

Catalogue

HAUTAU TORNADO

for timber windows



HAUTAU

HAUTAU Catalogue

Pivot fittings TORNADO for timber windows

2013

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on www.HAUTAU.de**

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Contents

Pivot fittings for timber windows	Page
Pivot fitting HAUTAU TORNADO	5
Flush-mounted pivot hinges TORNADO 1, 2 and 3	6
Surface-mounted pivot hinge TORNADO 9	7
Pivot hinge HAUTAU TORNADO 400	7
Horizontal and vertical section, thermal separation	8
HAUTAU design handle with night ventilation	9
Restrictors for HAUTAU TORNADO	9
Automatic hook bolt	9
Drilling jigs	9
Pivoting window sealing HD 25 for timber windows	9
Central locking gear ZV 16 URZ	10
Fitting composition straight, round TORNADO 1, 2, 3, and 9.....	11
TORNADO 1, 2, and 3	12
TORNADO 9	14
TORNADO 400	16
Accessories	20
Notes	21

Pivot fittings TORNADO

An approved fitting selection with reliable pivot hinges and 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.

You can open and close the window shut in a single grip.

Two-way ventilation system.

Adjustable ventilation for all room conditions from the smallest night ventilation 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 ventilation position– even heavier sashes can be operated effortlessly.

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.

Easy installation.

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

Optimal packing units.

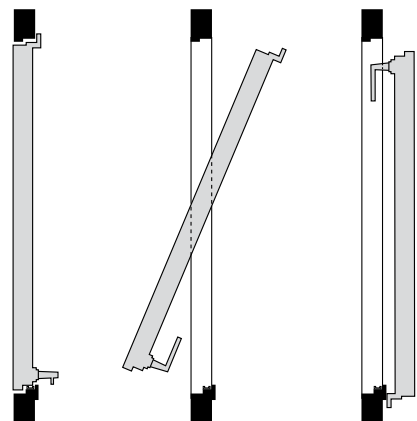
Thanks to the combination of 6 different packing units (pivot hinges, handle, strikers, accessories central locking gear, vertical and horizontal locking), you can operate the different window forms, sizes and profile systems with only little stock capacity.

Protection against unauthorised operation.

Whether out of childish curiosity or criminal intent: well-engineered systems protect against unauthorised opening and closing. Thanks to its specific construction, the basic configuration of the HAUTAU TORNADO already provides better protection against burglary – than fittings using other types of opening mechanisms. Public buildings in particular have benefitted from the lockable restrictor as a means to limit the opening width of windows. An additional certified central locking gear with security strikers as well as lockable HAUTAU design handle are available as well. The state building regulations (LBO) and the accident prevention regulations (UVV) for schools require that opening restrictors be installed in all windows.



Two-way ventilation system



Locking position

Ventilation position

Cleaning position 180°

Pivot hinges for timber windows 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.

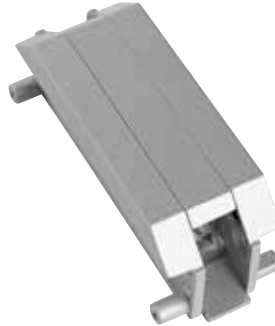
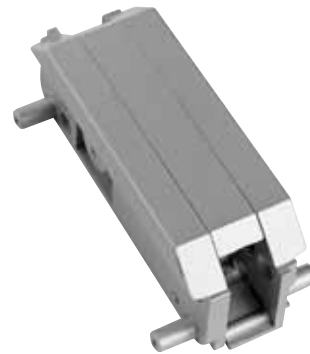
The pivot hinges are flush with the sill bar and operate via two limited pivotal points. All functional processes are controlled automatically. Fin friction brakes ensure that the window is properly engaged while in ventilation position.

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 bolts (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 and brown

Pivot hinge
TORNADO 1Pivot hinge
TORNADO 2

Pivot hinge TORNADO 2

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

Window form: horizontal and 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 and brown

Pivot hinge
TORNADO 2,
turned by 180°

Pivot hinge TORNADO 3

Pivot hinges available with two installation options:

a) for milling (without drilling bolts)
 b) for screwing with drilling bolts,
 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: horizontal and straight
 rebate depth: 45 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: 68 mm or more
 design: Steel galvanised, visible parts NE material, varnished and burnt in silver and brown

Pivot hinge
TORNADO 3

Surface-mounted pivot hinges for timber windows TORNADO 9

Flush-mounted pivot hinge – millcuts inside the sash and the frame unnecessary – short assembly times.

For windows with or without cover bar.

Brake adjuster easily accessible from the top or bottom.

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: horizontal and 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: edge to edge
 rebate: 11/4/11 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°

Pivot fitting TORNADO 400

Since it has been specially fine-tuned to work with the latest generation of particularly efficient heat insulating timber profiles with installation depths of 68 mm or greater, our HAUTAU TORNADO 400 excels, especially in the areas of air tightness and driving rain sealing. The high-tech braking system ensures that the sash reliably retains its ventilation position.

Since it combines sealing and heat insulation with exceptional ventilation characteristics, our HAUTAU TORNADO 400 pivot sash represents the most energy-efficient window imaginable.

Technical specifications: sash depth 55 mm, max. sash weight 200 kg

Unique selling points and HAUTAU advantages

- Two all-around sealing levels
- U-shaped seal progression with no overlaps in the corners
- Thermal separation provided by PVC adjustment elbows
- Pivot hinge with integrated sealing system protecting against air and driving rain
- Caps that can be clipped open.

The pivot hinges possess an integrated sealing system protecting against air and driving rain and are equipped with thermal separation which is provided by PVC adjustment elbows.

To prevent it from becoming damaged during transport and installation, HAUTAU ships this pivot hinge with retrofittable caps that can be clipped on. Thanks to the beneficial geometry of the connecting parts, the sash can be suspended safely and without much effort. One central screw provides a flush connection between the sash and the frame plate.



