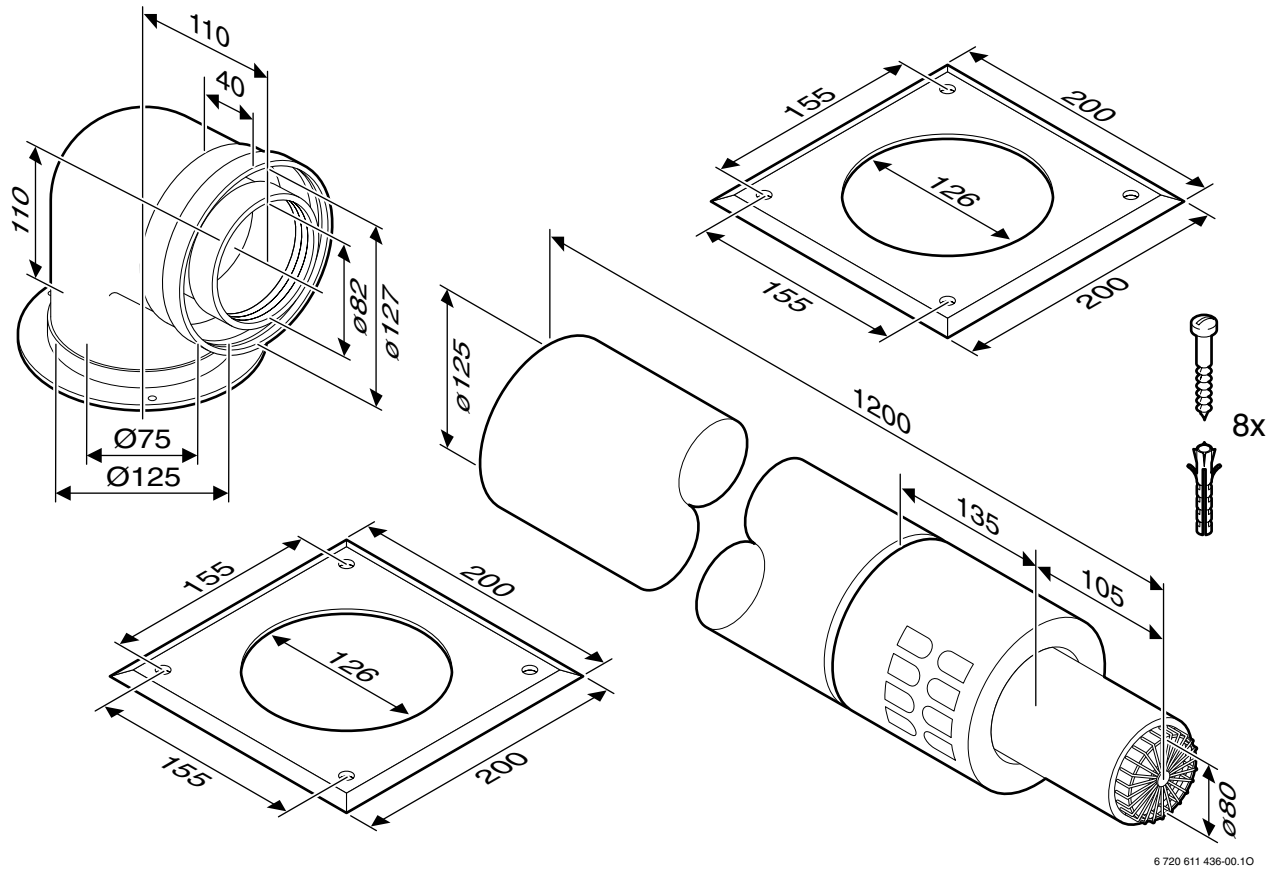
Installation Instructions for Flue Duct Kit

AZB 877

Horizontal Flue Terminal Assembly Ø 80/125 mm

7 719 002 350



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	

6 720 611 436 (04.04) OSW

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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_{13}:

The flue gas accessory is part of CE approval when discharging flue gas according to C_{13}. For this reason, only the original flue gas accessories may be used.

1.2 Gas condensing boilers

The AZB 877 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 877 can be combined with the following flue duct kits:

