

BFC Cyclone

Condensing Water Heater

BFC - 28/30/50/60/80/100/120

Storage Capacity

220, 370 and 480 Litres

Range of Output

BFC - 26,000 Kcal/Hr to 105,000 Kcal/Hr



BFC Cyclone

Fully room-sealed condensing high-efficiency Gas fired water heater.

FEATURES

EFFICIENCY	Upto 98% on GCV and 109% on NCV value of Gas.
GLASS LINED TANK	Tank interior coated with glass specially developed by A.O Smith for water heater use. Tank rated at 8 bar working pressure. Three sizes 220,370 & 480 Litres.
BURNER	Automatic gas/air premix burning system including burner modulation.
ANODES	Delivered with low maintenance inert anodes.
FLUE GASES	Low flue gas temperature, NOx emission ≤ 30 ppm (dry – air free) – NOx class 5. Flexible flue options (maximum length 100m) allow installations to be placed almost anywhere
NOISE LEVEL	Whisper quiet operation (<45 dB(A)) at 2m distance from roof duct).
PROGRAMMABLE	Programmable for legionella purge cycle.
WEEK TIMER	Easy fault diagnosis and computer controlled digital week timer. Varying water temperature setting from 40 °C to 80 °C with use of Week Timer.
WARRANTY	All BFC Cyclone water heaters receive three years warranty on the tank and one year on parts.
OTHER FEATURES	<ul style="list-style-type: none">• Voltage-free contact for general fault indication to BMS• BFC Cyclone 80-120 are delivered on steel base for convenient transport and installation.
OPTIONS	Available in Natural gas and LPG.

ABOUT A. O. SMITH

A. O. SMITH: WORLDWIDE	<p>A. O. Smith is the largest manufacturer in North America, and one of the world's leading manufacturers of residential and commercial water heating equipment, offering a comprehensive product line and featuring the best-known brands in North America and China. Through an inspired blend of innovation, teamwork, technology and industry expertise, A. O. Smith has created a full line of state-of-the-art water heaters and boilers that combine incredible performance with higher-than-ever energy efficiency. A. O. Smith is a global leader applying innovative technology and energy-efficient solutions to products marketed worldwide. A. O. Smith is also one of the largest manufacturers of electric motors for residential and commercial applications in North America.</p> <p>A. O. Smith developed and patented a process to glass-line water heaters. And over the years, A. O. Smith has gained the respect and support of homeowners, contractors, architects, and specifying engineers in over 60 countries by providing innovative energy efficient products designed for years of trouble-free service.</p>
A. O. SMITH: INDIA	<p>A. O. Smith India Water Heater Private Limited was established in 2005. Backed by 70 years of proven technological advances A. O. Smith India has created a stylish design with features demanded by the Indian consumer and successfully marketed a range of domestic water heaters that in a short period of time have become the most trusted brand in it's category.</p>

