



TBT Gear

Hardware By Professionals | For Professionals

TBT Selection & Contents

Tilt Before Turn (TBT) And Turn First (TNT) Hardware

TBT and TNT windows open inward to their “tilt” position for ventilation and “turn” position for additional ventilation, cleaning or emergency egress.

TBT and TNT windows function via central locking gear which operates around the sash. The number of locking points can vary according to the window size with the highest security solutions featuring mushroom cam locking on all four sides.

The individual tilt and turn functions for TBT and TNT windows are achieved as follows:

TBT

Closed Position



Tilt Position



Turn Position



TNT

Closed Position



Turn Position



Tilt Position



Lockable TBT and TNT handles can be locked in all 3 positions to enhance window safety and security. In high-rise applications, for example, they can be locked to access the tilt position only to provide child safety.

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Siegenia TS-Look

- Manufactured using environmentally-friendly, Chromium VI-free solutions
- Stylish silver finish, complementing both PVCU and timber systems.
- Corrosion resistance of up to 480 hours when tested to ISO 9227 (BS 7479 equivalent)
- Non iridescent
- Mild steel base conforming to BS 449
- Zinc coating approx. 12 - 15µm
- Sealer and chromation thickness of approx. 2mm



Siegenia E-Look

- Improved corrosion resistance of up to 1000 hours against red rust when tested to ISO 9227 (equivalent to BS 7479)
- Zinc-nickel alloy plating, manufactured using Chromium VI free solutions
- Scratch resistant surface
- Ideal for coastal and urban areas
- Mild steel base, conforms to BS 449
- Colourless chromium and sealing materials
- Alloy plating thickness: 12 µm to 15 µm.
- Total coating thickness: min. 14 µm / max. 25 µm

Guarantees & Accreditations

Mechanical Guarantee	5 years
Labour Guarantee	2 years

LM 4200 TBT Gear For Aluminium Windows

- Pre-assembled, clamp-on, tilt and turn system for aluminium windows and doors
- Stylish silver finish, complementing aluminium systems
- Top and bottom hinges fit flush with the sash profile
- Simple sash height adjustment
- Non-handed hardware
- Pre-assembled, hinge pin security
- Only 2 stay sizes
- Frictionless, easy operation due to the use of plastic slides
- Available in mill finish
- Identical stays for TNT and TBT
- TBT/TNT side hung
- Available in TBT/TNT gear with concealed hinges



