

SGS

Condensing High Efficiency Gas-Solar Water Heater

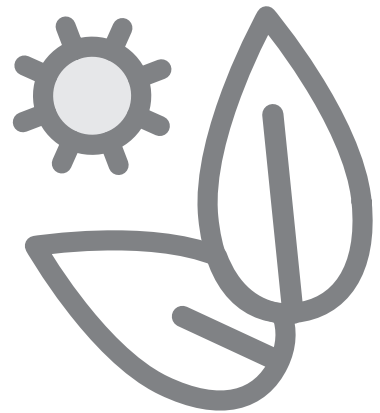
SGS - 28/30/50/60/80/100/120

Storage Capacity

217, 368 & 480 Litres

Range of Output

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



SGS

SGS is a Solar-Gas heating custom solution for larger applications suitable for connecting up to 15 collectors. Comfort and maximum solar contribution are guaranteed by adding condensing support in combination with storage tanks from 300 to 3000 litres.

FEATURES

EFFICIENCY	Upto 97% 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. Tank size 217,368 & 480 Litres.
INTELLIGENT SOLAR CONTROLLER	Maximum solar contribution through fully integrated intelligent solar controller, heat comfort guaranteed. Extra solar contribution possible up to 40%.
DRAIN-BACK SYSTEM	Solar collectors available with ingenious drain-back system to prevent temperature stagnation in installation.
FOOTPRINT	Very small footprint because of integrated solar heat exchanger. One control and display unit for the complete installation.
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 SGE water heaters receive a 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• Delivered on steel base for convenient transport and installation.
OPTIONS	<ul style="list-style-type: none">• Can use Natural gas or LPG as a backup.• Suitable in combination with ITE indirect water heaters up to 1024 litres.• For larger applications A.O. Smith developed IT storage tanks up to 3000 litres.

ABOUT A. O. SMITH

A. O. SMITH: WORLDWIDE

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.

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.

A. O. SMITH: INDIA

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.