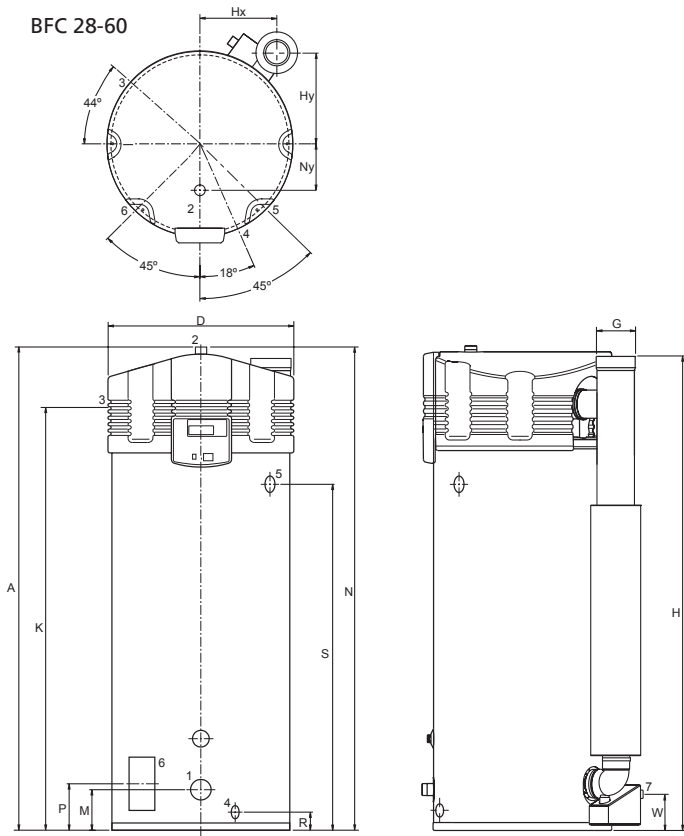
Technical specifications

		BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
Natural Gas								
Output	Kcal/hr	26,660	28,000	43,000	52,000	72,000	86,000	105,000
Output	kW	31.0	32.7	50.3	60.4	84.2	100.7	121.8
Inlet pressure	mbar	20	20	20	20	20	20	20
Gas consumption **	m ³ /h	2.9	3.0	4.7	5.7	7.8	9.6	11.7
Flue gas discharge	°C	45	50	60	65	50	55	60
LPG consumption **	Kg/hr	2.3	2.4	3.7	4.6	6.2	7.5	9.3
General								
Nox	ppm	≤ 30	≤ 30	≤ 30	≤ 30	≤ 30	≤ 30	≤ 30
Noise level	dB	< 45	< 45	< 45	< 45	< 45	< 45	< 45
Efficiency (Net)	%	107	109	107	106	108	106	105
Weight empty	kg	177	214	214	214	480	480	480
Maximum weight	kg	394	582	582	582	960	960	960
Storage capacity	l	217	368	368	368	480	480	480
Max. temperature setting	°C	80	80	80	80	80	80	80
Maximum working pressure	kPa (bar)				800 (8)			
Draw-off capacity ***								
Tset = 80°C/ Tcold = 10°C								
30 min. ΔT=44°C	l	430	550	730	840	1100	1300	1500
60 min. ΔT=44°C	l	730	870	1300	1500	1900	2300	2600
90 min. ΔT=44°C	l	1100	1200	1800	2100	2800	3200	3800
120 min. ΔT=44°C	l	1400	1500	2300	2700	3600	4200	5000
Continuous ΔT=44°C	l/h	607	639	983	1181	1647	1968	2381
Heating-up time ΔT=44°C	min.	21	35	22	19	17	15	12
30 min. ΔT=50°C	l	360	450	620	720	910	1100	1300
60 min. ΔT=50°C	l	630	730	1100	1300	1700	2000	2300
90 min. ΔT=50°C	l	900	1100	1500	1800	2400	2800	3400
120 min. ΔT=50°C	l	1200	1300	2000	2300	3100	3700	4400
Continuous ΔT=50°C	l/h	534	562	865	1039	1449	1732	2095
Heating-up time ΔT=50°C	min.	24	39	26	21	20	17	14
30 min. ΔT=55°C	l	320	390	540	630	800	920	1100
60 min. ΔT=55°C	l	560	650	940	1100	1500	1700	2100
90 min. ΔT=55°C	l	800	900	1400	1600	2200	2500	3000
120 min. ΔT=55°C	l	1100	1200	1800	2100	2800	3300	4000
Continuous ΔT=55°C	l/h	485	511	786	945	1317	1575	1905
Heating-up time ΔT=55°C	min.	27	43	28	23	22	18	15
Elektrical data								
Power consumption	W	45	45	75	115	95	145	240
Power supply	VAC/Hz	230 (-15% +10% VAC)/50 (+/- 1Hz)						
Shipping data								
Weight incl. packaging	kg	196	235	235	235	501	501	501
Width packaging	mm	790	790	790	790	920	920	920
Height packaging	mm	1550	2080	2080	2080	2060	2060	2060
Depth packaging	mm	950	950	950	950	1020	1020	1020