Guarantees & Accreditations

Mechanical Guarantee	5 years
Labour Guarantee	2 years

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Technical Drawing

LM 4200 TBT Gear For Aluminium Windows

Part Numbers

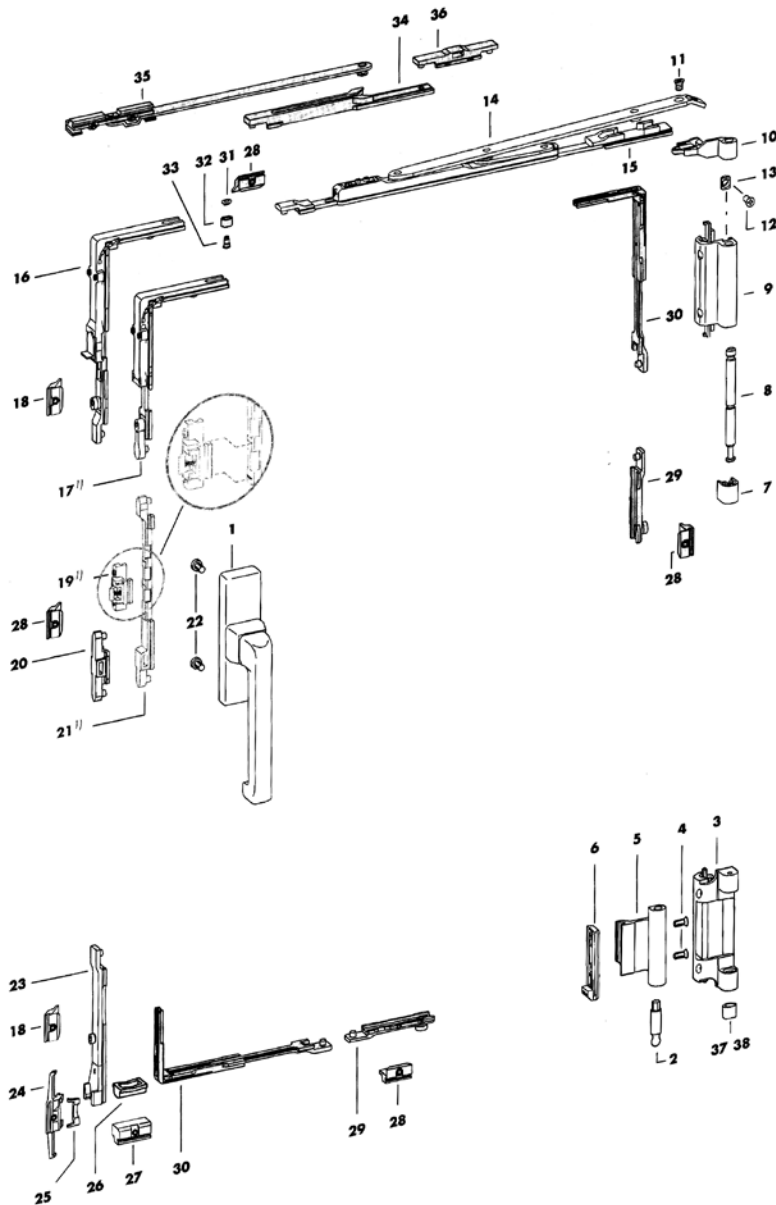
Description	Part No.	Description	Part No.
01. LM Handle	451690	24. Tilt Striker TBT	**
02. Bottom Hinge pin	*	25. Spring	**
03. Bottom Hinge	*	26. Run Up Block	**
04. Csk Screw M5 x 8.5	*	27. Run Up Block TBT	**
05. Corner Hinge	*	28. Striker	***
06. Clamping Piece E	*	29. Lock	***
07. Locking Cover cap	*	30. Corner Drive VSU/BSO	***
08. Top Hinge Pin	*	31. Retainer	****
09. Top Hinge	*	32. Roller	****
10. Stay Support	*	33. Roller Pin	****
11. Csk. Screw M5 x 7.5	*	34. Striker Plate	****
12. Csk. Screw M5 x 13	*	35. Additional Stay	****
13. Locking Piece	*	36. Coupling Piece	(Special order only)
14. Stay LM 4200	460870	37. Pressure Piece SV	(Special order only)
15. TBT Part	**	38. Pressure Piece AV	(Special order only)
16. Corner Drive VSO	**	39. Link Rod (Optional)	916000
17. Corner Drive VSO A0102	**		
18. Striker	**		
19. Mishandling Device LM A0102	**		
20. Coupling Bracket	**	* Supplied in Hinge Carton (white)	460160
21. Coupling Bracket A0102	**	** Supplied in Basic Bag	460062
22. Set Screw M5 x 12	**	*** Supplied in Centre Lock Bag	461020
23. Tilt Bolt TBT	**	**** Supplied in Additional Stay Bag	460875

Please note: Hinge carton available in different finishes, TNT gear also available.

