



Secureguard Range

Low surface temperature (LST) anti-ligature radiators



Features and Benefits

- Low surface temperature (LST)
- Finished in RAL 9016 (Traffic White) antimicrobial paint (other colours available on request)
- Easy-fit 2 piece supply (frame and front cover)
- Kick bar at the bottom of the frame, securable to the floor along the length for rigidity
- Removable front cover for cleaning access
- Interlocking front cover and frame to prevent upwards removal

Material: Fully welded Zintec steel casing (2mm)

Heights: 625 - 1275mm

Widths: 700 - 2500mm

Models: 360

Outputs: 432 - 3742 watts



Secureguard product range

Secureguard Style B -

Top outlet grille and front facing lower inlet grille.



Secureguard Style T -

Solid top with front facing outlet and inlet grilles.



Secureguard Style S -

Sloped top with a top outlet grille, front facing outlet grille and front facing inlet grille.



Key features

All Secureguard LST radiators are supplied complete with a panel radiator, with a choice of a Type 21 (120mm depth casing), a Type 22 (180mm depth) or a Type 33 (240mm depth). All the radiators have a maximum working pressure of 6 bar (8 bar test).

- Anti-ligature.
- Low surface temperature (LST).
- Robust and tamper resistant 2mm thick fully welded Zintec steel casing.
- Finished in RAL 9016 (Traffic White) antimicrobial paint (other colours available on request at additional cost).
- Easy-fit 2 piece supply (frame and front cover).
- Flat rear edge for sealing the frame to the wall with an anti-pick mastic (supply by others).
- Kick bar at the bottom of the frame, securable to the floor along the length for rigidity.
- Removable front cover for cleaning access. Front cover is interlocking with frame to prevent upwards removal.
- Bull-nose corners on top front edges and 27mm radius edges provide robustness and minimise impact trauma.
- All casing joins visible on the front or top to minimise opportunity for concealment.
- 2.5mm outlet holes on a 4.6mm triangular pitch for ligature resistance with optimum performance to maintain LST criteria.
- 2mm outlet holes on a 4mm triangular pitch to comply with Home Office Police Buildings Design Guide – Custody section PD3.02.14 Grilles (July 2009) are available. N.B. While the majority of the cover is below 43°C, restricted size apertures elevate the grille temperature above the LST criteria.
- Front facing key locks (tamper resistant security screws available on request).
- Choice of internal or external valve options including a unique, slim-fitting anti-ligature external TRV control.
- Bespoke options such as square edges, corner units and continuous casings available upon request.

Secureguard casing styles

Casings

All casings are constructed from 2mm thick fully welded Zintec steel, painted in RAL9016 (Traffic White) with an antimicrobial finish. Other colours are available at additional cost. As standard, the grilles are perforated with 2.5mm diameter holes at 4.6mm centres, in a triangular pitch formation. Each case is also supplied with a removable front cover and 2 front facing key locks, allowing easy access for venting, cleaning and maintenance.

Style B cases have a top outlet grille and front facing inlet grille.

Style T cases have a solid top with front facing outlet and inlet grilles.

Style S cases have a sloped top with a top outlet grille, front facing outlet grille and front facing inlet grille.

Test and working pressures

All radiators are suitable for maximum test pressure of 8 bar and maximum working pressure of 6 bar.

Panel radiators

Type 21 is a double panel single convector radiator. To be installed in 120mm deep casing.

Type 22 is a double panel double convector. To be installed in 180mm deep casing.

Type 33 is a triple panel triple convector. To be installed in a 240mm deep casing.

Warranty

Each Secureguard LST radiator is backed by a 5 year warranty in respect of defective materials and manufacturing defects.



How to specify

- 1 Calculate the heat losses to be satisfied by the **Secureguard LST** (prefix code SG).
- 2 Choose the casing style and type for the room application
Example: Style B Type 22 = B-22
- 3 Select the casing height.
Example: 625mm height = 0625/
- 4 Select the casing width.
Example: 1600mm width = 1600
- 5 Apply the correction factor if LPHW conditions are not $\Delta T = 50^{\circ}\text{C}$.

