

GUTMANN MIRA



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07.2012





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Die passende Lösung für jede Anforderung

Das Holz-Alu-System GUTMANN MIRA bietet mit einem vielfältigen Profilsortiment maßgeschneiderte Lösungen für jede Anforderung, vom Wohngebäude bis zum Objektbau. Hinter klassischer, flächenversetzter Optik steckt grundsolide Technik mit hervorragenden Kennwerten. Alle gängigen Fensterkonstruktionen, Öffnungsarten und Fensterformen, auch Schrägfenster, Rund-, Segment- oder Spitzbögen, können in verschiedenen Profildesigns ausgeführt werden.

The right solution for all demands

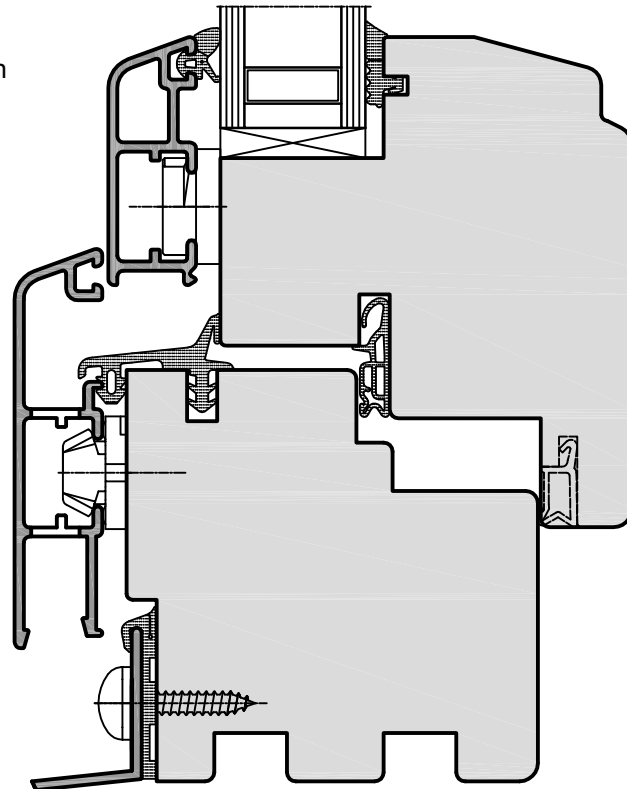
The MIRA wood-aluminium system offers a varied assortment of profiles with customized solutions for all demands, from residential buildings to major construction projects. The classic, offset design is based on solid technology with excellent characteristic values. All standard window constructions, opening variations, and window shapes, including slanted windows, round arches, segmental arches, and lancet arches, are available in different profile designs.



Die Energiewerte finden Sie im Kapitel 2 dieses Ordners.

Please find the energy values in chapter 2.

Das Holz-Aluminium System MIRA bietet mit einem vielfältigen Profilsortiment maßgeschneiderte Lösungen für jede Anforderung vom Wohngebäude bis zum Objektbau. Hinter klassischer, flächenversetzter Optik steckt grundsolide Technik mit hervorragenden Kennwerten.



Das vielfältige Profilsortiment lässt keine Gestaltungswünsche offen: Alle gängigen Fensterkonstruktionen und Öffnungsarten können in unterschiedlichen Designs und Profiltiefen ausgeführt werden. Auch Schrägfenster und Rundbögen sind in allen Formen machbar.

Das Holz-Aluminium System MIRA basiert auf der klassischen Grundkonstruktion für Holz-Aluminium Systeme mit gleichen Holzstärken am Flügel und Rahmen. Zusammen mit der eleganten, angefrästen Glasleiste am Flügel ist diese Bauart eine besonders wirtschaftliche und leistungsstarke Lösung im Holz-Alu-Fensterbau: Zahlreiche technische und optische Varianten sind mit dieser Holzrahmen-Konstruktion einzig durch den Austausch der Alu-Schalen in modularer Bauweise machbar.

Die Glasaufnahme erfolgt geschützt im Holzfalz. Die Isolierglaskante ist somit gut gegen Wärmeverlust gedämmt. Das Glas wird am Flügel von außen eingesetzt und mit der Alu-Schale überdeckt und abgedichtet.

Die Abdichtung zum Glas kann nach Wunsch mit grauen oder schwarzen Verglasungsdichtungen sowie Silikon ausgeführt werden.

Die Aluminium-Schale ist Wetterschutz und farblich frei gestaltbares Architekturelement. Der Holzrahmen sorgt für Stabilität, hervorragende Wärmedämmung und verleiht dem Haus einen angenehm wohnlichen Charakter. Alle Beschläge, die im Holzfensterbau eingesetzt werden, können verwendet werden.

Die Aluminium Rahmen sind großzügig hinterlüftet und werden mit stabilen Haltern spannungsfrei auf dem Holz befestigt. So kann das Holz atmen und der Aluminium-Rahmen kann sich ohne Behinderung bei Temperaturschwankungen dehnen.

Umlaufende Dichtungen am Flügel und Stockrahmen sorgen für zuverlässige Abdichtungen auch gegen Lärm. Bei Erfordernis kann auch zwischen Alu-Rahmen und Flügel mit Systemdichtungen abgedichtet werden.

Die Falzentwässerung erfolgt in der Regel unsichtbar und ohne störende Entwässerungskappen.

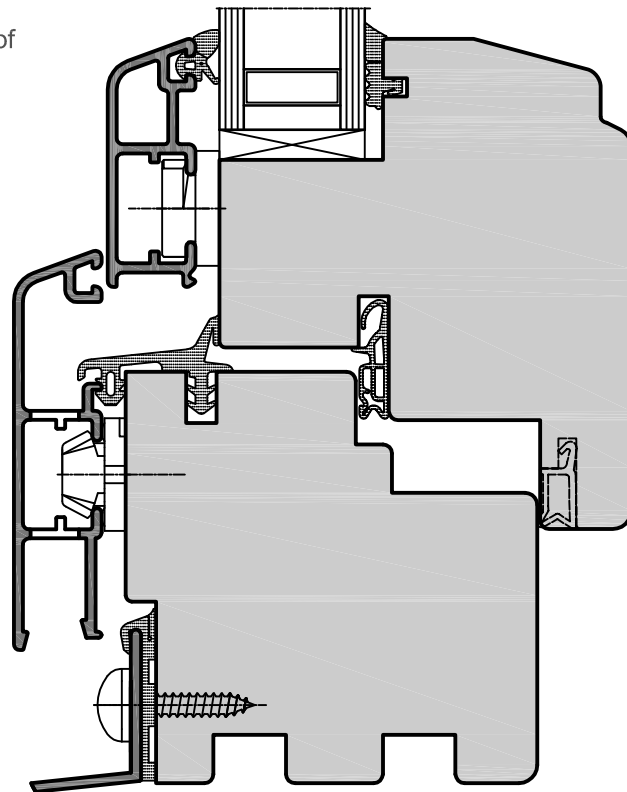
Die Profile sind wahlweise mit 0,5, 1, 2, 3, 5, 10 und 12 mm Radien an der Sichtkante verfügbar. Setzholz- und Kämpferprofile gibt es in zwei Bauhöhen, die saubere Profilstöße auch bei komplizierten Fensterteilungen ermöglichen.

Die Rahmenverbindungen sind wahlweise geschweißt oder mit stabilen, gestanzten Eckverbindungen machbar: Elementgrößen sind bis 3,5 x 2,5 m möglich.

System MIRA erreicht beste Dämmwerte von 1,1 W/m²K bis 1,4 W/m²K Rahmen und ist damit bestens für den Einsatz im Niedrigenergiehaus geeignet.

System MIRA besitzt den Nachweis der Beanspruchungsgruppe C, DIN 18055, bzw. Luftdichtheit 4 nach DIN EN 12207 und Schlagregendichtheit 9a nach DIN EN 12208. Eine Brandschutzprüfung mit der Klassifikation G30/F30 wurde erfolgreich absolviert.

The wood-aluminum system offers a varied assortment of profiles with customized solutions for all demands, from residential buildings to major construction projects. The classic, Offset design is based on solid technology with excellent characteristic values.



The diverse range of profiles leaves no design wish unfulfilled: All standard window constructions and opening variations are available in different designs and profile widths. All shapes of slanted windows and round arches may be realized as well.

The Mira wood-aluminum system is based on the classic basic design for wood-aluminum systems with identical wood thicknesses for sash and frame. In combination with the elegant, milled glass bead at the sash, this type of structure is a particularly cost-effective and high-performance solution for wood-aluminum window constructions: With this wooden frame design, numerous technical and optical variations are achieved via modular construction, merely by changing the aluminum shells.

The glass is taken up protected in the wood rebate. This ideally protects the edge of the sound-control glass from heat loss. At the sash, the glass is inserted from the outside, covered by aluminum shell, and sealed.

Upon request, the glass may be sealed with gray or black glazing gaskets or with silicone.

The aluminum shell provides weather protection and offers many color options for architectural components. The wood frame provides stability, outstanding thermal insulation, and gives the building a warm and pleasant feeling. All fittings used in wood window construction may be applied here as well.

The aluminum frames feature ample rear-ventilation and are mounted on the wood tension-free with stable fasteners: This allows the wood to breathe and the aluminum frame to expand without constraints during temperature fluctuations.

Circumferential gaskets at the sash and transom frame reliably shut out noise as well. If necessary, system gaskets may also be placed between the aluminum frame and sash.

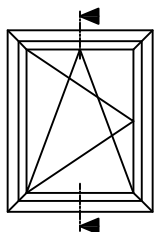
Rebate drainage is generally invisible and achieved without bothersome drainage caps.

Profiles are available with 0.5, 1, 2, 3, 5, 10, or 12 mm radii at the exposed edge. There are two structural heights of mullion and transom profiles, which facilitate clean profile butt joints even for complicated window divisions.

The Mira system achieves optimal frame insulation values of 1.1 W/m²_K to 1.4 W/m²_K and is therefore perfectly suited for application in lower-energy houses.

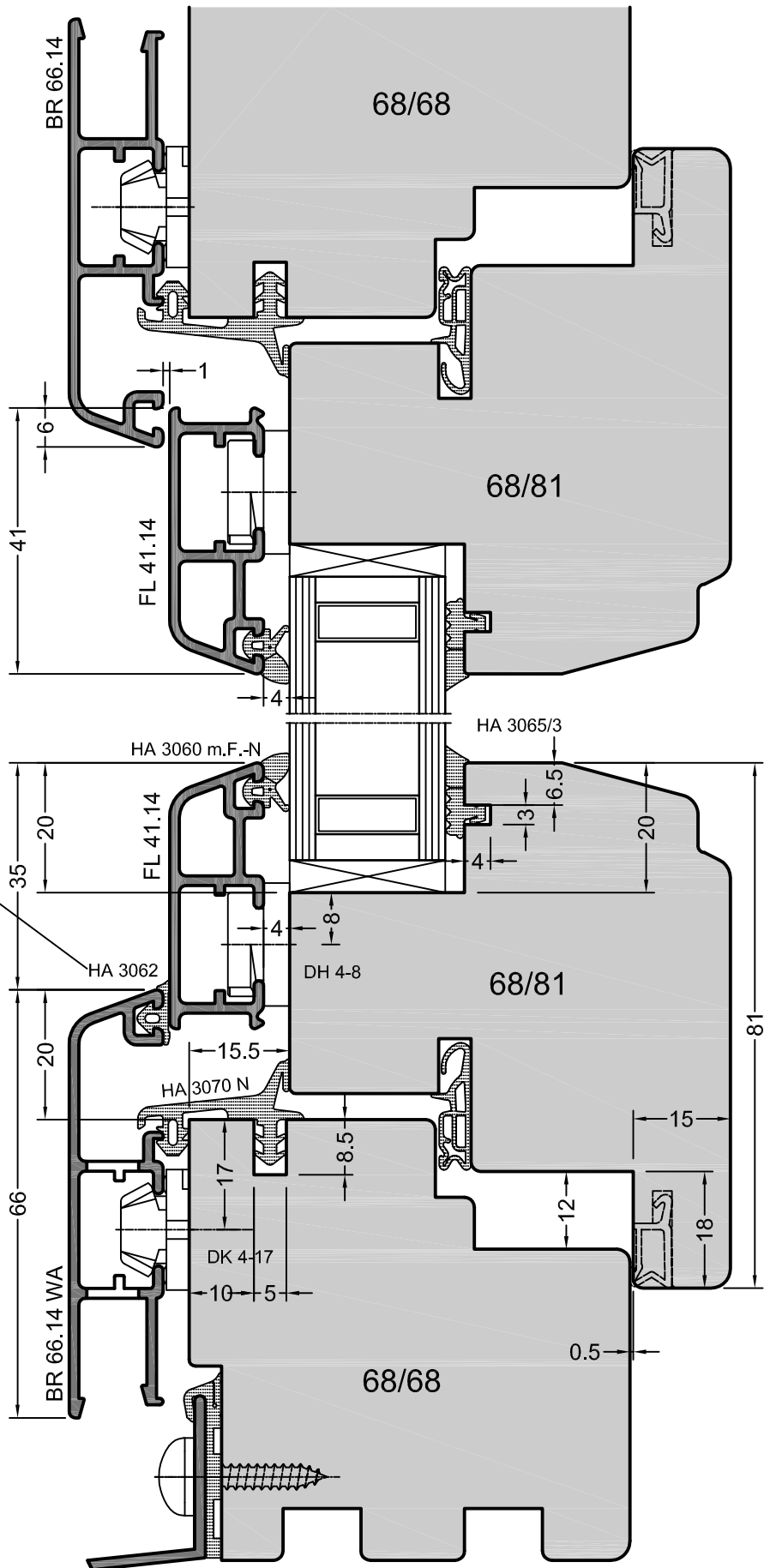
The Mira system is certified for Load Group C, DIN 18055, Air Tightness 4 according to DIN EN 12207, and Resistance to Heavy Rain 9a according to DIN EN 12208. A fire protection test with the classification G30/F30 was completed successfully.

Flügelversatz 15 mm Holz Vertikalschnitt Holz-Alu-System MIRA
Sash offset 15 mm, wood vertical cross section, MIRA wood-aluminum system

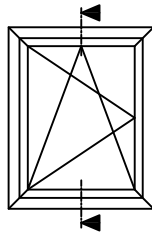


Hinweis:
Maße beziehen sich auf
fertig montierte Flügel
und endbehandelten Oberflächen!
Note:
The dimensions apply to
completely assembled sashes
and finished surfaces.

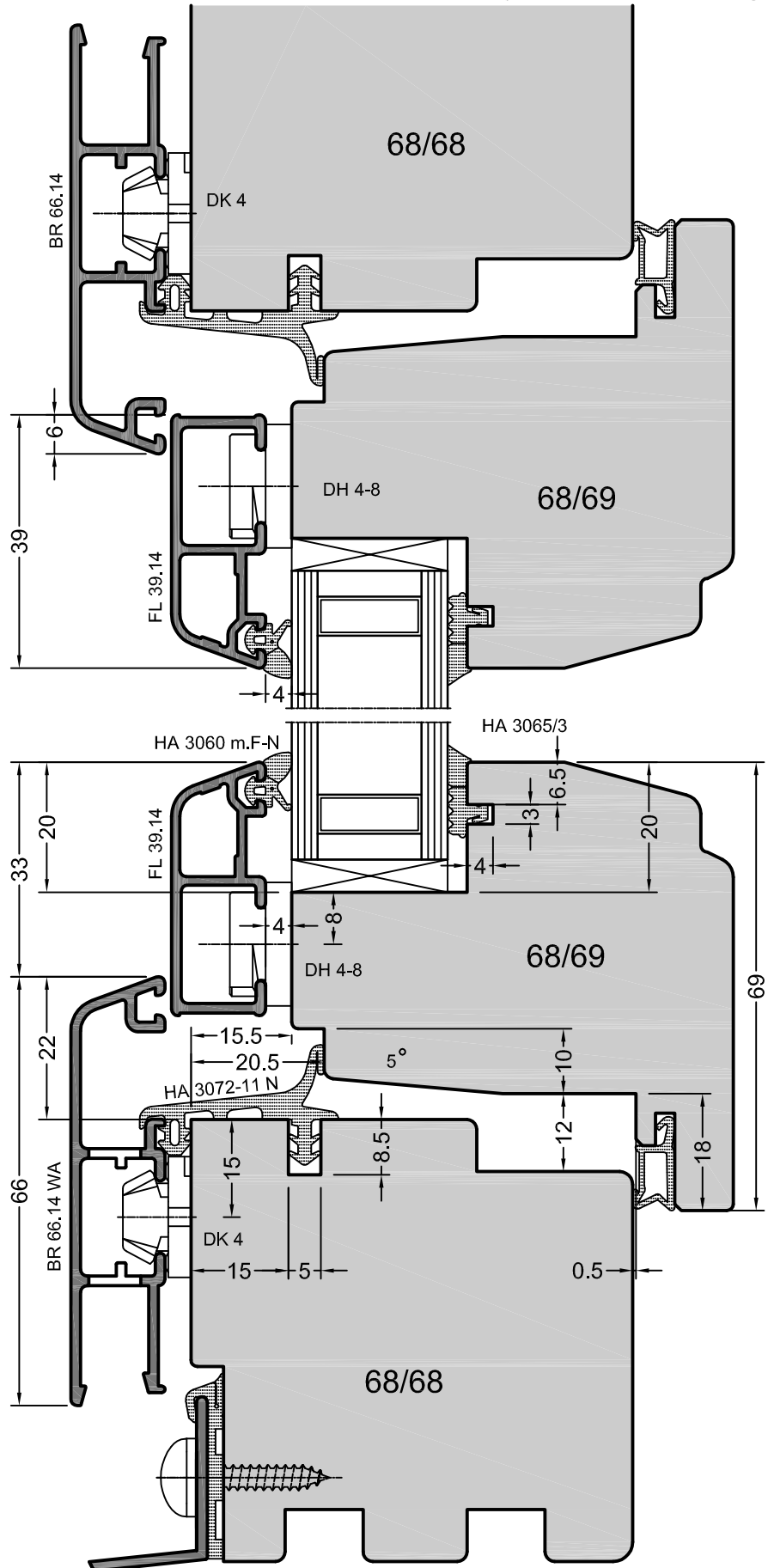
Dichtung HA 3062 optional bei hoher
Schlagregenbelastung
Gasket HA 3062 optional for
high driving rain loads



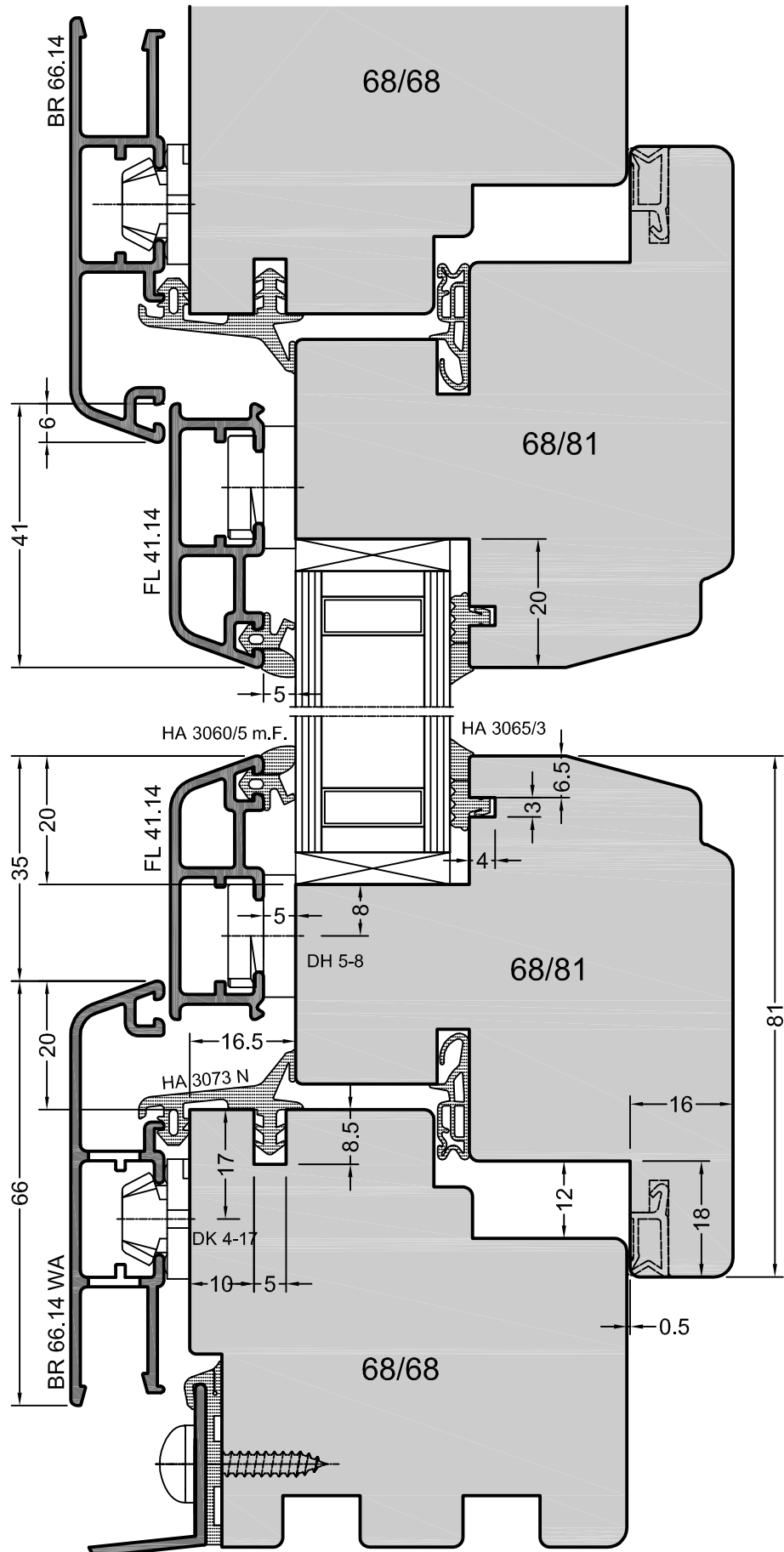
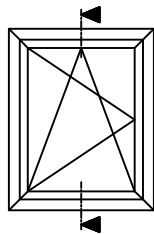
Flügelversatz 15 mm, Holz Vertikalschnitt, Holz-Alu-System MIRA, ohne Flügeldichtung
Sash offset 15 mm, wood vertical cross-section, MIRA wood-aluminum system, without sash gasket