Flue duct kits
AZB 807, elbow 90°
AZB 808, extension 990 mm
AZB 814, elbow 45°

Table 2

1.4 Standard specifications

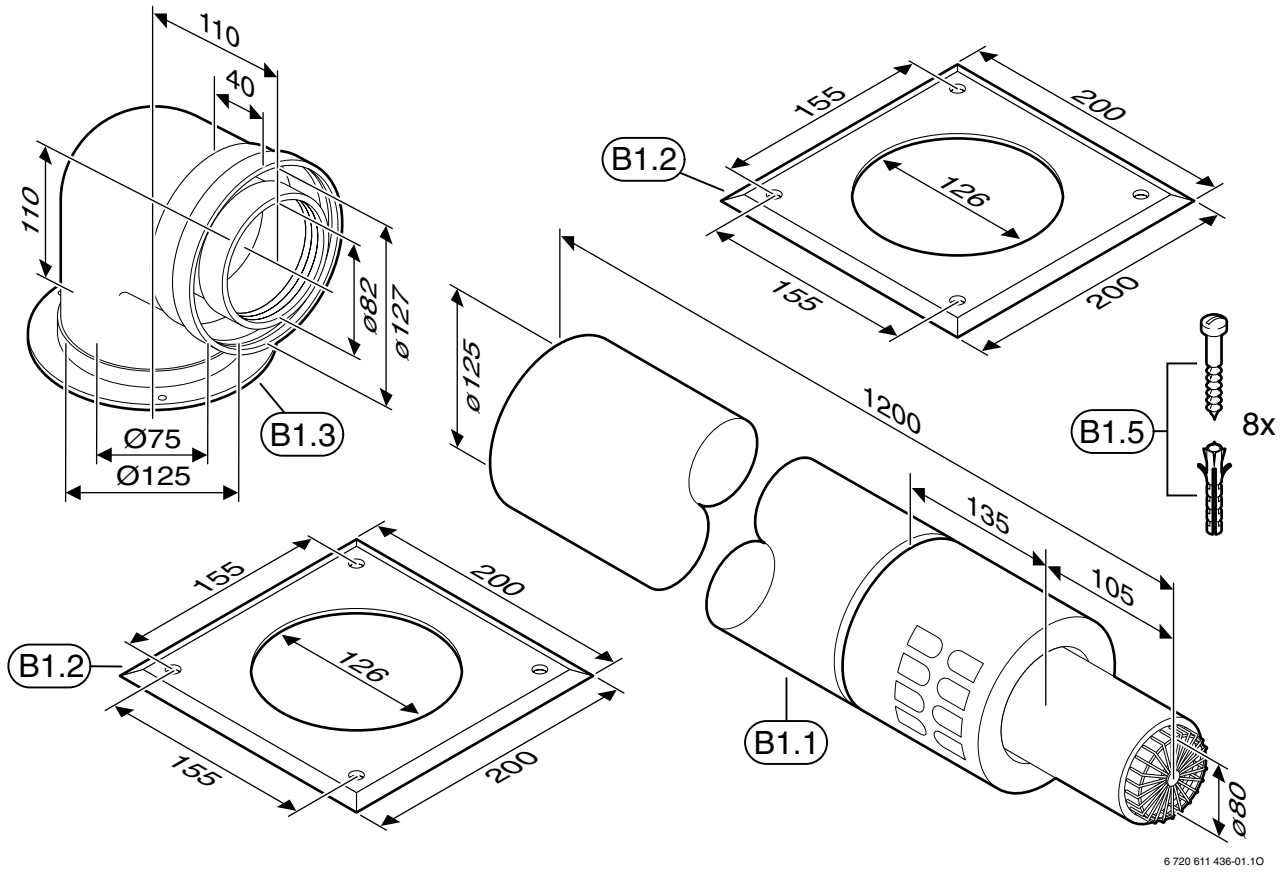

Fig. 1

B1.1 Flue terminal assembly
B1.2 Cover plates
B1.3 Connecting elbow
B1.5 Screws and wall plugs

2 Flue pipe lengths

2.1 General

The sum of the straight vertical and horizontal pipe lengths (L_{vert}, L_{horiz}) and the equivalent lengths of the elbows makes the equivalent length of the flue ducting, L_{equiv}. This equivalent pipe length must be less than the maximum equivalent pipe length $L_{equiv,max}$.

2.2 Equivalent pipe length

The equivalent pipe length, L_{equiv}, is calculated from the sum of the straight lengths of the flue ducting (L_{horiz}) and the equivalent lengths of the elbows. The flue turret (on gas condensing boiler) is included in the maximum lengths. The equivalent length of every additional elbow must be included.

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

For horizontal flue ducting to C_{13} the following equivalent lengths apply:

Horizontal flue ducting to C_{13} **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**	13	2	1
R 35 HE plus combi **R 40 HE plus combi** **RD 537i** **RD 542i**	10		

Table 3 Pipe lengths for C_{13}

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

Example: RD 430i

For a horizontal flue system with a length of 5 m and two 45°-elbows, the equivalent pipe length is calculated as follows:

	Length/ Number		**Sectional equivalent length**		**Total**
Straight length L_W	5 m	x	1	=	5 m
Elbow 90°	0	x	2 m	=	0 m
Elbow 45°	2	x	1 m	=	2 m
	Equivalent pipe length L_{equiv}				7 m
	Maximum equivalent length $L_{equiv,max}$				13 m
	$L_{equiv} \leq L_{equiv,max}$				o.k.

Table 4

At 7 m, the equivalent pipe length is shorter than the maximum equivalent overall length of 13 m. This flue system is therefore acceptable.

