

# “L” SYSTEM

## OPEN CIRCUIT THERMOSIPHON SYSTEM

**NOT SUITABLE FOR FROST OR HARSH WATER REGIONS.** This system is suitable for *multiple installations*.



### 'L' Collector

Aperture (heating) Area	1.87	m <sup>2</sup>
Length	1937	mm
Width	1022	mm
Height	77	mm
Absorber Surface	Black Polyester Powdercoat	
Absorber Material	Aluminium	
Riser Material	Copper	
Number of Risers	6	
Capacity	3.0	litres
Weight (full)	36.0	kg
Weight (empty)	33.0	kg
Working Pressure	850	kPa
Tray Material	0.7mm	Aluminium - Marine Grade
Tray Insulation	40mm Polyester blanket	
Collector Glass	3.2mm	Tempered Glass Low Iron

**Flat Roof Installation:** for flat roof installations use the Variable Pitch Frame, where the inclination can be set to 15°, 20°, 25°. Refer to Installation Methods Section for more details on Variable Pitch Frames.

**Cyclone, Hurricane or Typhoon Prone Areas:** refer to Mounting Frames section for more details on Cyclone rated frames.

**Inclination:** for self cleaning of glass, a minimum angle of 10° is mandatory.

**Shading:** the collectors should be free from shading.

**Clearance:** the collectors should be free from any obstructions on all sides for a minimum distance of 500mm.

**Electric Boost:** Must comply with local Electrical Codes. Single phase 220-250 volts, minimum 15 amps. For higher current rating refer table overleaf.

**Gas Supply:** Must comply with local gas regulations. Gas supply to suit Operating Pressures of 1.0 kPa with Natural Gas and 2.75 kPa with LPG.

#### Stove Coil Connection:

- This system is suitable for connecting the potable circuit to a stove coil, to operate on both mains pressure and low pressure.

- Refer to Installation Methods section for more details.

Auxiliary Boost Gas (Optional)  
(Refer Section 12-1 to 12-2 for more details)

Type Fan Forced

Burner Rating 13 MJ/hr (3.6 kW)

Primary Voltage 220-250 Volts AC

Secondary Voltage 12 Volts DC

### Orientation Chart & Guide

Refer to the Orientation Chart for details on orientation of the Solahart systems. For optimum performance the system should face the equator, at a pitch equal to the local latitude. The system should face the equator. In the Northern hemisphere, the system should face South and in the Southern hemisphere, the system should face North. For the Southern Hemisphere.

2. If the roof is facing between 45° East or 45° West install the system on the pitch of the roof.

3. If the roof is facing between 45° and 135°, install the system on a Fixed Pitch Frame on a side pitch.

4. If the roof is facing between 135° and 225°, install the system on a Fixed Pitch Frame on a reverse pitch.

5. If the roof is facing between 225° and 270°, it is preferable to add an extra collector instead of installing on a Fixed Pitch Frame on a side pitch.

6. If the roof is facing between 270° and 315°, install the system on a Fixed Pitch Frame on a side pitch.

### Water Connection Specification

Potable Water Connections	Suitable for Mains Pressure
Cold Water Expansion Valve (not supplied)	850 kPa
Maximum Mains Supply Pressure:	680 kPa
With Cold Water Expansion Valve	800 kPa
Without Cold Water Expansion Valve	1000 kPa
Temperature & Pressure Relief Valve (supplied)	99C
Water Connections	Hot & Cold 20mm 3/4"

#### Temperature & Pressure Relief Valve

This valve is set to relieve at 1,000 kPa and/or when the water temperature reaches 99C. It is supplied with the system and must be fitted or the warranty will be void.

#### Cold Water Relief Valve

It is a legal requirement in some areas that a Cold Water Relief Valve is fitted, so please consult your local plumbing code.

It is a condition of the warranty that a Cold Water Relief Valve is fitted as standard where the water saturation index exceeds +0.4

#### Anode

The correct anode type for the water supply being used must be fitted in the water heater. The unit comes standard with a Magnesium Anode that is suitable for water supplies with a Total Dissolved Solids of 40-600mg/l.