Hinweis:
Maße beziehen sich auf
fertig montierte Flügel
und endbehandelten Oberflächen!
Note:
The dimensions apply to
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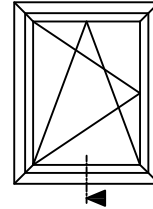


Flügelversatz 16 mm Holz Vertikalschnitt Holz-Alu-System MIRA
Sash offset 16 mm, wood vertical cross-section, MIRA wood aluminum system

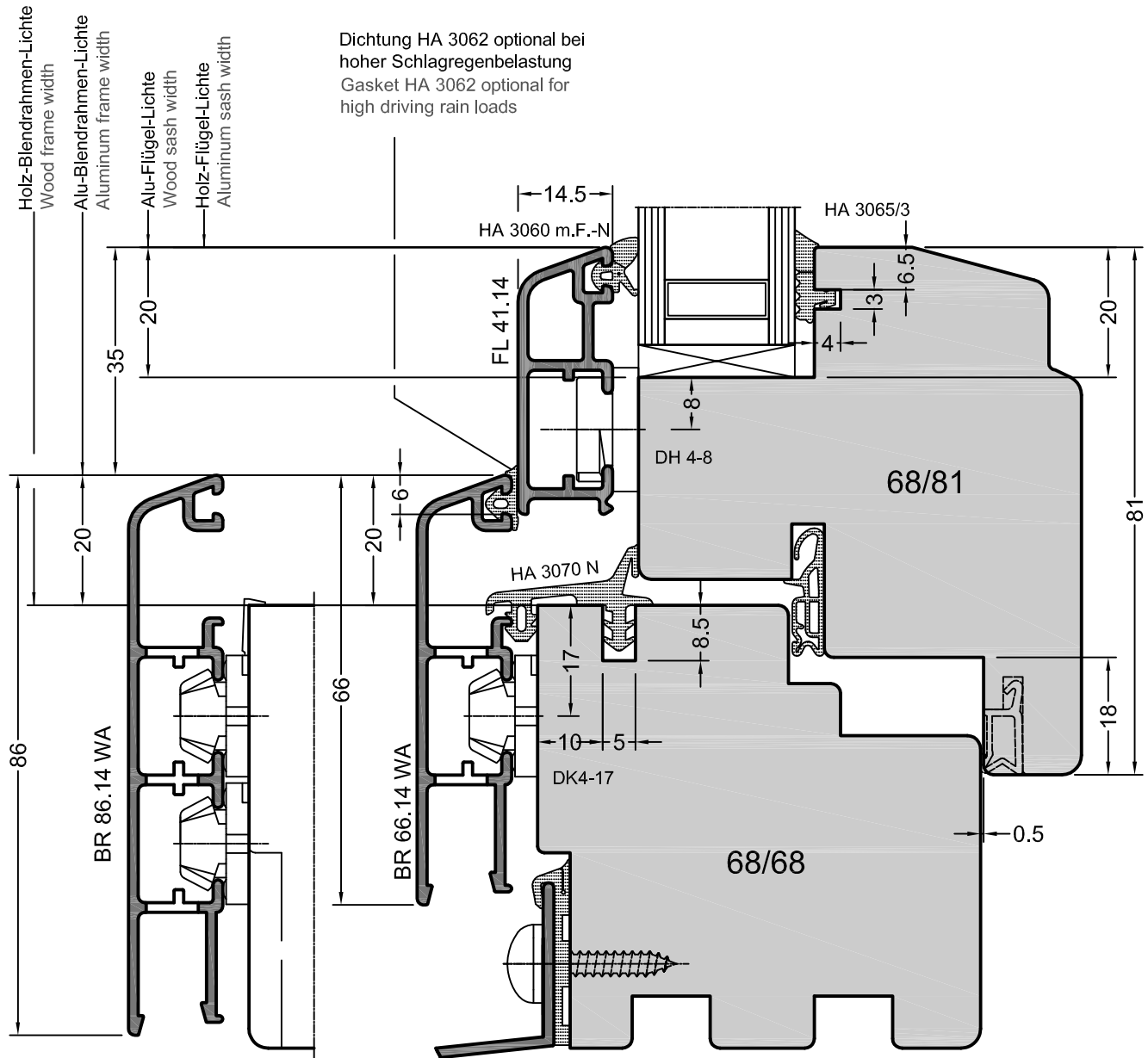


Hinweis:
Maße beziehen sich auf
fertig montierte Flügel
und endbehandelten Oberflächen!
Note:
The dimensions apply to
completely assembled sashes
and finished surfaces.

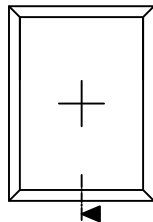
Flügelversatz 15 mm
Sash offset 15 mm



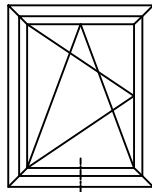
MIRA 5



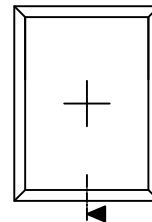
Flügelversatz 15 mm Holz Vertikalschnitt Holz-Alu-System MIRA
Sash offset 15 mm, wood vertical cross section, MIRA wood-aluminum system



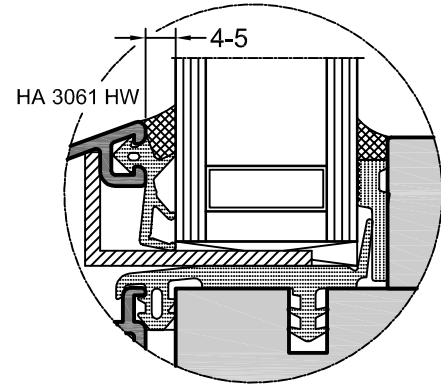
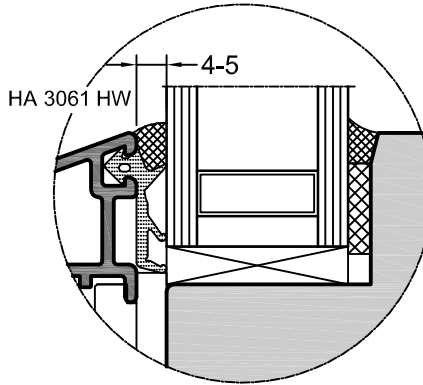
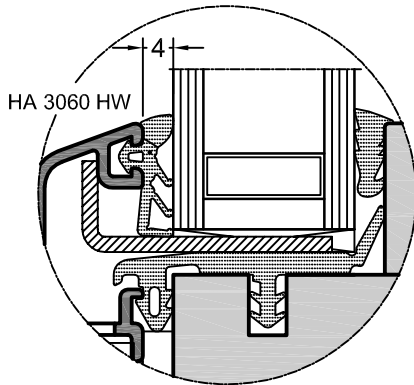
Trockenverglasung Blendrahmen
(Festverglasung)
Dry glazing frame
(Fixed glazing)



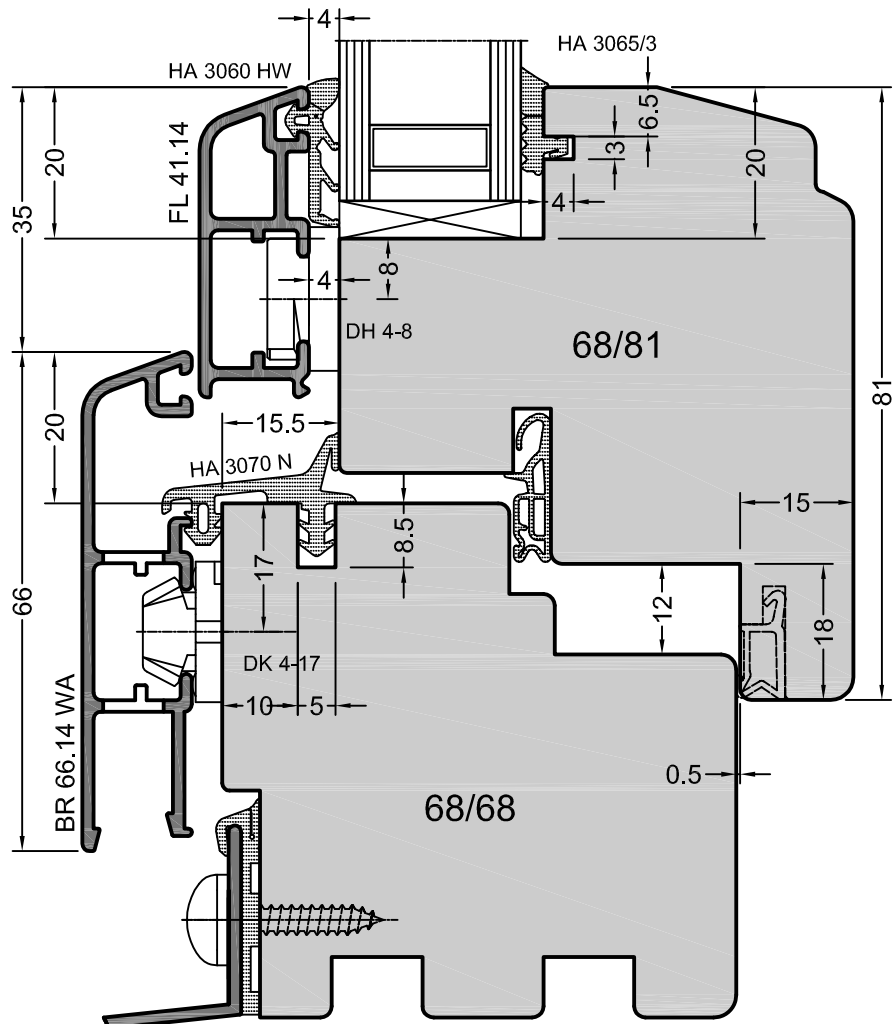
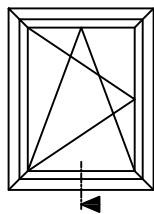
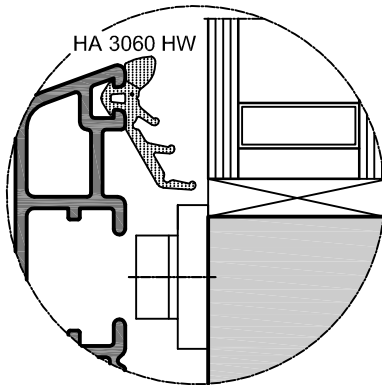
Naßverglasung Flügel
Wet glazing sash



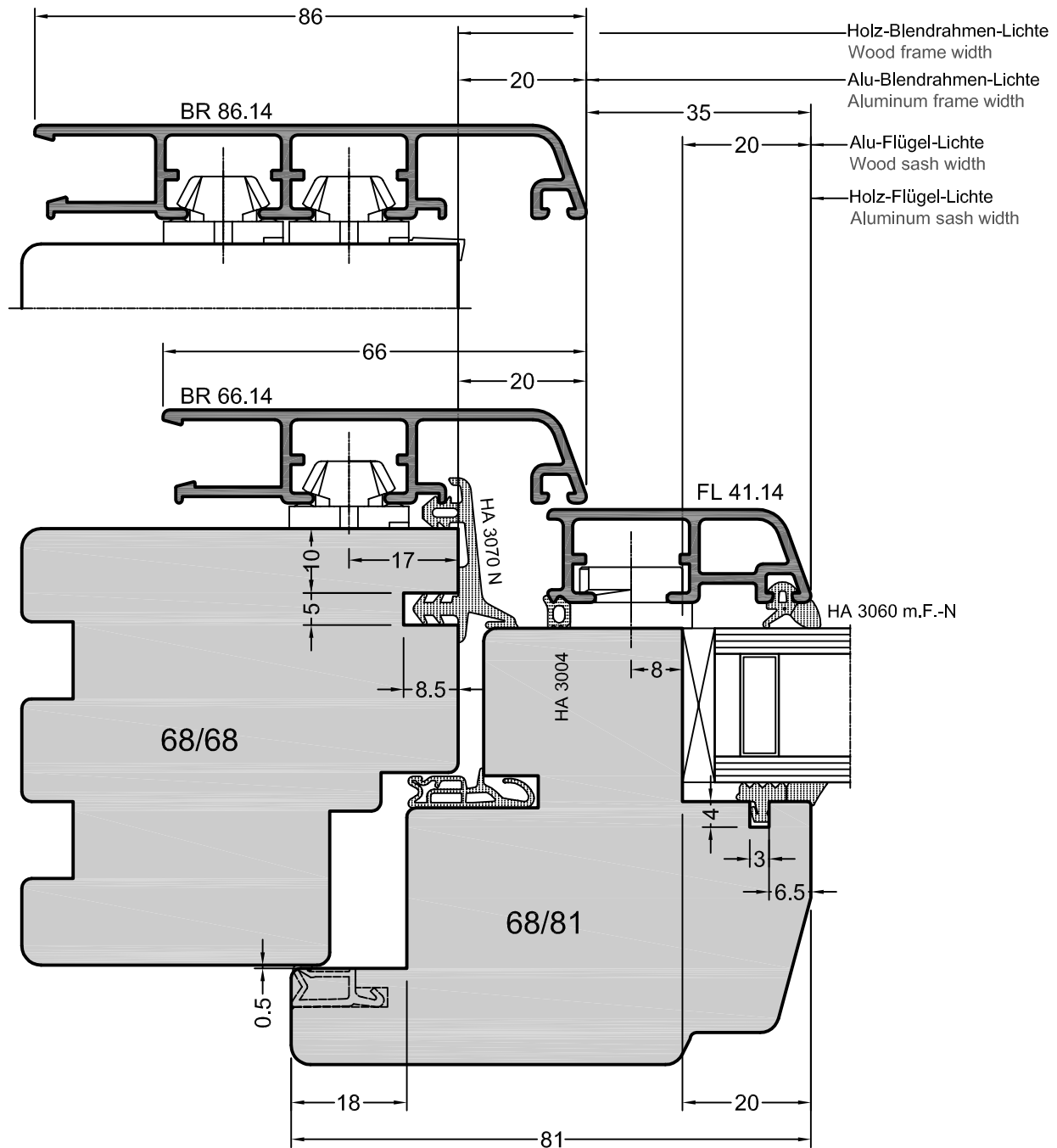
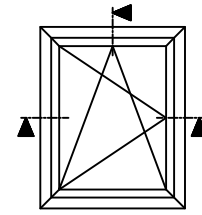
Naßverglasung Blendrahmen
(Festverglasung)
Wet glazing frame
(Fixed glazing)



Trockenverglasung Flügel
Dry glazing sash

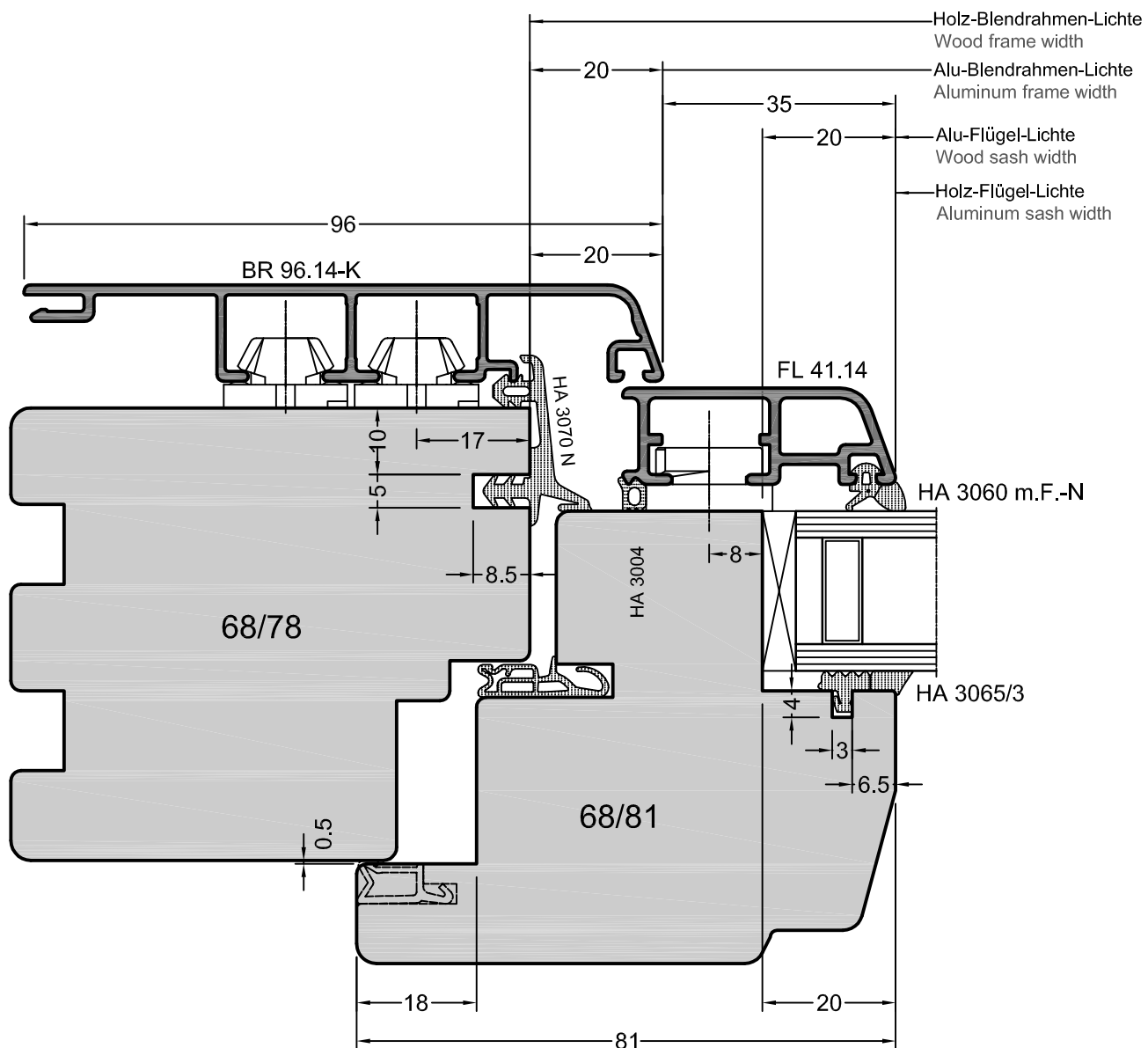
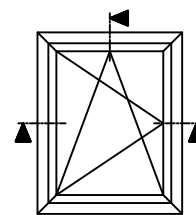