3 Minimum Fitting space requirements

Wall thickness	K
15 - 24 cm	155 mm
24 - 33 cm	160 mm
33 - 42 cm	165 mm
42 - 50 cm	170 mm

Table 5

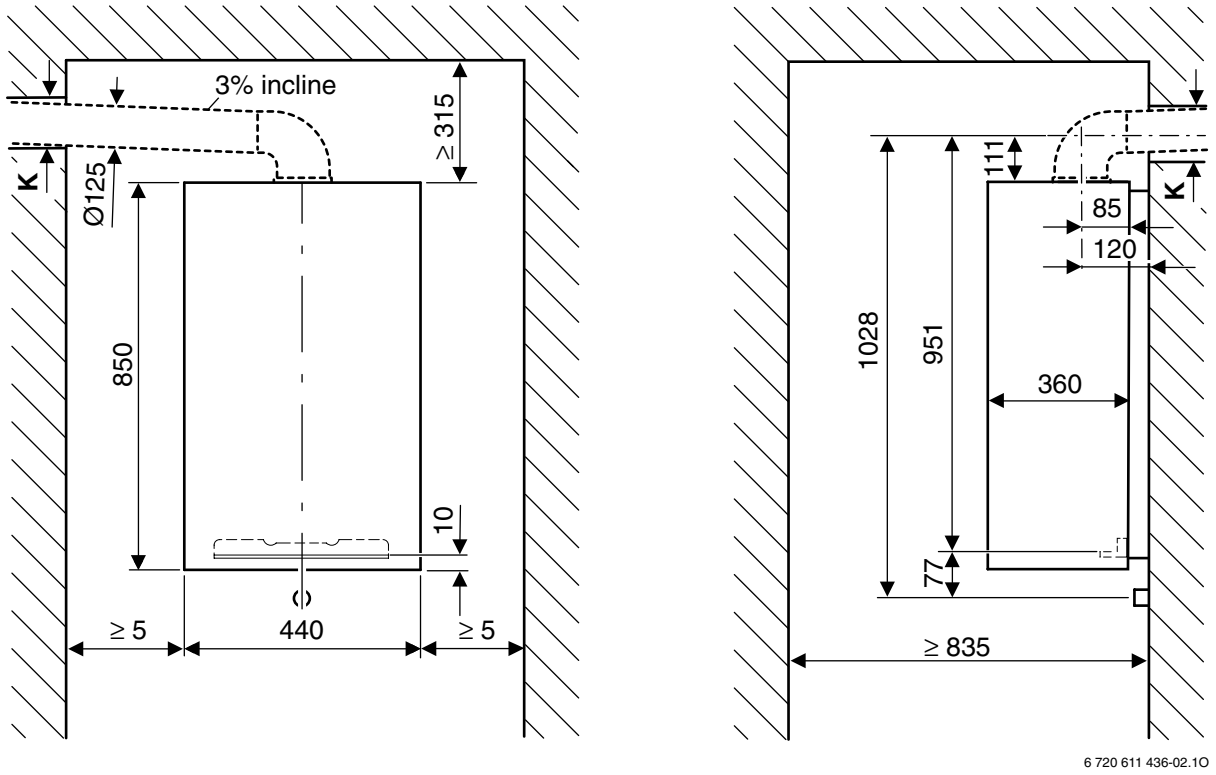

Fig. 2

4 Examples of installation for outside wall (C_{13})

4.1 Straight flue duct (Fig. 3, Fig. 4, Fig. 5)

	L	
	without extension	**with extension**
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**	≤ 995 mm	≤ 13 m
R 35 HE plus combi **R 40 HE plus combi** **RD 537i** **RD 542i**		≤ 10m

