smart
architectural aluminium

Building Regulations 2000
Approved Document F
Means Of Ventilation

Titon Hardware
June 2008

Contents

1.0 **Introduction**

Building regulation document F covers the requirements for providing buildings with “Means Of Ventilation”.
This document is intended to be a guide to show how Smart Sections can be fitted with Titon vents to achieve these requirements for dwellings.

These key facts are purely a guide. Please refer to the Approved Document for full details.
Approved Document can be down loaded from www.planningportal.gov.uk

Titon Hardware Ltd. have a comprehensive range of trickle ventilators, suitable examples have been applied to the Smart sections. If alternative products from the Titon range are to be used, please refer to the full Titon product information or seek advice form our sales office or Area Sales Manager.

The slot ventilator positions shown are a guide only and may need to be altered to suit particular site conditions, clearances for dry linings etc. Positions must be checked prior to machining.

Where insufficient equivalent area EA or available air opening can be achieved using a slot ventilation, in a particular window width, a glazed-in ventilator can be considered.

Titon Hardware Ltd. are also stockist and distributors of:-

1. Sobinco (sole UK distributor) - a complete range of hardware for doors & windows.
2. Peder Nielson - Top swing fully reversible, top and side hung projection window system plus ancillary items.
3. Maco - tilt & turn gear and door and window espagnolettes.
4. Securistyle - Friction hinges and fasteners.

2.0 **Key Facts**

2.1 Existing Dwelling (Replacement Windows)

If the outgoing window had trickle vents, the replacement window should also have them. The new vents should offer at least the same capacity as the outgoing vents. Where the capacity is not known, Habitable Rooms should have a minimum of 5000mm² EA and Wet Rooms should have a minimum of 2500mm² EA.
If the outgoing window did not have trickle vents, it may be advantageous to provide the facility in the new window.
Consideration should be given to accessibility of the ventilator controls and cord/rod control should be specified where necessary.

2.2. New Dwellings (System 1) Background Ventilators & Intermittent Extract Fans

The total EA required for the dwelling must be determined from the table below.

Total Floor area (m²)	**Number Of bedrooms (mm² EA) ***				
	1	**2**	**3**	**4**	**5**
≤ 50	**25,000**	**35,000**	**45,000**	**45,000**	**55,000**
51 - 60	**25,000**	**30,000**	**40,000**		
61 - 70	**30,000**	**30,000**	**30,000**		
71 - 80	**35,000**	**35,000**	**35,000**		
81 - 90	**40,000**	**40,000**	**40,000**		
91 - 100	**45,000**	**45,000**	**45,000**		
> 100	**Add 5,000mm² for every additional 10m² floor area**				

*Based on 2 occupants in the main bedroom and 1 occupant in other bedrooms. For greater level of occupancy, assume one extra bedroom per additional person. For more than 5 bedrooms add 10,000mm² per room.

2.2.1. For dwellings with more than one exposed façade

For multi storey dwellings and single storey dwellings more than four storeys above ground level use the table above.
For single storey dwellings up to four storeys above ground level, take the total EA from the table above and add 5,000mm².

Ventilators should be located in all rooms, giving a minimum provision of 5,000mm² EA in habitable rooms and 2,500mm² EA in wet rooms.

To promote cross ventilation, equally distribute similar equivalent ventilation areas on opposite (or adjacent) sides of the dwelling.

2.2.2 For dwellings with a single façade

Because ventilation within a single façade dwelling is not possible using the background ventilator as above, they should be positioned at high (typically 1.7M above floor level) and low levels (at least 1m below) within the façade. The total equivalent ventilator area required for dwellings should be fitted at both the high and the low levels, providing twice the EA of a multi façade dwelling of the same area. This method may not be practical solution and therefore it may be preferable to consider Systems 3 or 4 as an alternative.