# “L” SYSTEM

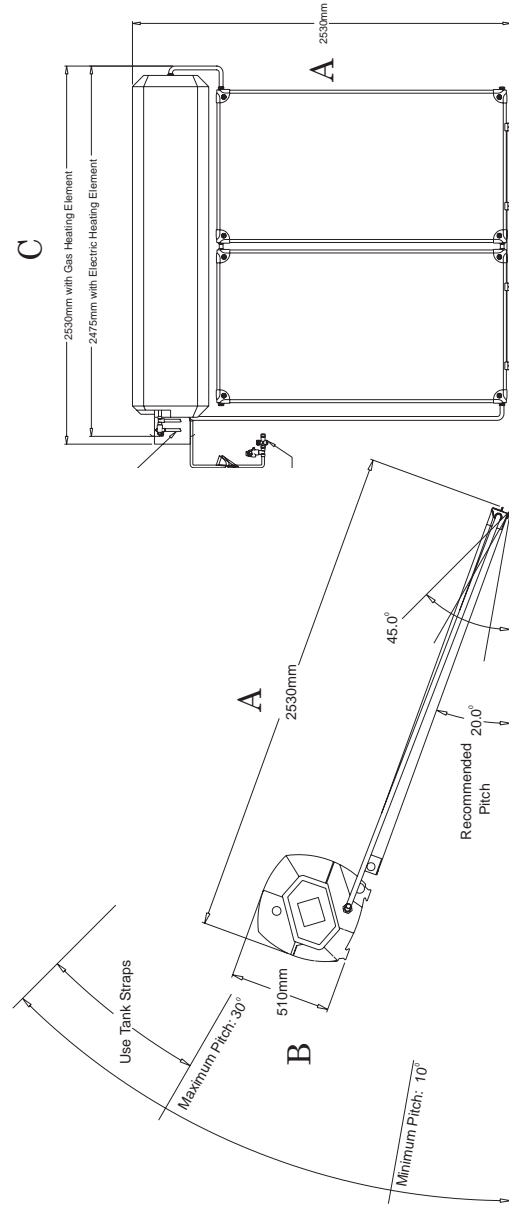
## OPEN CIRCUIT THERMOSIPHON SYSTEM

**NOT SUITABLE FOR FROST OR HARSH WATER REGIONS.** This system is suitable for *multiple installations.*

Model	151L	181L	182L	221L	222L	301L	302L	303L	443L	444L
Number of Collectors	1	1	2	1	2	1	2	3	3	4
Storage Capacity	150 litres 40 US Gal	180 litres 48 US Gal	180 litres 48 US Gal	220 litres 58 US Gal	220 litres 58 US Gal	300 litres 80 US Gal	300 litres 80 US Gal	300 litres 80 US Gal	440 litres 116 US Gal	440 litres 116 US Gal
Delivery Capacity	128 litres	160 litres	160 litres	200 litres	200 litres	240 litres	280 litres	285 litres	400 litres	400 litres
- Solar	34.3 litres	42.3 litres	42.3 litres	52.8 litres	52.8 litres	63.4 litres	74 litres	75.3 litres	106 litres	105.7 litres
Boost Recovery	110 litres	153 litres	150 litres	184 litres	184 litres	246 litres	246 litres	246 litres	359 litres	320 litres
4.8kW (40C rise)	29.1 litres	40.6 litres	40.6 litres	48.6 litres	48.6 litres	65 litres	65 litres	65 litres	94.9 litres	84.5 litres
Weight - Empty	49 kg	55 kg	55 kg	64 kg	64 kg	81 kg	81 kg	81 kg	124 kg	147 kg
	108 lbs	121 lbs	121 lbs	141 lbs	141 lbs	179 lbs	179 lbs	179 lbs	273 lbs	324 lbs
Weight - Full	199 kg	235 kg	235 kg	284 kg	284 kg	381 kg	381 kg	381 kg	564 kg	587 kg
	439 lbs	518 lbs	518 lbs	626 lbs	626 lbs	840 lbs	840 lbs	840 lbs	1243 lbs	1294 lbs
A - Length of System (Top to Bottom)	1.28 m	1.49 m	1.49 m	1.76 m	1.76 m	2.31 m	2.31 m	2.31 m	3.28 m	3.29 m
	50.4 inches	58.8 inches	58.8 inches	69.3 inches	69.3 inches	91 inches	91 inches	91 inches	129.3 inches	129 inches
B - Height of Tank (roof to top of tank)	0.51 m	0.51 m	0.51 m	0.51 m	0.51 m	0.51 m	0.51 m	0.51 m	0.51 m	0.51 m
	20.1 inches	20.1 inches	20.1 inches	20.1 inches	20.1 inches	20.1 inches	20.1 inches	20.1 inches	20.1 inches	20.1 inches
C - Width of System	0.51 m	0.51 m	0.51 m	0.51 m	0.51 m	0.51 m	0.51 m	0.51 m	0.51 m	0.51 m
	20.1 inches	20.1 inches	20.1 inches	20.1 inches	20.1 inches	20.1 inches	20.1 inches	20.1 inches	20.1 inches	20.1 inches
Working Pressure	1000 kPa	1000 kPa	1000 kPa	1000 kPa	1000 kPa	1000 kPa	1000 kPa	1000 kPa	1000 kPa	1000 kPa
	145 psi	145 psi	145 psi	145 psi	145 psi	145 psi	145 psi	145 psi	145 psi	145 psi

Electric Boost Specifications	
Auxiliary Boost	Electric (fitted)
Current Draw	15 Amps
Optional Type	1.8kW, 2.4kW, 4.8kW
Supply Voltage	AC

Hot Water Recovery Using Booster			
Supply Voltage	Current Draw	Temperature Rise	
		40C	60C
kW	Amps	litres	litres
1.8	8	39	26
2.4	11	52	34
3.6	17	77	52
4.8	22	103	69



# “J” SYSTEM

## CLOSED CIRCUIT THERMOSIPHON SYSTEM

This system is suitable for *multiple installations*.



### 'J' Collector

Aperture (heating) Area	1.87	m <sup>2</sup>
Length	1937	mm
Width	1022	mm
Height	77	mm
Absorber Surface	Black Polyester Powdercoat	
Absorber Material	Steel	
Type of Risers	Multi-Flow	
Number of Risers	35	
Capacity	3.0	litres
Weight (full)	46	kg
Weight (empty)	42	kg
Working Pressure	80	kPa
Tray Material	0.7mm	Aluminium - Marine Grade
Tray Insulation	55mm Polyester blanket	
Collector Glass	3.0mm	Tempered Glass Low Iron

**Flat Roof Installation:** for flat roof installations use the Variable Pitch Frame, where the inclination can be set to 15°, 20°, 25°. Refer to Installation Methods Section for more details on Variable Pitch Frames.

**Cyclone, Hurricane or Typhoon Prone Areas:** refer to Mounting Frames section for more details on Cyclone rated frames.

**Inclination:** for self cleaning of glass, a minimum angle of 10° is mandatory.

**Shading:** the collectors should be free from shading.

**Clearance:** the collectors should be free from any obstructions on all sides for a minimum distance of 500mm.

**Electric Boost:** Must comply with local Electrical Codes. Single phase 220-250 volts, minimum 15 amps. For higher current rating refer table overleaf.

**Gas Supply:** Must comply with local gas regulations. Gas supply to suit Operating Pressures of 1.0 kPa with Natural Gas and 2.75 kPa with LPG.

**Stove Coil Connection:**

- This system is suitable for connecting the potable circuit to a stove coil, to operate on both mains pressure and low pressure.
- Refer to Installation Methods section for more details.