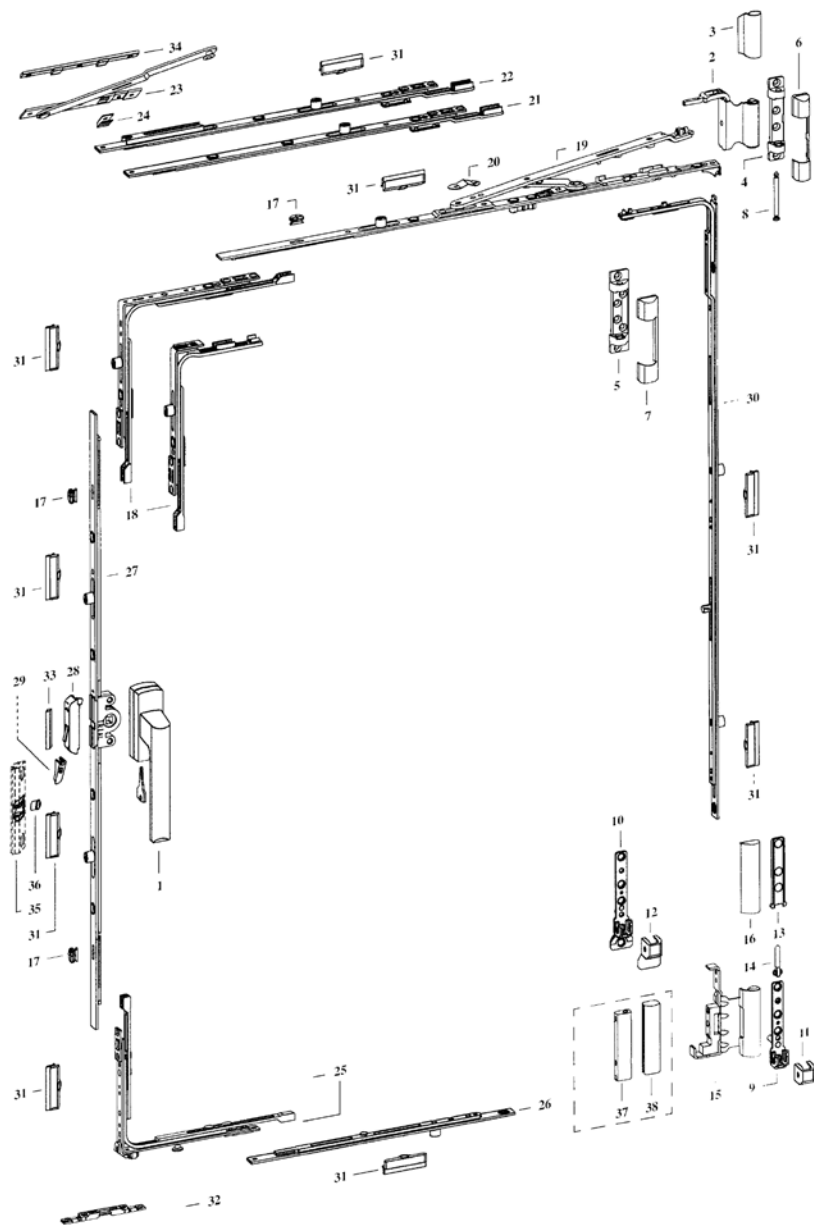
Guarantees & Accreditations

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Technical Drawing



Siegenia KF-3 Si-Line Standard TBT Fittings

Part Numbers

Description	Part No.	Description	Part No.
01. Si-line Favorit lockable/TBT Handle	232460H	24. Clamping Spring Z	312902
02. Stay Hinge KF-12/ DH	**	25. Corner drive VSU S-ES FH/	*
03. Cover Cap W KF	251670	26. Centre Lock	*
04. Top Hinge KF Ø6 x 12 DH	351460	27. Gear 3	*
05. Top Hinge KF-S Ø6 x 12 DH	351460	28. Mishandling	342000
06. Cover Cap S	251655	29. Pressure Piece	342000
07. Cover Cap S KF-S	251655	30. Corner Drive VSU/BS	*
08. Top Hinge Pin Ø6	351650	31. Striker Plate	**
09. Bottom Hinge KF Ø6 x 24/3	310340	32. Tilt Lock Bearing S ES	**
10. Bottom Hinge S-KF Ø6 x 12	310340	33. Switch Barrier	*
11. Cover Cap EL U	212415	34. Packer Z	**
12. Cover Cap EL-S U	212420	35. Snapper	**
13. Cover Cap EL O	212410	36. Snapper Roller Cam	395191
14. Bottom Hinge Pin Ø7	312395	37. Corner Hinge KFØ6 x 16/36	310275
15. Rebate Corner Hinge KF 12/	*	38. Cover Cap EB	212425
16. Cover Cap FEB	*		
17. Tension Button	340010		
18. Corner Drive VSO/Small	*	Basic Bag 0° to 7° Non-Handed	311100
19. Stay 7 TBT	*	Consists (03,04,06,08,09,11,13,14,37,38)	
20. Tilt Restrictor	259000	Basic Bag 7° and Upwards R/H	311110
21. Linkage	342514	Consists (03,04,06,08,09,11,13,16)	
22. Linkage S/Z TBT23	312902	Basic Bag 7° and Upwards L/H	311112
23. Additional Stay	312902	Consists (03,04,06,08,09,11,13,16)	

