

Hinges & Hinge Systems

This section contains a variety of hinge systems to allow a specifier to choose the ideal window opening style or styles for a project.

Some hinges are better suited to certain applications than others and advice from the Titon Technical department will assist in this choice. Either integral perimeter locking or a product from the Espagnolettes &

Shootbolts section will give the window a multi-point locking facility. In addition, systems like the PN Uni and Combi ranges offer a number of different opening types but with the same overall window aesthetic.

Many of the products can be fitted to larger and heavier windows in non-domestic applications.





Hinges & Hinge Systems

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Securistyle Defender

Friction hinge

For use on PVCu, timber or aluminium windows

Securistyle Defender friction hinge is suitable for domestic applications on side or top hung windows. All versions of the Defender friction hinge are available in both ferritic and

austenitic stainless steel in a variety of sizes and stack heights. Restricted, non restricted, easy clean and easy clean egress versions are available.



Defender



Defender egress position



Defender easy clean position

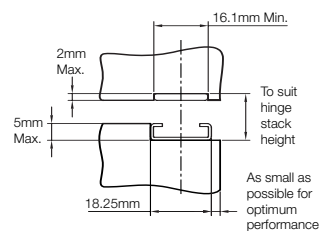
Features and Benefits

- Defender hinges suitable for domestic applications
- Adjustable and controlled friction for smooth operation
- Efficient locating system by means of a patented asymmetrical end cap
- Extended enclosed end cap for enhanced weather sealing
- 13mm stack height as standard
- Austenitic stainless steel versions available for high corrosion resistance
- Can be supplied with built-in restrictor
- Easy Clean and Fire Egress versions available
- Vector Excluder Security device available to improve security
- Defender Plus version offers increased carrying capacity

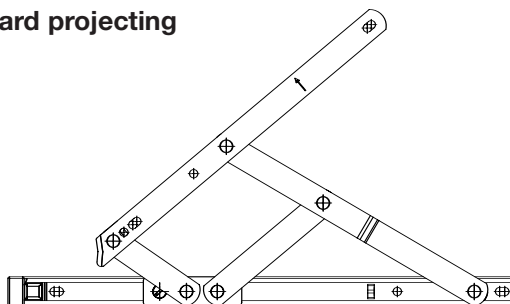


Defender Restricted

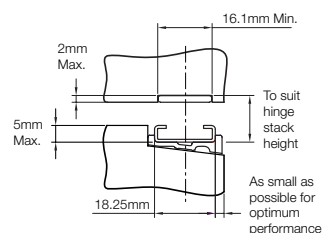
Defender section details



Standard projecting



Defender with bottom hinge packer section details



Details

Defender Side Hung	Hinge Size mm	Max Sash Weight Kg	Max Sash Width mm	Min Sash Width mm	Hinge Projection mm	Opening Angle (+ / - 2.5°)
ED8	209	18 kg	400	200	119	65°
EDS12	310	22 kg	600	300	172	60°
EDS16	412	24 kg	700	400	170	60°
EDSH16A (Defender Plus)*	412	40 kg	1000	400	-	60°

*Item only available in Austenitic.

Defender Top Hung	Hinge Size mm	Max Sash Weight Kg	Max Sash Height mm	Min Sash Height mm	Hinge Projection mm	Opening Angle (+ / - 2.5°)
EDT6	159	10 kg	300	150	63	50°
ED8	209	12 kg	350	200	119	65°
EDT10	259	16 kg	400	275	131	80°
EDT12	310	20 kg	550	350	164	80°
EDT16	412	21 kg	780	500	239	80°
EDT20	513	26 kg	1100	700	215	50°
EDT24	615	40 kg	1300	850	156	37.5°
EDTH24A (Defender Plus)*	615	50 kg	1500	850	156	27°

Defender Egress Easy Clean	Hinge Size mm	Max Sash Weight Kg	Max Sash Width mm	Min Sash Width mm	Initial Hinge Projection mm	Easy Clean Projection mm	Opening Angle (+ / - 2.5°)
EDSE12	310	22	600	300	54	163	80°
EDSE16	413	24	700	400	57	268	90°

