

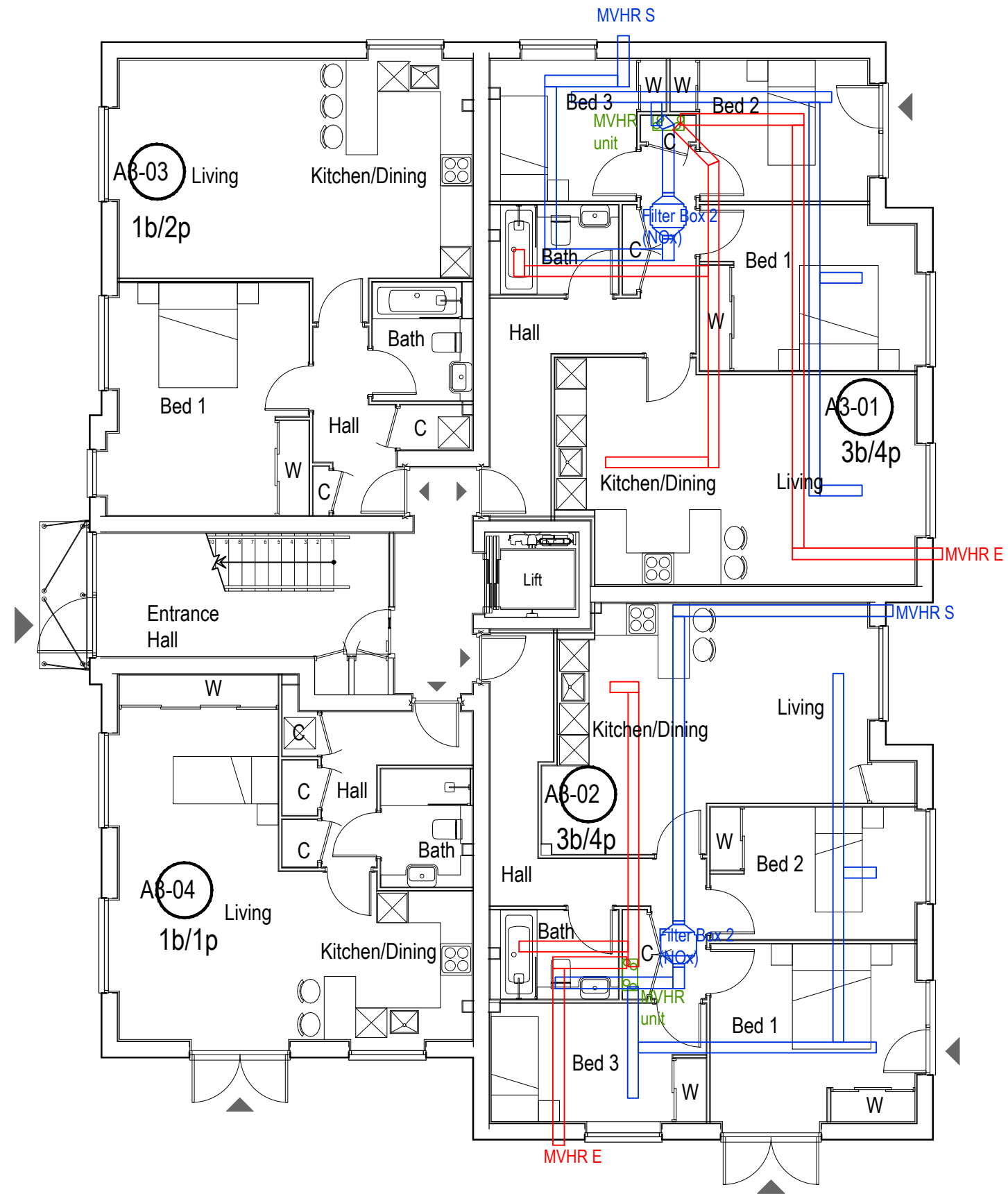
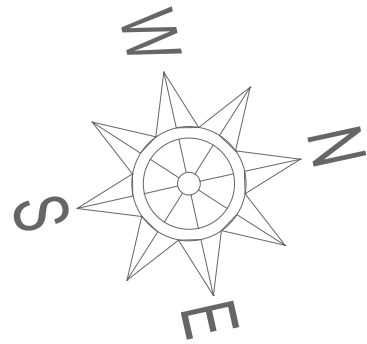


579-583 UXBRIDGE ROAD HAYES

PLANNING REFERENCE 72470/APP/2023/747

DISCHARGE OF CONDITION 9

Ingress of Polluted Air



0 1 2 4 6m

1:100

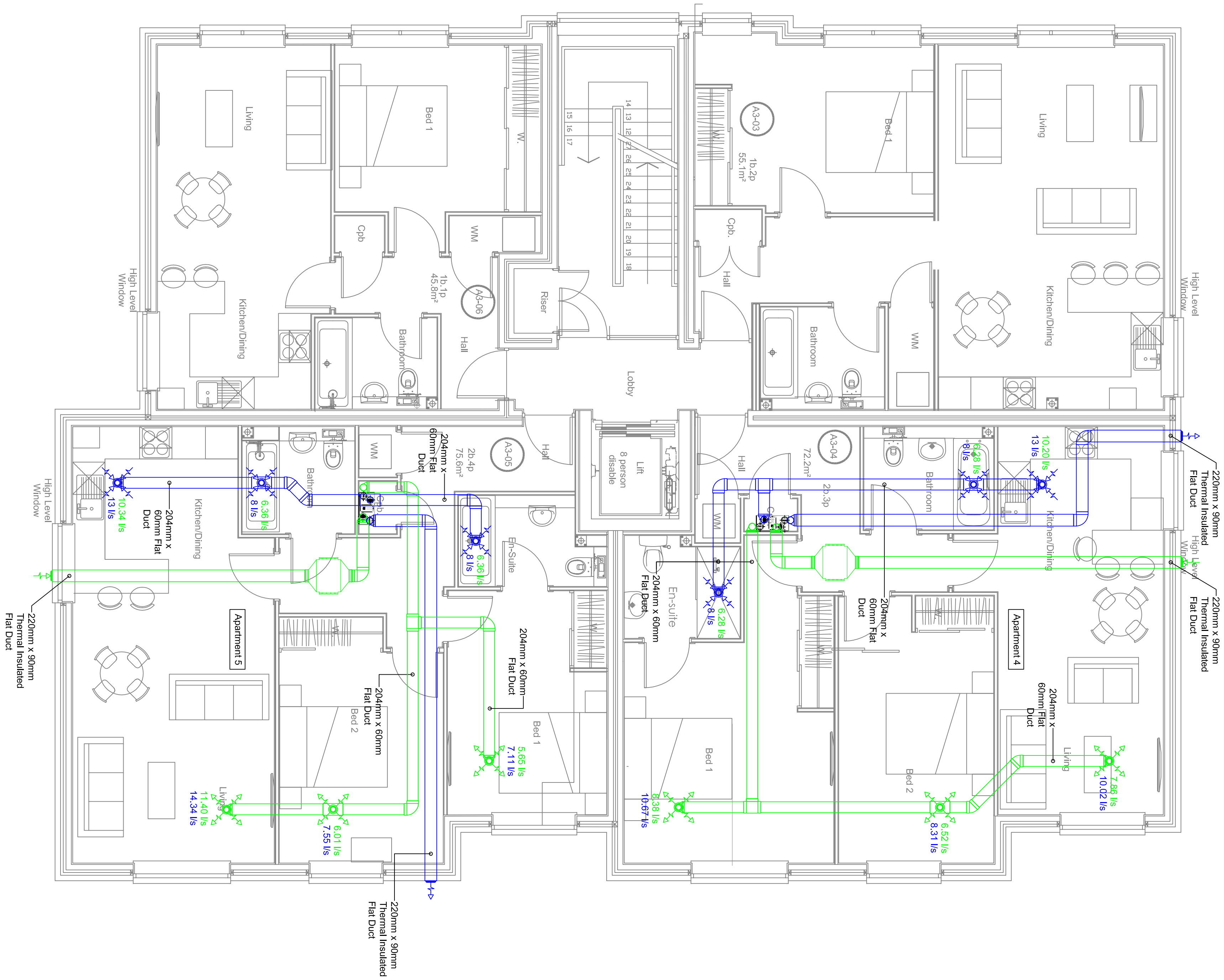
REV:	DESCRIPTION:	BY:	DATE:

CLIENT:	Thorney Farm Developments
SITE:	579-583 Uxbridge Road Hayes Middlesex

TITLE:	Block A3 Ground Floor Plan MVHR Vortice System
--------	--

STATUS: PLANNING			
SCALE AT A3:	DATE:	DRAWN:	CHECKED:
1:100	Feb 2023	JJ	
PROJECT:	DRAWING NO:	REVISION:	
TPH5A3	PL-960		

jsa jsa architects	Tavistock House Waltham Road Maidenhead SL6 3NH 01628 828 241 reception@jsaarchitects.com www.jsaarchitects.com		



FD200 Key			FD220 Key		
Symbol	Product Code	Description	Symbol	Product Code	Description
	11933	HR250 Neil Green Supply Side Ducting		11933	HR250 Neil Green Supply Side Ducting
	12102	HR200 BP Blue Extract Side Ducting		12102	HR200 BP Blue Extract Side Ducting
	46713 - 1 Metre	FD200 204mm x 60mm Right Ducting Thermal Insulated		46723 - 1 Metre	FD220 220mm x 90mm Right Ducting Thermal Insulated
	46714 - 2 Metre	FD200 204mm x 60mm Rigid Ducting		46724 - 2 Metre	FD220 220mm x 90mm Rigid Ducting Thermal Insulated
	46155 - 1 Metre	FD200 204mm x 60mm Rigid Ducting		46155 - 1 Metre	FD220 204mm x 60mm Rigid Ducting
	46157 - 1.5 Metre	FD200 204mm x 60mm Rigid Ducting		46157 - 1.5 Metre	FD220 204mm x 60mm Rigid Ducting
	46157 - 2 Metre	FD200 204mm x 60mm Rigid Ducting		46157 - 2 Metre	FD220 204mm x 60mm Rigid Ducting
	46168	FD200 Round to Square 90° Bend 100mm Ø		46730	FD220 Thermal Round to Square 90° Bend 125mm Ø
	46160	FD200 Round to Square 90° Bend 125mm Ø		46481	FD220 Round to Square 90° Bend 125mm Ø
	46720	FD200 Thermal Round to Square 90° Bend 125mm Ø		46487	FD220 Round to Square 90° Bend 150mm Ø
	46169	FD200 Round to Square 90° Bend 150mm Ø		46490	FD220 to FD200 Adaptor
	46421	FD200 Vertical T Piece - 125mmØ		46484	FD220 Round - Rectangular Adaptor 150mm Ø
	46717	FD200 T Piece Thermal Insulated		46728	FD220 Vertical 90° Bend Thermal Insulated
	46711	FD200 T Piece		46483	FD220 Vertical 90° Bend
	46715	FD200 Horizontal 90° Bend Thermal Insulated		46727	FD220 T Piece Thermal Insulated
	46159	FD200 Horizontal 90° Bend		46488	FD220 T Piece
	46726	FD200 Horizontal 45° Bend Thermal Insulated		46715	FD220 Horizontal 90° Bend Thermal Insulated
	46167	FD200 Horizontal 45° Bend		46159	FD220 Horizontal 90° Bend
	46087	FD200 Double Airbrick Adaptor Grey Airbrick Insert (2 Required)		46726	FD220 Horizontal 45° Bend Thermal Insulated
	46432	FD200 Double Airbrick Adaptor Grey Airbrick Insert (2 Required)		46485	FD220 Horizontal 45° Bend
	46718	FD200 Vertical 90° Bend Thermal Insulated		46489	FD220 Double Airbrick Adaptor Grey Airbrick Insert (2 Required)
	46164	FD200 Vertical 90° Bend		46432	FD220 Horizontal 45° Bend Thermal Insulated
	46750	FD200 Crossover Duct Connector		46017	125mmØ Duct Valve Extract
	46165	FD200 Round - Rectangular Adaptor 125mm Ø		46434	125mmØ Duct Valve Extract - Fire Rated
	46017	125mmØ Duct Valve Extract		46021	125mmØ Duct Valve Supply
	46434	125mmØ Duct Valve Extract - Fire Rated		46435	125mmØ Duct Valve Supply - Fire Rated
	46021	125mmØ Duct Valve Supply		46491	FD220 Firewrap +
	46435	125mmØ Duct Valve Supply - Fire Rated		46492	FD220 Firewrap Sleeve
	46325	125mmØ Duct Valve Supply - Fire Rated		46766	Filter Box 2 (NOX)
	46334	FD200 Firewrap			
	46334	FD200 Firewrap Sleeve			

Vortice HR200 BP Connection Details		
	Supply to internal	Extract from internal
	Supply from external	Extract to external
Vortice HR250 Neil Connection Details		
	Extract to external	Supply from internal
	Supply to internal	Extract from external

Drawing to be read in relation to corresponding Vortice quotation VORO3405-03

Vortice Limited
Beeches House
Eastern Avenue
Burton on Trent
DE13 0BB
Tel: 01283 482949
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sales@vortice.ltd.uk
www.vortice.ltd.uk

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Title: Vortice MHR Design (System 4)
Thorney Farm Development
Block A3
First Floor

Client: Neil D Thomas Architect
100-102, The Woodlands
Woodlands Park,
Maldenhead, Berks, SL6 3NH

Rev:

Drawn: KE
Check'd: AD
Date: 05/04/2019

App: AD
Enquiry Drg No.: VORO3405-03
Contract Drg No.: MVRH_B3_1F

Scale: 1:50 @ A1



**FALCON
ENERGY
LIMITED**

Energy Conservation Specialists

HEAT RECOVERY COMMISSIONING DATA

Company Westview Homes Ltd 6 Westview Drive Twyford Reading Berkshire RG10 9BP	Project Address Flat A2 Azalea Court Uxbridge Road Hayes Middlesex UB4 8HP
---	---

TESTERS INFORMATION

Company Falcon Energy Ltd Unit J, Foundry Close Horsham West Sussex RH13 5TX	Tester Oscar Stafford NICEIC Registration no DV-2/288/2752 Job Ref: A2-000508
--	--

EXTRACT VENTILATION RESULTS

Room	Boost Rate	Normal Rate	PASS/FAIL
Kitchen	13.1 l/s	10.2 l/s	PASS
Bathroom	8.2 l/s	6.3 l/s	PASS

SUPPLY VENTILATION RESULT

Room	Boost Rate	Normal Rate	PASS/FAIL
Livingroom	9.3 l/s	7.2 l/s	PASS
Bedroom 1	10.6 l/s	7.5 l/s	PASS
Bedroom 2	9.5 l/s	7.3 l/s	PASS
Bedroom 3	8 l/s	6.3 l/s	PASS



Falcon Energy Ltd, Unit J, Foundry Close, Horsham, West Sussex, RH13 5TX
Tel/Fax: 01403 253439 email: info@falconenergy.co.uk website:

VAT No. 870 190 138 Company Registered in England No. 5667028



**FALCON
ENERGY
LIMITED**

Energy Conservation Specialists

DOMESTIC MVHR COMMISSIONING

CLIENT

Westview Homes Ltd
6 Westview Drive
Twyford
Reading
Berkshire
RG10 9BP

PROJECT

Flat A2 Azalea Court
Uxbridge Road
Hayes
Middlesex
UB4 8HP

ALL SUPPLY & EXTRACT VENTS PASSED

Ref: Flat A2-000508

Date: 30/04/24

NICEIC Certificate no: DV-2/288/2752



Falcon Energy Ltd, Unit J, Foundry Close, Horsham, West Sussex, RH13 5TX
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---	---

TESTERS INFORMATION

Company Falcon Energy Ltd Unit J, Foundry Close Horsham West Sussex RH13 5TX	Tester Oscar Stafford NICEIC Registration no DV-2/288/2752 Job Ref: A3-000508
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EXTRACT VENTILATION RESULTS

Room	Boost Rate	Normal Rate	PASS/FAIL
Kitchen	13.4 l/s	10.4 l/s	PASS
Bathroom	8.3 l/s	6.2 l/s	PASS

SUPPLY VENTILATION RESULT

Room	Boost Rate	Normal Rate	PASS/FAIL
Livingroom	12.6 l/s	10.2 l/s	PASS
Bedroom 1	8.2 l/s	7.0 l/s	PASS
Bedroom 2	8.0 l/s	6.3 l/s	PASS
Bedroom 3	8.0 l/s	6.5 l/s	PASS



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6 Westview Drive
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Reading
Berkshire
RG10 9BP

PROJECT

Flat A3 Azalea Court
Uxbridge Road
Hayes
Middlesex
UB4 8HP

ALL SUPPLY & EXTRACT VENTS PASSED

Ref: Flat A3-000508

Date: 30/04/24

NICEIC Certificate no: DV-2/288/2752



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HEAT RECOVERY COMMISSIONING DATA

Company Westview Homes Ltd 6 Westview Drive Twyford Reading Berkshire RG10 9BP	Project Address Flat A6 Azalea Court Uxbridge Road Hayes Middlesex UB4 8HP
---	---

TESTERS INFORMATION

Company Falcon Energy Ltd Unit J, Foundry Close Horsham West Sussex RH13 5TX	Tester Oscar Stafford NICEIC Registration no DV-2/288/2752 Job Ref: A6-000508
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EXTRACT VENTILATION RESULTS

Room	Boost Rate	Normal Rate	PASS/FAIL
Kitchen	13.1 l/s	10.4 l/s	PASS
Bathroom	8.0 l/s	6.4l/s	PASS
Ensuite	8.1 l/s	6.5 l/s	PASS

SUPPLY VENTILATION RESULT

Room	Boost Rate	Normal Rate	PASS/FAIL
Livingroom	12.6 l/s	10.1 l/s	PASS
Bedroom 1	8.0 l/s	6.1 l/s	PASS
Bedroom 2	8.6 l/s	6.7 l/s	PASS



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DOMESTIC MVHR COMMISSIONING

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Westview Homes Ltd
6 Westview Drive
Twyford
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Berkshire
RG10 9BP

PROJECT

Flat A6 Azalea Court
Uxbridge Road
Hayes
Middlesex
UB4 8HP

ALL SUPPLY & EXTRACT VENTS PASSED

Ref: Flat A6-000508

Date: 30/04/24

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Company Westview Homes Ltd 6 Westview Drive Twyford Reading Berkshire RG10 9BP	Project Address Flat A7 Azalea Court Uxbridge Road Hayes Middlesex UB4 8HP
---	---

TESTERS INFORMATION

Company Falcon Energy Ltd Unit J, Foundry Close Horsham West Sussex RH13 5TX	Tester Oscar Stafford NICEIC Registration no DV-2/288/2752 Job Ref: A7-000508
--	--

EXTRACT VENTILATION RESULTS

Room	Boost Rate	Normal Rate	PASS/FAIL
Kitchen	13.0 l/s	10.5 l/s	PASS
Bathroom	8.2 l/s	6.5 l/s	PASS
Ensuite	8.0 l/s	6.4 l/s	PASS

SUPPLY VENTILATION RESULT

Room	Boost Rate	Normal Rate	PASS/FAIL
Livingroom	12.5 l/s	10.0 l/s	PASS
Bedroom 1	8.0 l/s	6.4 l/s	PASS
Bedroom 2	8.6 l/s	6.8 l/s	PASS



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RG10 9BP

PROJECT

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Hayes
Middlesex
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ALL SUPPLY & EXTRACT VENTS PASSED

Ref: Flat A7-000508

Date: 30/04/24

NICEIC Certificate no: DV-2/288/2752



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Company Westview Homes Ltd 6 Westview Drive Twyford Reading Berkshire RG10 9BP	Project Address Flat A10 Azalea Court Uxbridge Road Hayes Middlesex UB4 8HP
---	--

TESTERS INFORMATION

Company Falcon Energy Ltd Unit J, Foundry Close Horsham West Sussex RH13 5TX	Tester Oscar Stafford NICEIC Registration no DV-2/288/2752 Job Ref: A10-000508
--	---

EXTRACT VENTILATION RESULTS

Room	Boost Rate	Normal Rate	PASS/FAIL
Kitchen	13.0 l/s	12.9 l/s	PASS
Bathroom	8.1 l/s	7.6 l/s	PASS

SUPPLY VENTILATION RESULT

Room	Boost Rate	Normal Rate	PASS/FAIL
Livingroom	12.8 l/s	11.8 l/s	PASS
Bedroom 1	8.8 l/s	8.2 l/s	PASS



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HEAT RECOVERY COMMISSIONING DATA

Company Westview Homes Ltd 6 Westview Drive Twyford Reading Berkshire RG10 9BP	Project Address Flat A11 Azalea Court Uxbridge Road Hayes Middlesex UB4 8HP
---	--

TESTERS INFORMATION

Company Falcon Energy Ltd Unit J, Foundry Close Horsham West Sussex RH13 5TX	Tester Oscar Stafford NICEIC Registration no DV-2/288/2752 Job Ref: A11-000508
--	---

EXTRACT VENTILATION RESULTS

Room	Boost Rate	Normal Rate	PASS/FAIL
Kitchen	13.6 l/s	12.3 l/s	PASS
Bathroom	8 l/s	7.6 l/s	PASS

SUPPLY VENTILATION RESULT

Room	Boost Rate	Normal Rate	PASS/FAIL
Livingroom	12.5 l/s	11.8 l/s	PASS
Bedroom 1	8.7 l/s	8.1 l/s	PASS



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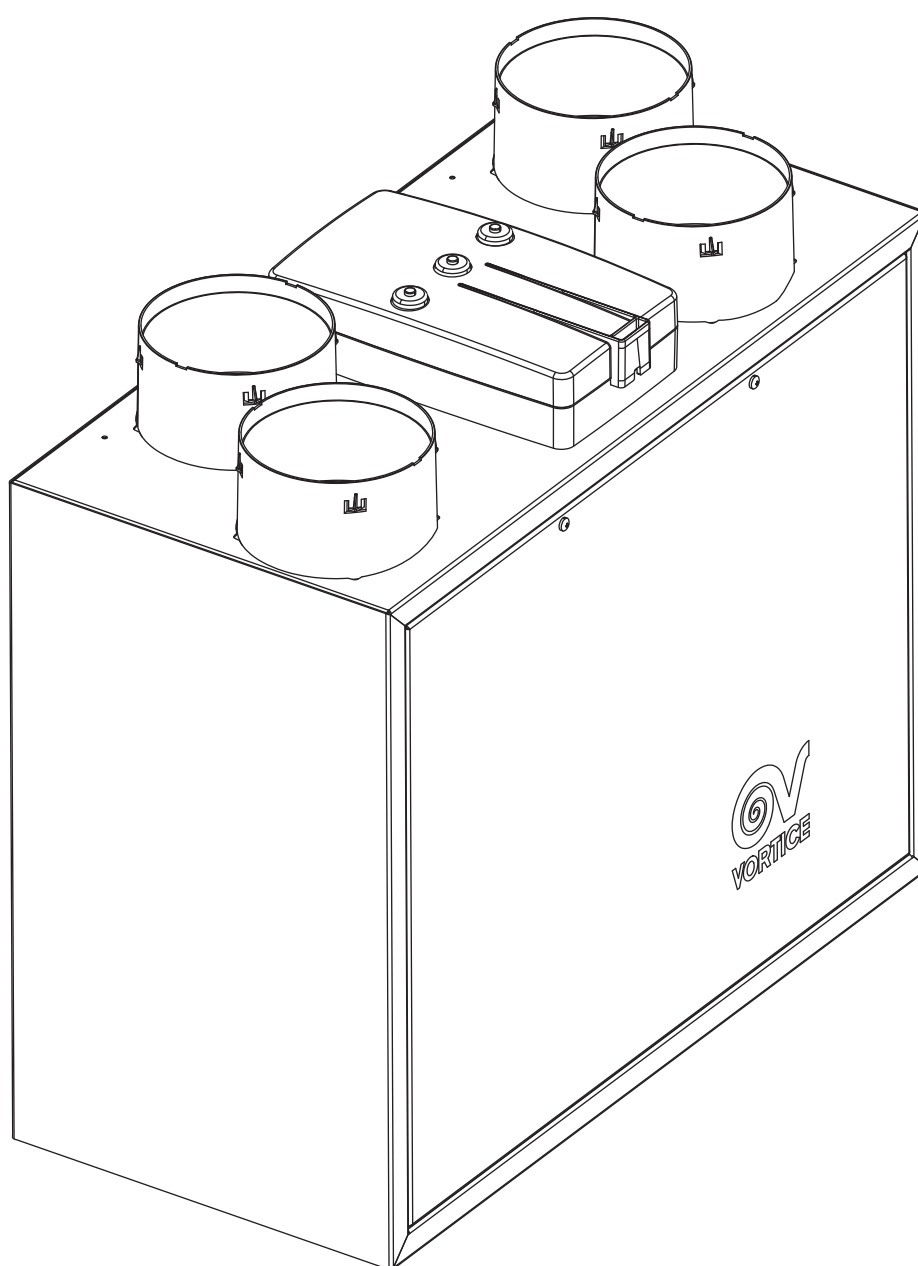


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VORT HR 200 BP



CE

Prima di installare ed utilizzare il prodotto, leggere attentamente le istruzioni contenute nel presente libretto. Vortice non potrà essere ritenuta responsabile per eventuali danni a persone o cose causati dal mancato rispetto delle indicazioni di seguito elencate, la cui osservanza assicurerà invece la durata e l'affidabilità, elettrica e meccanica, dell'apparecchio. Conservare perciò sempre questo libretto d'istruzioni.

Before installing and using your product, read these instructions carefully. Vortice will not accept any responsibility for damage to property or personal harm resulting from failure to abide by the conditions listed below.

Following these instructions will ensure long service life and overall electrical and mechanical reliability. Keep this instruction booklet in a safe place for reference purposes.

Indice

IT

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Descrizione ed Impiego

VORT HR 200 BP (nel seguito “l'apparecchio”), è un sistema di ventilazione centralizzato a recupero di calore ad elevatissima efficienza, installabile in posizione verticale tramite i ganci in dotazione oppure in posizione orizzontale per mezzo di apposito kit opzionale.

Nel normale funzionamento l'aria viziata viene estratta dai locali di servizio quali la cucina, le stanze da bagno, le stanze di servizio e le dispense; contemporaneamente, aria fresca esterna viene immessa nelle stanze normalmente abitate, come le camere da letto, gli studi ed i soggiorni. Le portate d'aria necessarie sono quelle espresse dai vigenti regolamenti nazionali; nel Regno Unito valgono le UK “*Building Regulations Document F1*”.

Nel funzionamento normale i volumi totali dell'aria estratta e dell'aria reimpressa sono sostanzialmente equivalenti. I flussi d'aria in ingresso ed uscita sono tra loro perfettamente separati ed adeguatamente filtrati. Nella stagione fredda il calore dell'aria espulsa viene trasferito all'aria in ingresso. La condensa creata dal processo, e che si raccoglie all'interno del prodotto, deve essere poi convogliata all'esterno.

L'apparecchio garantisce una silenziosa e continua ventilazione dalla casa, rimuovendo l'aria viziata e reintegrandola con aria fresca opportunamente filtrata, prelevata dall'esterno. All'interno dello scambiatore di calore, che costituisce il cuore dell'apparecchio, si realizza lo scambio termico tra i 2 flussi, che assicura il risparmio energetico garantito dall'impiego dell'apparecchio stesso.

Garanzia e Responsabilità

Garanzia

La garanzia dell'apparecchio ha validità 2 anni a partire dalla data di acquisto.

La garanzia non si applica a:

- costi di montaggio/smontaggio;
- danni dovuti ad un utilizzo improprio o negligente dell'apparecchio;
- danni causati da riparazioni, o tentativi di riparazioni, da parte di terze parti non autorizzate da Vortice.

Responsabilità

L'apparecchio è progettato per “sistemi di ventilazione bilanciata”. Ogni altro utilizzo che non sia stato preventivamente discusso con un esperto Vortice può essere considerato come utilizzo improprio. In questo caso Vortice non potrà essere ritenuta responsabile per eventuali malfunzionamenti o guasti.

Vortice non si ritiene responsabile per guasti dovuti a:

- utilizzo improprio dell'apparecchio;
- normale usura dell'apparecchio;
- mancato rispetto da parte dell'utilizzatore di quanto riportato nel presente libretto.

Sicurezza



Attenzione:
questo simbolo indica che è necessario prendere precauzioni per evitare danni all'utente

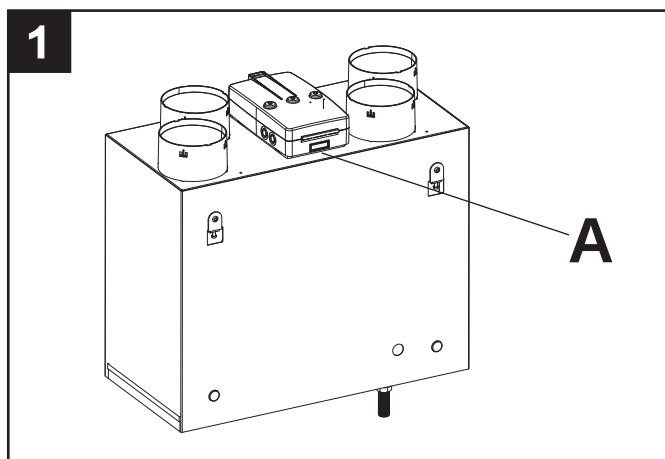
- Seguire le istruzioni di sicurezza per evitare danni all'utente.
- Non utilizzare l'apparecchio per una funzione differente da quella esposta in questo libretto.
- Dopo aver tolto il prodotto dal suo imballo assicurarsi della sua integrità: nel dubbio rivolgersi a persona professionalmente qualificata o ad un Centro Assistenza Tecnica autorizzato Vortice.
- Non lasciare parti dell'imballo alla portata di bambini o persone diversamente abili.
- L'uso di qualsiasi apparecchio elettrico comporta l'osservanza di alcune regole fondamentali, tra le quali:
 - non toccarlo con mani bagnate o umide;
 - non toccarlo a piedi nudi.
- Questo apparecchio non è da intendersi adatto all'uso da parte di persone (inclusi i bambini) in possesso di ridotte capacità fisiche, sensoriali o mentali, o prive di esperienza e conoscenza, a meno che siano supervisionate o preventivamente istruite riguardo al suo impiego da persona responsabile della loro sicurezza. I bambini dovrebbero essere controllati per assicurarsi che non giochino con l'apparecchio.
- Non utilizzare l'apparecchio in presenza di sostanze o vapori infiammabili come alcool, insetticidi, benzina, ecc.
- Riporre l'apparecchio lontano da bambini e persone diversamente abili, nel momento in cui si decide di scollegarlo dalla rete elettrica e di non utilizzarlo più.



Avvertenza:
questo simbolo indica che è necessario prendere precauzioni per evitare danni al prodotto

- Non apportare modifiche di alcun genere all'apparecchio.
- Le istruzioni per la manutenzione devono essere seguite per prevenire danni e/o usura eccessiva dell'apparecchio;
- Non lasciare l'apparecchio esposto ad agenti atmosferici (pioggia, sole, ecc.).
- Non appoggiare oggetti sull'apparecchio.
- La pulizia interna del prodotto deve essere eseguita soltanto da personale qualificato.
- Verificare periodicamente l'integrità dell'apparecchio. In caso di imperfezioni, non utilizzarlo ma contattare subito un Centro di Assistenza Tecnica autorizzato Vortice.
- In caso di cattivo funzionamento e/o guasto dell'apparecchio rivolgersi subito ad un Centro Assistenza Tecnica autorizzato Vortice e richiedere, per l'eventuale riparazione, l'uso di ricambi originali Vortice.

- Se il prodotto cade o riceve forti colpi farlo verificare subito presso un Centro di Assistenza Tecnica autorizzato Vortice.
- L'installazione dell'apparecchio deve essere effettuato da parte di personale professionalmente qualificato.
- L'apparecchio deve essere montato in modo da garantire che, in condizioni normali di funzionamento, nessuno possa venirsi a trovare in prossimità di parti in movimento o sotto tensione.
- Nel caso di interventi di manutenzione (es. estrazione dello scambiatore di calore), l'apparecchio dovrà essere preventivamente spento e disconnesso dalla rete di alimentazione elettrica.
- L'impianto elettrico a cui è collegato il prodotto deve essere conforme alle norme vigenti.
- Per l'installazione occorre prevedere un interruttore bipolare con distanza di apertura dei contatti uguale o superiore a mm 3.
- Collegare l'apparecchio alla rete di alimentazione/presa elettrica solo se la portata dell'impianto/presa, è adeguata alla sua potenza massima. In caso contrario rivolgersi subito a personale professionalmente qualificato.
- Spegner l'interruttore generale dell'impianto quando:
 - si rileva un'anomalia di funzionamento;
 - si decide di eseguire una manutenzione di pulizia esterna;
 - si decide di non utilizzare per brevi o lunghi periodi l'apparecchio.
- L'apparecchio non può essere utilizzato come attivatore di scaldabagni, stufe, ecc., nè deve scaricare nei condotti d'acqua calda di tali apparecchi.
- L'apparecchio deve scaricare direttamente all'esterno, in un condotto singolo dedicato.
- Il flusso d'aria estratto deve essere pulito, (cioè privo di elementi grassi, fuliggine, agenti chimici e corrosivi o miscele esplosive ed infiammabili).
- Non coprire e non ostruire l'aspirazione e la mandata dell'apparecchio, in modo da assicurare l'ottimale passaggio dell'aria.
- I dati elettrici della rete devono corrispondere a quelli riportati in targa A (fig. 1).



Struttura e Dotazione

Le principali parti componenti l'apparecchio sono così riassumibili:

- involucro esterno e coperchio frontale, in lamiera d'acciaio verniciata; nell'involucro sono integrati i dispositivi di connessione alle tubazioni di aspirazione/mandata e la scatola dei collegamenti elettrici; l'involucro racchiude inoltre a tenuta i componenti interni e lo scambiatore di calore;
- convogliatori interni in PPE (polipropilene espanso), che realizzano la distribuzione dei flussi d'aria massimizzando l'isolamento termico e minimizzando le perdite;
- scambiatore di calore, in resina plastica e del tipo a flussi in controcorrente, la cui particolare morfologia garantisce un' elevatissima efficienza di scambio termico (fino al 93%);
- filtri (2) con grado di ritenzione G3;
- motori brushless (2) abbinati a giranti centrifughe;
- scheda elettronica, che sovrintende all'alimentazione, al comando ed al controllo dell'apparecchio;
- 3 sensori di temperatura:
 - aria interna;
 - aria esterna;
 - aria espulsa;
- timer per avviso sostituzione filtri;
- uscita per eventuale collegamento di un preheater (funzionamento Nofrost).
- collegamento opzionale ad interruttore per velocità massima (boost).

Accessori in Dotazione

La dotazione di serie dell'apparecchio comprende:

- n°1 raccordo per scarico condensa
- n°1 tubo flessibile per scarico condensa;
- n°2 tasselli con gancio per il montaggio a parete
- controllo remoto cablato, con display LCD, tramite il quale è possibile eseguire il set-up iniziale in fase di installazione (a cura dell'installatore) e controllare il funzionamento dell'apparecchio;

Installazione

L'apparecchio deve essere installato seguendo le norme di sicurezza in vigore nel paese di destinazione e le istruzioni del presente libretto.

Prerequisiti

L'apparecchio deve essere installato su una superficie o parete interna all'abitazione e strutturalmente adatta a reggerne il peso.