* This part is available in various sizes and/or colours

** This part is profile related

Please note: TNT fittings also available

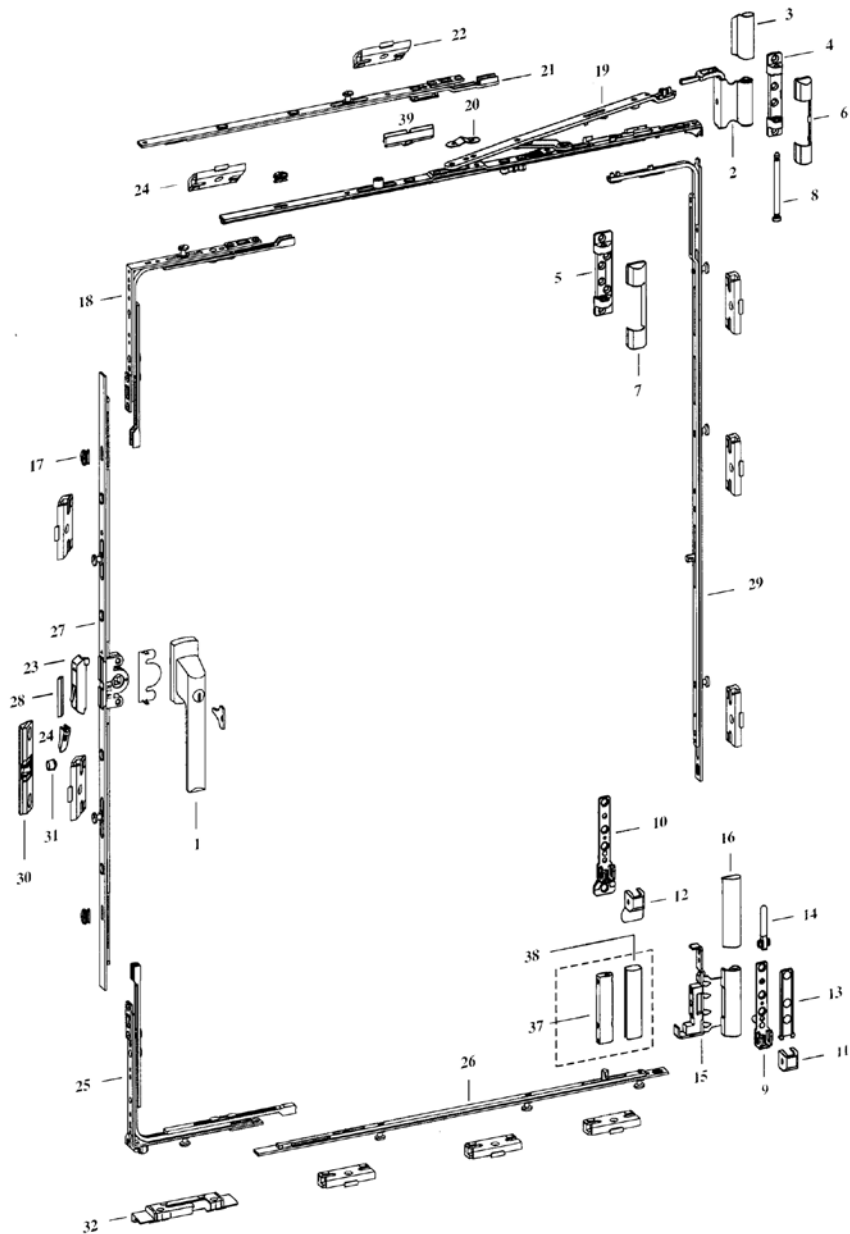
Guarantees & Accreditations

Mechanical Guarantee	5 years
Labour Guarantee	2 years

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Technical Drawing

Siegenia KF-3 Si-Line S-ES TBT Fittings For BS 7950



Part Numbers

Description	Part No.	Description	Part No.
01. Si-line Favorit Handle	232460H	23. Switch Barrier	342000
02. Stay Hinge KF-12/..DH	**	24. Pressure Piece	342000
03. Cover Cap W KF	251670	25. Corner Drive VSU S-ES FH/	*
04. Top Hinge KF Ø6 x 12 DH	351460	26. TBT Extension	*
05. Top Hinge KF-S Ø6 x 12 DH	351460	27. Drive Gear SES	*
06. Cover Cap S	251655	28. Switch Barrier Packer	*
07. Cover Cap S KF-S	251655	29. Corner Drive BS SES	*
08. Top Hinge Pin Ø6	351650	30. Snapper	**