Auxiliary Boost Gas (Optional)  
(Refer Section 12-1 to 12-2 for more details)

Type Fan Forced

Burner Rating 13 MJ/hr (3.6 kW)

Primary Voltage 220-250 Volts AC

Secondary Voltage 12 Volts DC

### Orientation Chart & Guide

Refer to the Orientation Chart for details on orientation of the Solahart systems. For optimum performance the system should face the equator, at a pitch equal to the local latitude. The system should face the equator. In the Northern hemisphere, the system should face South and in the Southern hemisphere, the system should face North. For the Southern Hemisphere.

2. If the roof is facing between 45° East or 45° West install the system on the pitch of the roof.

3. If the roof is facing between 45° and 135°, install the system on a Fixed Pitch Frame on a side pitch.

4. If the roof is facing between 135° and 225°, install the system on a Fixed Pitch Frame on a reverse pitch.

5. If the roof is facing between 225° and 270°, it is preferable to add an extra collector instead of installing on a Fixed Pitch Frame on a side pitch.

6. If the roof is facing between 270° and 315°, install the system on a Fixed Pitch Frame on a side pitch.

### Water Connection Specification

Potable Water Connections	Suitable for Mains Pressure
Cold Water Expansion Valve (not supplied)	850 kPa
Maximum Mains Supply Pressure:	680 kPa
With Cold Water Expansion Valve	800 kPa
Without Cold Water Expansion Valve	1000 kPa
Temperature & Pressure Relief Valve (supplied)	99C
Water Connections	Hot & Cold 20mm 3/4"

#### Temperature & Pressure Relief Valve

This valve is set to relieve at 1,000 kPa and/or when the water temperature reaches 99C. It is supplied with the system and must be fitted or the warranty will be void.

#### Cold Water Relief Valve

It is a legal requirement in some areas that a Cold Water Relief Valve is fitted, so please consult your local plumbing code.

It is a condition of the warranty that a Cold Water Relief Valve is fitted as standard where the water saturation index exceeds +0.4

#### Anode

The correct anode type for the water supply being used must be fitted in the water heater. The unit comes standard with a Magnesium Anode that is suitable for water supplies with a Total Dissolved Solids of 40-600mg/l.

# "J" SYSTEM

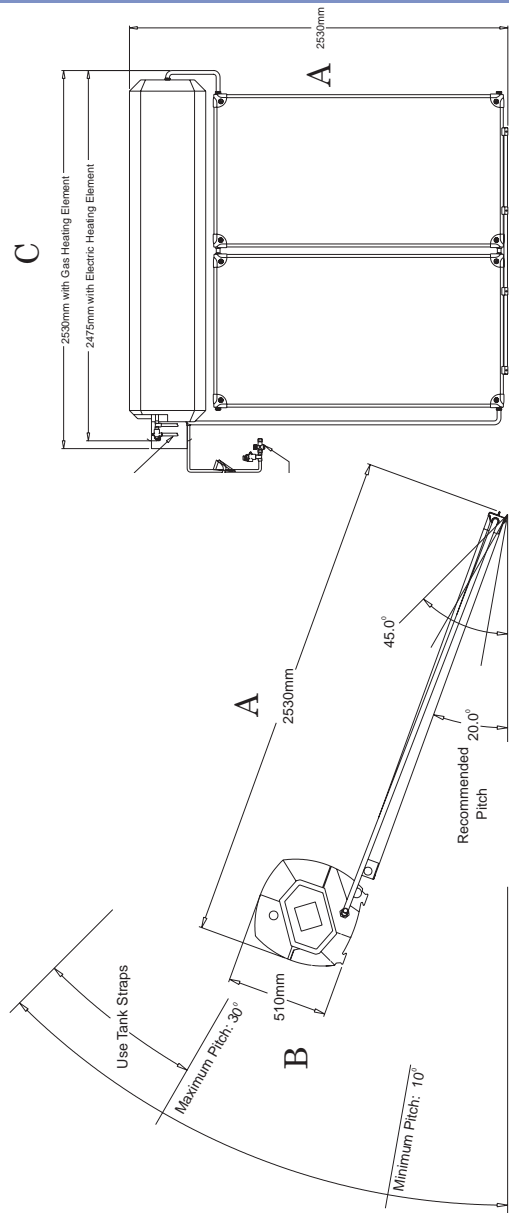
## CLOSED CIRCUIT THERMOSIPHON SYSTEM

This system is suitable for *multiple installations.*

Model	151J	181J	182J	221J	222J	301J	302J	303J	443J	444J
Number of Collectors	1	1	2	1	2	1	2	3	3	4
Storage Capacity litres	150	180	180	220	220	300	300	300	440	440
US Gal	40	48	48	59	58	80	80	80	116	116
Delivery Capacity litres	130	160	160	200	180	240	280	285	400	400
US Gal	34.3	42.3	42.3	52.8	52.8	63.4	74	75.3	105.7	105.7
Boost Recovery litres	128	153	153	184	184	246	246	246	320	320
US Gal	34	40.6	40.6	48.6	48.6	65	65	65	84.5	84.5
Weight - Empty kg	49	65	65	77	77	98	98	98	147	147
lbs	108	143	143	170	170	216	216	216	324	324
Weight - Full kg	199	245	246	297	297	347	347	347	494	494
lbs	439	540	540	655	655	765	765	765	1089	1089
A - Length of System (Top to Bottom) m	1.28	1.49	1.49	1.87	1.87	2.48	2.31	2.31	2.48	2.48
inches	50.4	58.8	58.8	69.3	69.3	96.5	90.9	90.9	96.5	96.5
B - Height of Tank (roof to top of tank) m	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
inches	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1
C - Width of System m	0.51	1.48	0.51	1.76	0.51	2.31	0.51	0.51	2.31	0.51
inches	20.1	58.5	20.1	69.3	20.1	92.4	20.1	20.1	90.9	20.1
Working Pressure kPa	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
psi	145	145	145	145	145	145	145	145	145	145

Electric Boost Specifications	
Auxiliary Boost	Electric (fitted)
Current Draw	15 Amps
Optional Type	Electric Immersion Copper Sheath
Supply Voltage	220-250 AC

Hot Water Recovery Using Booster			
Supply Voltage	Current Draw	Temperature Rise	
40C	50C	60C	
litres	litres	litres	litres
1.8	2.4	3.6	4.8
8	11	17	22
39	52	77	103
31	41	62	83
26	34	52	69



# “K<sub>F</sub>” SYSTEM

## CLOSED CIRCUIT THERMOSIPHON SYSTEM

This system is suitable for *multiple installations*.



