

HUSHON (UK) LTD

Transport/Installation Manual



DANVENT

Fig. 1.1

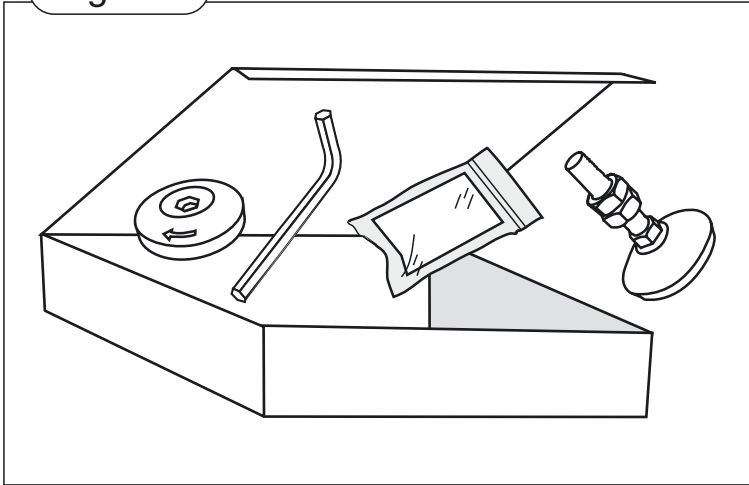


Fig. 1.2

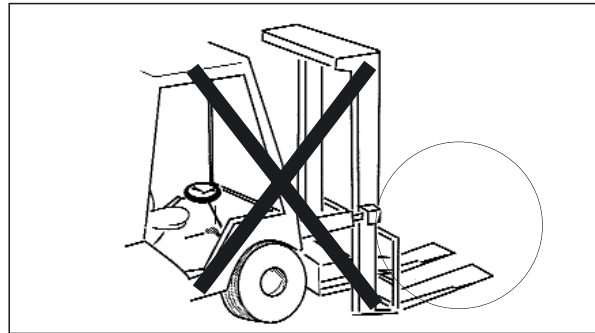
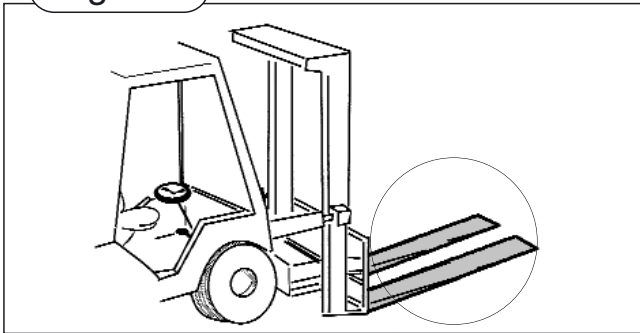


Fig. 1.3

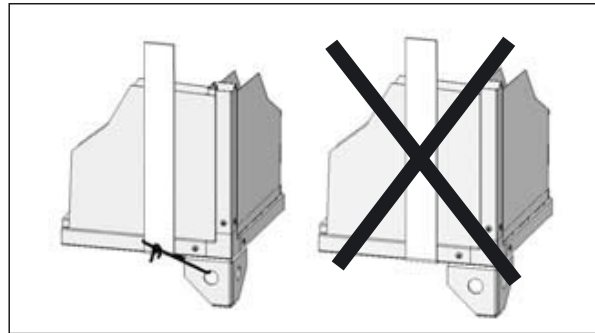
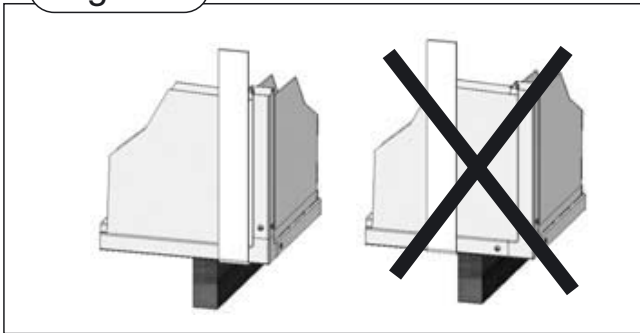


