



## TURN-TILT WINDOWS



# A11.11 CHRONO STANDARD

01.06.2018



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**CHRONO STANDARD**

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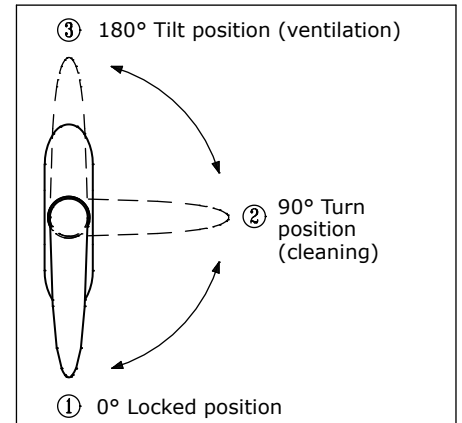
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# 1. General characteristics

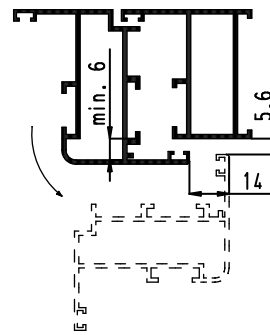
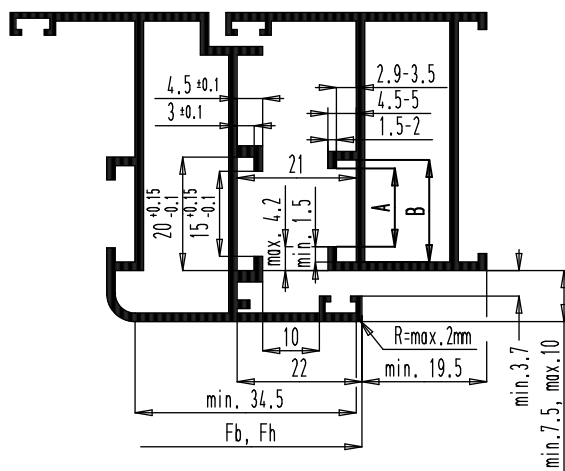
## General

- The totally clampable Chrono Standard turn and tilt system is available with visible hinges and with concealed hinges.
- All parts are made of non-corroding materials.

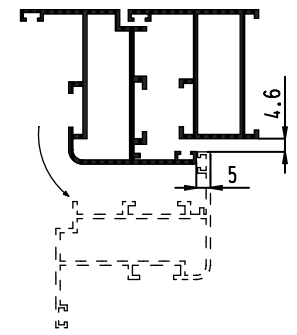


## Profile dimensions

- Chrono Standard hardware is available to suit a frame groove of 14/18 mm or a frame groove of 10/14 mm.



Chrono Invision Pro



Chrono Invision Go

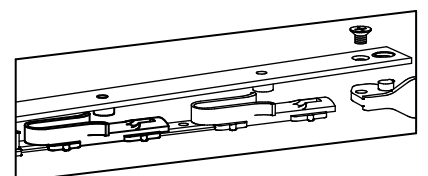
	Frame groove 14/18 mm	Frame groove 10/14 mm
A	14 ± 0.5	10 ± 0.5
B	18 ± 0.5	14 ± 0.5

## Quick assembly

- Very quick assembly by means of:
  - revolutionary rod connection system.
  - special connections between the different components.
  - final connection piece is clipped over the fork of the handle or the use of a lockcase with square spindle.
  - clamping wedges positioned with jigs.
  - pre-assembled components and screws.
  - non-handed mishandling device incorporated in the corner transmission.
  - clip which fixes the main corner transmission.
  - single wedge for both locking point and mishandling device.
  - single wedge for both locking point and anti-lift pin.
  - easy access to fixing and adjustment screws.

## Hinges and link arms

- The Chrono Standard system can be used in combination with visible and concealed hinges and link arms. For the different types of hinges we refer to chapter A11.14.

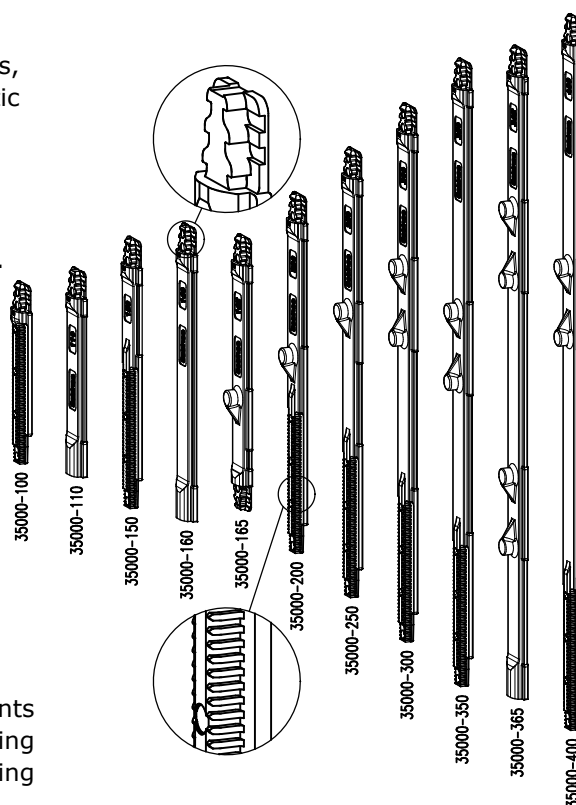
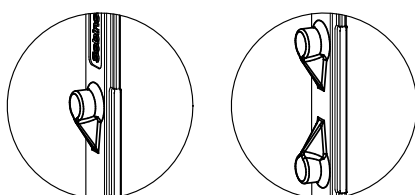




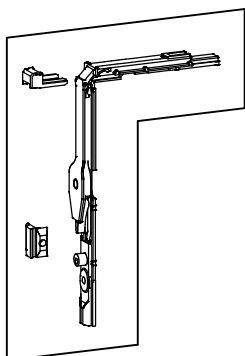
## CHRONO STANDARD

**Connection rods in synthetic material**

- The system consists of 11 rods with different lengths, made of a solid, non-absorbing, fibre-reinforced synthetic material, which offers the following advantages:
  - quick assembly by the special toothed connections.
  - no rattling.
  - no more time-consuming rod operations.
  - inaccuracies while sawing and punching are eliminated.
  - adjustment range of each rod is 50 mm.
  - inaccuracies while manufacturing the window can be overcome by the connection rods, which allow a maximum error margin of 8 mm in height (Fh) and 4 mm in width (Fb).

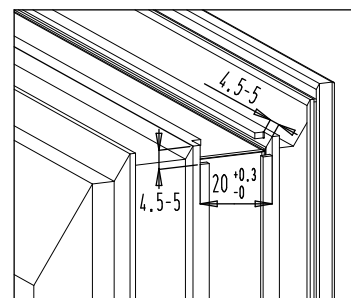


- The rods in synthetic material incorporate locking points as standard which serve as an additional centre locking point for wider and higher windows. Additional locking points on plates are no longer necessary.

**Corner transmissions**

- The non-handed mishandling device is incorporated in the corner transmission (no modification required for handing).
- Release of the mishandling device by a standard wedge which is positioned at the same place for both left hand as well as right hand windows.
- The same wedge is also used for the locking point.
- The corner transmission is fixed with a clip.
- For assembly purposes the corner transmissions are provided with a snap-off pin to position the bolt in turn position until the first operation.

Cut out vent profile

**Connection piece or lockcase**

- The connection piece in synthetic material is finally clipped in the groove over the handle fork.
- The connection piece allows an error margin of 8 mm of incorrect positioning of the handle.
- Lockcases can be used by a handle with square spindle of 7 mm.

**Run on rests**

- Frame run-on wedge in synthetic material which is easily clipped into the frame groove. The wedge is kept in position by the bolt wedge.
- Vent run-on rest in synthetic material which is easily clipped into the vent groove. A spring loaded clip positions the bolt in turn position and avoids rattling of the bolt.



## 2. Size range

### Chrono

- Size range with connection piece:
  - Vent width: 450-1700 mm.
  - Vent height: 600-2400 mm.
- Size range for vent heights > 2400 mm:
  - Vent width: 671-1200 mm.
  - Vent height: 2400-2800 mm.
- Vent weight: max. 130 kg.
- Ratio of vent width  $F_b$  / vent height  $F_h$  = max. 1,5.
- The Chrono system has been tested in accordance with following standards:
  - European standard EN 1026, EN 1027, EN 12207, EN 12208, EN 12210 and EN 12211 for windows 50 m or more above the ground.
  - German standard RAL-GZ 607/3 and QM 328 (EN 13126-8 and EN 1191).
- Size range with lockcase:
  - Vent width: 450-1700 mm.
  - Vent height: 685-2400 mm.



### Chrono Invision Pro

- Size range with connection piece:
  - Vent width: 460-1700 mm.
  - Vent height: 600-2400 mm.
- Size range for vent heights > 2400 mm:
  - Vent width: 671-1200 mm.
  - Vent height: 2401-2800 mm.
- Vent weight:
  - $F_b < 670$  mm: max. 130 kg.
  - $F_b > 670$  mm: max. 170 kg.
- Vent weight up to 200 kg: see page A11.14.09.
- Ratio of vent width  $F_b$  / vent height  $F_h$  = max. 1,5 (< 130 kg).  
Ratio of vent width  $F_b$  / vent height  $F_h$  = max. 1 (> 130 kg).
- The Chrono system has been tested in accordance with following standards:
  - European standard EN 1026, EN 1027, EN 12207, EN 12208, EN 12210 and EN 12211 for windows 50 m or more above the ground.
  - German standard RAL-GZ 607/3 and QM 328 (EN 13126-8 and EN 1191).
- Size range with lockcase:
  - Vent width: 460-1700 mm.
  - Vent height: 685-2400 mm.



### Chrono Invision Go

- Size range with connection piece:
  - Vent width: 460-1300 mm.
  - Vent height: 600-2400 mm.
- Size range for vent heights > 2400 mm:
  - Vent width: 671-1200 mm.
  - Vent height: 2401-2800 mm.
- Vent weight: max. 90 kg.
- Ratio of vent width  $F_b$  / vent height  $F_h$  = max. 1,2.
- The Chrono system has been tested in accordance with following standards:
  - European standard EN 1026, EN 1027, EN 12207, EN 12208, EN 12210 and EN 12211 for windows 50 m or more above the ground.
  - German standard RAL-GZ 607/3 and QM 328 (EN 13126-8 and EN 1191).
- Size range with lockcase:
  - Vent width: 550-1300 mm.
  - Vent height: 685-2400 mm.