### 'K<sub>F</sub>' Collector

Aperture (heating) Area	1.87 m <sup>2</sup>
Length	1937 mm
Width	1022 mm
Height	77 mm
Absorber Surface	Chrome Black
Absorber Material	Steel
Type of Risers	Multi-Flow
Number of Risers	35
Capacity	3.5 litres
Weight (full)	46 kg
Weight (empty)	42 kg
Working Pressure	80 kPa
Tray Material	0.7mm Aluminium - Marine Grade
Tray Insulation	40mm Fibreglass Blanket
Collector Glass	3.2mm Tempered Glass Low Iron

**Flat Roof Installation:** for flat roof installations use the Variable Pitch Frame, where the inclination can be set to 15°, 20°, 25°. Refer to Installation Methods Section for more details on Variable Pitch Frames.

**Cyclone, Hurricane or Typhoon Prone Areas:** refer to Mounting Frames section for more details on Cyclone rated frames.

**Inclination:** for self cleaning of glass, a minimum angle of 10° is mandatory.

**Shading:** the collectors should be free from shading.

**Clearance:** the collectors should be free from any obstructions on all sides for a minimum distance of 500mm.

**Electric Boost:** Must comply with local Electrical Codes. Single phase 220-250 volts, minimum 15 amps. For higher current rating refer table overleaf.

**Gas Supply:** Must comply with local gas regulations. Gas supply to suit Operating Pressures of 1.0 kPa with Natural Gas and 2.75 kPa with LPG.

**Stove Coil Connection:**

- This system is suitable for connecting the potable circuit to a stove coil, to operate on both mains pressure and low pressure.
- Refer to Installation Methods section for more details.

Auxiliary Boost Gas (Optional)  
(Refer Section 12-1 to 12-2 for more details)

Type Fan Forced  
Burner Rating 13 MJ/hr (3.6 kW)  
Primary Voltage 220-250 Volts AC  
Secondary Voltage 12 Volts DC

### Orientation Chart & Guide

Refer to the Orientation Chart for details on orientation of the Solahart systems. For optimum performance the system should face the equator, at a pitch equal to the local latitude. The system should face the equator. In the Northern hemisphere, the system should face South and in the Southern hemisphere, the system should face North. For the Southern Hemisphere.

2. If the roof is facing between 45° East or 45° West install the system on the pitch of the roof.

3. If the roof is facing between 45° and 135°, install the system on a Fixed Pitch Frame on a side pitch.

4. If the roof is facing between 135° and 225°, install the system on a Fixed Pitch Frame on a reverse pitch.

5. If the roof is facing between 225° and 270°, it is preferable to add an extra collector instead of installing on a Fixed Pitch Frame on a side pitch.

6. If the roof is facing between 270° and 315°, install the system on a Fixed Pitch Frame on a side pitch.

### Water Connection Specification

Potable Water Connections	Suitable for Mains Pressure
Cold Water Expansion Valve (not supplied)	850 kPa
Maximum Mains Supply Pressure:	680 kPa
With Cold Water Expansion Valve	800 kPa
Without Cold Water Expansion Valve	1000 kPa
Temperature & Pressure Relief Valve (supplied)	99C
Water Connections	Hot & Cold 20mm 3/4"

**Temperature & Pressure Relief Valve**

This valve is set to relieve at 1,000 kPa and/or when the water temperature reaches 99C. It is supplied with the system and must be fitted or the warranty will be void.

**Cold Water Relief Valve**

It is a legal requirement in some areas that a Cold Water Relief Valve is fitted, so please consult your local plumbing code.

It is a condition of the warranty that a Cold Water Relief Valve is fitted as standard where the water saturation index exceeds +0.4

**Anode**

The correct anode type for the water supply being used must be fitted in the water heater. The unit comes standard with a Magnesium Anode that is suitable for water supplies with a Total Dissolved Solids of 40-600mg/l.

# “K<sub>F</sub>” SYSTEM

## CLOSED CIRCUIT THERMOSIPHON SYSTEM

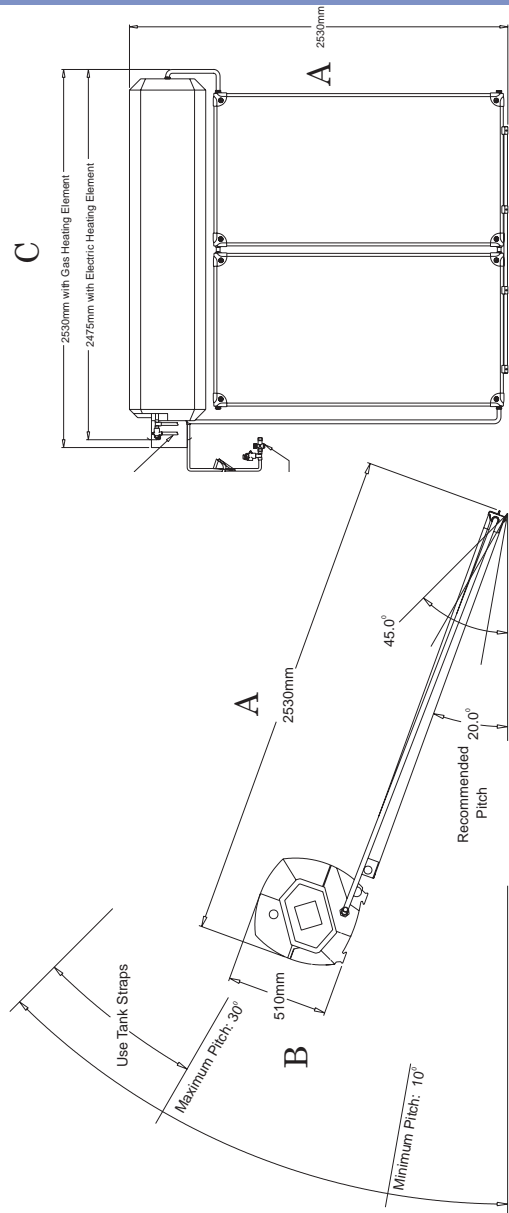
This system is suitable for *multiple installations.*