Flügelversatz 15 mm
Sash offset 15 mm



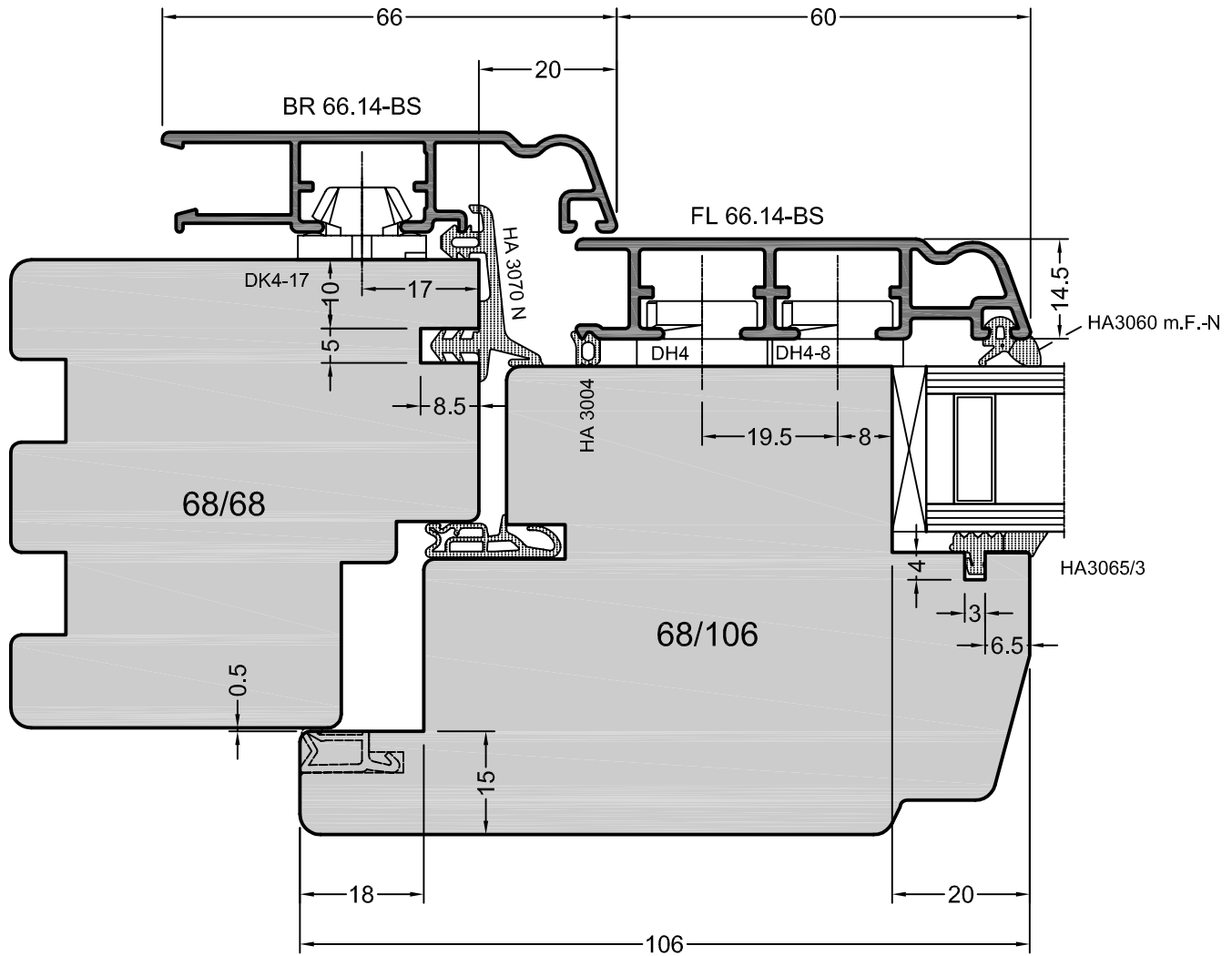
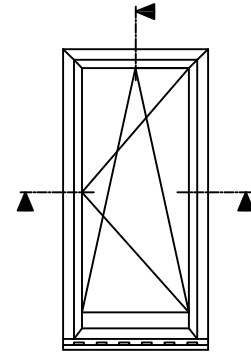
MIRA 5

Flügelversatz 15 mm
Sash offset 15 mm



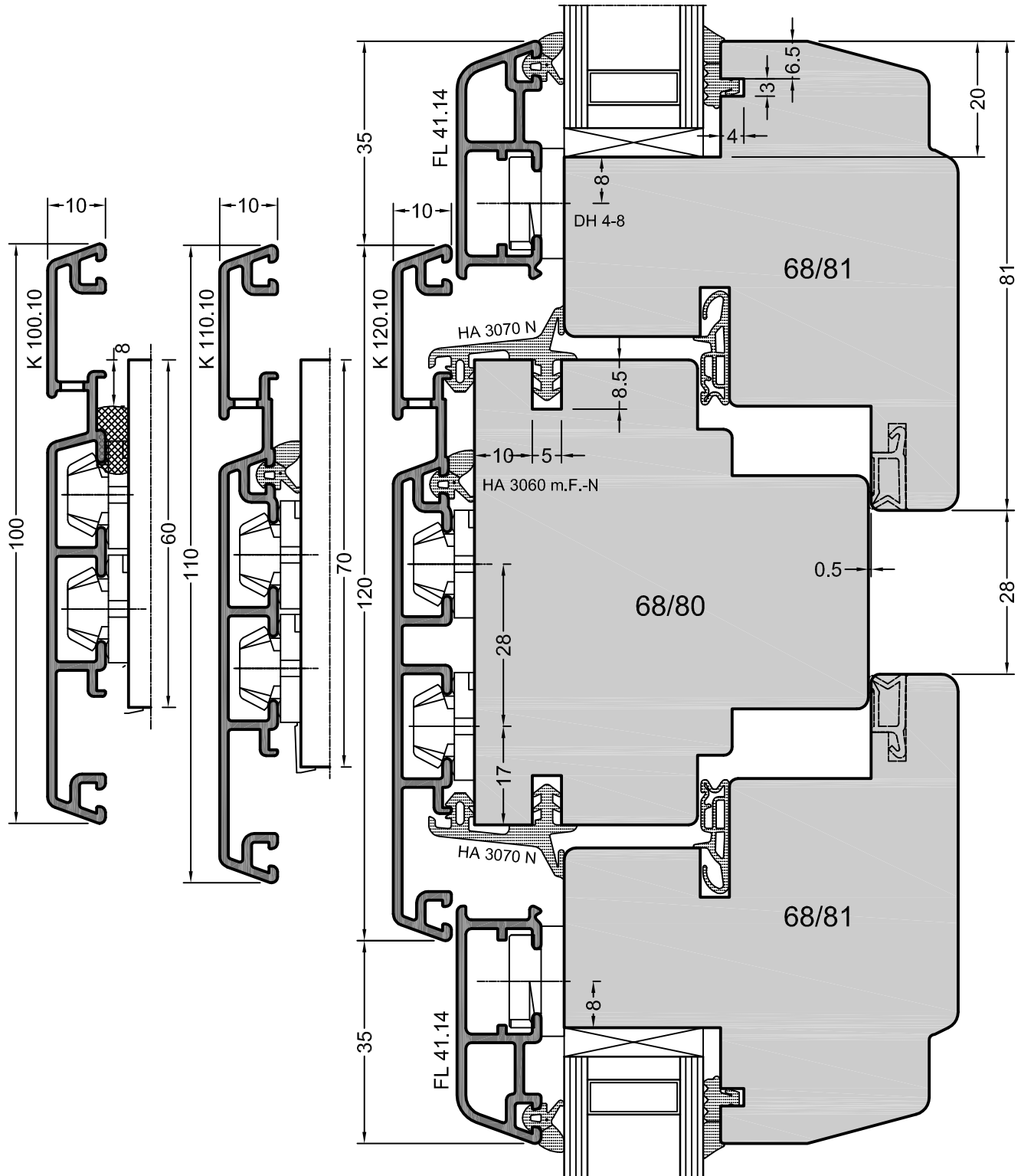
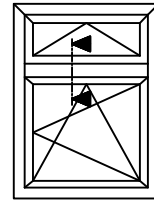


Flügelversatz 15 mm
Sash offset 15 mm

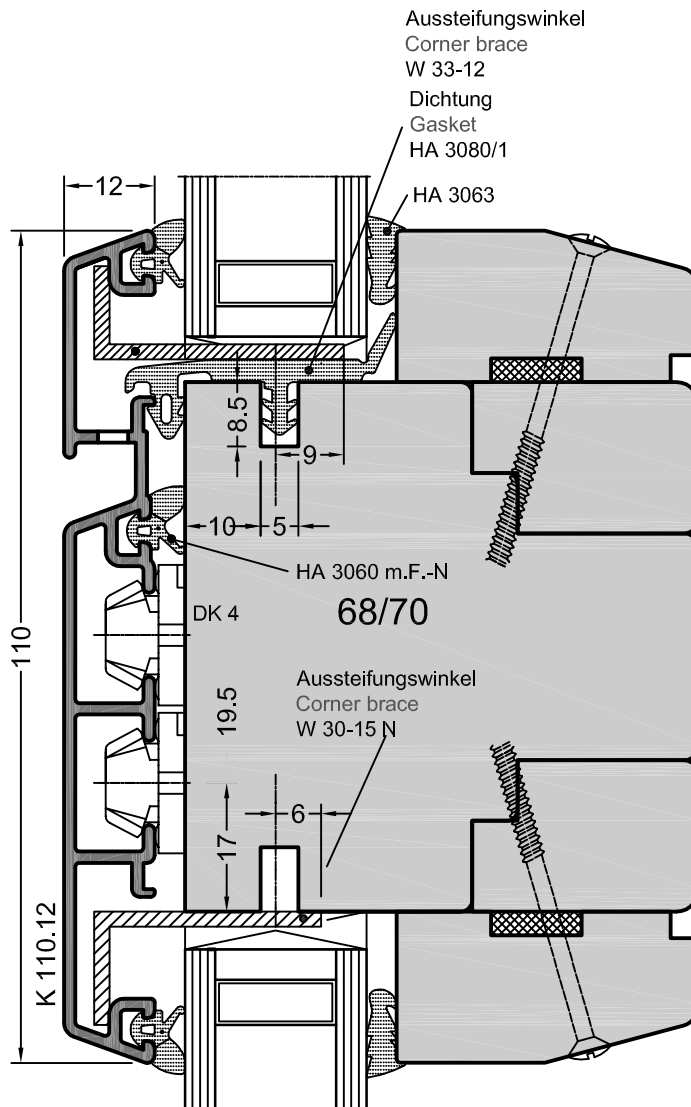
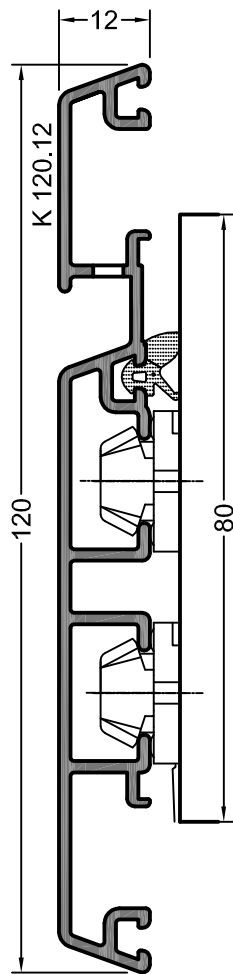
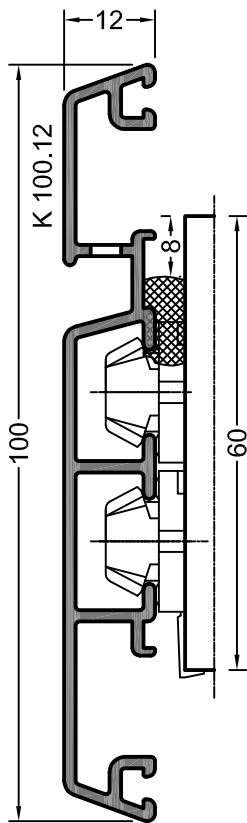
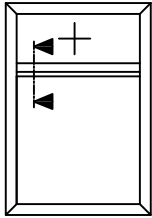


MIRA 5

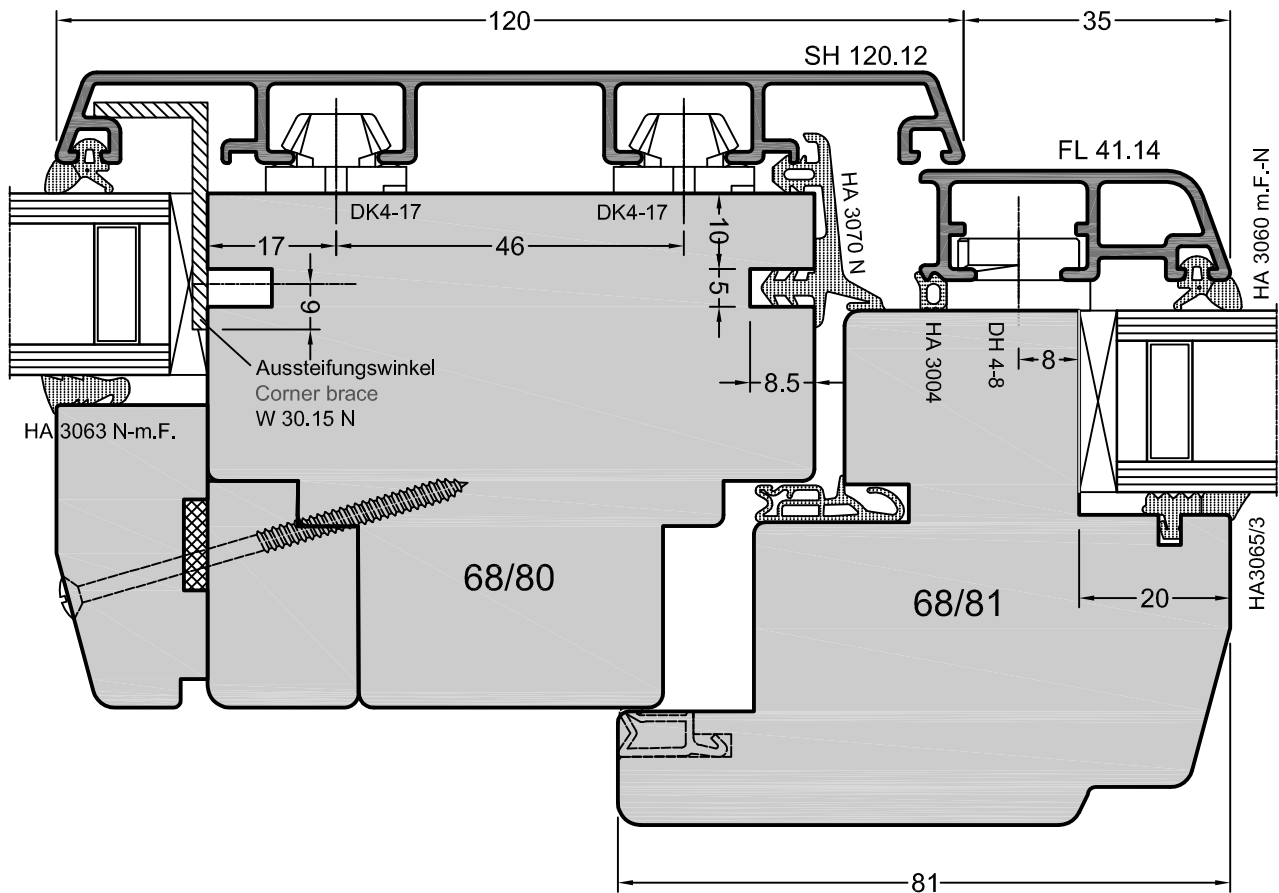
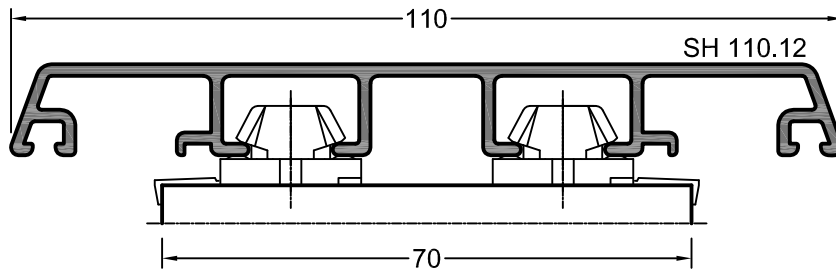
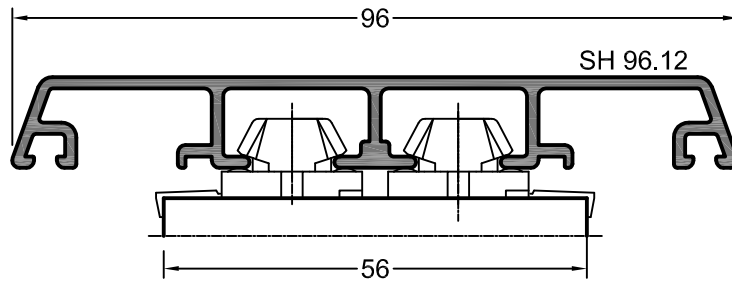
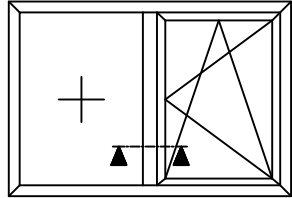
Flügelversatz 15 mm
Sash offset 15 mm



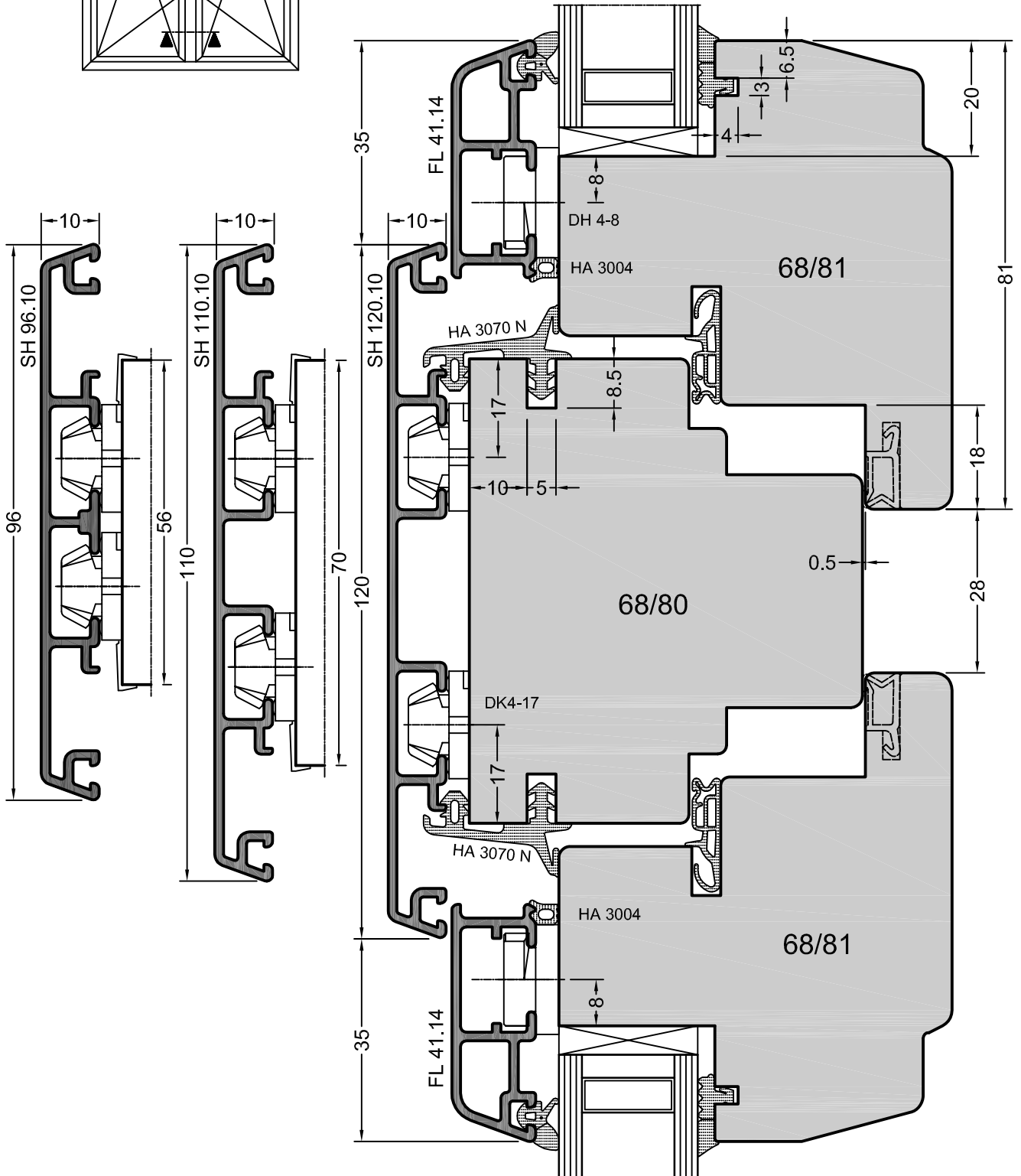
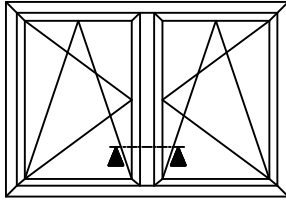
2 Teile festverglast, Flügelversatz 15 mm
2 parts fixed glazing, sash offset 15 mm