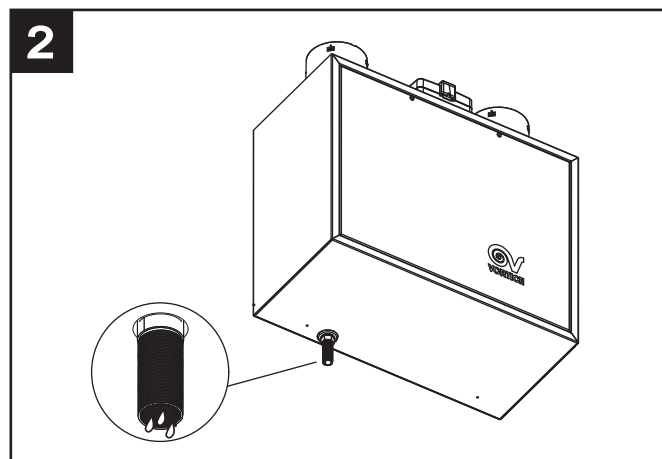
I condotti utilizzati per le canalizzazioni devono essere delle corrette dimensioni.

I condotti da e verso l'esterno devono essere isolati termicamente e non soggetti a vibrazioni.

Le tubazioni di aspirazione e mandata, di diametro

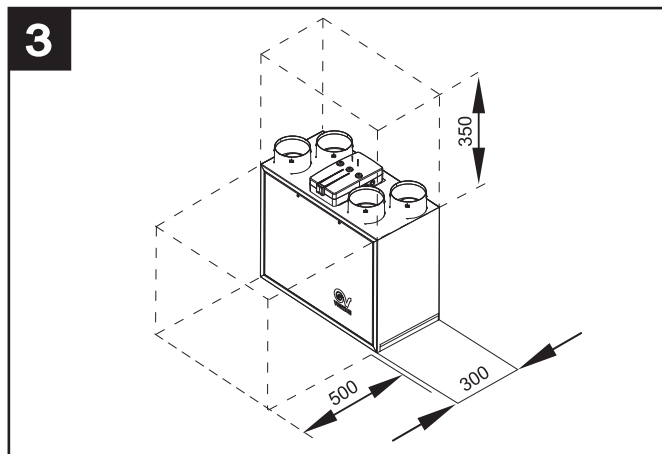
nominale pari a 125 mm, devono essere fissate alle corrispondenti bocche dell'apparecchio mediante fascette o altri adeguati sistemi di tenuta.

Nel corso del normale funzionamento, sul fondo dell'apparecchio si raccoglie condensa per il cui smaltimento è necessario applicare, in corrispondenza dell'apposito attacco (fig. 2) , il tubo in dotazione che



consente di far confluire l'acqua in uno scarico (per le modalità vedere Montaggio).

L'apparecchio deve essere facilmente accessibile nel caso di interventi di servizio/manutenzione. In particolare assicurarsi della presenza di uno spazio libero di almeno 50 cm in corrispondenza del pannello frontale, per agevolare la pulizia e la sostituzione dello scambiatore di calore e dei filtri. (fig. 3)



Controlli alla consegna

Controllare l'apparecchio alla consegna per individuare eventuali difetti prima di procedere alla sua installazione. Nel dettaglio:

- prima di procedere alla sua estrazione dall'imballo, controllare che il nome e la descrizione riportati sulla scatola siano corretti;
- estratto l'apparecchio dall'imballo, verificare che non siano presenti danni visibili, quindi accertarsi della presenza del tubetto per lo scarico della condensa e del libretto istruzioni.

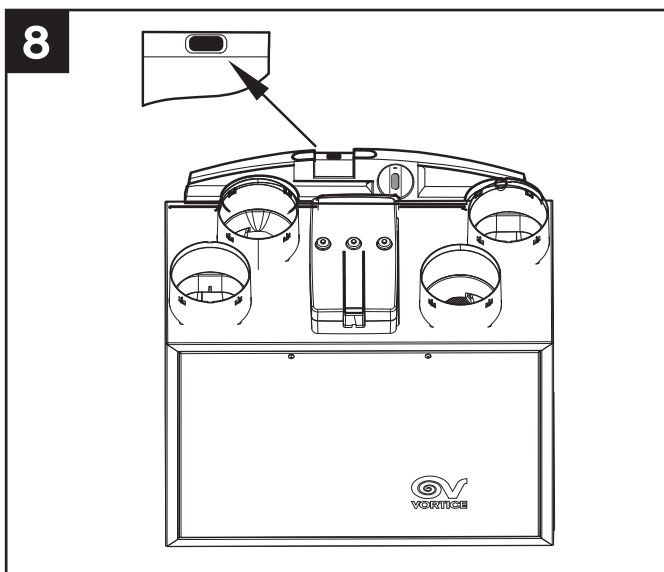
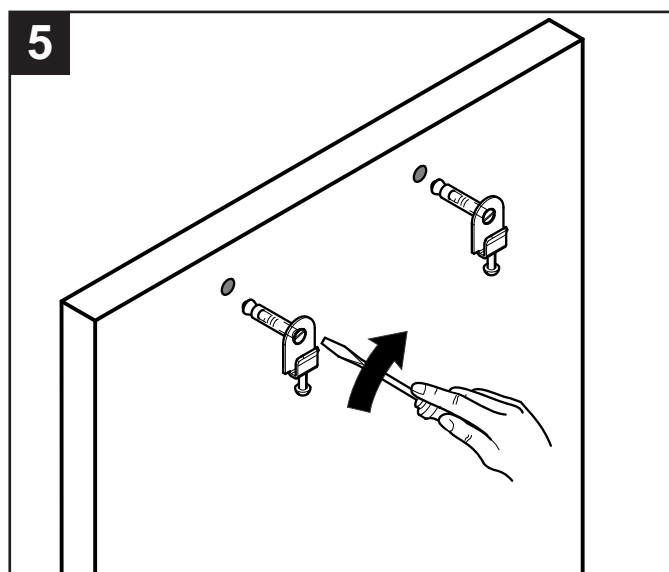
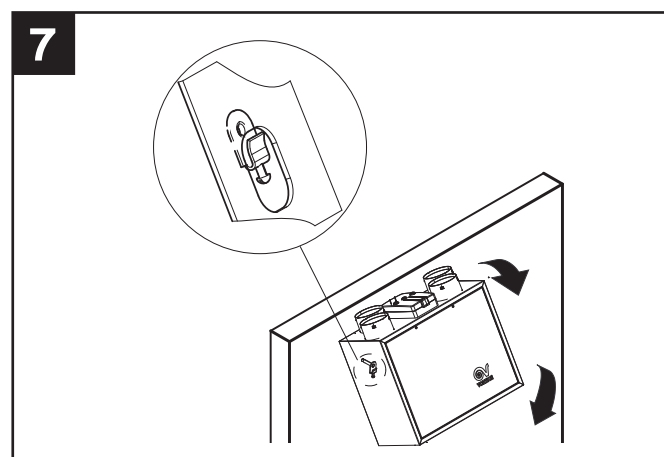
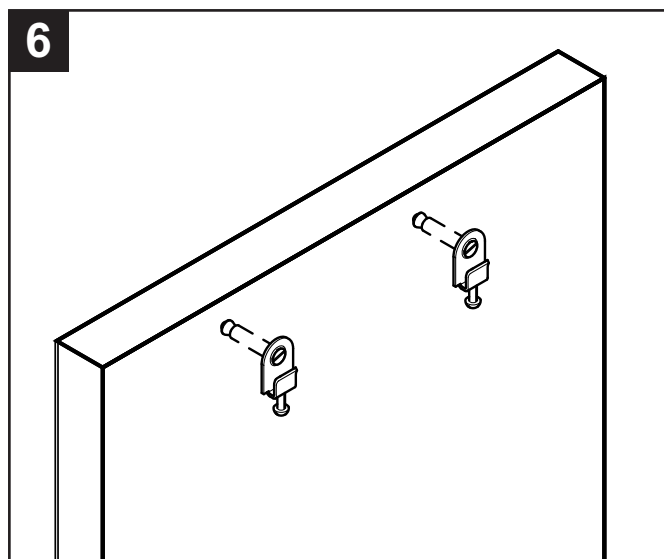
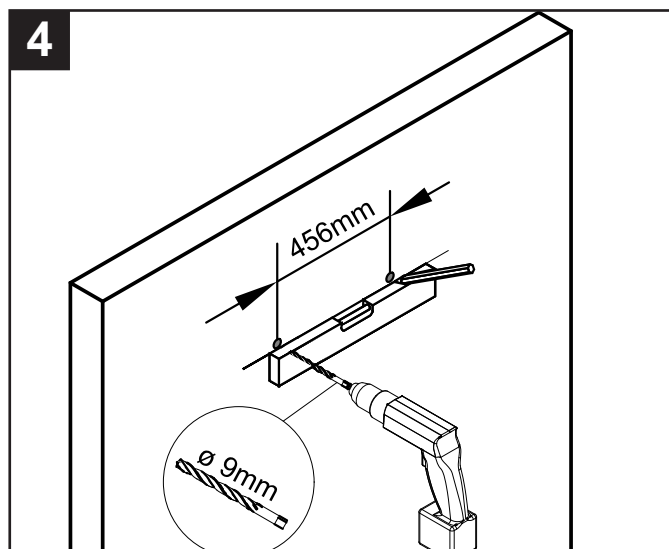
Montaggio

L'apparecchio è equipaggiato con 2 tasselli con gancio per il montaggio verticale a parete.

Determinare l'esatta posizione di destinazione dell'apparecchio, tenendo presenti i requisiti per l'installazione.

Montaggio in verticale

Fissare a muro i ganci, seguendo le figure successive. (fig. 4,5,6,7,8).

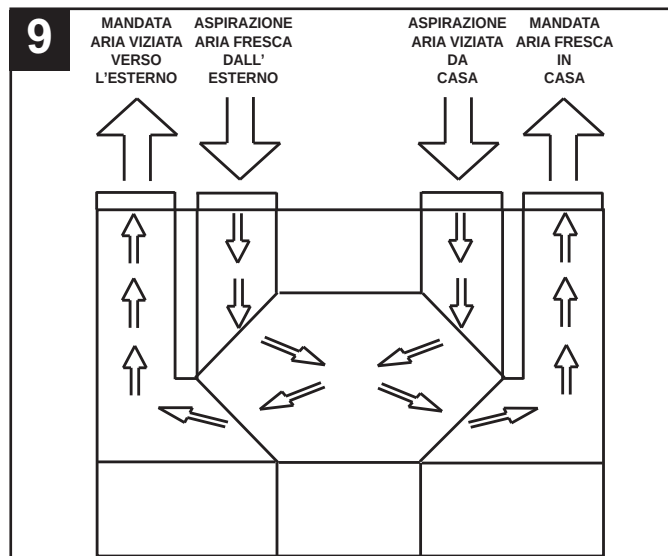


Montaggio in orizzontale (kit opzionale)

L'apparecchio può essere montato in orizzontale tramite apposito kit opzionale.

Connessione delle tubazioni

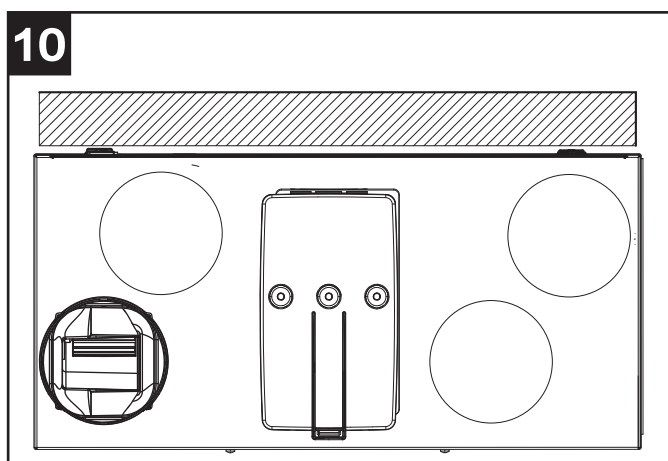
(fig. 9).



I raccordi dell'apparecchio hanno diametro nominale pari a 125 mm. Alle bocche dell'apparecchio possono essere collegati tubi rigidi o flessibili. Nel seguito ogni connessione è illustrata da una figura che specifica anche le direzioni di provenienza e mandata del relativo flusso d'aria.

Mandata aria viziata verso l'esterno

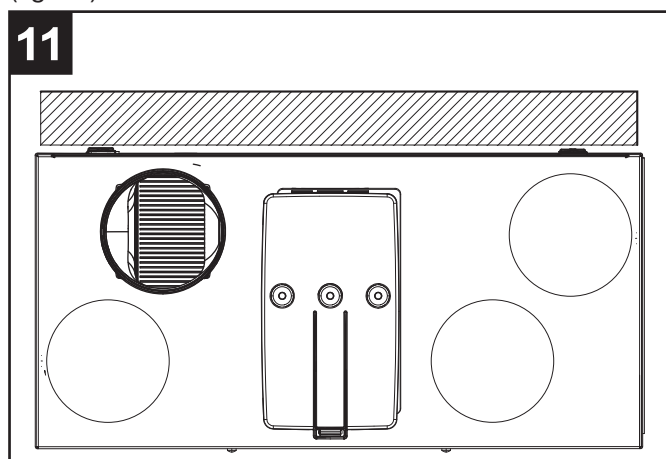
(fig. 10).



Questa bocca è utilizzata per espellere all'esterno l'aria viziata già trattata nello scambiatore di calore. Il condotto a cui lo scarico va connesso deve essere termicamente isolato (per evitare la formazione di condensa sulle sue parti interne ed esterne), e provvisto di dispositivi per smorzare le eventuali vibrazioni. Se lo scarico avviene dal tetto è obbligatorio l'utilizzo di un opportuno dispositivo inteso ad evitare la formazione di condensa e l'entrata di acqua piovana.

Aspirazione aria fresca dall'esterno

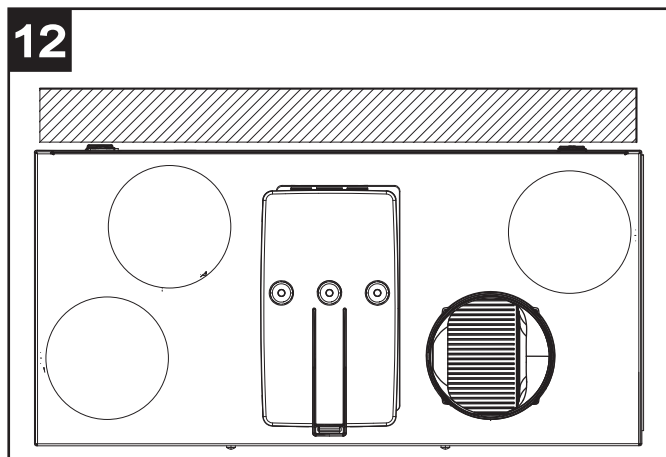
(fig. 11)



Questa bocca è utilizzata per l'ingresso dell'aria fresca dall'esterno; il relativo condotto deve essere isolato termicamente e provvisto di dispositivi in grado di smorzare eventuali vibrazioni. Se l'ingresso dell'aria avviene dal tetto è obbligatorio l'utilizzo di un opportuno dispositivo inteso ad evitare la formazione di condensa e l'entrata di acqua piovana.

Aspirazione aria viziata da casa

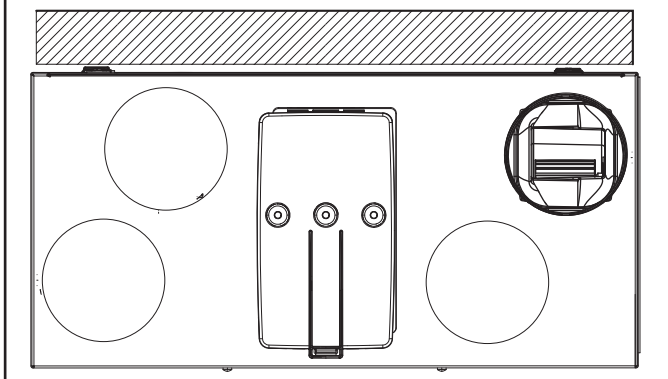
(fig. 12)



Questa bocca è utilizzata per convogliare nell'apparecchio l'aria viziata estratta dall'interno della casa. Il condotto richiede isolamento termico.

Mandata aria fresca in casa (fig. 13)

13

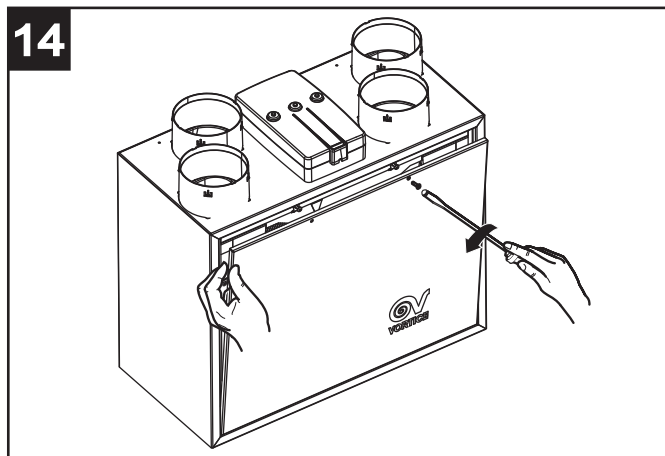


Questa bocca è utilizzata per immettere all'interno della casa l'aria fresca esterna, preventivamente trattata nello scambiatore di calore.

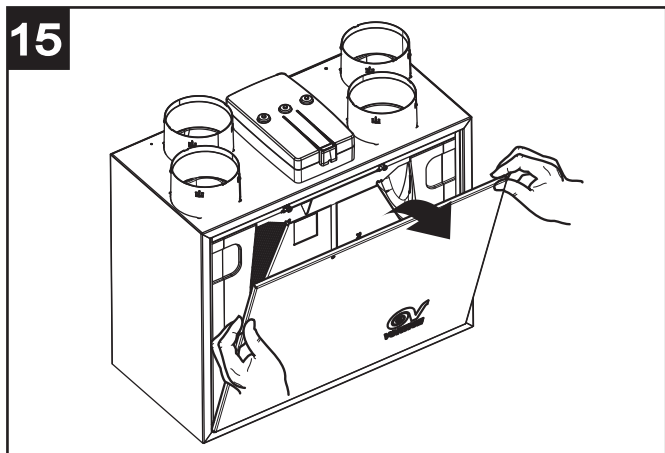
Connessione del tubo di scarico condensa.

Il punto di connessione è posto sul fondo dell'apparecchio; esso deve essere predisposto secondo la sequenza qui sotto descritta. (fig. 14,15,16,17,18,19,20)

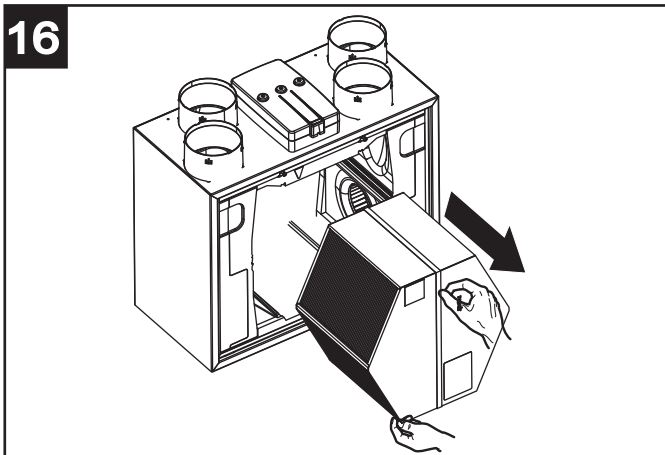
14



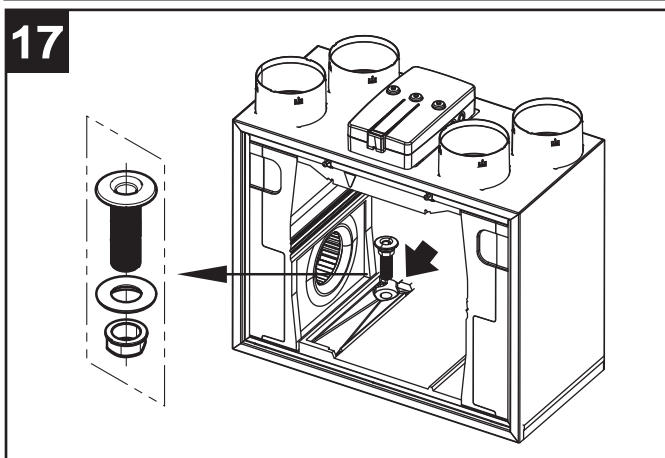
15



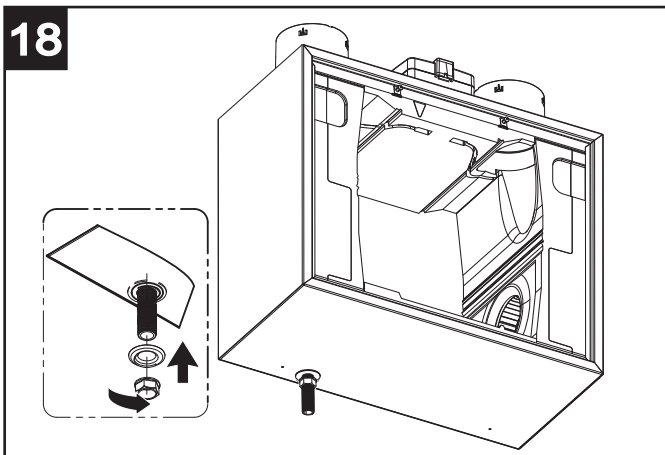
16



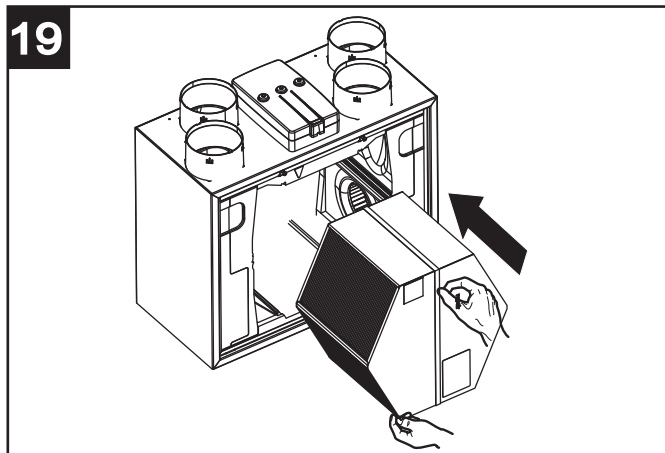
17



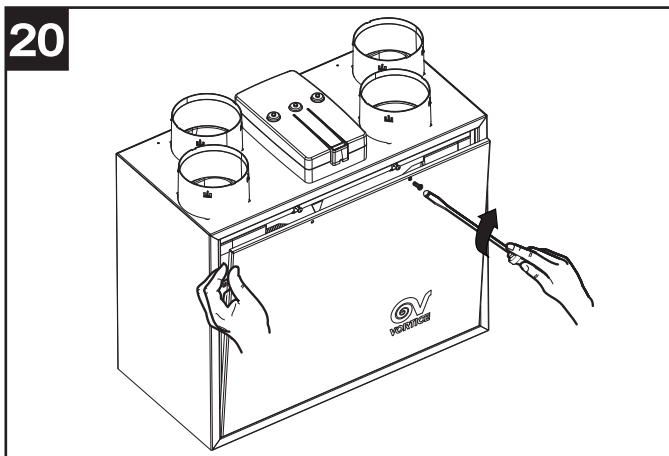
18



19

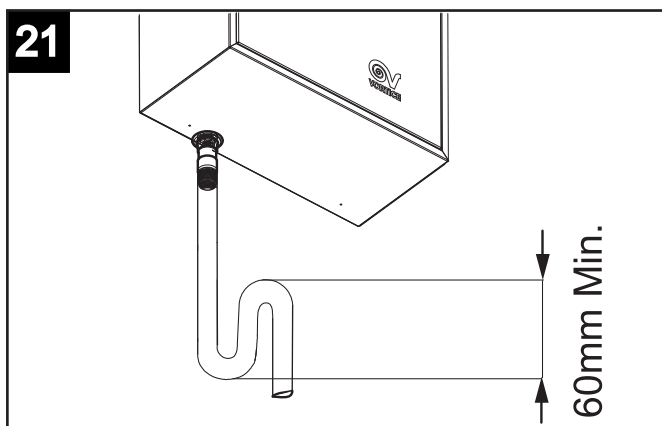


20



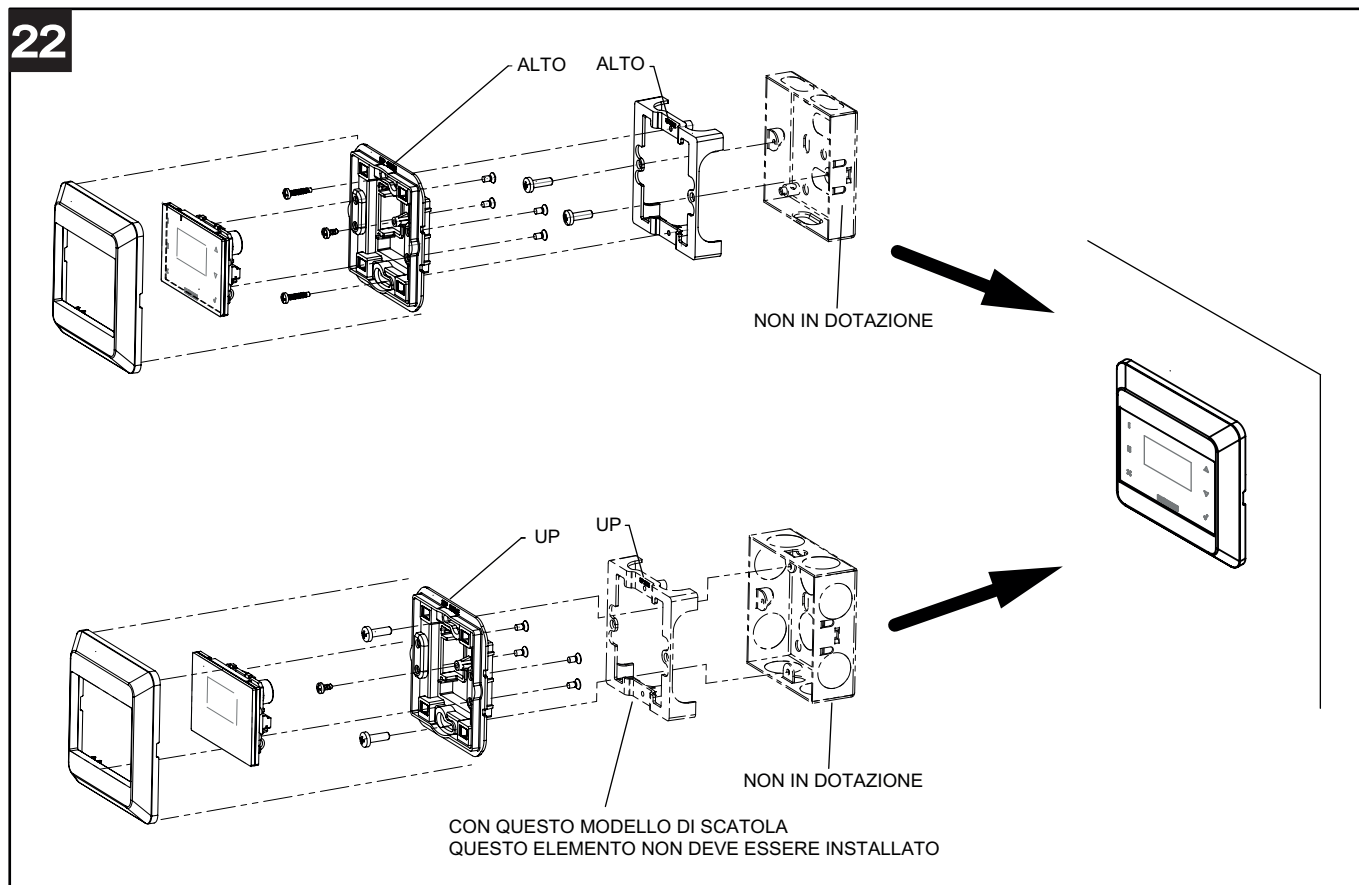
Lo scarico della condensa deve essere realizzato connettendo il tubo flessibile in dotazione al raccordo scarico condensa. Per impedire la formazione di bolle d'aria occorre realizzare con il tubetto un sifone, come indicato in fig. 21

21



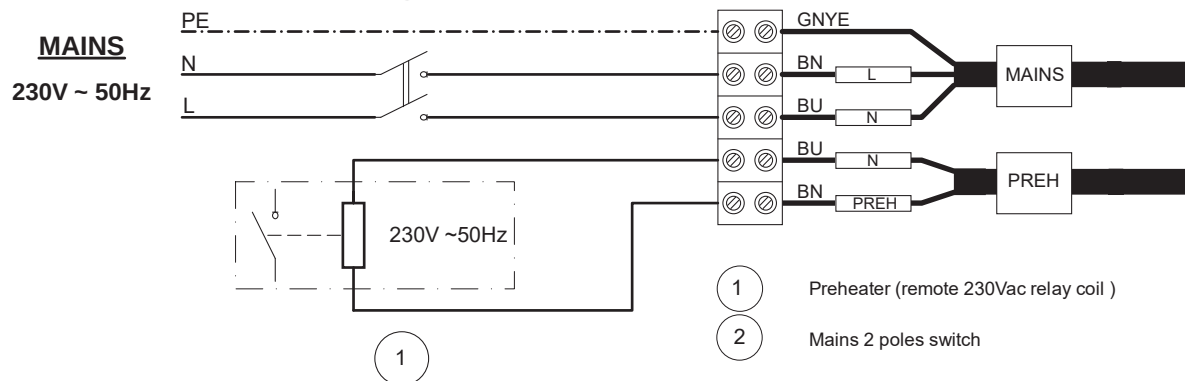
Montaggio scatola controllo remoto cablato

22

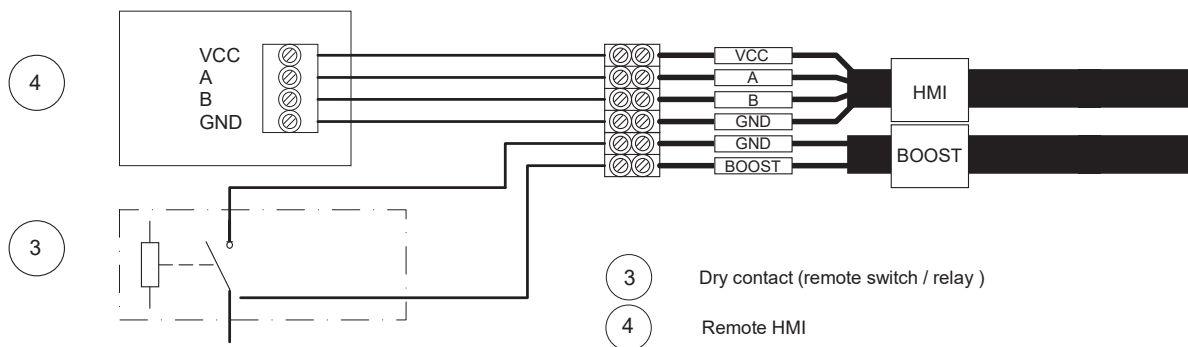


Schemi di collegamento

23



24



Funzionamento

Motori

L'apparecchio è equipaggiato di due motori brushless studiati per garantire bassissimi consumi, grazie alla loro elevata efficienza, azionanti due ventole centrifughe che estraggono l'aria viziata ed umida dai locali di servizio (cucine, bagni, lavanderie, ecc.) ed immettono aria fresca esterna nei locali abitativi (soggiorni, sale da pranzo, camere da letto, ecc.);

Scambiatore di calore

I due flussi d'aria, in ingresso ed uscita, si incontrano nell'apparecchio (senza peraltro mai venire a contatto diretto, per non pregiudicare la qualità dell'aria in entrata), internamente allo scambiatore di calore, laddove l'aria calda in uscita/ingresso cede calore all'aria fredda in ingresso/uscita, minimizzando così le variazioni di temperatura negli ambienti asserviti.

Filtri

Due filtri G3, alloggiati all'interno dei canali di mandata ed estrazione in prossimità dello scambiatore di calore ed accessibili rimuovendo il pannello frontale, salvaguardano l'apparecchio dalle impurità contenute nell'aria viziata espulsa e prevengono l'immissione di aria inquinata nei locali asserviti.

Lo stato di occlusione dei filtri può essere monitorato rimuovendo il pannello frontale ed estraendo i componenti in questione dalle sedi.

La sostituzione del filtro standard G3 alloggiato nel canale di immissione dell'aria fresca con un filtro opzionale F5, assicura superiori capacità filtranti.

Protezione antigelo

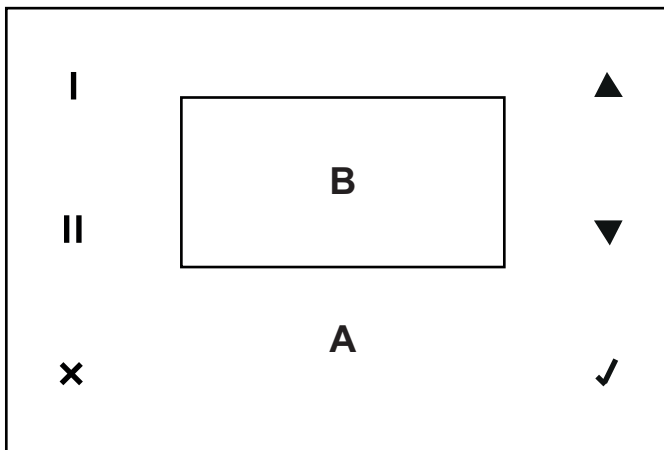
Con l'approssimarsi delle condizioni ambientali che potrebbero favorire la formazione di brina sulle pareti dello scambiatore, la scheda elettronica provvede automaticamente all'adeguamento della velocità dei ventilatori e delle relative portate d'aria.

Nel corso della procedura di sbrinamento automatico non sarà possibile all'utente modificare la velocità di funzionamento dell'apparecchio.

Utilizzo

GENERALITA'

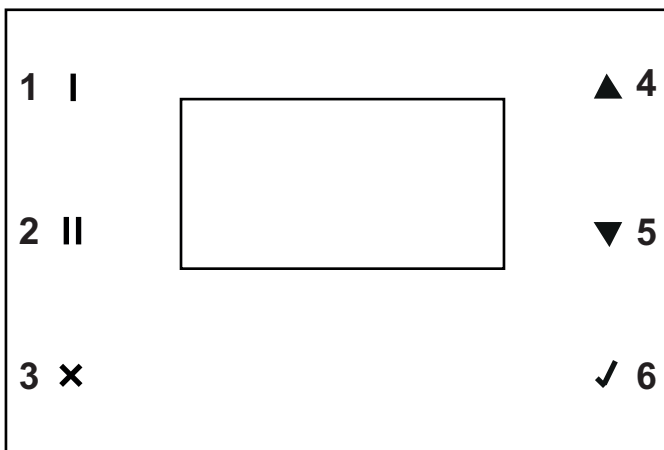
L'apparecchio ha un funzionamento in continuo. Tutte le funzioni sono controllabili tramite un pannello comandi cablato, dotato di schermo touch:



A: area touch

B: display

SIGNIFICATO DELLE ICONE/TASTI DELL'AREA TOUCH



1: visualizzazione data/ora (ultima riga display);

2: visualizzazione T int, T ext, T espulsa (ultime due righe display);

3: uscire senza salvare e tornare alla pagina precedente

4: aumentare la velocità (da Normal a Boost), o spostare il cursore sulla riga soprastante, o incrementare il valore;

5: diminuire la velocità (da Boost a Normal), o spostare il cursore sulla riga sottostante, o decrementare il valore;

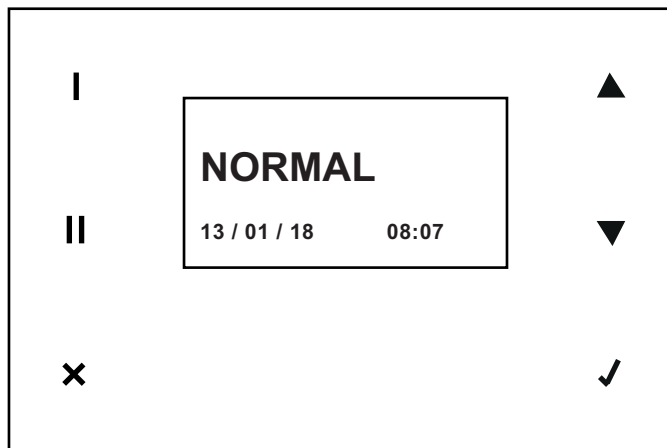
6: confermare la scelta corrente e passare alla pagina successiva con salvataggio dei dati correnti.