### Remarks

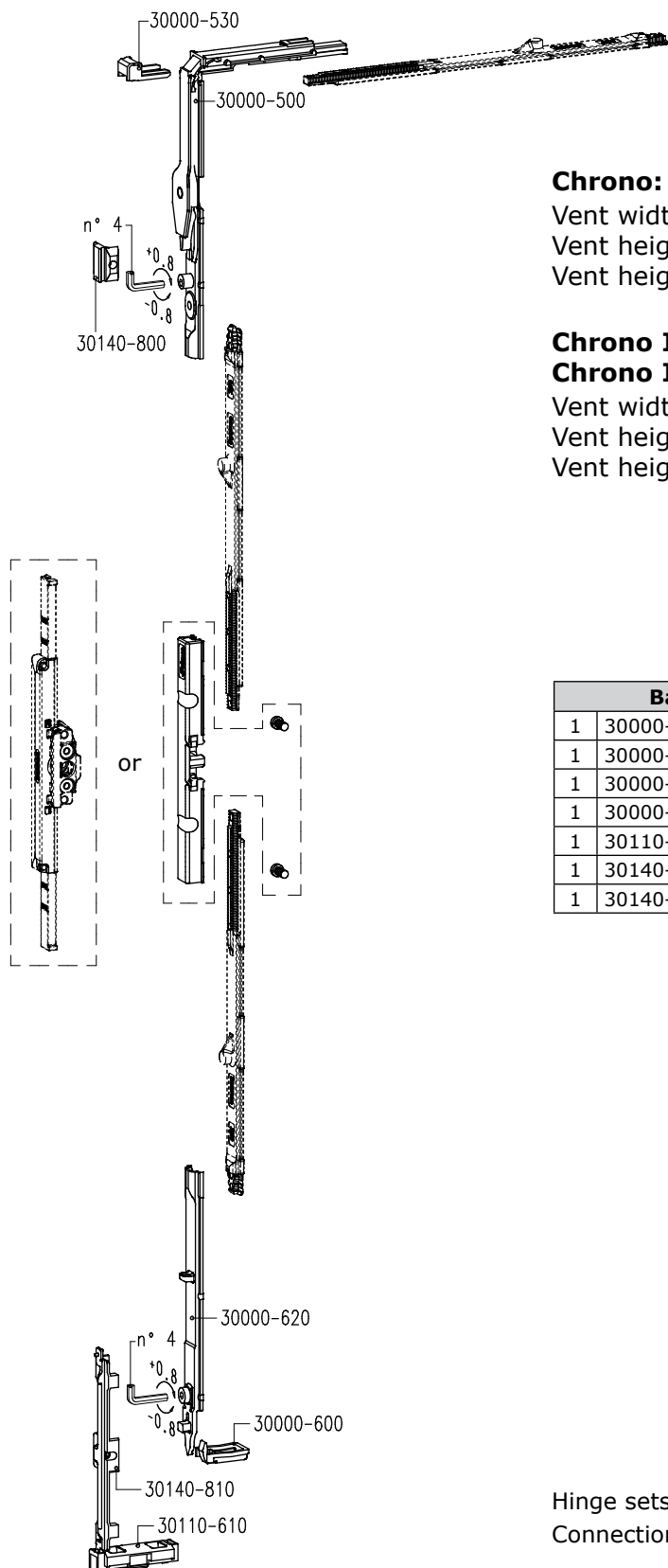
- Handle height:  $A = \min. F_h/3, \max. 2F_h/3$ .
- Adjustment range of each rod: 50 mm.
- **Dimensions out of standard range on request!**



CHRONO STANDARD

3. Base sets

3.1. Base set n° 35110-1 for frame groove 14/18 mm



**Chrono:**

Vent width Fb = 450-1200 mm  
 Vent height Fh = 600-1200 mm (connection piece)  
 Vent height Fh = 685-1200 mm (lockcase)

**Chrono Invision Pro:**

**Chrono Invision Go:**

Vent width Fb = 460-1200 mm  
 Vent height Fh = 600-1200 mm (connection piece)  
 Vent height Fh = 685-1200 mm (lockcase)

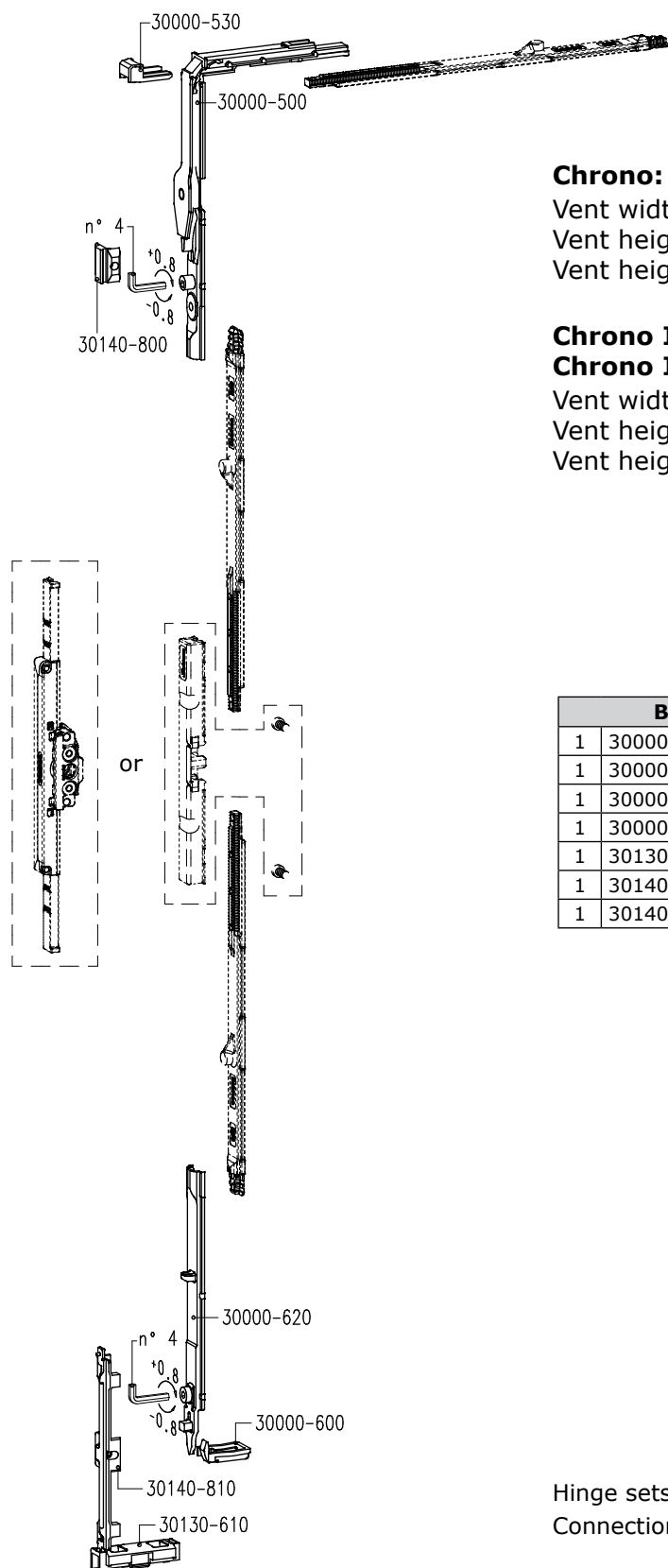
Base set n° 35110-1		
1	30000-500	corner transmission
1	30000-530	clips
1	30000-600	vent run on rest
1	30000-620	bolt
1	30110-610	frame run on wedge
1	30140-800	wedge
1	30140-810	bolt wedge

Hinge sets: see chapter A11.14.

Connection piece set or lock case: see chapter A11.15.



**3.2. Base set n° 35130-1 for frame groove 10/14 mm**



**Chrono:**

Vent width Fb = 450-1200 mm  
 Vent height Fh = 600-1200 mm (connection piece)  
 Vent height Fh = 685-1200 mm (lockcase)

**Chrono Invision Pro:**

**Chrono Invision Go:**

Vent width Fb = 460-1200 mm  
 Vent height Fh = 600-1200 mm (connection piece)  
 Vent height Fh = 685-1200 mm (lockcase)

Base set n° 35130-1		
1	30000-500	corner transmission
1	30000-530	clips
1	30000-600	vent run on rest
1	30000-620	bolt
1	30130-610	frame run on wedge
1	30140-800	wedge
1	30140-810	bolt wedge

Hinge sets: see chapter A11.14.

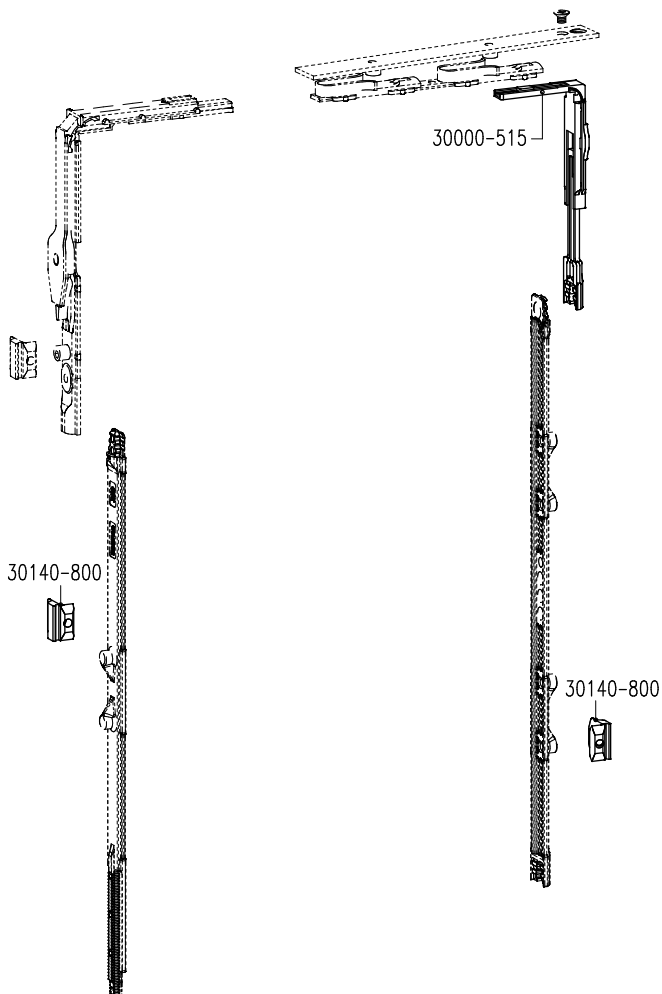
Connection piece set or lock case: see chapter A11.15.



