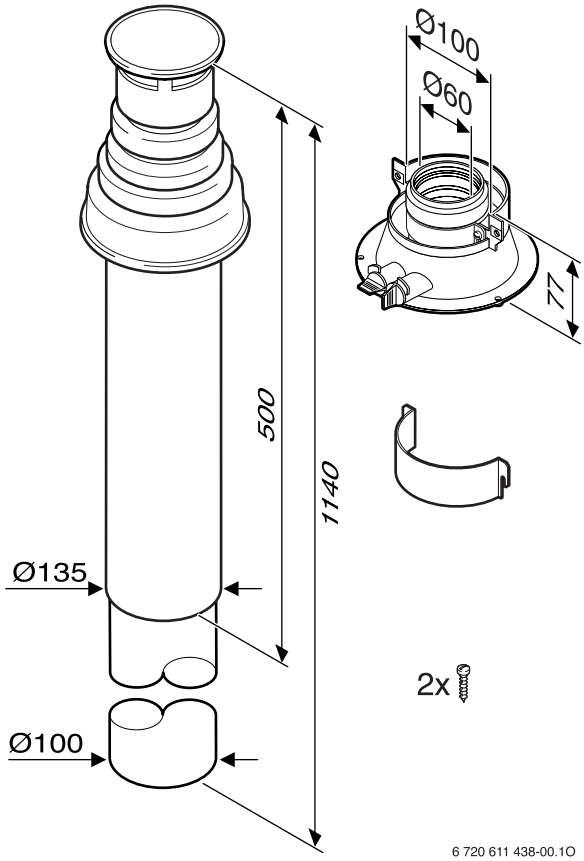
Installation Instructions for Flue Duct Kit

AZB 873

Vertical Flue Terminal Assembly Ø 60/100 mm

7 719 002 346



for Gas Condensing Boilers:

R 29 HE conventional	**RD 329**
R 40 HE conventional	**RD 428**
R 28 HE system	**RD 532**
R 25 HE combi	**RD 430i**
R 30 HE combi	**RD 532i**
R 30 HE plus combi	**RD 537i**
R 35 HE plus combi	**RD 542i**
R 40 HE plus combi	

6 720 611 438 (03.10) OSW

WORCESTER
Bosch Group

Contents

Safety instructions

Proper functioning of this product is only guaranteed if these installation instructions are correctly followed. Subject to alteration. Installation must be carried out by an approved installer. Installation of the boiler must be carried out in accordance with the appropriate installation instructions.

If you smell fumes from the appliance

- ▶ Switch off appliance.
- ▶ Open windows and doors.
- ▶ Inform your heating engineer.

Fitting and modifications

- ▶ Fitting of the appliance or any controls to the appliance may only be carried out by a competent engineer in accordance with the Gas Safety (Installation and Use) Regulations 1998.
- ▶ Flue systems must not be modified in any ways other than as described in the fitting instructions.

Symbols

Notes are identified by the symbol shown on the left. They are bordered by horizontal lines above and below the text.

1 Use

1.1 General

The installation of a gas condensing boiler must be in accordance with the relevant British Standard, the relevant Building Regulations and any local rules.

The surface temperature of the fresh air duct is below 85°C. Therefore no minimum distances to combustible building materials are necessary. The regulations can deviate, however, and might prescribe minimum distances to combustible materials.

Flue ducting to C_{33}:

The flue gas accessory is part of CE approval when discharging flue gas according to C_{33}. For this reason, only the original flue gas accessories may be used.

1.2 Gas condensing boilers

The AZB 873 can be used in conjunction with the following gas condensing boilers:

Gas condensing boilers	Prod.-ID-No.
R 29 HE conventional	CE 0085 BL 0507
R 40 HE conventional	
R 28 HE system	
R 25 HE combi	
R 30 HE combi	
R 35 HE plus combi	
R 40 HE plus combi	
RD 329	
RD 428	
RD 532	
RD 430i	
RD 532i	
RD 537i	
RD 542i	

Table 1

1.3 Combination with flue duct kits

The AZB 873 can be combined with the following flue duct kits:

Flue duct kits
AZB 874, elbow 45°
AZB 875, elbow 90°
AZB 876, extension 1000 mm

Table 2

1.4 Standard specifications

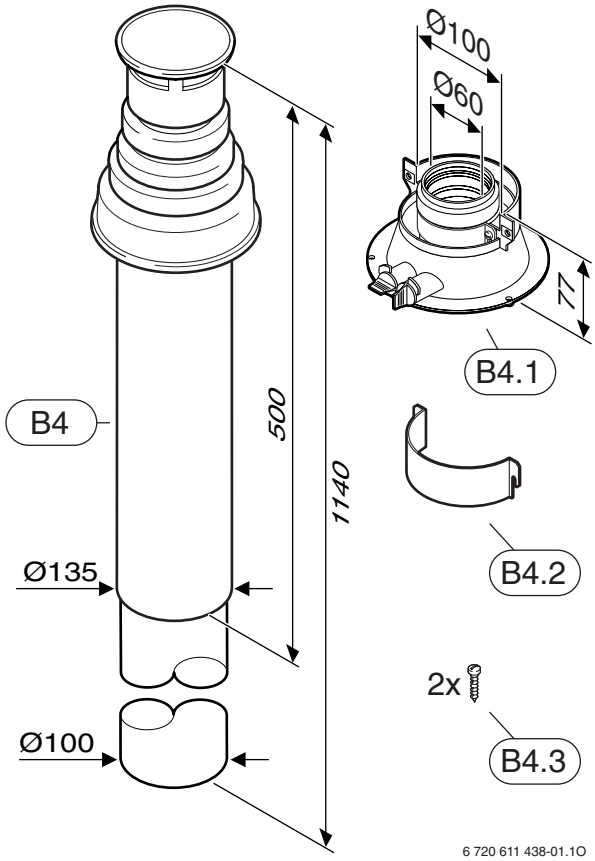


Fig. 1

B4 Vertical Flue Terminal Assembly AZB 873
B4.1 Adaptor Ø 60/100 mm
B4.2 Pipe bracket
B4.3 Screws

