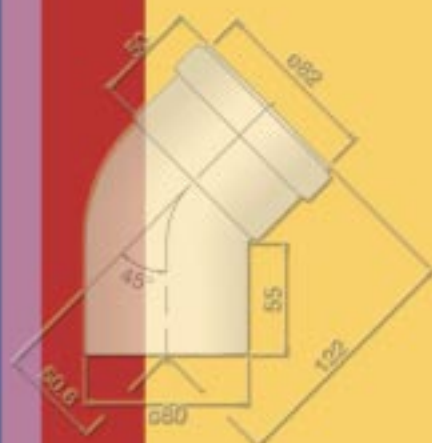
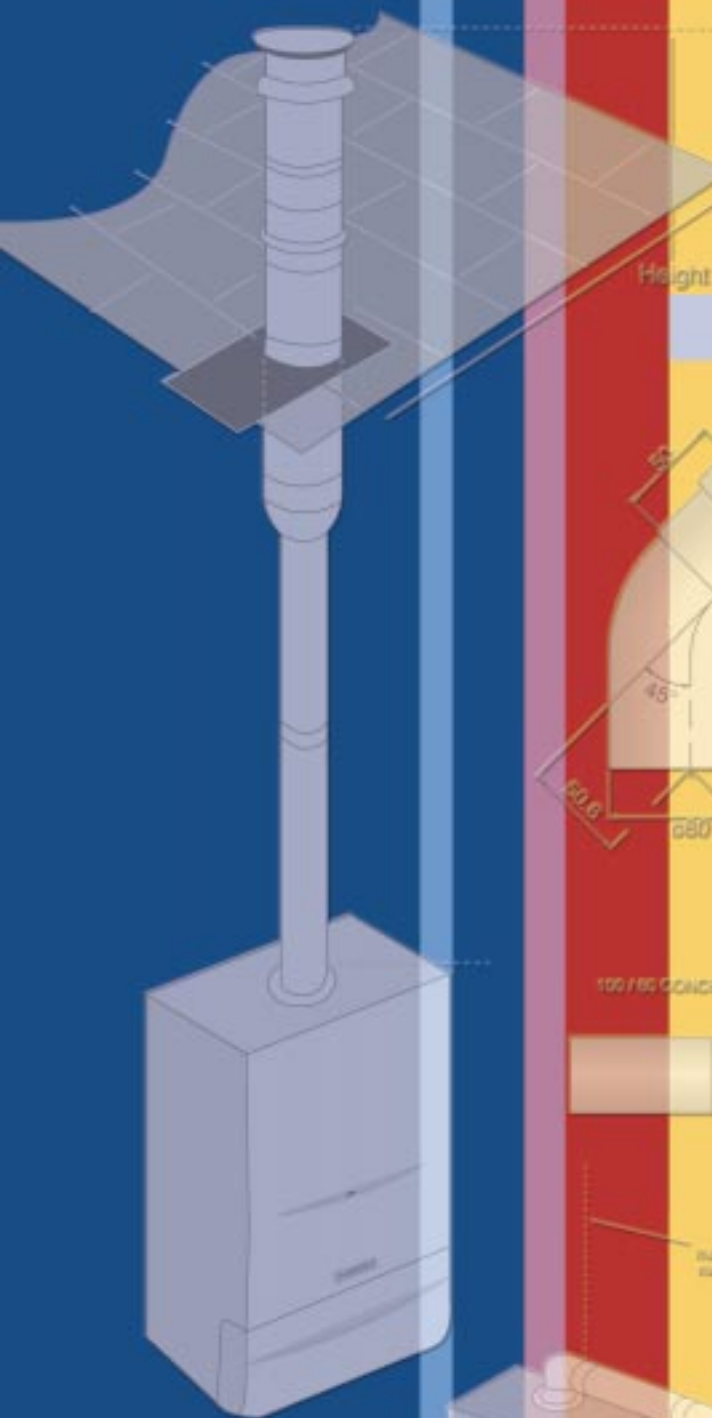
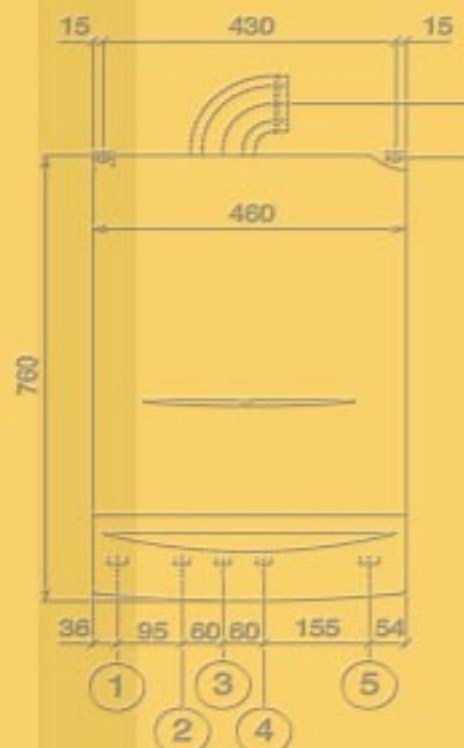


FERROLI

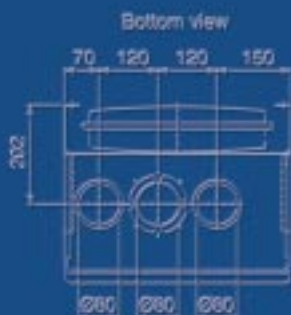
UK

D O M E S T I C
B O I L E R**FLUE****OPTIONS**

100 / 80 CONCENTRIC TELESCOPIC FLUE (0.75mm)



Typical Top Flue - Side Outlet





APRIL 2003

benchmarkThe code of practice for the installation,
commissioning & servicing of central heating systems

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PLEASE NOTE: THIS IS A FLUE OPTION BOOK. FOR MORE DETAILED INFORMATION PLEASE REFER TO THE RELEVANT BOILER INSTALLATION MANUAL.

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N.B. Flues must be installed strictly in accordance with:

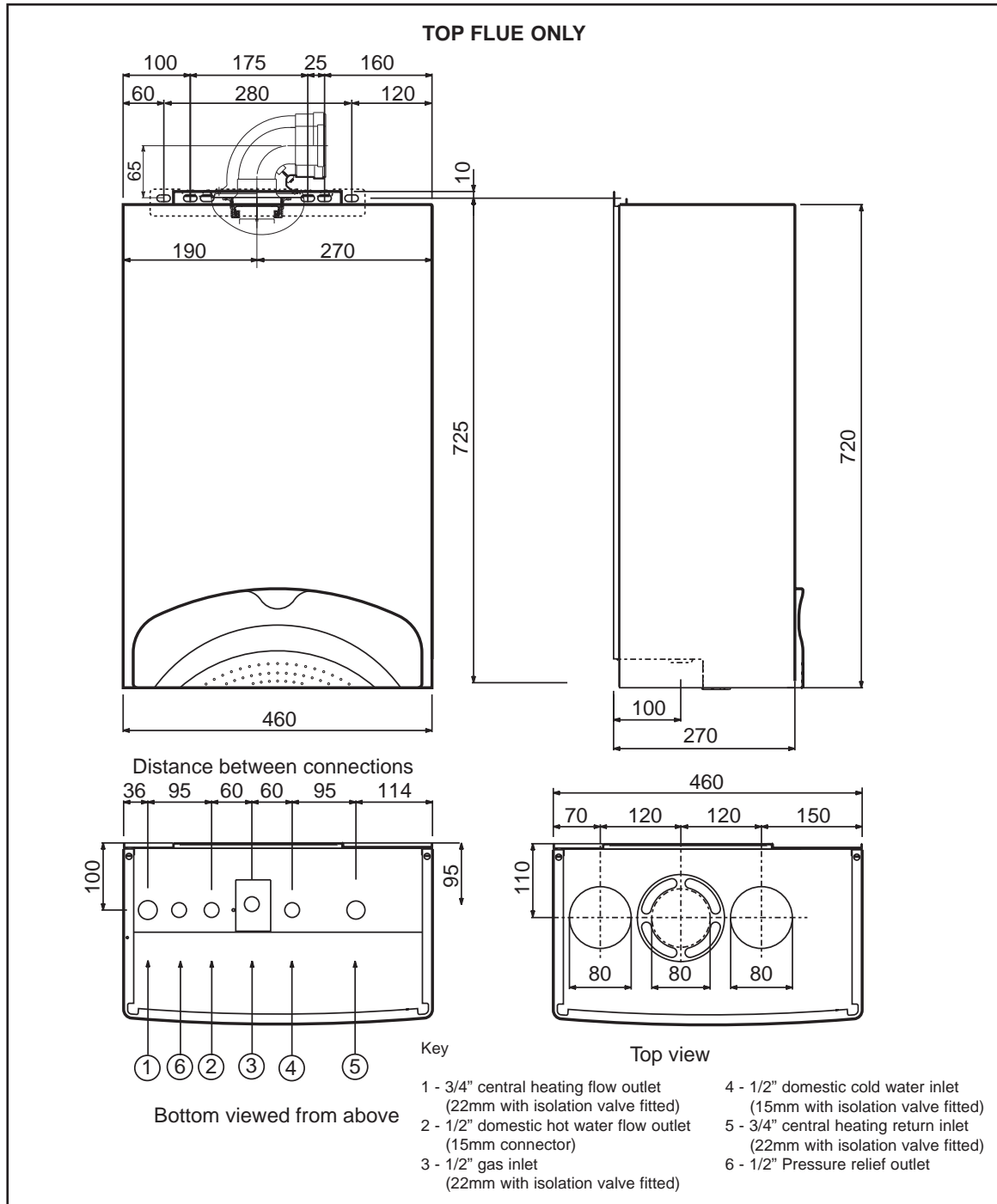
-  The Gas Safety Regulations (Installation & Use)
-  The Building Regulations
-  Local Building Regulations
-  The Building Standards (Scotland - Consolidated) Regulations

British Standard Codes of Practice:

-  B.S. 5440 Part 1 - Flues
-  B.S. 5440 Part 2 - Air Supply / Ventilation
-  B.S. 6798 - Installation of Gas Fired Hot Water Boilers

BOILER DIMENSIONS AND MINIMUM CLEARANCES

MODENA 80E

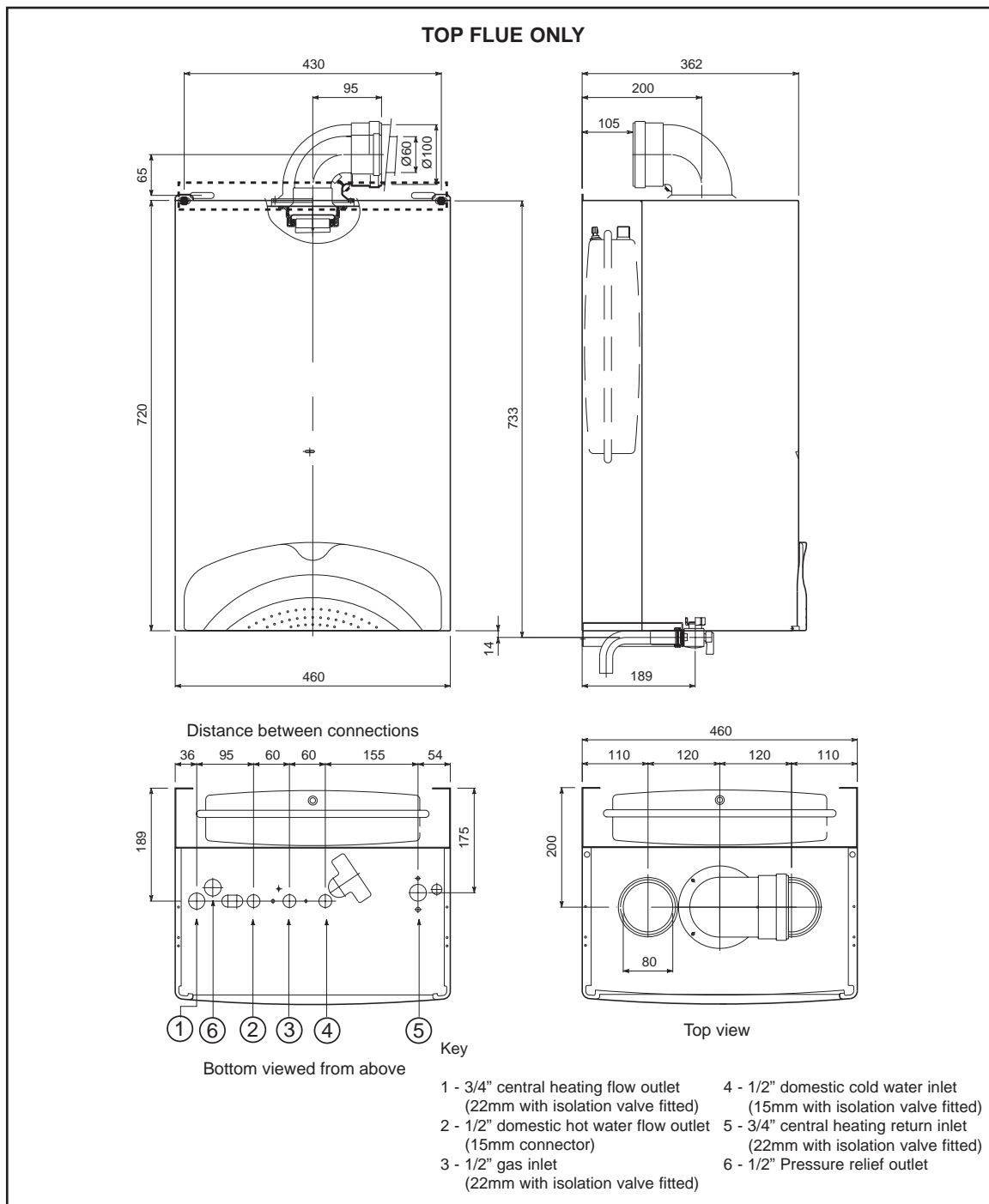


Minimum Clearances	MODENA 80E
Top	200mm
Sides	5mm
Front	50mm*
Bottom	200mm

* 50mm refers to minimum distance between any openable/removable panel (i.e. kitchen unit door).

A minimum 600mm must be available for servicing access.

MODENA 102

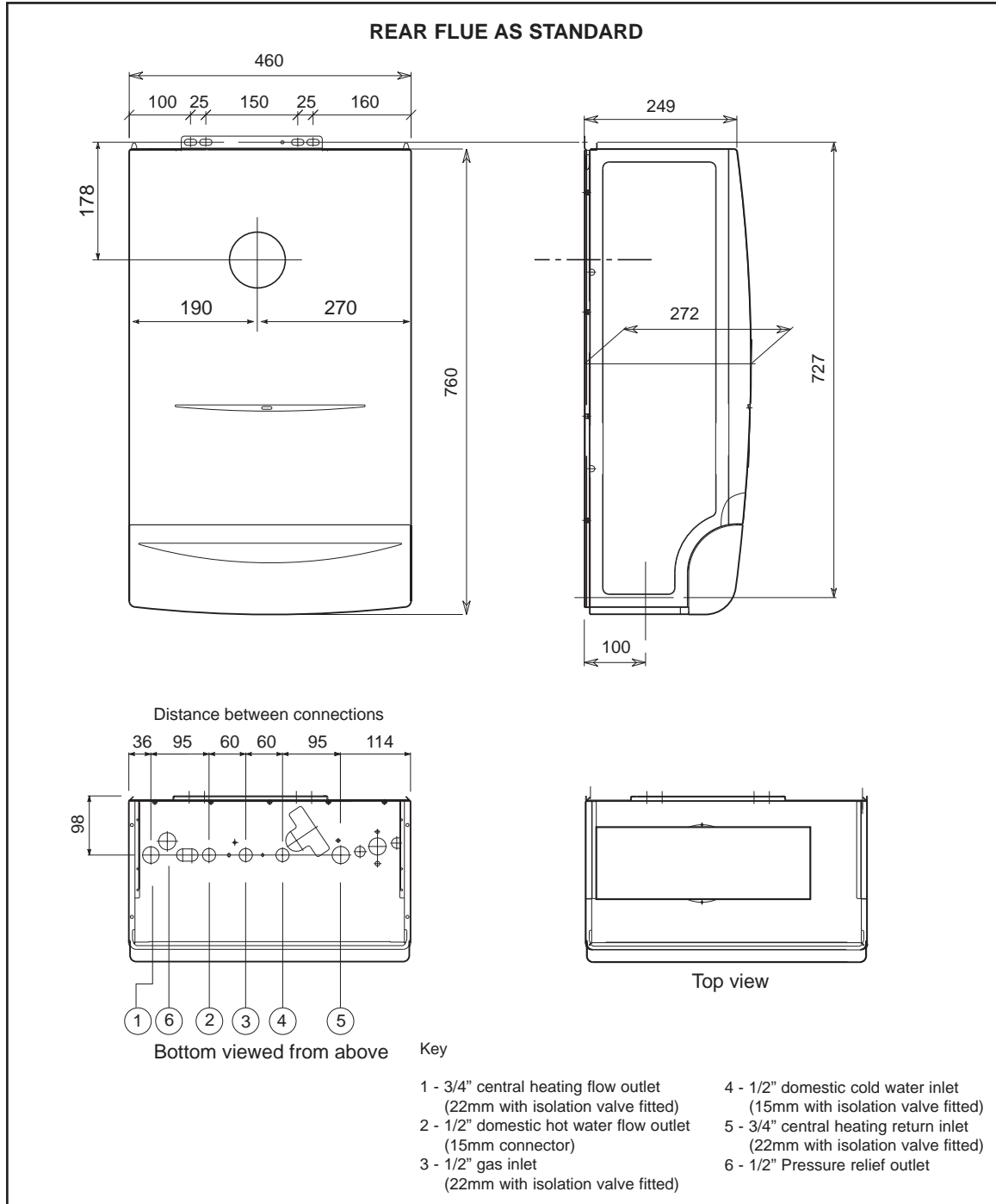


Minimum Clearances	MODENA 102
Top	200mm
Sides	5mm
Front	50mm*
Bottom	200mm

* 50mm refers to minimum distance between any openable/removable panel (i.e. kitchen unit door).
A minimum 600mm must be available for servicing access.

BOILER DIMENSIONS AND MINIMUM CLEARANCES

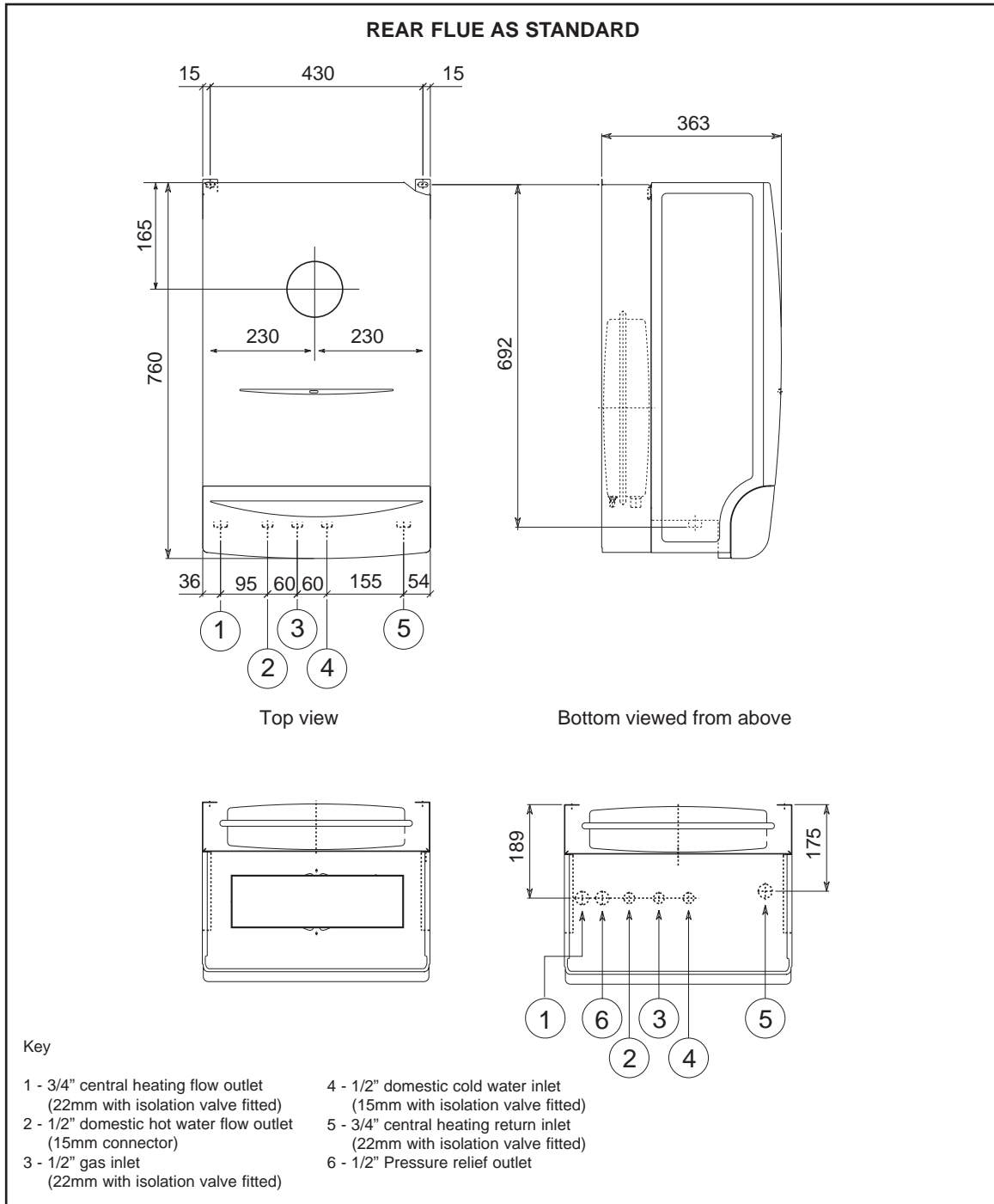
DOMINA 80N



Minimum Clearances	DOMINA 80N
Top	100mm
Sides	5mm
Front	50mm*
Bottom	200mm

* 50mm refers to minimum distance between any openable/removable panel (i.e. kitchen unit door).
A minimum 600mm must be available for servicing access.

DOMINA 102 N

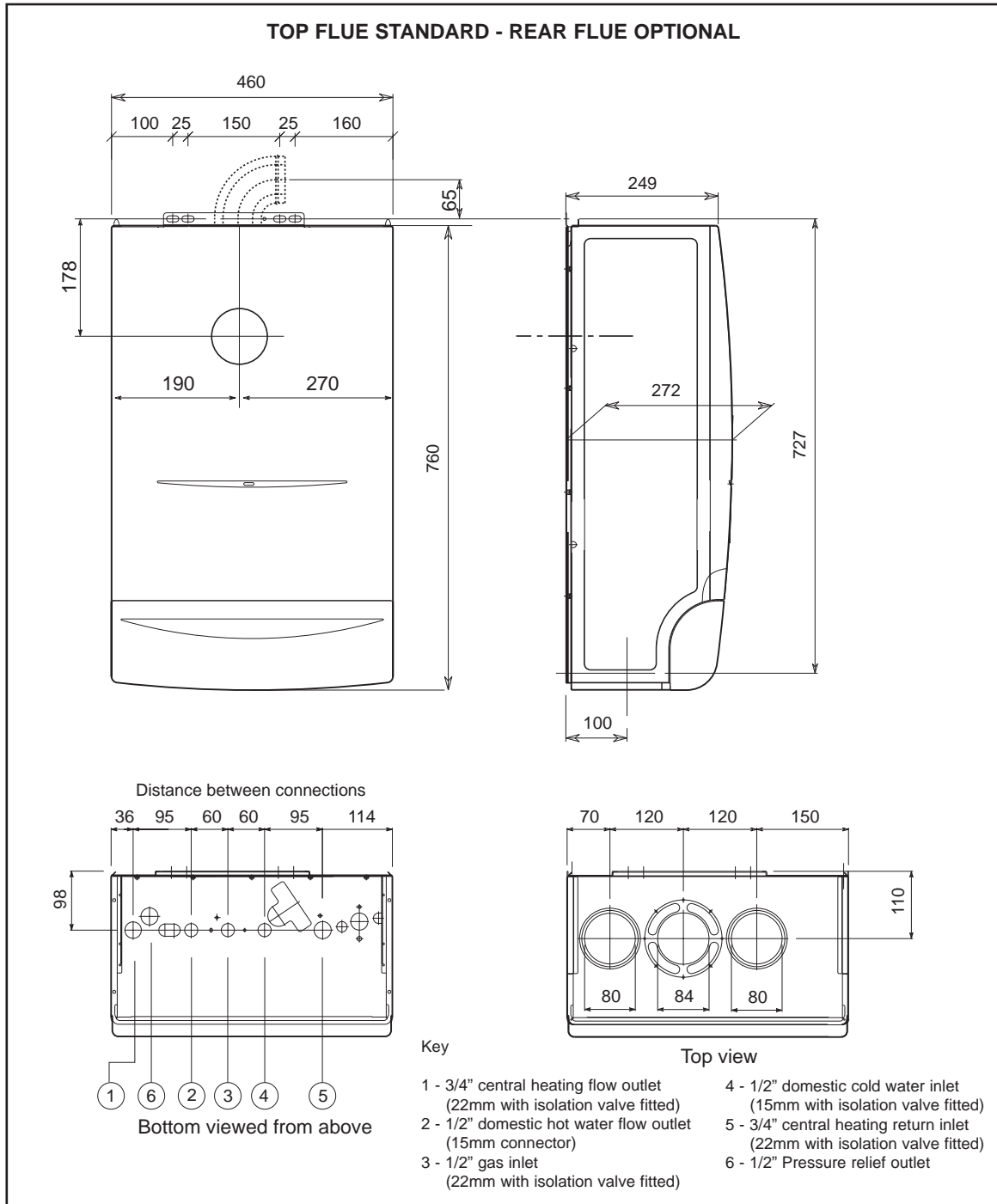


Minimum Clearances	DOMINA 102 N
Top	100mm
Sides	5mm
Front	50mm*
Bottom	200mm

* 50mm refers to minimum distance between any openable/removable panel (i.e. kitchen unit door).
A minimum 600mm must be available for servicing access.

