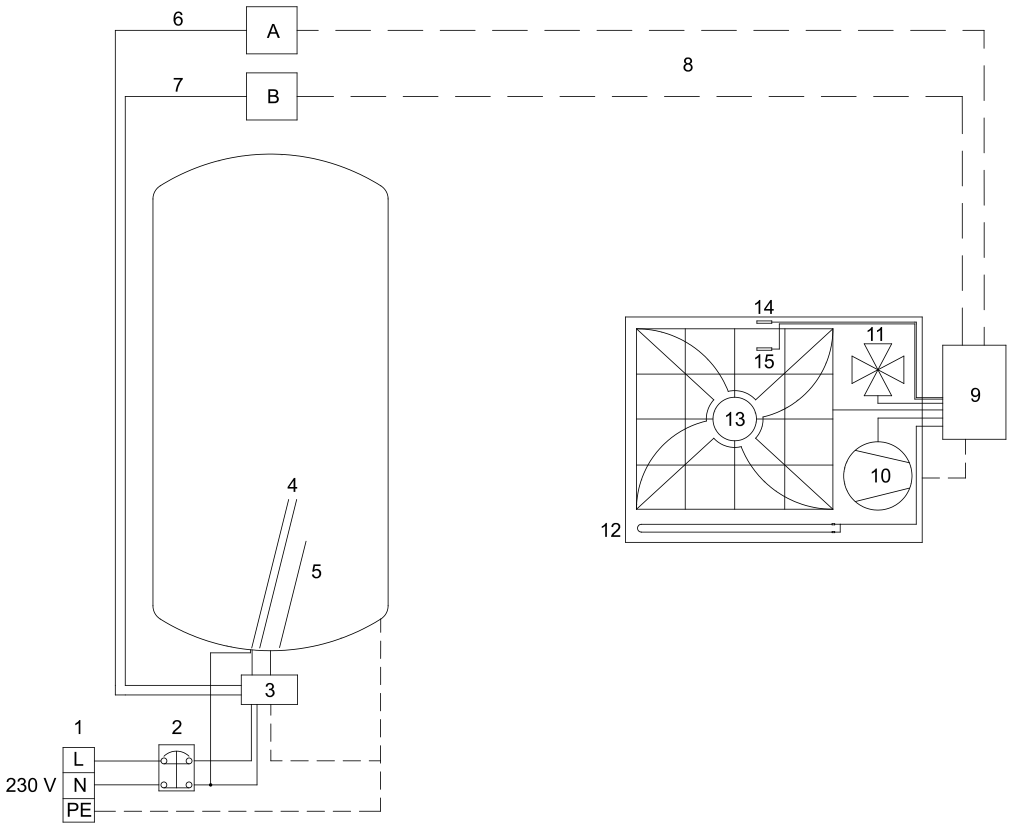


Fig. 12: Electrical diagram

Legend:
1 - Connecting terminal
2 - Bimetal fuse
3 - Electronic regulator
4 - Heaters (2x1000W)
5 - Temperature sensor - boiler
6 - Control connection
7 - Sensor connection
8 - External connection between units
9 - Connecting terminal of the outdoor unit (Under the cover)
10 - Compressor
11 - 4-way valve
12 - Outdoor unit heater
13 - Fan
14 - Ambient temperature sensor
15 - Evaporator temperature sensor