09. Bottom Hinge KF Ø6 x 24/3	310340	31. Snapper Roller Cam	395191
10. Bottom Hinge S-KF Ø6 x 12	310340	32. Tilt Bearing SES TBT FH	**
11. Cover Cap EL U	212415	37. Corner Hinge KF06	310275
12. Cover Cap EL-S U	212420	38. Covercap EB	212425
13. Cover Cap EL O	212419	39. Rollercam Stiker	**
14. Bottom Hinge Pin Ø7	312395		
15. Rebate Corner Hinge KF 12	*		
16. Cover Cap FEB	*		
17. Tension Button	340010	Basic Bag 0° to 7° Non-Handed	311100
18. Corner Drive VSO SES	*	Consists (03,04,06,08,09,11,13,14,37,38)	
19. Stay TBT	*	Basic Bag 7° and Upwards R/H	311110
20. Tilt Restrictor	259000	Consists (03,04,06,08,09,11,13,16)	
21. Linkage SES	*	Basic Bag 7° and Upwards L/H	311112
22. Security Striker SES	**	Consists (03,04,06,08,09,11,13,16)	

* This part is available in various sizes and/or colours

** This part is profile related

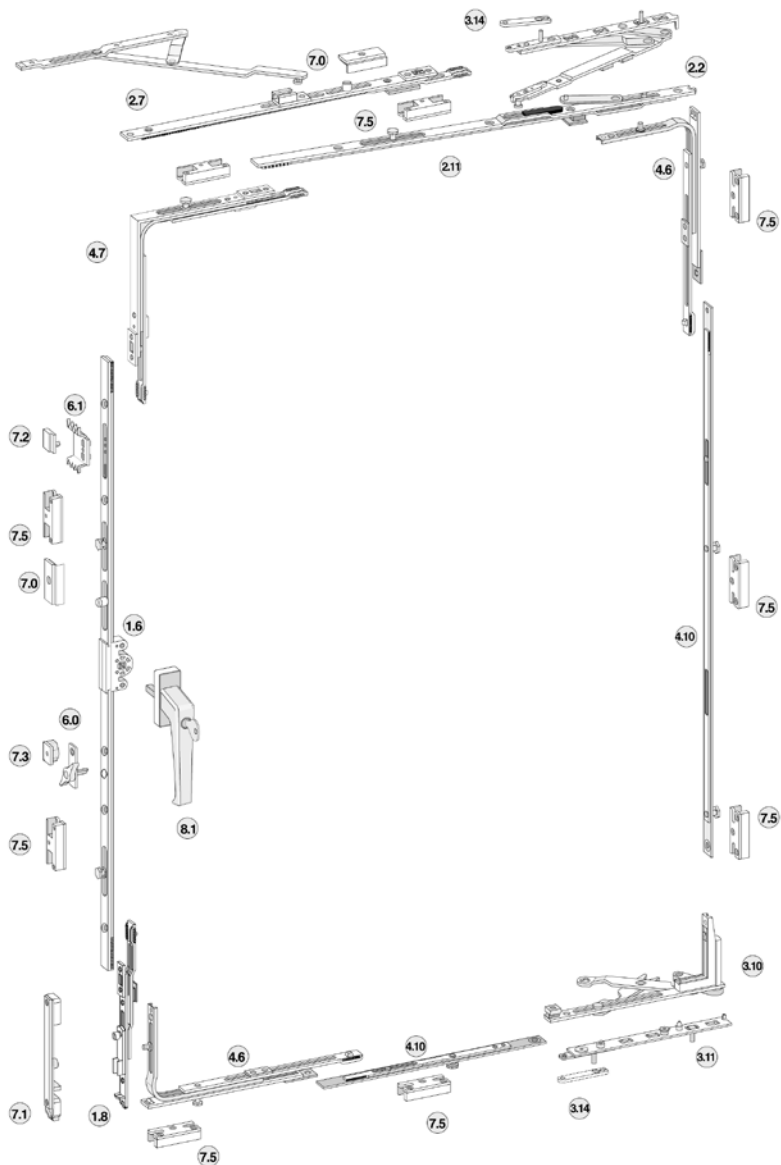
Please note: TNT fittings also available