2 Fitting space requirements

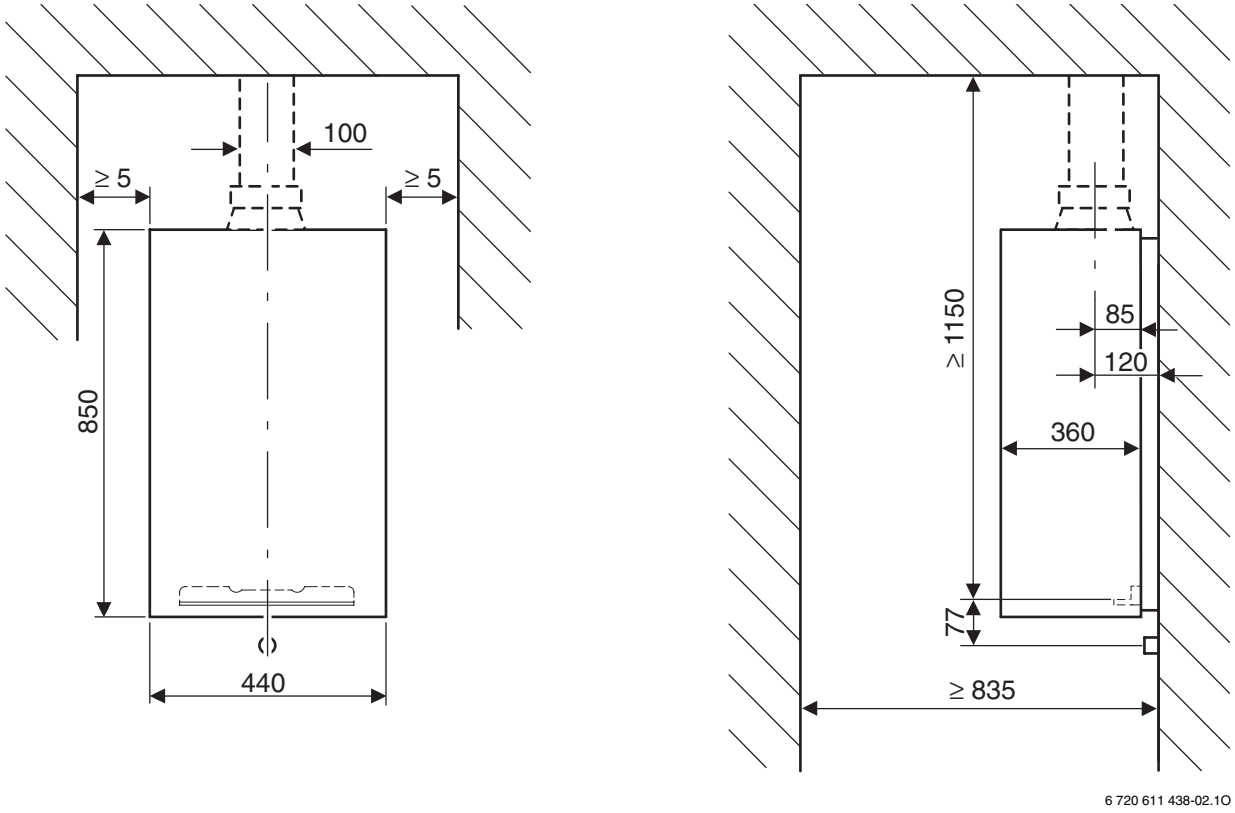


Fig. 2 Flat roof

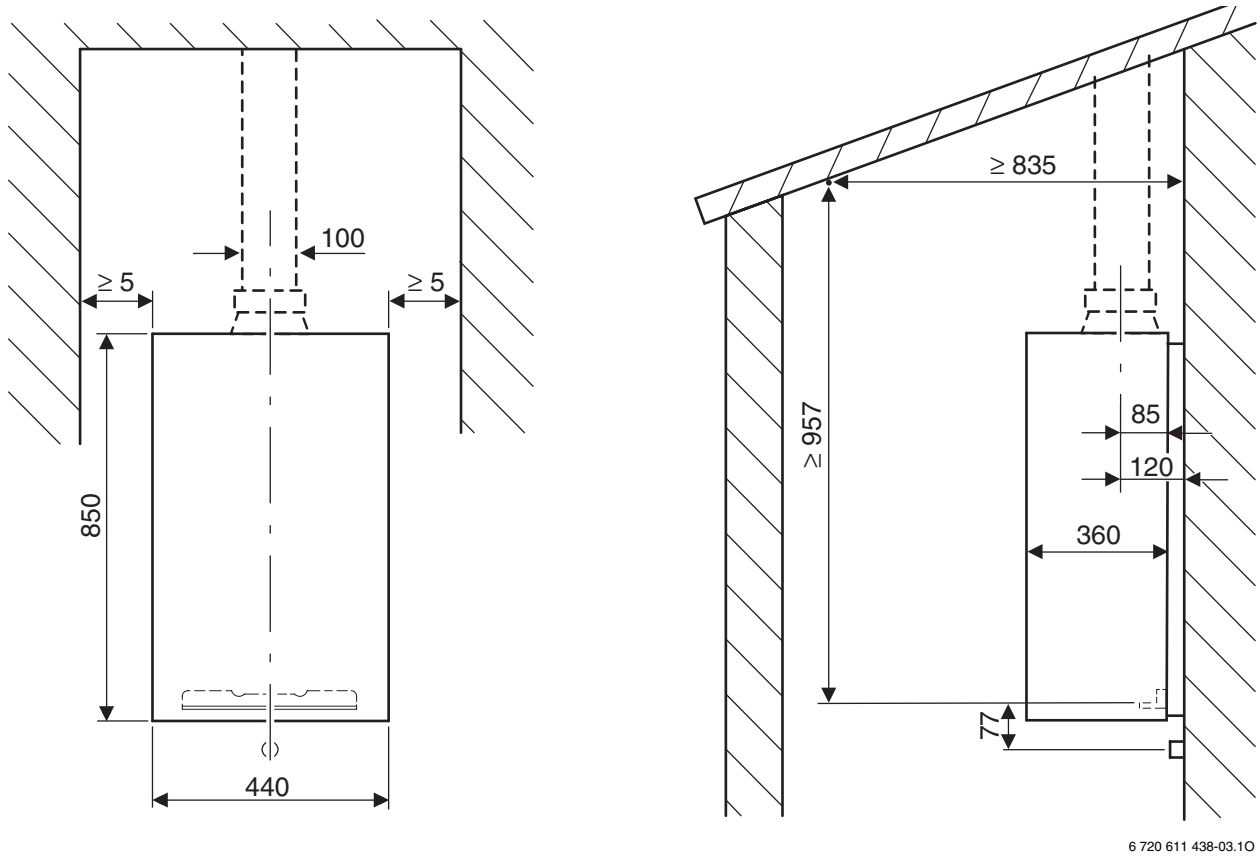


Fig. 3 Inclined roof

3 Examples of installation of vertical flue duct with roof exit

3.1 Straight flue ducting without elbows

	L_{max}
R 29 HE conventional **R 40 HE conventional** **R 28 HE system** **R 25 HE combi** **R 30 HE combi** **RD 329** **RD 428** **RD 532** **RD 430i** **RD 532i** **R 35 HE plus combi** **R 40 HE plus combi** **RD 537i** **RD 542i**	6.4 m

Table 3

3.2 Straight flue ducting with two 45°-elbows

	L_{max}
R 29 HE conventional **R 40 HE conventional** **R 28 HE system** **R 25 HE combi** **R 30 HE combi** **RD 329** **RD 428** **RD 532** **RD 430i** **RD 532i** **R 35 HE plus combi** **R 40 HE plus combi** **RD 537i** **RD 542i**	4.4 m