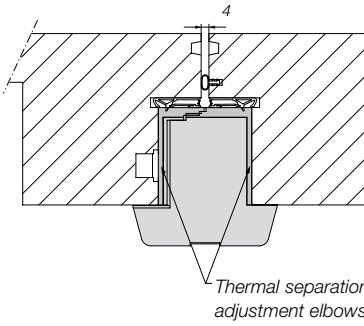
Pivot hinge TORNADO 400 in ventilation position and pivoted by 180° in the cleaning position

TORNADO 400

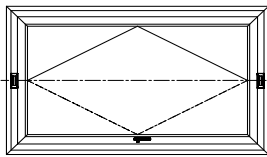
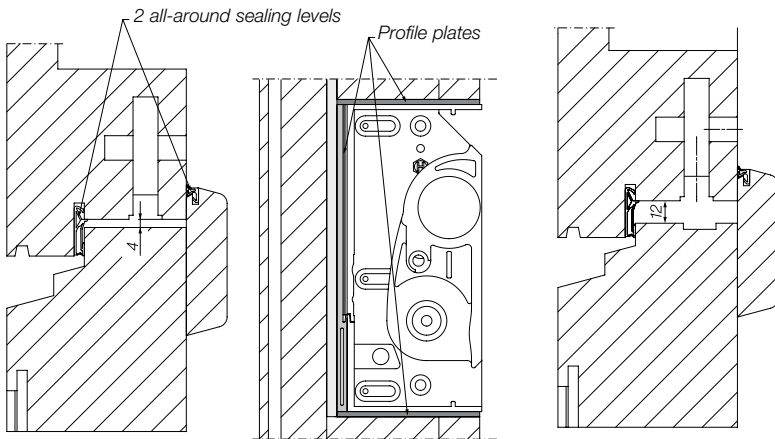
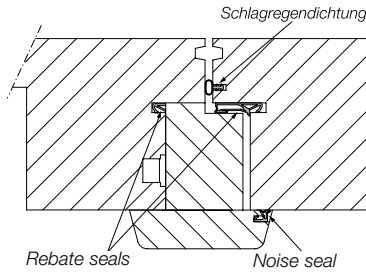
horizontal and vertical section



Thermal separation

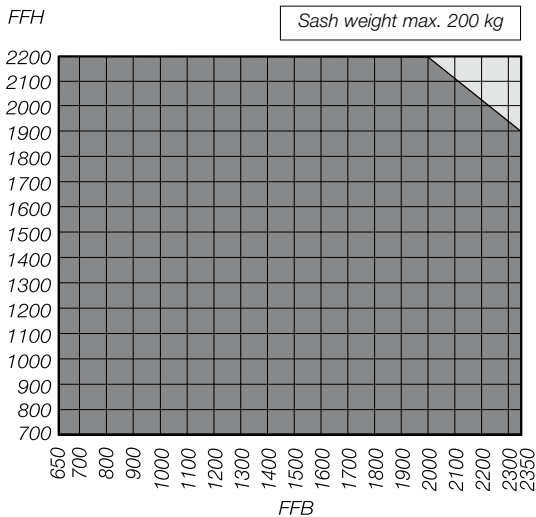
Section in the area of the pivot hinge



Section above the pivot hinge (three sealing levels)



-  up to 30 kg/m²
-  up to 45 kg/m²





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HAUTAU design handle with trickle and night ventilation

The HAUTAU design handle ships with a mould-cast bolt 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 pivot sash.

Design:
Available in EV 1, white, and brown; an aluminium edge protector is included for timber windows



HAUTAU design handle 130



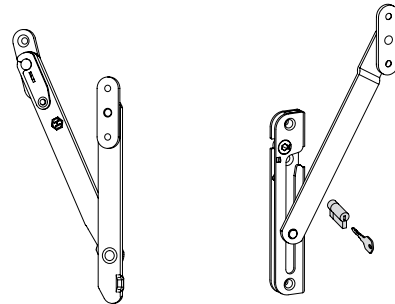
lockable HAUTAU design handle 130 S

Restrictors

The concealed stays protect the sash efficiently from any unauthorised 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 public buildings. Fitting pivoting windows with restrictors is, however, also recommended for other types of buildings. 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 by means of an Allen key; can also be locked with a socket lock



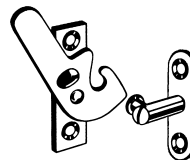
Restrictor 113

lockable restrictor

Automatic hook bolt

The bolt will automatically fix the sash in the 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, fixation on sash and frame.



Automatic hook bolt

Drilling jigs

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

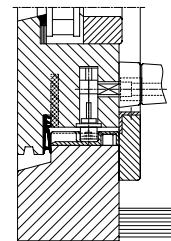
Pivoting window sealing HD 25 for timber windows

This sealing was designed to meet the special requirements of the pivot sash and is designed in such 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.

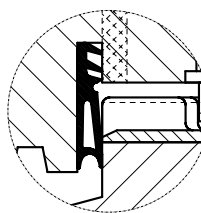
HD 25 can be used in combination with both of the pivoting window's sash rebate widths (18 mm horizontally, 11 mm vertically). The groove inside the holding stand allows you to simply and quickly rip off the sealing lengthwise in accordance with a sash rebate width of 11 mm. Functional profile:

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

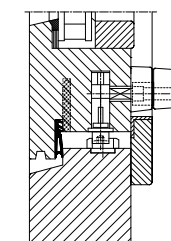
High-quality material:
Sealing profile made of thermoplastic material (age, light, weather, and ozone-proof as well as cold-elastic).



4 mm



Pivoting window sealing HD 25



11 mm

Central locking gear ZV 16 URZ

One-sided, left-guided and length adjustable central locking gear ZV 16 URZ with flat 16 mm faceplates in stock version, to be milled with tilt/turn tools; universal-bolt-cams (URZ) 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 rails with double toothing, cutting of the cover and drive rails in a single work step.

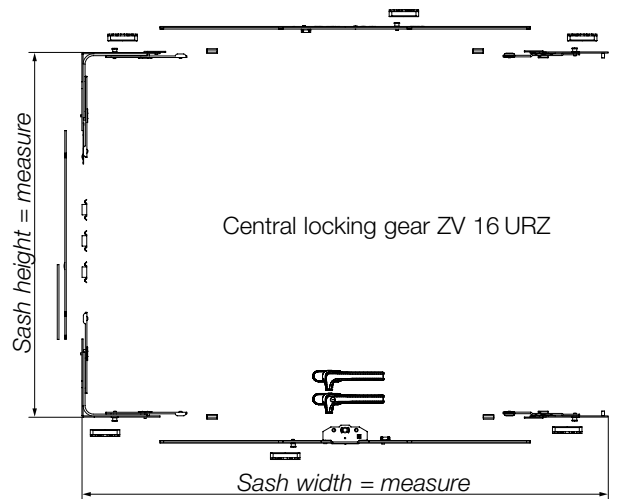
Corners made of non-corrosive steel belts (pull and pressure-proof). No adjustment of the sash corners necessary. Quick and safe connection of the locking parts thanks to double gear rod couplings.

Fittings designs

Locking parts (espag and locking rods) steel galvanised and blue chromated (Cr-VI-free), corners with non-corrosive steel belts and guide track, security strikers and adjustable universal-bolt-cams (URZ), security strikers with bottom made of high-quality zinc coatings, HAUTAU design handle with bolt locking.