2.3. New Dwellings (System 2) Passive Stack Ventilation & Background Ventilators

Determine the equivalent area requirements for the dwelling from the table (see system 1 table), then subtract from this figure 2,500mm² EA for each passive stack ventilator device used in the dwelling (located in the wet rooms). The figure arrived at is the total EA requirement for the ventilators in habitable rooms only. No background ventilators should be fitted on windows in the rooms where a passive device is located.

2.4. New Dwellings (System 3) Continuous Mechanical extraction & Background Ventilators

Background ventilators having a minimum of 2,500mm² EA are to be fitted in each room, except wet rooms where an extract terminal is located.

2.5. New Dwellings (System 4) Continuous Mechanical Supply & Extract With Heat Recovery

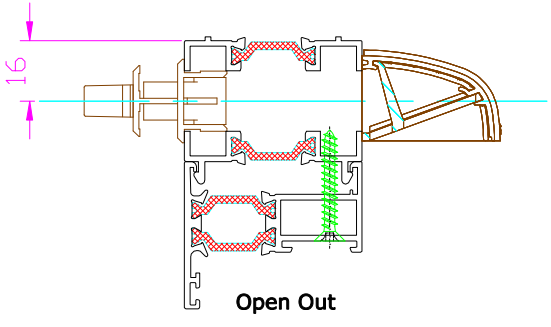
This system has to be finely balanced and relies on a more integral design with less components working independent from it. Therefore there is no requirement for separate background ventilators.

2.6 Purge Ventilation

Where window(s) open 30° or more the total openable are should be at least 1/20th of the floor area of the room. However, where window(s) open between 15° and 30° then the total openable area should be at least 1/10th of the floor area of the room.
If the room includes external door(s) their opening area can be included in this calculation.

Note: For buildings other than dwellings please refer to Section 2 of approved document.

ETC058



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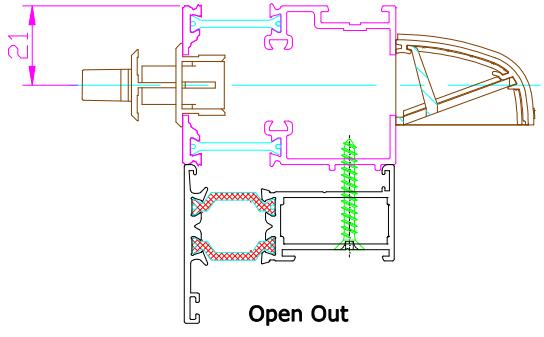

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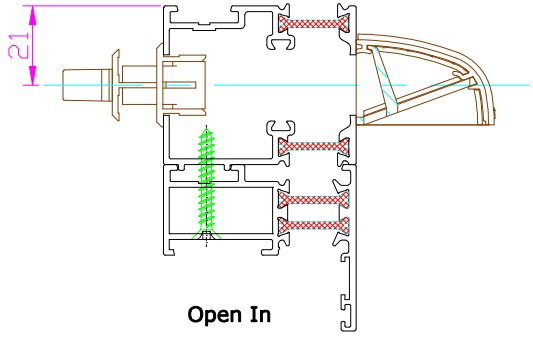

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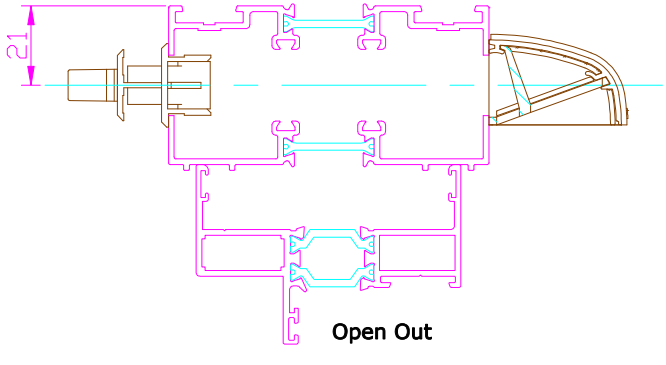