Table 6

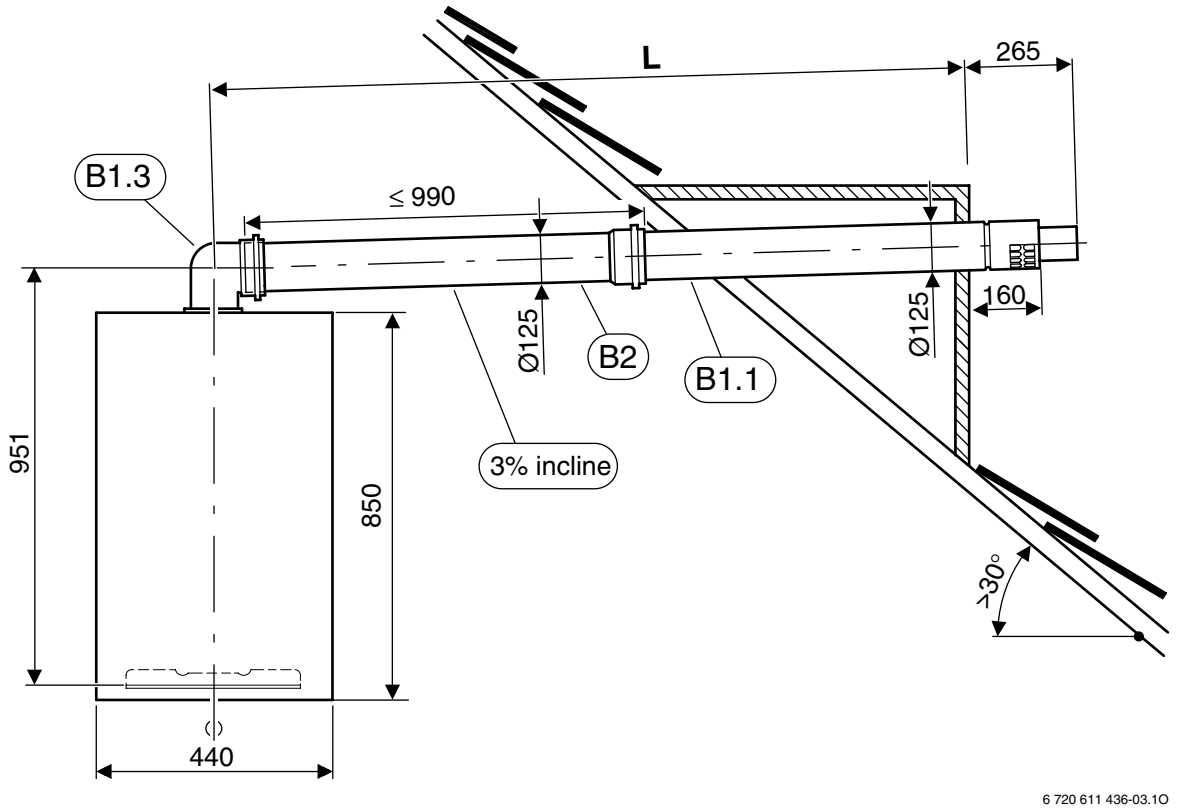

Fig. 3

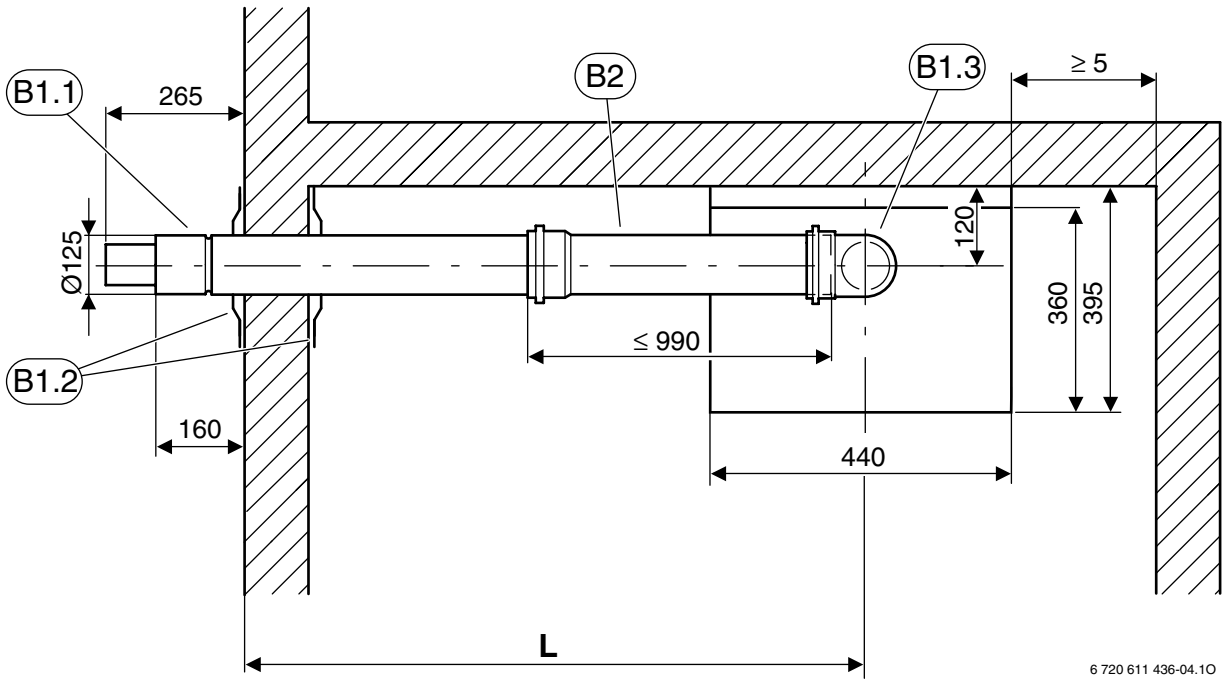

Fig. 4

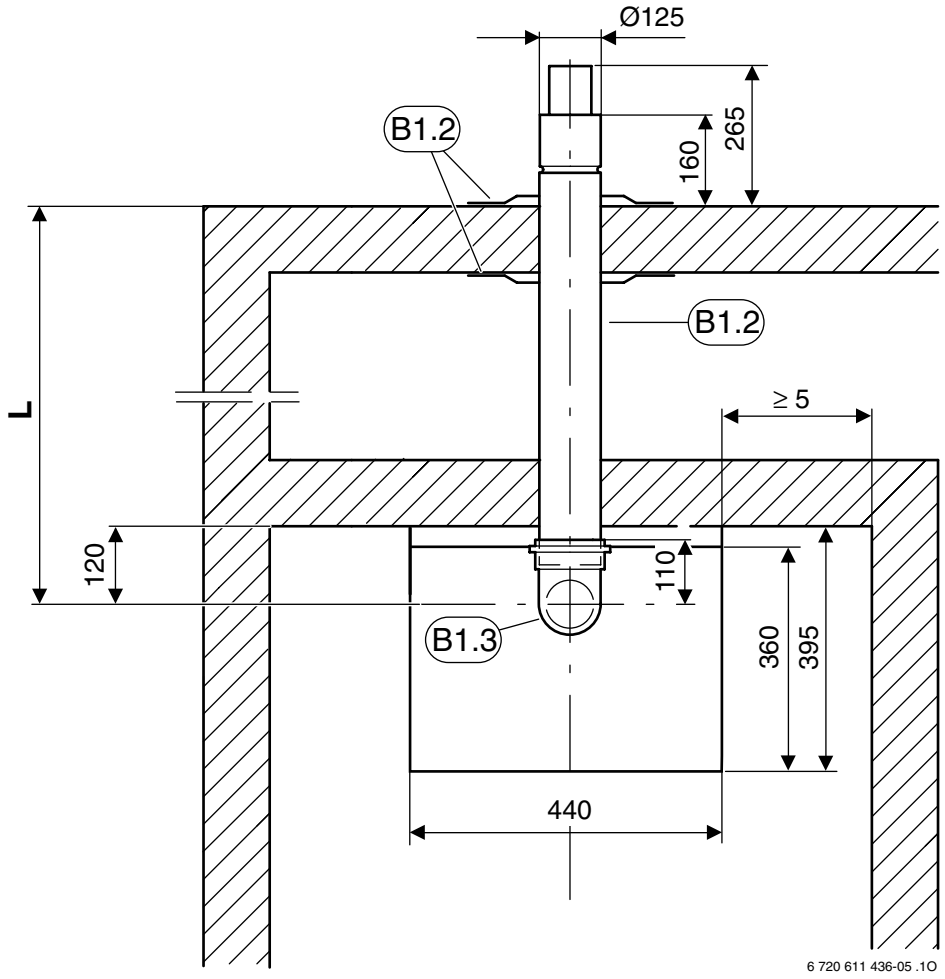

Fig. 5

Key to Fig. 3, Fig. 4 and Fig. 5:

B1 AZB 877
B2 AZB 808

4.2 Flue ducting with two 45°-elbows

	L	
	without extension	with extension
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**	≤ 1150	≤ 11 m[1)]
R 35 HE plus combi **R 40 HE plus combi** **RD 537i** **RD 542i**		≤ 8 m[1)]