Text for tenders

Pivot fitting TORNADO with central locking gear ZV 16 URZ, consisting of vertical and horizontal locking, length adjustable, with surface finish HAUTAU-S^{plus} blue chromated (Cr-VI-free), with bottom and top locking bolts throughout the sash width and security strikers. HAUTAU design handle 130 with bolt locking for night ventilation (also lockable). Available in white and brown; in addition, EV 1 is available for timber windows.



Window form horizontal and straight

Range of application:

flush-mounted pivot hinges

sash rebate width FFB between 650 and 2,350 mm
sash rebate height FFH between 700 and 2,200 mm

Pivot hinge TORNADO 9

pivoting windows
sash rebate width FFB between 650 and 1,450 mm
sash rebate height FFH between 700 and 1,700 mm
vertically pivoting windows
sash rebate width FFB between 600 and 1,000 mm
sash rebate height FFH between 650 and 1,450 mm

Window form round

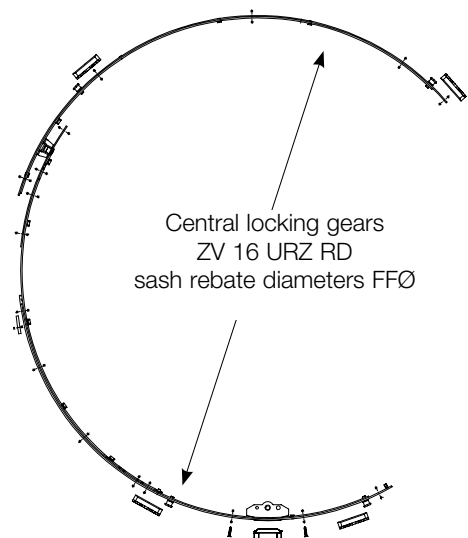
Range of application:

flush-mounted pivot hinges

sash rebate diameter FFØ from 750 – 2,000 mm

Pivot hinge TORNADO 9

can be used in combination with horizontally and vertically pivoting windows
sash rebate diameter FFØ from 400 – 1,500 mm

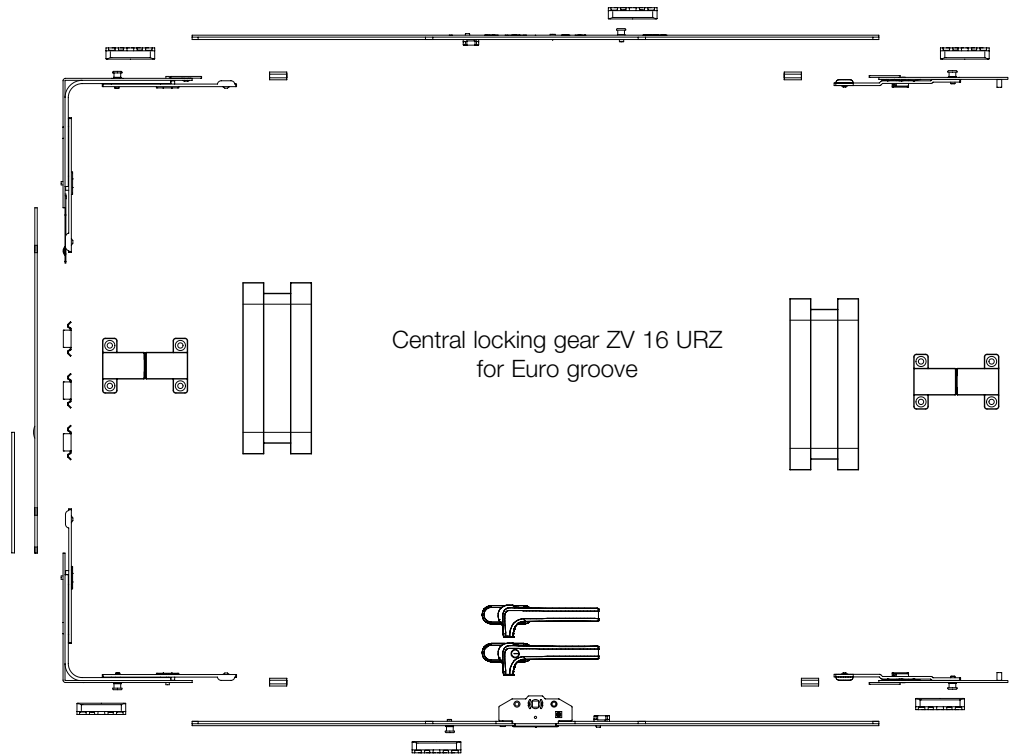


Fitting composition TORNADO 1, 2, 3, and 9

Window form horizontal and straight

Pivot fitting TORNADO with
central locking gear ZV 16,
URZ for Euro groove

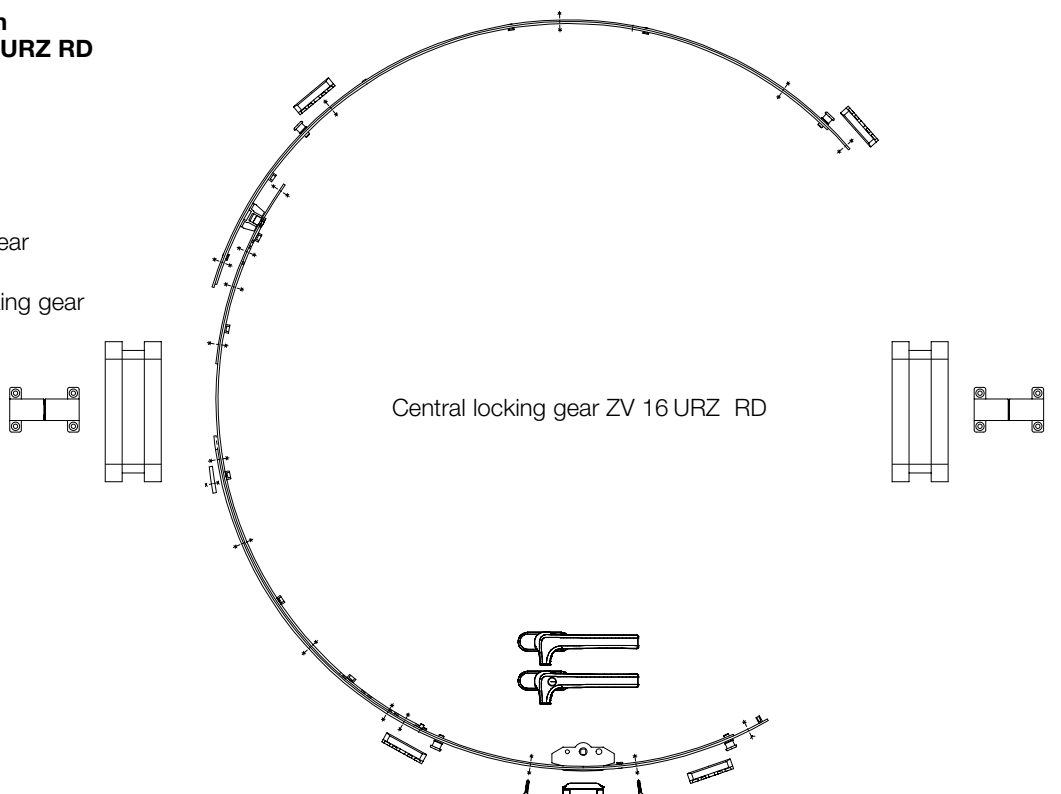
- Packing unit consisting of:
1. Pivot hinge TORNADO
 2. HAUTAU design handle
 3. Accessories strikers
 4. Accessories
central locking gear ZV 16 URZ
 5. Horizontal locking for
central locking gear ZV 16 URZ
 6. Vertical locking for
central locking gear ZV 16 URZ