Fig. 1.4

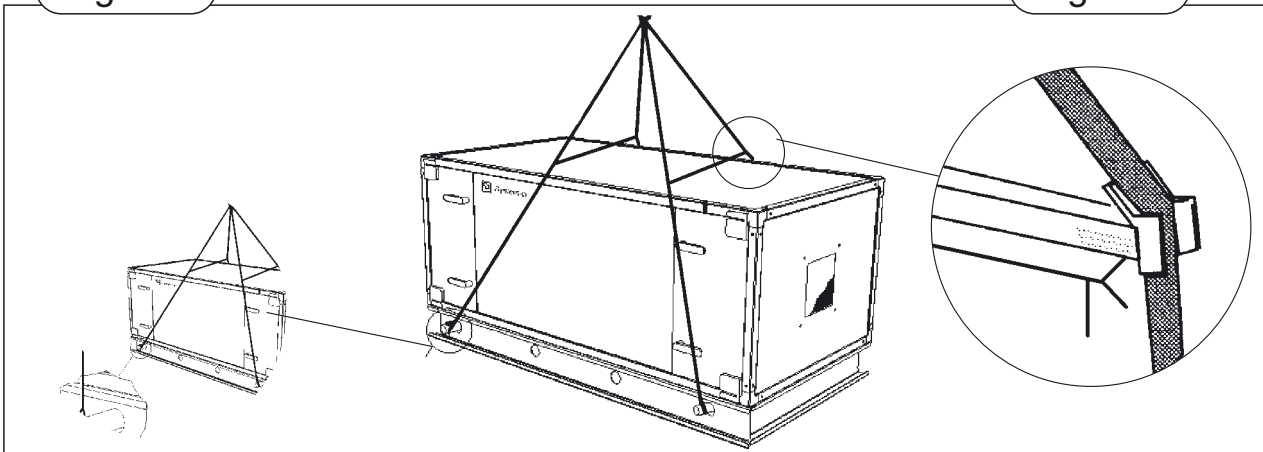


Fig. 1.5

DK	Denne manual er en vejledning i korrekt transport og installation. Af hensyn til sikkerhed og for at undgå problemer, skal den læses inden arbejdet påbegyndes.	03 - 06
UK	This instruction manual is an aid to correct transport and assembly. For safety reasons, and to avoid problems, it is recommended to read the manual before undertaking.	07 - 10
SE	Denna manual är en vägledning för korrekt transport och installation. Av säkerhetsskäl och för att undvika problem bör denna manual läsas före arbetets början.	11 - 14
FI	Tämän ohjeen tarkoituksena on antaa neuvoja oikeasta kuljetuksesta ja kokoonpanosta. Turvallisuuden vuoksi ja ongelmien välttämiseksi suositellaan, että ohje luetaan ennen työhön ryhtymistä	15 - 18
LV	Šī instrukcija ir kā palīgs, lai veiktu pareizu iekārtas transportēšanu un uzstādīšanu. Drošības nolūkā un, lai izvairītos no problēmām rekomendējam iepazīties ar šo instrukciju pirms iekārtas transportēšanas un uzstādīšanas.	19 - 22
NL	Deze instructies zijn voor het correct transporteren en samenbouwen. Lees deze instructies voor het monteren en aansluiten van het toestel.	23 - 26
LT	Ši instrukcija yra paruošta tam, kad įrenginiai būtų tinkamai transportuojami ir montuojami. Pritygtinai rekomenduojame perskaityti šią instrukciją, kad būtų išvengta nesklandumų ir problemų, prieš pradėdant įrenginio perkėlimą ir transportavimą.	27 - 30
EE	See juhend on abiks nõuetekohasel transportimisel ja paigaldamisel. Tööohutuse tagamiseks ja probleemide vältimiseks on soovitatav enne töö alus tamist juhend läbi lugeda.	31 - 34
FR	Ce manuel est une aide afin de réaliser un transport et une installation corrects. Pour des raisons de sécurité, il est recommandé de lire ces instructions avant de procéder à toute intervention.	35 - 38
RU	Данное руководство предназначено для оказания помощи в правильной транспортировке и сборке. Исходя из соображений безопасности и во избежание трудностей, рекомендуется прочитать руководство до начала выполнения работ.	39 - 43
PL	Niniejsza instrukcja zawiera wytyczne w zakresie transportu i montażu central wentylacyjnych DANVENT produkcji Systemair. Zaleca się uważnie przeczytać niniejszą instrukcję przed rozpoczęciem czynności związanych z transportem i montażem urządzenia.	44 - 48
DE	Diese Bedienungsanleitung ist ein Hilfsmittel, um Fehler bei Transport und Montage zu verhindern. Es wird aus Sicherheitsgründen und um Probleme zu vermeiden, empfohlen diese Bedienungsanleitung vor Gebrauch zu lesen	49 - 53
CZ	Tento montážní návod slouží ke správnému transportu a montáži vzduchotechnických jednotek DV. Z bezpečnostních důvodů doporučujeme před manipulací se vzduchotechnickými jednotkami DV přečíst celý tento montážní návod. V případě , že nebude zákazník postupovat dle uvedeného manuálu nebude uznána záruka na uvedená zařízení.	54 - 58



