

Catalogue

11/2004

HAUTAU TORNADO

For timber and PVC windows



HAUTAU

HAUTAU Catalogue

Pivot Hardware HAUTAU TORNADO 11/2004

W. HAUTAU GmbH

P.O. Box 1151
D 31689 Helpsen
Phone +49 05724/393-0
Telefax +49 05724/393-125
Info@HAUTAU.de
www.HAUTAU.de

Trade Register Stadthagen · HRB no. 2565

Bank Information

Volksbank Bückeburg-Rinteln eG (Routing no. 255 91413) Account 645 273 600
IBAN: DE 19 2559 1413 0645 2736 00 · SWIFT: GENODEF1BCK

Postbank Hannover (Routing no. 250100 30) Account 38 87-305
IBAN: DE 63 25010030 0003 8873 05 · SWIFT: PBNKDEFF250

VAT-no.: DE 811 213 544

Printed in Germany 11/2004 · Reprint, even in excerpts not, without the publisher's approval.

In consideration of progress, we reserve the right to apply construction modifications and to consequently change any figures, dimensions, weight specifications etc. The figures do not show items in their actual size and are also not of the same proportion.



Contents

Pivot hardware for timber windows	Page
TORNADO	6
Pivot hinges TORNADO 1, 2, and 3	7
Pivot hinge TORNADO 9 (also for vertically pivoting windows)	8
HAUTAU design handle	8
Central locking gear ZV 16	9
Figures central locking gear, window form straight	10
Restrictors for TORNADO	11
Automatic hook bolt	11
Drilling jig	11
Pivoting window sealing HD 25	11
Fitting parts	
TORNADO 1, 2, and 3, window form straight	12
TORNADO 1, window form round	14
TORNADO 9, window form straight	15
TORNADO 9, window form round	16
 Pivot fittings for PVC windows	
TORNADO	17
Pivot hinge TORNADO for 90° section	18
Pivot hinge TORNADO 10	18
HAUTAU design handle	19
Restrictors for TORNADO	19
Automatic hook bolt	19
Central locking gear ZV 16	20
Fittings central locking gear ZV 16, window forms straight and round	22
Item codes restrictors	23
Item codes hook bolts and jigs	24
 Sorted by fittings	
TORNADO 10 *	25
TORNADO 39 *	27
..... profile system: ALUPLAST IDEAL 2000	27
..... profile system: LB profile system PAD	27
TORNADO 67	28
TORNADO 72	29
TORNADO 74	30
TORNADO 75	31
TORNADO 76 *	32
TORNADO 78 *	33
TORNADO 83	34
TORNADO 84	35
TORNADO 86 *	36
TORNADO 92 *	37
TORNADO 97	38
TORNADO 102 *	39
TORNADO 117	40
TORNADO 118	41
TORNADO 119	42
TORNADO 120 *	43
TORNADO 123 *	44
TORNADO 125 *	45
TORNADO 126 *	46
TORNADO 129 *	47
TORNADO 130 *	48
TORNADO 131 *	49
TORNADO 134 *	50

*Also available with anti-lift device AhS.
Sorted by profile systems



ALUPLAST IDEAL 2000	TORNADO 39 *	27
ALUPLAST IDEAL 4000.....	TORNADO 131 *	49
DIMEX Contour 7.0	TORNADO 130 *	48
Dimex Comfort	TORNADO 120 *	43
EURODUR 3S	TORNADO 117	40
GEALAN 3000	TORNADO 92 *	37
Gealan 8000	TORNADO 125 *	45
HELMITIN KSL	TORNADO 84	35
KBE	TORNADO 76 *	32
Kömmerling Eurofuture Elegance and Classic ...	TORNADO 123 *	44
Kömmerling MS	TORNADO 97	38
LB Profile System PAD	TORNADO 39 *	27
PLUS-PLAN	TORNADO 74	30
REHAU Brilliant Design	TORNADO 126 *	46
REHAU S 730	TORNADO 78 *	33
ROPLASTO 6001 Plus S	TORNADO 118	38
SALAMANDER	TORNADO 75	31
SALAMANDER 2D	TORNADO 119	42
Schüco CT 70	TORNADO 129 *	47
TROCAL 900	TORNADO 67	28
TROCAL economic	TORNADO 102 *	39
THYSSEN	TORNADO 72	29
THYSSEN DECOR	TORNADO 83	34
VEKA Softline AD	TORNADO 86 *	36
Veka Softline/Topline 70	TORNADO 134 *	50

*Also available with anti-lift device AhS.



Pivot Fittings for Timber Windows

An approved fitting selection with reliable pivot hinges and a new rugged central locking gear.

A window meeting all of your requirements by providing a clear view and excellent individual room ventilation.

Simple and straightforward handling.

One simple grip allows you to open and close the window tightly all around – no need to switch from one axis to another.

Two-way ventilation system.

Adjustable ventilation for all room conditions from the smallest trickle vent position all the way to a thorough ventilation of the room.

The pivoting window makes perfect use of the thermal principle. Exhausted warm air will rise and exit through the upper window crack while fresh and cool air streams in through the lower crack, closing the circulation circuit.

Increased security.

An adjustable stopper system prevents the sash from swinging through in every vent position – even heavier sashes can be operated effortlessly.

Ideal adjustment of the closing pressure thanks to adjustable strikers (with fittings cavities of 11 mm).

Safe window cleaning.

The sash can simply be pivoted into the room's interior by 180°. You will then be able to clean the outer pane from the inside.

You can also use restrictors to limit the opening angle and thereby ensure security while the window is in vent position.

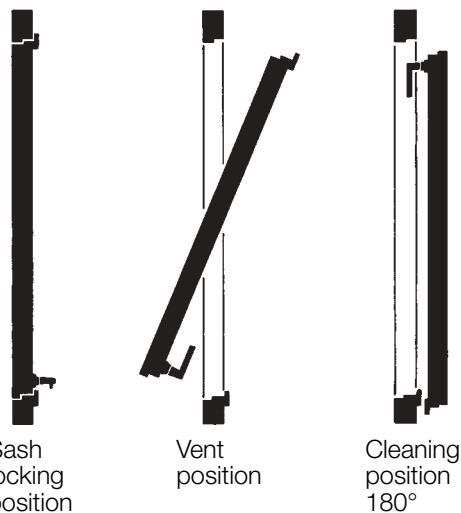
Sash and frame can be assembled separately in combination with TORNADO 1, 2, and 3. This facilitates the handling of the window considerably as the sash can easily be attached and removed.

Optimal packing units.

Thanks to the combination of 6 different packing units (pivot hinges, handle, strikers, accessories central locking gear, vertical and horizontal locking), you can operate the different window forms, sizes and profile systems with only little stock capacity.



Pivoting window with pivot hinge TORNADO 1, 2 or 3



Pivoting window with pivot hinge TORNADO 9



Flush Mounted Pivot Hinges TORNADO 1, 2, and 3

The concept of the TORNADO pivot hinges is thoroughly thought through. The pivot hinges are state of the art in terms of their structural setup. For instance, "overlapping" sealing systems can already be installed when using timber with a thickness of no more than 56 mm.

The pivot hinges are flush with the sill bar and operate via two limited pivotal points. All functional processes are controlled automatically. Fin friction brakes ensure that the window is properly engaged while in vent position.

The sash release and the brake adjusting screws are buried in the sash, allowing the pivot hinge's front and side surfaces to be completely smooth and free of any protruding screw heads.

Pivot hinge TORNADO 1

Flush mounted pivot hinge with drilling cams (no milling necessary), 2 pivotal points, fin friction brake.

Range of application for sash weights of up to 175 kg.

Window form: straight and round
 Rebate depth: 35 mm with overlapping sealing
 Rebate: 11/4/11 or (15/4/15 mm with corrective plates)
 Fittings cavity: 4 or 11 mm
 Cover bar: 14/46 mm
 Timber thickness: 56 mm or more, (68 mm possible)
 Design: NE material, visible surfaces varnished and burnt in silver or brown

Pivot hinge TORNADO 2

Flush mounted pivot hinge with drilling cams (no milling necessary), 2 pivotal points, fin friction brake.
 Range of application for sash weights of up to 175 kg.

Window form: straight
 Rebate depth: 40 mm with overlapping sealing
 Rebate: 15/4/15
 Fittings cavity: 4 or 11 mm
 cover bar: 14/46 mm
 Timber thickness: 68 mm or more
 Design: NE material, visible surfaces varnished and burnt in silver or brown

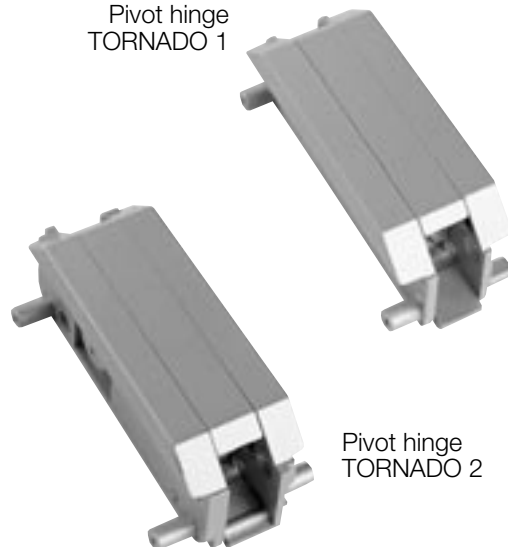
Pivot hinge TORNADO 3

Pivot hinges available with two installation options:

- a) for milling (without drilling cams),
 - b) for screwing with drilling cams,
- 2 pivotal points, fin friction brakes,
 pivot hinge exterior with neoprene sealing.
 Range of application for sash weights of up to 200 kg.

Window form: straight
 Rebate depth: 45 mm with overlapping sealing
 Rebate: 11/4/11 or 15/4/15 m
 Fittings cavity: 4 or 11 mm
 Cover bar: 14/46 mm
 Timber thickness: 68 mm or more
 Design: polished brass steel, visible parts
 NE material, varnished and burnt in silver or brown

Pivot hinge
TORNADO 1

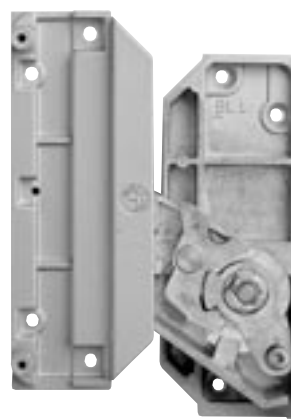


Pivot hinge
TORNADO 2

Pivot hinge
TORNADO 3



Pivot hinge
TORNADO 1,
turned by 180°



Pivot hinge
TORNADO 2,
turned by 180°



Face Fixed Pivot Hinge TORNADO 9

Face fixed pivot hinge – millcuts inside the sash and the frame unnecessary – short assembly times. For windows with or without cover bar.

Convenient brake adjustment thanks to easy top and bottom access.

The pivot hinge can easily be pivoted by 180°.

Range of application for sash weights of up to 50 kg.

Can also be used in combination with vertically pivoting windows by inserting the fitting after turning it by 90° – please note the drawing.

- Window form: straight
- Rebate depth: 35 mm with overlapping sealing
- Rebate: 11/4/11 or 15/4/15 mm
- Fittings cavity: 4 or 11 mm
- Cover bar: 14/46 mm
- Timber thickness: 56 mm or more, (68 mm possible)
- Design: NE material, visible surfaces burnt varnished in white, brown, and silver.

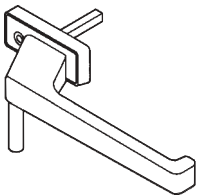
- Window form: round
- Rebate depth: impinging
- Rebate: 11/4/11 1 mm
- Fittings cavity: 4 mm
- Cover bar: 14/46 mm
- Timber thickness: 56 mm or more, (68 mm possible)
- Design: NE material, visible surfaces burnt varnished in white, brown, and silver.



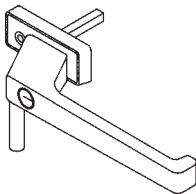
Pivot hinge TORNADO 9



Pivot hinge
TORNADO 9
turned by 90°



HAUTAU design handle,
standard version



HAUTAU design handle,
lockable version

HAUTAU Design Handle with Trickle and Night Ventilation

The HAUTAU design handle ships with a locking cam that can be used for both trickle and night ventilation. The handle requires a locking cam striker.

This will ensure both comfortable constant ventilation as well as the storm-proof fixation of the pivoting window.

A lockable version is available on request.

- Design: EV 1, white or brown (depending on the pivot hinge), with aluminum edge protection



Central Locking Gear ZV 16

One-sided, left-guided and length adjustable central locking gear ZV 16 with flat 16 mm faceplates in stock version for fittings cavities of 4 mm with strikers for attachment; the strikers are adjustable by means of bottom and top locking cams when used with fitting cavities of 11 mm (see different sizes).

Efficient fitting installation thanks to pre-assembled components and a small number of individual parts. Drive rods with double toothing, trimming of the faceplate and drive rod in a single work step.

Corners made of non-corrosive steel belts (pull and pressure proof). No adjustment of the sash corners necessary. Quick and safe connection of the locking parts thanks to double gear rod couplings.

Fitting designs

Locking parts (espag and locking rods) made of polished brass and yellow chromed steel, corners with non-corrosive steel belts and guide track, strikers and locking cams adjustable, strikers with bottom made of high-quality zinc coatings, HAUTAU design handle with cam locking.

Text for tender

Pivot fitting TORNADO with central locking gear ZV 16, consisting of vertical and horizontal locking, length adjustable, with surface finish HAUTAU-S^{plus} (chromed silver), with bottom and top locking cams throughout the sash width, with fittings cavities of 4 or 11 mm, HAUTAU design handle 150 with cam locking for trickle ventilation (also lockable). Available in EV 1 or brown (depending on the pivot hinge).

Window form straight

Range of application:

Pivot hinge TORNADO 1, 2, and 3

Sash rebate widths FFB between 650 and 2,750 mm
sash rebate heights FFH between 700 and 2,200 mm

Pivot hinge TORNADO 9

Pivoting window

Sash rebate widths FFB between 650 and 1,450 mm
Sash rebate heights FFH between 700 and 1,700 mm

Vertically pivoting windows

Sash rebate widths FFB between 600 and 1,000 mm
Sash rebate heights FFH between 650 and 1,450 mm

Pivot fitting TORNADO

with central locking gear ZV 16

Packing unit consisting of:

1. Pivot hinge TORNADO
2. HAUTAU design handle
3. Accessories strikers
4. Accessories central locking gear ZV 16
5. Horizontal locking for central locking gear ZV 16
6. Vertical locking for central locking gear ZV 16

Pivot fitting TORNADO

with central locking gear ZV 16 AhS

packing unit consisting of:

1. Pivot hinge TORNADO
2. HAUTAU design handle
3. Accessories strikers AhS
4. Accessories central locking gear ZV 16 AhS
5. Horizontal locking for central locking gear ZV 16
6. Vertical locking for central locking gear ZV 16

Note concerning the packing unit:

For vertically pivoting windows use the "accessories for vertically pivoting windows" and the horizontal locking as the vertical locking and the the vertical locking as the horizontal locking.