Window form round

Pivot fitting TORNADO with
central locking gear ZV 16 URZ 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 URZ RD





Fitting parts TORNADO 1, 2, and 3

Fittings cavity 4 mm = Drawing No.: 227890 (straight), fittings cavity 11 mm = Drawing No.: 227893 (straight)
 fittings cavity 4 mm = Drawing No.: 227899 (round), fittings cavity 11 mm = Drawing No.: 227953 (round)

Window form: horizontal and straight

	Item code
1. Pivot hinge TORNADO	
Pivot hinge TORNADO 1, with drilling bolts, EV 1, suitable for round windows	149395
Pivot hinge TORNADO 1, with drilling bolts, brown, suitable for round windows	149398
Pivot hinge TORNADO 2, with drilling bolts, EV 1	149401
Pivot hinge TORNADO 2, with drilling bolts, white	162285
Pivot hinge TORNADO 2, with drilling bolts, brown	149404
Pivot hinge TORNADO 3, without drilling bolts, EV 1	149407
Pivot hinge TORNADO 3, without drilling bolts, brown	149410
Pivot hinge TORNADO 3, with drilling bolts, EV 1	149413
Pivot hinge TORNADO 3, with drilling bolts, white	178856
Pivot hinge TORNADO 3, with drilling bolts, brown	149416
2. HAUTAU design handles	
Handle 130, square 7 x 25, RN 30, EV 1	195545
Handle 130 S, square 7 x 25, RN 30, lockable, EV 1	195563
Handle 130, square 7 x 25, RN 30, white	195551
Handle 130 S, square 7 x 25, RN 30, lockable, white	195569
Handle 130, square 7 x 25, RN 30, brown	198948
Handle 130 S, square 7 x 25, RN 30, lockable, brown	198951
3. Strikers	
Accessories strikers TORNADO 1 for fittings cavities of 4 mm up to FFB 1,900 mm	227329
Accessories strikers TORNADO 2 for fittings cavities of 4 mm up to FFB 1,900 mm	227338
Accessories strikers TORNADO 3 for fittings cavities of 4 mm up to FFB 1,900 mm	227344
Accessories strikers TORNADO 1, 2, and 3 for fittings cavities of 11 mm up to FFB 1,900 mm	227347
Accessories FFB 2,350 mm or less, 2 strikers TORNADO 1 for fittings cavities of 4 mm	199402
Accessories FFB 2,350 mm or less, 2 strikers TORNADO 2 for fittings cavities of 4 mm	199405
Accessories FFB 2,350 mm or less, 2 strikers TORNADO 3 for fittings cavities of 4 mm	199408
Accessories FFB 2,350 mm or less, security strikers TORNADO 1, 2 and 3 for fittings cavities of 11 mm	227350
4. Accessories central locking gear ZV6 URZ	
Accessories central locking gear ZV 1 6 URZ	225616
5. Horizontal locking for central locking gear ZV 16 URZ	
Horizontal locking FFB 1,100 mm	225592
Horizontal locking FFB 1,450 mm	225595
Horizontal locking FFB 1,900 mm	225598
Horizontal locking FFB 2,350 mm	225601
6. Vertical locking for central locking gear ZV 16 URZ	
Vertical locking FFH 1,200 mm	145659
Vertical locking FFH 1,700 mm	145662
Vertical locking FFH 2,200 mm	145665



Window form round

3. Strikers RD

Accessories strikers TORNADO 1 RD for fittings cavities of 4 mm	227335
Accessories strikers TORNADO 1 RD for fittings cavities of 11 mm	227353

4. Espag for central locking gear ZV 16 URZ RD

Espag FFØ 750 - 1,000 mm, straight	Size 1	223254
Espag FFØ 1001 - 1,250 mm, straight	Size 2	223257
Espag FFØ 1251 - 1,500 mm, straight	Size 3	223260
Espag FFØ 1501 - 1,750 mm, straight	Size 4	223263
Espag FFØ 1,751 - 2,000 mm, straight	Size 5	223266
Espag FFØ 750 - 1,000 mm, pre-bent	Size 1	223269
Espag FFØ 1001 - 1,250 mm, pre-bent	Size 2	223272
Espag FFØ 1251 - 1,500 mm, pre-bent	Size 3	223275
Espag FFØ 1501 - 1,750 mm, pre-bent	Size 4	223278
Espag FFØ 1,751 - 2,000 mm, pre-bent	Size 5	223281

5. Top locking, H = 16.5 mm URZ

Locking FFØ 750 - 1,000 mm, straight	for espag size 1	224055
Locking FFØ 1001 - 1,250 mm, straight	for espag size 2	224058
Locking FFØ 1251 - 1,500 mm, straight	for espag size 3	224061
Locking FFØ 1,501 - 2,000 mm, straight	for espag size 4-5	224064
Locking FFØ 750 - 1,000 mm, pre-bent	for espag size 1	224067
Locking FFØ 1001 - 1,250 mm, pre-bent	for espag size 2	224070
Locking FFØ 1251 - 1,500 mm, pre-bent	for espag size 3	224073
Locking FFØ 1,501 - 2,000 mm, pre-bent	for espag size 4-5	224076

Accessories

Sealing HD 25, (stock length: 1 roll = 25 m)	131537
Bulk pack sealing HD 25, carton pack with 200 m each (8 rolls with 25 m each)	132779
Lockable restrictor* with Allen key release, right	102846
Lockable restrictor* with Allen key release, left	102849
Lockable restrictor* with socket lock, right	102852
Lockable restrictor* with socket lock, left	102855
Ramp roll TORNADO 3 for fittings cavities of 4 mm	132782
Automatic hook bolt	132788
Jig pivot hinge TORNADO 1, TORNADO 2 and TORNADO 3	218922
Corrective plate TORNADO 1 (4 units per pair)	100151
Milling jig (striker) for fittings cavities of 4 mm	152518

* only suitable for window form horizontal and straight



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.