Declaration of Conformity

The Manufacturer: **Systemair A/S**
 Ved Milepælen 7
 DK - 8361 Hasselager
 Denmark

Hereby declares that:

The Product: **Air Handling Unit DV**
 Air Handling Unit TIME

is in conformity with the following Directives and Standards:

Low Voltage Directive 73/23/EEC and 93/68/EEC
Standards: EN 60 204-1

EMC Directive 89/336/EEC and 93/68/EEC
Standards: EN 50 081-1, EN 50 081-2

By design, the Units, considered as components, comply with the essential requirements of

Machinery Directive 89/392/EEC and 98/37/EEC **Annex II, Sub B**

provided that the Installation is correctly realised by the Manufacturer of the Ventilation System (in compliance with our Installation Instructions)
Standards: EN 292-1, EN 292-2

The Units above must not be put into service, until the Ventilation Systems into which they have been incorporated, have been declared in Conformity with the Machinery Directive.

Date: 01. 07. 2005


Kaj Sørensen
Technical Manager

1. Transport

The AHU is delivered as a unit in one-piece or in sections, which are to be assembled on-site. The unit is delivered on transport pallets, supporting legs or on a baseframe. The AHU can be lifted by fork-lift truck or crane using suitable lifting straps.

1.1 Accessories

Accessories such as adjustable supporting feet, Disc-Lock, water trap (to be ordered separately), spare belts/filters (to be ordered separately) and other loose items, are packed into a box and put inside the AHU. On the outside of the unit section, in which these items are placed, will be a red sticker (Fig. 1.1). Duct connections Parts are also placed within the AHU (with exceptions). Remember to remove any transport fixing pieces. These can also be identified with the red stickers.

1.2 Unloading by fork-lift truck

AHU delivered on a transport pallet, corner base pieces or base-frame: the forks of the truck must be of a length which will not damage the underside of the AHU (Fig. 1.2).

1.3 Unloading by crane

An AHU delivered on a transport pallet must be strap lifted as shown on Fig. 1.3. If the unit is delivered with supporting legs then the straps must be secured to the supporting legs as shown on Fig. 1.3.

1.4 Lifting a unit with a baseframe

The holes in the baseframe are to be used for the placing of lifting bars (Fig. 1.4). It must be ensured that the

bars used are strong enough to lift the loads in question.

1.5 Roof-top unit

Be careful not to damage the roofing profiles. Use bars or similar in order to keep the straps free of the roof edges (Fig. 1.5).

1.6 Pre-assembly storage

The AHU must be protected from the weather and damaging knocks. Packaging must be removed and the unit covered with tarpaulin or similar. In order to minimise condensation, sufficient air circulation must be ensured between the covering and the unit.

2. Assembly

NB! When positioning the unit, it must be ensured that the necessary space requirements for service and inspection in front of the unit are met. It is recommended that a distance, which is the same as the unit's width, is kept free for service and inspection in front of the unit.

2.1 Supporting surface

The surface beneath the unit must be level and even. The support of the surface must be able to withstand the load of the AHU.