Table 7

1) = $L_{equiv,max}$ – 2 m

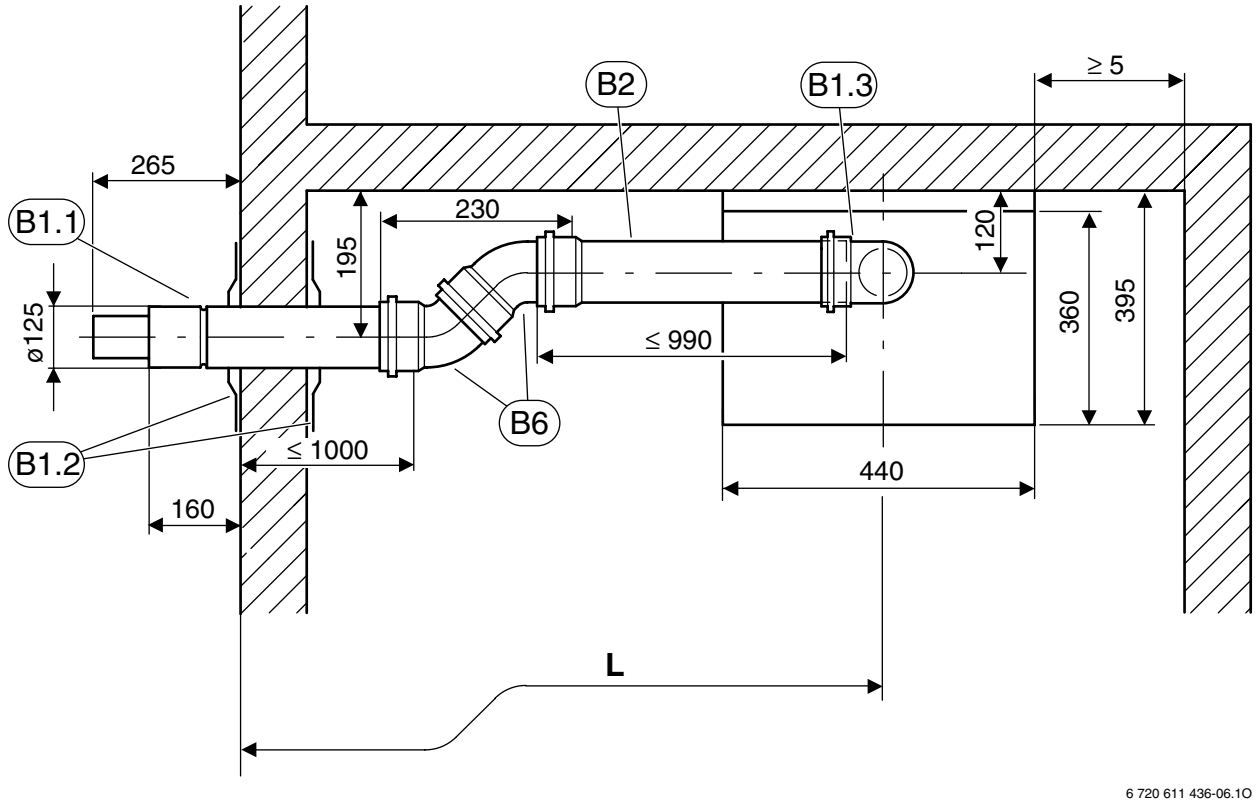

Fig. 6

B1 AZB 877
B2 AZB 808
B6 AZB 814

4.3 Flue ducting with one 90°-elbow

	L_1		$L = L_1 + L_2$
	without extension	with extension	
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**	170	≥ 290	≤ 11 m[1)]
R 35 HE plus combi **R 40 HE plus combi** **RD 537i** **RD 542i**			≤ 8 m[1)]