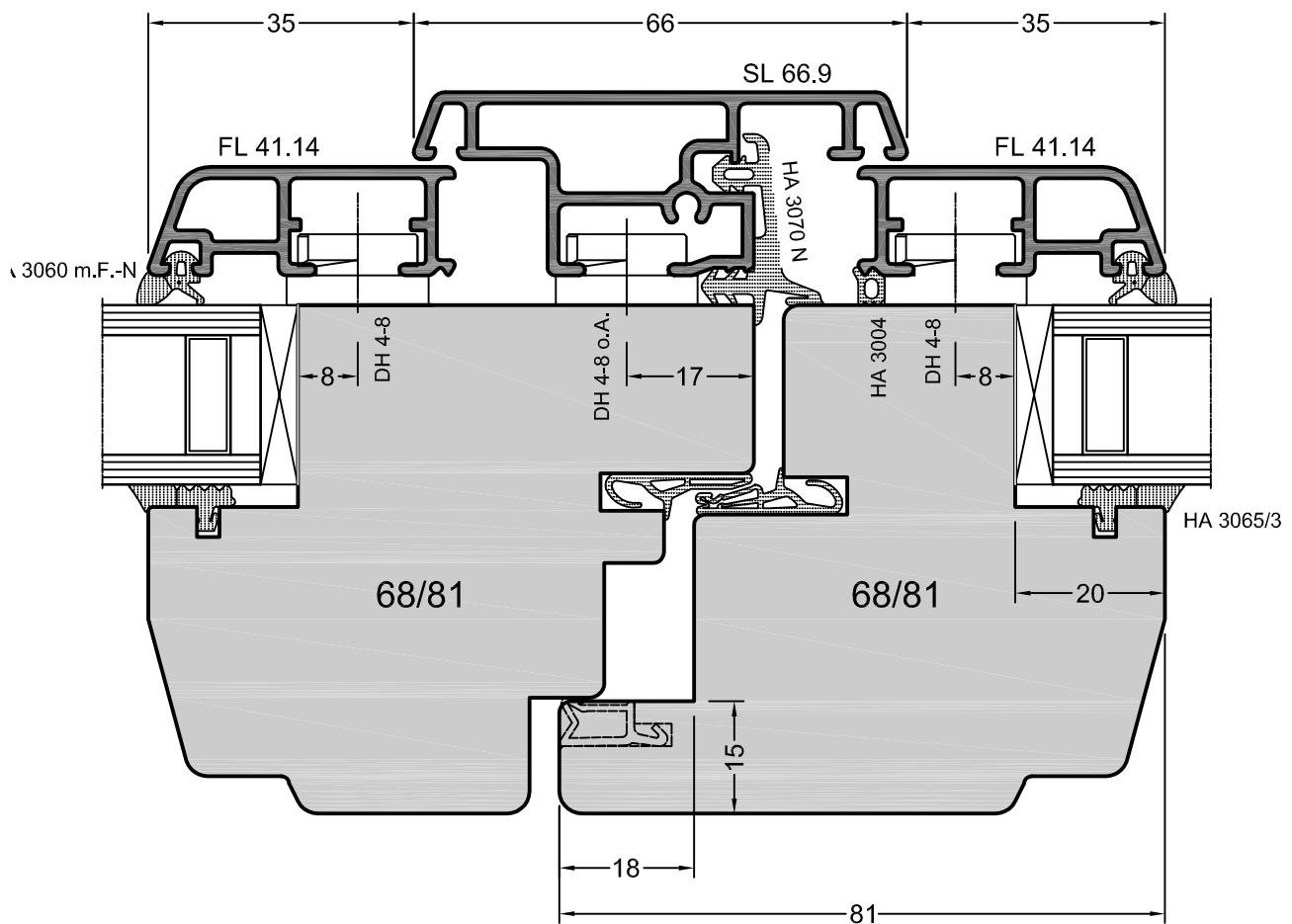
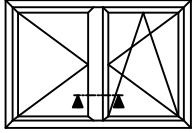
1 Teil festverglast, Flügelversatz 15 mm
1 part fixed glazing, sash offset 15 mm



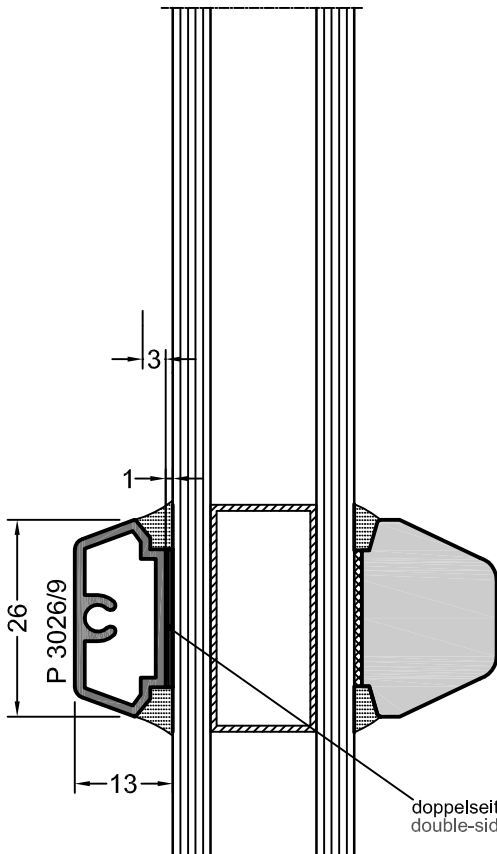
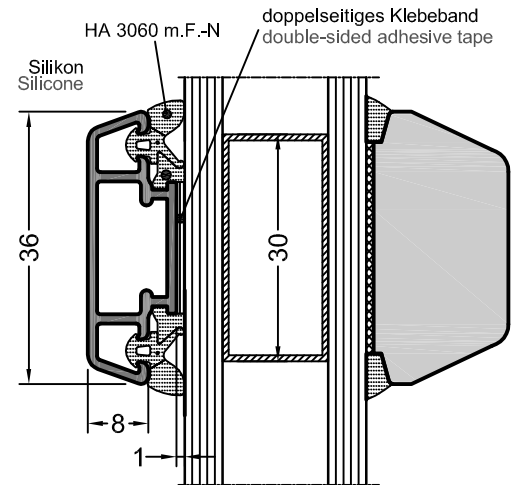
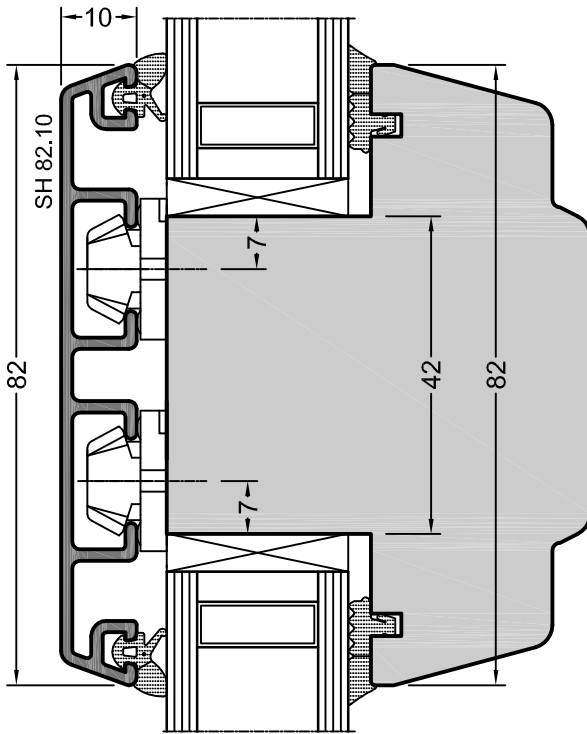
Flügelversatz 15 mm
Sash offset 15 mm



Flügelversatz 15 mm
Sash offset 15 mm

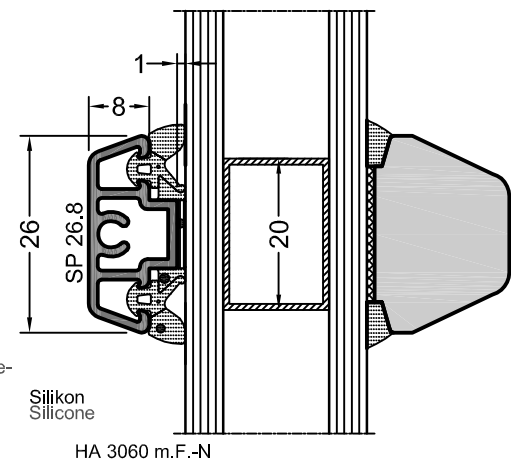


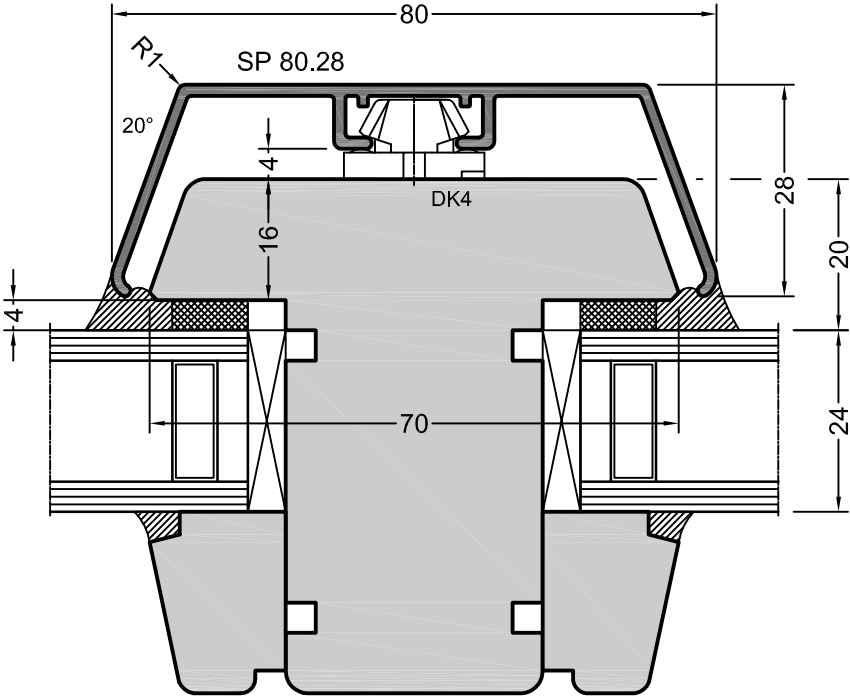
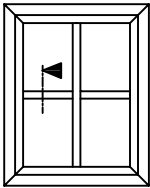
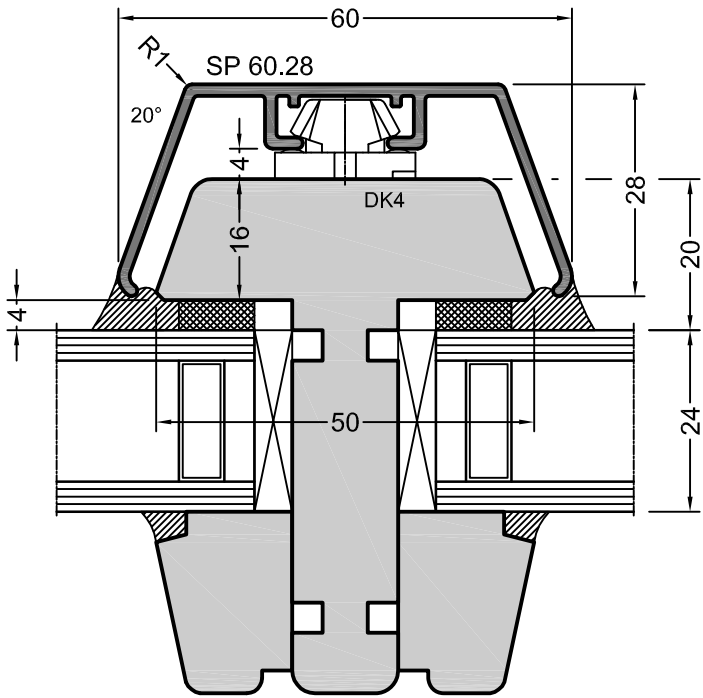
Vertikalschnitte
Vertical cross-sections



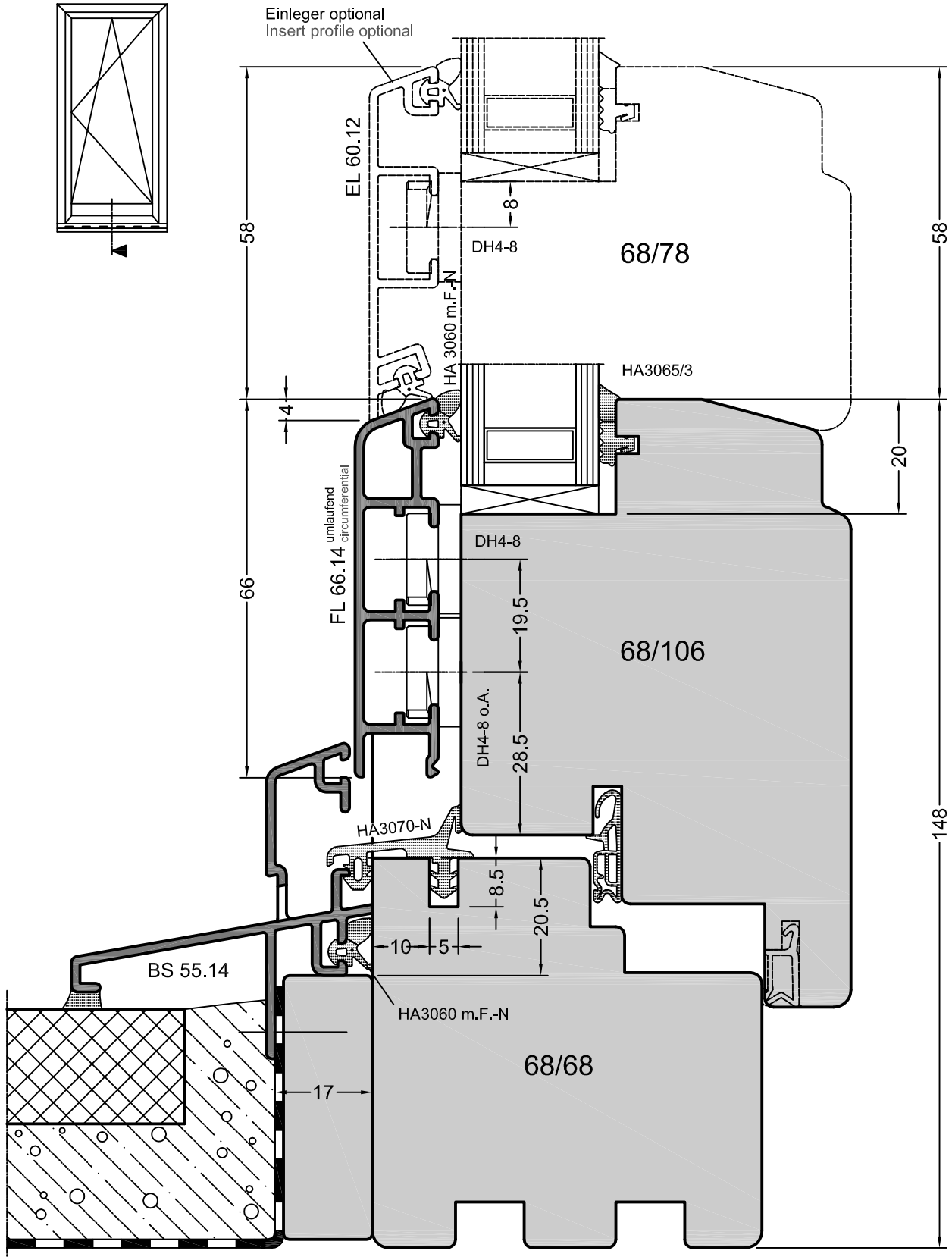
doppelseitiges
Klebeband Silikon
double-sided adhe-
sive tape silicone

doppelseitiges Klebeband
double-sided adhesive tape



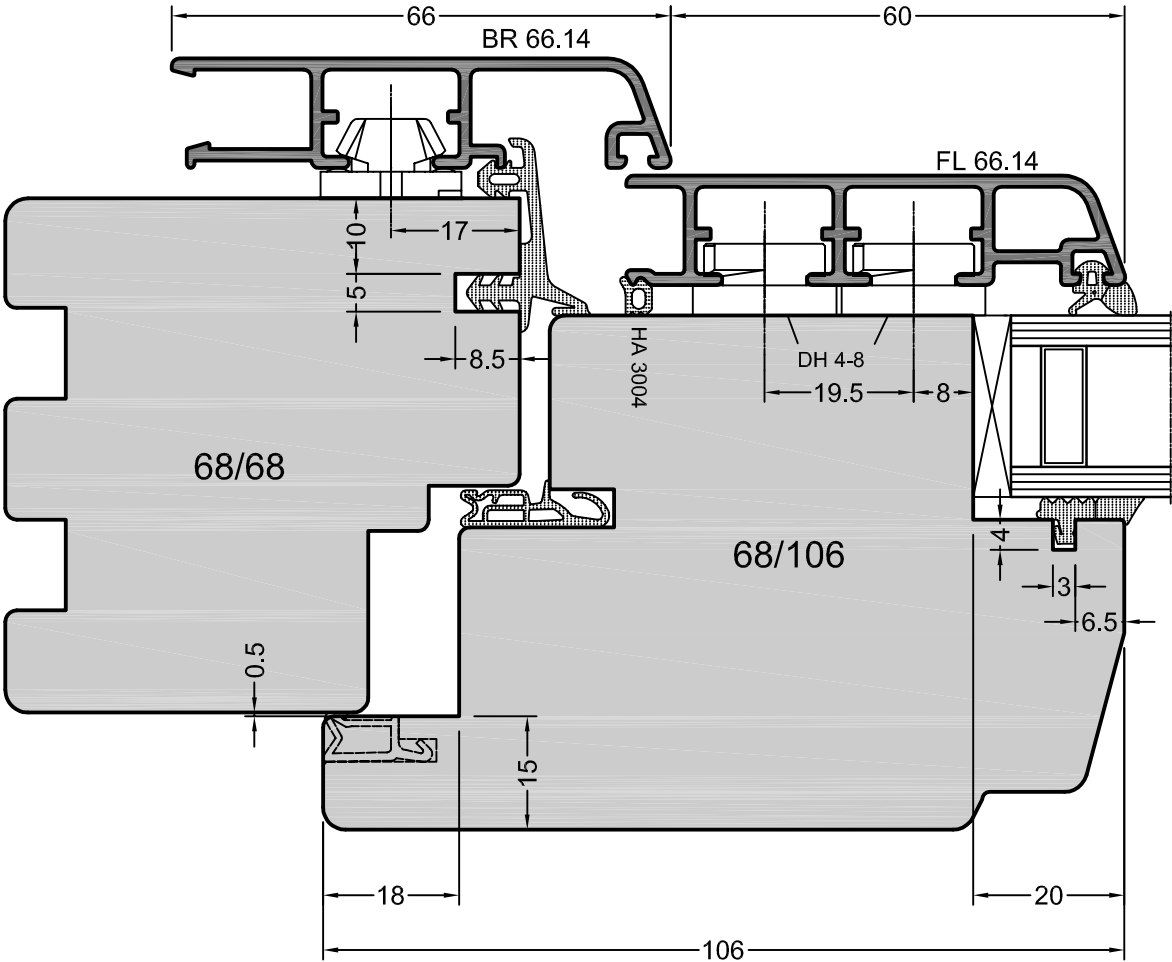
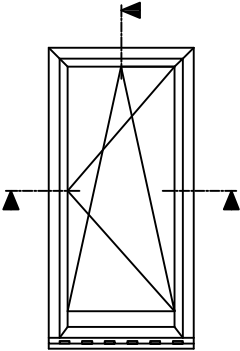