Drawing No.	pivoting window horizontal and straight	Fittings cavity 4 mm	Fittings cavity 11 mm
	Vertically pivoting window horizontal and straight	228544	228547
	round	228538	228541
		227902	227896

Window form horizontal and straight

	Item code
1. Pivot hinge TORNADO	
Pivot hinge TORNADO 9, (pack of 5), white	151084
Pivot hinge TORNADO 9, (pack of 5), brown	151087
Pivot hinge TORNADO 9, (pack of 5), silver	151090
2. HAUTAU design handle for pivot hinge TORNADO 9	
Handle 130, square 7 x 25, RN 34, EV 1	195617
Handle 130, square 7 x 25, RN 34, lockable, EV 1	195635
Handle 130, square 7 x 25, RN 34, white	195623
Handle 130 S, square 7 x 25, RN 34, lockable, white	195641
Handle 130, square 7 x 25, RN 34, brown	198954
Handle 130 S, square 7 x 25, RN 34, lockable, brown	198957
3. Strikers	
Accessories strikers TORNADO 9 for fittings cavities of 4 mm	227329
Accessories strikers TORNADO 9 for fittings cavities of 11 mm	227347
4. Accessories central locking gear ZV 16 URZ	
Accessories central locking gear ZV 16 URZ pivoting windows	225616
Accessories central locking gear ZV 16 URZ vertically pivoting windows	225622
5. Horizontal locking for central locking gear ZV 16 URZ (horizontal locking for vertically pivoting windows)	
Horizontal locking FFB 1,100 mm	225592
Horizontal locking FFB 1,450 mm	225595
6. Vertical locking for central locking gear ZV 16 URZ (horizontal locking for vertically pivoting windows)	
Vertical locking FFH 1,200 mm	145659
Vertical locking FFH 1,700 mm (not suitable for vertically pivoting windows)	145662



Window form round

3. Strikers RD

Accessories strikers TORNADO 9 RD for fittings cavities of 4 mm	227335
Accessories strikers TORNADO 9 RD for fittings cavities of 11 mm	227353

4. Espag for central locking gear ZV 16 URZ RD

Espag FFØ 400 - 550 mm, straight	Size 0	224244
Espag FFØ 550 - 1,000 mm, straight	Size 1	223254
Espag FFØ 1001 - 1,250 mm, straight	Size 2	223257
Espag FFØ 1251 - 1,500 mm, straight	Size 3	223260
Espag FFØ 400 - 550 mm, pre-bent	Size 0	224247
Espag FFØ 550 - 1,000 mm, pre-bent	Size 1	223269
Espag FFØ 1001 - 1,250 mm, pre-bent	Size 2	223272
Espag FFØ 1,251 - 1,500 mm, pre-bent	Size 3	223275

5. Top locking, H = 16.5 mm URZ

Locking FFØ 550 - 1,000 mm, straight	for espag size 1	224055
Locking FFØ 1001 - 1,250 mm, straight	for espag size 2	224058
Locking FFØ 1251 - 1,500 mm, straight	for espag size 3	224061
Locking FFØ 550 - 1,000 mm, pre-bent	for espag size 1	224067
Locking FFØ 1001 - 1,250 mm, pre-bent	for espag size 2	224070
Locking FFØ 1251 - 1,500 mm, pre-bent	for espag size 3	224073

Accessories

Sealing HD 25, (stock length: 1 roll = 25 m)	131537
Bulk pack sealing HD 25, carton pack with 200 m each (8 rolls with 25 m each)	132779
Automatic hook bolt	132788
Lockable restrictor* with Allen key release, right	102846
Lockable restrictor* with Allen key release, left	102849
Lockable restrictor* with socket lock, right	102852
Lockable restrictor* with socket lock, left	102855
Jig pivot hinge TORNADO 9	152155
Milling jig (striker) for fittings cavities of 4 mm	152518