Table 4

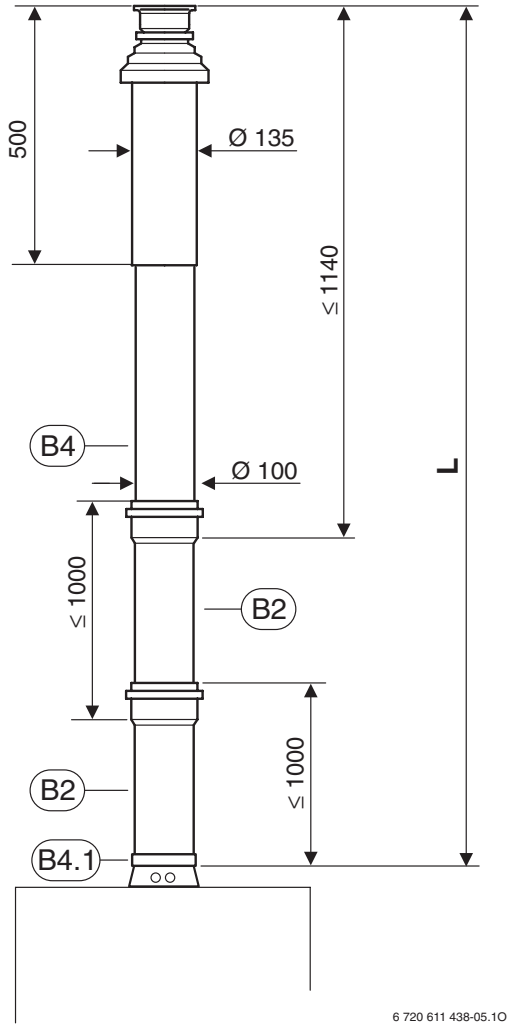


Fig. 4

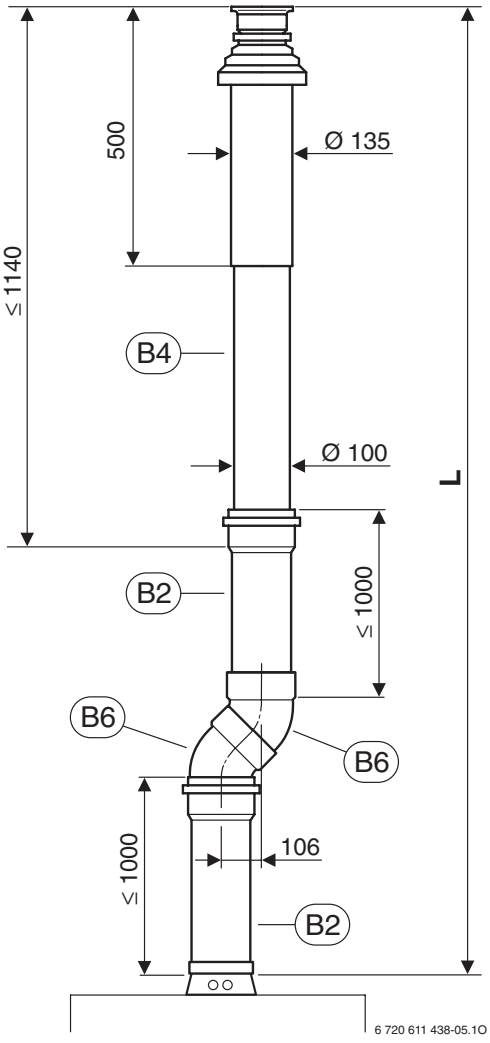


Fig. 5

Key to Fig. 4 and Fig. 5:

B2 AZB 876
B4 AZB 873
B6 AZB 874

3.3 Straight flue ducting with two 90°-elbows

	L_{max}
R 29 HE conventional **R 40 HE conventional** **R 28 HE system** **R 25 HE combi** **R 30 HE combi** **RD 329** **RD 428** **RD 532** **RD 430i** **RD 532i** **R 35 HE plus combi** **R 40 HE plus combi** **RD 537i** **RD 542i**	2.4 m

Table 5

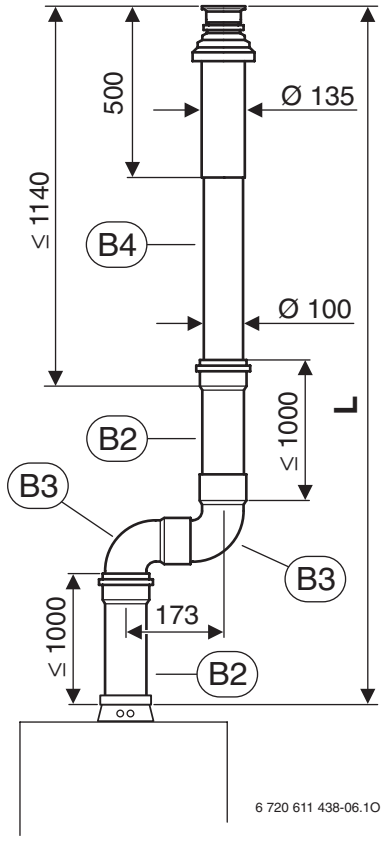


Fig. 6

Key to Fig. 6, 7 and 8:

B2 AZB 876
B3 AZB 875
B4 AZB 873

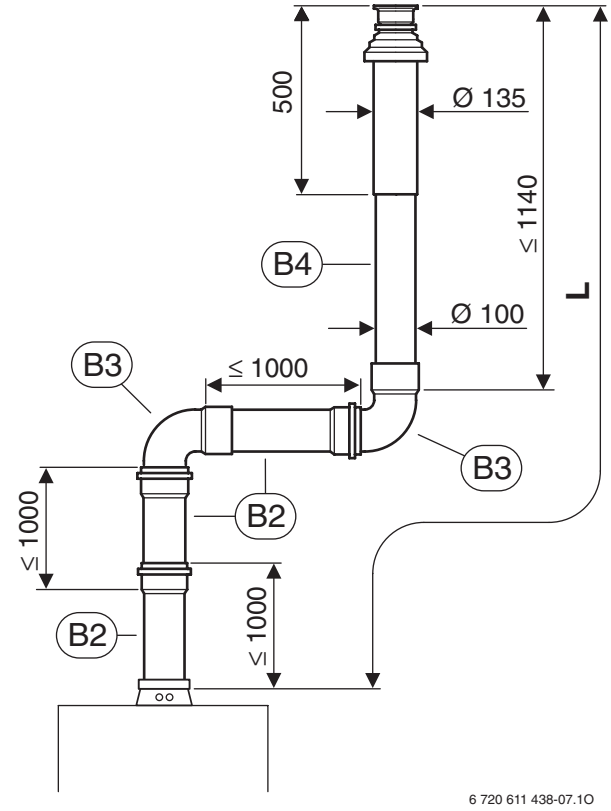


Fig. 7

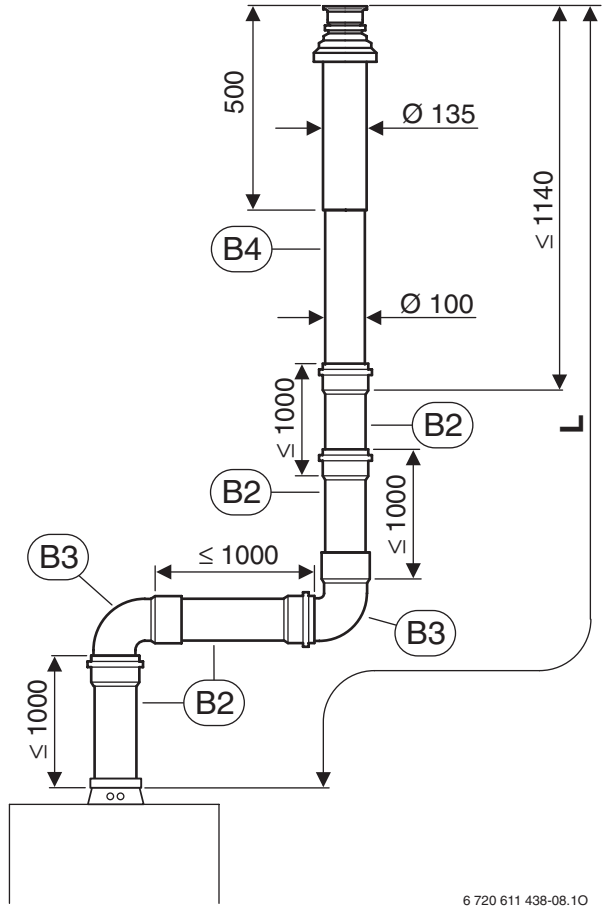


Fig. 8

3.4 Flue ducting with more than two elbows

The equivalent pipe length, L_{equiv}, is calculated from the sum of the straight lengths of the horizontal and vertical flue ducting (L_{horiz}, L_{vert}) and the equivalent lengths of the elbows. The equivalent length of every elbow fitted must be included.

The overall equivalent pipe length must be less than the maximum equivalent pipe length: $L_{equiv} \leq L_{equiv,max}$.