In the case of lightweight construction or especially sensitive areas, the unit should be placed on a vibration absorbing foundation with the necessary properties. The adjustable feet, delivered with the unit, can be replaced with a vibration absorbing underlay.

Remember! Ductwork must be sound insulated and must not have be directly connected to beams, trusses or other critical building parts.

2.2 Baseframe assembly

There are two types of baseframes:

Type A: Without intermediate longitudinal profiles (Fig. 2.2).

Type B: With intermediate longitudinal profiles (Fig. 2.2).

Assembly procedure

1. Firstly position the longitudinal profiles C (profiles with large holes) onto the supporting surface. Check that the lengths are equal for profiles running parallel to each other.
2. Assemble and bolt together the longitudinal profiles C with the connecting profile D (Fig. 2.2). D is to be slotted in from the end of profile C.
3. Next, position the transverse profiles.
4. Type B only: Position the middle connection piece E and begin bolting together. A spacer profile is provided with the middle connection piece which must be in place before bolting together (Fig. 2.2).
5. Push the F or G corner profiles into the longitudinal C profiles and bolt together (Fig. 2.2).

Please note that the total length must be equal to the length of the AHU (Fig. 2.2). After completion of the base-frame, the adjustable feet may be fitted if required with a maximum distance of 1500 mm between each. The base-frame can now be levelled using the adjustable feet.

NB! Adjustable feet are not supplied with roof-top units.

2.3 Roof-top unit baseframe

The base-frame can be protected by insulating, covering and weather proofing the C-profiles with roofing felt. See Fig. 2.3.

2.4 Building together the AHU sections

Units delivered in sections are built together using the Disc-Lock system. Assembly takes place on the baseframe (see 2.2) or on 100 mm supporting legs with adjustable feet for smaller units.

1. Ensure that the factory fitted rubber sealing is undamaged (Fig. 2.4).
2. The sections are then to be positioned directly opposite each other.
If the sections are supplied with supporting legs then the feet must be adjusted such that the connectors are parallel and at the same height.
3. The sections must then be pushed together so that the rubber profiles fit directly into one another (Fig. 2.4).
4. The sections are then to be locked together using the Disc-Lock system. A Disc-Lock is to be fitted to each vertical part of every corner. Position all 4 of the Disc-Locks loosely before tightening is begun. The Disc is placed over the 2 factory fitted locking pins and turned, with the supplied tool, until the sections are pressed hard up against each other (Fig. 2.4).

2.5 Internal assembly

If internal fitting of the Disc-Lock system is required a special accessory kit must be ordered and the above instructions are, again, to be followed.

It can be an advantage to fit the Disc-Lock system internally when assembling a large AHU positioned against a wall.

2.6 Fitting the air distributor

If the air distributor is to be fitted to the end of an AHU then it is always supplied loose.

1. Fit the extension bolts into the threaded bushes which are at the fan outlet.
2. Fit the contra-nuts and tighten.
3. Fit the air distributor plate between the 2 nuts at the end of the extension bolts.

2.7 Fitting the ductwork

Between the AHU and ductwork, flexible connectors should always be fitted. At the fan outlet the duct size should be as close to the outlet size as possible.

Where flexible connectors are used it should be ensured that this are almost fully stretched (it must not, however, be fully stretched). Avoid blockages and turbulence at the fan outlet.

3. Connections

It must be ensured that pipes, cables etc. do not obstruct the inspection doors and components which can be extracted from the unit.

In special circumstances, whereby the opening of inspection doors is problematic, the doors can be taken

off by removing the hinge pins.

3.1 Electrical connections

NB! A service emergency switch must be fitted to each AHU.

Damper motors

The size of damper motor is determined by the dampers required torque. In order to reduce the required torque, it is recommended to open the dampers before starting the fans.

Rotary heat exchanger with constant speed

When connecting the power supply to the 3-phase gear motor, remember to fit an external thermal motor protection. Always follow the connection diagram.

Rotary heat exchanger with variable speed (type Varimatic)

The electrical connection diagram can be found in the electronic box's cover.

NB! An on/off test switch can be found under the cover.

Running indicator:

Fast flashing green light = Normal
 Slow flashing green light = Purging
 Red flashing light = Rotation alarm
 Constant red light = Overload

Electrical heating coil

The electrical connection diagram can be found behind the inspection door. A safety thermostat, with automatic reset, and an overheat thermostat, with manual reset, are fitted as standard.