ITALIANO

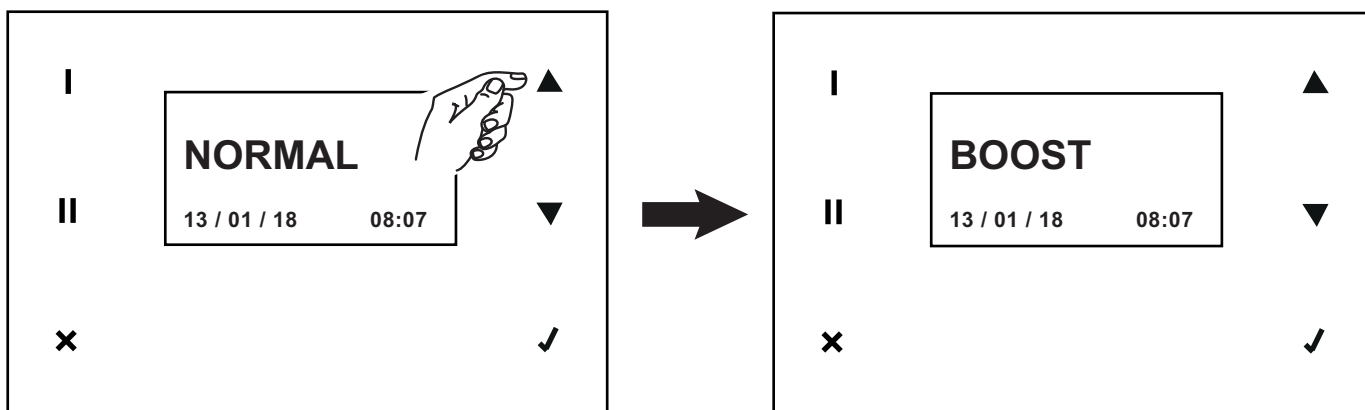
FUNZIONI PANNELLO COMANDI

Alla prima attivazione, a cura dell'installatore, il display visualizza il logo Vortice e dopo 10 secondi la velocità di funzionamento preimpostata: NORMAL

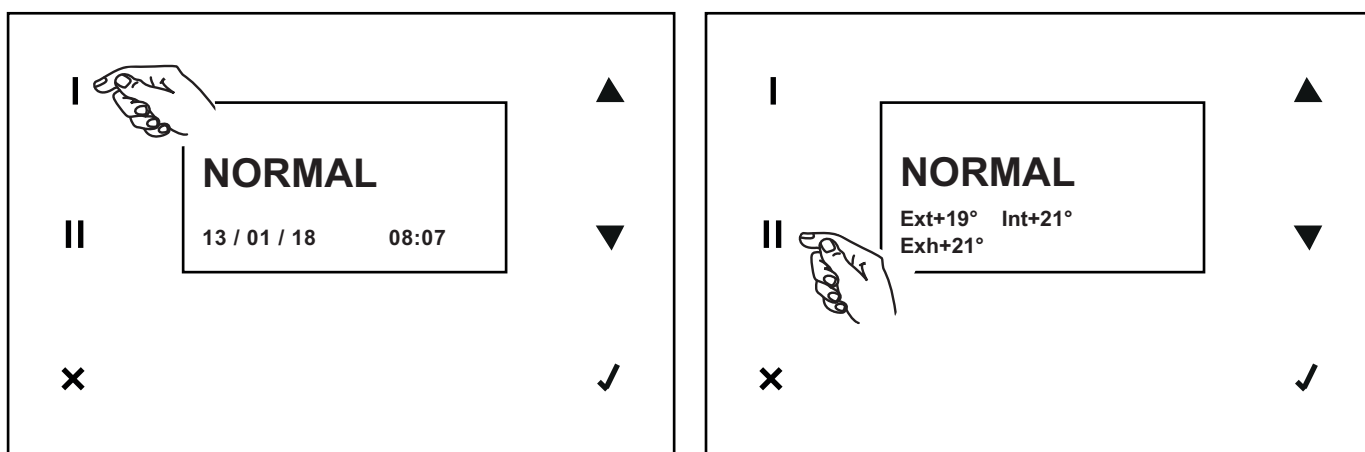
N.B. In generale, in mancanza di input utente, dopo due minuti il display torna alla schermata del logo, senza salvare eventuali cambiamenti. In tal caso premere ✓ per riattivare la schermata iniziale.



In questa fase è possibile incrementare immediatamente la velocità al valore massimo BOOST, agendo sul tasto ▲ (▼ per diminuire da BOOST a NORMAL).



E' possibile variare il tipo di dati visualizzati nella parte bassa del display, utilizzando i tasti I e II

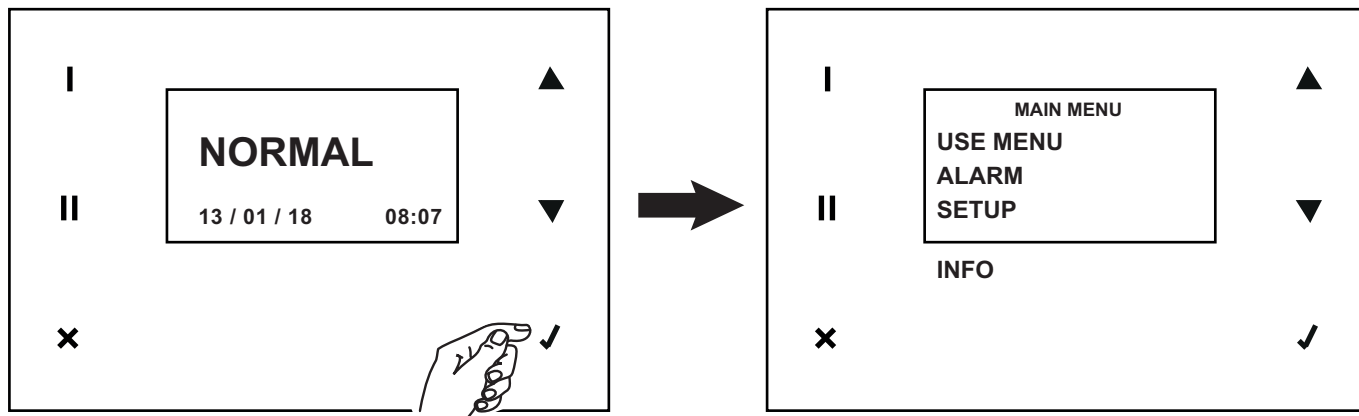


I : data e ora

II : temperature: Esterna, Interna, Espulsa

ITALIANO

Tutte le altre funzioni sono raggiungibili a partire da un menu principale. Il menu principale si può visualizzare premendo ✓ nella schermata iniziale.



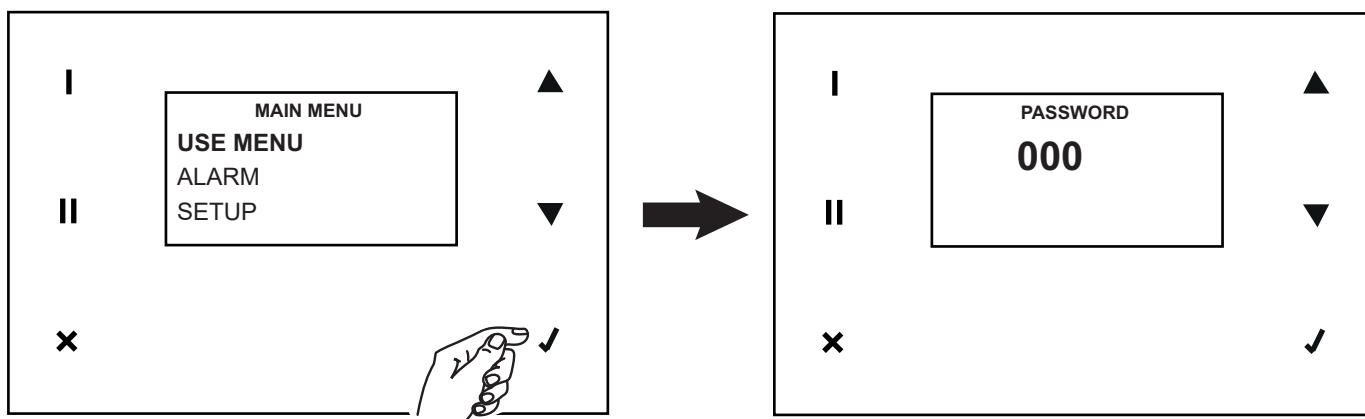
Menu principale

Use menu

Con questa opzione e tramite l'immissione di password nella schermata successiva si può accedere alle impostazioni di competenza dell'installatore e della fabbrica.

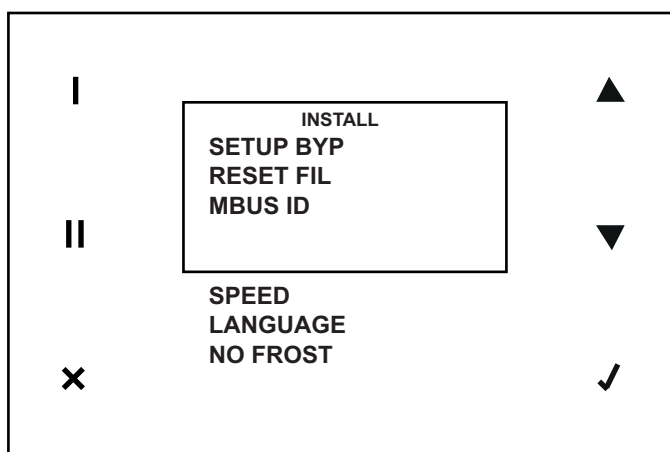
Impostazioni dell'installatore: password: 023

Impostazioni della fabbrica: password non disponibile



Impostazioni dell'installatore

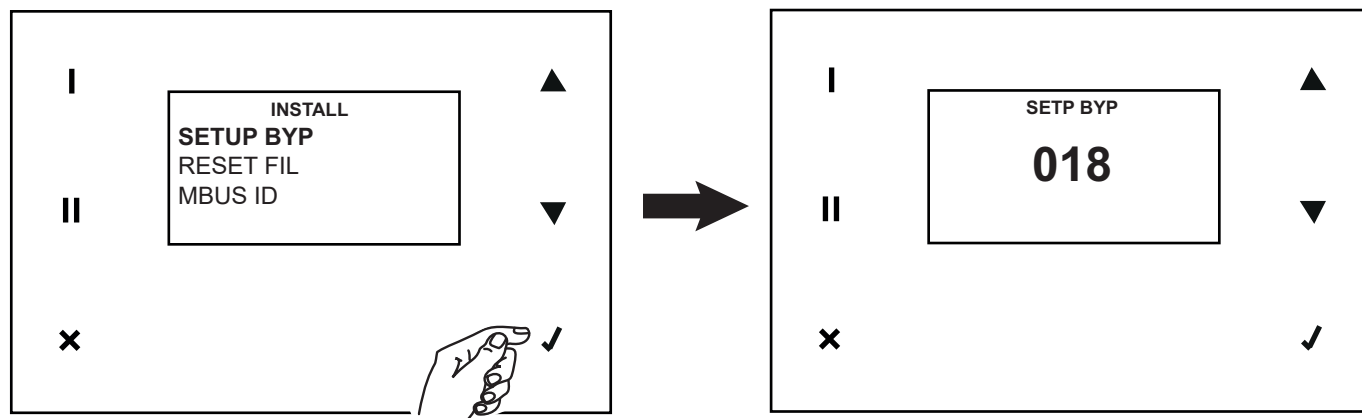
Il menu dell'installatore presenta le seguenti opzioni:



ITALIANO

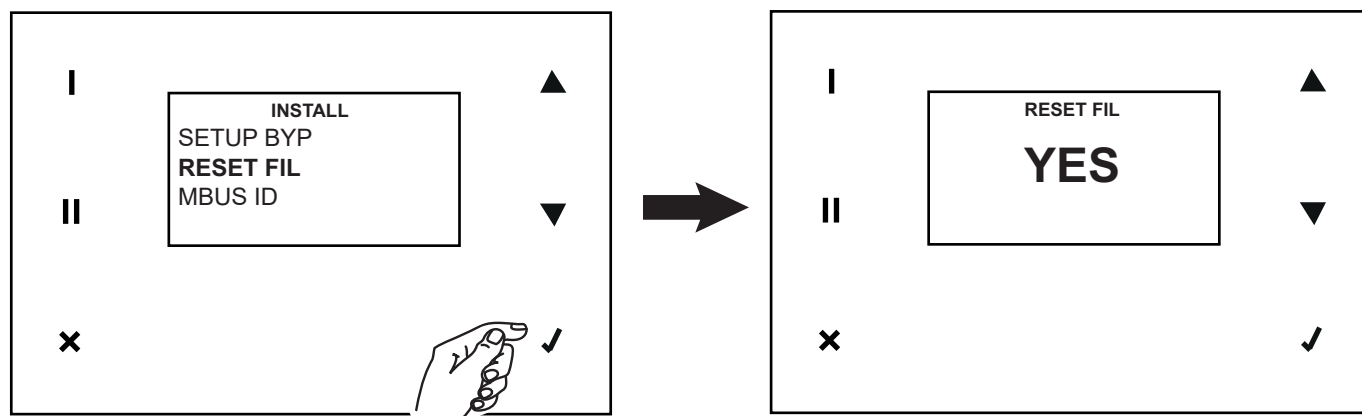
SET UP BYPASS

E' la temperatura di setpoint per il bypass. Il valore di default, modificabile, è 18°C.



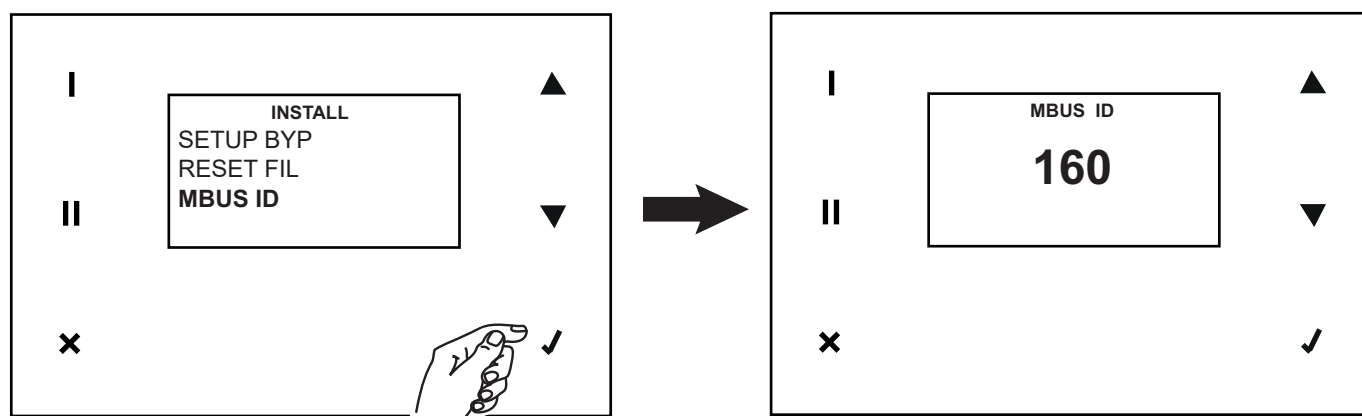
RESET FIL

E' la variabile per il reset del contatore filtri sporchi. Il valore di default è NO. Può essere impostato a SI nel caso di sostituzione dei filtri (o comunque quando si desidera)



MBUS ID

E' l'indirizzo MODBUS del pannello comandi

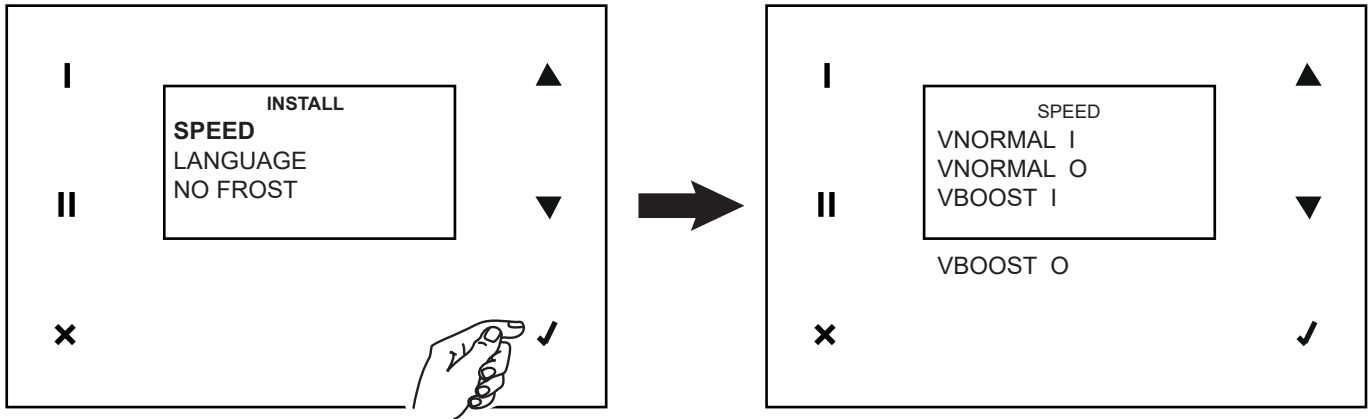


ITALIANO

SPEED

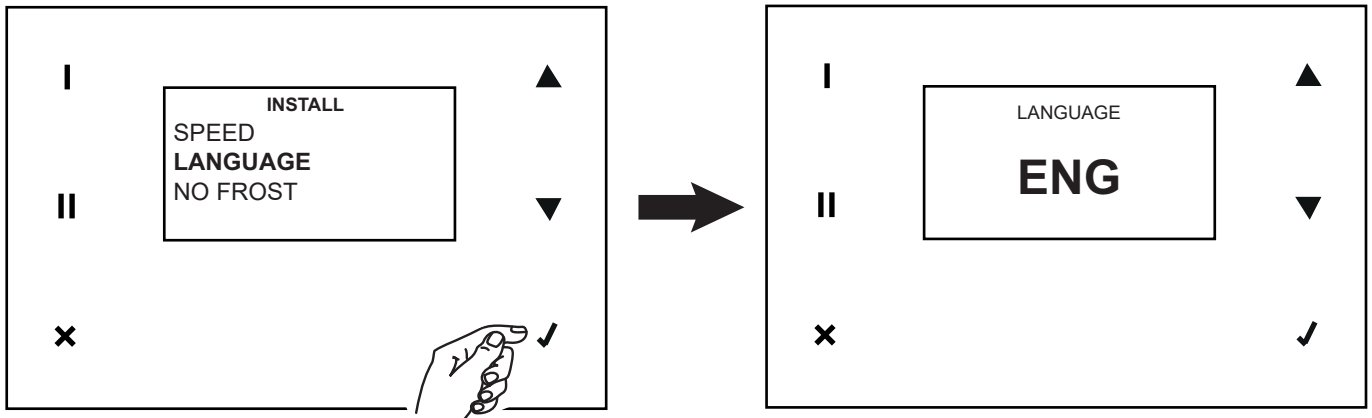
E' la variabile che definisce la velocità impostata per i motori di Supply (IN) e di exhaust (OUT), con i due valori NORMAL e BOOST. I valori di default, modificabili in percentuale, sono:

VNORMAL_I	73%
VNORMAL_O	73%
VBOOST_I	100%
VBOOST_O	100%



LANGUAGE

E' la variabile che definisce la lingua dei testi del pannello. Il valore di default, modificabile, è: ENG.



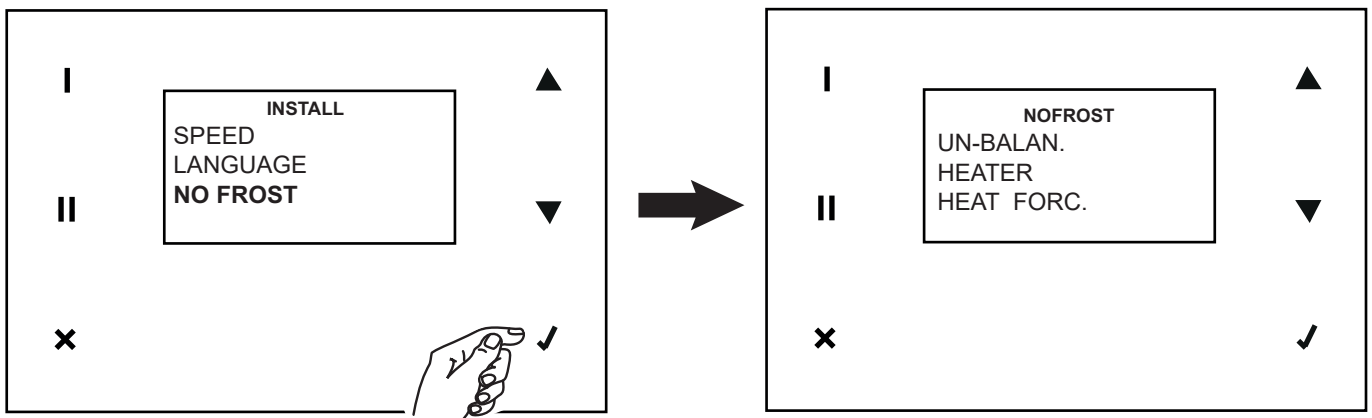
NO FROST

E' la variabile che definisce le possibili strategie per la funzione NO FROST. I valori possibili sono:

UN-BALAN.: sbilanciamento dei flussi;

HEATER: preheater;

HEAT FORC.: nel caso di strategia preheater attivata, permette all'installatore di controllare il funzionamento del preheater, accendendolo per 15 s.



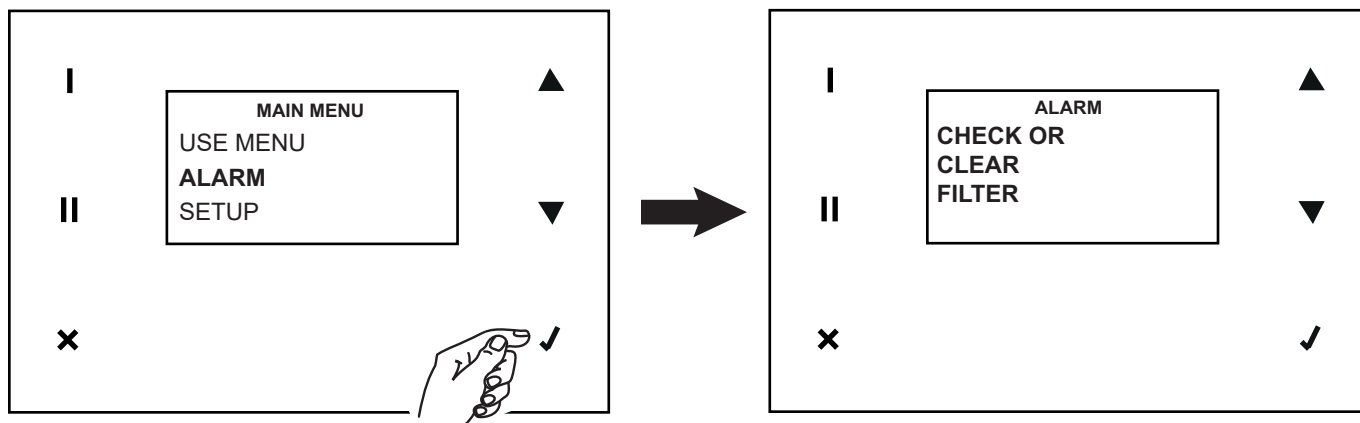
Alarm

Con questa opzione è possibile gestire tutte le possibili voci di allarme. In caso di più errori questi dovranno essere gestiti uno per uno, a partire dal primo verificatosi. In queste situazioni viene emessa una segnalazione intermittente "Alarm!" sulla schermata iniziale. Solo nel caso di allarme "No Frost" vengono visualizzati i messaggi intermittenti "Alarm!", "Block!", "OFF".

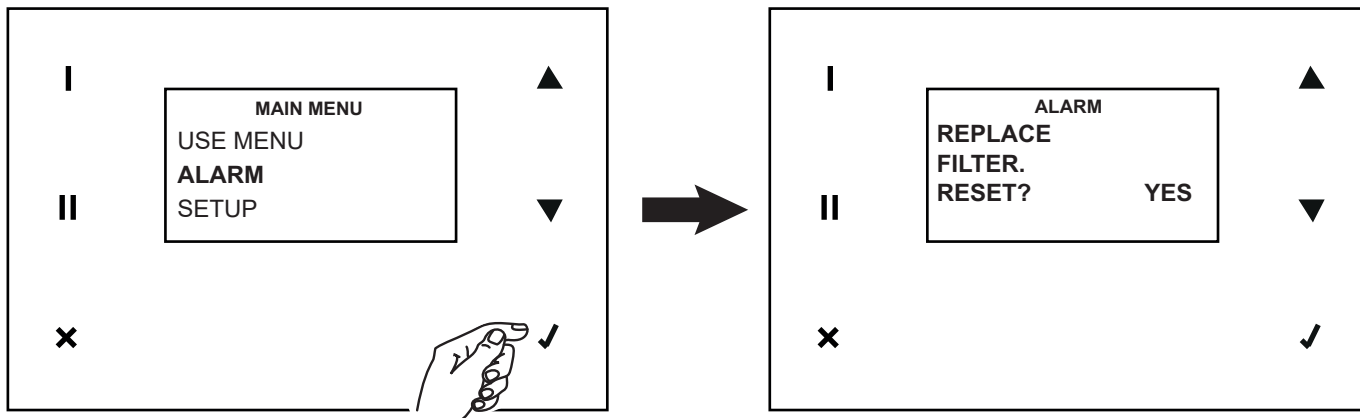
E' possibile in tutti i casi accedere al menu ALARM per visualizzare le azioni necessarie e procedere al reset degli errori. Nel seguito vengono descritte le varie situazioni che generano segnalazioni di allarme.

Filtri

Quando è trascorso il periodo di tempo preimpostato viene visualizzato un preallarme e viene richiesta un'attività di controllo/pulizia dei filtri.



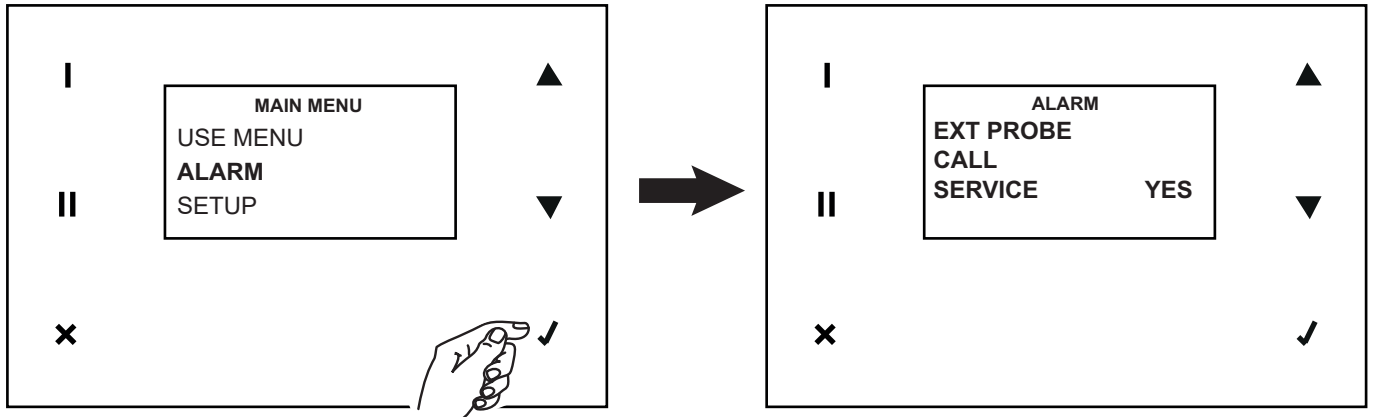
Quando è trascorso il periodo di tempo preimpostato viene visualizzato un allarme e viene richiesta un'attività di sostituzione filtri. Dopo avere sostituito i filtri (vedi "Manutenzione e Pulizia") è possibile resettare l'errore e il contatore.



N.B. il contatore può anche essere resettato in qualunque momento, accedendo all'apposita funzione del Menu Installatore.

Sonda T ext

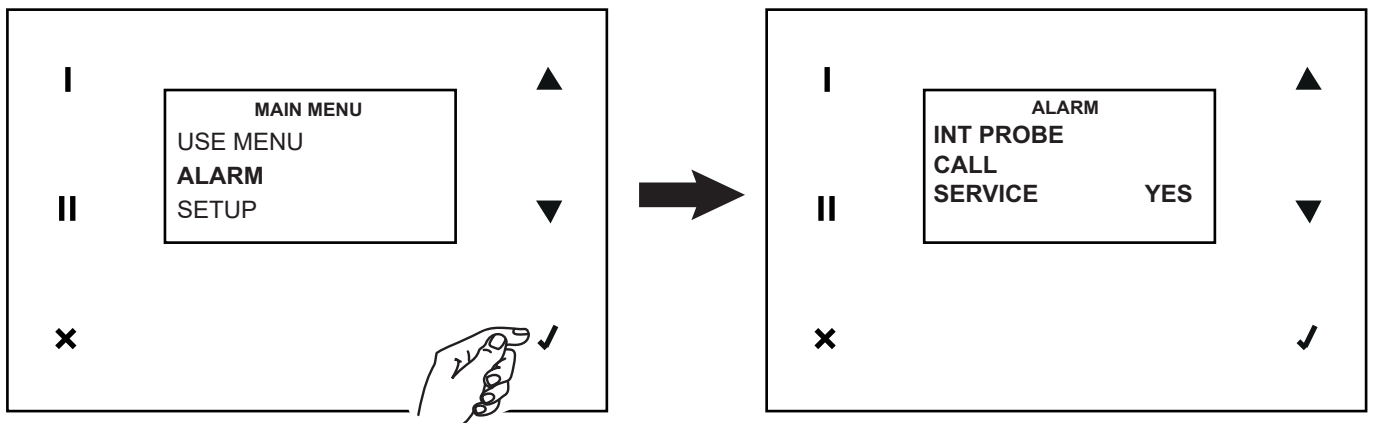
Un guasto del sensore della temperatura esterna genera questa segnalazione. Dopo aver risolto il problema (tramite intervento dell'Assistenza Tecnica) è possibile resettare l'errore (risposta "YES" su "CALL SERVICE").



N.B. Il sistema non effettua automaticamente la chiamata al servizio Assistenza Tecnica.

Sonda T int

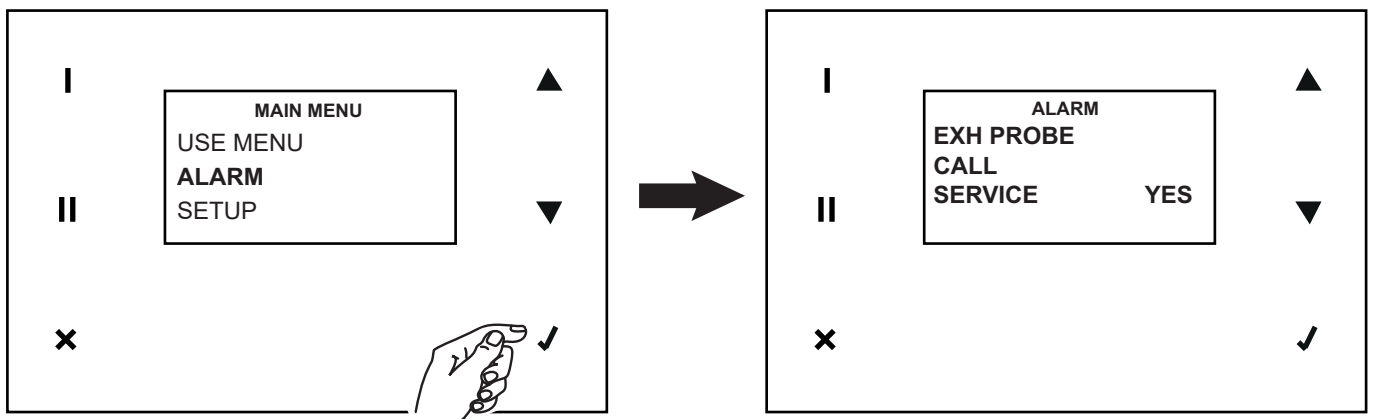
Un guasto del sensore della temperatura interna genera questa segnalazione. Dopo aver risolto il problema (tramite intervento dell'Assistenza Tecnica) è possibile resettare l'errore (risposta "YES" su "CALL SERVICE").



N.B. Il sistema non effettua automaticamente la chiamata al servizio Assistenza Tecnica.

Sonda T exh

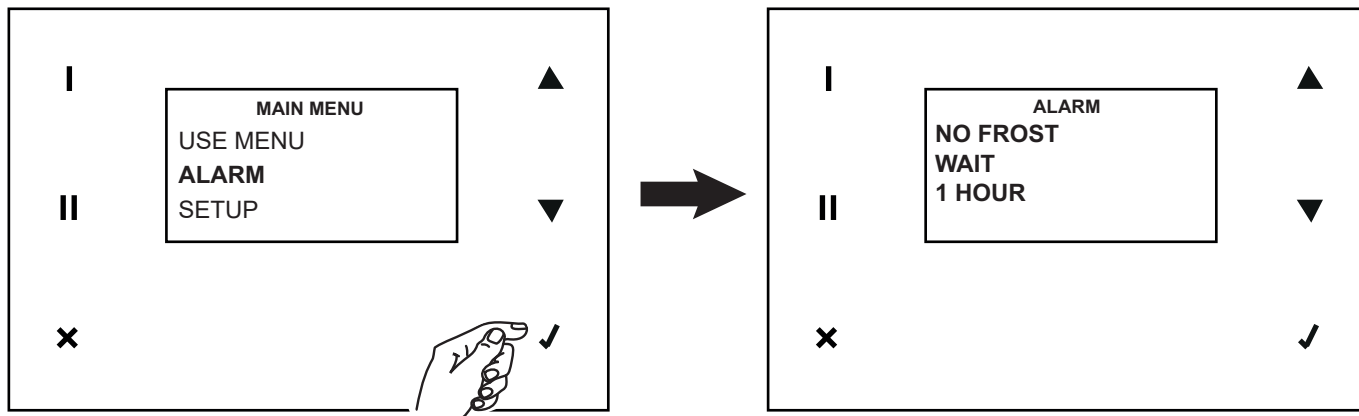
Un guasto del sensore della temperatura dell'aria espulsa genera questa segnalazione. Dopo aver risolto il problema (tramite intervento dell'Assistenza Tecnica) è possibile resettare l'errore (risposta "YES" su "CALL SERVICE").



N.B. Il sistema non effettua automaticamente la chiamata al servizio Assistenza Tecnica.