For vertical flue ducting to C_{33} the following equivalent lengths apply:

Vertical flue ducting to C_{33} **Boiler**	**$L_{equiv,max}$ [m]**	**Equivalent length of additional elbows** 90° **[m]**	 15-45° **[m]**
R 29 HE conventional **R 40 HE conventional** **R 28 HE system** **R 25 HE combi** **R 30 HE combi** **RD 329** **RD 428** **RD 532** **RD 430i** **RD 532i** **R 35 HE plus combi** **R 40 HE plus combi** **RD 537i** **RD 542i**	6.4	2	1

Table 6 Pipe lengths for C_{33}

$L_{equiv,max}$ maximum equivalent overall pipe length

Example: RD 430i

For a vertical flue system with a vertical length of 4 m and two 45°- elbows, the equivalent pipe length is calculated as follows:

	Length/ Number		**Sectional equivalent length**		**Total**
Straight length L_{vert}	4 m	x	1	=	4 m
Straight length L_{horiz}	0 m	x	1	=	0 m
Elbow 90°	0	x	2 m	=	0 m
Elbow 45°	2	x	1 m	=	2 m
	Equivalent pipe length L_{equiv}				6 m
	Maximum equivalent overall pipe length $L_{equiv,max}$				6.4 m
	$L_{equiv} \leq L_{equiv,max}$				o.k.

Table 7

At 6 m, the equivalent pipe length is shorter than the maximum equivalent overall length of 6.4 m. This flue system is therefore acceptable.

Example: R 40 HE plus combi

For a vertical flue system with a vertical length of 2 m, a horizontal length of 2 m and two 90°-elbows, the equivalent pipe length is calculated as follows:

	Length/ Number		**Sectional equivalent length**		**Total**
Straight length L_{vert}	2 m	x	1	=	2 m
Straight length L_{horiz}	0.4 m	x	1	=	0.4 m
Elbow 90°	2	x	2 m	=	4 m
Elbow 45°	0	x	1 m	=	0 m
	Equivalent pipe length L_{equiv}				6.4 m
	Maximum equivalent overall pipe length $L_{equiv,max}$				6.4 m
	$L_{equiv} \leq L_{equiv,max}$				o.k.

Table 8

At 6.4 m, the equivalent pipe length is equal the maximum equivalent overall length of 6.4 m. This flue system is therefore acceptable (borderline case).

4 Mounting

4.1 Notes on fitting

- The vertical flue duct (AZB 873) can be extended at any point between the adaptor (B4.1) and the flue terminal assembly (B4) using the flue duct kits AZB 874, AZB 875 or AZB 876.
- For details of the maximum permissible flue pipe length, refer to the installation examples starting on page 6.
- The horizontal air/flue duct should be fitted with an upward incline of 3% (3 cm per meter) in the direction of flow of the flue gases.
- In damp rooms, the air pipe should be insulated.

4.2 Roof-exit clearances

4.2.1 Flat roof

	Combustible building material	Non-combustible building material
X	≥ 1500 mm	≥ 500 mm

Table 9

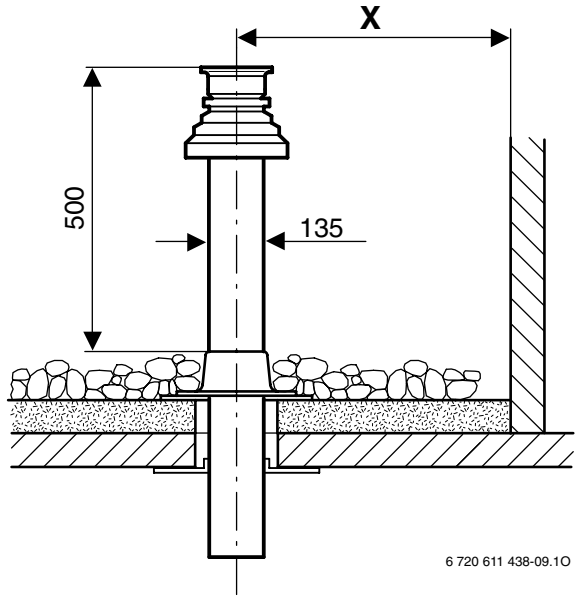


Fig. 9

4.2.2 Inclined roof

A	≥ 400 mm, in areas with frequent heavy snow falls ≥ 500 mm
α	≤ 60°, in areas with frequent heavy snow falls ≤ 50°