NB! In order to ensure cooling of the heating elements, the fan must have an appropriate after run when power to the electrical heating coil has been cut.

To avoid damage by overheating, the system should be fitted with a safety pressure switch which immediately cuts power to the coil in the event of reduced or no airflow.

Be aware of the risk when operating with variable air volume systems. In these cases it should be ensured that the electrical coil cannot operate with airspeed under 1.5 m/s.

Electrical connections to the fan motor

Smaller units have removable fans/motors for ease of installation and service. The length of electrical cable must therefore be sized to accommodate this possibility. When the fan is running the extra cable must be rolled up and fixed so that it is kept clear of rotating parts.

One speed motors are to be connected as shown on Fig. 3.1.

Two speed motors with separate windings are to be connected as shown on Fig. 3.1.1 (A for low speed and B for high speed).

Two speed motors with Dahlander windings are to be connected as shown on Fig. 3.1.2 (A for low speed and B for high speed).

Frequency converters: Use shielded cables between the motor and frequency converter.

3.2 Pipe connections

Coils with 3 rows or more must always be connected counter flow to the airflow (Fig. 3.2).

Steam coils must be connected with the steam inlet at the top and condense water outlet at the bottom (Fig. 3.3).

Cooling coils for direct expansion must be fitted with the expansion valve at the top and the suction outlet at the bottom (Fig. 3.4).

Galvanised piping and fittings must not be used in connection with run-around coils.

NB! Glycol without additives should be used. Auto glycol must not be used.

3.5 Drain pipe connections

Where condensed water from components can appear the unit sections are fitted with drip trays and drainage outlets. The drainage outlet must always be fitted with a water trap designed with the necessary locking height (Fig. 3.5).

There must be a water trap on each drain outlet. The water trap must have the same pipe diameter as the outlet.

4. Dismantling and disposal

Remember to disconnect all electrical and plumbing connections before dismantling. All fluids must be drained and emptied from the unit which must then be disposed of in accordance with the valid and current local regulations. After dismantling of the unit the sections must be taken apart and the pieces placed into groups according to the material type. The materials must then be delivered to an approved site.