Example
Code:

NSGB - 22 - 0625 / 1600

Secureguard
Style B Type 22

(Height)
625mm

(Width)
1600mm

(Depth)
180mm

Secureguard Outputs

Style B Type 21 (Case Depth 120mm)

Case Height (mm)	Case Width (mm)												
	700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	2300	2500
	Output Watts Δt 50°C												
625	-	-	432	-	576	-	720	864	1008	1152	1296	1440	-
775	347	433	520	608	694	780	868	1041	1215	1388	1562	1736	-
875	399	499	599	699	798	898	998	1198	1397	1597	1796	1996	-
1175	563	704	845	986	1127	1268	1408	-	-	-	-	-	-

Style B Type 22 (Case Depth 180mm)

Case Height (mm)	Case Width (mm)												
	700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	2300	2500
	Output Watts Δt 50°C												
625	-	-	568	-	757	-	947	1136	1326	1515	1704	1894	2084
775	447	558	670	782	894	1005	1117	1340	1564	1788	2012	2235	2458
875	527	659	790	922	1054	1185	1317	1580	1844	2108	2372	2635	2898
1175	732	916	1100	1283	1466	1649	1832	2199	2565	-	-	-	-

Style B Type 33 (Case Depth 240mm)

Case Height (mm)	Case Width (mm)												
	700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	2300	2500
	Output Watts Δt 50°C												
625	-	-	843	-	1124	-	1405	1686	1968	2248	2530	2811	3092
775	-	820	984	1148	1312	1476	1640	1968	2296	2624	2952	-	-
875	-	936	1122	1309	1496	1684	1871	2245	2620	2993	3368	3742	-
1175	1028	1284	1542	1799	2056	2313	2570	-	-	-	-	-	-

Secureguard Outputs

Style T Type 21 (Case Depth 120mm)

Case Height (mm)	Case Width (mm)												
	700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	2300	2500
	Output Watts Δt 50°C												
725	-	-	432	-	576	-	720	864	1008	1152	1296	1440	-
875	347	433	520	608	694	780	868	1041	1215	1388	1562	1736	-
975	399	499	599	699	798	898	998	1198	1397	1597	1796	1996	-
1275	563	704	845	986	1127	1268	1408	-	-	-	-	-	-

Style T Type 22 (Case Depth 180mm)

Case Height (mm)	Case Width (mm)												
	700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	2300	2500
	Output Watts Δt 50°C												
725	-	-	568	-	757	-	947	1136	1326	1515	1704	1894	2084
875	447	558	670	782	894	1005	1117	1340	1564	1788	2012	2235	2458
975	527	659	790	922	1054	1185	1317	1580	1844	2108	2372	2635	2898
1275	732	916	1100	1283	1466	1649	1832	2199	2565	-	-	-	-

Style T Type 33 (Case Depth 240mm)

Case Height (mm)	Case Width (mm)												
	700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	2300	2500
	Output Watts Δt 50°C												
725	-	-	843	-	1124	-	1405	1686	1968	2248	2530	2811	3092
875	-	820	984	1148	1312	1476	1640	1968	2296	2624	2952	-	-
975	-	936	1122	1309	1496	1684	1871	2245	2620	2993	3368	3742	-
1275	1028	1284	1542	1799	2056	2313	2570	-	-	-	-	-	-

Secureguard Outputs

Style S Type 21 (Case Depth 120mm)

Case Height (mm)	Case Width (mm)												
	700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	2300	2500
	Output Watts Δt 50°C												
675	-	-	432	-	576	-	720	864	1008	1152	1296	1440	-
825	347	433	520	608	694	780	868	1041	1215	1388	1562	1736	-
925	399	499	599	699	798	898	998	1198	1397	1597	1796	1996	-
1225	563	704	845	986	1127	1268	1408	-	-	-	-	-	-

Style S Type 22 (Case Depth 180mm)

Case Height (mm)	Case Width (mm)												
	700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	2300	2500
	Output Watts Δt 50°C												
675	-	-	568	-	757	-	947	1136	1326	1515	1704	1894	2084
825	447	558	670	782	894	1005	1117	1340	1564	1788	2012	2235	2458
925	527	659	790	922	1054	1185	1317	1580	1844	2108	2372	2635	2898
1225	732	916	1100	1283	1466	1649	1832	2199	2565	-	-	-	-

Style S Type 33 (Case Depth 240mm)

Case Height (mm)	Case Width (mm)												
	700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	2300	2500
	Output Watts Δt 50°C												
725	-	-	843	-	1124	-	1405	1686	1968	2248	2530	2811	3092
875	-	820	984	1148	1312	1476	1640	1968	2296	2624	2952	-	-
975	-	936	1122	1309	1496	1684	1871	2245	2620	2993	3368	3742	-
1275	1028	1284	1542	1799	2056	2313	2570	-	-	-	-	-	-

Secureguard

Case weights

Style B Type 21 (Case Depth 120mm)