Window form round

Range of application:

Pivot hinge TORNADO 1

Sash rebate diameter FFØ between 750 and 2,000 mm

Pivot hinge TORNADO 9

For use with horizontally and vertically pivoting windows
Sash rebate diameter FFØ between 400 and 1,500 mm

Pivot fitting TORNADO

with central locking gear ZV 16 RD

Packing unit consisting of:

1. Pivot hinge TORNADO
2. HAUTAU design handle
3. Accessories strikers RD
4. Espag for central locking gear ZV 16 RD
5. Top locking for central locking gear ZV 16

Note concerning the delivery form:

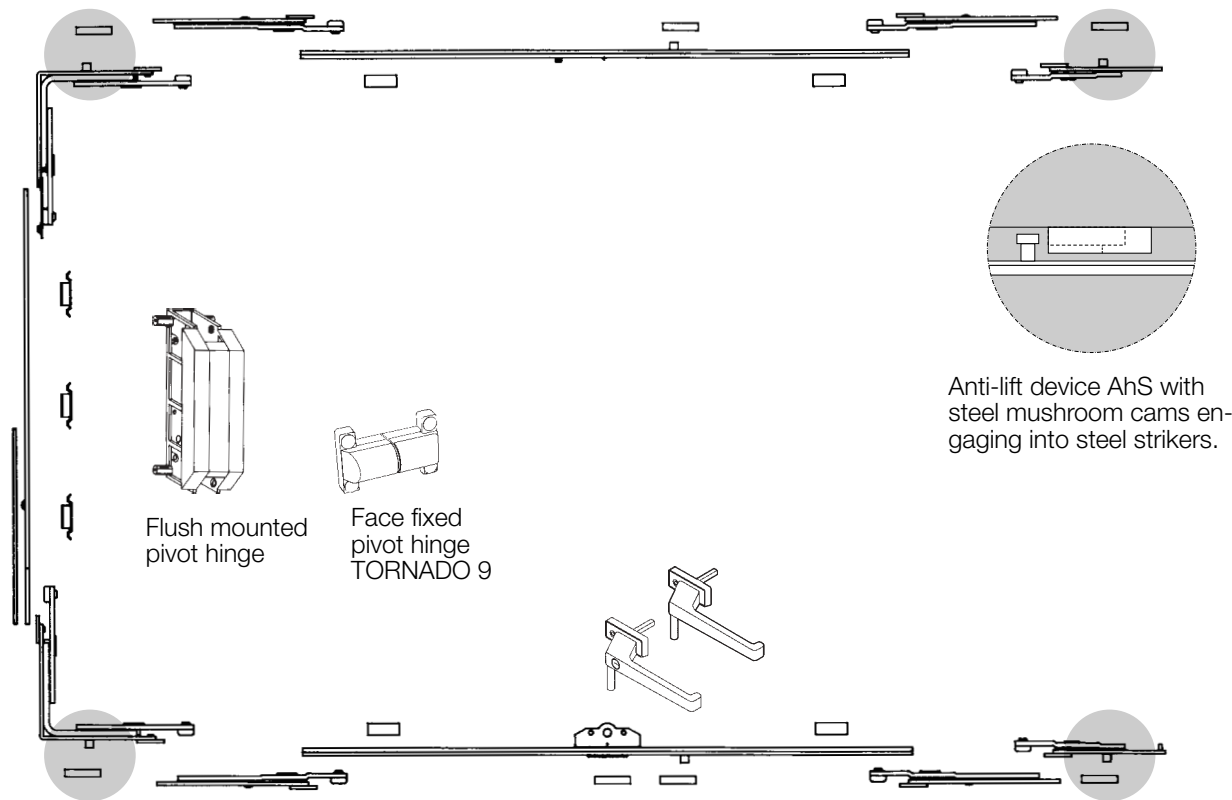
Espag for central locking gear ZV 16 RD
and top locking

straight =	all components unbent, regular stock version
pre-bent =	all components are pre-bent to measure and might have to be bent and shortened when used with smaller measures.

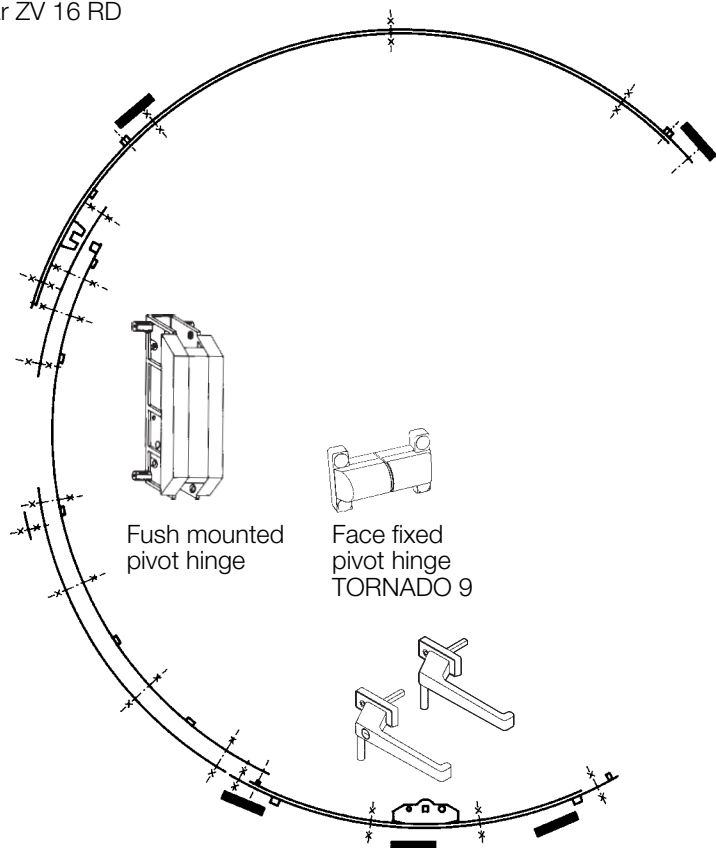


Fitting Parts Central Locking Gear ZV 16

Central locking gear ZV 16



Central locking gear ZV 16 RD



Restrictors for TORNADO

The buried stays protect the sash efficiently from any unauthorized pivoting into the cleaning position and can also be used as stoppers for a certain opening position. This security system is particularly recommended for use in schools. Equipping other public buildings with pivoting windows featuring special restrictors is also highly recommended. The stays should be arranged in pairs (left and right) to achieve the highest level of security. They are also available with an additional cylinder lock.

- Designs:
- Restrictor, lockable with a square wrench
 - Restrictor, lockable with a square wrench and including additional cylinder lock



Automatic Hook Bolt

The bolt will automatically fix the sash in cleaning position. When fixed in this position, the sash cannot slam around neither by engaging a ladder nor by inappropriate handling. The sash is released manually by pressing the bolt's lever.

The hook bolt is composed of 2 parts, fixation on sash and frame.



Drilling Jigs

Drilling jigs for screwing the pivot hinges inside the frame and the sash rebate are available on request.

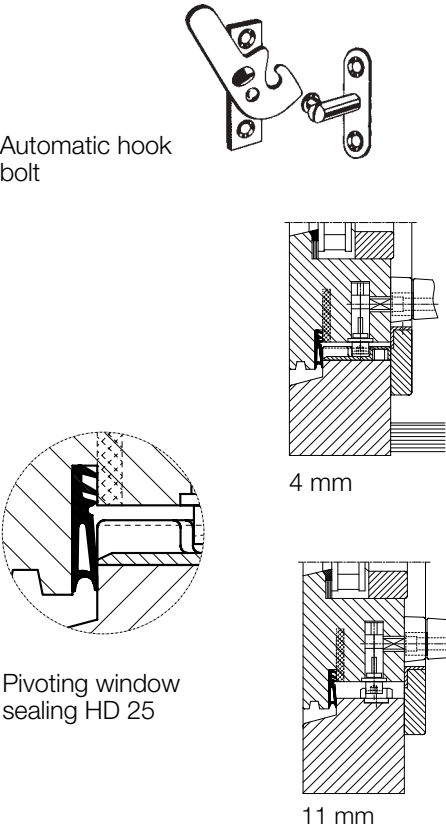
Pivoting Window Sealing HD 25

This sealing was designed to meet the special requirements of the pivoting window and is a sensible addition to the TORNADO pivot hardware selection. It is designed in a way that, thanks to its height and proper adjustment of the reset force, the sealing is also effective at the critical spots close to the strikers.

HD 25 can be used in combination with both of the pivoting window's sash rebate widths (18 mm horizontally, 11 mm vertically). The groove inside the holding stand allows you to simply and quickly rip off the sealing lengthwise in accordance with a sash rebate width of 11 mm.

Functional profile:
Locked double lip sealing with exceptionally large reset force. Thanks to the special shape, the best sealing takes effect at the outmost end. The lower outwardly open strikers are overlapped and sealed off in a reliable manner.

High-quality material:
Sealing profile made of thermoplastic material (age, light, weather, and ozone proof as well as cold-resistant elasticity).





Fitting Parts TORNADO 1, 2, and 3

Fittings cavity 4 mm = drawing no.: 4/0036 (straight)
Fittings cavity 11 mm = drawing no.: 4/0018 (straight)

Window form: straight

1. Pivot hinge TORNADO	item code
Pivot hinge TORNADO 1, with drilling cam, EV 1	149 395
Pivot hinge TORNADO 1, with drilling cam, brown	149 398
Pivot hinge TORNADO 2, with drilling cam, EV 1	149 401
Pivot hinge TORNADO 2, with drilling cam, white	162 285
Pivot hinge TORNADO 2, with drilling cam, brown	149 404
Pivot hinge TORNADO 3, without drilling cam, EV 1	149 407
Pivot hinge TORNADO 3, without drilling cam, brown	149 410
Pivot hinge TORNADO 3, with drilling cam, EV 1	149 413
Pivot hinge TORNADO 3, with drilling cam, white	178 856
Pivot hinge TORNADO 3, with drilling cam, brown	149 416
2. HAUTAU design handles	
Handle 150, square 7 x 25, EV 1	149 524
Handle 150 S, square 7 x 25, lockable, EV 1	149 527
Handle 150, square 7 x 25, white	178 877
Handle 150 S, square 7 x 25, lockable, white	178 880
Handle 150, square 7 x 25, brown	149 530
Handle 150 S, square 7 x 25, lockable, brown	149 533
3. Strikers	
Accessories strikers TORNADO 1 for fittings cavities of 4 mm	149 476
Accessories strikers TORNADO 2 for fittings cavities of 4 mm	149 479
Accessories strikers TORNADO 3 for fittings cavities of 4 mm	149 482
Accessories strikers TORNADO 1, 2, and 3 for fittings cavities of 11 mm	149 485
Accessories strikers TORNADO 1, 2, and 3 AhS for fittings cavities of 11 mm	161 614
4. Accessories central locking gear ZV 16	
Accessories central locking gear ZV 16	149 470
Accessories central locking gear ZV 16 AhS	157 913
5. Horizontal locking for central locking gear ZV 16	
Horizontal locking B 1,100 mm	145 644
Horizontal locking B 1,450 mm	145 647
Horizontal locking B 1,900 mm	145 650
Horizontal locking B 2,350 mm	145 653
Horizontal locking B 2,750 mm	145 656
6. Vertical locking for central locking gear ZV 16	
Vertical locking H 1,200 mm	145 659
Vertical locking H 1,700 mm	145 662
Vertical locking H 2,200 mm	145 665



Accessories

Sealing HD 25, (stock length: 1 roll = 25 m)	131 537
Bulk pack sealing HD 25, carton pack with 200 m each (8 rolls with 25 m each)	132 779
Restrictor with key release, right	132 743
Restrictor with key release, left	132 761
Restrictor (as before), additional cylinder lock, right	132 758
Restrictor (as before), additional cylinder lock, left	132 776
Key for restrictor (square wrench)	124 961
Stopper roll TORNADO 3 for fittings cavities of 4 mm	132 782
Automatic hook bolt	132 788
Jig pivot hinge TORNADO 1	100 040
Jig pivot hinge TORNADO 2 and TORNADO 3	100 598
Corrective plate TORNADO 1 (4 units per pair)	100 151
Milling jig (striker) for fittings cavities of 4 mm	152 518



Fitting Parts TORNADO 1

Fittings cavity 4 mm = drawing no.: 4/0019 (round), fittings cavity 11 mm = drawing no.: 4/0421 (round)

Window form round

1. Pivot hinge TORNADO			item code
Pivot hinge TORNADO 1, with drilling cam, EV 1			149 395
Pivot hinge TORNADO 1, with drilling cam, brown			149 398
2. HAUTAU design handles			
Handle 150, square 7 x 25, EV 1			149 524
Handle 150 S, square 7 x 25, lockable, EV 1			149 527
Handle 150, square 7 x 25, brown			149 530
Handle 150 S, square 7 x 25, lockable, brown			149 533
3. Strikers RD			
Accessories strikers TORNADO 1 RD for fittings cavities of 4 mm			149 563
Accessories strikers TORNADO 1 RD for fittings cavities of 11 mm			152 755
4. Espag for central locking gear ZV 16 RD			
Espag FFØ 750 - 1,000 mm, straight	size 1		149 374
Espag FFØ 1,001 - 1,250 mm, straight	size 2		149 377
Espag FFØ 1,251 - 1,500 mm, straight	size 3		149 380
Espag FFØ 1,501 - 1,750 mm, straight	size 4		149 383
Espag FFØ 1,751 - 2,000 mm, straight	size 5		149 386
Espag FFØ 750 - 1,000 mm, pre-bent	size 1		149 734
Espag FFØ 1,001 - 1,250 mm, pre-bent	size 2		149 737
Espag FFØ 1,251 - 1,500 mm, pre-bent	size 3		149 740
Espag FFØ 1,501 - 1,750 mm, pre-bent	size 4		149 743
Espag FFØ 1,751 - 2,000 mm, pre-bent	size 5		149 746
5. Top locking, H = 16.5 mm			
Espag FFØ 750 - 1,000 mm, straight	for espag size 1		144 870
Espag FFØ 1,001 - 1,250 mm, straight	for espag size 2		144 873
Espag FFØ 1,251 - 1,500 mm, straight	for espag size 3		144 876
Espag FFØ 1,501 - 2,000 mm, straight	for espag size 4-5		144 879
Espag FFØ 750 - 1,000 mm, pre-bent	for espag size 1		149 752
Locking FFØ 1,001 - 1,250 mm, pre-bent	for espag size 2		149 755
Locking FFØ 1,251 - 1,250 mm, pre-bent	for espag size 3		149 758
Locking FFØ 1,501 - 1,250 mm, pre-bent	for espag size 4-5		149 761
Accessories			
Sealing HD 25, (stock length: 1 roll = 25 m)			131 537
Bulk pack sealing HD 25, carton pack with 200 m each (8 rolls with 25 m each)			132 779



Fitting Parts TORNADO 9

Can be used in combination with horizontally and vertically pivoting windows
(by inserting the fitting after turning it by 90°) – please note the drawing.

Pivoting windows

Fittings cavity 4 mm = drawing no.: 4/0127 (straight)
Fittings cavity 11 mm = drawing no.: 4/0134 (straight)

Vertically pivoting windows

Fittings cavity 4 mm = drawing no.: 4/0139 (straight)
Fittings cavity 11 mm = drawing no.: 4/0162 (straight)

Window form straight

1. Pivot hinge TORNADO	item code
Pivot hinge TORNADO 9, (pack of 5), white	151 084
Pivot hinge TORNADO 9, (pack of 5), brown	151 087
Pivot hinge TORNADO 9, (pack of 5), silver	151 090
2. HAUTAU design handle for pivot hinge TORNADO 9	
Handle 150, square 7 x 25, RN 34, EV 1	155 777
Handle 150, square 7 x 25, RN 34, white	152 104
Handle 150 S, square 7 x 25, RN 34, lockable, white	152 107
Handle 150, square 7 x 25, RN 34, brown	152 110
Handle 150 S, square 7 x 25, RN 34, lockable, brown	152 113
3. Strikers	
Accessories strikers TORNADO 9 for fittings cavities of 4 mm	149 476
Accessories strikers TORNADO 9 for fittings cavities of 11 mm	149 485
Accessories strikers TORNADO 9 AhS for fittings cavities of 11 mm	161 614
4. Accessories central locking gear ZV 16	
Accessories central locking gear ZV 16 pivoting windows	149 470
Accessories central locking gear ZV 16 vertically pivoting windows	154 075
Accessories central locking gear ZV 16 AhS pivoting windows	157 913
Accessories central locking gear ZV 16 AhS vertically pivoting windows	172 205
5. Horizontal locking for central locking gear ZV 16 (vertical locking for vertically pivoting windows)	
Horizontal locking B 1,100 mm	145 644
Horizontal locking B 1,450 mm	145 647
6. Vertical locking for central locking gear ZV 16 (horizontal locking for vertically pivoting windows)	
Vertical locking H 1,200 mm	145 659
Vertical locking H 1,700 mm (not suitable for vertically pivoting windows)	145 662

Accessories

Sealing HD 25, (stock length: 1 roll = 25 m)	131 537
Bulk pack sealing HD 25, carton pack with 200 m each (8 rolls with 25 m each)	132 779
Automatic hook bolt	132 788
Restrictor with key release, right	132 743
Restrictor with key release, left	132 761
Restrictor (as before), additional cylinder lock, right	132 758
Restrictor (as before), additional cylinder lock, left	132 776
Key for restrictor (square wrench)	124 961
Jig pivot hinge TORNADO 9	152 155
Milling jig (striker) for fittings cavities of 4 mm	152 518



Fitting Parts TORNADO 9

Can be used in combination with horizontally and vertically pivoting windows

(by inserting the fitting after turning it by 90°) – please note the drawing.