Indoor unit – connection terminals in receptacles

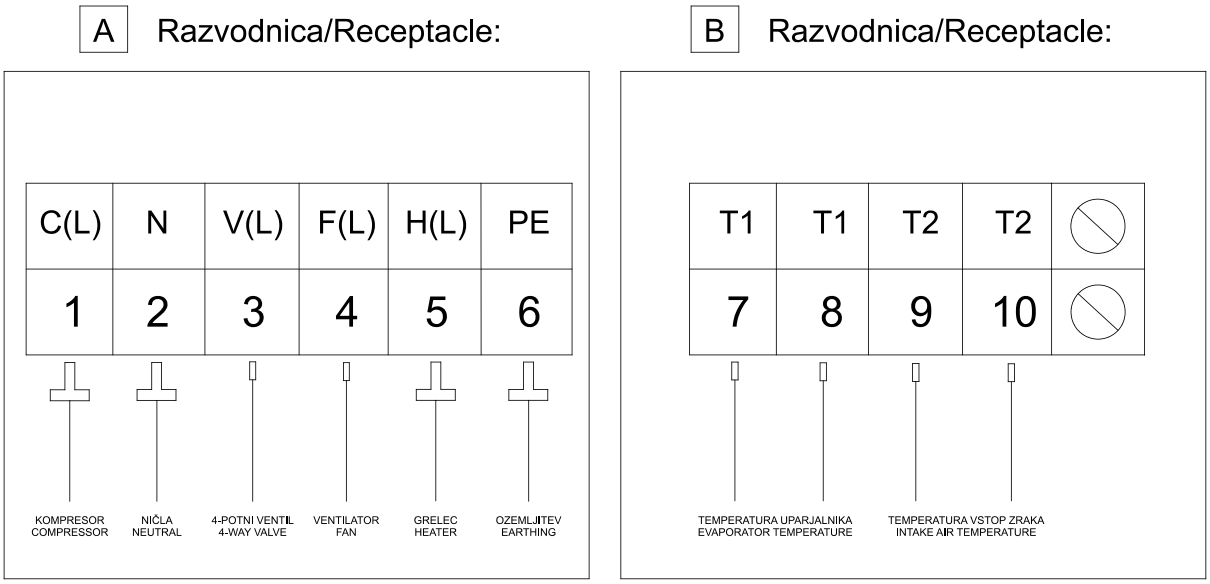


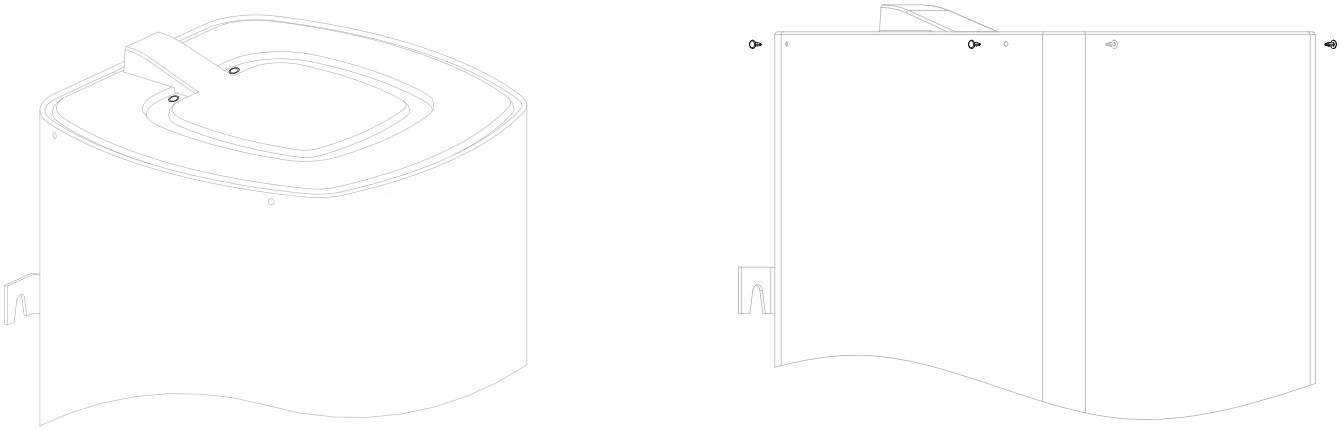
Fig. 13: Connection terminals in receptacles A and B

Connecting the indoor and the outdoor unit

A connecting signal cable is enclosed with the heat pump to connect the indoor and the outdoor unit. The cable is used to transfer data from the temperature sensors. The supply cable that connects the indoor and the outdoor unit is not enclosed! The cable must comply with the minimum quality standard H05RN-F with a cross sectional area of 1.0 to 1.5 mm^2. On the outdoor side, the connecting cables must be additionally protected from the elements and other potential dangers.

Connecting the cable to the indoor unit

- On the upper side of the lid, unscrew two nuts (Fig. 14a), pull out four pegs (Fig. 14b), and take the lid off the indoor unit.
- Connect the cables to the connecting clamps as marked with numbers on the connecting panel of the indoor unit.
- When reattaching the lid use the new pegs enclosed.