NB! Service instructions can be downloaded from:
www.systemair.dk

Motor

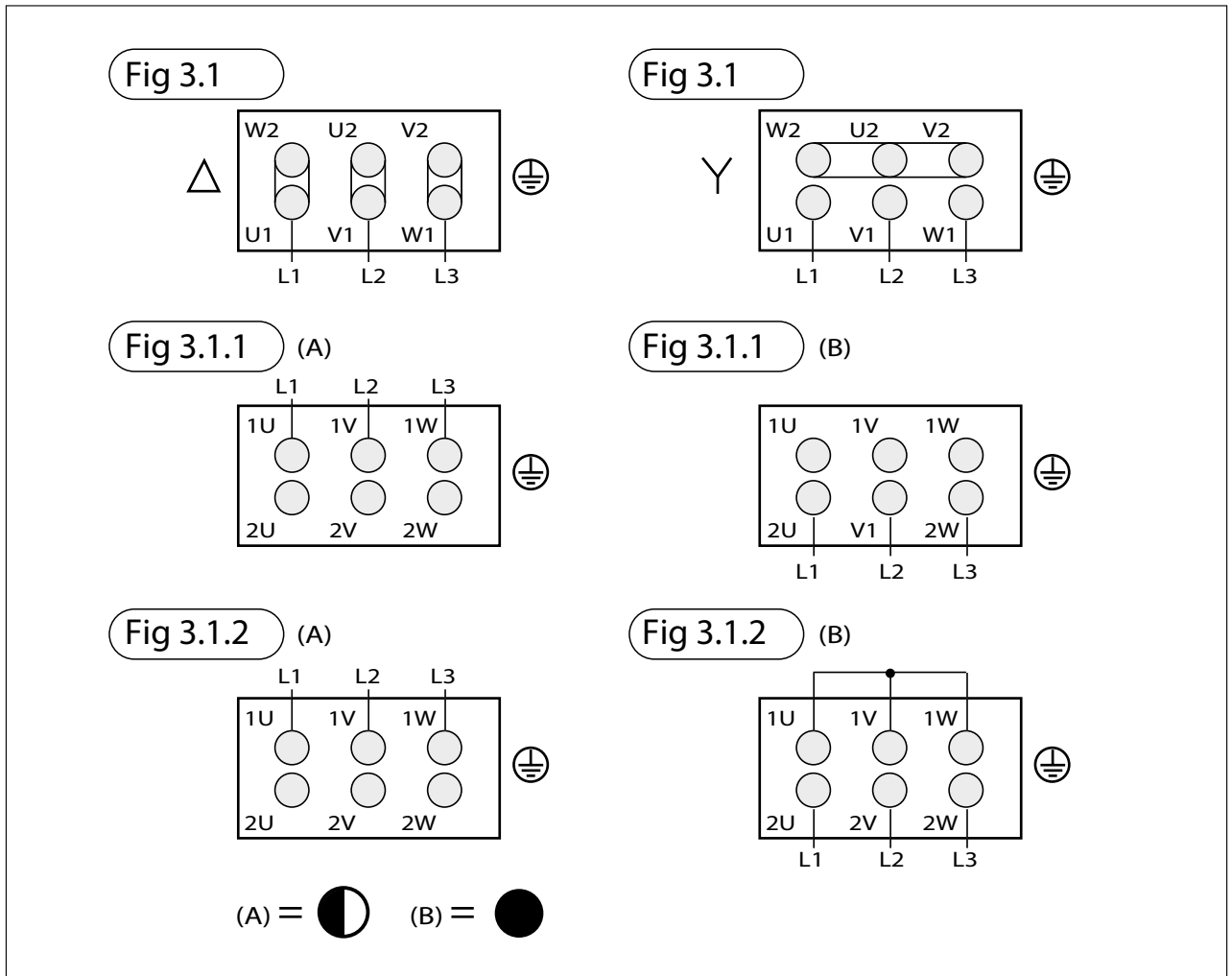


Fig. 3.5

+ Pa / - Pa	+Pa		-Pa	
	H1 Min	H2	H1 Min	H2
500 Pa	90	65	100	40
750 Pa	120	90	150	55
1000 Pa	150	120	190	70

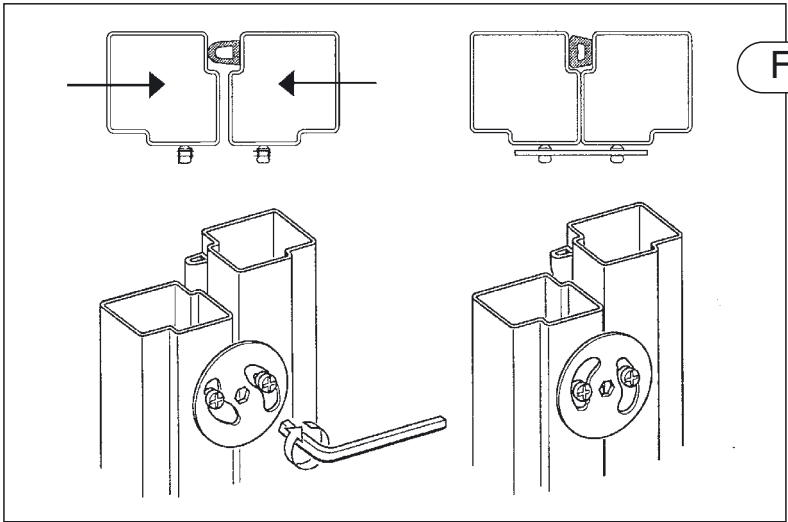
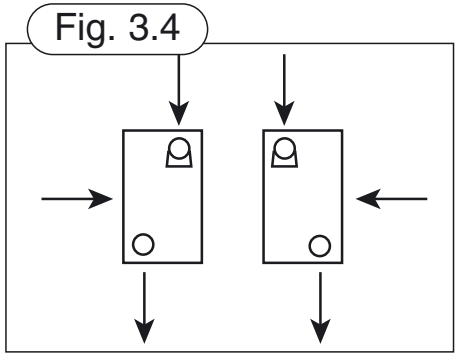
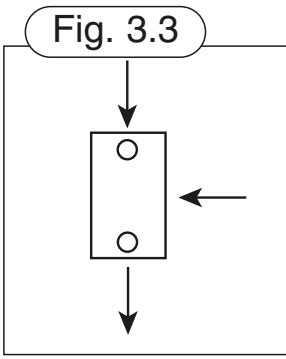
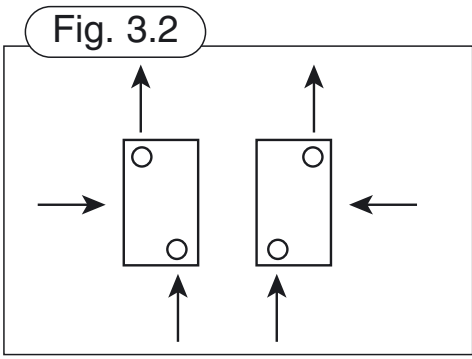