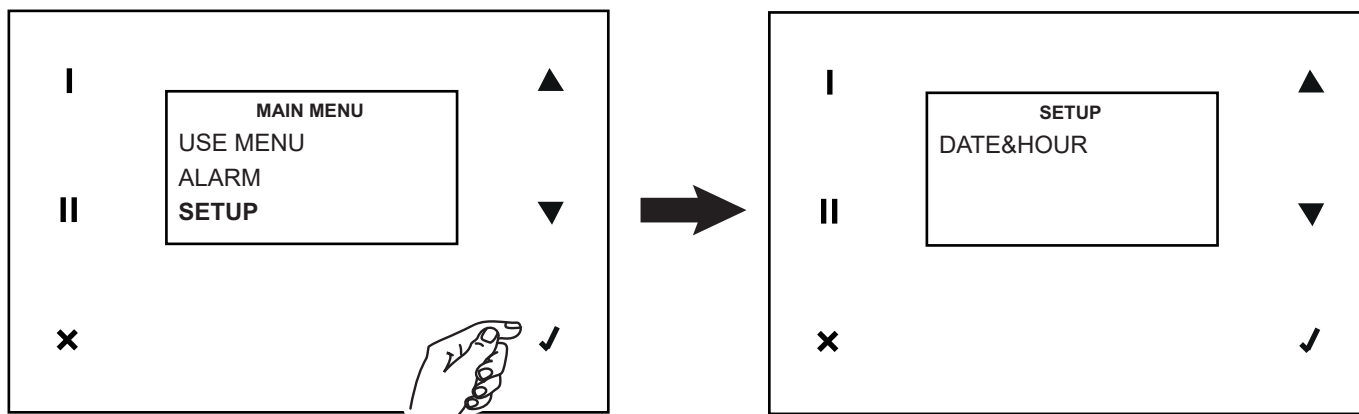
No Frost

La procedura di anti congelamento viene eseguita automaticamente dall'apparecchio quando necessaria. In caso di procedura non riuscita (Preheater con temperature troppo basse) viene generata una segnalazione bloccante. Il sistema rimane inattivo per un'ora, dopo di che l'apparecchio resetta automaticamente l'errore, si riattiva e ripete il ciclo dall'inizio.



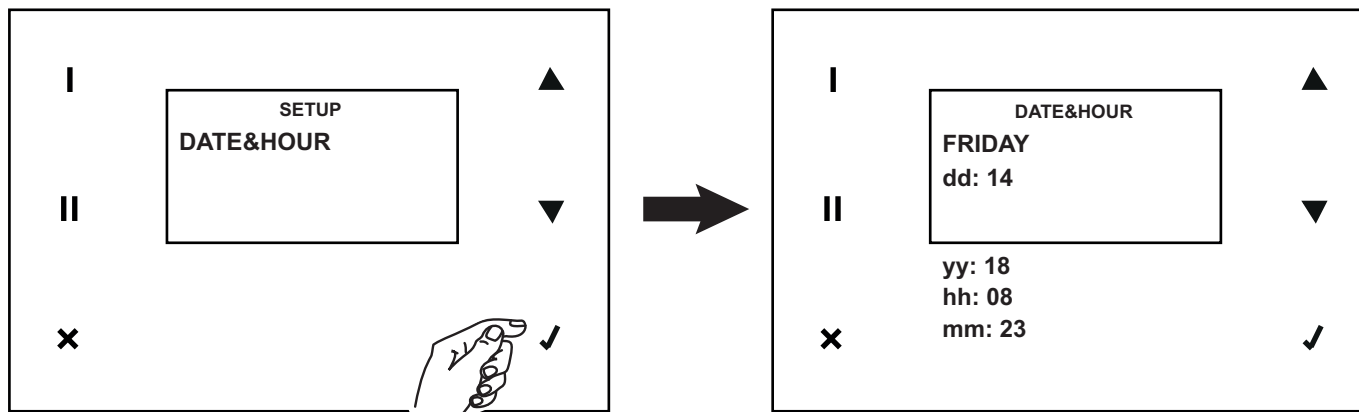
Setup

Con questa opzione è possibile accedere all'impostazione di Data e Ora



Procedere all'impostazione di Data e Ora nel modo seguente:

1. ricercare la variabile interessata alla modifica, premendo ▲ o ▼ ;
2. selezionare la variabile, premendo ✓ ;
3. ricercare il valore desiderato, premendo ▲ o ▼ ;
4. memorizzare il valore scelto, premendo ✓ ;
5. tornare al punto 1. e così via.



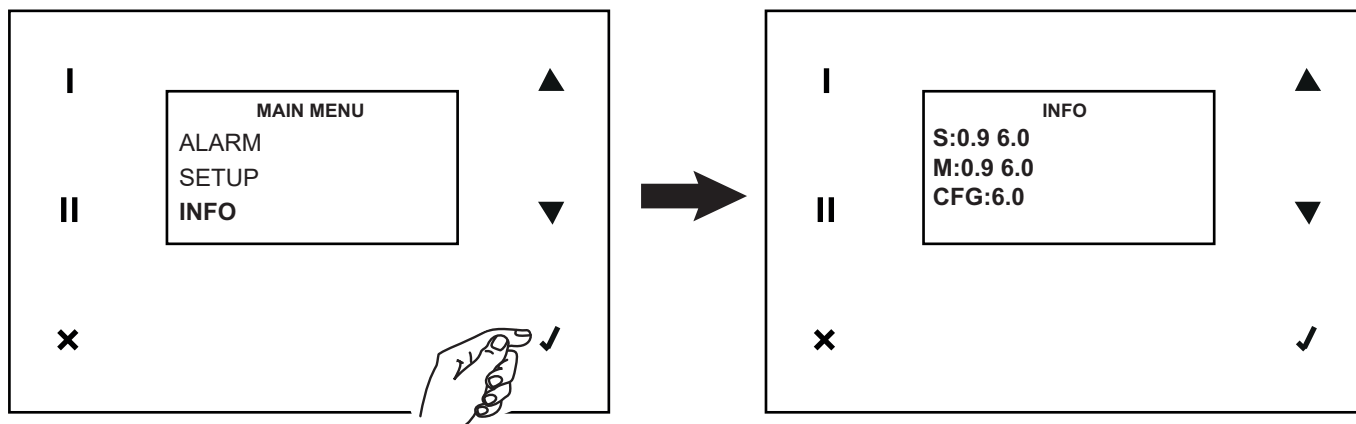
Info

Con questa opzione è possibile visualizzare le seguenti informazioni di sistema:

hmi;

firmware scheda;

file di configurazione.



Manutenzione/Pulizia

Filtri

Tempi consigliati per la manutenzione: in generale, il livello di inquinamento dell'aria è variabile in funzione dell'area geografica di installazione; quindi, è variabile la durata dei filtri; se ne consiglia in ogni caso la sostituzione una volta all'anno. Tenendo presenti queste considerazioni, gli allarmi per la manutenzione dei filtri sono i seguenti (vedi anche paragrafo "Utilizzo"):

- pre-allarme: attiva l'avviso di controllo e pulizia filtri
- allarme: attiva l'avviso di filtri saturi

Con il reset dell'errore filtri viene resettato anche il contatore.

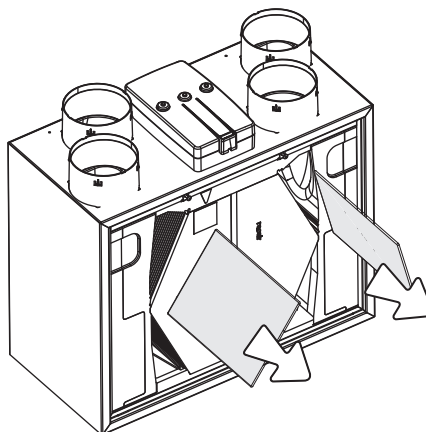
NOTA La mancata pulizia o sostituzione dei filtri comporta gravi inconvenienti per l'efficienza dell'impianto, con:

- aumento delle perdite di carico nel circuito aria e riduzione di portata aria;
- conseguente diminuzione della resa della macchina e peggioramento del confort in ambiente.

Per accedere ai filtri eseguire le istruzioni seguenti:

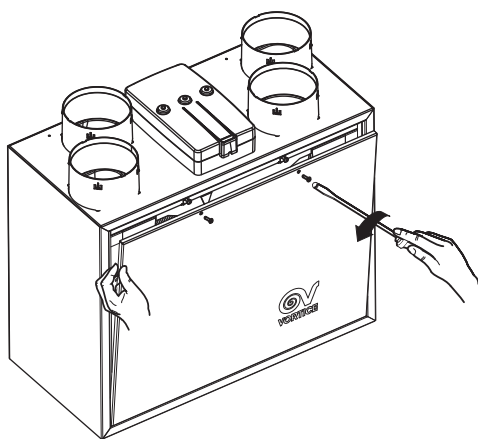
- disconnettere l'apparecchio dalla rete elettrica.
- estrarre i filtri dall'apparecchio (fig. 25,26,27)

27

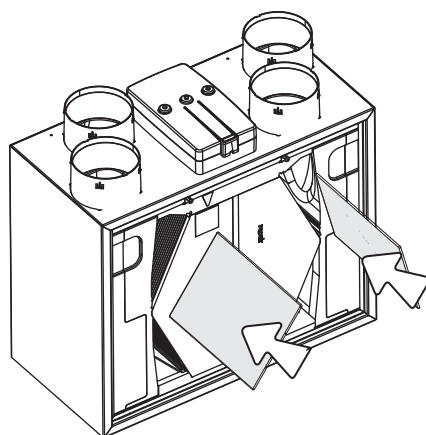


- pulire i filtri utilizzando un'aspirapolvere; è preferibile sostituire i filtri dopo alcune puliture, e comunque almeno 1 volta all'anno.
- rimontare i filtri (fig. 28,29,30)

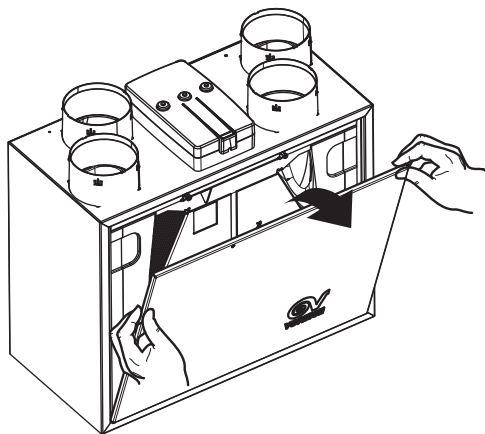
25



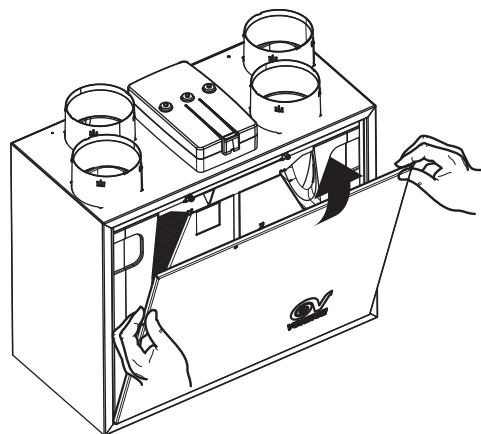
28



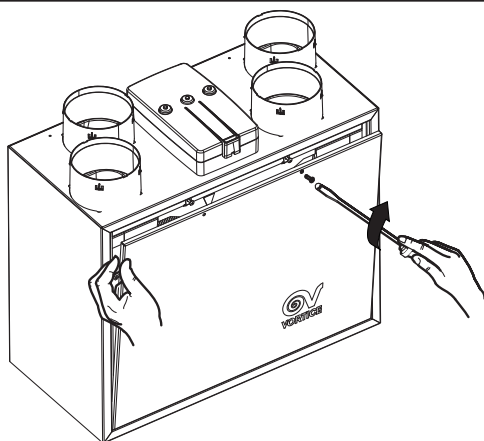
26



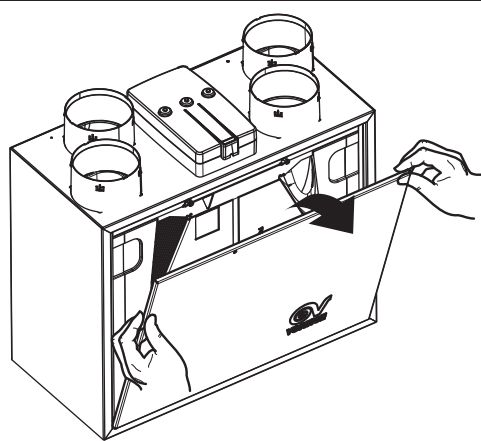
29



30



32



In caso di prolungato arresto dell'apparecchio si consiglia di rimuovere i filtri per prevenire i rischi di un loro danneggiamento indotto dalla possibile formazione di condensa.

Scambiatore di calore

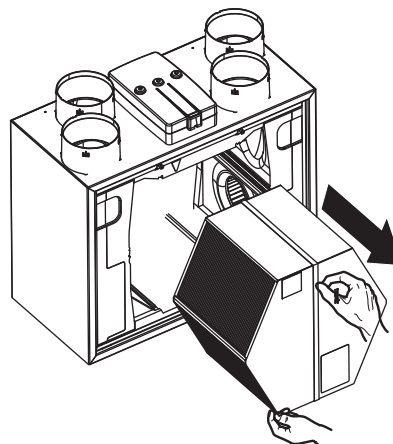
Di norma lo scambiatore di calore non necessita di frequenti interventi di pulizia. La loro esigenza può essere determinata da un elevato livello di inquinamento dell'aria (in ingresso ed uscita dall'abitazione) e dallo scadente stato dei filtri.

Lo scambiatore di calore dovrebbe comunque essere sostituito ogni 6 anni, anche in presenza di regolare manutenzione dei filtri.

Per accedere allo scambiatore rispettare le istruzioni seguenti:

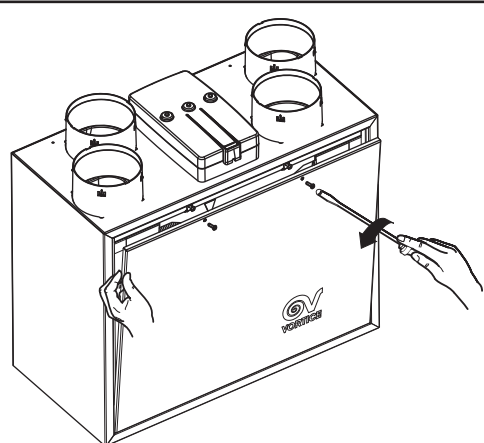
- disconnettere l'apparecchio dalla rete elettrica;
- estrarre lo scambiatore (fig. 31,32,33);

33

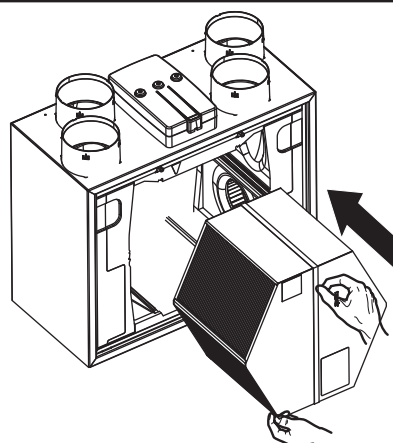


- pulire lo scambiatore;
- rimontare lo scambiatore (fig. 34,35,36)

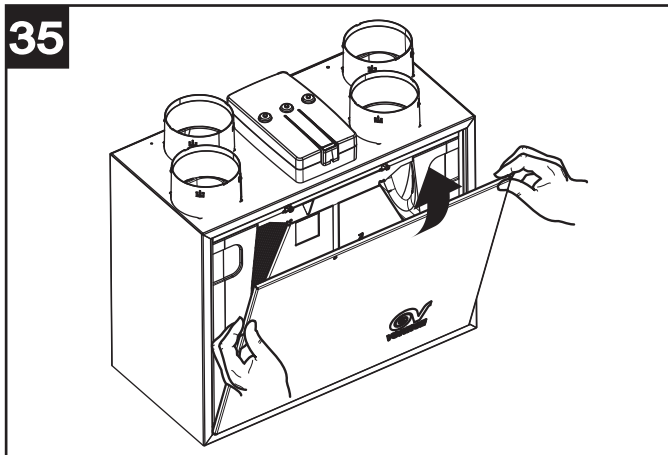
31



34

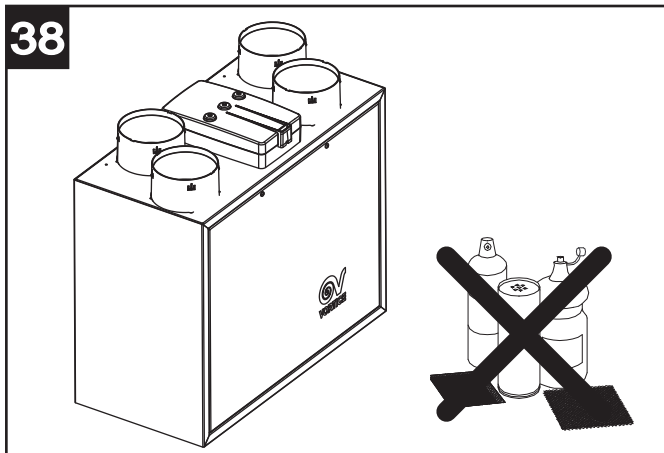


35

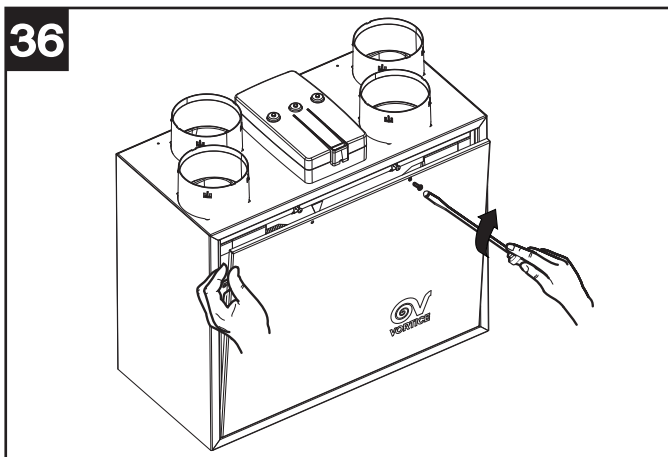


- non impiegare prodotti abrasivi e/o corrosivi. (fig. 38)

38



36



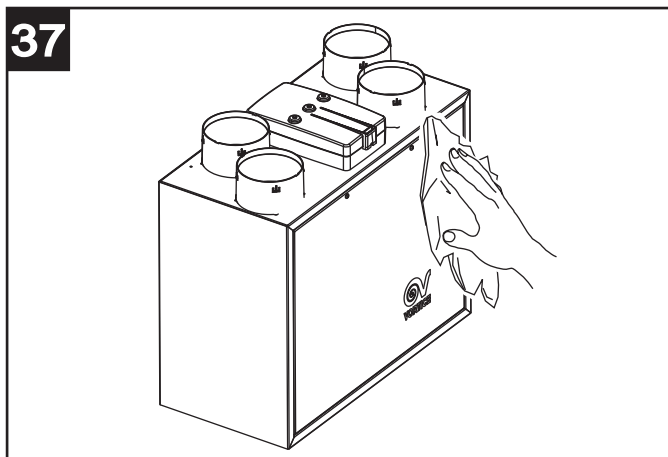
- non utilizzare un panno ruvido e/o troppo imbevuto d'acqua; l'acqua che penetrasse all'interno del prodotto potrebbe determinare gravi danni.

Pulizia esterna

Per pulire le parti esterne dell'apparecchio rispettare le istruzioni seguenti:

- disconnettere l'apparecchio dalla rete elettrica;
- utilizzare solamente un panno morbido leggermente umido. (fig. 37)

37



Informazioni importanti per lo smaltimento ambientalmente compatibile

IN ALCUNI PAESI DELL'UNIONE EUROPEA QUESTO PRODOTTO NON RICADE NEL CAMPO DI APPLICAZIONE DELLA LEGGE NAZIONALE DI RECEPIMENTO DELLA DIRETTIVA RAEE E QUINDI NON È IN ESSI VIGENTE ALCUN OBBLIGO DI RACCOLTA DIFFERENZIATA A FINE VITA.

Questo prodotto è conforme alla Direttiva EU2002/96/EC.

Il simbolo del bidone barrato riportato sull'apparecchio indica che il prodotto, alla fine della propria vita utile, dovendo essere trattato separatamente dai rifiuti domestici, deve essere conferito in un centro di raccolta differenziata per apparecchiature elettriche ed elettroniche oppure riconsegnato al rivenditore al momento dell'acquisto di una nuova apparecchiatura equivalente.



L'utente è responsabile del conferimento dell'apparecchio a fine vita alle appropriate strutture di raccolta, pena le sanzioni previste dalla vigente legislazione sui rifiuti.

L'adeguata raccolta differenziata per l'avvio successivo dell'apparecchio smesso al riciclaggio, al trattamento e allo smaltimento ambientalmente compatibile contribuisce ad evitare possibili effetti negativi sull'ambiente e sulla salute e favorisce il riciclo dei materiali di cui è composto il prodotto.

Per informazioni più dettagliate inerenti i sistemi di raccolta disponibili, rivolgersi al servizio locale di smaltimento rifiuti o al negozio in cui è stato effettuato l'acquisto.

I produttori e gli importatori ottemperano alla loro responsabilità per il riciclaggio, il trattamento e lo smaltimento ambientalmente compatibile sia direttamente sia partecipando ad un sistema collettivo.

Compliance with Building Codes

The most recent laws introduced to reduce energy consumption require compliance with a series of constraints which concern the performance provided and the energy consumption of ventilation equipment. In particular, the 2006 Edition of the U.K “Building Regulations Document F1”: Means of Ventilation (ADF applicable in England and Wales) details 4 clearly defined systems of ventilation to dwellings. System 4 - Continuous mechanical extract with heat recovery (MVHR) is complied with by the new VORT HR 200 ultra-high efficiency whole house heat recovery ventilation system.

In addition the unit fully complies with the requirements of the “Code for Sustainable Homes” which details 6 levels of CO₂ emission improvement over 2006 Building Requirements. In order to operate in accordance with ADF, the unit must be set by the installer to deliver air volumes as stated in the Approved Document and as per the extract of ADF on page 38 of this brochure.

Description and operation

VORT HR 200 (henceforth “the appliance”) is an extremely high efficiency centralised heat recovery ventilation system that can be floor mounted using the special optional kit or wall mounted using the special hooks provided.

Normally, stale air is extracted from “service” rooms such as kitchens, bathrooms and laundries; at the same time, fresh air from outdoors is ducted into rooms that are normally lived in such as bedrooms, studies and sitting rooms. The air flows required are detailed in current national regulations; in the UK, the UK “*Building Regulations Document F1*” apply.

During normal operation the total volumes of air extracted and air fed back in are essentially the same. The incoming and outgoing air flow are perfectly separate and suitably filtered. During the cold season, heat from expelled air is transferred to incoming air. The condensation created in the process, which is collected inside the product, must then be piped to the outside.

The appliance silently and continuously ventilates the house removing stale air and replacing it with filtered fresh air from the outside. Inside the heat exchanger, which is the key element in the appliance, heat is exchanged between the two flows of air and this guarantees the energy savings that the VORT HR 200 offers.

Guarantee and responsibility

Guarantee

The appliance is guaranteed for 2 years from the date of purchase.

The guarantee does not apply to:

- installation/removal costs;
- damage caused by improper or negligent use of the appliance;
- damage caused by repairs or attempted repairs or by third parties not authorised by Vortice.

Responsibility

The appliance is designed for “balanced ventilation systems”. Any other use that has not been previously discussed with a Vortice expert shall be considered improper. In this case, Vortice shall not be held responsible for any malfunction or failure.

Vortice shall not be held responsible for breakdowns due to:

- improper use of the appliance;
- normal wear and tear of the appliance;
- the user’s failure to comply with the instructions provided in this manual.

Safety



Warning:

This symbol indicates precautions that must

- Follow the safety instructions to prevent any harm to the user.
- Do not use this appliance for functions other than those described in this booklet.
- After removing the appliance from its packaging, ensure that it is complete and undamaged: if in any doubt, contact a professionally qualified electrician or a Vortice Service Centre.
- Do not leave packaging within the reach of children or less able persons.
- Certain fundamental rules must be observed when using any electrical appliance:
 - never touch appliances with wet or damp hands;
 - never touch appliances while barefoot.
- This appliance is not suitable for use by individuals (including children) with reduced physical, sensorial or mental capacities, or by inexperienced or untrained individuals, unless they are supervised or instructed in its use by a person responsible for their safety. Children must always be supervised to ensure that they do not play with the appliance.
- Do not use the appliance near inflammable substances and vapours (alcohol, insecticides, petrol, etc.).
- Store the appliance out of the reach of children and less able persons if you decide to disconnect it from the power supply and use it no more.

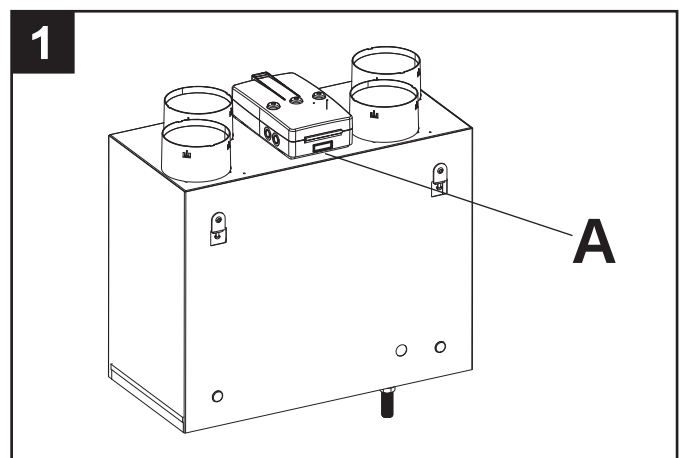


Caution:

This symbol indicates precautions that must be taken to avoid damaging the appliance

- Do not make modifications of any kind to this appliance.
- The maintenance instructions must be followed to prevent any damage to and/or excessive wear and tear of the appliance.
- Do not expose the appliance to the elements (rain, sun, etc.).
- Do not leave objects standing on the appliance.
- The interior of the appliance must only be cleaned by qualified personnel.
- Regularly inspect the appliance for visible defects. If the appliance does not function correctly, do not use it and contact a Vortice Service Centre immediately.
- If the appliance does not function correctly or develops a fault, contact a Vortice Service Centre immediately and ensure that only genuine original Vortice spares are used for any repairs.

- Should the appliance be dropped or suffer a heavy blow, have it checked immediately by a Vortice Service Centre.
- The appliance must be installed by a professionally qualified electrician.
- The appliance must be mounted in such a way as to ensure that under normal operating conditions, no one can come into contact with any of the moving parts or live electrical components.
- For maintenance work (e.g. removing the heat exchanger), the appliance should first be turned OFF then disconnected from the mains.
- The electrical system to which the appliance is connected must conform to applicable standards.
- A multi-pole switch must be used to install the appliance. The gap between the switch contacts must be no less than 3 mm.
- The electrical power supply/socket to which the appliance is to be connected must be able to provide the maximum electrical power required by the appliance. If it cannot do so, arrange for a qualified electrician to make the necessary modifications.
- Switch OFF the system's main switch:
 - if the appliance does not function correctly;
 - before cleaning the outside of the appliance;
 - if you decide not to use the appliance for any length of time.
- The appliance cannot be used in combination with water heaters, room heaters, etc., nor must it be used to drain hot water away from such appliances.
- The appliance must expel air directly to the outside through a dedicated outlet.
- The flow of extracted air must be clean (that is free of grease, soot, chemical and corrosive agents and explosive or flammable mixtures).
- Keep the appliance intake and outlet grilles free to ensure optimum air flow.
- Specifications for the power supply must correspond to the electrical data on ID plate A (fig. 1).



Items supplied

The main appliance components are as follows:

- an outer casing and front cover in painted sheet metal; the casing houses the intake/outlet hose connections and the electrical connection box; the casing also houses the internal components and heat exchanger in an air tight housing;
- internal ducts in EPP (expanded polypropylene) that distribute flow of air while maximising heat insulation and minimising losses.
- the plastic resin, counterflow, heat exchanger whose particular shape guarantees the highest possible efficiency in terms of heat exchange (up to 93%);
- 2 filters with G3 level particle retention;
- 2 brushless motors connected to centrifugal fans;
- the electronic circuit board that processes power supply, appliance commands and controls;
- 3 temperature sensors:
 - internal air;
 - external air;
 - exhaust air;
- filter replacement warning timer;
- output for connection to a pre-heater (No frost operation)
- optional connection to a switch for maximum speed (boost).

Accessories supplied

The accessories supplied as standard include:

- 1 x condensation drainage hose coupling
- 1 x condensation drainage hose;
- 2 x rawlplugs with hooks for wall-mounting the appliance
- Wired remote control with LCD display, through which initial set-up can be performed during installation (carried out by the installer) as well as device operation management.

Installation

The appliance must be installed according to the safety regulations currently in force in the country of destination, and the instructions provided by this booklet.

Prerequisites

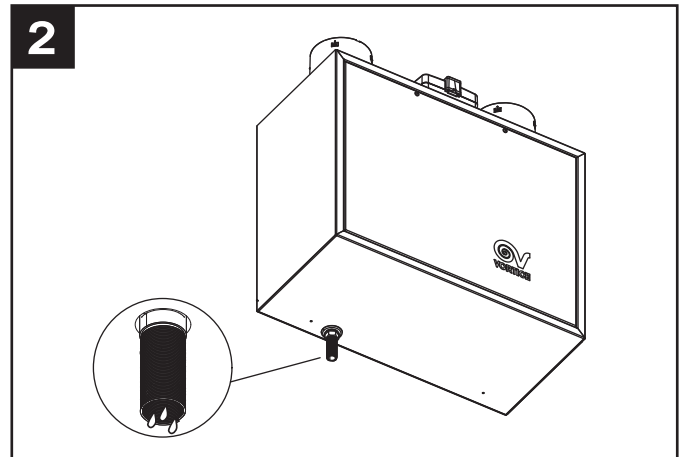
The appliance must be fitted to an internal surface or wall of the home that is structurally sound enough to bear its weight.

The ducts used for carrying ducting must be of the correct size.

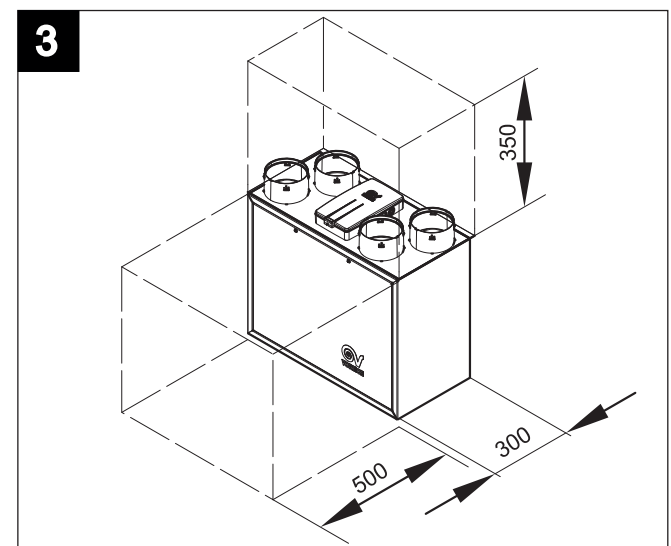
Ducts to and from the exterior must be thermally insulated and not subject to vibration.

The 125 mm standard diameter inlet and outlet pipes must be fixed to the corresponding spigots on the appliance by means of clips or some other suitable fastening system.

Under normal operating conditions, condensation gathers at the bottom of the appliance. In order to dispose of it, the small hose (fig.2) provided must be attached to the coupling on the underside of the appliance and connected to a drainage hose (see Assembly).



The appliance must be easily accessible for servicing/maintenance purposes. It is important to leave a space of at least 50 cm in front of the front panel to facilitate the cleaning and replacement of the heat exchanger and filters (fig. 3).



Checks on delivery

On delivery, check the appliance for any faults before proceeding with the installation. More specifically:

- firstly remove it from the packaging ensuring that the name and description shown on the box correspond;
- when the appliance has been removed from the packaging, check that there is no visible damage then make sure that the small condensation drainage hose is present along with the instruction manual.

ENGLISH

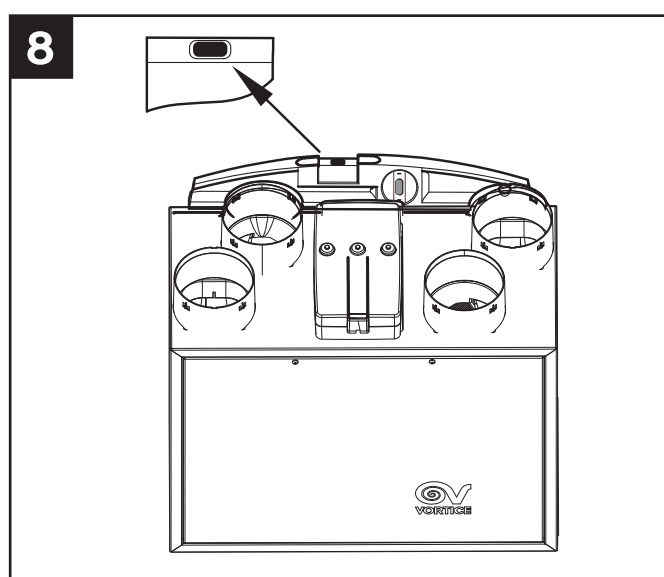
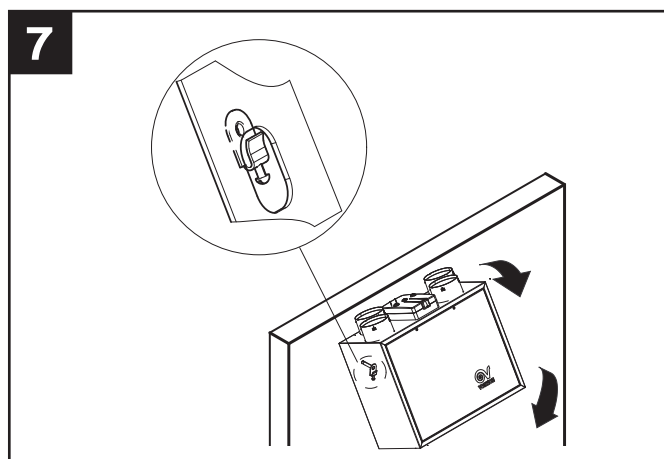
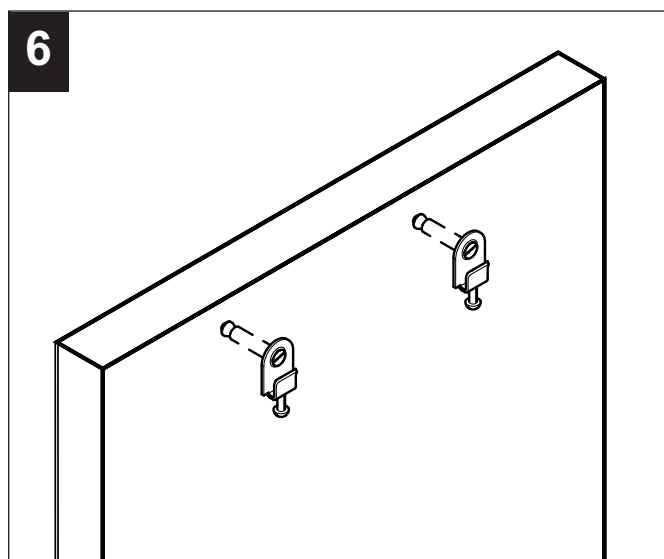
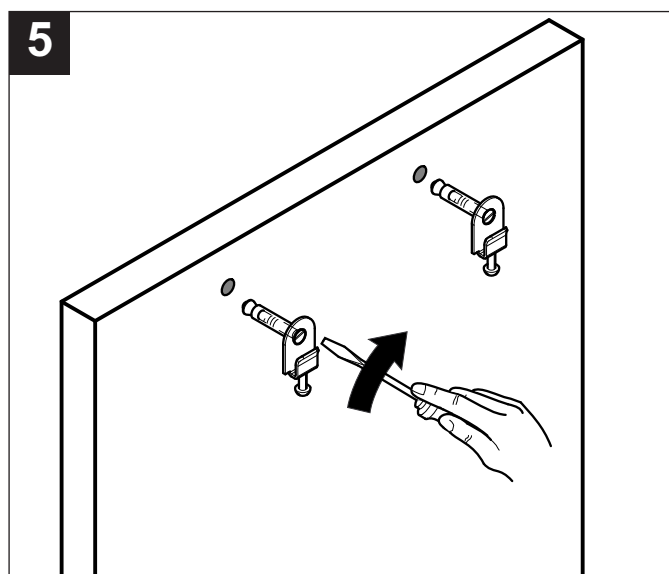
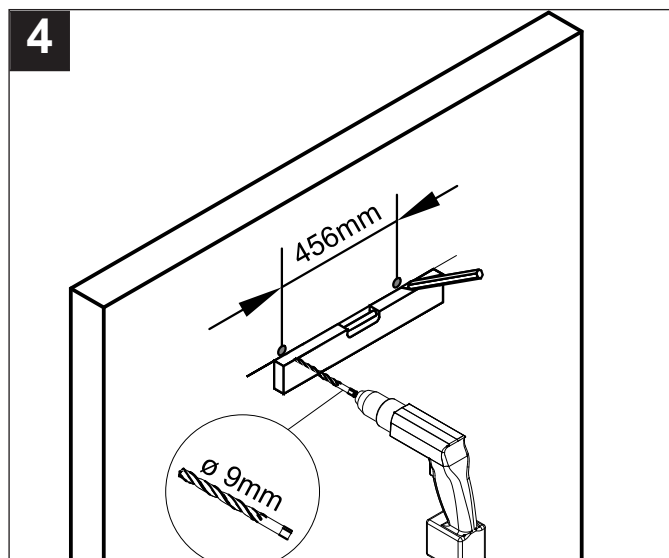
Assembly

The appliance comes with 2 rawlplugs with hooks for wall-mounting.