Fittings cavity 4 mm = drawing no.: 4/0017 (round)

Fittings cavity 11 mm = drawing no.: 4/0387 (round)

Window form round

1. Pivot hinge TORNADO			item code
Pivot hinge TORNADO 9, (pack of 5), white			151 084
Pivot hinge TORNADO 9, (pack of 5), brown			151 087
Pivot hinge TORNADO 9, (pack of 5), silver			151 090
2. HAUTAU design handle for pivot hinge TORNADO 9			
Handle 150, square 7 x 25, RN 34, EV 1			155 777
Handle 150, square 7 x 25, RN 34, white			152 104
Handle 150 S, square 7 x 25, RN 34, lockable, white			152 107
Handle 150, square 7 x 25, RN 34, brown			152 110
Handle 150 S, square 7 x 25, RN 34, lockable, brown			152 113
3. Strikers RD			
Accessories strikers TORNADO 9 RD for fittings cavities of 4 mm			149 563
Accessories strikers TORNADO 9 RD for fittings cavities of 11 mm			152 755
4. Espag for central locking gear ZV 16 RD			
Espag FFØ 400 - 550 mm, straight	size 0		157 349
Espag FFØ 550 - 1,000 mm, straight	size 1		149 374
Espag FFØ 1,001 - 1,250 mm, straight	size 2		149 377
Espag FFØ 1,251 - 1,500 mm, straight	size 3		149 380
Espag FFØ 400 - 550 mm, pre-bent	size 0		172 184
Espag FFØ 550 - 1,000 mm, pre-bent	size 1		149 734
Espag FFØ 1,001 - 1,250 mm, pre-bent	size 2		149 737
Espag FFØ 1,251 - 1,500 mm, pre-bent	size 3		149 740
5. Top locking, H = 16.5 mm			
Locking FFØ 550 - 1,000 mm, straight	for espag size 1		144 870
Locking FFØ 1,001 - 1,250 mm, straight	for espag size 2		144 873
Locking FFØ 1,251 - 1,500 mm, straight	for espag size 3		144 876
Locking FFØ 550 - 1,000 mm, pre-bent	for espag size 1		149 752
Locking FFØ 1,001 - 1,250 mm, pre-bent	for espag size 2		149 755
Locking FFØ 1,251 - 1,500 mm, pre-bent	for espag size 3		149 758
Accessories			
Sealing HD 25, (stock length: 1 roll = 25 m)			131 537
Bulk pack sealing HD 25, carton pack with 200 m each (8 rolls with 25 m each)			132 779



Pivot Fittings for PVC Windows

An approved fitting selection with reliable pivot hinges and a new rugged central locking gear.

The fitting designs are adjusted to meet the special profile system requirements of PVC windows. The fitting can be mounted efficiently.

Sash and frame can be mounted separately. This facilitates the handling of the window considerably as the sash can easily be attached and removed.

A window meeting all of your requirements by providing a clear view and excellent individual room ventilation.

Simple and straightforward handling.

One simple grip allows you to open and close the window tightly all around – no need to switch from one axis to another.

Two-way ventilation system.

Adjustable ventilation for all room conditions from the smallest trickle vent position all the way to a thorough ventilation of the room.

The pivoting window makes perfect use of the thermal principle. Exhausted warm air will rise and exit through the upper window crack while fresh and cool air streams in through the lower crack, closing the circulation circuit.

High security.

An adjustable stopper system prevents the sash from swinging through in every vent position – even heavier sashes can be operated effortlessly.

Perfect adjustment of the closing pressure thanks to adjustable strikers.

You can also use restrictors to limit the opening angle and thereby ensure security while the window is in vent position.

Safe window cleaning.

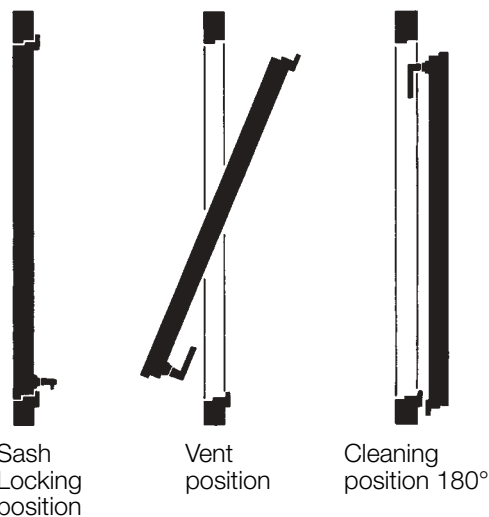
The sash can simply be pivoted into the room's interior by 180°. You will then be able to clean the outer pane from the inside.

Optimal packing units.

Thanks to the combination of 6 different packing units (pivot hinges, handle, strikers, accessory central locking gear, vertical and horizontal locking), you can operate the different window forms, sizes and profile systems with only little stock capacity.



Pivoting windows with pivot hinge TORNADO for multilions with 90° section.



Pivoting window with pivot hinge TORNADO 10



Flush Mounted Pivot Hinge **TORNADO** for Mullions with 90° Section

The pivot hinges are adjusted to meet the requirements of the different profile sections. The mullions can be angled by 90°, facilitating both blank and assembly.

The pivot hinges are sealed off all around. The surfaces connecting to the mullions are equipped with a sealing plate into which the mullions can be pressed up to a depth of 2.5 mm. This connection ensures that the sash is sealed off tightly and that any tolerance is evened out. The rebate-like groove between frame and sash part as well as the additional silicone sealing inside the pivot hinge provide the tight sealing of the pivot hinge even from outside influences. The inner sealing is also used in combination with this pivot hinge. The mullions overlap with the pivot hinges and hold them flush in place without any misalignment.

All it takes to remove or pivot the hinges by 180° is to loosen a single screw.

Design: NE material, visible surfaces burnt varnished in white (or brown, on request) – matching the profile. Smooth front and lateral surfaces without any protruding screw heads.

Window form: straight and round (depending on the profile system).

Load capacity for sash weights of up to 200 kg.

One pivot hinge for large surface windows.



Pivot hinge **TORNADO** for PVC windows with 90° section



Pivot hinge **TORNADO** for PVC windows turned by 180°

Face Fixed Pivot Hinge **TORNADO 10**

The pivot hinge was developed in cooperation with profile and window manufacturers to match almost all popular pivoting window profile systems.

The fact that the pivot hinge is screwed on makes a complicated treatment of the mullions unnecessary and ensures simple installation. Since there is only one separating level, the connection guarantees optimal sealing. The connecting surfaces can also be equipped with profile sealing plates.

Brake adjustment is straightforward thanks to easy front access.

The sash can be attached and removed effortlessly simply by loosening and removing the brake pad.

A release bolt located inside the right pivot hinge secures the window in two positions:

1. Engagement at 15° = vent position
2. Engagement at 180° = cleaning position

To fix the sash in its vent position of 15° and, thereby, protect it from any unauthorized opening from the inside or the outside, simply unscrew the security screw to engage the release lock.

As an alternative, you can also employ the lockable restrictor.

Design: NE material, visible surfaces burnt varnished in white (or brown, on request)

Window form: straight and round, load capacity for sash weights of up to 60 kg.

Can also be used in combination with vertically pivoting windows by inserting the fitting after turning it by 90° – please note the drawing.



Pivot hinge **TORNADO 10**



Pivot hinge **TORNADO 10** turned by 90°



HAUTAU Design Handle with Trickle and Night Ventilation

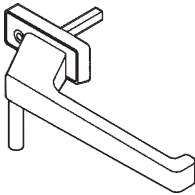
The HAUTAU design handle ships with a locking cam that can be used for both trickle and night ventilation.

This will ensure both comfortable constant ventilation as well as the storm-proof fixation of the pivoting window.

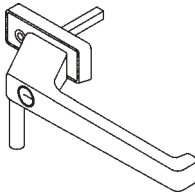
A lockable version is available on request.

Design: white or brown

HAUTAU design handle standard version



HAUTAU design handle, lockable version



Restrictors for TORNADO

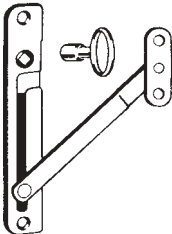
The buried stays protect the sash efficiently from any unauthorized pivoting into the cleaning position and can also be used as stoppers for a certain opening position.

This security system is particularly recommended for use in schools. Equipping other public buildings with swing windows featuring special restrictors is also highly recommended. The stays should be arranged in pairs (left and right) to achieve the highest level of security. They are also available with an additional cylinder lock.

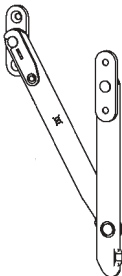
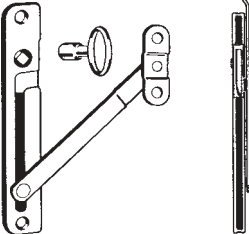
Designs:

- Detachable restrictor 113 (not lockable)
- Restrictor, lockable by means of a square wrench

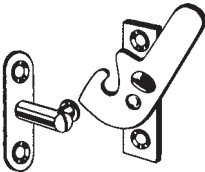
Restrictor with square wrench release



Restrictor with square wrench release, bent screw plate



Restrictor 113



Automatic hook bolt

Automatic Hook Bolt

The bolt will automatically fix the sash in cleaning position. When engaged in this position, the sash cannot be slammed around by inappropriate handling. The sash is released manually by pressing the bolt's lever handle.

The hook bolt is composed of 2 parts, the fixation of which is established on the sash and the frame.

Note:

This function is integrated in the pivot hinge with TORNADO 10 designs.



Central Locking Gear ZV 16

One-sided, left-guided and length adjustable central locking gear ZV 16 with flat 16 mm faceplates in stock version including rotating/tilting tools for milling; locking cams at the bottom and the top (see different sizes).

Efficient fitting installation thanks to pre-assembled components and a small number of individual parts. Drive rods with double toothing, trimming of the faceplate and drive rods in a single work step.

Corners made of non-corrosive steel belts (pull and pressure proof). No adjustment of the sash corners necessary. Quick and safe connection of the locking parts thanks to double gear rod couplings.

Fitting designs

Locking parts (espag and locking rods) made of polished brass steel and chromed, corners with non-corrosive steel belts and guide track, strikers and locking cams adjustable, strikers with bottom made of high-quality zinc coatings, HAUTAU design handle with cam locking.

Text for tender

Pivot fitting TORNADO with central locking gear ZV 16, consisting of vertical and horizontal locking, length adjustable, with surface finish HAUTAU-S^{plus} (chromed silver), with bottom and top locking cams throughout the sash width and adjustable strikers. HAUTAU design handle 150 with cam locking for trickle ventilation (also lockable). Available in white and brown.

Window form straight

Range of application:

Pivot hinge with 90° section

Measure B between 650 and 2,750 mm

Measure H between 700 and 2,200 mm

Pivot hinge TORNADO 10

Pivoting window

Sash rebate widths FFB between 650 and 1,450 mm

Sash rebate heights FFH between 700 and 1,700 mm

Vertically pivoting windows

Sash rebate widths FFB between 600 and 1,000 mm

Sash rebate heights FFH between 650 and 1,450 mm

Pivot fitting TORNADO

with central locking gear ZV 16 AhS for euro groove

Packing unit consisting of:

1. Pivot hinge TORNADO
2. HAUTAU design handle
3. Accessories strikers (also available with AhS)
4. Accessories central locking gear ZV 16 (also available with AhS)
5. Horizontal locking for central locking gear ZV 16
6. Vertical locking for central locking gear ZV 16

Pivot fitting TORNADO

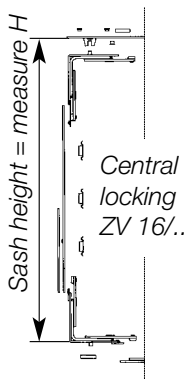
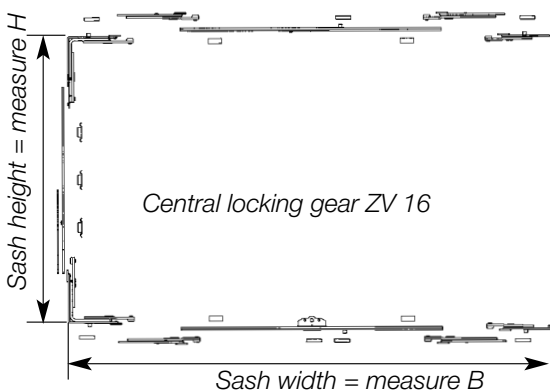
with central locking gear ZV 16/.. for flat grooves

Packing unit consisting of:

1. Pivot hinge TORNADO
2. HAUTAU design handle
3. Accessories strikers
4. Accessories central locking gear ZV 16/..
5. Horizontal locking for central locking gear ZV 16/..
6. Vertical locking for central locking gear ZV 16

Note concerning the packing unit:

For vertically pivoting windows use the "accessories for vertically pivoting windows" and the horizontal locking as the vertical locking and the the vertical locking as the horizontal locking.





Window form round

Range of application:

Pivot hinge with 90° section

Sash rebate diameter FFØ between 750 and 2,000 mm

Pivot hinge TORNADO 10

For use with horizontally and vertically pivoting windows

Sash rebate diameter FFØ between 550 and 1,500 mm

Pivot fitting TORNADO

with central locking gear ZV 16 RD for euro groove

Packing unit consisting of:

1. Pivot hinge TORNADO
2. HAUTAU design handle
3. Accessories strikers RD
4. Espag for central locking gear ZV 16 RD
5. Top locking for central locking gear ZV 16 RD

Pivot fitting TORNADO

with central locking gear ZV 16/.. RD for flat grooves

Packing unit consisting of:

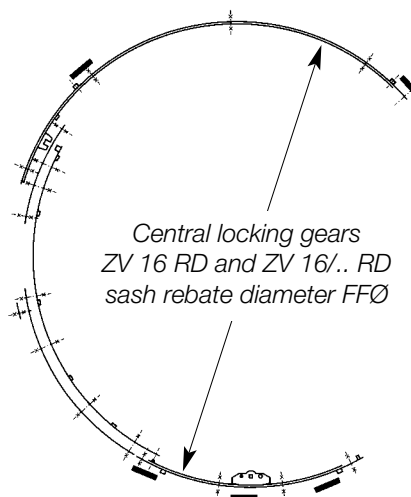
1. Pivot hinge TORNADO
2. HAUTAU design handle
3. Accessories strikers RD
4. Espag for central locking gear ZV 16 RD
5. Top locking for central locking gear ZV 16/.. RD

Note concerning the delivery form:

Espag for central locking gear and top locking

Straight = all components unbent,
regular stock version

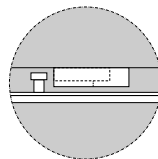
Pre-bent = all components are pre-bent to measure and
might have to be bent and shortened when
used with smaller measures.