Table 10

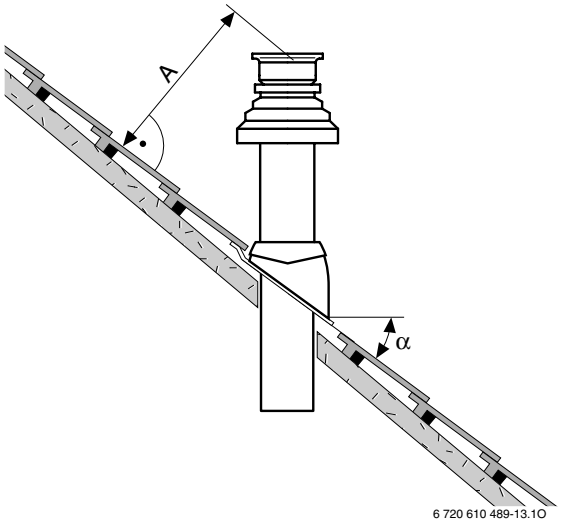


Fig. 10

4.3 Fitting the flue ducting

4.3.1 Adaptor

- Grease the flue-pipe seal of the adaptor (B4.1) with solvent-free grease (e.g. Vaseline).
- Unscrew the screws around the flue connection on the air box.

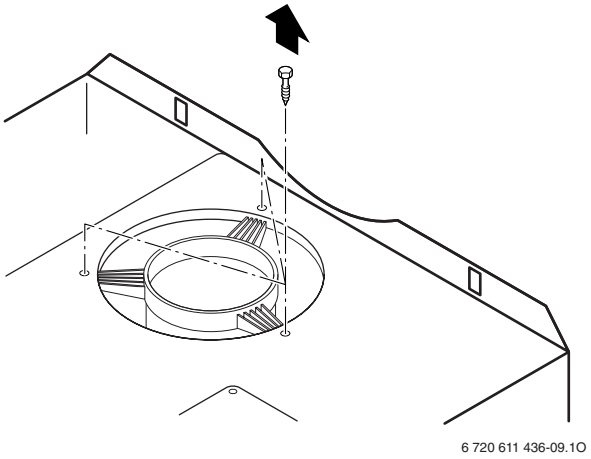


Fig. 11

- On gas condensing boilers, align adaptor (B4.1) so that the flue testing points are facing forwards.
- Fix adaptor (B4.1) in place using screws.

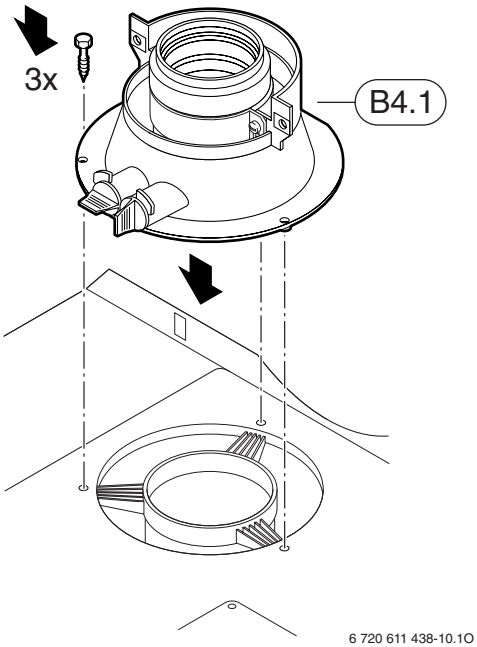


Fig. 12

Warning: Escape of flue gas!

- For fitting to adaptor B4.1, cut off flue and air pipes (AZB 873, AZB 874, AZB 875, AZB 876) flush with one another (Fig. 13).

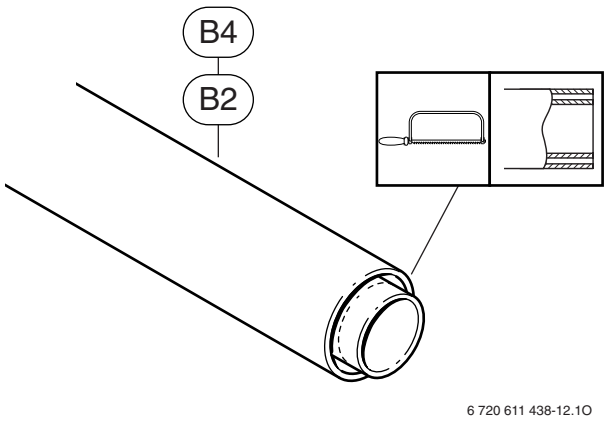


Fig. 13

- Connect rest of flue ducting (AZB 873, AZB 874, AZB 875, AZB 876) to adaptor.
- Place pipe bracket (B4.2) in position and fix with two screws (B4.3).