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3.3. Centre locking sets

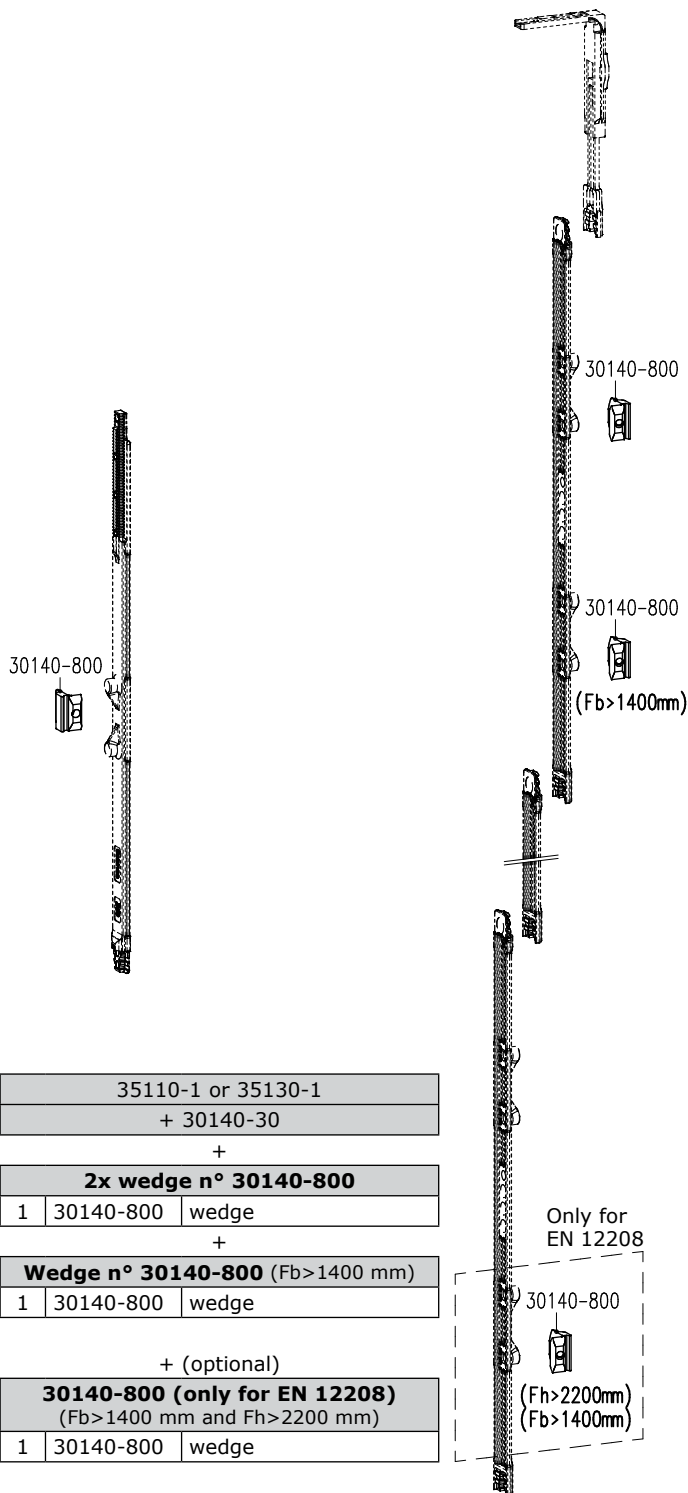
Vent height Fh = 1201-1800 mm



35110-1 or 35130-1		
+		
<b>Centre locking set n° 30140-30</b>		
1	30000-515	corner transmission
2	30140-800	wedge

- Windows with vent height from 1201 to 1800 mm require an additional centre locking set n° 30140-30.

Vent height Fh = 1801-2400 mm



35110-1 or 35130-1		
+ 30140-30		
+		
<b>2x wedge n° 30140-800</b>		
1	30140-800	wedge
+		
<b>Wedge n° 30140-800 (Fb&gt;1400 mm)</b>		
1	30140-800	wedge
+ (optional)		
<b>30140-800 (only for EN 12208)</b> (Fb>1400 mm and Fh>2200 mm)		
1	30140-800	wedge

- Windows with vent height from 1801 to 2400 mm require two additional wedges n° 30140-800.
- Windows with vent height from 1801 to 2400 mm and a vent width from 1401 to 1700 mm require another wedge n° 30140-800.
- If windows with vent height from 2201 to 2400 mm and vent width from 1401 to 1700 mm are to comply with the highest class of wind and water tightness in accordance with the European standard EN12208 (1200 Pa), an additional wedge n° 30140-800 must be mounted.





**Vent height Fh = 2401-2800 mm**

35110-1 or 35130-1		
+ 30140-30		
+ 2x 30140-800		

+

<b>3x wedge n° 30140-800</b>		
1	30140-800	wedge

+

(only for connection piece set)

<b>Reinforcement set n° 30000-691 or -692</b>		
1	30000-691 or 30000-692	reinforcement set handle

+

(only for visible Chrono hinges)

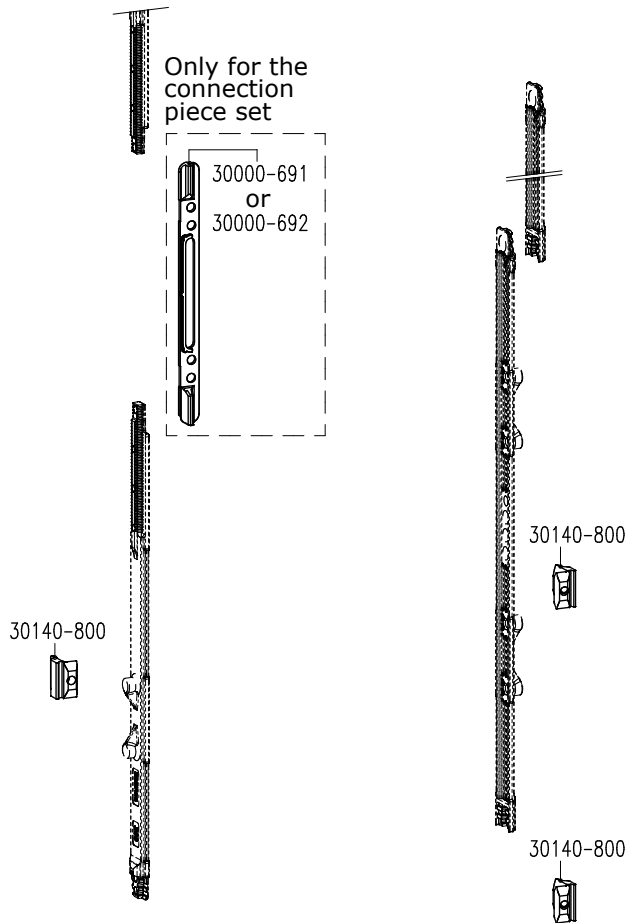
<b>Reinforcement set n° 35140-790</b>		
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+

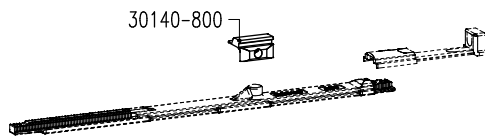
(only for Chrono Invision Pro when >90 kg)

<b>Reinforcement set n° 32140-790 (groove 14/18 mm) or n° 32130-790 (groove 10/14 mm)</b>		
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- Size range:
  - Vent width: 671-1200 mm.
  - Vent height: 2401-2800 mm.
- Windows with vent height from 2401 to 2800 mm require three additional wedges n° 30140-800.
- Reinforcement set n° 35140-790 (visible hinges) and n° 32140-790 or n° 32130-790 (Chrono Invision Pro hinges) must be placed when the vent weight is more than 90 kg.
- When using the connection piece set:
  - Windows with vent height from 2401 to 2800 mm require a reinforcement set for handle n° 30000-691 or 30000-692.
  - Reinforcement set n° 30000-691 must be used for a standard handle and reinforcement set n° 30000-692 for a handle type 'S'. For the reinforcement sets for handles: see page A11.15.26.



**Vent width Fb = 1201-1700 mm**

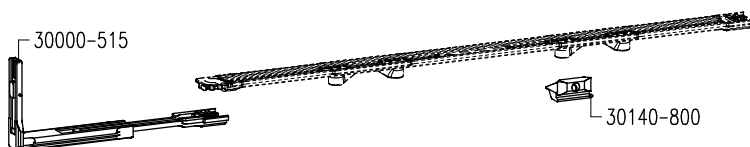


35110-1 or 35130-1		
--------------------	--	--

+

<b>Centre locking set n° 30140-30</b>		
1	30000-515	corner transmission
2	30140-800	wedge

- Windows with vent width from 1201 to 1700 mm require an additional centre locking set n° 30140-30.
- Attention: the maximum vent width for Chrono Invision Go hinges is 1300 mm.





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### 4. Selection of rods

#### 4.1. Chrono Standard with lockcase

- The system consists of 11 transmission rods with different lengths: 35000-100, 35000-110, 35000-150, ...
- The adjustment range of each rod is 50 mm.

The diagram illustrates the selection of transmission rods for a Chrono Standard window system. It shows various rod configurations and their corresponding force (Fh) and adjustment range (A) specifications. The rods are labeled with their model numbers, such as n° 35000-...