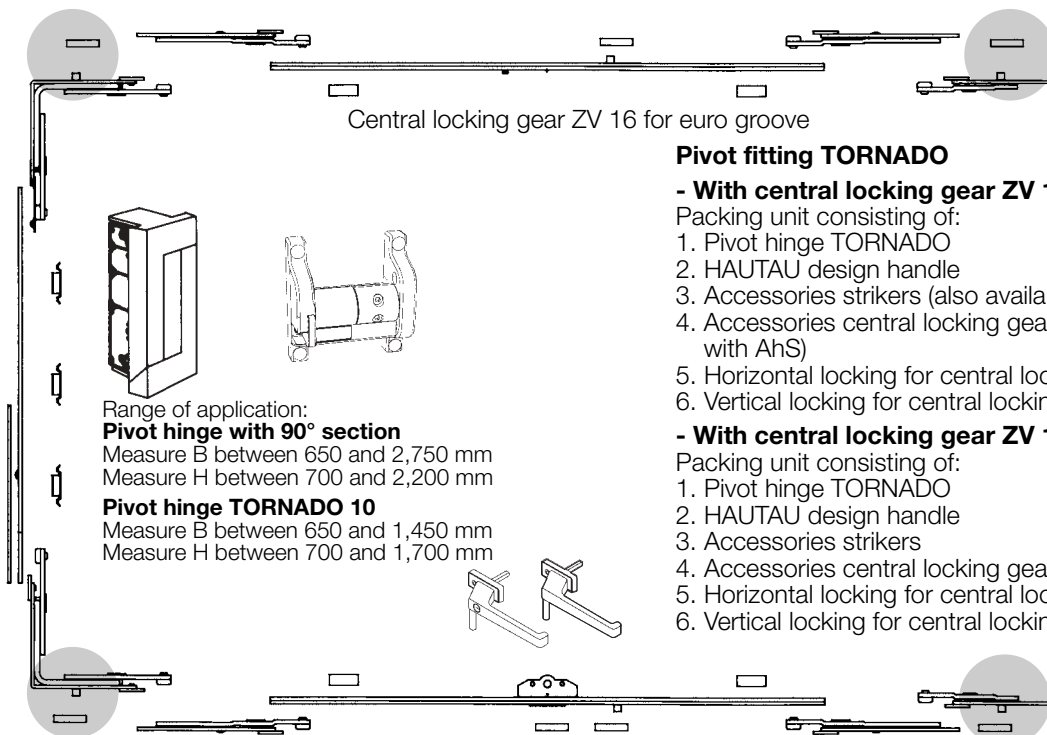
Fitting Parts Central Locking Gear ZV 16



Central locking gear ZV 16/.. for flat grooves



Anti-lift device AhS with steel mushroom cams engaging into steel strikers.



Central locking gear ZV 16 for euro groove

Pivot fitting TORNADO

- With central locking gear ZV 16 for euro groove

Packing unit consisting of:

1. Pivot hinge TORNADO
2. HAUTAU design handle
3. Accessories strikers (also available with AhS)
4. Accessories central locking gear ZV 16 (also available with AhS)
5. Horizontal locking for central locking gear ZV 16
6. Vertical locking for central locking gear ZV 16

- With central locking gear ZV 16/.. for flat grooves

Packing unit consisting of:

1. Pivot hinge TORNADO
2. HAUTAU design handle
3. Accessories strikers
4. Accessories central locking gear ZV 16/..
5. Horizontal locking for central locking gear ZV 16/..
6. Vertical locking for central locking gear ZV 16

Range of application:

Pivot hinge with 90° section

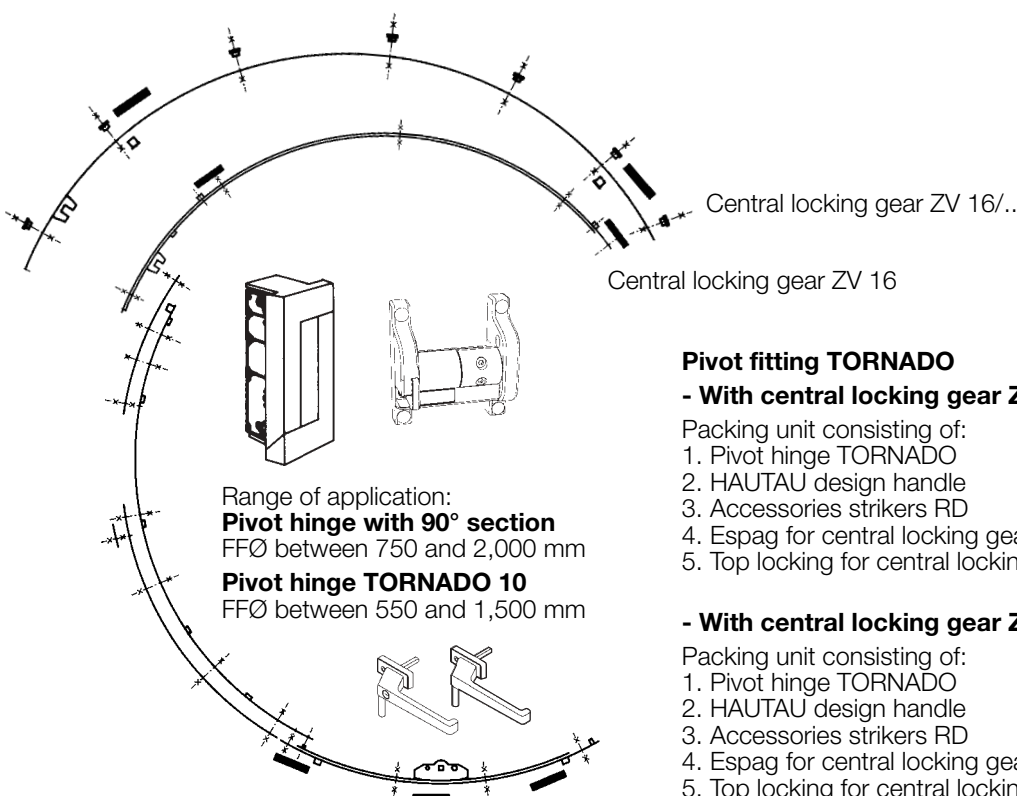
Measure B between 650 and 2,750 mm

Measure H between 700 and 2,200 mm

Pivot hinge TORNADO 10

Measure B between 650 and 1,450 mm

Measure H between 700 and 1,700 mm



Central locking gear ZV 16/..

Central locking gear ZV 16

Pivot fitting TORNADO

- With central locking gear ZV 16 RD for euro groove

Packing unit consisting of:

1. Pivot hinge TORNADO
2. HAUTAU design handle
3. Accessories strikers RD
4. Espag for central locking gear ZV 16 RD
5. Top locking for central locking gear ZV 16 RD

- With central locking gear ZV 16/.. RD for flat grooves

Packing unit consisting of:

1. Pivot hinge TORNADO
2. HAUTAU design handle
3. Accessories strikers RD
4. Espag for central locking gear ZV 16 RD
5. Top locking for central locking gear ZV 16/.. RD



Restrictors

Fitting / profile system	arrangement	restrictor	item code
TORNADO 39	left	restrictor 113 spw. 250 w. pl.	159 630
ALUPLAST IDEAL 2000	right	restrictor 113 spw. 250 w. pl.	159 627
TORNADO 67	left	restrictor, lockable	132 770
TROCAL 900	right	restrictor, lockable	132 752
TORNADO 72	left	restrictor, lockable	132 770
THYSSEN	right	restrictor, lockable	132 752
TORNADO 74	left	restrictor 113 spw. 250 w. pl.	159 630
PLUS PLAN	right	restrictor 113 spw. 250 w. pl.	159 627
TORNADO 75	left	restrictor, lockable	132 770
SALAMANDER	right	restrictor, lockable	132 752
TORNADO 76	left	restrictor, lockable*	132 773
KBE	right	restrictor, lockable*	132 755
TORNADO 78	left	restrictor 113 spw. 250 w. pl.	159 630
REHAU S 730	right	restrictor 113 spw. 250 w. pl.	159 627
TORNADO 83	left	restrictor, lockable	132 770
THYSSEN DÉCOR	right	restrictor, lockable	132 752
TORNADO 84	left	restrictor, lockable	132 770
HELMITIN	right	restrictor, lockable	132 752
TORNADO 86	left	restrictor 113 spw. 250 w. pl.	159 630
VEKA Softline AD	right	restrictor 113 spw. 250 w. pl.	159 627
TORNADO 92	left	restrictor 113 spw. 250 w. pl.	159 630
GEALAN 3000	right	restrictor 113 spw. 250 w. pl.	159 627
TORNADO 97	left	restrictor, lockable	132 770
Kömmerling MS	right	restrictor, lockable	132 752
TORNADO 117	left	restrictor, lockable	132 770
Kömmerling Eurodur 3S	right	restrictor, lockable	132 752
TORNADO 118	left	restrictor, lockable	132 770
Roplasto 6001 Plus S	right	restrictor, lockable	132 752
TORNADO 119	left	restrictor, lockable	132 770
Salamander 2D	right	restrictor, lockable	132 752
TORNADO 120	left	restrictor 113 spw. 250 w. pl.	159 630
Dimex Comfort	right	restrictor 113 spw. 250 w. pl.	159 627
TORNADO 123	left	restrictor 113 spw. 250 w. pl.	159 630
Kömmerling Eurofuture	right	restrictor 113 spw. 250 w. pl.	159 627
TORNADO 125	left	restrictor 113 spw. 250 w. pl.	159 630
Gealan 8000	right	restrictor 113 spw. 250 w. pl.	159 627
TORNADO 126	left	restrictor 113 spw. 250 w. pl.	159 630
Rehau Brilliant Design	right	restrictor 113 spw. 250 w. pl.	159 627
TORNADO 129	left	restrictor 113 spw. 250 w. pl.	159 630
Schüco CT 70	right	restrictor 113 spw. 250 w. pl.	159 627
TORNADO 130	left	restrictor 113 spw. 250 w. pl.	159 630
DIMEX Contour 7.0	right	restrictor 113 spw. 250 w. pl.	159 627
TORNADO 131	left	restrictor 113 spw. 250 w. pl.	159 630
ALUPLAST IDEAL 4000	right	restrictor 113 spw. 250 w. pl.	159 627
TORNADO 134	left	restrictor 113 spw. 250 w. pl.	159 630
Veka Softline/Topline 70	right	restrictor 113 spw. 250 w. pl.	159 627

Key for restrictor	124 961
* With bent screw plate	



Automatic hook bolt	item code
Automatic hook bolt	132 788

Jigs

	frame plate	sash plate	top striker	bottom striker
TORNADO 39	148 483	149 275	149 272	
TORNADO 72	149 212	149 209	148 537	
TORNADO 74	148 543	148 540	148 537	148 591
TORNADO 75	148 597	149 209	148 594	
TORNADO 76	148 483	149 284	148 537	
TORNADO 78	148 600	149 209	149 278	
TORNADO 83	149 212	149 209		
TORNADO 84	149 212	149 209	148 594	
TORNADO 86	148 483	148 480	148 477	
TORNADO 92	148 543	148 540	148 537	
TORNADO 97	148 483	149 284	149 314	
TORNADO 102	149 212	149 209	149 314	
TORNADO 117	148 483	149 284	149 314	
TORNADO 118	149 281	149 209		
TORNADO 119	149 281	149 209	149 314	155 405
TORNADO 120	151 591	151 588	149 272	
TORNADO 123	148 483	177 894	177 891	
TORNADO 125	148 483	177 894	177 891	
TORNADO 126	186 931	186 928	177 891	
TORNADO 129	148 483	177 894	177 891	
TORNADO 130	148 483	177 894	177 891	
TORNADO 131	185 088	185 085	177 891	
TORNADO 134	148 483	187 858		



TORNADO 10

The following profile systems can be used in combination with the pivot hinge TORNADO 10 **for horizontally and vertically pivoting windows** (by inserting the fitting after turning it by 90° – please note the drawing).

Profile system	drawing no.		frame no.	sash no.	mullion profile no.	page
	straight	round				
ALUPLAST IDEAL 2000	4/0049	4/0097	120.002, 120.003	120.031	120 204	13
ALUPLAST IDEAL 4000	4/0525	4/0526	140.003	140.031	160 066	13
Dimex Contour 7.0	4/0502	-	711800	711100	720200	
EURODUR 3S	4/0163	4/0167	F1401/1402	1418	F00-21-1173	27
GEALAN 3000	4/0021	4/0063	3008, 3011	3078	3080	24
GEALAN 8000	4/0444	4/0590	8008	8078	8080	
HELMITIN	4/0051	4/0061	4-60111	4-60128	4-60138	22
KBE	4/0041	4/0133	106/306/707	519	734	18
Kömmerling Eurofutur CLASSIC	4/0431 BL1	4/0440 BL1	2401/02	2418	2440	
Kömmerling Eurofutur elegance	4/0431 BL1	4/0440 BL1	0101	0118	0140	
Kömmerling MS	4/0168	4/0169	1551/522	1567	1173	25
LB Profile PAD	4/0079	4/0096	AL 2-3	AT 21-2	AS 6	13
PLUS PLAN	4/0002	4/0059	BR 76	FR 85 S	ST 61 F	16
REHAU S 730	4/0026	4/0025	541060	541170	541210	20
REHAU S 799 Brilliant Design	4/0445	-	550000	550400	550530	
Salamander	4/0053	4/0060	300 020	301 030, 301 040	206030	17
Schüco CT 70	4/0464	4/0522	8597	8509	8636	
THYSSEN	4/0050	4/0056	L10-0156	TS20-0120	SZ1-9042	15
THYSSEN DECOR	4/0045	4/0057	L3-0155	TS1-0111	SZ1-9042	21
TROCAL economic	4/0105	4/0177	110 200	120 300	130 300	26
VEKA Softline AD	4/0029	4/0062	101.085, 101.086	102.115.1	102.114.1	23
VEKA Softline 70	4/0538 BL1	4/0546 BL1	103.232	103.228	102.236	
VEKA Topline 70	4/0538 BL2	4/0546 BL2	103.212	103.205	102.236	

Additional profile systems available on request.

Universal drawing for pivot hinge TORNADO 10 (straight and round):
Central locking gear ZV 16 = drawing no.: 4/0123
Central locking gear ZV 16/.. = drawing no.: 4/0124
Drawing for vertically pivoting windows available on request.



TORNADO 10

Window form straight and round for horizontally and vertically pivoting windows

Note:
For information on strikers and central locking gear, refer to the corresponding profile systems (see page 11).
Please note the different sash widths and heights in combination with TORNADO 10.

Window form straight	window form round
Pivoting windows	sash rebate diameter FFØ between 550 and 1,500 mm
Sash rebate widths	FFB between 650 and 1,450 mm
Sash rebate heights	FFH between 700 and 1,700 mm
Vertically pivoting windows	
Sash rebate widths	FFB between 600 and 1,000 mm
Sash rebate heights	FFH between 650 and 1,450 mm

1. Pivot hinge TORNADO 10	item code
Pivot hinge TORNADO 10, white	151 900
Pivot hinge TORNADO 10, brown	150 445

Profile sealing plates for pivot hinge TORNADO 10	
Universal profile sealing plate (1 pair)	147 086

2. HAUTAU design handle for pivot hinge TORNADO 10	
Handle 150, square 7 x 40, RN 40, white	149 548
Handle 150 S, square 7 x 40, RN 40, lockable, white	149 551
Handle 150, square 7 x 40, RN 40, brown	149 554
Handle 150 S, square 7 x 40, RN 40, lockable, brown	149 557

Window form straight for horizontally and vertically pivoting windows

3. Strikers depending on profile system

4a.Accessories central locking gear for pivoting windows	
Accessories central locking gear ZV 16 euro groove	149 470
Accessories central locking gear ZV 16 AhS euro groove	157 913
Accessories central locking gear ZV 16/.. flat groove	149 473

4b.Accessories central locking gear for turning sash windows	
Accessories central locking gear ZV 16 euro groove	154 075
Accessories central locking gear ZV 16 AhS euro groove	172 205
Accessories central locking gear ZV 16/.. flat groove	154 078

5. Vertical locking for central locking gears ZV 16 or ZV 16/..
and

6. Horizontal locking for central locking gears ZV 16 or ZV 16/..
Depending on profile system
In combination with vertically pivoting windows, the horizontal locking is inserted as vertical locking and vice versa.
Please note the different sash heights and widths.

Window form round for horizontally and vertically pivoting windows

- 3. Strikers RD** depending on profile system
- 4. Espag for central locking gear ZV 16 RD**
- 5. Top locking**, H = .. mm, depending on profile system

Jig	
Pivot hinge TORNADO 10	151 597



TORNADO 39

For profile system ALUPLAST IDEAL 2000

Drawing no.: 4/0049 (straight), 4/0097 (round), frame no.: 120.002, 120.003, sash no.: 120.031, WP no.: 120 204

For profile system LB Profile System PAD

Drawing no.: 4/0079 (straight), 4/0096 (round), frame no.: AL 2-3, sash no.: AT 21-2, WP no.: AS 6

Window form straight and round

1. Pivot hinge TORNADO	item code
Pivot hinge TORNADO 39, white	149 419
Pivot hinge TORNADO 39, brown	149 422

2. HAUTAU design handles	
Handle 150, square 7 x 40, white	149 536
Handle 150 S, square 7 x 40, lockable, white	149 539
Handle 150, square 7 x 40, brown	149 542
Handle 150 S, square 7 x 40, lockable, brown	149 545

Note: Instead of using the pivot hinge for 90° sections, you can also use the pivot hinge TORNADO 10.
For the item codes of pivot hinges and handles, see page 12.