Defender Side Hung Restricted	Hinge Size mm	Max Sash Weight Kg	Max Sash Width mm	Min Sash Width mm	Restricted Opening Angle	Opening Angle (+ / - 2.5°)
EDS12R Unrestricted	310	22	600	300	13°	58°
EDSR12L Restricted						
EDS12L Unrestricted	310	22	600	300	13°	58°
EDSR12R Restricted						
EDS16R Unrestricted	412	24	700	400	11°	58°
EDSR16L Restricted						
EDS16L Unrestricted	412	24	700	400	11°	58°
EDSR16R Restricted						

Restricted Side Hung Hinges required on bottom of window only.

Defender Top Hung Restricted	Hinge Size mm	Max Sash Weight Kg	Max Sash Height mm	Min Sash Height mm	Restricted Opening Angle	Opening Angle (+ / - 2.5°)
EDTR12	310	20	550	350	14°	65°
EDTR16	413	21	780	500	10°	59°
EDTR20	513	26	1100	700	7°	50°
EDTR24	615	40	1300	850	6°	37.5°

Restricted Top Hung hinges provided in pairs. Other stack heights available on request

Description	Product Code
Bottom Hinge Packer 6-7 degrees	305mm long TY212
Bottom Hinge Packer 6-7 degrees	408mm long TY216
Vector Excluder Security Device (13mm stack height)	Zinc Passivated Finish (4 per set) ASD1

Manufactured from

Defender Ferritic - 1.4016 grade stainless steel, components – nylon and acetal
 Defender Austenitic - 1.4301 High Grade stainless steel, components – nylon and acetal

Recommended screws

Stainless steel No.8 or equivalent

Performance

Tested in accordance with DD CEN/TS 13126-6:2004

Finishes

Suffix product code with /368 (Ferritic), /369 (Austenitic)

More information

enquiries@titon.co.uk / 01206 713801

Securistyle Sterling

Heavy duty friction hinge

For use on PVCu, timber or aluminium windows

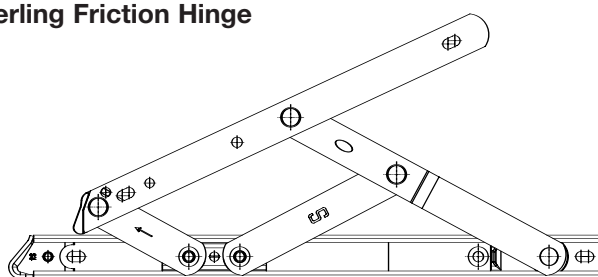
Securistyle Sterling friction hinge is suitable for many commercial applications on side or top hung windows. Securistyle Sterling friction hinge is manufactured from high grade austenitic stainless steel

and is available in a variety of sizes and stack heights. Securistyle Sterling friction hinge gives superior window balancing and offers excellent weight carrying particularly for curtain walling applications.

Sterling



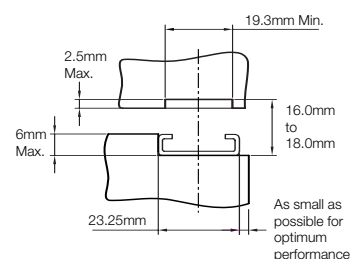
Sterling Friction Hinge



Features and Benefits

- **Heavy duty hinge suitable for many commercial applications**
- **Adjustable and controlled friction for smooth operation**
- **Efficient locating system by means of a patented asymmetrical end cap**
- **Improved weather sealing and draught proofing performance**
- **Easy clean version available**
- **16mm stack height as standard**
- **Made from austenitic stainless steel for high corrosion resistance**

Sterling section details



Details

Sterling Side Hung	Hinge Size mm	Max Sash Weight Kg	Max Sash Width mm	Min Sash Width mm	Opening Angle (+ / - 2.5°)
SPS10/369	262	38	660	300	85°
SPS16/369	415	55	838	450	60°