Establish exactly where the appliance is to be positioned, bearing in mind the installation requirements.

Vertical mounting

Fix the hooks to the wall as shown in the diagrams that follow (figs. 4,5,6,7,8).



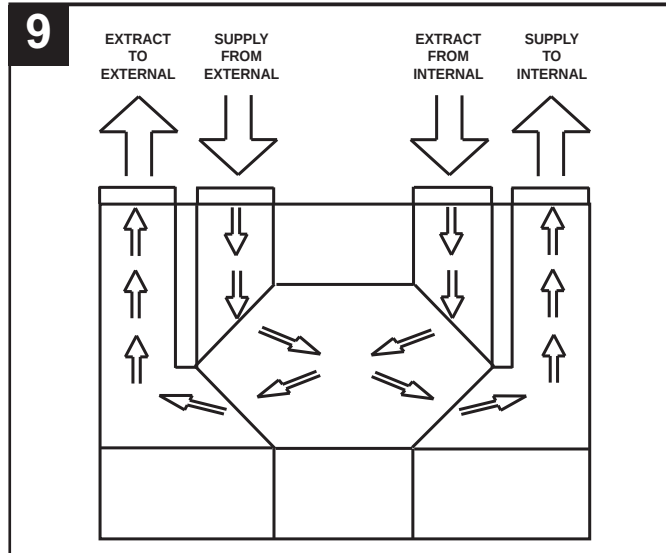
ENGLISH

Floor mounting (optional kit)

The appliance can be horizontally floor mounted using the special optional kit.

Pipework connections

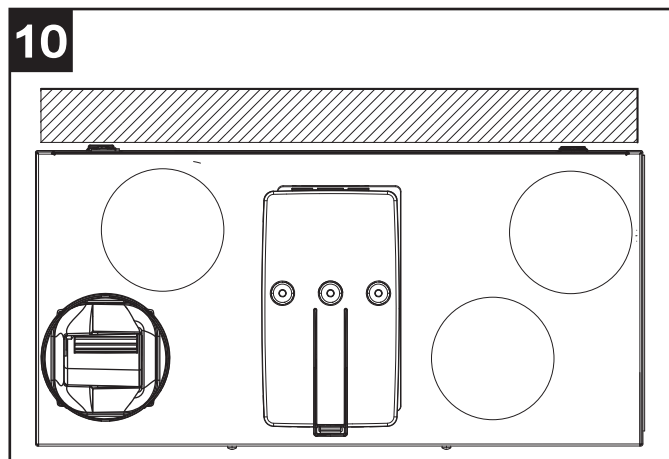
(fig. 9).



The spigots on the appliance measure 125 mm in diameter. Ducts may be connected to the appliance inlet and outlets. Each connection is illustrated below with a diagram that shows the direction of the air flow (in and out).

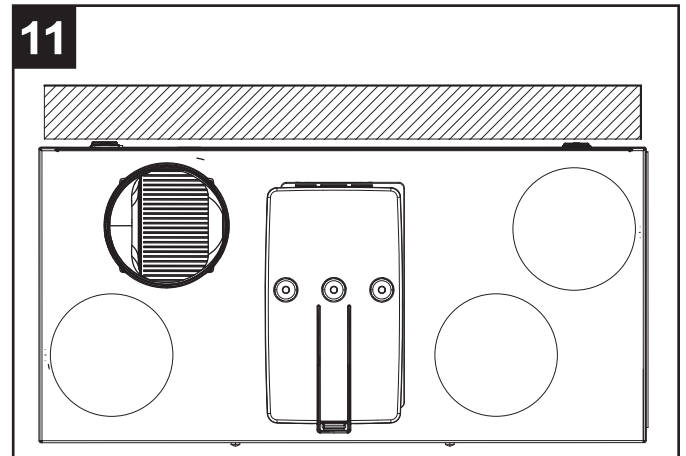
Stale air outlet

(fig. 10).



This outlet is used to expel stale air once it has been treated by the heat exchanger. The ducting for this stale air must be thermally insulated (to prevent the formation of condensation on internal and external components) and devices fitted to absorb vibration. If the drainage system is on the roof, it must be designed so as to prevent the formation of condensation and the entry of rain water.

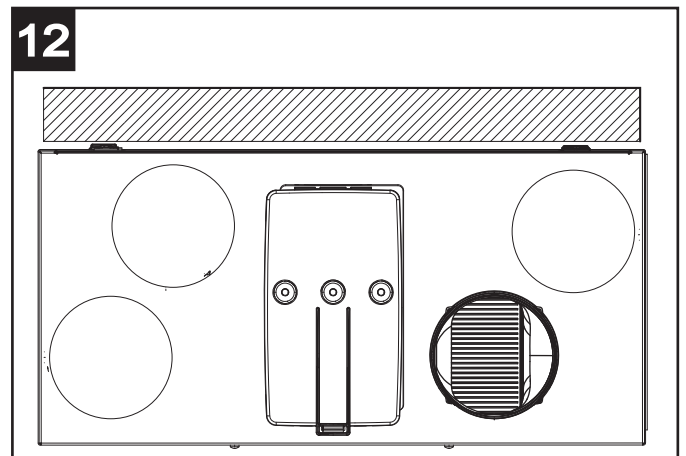
Fresh air inlet



(fig. 11)

This inlet is used for carrying fresh air from the exterior; the duct must be thermally insulated and have devices fitted to absorb vibration. If air intake system is on the roof, it must be designed so as to prevent the formation of condensation and the entry of rain water.

Stale air extraction inlet

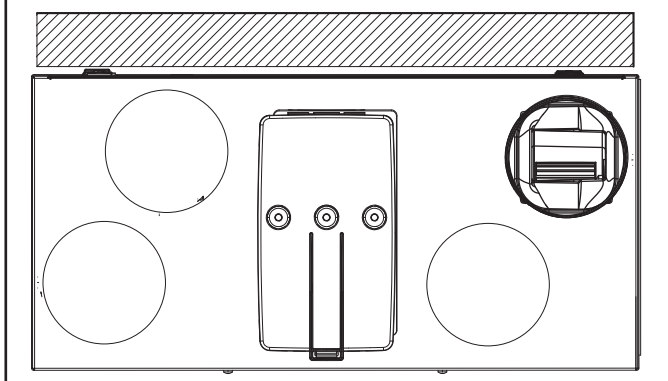


(fig. 12)

This inlet carries extracted stale air from the house. The duct needs to be thermally insulated.

Air outlet (fig. 13)

13

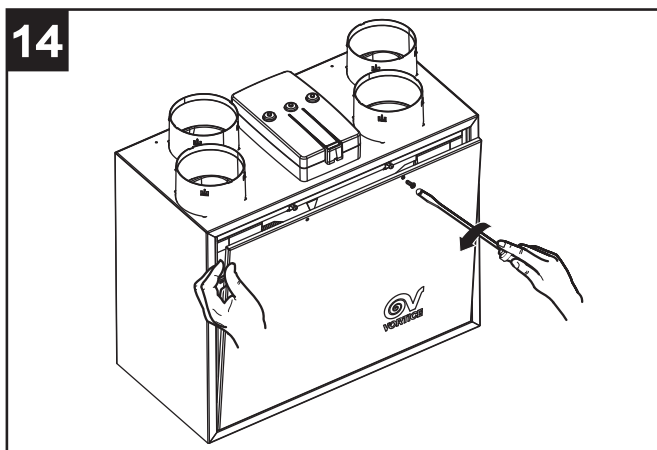


This outlet delivers fresh air into the house once it has been treated in the heat exchanger.

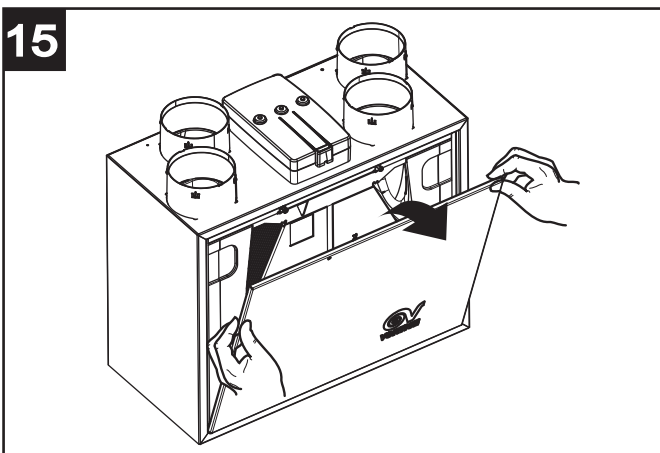
Connecting the condensation drainage hose.

The connection point for this hose is located on the underside of the appliance; it is to be connected following the description below (figs.14,15,16, 17,18,19,20).

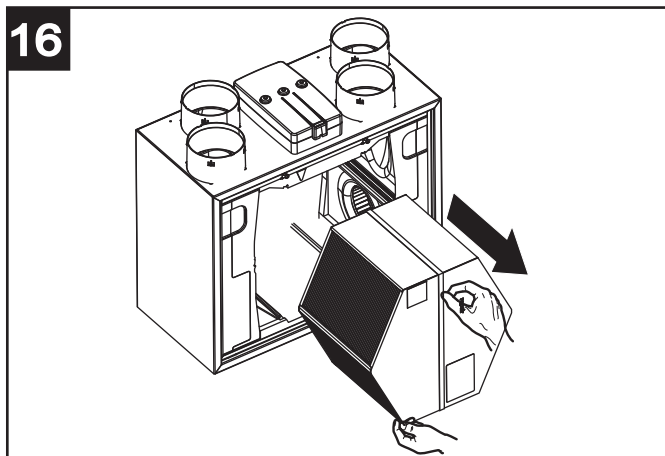
14



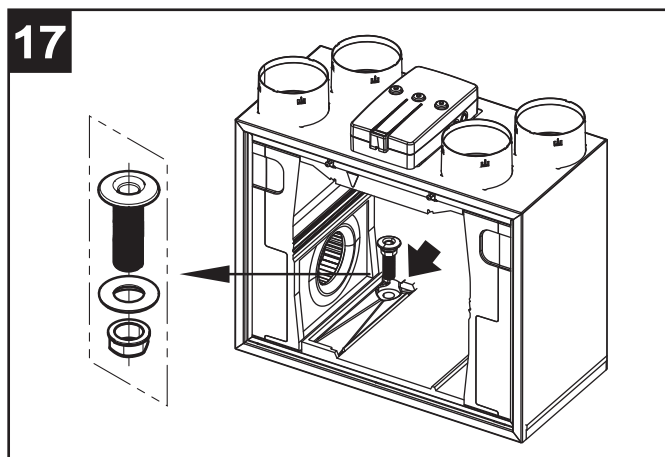
15



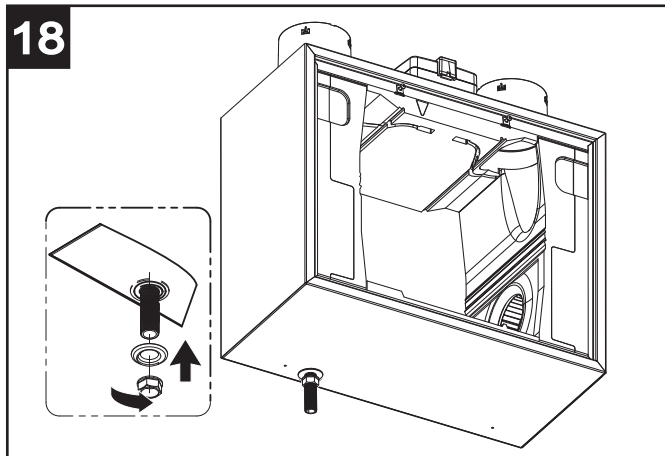
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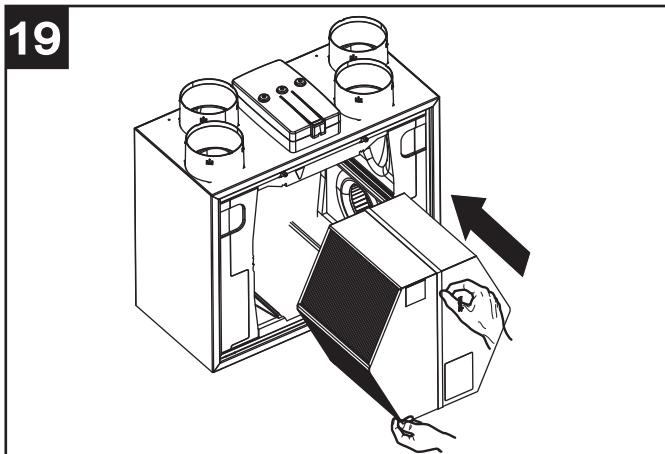
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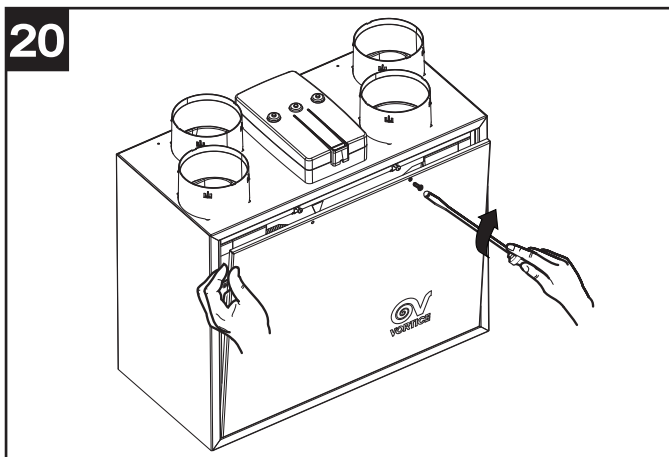
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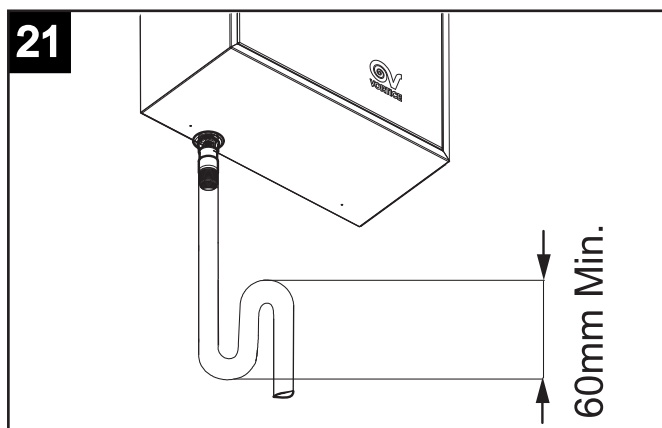


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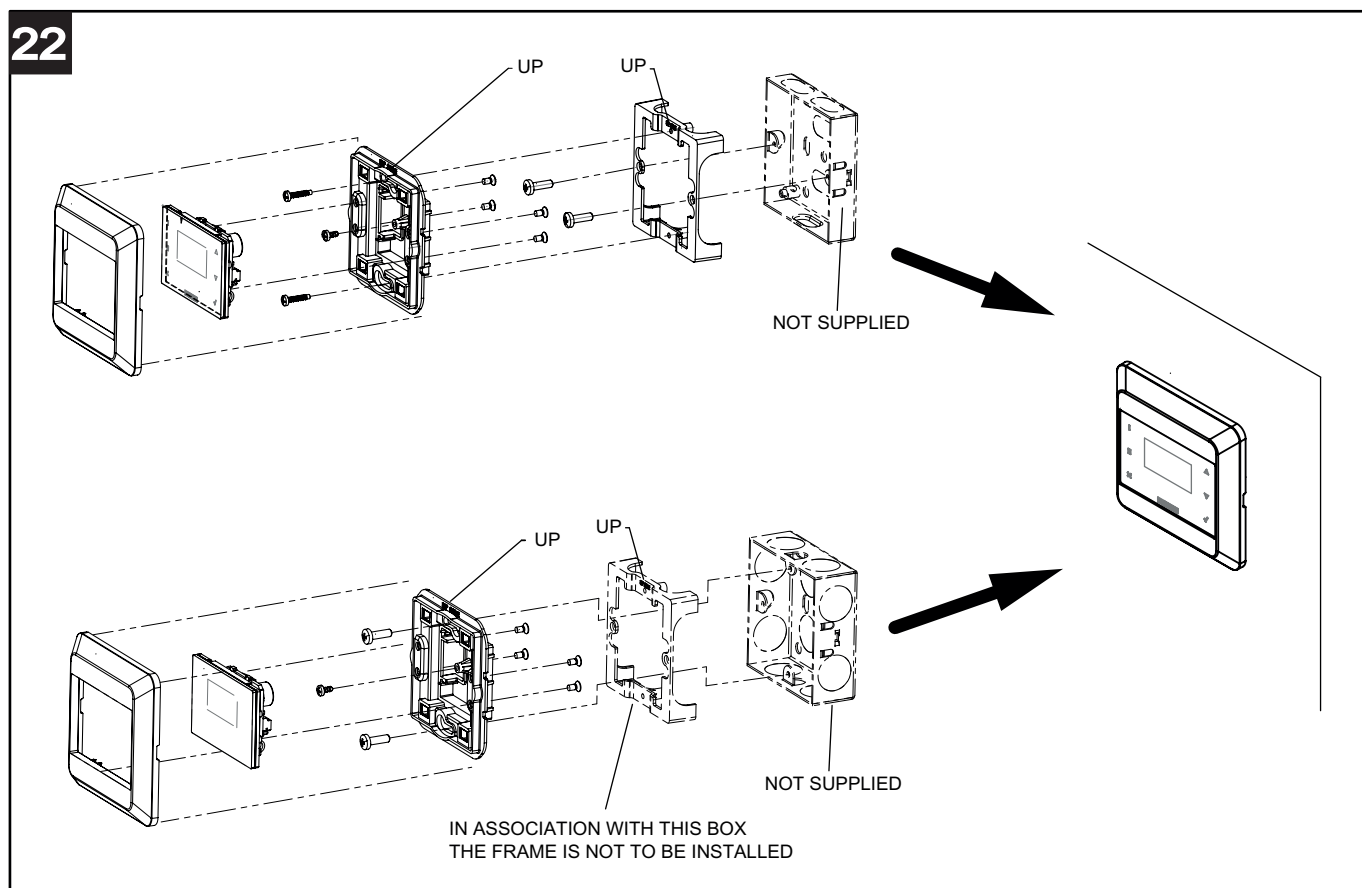
Condensation is drained away by connecting the hose provided to the condensation drainage coupling. To prevent formation of air locks a U-bend must be created with the hose as shown in fig. 21.

21



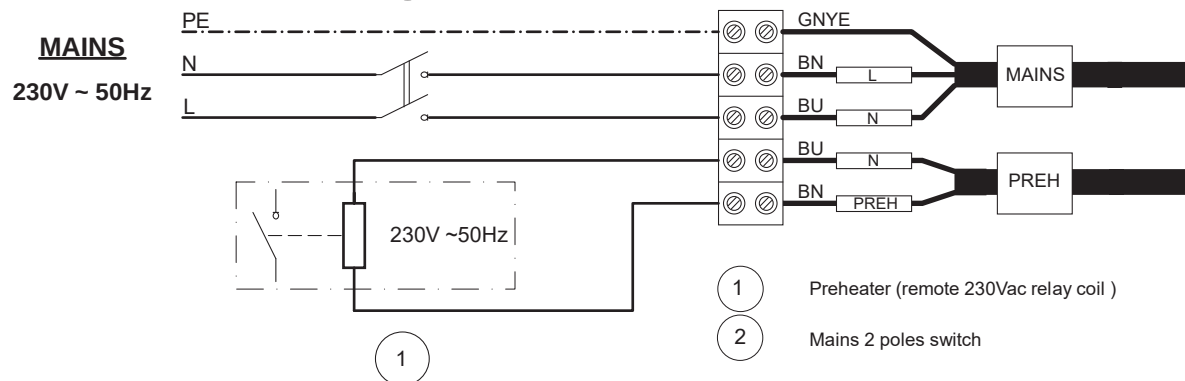
Mounting the wired remote control

22

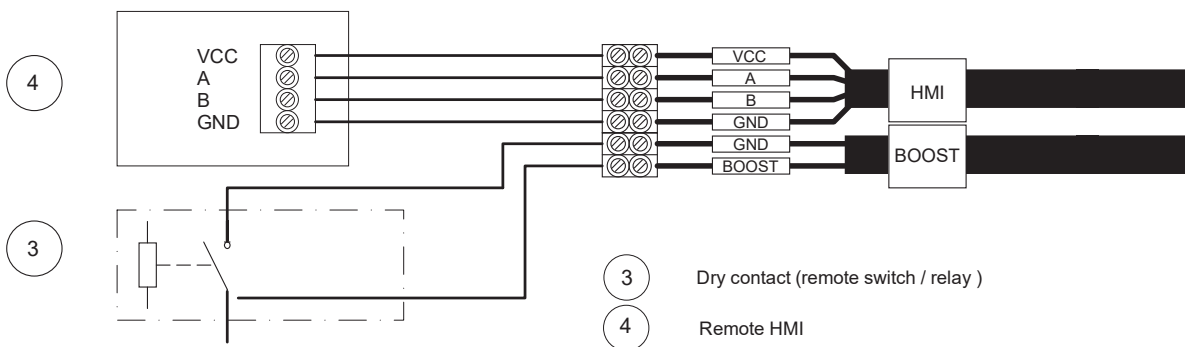


Electrical connections

23



24



Function

Motors

The appliance is equipped with:

- two brushless motors specifically designed to guarantee very low energy consumption thanks to their high efficiency. These motors drive two centrifugal fans which extract the stale damp air from service rooms (kitchens, bathrooms, washrooms, etc) and introduce fresh external air into living areas (sitting rooms, dining rooms, bedrooms, etc.);

Heat exchanger

The two air flows, intake and extract, meet in the appliance, (without ever actually coming into direct contact so as not to jeopardise the quality of incoming air) inside the heat exchanger where the warm outgoing/extracted air passes its heat to the cold incoming air, thus minimising the temperature variation in the areas served.

Filters

Two G3 filters housed in the inlet and extraction ducts close to the heat exchanger and accessible by removing the front panel, protect the appliance from impurities in the extracted stale air and prevent the introduction of polluted air into the areas served by the system.

The condition of the filters can be checked by removing the front panel and extracting them from their holders. Replacing a standard G3 filter in the air intake system with an optional G5 filter enhances the degree of filtering.

Anti-frost protection

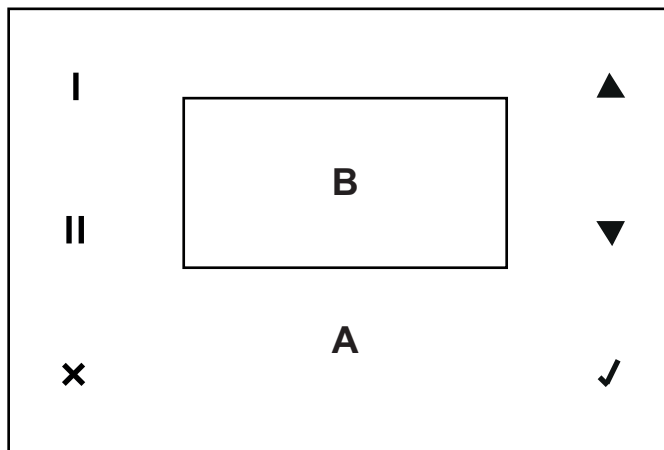
When weather conditions deteriorate and the formation of frost on the heat exchanger walls become more likely, the electronic circuit board automatically adjusts fan speeds and air flow parameters.

While the automatic de-frosting cycle is in operation, the user cannot change the appliance operating speed.

Use

INFORMATIONS

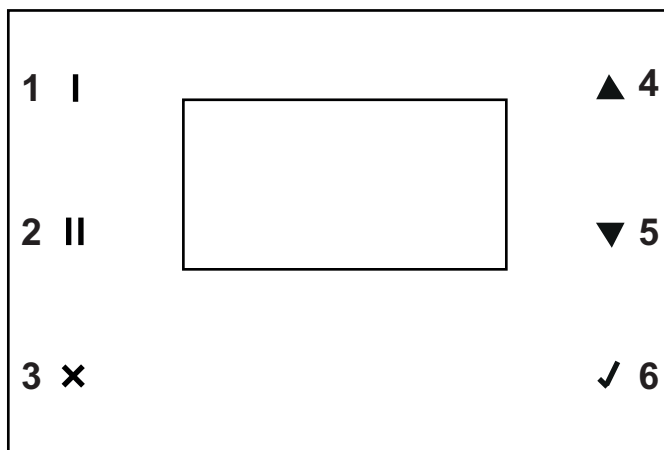
The device operates continuously. All functions can be controlled via the wired control panel equipped with touch screen:



A: touch area

B: display

MEANING OF ICONS/BUTTONS IN THE TOUCH/AREA



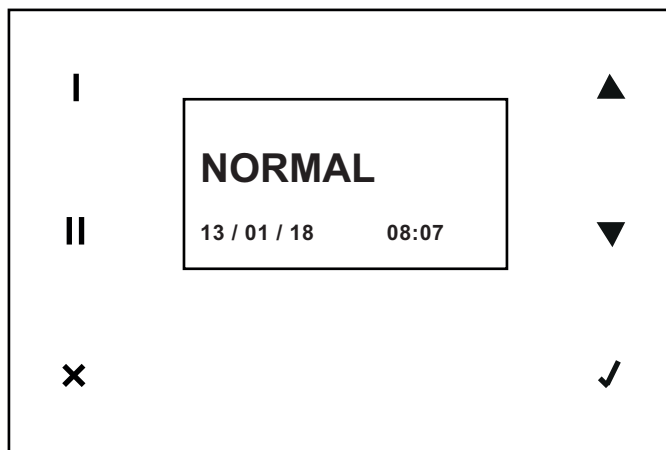
- 1: date/time display (last line of the display);
- 2: T_{int} , T_{ext} , T_{exh} display (last two lines of the display);
- 3: exit without saving and return to the previous page;
- 4: speed increase (from Normal to Boost) either moving the cursor to the line above or increasing the value;
- 5: speed decrease (from Boost to Normal) either moving the cursor to the line below or decreasing the value;
- 6: confirmation of the current choice and go to the next page with saving of current data.

ENGLISH

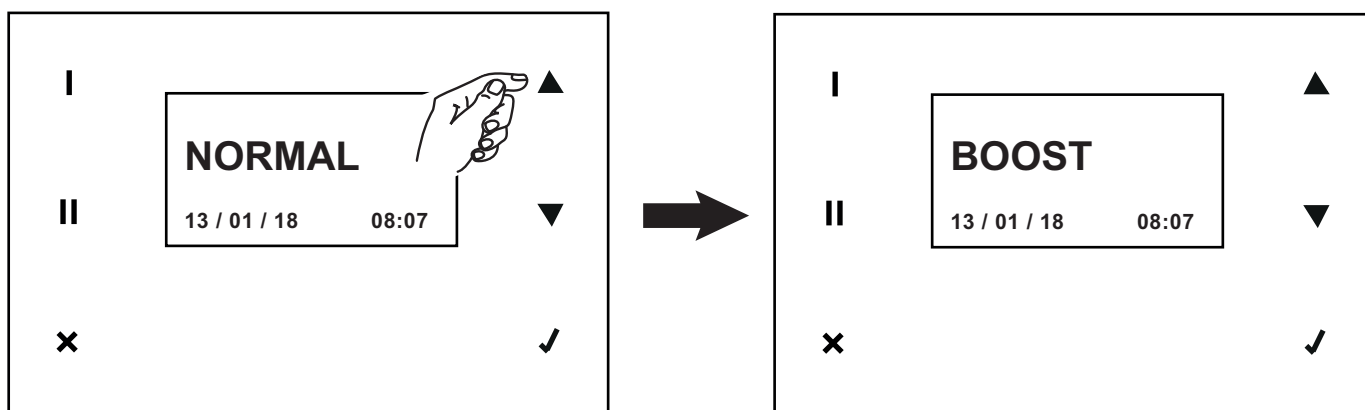
CONTROL PANEL FUNCTIONS

Upon first activation, carried out by the installer, the display will show the Vortice logo and, after 10 seconds, the pre-set operating speed: **NORMAL**

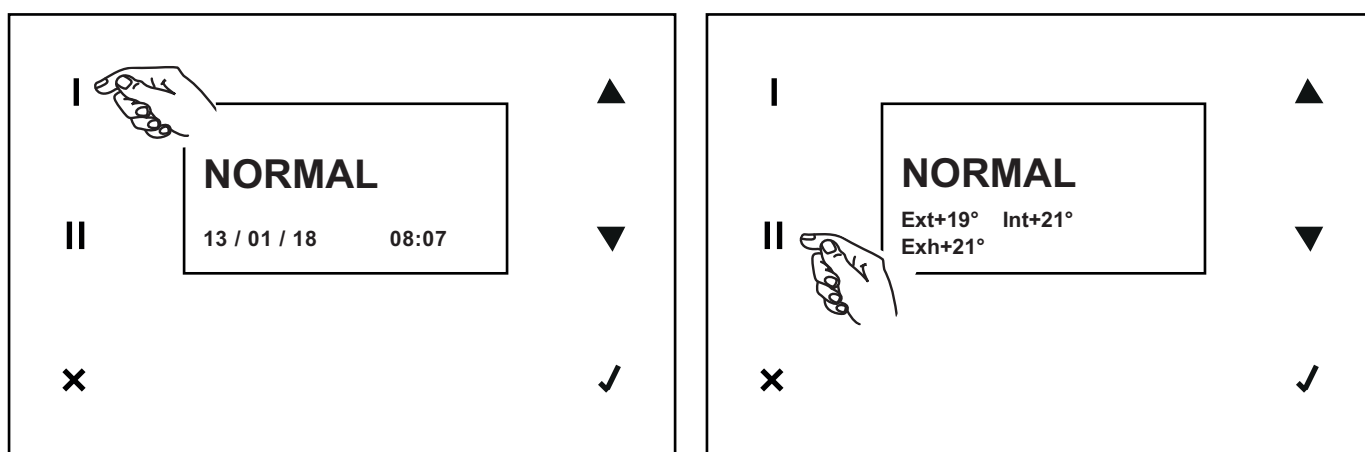
NOTE: in general, in the absence of user input, after two minutes the display will return to the logo screen without saving any changes. In this case press **✓** to reactivate the main menu.



In this phase, you can immediately increase the speed to the maximum value **BOOST** via the **▲** button (**▼** to decrease from **BOOST** to **NORMAL**).



You can change the type of data shown on the bottom of the display by using the buttons: **I** and **II**

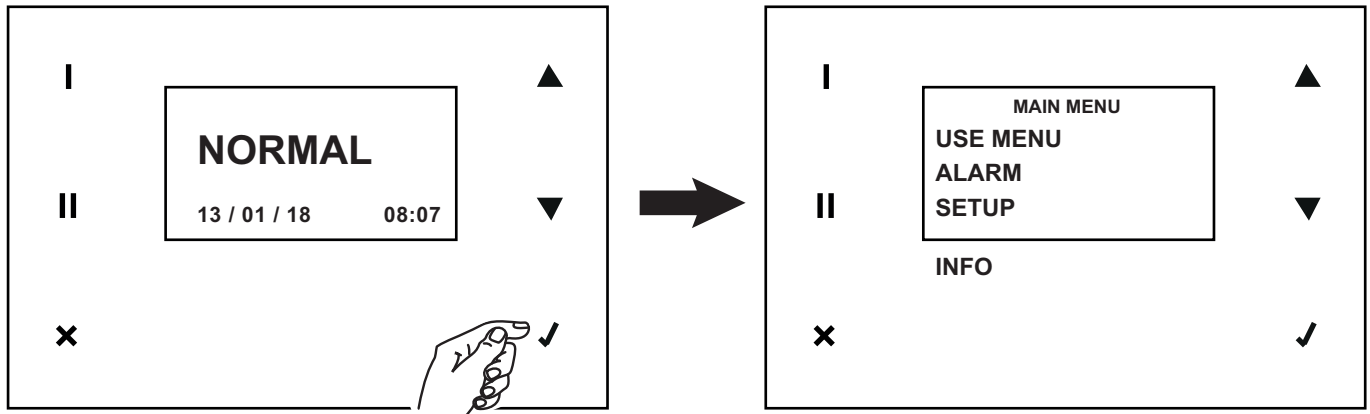


I : date and time

II : temperatures: External, Internal, Exhaust

ENGLISH

All other functions can be reached from the main menu. The main menu can be displayed by pressing ✓ on the home screen.



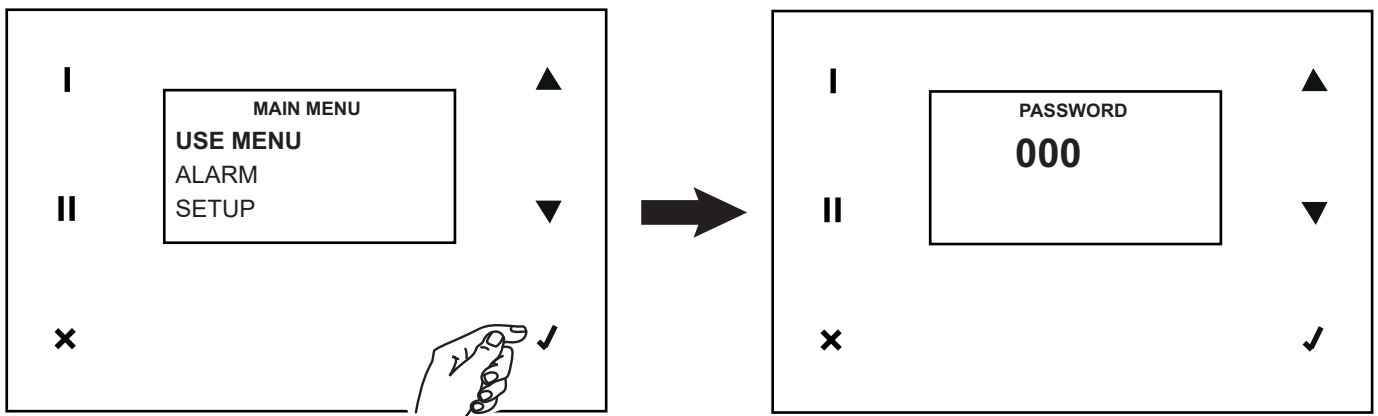
Main menu

Use menu

With this option and by entering the password on the next screen, you can access installer and factory settings.