** Gas consumption at 15°C and 1 bar, NCV of Natural Gas 8,500 Kcal/Nm³, LPG 10,750 Kcal/Kg.

Dimensions

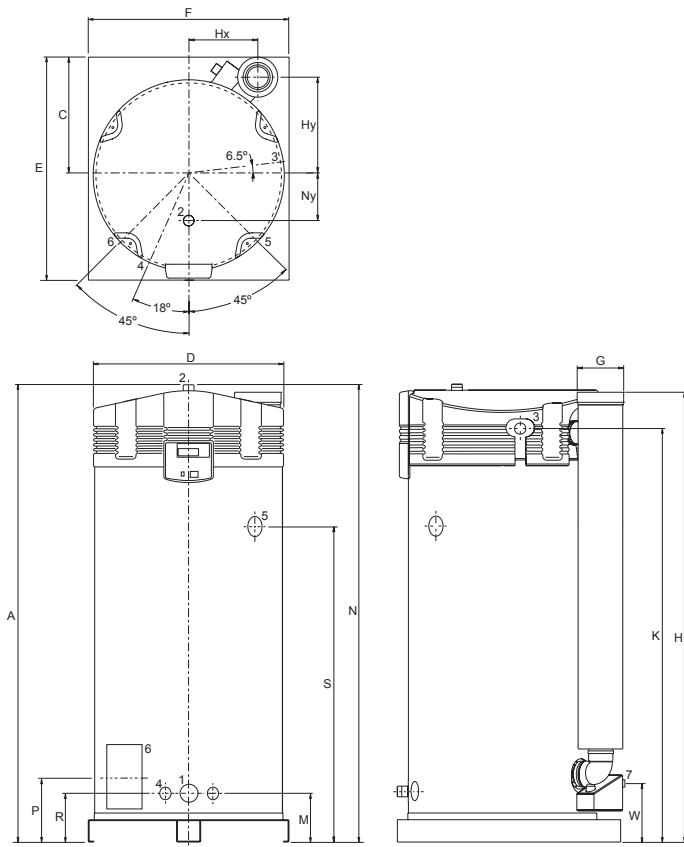
BFC 28-60



	BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
A	1390	1910	1910	1910	2060	2060	2060
C	-	-	-	-	530	530	530
D	705	705	705	705	850	850	850
E	-	-	-	-	1000	1000	1000
F	-	-	-	-	900	900	900
G	100/150	100/150	100/150	100/150	130/200	130/200	130/200
H	1365	1905	1905	1905	2015	2015	2015
Hx	265	265	265	265	310	310	310
Hy	375	375	375	375	440	440	440
K	1270	1800	1800	1800	1855	1855	1855
M	170	160	160	160	225	225	225
N	1390	1910	1910	1910	2060	2060	2060
Ny	205	205	205	205	205	205	205
P	170	175	175	175	290	290	290
R	85	75	75	75	225	225	225
S	900	1410	1410	1410	1425	1425	1425
W	125	145	145	145	240	240	240
1	Cold water (external)				R1 1/2		
2	Hot water (external)				R1 1/2		
3	Gas control (internal)				R 3/4"		
4	Tank drain valve (internal)				3/4"		
5	T&P valve (internal)				1" - 11.5 NPT		
6	Cleaning and inspection opening				95x70		
7	Condensation drainage (internal)				Rp 1		

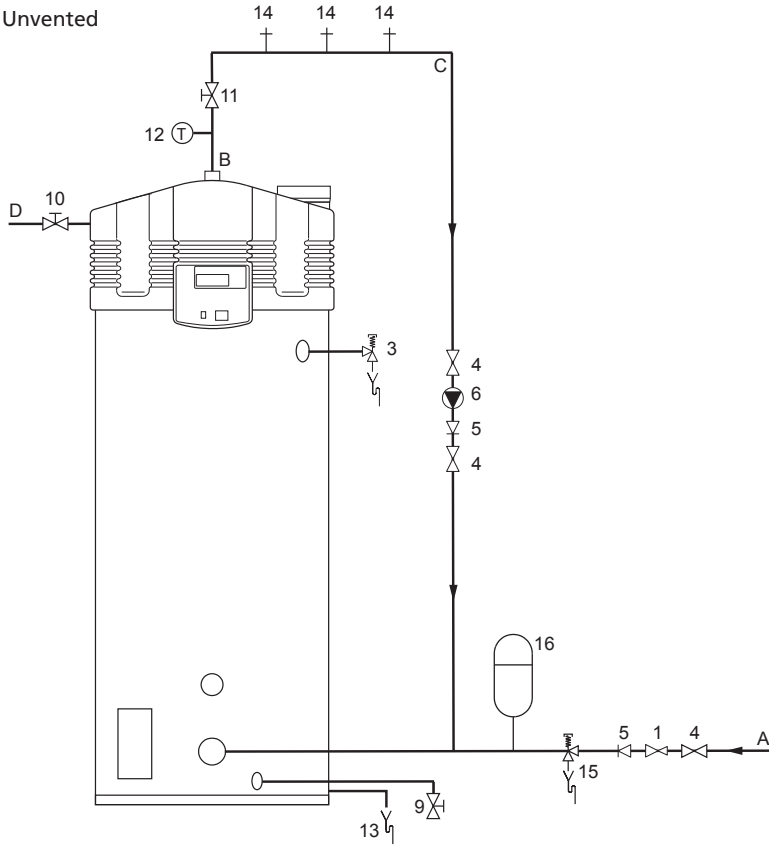
Dimensions in mm.