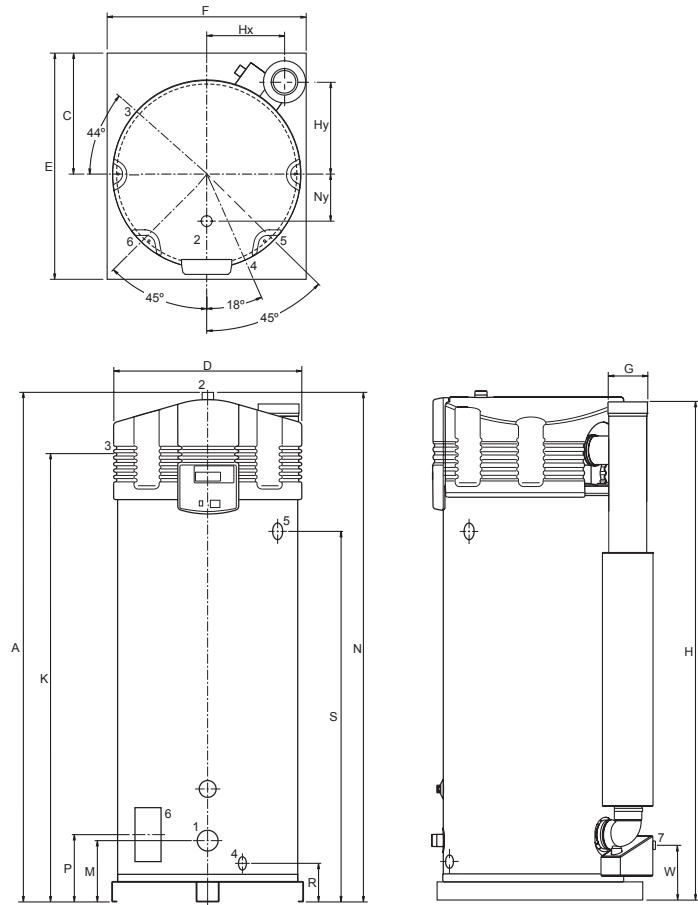
Technical specifications

		SGS 28	SGS 30	SGS 50	SGS 60	SGS 80	SGS 100	SGS 120
Natural gas								
Output	Kcal/hr	26,000	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	3.0	3.1	4.9	5.7	8.1	10.0	11.7
Max. flue gas temperature	°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
Empty weight	kg	202	239	239	239	480	480	480
Max. weight	kg	419	607	607	607	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 ***								
T _{set} = 65°C / T _{cold} = 10°C								
30 min. ΔT 44°C	l	370	440	630	730	940	1100	1300
60 min. ΔT 44°C	l	670	760	1200	1400	1800	2100	2500
90 min. ΔT 44°C	l	980	1100	1700	2000	2600	3100	3700
120 min. ΔT 44°C	l	1300	1400	2100	2500	3500	4100	4900
Continuous ΔT 44°C	l/h	607	639	983	1181	1647	1968	2381
Heating-up time ΔT=44°C	min	25	41	27	21	20	16	13
30 min. ΔT 50°C	l	310	350	520	610	780	910	1100
60 min. ΔT 50°C	l	570	640	950	1200	1600	1800	2200
90 min. ΔT 50°C	l	840	920	1400	1700	2300	2700	3200
120 min. ΔT 50°C	l	1200	1200	1900	2200	3000	3600	4300
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	370	510	630	710	1011	1100	1200
60 min ΔT=55°C	l	610	760	1100	1200	1652	1900	2200
90 min ΔT=55°C	l	850	1000	1400	1700	2292	2600	3100
120 min ΔT=55°C	l	1100	1300	1800	2200	2932	3400	4100
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
Electrical data								
Power consumption	W	42	44	73	104	93	14	238
Power supply	VAC/Hz	230 (-15% +10% VAC)/50 (+/- 1Hz)						
Shipping data								
Weight incl. packaging	kg	222	259	259	259	491	491	491
Width packaging	mm	870	870	870	870	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

SGS 28-60

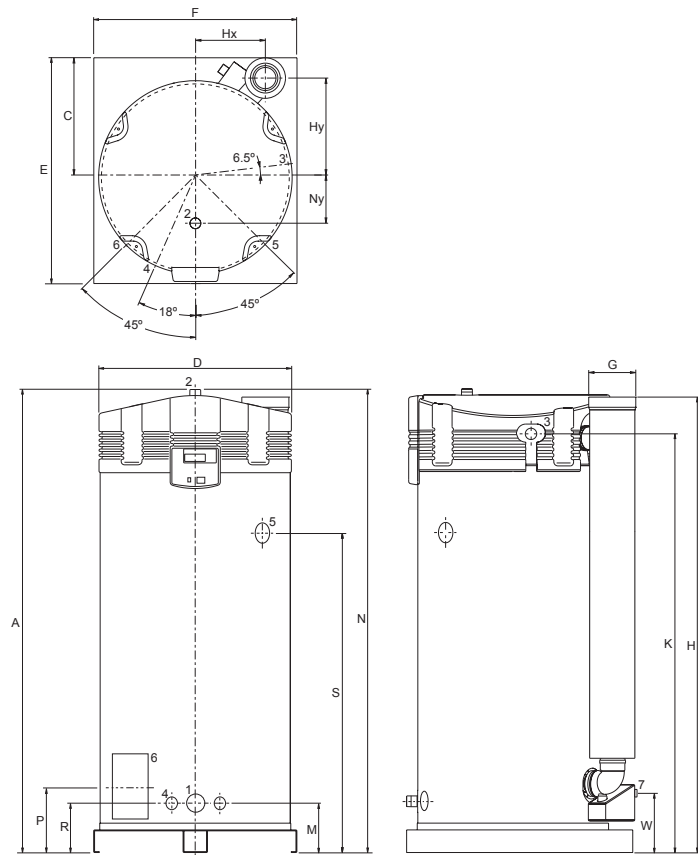


	SGS 28	SGS 30	SGS 50	SGS 60	SGS 80	SGS 100	SGS 120
A	1485	2005	2005	2005	2060	2060	2060
C	490	490	490	490	530	530	530
D	705	705	705	705	850	850	850
E	925	925	925	925	1000	1000	1000
F	850	850	850	850	900	900	900
G	100/150	100/150	100/150	100/150	130/200	130/200	130/200
H	1460	2000	2000	2000	2015	2015	2015
Hx	265	265	265	265	310	310	310
Hy	375	375	375	375	440	440	440
K	1365	1895	1895	1895	1855	1855	1855
M	265	255	255	255	225	225	225
N	1485	2005	2005	2005	2060	2060	2060
Ny	205	205	205	205	205	205	205
P	265	270	270	270	290	290	290
R	180	170	170	170	225	225	225
S	995	1505	1505	1505	1425	1425	1425
W	220	240	240	240	240	240	240

1	Cold water connection	R1½
2	Hot water connection	R1½
3	Gas valve connection	R¾
4	Drain valve connection	¾"
5	Temperature and pressure valve	1" / 11.5 NPT
6	Inspection flange	95x70
7	Condensate drain	Rp1