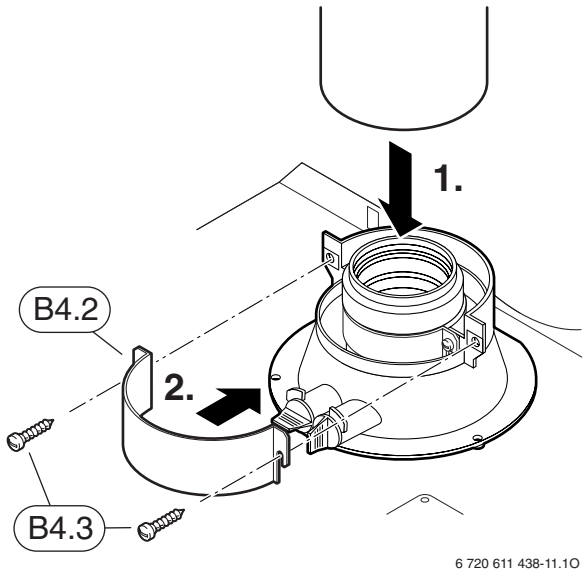


Fig. 14

4.3.2 Vertical Flue Terminal Assembly

- Determine the length L_V of the air pipe.

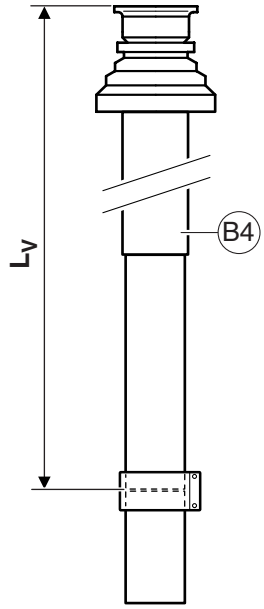


Fig. 15

B4 AZB 873

- Cut off the air pipe at a right angle, deburr the cut edges and clean.
- Determinate the length $L_A = L_V + 15$ mm of the flue pipe.

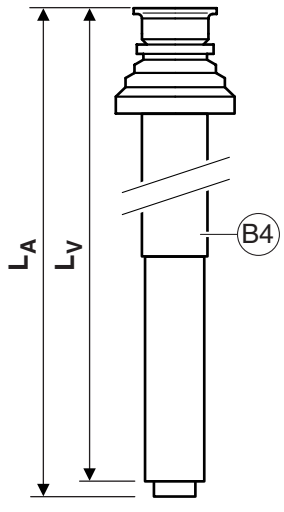


Fig. 16

B4 AZB 873

- Cut off the flue pipe at a right angle, deburr the cut edges and clean.
- Lightly grease the seals on the sleeves with a solvent-free grease (e. g. Vaseline).
- Fit pipes together by twisting and pushing home as far as possible.
- Fix air pipe at joint with collar.

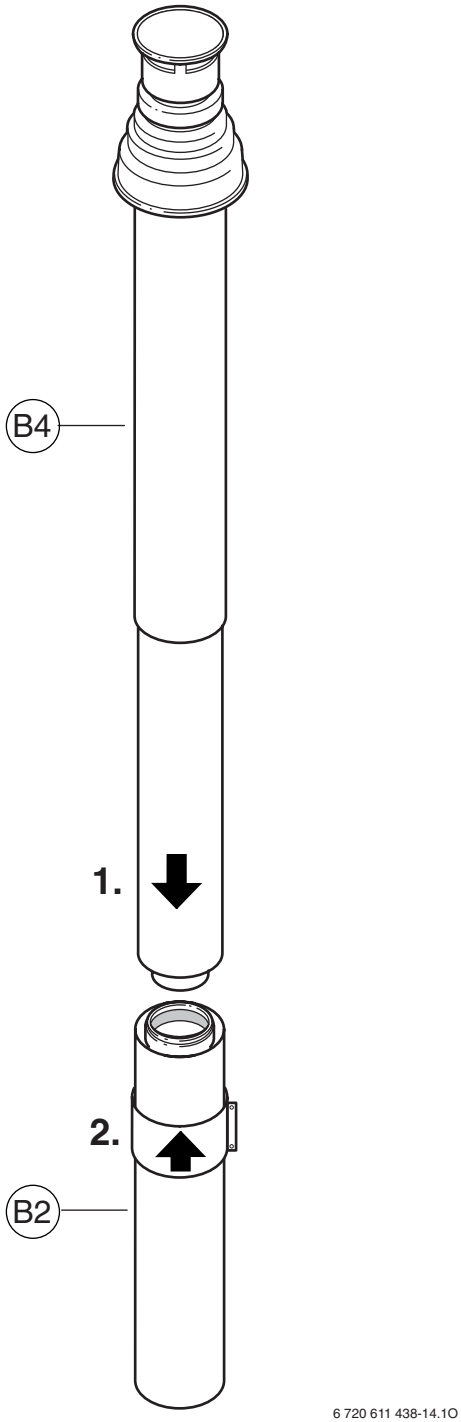


Fig. 17

B2 AZB 876
B4 AZB 873

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