Sterling Top Hung	Hinge Size mm	Max Sash Weight Kg	Max Sash Height mm	Min Sash Height mm	Opening Angle (+ / - 2.5°)
SPT10/369	262	40	640	267	50°
SPT12/369	313	50	800	640	50°
SPT16/369	415	65	1100	800	50°
SPT22/369	567	100	1500	1090	45°
SPT26/369	680	180	2500	2000	20°

Manufactured from

High grade 1.4301 stainless steel, components – nylon and acetal

Recommended screws

Stainless steel No.10 or equivalent

Performance

Tested in accordance with DD CEN/TS 13126-6:2004

More information

enquiries@titon.co.uk / 01206 713801

PN Uni System

Fully reversible window hinge system

For use on PVCu, timber or aluminium windows

PN Uni System is designed to give flexible yet standardised manufacture of windows. Common profiling of all window types allows optimum utilisation of production machinery.

Available in top hung projecting, top

swing, side hung projecting and various flag hinges for doors. Accessories are available for enhancement of window performance.



Top Swing

Features and Benefits

- All versions utilise the same section details
- All versions give a universal external appearance to all windows
- Available in top swing fully reversible, side hung easy clean, side hung or top hung projecting versions
- Safe and smooth operating action
- Fully reversible models allow safe cleaning of window from within the building
- Open outwards with no projection into the room
- Top swing features two point restrictor and reverse positions
- Side hung suitable for fire egress opening
- Top Swing supplied with cavity alignment wedge to ensure correct positioning of gear arms within window cavity when closing



Top Swing first restriction point



Top Swing fully reversed position



Top Swing restrictor second position

Size capacity

Top Swing
Sash height: 458-1558mm

Top and side hung sizes are dependant on window material. Details on request

Weight capacity

Maximum sash weight:
Top Swing - 60kg
Projecting Top Hung - 60kg
Projecting Side Hung - 50kg
Side Hung - 50kg

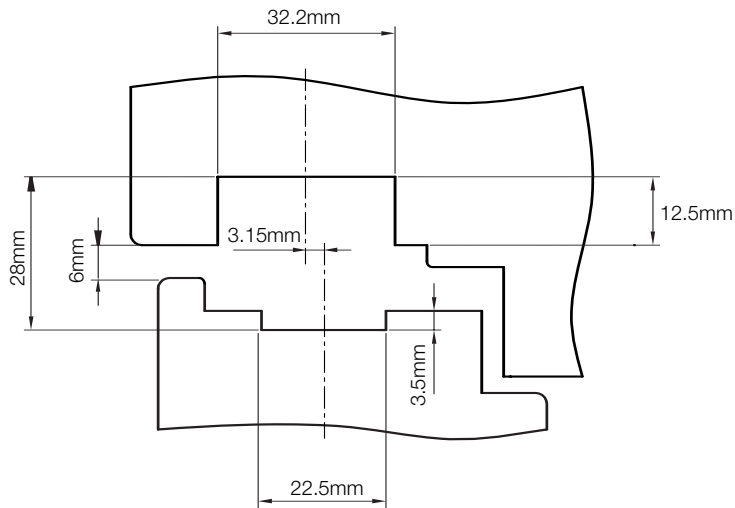
Manufactured from

Electro galvanised mild steel, anodised aluminium, stainless steel, delrin. Silver Chromate Eloc 6

More information

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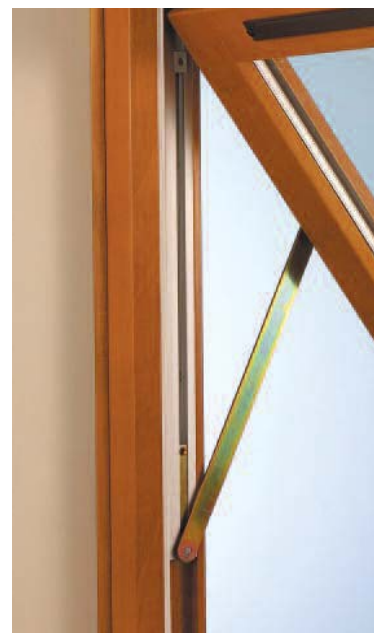
Uni section dimensions



Top Hung (interior)



Top Hung (exterior)



Top Hung (hinge detail)

PN Combi System

Fully reversible window hinge system

For use on timber windows

PN Combi System is designed to give flexible yet standardised manufacture of windows. Common profiling of all window types allows optimum utilisation of production machinery. Combi 500 System is for 5 x 16mm groove and for 2.5 x 16mm casement groove.