Window form straight

3. Strikers (for TORNADO 39 and TORNADO 10)	
Accessories strikers TORNADO 39	149 488
Accessories strikers TORNADO 39 AhS	172 220

4. Accessories central locking gear ZV 16 (for TORNADO 39 and TORNADO 10)	
Accessories central locking gear ZV 16	149 470
Accessories central locking gear ZV 16 AhS	157 913

5. Horizontal locking for central locking gear ZV 16	TORNADO 39	TORNADO 10	
Horizontal locking for euro groove	B 1,100 mm	B 1,100 mm	145 644
Horizontal locking for euro groove	B 1,450 mm	B 1,450 mm	145 647
Horizontal locking for euro groove	B 1,900 mm	-	145 650
Horizontal locking for euro groove	B 2,350 mm	-	145 653
Horizontal locking for euro groove	B 2,750 mm	-	145 656

6. Vertical locking for central locking gear ZV 16	TORNADO 39	TORNADO 10	
Vertical locking	H 1,200 mm	H 1,200 mm	145 659
Vertical locking	H 1,700 mm	H 1,700 mm	145 662
Vertical locking	H 2,200 mm	-	145 665

Window form round

3. Strikers RD (for TORNADO 39 and TORNADO 10)	
Accessories strikers TORNADO 39 RD	151 291

4. Espag for central locking gear ZV 16 RD	TORNADO 39	TORNADO 10	straight	pre-bent
Espag size 1 FFØ mm	750 - 1,000	750 - 1,000	149 374	149 734
Espag size 2 FFØ mm	1,001 - 1,250	1,001 - 1,250	149 377	149 737
Espag size 3 FFØ mm	1,251 - 1,500	1,251 - 1,500	149 380	149 740
Espag size 4 FFØ mm	1,501 - 1,750	-	149 383	149 743
Espag size 5 FFØ mm	1,751 - 2,000	-	149 386	149 746

5. Top locking, H = 28 mm	TORNADO 39	TORNADO 10	straight	pre-bent
Locking for espag size 1 FFØ mm	750 - 1,000	750 - 1,000	150 451	151 072
Locking for espag size 2 FFØ mm	1001 - 1,250	1,001 - 1,250	150 454	151 075
Locking for espag size 3 FFØ mm	1,251 - 1,500	1,251 - 1,500	150 457	151 078
Locking for espag size 4-5 FFØ mm	1,501 - 2,000	-	150 460	151 081



TORNADO 67 for profile system TROCAL 900

Drawing no.: 4/0052, frame no.: 910100, sash no.: 920300, WP no.: 935200

Window form: straight

1. Pivot hinge TORNADO		item code
Pivot hinge TORNADO 67, white		149 425
Pivot hinge TORNADO 67, brown		149 428
2. HAUTAU design handles		
Handle 150, square 7 x 40, RN 40, white		149 548
Handle 150 S, square 7 x 40, RN 40, lockable, white		149 551
Handle 150, square 7 x 40, RN 40, brown		149 554
Handle 150 S, square 7 x 40, RN 40, lockable, brown		149 557
3. Strikers		
Accessories strikers TORNADO 67		149 491
4. Accessories central locking gear ZV 16/..		
Accessories central locking gear ZV 16/.., flat groove		149 473
5. Horizontal locking for central locking gear ZV 16/5		
Horizontal locking B 1,100 mm, flat groove		148 945
Horizontal locking B 1,450 mm, flat groove		148 948
Horizontal locking B 1,900 mm, flat groove		148 951
Horizontal locking B 2,350 mm, flat groove		148 954
Horizontal locking B 2,750 mm, flat groove		148 957
6. Vertical locking for central locking gear ZV 16		
Vertical locking H 1,200 mm (measure H 730 - 1,230 mm)		145 659
Vertical locking H 1,700 mm (measure H 1,231 - 1,730 mm)		145 662
Vertical locking H 2,200 mm (measure H 1,731 - 2,230 mm)		145 665



TORNADO 72 for profile system THYSSEN

Drawing no.: 4/0050 (straight), 4/0056 (round), frame no.: L10-0156, sash no.: TS20-0120, WP no.: SZ1-9042

Window form straight and round

1. Pivot hinge TORNADO		item code
Pivot hinge TORNADO 83, white		149 452
Pivot hinge TORNADO 83, brown		149 455
2. HAUTAU design handles		
Handle 150, square 7 x 40, white		149 536
Handle 150 S, square 7 x 40, lockable, white		149 539
Handle 150, square 7 x 40, brown		149 542
Handle 150 S, square 7 x 40, lockable, brown		149 545

Note: Instead of using the pivot hinge for 90° sections, you can also use the pivot hinge TORNADO 10.
For the item codes of pivot hinges and handles, see page 12.

Window form straight

3. Strikers (for TORNADO 72 and TORNADO 10)			
Accessories strikers TORNADO 72			149 497
4. Accessories central locking gear ZV 16/.. (for TORNADO 72 and TORNADO 10)			
Accessories central locking gear ZV 16/.., flat groove			149 473
5. Horizontal locking for central locking gear ZV 16/4		TORNADO 72	TORNADO 10
Horizontal locking, flat groove		B 1,100 mm	B 1,100 mm 148 879
Horizontal locking, flat groove		B 1,450 mm	B 1,450 mm 148 882
Horizontal locking, flat groove		B 1,900 mm	- 148 885
Horizontal locking, flat groove		B 2,350 mm	- 148 888
Horizontal locking, flat groove		B 2,750 mm	- 148 891
6. Vertical locking for central locking gear ZV 16		TORNADO 72	TORNADO 10
Vertical locking (measure H 740 - 1,240 mm)		H 1,200 mm	H 1,200 mm 145 659
Vertical locking (measure H 1,241 - 1,740 mm)		H 1,700 mm	H 1,700 mm 145 662
Vertical locking (measure H 1,741 - 2,240 mm)		H 2,200 mm	- 145 665

Window form round

3. Strikers RD (for TORNADO 72 and TORNADO 10)					
Accessories strikers TORNADO 72 RD					149 569
4. Espag for central locking gear ZV 16 RD		TORNADO 72	TORNADO 10	straight	pre-bent
Espag size 1	FFØ mm	750 - 1,000	750 - 1,000	149 374	149 734
Espag size 2	FFØ mm	1,001 - 1,250	1,001 - 1,250	149 377	149 737
Espag size 3	FFØ mm	1,251 - 1,500	1,251 - 1,500	149 380	149 740
Espag size 4	FFØ mm	1,501 - 1,750	-	149 383	149 743
Espag size 5	FFØ mm	1,751 - 2,000	-	149 386	149 746
5. Top locking, H = 35 mm		TORNADO 72	TORNADO 10	straight	pre-bent
Locking for espag size 1-3	FFØ mm	750 - 1,500	750 - 1,500	159 507	149 812
Locking for espag size 4-5	FFØ mm	1,501 - 2,000	-	159 510	149 815



TORNADO 74 for profile system PLUS PLAN

Drawing no.: 4/0002 (straight), 4/0059 (round), frame no.: BR 76, sash no.: FR 85 S, WP no.: ST 61 F

Window form straight and round

1. Pivot hinge TORNADO		item code
Pivot hinge TORNADO 74, white		149 437
2. HAUTAU design handles		
Handle 150, square 7 x 40, white		149 536
Handle 150 S, square 7 x 40, lockable, white		149 539
Note: Instead of using the pivot hinge for 90° sections, you can also use the pivot hinge TORNADO 10. For the item codes of pivot hinges and handles, see page 12.		

Window form straight

3. Strikers (for TORNADO 74 and TORNADO 10)			
Accessories strikers TORNADO 74			149 500
4. Accessories central locking gear ZV 16/.. (for TORNADO 74 and TORNADO 10)			
Accessories central locking gear ZV 16/..., flat groove			149 473
5. Horizontal locking for central locking gear ZV 16/1			
	TORNADO 74	TORNADO 10	
Horizontal locking, flat groove	B 1,100 mm	B 1,100 mm	148 126
Horizontal locking, flat groove	B 1,450 mm	B 1,450 mm	148 129
Horizontal locking, flat groove	B 1,900 mm	-	148 132
Horizontal locking, flat groove	B 2,350 mm	-	148 135
Horizontal locking, flat groove	B 2,750 mm	-	148 138
6. Vertical locking for central locking gear ZV 16			
	TORNADO 74	TORNADO 10	
Vertical locking (measure H 730 - 1,230 mm)	H 1,200 mm	H 1,200 mm	145 659
Vertical locking (measure H 1,231 - 1,730 mm)	H 1,700 mm	H 1,700 mm	145 662
Vertical locking (measure H 1,731 - 2,230 mm)	H 2,200 mm	-	145 665

Window form round

3. Strikers RD (for TORNADO 74 and TORNADO 10)					
Accessories strikers TORNADO 74 RD					149 572
4. Espag for central locking gear ZV 16 RD					
	TORNADO 74	TORNADO 10	straight	pre-bent	
Espag size 1 FFØ mm	750 - 1,000	750 - 1,000	149 374	149 734	
Espag size 2 FFØ mm	1,001 - 1,250	1,001 - 1,250	149 377	149 737	
Espag size 3 FFØ mm	1,251 - 1,500	1,251 - 1,500	149 380	149 740	
Espag size 4 FFØ mm	1,501 - 1,750	-	149 383	149 743	
Espag size 5 FFØ mm	1,751 - 2,000	-	149 386	149 746	
5. Top locking, H = 28 mm					
	TORNADO 74	TORNADO 10	straight	pre-bent	
Locking for espag size 1-3 FFØ mm	750 - 1,500	750 - 1,500	159 489	149 806	
Locking for espag size 4-5 FFØ mm	1,501 - 2,000	-	159 492	149 809	

TORNADO 75 for profile system Salamander

Drawing no.: 4/0053 (straight), 4/0060 (round), frame no.: 300 020, sash no.: 301 030, 301 040, WP no.: 206 030

Window form straight and round

1. Pivot hinge TORNADO		item code
Pivot hinge TORNADO 70, white		149 440
Pivot hinge TORNADO 70, brown		149 443
2. HAUTAU design handles		
Handle 150, square 7 x 40, white		149 536
Handle 150 S, square 7 x 40, lockable, white		149 539
Handle 150, square 7 x 40, brown		149 542
Handle 150 S, square 7 x 40, lockable, brown		149 545
Note: Instead of using the pivot hinge for 90° sections, you can also use the pivot hinge TORNADO 10. For the item codes of pivot hinges and handles, see page 12.		

Window form straight

3. Strikers (for TORNADO 75 and TORNADO 10)			
Accessories strikers TORNADO 75			149 503
4. Accessories central locking gear ZV 16/.. (for TORNADO 75 and TORNADO 10)			
Accessories central locking gear ZV 16/.., flat groove			149 473
5. Horizontal locking for central locking gear ZV 16/3		TORNADO 75	TORNADO 10
Horizontal locking, flat groove		B 1,100 mm	B 1,100 mm 145 491
Horizontal locking, flat groove		B 1,450 mm	B 1,450 mm 145 494
Horizontal locking, flat groove		B 1,900 mm	- 145 497
Horizontal locking, flat groove		B 2,350 mm	- 145 500
Horizontal locking, flat groove		B 2,750 mm	- 145 503
6. Vertical locking for central locking gear ZV 16		TORNADO 75	TORNADO 10
Vertical locking (measure H 730 - 1,230 mm)		H 1,200 mm	H 1,200 mm 145 659
Vertical locking (measure H 1,231 - 1,730 mm)		H 1,700 mm	H 1,700 mm 145 662
Vertical locking (measure H 1,731 - 2,230 mm)		H 2,200 mm	- 145 665

Window form round

3. Strikers RD (for TORNADO 75 and TORNADO 10)					
Accessories strikers TORNADO 75 RD					149 575
4. Espag for central locking gear ZV 16 RD		TORNADO 75	TORNADO 10	straight	pre-bent
Espag size 1	FFØ mm	750 - 1,000	750 - 1,000	149 374	149 734
Espag size 2	FFØ mm	1,001 - 1,250	1,001 - 1,250	149 377	149 737
Espag size 3	FFØ mm	1,251 - 1,500	1,251 - 1,500	149 380	149 740
Espag size 4	FFØ mm	1,501 - 1,750	-	149 383	149 743
Espag size 5	FFØ mm	1,751 - 2,000	-	149 386	149 746
5. Top locking, H = 32 mm		TORNADO 75	TORNADO 10	straight	pre-bent
Locking for espag size 1-3	FFØ mm	750 - 1,500	750 - 1,500	159 501	149 818
Locking for espag size 4-5	FFØ mm	1,501 - 2,000	-	159 504	149 821



TORNADO 76 for profile system KBE

Drawing no.: 4/0041 (straight), 4/0133 (round), frame no.: 106/306/707, sash no.: 519, WP no.: 734

Window form straight and round

1. Pivot hinge TORNADO	item code
Pivot hinge TORNADO 76, white	151 492
Pivot hinge TORNADO 76, brown	151 495
2. HAUTAU design handles	
Handle 150, square 7 x 40, white	149 536
Handle 150 S, square 7 x 40, lockable, white	149 539
Handle 150, square 7 x 40, brown	149 542
Handle 150 S, square 7 x 40, lockable, brown	149 545

Note: Instead of using the pivot hinge for 90° sections, you can also use the pivot hinge TORNADO 10.
For the item codes of pivot hinges and handles, see page 12.

Window form straight

3. Strikers (for TORNADO 76 and TORNADO 10)			
Accessories strikers TORNADO 76			151 477
Accessories strikers TORNADO 76 AhS			172 223
4. Accessories central locking gear ZV 16 (for TORNADO 76 and TORNADO 10)			
Accessories central locking gear ZV 16			149 470
Accessories central locking gear ZV 16 AhS			157 913
5. Horizontal locking for central locking gear ZV 16	TORNADO 76	TORNADO 10	
Horizontal locking euro groove	B 1,100 mm	B 1,100 mm	145 644
Horizontal locking euro groove	B 1,450 mm	B 1,450 mm	145 647
Horizontal locking euro groove	B 1,900 mm	-	145 650
Horizontal locking euro groove	B 2,350 mm	-	145 653
Horizontal locking euro groove	B 2,750 mm	-	145 656
6. Vertical locking for central locking gear ZV 16	TORNADO 76	TORNADO 10	
Vertical locking	H 1,200 mm	H 1,200 mm	145 659
Vertical locking	H 1,700 mm	H 1,700 mm	145 662
Vertical locking	H 2,200 mm	-	145 665

Window form round

3. **Strikers RD** (for TORNADO 76 and TORNADO 10)

Accessories strikers TORNADO 76 RD				151 852
------------------------------------	--	--	--	---------

4. **Espag for central locking gear ZV 16 RD**

		TORNADO 76	TORNADO 10	straight	pre-bent
Espag size 1	FFØ mm	750 - 1,000	750 - 1,000	149 374	149 734
Espag size 2	FFØ mm	1,001 - 1,250	1,001 - 1,250	149 377	149 737
Espag size 3	FFØ mm	1,251 - 1,500	1,251 - 1,500	149 380	149 740
Espag size 4	FFØ mm	1,501 - 1,750	-	149 383	149 743
Espag size 5	FFØ mm	1,751 - 2,000	-	149 386	149 746

5. **Top locking, H = 30 mm**

		TORNADO 76	TORNADO 10	straight	pre-bent
Locking for espag size 1	FFØ mm	750 - 1,000	750 - 1,000	145 887	149 764
Locking for espag size 2	FFØ mm	1,001 - 1,250	1,001 - 1,250	145 890	149 767
Locking for espag size 3	FFØ mm	1,251 - 1,500	1,251 - 1,500	145 893	149 770
Locking for espag size 4-5	FFØ mm	1,501 - 2,000	-	145 896	149 773



TORNADO 78 for profile system REHAU S 730

Drawing no.: 4/0026 (straight), 4/0025 (round), frame no.: 541060, sash no.: 541170, WP no.: 541210

Window form straight and round

1. Pivot hinge TORNADO	item code
Pivot hinge TORNADO 83, white	149 452
Pivot hinge TORNADO 83, brown	149 455
2. HAUTAU design handles	
Handle 150, square 7 x 40, white	149 536
Handle 150 S, square 7 x 40, lockable, white	149 539
Handle 150, square 7 x 40, brown	149 542
Handle 150 S, square 7 x 40, lockable, brown	149 545

Note: Instead of using the pivot hinge for 90° sections, you can also use the pivot hinge TORNADO 10.
For the item codes of pivot hinges and handles, see page 12.