Case Height (mm)	Case Width (mm)												
	700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	2300	2500
	Case Weight (kg)												
625	12	13	15	16	17	18	19	22	24	26	28	31	33
775	14	16	17	18	20	21	22	25	28	30	33	36	38
875	16	17	19	20	22	23	25	27	30	33	36	39	42
1175	20	22	23	25	27	29	31	34	38	41	45	49	-

Style B Type 22 (Case Depth 180mm)

Case Height (mm)	Case Width (mm)												
	700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	2300	2500
	Case Weight (kg)												
625	14	15	16	17	19	20	21	24	26	29	31	33	36
775	16	17	19	20	22	23	25	27	30	33	36	39	41
875	18	19	21	22	24	25	27	30	33	36	39	42	45
1175	22	24	26	28	29	31	33	37	41	44	48	52	-

Style B Type 33 (Case Depth 240mm)

Case Height (mm)	Case Width (mm)												
	700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	2300	2500
	Case Weight (kg)												
625	-	-	18	-	20	-	23	26	28	31	33	36	39
775	-	19	21	22	24	25	27	30	33	36	38	-	-
875	19	21	23	24	26	27	29	32	35	39	42	45	-
1175	24	26	28	30	32	34	36	40	44	48	51	55	-

Secureguard

Case weights

Style T Type 21 (Case Depth 120mm)

Case Height (mm)	Case Width (mm)												
	700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	2300	2500
	Case Weight (kg)												
725	15	16	18	19	20	22	23	26	29	32	35	38	41
875	17	18	20	22	23	25	27	30	33	36	40	43	46
975	18	20	22	23	25	27	29	32	36	39	43	46	50
1025	21	24	26	28	30	32	34	38	42	47	51	55	-

Style T Type 22 (Case Depth 180mm)

Case Height (mm)	Case Width (mm)												
	700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	2300	2500
	Case Weight (kg)												
725	17	18	20	21	23	24	26	29	32	35	38	42	45
875	19	21	22	24	26	28	29	33	36	40	43	47	50
975	20	22	24	26	28	30	32	35	39	43	46	50	54
1275	25	27	30	32	34	36	38	43	47	52	56	61	-

Style T Type 33 (Case Depth 240mm)

Case Height (mm)	Case Width (mm)												
	700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	2300	2500
	Case Weight (kg)												
725	18	20	22	24	25	27	29	32	35	39	42	45	49
875	21	23	25	27	29	30	32	36	40	43	47	51	-
975	23	25	27	29	31	33	35	39	43	47	51	55	-
1275	26	29	31	33	36	38	40	45	50	54	59	-	-

Secureguard

Case weights

Style S Type 21 (Case Depth 120mm)

Case Height (mm)	Case Width (mm)												
	700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	2300	2500
	Case Weight (kg)												
675	15	16	18	19	20	22	23	26	29	32	35	38	41
825	17	18	20	22	23	25	27	30	33	36	40	43	46
925	18	20	22	23	25	27	29	32	36	39	43	46	50
1225	21	24	26	28	30	32	34	38	42	47	51	55	-

Style S Type 22 (Case Depth 180mm)

Case Height (mm)	Case Width (mm)												
	700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	2300	2500
	Case Weight (kg)												
675	17	18	20	21	23	24	26	29	32	35	38	42	45
825	19	21	22	24	26	28	29	33	36	40	43	47	50
925	20	22	24	26	28	30	32	35	39	43	46	50	54
1225	25	27	30	32	34	36	38	43	47	52	56	61	-

Style S Type 33 (Case Depth 240mm)

Case Height (mm)	Case Width (mm)												
	700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	2300	2500
	Case Weight (kg)												
725	18	20	22	24	25	27	29	32	35	39	42	45	49
875	21	23	25	27	29	30	32	36	40	43	47	51	-
975	23	25	27	29	31	33	35	39	43	47	51	55	-
1275	26	29	31	33	36	38	40	45	50	54	59	-	-

Secureguard

Emitter weights & water contents

Case Type			Type 21 (Case Depth 120mm)														
Style B	Style T	Style S															
Case Height (mm)			Emitter Height (mm)		Case Width (mm)												
					700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	2300	2500
625	725	675	350	Weight (kg)	-	-	18.45	-	22.55	-	26.65	30.75	34.85	38.95	43.05	47.15	-
				Water cont. (L)	-	-	2.52	-	3.08	-	3.64	4.20	4.76	5.32	5.88	6.44	-
775	875	825	500	Weight (kg)	17.64	20.16	22.68	25.20	27.72	30.24	32.76	37.80	42.84	47.88	52.92	57.96	-
				Water cont. (L)	2.52	2.88	3.24	3.60	3.96	4.32	4.68	5.40	6.12	6.84	7.56	8.28	-
875	975	925	600	Weight (kg)	21.28	24.32	27.36	30.40	33.44	36.48	39.52	45.60	51.68	57.76	63.84	69.92	-
				Water cont. (L)	3.08	3.52	3.96	4.40	4.84	5.28	5.72	6.60	7.48	8.36	9.24	10.12	-
1175	1275	1225	900	Weight (kg)	30.17	34.48	38.79	43.10	47.41	51.72	56.03	-	-	-	-	-	-
				Water cont. (L)	4.48	5.12	5.76	6.40	7.04	7.68	8.32	-	-	-	-	-	-