Available in top hung projecting, top swing, side hung projecting, side swing and various flag hinges for doors. Accessories are available for enhancement of window performance.



Top Swing



Top Swing open position



Top Swing fully reversed position

Features and Benefits

- All versions utilise the same section details
- All versions give a universal external appearance to all windows
- Available in top swing fully reversible, side swing fully reversible, side hung easy clean, side hung or top hung projecting versions
- Safe and smooth operating action
- Fully reversible models allow safe cleaning of window from within the building
- Open outwards with no projection into the room
- Top swing features restrictor for initial and reverse positions
- Side swing features restrictor and reverse catch
- Side swing and side hung suitable for fire egress opening



Top Swing restricted position



Top Swing reverse position

Size capacity

Top Swing
Sash height: 270-1569mm

Side Swing
Sash width: 322-1122mm

Top and side hung sizes are dependant on window material. Details on request

Manufactured from

Electro galvanised mild steel, anodised aluminium, stainless steel, delrin

More information

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Weight capacity

Maximum sash weight:

Top Swing - 45kg

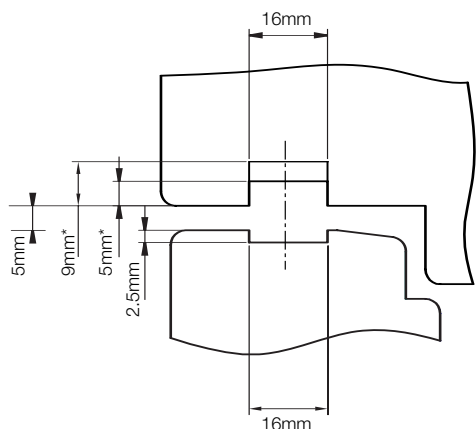
Side Swing - 45kg

Projecting Top Hung - 45-75kg

Projecting Side Hung - 45kg

Side Hung - 45kg

Combi section dimensions



Frame

*Combi 500 = 5 x 16mm groove.

*Combi 900 = 9 x 16mm groove.

Casement

Combi 500 & 900 = 2.5 x 16mm groove.

Sobinco 490

Fully reversible pivot hinge

For use on PVCu, timber or aluminium windows

490 Pivot is suitable for horizontal or vertical applications carrying sashes up to 180kg (horizontal) or 120kg (vertical). Profile specific, the 490 Pivot is available in restricted (with various degrees of restriction to a maximum of 100mm) or in unrestricted versions. 490 Pivot

allows the sash to fully reverse and lock out for cleaning the outside face of the window from the inside. The thumb-turn restrictor type has an automatic restriction engagement / re-engagement and the key operation type restrictor is semi-automatic (only re-engages after full reversal).



Closed position



Fully reversed position



Features and Benefits

- For horizontally or vertically pivoted sections
- Available with integral automatic restrictor with stop at 10 or 15 degrees and automatically engaging reverse stop at 170 degrees
- Restrictor available in three different designs
- Pivot design is profile related
- Adjustable friction mechanism
- Demountable or non-demountable versions
- Integral skirts and sealed angular legs for optimum weathering - optional on some models
- Key operated semi-automatic integral restrictor available
- Elongated fixing holes on some models for adjustment during installation
- Phone for latest profile compatibility list
- Pivot compatibility design service for new profiles
- Examples of timber section details available