BOILER DIMENSIONS AND MINIMUM CLEARANCES

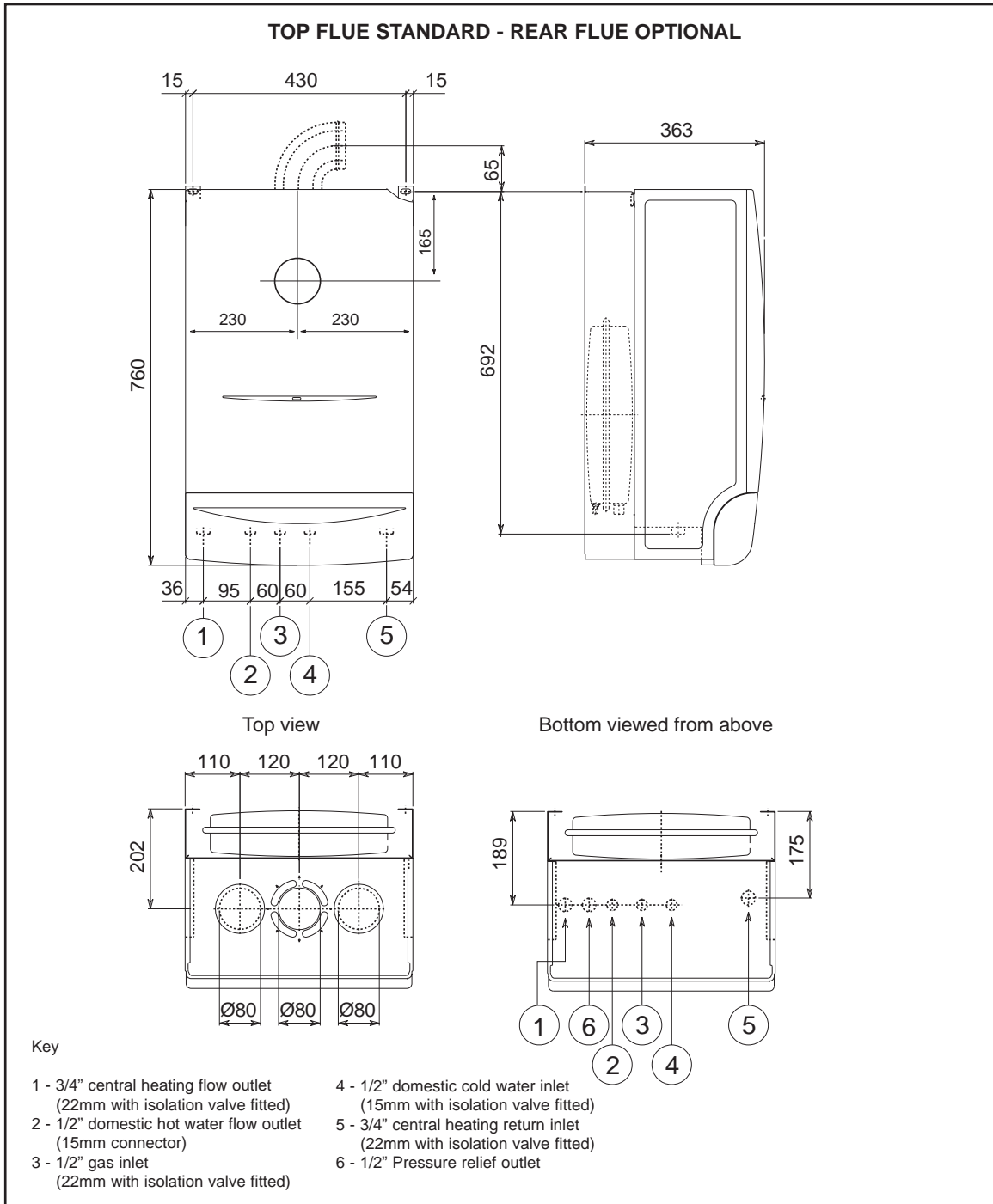
FERROLI F24



Minimum Clearances	F24
Top	200mm (100mm IF USING REAR FLUE)
Sides	5mm
Front	50mm*
Bottom	200mm

* 50mm refers to minimum distance between any openable/removable panel (i.e. kitchen unit door).
A minimum 600mm must be available for servicing access.

FERROLI F30

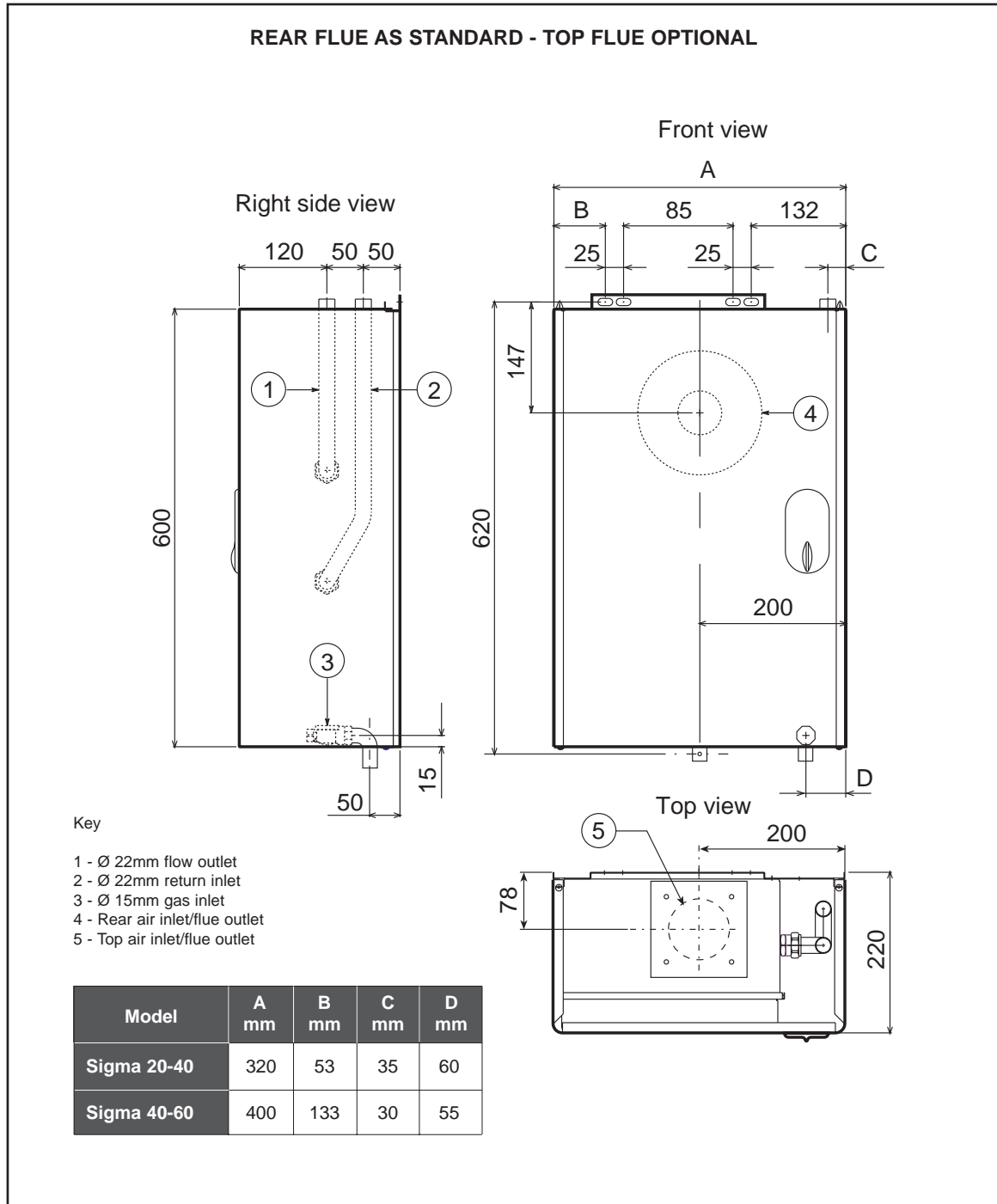


Minimum Clearances	F30
Top	200mm (100mm IF USING REAR FLUE)
Sides	5mm
Front	50mm*
Bottom	200mm

* 50mm refers to minimum distance between any openable/removable panel (i.e. kitchen unit door).
A minimum 600mm must be available for servicing access.

BOILER DIMENSIONS AND MINIMUM CLEARANCES

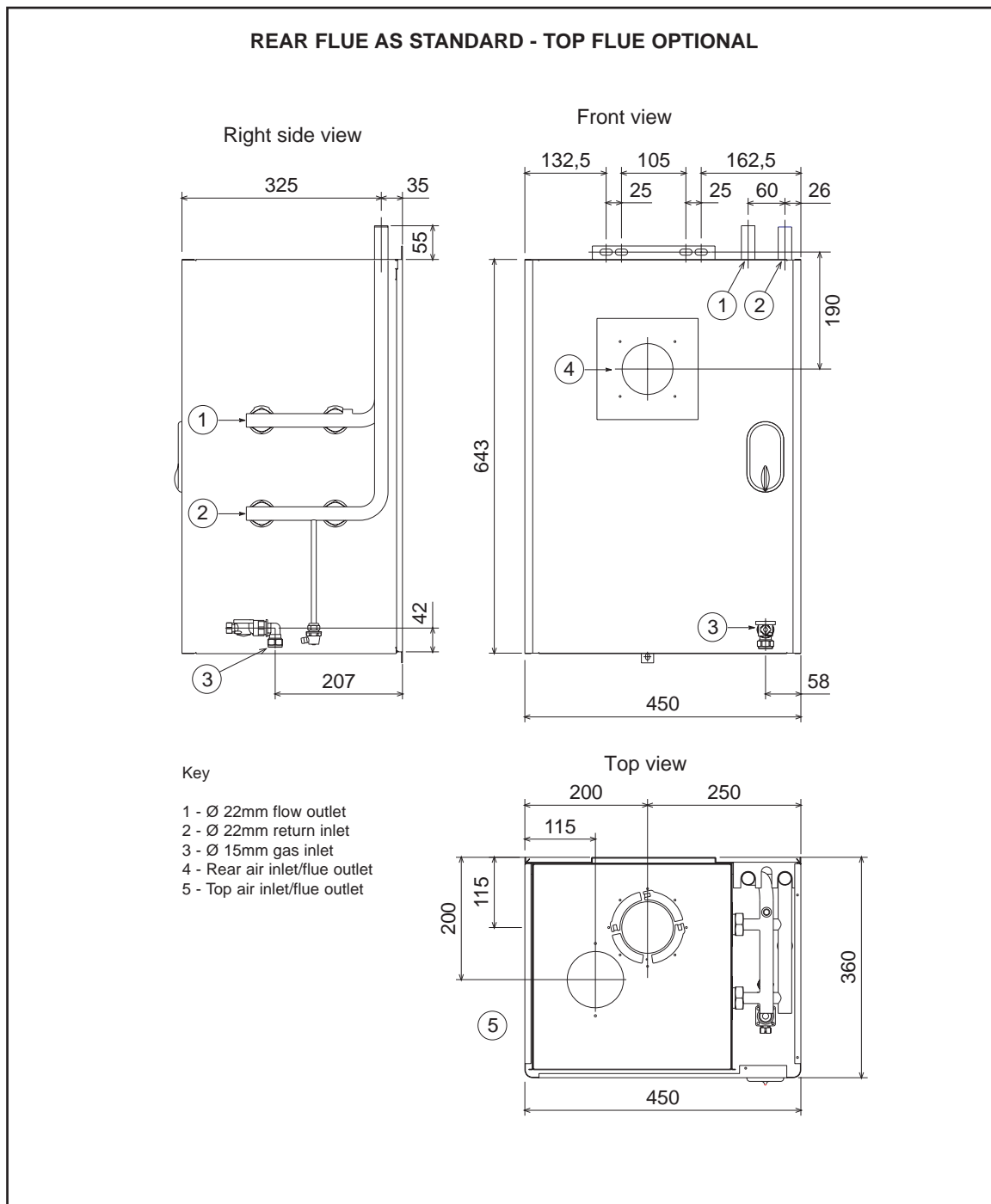
SIGMA 20-40 AND SIGMA 40-60



Minimum Clearances	SIGMA 20-40 / SIGMA 40-60
Top	200mm
Sides	5mm
Front	50mm*
Bottom	200mm

* 50mm refers to minimum distance between any openable/removable panel (i.e. kitchen unit door).
A minimum 600mm must be available for servicing access.

SIGMA 60-100

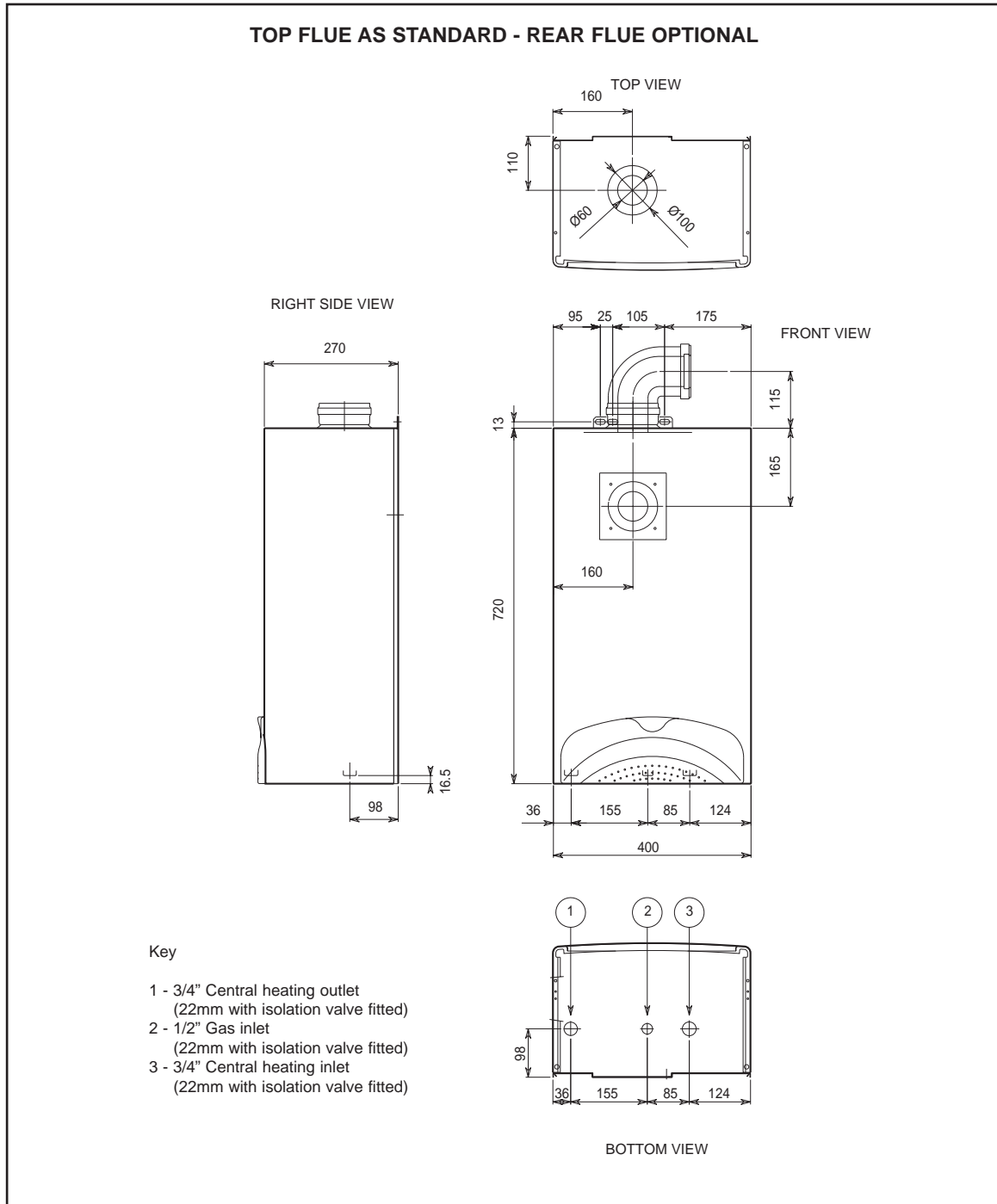


Minimum Clearances	SIGMA 60-100
Top	200mm
Sides	5mm
Front	50mm*
Bottom	200mm

* 50mm refers to minimum distance between any openable/removable panel (i.e. kitchen unit door).
A minimum 600mm must be available for servicing access.

BOILER DIMENSIONS AND MINIMUM CLEARANCES

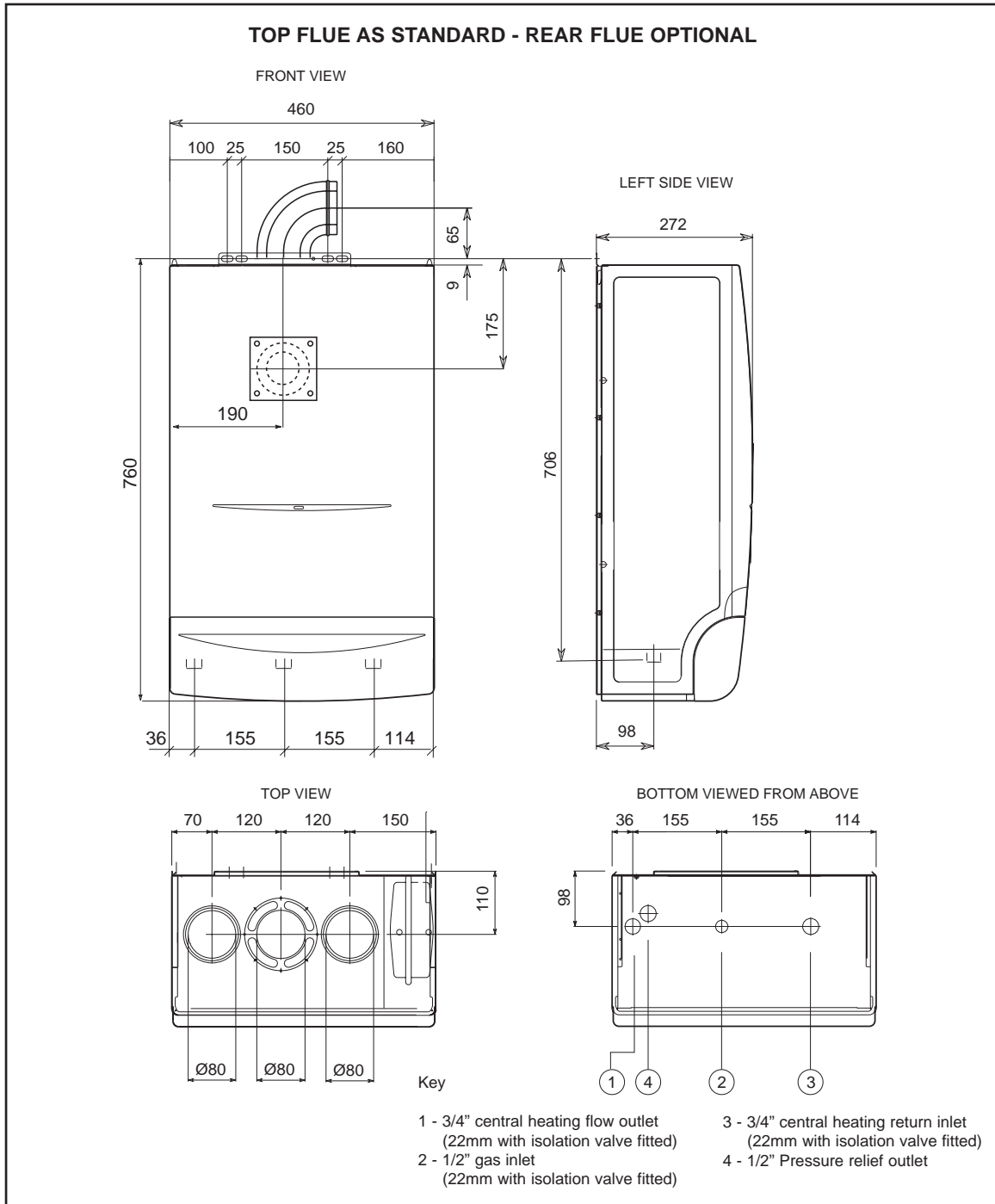
TEMPRA 12-18



Minimum Clearances	TEMPRA 12-18
Top	200mm (100mm IF USING REAR FLUE)
Sides	5mm
Front	50mm*
Bottom	200mm

* 50mm refers to minimum distance between any openable/removable panel (i.e. kitchen unit door).
A minimum 600mm must be available for servicing access.

TEMPRA 24

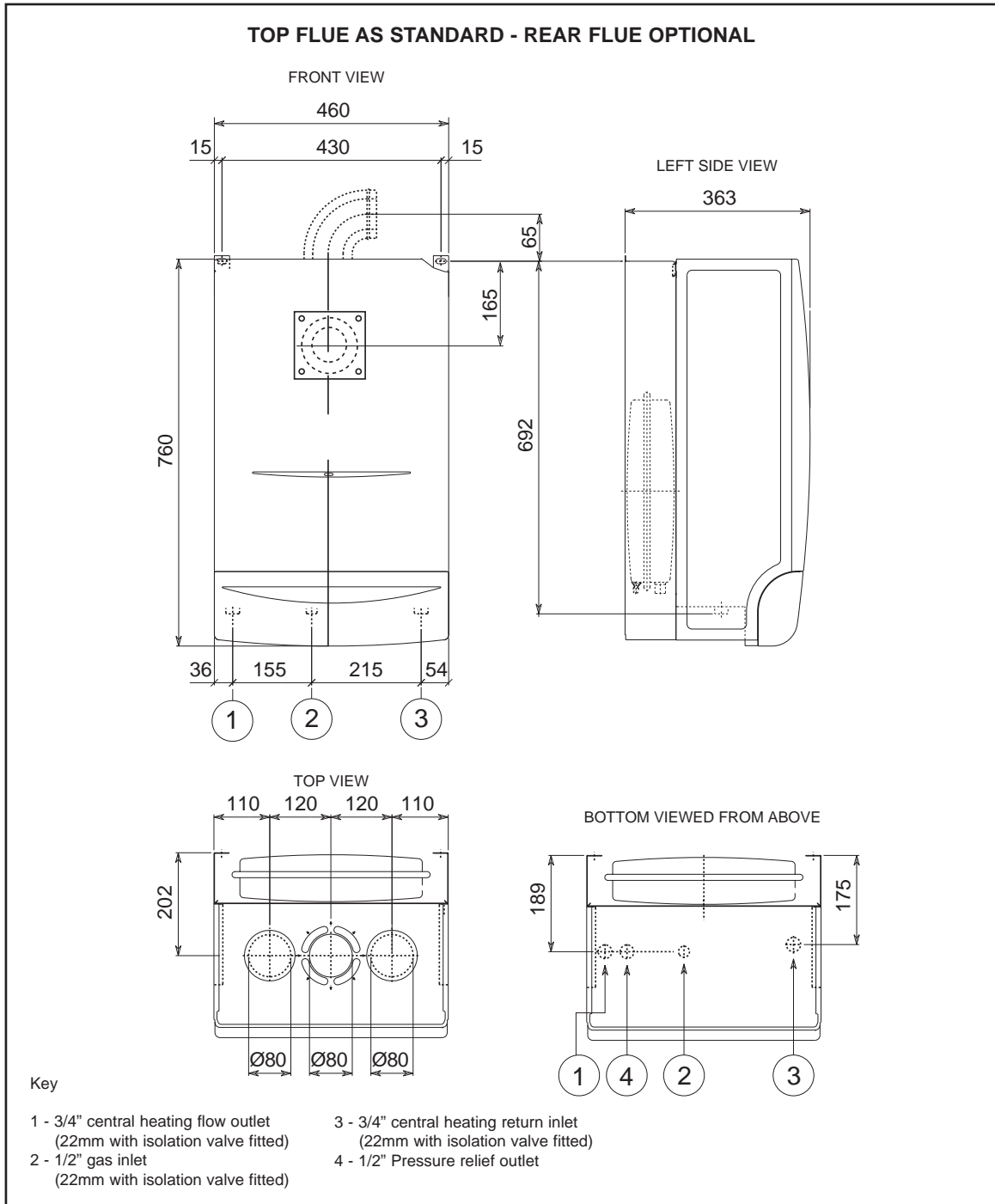


Minimum Clearances	TEMPRA 24
Top	200mm (100mm IF USING REAR FLUE)
Sides	5mm
Front	50mm*
Bottom	200mm

* 50mm refers to minimum distance between any openable/removable panel (i.e. kitchen unit door).
A minimum 600mm must be available for servicing access.