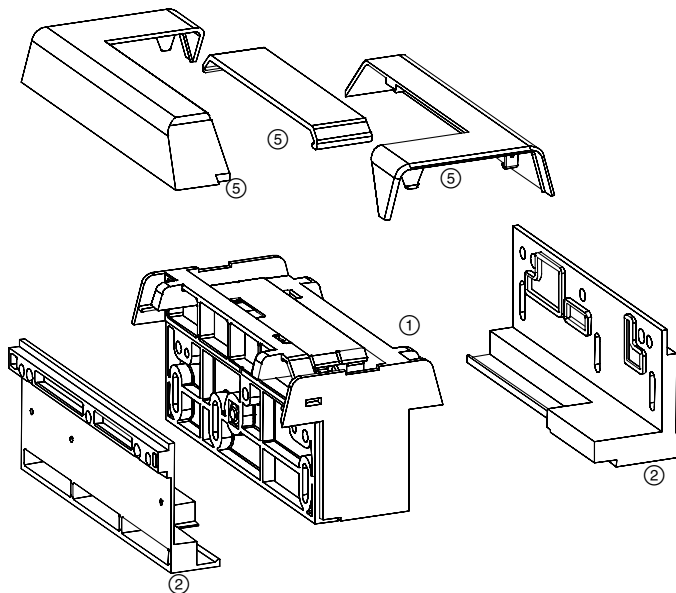
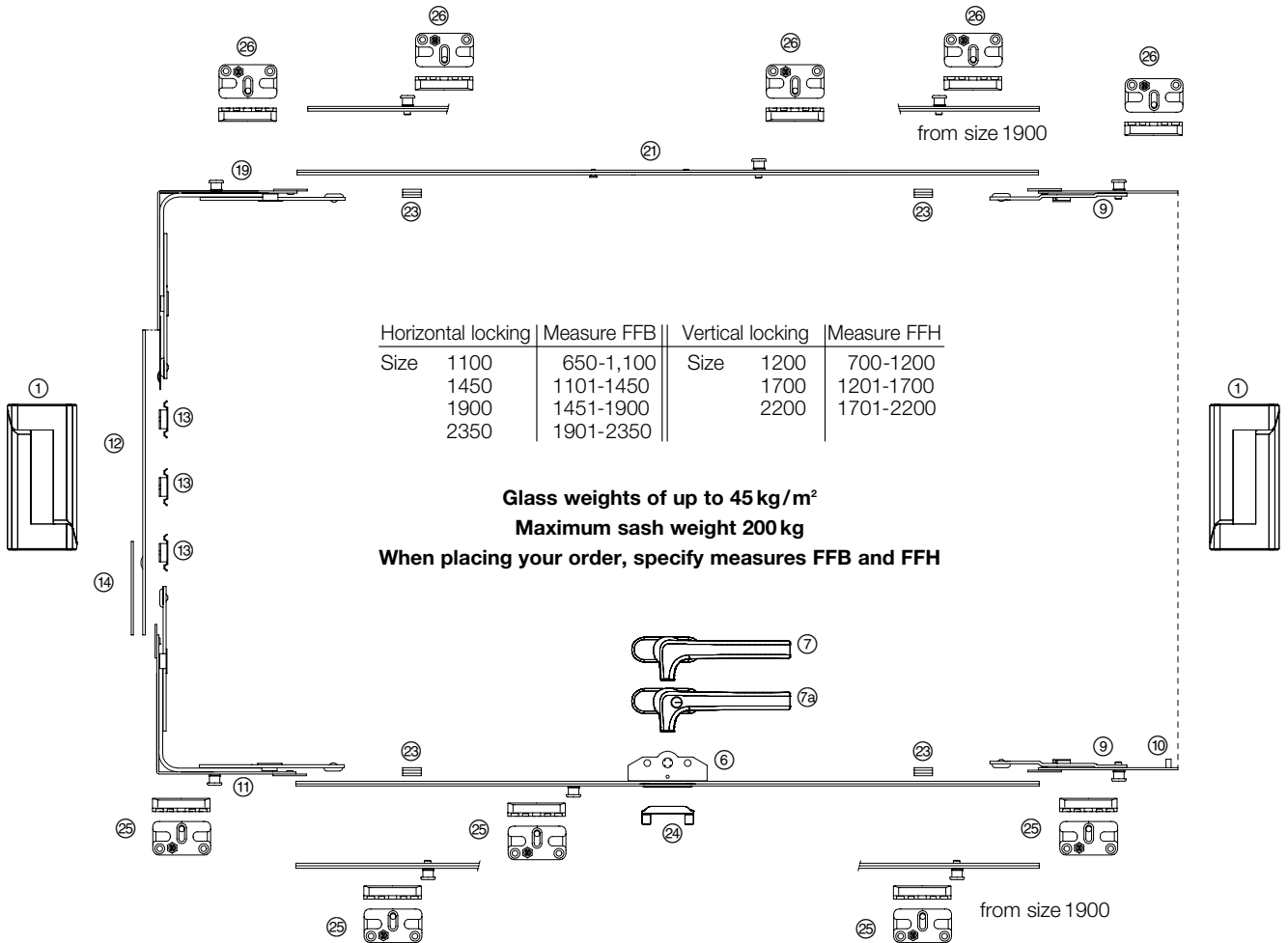
* only suitable for window form horizontal and straight



TORNADO 400 for timber thickness IV68 - IV92

Drawing No.:222402 / 230311 (horizontal and straight) 12 mm fittings cavity

Drawing No.:222396 / 230311 (horizontal and straight) 4 mm fittings cavity



- | | Quantity |
|---|----------|
| ① Pivot hinge R/L TORNADO 200 | 2 |
| ② Adjustment elbow Ra/FI (R + L) | 4 |
| ③ Profile sealing plates (no image) | 4 |
| ⑤ Cover caps Ra/Mi/FI (R + L) | 6 |
| ⑥ Espag | 1 |
| ⑦ Handle with fixing screws | 1 |
| ⑦a Handle, lockable, with fixing screws | 1 |
| ⑨ End piece | 2 |
| ⑩ Filler piece | 1 |
| ⑪ Corner, bottom | 1 |
| ⑫ Drive rail, lateral | 1 |
| ⑬ Guide vertical locking | 2-5 |
| ⑭ Cover rail, lateral | 1 |
| ⑰ Corner, top | 1 |
| ⑰ Connecting rail, top | 1 |
| ⑳ Guide horizontal locking | 4 |
| ㉔ Striker for trickle ventilation | 1 |
| ㉕ Striker, bottom | 3-4 |
| ㉖ Striker, top | 3-4 |
| ㉚ Edge protector (no image) | 1 |



TORNADO 400 for timber thickness IV68 - IV92

Drawing No.: 222402 / 230311 (horizontal and straight) 12 mm fittings cavity

Drawing No.: 222396 / 230311 (horizontal and straight) 4 mm fittings cavity

Window form horizontal and straight

	Item code
1. Pivot hinge TORNADO	
Pivot hinge TORNADO 200, basic ①	192151
2. Cover caps	
Accessories cover caps TORNADO 200, EV 1 ⑤	202608
Accessories cover caps TORNADO 200, white ⑤	192139
Accessories cover caps TORNADO 200, black ⑤	192142
Note: Edge protector must be ordered separately!	
3. Adjustment elbow	
Accessories adjustment elbow FL/RA, white ②	215208
Accessories adjustment elbow FL/RA, black ②	215211
4. HAUTAU design handles	
Handle 130, square 7 x 40, RN 40, EV 1 ⑦	198651
Handle 130 S, square 7 x 40, RN 40, lockable, EV 1 ⑦	198669
Handle 130, square 7 x 40, RN 40, white ⑦	198654
Handle 130 S, square 7 x 40, RN 40, lockable, white ⑦a	198672
Handle 130, square 7 x 45, RN 40, black ⑦	198657
Handle 130 S, square 7 x 25, RN 40, lockable, black ⑦a	198675
5. Strikers	
Accessories strikers TORNADO 400 URZ, 12 mm fittings cavity FFB 1,900 mm or less ⑳ ㉔ ㉕ ㉖	218310
Accessories strikers TORNADO 400 URZ, 12 mm fittings cavity FFB 2,350 mm or less ㉔ ㉖	218304
Accessories strikers TORNADO 400 URZ, 4 mm fittings cavity FFB 1,900 mm or less ㉔ ㉕ ㉖	218307
Accessories strikers TORNADO 400 URZ, 4 mm fittings cavity FFB 2,350 mm or less ㉔ ㉖	199408
6. Accessories central locking gear ZV 16 URZ	
Accessories central locking gear ZV 16 / URZ ⑨ ⑩ ⑪ ⑬ ⑭ ㉑	225616
7. Horizontal locking for central locking gear ZV 16 URZ, backset 35	
Horizontal locking FFB 1,100 mm ⑥ ㉑	225604
Horizontal locking FFB 1,450 mm ⑥ ㉑	225607
Horizontal locking FFB 1,900 mm ⑥ ㉑	225610
Horizontal locking FFB 2,350 mm ⑥ ㉑	225613
8. Vertical locking for central locking gear ZV 16 URZ	
Vertical locking FFH 1,200 mm (measure H 735 – 1,235 mm) ⑫ ⑭	145659
Vertical locking FFH 1,700 mm (measure H 1,236 – 1,735 mm) ⑫ ⑭	145662
Vertical locking FFH 2,200 mm (measure H 1,736 – 2,235 mm) ⑫ ⑭	145665