Case Type				Type 22 (Case Depth 180mm)													
Style B	Style T	Style S															
Case Height (mm)			Emitter Height (mm)		Case Width (mm)												
					700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	2300	2500
625	725	675	350	Weight (kg)	-	-	21.96	-	26.84	-	31.72	36.60	41.48	46.36	51.24	56.12	61.00
				Water cont. (L)	-	-	2.52	-	3.08	-	3.64	4.20	4.76	5.32	5.88	6.44	7.00
775	875	825	500	Weight (kg)	20.51	23.44	26.37	29.30	32.23	35.16	38.09	43.95	49.81	55.67	61.53	67.39	73.25
				Water cont. (L)	2.52	2.88	3.24	3.60	3.96	4.32	4.68	5.40	6.12	6.84	7.56	8.28	9.00
875	975	925	600	Weight (kg)	24.29	27.76	31.23	34.70	38.17	41.64	45.11	52.05	58.99	65.93	72.87	79.81	86.75
				Water cont. (L)	3.08	3.52	3.96	4.40	4.84	5.28	5.72	6.60	7.48	8.36	9.24	10.12	11.00
1175	1275	1225	900	Weight (kg)	34.58	39.52	44.46	49.40	54.34	59.28	64.22	74.10	83.98	-	-	-	-
				Water cont. (L)	4.48	5.12	5.76	6.40	7.04	7.68	8.32	9.60	10.88	-	-	-	-

Secureguard

Emitter weights & water contents

Case Type			Type 33 (Case Depth 240mm)														
Style B	Style T	Style S															
Case Height (mm)			Emitter Height (mm)		Case Width (mm)												
					700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	2300	2500
625	725	725	350	Weight (kg)	-	-	32.04	-	39.16	-	46.28	53.40	60.52	67.64	74.76	81.88	89.00
				Water cont. (L)	-	-	3.69	-	4.51	-	5.33	6.15	6.97	7.79	8.61	9.43	10.25
775	875	875	500	Weight (kg)	-	34.72	39.06	43.40	47.74	52.08	56.42	65.10	73.78	82.46	91.14	-	-
				Water cont. (L)	-	4.64	5.22	5.80	6.38	6.96	7.54	8.70	9.86	11.02	12.18	-	-
875	975	975	600	Weight (kg)	-	41.20	46.35	51.50	56.65	61.80	66.95	77.25	87.55	97.85	108.15	118.45	-
				Water cont. (L)	-	5.36	6.03	6.70	7.37	8.04	8.71	10.05	11.39	12.73	14.07	15.41	-
1175	1275	1275	900	Weight (kg)	51.10	58.40	65.70	73.00	80.30	87.60	94.90	-	-	-	-	-	-
				Water cont. (L)	6.72	7.68	8.64	9.60	10.56	11.52	12.48	-	-	-	-	-	-

Installation sequence

Step 1



Install radiator in accordance with the installation instructions. The radiator should be installed centrally to the case (assuming opposite end connections) and fitted 150mm from finished floor level. The panel radiator supplied will be the MHS Galant radiator. The top grille should be removed.

Step 2



Fit the valve body and lockshield valves (noting that unless otherwise indicated, the TRV body should be on the flow side of the pipework). With the system filled, vent the radiator to expel all air.

Step 3 (Note if internal valves are being used, skip to Step 4) Preparing the external anti-ligature shroud and TRV head for installation



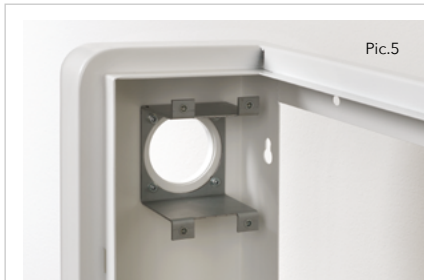
Screw 4 x M4 grub screws (supplied) to the shroud (Pic.1) in rear of shroud as shown in Pic.2.



Offer shroud to the external cut out with the end of the solid blue mark at the top as in Pic.3.