14a 14b

Fig. 14: Removing protective lid from the indoor unit

Connecting the cable to the outdoor unit

- Unscrew the bolt and take off the cover of the electrical control panel from the outdoor unit.
- Connect the cables to the connecting clamps as marked with numbers on the connecting plate of the outdoor unit.
- Using a cable camp attach the cable to the control panel.
- To prevent the penetration of water, make a loop with the connecting cable to make sure the droplets of water always drip away from the unit.
- Cables on the outdoor unit may only be replaced by the manufacturer, their service provider or an authorised person!

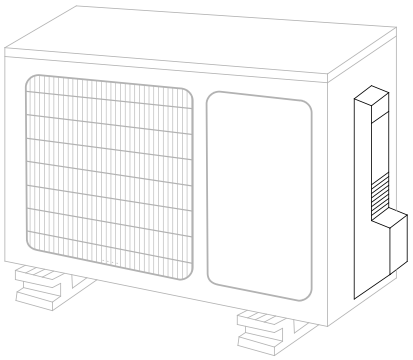


Fig. 15: Removing protective lid from the outdoor unit

TEST RUNNING

Electric safety check

Perform the electric safety check after completing the installation:
1. Insulated resistance
The insulated resistance must be more than 2 MΩ.
2. Grounding work
After finishing grounding work, measure the grounding resistance by visual detection and grounding resistance tester.
3. Electrical leakage check (performing during test running)
During test operation after finishing installation, the serviceman can use the electro probe and multimeter to perform the electrical leakage check. Turn off the unit immediately if leakage happens. Check and seek for a solution until the unit operates properly.

Gas leak check

1. Soap water method
Apply soap water or a liquid neutral detergent on the indoor unit connection or outdoor unit connections using a soft brush to check for leakage of the connecting points of the piping. If bubbles come out, the pipes are leaking.
2. Leak detector
Use the leak detector to check for leakage.

Test running

Perform the test operation after completing the gas leak check at the flare nut connections and the electrical safety check.

Before electrical connection, fill the indoor unit with water.
Make sure that all the pipes and wires are properly connected.
Make sure that the gas and liquid side service valves are fully open.

The test operation should last for about 30 minutes.

HEAT PUMP OPERATION

EN

The heat pump can be operated using an LCD touch screen. If you press anywhere on the screen, the screen lights up. When the heat pump is connected to the water and power supply mains and the boiler is filled with water, the heat pump is ready to be used. The heat pump heats the water in the range 10 °C - 55 °C.
From 55 °C - 75 °C the water is heated by electrical heaters.

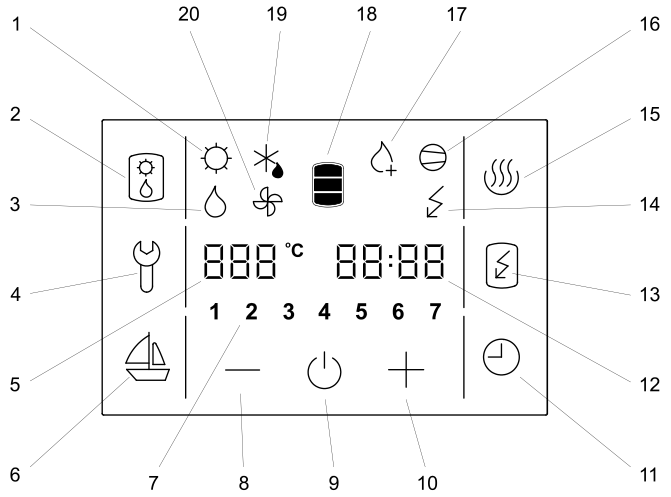


Fig. 16: Control display

Legend:

1 - Signalization of the operation of solar collectors**
2 - Alternative source of heating turned on (heaters)
3 - Signalization of the operation of the oil boiler**
4 - Indication, overview of operation errors, entrance into the service menu
5 - Display and setup of temperature in °C
6 - Start and setup of the VACATION MODE
7 - Day of the week (1 ... Monday, …, 7 .. Sunday)
8 - Reducing the value
9 - Heat pump on/off switch
10 - Increasing the value
11 - TIMER start and setup
12 - Time setup and display
13 - Start-up of quick heating – TURBO mode
14 - Indicator of the heating element operation
15 - Start-up of heating to the maximum temperature level
16 - Signalization of compressor operation
17 - Signalization of anti-legionella programme operation
18 - Warm water quantity display
19 - Signalization of defrosting
20 - Signalization of fan operation

** Function is not used

Starting/stopping the heat pump

- To start the heat pump, hold field no. **9**.