Size capacity

Maximum sash weight:
Horizontal – 180Kg
Vertical – 120Kg

Performance

Tested in accordance with DD CEN/TS 13126-9:2004
and BS 6375 Part 2:2004

Manufactured from

Aluminium alloy

More information

enquiries@titon.co.uk / 01206 713801

Recommended screws

Stainless Steel M5 machine screws/dependent on
window profile



Closed



Restricted



Reversed



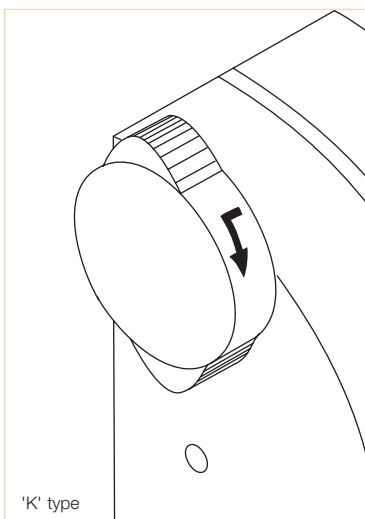
'K' type restrictor



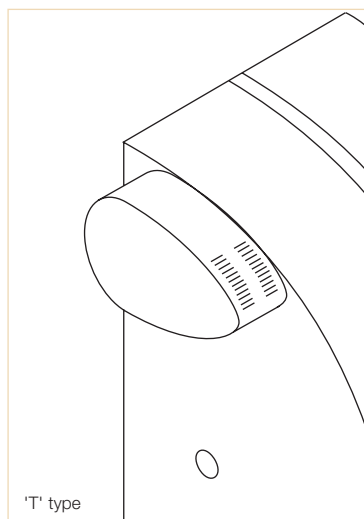
'T' type restrictor



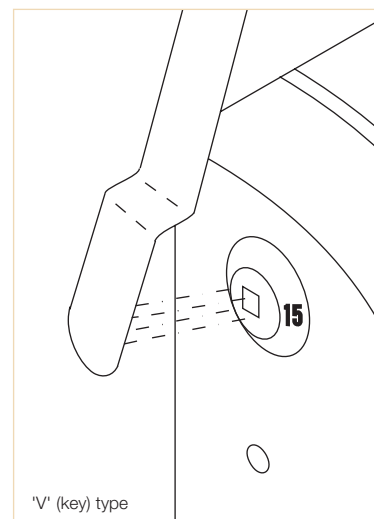
'V' (key) type restrictor



'K' type



'T' type



'V' (key) type

Sobinco Luna

Fully reversible pivot hinge

For use on PVCu or aluminium windows

Pivots for horizontal and vertical applications will carry up to 180kg (horizontal) and 120kg (vertical). Profile specific, available restricted with various degrees of restriction to allow maximum restriction to 100mm on all sash sizes also unrestricted versions available. Allows the sash to

fully reverse and lock out for cleaning outside face internally. All restrictors are located on the front face and have automatic restriction engagement / re-engagement also available with key operation. The push button restrictor is designed to be child resistant.



Closed position



Fully reversed position



Features and Benefits

- **For horizontally or vertically pivoted sections**
- **Available with integral automatic restrictor with stop at 10 or 15 degree and automatically engaging reverse stop at 170 degrees**
- **Restrictor design reduces risk of accidental operation**
- **Restrictor on front face of pivot for easy access**
- **Pivot design is profile related**
- **Adjustable friction mechanism**
- **Demountable or non-demountable versions**
- **Integral skirts and sealed angular legs for optimum weathering**
- **Key operated restrictor available**
- **Elongated fixing holes for adjustment during installation**
- **Pivot compatibility design service for new profiles**

Size capacity

Maximum sash weight:
Horizontal – 180Kg
Vertical – 120Kg

Manufactured from

Aluminium alloy

Recommended screws

Dependent on window profile

Performance

Tested in accordance with DD CEN/TS 13126-9:2004
and BS 6375 Part 2:2004

More information

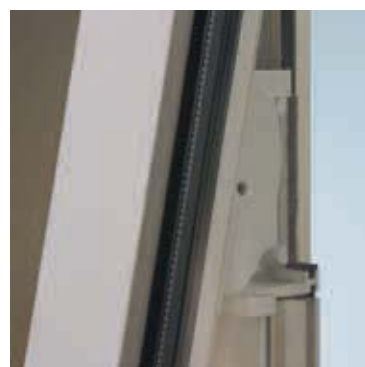
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Closed