BOILER DIMENSIONS AND MINIMUM CLEARANCES

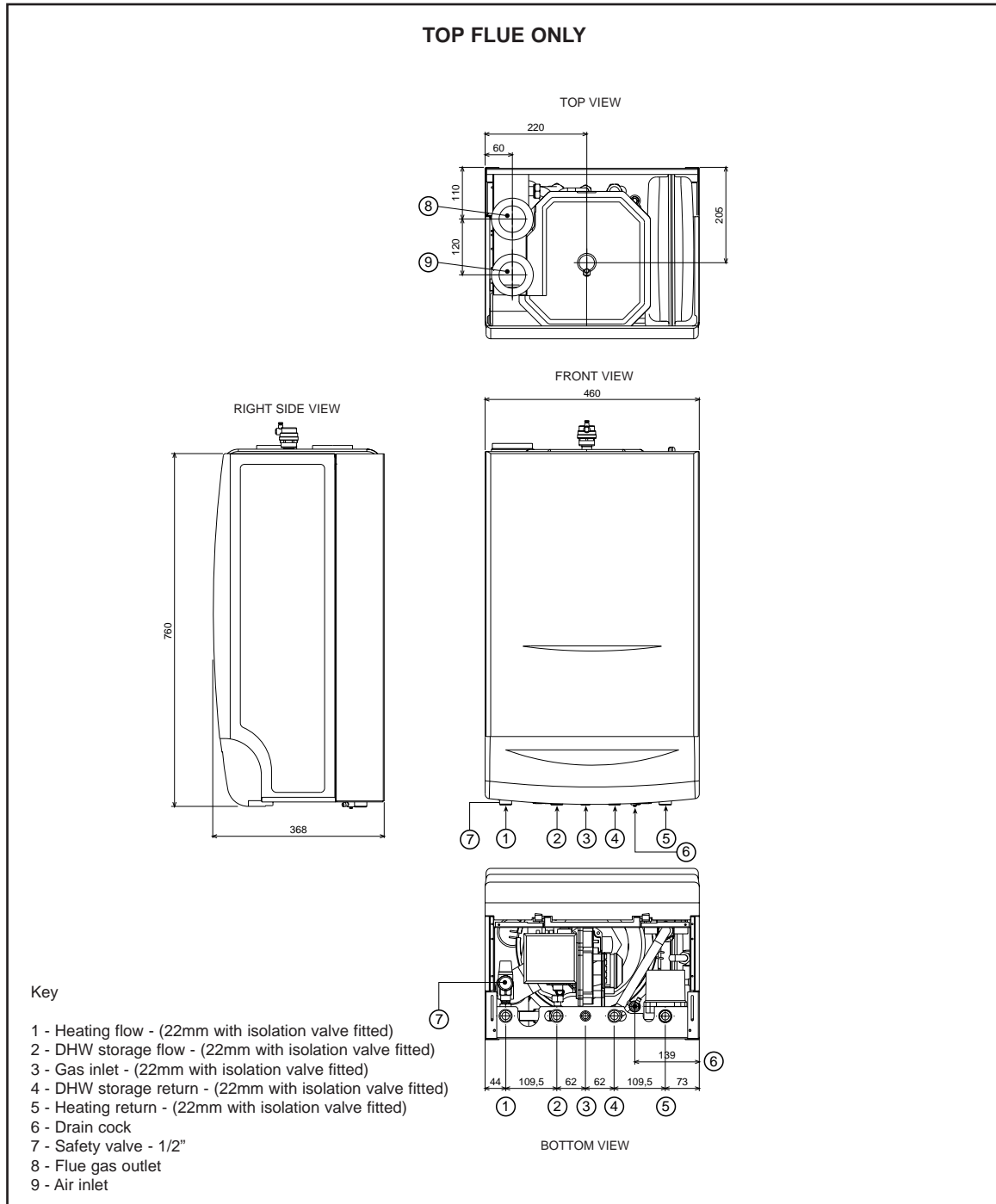
TEMPRA 30



Minimum Clearances	TEMPRA 30
Top	200mm (100mm IF USING REAR FLUE)
Sides	5mm
Front	50mm*
Bottom	200mm

* 50mm refers to minimum distance between any openable/removable panel (i.e. kitchen unit door).
A minimum 600mm must be available for servicing access.

ARENA 30A

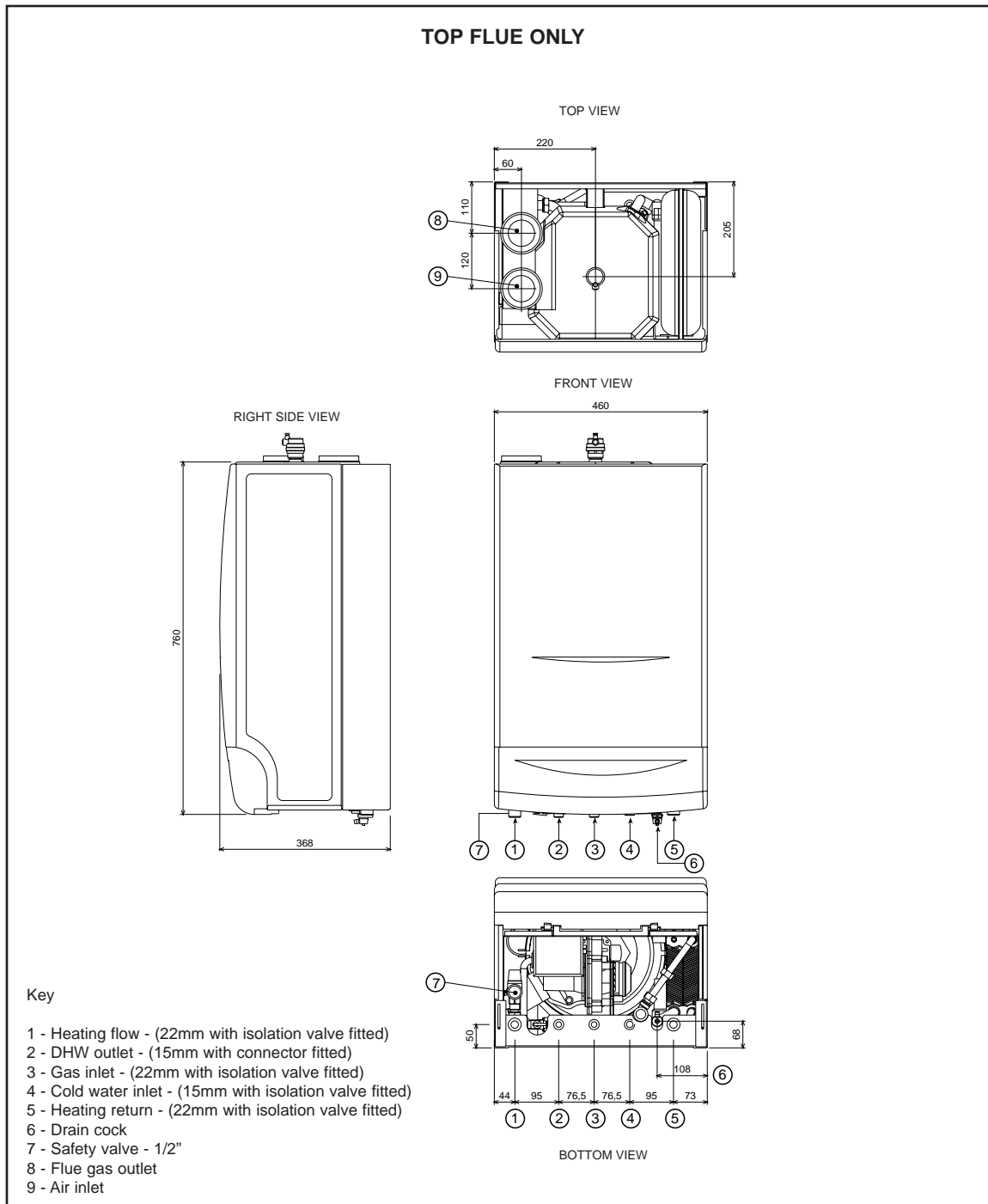


Minimum Clearances	ARENA 30A
Top	200mm
Sides	30mm (recommended 150mm)
Front	50mm*
Bottom	300mm

* 50mm from any openable panel - **600mm minimum required for servicing.**

BOILER DIMENSIONS AND MINIMUM CLEARANCES

ARENA 30C



Minimum Clearances	ARENA 30C
Top	200mm
Sides	30mm (recommended 150mm)
Front	50mm*
Bottom	300mm

* 50mm from any openable panel - **600mm minimum required for servicing.**

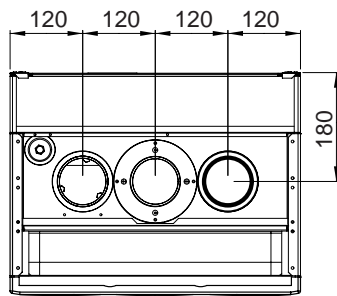
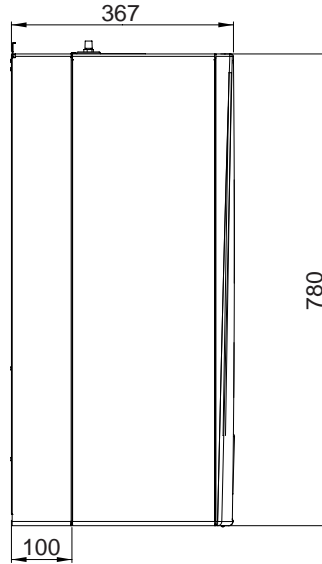
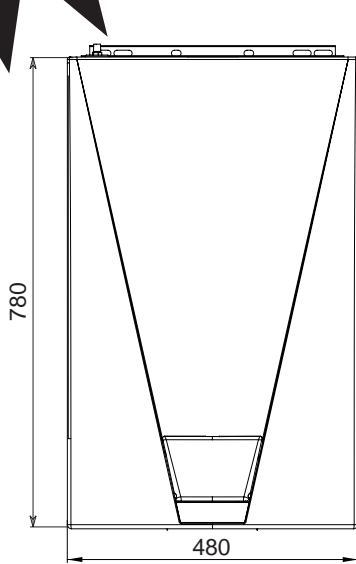
BOILER DIMENSIONS AND MINIMUM CLEARANCES

MAXIMA 35C

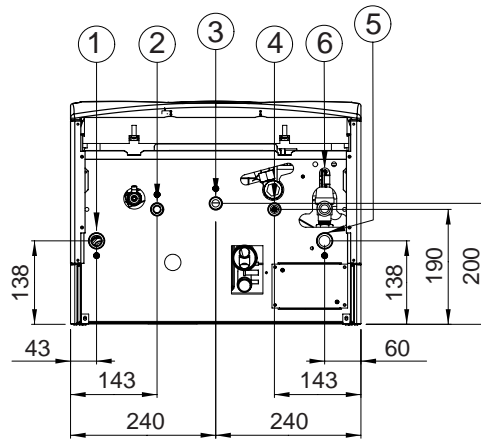


NEW
HIGH EFFICIENCY
BOILERS
FOR 2003

TOP FLUE ONLY



Top view



Bottom view

Key

- 1 - 3/4" central heating flow outlet (22mm with isolation valve fitted)
- 2 - 1/2" domestic hot water flow outlet (15mm connector)
- 3 - 1/2" gas inlet (22mm with isolation valve fitted)
- 4 - 1/2" domestic cold water inlet (15mm with isolation valve fitted)
- 5 - 3/4" central heating return inlet (22mm with isolation valve fitted)
- 6 - 1/2" Pressure relief outlet

Minimum Clearances	MAXIMA 35C
Top	300mm
Sides	25mm
Front	50mm*
Bottom	200mm

* 50mm refers to minimum distance between any openable/removable panel (i.e. kitchen unit door).
A minimum 600mm must be available for servicing access.

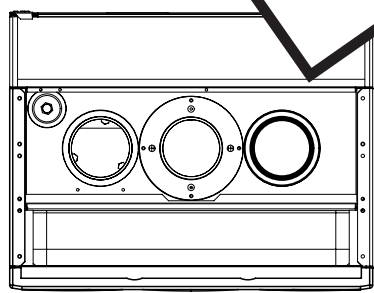
MAXIMA 27C, 27S, AND 35S



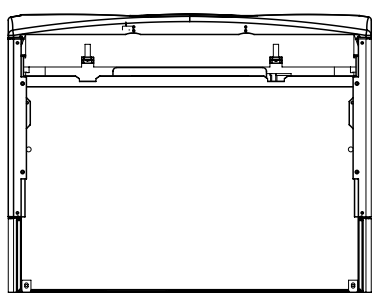
NEW
HIGH EFFICIENCY
BOILERS
FOR 2003



DETAILS TO FOLLOW



Top view



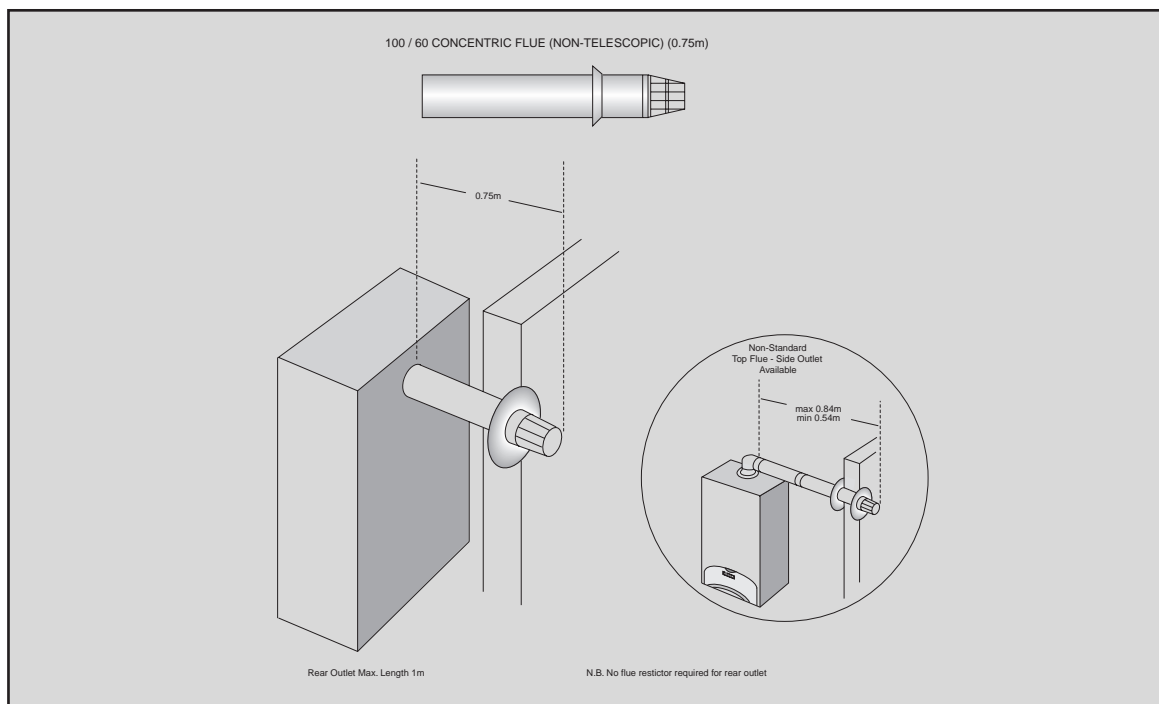
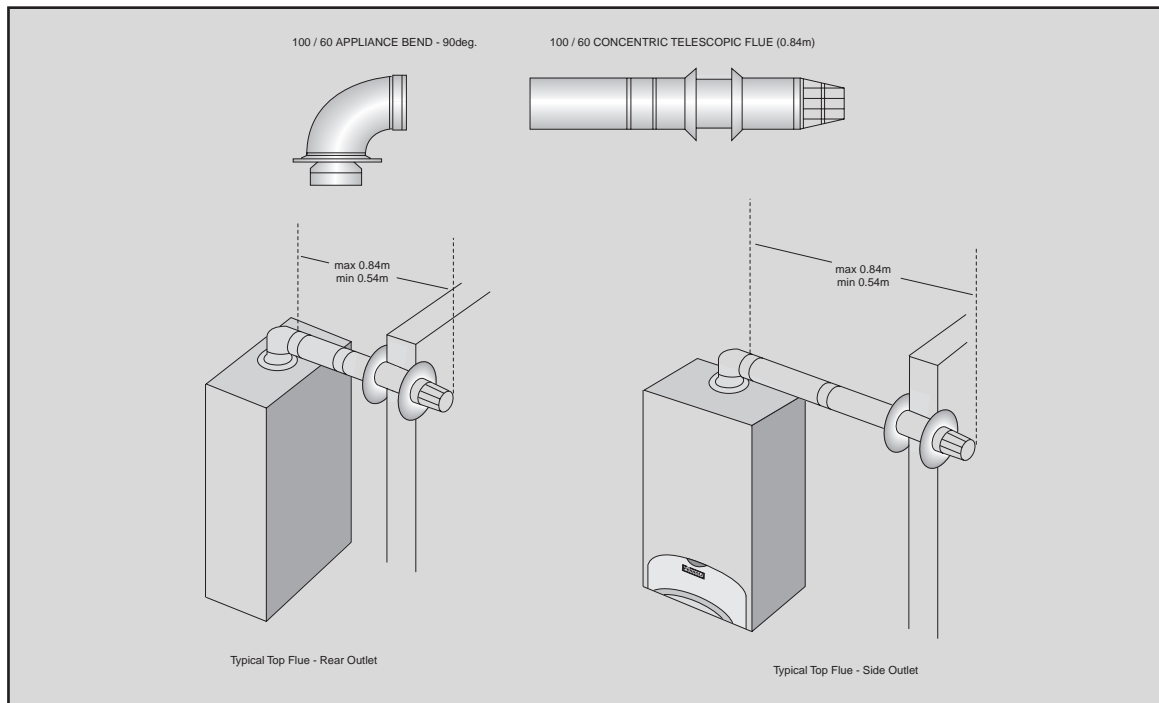
Bottom view

Minimum Clearances	MAXIMA 27C, 27S AND 35S
Top	
Sides	
Front	
Bottom	

FERROLI FLUE APPLICATIONS



Details of Standard Top and Rear Flue kits for the current range of Ferrolí Boilers showing items included in each **STANDARD FLUE KIT**.



EXAMPLES:

TOP: MODENA	TOP FLUE OUTLET
BOTTOM: DOMINA	REAR FLUE OUTLET

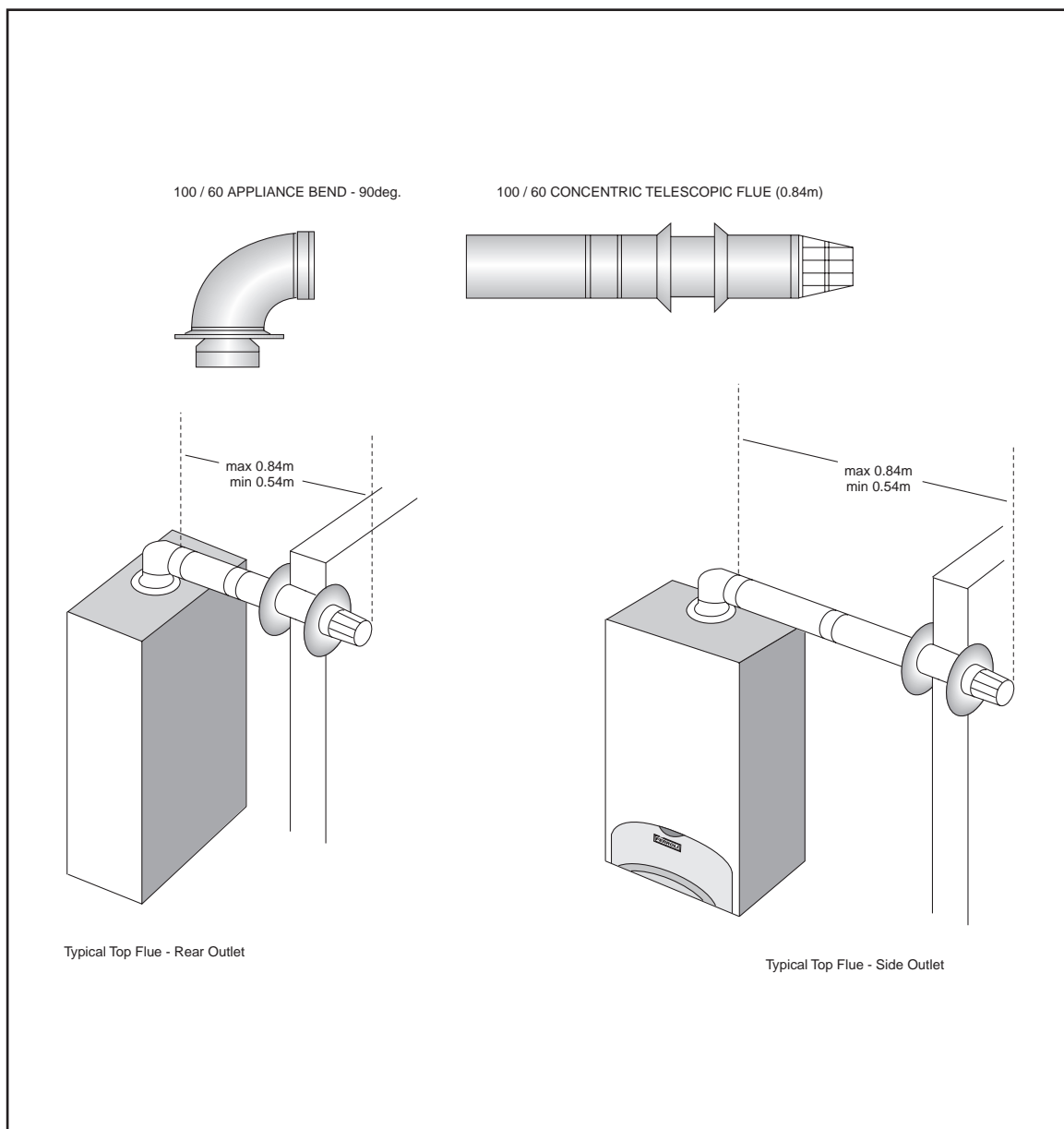
MODENA 80 / 102



STANDARD FLUE KIT (TOP FLUE ONLY)

CODE: 1KWMA07Y

Includes: 1-0.84m Telescopic flue
1-Appliance Bend



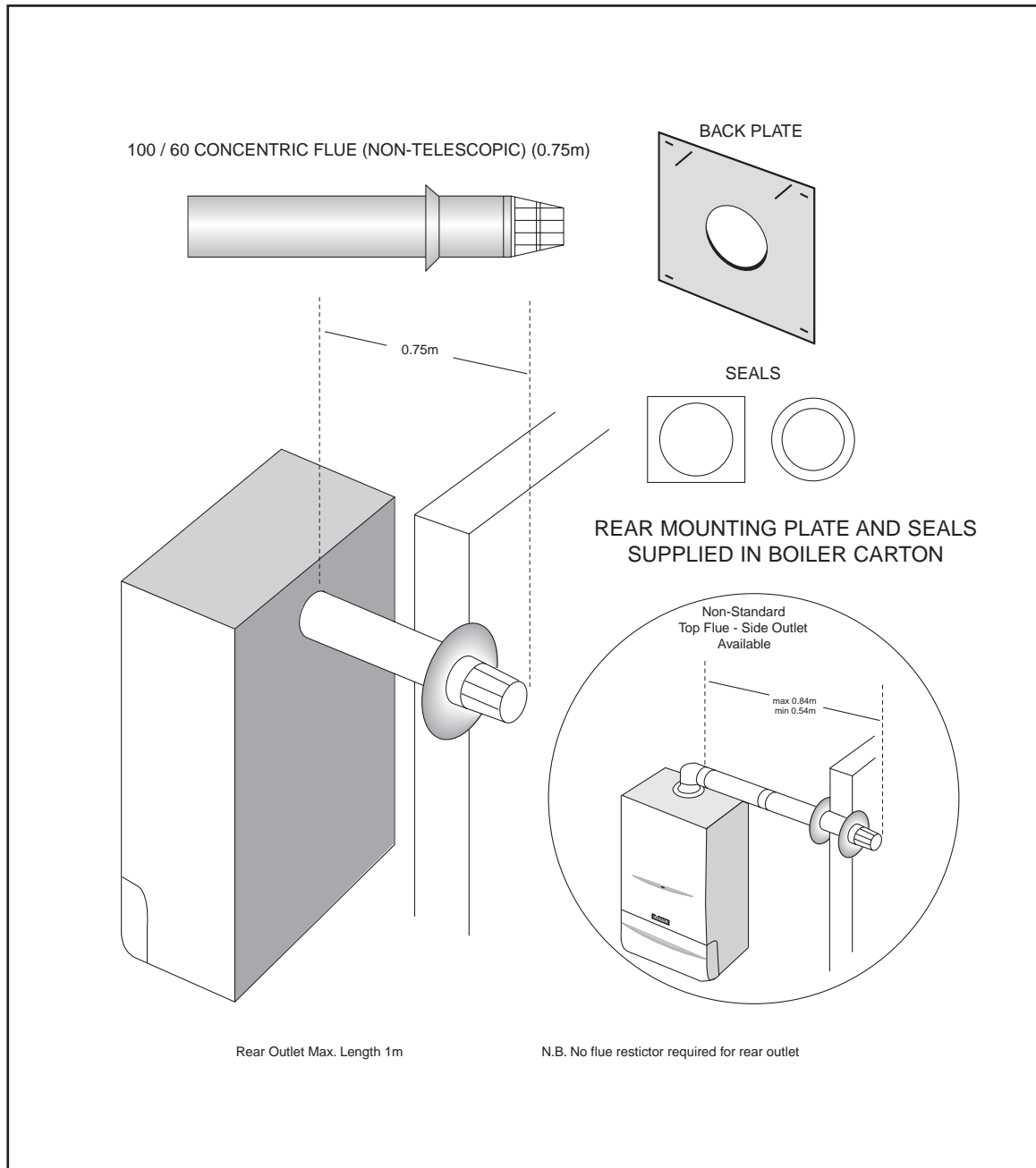
NON-STANDARD FLUE APPLICATIONS; MODENA (See "FLUE OPTIONS")

Options	100mm Concentric		125mm Concentric		80mm Two Pipe System
	Horizontal	Vertical	Horizontal	Vertical	
Maximum Equivalent distance	3m	4m	5m	5m	48m - Mod 80 50m - Mod 102

DOMINA 80



**STANDARD REAR FLUE KIT Includes: 1-0.75m Flue (non-telescopic)
CODE: 823204**



NON-STANDARD FLUE APPLICATIONS; DOMINA (See “FLUE OPTIONS”)