Table 8

1) $= L_{equiv,max} - 2$ m

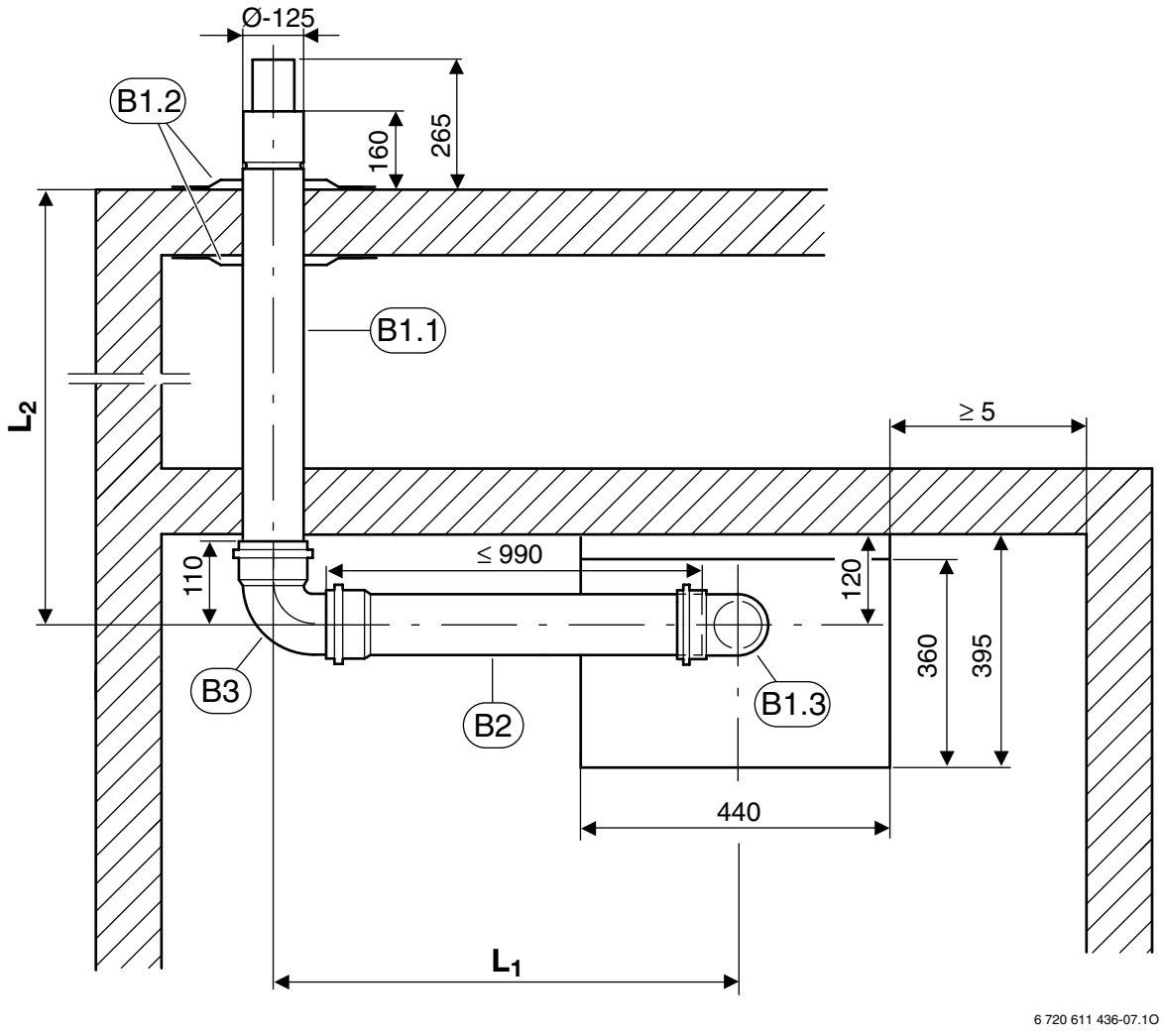

Fig. 7

B1 AZB 877
B2 AZB 808
B3 AZB 807

4.4 Straight flue ducting with two 90°-elbows

	L_1 , L_2		$L = L_1+L_2+L_3$
	without extension	with extension	
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**	170	≥ 290	≤ 9 m[1)]
R 35 HE plus combi **R 40 HE plus combi** **RD 537i** **RD 542i**			≤ 6 m[1)]