**Table 1: Rod Selection by Force (Fh) and Adjustment Range (A)**

Fh	35000-...
685-784	100
785-884	150
885-984	200
985-1084	250
1085-1184	300
1185-1284	350
1285-1384	400
1385-1484	100 + 365
1485-1584	150 + 365
1585-1684	200 + 365
1685-1784	250 + 365
1785-1884	300 + 365
1885-1984	350 + 365
1985-2084	400 + 365
2085-2184	100 + 2x365
2185-2284	150 + 2x365
2285-2384	200 + 2x365
2385-2400	250 + 2x365
2401-2484	250 + 2x365
2485-2584	300 + 2x365
2585-2684	350 + 2x365
2685-2784	400 + 2x365
2785-2800	100 + 3x365

**Table 2: Rod Selection by Force (Fh) and Adjustment Range (A)**

Fh-A	35000-...
343-392	100
393-442	150
443-492	200
493-542	250
543-592	300
593-642	350
643-692	400
693-742	100 + 365
743-792	150 + 365
793-842	200 + 365
843-892	250 + 365
893-942	300 + 365
943-992	350 + 365
993-1042	400 + 365
1043-1092	100 + 2x365
1093-1142	150 + 2x365
1143-1192	200 + 2x365
1193-1242	250 + 2x365
1243-1292	300 + 2x365
1293-1342	350 + 2x365
1343-1392	400 + 2x365
1393-1442	100 + 3x365
1443-1492	150 + 3x365
1493-1542	200 + 3x365
1543-1592	250 + 3x365
1593-1642	300 + 3x365
1643-1692	350 + 3x365
1693-1742	400 + 3x365
1743-1792	100 + 4x365
1793-1842	150 + 4x365
1843-1892	200 + 4x365
1893-1900	250 + 4x365

**Table 3: Rod Selection by Force (Fb) and Adjustment Range (A)**

Fb	35000-...
450-500	100
501-550	150
551-600	200
601-650	250
651-670	300
671-720	100
721-770	150
771-820	200
821-870	250
871-920	300
921-970	350
971-1020	400
1021-1070	100 + 365
1071-1120	150 + 365
1121-1170	200 + 365
1171-1220	250 + 365
1221-1270	300 + 365
1271-1300	350 + 365
1301-1350	150 + 365
1351-1400	200 + 365
1401-1450	250 + 365
1451-1500	300 + 365
1501-1550	350 + 365
1551-1600	400 + 365
1601-1650	100 + 2x365
1651-1700	150 + 2x365

**Table 4: Rod Selection by Force (Fh) and Adjustment Range (A)**

Fh	35000-...
1201-1500	365
1501-1800	2x365
1801-2100	3x365
2101-2400	4x365
2401-2700	5x365
2701-2800	6x365
2201-2400	5x365

**Table 5: Rod Selection by Force (Fb) and Adjustment Range (A)**

Fb	35000-...
1201-1500	365
1501-1700	2x365

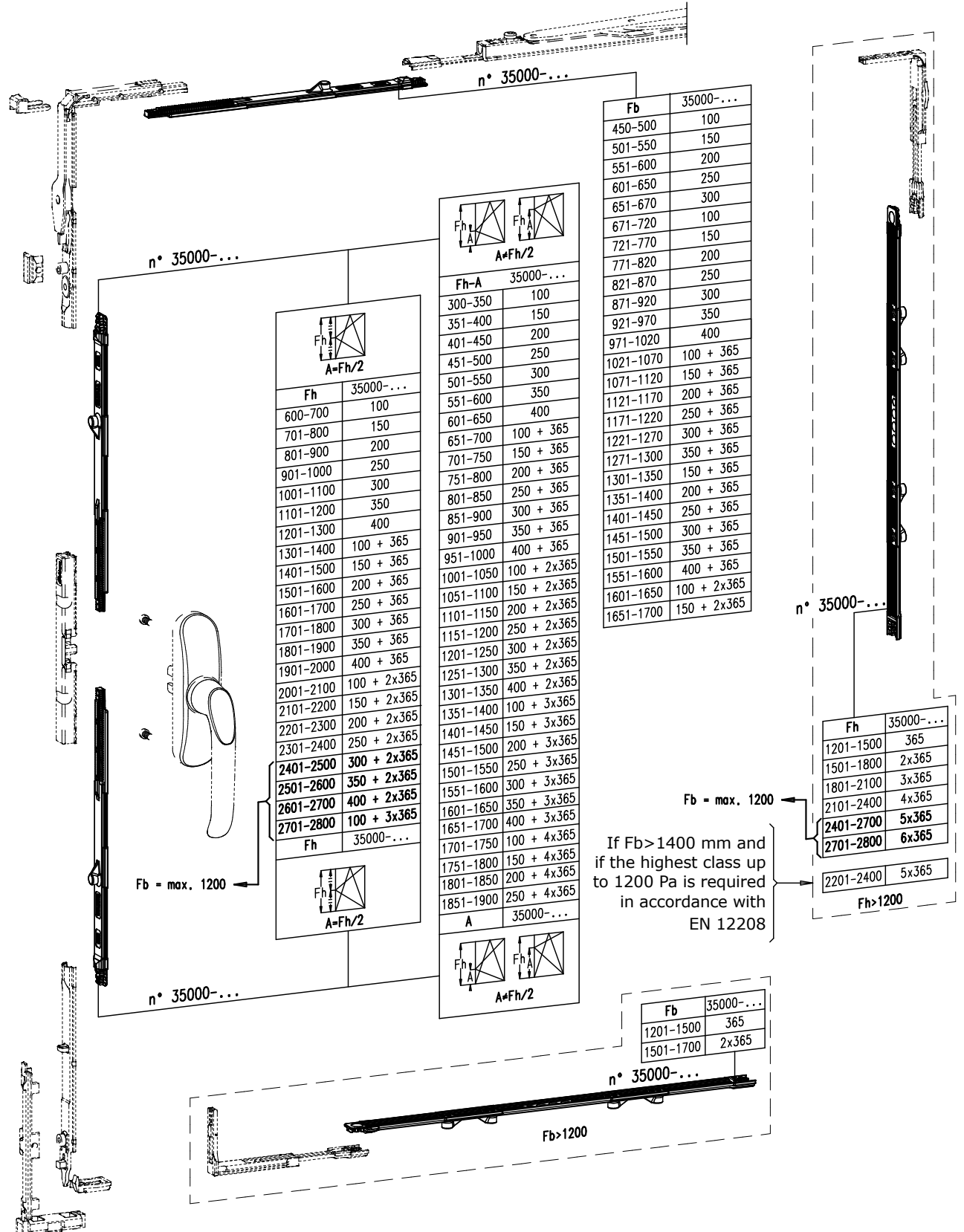
**Notes:**

- Fb = max. 1200
- If Fb > 1400 mm and if the highest class up to 1200 Pa is required in accordance with EN 12208
- Fh > 1200



### 4.2. Chrono Standard with connection piece set

- The system consists of 11 transmission rods with different lengths: 35000-100, 35000-110, 35000-150, ...
- The adjustment range of each rod is 50 mm.

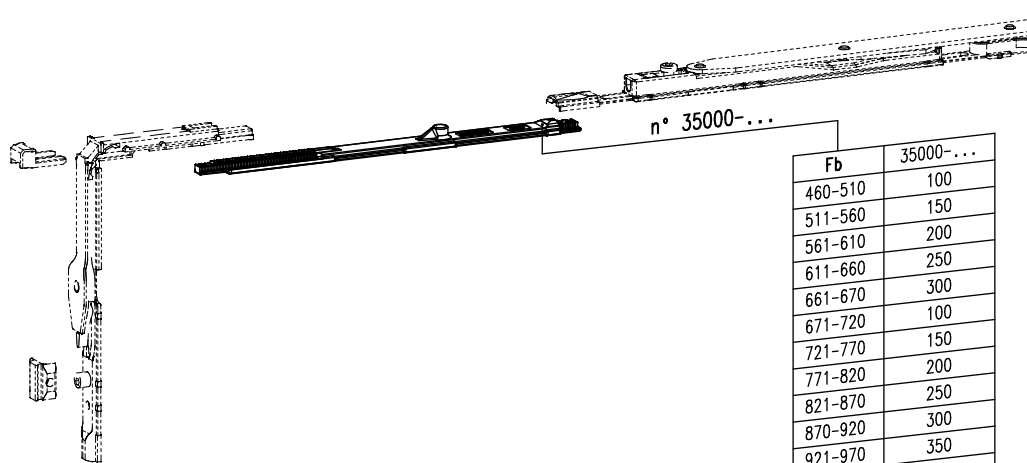




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### 4.3. Chrono Invision Pro and Chrono Invision Go

- With exception of the rods at the top of the window, the rods are the same as for the Chrono Standard system: see pages A11.11.10 and A11.11.11.



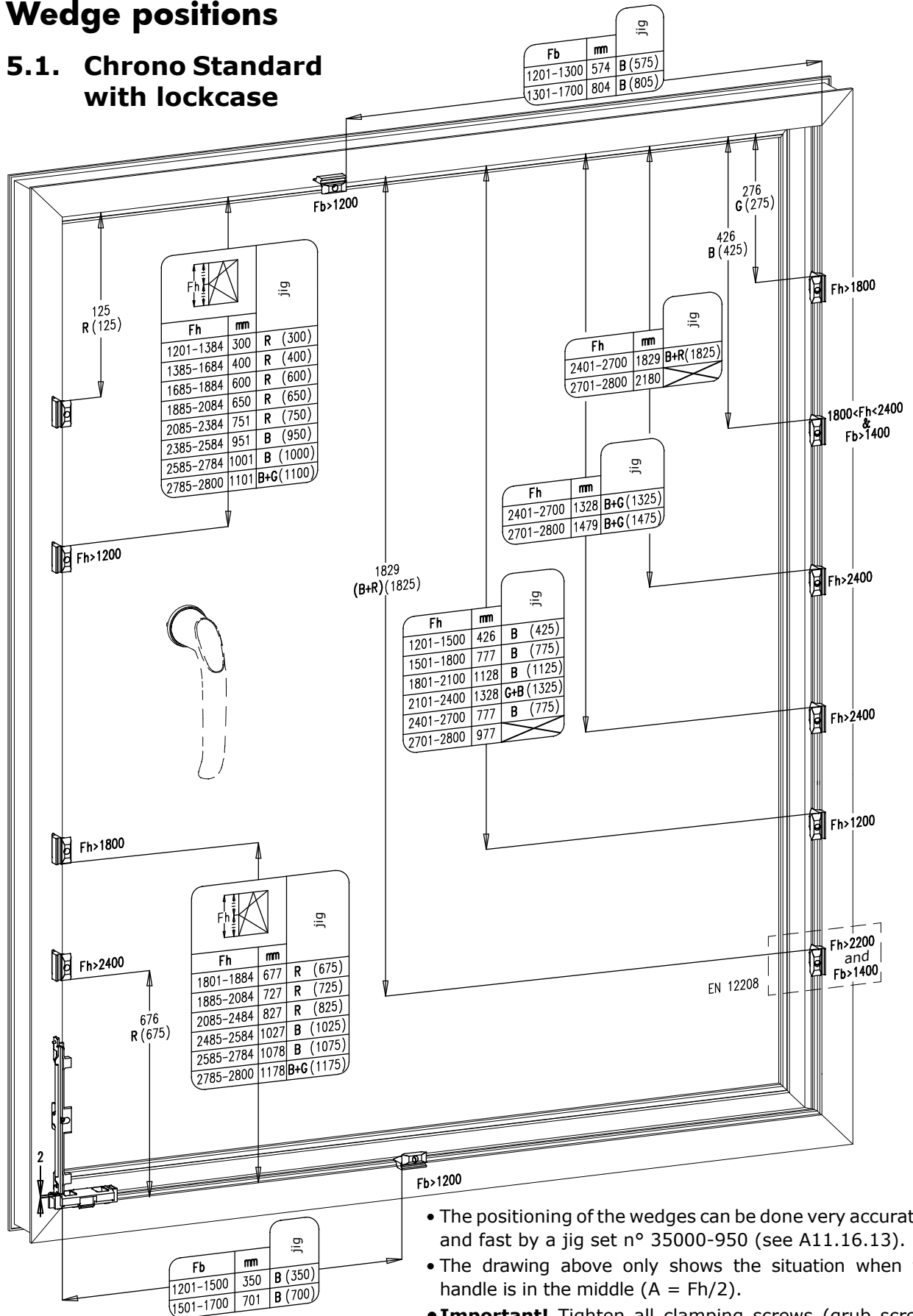
Fb	35000-...
460-510	100
511-560	150
561-610	200
611-660	250
661-670	300
671-720	100
721-770	150
771-820	200
821-870	250
870-920	300
921-970	350
971-1020	400
1021-1070	100 + 365
1071-1120	150 + 365
1121-1170	200 + 365
1171-1220	250 + 365
1221-1270	300 + 365
1271-1300	350 + 365
1301-1350	150 + 365
1351-1400	200 + 365
1401-1450	250 + 365
1451-1500	300 + 365
1501-1550	350 + 365
1551-1600	400 + 365
1601-1650	100 + 2x365
1651-1700	150 + 2x365