Window form straight

3. Strikers (for TORNADO 78 and TORNADO 10)			
Accessories strikers TORNADO 78			149 509
Accessories strikers TORNADO 78 AhS			171 903
4. Accessories central locking gear ZV 16 (for TORNADO 78 and TORNADO 10)			
Accessories central locking gear ZV 16			149 470
Accessories central locking gear ZV 16 AhS			157 913
5. Horizontal locking for central locking gear ZV 16	TORNADO 78	TORNADO 10	
Horizontal locking for euro groove	B 1,100 mm	B 1,100 mm	145 644
Horizontal locking for euro groove	B 1,450 mm	B 1,450 mm	145 647
Horizontal locking for euro groove	B 1,900 mm	-	145 650
Horizontal locking for euro groove	B 2,350 mm	-	145 653
Horizontal locking for euro groove	B 2,750 mm	-	145 656
6. Vertical locking for central locking gear ZV 16	TORNADO 78	TORNADO 10	
Vertical locking	H 1,200 mm	H 1,200 mm	145 659
Vertical locking	H 1,700 mm	H 1,700 mm	145 662
Vertical locking	H 2,200 mm	-	145 665

Window form round

3. Strikers RD (for TORNADO 78 and TORNADO 10)				
Accessories strikers TORNADO 78 RD				149 581
4. Espag for central locking gear ZV 16 RD	TORNADO 78	TORNADO 10	straight	pre-bent
Espag size 1 FFØ mm	750 - 1,000	750 - 1,000	149 374	149 734
Espag size 2 FFØ mm	1,001 - 1,250	1,001 - 1,250	149 377	149 737
Espag size 3 FFØ mm	1,251 - 1,500	1,251 - 1,500	149 380	149 740
Espag size 4 FFØ mm	1,501 - 1,750	-	149 383	149 743
Espag size 5 FFØ mm	1,751 - 2,000	-	149 386	149 746
5. Top locking, H = 30 mm	TORNADO 78	TORNADO 10	straight	pre-bent
Locking for espag size 1 FFØ mm	750 - 1,000	750 - 1,000	145 887	149 764
Locking for espag size 2 FFØ mm	1,001 - 1,250	1,001 - 1,250	145 890	149 767
Locking for espag size 3 FFØ mm	1,251 - 1,500	1,251 - 1,500	145 893	149 770
Locking for espag size 4-5 FFØ mm	1,501 - 2,000	-	145 896	149 773



TORNADO 83 for profile system THYSSEN DECOR

Drawing no.: 4/0045 (straight), 4/0057 (round), frame no.: L3-0155, sash no.: TS1-0111, WP no.: SZ1-9042

Window form straight and round

1. Pivot hinge TORNADO	item code
Pivot hinge TORNADO 83, white	149 452
Pivot hinge TORNADO 83, brown	149 455
2. HAUTAU design handles	
Handle 150, square 7 x 40, white	149 536
Handle 150 S, square 7 x 40, lockable, white	149 539
Handle 150, square 7 x 40, brown	149 542
Handle 150 S, square 7 x 40, lockable, brown	149 545
Note: Instead of using the pivot hinge for 90° sections, you can also use the pivot hinge TORNADO 10. For the item codes of pivot hinges and handles, see page 12.	

Window form straight

3. Strikers (for TORNADO 83 and TORNADO 10)			
Accessories strikers TORNADO 83			149 512
4. Accessories central locking gear ZV 16/.. (for TORNADO 83 and TORNADO 10)			
Accessories central locking gear ZV 16/.., flat groove			149 473
5. Horizontal locking for central locking gear ZV 16/4			
	TORNADO 83	TORNADO 10	
Horizontal locking, flat groove	B 1,100 mm	B 1,100 mm	148 879
Horizontal locking, flat groove	B 1,450 mm	B 1,450 mm	148 882
Horizontal locking, flat groove	B 1,900 mm	-	148 885
Horizontal locking, flat groove	B 2,350 mm	-	148 888
Horizontal locking, flat groove	B 2,750 mm	-	148 891
6. Vertical locking for central locking gear ZV 16			
	TORNADO 83	TORNADO 10	
Vertical locking (FFH 740 - 1,240 mm)	H 1,200 mm	H 1,200 mm	145 659
Vertical locking (FFH 1,241 - 1,740 mm)	H 1,700 mm	H 1,700 mm	145 662
Vertical locking (FFH 1,741 - 2,240 mm)	H 2,200 mm	-	145 665

Window form round

3. Strikers RD (for TORNADO 83 and TORNADO 10)					
Accessories strikers TORNADO 83 RD					149 584
4. Espag for central locking gear ZV 16 RD					
		TORNADO 83	TORNADO 10	straight	pre-bent
Espag size 1	FFØ mm	750 - 1,000	750 - 1,000	149 374	149 734
Espag size 2	FFØ mm	1,001 - 1,250	1,001 - 1,250	149 377	149 737
Espag size 3	FFØ mm	1,251 - 1,500	1,251 - 1,500	149 380	149 740
Espag size 4	FFØ mm	1,501 - 1,750	-	149 383	149 743
Espag size 5	FFØ mm	1,751 - 2,000	-	149 386	149 746
5. Top locking, H = 35 mm					
		TORNADO 83	TORNADO 10	straight	pre-bent
Locking for espag size 1-3	FFØ mm	750 - 1,500	750 - 1,500	159 507	149 812
Locking for espag size 4-5	FFØ mm	1,501 - 2,000	-	159 510	149 815



TORNADO 84 for profile system HELMITIN KSL

Drawing no.: 4/0158 (straight), 4/0160 (round), frame no.: 4-60180, sash no.: 4-60191, WP no.: 4-60138

Window form straight and round

1. Pivot hinge TORNADO	item code
Pivot hinge TORNADO 83, white	149 452
Pivot hinge TORNADO 83, brown	149 455
2. HAUTAU design handles	
Handle 150, square 7 x 40, white	149 536
Handle 150 S, square 7 x 40, lockable, white	149 539
Handle 150, square 7 x 40, brown	149 542
Handle 150 S, square 7 x 40, lockable, brown	149 545
Note: Instead of using the pivot hinge for 90° sections, you can also use the pivot hinge TORNADO 10. For the item codes of pivot hinges and handles, see page 12.	

Window form straight

3. Strikers (for TORNADO 84 and TORNADO 10)			
Accessories strikers TORNADO 84			149 515
4. Accessories central locking gear ZV 16/.. (for TORNADO 84 and TORNADO 10)			
Accessories central locking gear ZV 16/.., flat groove			149 473
5. Horizontal locking for central locking gear ZV 16/3			
	TORNADO 84	TORNADO 10	
Horizontal locking, flat groove	B 1,100 mm	B 1,100 mm	145 491
Horizontal locking, flat groove	B 1,450 mm	B 1,450 mm	145 494
Horizontal locking, flat groove	B 1,900 mm	-	145 497
Horizontal locking, flat groove	B 2,350 mm	-	145 500
Horizontal locking, flat groove	B 2,750 mm	-	145 503
6. Vertical locking for central locking gear ZV 16			
	TORNADO 84	TORNADO 10	
Vertical locking (FFH 735 - 1,235 mm)	H 1,200 mm	H 1,200 mm	145 659
Vertical locking (FFH 1236 - 1,735 mm)	H 1,700 mm	H 1,700 mm	145 662
Vertical locking (FFH 1,736 - 2,235 mm)	H 2,200 mm	-	145 665

Window form round

3. Strikers RD (for TORNADO 84 and TORNADO 10)					
Accessories strikers TORNADO 84 RD					149 587
4. Espag for central locking gear ZV 16 RD					
		TORNADO 84	TORNADO 10	straight	pre-bent
Espag size 1	FFØ mm	750 - 1,000	750 - 1,000	149 374	149 734
Espag size 2	FFØ mm	1,001 - 1,250	1,001 - 1,250	149 377	149 737
Espag size 3	FFØ mm	1,251 - 1,500	1,251 - 1,500	149 380	149 740
Espag size 4	FFØ mm	1,501 - 1,750	-	149 383	149 743
Espag size 5	FFØ mm	1,751 - 2,000	-	149 386	149 746
5. Top locking, H = 32 mm					
		TORNADO 84	TORNADO 10	straight	pre-bent
Locking for espag size 1-3	FFØ mm	750 - 1,500	750 - 1,500	159 501	149 818
Locking for espag size 4-5	FFØ mm	1,501 - 2,000	-	159 504	149 821



TORNADO 86 for profile system VEKA Softline AD

Drawing no.: 4/0029 (straight), 4/0062 (round), frame no.: 101.085, 101.086, sash no.: 102.115.1, WP no.: 102.114.1

Window form straight and round

1. Pivot hinge TORNADO		item code
Pivot hinge TORNADO 86, white		149 458
Pivot hinge TORNADO 86, brown		149 461
2. HAUTAU design handles		
Handle 150, square 7 x 40, white		149 536
Handle 150 S, square 7 x 40, lockable, white		149 539
Handle 150, square 7 x 40, brown		149 542
Handle 150 S, square 7 x 40, lockable, brown		149 545

Note: Instead of using the pivot hinge for 90° sections, you can also use the pivot hinge TORNADO 10.
For the item codes of pivot hinges and handles, see page 12.

Window form straight

3. Strikers (for TORNADO 86 and TORNADO 10)			
Accessories strikers TORNADO 86			149 518
Accessories strikers TORNADO 86 AhS			157 916
4. Accessories central locking gear ZV 16 (for TORNADO 86 and TORNADO 10)			
Accessories central locking gear ZV 16			149 470
Accessories central locking gear ZV 16 AhS			157 913
5. Horizontal locking for central locking gear ZV 16	TORNADO 86	TORNADO 10	
Horizontal locking for euro groove	B 1,100 mm	B 1,100 mm	145 644
Horizontal locking for euro groove	B 1,450 mm	B 1,450 mm	145 647
Horizontal locking for euro groove	B 1,900 mm	-	145 650
Horizontal locking for euro groove	B 2,350 mm	-	145 653
Horizontal locking for euro groove	B 2,750 mm	-	145 656
6. Vertical locking for central locking gear ZV 16	TORNADO 86	TORNADO 10	
Vertical locking	H 1,200 mm	H 1,200 mm	145 659
Vertical locking	H 1,700 mm	H 1,700 mm	145 662
Vertical locking	H 2,200 mm	-	145 665

Window form round

3. Strikers RD (for TORNADO 86 and TORNADO 10)					
Accessories strikers TORNADO 86 RD					149 590
4. Espag for central locking gear ZV 16 RD		TORNADO 86	TORNADO 10	straight	pre-bent
Espag size 1	FFØ mm	750 - 1,000	750 - 1,000	149 374	149 734
Espag size 2	FFØ mm	1,001 - 1,250	1,001 - 1,250	149 377	149 737
Espag size 3	FFØ mm	1,251 - 1,500	1,251 - 1,500	149 380	149 740
Espag size 4	FFØ mm	1,501 - 1,750	-	149 383	149 743
Espag size 5	FFØ mm	1,751 - 2,000	-	149 386	149 746
5. Top locking, H = 32 mm		TORNADO 86	TORNADO 10	straight	pre-bent
Locking for espag size 1	FFØ mm	750 - 1,000	750 - 1,000	149 239	149 776
Locking for espag size 2	FFØ mm	1,001 - 1,250	1,001 - 1,250	149 242	149 779
Locking for espag size 3	FFØ mm	1,251 - 1,500	1,251 - 1,500	149 245	149 782
Locking for espag size 4-5	FFØ mm	1,501 - 2,000	-	149 248	149 785



TORNADO 92 for profile system GEALAN 3000

Drawing no.: 4/0021 (straight), 4/0063 (round), frame no.: 3008, 3011, sash no.: 3078, WP no.: 3080

Window form straight and round

1. Pivot hinge TORNADO	item code
Pivot hinge TORNADO 92, white	149 464
Pivot hinge TORNADO 92, brown	149 467
2. HAUTAU design handles	
Handle 150, square 7x40, white	149 536
Handle 150 S, square 7x40, lockable, white	149 539
Handle 150, square 7x40, brown	149 542
Handle 150 S, square 7x40, lockable, brown	149 545

Note: Instead of using the pivot hinge for 90° sections, you can also use the pivot hinge TORNADO 10.
For the item codes of pivot hinges and handles, see page 12.

Window form straight

3. Strikers (for TORNADO 92 and TORNADO 10)			
Accessories strikers TORNADO 92			149 521
Accessories strikers TORNADO 92 AhS			172 226
4. Accessories central locking gear ZV 16 (for TORNADO 92 and TORNADO 10)			
Accessories central locking gear ZV 16			149 470
Accessories central locking gear ZV 16 AhS			157 913
5. Horizontal locking for central locking gear ZV 16	TORNADO 92	TORNADO 10	
Horizontal locking for euro groove	B 1,100 mm	B 1,100 mm	145 644
Horizontal locking for euro groove	B 1,450 mm	B 1,450 mm	145 647
Horizontal locking for euro groove	B 1,900 mm	-	145 650
Horizontal locking for euro groove	B 2,350 mm	-	145 653
Horizontal locking for euro groove	B 2,750 mm	-	145 656
6. Vertical locking for central locking gear ZV 16	TORNADO 92	TORNADO 10	
Vertical locking	H 1,200 mm	H 1,200 mm	145 659
Vertical locking	H 1,700 mm	H 1,700 mm	145 662
Vertical locking	H 2,200 mm	-	145 665

Window form round

3. Strikers RD (for TORNADO 92 and TORNADO 10)				
Accessories strikers TORNADO 92 RD				149 593
4. Espag for central locking gear ZV 16 RD	TORNADO 92	TORNADO 10	straight	pre-bent
Espag size 1 FFØ mm	750 - 1,000	750 - 1,000	149 374	149 734
Espag size 2 FFØ mm	1,001 - 1,250	1,001 - 1,250	149 377	149 737
Espag size 3 FFØ mm	1,251 - 1,500	1,251 - 1,500	149 380	149 740
Espag size 4 FFØ mm	1,501 - 1,750	-	149 383	149 743
Espag size 5 FFØ mm	1,751 - 2,000	-	149 386	149 746
5. Top locking, H = 24 mm	TORNADO 92	TORNADO 10	straight	pre-bent
Locking for espag size 1 FFØ mm	750 - 1,000	750 - 1,000	149 251	149 788
Locking for espag size 2 FFØ mm	1,001 - 1,250	1,001 - 1,250	149 254	149 791
Locking for espag size 3 FFØ mm	1,251 - 1,500	1,251 - 1,500	149 257	149 794
Locking for espag size 4-5 FFØ mm	1,501 - 2,000	-	149 260	149 797



TORNADO 97 for profile system Kömmerling MS

Drawing no.: 4/0168 (straight), 4/0169 (round), frame no.: 1551/522, sash no.: 1567, WP no.: 1173

Window form straight and round

1. Pivot hinge TORNADO		item code
Pivot hinge TORNADO 97, white		154 351
Pivot hinge TORNADO 97, brown		154 354
2. HAUTAU design handles		
Handle 150, square 7 x 40, white		149 536
Handle 150 S, square 7 x 40, lockable, white		149 539
Handle 150, square 7 x 40, brown		149 542
Handle 150 S, square 7 x 40, lockable, brown		149 545

Note: Instead of using the pivot hinge for 90° sections, you can also use the pivot hinge TORNADO 10.
For the item codes of pivot hinges and handles, see page 12.