Table 9

1) = $L_{equiv,max}$ – 4 m

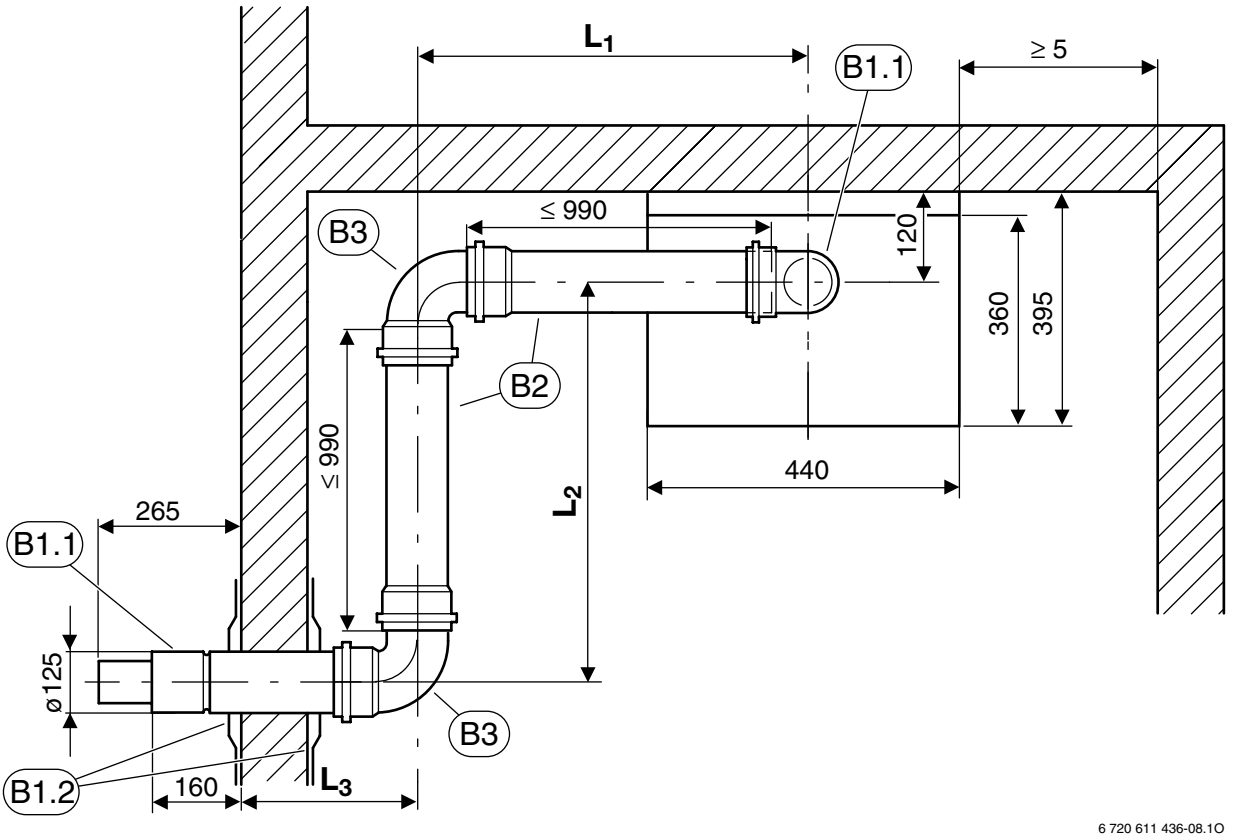

Fig. 8

B1 AZB 877
B2 AZB 808
B3 AZB 807

4.5 Flue ducting with more than two elbows

The calculations for checking the flue duct situation are performed according to the rules explained in section 2.

Example: R 28 HE system
For a horizontal flue system with a length of 4 m, two 90°-elbows and four 45°-elbows, the equivalent pipe length is calculated as follows:

	Length/ Number		Sectional equivalent length		Total
Straight length L_{horiz}	4 m	x	1	=	4 m
Elbow 90°	2	x	2 m	=	4 m
Elbow 45°	4	x	1 m	=	4 m
	Equivalent pipe length L_{equiv}				12 m
	Maximum equivalent length $L_{equiv,max}$				13 m
	$L_{equiv} \leq L_{equiv,max}$				o.k.

Table 10

At 12 m, the equivalent pipe length is shorter than the maximum equivalent overall length of 13 m. This flue system is therefore acceptable.

Example: RD 537i
For a horizontal flue system with a length of 4 m, two 90°-elbows and two 45°-elbows, the equivalent pipe length is calculated as follows:

	Length/ Number		Sectional equivalent length		Total
Straight length L_{horiz}	4 m	x	1	=	4 m
Elbow 90°	2	x	2 m	=	4 m
Elbow 45°	2	x	1 m	=	2 m
	Equivalent pipe length L_{equiv}				10 m
	Maximum equivalent length $L_{equiv,max}$				10 m
	$L_{equiv} \leq L_{equiv,max}$				o.k.

Table 11

At 10 m, the equivalent pipe length is equal the maximum equivalent overall length of 10 m. This flue system is therefore acceptable (borderline case).

5 Mounting

5.1 Notes on fitting

- The horizontal flue duct (AZB 877) can be extended at any point between the connecting elbow (B1.3) and the flue terminal assembly (B1.1) using the flue duct kits AZB 807, AZB 808 and AZB 814.
- The maximum permissible flue/air duct length depends on the type of gas condensing boiler and the number of elbows in the air/flue pipe. For details of how to calculate it, refer to section 2, page 6 onwards.
- Every additional horizontal extension AZB 808 must be supported by a bracket with rubber band.
- The horizontal air/flue duct should be fitted with an upward incline of 1.7° (3 cm per meter) in the direction of flow of the flue gases.
- In damp rooms, the air pipe should be insulated.