Model	151K <sub>F</sub>	181K <sub>F</sub>	182K <sub>F</sub>	221K <sub>F</sub>	222K <sub>F</sub>	301K <sub>F</sub>	302K <sub>F</sub>	303K <sub>F</sub>	443K <sub>F</sub>	444K <sub>F</sub>
Number of Collectors	1	1	2	1	2	1	2	3	3	4
Storage Capacity	150 litres US Gal 40	180 litres US Gal 48	180 litres US Gal 48	220 litres US Gal 58	220 litres US Gal 59	300 litres US Gal 80	300 litres US Gal 80	300 litres US Gal 80	440 litres US Gal 116	440 litres US Gal 116
Delivery Capacity	130 litres US Gal 34.3	160 litres US Gal 42.3	160 litres US Gal 42.3	200 litres US Gal 52.8	180 litres US Gal 47.6	240 litres US Gal 63.4	280 litres US Gal 74	285 litres US Gal 75.3	400 litres US Gal 105.7	400 litres US Gal 105.7
Boost Recovery	128 litres US Gal 34	153 litres US Gal 40.6	153 litres US Gal 40.6	184 litres US Gal 48.6	175 litres US Gal 47	246 litres US Gal 65	246 litres US Gal 65	246 litres US Gal 65	320 litres US Gal 84.5	320 litres US Gal 84.5
Weight - Empty	62 kg lbs 136	102 kg lbs 224	102 kg lbs 224	145 kg lbs 319	145 kg lbs 319	246 kg lbs 541	246 kg lbs 541	246 kg lbs 541	320 kg lbs 705	320 kg lbs 705
Weight - Full	212 kg lbs 466	256 kg lbs 564	256 kg lbs 564	298 kg lbs 655	298 kg lbs 655	448 kg lbs 987	448 kg lbs 987	448 kg lbs 987	588 kg lbs 1294	588 kg lbs 1294
A - Length of System (Top to Bottom)	1.28 m inches 50.4	2.48 m inches 98.5	2.48 m inches 98.5	2.48 m inches 98.5	2.48 m inches 98.5	2.45 m inches 96.5	2.48 m inches 98.5	2.48 m inches 98.5	2.48 m inches 98.5	2.48 m inches 98.5
B - Height of Tank (roof to top of tank)	0.51 m inches 20.1	0.51 m inches 20.1	0.51 m inches 20.1	0.51 m inches 20.1	0.51 m inches 20.1	0.51 m inches 20.1	0.51 m inches 20.1	0.51 m inches 20.1	0.51 m inches 20.1	0.51 m inches 20.1
C - Width of System	0.51 m inches 20.1	1.29 m inches 50.1	1.29 m inches 50.1	1.76 m inches 69.3	1.76 m inches 69.3	2.48 m inches 98.7	2.31 m inches 91.7	2.48 m inches 98.7	2.31 m inches 91.7	2.31 m inches 91.7
Working Pressure	1000 kPa psi 145	1000 kPa psi 145	1000 kPa psi 145	1000 kPa psi 145	1000 kPa psi 145	1000 kPa psi 145	1000 kPa psi 145	1000 kPa psi 145	1000 kPa psi 145	1000 kPa psi 145

Electric Boost Specifications			
Auxiliary Boost	Electric (fitted)		3.6kW
Current Draw	15 Amps		
Optional Type	Electric Immersion Copper Sheath		1.8kW/2.4kW/4.8kW
Supply Voltage	220-250		AC

Hot Water Recovery Using Booster			
E L E C T R I C	Supply Voltage	Current Draw	Temperature Rise
	Volts AC	Amps	litres
1.8	220-250	8	39
2.4	220-250	11	52
3.6	220-250	17	77
4.8	220-250	22	103



# “FREE HEAT” SYSTEM

## CLOSED CIRCUIT THERMOSIPHON SYSTEM

This system is suitable for *multiple installations*.



### 'Kf Collector

Aperture (heating) Area	1.87	m <sup>2</sup>
Length	1937	mm
Width	1022	mm
Height	77	mm
Absorber Surface	Chrome Black	
Absorber Material	Steel	
Type of Risers	Multi-Flow	
Number of Risers	35	
Capacity	3.5	litres
Weight (full)	46	kg
Weight (empty)	42	kg
Working Pressure	80	kPa
Tray Material	0.7mm	Aluminium - Marine Grade
Tray Insulation	40mm Fibreglass Blanket	
Collector Glass	3.2mm	Tempered Glass
		Low Iron

**Flat Roof Installation:** for flat roof installations use the Variable Pitch Frame, where the inclination can be set to 15°, 20°, 25°. Refer to Installation Methods Section for more details on Variable Pitch Frames.

**Cyclone, Hurricane or Typhoon Prone Areas:** refer to Mounting Frames section for more details on Cyclone rated frames.