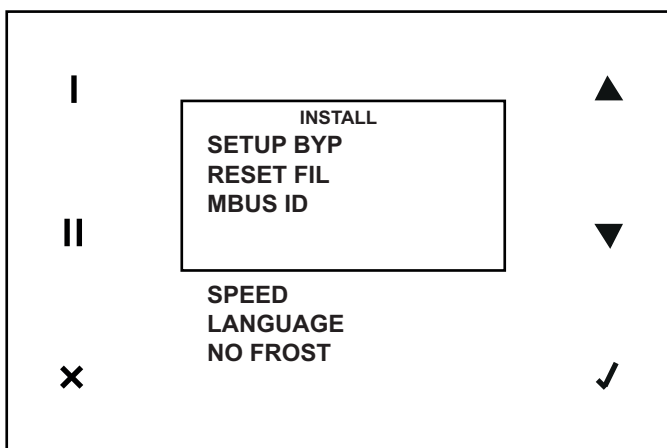
Installer settings: password: 023

Factory settings: password not available



Installer settings:

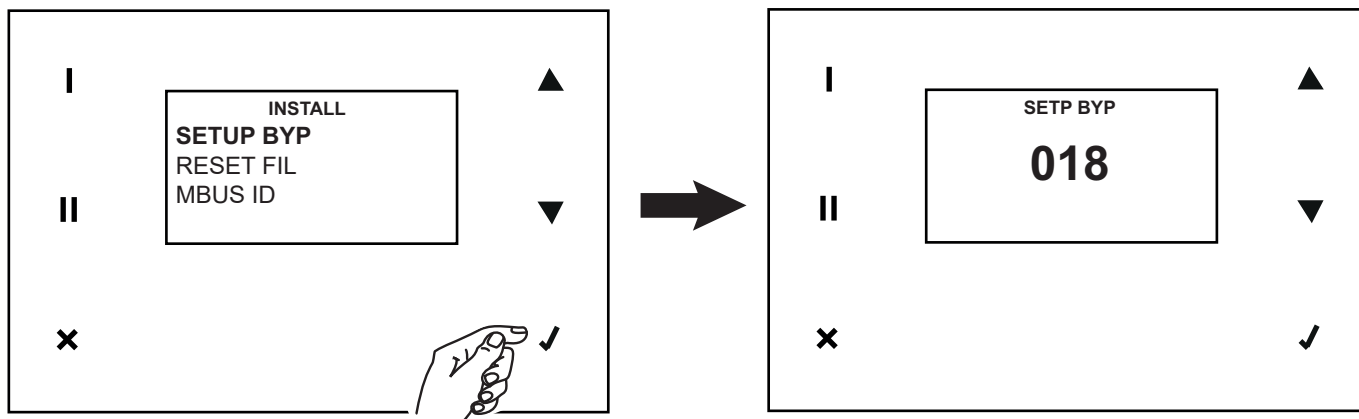
The installer menu offers the following options:



ENGLISH

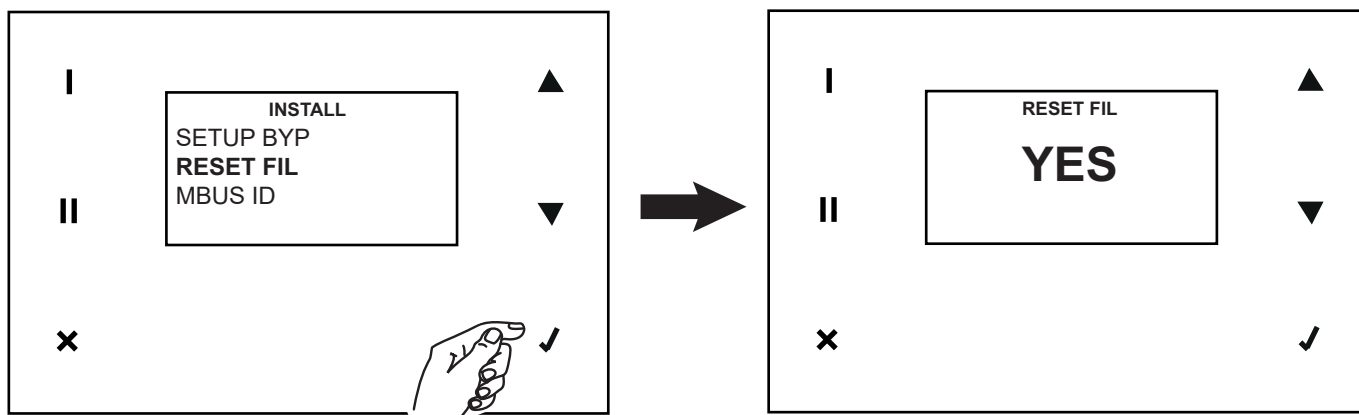
SET UP BYPASS

This is the setpoint temperature for bypass. The editable default value is 18°C.



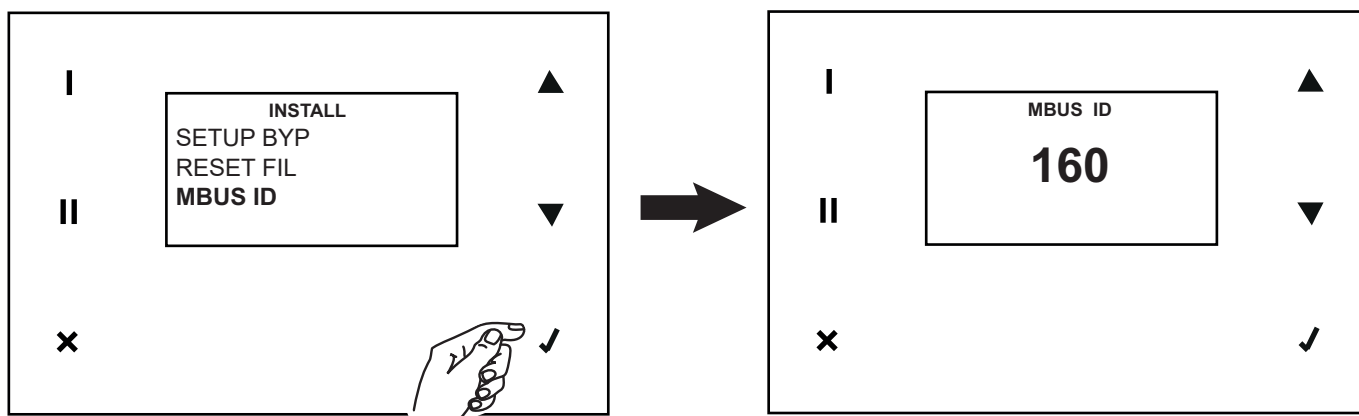
RESET FIL

This is the variable for dirty filter counter reset. The default value is NO. It can be set to YES in the case of filter replacement (or however when desired)



MBUS ID

This is the control panel MODBUS address

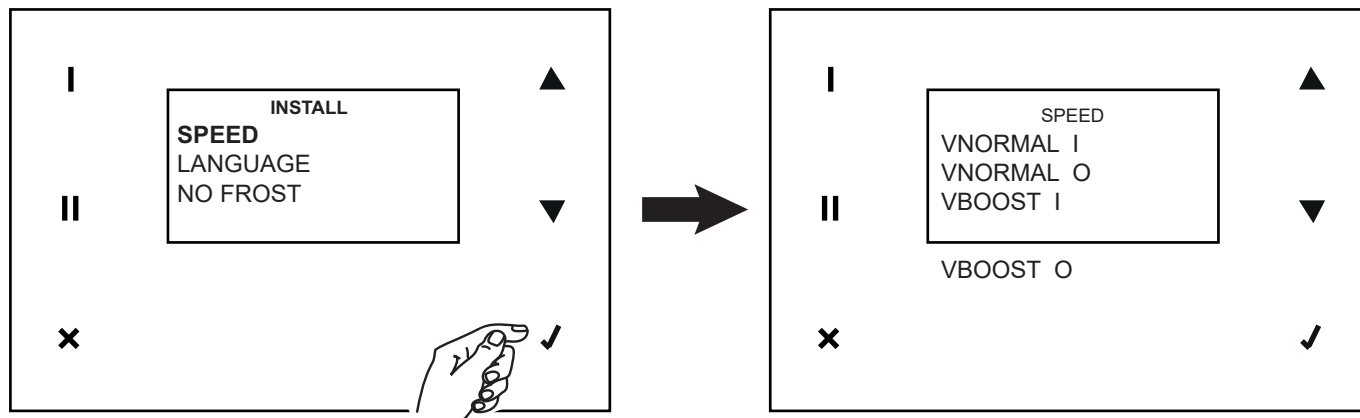


ENGLISH

SPEED

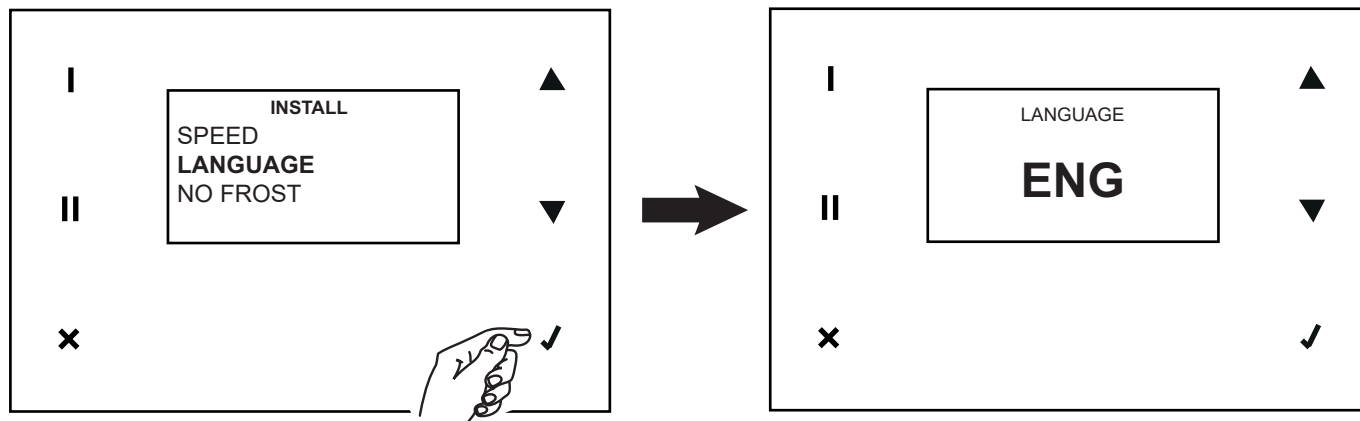
This is the variable that defines the speed set for Supply (IN) and exhaust (OUT) motors, with two values NORMAL and BOOST. The default values, which are editable as a percentage, are:

VNORMAL_I 73%
VNORMAL_O 73%
VBOOST_I 100%
VBOOST_O 100%



LANGUAGE

This is the variable that defines the panel text language. The editable default value is: ENG.



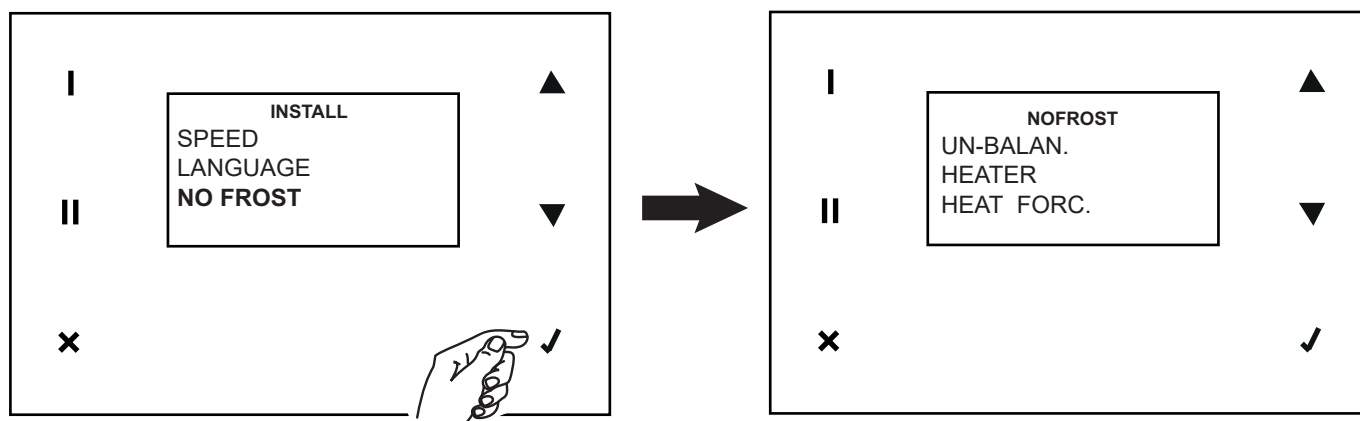
NO FROST

This is the variable that defines the possible strategies for NO FROST operation. The possible values are:

UN-BALAN.: flow unbalance

HEATER: pre-heater

HEAT FORC.: in the case that the pre-heater strategy is activated, this permits the installer to control pre-heater operation, switching it on for 15 s.



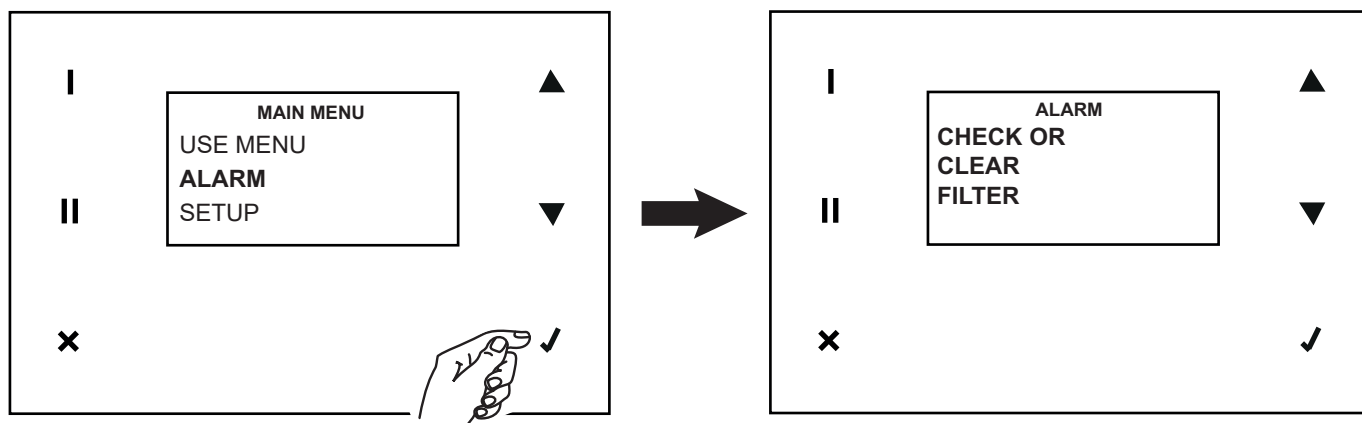
Alarm

This option allows you to manage all possible alarm messages. Multiple errors must be managed one by one, starting from the first one that occurred. In these situations, an intermittent "Alarm!" signal will be emitted on the home screen. The intermittent messages "Alarm!", "Block!" and "OFF" will be displayed only in the event of a "No Frost" alarm.

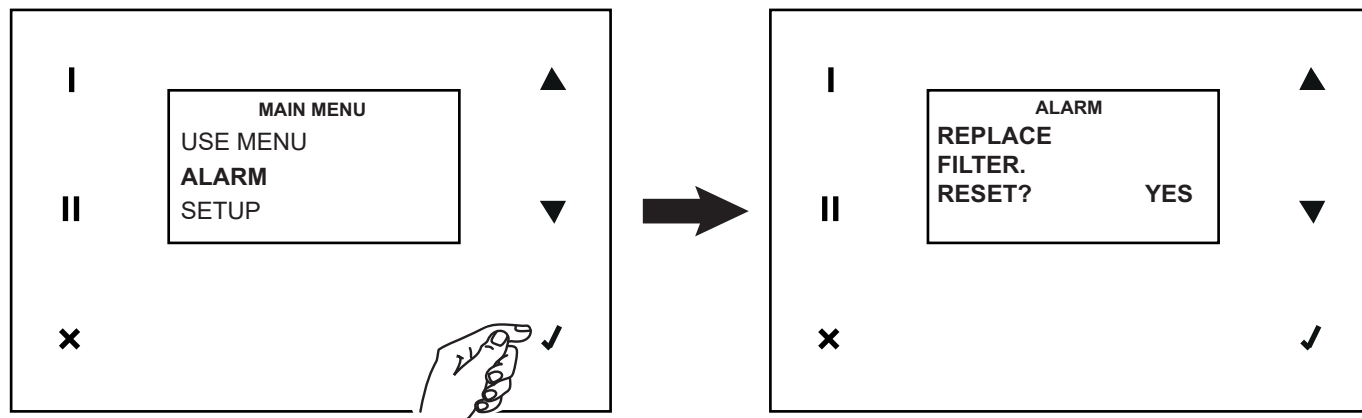
In all cases, you can switch on the ALARM menu to view the necessary actions and reset errors. The various situations that generate alarm signals are described below.

Filters

When the preset time period has elapsed, a pre-alarm is displayed and a filter check/cleaning is required.



When the preset time period has elapsed, an alarm is displayed and filter replacement is required. The error and counter can be reset after filter replacement (see "Maintenance and Cleaning").

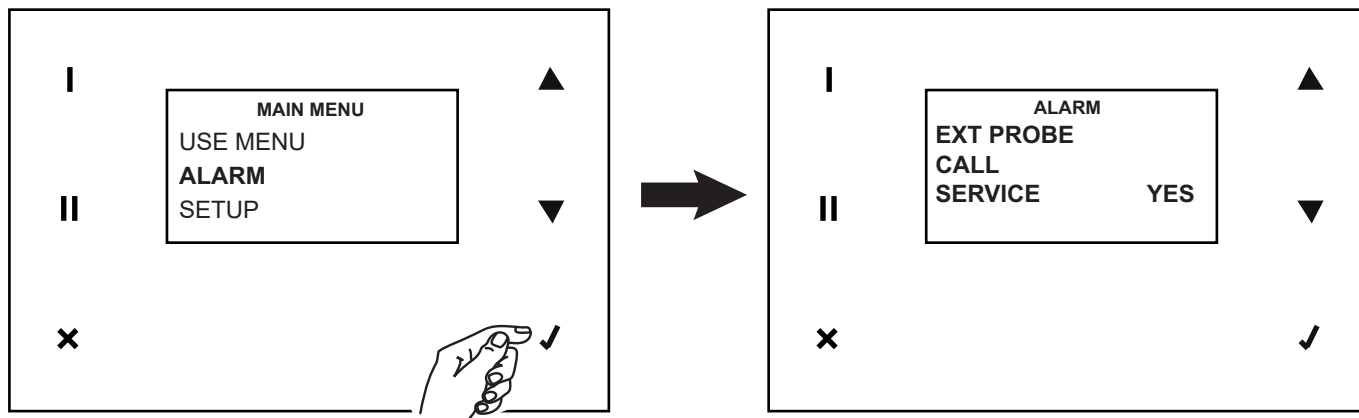


NOTE: the counter can also be reset at any time by accessing the corresponding function in the Installer Menu.

ENGLISH

T ext probe

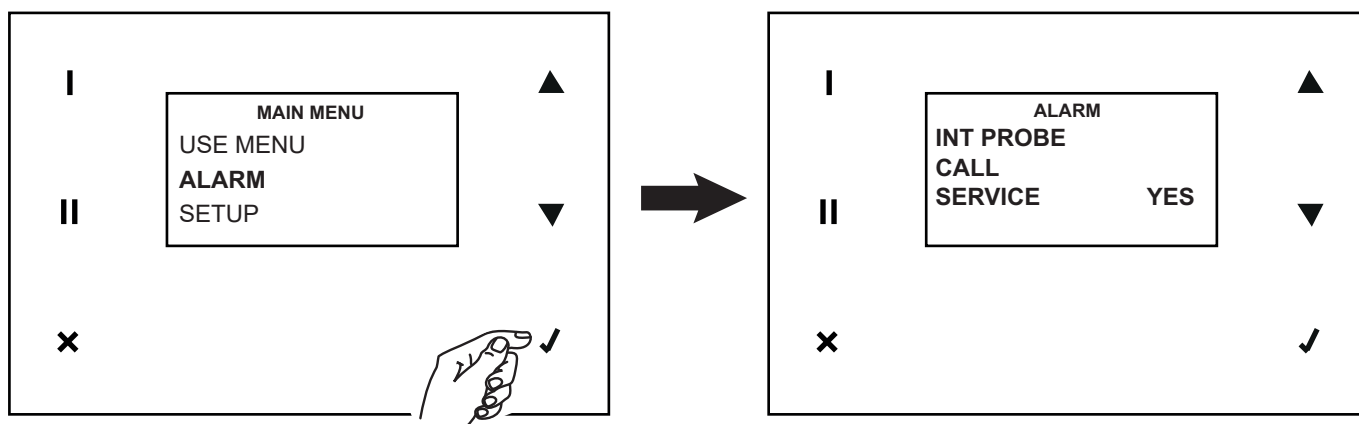
A fault on the external temperature sensor generates this signal. After having resolved the problem (through Technical Service intervention), you can reset the error (answer "YES" for "CALL SERVICE").



Note: The system does not automatically call Technical Service.

T int probe

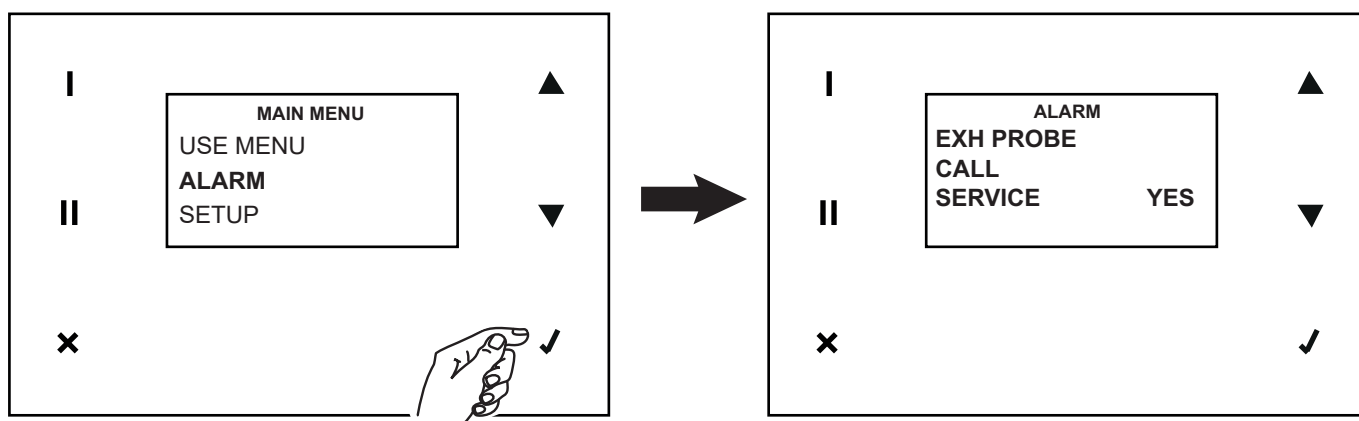
A fault on the internal temperature sensor generates this signal. After having resolved the problem (through Technical Service intervention), you can reset the error (answer "YES" for "CALL SERVICE").



Note: The system does not automatically call Technical Service.

T exh probe

A fault on the exhaust air temperature sensor generates this signal. After having resolved the problem (through Technical Service intervention), you can reset the error (answer "YES" for "CALL SERVICE").

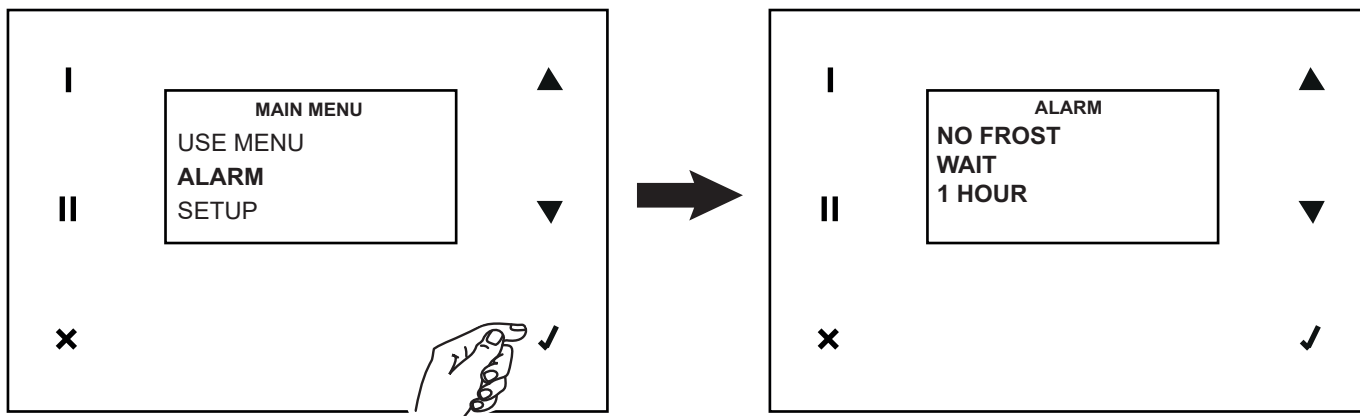


NOTE: The system does not automatically call Technical Service.

ENGLISH

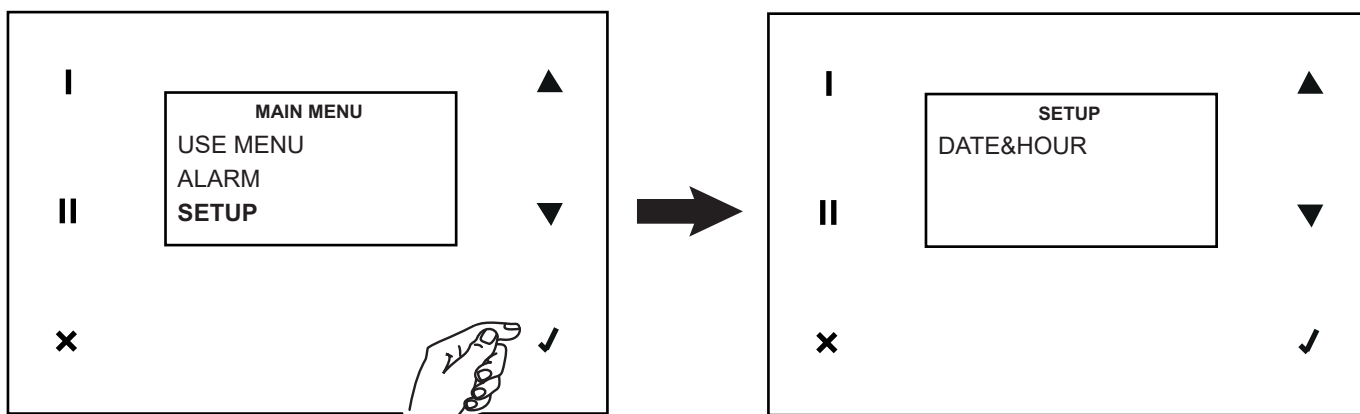
No Frost

The frost protection procedure is carried out automatically by the device when necessary. A blocking signal will be generated if the procedure does not work (pre-heater with temperature too low). The system will remain inactive for an hour; after which, the device will automatically reset the error, and the cycle will reactivate and repeat from the beginning.



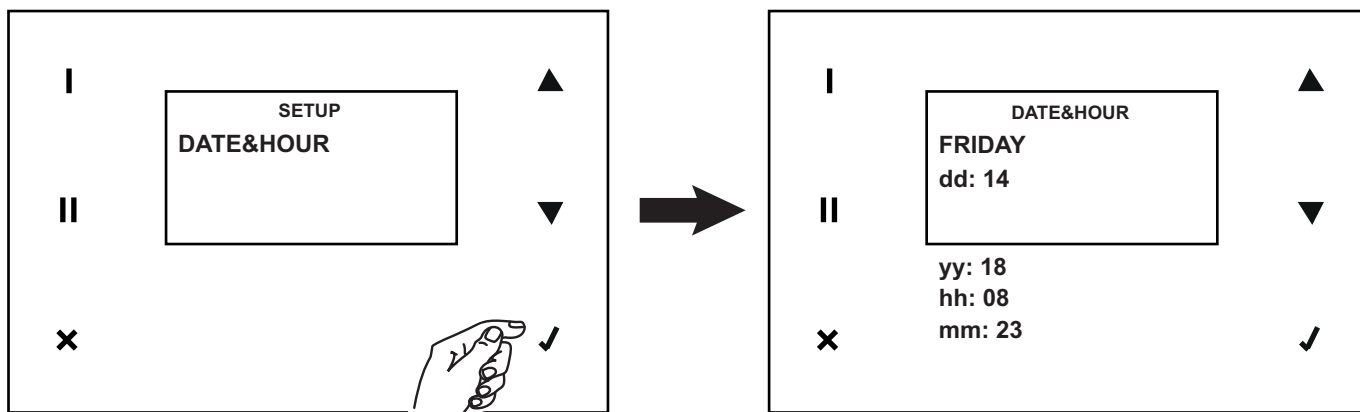
Setup

You can access the Date and Time setting with this option



Set the Date and Time as follows:

1. search for the variable you wish to change, pressing ▲ or ▼ ;
2. select the variable, pressing ✓ ;
3. search for the desired value, pressing ▲ or ▼ ;
4. store the selected value, pressing ✓ ;
5. return to point 1 and so on.



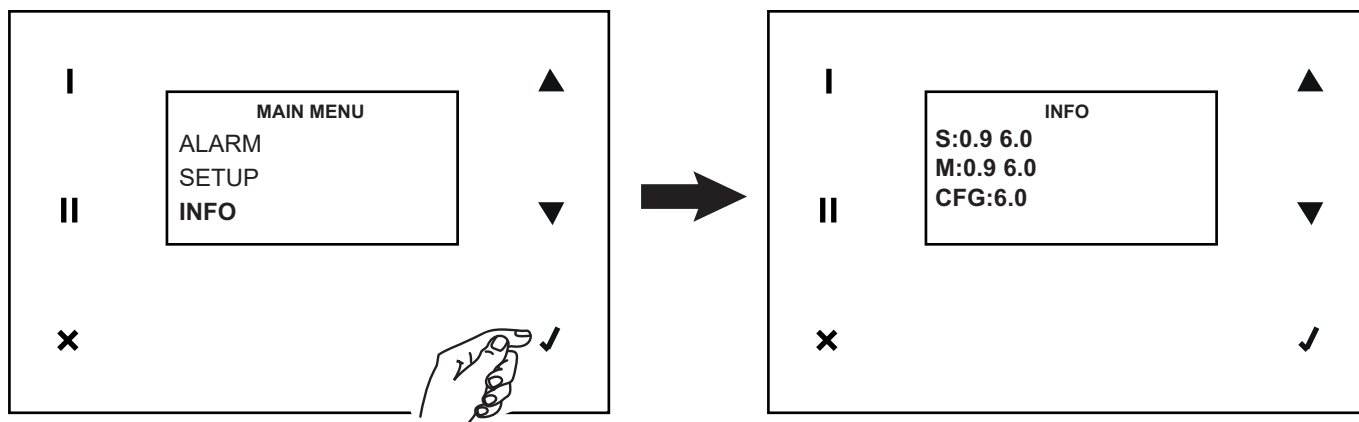
Info

You can view the following system information with this option:

hmi;

board firmware;

configuration file.



Maintenance/Cleaning

Filters

Recommended maintenance intervals: because levels of air pollution depend typically on geographical location and are variable, the life of the filters will be similarly variable. With this general consideration in mind, check following alarms for filter maintenance (see also "Use"):

- Pre-alarm: activates the notice about filters checking and cleaning
- Alarm: activates the notice about clogged filters

Resetting filters timer (See: Operation and Use: "User operation menu", "Resetting filters timer") is resetted also the counter.

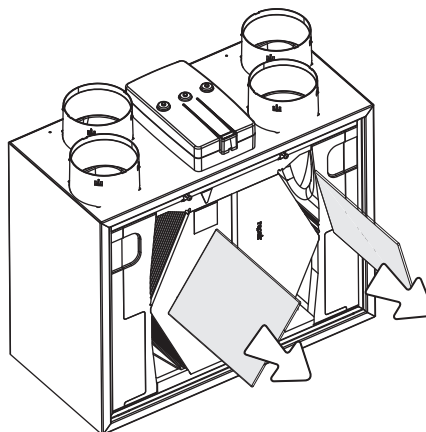
NOTE Failure to clean or replace filters can seriously affect system efficiency, causing:

- increased pressure losses in the air circulation system and reduced airflow;
- drop in system performance and comfort levels caused by pressure losses.