Window form straight

3. Strikers (for TORNADO 97 and TORNADO 10)			
Accessories strikers TORNADO 97			149 506
4. Accessories central locking gear ZV 16/.. (for TORNADO 97 and TORNADO 10)			
Accessories central locking gear ZV 16/.., flat groove			149 473
5. Horizontal locking for central locking gear ZV 16/6		TORNADO 97	TORNADO 10
Horizontal locking, flat groove		B 1,100 mm	B 1,100 mm
Horizontal locking, flat groove		B 1,450 mm	B 1,450 mm
Horizontal locking, flat groove		B 1,900 mm	-
Horizontal locking, flat groove		B 2,350 mm	-
Horizontal locking, flat groove		B 2,750 mm	-
6. Vertical locking for central locking gear ZV 16		TORNADO 97	TORNADO 10
Vertical locking (measure H 730 - 1,230 mm)		H 1,200 mm	H 1,200 mm
Vertical locking (measure H 1,231 - 1,730 mm)		H 1,700 mm	H 1,700 mm
Vertical locking (measure H 1,731 - 2,230 mm)		H 2,200 mm	-

Window form round

3. Strikers RD (for TORNADO 97 and TORNADO 10)					
Accessories strikers TORNADO 97 RD					149 578
4. Espag for central locking gear ZV 16 RD		TORNADO 97	TORNADO 10	straight	pre-bent
Espag size 1	FFØ mm	750 - 1,000	750 - 1,000	149 374	149 734
Espag size 2	FFØ mm	1,001 - 1,250	1,001 - 1,250	149 377	149 737
Espag size 3	FFØ mm	1,251 - 1,500	1,251 - 1,500	149 380	149 740
Espag size 4	FFØ mm	1,501 - 1,750	-	149 383	149 743
Espag size 5	FFØ mm	1,751 - 2,000	-	149 386	149 746
5. Top locking, H = 30 mm		TORNADO 97	TORNADO 10	straight	pre-bent
Locking for espag size 1-3	FFØ mm	750 - 1,500	750 - 1,500	159 495	154 309
Locking for espag size 4-5	FFØ mm	1,501 - 2,000	-	159 498	154 312



TORNADO 102 for profile system TROCAL economic

Drawing no.: 4/0105 (straight), sash no.: 110 200, sash no.: 120 300, WP no.: 130 300

Window form straight

1. Pivot hinge TORNADO		item code	
Pivot hinge TORNADO 102, white		154 492	
Pivot hinge TORNADO 102, brown		154 495	
2. HAUTAU design handles			
Handle 150, square 7 x 40, white		149 536	
Handle 150 S, square 7 x 40, lockable, white		149 539	
Handle 150, square 7 x 40, brown		149 542	
Handle 150 S, square 7 x 40, lockable, brown		149 545	
Note: Instead of using the pivot hinge for 90° sections, you can also use the pivot hinge TORNADO 10. For the item codes of pivot hinges and handles, see page 12.			
3. Strikers (for TORNADO 102 and TORNADO 10)			
Accessories strikers TORNADO 102		151 294	
Accessories strikers TORNADO 102 AhS		172 229	
4. Accessories central locking gear ZV 16 (for TORNADO 102 and TORNADO 10)			
Accessories central locking gear ZV 16		149 470	
Accessories central locking gear ZV 16 AhS		157 913	
5. Horizontal locking for central locking gear ZV 16	TORNADO 102	TORNADO 10	
Horizontal locking for euro groove	B 1,100 mm	B 1,100 mm	145 644
Horizontal locking for euro groove	B 1,450 mm	B 1,450 mm	145 647
Horizontal locking for euro groove	B 1,900 mm	-	145 650
Horizontal locking for euro groove	B 2,350 mm	-	145 653
Horizontal locking foreuro groove	B 2,750 mm	-	145 656
6. Vertical locking for central locking gear ZV 16	TORNADO 102	TORNADO 10	
Vertical locking	H 1,200 mm	H 1,200 mm	145 659
Vertical locking	H 1,700 mm	H 1,700 mm	145 662
Vertical locking	H 2,200 mm	-	145 665



TORNADO 117 for profile system EURODUR 3S

Drawing no.: 4/0163 (straight), 4/0167 (round), frame no.: F1401/1402, sash no.: 1418, WP no.: F00-21-1173

Window form straight and round

1. Pivot hinge TORNADO		item code
Pivot hinge TORNADO 117, white		154 018
Pivot hinge TORNADO 117, brown		154 021
2. HAUTAU design handles		
Handle 150, square 7 x 40, white		149 536
Handle 150 S, square 7 x 40, lockable, white		149 539
Handle 150, square 7 x 40, brown		149 542
Handle 150 S, square 7 x 40, lockable, brown		149 545

Note: Instead of using the pivot hinge for 90° sections, you can also use the pivot hinge TORNADO 10.
For the item codes of pivot hinges and handles, see page 12.

Window form straight

3. Strikers (for TORNADO 117 and TORNADO 10)			
Accessories strikers TORNADO 77			149 506
4. Accessories central locking gear ZV 16/.. (for TORNADO 117 and TORNADO 10)			
Accessories central locking gear ZV 16/.., flat groove			149 473
5. Horizontal locking for central locking gear ZV 16/6		TORNADO 117	TORNADO 10
Horizontal locking, flat groove		B 1,100 mm	B 1,100 mm 153 952
Horizontal locking, flat groove		B 1,450 mm	B 1,450 mm 153 955
Horizontal locking, flat groove		B 1,900 mm	- 153 958
Horizontal locking, flat groove		B 2,350 mm	- 153 961
Horizontal locking, flat groove		B 2,750 mm	- 153 964
6. Vertical locking for central locking gear ZV 16		TORNADO 117	TORNADO 10
Vertical locking (measure H 730 - 1,230 mm)		H 1,200 mm	H 1,200 mm 145 659
Vertical locking (measure H 1,231 - 1,730 mm)		H 1,700 mm	H 1,700 mm 145 662
Vertical locking (measure H 1,731 - 2,230 mm)		H 2,200 mm	- 145 665

Window form round

3. Strikers RD (for TORNADO 117 and TORNADO 10)					
Accessories strikers TORNADO 77 RD					149 578
4. Espag for central locking gear ZV 16 RD		TORNADO 117	TORNADO 10	straight	pre-bent
Espag size 1	FFØ mm	750 - 1,000	750 - 1,000	149 374	149 734
Espag size 2	FFØ mm	1,001 - 1,250	1,001 - 1,250	149 377	149 737
Espag size 3	FFØ mm	1,251 - 1,500	1,251 - 1,500	149 380	149 740
Espag size 4	FFØ mm	1,501 - 1,750	-	149 383	149 743
Espag size 5	FFØ mm	1,751 - 2,000	-	149 386	149 746
5. Top locking, H = 30 mm		TORNADO 117	TORNADO 10	straight	pre-bent
Locking for espag size 1-3	FFØ mm	750 - 1,500	750 - 1,500	159 495	154 309
Locking for espag size 4-5	FFØ mm	1,501 - 2,000	-	159 498	154 312

TORNADO 118 for profile system ROPLASTO 6001 Plus S

Drawing no.: 4/0209, frame no.: 610 500, sash no.: 610 500, WP no.: 610 600

Window form straight and round

1. Pivot hinge TORNADO	item code
Pivot hinge TORNADO 118, white	161 053
2. HAUTAU design handles	
Handle 150, square 7 x 40, white	149 536
Handle 150 S, square 7 x 40, lockable, white	149 539
Note: Instead of using the pivot hinge for 90° sections, you can also use the pivot hinge TORNADO 10. For the item codes of pivot hinges and handles, see page 12.	

Window form straight

3. Strikers (TORNADO 118 and TORNADO 10)			
Accessories strikers TORNADO 118			161 056
4. Accessories central locking gear ZV 16/.. (for TORNADO 118 and TORNADO 10)			
Accessories central locking gear ZV 16/.., flat groove			149 473
5. Horizontal locking for central locking gear ZV 16/1			
	TORNADO 118	TORNADO 10	
Horizontal locking, flat groove	B 1,100 mm	B 1,100 mm	148 126
Horizontal locking, flat groove	B 1,450 mm	B 1,450 mm	148 129
Horizontal locking, flat groove	B 1,900 mm	-	148 132
Horizontal locking, flat groove	B 2,350 mm	-	148 135
Horizontal locking, flat groove	B 2,750 mm	-	148 138
6. Vertical locking for central locking gear ZV 16			
	TORNADO 118	TORNADO 10	
Vertical locking (measure H 730 - 1,230 mm)	H 1,200 mm	H 1,200 mm	145 659
Vertical locking (measure H 1,231 - 1,730 mm)	H 1,700 mm	H 1,700 mm	145 662
Vertical locking (measure H 1,731 - 2,230 mm)	H 2,200 mm	-	145 665

Window form round

3. Strikers RD (for TORNADO 118 and TORNADO 10)					
Accessories strikers TORNADO 118 RD					168 002
4. Espag for central locking gear ZV 16 RD		TORNADO 118	TORNADO 10	straight	pre-bent
Espag size 1	FFØ mm	750 - 1,000	750 - 1,000	149 374	149 734
Espag size 2	FFØ mm	1,001 - 1,250	1,001 - 1,250	149 377	149 737
Espag size 3	FFØ mm	1,251 - 1,500	1,251 - 1,500	149 380	149 740
Espag size 4	FFØ mm	1,501 - 1,750	-	149 383	149 743
Espag size 5	FFØ mm	1,751 - 2,000	-	149 386	149 746
5. Top locking, H = 28 mm		TORNADO 118	TORNADO 10	straight	pre-bent
Locking for espag size 1-3	FFØ mm	750 - 1,500	750 - 1,500	159 489	154 806
Locking for espag size 4-5	FFØ mm	1,501 - 2,000	-	159 492	154 809



TORNADO 119 for profile system Salamander 2D

Drawing no.: 4/0204, frame no.: 210 020, sash no.: 311 030, WP no.: 206 036

Window form straight

1. Pivot hinge TORNADO			item code
Pivot hinge TORNADO 119, white			163 230
Pivot hinge TORNADO 119, brown			171 383
2. HAUTAU design handles			
Handle 150, square 7 x 40, white			149 536
Handle 150 S, square 7 x 40, lockable, white			149 539
Handle 150, square 7 x 40, brown			149 542
Handle 150 S, square 7 x 40, lockable, brown			149 545
Note: Instead of using the pivot hinge for 90° sections, you can also use the pivot hinge TORNADO 10. For the item codes of pivot hinges and handles, see page 12.			
3. Strikers (for TORNADO 119 and TORNADO 10)			
Accessories strikers TORNADO 119			161 698
4. Accessories central locking gear ZV 16/.. (for TORNADO 119 and TORNADO 10)			
Accessories central locking gear ZV 16/.., flat groove			149 473
5. Horizontal locking for central locking gear ZV 16/3			
	TORNADO 119	TORNADO 10	
Horizontal locking, flat groove	B 1,100 mm	B 1,100 mm	145 491
Horizontal locking, flat groove	B 1,450 mm	B 1,450 mm	145 494
Horizontal locking, flat groove	B 1,900 mm	-	145 497
Horizontal locking, flat groove	B 2,350 mm	-	145 500
Horizontal locking, flat groove	B 2,750 mm	-	145 503
6. Vertical locking for central locking gear ZV 16			
	TORNADO 119	TORNADO 10	
Vertical locking	H 1,200 mm	H 1,200 mm	145 659
Vertical locking	H 1,700 mm	H 1,700 mm	145 662
Vertical locking	H 2,200 mm	-	145 665



TORNADO 120 for Dimex Comfort

Drawing no.: 4/0224

Window form straight

1. Pivot hinge TORNADO			item code
Pivot hinge TORNADO 120, white			163 972
Pivot hinge TORNADO 120, brown			163 981
2. HAUTAU design handles			
Handle 150, square 7 x 40, white			149 536
Handle 150 S, square 7 x 40, lockable, white			149 539
Handle 150, square 7 x 40, brown			149 542
Handle 150 S, square 7 x 40, lockable, brown			149 545
Note: Instead of using the pivot hinge for 90° sections, you can also use the pivot hinge TORNADO 10. For the item codes of pivot hinges and handles, see page 12.			
3. Strikers (for TORNADO 120 and TORNADO 10)			
Accessories strikers TORNADO 120			163 963
Accessories strikers TORNADO 120 AhS			172 232
4. Accessories central locking gear ZV 16 (for TORNADO 120 and TORNADO 10)			
Accessories central locking gear ZV 16			149 470
Accessories central locking gear ZV 16 AhS			157 913
5. Horizontal locking for central locking gear ZV 16			
	TORNADO 120	TORNADO 10	
Horizontal locking for euro groove	B 1,100 mm	B 1,100 mm	145 644
Horizontal locking for euro groove	B 1,450 mm	B 1,450 mm	145 647
Horizontal locking for euro groove	B 1,900 mm	-	145 650
Horizontal locking for euro groove	B 2,350 mm	-	145 653
Horizontal locking for euro groove	B 2,750 mm	-	145 656
6. Vertical locking for central locking gear ZV 16			
	TORNADO 120	TORNADO 10	
Vertical locking	H 1,200 mm	H 1,200 mm	145 659
Vertical locking	H 1,700 mm	H 1,700 mm	145 662
Vertical locking	H 2,200 mm	-	145 665



TORNADO 123 for profile systems K  mmerling Eurofuture
Elegance, and Classic

Drawing no.: 4/0431 and 4/0432 AhS (straight), 4/0440 (round),
elegance = sash no.: 0101, sash no.: 0118, WP no.: 0140
classic = frame no.: 2401/02, sash no.: 2418, WP no.: 2440

Window form straight and round

1. Pivot hinge TORNADO	item code
Pivot hinge TORNADO 123, white	176 445
Pivot hinge TORNADO 123, brown	176 448
2. HAUTAU design handles	
Handle 150, square 7 x 40, white	149 536
Handle 150 S, square 7 x 40, lockable, white	149 539
Handle 150, square 7 x 40, brown	149 542
Handle 150 S, square 7 x 40, lockable, brown	149 545
Note: Instead of using the pivot hinge for 90� sections, you can also use the pivot hinge TORNADO 10. For the item codes of pivot hinges and handles, see page 12.	

Window form straight

3. Strikers (for TORNADO 123 and TORNADO 10)			
Accessories strikers TORNADO 123			176 430
Accessories strikers TORNADO 123 AhS			176 451
4. Accessories central locking gear ZV 16 (for TORNADO 123 and TORNADO 10)			
Accessories central locking gear ZV 16			149 470
Accessories central locking gear ZV 16 AhS			157 913
5. Horizontal locking for central locking gear ZV 16	TORNADO 123	TORNADO 10	
Horizontal locking for euro groove	B 1,100 mm	B 1,100 mm	145 644
Horizontal locking for euro groove	B 1,450 mm	B 1,450 mm	145 647
Horizontal locking for euro groove	B 1,900 mm	-	145 650
Horizontal locking for euro groove	B 2,350 mm	-	145 653
Horizontal locking for euro groove	B 2,750 mm	-	145 656
6. Vertical locking for central locking gear ZV 16	TORNADO 123	TORNADO 10	
Vertical locking	H 1,200 mm	H 1,200 mm	145 659
Vertical locking	H 1,700 mm	H 1,700 mm	145 662
Vertical locking	H 2,200 mm	-	145 665

Window form round

3. Strikers RD (for TORNADO 123 and TORNADO 10)					
Accessories strikers TORNADO 123 RD					179 629
4. Espag for central locking gear ZV 16 RD	TORNADO 123	TORNADO 10	straight	pre-bent	
Espag size 1 FF� mm	750 - 1,000	750 - 1,000	149 374	149 734	
Espag size 2 FF� mm	1,001 - 1,250	1,001 - 1,250	149 377	149 737	
Espag size 3 FF� mm	1,251 - 1,500	1,251 - 1,500	149 380	149 740	
Espag size 4 FF� mm	1,501 - 1,750	-	149 383	149 743	
Espag size 5 FF� mm	1,751 - 2,000	-	149 386	149 746	
5. Top locking, H = 26 mm	TORNADO 123	TORNADO 10	straight	pre-bent	
Locking for espag size 1 FF� mm	750 - 1,000	750 - 1,000	158 072	158 084	
Locking for espag size 2 FF� mm	1,001 - 1,250	1,001 - 1,250	158 075	158 087	
Locking for espag size 3 FF� mm	1,251 - 1,500	1,251 - 1,500	178 078	158 090	
Locking for espag size 4-5 FF� mm	1,501 - 2,000	-	178 081	158 093	



TORNADO 125 for profile system GEALAN 8000

Drawing no.: 4/0444, 4/0518 (round),
frame no.: 8008, sash no.: 8078, WP no.: 8080

Window form straight and round

1. Pivot hinge TORNADO	item code
Pivot hinge TORNADO 125, white	178 682
Pivot hinge TORNADO 125, brown	178 685

2. HAUTAU design handles

Handle 150, square 7 x 55, white	157 988
Handle 150 S, square 7 x 55, lockable, white	178 694
Handle 150, square 7 x 55, brown	157 991
Handle 150 S, square 7 x 55, lockable, brown	178 697

Note: Instead of using the pivot hinge for 90° sections, you can also use the pivot hinge TORNADO 10.
For the item codes of pivot hinges and handles, see page 12.