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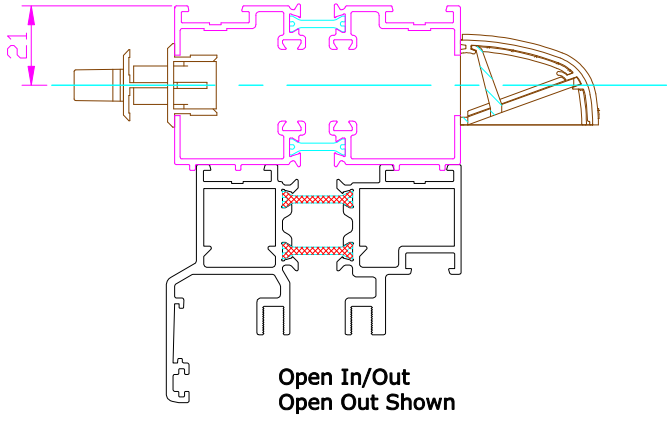
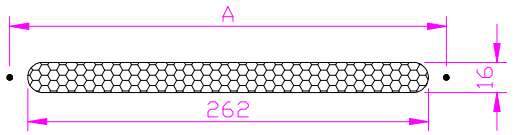
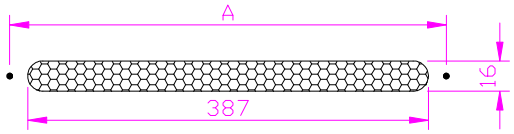
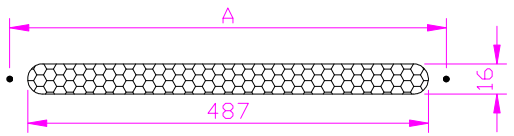
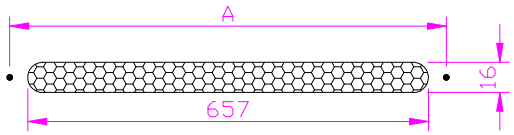
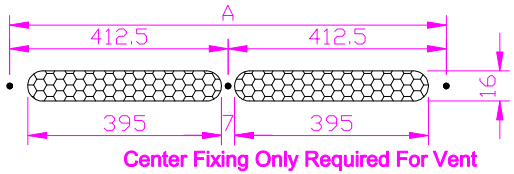


Open In/Out
Open Out Shown

Trimvent TV 90 Hi Lift & Hi Flow Canopy

Doc: Smart Appendix A

Titon®

TV90 High Lift	Equivalent Area (EA) mm²	Free Area mm²	Length	Width	Projection Closed / Open	Fixing Centers (A)	Slot Details & Dimensions
TV 90HL 2500EA 300 Vent	2500	2649	300	22	17 / 27	290	
HF 303 Canopy		4458	303	24	36.5	284	
TV 90HL 4300EA 425 Vent	4300	4184	425	22	17 / 27	415	
HF 441 Canopy		6763	441	24	36.5	422	
TV 90HL 5000EA 525 Vent	5000	5308	525	22	17 / 27	515	
HF 529 Canopy		8233	529	24	36.5	510	
TV 90HL 7700EA 695 Vent	7700	7382	695	22	17 / 27	685	
HF 706 Canopy		11189	706	24	36.5	687	
TV 90HL 8600EA 835 Vent	8600	8368	835	22	17 / 27	825	
HF 844 Canopy		13493	844	24	36.5	825	

Center Fixing Only Required For Vent

Trimvent TV 90 Hi Lift & Hi Flow Canopy

Titon®

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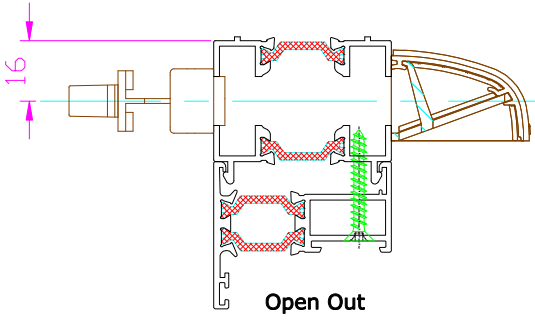