Flügelversatz 15 mm
Sash offset 15 mm

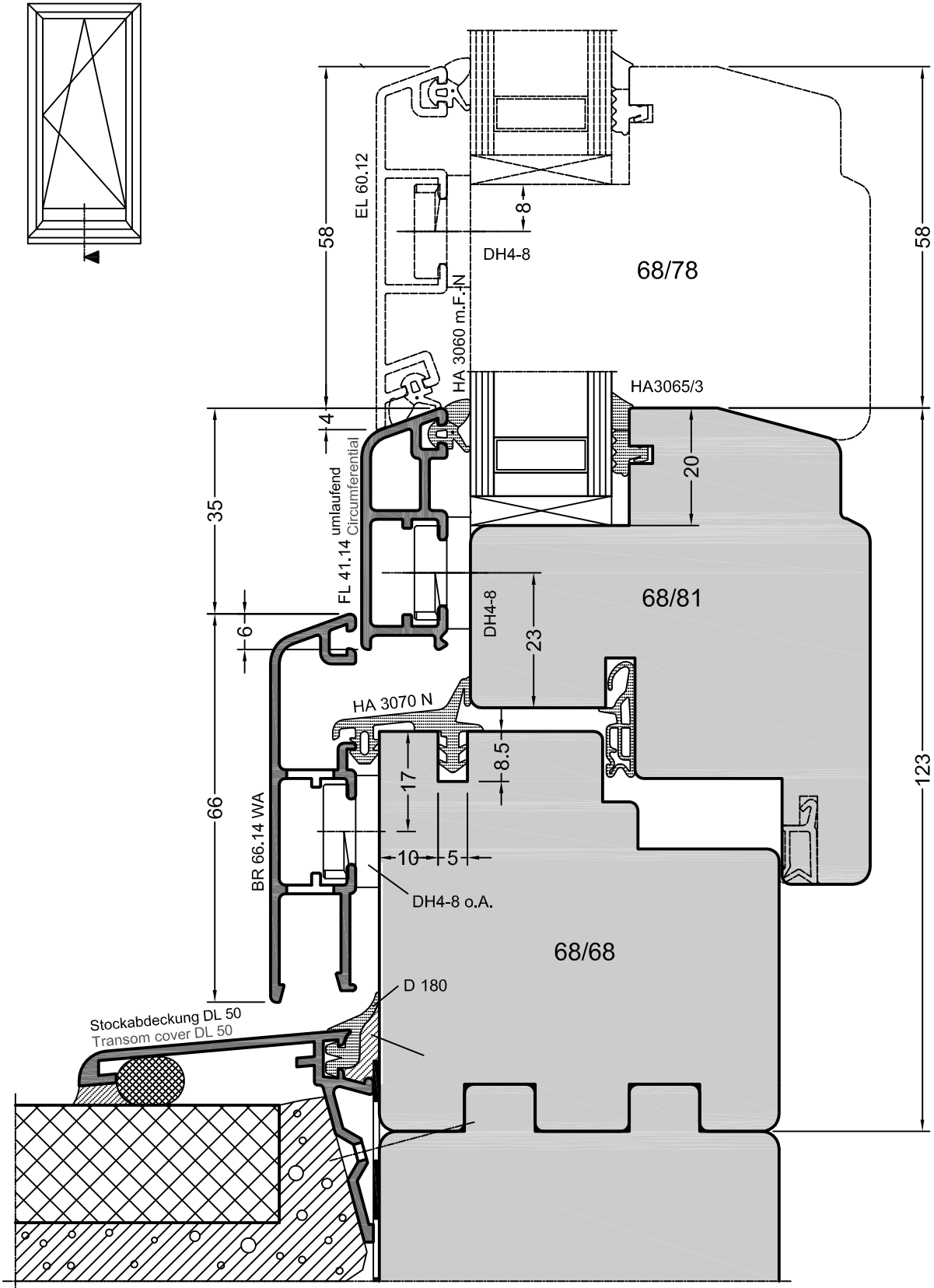




Flügelversatz 15 mm
Sash offset 15 mm

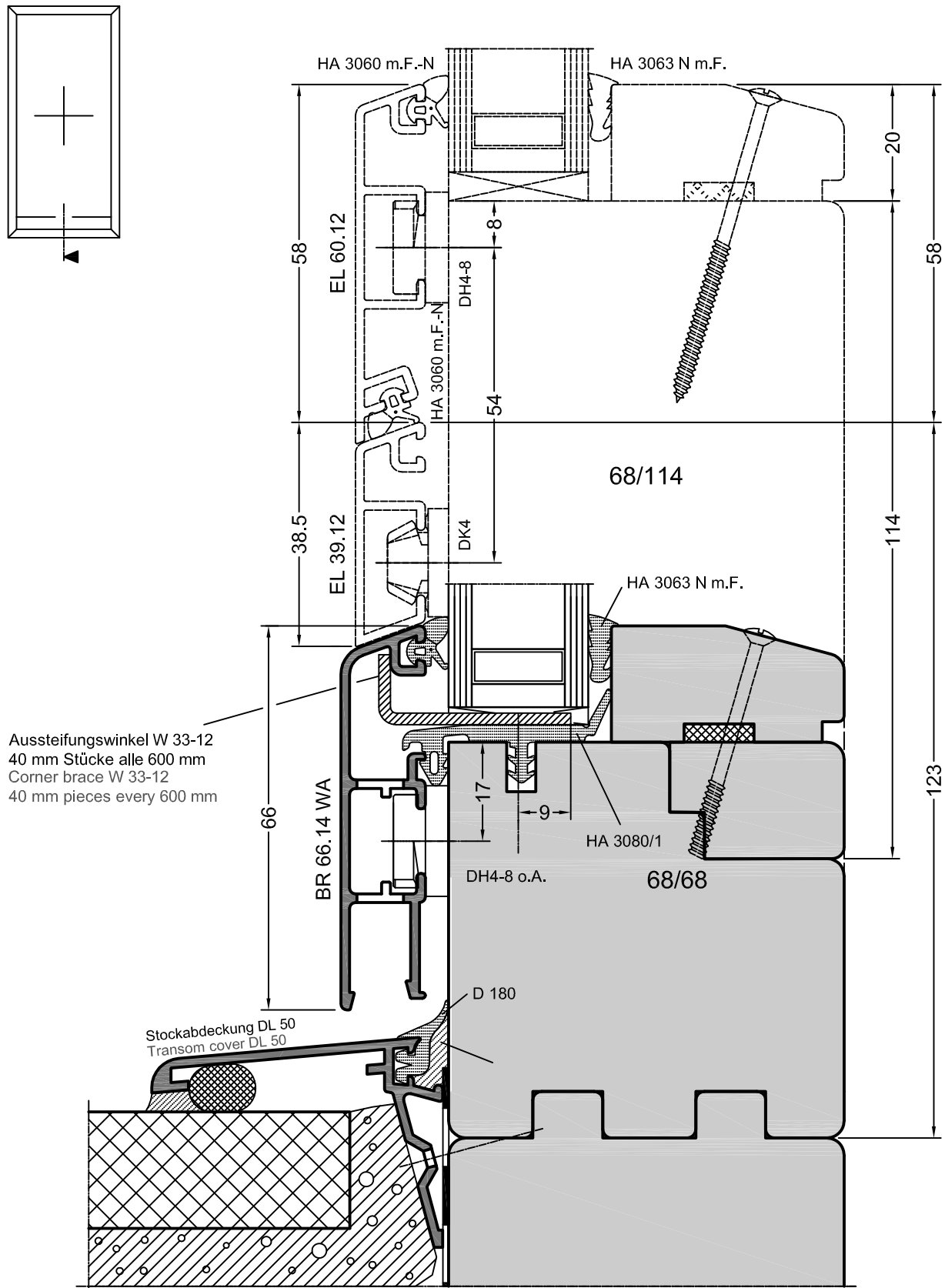


Flügelversatz 15 mm
Sash offset 15 mm

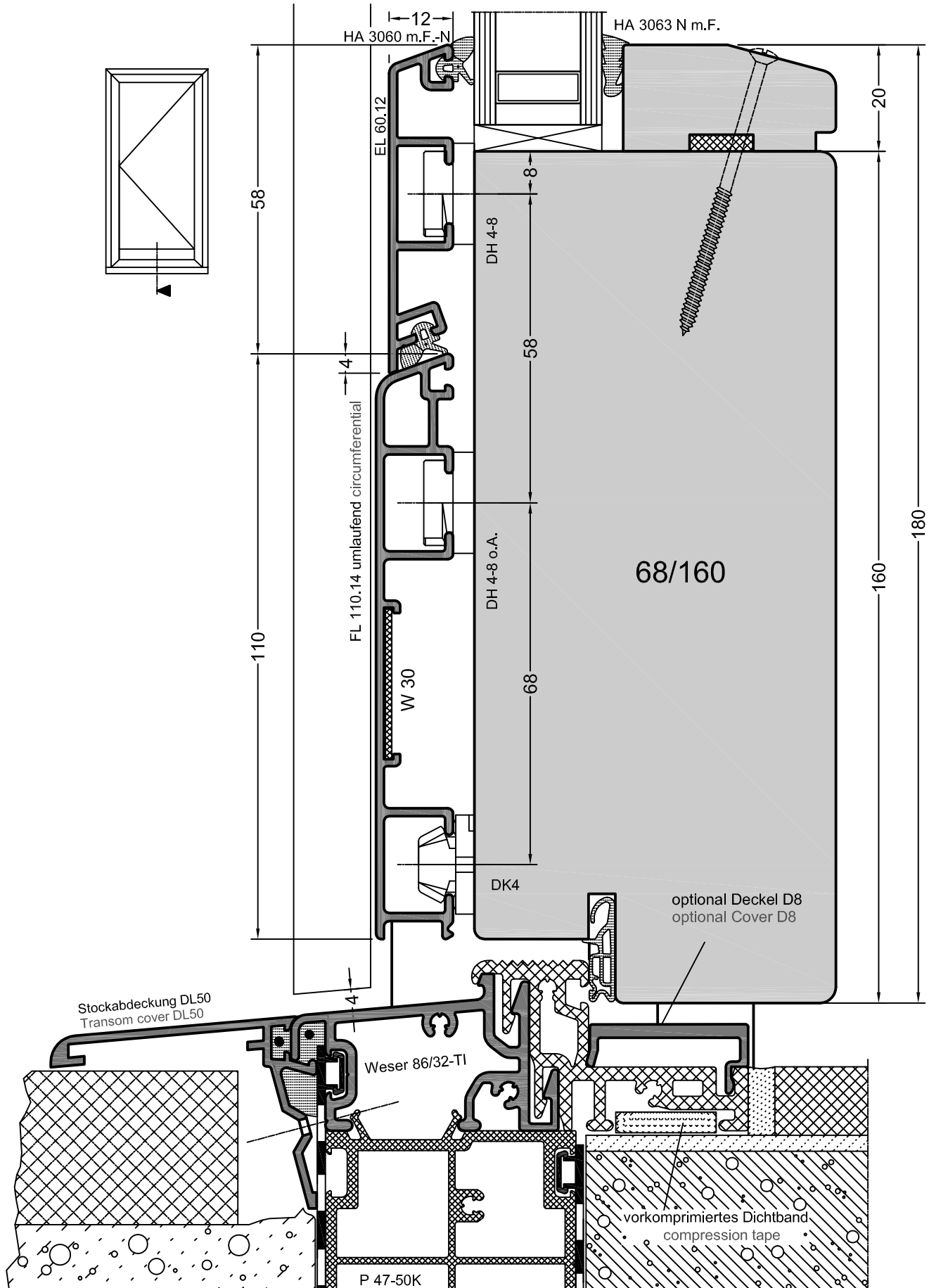


MIRA 5

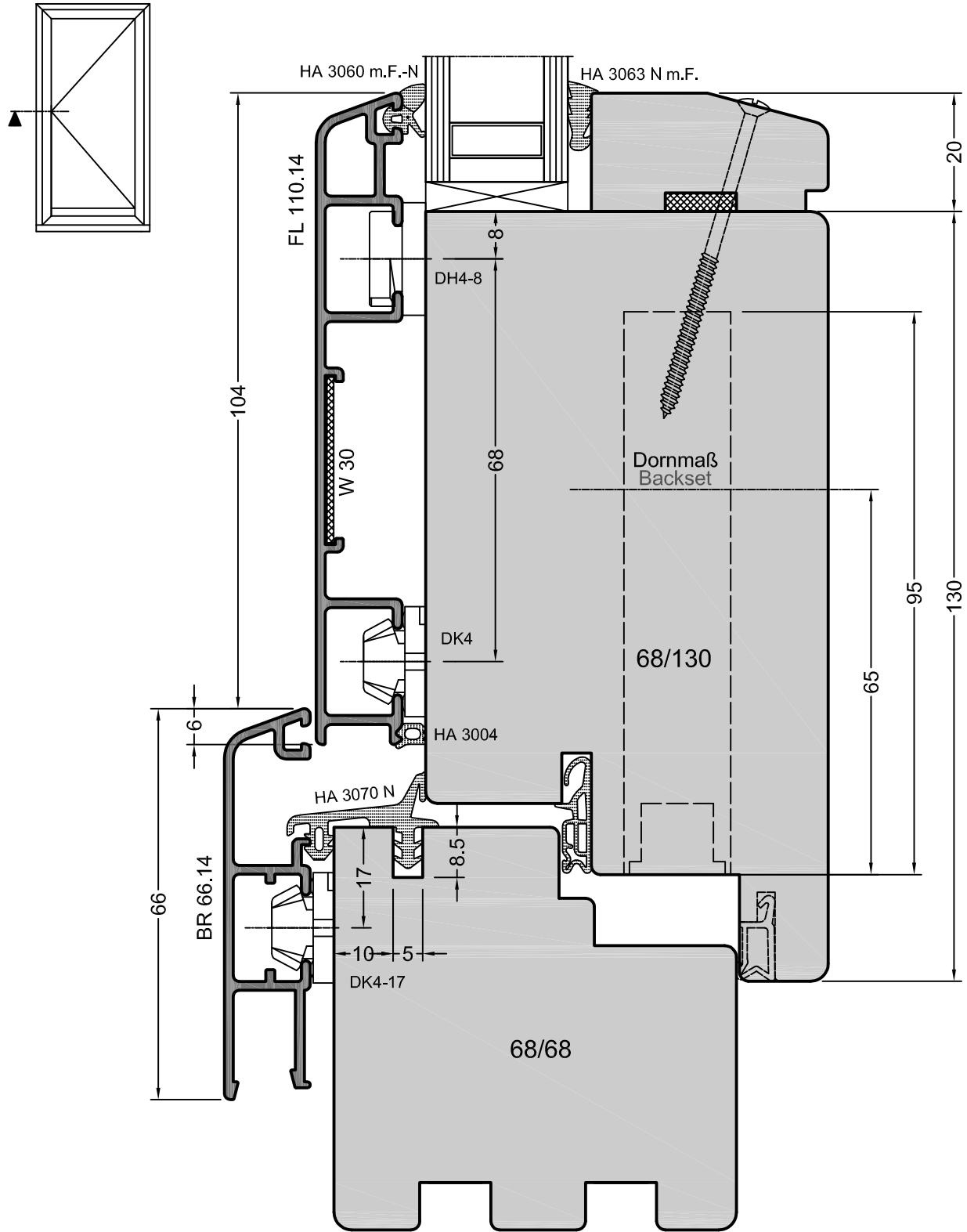
Festverglastes Seitenteil, Flügelversatz 15 mm
Side part fixed glazing, sash offset 15 mm



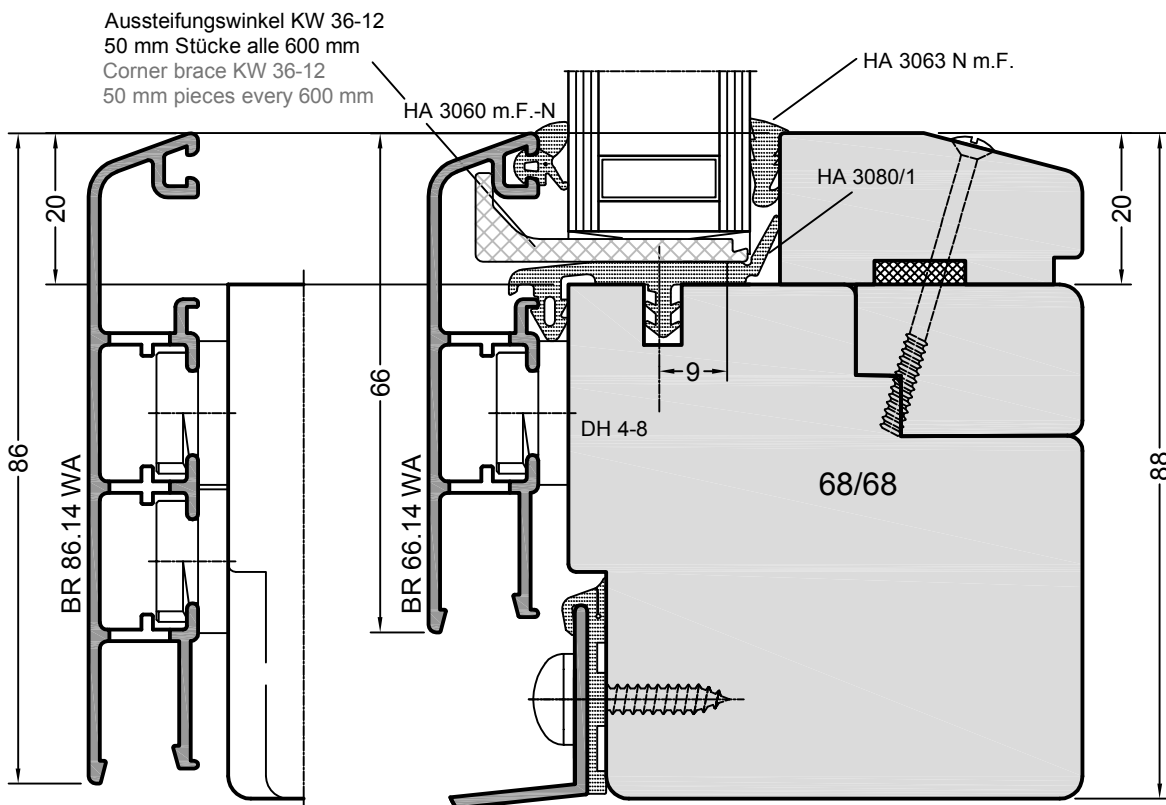
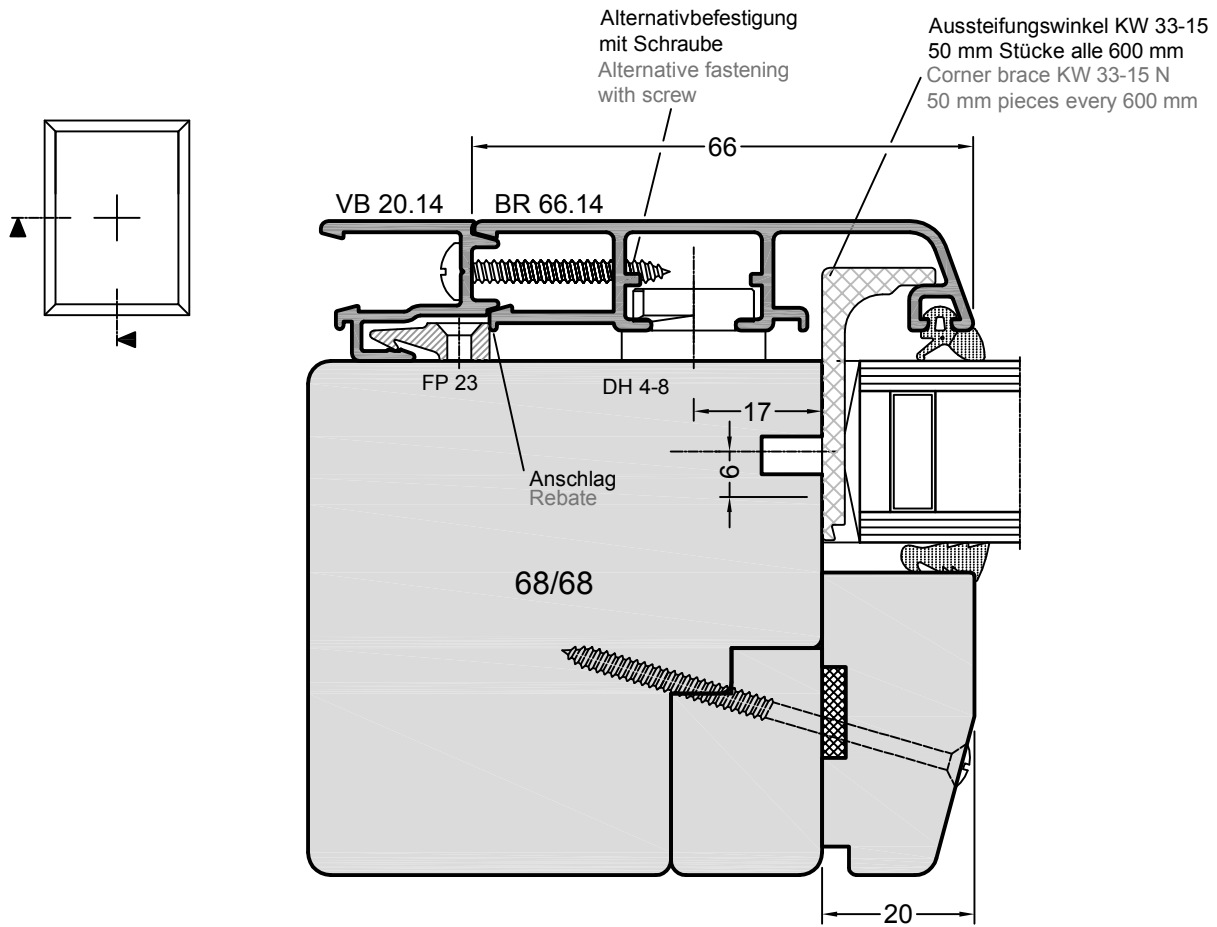
Flügelversatz 15 mm
Sash offset 15 mm