Restricted



Reversed



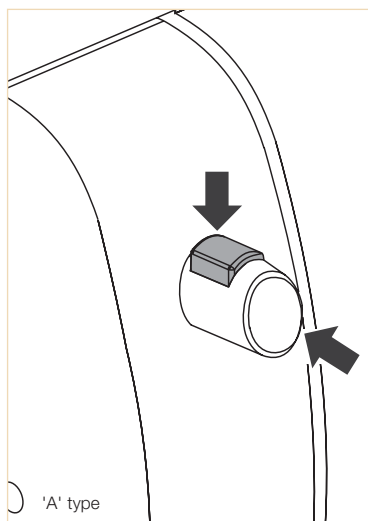
'A' type restrictor



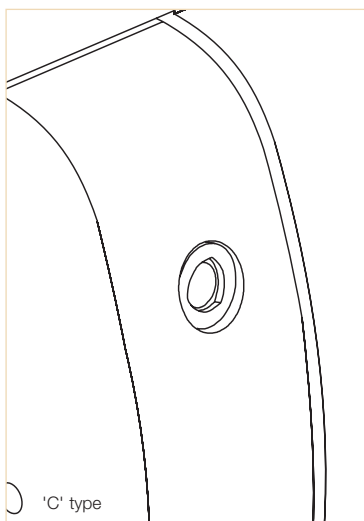
'C' type (key) restrictor



'C' type key



'A' type



'C' type

Maco Multi Trend

Tilt and turn hinge system

For use on PVCu, timber or aluminium windows

Tilt and turn window gear (tilt before turn) for windows up to 1300mm wide and 2350mm high and sash weights up to 130kg. Maco Multi Trend is open in only, has a tilt mode

position for ventilation and a turn mode for cleaning. Enhanced security version is available to comply with BS7950. Also available with concealed hinges (Trend Invisible).



Tilt position for ventilation



Closed position

Features and Benefits

- **Symmetrical hinge positions for easy fitting**
- **Anti-slam device**
- **Three dimensional hinge adjustment**
- **Adjustable sash lifter prevents sash drop**
- **No hinge contact with water bar to improve thermal resistance**
- **Eurogroove fixing corner support allows for decorative rebate edge**
- **High Security version available**
- **Fits smaller mullion profiles**



Turn position for cleaning

Size capacity

Sash widths 280-1300mm
 Sash heights 500-2350mm
 For sizes close to these limits phone for details

Weight capacity

Maximum sash weight – PVCu 120kg, timber 130kg

Manufactured from

Mild steel

Finish

Silver Chromate
 Tricoat (high corrosion resistance) also available

Recommended screws

4mm/No.8 countersunk head
 Handle fitting - M5 Machine Screw or suitable alternative
 For Tricoat finish ensure Tricoat screws are used

More information

enquiries@titon.co.uk / 01206 713801



Bottom Hinge - Timber



Bottom Hinge - PVCu

Maco Multi Trend Invisible

Concealed tilt and turn hinge system

For use on PVCu, timber or aluminium windows

Tilt and turn window gear (tilt before turn) for windows up to 1300mm wide and 2350mm high and sash weights up to 100kg. Maco Multi Trend Invisible is open in only, has a

tilt mode position for ventilation and a turn mode for cleaning. An enhanced security version is available to comply with BS7950.

Features and Benefits

- **Anti-slam device**
- **Three dimensional hinge adjustment**
- **Adjustable sash lifter prevents sash drop**
- **Enhanced security version available**
- **Fits smaller mullion profiles**



Tilt position for ventilation



Closed position



Turn position for cleaning

Size capacity

Sash widths 395-1310mm
 Sash heights 500-2350mm
 For sizes close to these limits phone for details

Weight capacity

Maximum sash weight – 100kg

Manufactured from

Mild steel

Finish

Silver Chromate
 Tricoat (high corrosion resistance) also available

Recommended screws

4mm/No.8 countersunk head
 Handle fitting - M5 Machine Screw or suitable alternative
 For Tricoat finish ensure Tricoat screws are used

More information

enquiries@titon.co.uk / 01206 713801



Bottom Corner - Timber



Bottom Corner - PVCu