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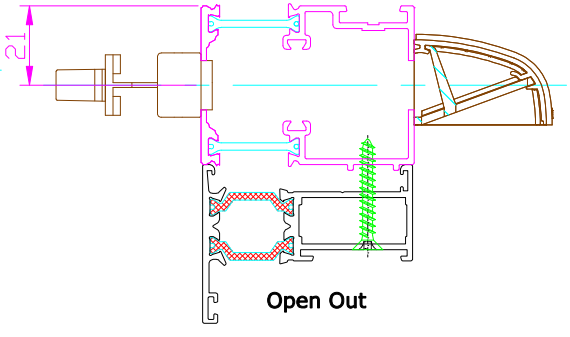

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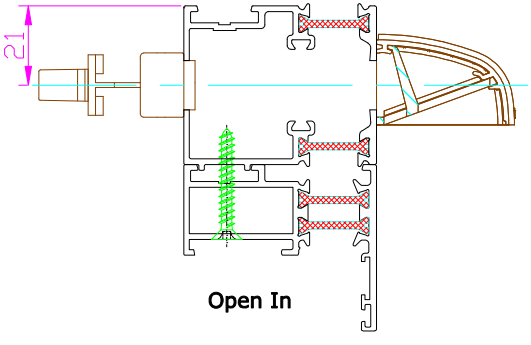

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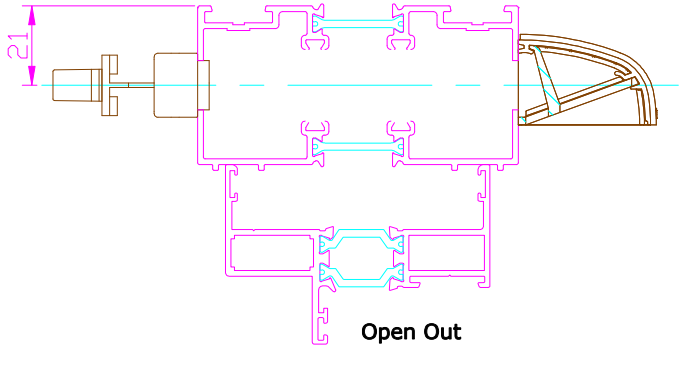

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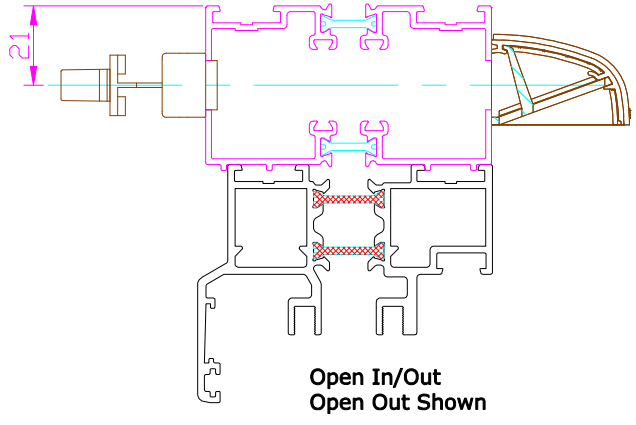
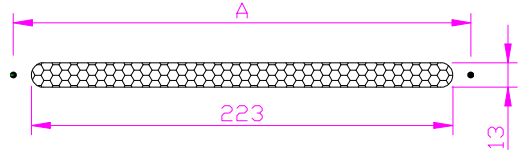
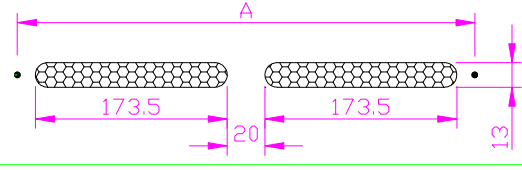
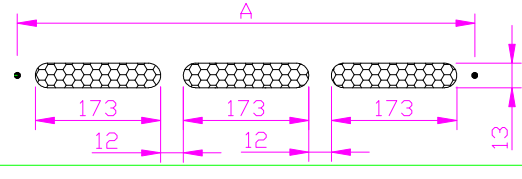