When the appliance is switched on, the fan starts first (symbol no. **20** is displayed). If the temperature of inlet air is appropriate, the controlling unit switches on the compressor and the heat pump operates in normal mode (symbols **16** and **20** are displayed). The heat pump is on, the screen remains unlit and inactive.
In 60 seconds after the last touch of the screen, the illumination and activity of the screen are turned off, but that does not affect the operation of the heat pump. Pressing anywhere on the screen re-activates the screen and its illumination.
If trying to start up at a lower temperature, please see chapter "Operation at lower temperatures".

- By holding field no. **9**, the heat pump is switched off. The appliance stops functioning and the only field visible on the screen is field no. **9**. (If you switch off the heat pump for a longer period of time, the water must be drained from the pump if there is any danger of freezing).

Power failure protection

In case of power failure, the settings remain stored for several hours.
After restarting, the heat pump operates in the same mode it was operating in before the power failure.

Operation at lower temperatures

When the appliance is switched on, the fan starts first and operates for one minute (symbol no. **20** is displayed). If the temperature of inlet air is lower than -7 °C, the fan is turned off. Domestic water is heated with a heater. The

heat pump operates in the reserve mode (symbol no. **14** is displayed). The possibility of switching to normal mode is checked cyclically. If the temperature of inlet air is higher than -7 °C, the heat pump switches to normal mode of operation (symbols **16** and **20** are displayed). The heater switches off. The heat pump is on and the screen remains unlit and inactive.

At lower air temperatures, the evaporator defrosting cycle is started in the outdoor unit if necessary. Symbol no. **19** is displayed on the screen. The fields **2**, **4**, **6**, **11**, **13** and **15** remain inactive. Defrosting continues until the conditions for normal operation of the heat pump are achieved.
After successful defrosting, the heat pump returns to normal operation (symbols **16** and **20** are displayed).
If defrosting is unsuccessful, the controlling unit displays an error message. Field no. **4** starts flashing, accompanied by warning beeps. Error code **E247** appears in field no. **12** and the pump switches automatically to heating with the electric heater. The screen displays symbol no. **14**. The error code can be deleted at any time by pressing field no. **4**. Field no. **12** resumes to displaying time.

Setting the clock and day of the week
- Hold field no. **12**, until field no. **7** shows a flashing number of the day of the week.
- By pressing **+** or **–** you can set the number of the day of the week (1 – Monday, …, 7 – Sunday).
- Press field no. **12** again (flashing hour setting is displayed).
- By pressing **+** or **–** set the hour (by holding **+** or **–** you can speed up the setting).
- Press field no. **12** again.
- Flashing minute setting is displayed.
- By pressing **+** or **–** set the minutes (by holding **+** or **–** you can speed up the setting).
- The setting is stored when you press field no. **12**, or when the field stops flashing.

Setting the temperature
- Press field no. **5** (the set temperature starts blinking).
- By pressing **+** or **–** you can change the temperature setting from 10 °C to 75 °C (pre-set to economic temperature of 55 °C).
- The setting is stored by pressing field no. **5** again, or when field no. **5** stops flashing. After a few seconds, the display shows the actual temperature.
- In case of power failure, the last stored value is restored.

Switching on the "TURBO" mode
- If you need more warm water than the heat pump can heat up in a short period of time, press field no. **13** (switches on the "TURBO" mode). The heat pump and heater work simultaneously. The screen shows symbols no. **14**, **16** in **20**. When the temperature reaches 55 °C the heat pump returns to the mode used before the "TURBO" mode.

Switching on the "HOT" mode
- If you want to heat the water to the maximum temperature of 75 °C, press field no. **15**. The heat pump will heat the water to 55 °C. The screen displays symbols no. **16** in **20**. When the temperature in the boiler reaches 55 °C the electric heater turns on to heat the temperature up to 75 °C. The screen displays the symbol no. **14**. When the temperature reaches 75 °C the heat pump returns to the mode used before the "HOT" mode.