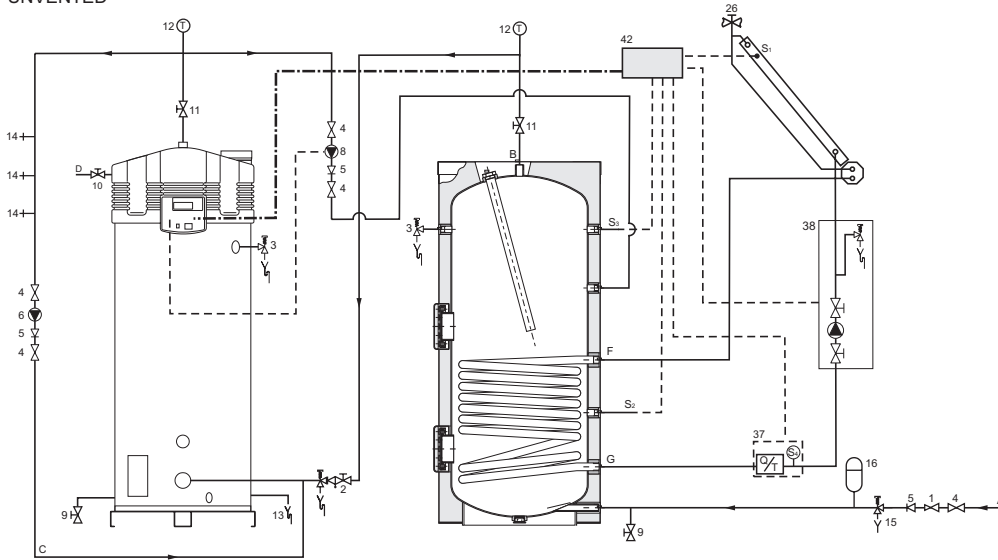
Dimensions in mm.

SGS 80-120



Installation diagrams

UNVENTED

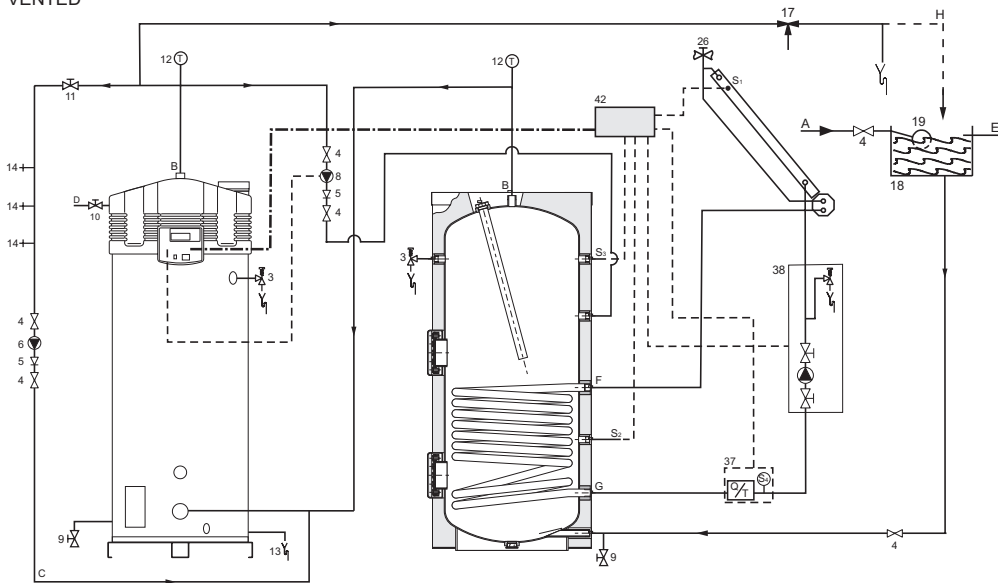


- 1 Pressure reduce valve
- 2 Inlet security group
- 3 T&P valve
- 4 Stop valve
- 5 Non-return valve
- 6 Circulation pump
- 8 Control pump
- 9 Drain valve
- 10 Gas valve
- 11 Isolating valve
- 12 Temperature gauge
- 13 Condense drain
- 14 Hot water outlets
- 15 Expansion valve
- 16 Expansion vessel
- 17 Three way valve
- 18 Water cistern
- 19 Float valve
- 23 Pressure valve
- 26 Air bleed
- 37 Flowmeter
- 38 Solar pump station
- 42 Junction box