Open In/Out
Open Out Shown

Trimvent 4000 Hi Lift & Hi Flow Canopy

Doc: Smart Appendix C

Titon®

TV4000 High Lift	Equivalent Area (EA) mm²	Free Area mm²	Length	Width	Projection Closed / Open	Fixing Centers (A)	Slot Details & Dimensions
TV 4000HL 2200EA 255 Vent	2200	2169	255	17	28 / 38	242	
HF 263 Canopy		3790	263	24	36.5	244	
TV 4000HL 4000EA 400 Vent	4000	3989	400	17	28 / 38	387	
HF 441 Canopy		6763	441	24	36.5	422	
TV 4000HL 6000EA 575 Vent	6000	5925	575	17	28 / 38	562	
HF 582 Canopy		9118	582	24	36.5	563	

Trimvent 4000 Hi Lift & Hi Flow Canopy

Doc: Smart Appendix D

Titon®

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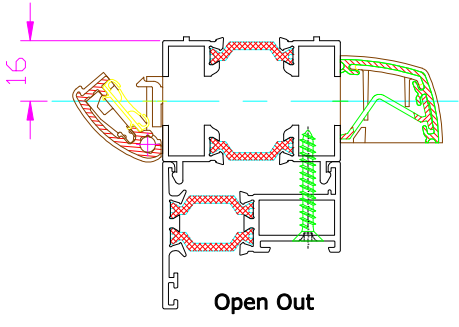

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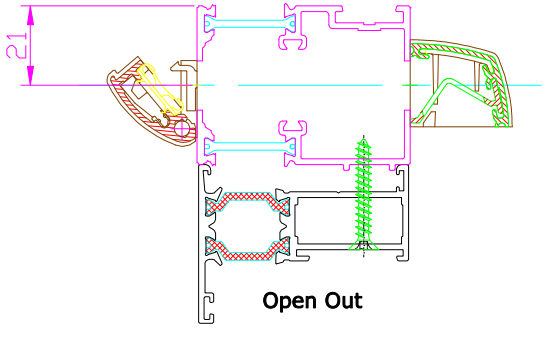

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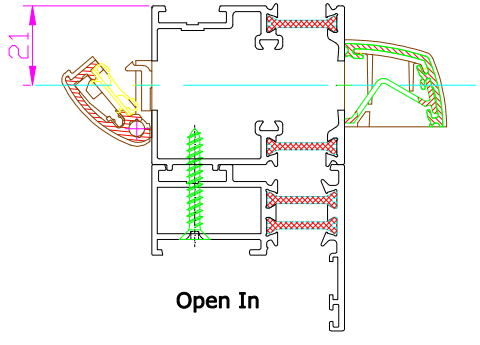

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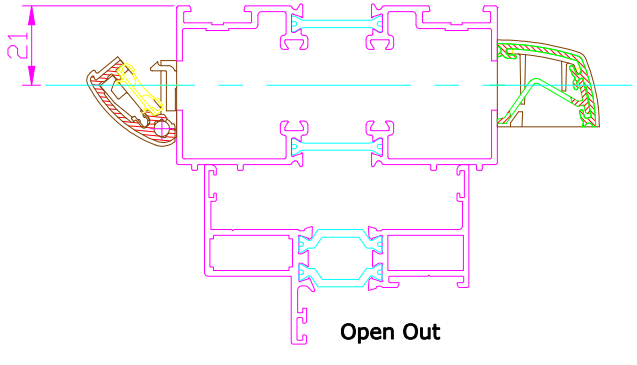