Display of the quantity of water in the heat pump

The display shows the symbol:
-  - no warm water
- - low quantity of warm water
-  - high quantity of warm water

Setting the vacation mode

In the vacation mode, you can set the number of days (maximally 100), when the heat pump shall maintain the minimum temperature of water (approximately 10 °C).
- Hold field no. **6** for a while (fields **5** and **6** start to flash).
- By pressing fields **+** or **–** you can set the number of vacation days shown in field no. **5**.
- By pressing field no. **6** again, or when field no. **6** stops flashing, the set number of days is stored.
- If you set the value to 000, then the heat pump will resume its normal operating mode after confirming the setting, and illumination of field no. **6** will turn off.
- After the set number of days has elapsed, the heat pump returns to the normal mode and illumination of field no. **6** turns off.

Setting the TIMER mode

In the TIMER operating mode, you can set the times when the heat pump will start and stop. For each timer combination you can set up to three time periods in which the heat pump will not heat the water.

a) Setting the timer combinations

- Hold field no. **11** for a while (fields **7** and **11** start to flash).
- By pressing fields **+** or **–** choose among three combinations of timer modes of operation:
  - Timer mode of operation of the heat pump for the entire week (numbers 1-7 flash in field no. **7**),
  - Timer mode of operation of the heat pump for Monday to Friday and Saturday to Sunday (numbers 1-5 and then 6 and 7 flash in field no. **7**),
  - Timer mode of operation of the heat pump for each day at a time (individual numbers 1-7 flash in field no. **7**). Press field **+** or **–** to select each day of the week.
- To set the time, press field no. **12**.
- On the field no. **5**, the text 1OF appears and field no. **12** starts to blink.
- By pressing fields **+** or **–** set the time of shutdown.
- Press field no. **12** again.
- On the field no. **5**, the text 1ON appears and field no. **12** starts to blink.
- By pressing fields **+** or **–** set the time of start-up of the heat pump.
- By pressing field no. **12** again, you can use the above procedure to set the second and third period.
- If you do not want to set the second and third periods, confirm the setting by pressing field no. **11** or wait for field no. **12** to stop flashing and the setting to be saved automatically.
- To set the second and third periods, set the start and end of periods 2 and 3 and confirm the setting following the procedure described above by pressing field no. **11** or wait for field no. **12** to stop flashing and the setting to be saved automatically.
- To set the timer operating mode "for each day of the week" or "for the period from Monday to Friday and from Saturday to Sunday", set all 3 time periods following the procedure described above.

b) Activation, deactivation of timer

- By pressing field no. **11**, you can activate the set timer mode.
- The heat pump heats the water in the ON periods (to the set temperature) and in the OFF periods, it does not heat the water.
- By pressing field no. **11** again, you can deactivate the set TIMER mode of operation.

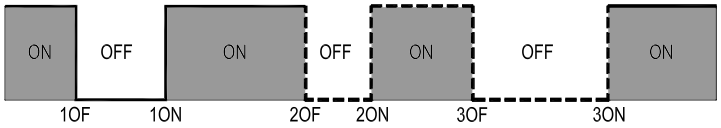


Fig. 17: Time periods

Anti-legionella function

- Works only when the heat pump is switched on. When activated, symbol no. **17** is displayed.
- Automatic activation: every 2 weeks of operation of the heat pump, if the temperature of water did not exceed 65 °C for one straight our or more in the previous two-week period.
- Anti-legionella programme can be activated manually by pressing field no. **15** (heating of water to the temperature of 75 °C).

Operation signalization:

Anti-legionella programme:
Programme on – control field no. **17** is displayed
Programme off – control field no. **17** is not displayed

electric heaters:
heaters on – control field no. **14** is displayed
heaters off – control field no. **14** is not displayed

heat pump:
heat pump is heating water – control field no. **16** is displayed
heat pump is not heating water – control field no. **16** is not displayed

on/off:
heat pump is on – next to field no. **9** other fields are also visible on the screen
heat pump is off – only field no. **9** is visible on the screen

defrosting:
heat pump is in the defrosting mode – control field no. **19** is displayed
heat pump is not in the defrosting mode – control field no. **19** is not displayed

fan on/off:
fan is on – control field no. **20** is displayed
fan is off – control field no. **20** is not displayed
alternative source of heat – electric heater: (field no. **2**)
switched to the electric heater - control field no. **14** is displayed
fields **1** and **3** are not active in these versions of the heat pump