- S1 T-collector
- S2 T-tank
- S3 T-top tank
- S4 T-return solar

- A Cold water supply
- B Hot water outlet
- C Circulation pipe
- D Gas supply
- E Water overflow
- F Coil inlet
- G Coil outlet
- H Expansion pipe

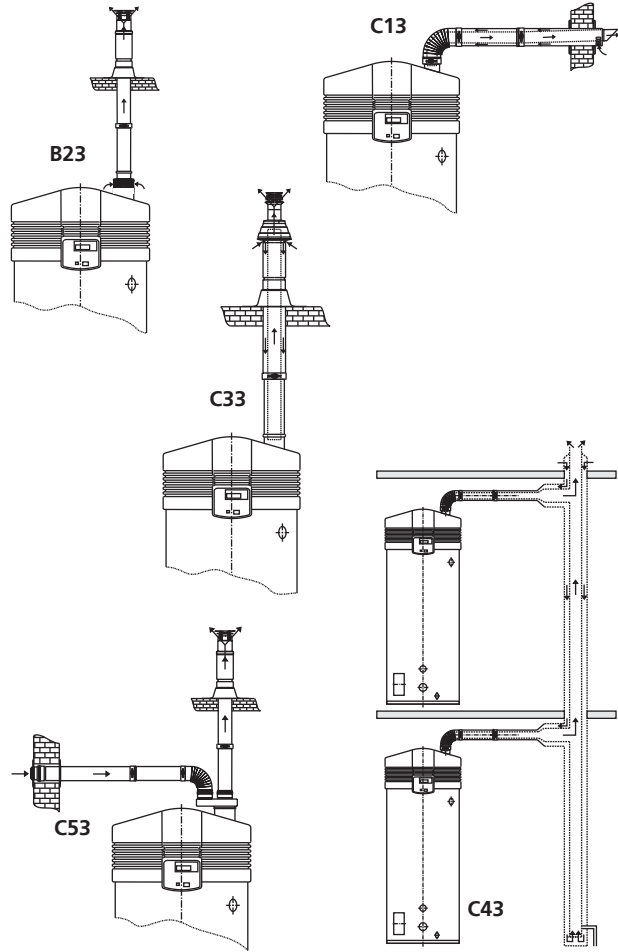
VENTED



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

Further installation and connection details can be found in the installation manual.

Installation options



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

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

	SGS 28	SGS 30	SGS 50	SGS 60	SGS 80	SGS 100	SGS 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
Lequivalent/bend 90° (m)	4.6	4.6	4.6	4.6	2.4	2.4	2.4
Lequivalent/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
Lequivalent/bend 90° (m)	2.4	2.4	2.4	2.4	2.6	2.6	2.6
Lequivalent/bend 45° (m)	1.4	1.4	1.4	1.4	1.6	1.6	1.6

* All SGS appliances 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.

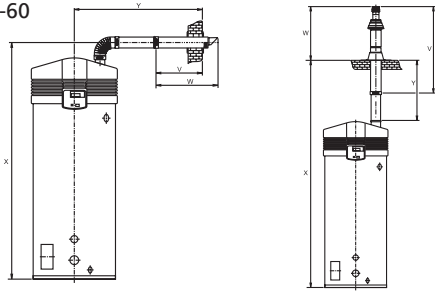
Parallel flues

- 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.

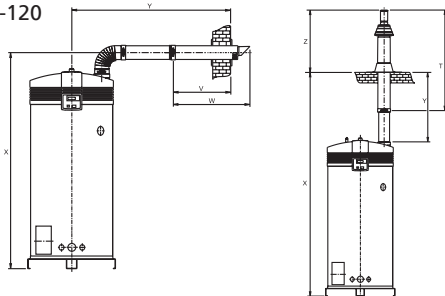
Note: horizontal flue runs must be installed with a fall of at least 5 mm per metre.

Minimum space requirements

SGS 28-60



SGS 80-120



	SGS 28 Ø100/150	SGS 30 Ø100/150	SGS 50 Ø100/150	SGS 60 Ø100/150	SGS 80 Ø130/200	SGS 100 Ø130/200	SGS 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	1630	2170	2170	2170	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	3420	3420	3420	3620	3620	3620
X **	1835	2470	2470	2470	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/SGS/03
Terms and conditions apply, please refer to our website.

A. O. Smith India Water Heating Private Limited

No. 3, 6th Main Road, 4th Block, Jayanagar, Bengaluru - 560 011.

T: +91.80.4255.6000 ■ F: +91.80.4255.6025 ■ Toll Free: 1.800.103.2468

■ www.aosmithindia.com