**Inclination:** for self cleaning of glass, a minimum angle of 10° is mandatory.

**Shading:** the collectors should be free from shading.

**Clearance:** the collectors should be free from any obstructions on all sides for a minimum distance of 500mm.

**Electric Boost:** Must comply with local Electrical Codes. Single phase 220-250 volts, minimum 15 amps. For higher current rating refer table overleaf.

**Gas Supply:** Must comply with local gas regulations. Gas supply to suit Operating Pressures of 1.0 kPa with Natural Gas and 2.75 kPa with LPG.

**Stove Coil Connection:**

- This system is suitable for connecting the potable circuit to a stove coil, to operate on both mains pressure and low pressure.
- Refer to Installation Methods section for more details.

Auxiliary Boost Gas (Optional)  
(Refer Section 12-1 to 12-2 for more details)

Type Fan Forced

Burner Rating 13 MJ/hr (3.6 kW)

Primary Voltage 220-250 Volts AC

Secondary Voltage 12 Volts DC

### Orientation Chart & Guide

Refer to the Orientation Chart for details on orientation of the Solahart systems. For optimum performance the system should face the equator, at a pitch equal to the local latitude. The system should face the equator. In the Northern hemisphere, the system should face South and in the Southern hemisphere, the system should face North. For the Southern Hemisphere.

2. If the roof is facing between 45° East or 45° West install the system on the pitch of the roof.

3. If the roof is facing between 45° and 135°, install the system on a Fixed Pitch Frame on a side pitch.

4. If the roof is facing between 135° and 225°, install the system on a Fixed Pitch Frame on a reverse pitch.

5. If the roof is facing between 225° and 270°, it is preferable to add an extra collector instead of installing on a Fixed Pitch Frame on a side pitch.

6. If the roof is facing between 270° and 315°, install the system on a Fixed Pitch Frame on a side pitch.

### Water Connection Specification

Potable Water Connections	Suitable for Mains Pressure
Cold Water Expansion Valve (not supplied)	850 kPa
Maximum Mains Supply Pressure:	680 kPa
With Cold Water Expansion Valve	800 kPa
Without Cold Water Expansion Valve	1000 kPa
Temperature & Pressure Relief Valve (supplied)	99C
Water Connections	Hot & Cold 20mm 3/4"

**Temperature & Pressure Relief Valve**

This valve is set to relieve at 1,000 kPa and/or when the water temperature reaches 99C. It is supplied with the system and must be fitted or the warranty will be void.

**Cold Water Relief Valve**

It is a legal requirement in some areas that a Cold Water Relief Valve is fitted, so please consult your local plumbing code.

It is a condition of the warranty that a Cold Water Relief Valve is fitted as standard where the water saturation index exceeds +0.4

**Anode**

The correct anode type for the water supply being used must be fitted in the water heater. The unit comes standard with a Magnesium Anode that is suitable for water supplies with a Total Dissolved Solids of 40-600mg/l.



# “BCXII” SYSTEM

## CLOSED CIRCUIT THERMOSIPHON SYSTEM

This system is suitable for *multiple installations*.



### 'Kf Collector

Aperture (heating) Area	1.87	m <sup>2</sup>
Length	1937	mm
Width	1022	mm
Height	77	mm
Absorber Surface	Chrome Black	
Absorber Material	Steel	
Type of Risers	Multi-Flow	
Number of Risers	35	
Capacity	3.5	litres
Weight (full)	46	kg
Weight (empty)	42	kg
Working Pressure	80	kPa
Tray Material	0.7mm	
	Aluminium - Marine Grade	
Tray Insulation	40mm Fibreglass Blanket	
Collector Glass	3.2mm	
	Tempered Glass	
	Low Iron	

**Flat Roof Installation:** for flat roof installations use the Variable Pitch Frame, where the inclination can be set to 15°, 20°, 25°. Refer to Installation Methods Section for more details on Variable Pitch Frames.

**Cyclone, Hurricane or Typhoon Prone Areas:** refer to Mounting Frames section for more details on Cyclone rated frames.

**Inclination:** for self cleaning of glass, a minimum angle of 10° is mandatory.

**Shading:** the collectors should be free from shading.

**Clearance:** the collectors should be free from any obstructions on all sides for a minimum distance of 500mm.

**Electric Boost:** Must comply with local Electrical Codes. Single phase 220-250 volts, minimum 15 amps. For higher current rating refer table overleaf.

**Gas Supply:** Must comply with local gas regulations. Gas supply to suit Operating Pressures of 1.0 kPa with Natural Gas and 2.75 kPa with LPG.

**Stove Coil Connection:**

- This system is suitable for connecting the potable circuit to a stove coil, to operate on both mains pressure and low pressure.

- Refer to Installation Methods section for more details.

Auxiliary Boost Gas (Optional)  
(Refer Section 12-1 to 12-2 for more details)

Type Fan Forced

Burner Rating 13 MJ/hr (3.6 kW)

Primary Voltage 220-250 Volts AC

Secondary Voltage 12 Volts DC

### Orientation Chart & Guide

Refer to the Orientation Chart for details on orientation of the Solahart systems. For optimum performance the system should face the equator, at a pitch equal to the local latitude. The system should face the equator. In the Northern hemisphere, the system should face South and in the Southern hemisphere, the system should face North. For the Southern Hemisphere.

2. If the roof is facing between 45° East or 45° West install the system on the pitch of the roof.

3. If the roof is facing between 45° and 135°, install the system on a Fixed Pitch Frame on a side pitch.

4. If the roof is facing between 135° and 225°, install the system on a Fixed Pitch Frame on a reverse pitch.

5. If the roof is facing between 225° and 270°, it is preferable to add an extra collector instead of installing on a Fixed Pitch Frame on a side pitch.