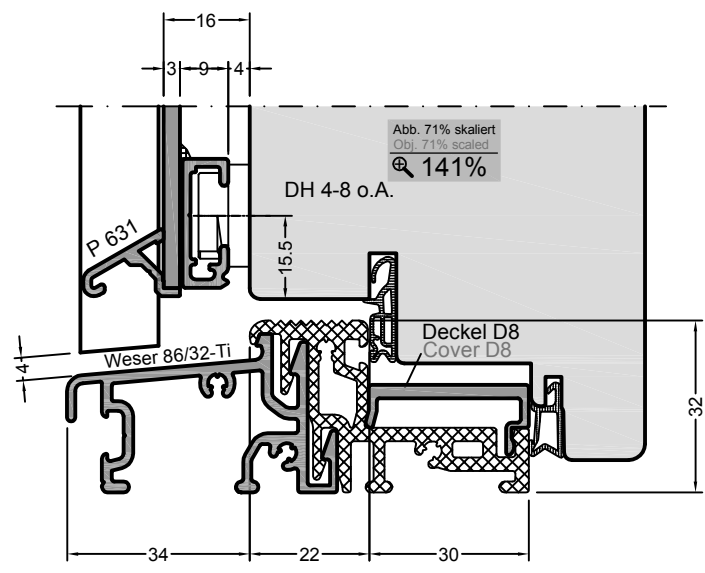
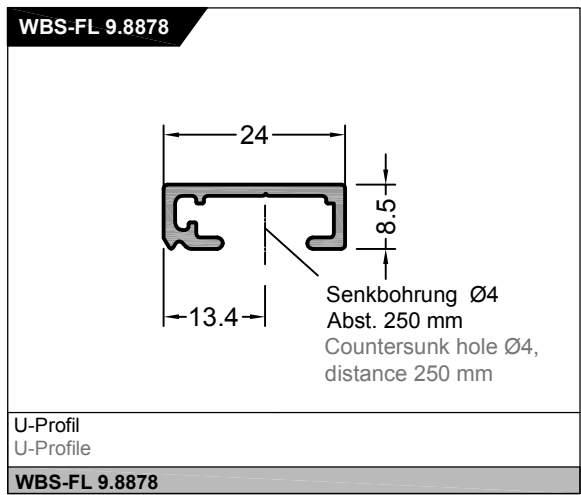
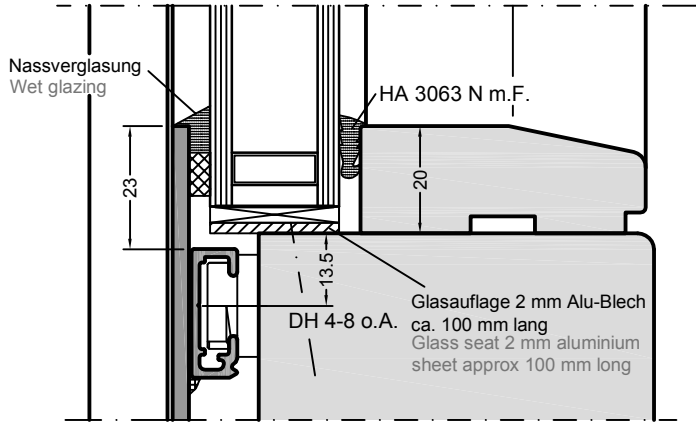
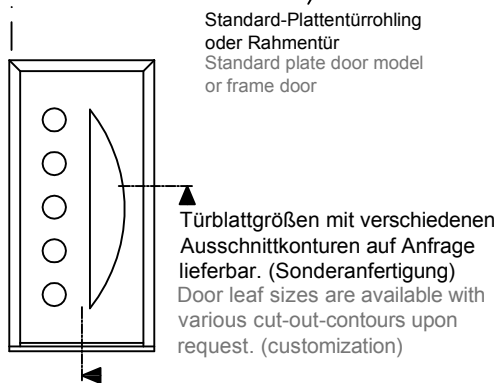
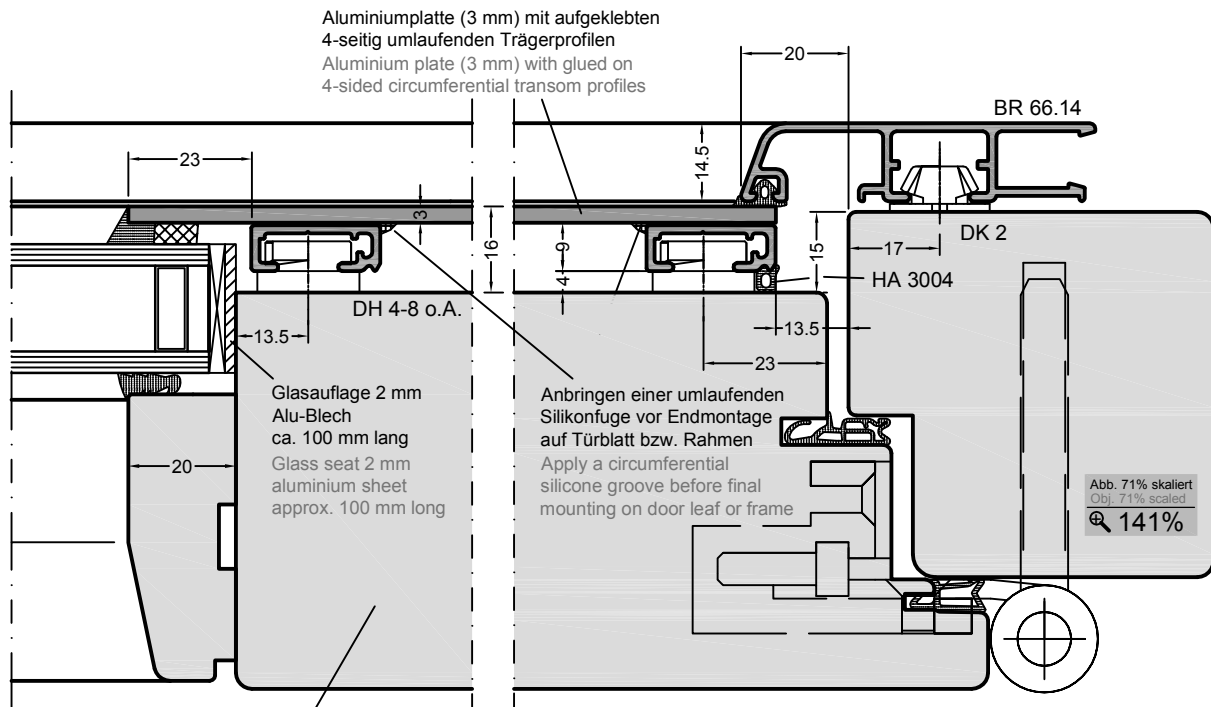
Flügelversatz 15 mm
Sash offset 15 mm



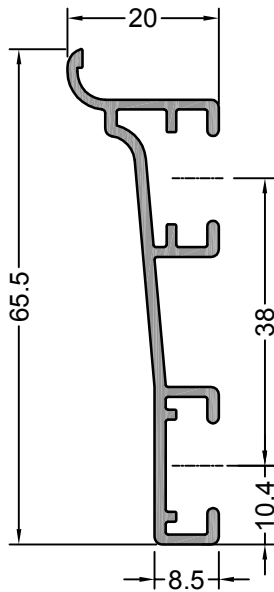
5 MIRA



Flügelversatz 15 mm
Sash offset 15 mm



TBR 65.20



Nicht als geschweißter Rahmen lieferbar,
nicht als gestanzter Rahmen lieferbar,
Eckverbindung nur mit Schraubeckwinkel
EW 3000/4 S möglich.

Not available as welded frames, not available
as punching frame, only available with
mechanical corner joint EW 3000/4 S.

Türblattrahmenprofil
Door leaf frame profile

TBR 65.20

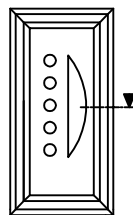
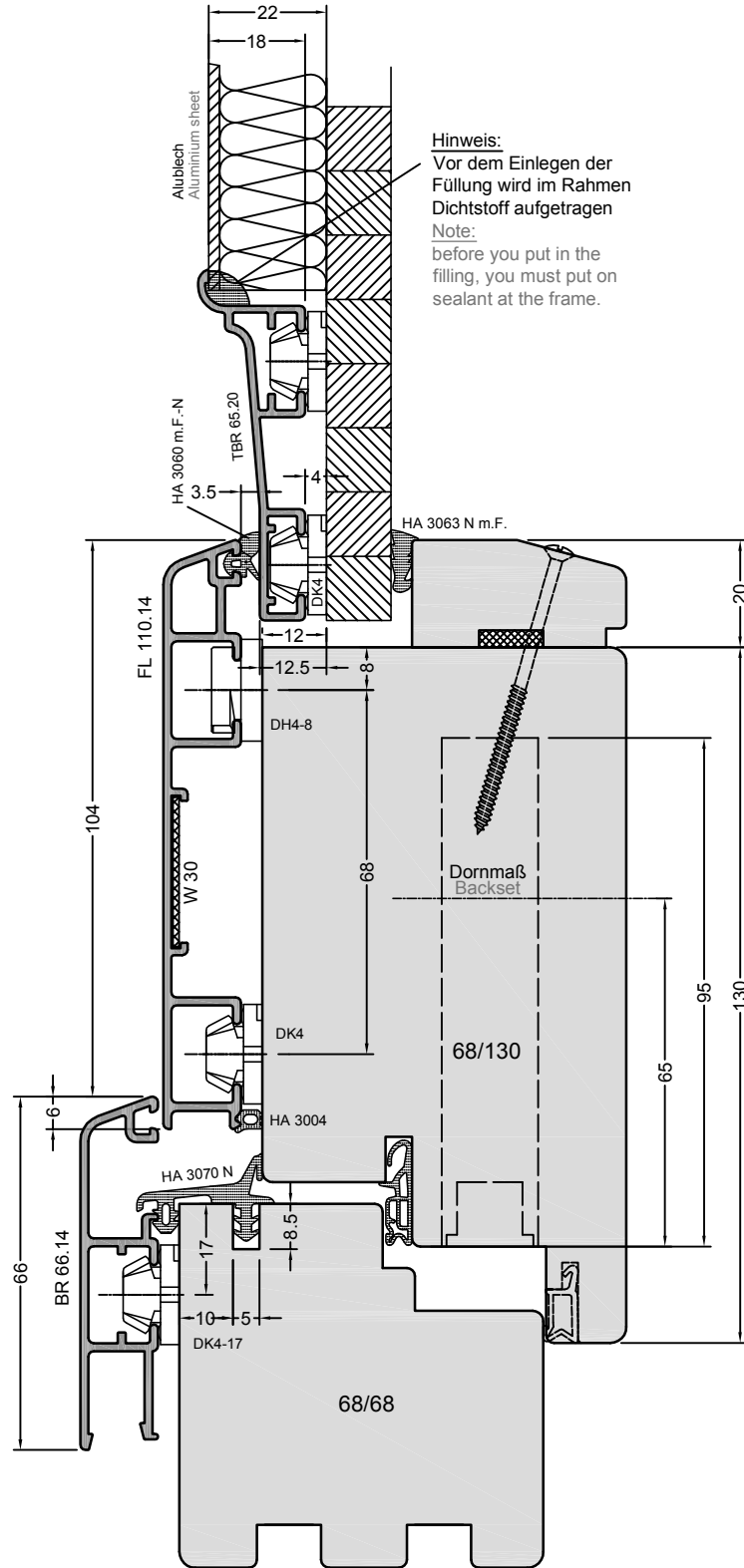


Abb. 71% skaliert
Obj. 71% scaled
141%



Hinweis:
Vor dem Einlegen der
Füllung wird im Rahmen
Dichtstoff aufgetragen
Note:
before you put in the
filling, you must put on
sealant at the frame.

Weser 74/32-TI und Weser 86/32-TI für Balkontüren und Haustüren
Weser 74/32-TI and Weser 86/32-TI for balcony doors and front doors

Anschluß seitlich - Festverglasung
Side connection fixed glazing

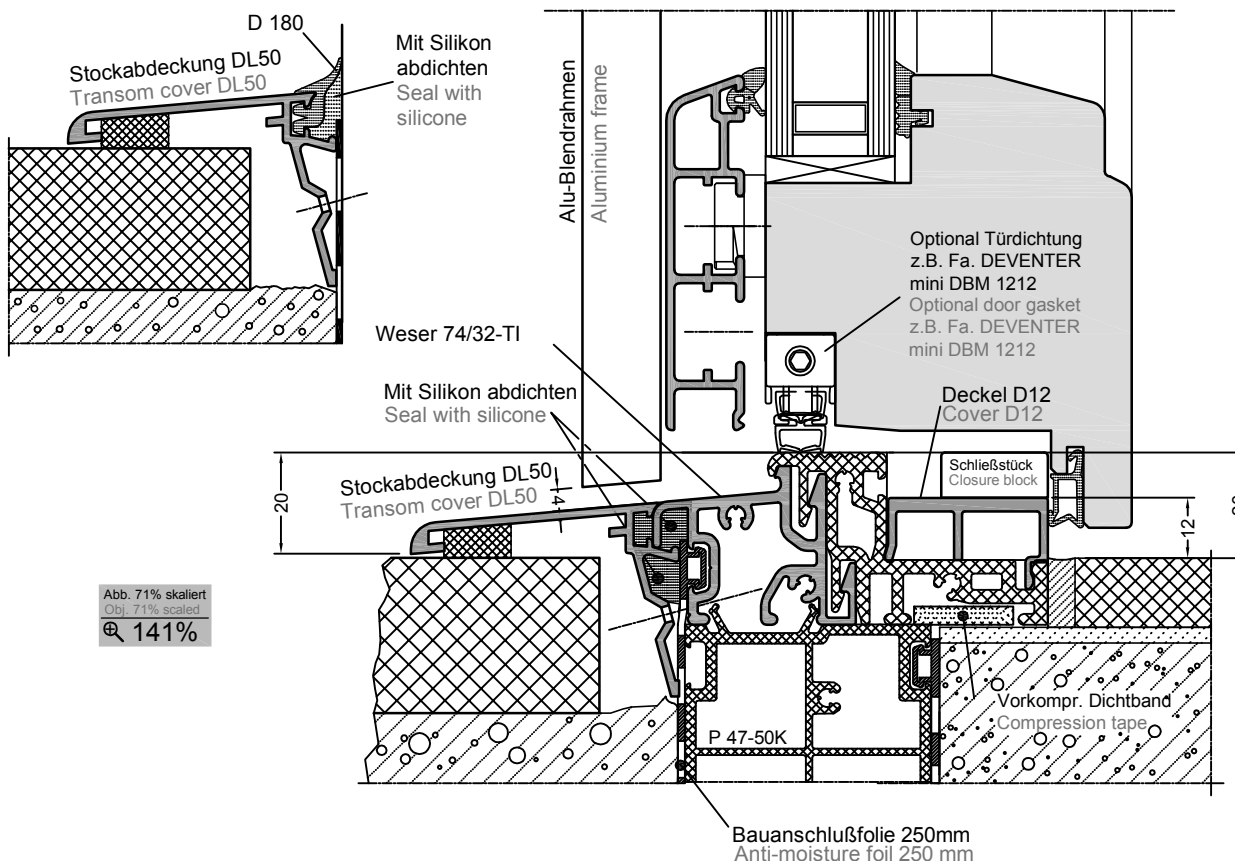


Abb. 71% skaliert
Obj. 71% scaled
141%

Einbaubeispiel für eine Montage gemäß Anforderung nach
DIN 18025 "Barrierefreies Wohnen"
Installation example for assembly in accordance with
DIN 18025 "Barrier Free Living"

Hinweis:

Bei der Planung sind die Anforderung der DIN
18195-4, -5 und -9, Bauwerksabdichtungen, sowie
die Flachdachrichtlinien zu beachten!
Z. B. durch entwässernde Rinnen mit Abdeckung
oder Gitterrost.

Note:

The specifications of DIN 18195-4, -5, and -9,
Waterproofing, as well as Flat Roof Guidelines must
be complied with during planning!
For example by using draining channels with covers
or grates.

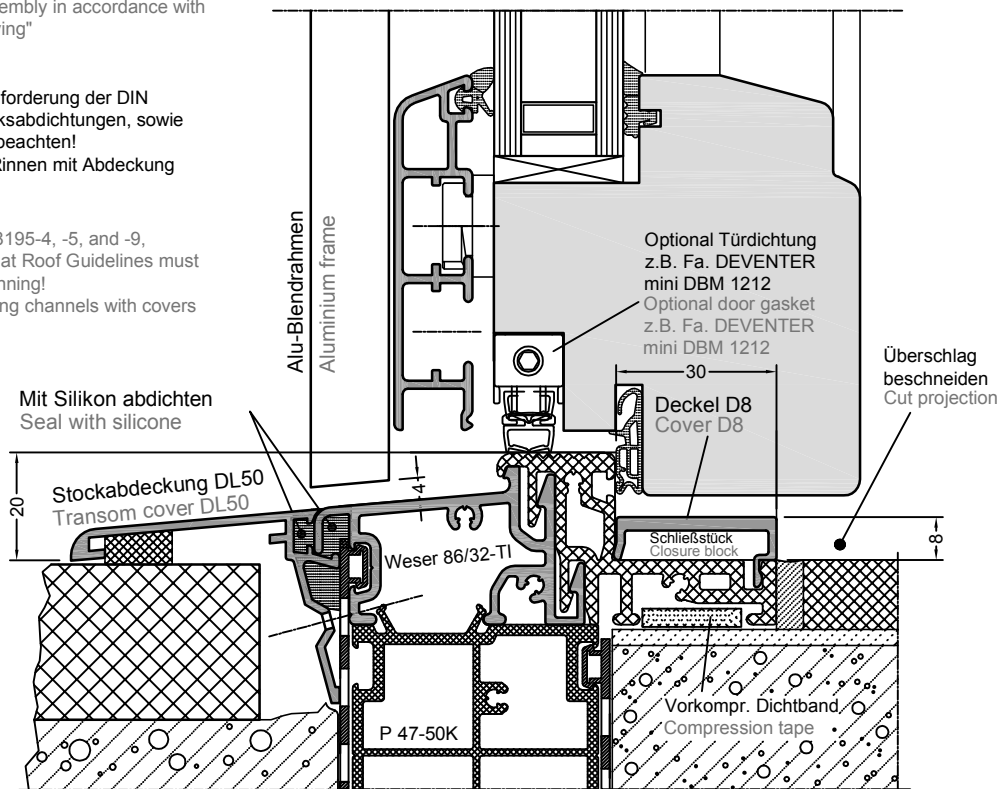
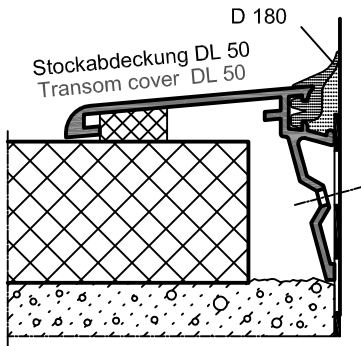


Abb. 71% skaliert
Obj. 71% scaled
141%

Weser 96/32-TI für 78 mm Holzquerschnitt
Weser 96/32-TI for 78 mm wood cross-section

Anschluß seitlich-Festverglasung
Side connection fixed glazing



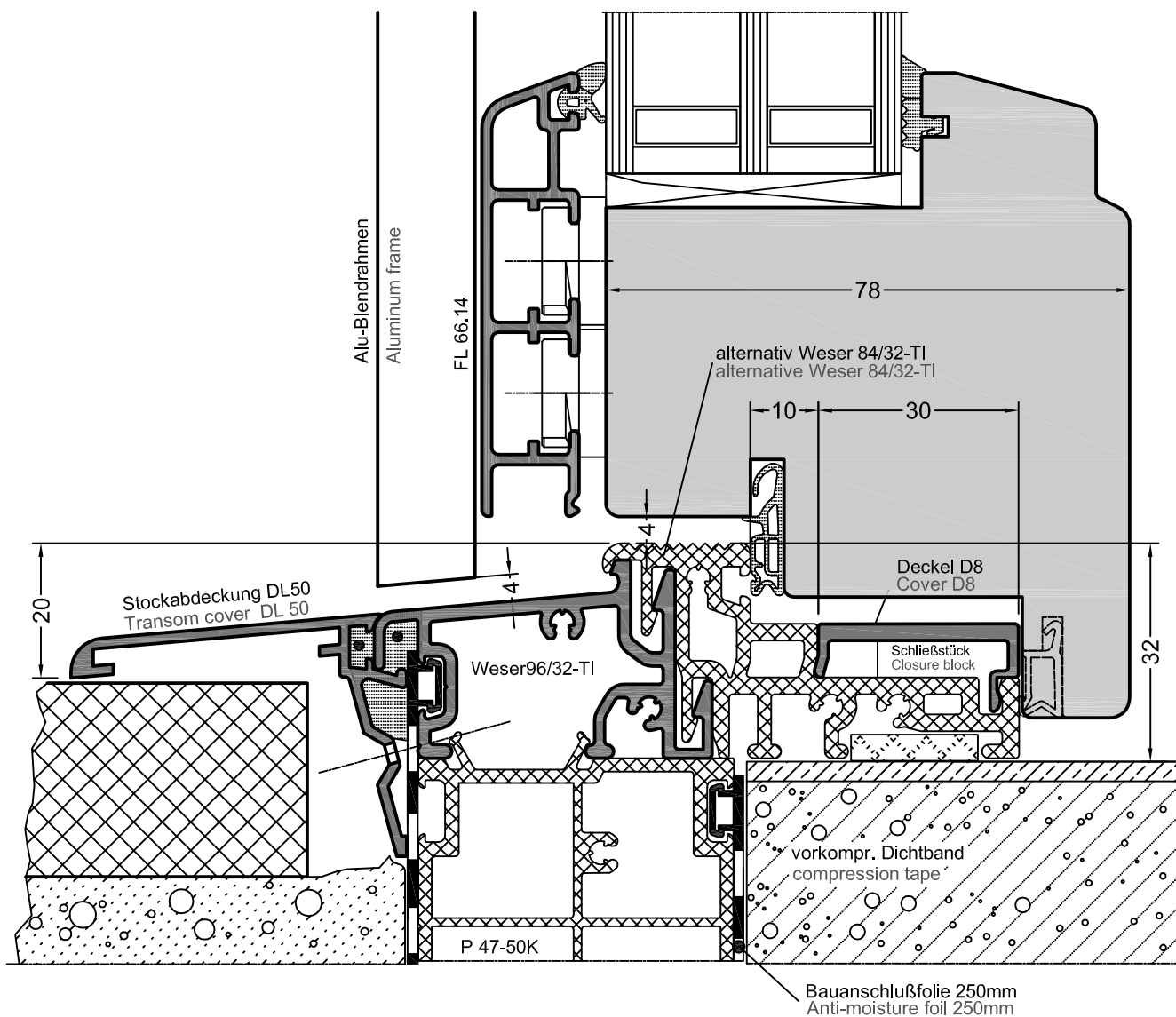
Einbaubeispiel für eine Montage gemäß Anforderung nach DIN 18025 "Barrierefreies Wohnen"
Installation example for assembly in accordance with DIN 18025 "Barrier Free Living"