Fb = 1301-1700 mm:  
only for Invision Pro



## 5. Wedge positions

### 5.1. Chrono Standard with lockcase



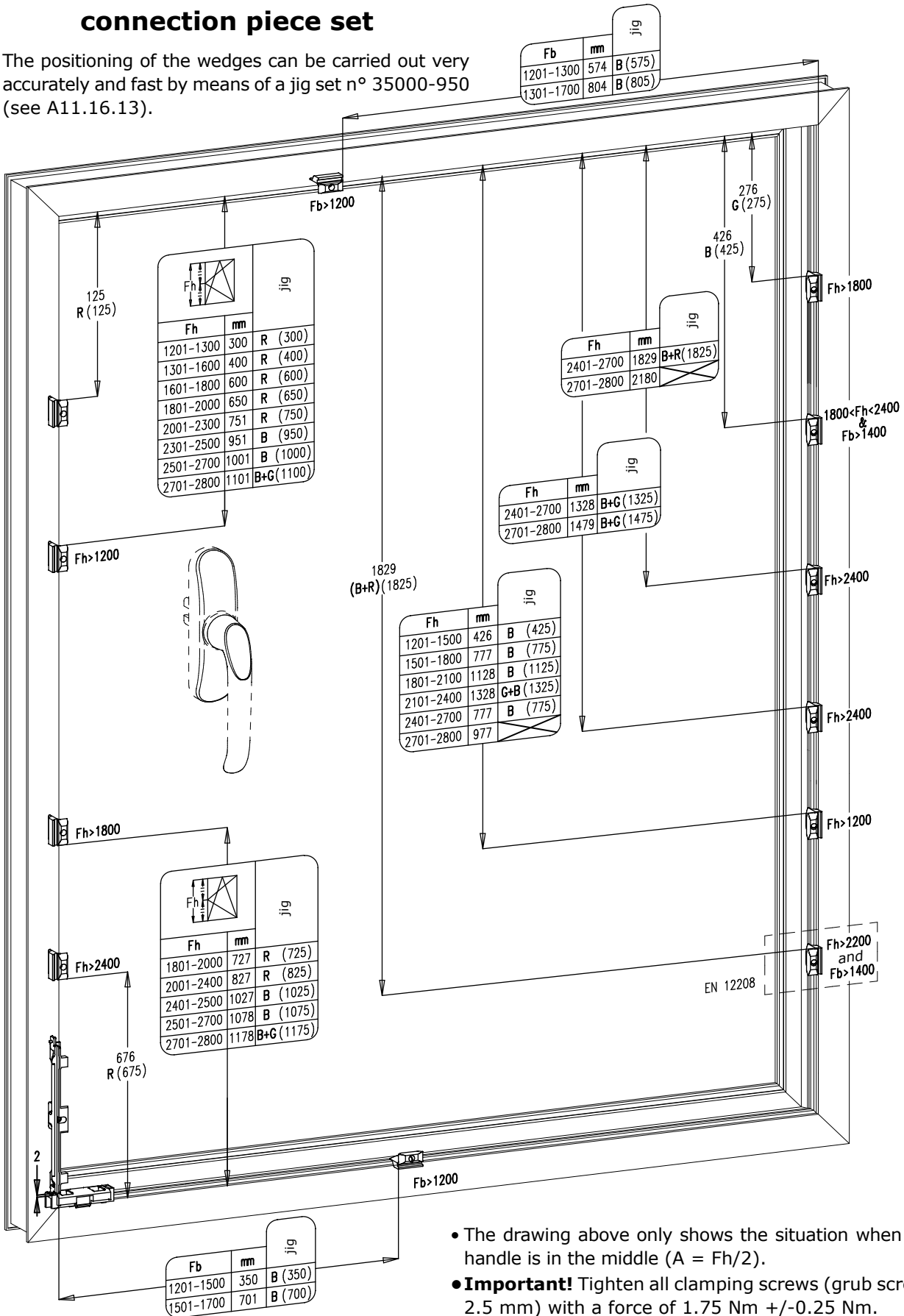
- The positioning of the wedges can be done very accurately and fast by a jig set n° 35000-950 (see A11.16.13).
- The drawing above only shows the situation when the handle is in the middle ( $A = Fh/2$ ).
- **Important!** Tighten all clamping screws (grub screws 2.5 mm) with a force of 1.75 Nm +/- 0.25 Nm.



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5.2. Chrono Standard with connection piece set

- The positioning of the wedges can be carried out very accurately and fast by means of a jig set n° 35000-950 (see A11.16.13).



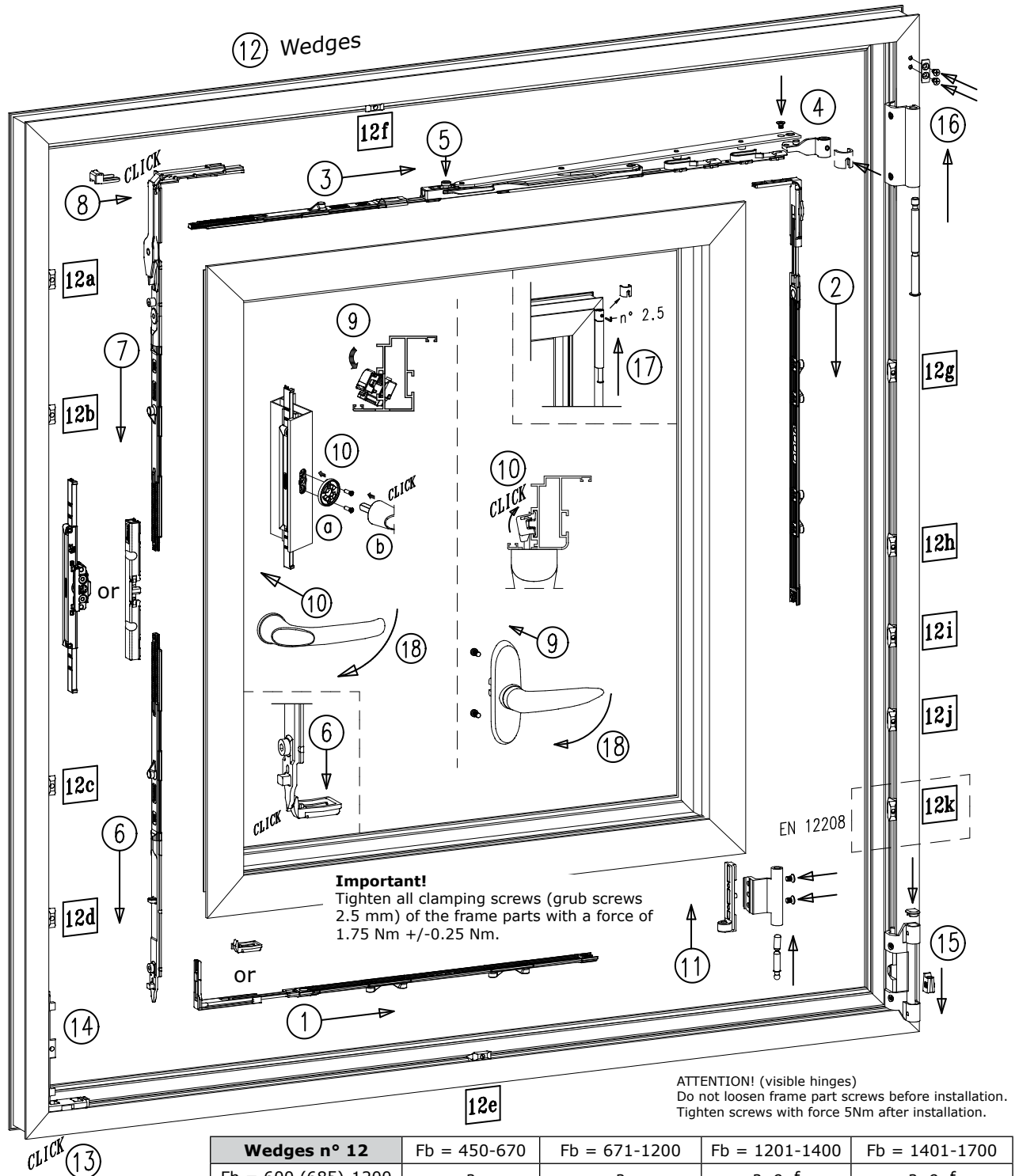
- The drawing above only shows the situation when the handle is in the middle (A = Fh/2).
- **Important!** Tighten all clamping screws (grub screws 2.5 mm) with a force of 1.75 Nm +/- 0.25 Nm.



## 6. Installation instructions

### 6.1. Chrono Standard

- The installation instructions are valid for frame groove 14/18 mm and frame groove 10/14 mm.
- Wedge 12k must only be placed if Fh = 2201-2400 mm and Fb = 1401-1700 mm and if the highest class of wind and water tightness is required in accordance with the European standard EN 12208 (1200 Pa).