Fig. 2.4

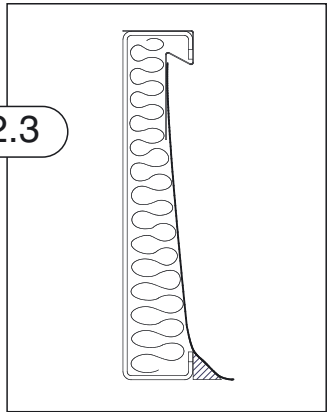


Fig. 2.3

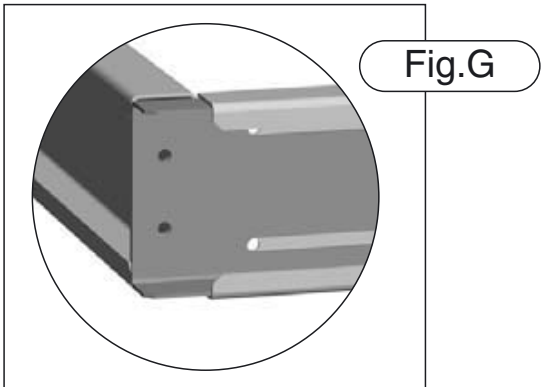
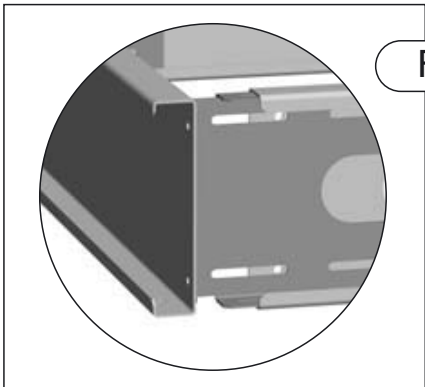
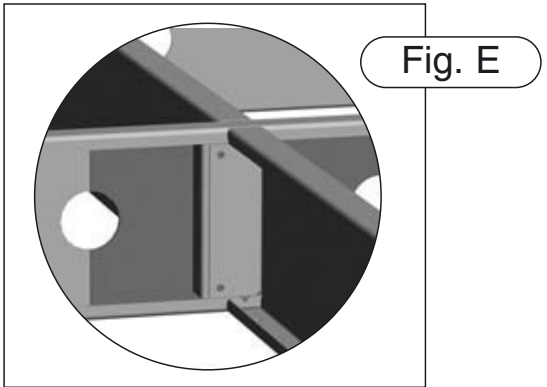
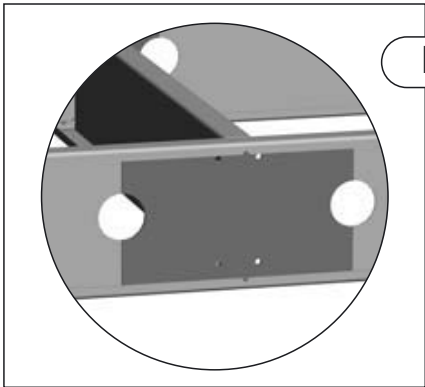