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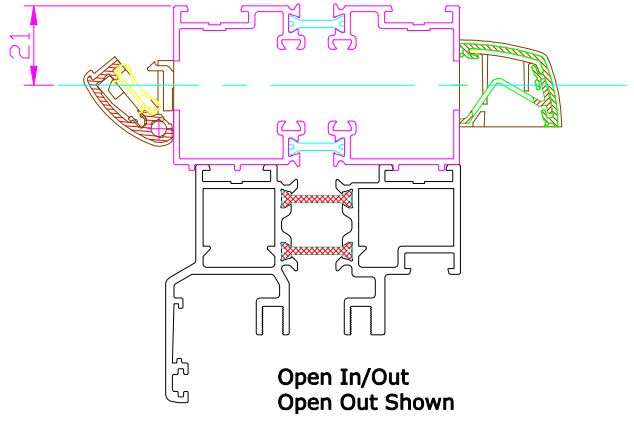

Open In/Out
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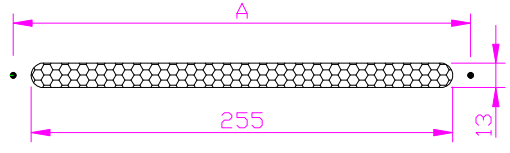
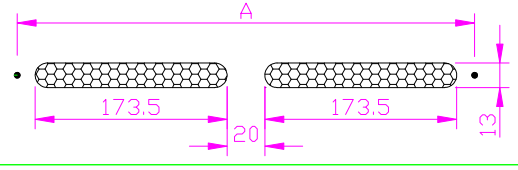
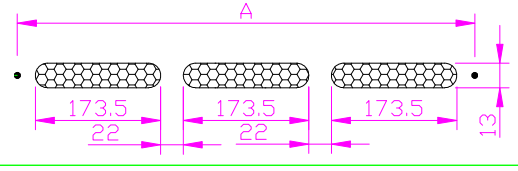
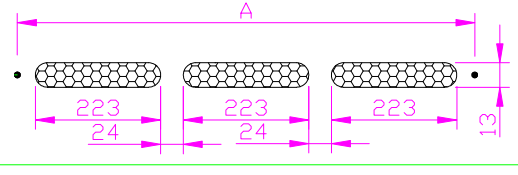
Trimvent SF & Canopy

Doc: Smart Appendix E

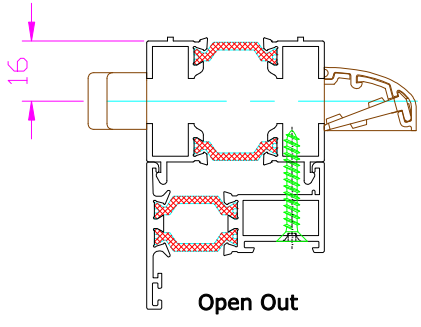
Titon®

SF	Equivalent Area (EA) mm²	Free Area mm²	Length	Width	Projection Closed / Open	Fixing Centers (A)	Slot Details & Dimensions
SF 2600EA 325 Vent	2600	3000	325	28.25	11.5/23.5	300	
SF 318 Canopy			318	23	27	300	
SF 3300EA 425 Vent	3300	4000	425	28.25	11.5/23.5	400	
SF 418 Canopy			418	23	27	400	
SF 5000EA 650 Vent	5000	6500	650	28.25	11.5/23.5	625	
SF 643 Canopy			643	23	27	625	
SF 6200EA 775 Vent	6200	8000	775	28.25	11.5/23.5	750	
SF 768 Canopy			768	23	27	750	

Trimvent SF & Canopy

Titon®

ETC058



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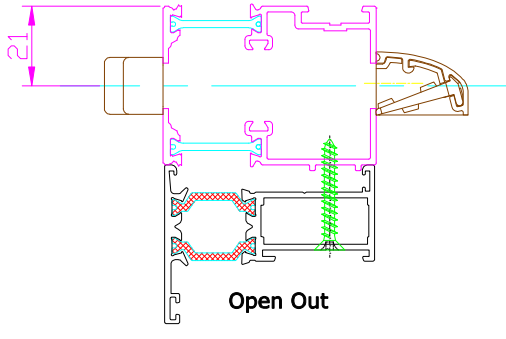