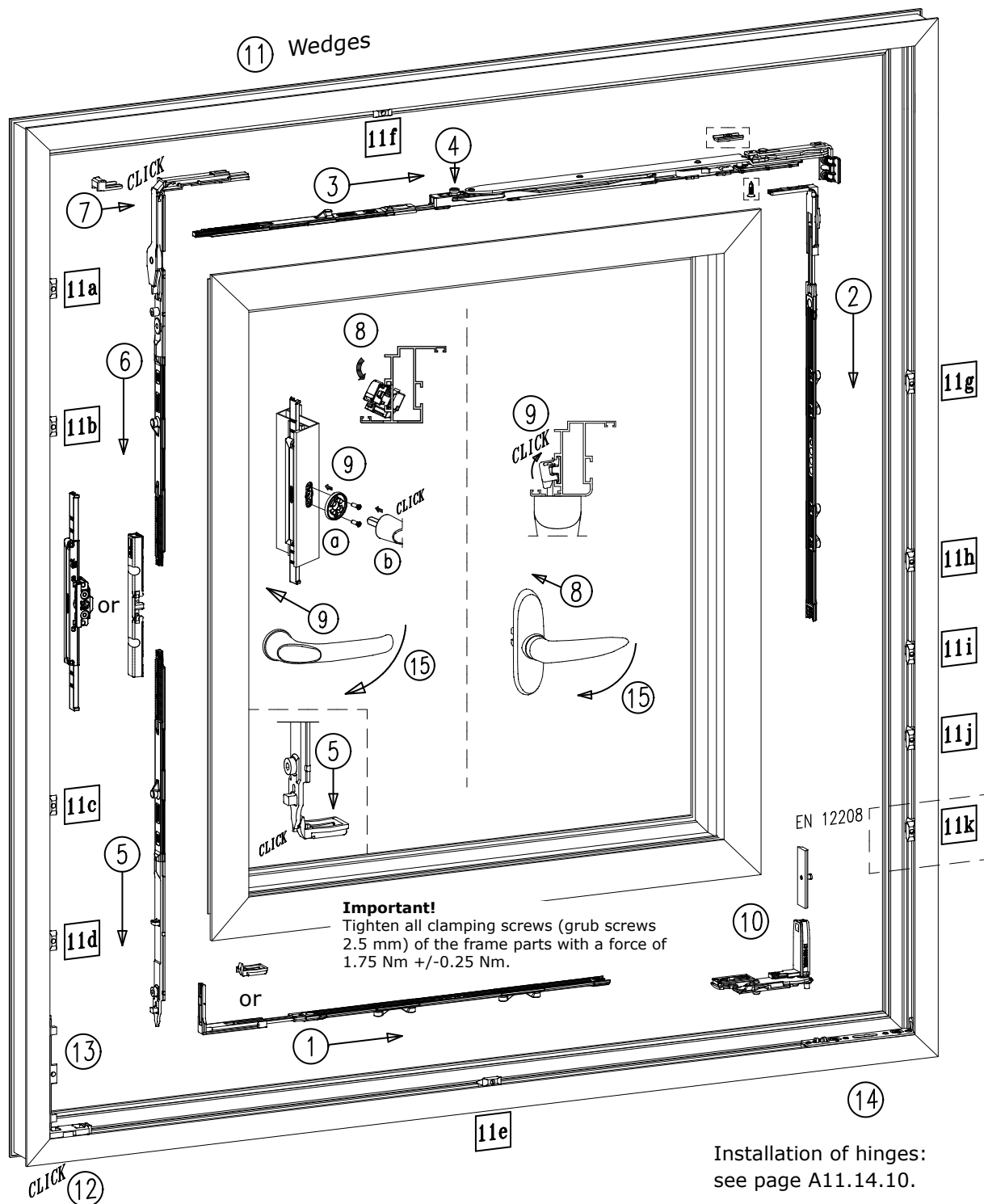
Wedges n° 12	Fb = 450-670	Fb = 671-1200	Fb = 1201-1400	Fb = 1401-1700
Fh = 600 (685)-1200	a	a	a, e, f	a, e, f
Fh = 1201-1800	a, b, j	a, b, j	a, b, e, f, j	a, b, e, f, j
Fh = 1801-2400	X	a, b, c, g, j	a, b, c, e, f, g, j	a, b, c, e, f, g, h, j
Fh = 2401-2800	X	a, b, c, d, g, h, i, j	X	X



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6.2. Chrono Invision Pro

- The installation instructions are valid for frame groove 14/18 mm and frame groove 10/14 mm.
- Wedge 11k must only be placed if Fh = 2201-2400 mm and Fb = 1401-1700 mm and if the highest class of wind and water tightness is required in accordance with the European standard EN 12208 (1200 Pa).



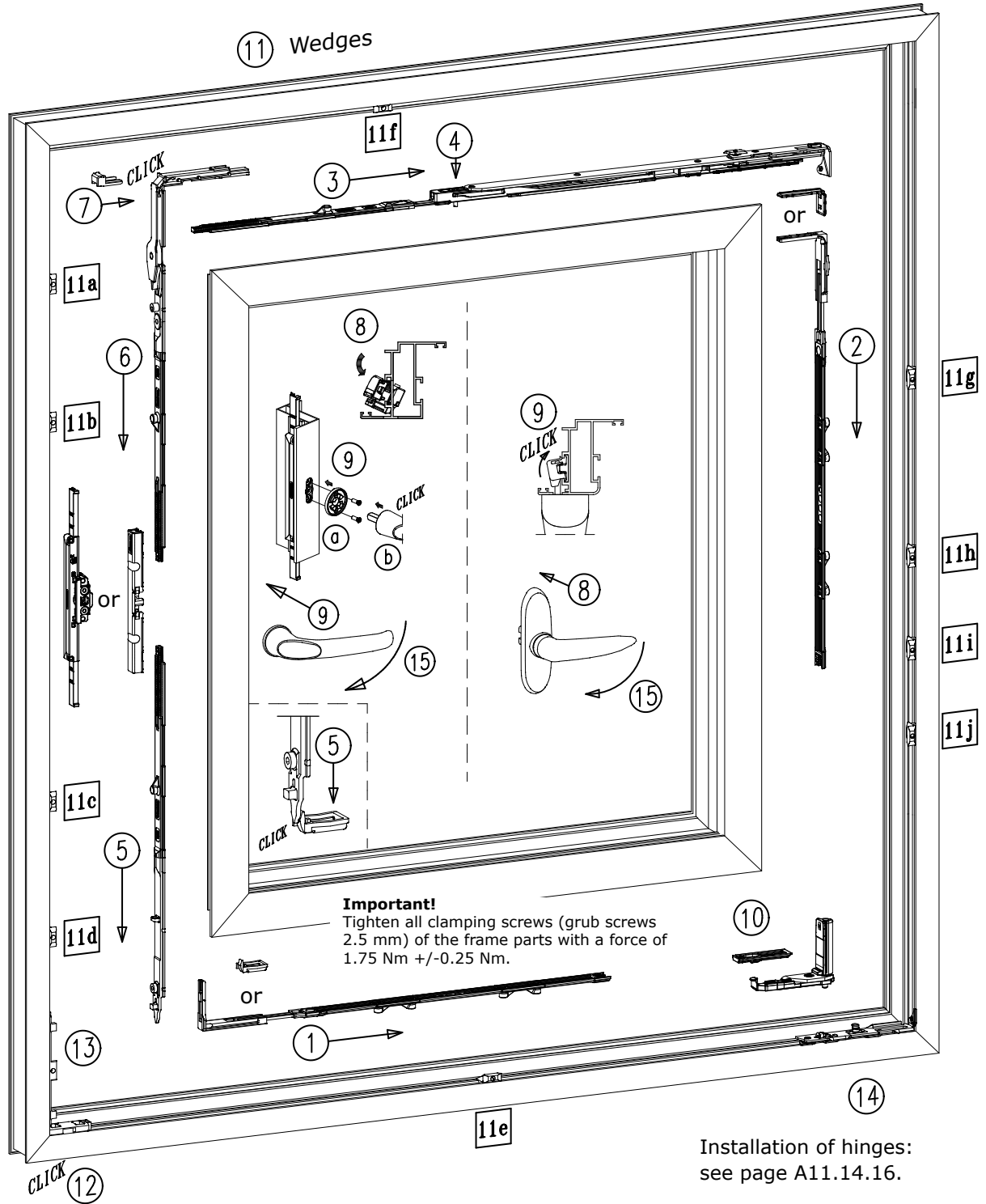
Wedges n° 11	Fb = 460-670	Fb = 671-1200	Fb = 1201-1400	Fb = 1401-1700
Fh = 600 (685)-1200	a	a	a, e, f	a, e, f
Fh = 1201-1800	a, b, j	a, b, j	a, b, e, f, j	a, b, e, f, j
Fh = 1801-2400		a, b, c, g, j	a, b, c, e, f, g, j	a, b, c, e, f, g, h, j
Fh = 2401-2800		a, b, c, d, g, h, i, j		





### 6.3. Chrono Invision Go

- The installation instructions are valid for frame groove 14/18 mm and frame groove 10/14 mm.



Wedges n° 11	Fb = 460-670	Fb = 671-1200	Fb = 1201-1300
Fh = 600 (685)-1200	a	a	a, e, f
Fh = 1201-1800	a, b, g	a, b, j	a, b, e, f, j
Fh = 1801-2400	X	a, b, c, g, j	a, b, c, e, f, g, j
Fh = 2401-2800	X	a, b, c, d, g, h, i, j	X



CHRONO STANDARD

## 7. Order tables

### 7.1. Chrono Standard

#### Chrono Standard for frame groove 14/18 mm

##### Handle

###### Handle without base with lockcase

Handle	+ 30000-670, 30000-671 (Horizon) or 30000-673, 30000-674 (Edge)
Lockcase	+ 35000-720

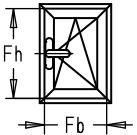
###### Handle with lockcase

Handle	+ 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858 or 1859 (Sobinox) + 30000-680, 30000-680-38 (Horizon) or 30000-682, 30000-682-38 (Edge)
Lockcase	+ 35000-721

###### Handle with connection piece set

Handle	+ 30000-654, 30000-655, 30000-657, 30000-659 or 30000-662
Connection piece set	+ 35000-700

##### Base set

	Fb = 450-670	Fb = 671-1200	Fb = 1201-1300	Fb = 1301-1400	Fb = 1401-1700
Fh = 600-1200 Fh = 685-1200	+ 35110-1 + 35001-550	+ 35110-1 + 35002-550	+ 35110-1 + 35002-550 + 30140-30	+ 35110-1 + 35003-550 + 30140-30	+ 35110-1 + 35003-550 + 30140-30 + 35140-790
Fh = 1201-1800	+ 35110-1 + 35001-550 + 30140-30	+ 35110-1 + 35002-550 + 30140-30	+ 35110-1 + 35002-550 + 2x 30140-30	+ 35110-1 + 35003-550 + 2x 30140-30	+ 35110-1 + 35003-550 + 2x 30140-30 + 35140-790
Fh = 1801-2400		+ 35110-1 + 35002-550 + 30140-30 + 2x 30140-800	+ 35110-1 + 35002-550 + 2x 30140-30 + 2x 30140-800	+ 35110-1 + 35003-550 + 2x 30140-30 + 2x 30140-800	+ 35110-1 + 35003-550 + 2x 30140-30 + 3x 30140-800 + 35140-790
Fh = 2401-2800		+ 30000-691/-692* + 35110-1 + 35002-550 + 30140-30 + 5x 30140-800 + 35140-790**			

\* The reinforcement set 30000-691/-692 for handles is only necessary in case of using a connection piece set.