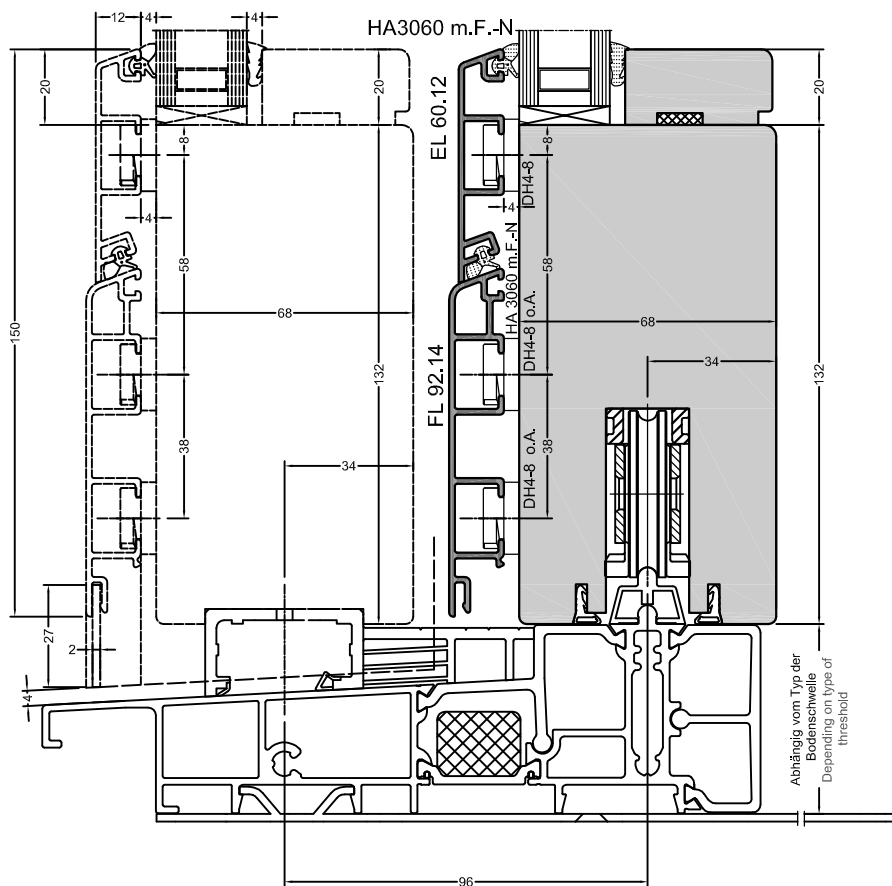
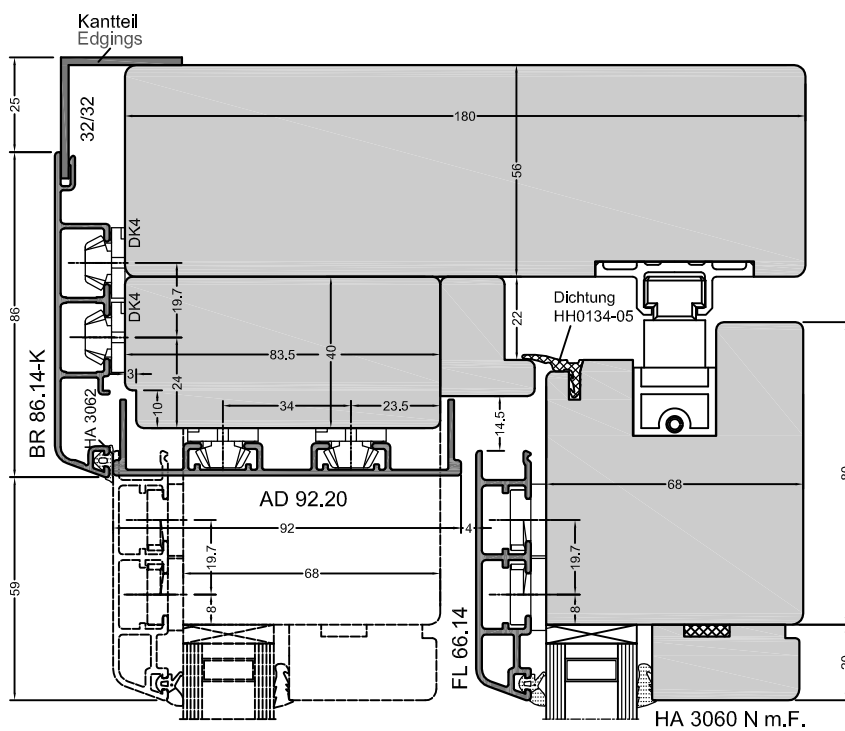
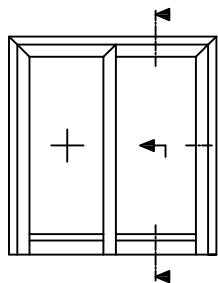
Hinweis:

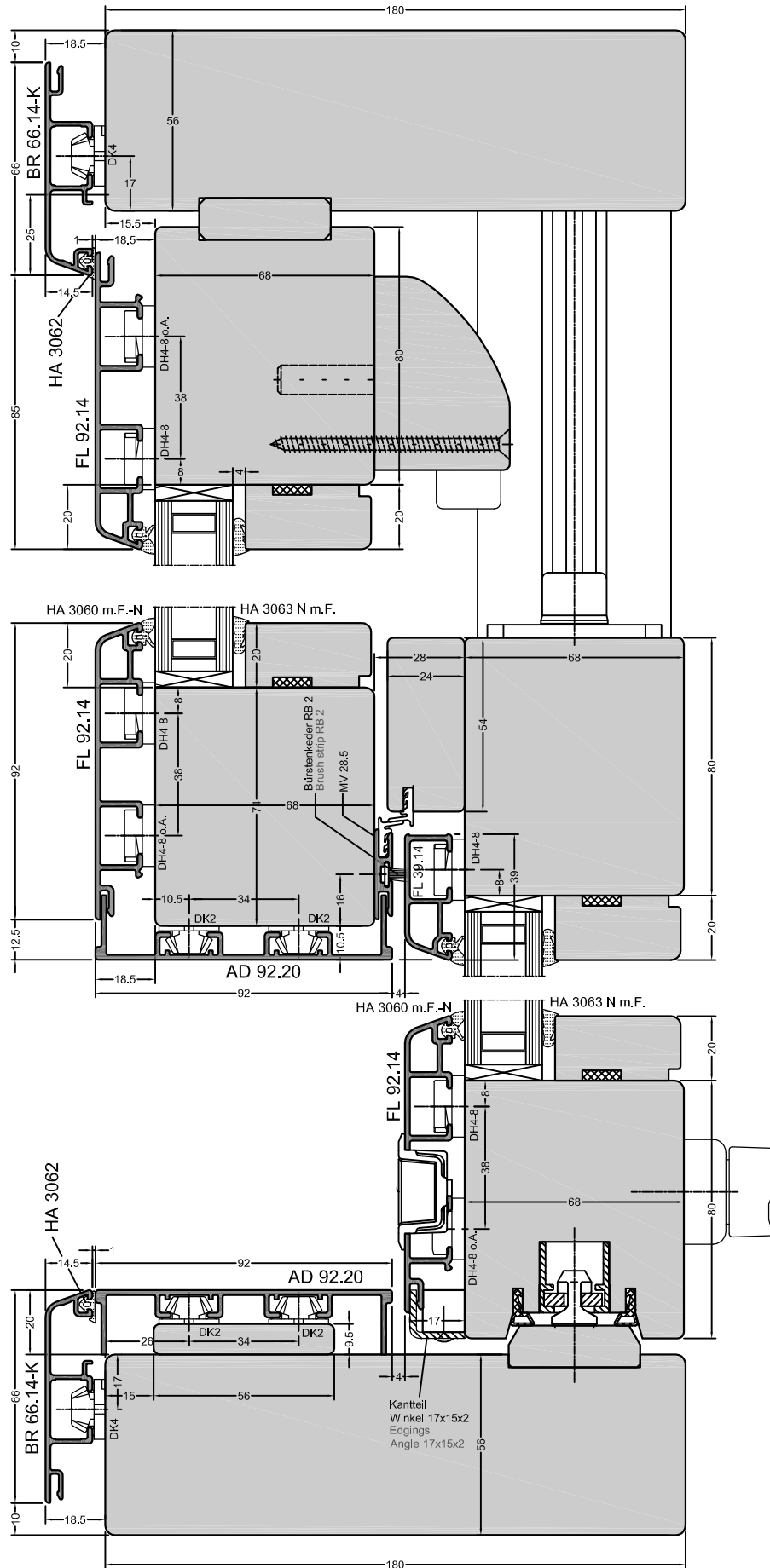
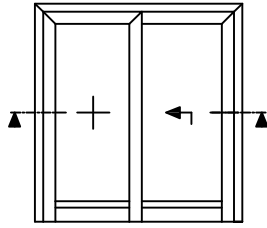
Bei der Planung sind die Anforderung der DIN 18195-4, -5 und -9, Bauwerksabdichtungen, sowie die Flachdachrichtlinien zu beachten! ...z. B. durch entwässernde Rinnen mit Abdeckung oder Gitterrost.

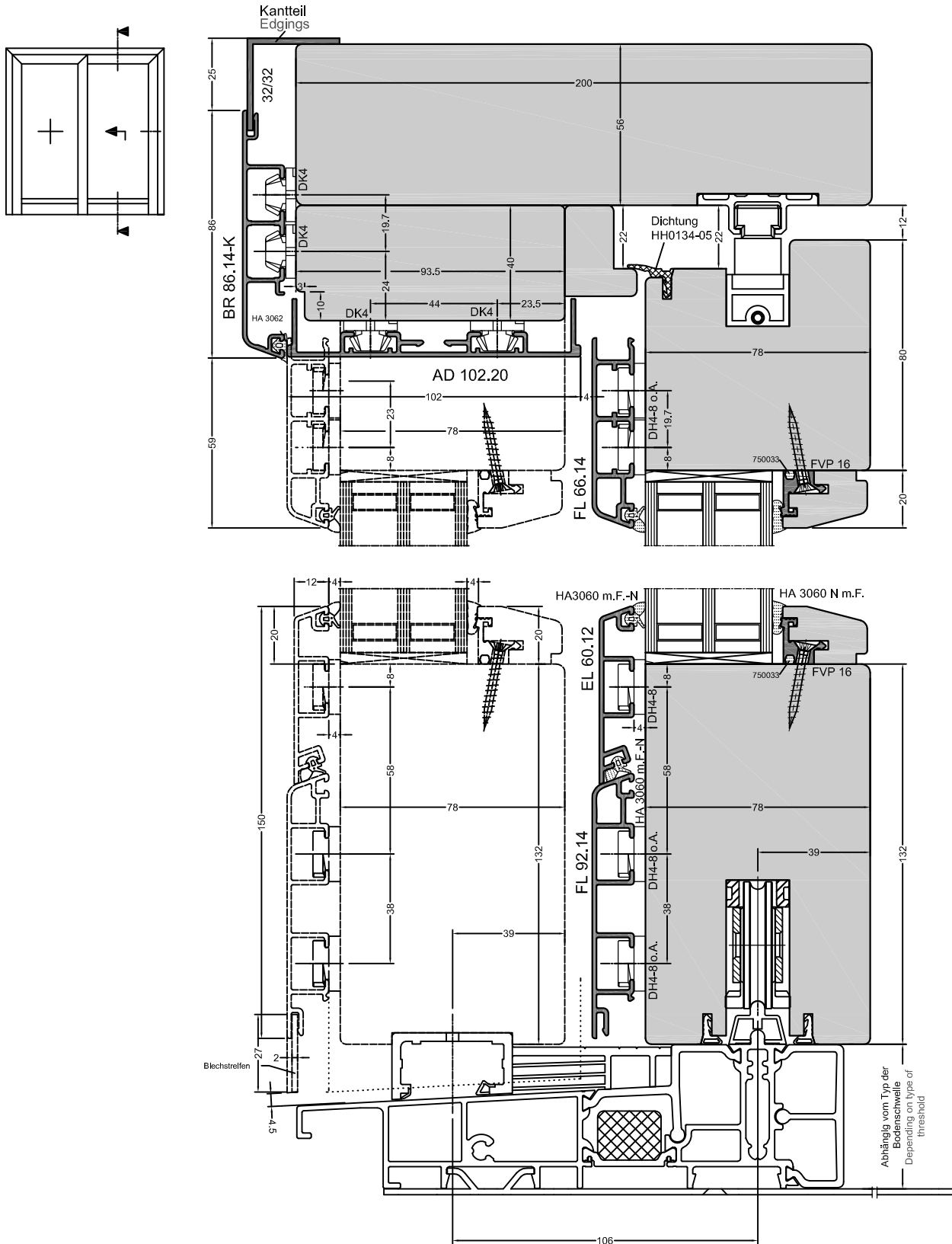
Note:

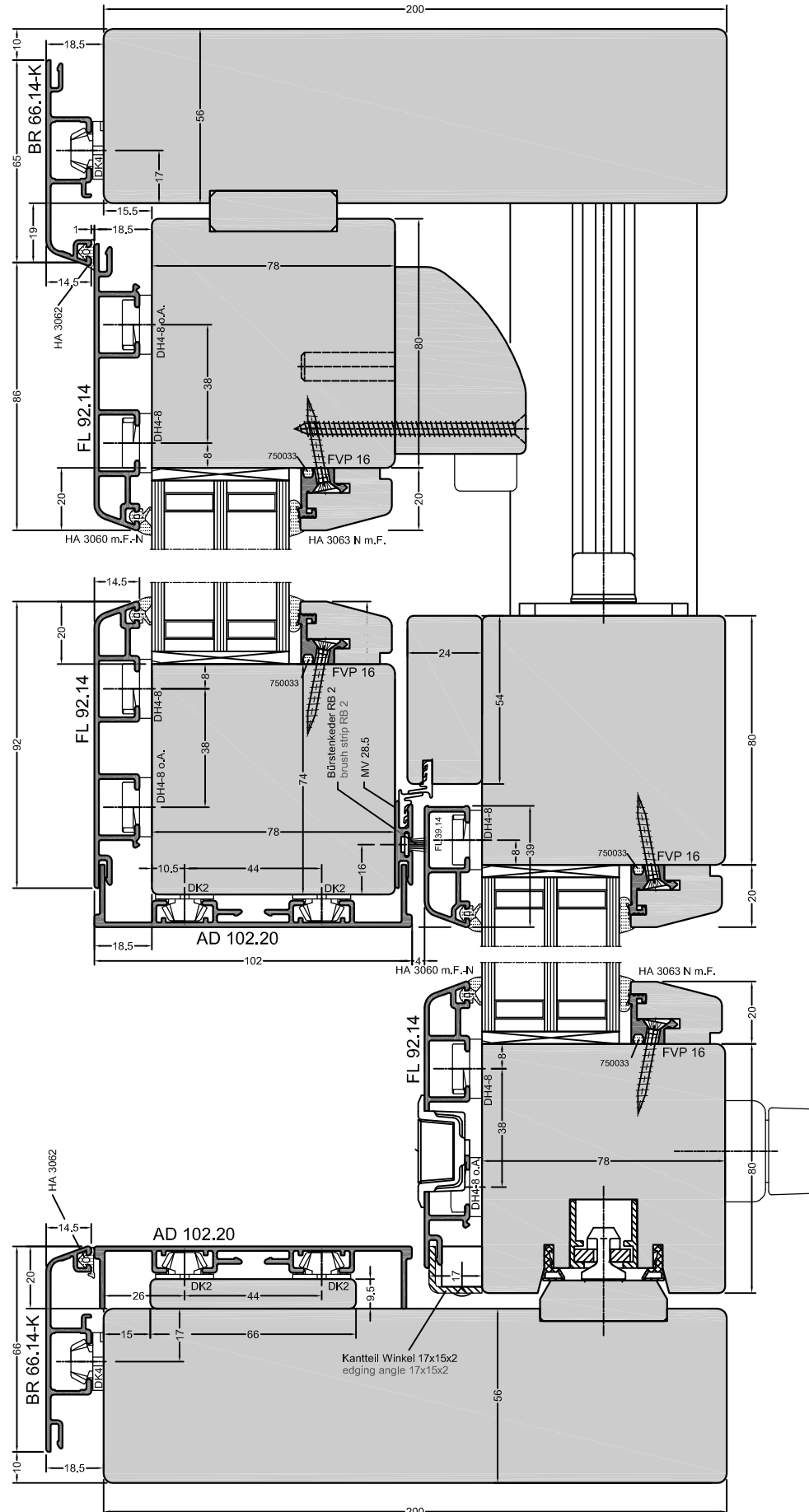
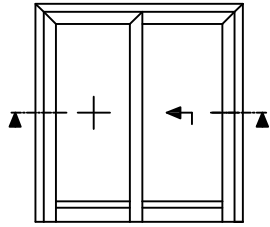
The specifications of DIN 18195-4, -5 and 9, Waterproofing, as well as Flat Roof Guidelines must be complied with during planning! ... for example by using draining channels with covers or grates.