Pic.4 shows shroud fixing from inside the case.



Match the internal bracket as shown in Pic.5 and secure with M4 nuts and washers supplied.



Remove the outer casing of the TRV Head as in Pic.6A above.



Pic.7

Align the anti-ligature dial with the TRV head.

Note: The hole in the dial adjacent to the handle is to be aligned with the zero on the TRV head. Push the dial fully onto the TRV head and fix with 3 x M3 grub screws (supplied) ensuring that they are inserted flush with the dial.



Pic.8

Fix the TRV to the backplate with the M4 nuts/bolts/washers provided, as shown in Pic.8 above.



Pic.9

Fit the assembly to the bracket using the M4 screws provided and align the dial central in the TRV shroud before fully tightening.

Step 4



Align the case to the final position as shown in image above, then mark the required wall and floor fixing holes. (Alternatively, use the table below for pre-drilling fixing holes).



Drill the wall and floor and secure using appropriate fixings (not supplied). A choice of key hole slots and circular holes are provided in the rear of the casing. Use the required number to ensure a secure fit. It is recommended that the rear of the casing is fitted to the wall with anti-pick mastic, as required by the client.



Style T only:

Fit the deflector plate to the wall so that the top front edge is level with, or just below, the door flange.

Step 5



Position the internal sensor and fix to the floor or wall underneath the radiator.

Attach the internal valve head or external valve bellows housing to the TRV valve body, ensuring that the capillary is secured to the inside of the end casing at low level and does not touch any hot surface.

Step 6



Fit the front casing and secure the locks.

Note: Unless otherwise stated, all locks will be keyed identically.

Secureguard Valve Options

Note: The Secureguard valves are optional extras.

The Secureguard External valve kit

(Code: SG-VALVE KIT-EXT)

The Secureguard External valve kit is an external control and comprises of ½" angle pattern presettable valve body, remote sensing phial and TRV head, plus a ½" lockshield valve on the return connection. The kit also includes a unique, slim-fitting anti-ligature shroud, dial and fixings.

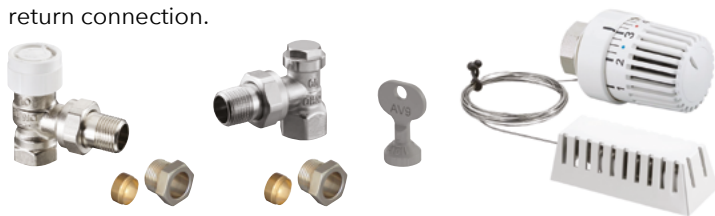
Note: The external valve kit must be ordered at the same time as the casings, with handing of the TRV specified.



The Secureguard Internal valve kit

(Code: SG-VALVE KIT-INT)

The Secureguard Internal valve kit is an internal control and comprises of ½" angle pattern presettable valve body, remote sensing phial and TRV head, plus a ½" angle lockshield on the return connection.



The Secureguard valve kits can be fitted to 15mm copper or 1/2" BSP pipework. The valves are not bidirectional (the TRV body must always be fitted to the flow pipework).

Correction factor table

The outputs shown within this brochure are based on BS EN442, 75-65-20°C operating conditions, giving a Δt of 50°C. For Δt s other than this, a correction factor must be applied. This correction factor table assumes an averaged exponent of 1.30. If a more accurate exponent / correction factor is required, please contact MHS Radiators.

Example: Output required @ 82-71-21°C Δt 55.5 the CF = 1.145, therefore multiply the listed output by the correction factor to give actual radiator output under these operating conditions.

Δt	CF
60	1.267
59	1.24
58	1.213
57	1.186
56	1.159
55.5	1.145
55	1.132
54	1.105
53	1.079
52	1.052
51	1.026
50	1.000
45	0.872
40	0.748
35	0.629

Water Treatment: These products are for use on closed heating systems only; they are not suitable for installation on secondary HWS circuits. On completion of the installation the entire system MUST be thoroughly cleaned and flushed to remove debris/flux residues etc. If a chemical cleanser is used, it must be thoroughly flushed from the system. Following this, the system MUST be dosed with a good eminence water treatment to prevent corrosion. System design, flushing and dosing must be in accordance with BS 5449: 1990, BS EN 12828 & 12831: 2003 and BS 7593: 2006.

IMPORTANT: Failure to observe these requirements will render the guarantee on the product void. Corrosion inhibitor must be used in accordance with the manufacturer's instructions and recommendations and should take into account the particular metals within the system.

This publication is issued subject to alteration or withdrawal without notice. The illustrations and specifications are not binding in detail.



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