Rear Flue Application	DOMINA 80
Maximum Flue Length	= 1m

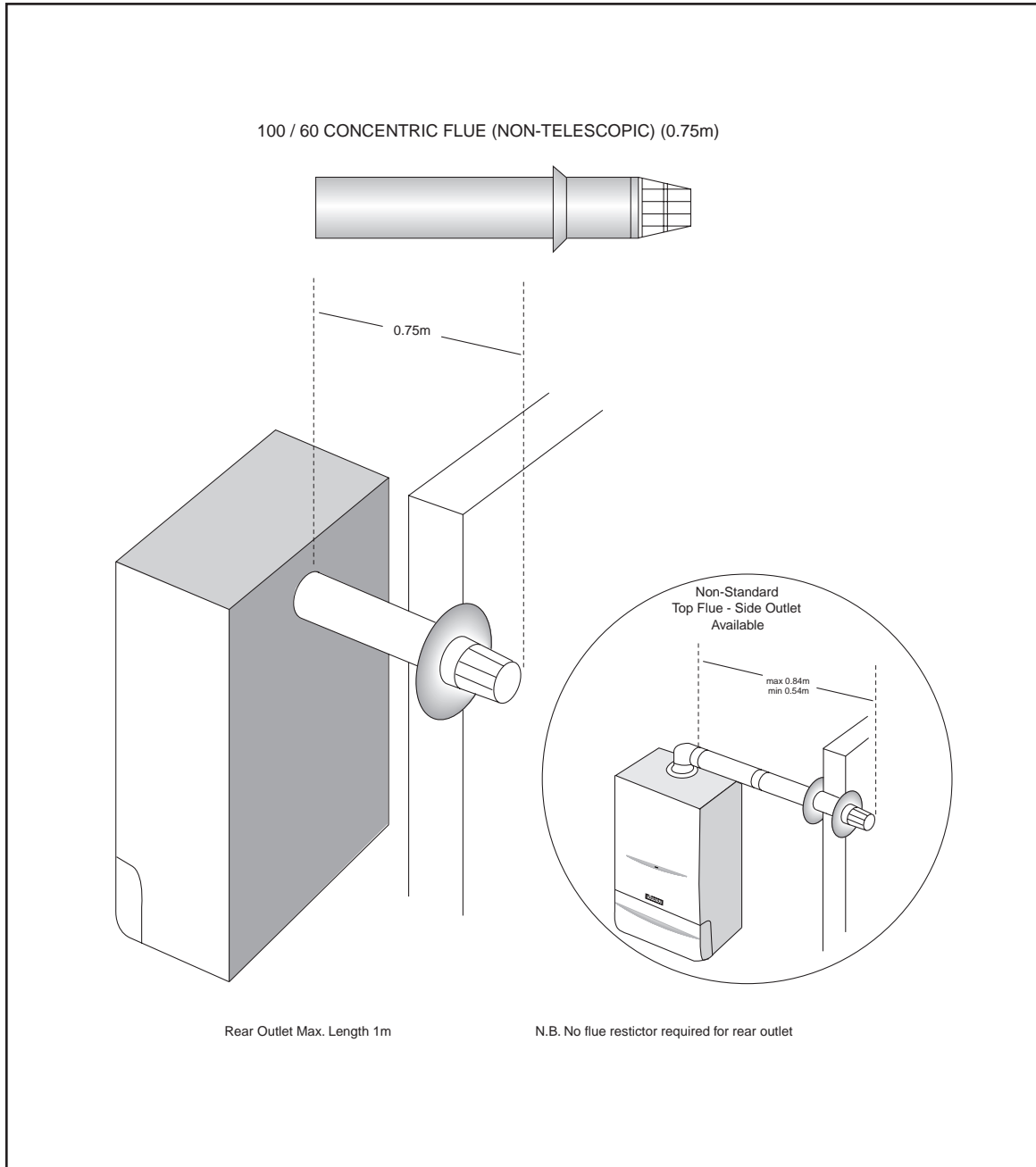
DOMINA 102



STANDARD REAR FLUE KIT

CODE: 823204

Includes: 1-0.75m Flue (non-telescopic)



NON-STANDARD FLUE APPLICATIONS; DOMINA (See "FLUE OPTIONS")

Rear Flue Application	DOMINA 102
Maximum Flue Length	= 1m

DOMINA 80 / 102



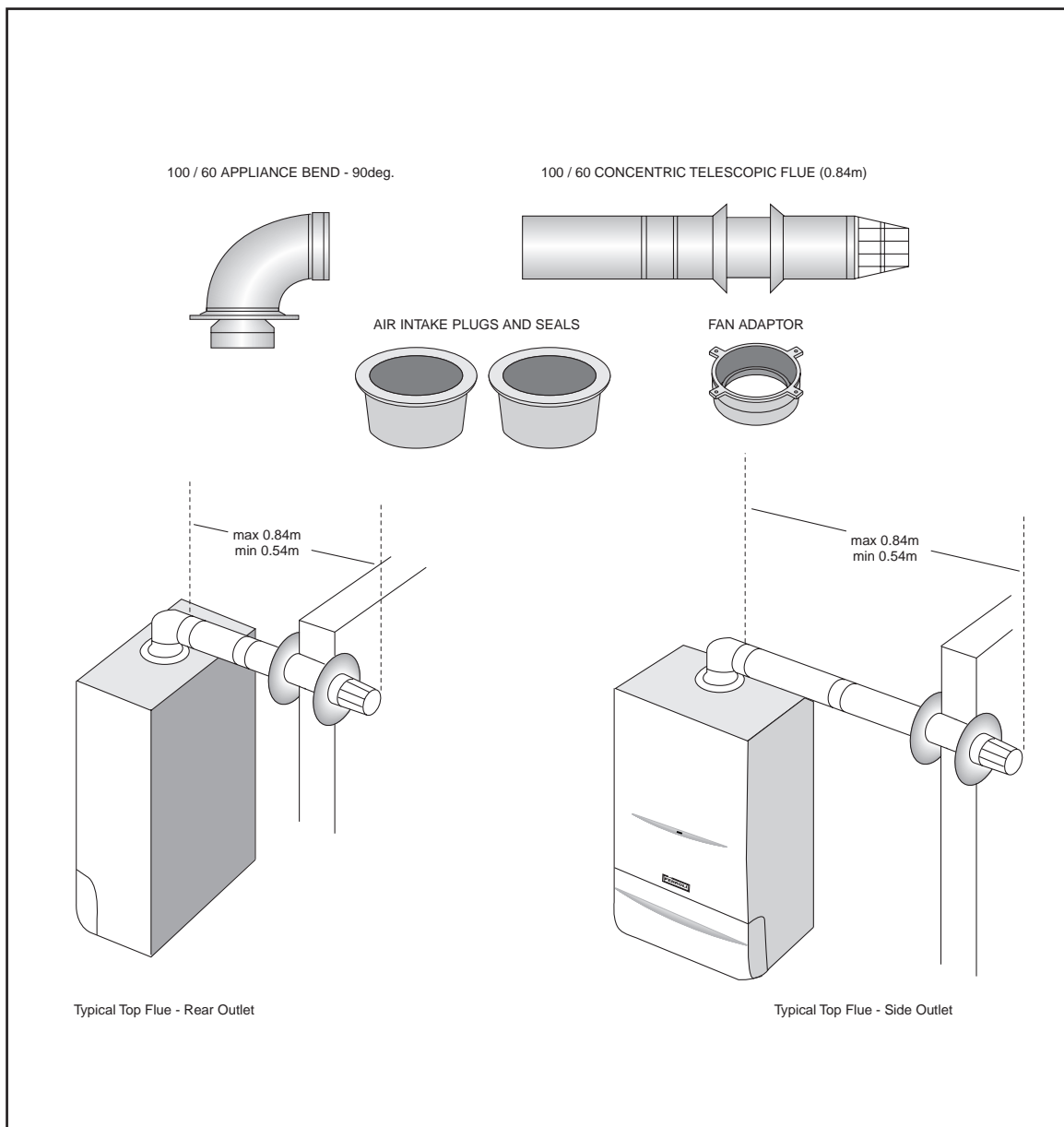
TOP FLUE KIT OPTION

CODE: 1KWMA07Y

Includes: 1-0.84m telescopic flue; 1-Appliance Bend

CODE: 1KWMR82A

Includes: 1-Fan Adaptor; 2-Air Intake Plugs and Seals



NON-STANDARD FLUE APPLICATIONS; DOMINA 80 / 102 (See "FLUE OPTIONS")

Options	100mm Concentric		125mm Concentric		80mm Two Pipe System
	Horizontal	Vertical	Horizontal	Vertical	
Maximum Equivalent distance	3m	4m	5m	5m	48m - Dom 80 50m - Dom 102

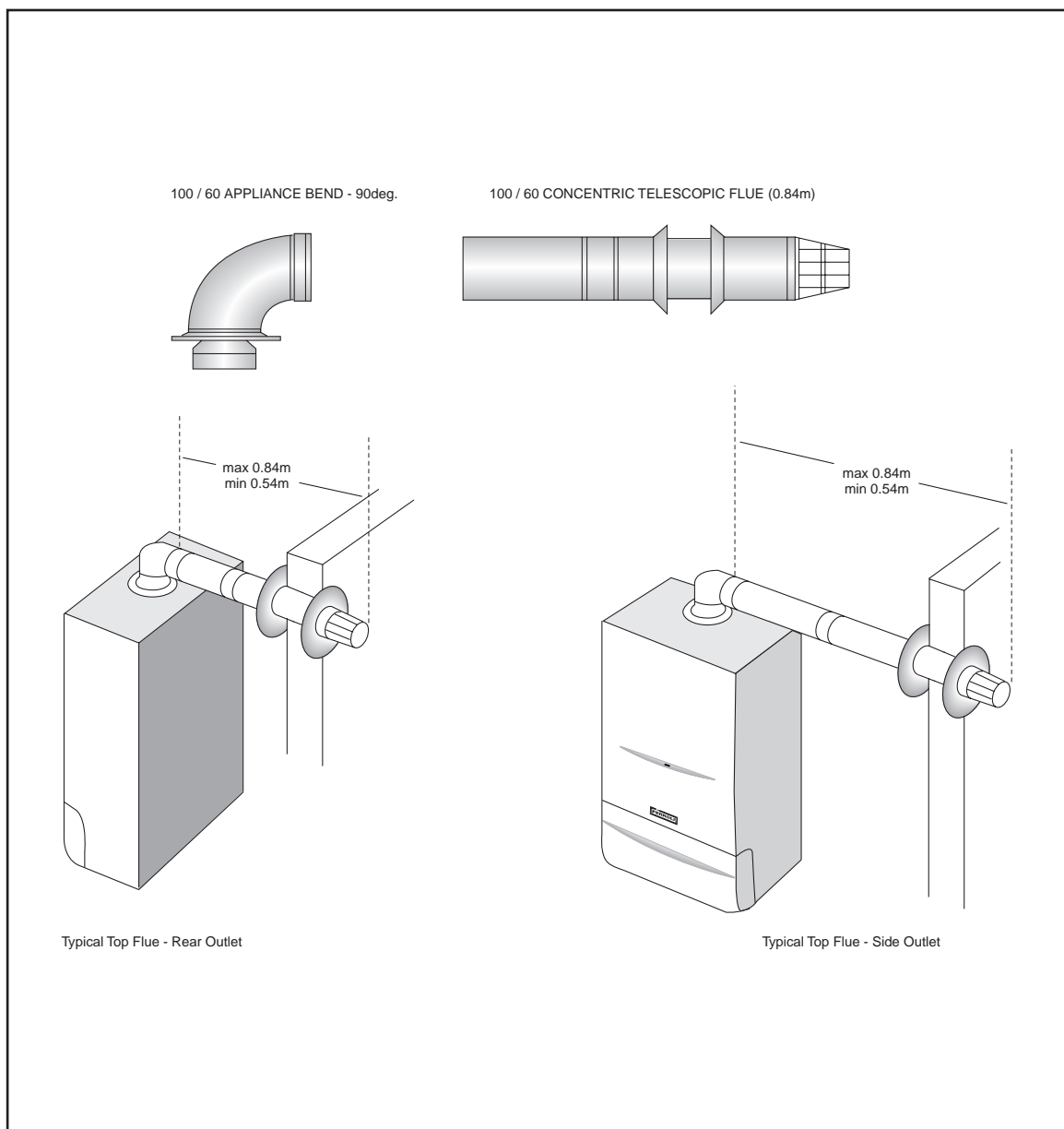
FERROLI F24



STANDARD TOP FLUE KIT

CODE: 1KWMA07Y

**Includes: 1-0.84m telescopic flue
1-Appliance Bend**



NON-STANDARD FLUE APPLICATIONS; FERROLI F24 (See "FLUE OPTIONS")

Options	100mm Concentric	125mm Concentric	80mm Two Pipe System
	Horizontal	Vertical	Horizontal
		Vertical	Vertical
Maximum Equivalent distance	3m	4m	5m
			5m
			48m

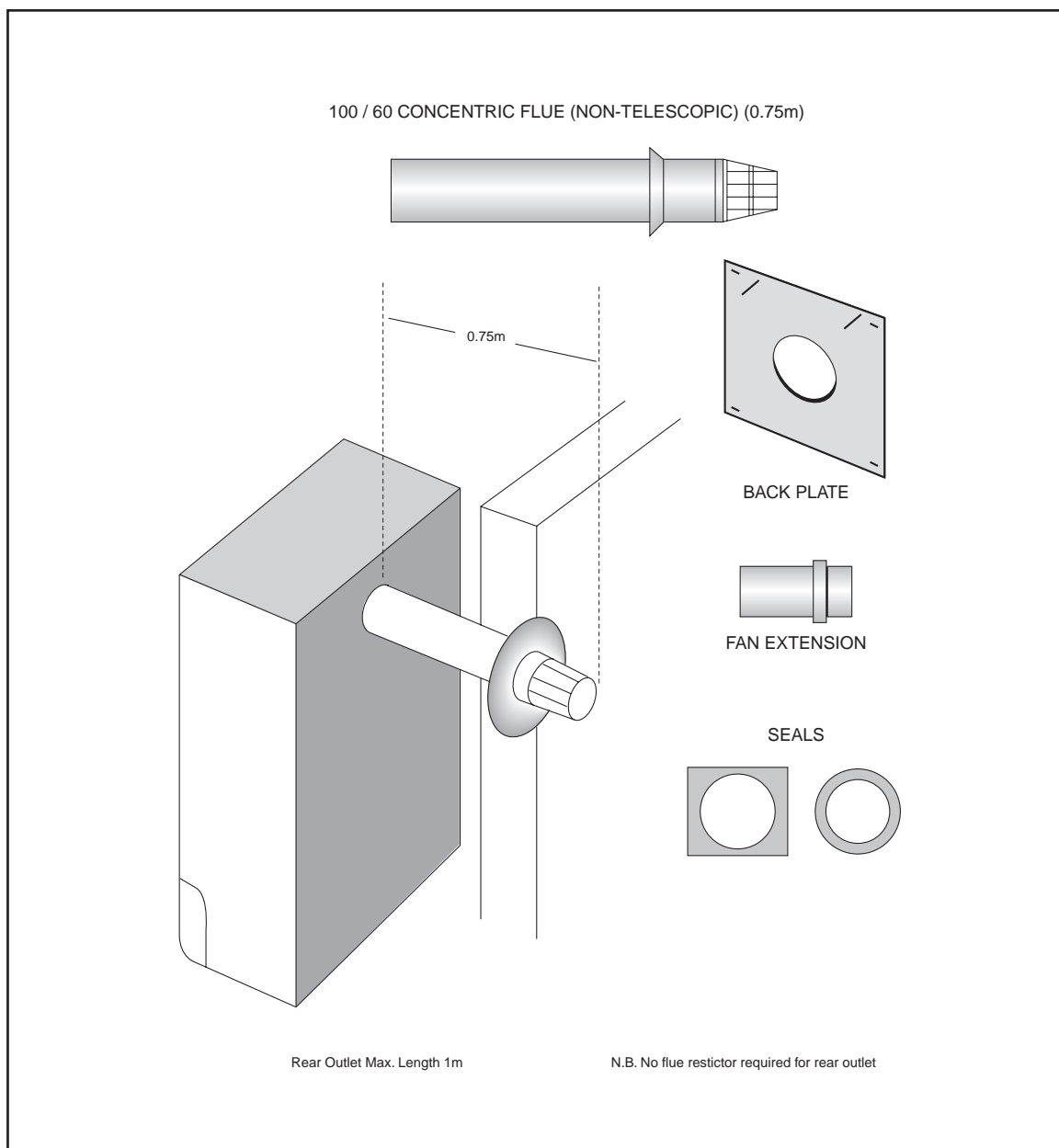
FERROLI F24



REAR FLUE OPTION

CODE: 822181

**Includes: 1-0.75m non-telescopic flue
1-Fan Extension
1-Back Plate; 2-Seals**



NON-STANDARD FLUE APPLICATIONS; F24 (See "FLUE OPTIONS")

Rear Flue Application	FERROLI F24
Maximum Flue Length	= 1m

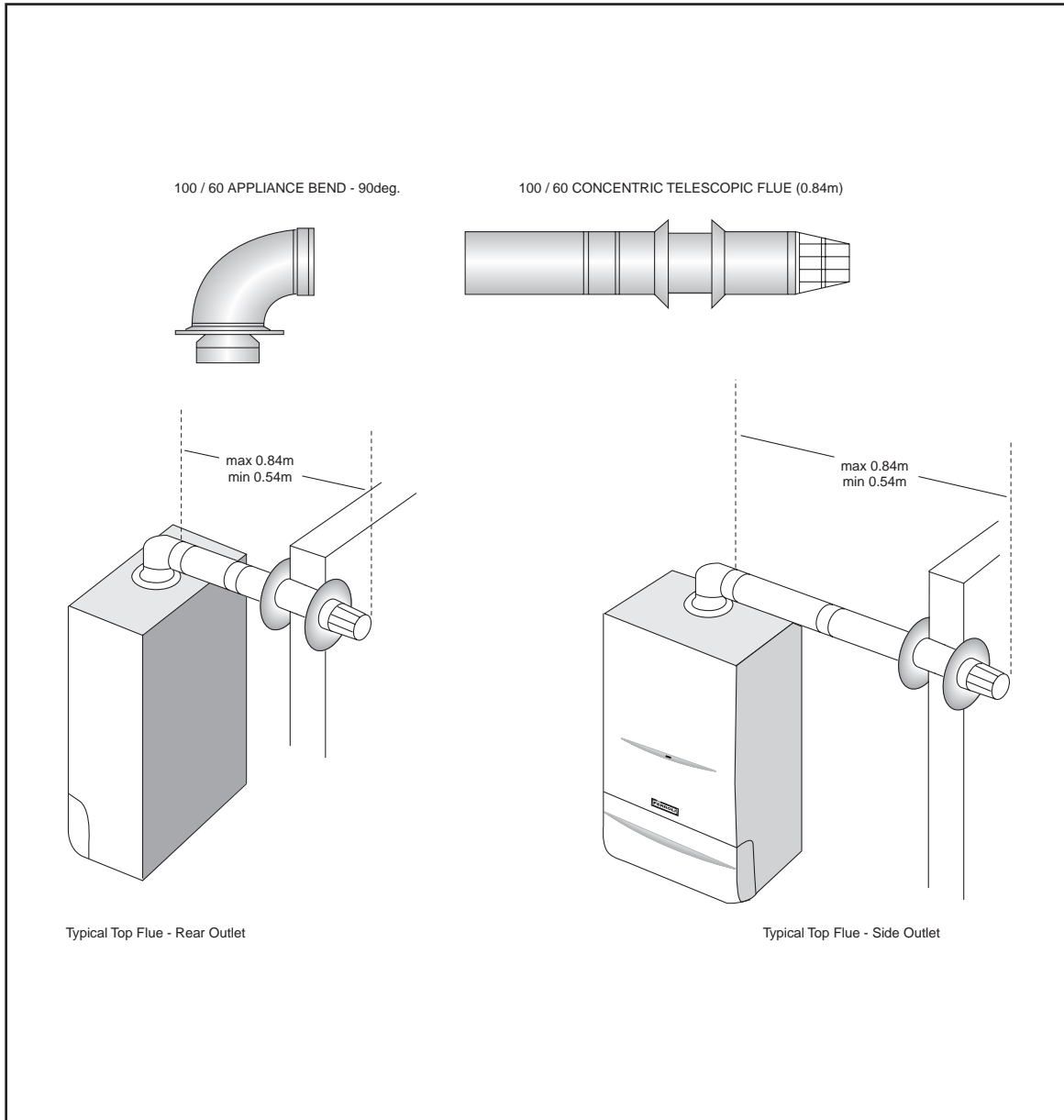
FERROLI F30



STANDARD TOP FLUE KIT

CODE: 1KWMA07Y

**Includes: 1-0.84m telescopic flue
1-Appliance Bend**



NON-STANDARD FLUE APPLICATIONS; FERROLI F30 (See "FLUE OPTIONS")

Options	100mm Concentric		125mm Concentric		80mm Two Pipe System
	Horizontal	Vertical	Horizontal	Vertical	
Maximum Equivalent distance	3m	4m	5m	5m	50m

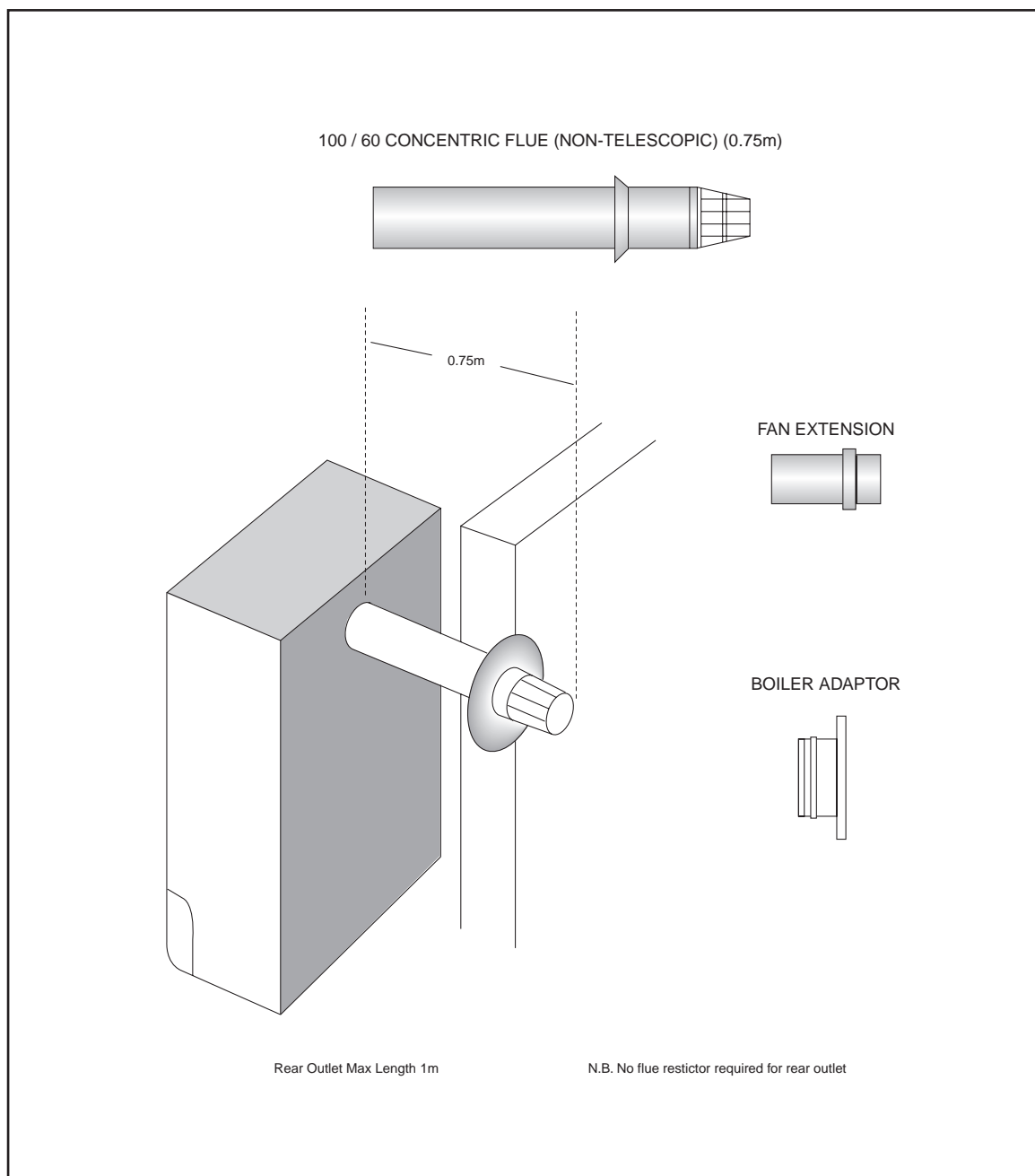
FERROLI F30



REAR FLUE OPTION

CODE: 822186

**Includes: 1-0.75m Flue (non-telescopic)
1-Fan Extension; 1-Boiler Adaptor**



NON-STANDARD FLUE APPLICATIONS; FERROLI F30 (See "FLUE OPTIONS")