\*\* Windows with Fh > 2400 mm require a reinforcement set 35140-790, but only one reinforcement set can be installed in each window.

##### Hinges (dependent of vent weight)

	Fb = 450-670	Fb = 671-1200	Fb = 1201-1300	Fb = 1301-1400	Fb = 1401-1700
Fg < 90kg	+ 35140-12 + 35140-10				
90kg < Fg < 130kg	+ 35140-12 + 35140-10 + 35140-790				+ 35140-12 + 35140-10

##### Notes

Transmission rods 35000-... (in accordance with the vent dimensions)
Vent weight > 90 kg and/or Fb > 1400 mm: reinforcement set 35140-790. The window stay is optional and is only used as limitation of the opening angle, never as stop. In accordance with standard EN 12208 if Fb > 1400 mm and Fh > 2200 mm: + wedge 30140-800. Ratio of Fb / Fh = max. 1.5.



## Chrono Standard for frame groove 10/14 mm

### Handle

#### Handle without base with lockcase

Handle	+ 30000-670, 30000-671 (Horizon) or 30000-673, 30000-674 (Edge)
Lockcase	+ 35000-720

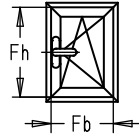
#### Handle with lockcase

Handle	+ 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858 or 1859 (Sobinox)
	+ 30000-680, 30000-680-38 (Horizon) or 30000-682, 30000-682-38 (Edge)
Lockcase	+ 35000-721

#### Handle with connection piece set

Handle	+ 30000-654, 30000-655, 30000-657, 30000-659 or 30000-662
Connection piece set	+ 35000-700

### Base set

	Fb = 450-670	Fb = 671-1200	Fb = 1201-1300	Fb = 1301-1400	Fb = 1401-1700
Fh = 600-1200 Fh = 685-1200	+ 35130-1 + 35001-550	+ 35130-1 + 35002-550	+ 35130-1 + 35002-550 + 30140-30	+ 35130-1 + 35003-550 + 30140-30	+ 35130-1 + 35003-550 + 30140-30 + 35140-790
Fh = 1201-1800	+ 35130-1 + 35001-550 + 30140-30	+ 35130-1 + 35002-550 + 30140-30	+ 35130-1 + 35002-550 + 2x 30140-30	+ 35130-1 + 35003-550 + 2x 30140-30	+ 35130-1 + 35003-550 + 2x 30140-30 + 35140-790
Fh = 1801-2400		+ 35130-1 + 35002-550 + 30140-30 + 2x 30140-800	+ 35130-1 + 35002-550 + 2x 30140-30 + 2x 30140-800	+ 35130-1 + 35003-550 + 2x 30140-30 + 2x 30140-800	+ 35130-1 + 35003-550 + 2x 30140-30 + 3x 30140-800 + 35140-790
Fh = 2401-2800		+ 30000-691/-692* + 35130-1 + 35002-550 + 30140-30 + 5x 30140-800 + 35140-790**			

\* The reinforcement set 30000-691/-692 for handles is only necessary in case of using a connection piece set.

\*\* Windows with Fh > 2400 mm require a reinforcement set 35140-790, but only one reinforcement set can be installed in each window.

### Hinges (dependent of vent weight)

	Fb = 450-670	Fb = 671-1200	Fb = 1201-1300	Fb = 1301-1400	Fb = 1401-1700
Fg < 90kg	+ 35140-12 + 35140-10				
90kg < Fg < 130kg	+ 35140-12 + 35140-10 + 35140-790				+ 35140-12 + 35140-10

### Notes

Transmission rods 35000-... (in accordance with the vent dimensions)
Vent weight > 90 kg and/or Fb > 1400 mm: reinforcement set 35140-790.
The window stay is optional and is only used as limitation of the opening angle, never as stop.
In accordance with standard EN 12208 if Fb > 1400 mm and Fh > 2200 mm: + wedge 30140-800.
Ratio of Fb / Fh = max. 1.5.



## CHRONO STANDARD

**7.2. Chrono Invision Pro****Chrono Invision Pro for frame groove 14/18 mm****Handle****Handle without base with lockcase**

Handle	+ 30000-670, 30000-671 (Horizon) or 30000-673, 30000-674 (Edge)
Lockcase	+ 35000-720

**Handle with lockcase**

Handle	+ 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858 or 1859 (Sobinox)
	+ 30000-680, 30000-680-38 (Horizon) or 30000-682, 30000-682-38 (Edge)
Lockcase	+ 35000-721

**Handle with connection piece set**

Handle	+ 30000-654, 30000-655, 30000-657, 30000-659 or 30000-662
Connection piece set	+ 35000-700

**Base set**

	Fb = 460-670	Fb = 671-1200	Fb = 1201-1300	Fb = 1301-1400	Fb = 1401-1700
Fh = 600-1200 Fh = 685-1200	+ 35110-1 + 32114-10R(L)	+ 35110-1 + 32115-10R(L)	+ 35110-1 + 32115-10R(L) + 30140-30 + 35140-902	+ 35110-1 + 32116-10R(L) + 30140-30 + 35140-903	+ 35110-1 + 32116-10R(L) + 30140-30 + 35140-903 + 32140-790
Fh = 1201-1800	+ 35110-1 + 32114-10R(L) + 30140-30	+ 35110-1 + 32115-10R(L) + 30140-30	+ 35110-1 + 32115-10R(L) + 2x 30140-30 + 35140-902	+ 35110-1 + 32116-10R(L) + 2x 30140-30 + 35140-903	+ 35110-1 + 32116-10R(L) + 2x 30140-30 + 35140-903 + 32140-790
Fh = 1801-2400		+ 35110-1 + 32115-10R(L) + 30140-30 + 2x 30140-800	+ 35110-1 + 32115-10R(L) + 2x 30140-30 + 2x 30140-800 + 35140-902	+ 35110-1 + 32116-10R(L) + 2x 30140-30 + 2x 30140-800 + 35140-903	+ 35110-1 + 32116-10R(L) + 2x 30140-30 + 3x 30140-800 + 35140-903 + 32140-790
Fh = 2401-2800		+ 30000-691/-692* + 35110-1 + 32115-10R(L) + 30140-30 + 5x 30140-800 + 32140-790			

\* The reinforcement set 30000-691/-692 for handles is only necessary in case of using a connection piece set.

**Notes**

Transmission rods 35000-... (in accordance with the vent dimensions)
Additional window stay 35140-902 or -903 (see page A11.16.03) is required: <ul style="list-style-type: none"> <li>- if vent weight &gt; 90 kg</li> <li>- in public buildings</li> <li>- for balcony doors or window doors</li> </ul>
Vent weight > 130 kg: reinforcement set 32140-790 is required.
Ratio Fb / Fh = max. 1.5 (< 130 kg) and ratio Fb / Fh = max. 1 (> 130 kg).
Vent width Fb < 670 mm: max. 130 kg and vent width Fb > 670 mm: max. 170 kg.
In accordance with standard EN 12208 if Fb > 1400 mm and Fh > 2200 mm: + wedge 30140-800.



## Chrono Invision Pro for frame groove 10/14 mm

### Handle

#### Handle without base with lockcase

Handle	+ 30000-670, 30000-671 (Horizon) or 30000-673, 30000-674 (Edge)
Lockcase	+ 35000-720

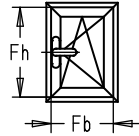
#### Handle with lockcase

Handle	+ 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858 or 1859 (Sobinox)
	+ 30000-680, 30000-680-38 (Horizon) or 30000-682, 30000-682-38 (Edge)
Lockcase	+ 35000-721

#### Handle with connection piece set

Handle	+ 30000-654, 30000-655, 30000-657, 30000-659 or 30000-662
Connection piece set	+ 35000-700

### Base set

	Fb = 460-670	Fb = 671-1200	Fb = 1201-1300	Fb = 1301-1400	Fb = 1401-1700
Fh = 600-1200 Fh = 685-1200	+ 35130-1 + 32134-10R(L)	+ 35130-1 + 32135-10R(L)	+ 35130-1 + 32135-10R(L) + 30140-30 + 35140-902	+ 35130-1 + 32136-10R(L) + 30140-30 + 35140-903	+ 35130-1 + 32136-10R(L) + 30140-30 + 35140-903 + 32130-790
Fh = 1201-1800	+ 35130-1 + 32134-10R(L) + 30140-30	+ 35130-1 + 32135-10R(L) + 30140-30	+ 35130-1 + 32135-10R(L) + 2x 30140-30 + 35140-902	+ 35130-1 + 3236-10R(L) + 2x 30140-30 + 35140-903	+ 35130-1 + 32136-10R(L) + 2x 30140-30 + 35140-903 + 32130-790
Fh = 1801-2400		+ 35130-1 + 32135-10R(L) + 30140-30 + 2x 30140-800	+ 35130-1 + 32135-10R(L) + 2x 30140-30 + 2x 30140-800 + 35140-902	+ 35130-1 + 32136-10R(L) + 2x 30140-30 + 2x 30140-800 + 35140-903	+ 35130-1 + 32136-10R(L) + 2x 30140-30 + 3x 30140-800 + 35140-903 + 32130-790
Fh = 2401-2800		+ 30000-691/-692* + 35130-1 + 32135-10R(L) + 30140-30 + 5x 30140-800 + 32130-790			

\* The reinforcement set 30000-691/-692 for handles is only necessary in case of using a connection piece set.