Window form straight

3. Strikers (for TORNADO 125 and TORNADO 10)	
Accessories strikers TORNADO 125	178 691
Accessories strikers TORNADO 125 AhS	178 712

4. Accessories central locking gear ZV 16 (for TORNADO 125 and TORNADO 10)

Accessories central locking gear ZV 16	149 470
Accessories central locking gear ZV 16 AhS	157 913

5. Horizontal locking for central locking gear ZV 16	TORNADO 125	TORNADO 10	
Horizontal locking for euro groove	B 1,100 mm	B 1,100 mm	145 644
Horizontal locking for euro groove	B 1,450 mm	B 1,450 mm	145 647
Horizontal locking for euro groove	B 1,900 mm	-	145 650
Horizontal locking for euro groove	B 2,350 mm	-	145 653
Horizontal locking for euro groove	B 2,750 mm	-	145 656

6. Vertical locking for central locking gear ZV 16	TORNADO 125	TORNADO 10	
Vertical locking	H 1,200 mm	H 1,200 mm	145 659
Vertical locking	H 1,700 mm	H 1,700 mm	145 662
Vertical locking	H 2,200 mm	-	145 665

Window form round

3. Strikers RD (for TORNADO 125 and TORNADO 10)	
Accessories strikers TORNADO 125 RD	179 959

4. Espag for central locking gear ZV 16 RD		TORNADO 125	TORNADO 10	straight	pre-bent
Espag size 1	FFØ mm	750 - 1,000	750 - 1,000	149 374	149 734
Espag size 2	FFØ mm	1,001 - 1,250	1,001 - 1,250	149 377	149 737
Espag size 3	FFØ mm	1,251 - 1,500	1,251 - 1,500	149 380	149 740
Espag size 4	FFØ mm	1,501 - 1,750	-	149 383	149 743
Espag size 5	FFØ mm	1,751 - 2,000	-	149 386	149 746

5. Top locking, H = 26 mm		TORNADO 125	TORNADO 10	straight	pre-bent
Locking for espag size 1	FFØ mm	750 - 1,000	750 - 1,000	158 072	158 084
Locking for espag size 2	FFØ mm	1,001 - 1,250	1,001 - 1,250	158 075	158 087
Locking for espag size 3	FFØ mm	1,251 - 1,500	1,251 - 1,500	178 078	158 090
Locking for espag size 4-5	FFØ mm	1,501 - 2,000	-	178 081	158 093



TORNADO 126 for profile system Rehau Brilliant Design

Drawing no.: 4/0445 (straight),
frame no.: 550000, sash no.: 550400, WP no.: 550530

Window form straight and round

1. Pivot hinge TORNADO			item code
Pivot hinge TORNADO 126, white			179 372
Pivot hinge TORNADO 126, brown			179 375
2. HAUTAU design handles			
Handle 150, square 7 x 40, white			149 536
Handle 150 S, square 7 x 40, lockable, white			149 539
Handle 150, square 7 x 40, brown			149 542
Handle 150 S, square 7 x 40, lockable, brown			149 545
Note: Instead of using the pivot hinge for 90° sections, you can also use the pivot hinge TORNADO 10. For the item codes of pivot hinges and handles, see page 12.			
3. Strikers (for TORNADO 123 and TORNADO 10)			
Accessories strikers TORNADO 126			179 378
Accessories strikers TORNADO 126 AhS			179 381
4. Accessories central locking gear ZV 16 (for TORNADO 126 and TORNADO 10)			
Accessories central locking gear ZV 16			149 470
Accessories central locking gear ZV 16 AhS			157 913
5. Horizontal locking for central locking gear ZV 16	TORNADO 126	TORNADO 10	
Horizontal locking for euro groove	B 1,100 mm	B 1,100 mm	145 644
Horizontal locking for euro groove	B 1,450 mm	B 1,450 mm	145 647
Horizontal locking for euro groove	B 1,900 mm	-	145 650
Horizontal locking for euro groove	B 2,350 mm	-	145 653
Horizontal locking for euro groove	B 2,750 mm	-	145 656
6. Vertical locking for central locking gear ZV 16	TORNADO 126	TORNADO 10	
Vertical locking	H 1,200 mm	H 1,200 mm	145 659
Vertical locking	H 1,700 mm	H 1,700 mm	145 662
Vertical locking	H 2,200 mm	-	145 665



TORNADO 129 for profile system Schüco CT 70

Drawing no.: 4/0464 (straight), 4/0522 (round),
frame no.: 8597, sash no.: 8509, WP no.: 8636

Window form straight and round

1. Pivot hinge TORNADO	item code
Pivot hinge TORNADO 129, white	177 798
Pivot hinge TORNADO 129, brown	177 801

2. HAUTAU design handles	
Handle 150, square 7 x 40, white	149 548
Handle 150 S, square 7 x 40, lockable, white	149 551
Handle 150, square 7 x 40, brown	149 554
Handle 150 S, square 7 x 40, lockable, brown	149 557

Note: Instead of using the pivot hinge for 90° sections, you can also use the pivot hinge TORNADO 10.
For the item codes of pivot hinges and handles, see page 12.

Window form straight

3. Strikers (for TORNADO 129 and TORNADO 10)	
Accessories strikers TORNADO 129	177 876
Accessories strikers TORNADO 129 AhS	188 693

4. Accessories central locking gear ZV 16 (for TORNADO 129 and TORNADO 10)	
Accessories central locking gear ZV 16	149 470
Accessories central locking gear ZV 16 AhS	157 913

5. Horizontal locking for central locking gear ZV 16	TORNADO 129	TORNADO 10	
Horizontal locking for euro groove	B 1,100 mm	B 1,100 mm	177 879
Horizontal locking for euro groove	B 1,450 mm	B 1,450 mm	177 882
Horizontal locking for euro groove	B 1,900 mm	-	177 885
Horizontal locking for euro groove	B 2,350 mm	-	177 888

6. Vertical locking for central locking gear ZV 16	TORNADO 129	TORNADO 10	
Vertical locking	H 1,200 mm	H 1,200 mm	145 659
Vertical locking	H 1,700 mm	H 1,700 mm	145 662
Vertical locking	H 2,200 mm	-	145 665

Window form round

3. Strikers RD (for TORNADO 129 and TORNADO 10)	
Accessories strikers TORNADO 129 RD	183 971

4. Espag for central locking gear ZV 16 RD		TORNADO 86	TORNADO 10	straight	pre-bent
Espag size 1	FFØ mm	750 - 1,000	750 - 1,000	149 374	149 734
Espag size 2	FFØ mm	1,001 - 1,250	1,001 - 1,250	149 377	149 737
Espag size 3	FFØ mm	1,251 - 1,500	1,251 - 1,500	149 380	149 740
Espag size 4	FFØ mm	1,501 - 1,750	-	149 383	149 743
Espag size 5	FFØ mm	1,751 - 2,000	-	149 386	149 746

5. Top locking, H = 28 mm		TORNADO 39	TORNADO 10	straight	pre-bent
Locking for espag size 1	FFØ mm	750 - 1,000	750 - 1,000	150 451	151 072
Locking for espag size 2	FFØ mm	1001 - 1,250	1,001 - 1,250	150 454	151 075
Locking for espag size 3	FFØ mm	1,251 - 1,500	1,251 - 1,500	150 457	151 078
Locking for espag size 4-	FFØ mm	1,501 - 2,000	-	150 460	151 081



TORNADO 130 for profile system DIMEX Contour 7.0

Drawing no.: 4/0502 (straight),
frame no.: 711800, sash no.: 711100, WP no.: 720200

Window form straight

1. Pivot hinge TORNADO			item code
Pivot hinge TORNADO 130, white			179 174
Pivot hinge TORNADO 130, brown			179 177
2. HAUTAU design handles			
Handle 150, square 7 x 40, white			149 536
Handle 150 S, square 7 x 40, lockable, white			149 539
Handle 150, square 7 x 40, brown			149 542
Handle 150 S, square 7 x 40, lockable, brown			149 545
Note: Instead of using the pivot hinge for 90° sections, you can also use the pivot hinge TORNADO 10. For the item codes of pivot hinges and handles, see page 12.			
3. Strikers (for TORNADO 130 and TORNADO 10)			
Accessories strikers TORNADO 130			179 192
Accessories strikers TORNADO 130 AhS			179 195
4. Accessories central locking gear ZV 16 (for TORNADO 130 and TORNADO 10)			
Accessories central locking gear ZV 16			149 470
Accessories central locking gear ZV 16 AhS			157 913
5. Horizontal locking for central locking gear ZV 16			
	TORNADO 130	TORNADO 10	
Horizontal locking for euro groove	B 1,100 mm	B 1,100 mm	145 644
Horizontal locking for euro groove	B 1,450 mm	B 1,450 mm	145 647
Horizontal locking for euro groove	B 1,900 mm	-	145 650
Horizontal locking for euro groove	B 2,350 mm	-	145 653
Horizontal locking for euro groove	B 2,750 mm	-	145 656
6. Vertical locking for central locking gear ZV 16			
	TORNADO 130	TORNADO 10	
Vertical locking	H 1,200 mm	H 1,200 mm	145 659
Vertical locking	H 1,700 mm	H 1,700 mm	145 662
Vertical locking	H 2,200 mm	-	145 665



TORNADO 131 for profile system ALUPLAST IDEAL 4000

Drawing no.: 4/0524 (straight),
4/0525 (TORNADO 10),
4/0526 (TORNADO 10 round)
frame no.: 140003, 101.086, sash no.: 140031, WP no.: 140066

Window form straight and round

1. Pivot hinge TORNADO	item code
Pivot hinge TORNADO 131, white	185 049
Pivot hinge TORNADO 131, brown	185 052

2. HAUTAU design handles

Handle 150, square 7 x 40, white	149 536
Handle 150 S, square 7 x 40, lockable, white	149 539
Handle 150, square 7 x 40, brown	149 542
Handle 150 S, square 7 x 40, lockable, brown	149 545

Note: Instead of using the pivot hinge for 90° sections, you can also use the pivot hinge TORNADO 10.
For the item codes of pivot hinges and handles, see page 12.

Window form straight

3. Strikers (for TORNADO 131 and TORNADO 10)	
Accessories strikers TORNADO 131	176 430
Accessories strikers TORNADO 131 AhS	184 509

4. Accessories central locking gear ZV 16 (for TORNADO 86 and TORNADO 10)

Accessories central locking gear ZV 16	149 470
Accessories central locking gear ZV 16 AhS	157 913

5. Horizontal locking for central locking gear ZV 16	TORNADO 86	TORNADO 10	
Horizontal locking for euro groove	B 1,100 mm	B 1,100 mm	145 644
Horizontal locking for euro groove	B 1,450 mm	B 1,450 mm	145 647
Horizontal locking for euro groove	B 1,900 mm	-	145 650
Horizontal locking for euro groove	B 2,350 mm	-	145 653
Horizontal locking for euro groove	B 2,750 mm	-	145 656

6. Vertical locking for central locking gear ZV 16	TORNADO 86	TORNADO 10	
Vertical locking	H 1,200 mm	H 1,200 mm	145 659
Vertical locking	H 1,700 mm	H 1,700 mm	145 662
Vertical locking	H 2,200 mm	-	145 665

Window form round

3. Strikers RD (for TORNADO 86 and TORNADO 10)	
Accessories strikers TORNADO 123 RD	179 629

4. Espag for central locking gear ZV 16 RD	TORNADO 86	TORNADO 10	straight	pre-bent
Espag size 1 FFØ mm	750 - 1,000	750 - 1,000	149 374	149 734
Espag size 2 FFØ mm	1,001 - 1,250	1,001 - 1,250	149 377	149 737
Espag size 3 FFØ mm	1,251 - 1,500	1,251 - 1,500	149 380	149 740
Espag size 4 FFØ mm	1,501 - 1,750	-	149 383	149 743
Espag size 5 FFØ mm	1,751 - 2,000	-	149 386	149 746

5. Top locking, H = 30 mm	TORNADO 76	TORNADO 10	straight	pre-bent
Locking for espag size 1 FFØ mm	750 - 1,000	750 - 1,000	145 887	149 764
Locking for espag size 2 FFØ mm	1,001 - 1,250	1,001 - 1,250	145 890	149 767
Locking for espag size 3 FFØ mm	1,251 - 1,500	1,251 - 1,500	145 893	149 770
Locking for espag size 4-5 FFØ mm	1,501 - 2,000	-	145 896	149 773



TORNADO 134 for profile system VEKA Softline/Topline 70

Drawing no.: 4/0537 sheet 1 and 2 (straight),
4/0538 sheet 1 and 2 (TORNADO 10 straight)
4/0546 (TORNADO 10 round),
frame no.: 103.232 and 103.212, sash no.: 103.228 and 103.205, WP no.: 102.236

Window form straight and round

1. Pivot hinge TORNADO	item code
Pivot hinge TORNADO 134, white	187 843
Pivot hinge TORNADO 134, brown	187 846

2. HAUTAU design handles	
Handle 150, square 7 x 40, white	189 152
Handle 150 S, square 7 x 40, lockable, white	189 158
Handle 150, square 7 x 40, brown	189 155
Handle 150 S, square 7 x 40, lockable, brown	

Note: Instead of using the pivot hinge for 90° sections, you can also use the pivot hinge TORNADO 10.
For the item codes of pivot hinges and handles, see page 12.

Window form straight

3. Strikers (for TORNADO 134 and TORNADO 10)	
Accessories strikers TORNADO 134	187 849
Accessories strikers TORNADO 134 AhS	187 852

4. Accessories central locking gear ZV 16 (for TORNADO 134 and TORNADO 10)	
Accessories central locking gear ZV 16	149 470
Accessories central locking gear ZV 16 AhS	157 913

5. Horizontal locking for central locking gear ZV 16	TORNADO 134	TORNADO 10	
Horizontal locking for euro groove	B 1,100 mm	B 1,100 mm	145 644
Horizontal locking for euro groove	B 1,450 mm	B 1,450 mm	145 647
Horizontal locking for euro groove	B 1,900 mm	-	145 650
Horizontal locking for euro groove	B 2,350 mm	-	145 653
Horizontal locking for euro groove	B 2,750 mm	-	145 656

6. Vertical locking for central locking gear ZV 16	TORNADO 134	TORNADO 10	
Vertical locking	H 1,200 mm	H 1,200 mm	145 659
Vertical locking	H 1,700 mm	H 1,700 mm	145 662
Vertical locking	H 2,200 mm	-	145 665

Window form round

3. Strikers RD (for TORNADO 134 and TORNADO 10)	
Accessories strikers TORNADO 134 RD	187 855

4. Espag for central locking gear ZV 16 RD	TORNADO 134	TORNADO 10	straight	pre-bent
Espag size 1 FFØ mm	750 - 1,000	750 - 1,000	149 374	149 734
Espag size 2 FFØ mm	1,001 - 1,250	1,001 - 1,250	149 377	149 737
Espag size 3 FFØ mm	1,251 - 1,500	1,251 - 1,500	149 380	149 740
Espag size 4 FFØ mm	1,501 - 1,750	-	149 383	149 743
Espag size 5 FFØ mm	1,751 - 2,000	-	149 386	149 746

5. Top locking, H = 28 mm	TORNADO 134	TORNADO 10	straight	pre-bent
Locking for espag size 1 FFØ mm	750 - 1,000	750 - 1,000	150 451	151 072
Locking for espag size 2 FFØ mm	1001 - 1,250	1,001 - 1,250	150 454	151 075
Locking for espag size 3 FFØ mm	1,251 - 1,500	1,251 - 1,500	150 457	151 078
Locking for espag size 4-5 FFØ mm	1,501 - 2,000	-	150 460	151 081

You know when it's HAUTAU.



W. HAUTAU GmbH
P.O. Box 11 51
D 31689 Helpsen
Phone +49 5724/393-0
Fax +49 5724/393-125
Info@HAUTAU.de

www.HAUTAU.de



HAUTAU