To access the filters, follow the instructions below:

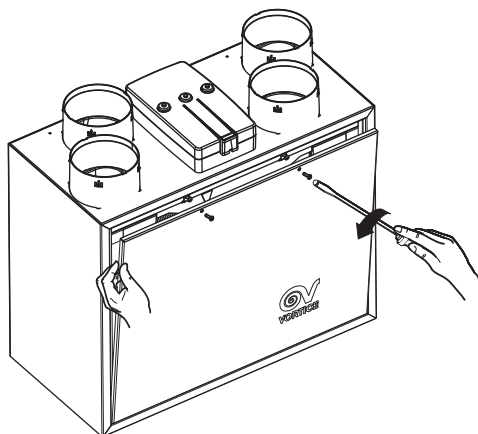
- disconnect the appliance from the mains.
- remove the filters from the appliance (figs. 25,26,27)

27

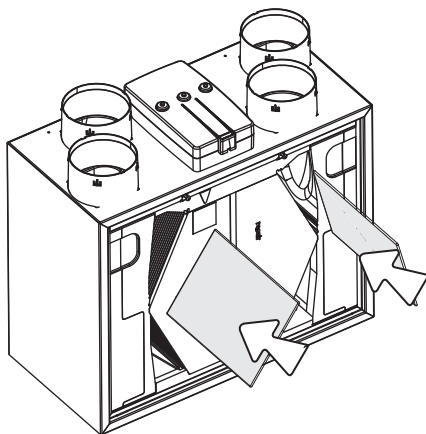


- clean the filters using a vacuum cleaner; you are advised to replace the filters after cleaning them a few times but least once a year.
- refit the filters (figs. 28,29,30)

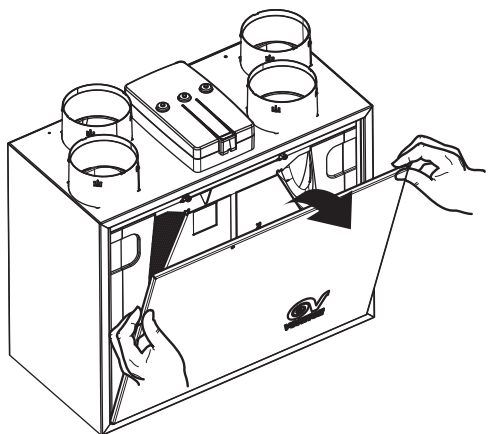
25



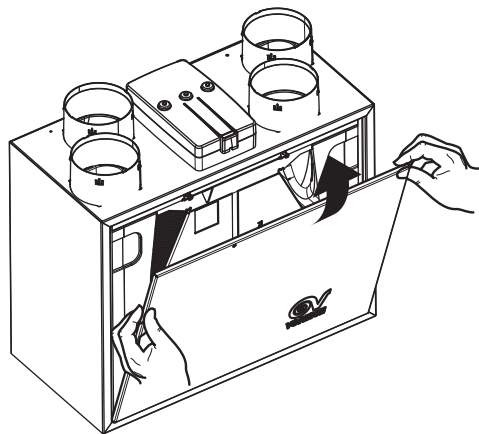
28

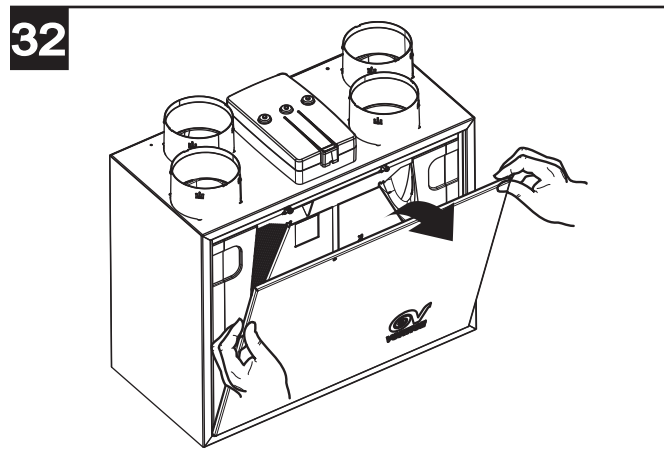
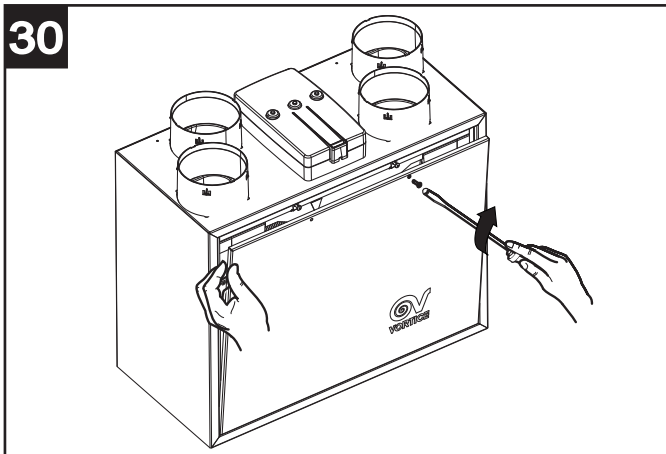


26



29





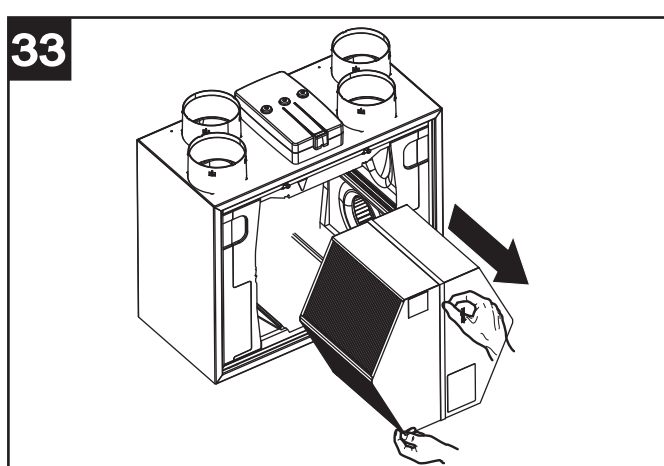
If the appliance remains out of use for extended periods, we advise removing the filters to prevent any possible damage from the build-up of condensation.

Heat exchanger

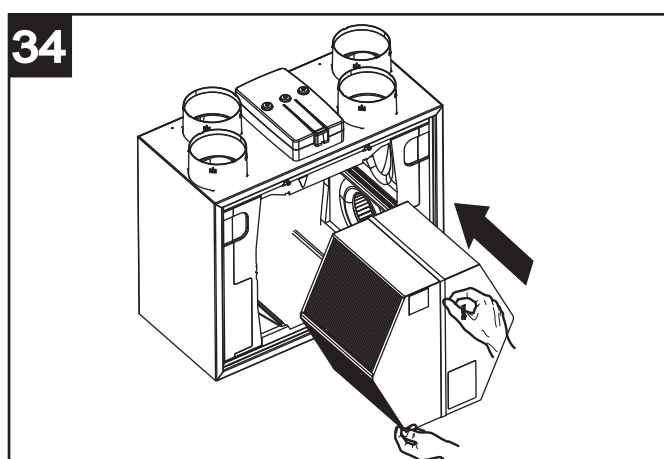
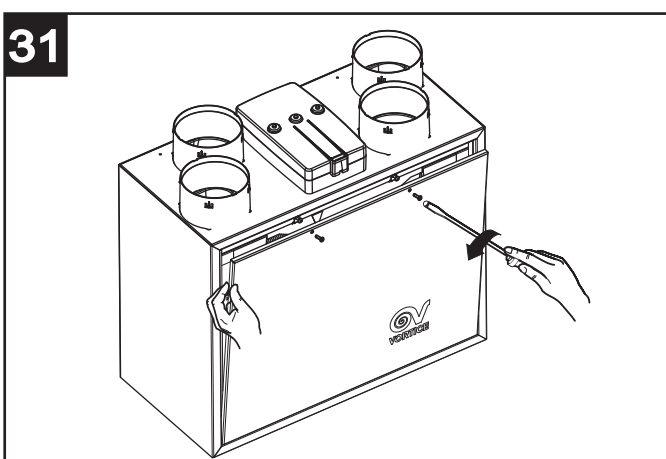
Heat exchangers do not usually need frequent cleaning. Any need for cleaning can be determined by a high degree of air pollution (both entering and leaving the house) and by the filters being in poor condition.

The heat exchanger should however be replaced every six years even if the filters have been regularly serviced. To access the heat exchanger, follow the instructions below:

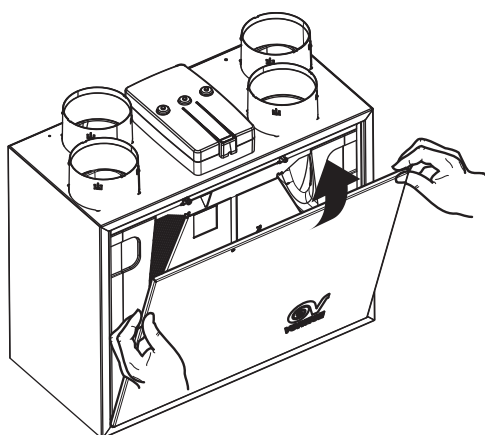
- disconnect the appliance from the mains;
- remove the heat exchanger (figs. 31,32,33);



- clean the heat exchanger;
- refit the heat exchanger (figs. 34,35,36)

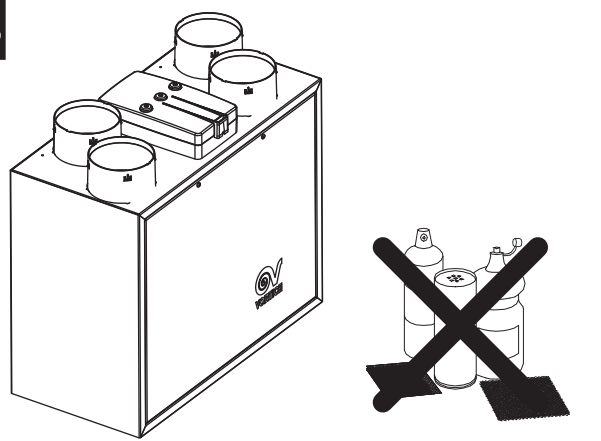


35

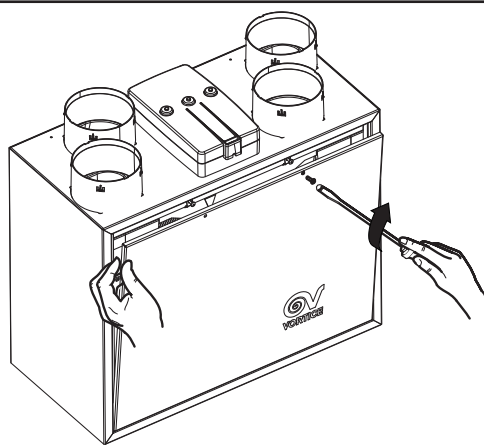


- do not use abrasive and/or corrosive products (fig. 38);

38



36



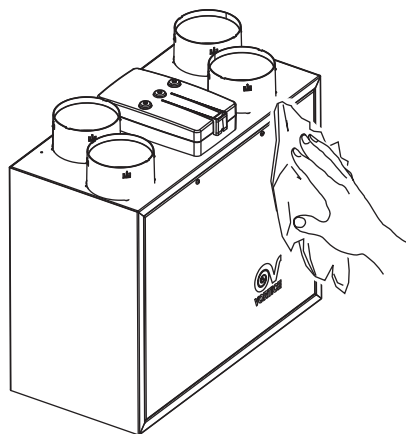
- do not use a rough and/or soaking cloth; any water that gets inside the appliance could cause serious damage.

Cleaning the outside

To clean the outside of the appliance, follow the instructions below:

- disconnect the appliance from the mains;
- only use a soft slightly damp cloth (fig. 37);

37



SYSTEM 4

CONTINUOUS MECHANICAL SUPPLY & EXTRACT VENTILATION WITH HEAT RECOVERY

A continuous balanced mechanical central supply and extract system to be positioned in loft or cupboard space. An integral heat exchanger recovers a large percentage of heat energy that would have otherwise been lost. In employing this type of system, there is no need to install background ventilators in the dwelling.

CONTINUOUS SUPPLY AND EXTRACT

- 1 Determine the whole building ventilation rate from Table 1.1B
Allow for infiltration by subtracting
 - for multi storey dwellings: $0.04 \times$ gross internal volume of dwelling heated space (m^3)
 - for single storey dwellings: $0.06 \times$ gross internal volume of dwelling heated space (m^3)
- 2 Calculate the whole dwelling extract rate at maximum operation by adding the individual room rates for 'minimum high rate' from Table 1.1A
- 3 The required air flow rates are as follows:
Maximum Extract Rate (boost) is the greater step of 1 and 2 above.
The Minimum individual room extract rates should be at least those given in Table 1.1A for minimum high rate
Minimum air supply rate should be at least the whole building ventilation rate in 1 above.
- 4 No Background ventilators are required with System 4

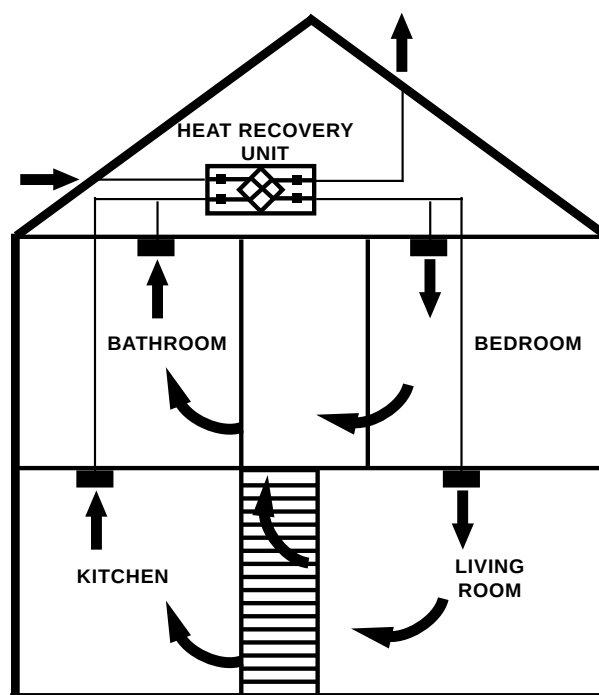


Table 1.1 A			
Room	Minimum intermittent extract rate	Continuous rate	
		Minimum high rate	Minimum low rate
Kitchen	30 l/s (adjacent to hob); or 60 l/s elsewhere	13 l/s	Total extract rate must be at least the whole building ventilation rate in Table 1.1B
Utility room	30 l/s	8 l/s	
Bathroom	15 l/s	8 l/s	
Sanitary Accommodation	6 l/s		

Table 1.1 B					
	Number of bedrooms in dwelling				
	1	2	3	4	5
Whole building ventilation rate (l/s)	13	17	21	25	29
Minimum value in any dwelling of 0.3 l/s per m^2 floor area					

In addition, the minimum ventilation rate should not be less than 0.3 l/s per m^2 internal floor area (this includes each floor, e.g. for a two-storey building, add the ground and first floor areas).

This is based on two occupants in the main bedroom and a single occupant in all other bedrooms. This should be used as the default value. If a greater level of occupancy is expected, then add $4 \text{ l/s per occupant}$.

Important information on eco-compatible disposal

IN CERTAIN EUROPEAN UNION COUNTRIES, THIS PRODUCT DOES NOT FALL WITHIN THE REQUIREMENTS OF THE NATIONAL LAWS IMPLEMENTING DIRECTIVE RAEE, AND, IN THESE COUNTRIES THE PRODUCT IS NOT SUBJECT TO SEPARATE DISPOSAL OPERATIONS AT THE END OF ITS WORKING LIFE.

This product complies with European Directive 2002/96/EC.

At the end of its useful life, the product marked with the crossed out wheeled bin must be disposed of separately from urban waste. It must be taken to a differentiated disposal centre for electrical and electronic appliances or be returned to the retailer when a new equivalent appliance is bought.



Subject to current legislation on waste disposal, the user is legally responsible for taking the appliance at the end of its useful life to a suitable disposal centre.

Appropriate differentiated waste collection for subsequent recycling, treatment and environment-friendly disposal of the discarded equipment helps to prevent possible negative environmental and health effects and encourages recycling of the component materials of the equipment.

For further information about available waste disposal systems, contact your local waste disposal service or the shop where you bought the product.

The manufacturers and importers comply with their responsibility for recycling, treating, and environmentally compatible disposal of waste both directly and collectively.



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A

**TAGLIANDO INTERVENTO IN GARANZIA
CERTIFICATE OF WORK PERFORMED UNDER GUARANTEE
COUPON INTERVENTION SOUS GARANTIE**

DATA INTERVENTO
DATE OF WORK - DATE INTERVENTION

TIMBRO CENTRO ASSISTENZA
STAMP OF TECHNICAL ASSISTANCE CENTRE - CACHET SERVICE

B

**TAGLIANDO INTERVENTO IN GARANZIA
CERTIFICATE OF WORK PERFORMED UNDER GUARANTEE
COUPON INTERVENTION SOUS GARANTIE**

DATA INTERVENTO
DATE OF WORK - DATE INTERVENTION

TIMBRO CENTRO ASSISTENZA
STAMP OF TECHNICAL ASSISTANCE CENTRE - CACHET SERVICE

C

**TAGLIANDO INTERVENTO IN GARANZIA
CERTIFICATE OF WORK PERFORMED UNDER GUARANTEE
COUPON INTERVENTION SOUS GARANTIE**

DATA INTERVENTO
DATE OF WORK - DATE INTERVENTION

TIMBRO CENTRO ASSISTENZA
STAMP OF TECHNICAL ASSISTANCE CENTRE - CACHET SERVICE

D

**TAGLIANDO INTERVENTO IN GARANZIA
CERTIFICATE OF WORK PERFORMED UNDER GUARANTEE
COUPON INTERVENTION SOUS GARANTIE**

DATA INTERVENTO
DATE OF WORK - DATE INTERVENTION

TIMBRO CENTRO ASSISTENZA
STAMP OF TECHNICAL ASSISTANCE CENTRE - CACHET SERVICE

ITALIA

CONDIZIONI DI GARANZIA

VORTICE ELETTROSOCIALI SPA garantisce i suoi prodotti per **2 anni** dalla data dell'acquisto, che deve essere comprovata da idoneo documento fiscale (scontrino o fattura), rilasciato dal venditore. Nel suddetto periodo di garanzia VORTICE ELETTROSOCIALI SPA si impegna, dopo aver effettuato le opportune valutazioni tecniche, a riparare o a sostituire gratuitamente le parti dell'apparecchio che risultassero affette da difetti di fabbricazione. La presente garanzia, da attivare nei modi e nei termini di seguito indicati, lascia impregiudicati i diritti derivanti al consumatore dalla applicazione del D. lgs. 24/2002. Tali diritti, conformemente alla legge, potranno essere fatti valere esclusivamente nei confronti del proprio venditore.

La presente garanzia è valida su tutto il territorio italiano.

Modalità e condizioni di attivazione della garanzia

Gli interventi in garanzia (riparazioni o sostituzioni del prodotto ovvero delle parti difettose) saranno eseguiti presso uno dei Centri di Assistenza Tecnica autorizzati da VORTICE ELETTROSOCIALI SPA, il cui indirizzo è disponibile sull'elenco telefonico alfabetico o contattando il **numero verde 800.555.777**.

La prestazione eseguita in garanzia non prolunga il periodo della garanzia. Pertanto, in caso di sostituzione del prodotto o di un suo componente, sul bene o sul singolo componente fornito in sostituzione non decorre un nuovo periodo di garanzia ma si deve tener conto della data di acquisto del prodotto originario.

UK AND IRELAND

CONDITIONS OF WARRANTY

This guarantee is offered as an extra benefit and does not affect your legal rights. All electrical appliances produced by VORTICE ELETTROSOCIALI SPA are guaranteed by the Company for **2 years** against faulty material or workmanship. If any part is found to be defective in this way within the first twentyfour months from the date of purchase or hire purchase agreement, we, or our authorised service agents, will replace or at our option repair that part without any charge for materials or labour or transportation, provided that the appliance has been used only in accordance with the instructions provided with each appliance and has been not connected to an unsuitable electricity supply, or subjected to misuse, neglect or damage or modified or repaired by any person not authorised by us. The correct electricity supply voltage is shown on the rating plate attached to the appliance. This guarantee is normally available only to the original purchaser of the appliance, but the Company will consider written applications for transfer. Should any defect arise in any Vortice product and a claim under guarantee become necessary, the appliance should be carefully packed and returned to your approved Vortice stockist. This portion of the guarantee should be attached to the appliance.

ITALIA

Spedire la garanzia in busta chiusa a:
Vortice Elettrosociali S.p.A.
Strada Cerca 2
Frazione di Zoate
20067 Tribiano Milano.

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informativo. In ogni momento, a
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UK-IRELAND

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to include my personal
details within their
database, which they use,
via a third party for the
despatch of advertising
material, at any time, in
accordance with the
regulations in force within
my country. I can have
access to my details and
can request changes, or
prohibit the usage of my
details. This will be done
by addressing my request
directly to:
Vortice Limited
Beeches House
Eastern Avenue
Burton on Trent
DE13 0BB United
Kingdom.

☐ I do not authorize
(please tick if required)

OTHER COUNTRIES

Please send the guarantee to
the retailer's address in the
country where the appliance
has been purchased.

☐ I authorize
VORTICE ELETTROSOCIALI SPA
and its local distributors to include
my personal details within their
database and they can use it
through a third party for the
despatch of advertising material. At
any time, in accordance with the
regulations in force within my
country. I can have access to
details and can ask to make
changes, or prohibit the usage of
my details. This will be done by
addressing my request directly to
the headquarters of the local
distributor where the appliance has
been bought.

☐ I do not authorize
(please tick if required)

1 GARANZIA - GUARANTEE - GARANTIE

DA CONSERVARE

TO BE RETAINED
A CONSERVER



DATA ACQUISTO
Purchase date - Date d'achat

Per poter usufruire della garanzia il cliente deve compilare e rispedire a VORTICE ELETTROSOCIALI SPA, entro 8 giorni dall'acquisto, la "Parte 2" del tagliando di garanzia, all'indirizzo e con le modalità in tale parte riportate. La "Parte 1" del tagliando di garanzia deve essere conservata e presentata, unitamente al documento fiscale (scontrino o fattura) rilasciato dal venditore al momento dell'acquisto, al Centro di Assistenza autorizzato di VORTICE ELETTROSOCIALI SPA, che dovrà eseguire l'intervento in garanzia.

This warranty must be attached to the appliance should it need to be returned for servicing.

N.B. Guarantee is only valid if all details are completed correctly.

ATTENTION: pour bénéficier de la garantie, le présent certificat doit obligatoirement accompagner l'appareil présumé défectueux. Le certificat doit porter le cachet du revendeur et la date d'achat.

A défaut, la garantie sera comptée à partir de la date de sortie d'usine.

Esclusioni

La presente garanzia non copre:

- Le rotture provocate dal trasporto.
- I difetti o guasti derivanti da uso non corretto o improprio da parte del cliente.
- I difetti derivanti dal mancato rispetto delle avvertenze e condizioni d'uso indicate nel libretto di istruzioni ed uso allegato al prodotto.
- I difetti derivanti da non corretta installazione ovvero da una installazione effettuata senza rispettare quanto previsto nel relativo capitolo del libretto di istruzioni ed uso.
- I guasti derivanti da un errato allacciamento alla rete di alimentazione elettrica o per tensione di alimentazione diversa da quella prevista per l'apparecchio, ovvero diversa dal limite stabilito dalle norme CEI (+/- 10% del valore nominale).

La presente garanzia non copre, inoltre, gli eventuali difetti derivanti da una cattiva manutenzione ovvero da interventi effettuati da personale non qualificato o da terzi non autorizzati.

TIMBRO RIVENDITORE

stamp of supplier
cachet du vendeur

CONF.

COLL.

DATA SPEDIZIONE
Mailing date - Date d'expédition

2 GARANZIA - GUARANTEE - GARANTIE

DA SPEDIRE (entro 8 giorni dall'acquisto)

TO SEND (within 8 days from date of purchase)

A RETOURNER (dans les 8 jours après l'achat)



DATA ACQUISTO
Purchase date - Date d'achat

TIMBRO RIVENDITORE
stamp of supplier
cachet du vendeur

DATI UTENTE / CUSTOMER DATA / COORDONNÉES DE L'UTILISATEUR

nome / name / nom _____
cognome / surname / prenom _____
via / street / rue _____
cap / post code / code postal _____
città / town _____

Dichiaro di aver preso atto delle condizioni di garanzia specificate sul certificato in mio possesso e autorizzo la gestione dei miei dati personali (v. retro).

I have read and understood the terms and conditions of this guarantee and I authorize the processing of my personal details (see overleaf).

Suivant les conditions de garantie définies par le certificat en ma possession j'autorise l'utilisation de mes coordonnées (voir au verso).

Firma / Signature / Signature _____

DATA SPEDIZIONE

Mailing date - Date d'expédition



ENERGY

VORTICE S.p.A.

VORT HR 200 BP

A+

A

B

C

D

E

F

G

A

53

dB



196 m³/h

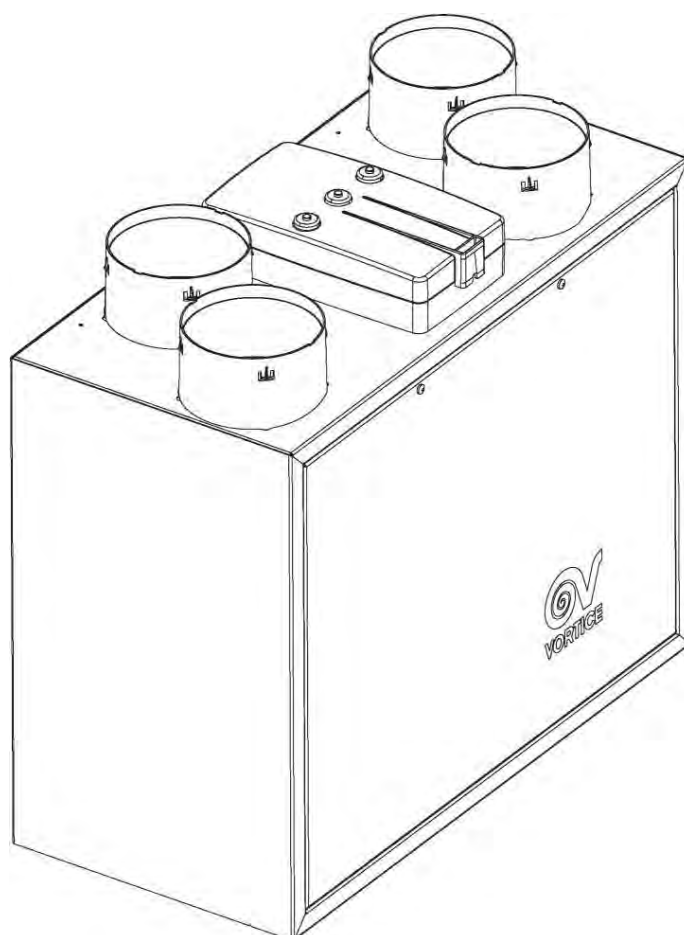


2016

1254/2014

5.175.935.019

Vort HR200 BP Commissioning Guide



CE

COD.UK.HR200BP.00

28/06/2018

VORTICE LIMITED
Beeches House
Eastern Avenue
Burton on Trent
DE13 0BB
Tel. 01283 492949
Fax. 01283 544121
sales@vortice.ltd.uk
www.vortice.ltd.uk

Before installing and using your product, read these instructions carefully. Vortice will not accept any responsibility for damage to property or personal harm resulting from failure to abide by the conditions listed below.

Following these instructions will ensure long service life and overall electrical and mechanical reliability. Keep this instruction booklet in a safe place for reference purposes.

Commissioning the Vort HR200 BP

Before commencing the commissioning process make sure you have the correct system design air flow calculations for the property. These should show the air flows for each room at both the low rate (trickle) and the high rate (boost).

If these are unavailable you will need to calculate these by using the appropriate building regulations for the geographic location of the dwelling.

(England & Wales: Approved Document F 2010

Scotland: Standard 3.14 Ventilation, technical Handbook- Domestic – Environment (2015))

England & Wales: Approved Document F 2010 (ADF2010)

Calculating the Whole Dwelling Ventilation Rate (Trickle rate)

The low rate is calculated by taking the higher of two below calculations.

1. Calculate the floor area in m² of the heated envelop of the dwelling then multiply this by 0.3l/s (Litres per Second) to give the trickle rate in (l/s) for the whole dwelling.

$$\text{m}^2 \text{ floor area} \times 0.3\text{l/s} = \text{trickle rate in l/s}$$

2. Calculate the total amount of occupants for the dwelling by using table 5.1b in ADF2010. Reference the number of bedrooms in the dwelling to the whole dwelling ventilation rate on table 5.1b, remember to add any additional occupants in the additional bedrooms after the first, by adding 4l/s per additional occupant.

Table 5.1b Whole dwelling ventilation rates					
	Number of bedrooms in dwelling				
	1	2	3	4	5
Whole dwelling ventilation rate ^{a, b} (l/s)	13	17	21	25	29
Notes:					
a. In addition, the minimum ventilation rate should be not less than 0.3 l/s per m ² of internal floor area. (This includes all floors, e.g. for a two-storey building add the ground and first floor areas.)					
b. This is based on two occupants in the main bedroom and a single occupant in all other bedrooms. This should be used as the default value. If a greater level of occupancy is expected add 4 l/s per occupant.					

3. Take into account the infiltration allowance of the dwelling as defined in table 5.1d of ADF2010. If the dwelling designed air permeability is greater (>) than $5\text{m}^3(\text{h.m}^2)$ at 50Pa, the calculated trickle rate is reduced by the value calculated from table 5.1d ADF2010 to take into account the natural infiltration of the dwelling.

Table 5.1d (ADF2010)

Design of MVHR systems

System 4 has been sized for the winter period. Additional ventilation may be required during warmer months and it has been assumed that the provisions for **purge ventilation** (e.g. openable windows) could be used.

Step 1: For any design **air permeability**, determine the **whole dwelling ventilation** supply rate from Table 5.1b.

As an alternative where the designed **air permeability** is intended to be leakier than (>) $5\text{m}^3(\text{h.m}^2)$ at 50 Pa, allow for infiltration for all dwelling types by subtracting from the **whole dwelling ventilation** supply rate from Table 5.1b: $0.04\text{ l}(\text{s.m}^3) \times \text{gross internal volume}$ of the dwelling heated space (m^3), but see the cautionary advice in 5.10.

If the designed air permeability rate of the dwelling is less than $5\text{m}^3(\text{h.m}^2)$ at 50Pa then no deduction is made to the original trickle rate for the infiltration allowance.

This volumetric airflow needs to be split proportionately by room size of the habitable rooms within the dwelling.

Calculating the High Rate (Boost)

The high rate is calculated by adding the Minimum high rate for each of the wet rooms within the dwelling (kitchen, bath, utility etc.) together from the values in table 5.1a in ADF2010 continuous extract.

Table 5.1a Extract ventilation rates			
Room	Intermittent extract	Continuous extract	
	Minimum rate	Minimum high rate	Minimum low rate
Kitchen	30 l/s adjacent to hob; or 60 l/s elsewhere	13 l/s	Total extract rate should be at least the whole dwelling ventilation rate given in Table 5.1b
Utility room	30 l/s	8 l/s	
Bathroom	15 l/s	8 l/s	
Sanitary accommodation	6 l/s	6 l/s	

Note. If the calculated trickle rate as defined by ADF (Table 5.1b) and taking into account the infiltration allowance (as defined in Table 5.2d) is greater than the total boost rate (as defined in Table 5.1a continuous extract) the boost is taken as being equal to the trickle rate, as the trickle rate is greater than the minimum high rate / boost.

This volumetric airflow needs to be split proportionately by room type as in Table 5.1a continuous extract and achieving the minimum high rates as defined.

Scotland: Standard 3.14 Ventilation, Technical Handbook – Domestic – Environment (2015)

(Also Building Standards Supporting Guidance Domestic Ventilation 2rd Edition)

Calculating the Whole Dwelling Ventilation Rate (Trickle rate)

1. Calculate the volume of the heated envelope of the dwelling in cubic metres and then calculate the air volume at 0.5 Air Changes Per Hour (ACPH). This will give the required rate in metres cubed per hour (m³/h). To convert this value to litres per second (l/s) divide by 3.6.

$$\text{m}^3 \text{ of dwelling} \times 0.5 \text{ ACPH} = \text{Low rate in m}^3/\text{h}$$

$$\text{Low rate in m}^3/\text{h} / 3.6 = \text{Low rate in l/s}$$

This volumetric airflow needs to be split proportionately by room size of the habitable rooms within the dwelling.

Example Ventilation Solution 4: - Continuously Operating Balanced Supply and Extract (with or without Heat Recovery)

	Apartment	Kitchen	Bathroom / Shower	Toilet	Utility Room
Openable Ventilator	1/30 th floor area ^[1]			1/30 th floor area ^[1]	
Trickle Ventilator	N/A	N/A	N/A	N/A	N/A
Continuously Operating Mechanical Extract ^[2]	0.5 ACPH minimum	0.5 ACPH Minimum and 25 -50 % boost	0.5 ACPH minimum and 25 -50 % boost	0.5 ACPH minimum	0.5 ACPH minimum

Note:

^[1] Openable ventilators (generally windows) provide summer cooling, rapid ventilation and for use when mechanical system switched off.

^[2] Based on whole house ventilation rate.

Calculating the High Rate (Boost)

The boost is calculated at a minimum of +25% of the low rate and a maximum of 50% of the trickle rate.

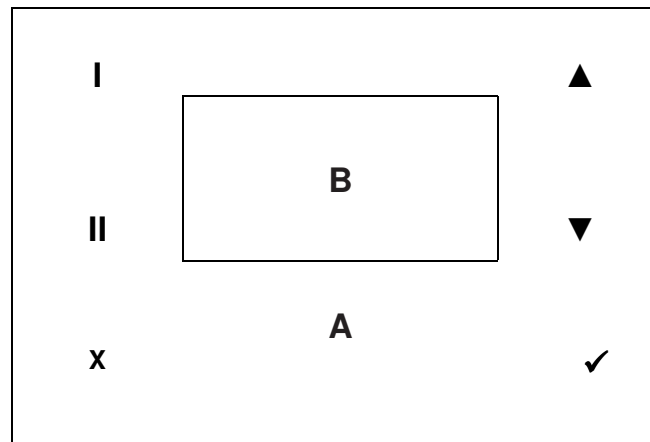
$$\text{Low rate in m}^3/\text{h} + 25\% = \text{High rate (Boost) in m}^3/\text{h}$$

or

$$\text{Low rate in l/s} + 25\% = \text{High rate (Boost) in l/s}$$

This volumetric airflow needs to be split proportionately by room size of the wet rooms within the dwelling.

Controller Overview



A Touch pad area

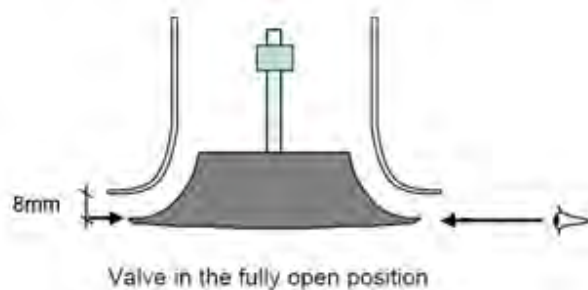
B Display

Key	Function
▲	To select the fan high speed (Boost) To move up through menu lists To increase a value in a selected menu
▼	To select the fan low speed (Normal) To move down through menu lists To decrease a value in a selected menu
I	Screen 1 showing date and time
II	Screen 2 showing system temperatures
X	Exit and return to previous screen without saving
✓	Confirm / save current setting

Vort HR200 BP Commissioning Process

A: Preparation for Commissioning.

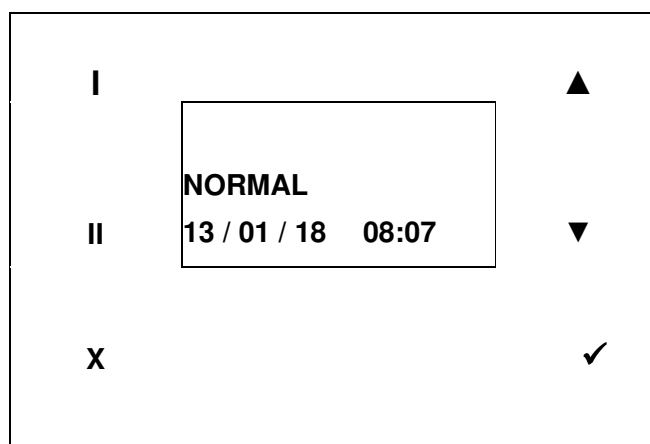
- A1. Close all doors and windows.
- A2. Open all the duct valves to the fully open position.



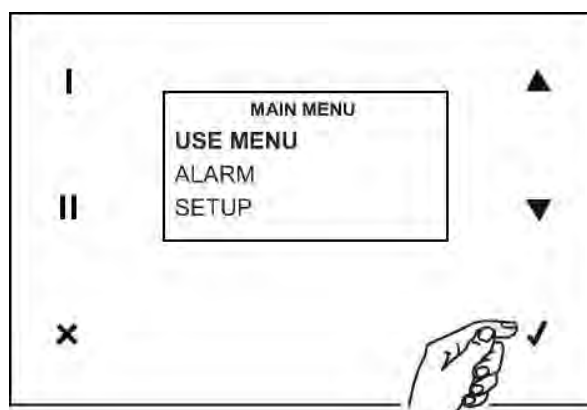
- A3. Have the system calculations for the dwelling handy. (Tip: write the value for each room clearly on a piece of paper and leave in each room for handy reference).