Accessories

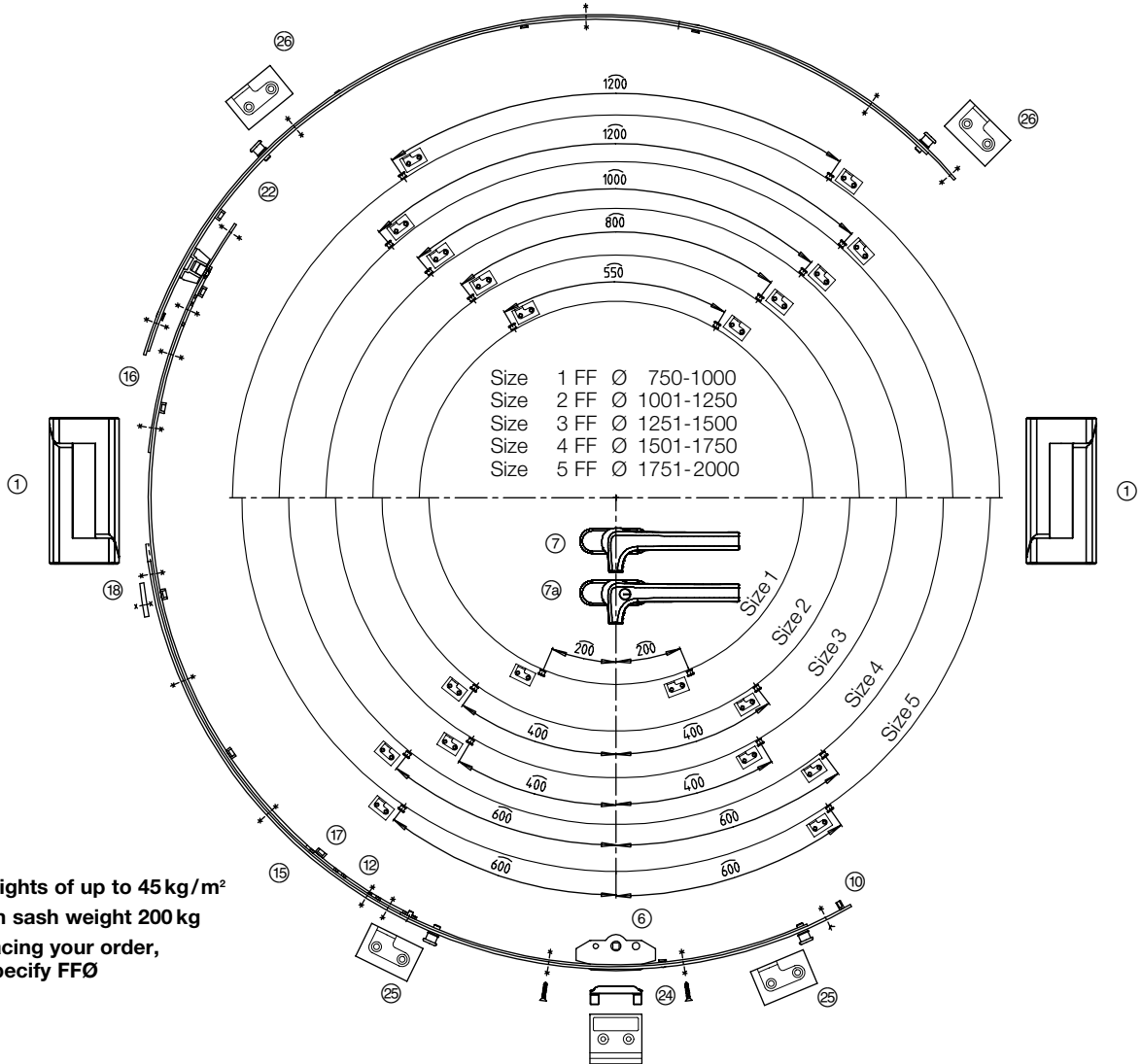
Restrictors

Lockable restrictor with Allen key release	right	102846
Lockable restrictor with Allen key release	left	102849
Restrictor as above, additional lock	right	102852
Restrictor as above, additional lock	left	102855
Rebate seal, black		219642
Driving rain seal		223422
Noise protection seal		224010
Edge protector TORNADO 400 white		215310
Edge protector TORNADO 400 black		219675
Edge protector TORNADO 400 gray		219672
Jig D25/35		198195
Jig for edge protector		219531
Milling jig (striker) for fittings cavities of 4 mm		152518

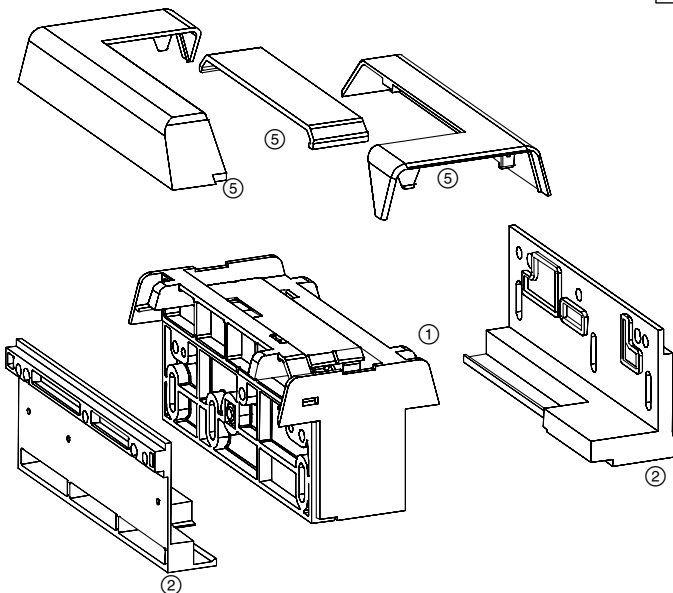
TORNADO 400 URZ RD for timber thickness IV68 - IV92