Guarantees & Accreditations

Mechanical Guarantee	5 years
Labour Guarantee	2 years

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Technical Drawing



Garant C TBT Gear

Part Numbers

Description	Part No.	Description	Part No.
1.0 Gear V-15 (variable)	*	4.4 Central Locking	**
1.1 Gear F-15 (fixed)	*	6.0 Switch Barrier	642000
1.8 Tilt Lock Bolt	640000	6.1 Variable Tilt Device	*
2.2 Stay C	**	7.0 Cam Striker	**
2.6 Stay Track C/F	**	7.1 Tilt Striker	**
2.7 Additional Stay	650200	7.2 Frame Part Variable Tilt	**
3.0 Stay Angle	*	8.0 Handle (white locking)	232460H
3.10 Corner Hinge C	*		
3.11 Corner Support C	**		
3.14 Packer	**		
4.0 Corner GSO Normal	620000		
4.1 Corner GSO Short	620002		

* This part is available in various sizes and/or colours.

** This part is profile related.

Please note: Garant C TNT gear also available

Application:

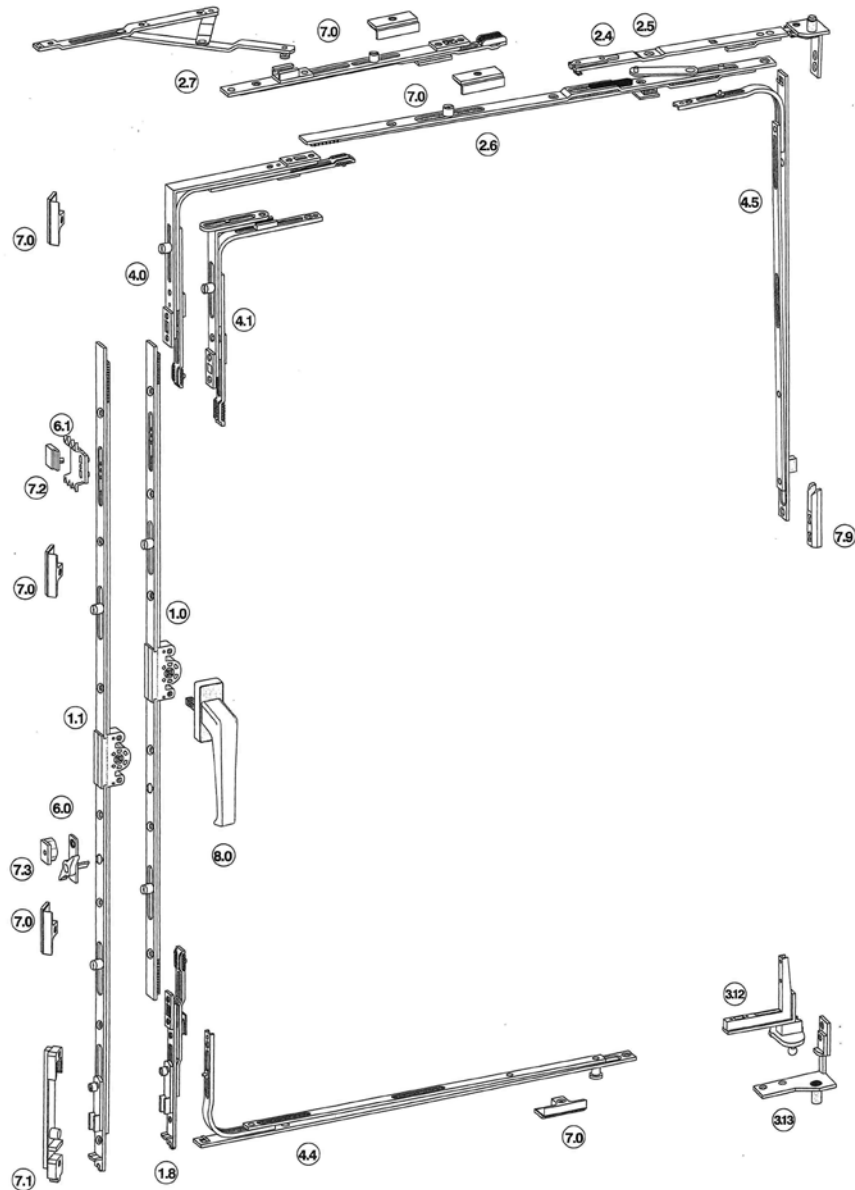
Max Sash Weight	100kg
Rebate Width (FFB)	310-1410mm
Rebate Height (FFH) Gear V-15	500-2350mm
Rebate Height (FFH) Gear F-15	385-2200mm