Rear Flue Application	FERROLI F30
Maximum Flue Length	= 1m

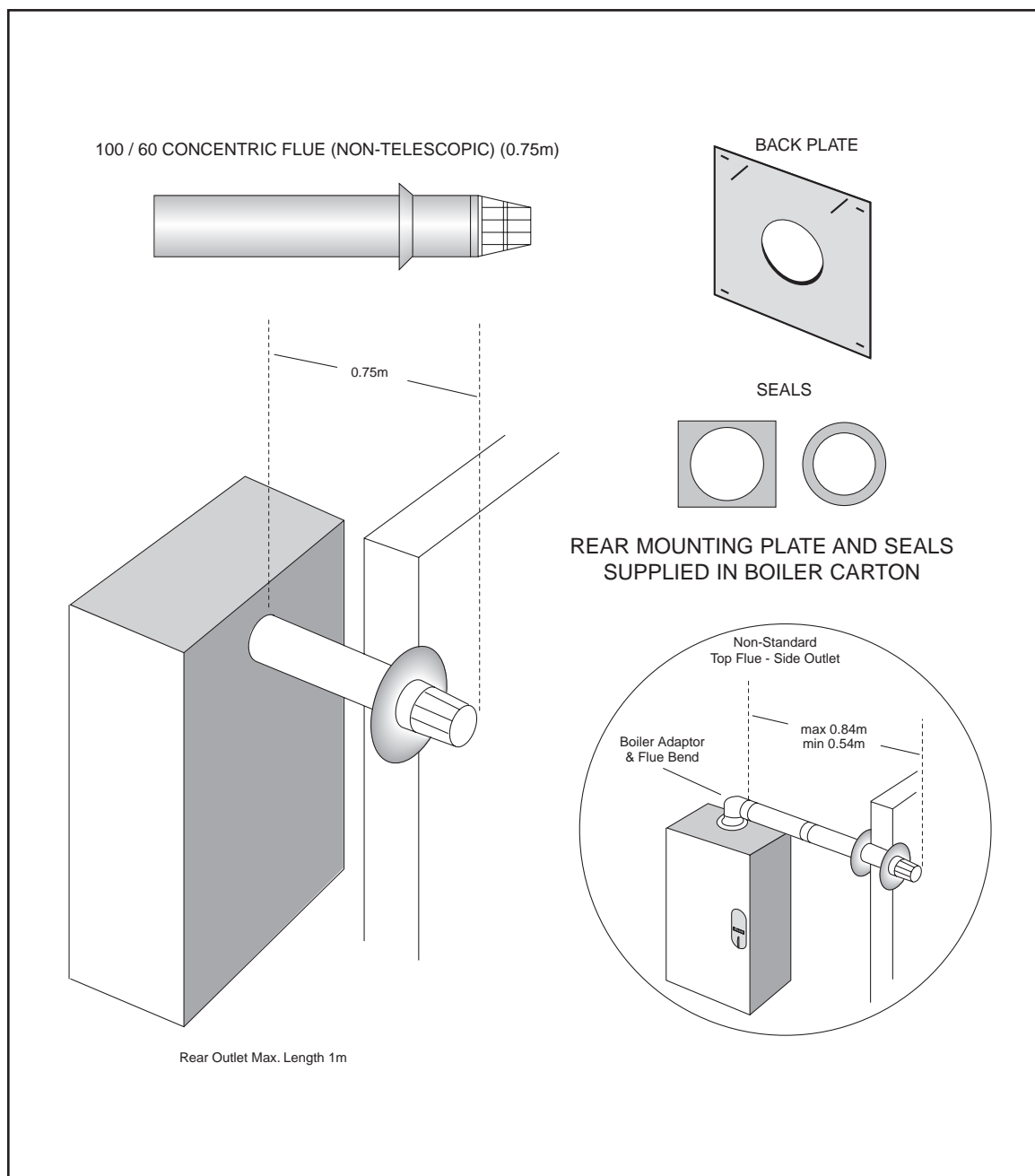
FLUE APPLICATIONS

SIGMA 20-40 AND SIGMA 40-60

STANDARD REAR FLUE

CODE: 823204

Includes: 1-0.75m Flue (non-telescopic)



NON-STANDARD FLUE APPLICATIONS; SIGMA (See "FLUE OPTIONS")

Rear Flue Application	SIGMA 20-40 and 40-60
Maximum Flue Length	= 1m

FLUE APPLICATIONS

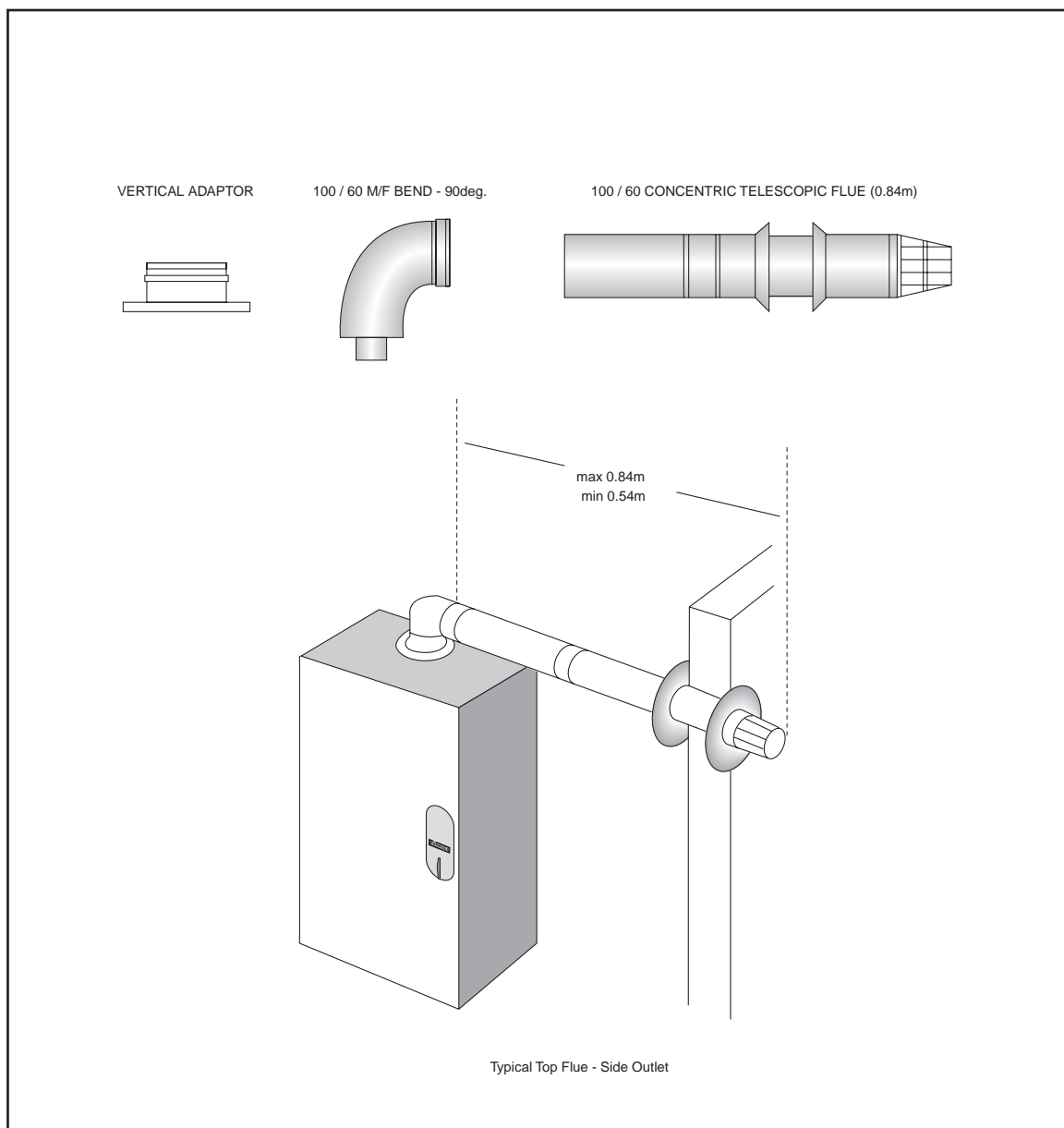
SIGMA 20-40 AND SIGMA 40-60



TOP FLUE OUTLET OPTION

CODE: 1KWMR52A - Vertical Adaptor;

CODE: 1KWMR38A - 0.84m Telescopic Flue and Bend



NON-STANDARD FLUE APPLICATIONS; SIGMA 20-40 / 40-60 (See "FLUE OPTIONS")

Options	100mm Concentric		125mm Concentric		80mm Two Pipe System
	Horizontal	Vertical	Horizontal	Vertical	
Maximum Equivalent distance	3m	4m	5m	5m	40m

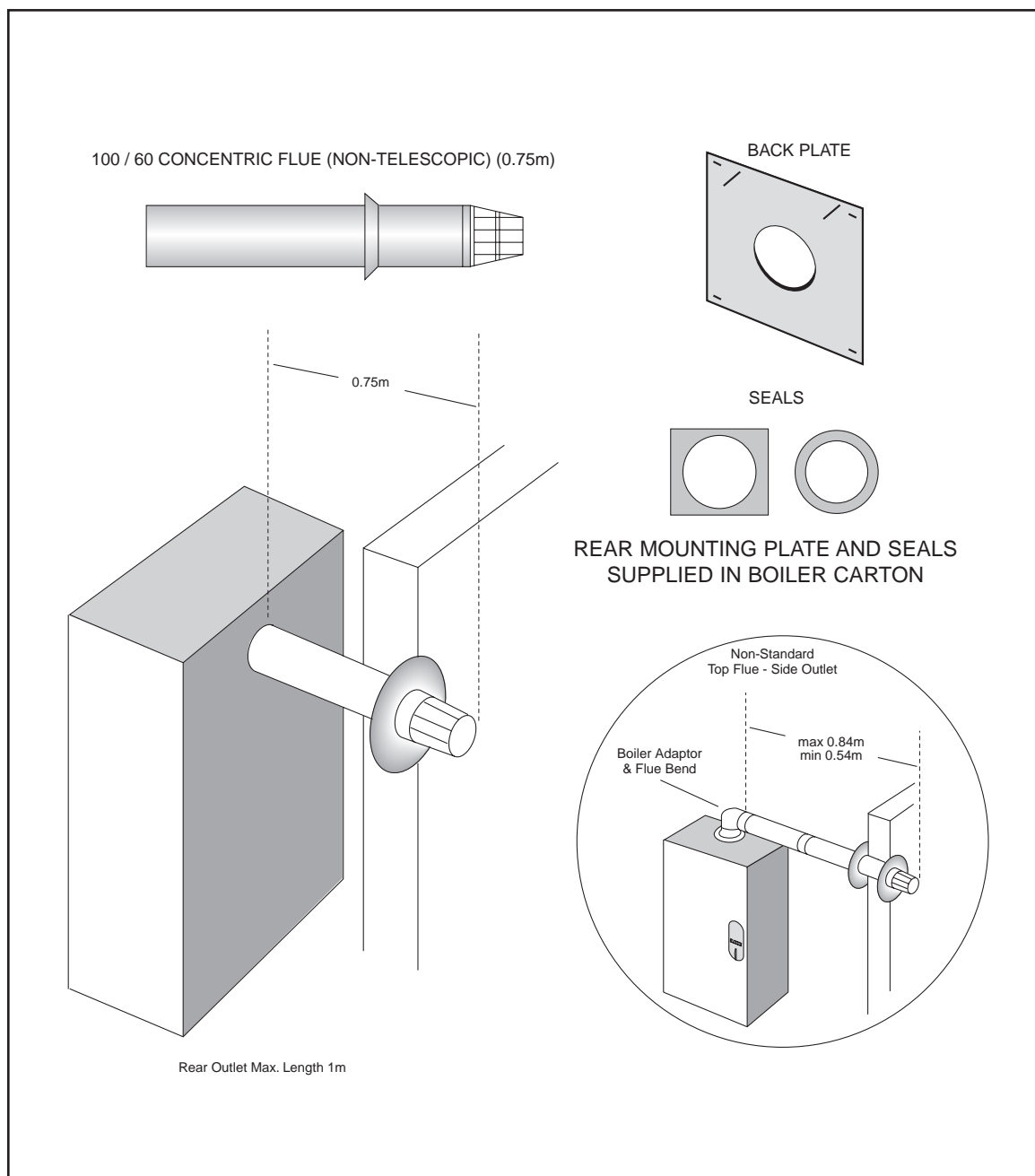
SIGMA 60-100



STANDARD REAR FLUE

CODE: 823204

Includes: 1-0.75m Flue (non-telescopic)



NON-STANDARD FLUE APPLICATIONS; SIGMA (See "FLUE OPTIONS")

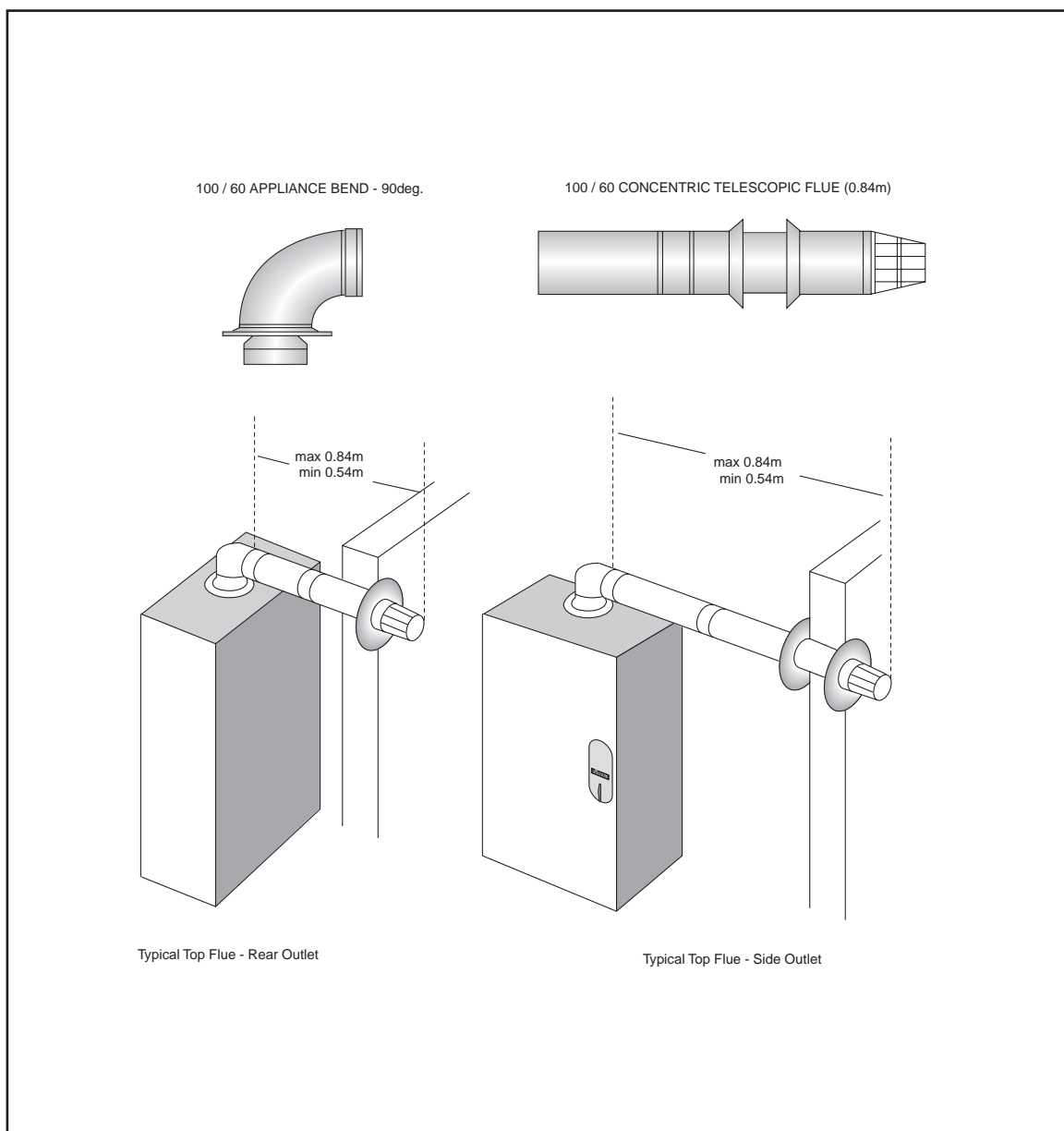
Rear Flue Application	SIGMA 60-100
Maximum Flue Length	= 1m

SIGMA 60-100



**TOP FLUE OPTION
CODE: 1KWMA07Y**

**Includes: 1-Appliance bend
1-0.84m Telescopic flue**



NON-STANDARD FLUE APPLICATIONS; SIGMA 60-100 (See "FLUE OPTIONS")

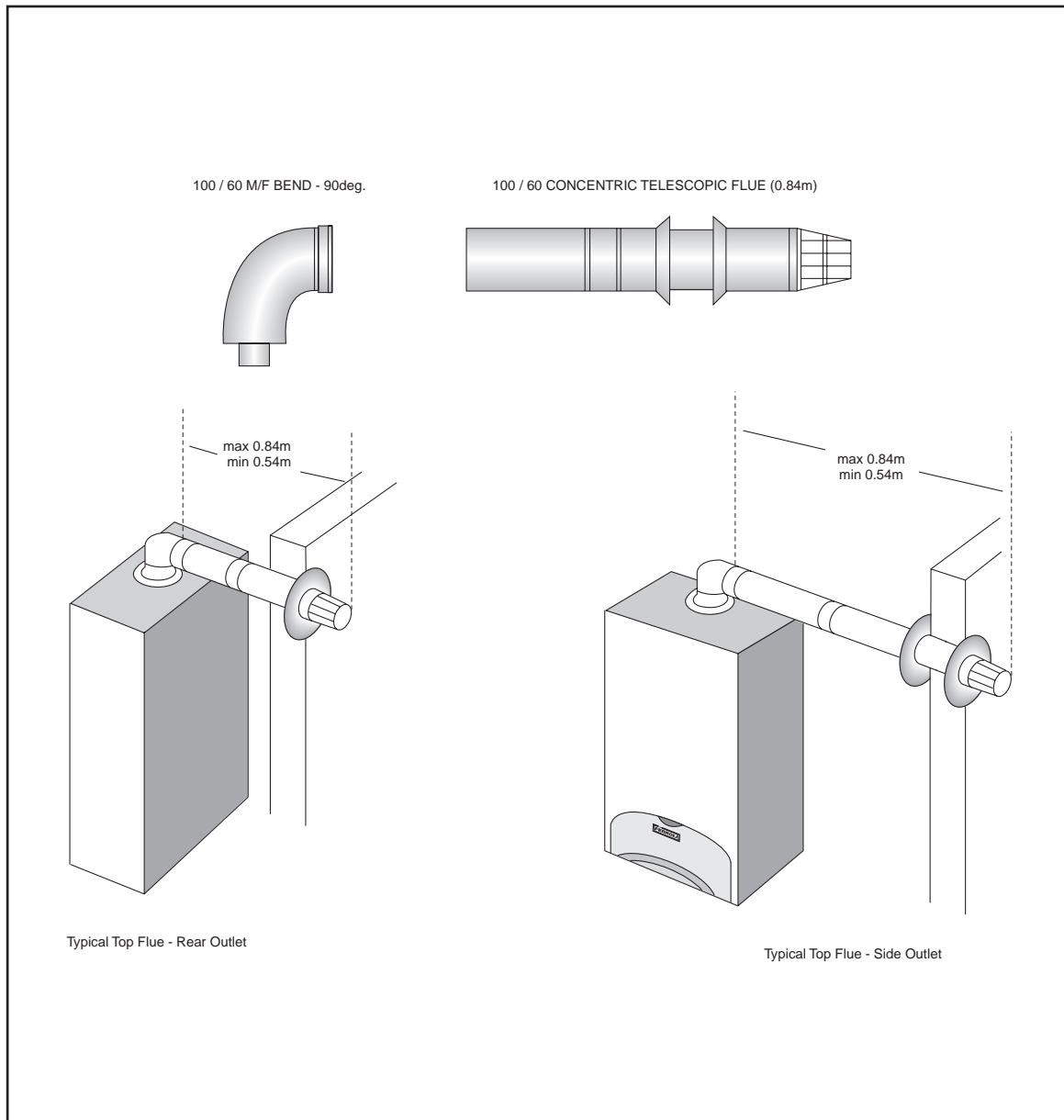
Options	100mm Concentric		125mm Concentric		80mm Two Pipe System
	Horizontal	Vertical	Horizontal	Vertical	
Maximum Equivalent distance	3m	4m	5m	5m	40m

TEMPRA 12 / 18



**STANDARD TOP FLUE KIT
CODE: 1KWMR38A**

**Includes: 1-Flue Bend
1-0.84m Telescopic Flue**



NON-STANDARD FLUE APPLICATIONS; TEMPRA 12 / 18 (See "FLUE OPTIONS")

Options	100mm Concentric	125mm Concentric	80mm Two Pipe System
	Horizontal	Vertical	Horizontal
	Vertical	Horizontal	Vertical
Maximum Equivalent distance	3m	4m	5m
			5m
			45m

TEMPRA 12 / 18

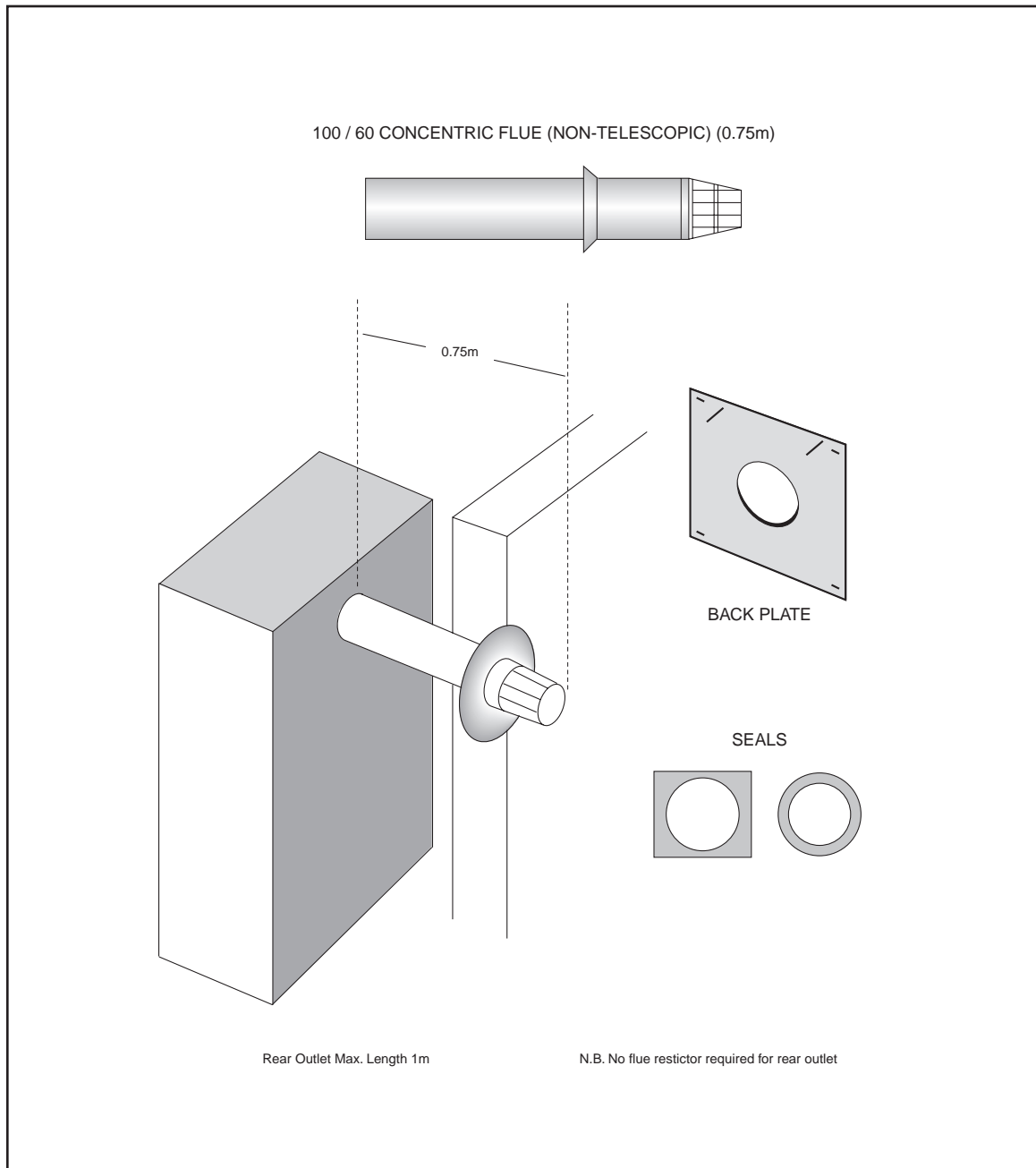


REAR FLUE OPTION

CODE: 1KWMR04A

CODE: 823204

**Includes: 1-Back Plate; 2-Seals
1-0.75m Non-Telescopic Flue**



NON-STANDARD FLUE APPLICATIONS; TEMPRA 12 / 18 (See "FLUE OPTIONS")