BFC 80-120



Installation diagrams

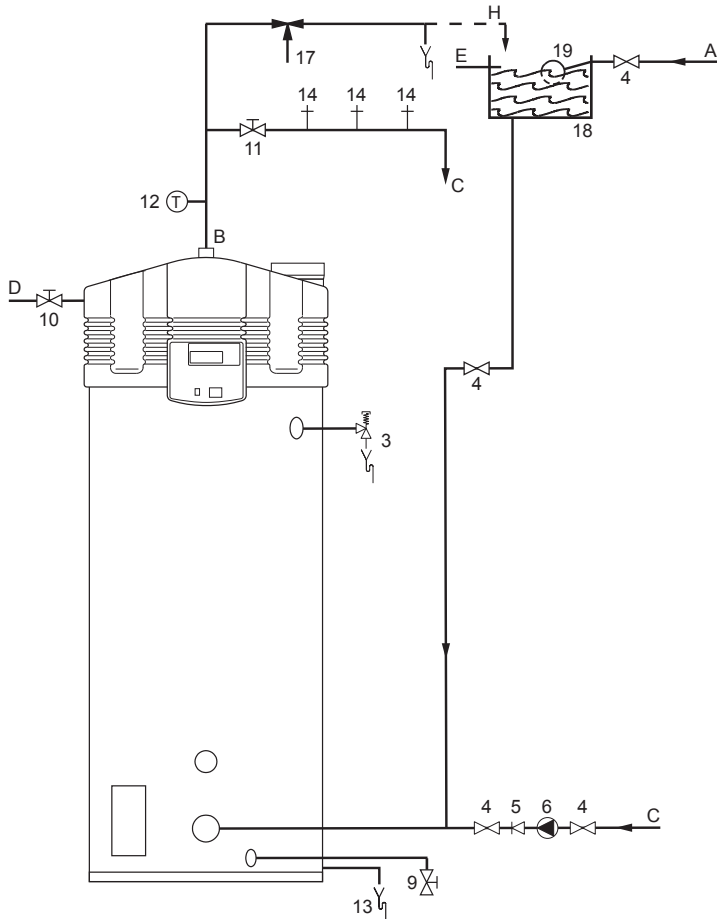
Unvented



- 1 Pressure reducing valve
 - 3 T&P valve
 - 4 Stop valve
 - 5 Non-return valve
 - 6 Circulation pump
 - 9 Drain valve
 - 10 Gas valve
 - 11 Isolating valve
 - 12 Temperature gauge
 - 13 Condense drain
 - 14 Hot water outlets
 - 15 Expansion relief valve
 - 16 Expansion vessel
 - 17 Three way valve
 - 18 Water tank
 - 19 Float valve
- A Cold water
 B Hot water
 C Return circulation
 D Gas supply
 E Overflow pipe
 H Expansion vent pipe

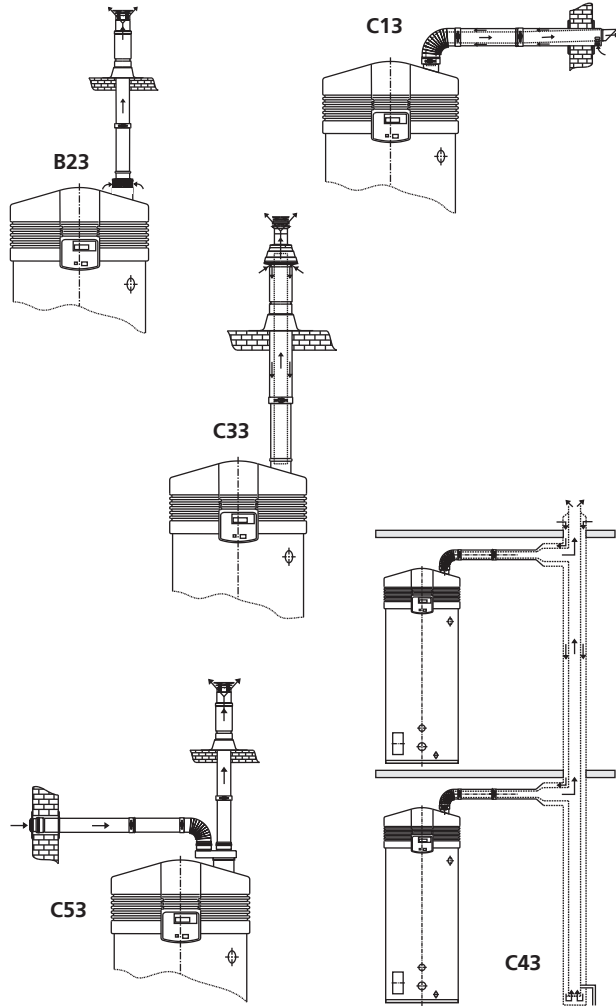
A.O. Smith unvented system kits utilise combination valves.