Drawing No.: 228325 / 232438 (round) 12 mm fittings cavity

Drawing No.: 228328 / 232438 (round) 4 mm fittings cavity



Glass weights of up to 45 kg/m²
 Maximum sash weight 200 kg
 When placing your order,
 please specify FFØ



	Quantity
① Pivot hinge R/L TORNADO 200	2
② Adjustment elbow Ra/FI (R + L)	4
③ Profile sealing plates (no image)	4
⑤ Cover caps Ra/Mi/FI (R + L)	6
⑥ Espag	1
⑦ Handle with fixing screws	1
⑦a Handle, lockable, with fixing screws	1
⑩ Filler piece	1
⑫ Drive rail	1
⑮ Cover rail, bottom	1
⑯ Cover rail, top	1
⑰ Cover fillet support	10
⑱ Clip	1
⑳ Top locking	1
㉔ Striker for trickle ventilation	1
㉕ Striker, bottom	2
㉖ Striker, top	2
㉘ Edge protector (no image)	1



TORNADO 400 URZ RD for timber thickness IV68 - IV92

Drawing No.: 228325 / 232438 (round) 12 mm fittings cavity

Drawing No.: 228328 / 232438 (round) 4 mm fittings cavity

Window form round

1. Pivot hinge TORNADO

	Item code
Pivot hinge TORNADO 200, basic ①	192151

2. Cover caps

Accessories cover caps TORNADO 200, EV 1 ⑤	202608
Accessories cover caps TORNADO 200, white ⑤	192139
Accessories cover caps TORNADO 200, black ⑤	192142

Note: Edge protector must be ordered separately!

3. Adjustment elbow

Accessories adjustment elbow FL/RA, white ②	215208
Accessories adjustment elbow FL/RA, black ②	215211

4. HAUTAU design handles

Handle 130, square 7 x 40, RN 40, EV 1 ⑦	198651
Handle 130, square 7 x 40, RN 40, lockable, EV 1 ⑦a	198669
Handle 130, square 7 x 40, RN 40, white ⑦	198654
Handle 130 S, square 7 x 40, RN 40, lockable, white ⑦a	198672
Handle 130, square 7 x 45, RN 40, black ⑦	198657
Handle 130 S, square 7 x 25, RN 40, lockable, black ⑦a	198675

5. Strikers (TORNADO 400)

Accessories strikers TORNADO 400 URZ RD for fittings cavities of 12 mm ⑩ ⑪ ⑫ ⑬ ⑭ ⑮	228322
Accessories strikers TORNADO 400 URZ RD for fittings cavities of 4 mm ⑩ ⑪ ⑫ ⑬ ⑭ ⑮	228319

7. Espag for central locking gear ZV 16 / URZ D35

		TORNADO 400		straight	pre-bent
Espag size 1	750 - 1,000 ⑥ ⑫ ⑬ ⑭			223314	223329
Espag size 2	1001 - 1250 ⑥ ⑫ ⑬ ⑭			223317	223332
Espag size 3	1251 - 1500 ⑥ ⑫ ⑬ ⑭			223320	223335
Espag size 4	1501 - 1750 ⑥ ⑫ ⑬ ⑭			223323	223338
Espag size 5	1751 - 2000 ⑥ ⑫ ⑬ ⑭			223326	223341

7. Top locking

		4 mm fittings cavity H22		12 mm fittings cavity H30	
		straight	pre-bent	straight	pre-bent
		TORNADO 400			
Top locking size 1	750 - 1,000 ⑳	242824	242836	224151	224163
Top locking size 2	1001 - 1250 ⑳	242827	242839	224154	224166
Top locking size 3	1251 - 1500 ⑳	242830	242842	224157	224169
Top locking size 4 - 5	1501 - 2000 ⑳	242833	242845	224160	224172

Accessories

Restrictors

Rebate seal black TORNADO	219642
Driving rail seal Ø 6.5 / 3 TORNADO	223422
Noise protection seal TORNADO	224010
Edge protector TORNADO 400 white	215310
Edge protector TORNADO 400 black	219675
Edge protector TORNADO 400 gray	219672
Jig D25/35	198195
Jig for edge protector	219531



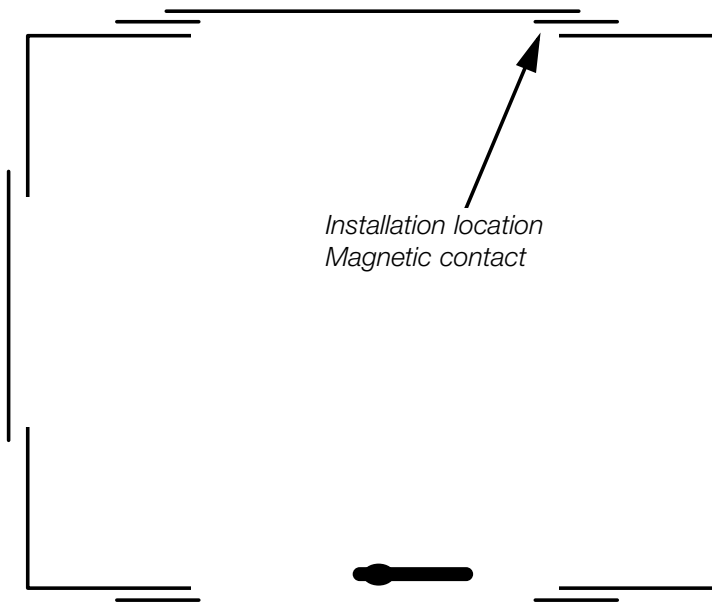
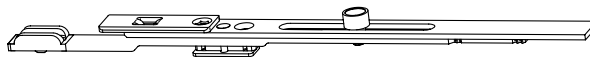
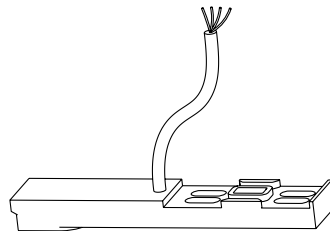
Accessories

Linkages

Item name	Item code
Linkage 400 mm (can be shortened by 200 mm) w/ URZ	207705
Linkage 400 mm ZV / F URZ	227959
Linkage 200 mm w/o URZ	175980

Locked state monitoring

Item name	Item code
Set locked state monitoring, pivot sash	233509
Contents: Linkage 400 HKS Z VK	215037
Linkage 200 w/o URZ	175980
Magnetic contact KVS 10 M	226240
Packer magnetic contact KVS 3	226249
Packer magnetic contact KVS 5	226255



You know when it's HAUTAU.



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