Rear Flue Application	TEMPRA 12 / 18
Maximum Flue Length	= 1m

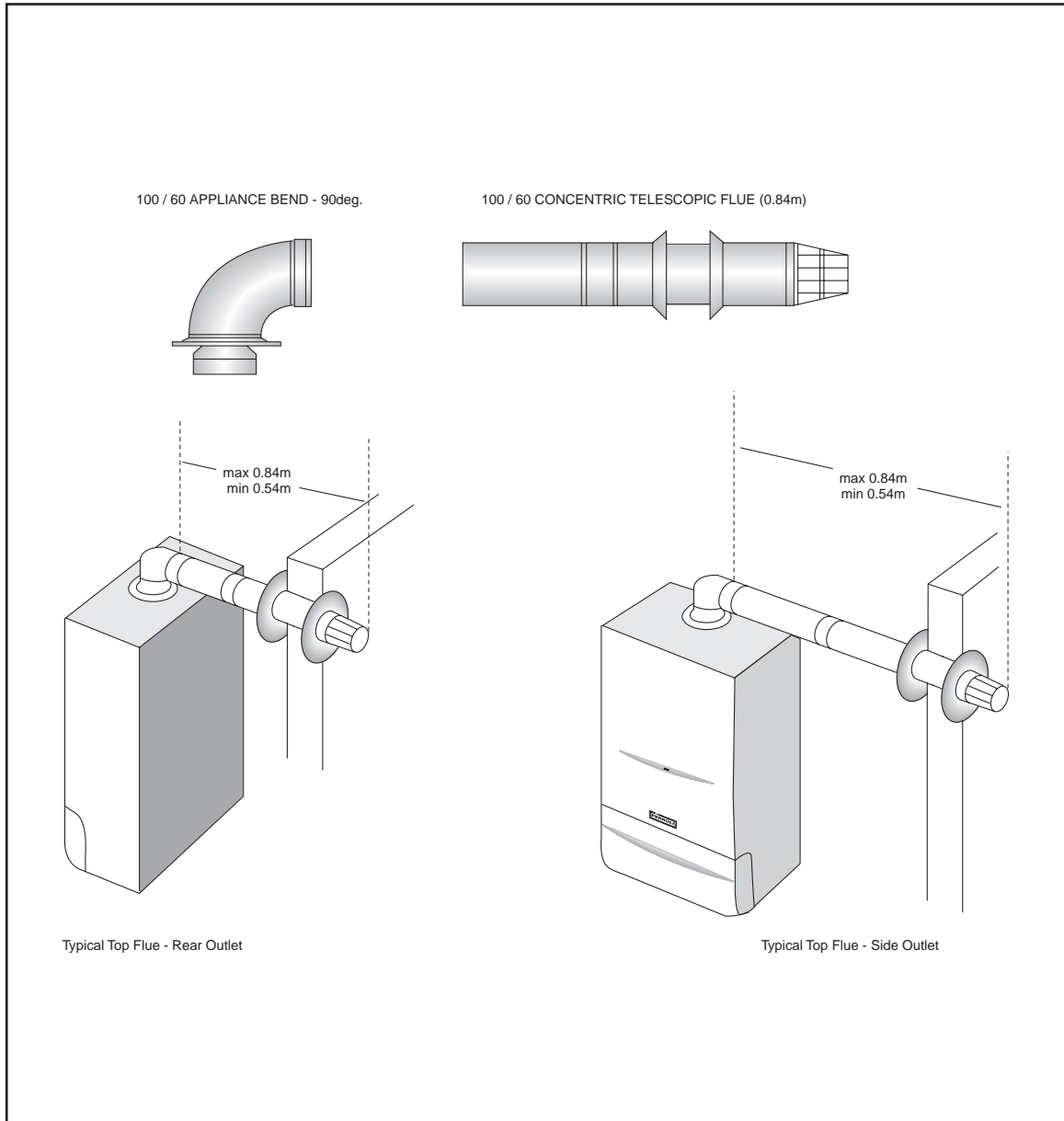
TEMPRA 24



STANDARD TOP FLUE KIT

CODE: 1KWMA07Y

Includes: 1-Appliance Bend;
1-0.84m telescopic flue



NON-STANDARD FLUE APPLICATIONS; TEMPRA 24 (See "FLUE OPTIONS")

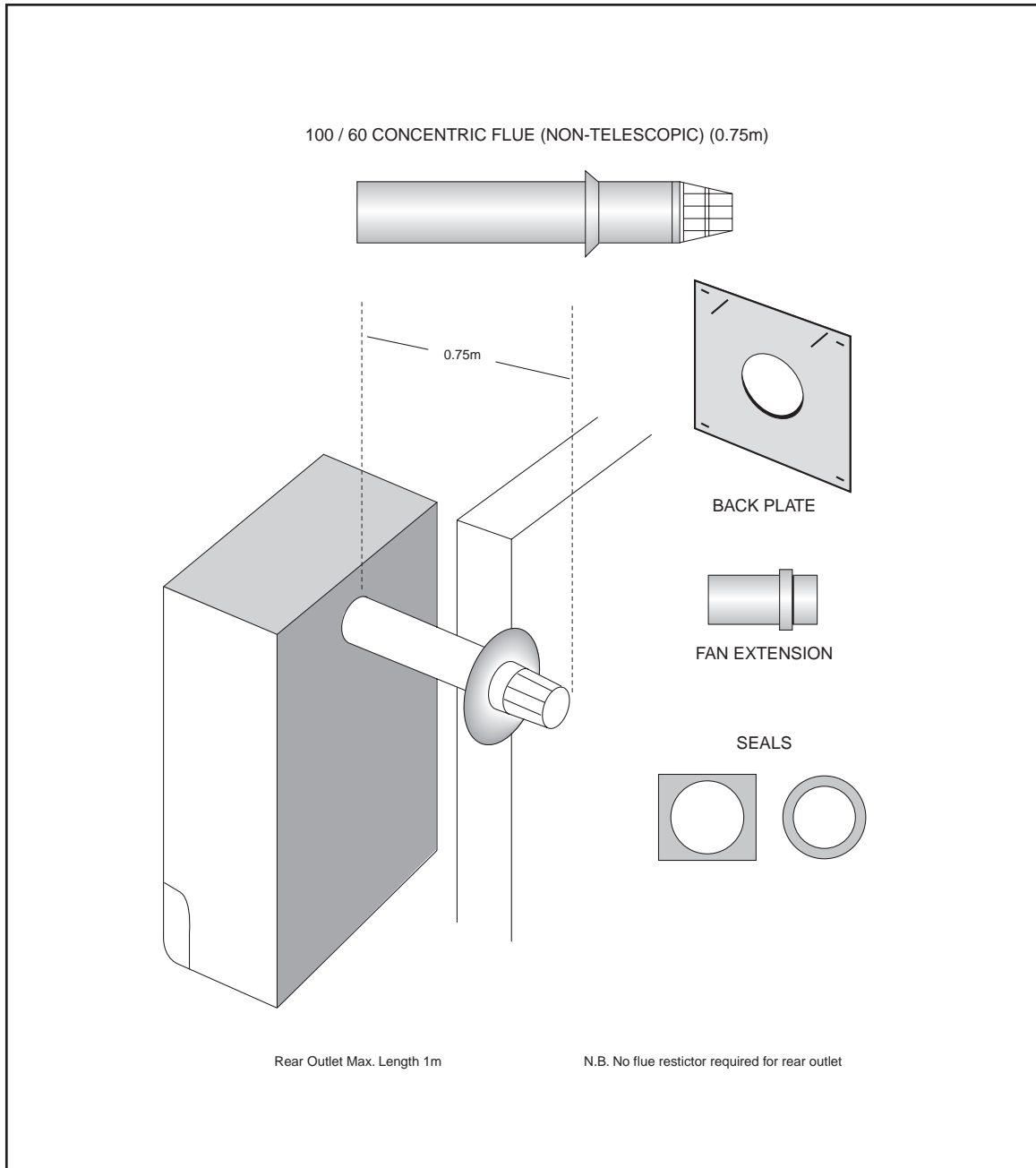
Options	100mm Concentric		125mm Concentric		80mm Two Pipe System
	Horizontal	Vertical	Horizontal	Vertical	
Maximum Equivalent distance	3m	4m	5m	5m	48m

TEMPRA 24

REAR FLUE OPTION

CODE: 822181

**Includes: 1-0.75m Non-Telescopic Flue
1-Fan Extension; 1-Back Plate; 2-Seals**



NON-STANDARD FLUE APPLICATIONS; TEMPRA 24 (See "FLUE OPTIONS")

Rear Flue Application	TEMPRA 24
Maximum Flue Length	= 1m

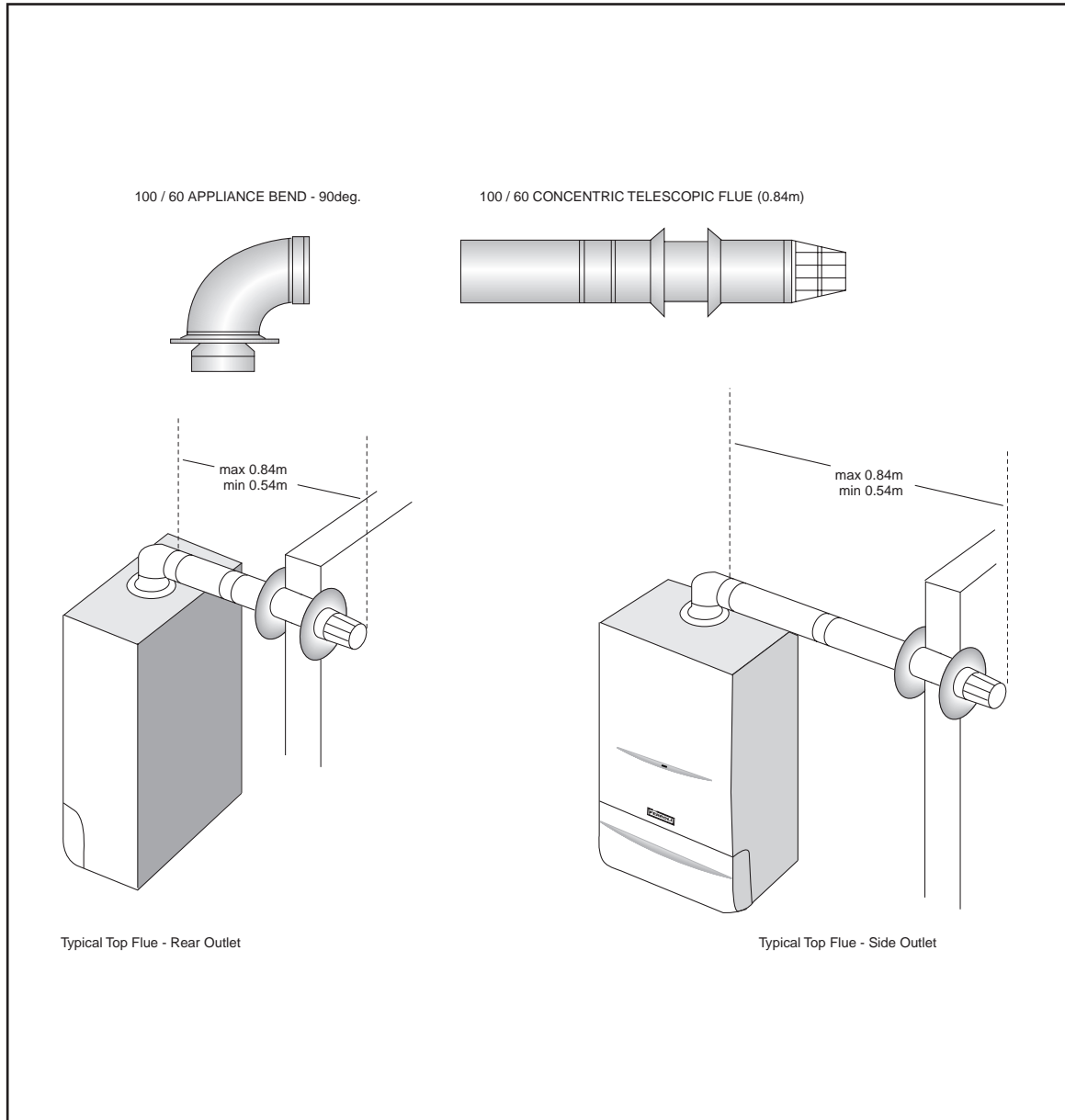
TEMPRA 30



STANDARD TOP FLUE KIT

CODE: 1KWMA07Y

Includes: 1-Appliance Bend;
1-0.84m telescopic flue



NON-STANDARD FLUE APPLICATIONS; TEMPRA 30 (See "FLUE OPTIONS")

Options	100mm Concentric	125mm Concentric	80mm Two Pipe System
	Horizontal	Vertical	Horizontal
	Vertical	Horizontal	Vertical
Maximum Equivalent distance	3m	4m	5m
		5m	50m

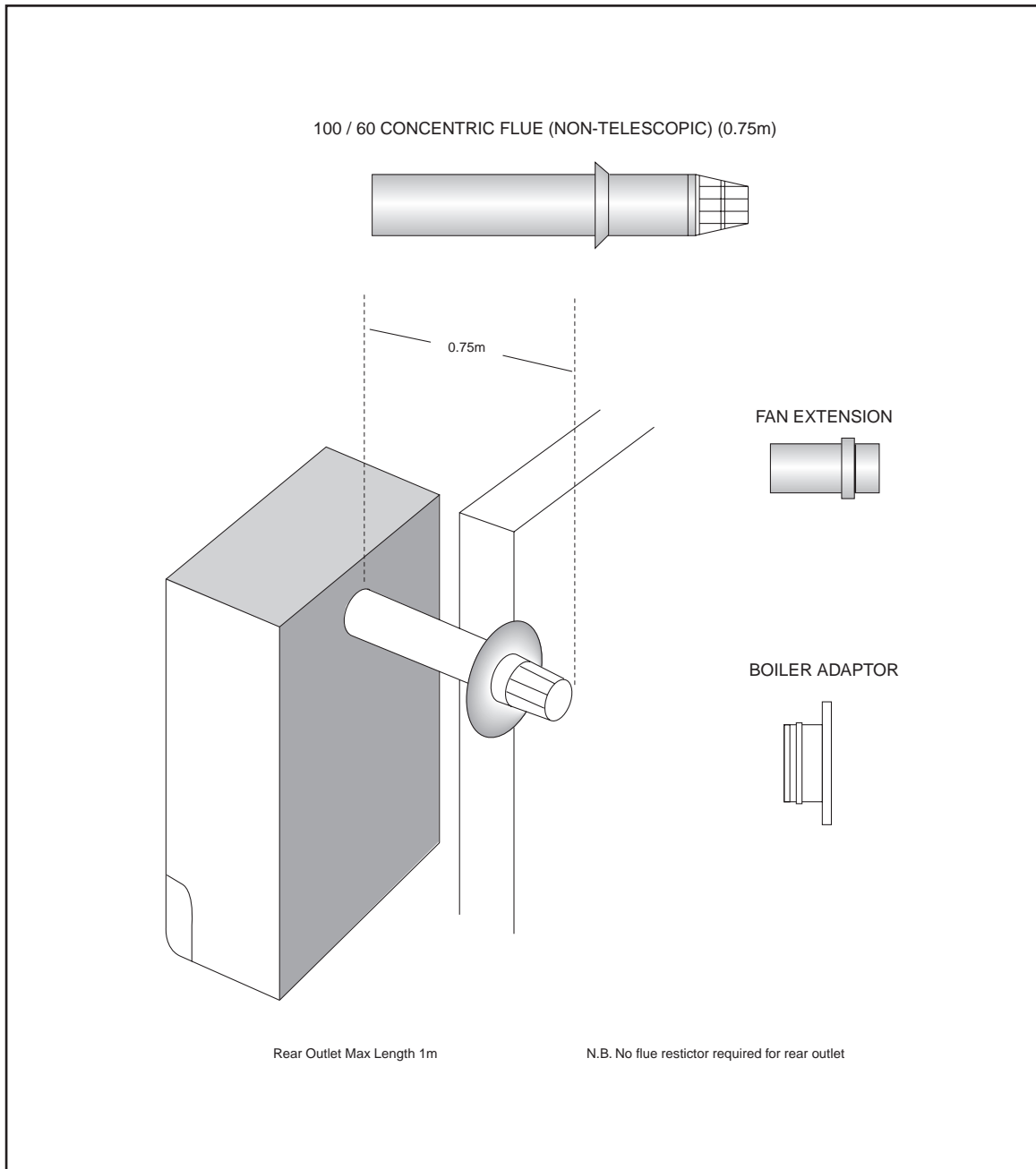
TEMPRA 30



REAR FLUE OPTION

CODE: 822186

**Includes: 1-0.75m Flue (non-telescopic)
1-Fan Extension; 1-Boiler Adaptor**



NON-STANDARD FLUE APPLICATIONS; TEMPRA 30 (See “FLUE OPTIONS”)

Rear Flue Application	TEMPRA 30
Maximum Flue Length	= 1m

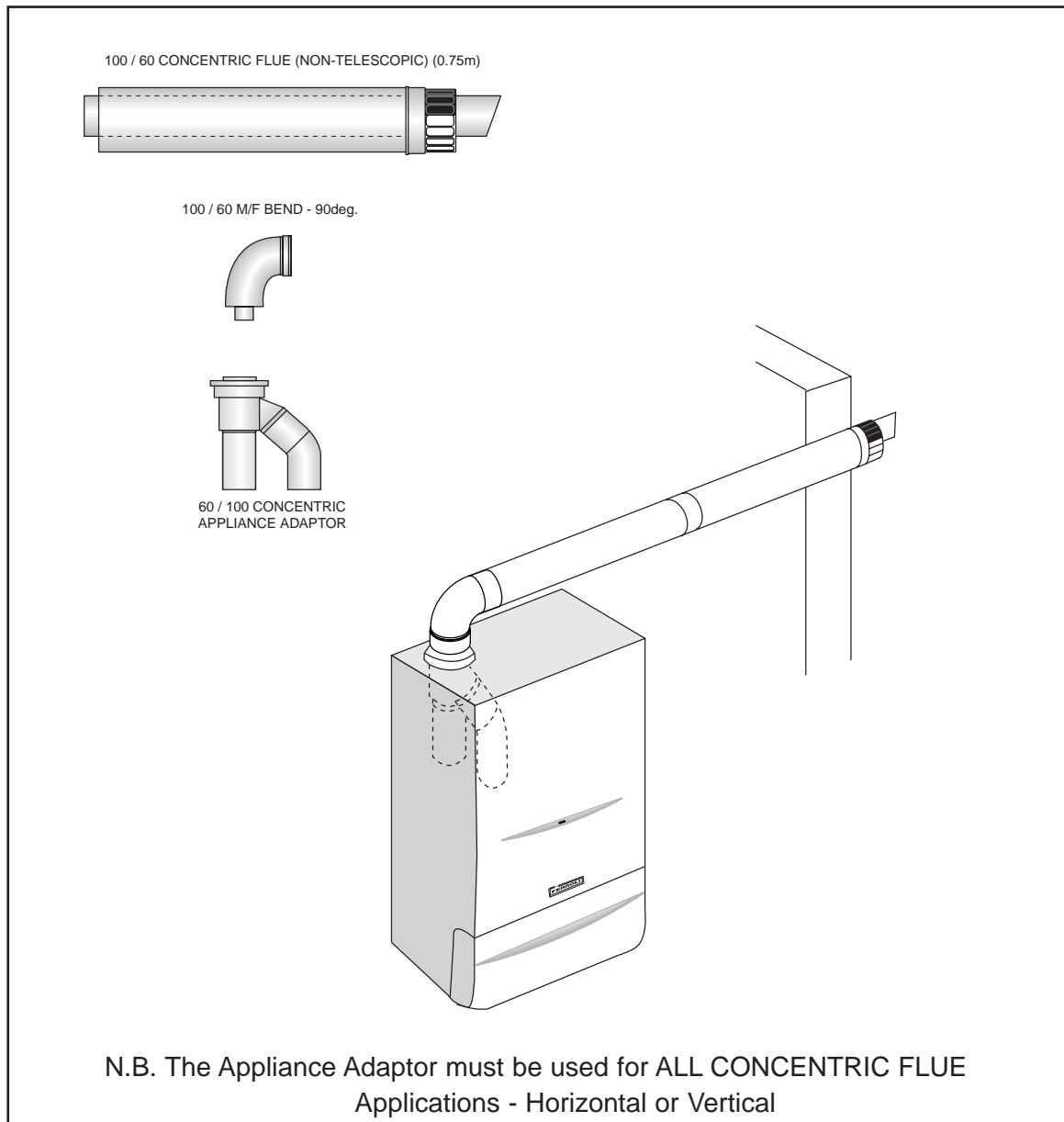
ARENA 30A & 30C



STANDARD TOP FLUE KIT

CODE: ARENA 30A - 822024
ARENA 30C - 822025

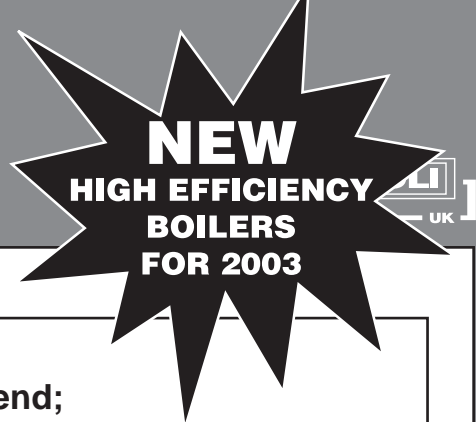
Both include: Valves; Screws; Boiler Adaptor;
0.75m Flue; 90deg. Bend



NON-STANDARD FLUE APPLICATIONS; ARENA 30A & 30C (See "FLUE OPTIONS")

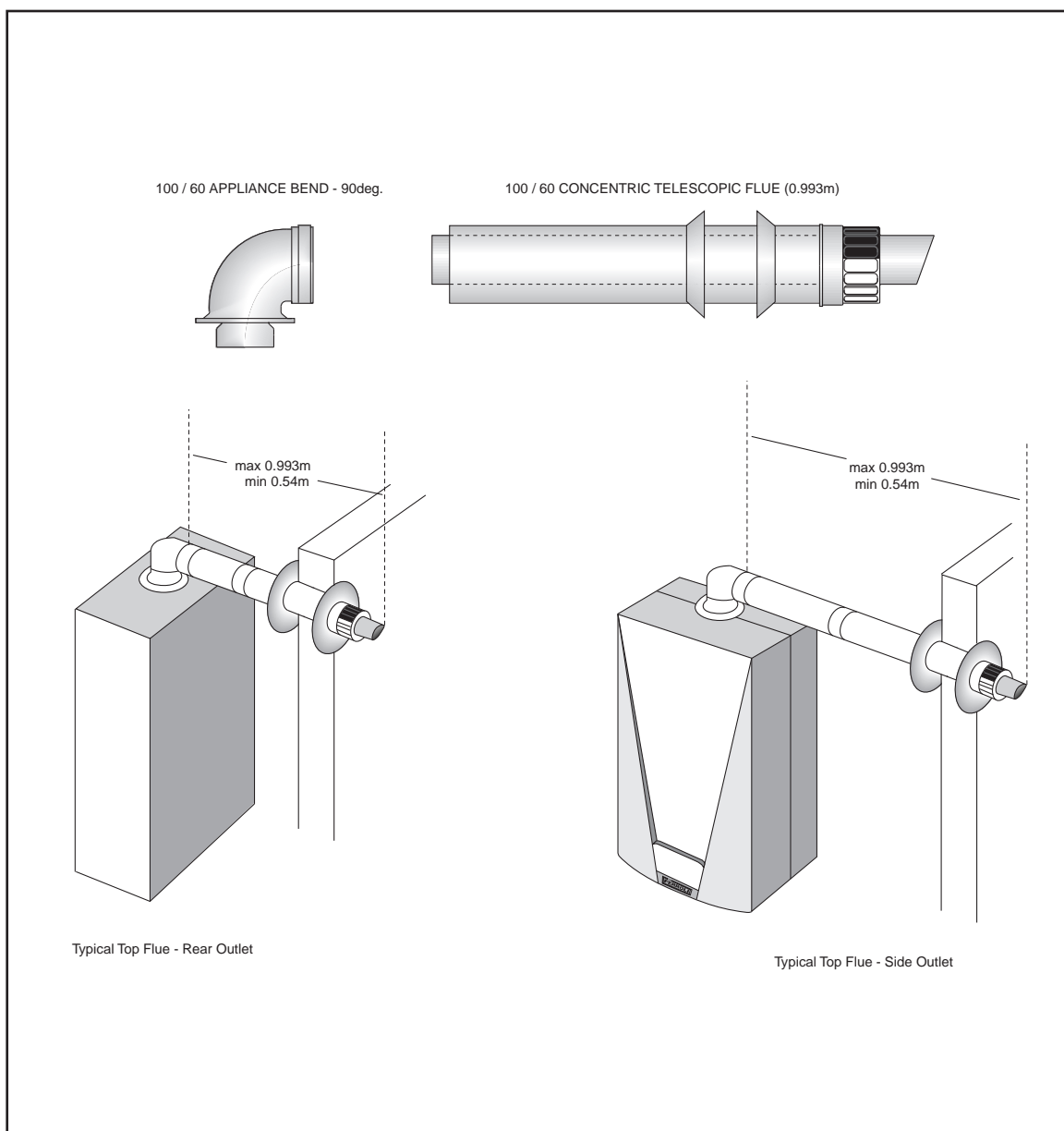
Options	100mm Concentric		125mm Concentric		80mm Two Pipe System
	Horizontal	Vertical	Horizontal	Vertical	
Maximum Equivalent distance	11m	12m	20m	21m	100m

MAXIMA 35C



**STANDARD TOP FLUE KIT
CODE: TO FOLLOW**

**Includes: 1-Appliance Bend;
1-0.993m Concentric Terminal**



Options	100mm Concentric		125mm Concentric		80mm Two Pipe System
	Horizontal	Vertical	Horizontal	Vertical	
Maximum Equivalent distance	5m	6m	TO FOLLOW	TO FOLLOW	55m



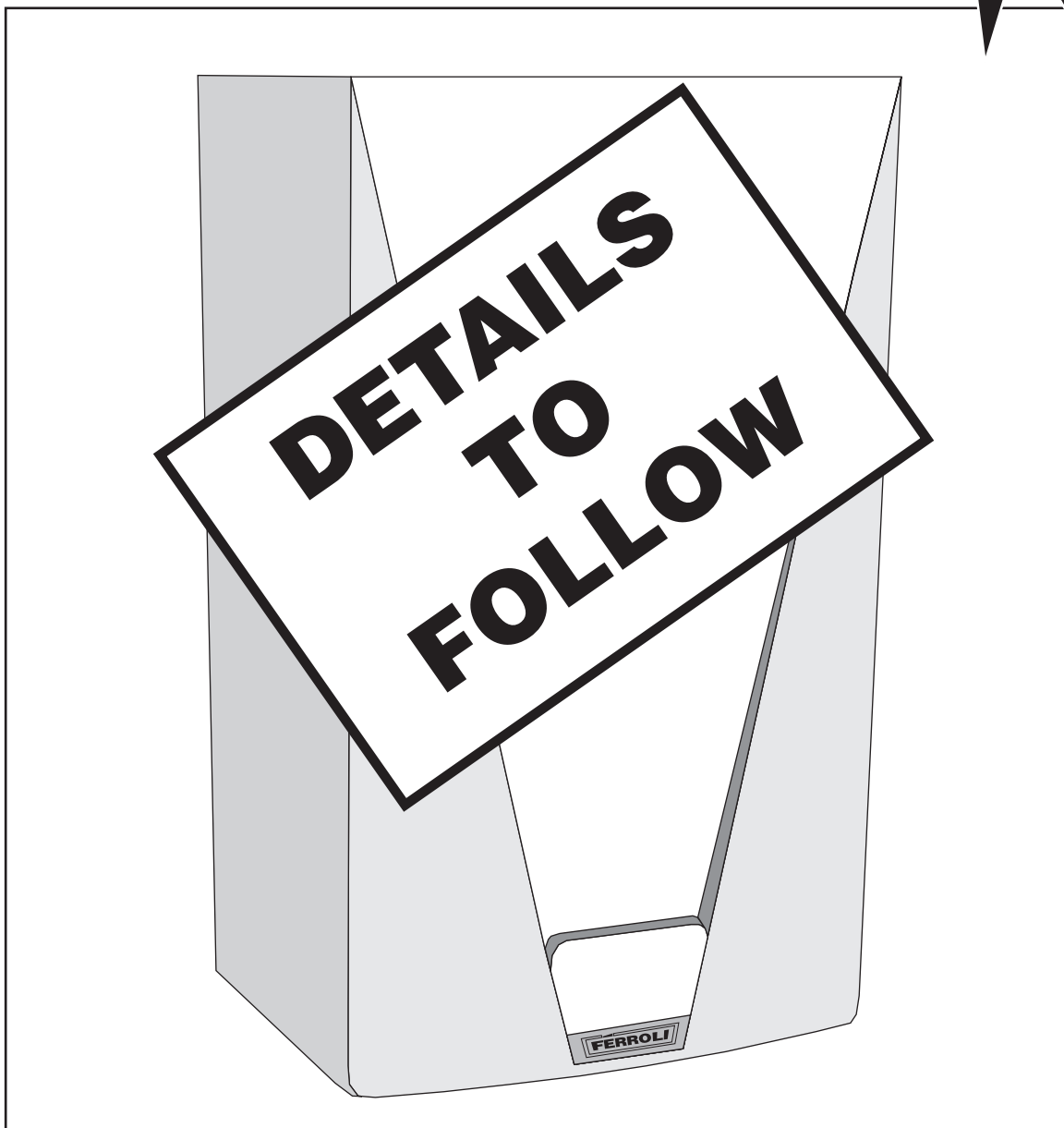
MAXIMA 27C, 27S, AND 35S



STANDARD FLUE KIT (TOP FLUE ONLY)

CODE:

Includes:



Options	100mm Concentric		125mm Concentric		80mm Two Pipe System
	Horizontal	Vertical	Horizontal	Vertical	
Maximum Equivalent distance					

FLUE OPTIONS

HORIZONTAL AND VERTICAL CONCENTRIC FLUES



To calculate the total resistance of the flue refer to the tables below:

TABLE 1:

RESISTANCE FACTORS		
100mm Concentric Bend (90deg.)	KWMR81U	1.0m
100mm Concentric Bend (45deg.)	KWMA64A	0.5m
100mm Concentric Vertical Flue Terminal	1KWMR19A	0m
125mm Concentric Bend (90deg.)	KWMA73K	0.5m
125mm Concentric Bend (45deg.)	KWMA72K	0.25m
125mm Concentric Vertical Flue Terminal	1KWMR12A	0m
N.B. When calculating resistance factors for Horizontal Concentric Flues, please note that the Appliance Bend and the Flue Terminal are already allowed for in the stated "Maximum Flue Length".		