Guarantees & Accreditations

Mechanical Guarantee	5 years
Labour Guarantee	2 years

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Technical Data



Garant F TBT Gear

Part Numbers

Description	Part No.	Description	Part No.
1.0 Gear V-15 (variable)	*	6.0 Switch Barrier	642000
1.1 Gear F-15 (fixed)	*	6.1 Variable Tilt Device	*
1.8 Tilt Lock Bolt	640000	7.0 Cam Striker	**
2.4 Stay Arm F	**	7.1 Tilt Striker	**
2.6 Stay Track C/F	**	7.2 Frame Part Variable Tilt	677310
2.7 Additional Stay / Extension	650200	7.3 Frame Part Switch Barrier	676310
3.12 Corner Hinge F	*	7.9 Slider Striker F	673319
3.13 Corner Support F	**	8.0 Handle (white locking)	232460H
4.0 Corner GSO Normal	620000		
4.1 Corner GSO Short	620002		
4.4 Central Locking	*		
4.5 Central Locking F	*		

* This part is available in various sizes and/or colours.

** This part is profile related.

Please note: Garant F TNT gear also available

Application:

Max Sash Weight	130kg
Rebate Width (FFB)	310-1610mm
Rebate Height (FFH) Gear V-15	500-2350mm
Rebate Height (FFH) Gear F-15	385-2200mm

Guarantees & Accreditations

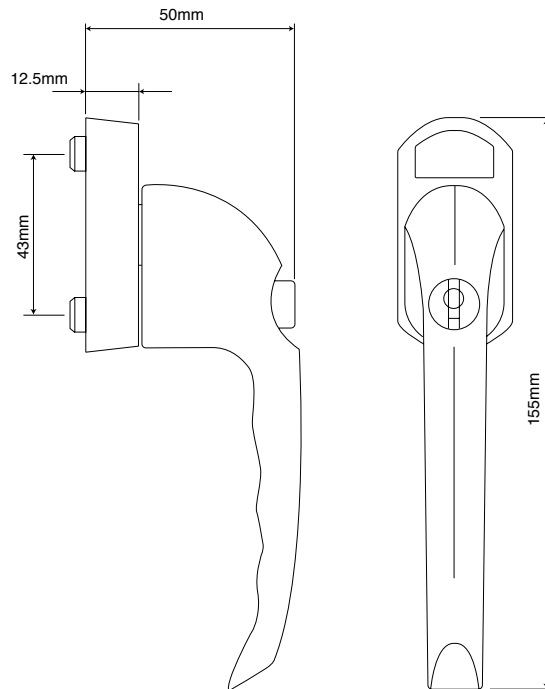
Mechanical Guarantee	10 years
Labour Guarantee	2 years