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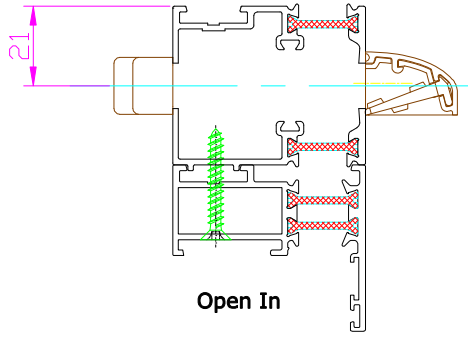

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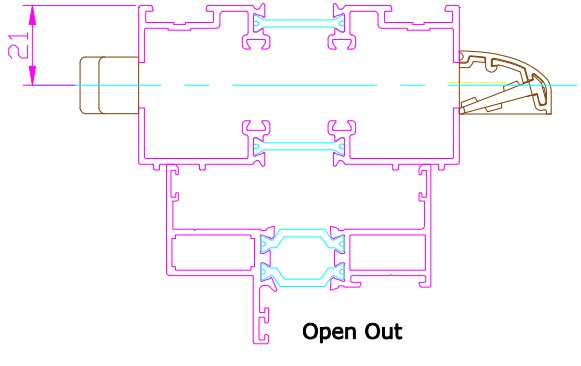

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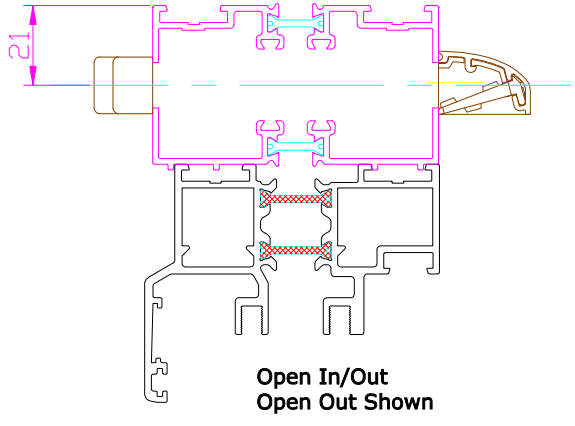

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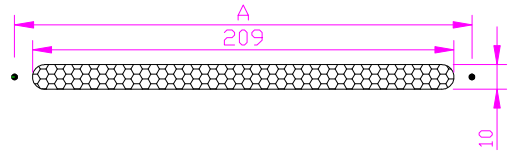
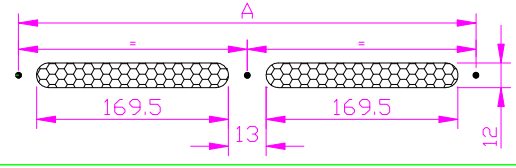
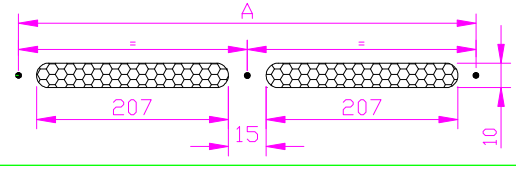
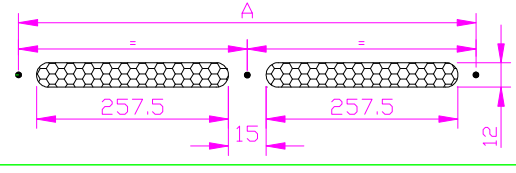
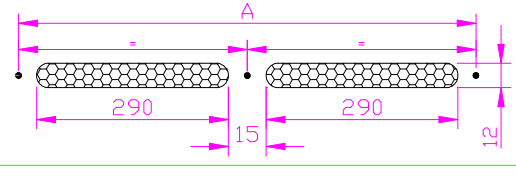
Trimvent SM & Canopy