From the above table it can be seen that a 100mm 90deg. bend is equivalent to 1m of straight pipe and a 125mm 90deg. bend is equivalent to 0.5mtr of straight pipe.

TABLE 2:

MAXIMUM PERMISSIBLE FLUE LENGTH				
BOILER	100mm Concentric		125mm Concentric	
	Horizontal	Vertical	Horizontal	Vertical
MODENA 80/102	3m	4m	5m	5m
DOMINA 80/102 *	3m	4m	5m	5m
SIGMA *	3m	4m	5m	5m
TEMPRA 12 / 18 *	3m	4m	5m	5m
TEMPRA 24 / 30 *	3m	4m	5m	5m
F24 & F30 *	3m	4m	5m	5m
ARENA 30A & 30C	11m	12m	20m	21m
MAXIMA 35C	5m	6m	TO FOLLOW	TO FOLLOW

* Rear flue max. length = 1m

FLUE OPTIONS

80MM TWO PIPE FLUEING SYSTEM

To calculate the total resistance of the flue refer to the tables below:

RESISTANCE FACTORS OF 80MM FLUE PIPE AND FITTINGS		(HORIZONTAL)
Horizontal Flue Pipe	KWMA83A (1m Length)	Actual Length (x2)
Horizontal Air Intake	KWMA83A (1m Length)	Actual Length
90deg. Bend - Flue Gas	KWMA82A	2.5m
90deg. Bend - Air	KWMA82A	1.5m
45deg. Bend - Flue Gas	KWMA65A	2.2m
45deg. Bend - Air	KWMA65A	1.2m
Flue Gas Terminal (Horizontal)	KWMA86A	5.0m
Air Terminal	KWMA85A	2.0m

RESISTANCE FACTORS OF 80MM FLUE PIPE AND FITTINGS		(VERTICAL)
Vertical Flue Pipe	KWMA83A	Actual Length
Vertical Air Pipe	KWMA83A	Actual Length
Vertical terminal	1KWMR47A	3.0m
Condensate Outlet	1KWMA55U	3.0m

MAXIMUM EQUIVALENT FLUE LENGTH USING TOP OUTLET APPLICATION	
MODENA 80/ DOMINA 80	48.0m
MODENA 102/ DOMINA 102	50.0m
SIGMA	40.0m
TEMPRA 12 / 18	45.0m
TEMPRA 24	48.0m
TEMPRA 30	50.0m
F24	48.0m
F30	50.0m
ARENA 30A & 30C	100.0m
MAXIMA 35C	55.0m

N.B. Extensive runs of 80mm Flue Pipe should, wherever possible, be effectively insulated to avoid excessive condensation. This is essential where the flue runs through exposed areas such as roof spaces etc.

FLUE RESTRICTOR SIZES



100MM HORIZONTAL CONCENTRIC FLUES

MODEL	TOP OUTLET	RESTRICTOR	REAR OUTLET	RESTRICTOR
MODENA 80	<1m	50mm	n/a	
	>1m	No restrictor		
MODENA 102	<1m	52mm	n/a	
	>1m	No restrictor		
DOMINA 80	<1m	50mm	max.1m	No restrictor
	>1m	No restrictor		
DOMINA 102	<1m	52mm	max.1m	No restrictor
	>1m	No restrictor		
F24	<1m	50mm	max.1m	No restrictor
	>1m	No restrictor		
F30	<1m	52mm	max.1m	No restrictor
	>1m	No restrictor	max.1m	No restrictor
SIGMA 20-40	<1m	36mm	max.1m	36mm
	>1m	39mm		
SIGMA 40-60	<1m	41mm	max.1m	46mm
	>1m	46mm		
SIGMA 60-100	<1m	43mm	max.1m	No restrictor
	between 1-2m	47mm		
	over 2m	No restrictor		
TEMPRA 12	<1m	37mm	max.1m	No restrictor
	>1m	37mm		
TEMPRA 18	<1m	43mm	max.1m	No restrictor
	>1m	47mm		
TEMPRA 24	<1m	50mm	max.1m	No restrictor
	>1m	No restrictor		
TEMPRA 30	<1m	52mm	max.1m	No restrictor
	>1m	No restrictor		
ARENA 30A & 30C	No restrictor required			
MAXIMA 35C	No restrictor required			

FLUE RESTRICTOR SIZES



80MM TWO PIPE FLUE SYSTEM

MODEL	TOTAL RESISTANCE	RESTRICOR SIZE
MODENA 80	0 - 13m	45mm
	13 - 23m	47mm
	23 - 38m	50mm
	38 - 48m	No restrictor
MODENA 102	0 - 20m	47mm
	20 - 35m	50mm
	35 - 45m	52mm
	45 - 50m	No restrictor
F24	0 - 13m	45mm
	13 - 23m	47mm
	23 - 38m	50mm
	38 - 48m	No restrictor
F30	0 - 20m	47mm
	20 - 35m	50mm
	35 - 45m	52mm
	45 - 50m	No restrictor
SIGMA 20-40	0 - 20m	36mm
	20 - 30m	39mm
	30 - 40m	39mm
SIGMA 40-60	0 - 20m	41mm
	20 - 30m	46mm
	30 - 40m	46mm
SIGMA 60-100	0 - 4m	43mm
	4 - 12m	45mm
	12 - 25m	47mm
	25 - 33m	50mm
	33 - 40m	No restrictor
TEMPRA 12	0 - 45m	37mm
TEMPRA 18	0 - 15m	43mm
	15 - 45m	47mm
TEMPRA 24	0 - 10m	45mm
	10 - 20m	47mm
	20 - 35m	50mm
	35 - 48m	No restrictor
TEMPRA 30	0 - 20m	47mm
	20 - 35m	50mm
	35 - 45m	52mm
	45 - 50m	No restrictor

FLUE OPTIONS

HORIZONTAL CONCENTRIC FLUES



Max. Equivalent Flue Length		
Modena, Domina, Sigma, Tempra, F24, F30,	100mm	125mm
	3m	5m
Arena 30A, Arena 30C	11m	20m
Maxima 35C	5m	To Follow

Example: F30
(100mm Concentric Flue)

Ref.	Description	Code
a	Appliance bend	1KWMA31Y
b	Flue pipe	1KWMA56U
c	Horizontal terminal	823204
d	90 deg. bend	1KWMR81U

100mm Concentric Flue

Example	Flue Length		Total
	A	B	
100mm Flue	1m	0.75m	1.75m
90 deg. bend (1 x) 1m			1m
Total			2.75m

N.B. No restrictor required for flue lengths above 1m

Example: F30
(125mm Concentric Flue)

Ref.	Description	Code
a	Appliance bend	823017
b	Flue pipe	1KWMR56U
c	45 degree bend	1KWMA72K
d	Horizontal terminal	1KWMR56A

125mm Concentric Flue

Example	Flue Length			Total
	A	B	C	
125mm Flue	2m	1m	0.9m	3.9m
45 deg. bend (2 x) 0.5m			1m	
Total			4.9m	

N.B. No restrictor required for flue lengths above 1m

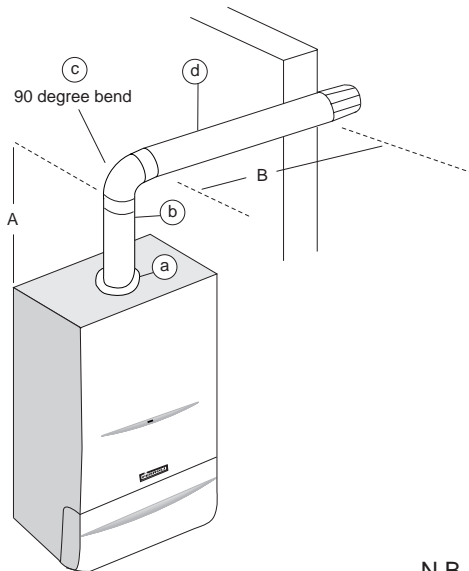
Refer to Tables 1& 2 for resistance values of flue fittings and maximum allowed flue length

FLUE OPTIONS

HORIZONTAL CONCENTRIC FLUES



Max. Equivalent Flue Length		
Modena, Domina, Sigma, Tempra, F24, F30,	100mm	125mm
	3m	5m
Arena 30A, Arena 30C	11m	20m
Maxima 35C	5m	To Follow



Example: F24

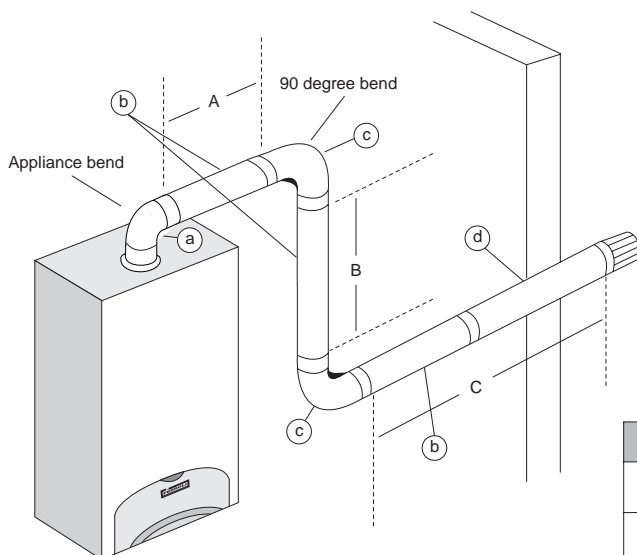
(100mm Concentric Flue)

Ref.	Description	Code
a	Vertical adaptor	1KWMA33K
b	Flue pipe	1KWMA56U
c	90 degree bend	1KWMR81U
d	Horizontal terminal	823204

100mm Concentric Flue

Example	Flue Length		Total
	A	B	
100mm Flue	1m	0.75m	1.75m
90 deg. bend (1 x) 1m			1m
Total			2.75m

N.B. No restrictor required for flue lengths above 1m



Example: Modena 102

(125mm Concentric Flue)

Ref.	Description	Code
a	Appliance bend	823017
b	Flue pipe	1KWMR56U
c	90 degree bend	1KWMA73K
d	Horizontal terminal	1KWMR56A

125mm Concentric Flue

Example	Flue Length			Total
	A	B	C	
125mm Flue	1m	1m	1.9m	3.9m
90 deg. bend (2 x) 0.5m				1m
Total				4.9m

N.B. No restrictor required for flue lengths above 1m

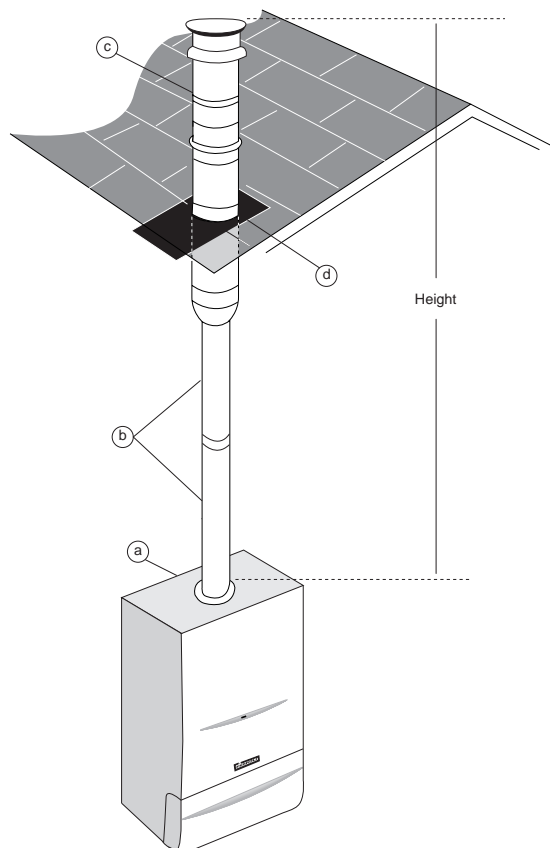
Refer to Tables 1 & 2 for resistance values of flue fittings and maximum allowed flue length

FLUE OPTIONS

VERTICAL CONCENTRIC FLUE APPLICATIONS



Example 1: 100mm Concentric Flue



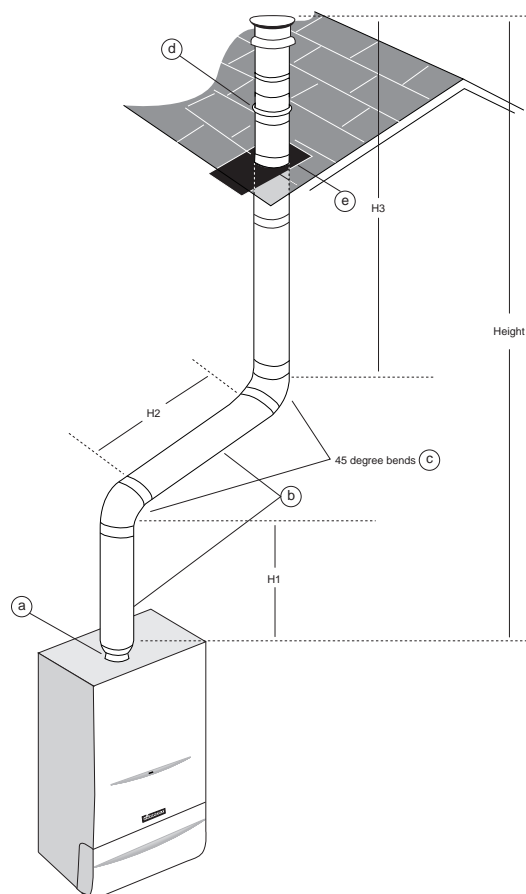
Max. allowed height = 4m

Actual height of flue with no bends can total a max. of	Total
	4m

Example: Tempra 24 (100 mm Concentric Flue)

Ref.	Description	Code
a	Vertical adaptor	1KWMA33K
b	Flue pipe	1KWMA56U
c	Roof terminal	1KWMA83U
d	Roof slate (Pitched roof)	1KWMA82U

Example 2: 125mm Concentric Flue



Max. allowed height = 5m

Maximum equivalent flue height for Concentric Vertical Flue = H1 + H2 + H3 + (2 x 45 deg. bends)					125mm
EH =	H 1	H 2	H 3	45 deg. bends (x2)	Total
	1m	1m	2m	0.25m (x2)	= 4.5m

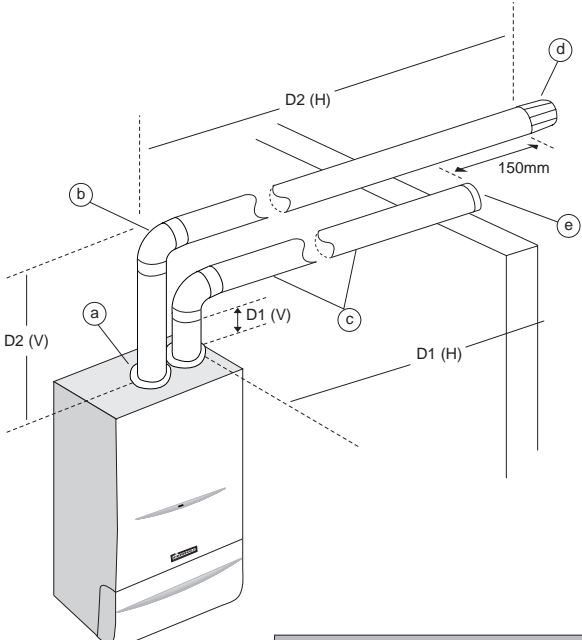
Example: Tempra 24 (125mm Concentric Flue)

Ref.	Description	Code
a	Vertical adaptor	1KWMA71K
b	Flue pipe	1KWMR56U
c	45 degree bend	1KWMA72K
d	Roof terminal	1KWMR83A
e	Roof slate (Pitched roof)	1KWMA82U

FLUE OPTIONS

80MM TWO PIPE SYSTEM (HORIZONTAL)

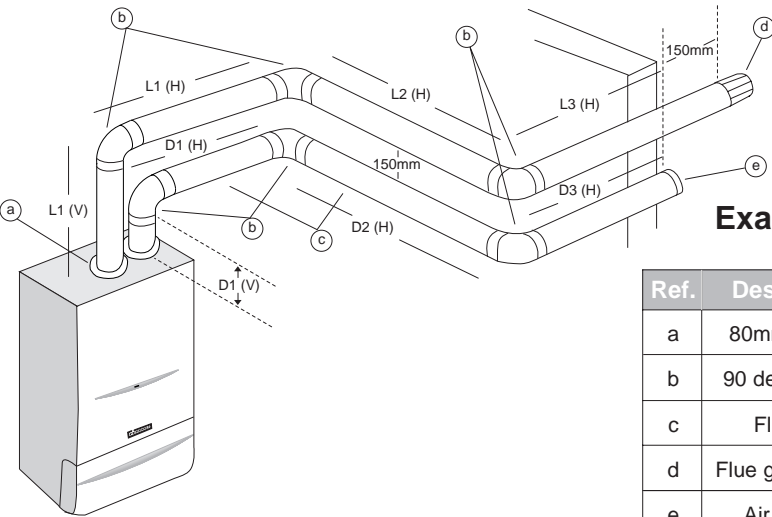
Example: F30
(80mm Two Pipe Flue)



Ref.	Description	Code
a	80mm adaptor	1KWMA38U
b	90 degree bend	1KWMA82A
c	Flue pipe	1KWMA83A
d	Flue gas terminal	1KWMA86A
e	Air terminal	1KWMA85A

Resistance Values										
Boiler:	Max. allowed dist.	D1(V)	D1(H)	D2(V)	D2(H)	Air terminal	Flue terminal	Air bend	Flue bend	Total
F30	50m	1m	10m	2m	10m (x2)	2m	5m	1.5m	2.5m	44m

Example: Tempra 24
(80mm Two Pipe Flue)



Ref.	Description	Code
a	80mm adaptor	1KWMA38U
b	90 degree bend	1KWMA82A
c	Flue pipe	1KWMA83A
d	Flue gas terminal	1KWMA86A
e	Air terminal	1KWMA85A

Resistance Values										
Boiler:	Max. allowed dist.	D1(V) +	D1(H) + D2(H) + D3(H)	L1(V) +	L1(H) + L2(H) + L3(H)	Air terminal	Flue terminal	Air bend	Flue bend	Total
Tempra 24	48m	1m +	2 + 3 + 3	2m +	2 + 3 + 3 (x2)	2m	5m	1.5m (x3)	2.5m (x3)	
		1	8	2	16	2	5	4.5m	7.5m	
Total									46m	

FLUE OPTIONS

80MM TWO PIPE SYSTEM (HORIZONTAL)



Example: F24 (80mm Two Pipe Flue)

Ref.	Description	Code
a	80mm adaptor	1KWMA38U
b	90 degree bend	1KWMA82A
c	Flue pipe	1KWMA83A
d	Flue gas terminal	1KWMA86A
e	Air terminal	1KWMA85A

Resistance Values										
Boiler:	Max. allowed dist.	D1(V) +	D1(H) +	D2(V) +	D2(H)	Air terminal	Flue terminal	Air bend	Flue bend	Total
F24	48m	1m	15m	1m	2m (x2)	2m	5m	1.5m	2.5m	32m

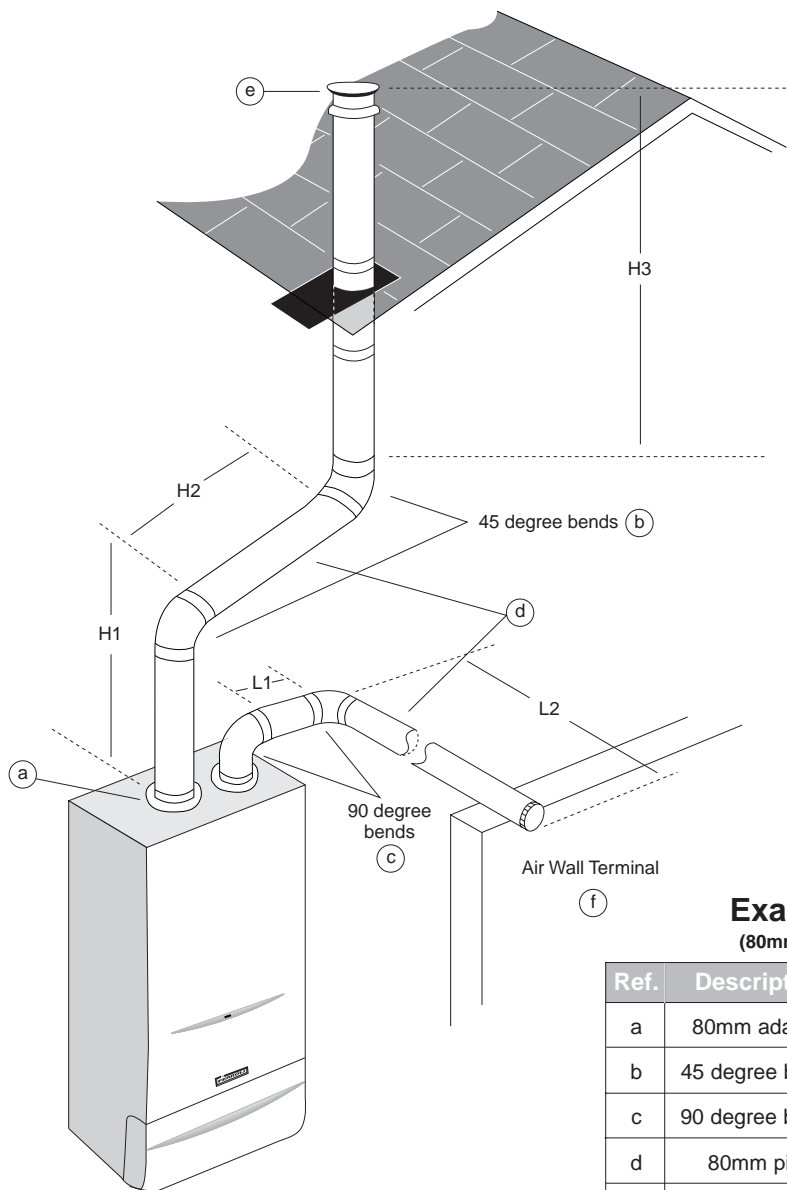
Example: Tempra 30 (80mm Two Pipe Flue)

Ref.	Description	Code
a	80mm adaptor	1KWMA38U
b	80mm pipe	1KWMA82A
c	90 degree bend	1KWMA83A
d	45 degree bend	1KWMA65A
e	Flue gas terminal	1KWMA86A
f	Horizontal Air terminal	1KWMA85A