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Technical Data

Style	Inline - TBT, TNT
Finishes	Chrome, gold, satin silver, black, white
Material Specification:	
Handle & Base	Zinc ZL3
Finish - Electroplated	Clearclad LCX electrophoretic lacquer
Finish - Powdercoated	Synthi pulvina
Spring	Steel to BS 5216 ND3
Steel Pressing	Steel EN6
Zinc Plate & Locking Barrel	Zinc ZL3. plated to BS 1706 - clear passivate
Spindle	Steel EN1A, plated to BS 1706 - clear passivate
Box Quantity	25

Technical Drawings



Trinity TBT Handle

Stylish key-locking handle that can be used on both TBT and TNT applications. The handle has been designed to suite with other items of the Mila Trinity range of window and door furniture.

- Lockable in all positions to enhance window safety and security
- Operates as a standard TBT handle but by moving the rose through 180° will operate as a TNT handle reducing costs and stock requirements
- Positive handle engagement in all positions
- Handle rose is equipped with studs for improved location
- Supplied with 2 screw cover caps
- Manufactured in zinc diecast to BS 1004A
- 7 x 7 x 38mm spindle to suit all major profiles
- Available in a range of attractive finishes



Part Numbers

Description	Size (mm)	Chrome	Gold	Satin Silver	Black	White
Trinity TBT Handle	38	056980	056981	056985	056983	056984
Trinity TBT Handle	43	057000	057001*	-	057003*	057004
Spare Screw Cover	-	-	-	-	057041	057040
* Special order only						
		Part No.				
Spare Key	057042					

Guarantees & Accreditations

Mechanical Guarantee	5 years
Labour Guarantee	2 years

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Technical Data

Style	Inline - TBT, TNT
Finishes	Silver (F1), gold (F3), white, brown
Box Quantity	40

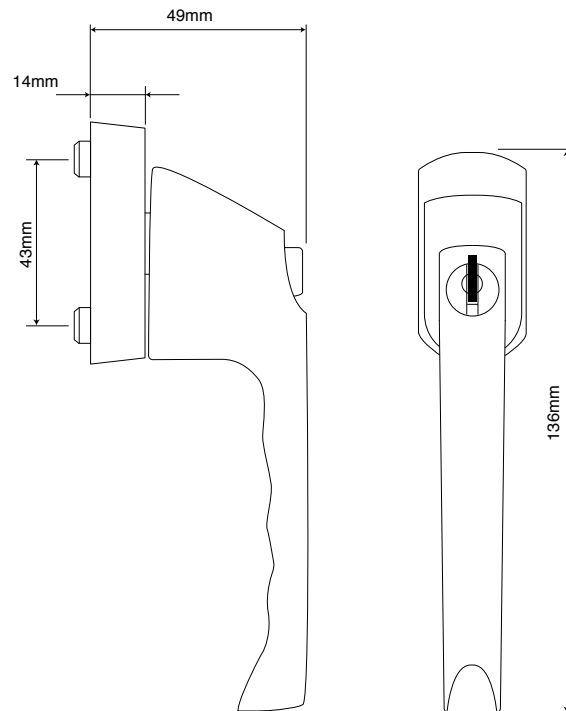
Hoppe TBT Handle

Key locking and non-locking handle for use on TBT windows.

- Handle only lockable in closed position (locking version only)
- In operation the handle engages in four positions at 90° intervals.
- Aluminium swivel cover plate to conceal screw fixings
- 7 x 7 x 32mm spindle



Technical Drawings



Part Numbers

Description	Silver (F1)	Gold (F3)	White	Brown
Hoppe TBT Handle - Locking	232450H	232456H	232460H	232462H*
Hoppe TBT Handle - Non-Locking	232000H	232006H	232010H	232012H*

* Special order only

Guarantees & Accreditations

Mechanical Guarantee	5 years
Labour Guarantee	2 years

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