6. If the roof is facing between 270° and 315°, install the system on a Fixed Pitch Frame on a side pitch.

### Water Connection Specification

Potable Water Connections	Suitable for Mains Pressure
Cold Water Expansion Valve (not supplied)	850 kPa
Maximum Mains Supply Pressure:	680 kPa
With Cold Water Expansion Valve	800 kPa
Without Cold Water Expansion Valve	1000 kPa
Temperature & Pressure Relief Valve (supplied)	99C
Water Connections	Hot & Cold 20mm 3/4"

#### Temperature & Pressure Relief Valve

This valve is set to relieve at 1,000 kPa and/or when the water temperature reaches 99C. It is supplied with the system and must be fitted or the warranty will be void.

#### Cold Water Relief Valve

It is a legal requirement in some areas that a Cold Water Relief Valve is fitted, so please consult your local plumbing code.

It is a condition of the warranty that a Cold Water Relief Valve is fitted as standard where the water saturation index exceeds +0.4

#### Anode

The correct anode type for the water supply being used must be fitted in the water heater. The unit comes standard with a Magnesium Anode that is suitable for water supplies with a Total Dissolved Solids of 40-600mg/l.

# “BCXII” SYSTEM

## CLOSED CIRCUIT THERMOSIPHON SYSTEM

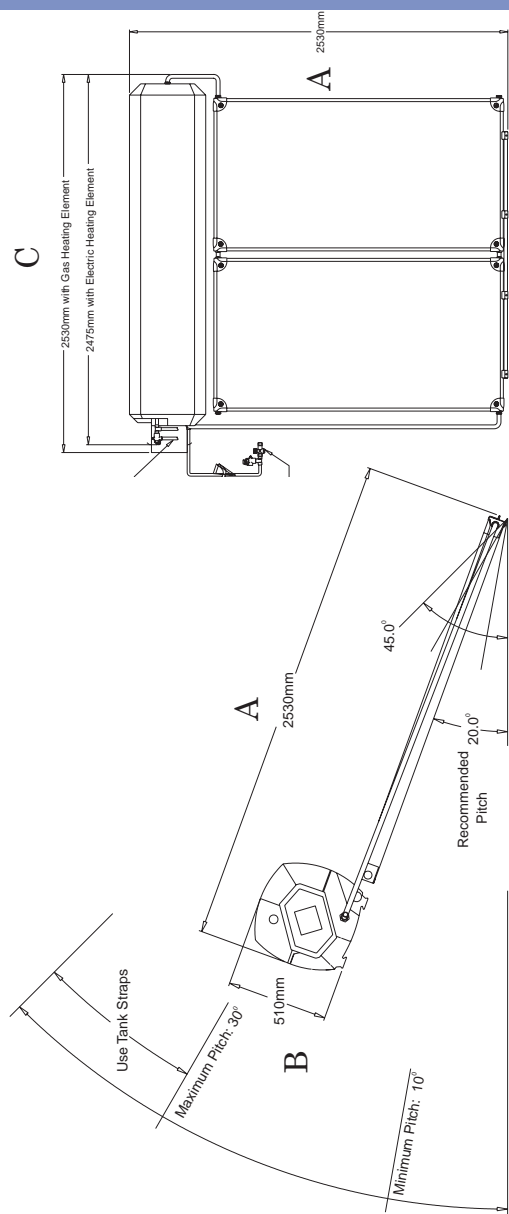
This system is suitable for *multiple installations.*

Model	151BCXII	181BCXII	182BCXII	221BCXII	222BCXII	301BCXII	302BCXII	303BCXII	443BCXII	444BCXII
Number of Collectors	1	1	2	1	2	1	2	3	3	4
Storage Capacity litres	150	180	180	220	220	300	300	300	440	440
US Gal	40	48	48	59	59	80	80	80	116	116
Delivery Capacity litres	130	160	160	200	200	240	280	285	400	400
US Gal	34.3	42.3	42.3	52.8	52.8	63.4	74	74.3	105.7	105.7
Boost Recovery litres	110	153	153	184	175	246	246	246	320	320
US Gal (40C rise)	29	40.6	40.6	48.6	47	65	65	65	84.5	84.5
Weight - Empty kg	62	108	66	124	78	152	99	99	148	148
lbs	136	238	143	273	170	334	216	216	324	324
Weight - Full kg	212	256	246	338	298	380	399	399	552	588
lbs	446	563	540	745	655	836	877	877	1294	1294
A - Length of System (Top to Bottom) m	1.28	2.48	1.49	2.48	1.87	2.48	2.31	2.48	2.31	2.48
inches	50.4	96.5	58.8	96.5	69.3	96.5	91	96.5	91	96.5
B - Height of Tank (roof to top of tank) m	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
inches	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1
C - Width of System m	0.51	1.29	0.51	1.84	0.51	2.37	0.51	2.31	0.51	3.34
inches	20.1	50.1	20.1	76.4	20.1	92.4	20.1	90.9	20.1	131.5
Working Pressure kPa	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
psi	145	145	145	145	145	145	145	145	145	145

Electric Boost Specifications			
Auxiliary Boost	Electric (fitted)		3.6kW
Current Draw	15		Amps
Optional	Electric		1.8kW, 2.4kW, 4.8kW
Type	Immersion		
Supply Voltage	Copper Sheath		
	220-250		AC

Hot Water Recovery Using Booster			
	Supply Voltage	Current Draw	Temperature Rise
ELC	Volts AC	Amps	litres
TRIC	220-250	8	litres
	220-250	11	litres
	220-250	17	litres
	220-250	22	litres
	40C	50C	60C
	8	39	31
	26	41	34
	52	77	62
	52	103	83
	69		



# “J FREE HEAT” SYSTEM

## CLOSED CIRCUIT THERMOSIPHON SYSTEM

This system is suitable for *multiple installations*.