Component	Total Resistance	
Pipe flue gas	$L1(V) + L1(H) + L2(H) + L3(H)$ e.g. $1m + 3m + 0.5m + 2m = 6.5m$	N.B. horizontal flue pipe actual length x 2 $1 + (3 + 0.5 + 2 \times 2) = 12m$
Pipe air	$D1(V) + D1(H) + D2(H) + D3(H)$ e.g. $0.5m + 3m + 0.5m + 1m = 5m$	$0.5 + 3 + 0.5 + 1 = 5m$
90 degree bends	1 - Flue gas = 2.5 1 - Air = 1.5	4m
45 degree bends	2 - Flue gas = $2.2 \times 2 = 4.4$ 2 - Air = $1.2 \times 2 = 2.4$	6.8m
Flue gas terminal	1	5m
Air terminal	1	2m
Total Resistance		34.8m

FLUE OPTIONS

80MM TWO PIPE VERTICAL FLUE



Example: F30
(80mm Two Pipe Flue)

Ref.	Description	Code
a	80mm adaptor	1KWMA38U
b	45 degree bends	1KWMA65A
c	90 degree bends	1KWMA82A
d	80mm pipe	1KWMA83A
e	80mm vertical terminal	1KWMR47A
f	Horizontal air terminal	1KWMA85A

80mm Vertical Flue Outlet/Wall Air Inlet

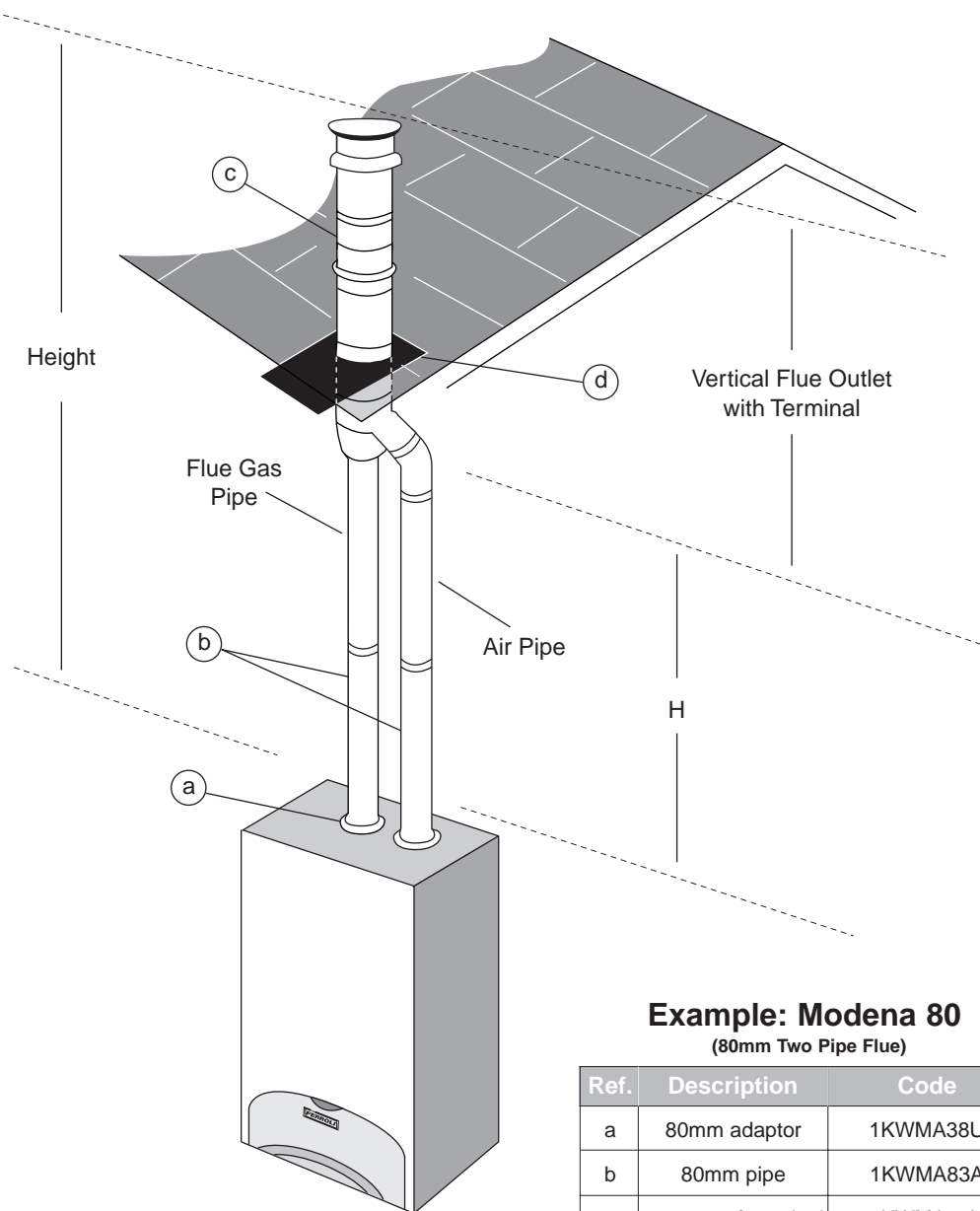
Max. total flue length = 50m

Flue Gas	Resistances	Air Inlet	Resistances	Total
Vertical Flue Terminal	3m	Air Wall Terminal	2m	5m
45 deg. bends	2.2m (x2) = 4.4m	90 deg. bends	1.5 (x2) = 3m	7.4m
Vertical Flue Pipe (H1 + H2 + H3) eg 2 + 3 + 5 = 10	10m	Horizontal Air Pipe (L1 + L2) eg 2 + 15 = 17	17m	27m
Sub Total	17.4m	Sub Total	22m	39.4m

FLUE OPTIONS

80MM TWO PIPE VERTICAL FLUE

Max. Equivalent Flue Height	
Modena 80	48m



Example: Modena 80 (80mm Two Pipe Flue)

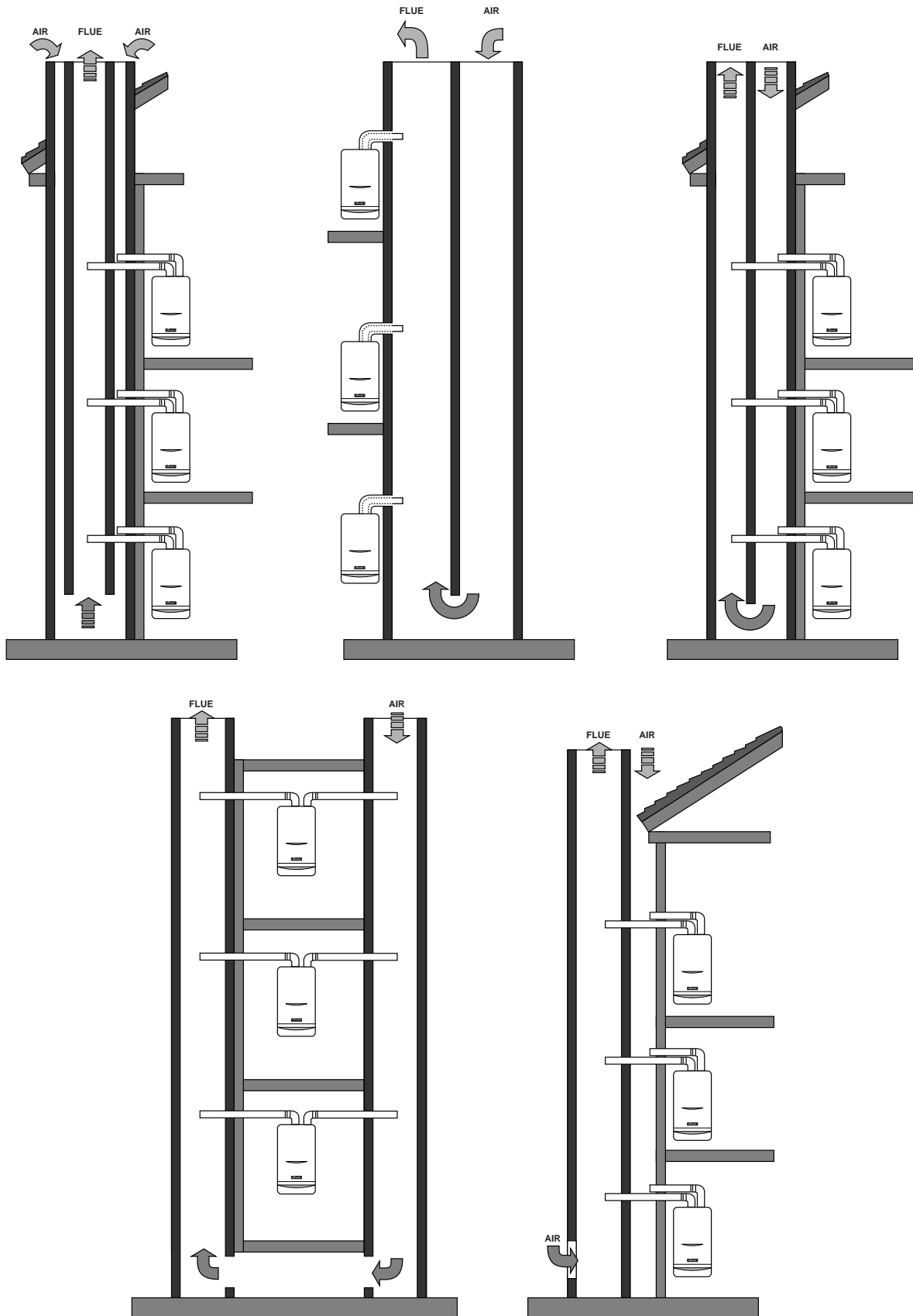
Ref.	Description	Code
a	80mm adaptor	1KWMA38U
b	80mm pipe	1KWMA83A
c	80mm roof terminal	1KWMA84U
d	Vertical roof slate	1KWMA82U

80mm Vertical Flue Outlet

Resistance - Flue	Resistance - Air	Total
Height = H (eg 8m)	Height = H (eg 8m)	16m
Vertical Flue Outlet with Terminal	12m	12m
Total		28m

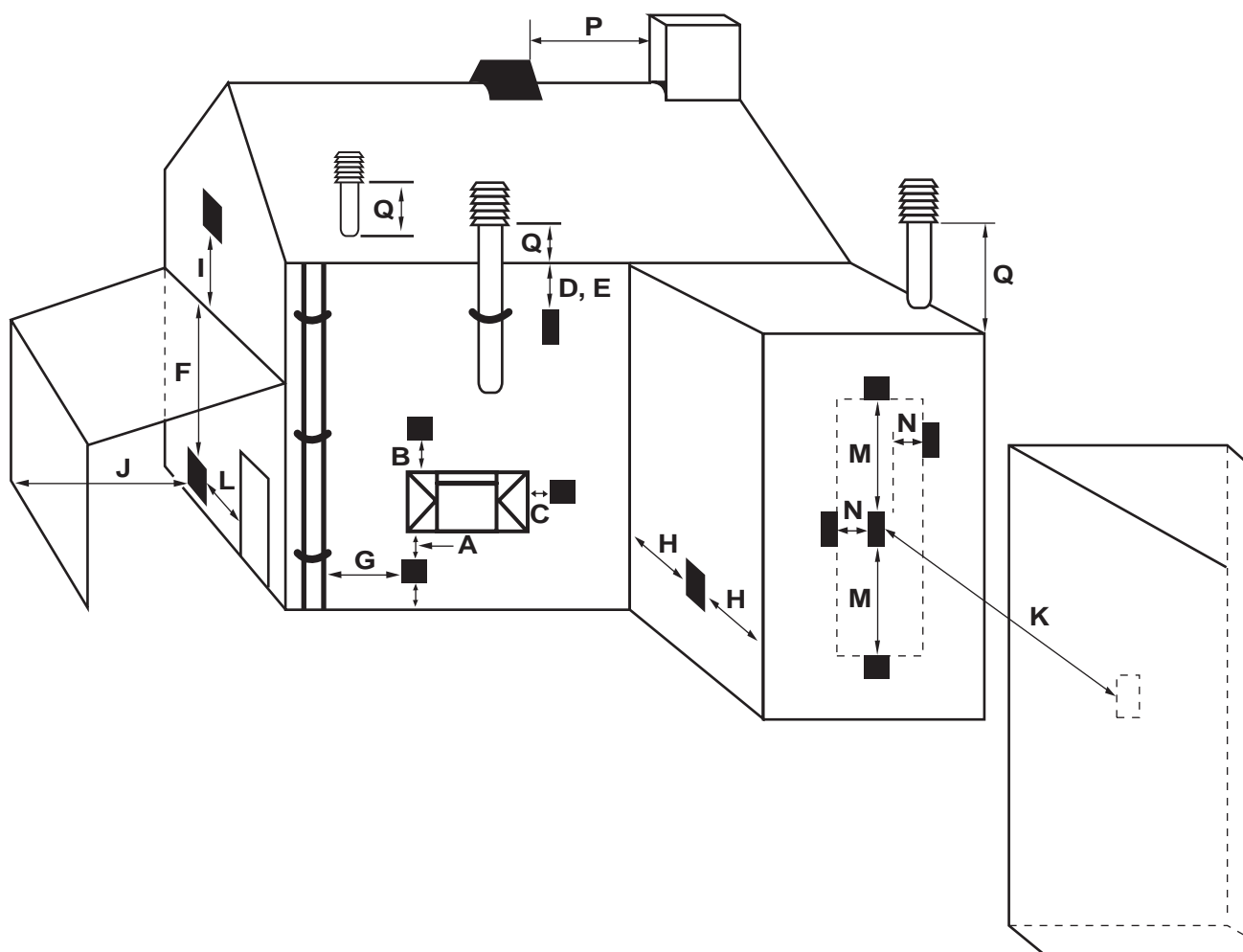
FLUE OPTIONS

S.E. DUCT / 'U' DUCT



REFER TO B.S. 5440 - 1:2000 FOR FURTHER INFORMATION

FLUE TERMINAL POSITIONS



N.B. SEE OVER FOR MINIMUM DIMENSIONS OF FLUE TERMINAL POSITIONS

MINIMUM DIMENSIONS OF FLUE TERMINAL POSITIONS (ALL TYPES)

DIMENSION	TERMINAL POSITION (kW input expressed in net)	BALANCED FLUES ROOM SEALED
		FANNED DRAUGHT
A^a	Directly below an opening, air brick, opening windows, etc.	300mm
B^a	Above an opening, air brick, opening windows, etc.	300mm
C^a	Horizontally to an opening, air brick, opening windows, etc.	300mm
D	Below gutters, soil pipes or drain pipes	75mm
E	Below eaves	200mm
F	Below balconies or car port roof	200mm
G	From a vertical drain pipe or soil pipe	150mm
H	From an internal or external corner	100mm
I	Above ground roof or balcony level	300mm
J	From a surface facing the terminal	600mm
K	From a terminal facing the terminal	1200mm
L	From an opening in the car port (e.g. door, window) into the dwelling	1200mm
M	Vertically from a terminal on the same wall	1500mm
N	Horizontally from a terminal on the same wall	300mm
O	From the wall on which the terminal is mounted	N/A
P	From a vertical structure on the roof	150mm
Q	Above intersection with roof	300mm

NOTE

N/A = Not applicable

^a In addition, the terminal should not be nearer than 150mm (fanned draught) or 300mm (natural draught) to an opening in the building fabric formed for the purpose of accommodating a built-in element such as a window frame. Separation distances are linked to the rated heat inputs as shown.

Condensing Terminal Positions: If the flue is to be terminated at low level, then the potential effect of the plume must be considered.

The plume should not be directed: ● across a frequently used access route

● towards a window or door

● across a neighbouring property

FLUE OPTIONS ACCESSORIES FOR STANDARD BOILERS



CODE	DRAWING	PHOTO	DESCRIPTION
1KWMA56U			Concentric extension (M-F) Ø 60/100 length 1 m
1KWMR41A			Concentric extension (M-F) Ø 80/125 length 0,5 m
1KWMR56A			Inlet/outlet concentric terminal Ø 80/125 length 0,9 m
1KWMR56U			Concentric extension (M-F) Ø 80/125 length 1 m
1KWMA07Y F24/F30, Modena, Sigma 60/100 and Tempra 24/30			Inlet/outlet horizontal concentric kit Ø 60/100 (telescopic) Concentric flanged bend 90° Ø 60/100
1KWMA31Y For F24/F30, Modena, Sigma 60/100 and Tempra 24/30			Concentric flanged bend 90° Ø 60/100

ACCESSORIES FOR STANDARD BOILERS



CODE	DRAWING	PHOTO	DESCRIPTION
1KWMA64A			<p>Concentric bend 45° (M-F) Ø 60/100</p> <p>Resistance factor 0,5 m</p>
1KWMR38A			<p>Inlet/outlet horizontal concentric kit Ø 60/100 (telescopic) Concentric bend 90° (M-F) Ø 60/100 Boiler adaptor required for Sigma (1KWMR52A)</p>
1KWMA72K			<p>Concentric bend 45° (M-F) Ø 80/125</p> <p>Resistance factor 0,25 m</p>
1KWMA73K			<p>Concentric bend 90° (M-F) Ø 80/125</p> <p>Resistance factor 0,5 m</p>
1KWMR81U			<p>Concentric bend 90° (M-F) Ø 60/100</p> <p>Resistance factor 1,0 m</p>
1KWMA71K			<p>Vertical flanged connection with condensate outlet Ø 80/125</p>

FLUE OPTIONS

ACCESSORIES FOR STANDARD BOILERS



CODE	DRAWING	PHOTO	DESCRIPTION
1KWMR07A			Concentric adaptor (M-F) from \varnothing 60/100 to \varnothing 80/125
1KWMA55U			Vertical pipe with condensate outlet \varnothing 80
1KWMA83A			Extension (M-F) \varnothing 80 length 1 m
1KWMA38A			Extension (M-F) \varnothing 80 length 0,5 m
1KWMA65A			Bend 45° (M-F) \varnothing 80 Resistance factor Flue Gas 2,2 m Air 1,2 m
1KWMA82A			Bend 90° (M-F) \varnothing 80 Resistance factor Flue Gas 2,5 m Air 1,5 m
1KWMA81U			Roof tile for flat roofs Black PVC

ACCESSORIES FOR STANDARD BOILERS



CODE	DRAWING	PHOTO	DESCRIPTION
1KWMA82U			Roof tile for sloping roofs Black PVC and lead slate
1KWMA83U			Concentric outlet flue inlet air Ø 60/100 Resistance factor 1,2 m
1KWMA84U			Outlet flue inlet air with twin connection Ø 80/80 Resistance factor 12,0 m
1KWMR52A For Sigma 20/40, Sigma 40/60 and Tempra 12/18			Vertical flanged concentric connection Ø 60/100
1KWMA33K For F24/F30, Modena, Sigma 60/100 and Tempra 24/30			Vertical flanged concentric connection Ø 60/100
1KWMR12A			Terminal for concentric pipe Ø 80/125 Resistance factor NIL

FLUE OPTIONS

ACCESSORIES FOR STANDARD BOILERS



CODE	DRAWING	PHOTO	DESCRIPTION
1KWMR19A			Terminal for concentric pipe Ø 60/100 Resistance factor NIL
1KWMR47A			Terminal for pipe Ø 80 Resistance factor 3,0 m
1KWMR83A			Concentric inlet/outlet standard roof terminal Ø 80/125 Resistance factor 1,2 m
1KWMA38U			Blanking flange for twin pipe systems Ø 80/80
1KWMA84A			External wall gasket Ø 80 PVC
1KWMA85A			Air wall terminal Ø 80 Stainless steel Resistance factor 2,0 m

FLUE OPTIONS

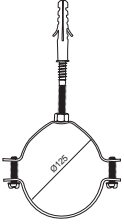

ACCESSORIES FOR STANDARD BOILERS



CODE	DRAWING	PHOTO	DESCRIPTION
1KWMA86A			<p>Flue wall terminal Ø 80 Stainless steel</p> <p>Resistance factor 5,0 m</p>
1KWMA90U Sigma 20/40, 40/60 and Tempra 12/18			<p>"T" diverter from concentric Ø 60/100 to twin Ø 80/80</p> <p>Resistance factor NIL</p>
1KWMR09A			<p>Internal/external wall gasket for pipes Ø 125</p>
1KWMR11A			<p>Internal/external wall gasket Ø 100</p>
1KWMR46A			<p>Pipe wall fixing collar Ø 100 Steel</p>
1KWMR48A			<p>Pipe wall fixing collar Ø 80 Steel</p>

FLUE OPTIONS
**ACCESSORIES FOR
STANDARD BOILERS**



CODE	DRAWING	PHOTO	DESCRIPTION
1KWMR49A			Pipe wall fixing collar Ø 125 Steel

FLUE OPTIONS

ACCESSORIES FOR CONDENSING BOILERS



CODE	DRAWING	PHOTO	DESCRIPTION
<p>1KWMA56W</p> <p>For all condensing boilers</p>			<p>Concentric inlet/outlet terminal anti-rain Ø 60/100 length 1 m</p>
<p>1KWMA58W</p> <p>For all condensing boilers</p>			<p>Concentric inlet/outlet terminal Ø 80/125 length 0,9 m</p>
<p>1KWMA35W</p> <p>For all condensing boilers</p>			<p>Concentric bend 90° (M-F) Ø 60/100</p> <p>Resistance factor 1,0 m</p>
<p>1KWMA64W</p> <p>For all condensing boilers</p>			<p>Concentric bend 45° (M-F) Ø 60/100</p> <p>Resistance factor 0,5 m</p>
<p>1KWMA72W</p> <p>For all condensing boilers</p>			<p>Concentric bend 45° (M-F) Ø 80/125</p> <p>Resistance factor 0,25 m</p>
<p>1KWMA73W</p> <p>For all condensing boilers</p>			<p>Concentric bend 90° (M-F) Ø 80/125</p> <p>Resistance factor 0,5 m</p>

FLUE OPTIONS

ACCESSORIES FOR CONDENSING BOILERS



CODE	DRAWING	PHOTO	DESCRIPTION
1KWMA55Y For Arena boilers			Adaptor from twin Ø 60/60 to concentric Ø 60/100 White PPs
1KWMA02W For Arena boilers			Reduction (M-F) Ø 60/80 length 134 mm White PPs 2 required: 1 x Flue 1 x Air
1KWMA68W For Maxima boilers			Concentric flanged bend 90° Ø 60/100 (Complete with flue gas sampling test point)
1KWMR53A For Maxima boilers			Inlet/outlet horizontal concentric kit Ø 60/100 (Complete with flue gas sampling test point) Concentric flanged bend 90°
1KWMA71W For Maxima boilers			Vertical flanged concentric connection Ø 60/100 (Complete with flue gas sampling test point)
1KWMR54A For Maxima boilers			Condensing vertical flue 2 pipe adaptor Ø 80 (Complete with flue gas sampling test point) Kit consists of 2 adaptors: 1 x Flue 1 x Air 1 x Air blanking flange

NOTES



A large rectangular area containing 25 horizontal lines, intended for writing notes.

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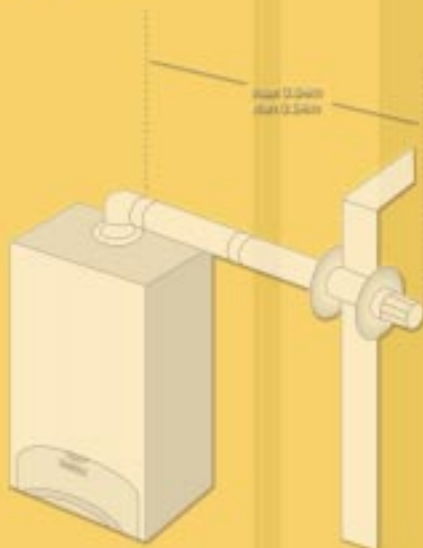
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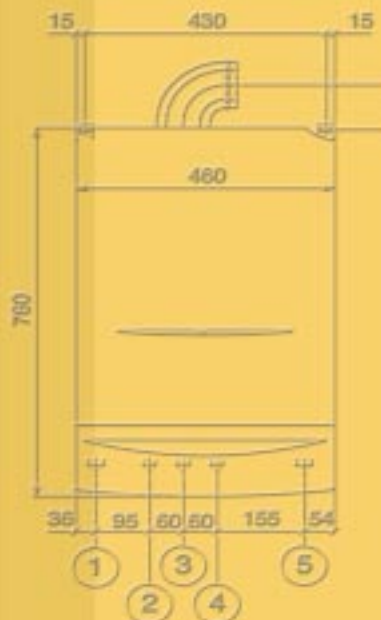
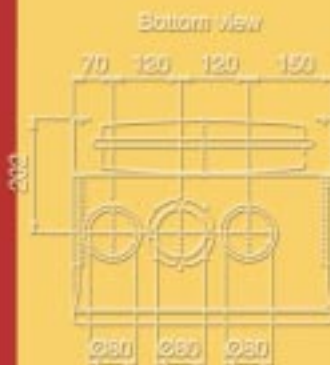
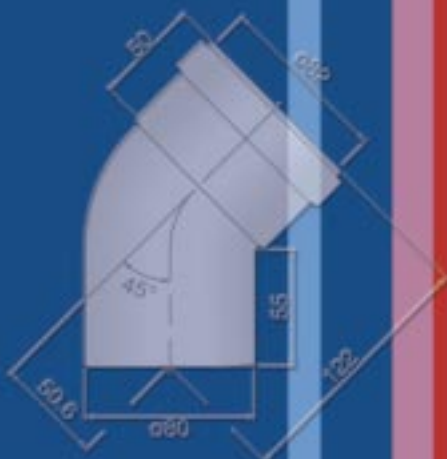
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TRAINING

100 / 100 CONCENTRIC TELESCOPIC FLUE (Ø75mm)



Typical Top Flue - Side Outlet



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