5.2 Room-sealed air/flue ducting with exit through outside wall

- ▶ Apply a thin layer of solvent-free grease (e.g. Vaseline) to the seals on the joints.
- ▶ Unscrew the screws around the flue connection on the air box.

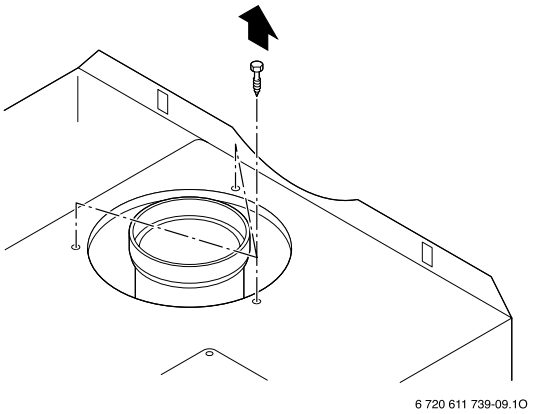

Fig. 9

- ▶ Place connecting elbow (B1.3) on the air box of the appliance and align.
- ▶ Fix connecting elbow (B1.3) with screws.

While the screws are not fully tightened, the connecting elbow can be swivelled around its vertical axis.

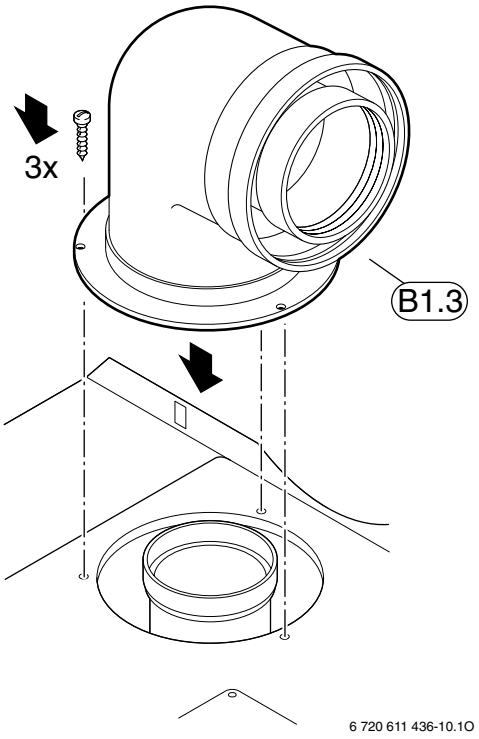

Fig. 10

- Calculate length of the flue terminal assembly (B1.1) taking account of the distance from the outside wall to the end of the flue pipe.

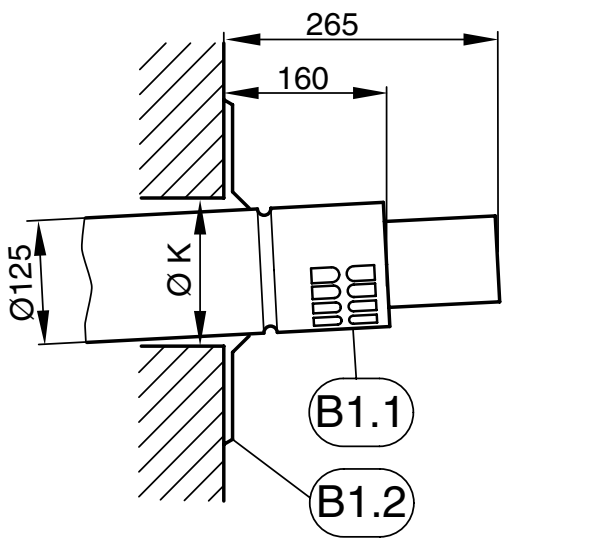

Fig. 11

- Cut off the flue terminal assembly (B1.1) at a right angle according to the calculated length.
- Smooth off rough edges of cut end.
- Calculate the required diameter of the hole in the wall according to the wall thickness (see minimum fitting space requirements, page 7 onwards).
- Make the hole in the wall remembering to allow for the required 1.7° incline of the air/flue pipe.
- Fit interior cover plate (B1.2) to the connecting elbow (B1.3).
- Pass flue terminal assembly (B1.1) through the hole in the wall and push into the end of the flue turret, twisting the pipe slightly as you do so.
  The air-intake slots on the flue terminal must face downwards.
- Fit the external cover plate (B1.2) onto the flue terminal assembly (B1.1).
- Mark and drill fixing holes for the two cover plates (B1.2).
- Fix cover plates using screws and wall plugs (B1.5).
- Fit protective grille into end of flue terminal (B1.1), compressing it slightly.

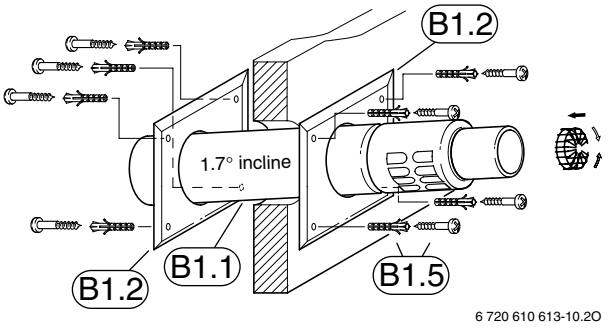

Fig. 12

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