Doc: Smart Appendix G

Titon®

SM	Equivalent Area (EA) mm²	Free Area mm²	Length	Width	Projection Closed / Open	Fixing Centers (A)	Slot Details & Dimensions
SM 1500EA 314 Vent	1500	2000	314	15	15.5/23	286	
SM 302 Canopy			302	17	24	287	
SM 2900EA 457 Vent	2900	4000	457	15	15.5/23	429	
SM 445 Canopy			445	17	24	430	
SM 3500EA 544 Vent	3500	4000	544	15	15.5/23	516	
SM 532 Canopy			532	17	24	517	
SM 4000EA 635 Vent	4000	6000	635	15	15.5/23	607	
SM 588 Canopy			588	17	24	573	
SM 5000EA 700 Vent	5000	6750	700	15	15.5/23	672	
SM 705 Canopy			705	17	24	690	

13.5mm clearance required at snib end of vent to allow for opening.

Trimvent SM & Canopy

Doc: Smart Appendix H

Titon®

TV90 High Lift	Product Code	SAA	White Paint	Brown Paint
TV 90HL 2200EA 250 Vent	TA630	-001	-020	-023
HF 263 Canopy	TA6053	-026	-020	-023
TV 90HL 4300EA 425 Vent	TA631	-001	-020	-023
HF 441 Canopy	TA6054	-026	-020	-023
TV 90HL 7700EA 695 Vent	TA632	-001	-020	-023
HF 706 Canopy	TA6055	-026	-020	-023
TV 90HL 8600EA 835 Vent	TA633	-001	-020	-023
HF 844 Canopy	TA6056	-026	-020	-023

TV4000 High Lift	Product Code	SAA	White Paint	Brown Paint
TV 4000HL 2200EA 255 Vent	TA4042	-001	-020	-023
HF 263 Canopy	TA6053	-026	-020	-023
TV 4000HL 4000EA 400 Vent	TA4041	-001	-020	-023
HF 441 Canopy	TA6054	-026	-020	-023
TV 4000HL 6000EA 575 Vent	TA4044	-001	-020	-023
HF 582 Canopy	TA6004	-026	-020	-023

Trimvent TV 90 Hi Lift & 4000 Hi Lift Ordering Codes

Titon®

SM	Product Code	White	Brown	Black
SM 1500EA 314 Vent	TA902	-020EA	-023EA	-002EA
SM Plastic 302 Canopy	TA906	-393	-400	Not Available
SM Aluminium 302 Canopy	TA906	-020	-023	-002
SM 2900EA 457 Vent	TA903	-020EA	-023EA	-002EA
SM Plastic 445 Canopy	TA907	-393	-400	Not Available
SM Aluminium 445 Canopy	TA907	-020	-023	-002
SM 3500EA 544 Vent	TA901	-020EA	-023EA	-002EA
SM Plastic 532 Canopy	TA905	-393	-400	Not Available
SM Aluminium 532 Canopy	TA905	-020	-023	-002
SM 4000EA 635 Vent	TA909	-020EA	-023EA	-002EA
SM Aluminium 588 Canopy	TA912	-020	-023	-002
SM 5000EA 700 Vent	TA913	-020EA	-023EA	-002EA
SM Aluminium 705 Canopy	TA914	-020	-023	-002

SF	Product Code	White*
SF 2600EA 325 Vent	TA5009	-020EA
SF 318 Canopy	TA5010	-020
SF 3300EA 425 Vent	TA5001	-020EA
SF 418 Canopy	TA5005	-020
SF 5000EA 650 Vent	TA5011	-020EA
SF 643 Canopy	TA5012	-020
SF 6200EA 775 Vent	TA5003	-020EA
SF 768 Canopy	TA5007	-020

*Other Paint Finishes Available On Request

Trimvent SM & SF Ordering Codes

Doc: Smart Appendix J

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