Vented



Further installation and connection details can be found in the Installation & Commissioning Manual.

Installation options



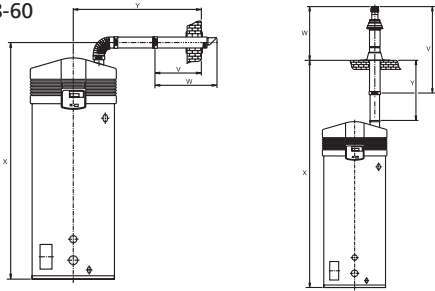
Further information on the flue gas discharge materials can be found in the Installation Manual.

A BFC Cyclone water heater should be installed according to category B23, C13, C33, C43 or C53*.

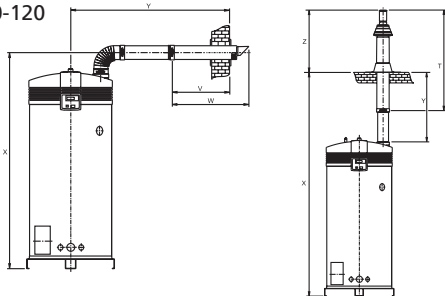
	BFC 28	BFC 30	BFC 50	BFC 60	BFC 80	BFC 100	BFC 120
Concentric							
Diameter (mm)	100/150	100/150	100/150	100/150	130/200	130/200	130/200
Max. length (m)	40	40	40	40	15	15	15
Max. 45/90° bends	7	7	7	7	4	4	4
Parallel (standard diameter)							
Diameter (mm)	100	100	100	100	130	130	130
Max. length (m)	55	55	55	55	65	65	65
Equivalent/bend 90° (m)	4.6	4.6	4.6	4.6	2.4	2.4	2.4
Equivalent/bend 45° (m)	1.2	1.2	1.2	1.2	1.4	1.4	1.4
Parallel (larger diameter for more length)							
Diameter (mm)	130	130	130	130	150	150	150
Max. length (m)	100	100	100	100	100	100	100
Equivalent/bend 90° (m)	2.4	2.4	2.4	2.4	2.6	2.6	2.6
Equivalent/bend 45° (m)	1.4	1.4	1.4	1.4	1.6	1.6	1.6
* All BFC Cyclone are also approved for installations where the unit is supplied without venting materials (C63).							
Concentric flues							
It is not permitted to use more than the specified number of bends, even when the duct is shorter than the maximum length. A 45° bend is equivalent to a 90° bend.							
Parallel flues							
- The maximum permissible length should be reduced by the equivalent length of each bend. (Note: for a parallel installation this means that 3 changes in direction amount to 6 bends (3 in the supply duct and 3 in the flue).							
- The maximum length also applies if a parallel installation has different supply and flue duct lengths (B23, C53).							
- Combined flues (C43) shall be fitted with a condensate drain.							
Note: horizontal flue runs must be installed with a fall of at least 5 mm per metre.							

Minimum space requirements

BFC 28-60



BFC 80-120



	BFC 28 Ø100/150	BFC 30 Ø100/150	BFC 50 Ø100/150	BFC 60 Ø100/150	BFC 80 Ø130/200	BFC 100 Ø130/200	BFC 120 Ø130/200
Minimal space for wall duct (mm)							
V	550	550	550	550	640	640	640
W	790	790	790	790	940	940	940
X	1535	2075	2075	2075	2230	2230	2230
Y	1480	1480	1480	1480	1620	1620	1620
Y *	1030	1030	1030	1030	1170	1170	1170
Minimal space for roof duct (mm)							
V	1500	1500	1500	1500	1730	1730	1730
W	1035	1035	1035	1035	1120	1120	1120
X	2785	3325	3325	3325	3620	3620	3620
X **	1835	2375	2375	2375	2670	2670	2670
Y	1415	1415	1415	1415	1560	1560	1560
Y **	465	465	465	465	610	610	610

* Distance without concentric pipe between bend and wall duct.
** Distance without concentric pipe between appliance and roof duct.



Data subject to change India/0809/BFC/02
Terms and conditions apply, please refer to our website