B: Setting the Whole Dwelling Ventilation Rate (Trickle)

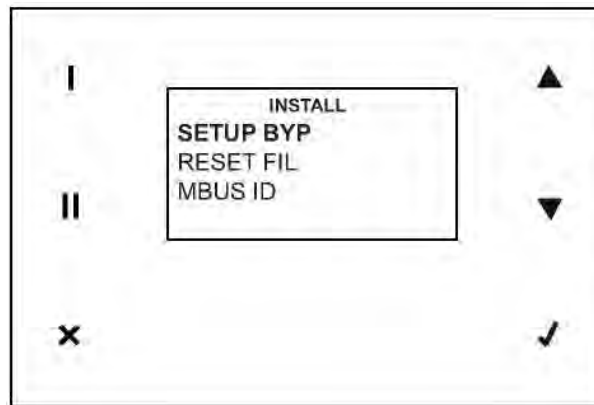
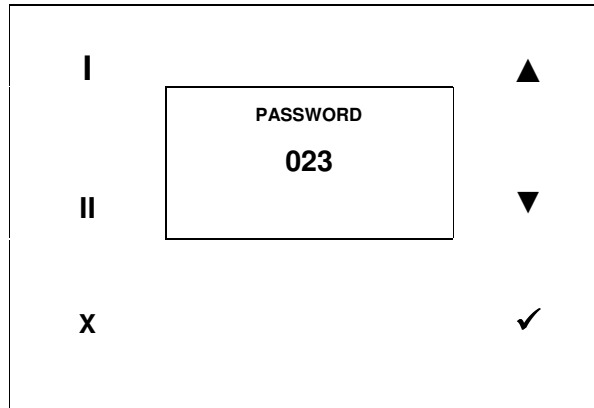
- B1. Set the Anemometer for measuring supply air flow.
- B2. Make sure the unit is set on the low speed (showing Normal on the display) and all boost switches are in the off position.
- B3. Set the low speed (trickle) on the unit by adjusting the low speed fan setting so that the total of all the supply valves is equal to or just over the required rate.



- B4. Adjusting the fan speed: the fan speed for the supply fan (VNORMAL I) and extract fan (VNORMAL O) will need to be set individually.
- B5. Press the “X” a couple of times to make sure you are at the main display screen.
- B6. Press the “✓” to display menu screen.



- B7. Use the “▲ & ▼” to select “USE MENU” then press the “✓” to select.
- B8. “000” will be displayed. Use the “▲” to enter the password 023 then “✓” to enter.



B9. Use the “▲ & ▼” to select “SPEED” then press the “✓” to select.



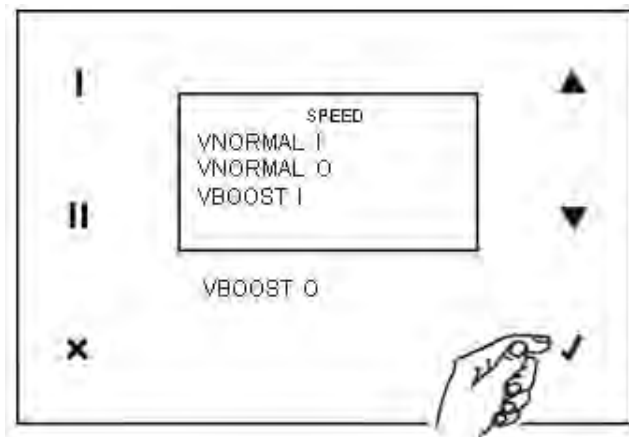
B10. Select the speed to be adjusted using the “▲ & ▼” then press the “✓”.

VNORMAL I = Supply Background (Trickle) rate (Habitable rooms)

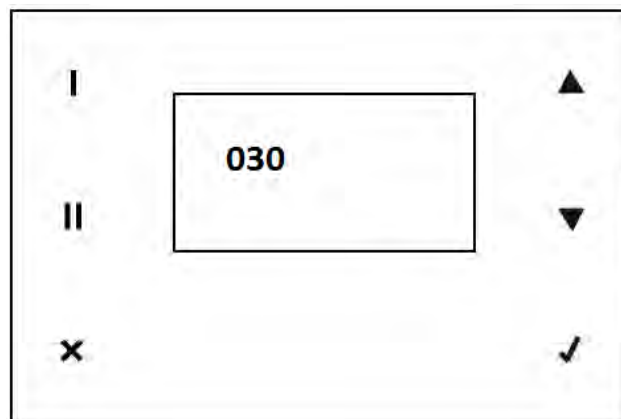
VNORMAL O = Extract Background (Trickle) rate (Wet Rooms)

VBOOST I = Supply High (Boost) rate (Habitable rooms)

VBOOST O = Extract High (Boost) rate (Wet Rooms)



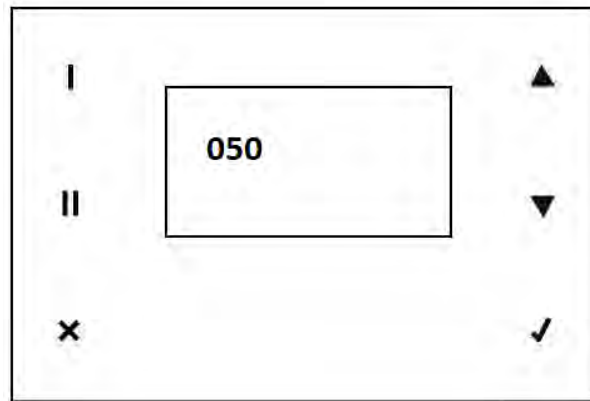
B11. Select VNORMAL I (Trickle supply to habitable rooms) using the “▲ & ▼” keys then press the “✓”.



The speed setting is displayed; using the “▲ & ▼” keys adjust the fan speed until the required setting to achieve the total air flow rate (on trickle) is reached and then press the “✓” to select and enter the speed.

B12. Measure the total supply air at the supply valves and repeat step B11 until the required air flow rate or just above is reached.

- B13. Now adjust the individual supply valves until each room is receiving the correct air flow. (You may need to adjust the fan speed during this process to compensate for the additional resistance).
- B14. Select VBOOST I (Boost to habitable rooms) using the “▲ & ▼” keys then press the “✓”.

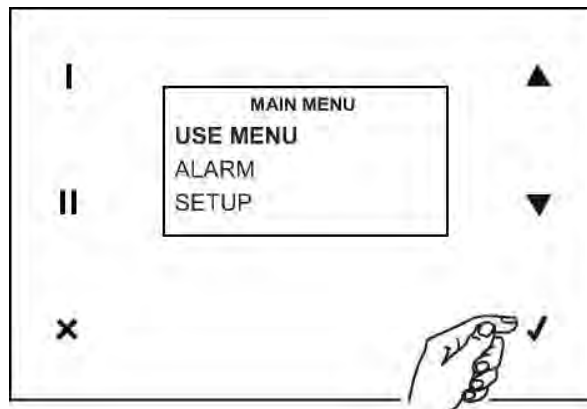


- The speed setting is displayed; using the “▲ & ▼” keys adjust the fan speed until the required setting to achieve the total air flow rate (on boost) is reached and then press the “✓” to select and enter the speed.
- B15. Measure the total supply air at the supply valves and repeat step B14 until the required total air flow rate or just above is reached. **DO NOT** adjust the ceiling valves.

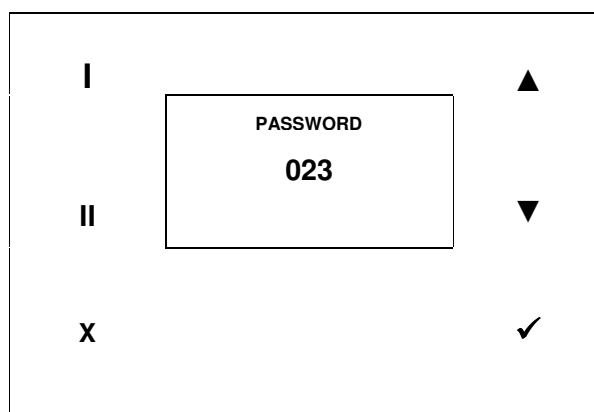
C: Setting the Maximum Extract Ventilation Rate (Boost)

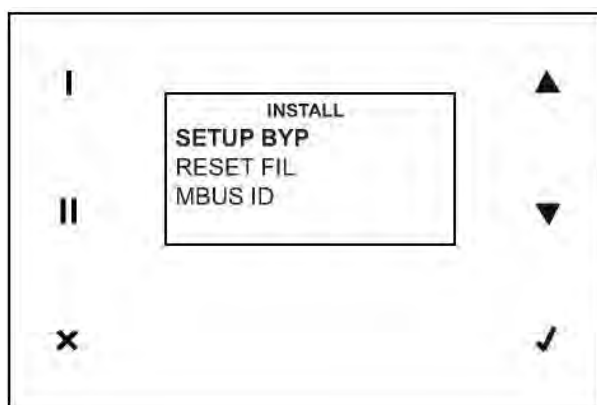
- C1. Set the Amemometer for measuring extract air flow.
- C2. Keep the unit set on the low speed (showing Normal on the display) and all boost switches are in the off position.
- C3. Set the high speed (boost) on the unit by adjusting the high speed fan setting so that the total of all the extract valves is equal to or just over the required rate.

- C4. Press the “X” a couple of times to make sure you are at the main display screen.
- C5. Press the “✓” to display menu screen.



- C6. Use the “▲ & ▼” to select “USE MENU” then press the “✓” to select.
- C7. “000” will be displayed. Use the “▲” to enter the password 023 then “✓” to enter.





C8. Use the “▲ & ▼” to select “SPEED” then press the “✓” to select.



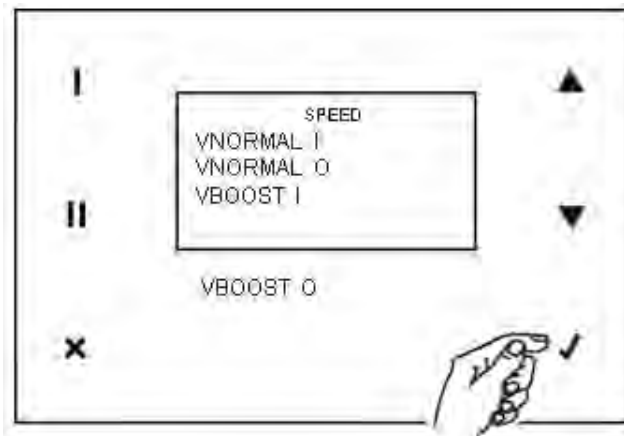
C9. Select the speed to be adjusted using the “▲ & ▼” then press the “✓”.

VNORMAL I = Supply Background (Trickle) rate (Habitable rooms)

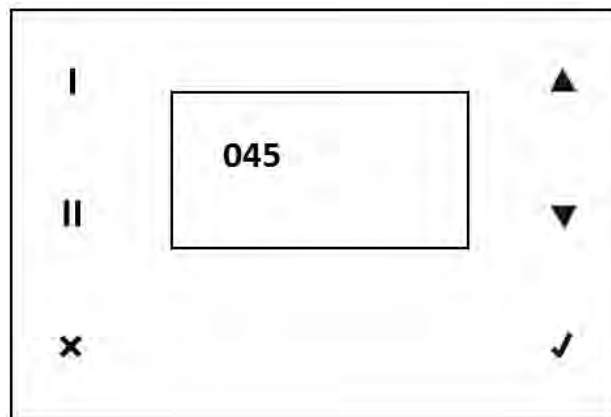
VNORMAL O = Extract Background (Trickle) rate (Wet Rooms)

VBOOST I = Supply High (Boost) rate (Habitable rooms)

VBOOST O = Extract High (Boost) rate (Wet Rooms)



C10. Select VBOOST O (Boost extract from the wet rooms) using the “▲ & ▼” keys then press the “✓”.

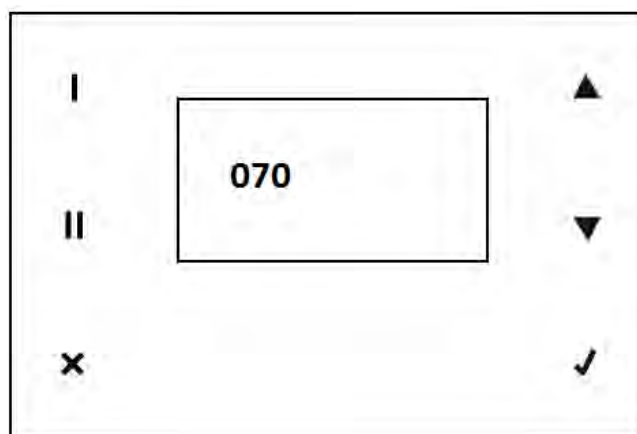


The speed setting is displayed; using the “▲ & ▼” keys adjust the fan speed until the required setting to achieve the total air flow rate (on boost) is reached and then press the “✓” to select and enter the speed.

C11. Measure the total extract air at the extract valves and repeat step C10 until the required air flow rate or just above is reached.

C12. Now adjust the individual extract valves until each room is extracting the correct air flow. (You may need to adjust the fan speed during this process to compensate for the additional resistance).

C13. Select VNORMAL O (Trickle from the wet rooms) using the “▲ & ▼” keys then press the “✓”.

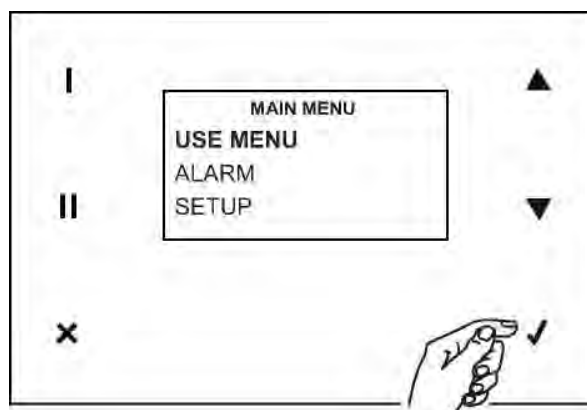


The speed setting is displayed; using the “▲ & ▼” keys adjust the fan speed until the required setting to achieve the total air flow rate (on trickle) is reached and then press the “✓” to select and enter the speed.

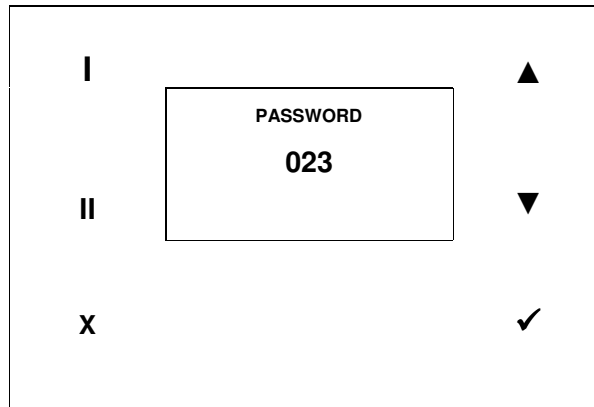
- C14. Measure the total extract air flow at the extract valves and repeat step C13 until the required total air flow rate or just above is reached. **DO NOT** adjust the ceiling valves.

D: Setting the Bypass Trigger Temapture

- D1. Press the “x” a couple of times to make sure you are at the main display screen.
- D2. Press the “✓” to display menu screen.



- D3. Use the “▲ & ▼” to select “USE MENU” then press the “✓” to select.
- D4. “000” will be displayed. Use the “▲” to enter the password 023 then “✓” to enter.



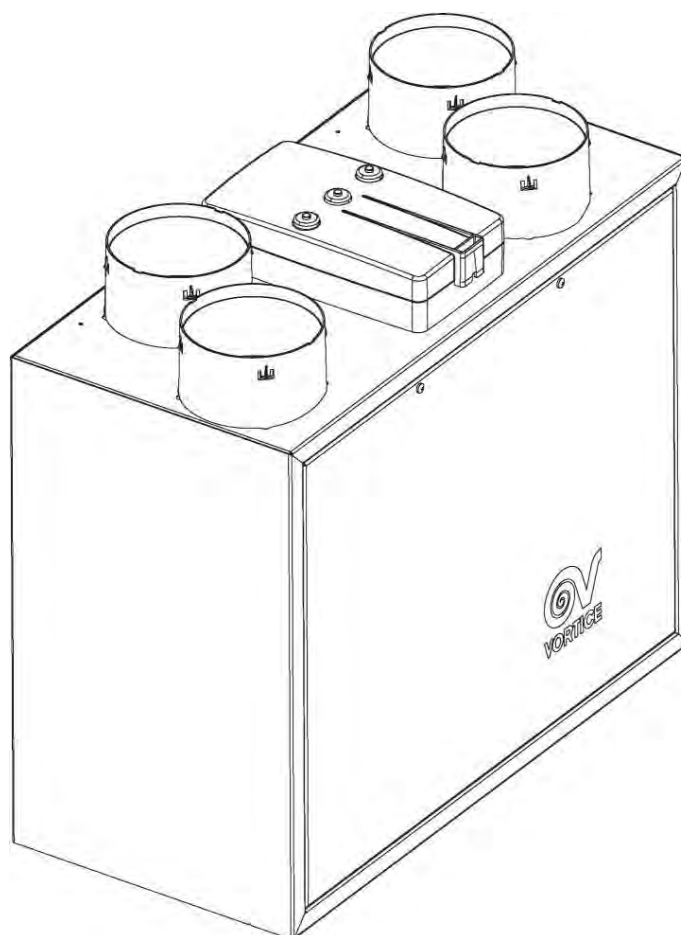
- D5. Use the “▲ & ▼” to select “SETUP BYP” then press the “✓” to select.



- D6. The default value of “018” (18 degrees centigrade) will be displayed. Use the “▲ & ▼” to set the trigger point at “022” (22 degrees centigrade) or your desired temperature, then press the “✓” to enter.
- D7. Press the “X” a couple of times to return to the main display screen.

The Vort HR200 BP is now commissioned and operating.

Vort HR200 BP Occupant Instructions



CE

COD.UK.HR200BP.00

29/06/2018

VORTICE LIMITED
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Sales@vortice.ltd.uk
www.vortice.ltd.uk

The Vort HR200 BP

The ventilation unit installed in your property is a low energy continuously running product designed to provide continuous ventilation to the dwelling. It removes stale air from the wet rooms (e.g. kitchen, bathroom) and recovers heat from this stale air, transferring it to fresh incoming air which is supplied to the habitable rooms (living rooms, bedrooms). A constant supply of fresh air provides a healthy environment for you and your family.

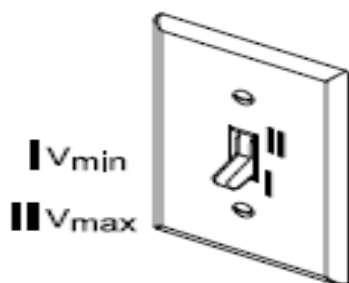
The Heat Recovery Unit (HRU) should be running when you take occupancy of the property.

The unit can operate manually by the switches installed in your property or the unit may have been set up to operate automatically with sensors located in some rooms (kitchen, bathroom, etc...)

Instruction for use

Manually selecting boost speed

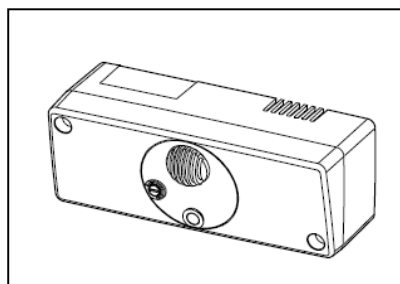
The unit can be switched between minimum speed (trickle) and maximum speed (boost) by means of a switch located in or near the wet rooms.



The fan speed can also be adjusted by means of the master control panel by using the ▲ button to select maximum speed (boost) and ▼ button to select minimum speed (trickle).

Automatically operating the unit

If your unit has been fitted with the optional sensors then the speed selection is automatic when either motion (PIR sensors) or humidity (T-HCS sensors) are triggered. If the unit has been installed to operate with sensors, the unit will select the most appropriate speed automatically from the sensors. More detailed instructions can be found in the Product Instruction Manual.

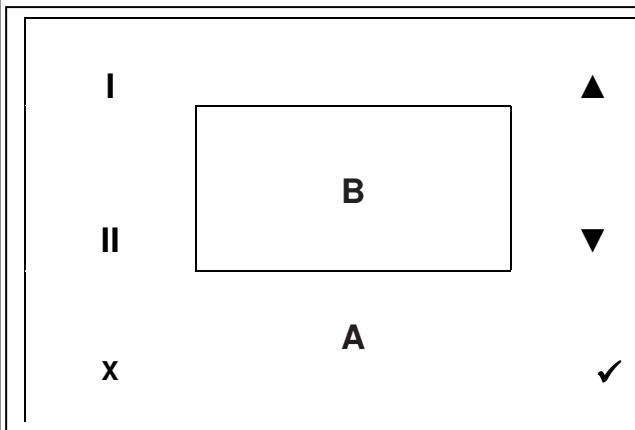


Thermal Bypass Operation

The Vort HR200 BP has a thermal bypass function. This means the motors are imbalanced in such a way as to reduce the thermal performance of the heat exchanger so reducing the thermal transfer between the air streams.

This function is fully automatic by means of setting the room temperature during commissioning of the system.

Master Control Panel Functions



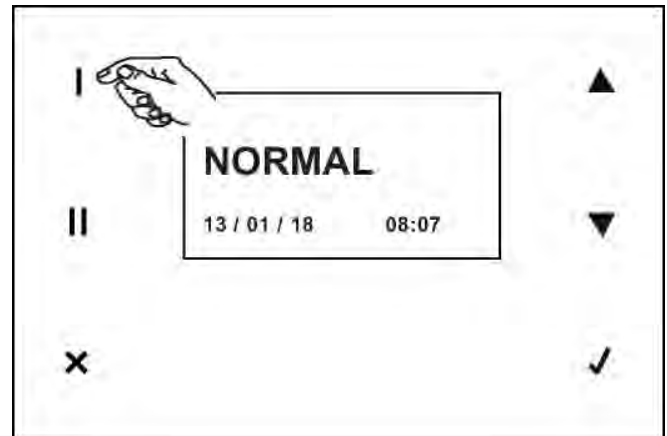
- A** Touch pad area
B Display

Key	Function
▲	To select the fan high speed (Boost) To move up through menu lists To increase a value in a selected menu
▼	To select the fan low speed (Normal) To move down through menu lists To decrease a value in a selected menu
I	Screen 1 showing date and time
II	Screen 2 showing system temperatures
X	Exit and return to previous screen without saving
✓	Confirm / save current setting

Displays

The center of the display shows the operating mode of the unit, NORMAL (trickle or background) or BOOST. This is displayed in both screen options.

“I” This screen displays the date and time. These are settable by the occupier.

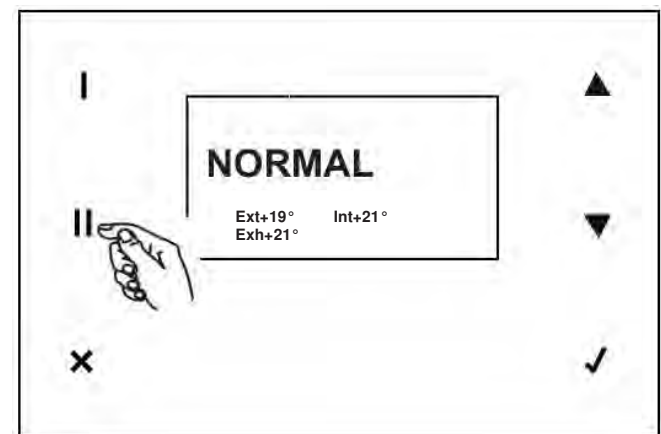


“II” This screen displays the temperatures of the air flows within the unit.

“Ext” Supply air into the unit

“Int” Extract air from the dwelling

“Exh” Exhaust air to atmosphere



Filter Cleaning & Maintenance

The Vort HR200 BP unit is fitted with two G3 filters part code (22367) which filter the incoming air flows into the unit. These will require cleaning and replacing periodically. The length of time between these will depend on the local environmental conditions.

Vortice recommended that the filters are inspected and cleaned every 2 to 3 months and replaced every 12 months.

Failure to carry out filter maintenance will seriously affect the system performance and may lead to a system lock up.

Filter Alarm

The unit will indicate when the filters require cleaning or replacement by means firstly of a pre-alarm signal on the master control panel. If this pre-alarm is not reset then a full alarm indication will be displayed intermittently. If filter maintenance and the reset is not carried out after a period of time the HR200 BP unit will shut down.

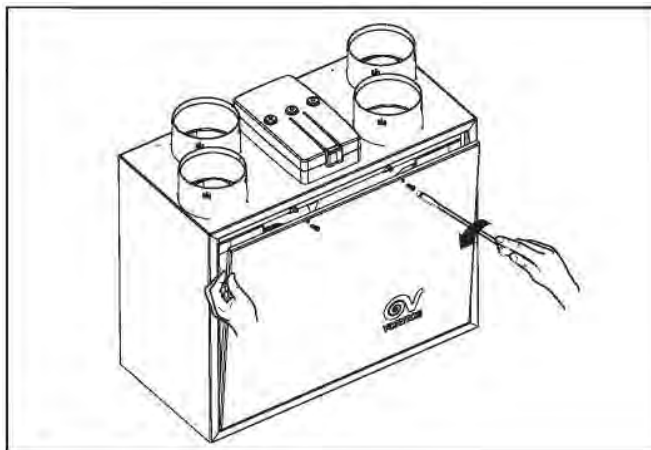


After 3 months if the filters are not replaced the unit will give a Filt alarm and stop operation until the filters are replaced and the message cleared as above.

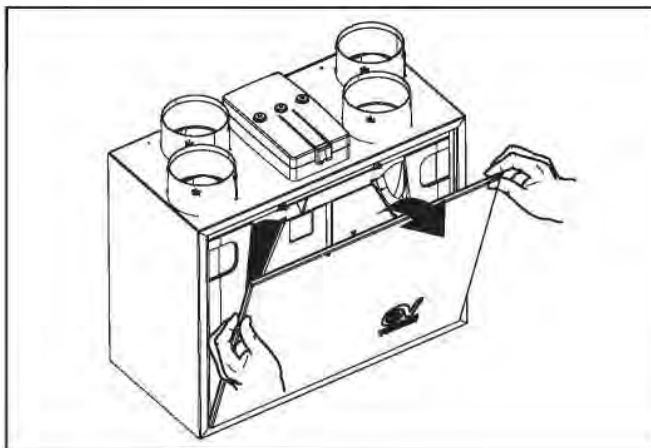
How to access and clean the filters

Important – Before carrying out any cleaning or maintenance on the heat recovery unit isolate the unit at the switched / fused spur for the unit.

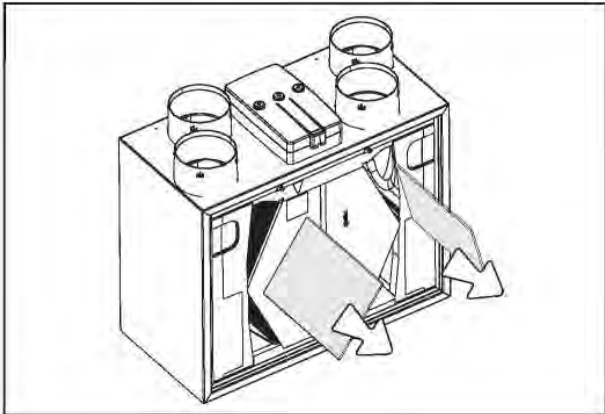
1. Remove the two screws at the top of the front panel.



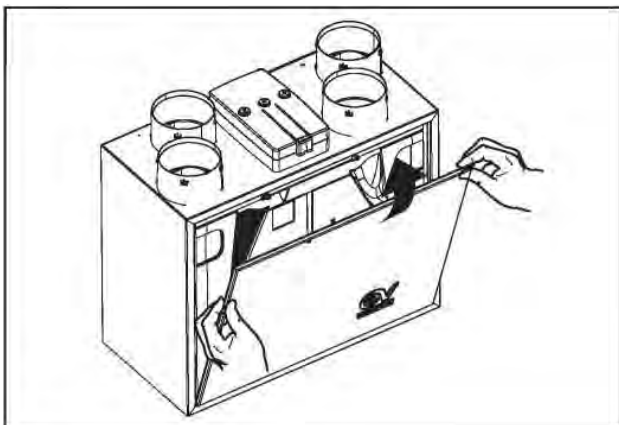
2. Remove the front panel by tilting towards you pivoting at the base to clear the top of the unit then lift up.



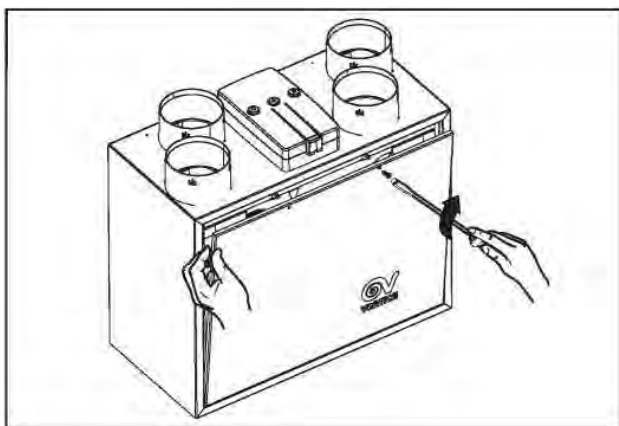
3. Remove the filters one at a time and clean / replace as required. When cleaning the filters note the orientation of the filter and re-install in the same direction.



4. Replace the front panel by placing on the bottom of the opening and pushing back into the opening.

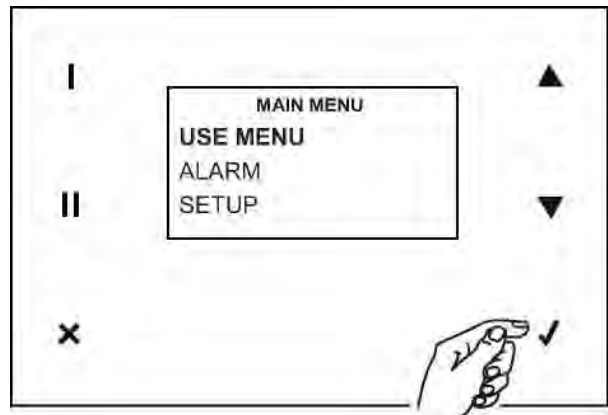


5. Secure the front panel by replacing the two screws removed in step 1.

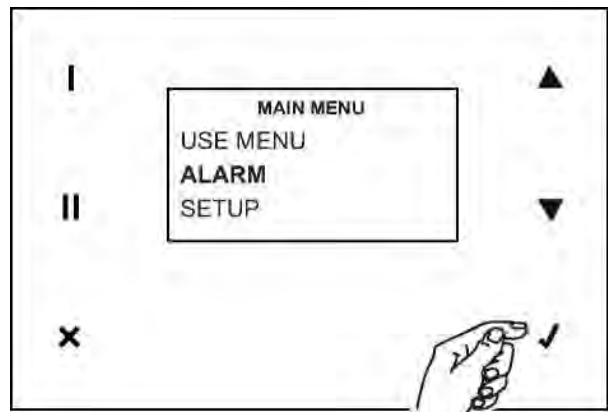


Resetting Filter Alarm

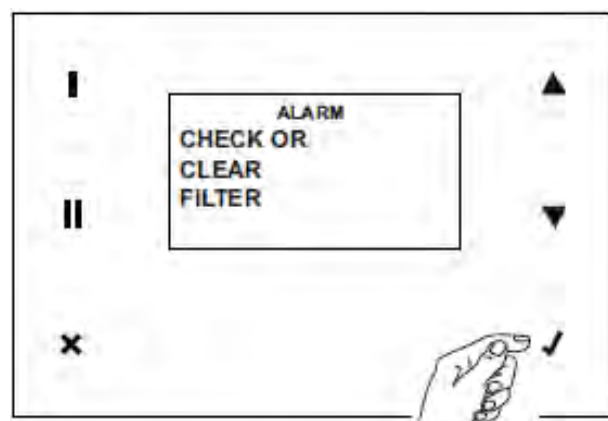
1. Press the "X" a couple of times to make sure you are at the main display screen.
2. Press the "✓" to display menu screen.



3. Use the "▲ & ▼" to select "ALARM" then press the "✓" to select.

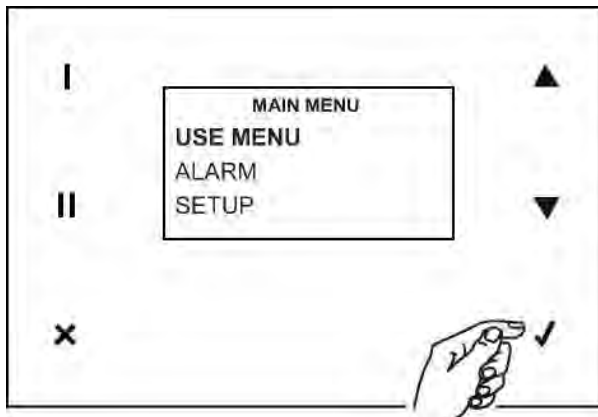


4. Press the "✓" to select and clear the alarm. Then "X" a couple of times to return to main screen.

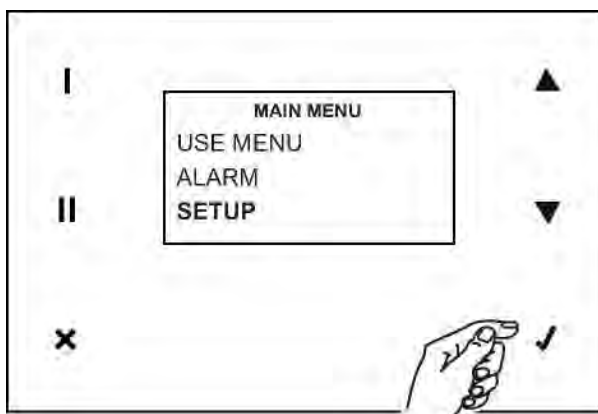


Setting the date and time

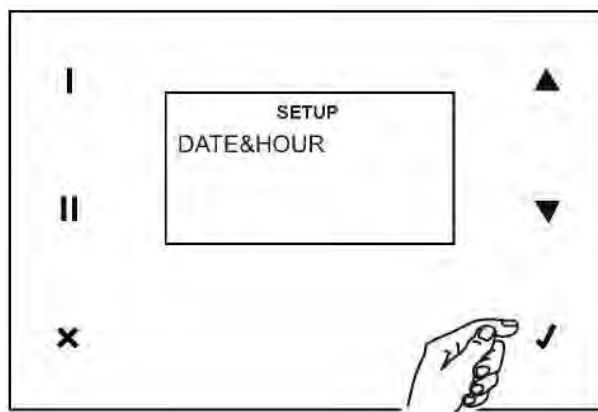
1. Press the "X" a couple of times to make sure you are at the main display screen.
2. Press the "✓" to display menu screen.



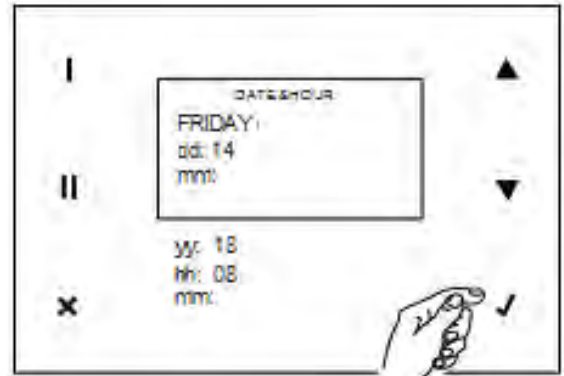
3. Use the "▲ & ▼" to select "SETUP" then press the "✓" to select.



4. Press "✓" to select.



5. Press "✓" to select the day and then using the "▲ & ▼" change to the required day then press "✓" to confirm.



6. Using the "▲ & ▼" keys and "✓" to select the option move through the menu options changing to the required setting then press "✓" to confirm.

7. Repeat steps 5 and 6 until all the options are set as required then Press the "X" a couple of times to make sure you are at the main display screen.