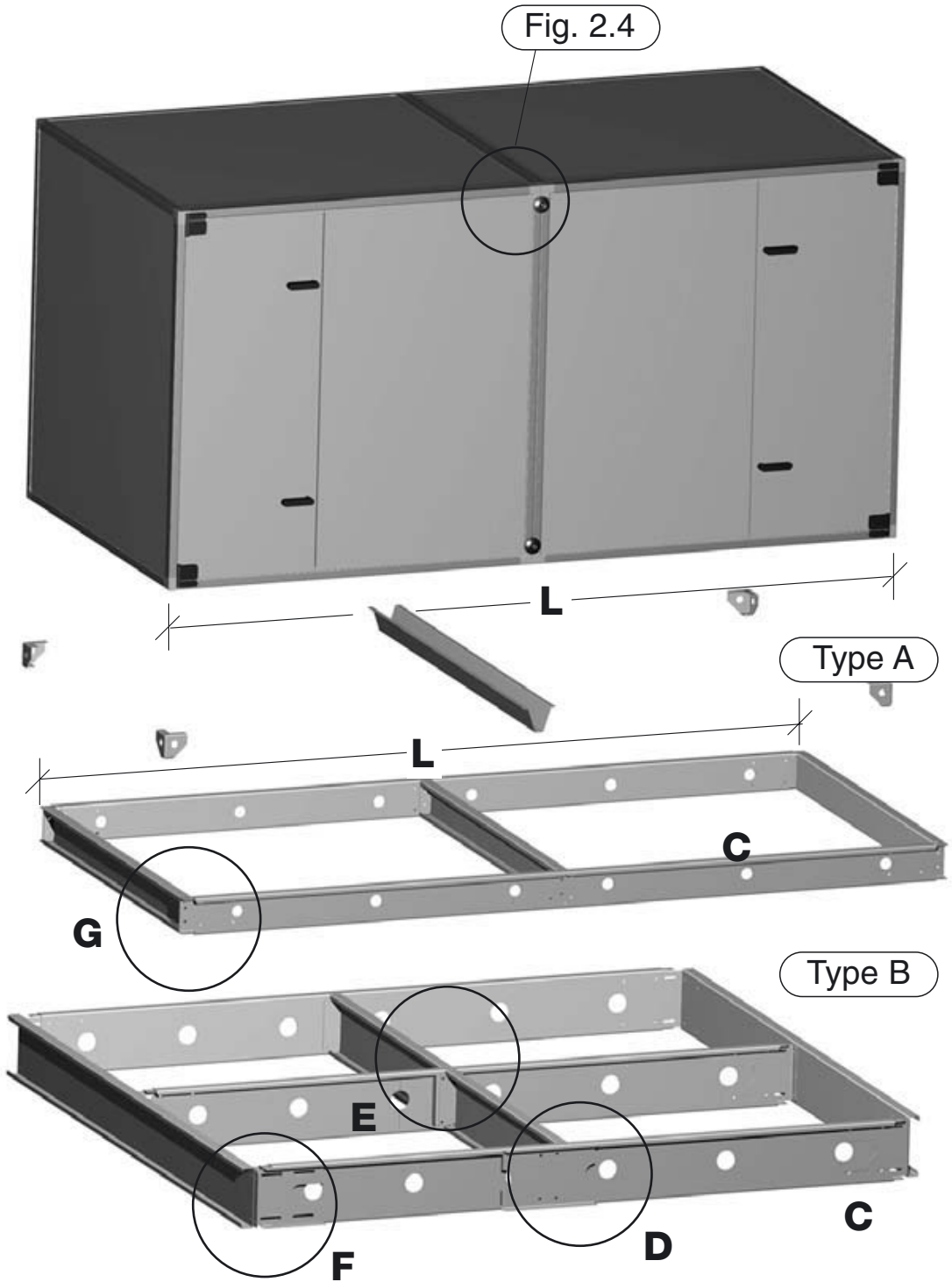


Fig. 2.2



HUSHON (UK) LTD

A6 Railway Triangle, Walton Rd, Portsmouth, Hants, PO6 1TN.

Tel: 023 92 324 335 Fax: 023 92 324

E-Mail: sales@hushonuk.co.uk

Web: www.hushonuk.co.uk