### Notes

Transmission rods 35000-... (in accordance with the vent dimensions)
Additional window stay 35140-902 or -903 (see page A11.16.03) is required: <ul style="list-style-type: none"> <li>- if vent weight &gt; 90 kg</li> <li>- in public buildings</li> <li>- for balcony doors or window doors</li> </ul>
Vent weight > 130 kg: reinforcement set 32130-790 is required.
Ratio Fb / Fh = max. 1.5 (< 130 kg) and ratio Fb / Fh = max. 1 (> 130 kg).
Vent width Fb < 670 mm: max. 130 kg and vent width Fb > 670 mm: max. 170 kg.
In accordance with standard EN 12208 if Fb > 1400 mm and Fh > 2200 mm: + wedge 30140-800.



## CHRONO STANDARD

**7.3. Chrono Invision Go****Handle****Handle without base with lockcase**

Handle	+ 30000-670, 30000-671 (Horizon) or 30000-673, 30000-674 (Edge)
Lockcase	+ 35000-720

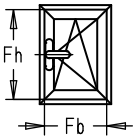
**Handle with lockcase**

Handle	+ 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858 or 1859 (Sobinox)
	+ 30000-680, 30000-680-38 (Horizon) or 30000-682, 30000-682-38 (Edge)
Lockcase	+ 35000-721

**Handle with connection piece set**

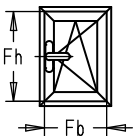
Handle	+ 30000-654, 30000-655, 30000-657, 30000-659 or 30000-662
Connection piece set	+ 35000-700

**Base set for frame groove 14/18 mm**

	Fb = 460-670	Fb = 671-1200	Fb = 1201-1300
Fh = 600-1200 Fh = 685-1200	+ 35110-1 + 32117-10R(L)	+ 35110-1 + 32118-10R(L)	+ 35110-1 + 32118-10R(L) + 30140-30 + 32117-901
Fh = 1201-1800	+ 35110-1 + 32117-10R(L) + 30140-30	+ 35110-1 + 32118-10R(L) + 30140-30	+ 35110-1 + 32118-10R(L) + 2x 30140-30 + 32117-901
Fh = 1801-2400		+ 35110-1 + 32118-10R(L) + 30140-30 + 2x 30140-800	+ 35110-1 + 32118-10R(L) + 2x 30140-30 + 2x 30140-800 + 32117-901
Fh = 2401-2800		+ 30000-691/-692* + 35110-1 + 32118-10R(L) + 30140-30 + 5x 30140-800	

\* The reinforcement set 30000-691/-692 for handles is only necessary in case of using a connection piece set.

**Base set for frame groove 10/14 mm**

	Fb = 460-670	Fb = 671-1200	Fb = 1201-1300
Fh = 600-1200 Fh = 685-1200	+ 35130-1 + 32137-10R(L)	+ 35130-1 + 32138-10R(L)	+ 35130-1 + 32138-10R(L) + 30140-30 + 32137-901
Fh = 1201-1800	+ 35130-1 + 32137-10R(L) + 30140-30	+ 35130-1 + 32138-10R(L) + 30140-30	+ 35130-1 + 32138-10R(L) + 2x 30140-30 + 32137-901
Fh = 1801-2400		+ 35130-1 + 32138-10R(L) + 30140-30 + 2x 30140-800	+ 35130-1 + 32138-10R(L) + 2x 30140-30 + 2x 30140-800 + 32137-901
Fh = 2401-2800		+ 30000-691/-692* + 35130-1 + 32138-10R(L) + 30140-30 + 5x 30140-800	

\* The reinforcement set 30000-691/-692 for handles is only necessary in case of using a connection piece set.

**Notes**

Transmission rods 35000-... (in accordance with the vent dimensions)
Window stay 32117-901 or 32137-901 (see page A11.16.04) is required: - if vent width $F_b > 1200$ mm - in public buildings
Window stay 35140-902 (see page A11.16.03) is required for balcony doors or window doors. Ratio $F_b / F_h = \text{max. } 1.2$ .

## 8. General information and glass tables

- The turn-tilt systems Chrono Standard can be used within the  $F_h/F_b$  sizes and weight limitations indicated on the charts. The ratio of the dimensions  $F_b/F_h$  must not exceed the value of 1.5 for visible hinges and Chrono Invision Pro hinges. For Chrono Invision Pro  $> 130$  kg, the ratio of the dimensions  $F_b/F_h$  must not exceed the value of 1. For Chrono Invision Go hinges, the ratio of the dimensions  $F_b/F_h$  must not exceed the value of 1.2.
- The handle height should not be less than  $1/3$  and not be more than  $2/3$  of the vent height. Technical advice should be sought when the sizes of your windows are not shown in the chart.
- With Chrono visible hinges, the window stay is optional and is only used as limitation of the opening angle, never as stop.
- In schools and in other places where safety is important, we advise a window stay 35140-901, -902, -903 and a handle with cylinder.
- A window stay is required in public buildings:
  - Chrono Invision Pro: 35140-902 or -903
  - Chrono Invision Go: 32117-901 (groove 14/18) or 32137-901 (groove 10/14)
- A window stay is required for balcony doors or window doors:
  - Chrono Invision Pro: 35140-902 or -903
  - Chrono Invision Go: 35140-902
- A window stay is possible from the following vent width:
  - Chrono visible hinges:  $F_b > 450$  mm
  - Chrono Invision Pro:  $F_b > 545$  mm (only window stay 35140-902 and -903)
  - Chrono Invision Go:  $F_b > 460$  mm
- Alternatively install a Chrono tilt-turn system with a turn lock handle. The advantage of this system is that the locked handle can operate the window from closed position to tilt position, for ventilation. The turn position can only be obtained by unlocking the handle.
- The systems Chrono are made of non-corroding materials, the set should not be installed in corrosive atmospheres.
- Sobinco cannot be held responsible for the malfunctioning of the Chrono system if any non-Sobinco parts are used.
- All parts must be assembled according to the instructions as described in previous pages.
- Surface treatment of vent and frame must take place before assembly of the set to avoid affecting the operation of the gear. If this is not the case, this may lead to the malfunctioning of the hardware and the warranty will dispose.
- Glazing must be in accordance with national standards.
- The window and gear should be kept clean and lubricated in accordance with our maintenance instructions (copy available on request).

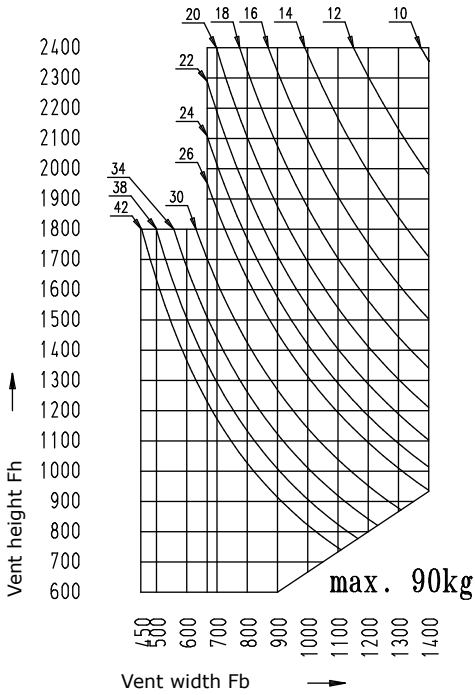
**Note**

- The glass tables on the next page are valid for Chrono, Chrono Invision Pro and Chrono Invision Go. The minimum and maximum dimensions in the charts do not take into account the limitations of the different systems. For the right size range, we refer to page A11.11.05.



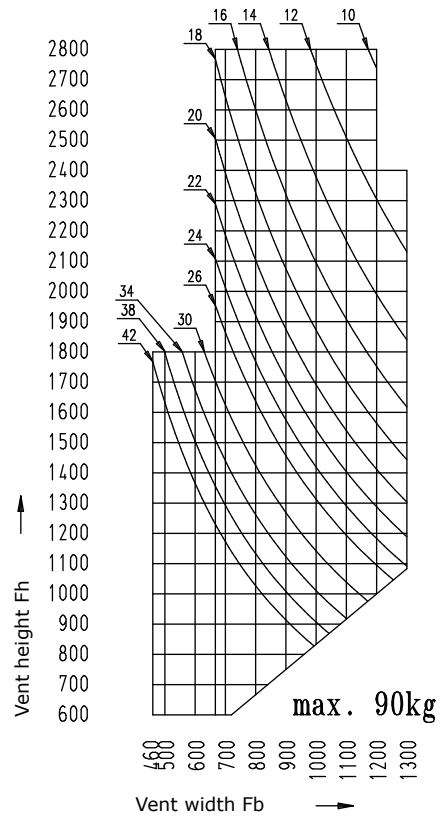
CHRONO STANDARD

Vent weight up to 90 kg

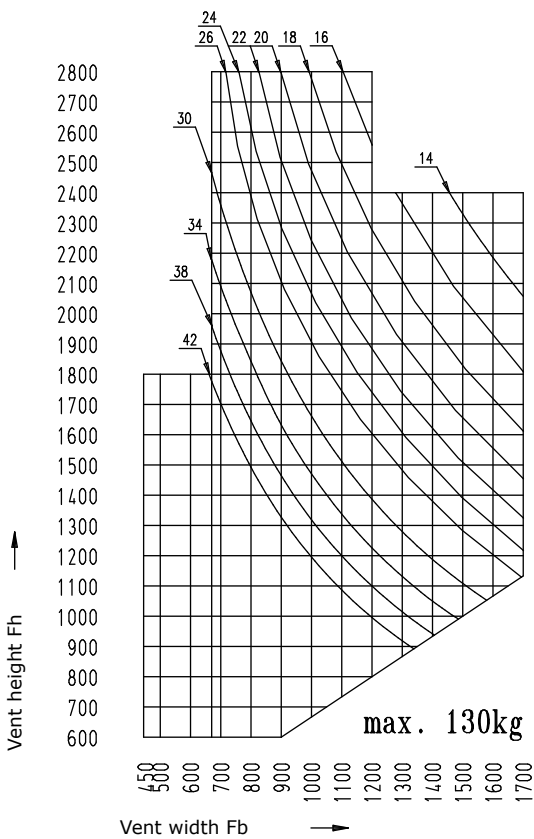


Glass thickness without air gap	
mm	kg/m <sup>2</sup>
10	25
12	30
14	35
16	40
18	45
20	50
22	55
24	60
26	65
28	70
30	75
32	80
34	85
36	90
38	95
40	100
42	105

Vent weight up to 90 kg (Invision Go)



Vent weight up to 130 kg



Vent weight up to 170 kg