### 'J' Collector

Aperture (heating) Area	1.87	m <sup>2</sup>
Length	1937	mm
Width	1022	mm
Height	77	mm
Absorber Surface	Black Polyester Powdercoat	
Absorber Material	Steel	
Type of Risers	Multi-Flow	
Number of Risers	35	
Capacity	3.0	litres
Weight (full)	46	kg
Weight (empty)	42	kg
Working Pressure	80	kPa
Tray Material	0.7mm	Aluminium - Marine Grade
Tray Insulation	55mm Polyester blanket	
Collector Glass	3.0mm	Tempered Glass Low Iron

**Flat Roof Installation:** for flat roof installations use the Variable Pitch Frame, where the inclination can be set to 15°, 20°, 25°. Refer to Installation Methods Section for more details on Variable Pitch Frames.

**Cyclone, Hurricane or Typhoon Prone Areas:** refer to Mounting Frames section for more details on Cyclone rated frames.

**Inclination:** for self cleaning of glass, a minimum angle of 10° is mandatory.

**Shading:** the collectors should be free from shading.

**Clearance:** the collectors should be free from any obstructions on all sides for a minimum distance of 500mm.

**Electric Boost:** Must comply with local Electrical Codes. Single phase 220-250 volts, minimum 15 amps. For higher current rating refer table overleaf.

**Gas Supply:** Must comply with local gas regulations. Gas supply to suit Operating Pressures of 1.0 kPa with Natural Gas and 2.75 kPa with LPG.

**Stove Coil Connection:**

- This system is suitable for connecting the potable circuit to a stove coil, to operate on both mains pressure and low pressure.
- Refer to Installation Methods section for more details.

Auxiliary Boost Gas (Optional)  
(Refer Section 12-1 to 12-2 for more details)

Type Fan Forced

Burner Rating 13 MJ/hr (3.6 kW)

Primary Voltage 220-250 Volts AC

Secondary Voltage 12 Volts DC

### Orientation Chart & Guide

Refer to the Orientation Chart for details on orientation of the Solahart systems. For optimum performance the system should face the equator, at a pitch equal to the local latitude. The system should face the equator. In the Northern hemisphere, the system should face South and in the Southern hemisphere, the system should face North. For the Southern Hemisphere.

2. If the roof is facing between 45° East or 45° West install the system on the pitch of the roof.

3. If the roof is facing between 45° and 135°, install the system on a Fixed Pitch Frame on a side pitch.

4. If the roof is facing between 135° and 225°, install the system on a Fixed Pitch Frame on a reverse pitch.

5. If the roof is facing between 225° and 270°, it is preferable to add an extra collector instead of installing on a Fixed Pitch Frame on a side pitch.

6. If the roof is facing between 270° and 315°, install the system on a Fixed Pitch Frame on a side pitch.

### Water Connection Specification

Potable Water Connections	Suitable for Mains Pressure
Cold Water Expansion Valve (not supplied)	850 kPa
Maximum Mains Supply Pressure:	680 kPa
With Cold Water Expansion Valve	800 kPa
Without Cold Water Expansion Valve	1000 kPa
Temperature & Pressure Relief Valve (supplied)	99C
Water Connections	Hot & Cold 20mm 3/4"

#### Temperature & Pressure Relief Valve

This valve is set to relieve at 1,000 kPa and/or when the water temperature reaches 99C. It is supplied with the system and must be fitted or the warranty will be void.

#### Cold Water Relief Valve

It is a legal requirement in some areas that a Cold Water Relief Valve is fitted, so please consult your local plumbing code.

It is a condition of the warranty that a Cold Water Relief Valve is fitted as standard where the water saturation index exceeds +0.4

#### Anode

The correct anode type for the water supply being used must be fitted in the water heater. The unit comes standard with a Magnesium Anode that is suitable for water supplies with a Total Dissolved Solids of 40-600mg/l.

# "J FREE HEAT" SYSTEM

## CLOSED CIRCUIT THERMOSIPHON SYSTEM

This system is suitable for *multiple installations.*

Model	181J Free Heat	182J Free Heat	221J Free Heat	222J Free Heat	301J Free Heat	302J Free Heat	303J Free Heat	443J Free Heat	444J Free Heat
Number of Collectors	1	2	1	2	1	2	3	3	4
Storage Capacity litres	180	180	220	220	300	300	300	440	440
US Gal	48	48	59	59	80	80	80	116	116
Delivery Capacity litres	160	160	200	200	240	280	285	400	400
US Gal	42.3	42.3	52.8	52.8	63.4	74	75.3	105.7	105.7
Boost Recovery litres	135	153	184	184	246	246	246	320	320
4.8kW (40C rise) US Gal	36	40.6	48.6	48.6	65	65	65	84.5	84.5
Weight - Empty kg	66	108	78	124	99	145	99	148	148
lbs	143	238	170	273	216	320	216	324	324
Weight - Full kg	246	292	298	348	399	449	399	541	588
lbs	540	644	655	767	877	990	877	1192	1294
A - Length of System (Top to Bottom) m	1.49	2.45	1.87	2.48	2.31	2.48	2.31	2.48	3.28
inches	58.8	96.5	69.3	96.5	91	96.5	91	96.5	129
B - Height of Tank (roof to top of tank) m	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
inches	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1	20.1
C - Width of System m	0.51	1.49	0.51	1.84	0.51	2.31	0.51	3.16	0.51
inches	20.1	58.5	20.1	76.4	20.1	92.4	20.1	124.4	20.1
Working Pressure kPa	1000	1000	1000	1000	1000	1000	1000	1000	1000
psi	145	145	145	145	145	145	145	145	145

Electric Boost Specifications		
Auxiliary Boost	Electric (fitted)	3.6kW
Current Draw	15 Amps	
Optional Type	Electric Immersion Copper Sheath	1.8kW/2.4kW/4.8kW
Supply Voltage	220-250	AC

Hot Water Recovery Using Booster			
Supply Voltage	Current Draw	Temperature Rise	
		40C	60C
ELC	Amps	litres	litres
1.8	8	39	26
2.4	11	52	34
3.6	17	77	52
4.8	22	103	69