MAINTENANCE AND SERVICE

The exterior of the heat pump should be cleaned with a mild detergent solution and a soft rag. Do not use alcohol-based or abrasive cleaning agents.
If the heat pump was exposed to dust, evaporator lamellas might become blocked, which can have a detrimental effect on the functioning of the heat pump. In this case the evaporator should be cleaned. The cleaning of the evaporator must be carried out by an authorised service company.
By performing regular service inspections you can ensure faultless operation and a long life span of the heat pump. The product warranty applies in accordance with the conditions in the warranty statement.

Before reporting a malfunction, please check the following:
- Is everything OK with the power supply network?
- Is the air outlet obstructed?
- Is ambient temperature too low?
- Can you hear the operation of the compressor and fan?

Please do not try to eliminate malfunctions by yourself, call your nearest authorized service company!

OPERATION ERRORS

Despite careful production and control, the heat pump can produce errors that must be solved by an authorised service company.

Indicator of errors
- In case of an error on the appliance, the beeper starts beeping and field no. **4** starts flashing. When you press field no. 4 the error code is displayed in field no. **12**.

Error	**Description of error**	**Solution**
E004	Freezing. The error appears if the temperature in the heat pump is below 4 °C.	Call the service.
E005	Overheating (temperature > 85 °C, electronic regulator failure).	Unplug the heat pump from the power supply. Call the service.
E006	Mg anode error.	Call the service (heat pump functions normally).
E007	Volume and/or temperature sensors error.	Call the service.
E042	Anti-legionella function error.	Press field no. **4** to restart.
E247	Defrosting error.	Automatically turns on heating with the electric heater. When the error is deleted, the aggregate resumes its normal operation.
E361	External air sensor error.	Call the service (automatically switches to the electric heater).
E363	Defrosting sensor error.	Call the service (automatically switches to the electric heater).

TECHNICAL CHARACTERISTICS

Type		TC120SNE	TC150SNE
Declared load profile		M	L
Energy efficiency class [1]		A+	A
Water heating energy efficiency (ηwh) [1]	[%]	101,9	111,2
Annual electricity consumption [1]	[kWh]	504	921
Daily electricity consumption [2]	[kWh]	2,397	4,302
Thermostat temperature settings	[°C]	55	55
Value of "smart"		0	0
Volume	[l]	117,6	146,6
Quantity of mixed water at 40 °C V40 [2]	[l]	151	199
Rated pressure	[MPa (bar)]	0,6 (6) / 0,9 (9)	
Weight of boiler / filled with water	[kg]	51 / 169	59 / 206
Weight of outdoor unit (empty)	[kg]	29	
Anti-corrosion protection of tank		Enamelled / Mg anode	
Insulation thickness	[mm]	40 - 85	
Degree of moisture protection		IP24	
Max connected load	[W]	2850	
Voltage		230 V / 50 Hz	
Number x power of heating elements	[W]	2 x 1000	
Electricity protection	[A]	16	
Pre-set water temperature	[°C]	55	
Maximum temperature (HP / el. heater)	[°C]	55 / 75	
Anti-legionella programme	[°C]	70	
Temperature range of installation	[°C]	2 ÷ 35	
Operation zone – air	[°C]	-7 ÷ 35	
Refrigerant		R134a	
Quantity of refrigerant	[kg]	1,000	1,000
Global Warming Potential		1430	1430
Carbon dioxide equivalent	[t]	1,430	1,430
Heating time A7 / W10-55 [3]	[h:min]	4:10	5:16
COP_{DHW} in the selected cycle of emissions A7 / W10-55 [3]		2,44	2,71
Power in standby mode according to EN16147	[W]	19	20
Sound power / Sound pressure at 1m (outdoor unit – aggregate)	[dB(A)]	56 / 46	

1) EU Regulation 812/2013; EN 50440
2) EN 50440
3) Measured at ambient air temperature 7 °C, 89% moisture, and water temperature of 10 °C for heating water up to 55 °C. In accordance with the EN16147 standard.

WE RESERVE THE RIGHT TO MAKE CHANGES THAT DO NOT AFFECT THE FUNCTIONALITY OF THE APPLIANCE.

05/2017
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