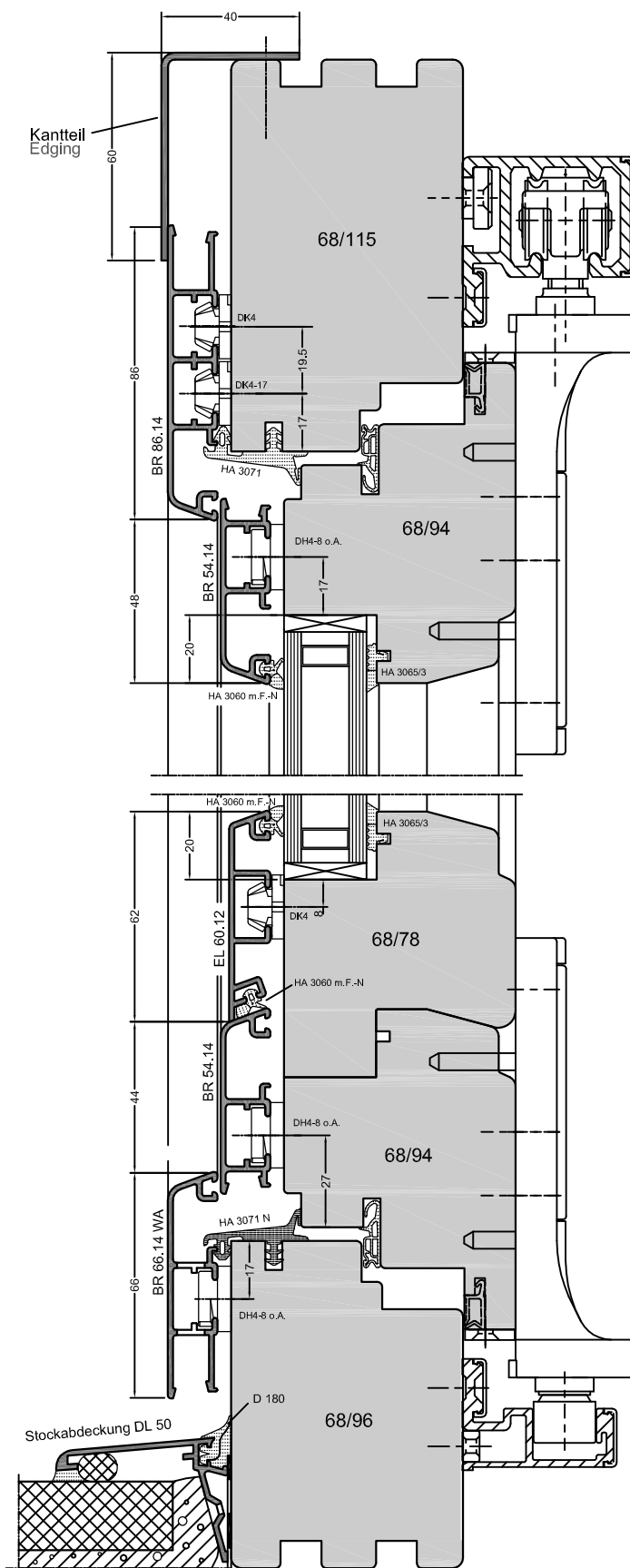
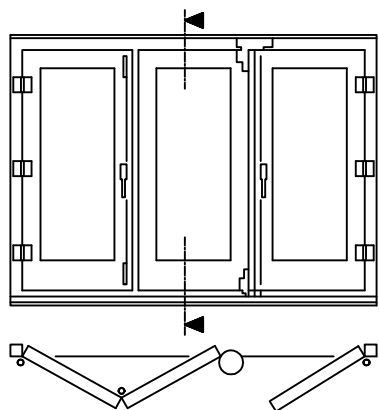




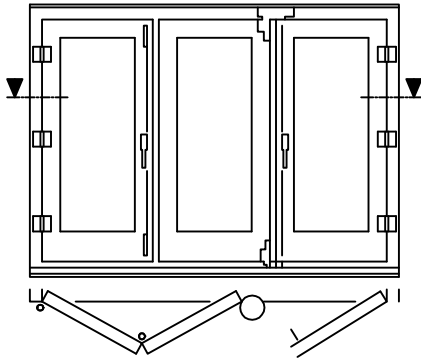


⊕ Maßstab 1:2
1:2 scale

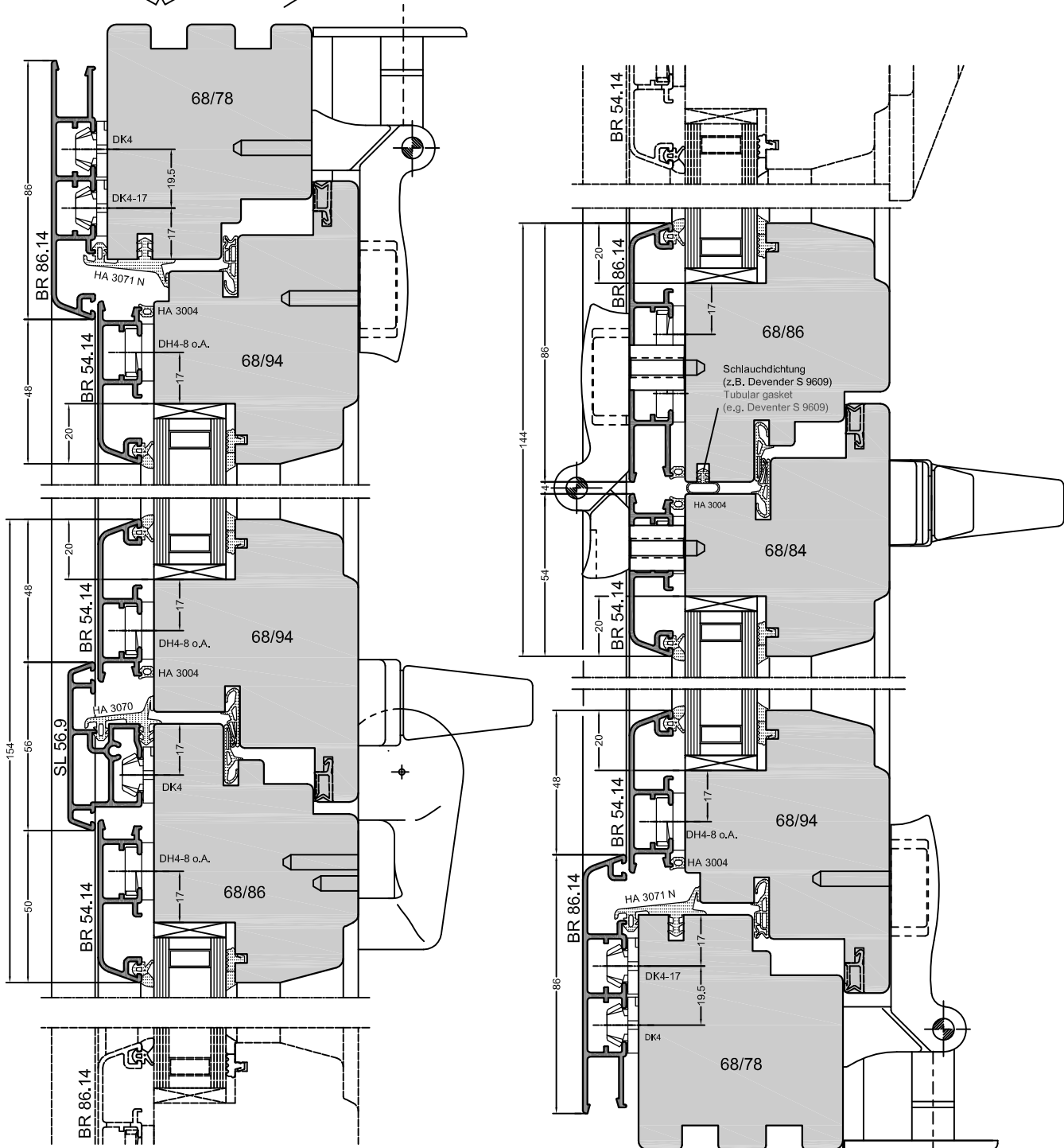
Flügelversatz 15 mm
Sash offset 15 mm

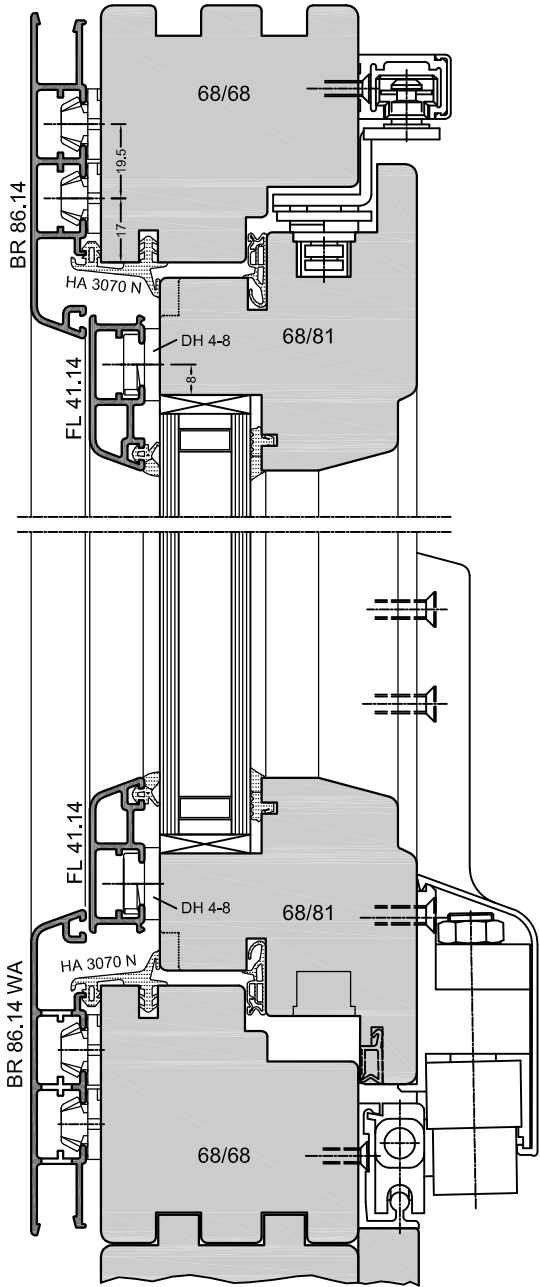
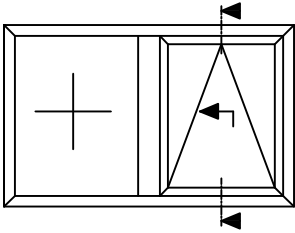


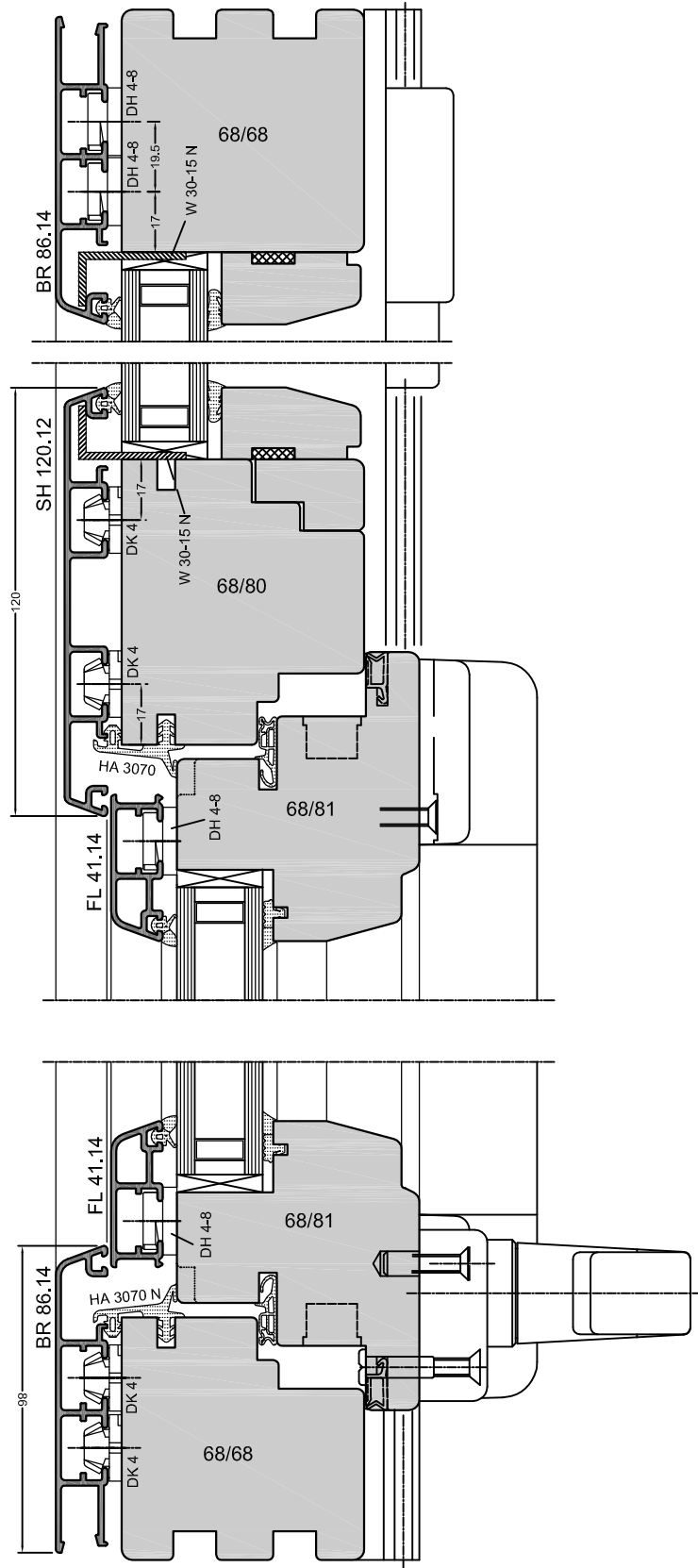
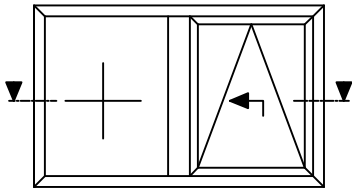
Flügelversatz 15 mm
Sash offset 15 mm

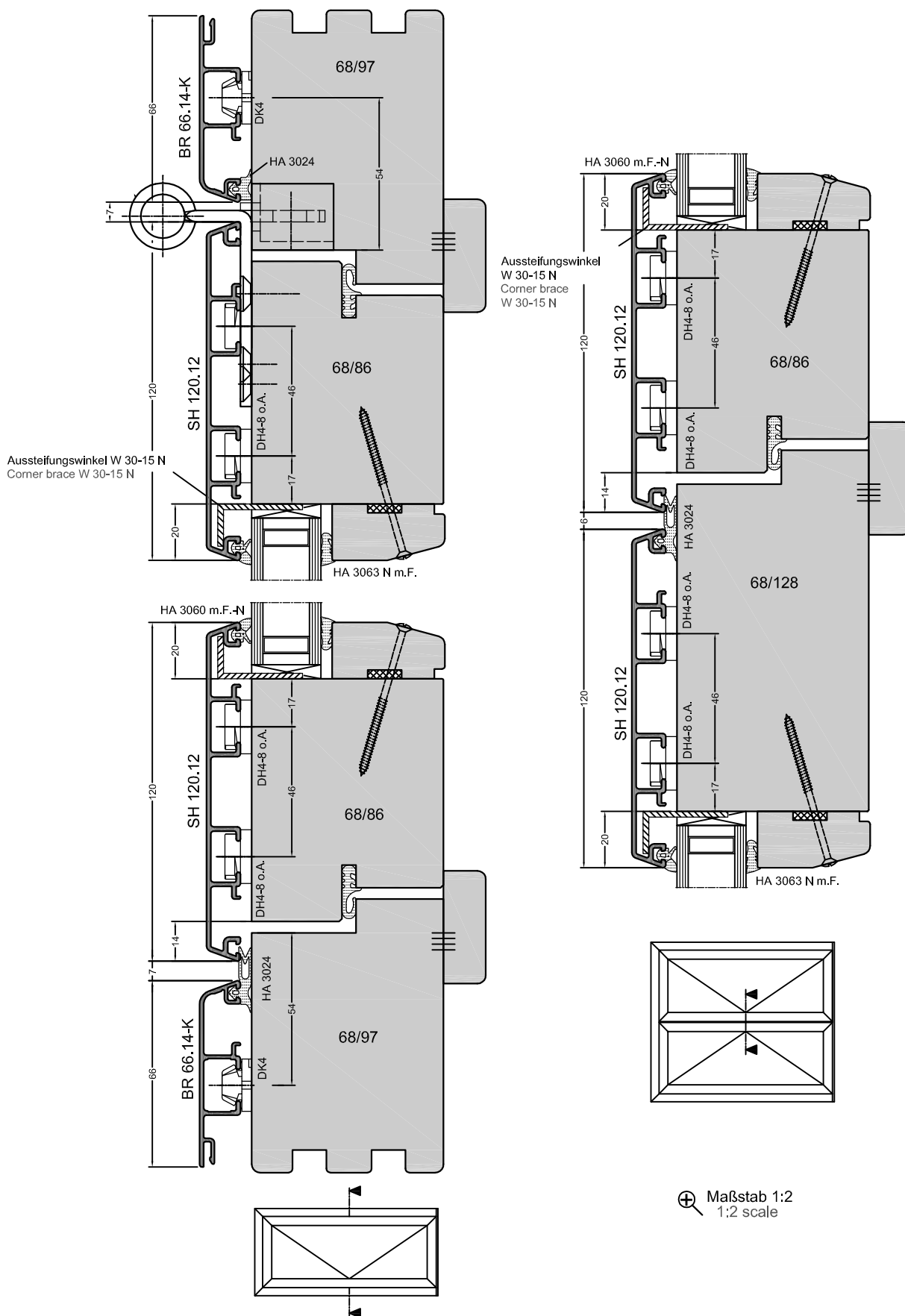


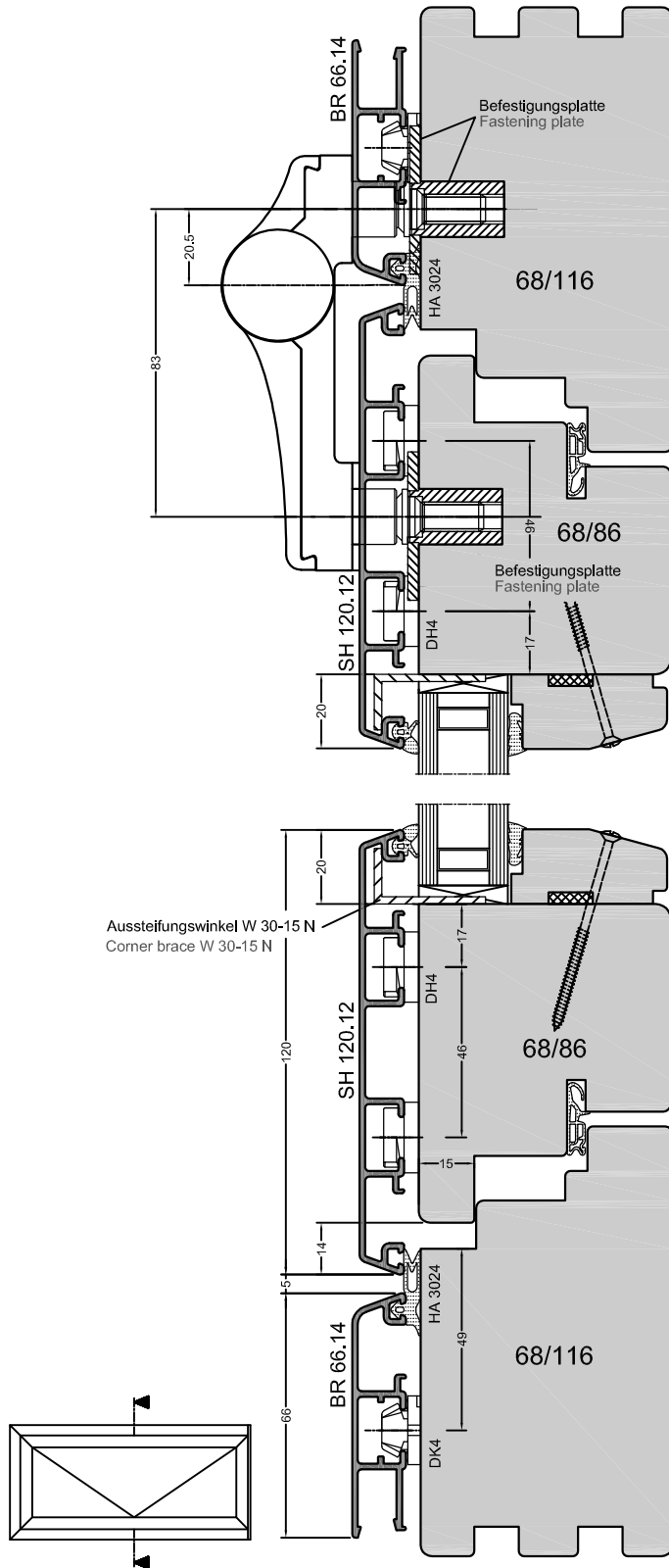
Maßstab 1:2
1:2 scale



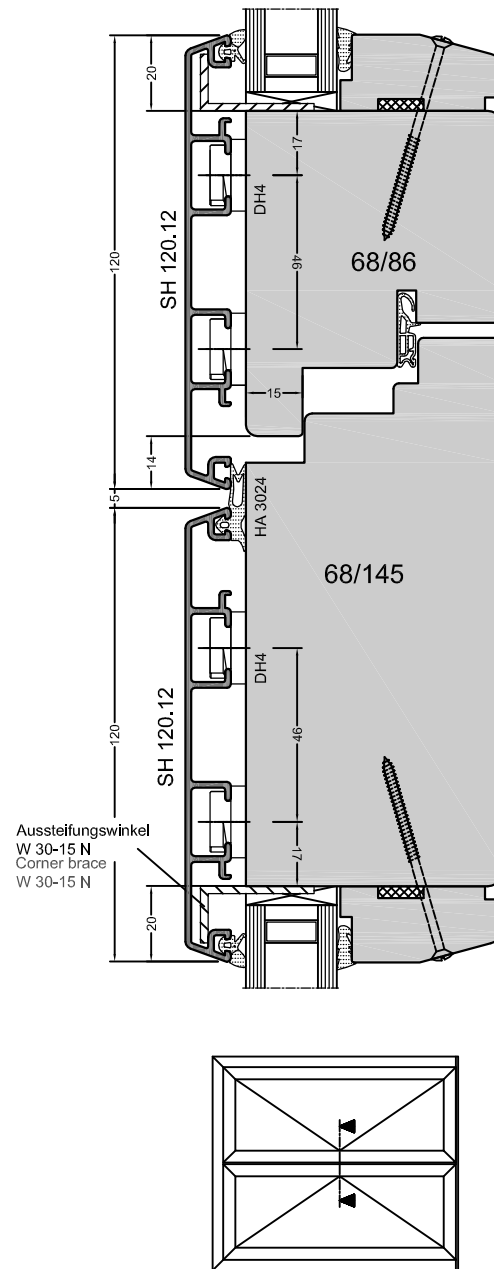




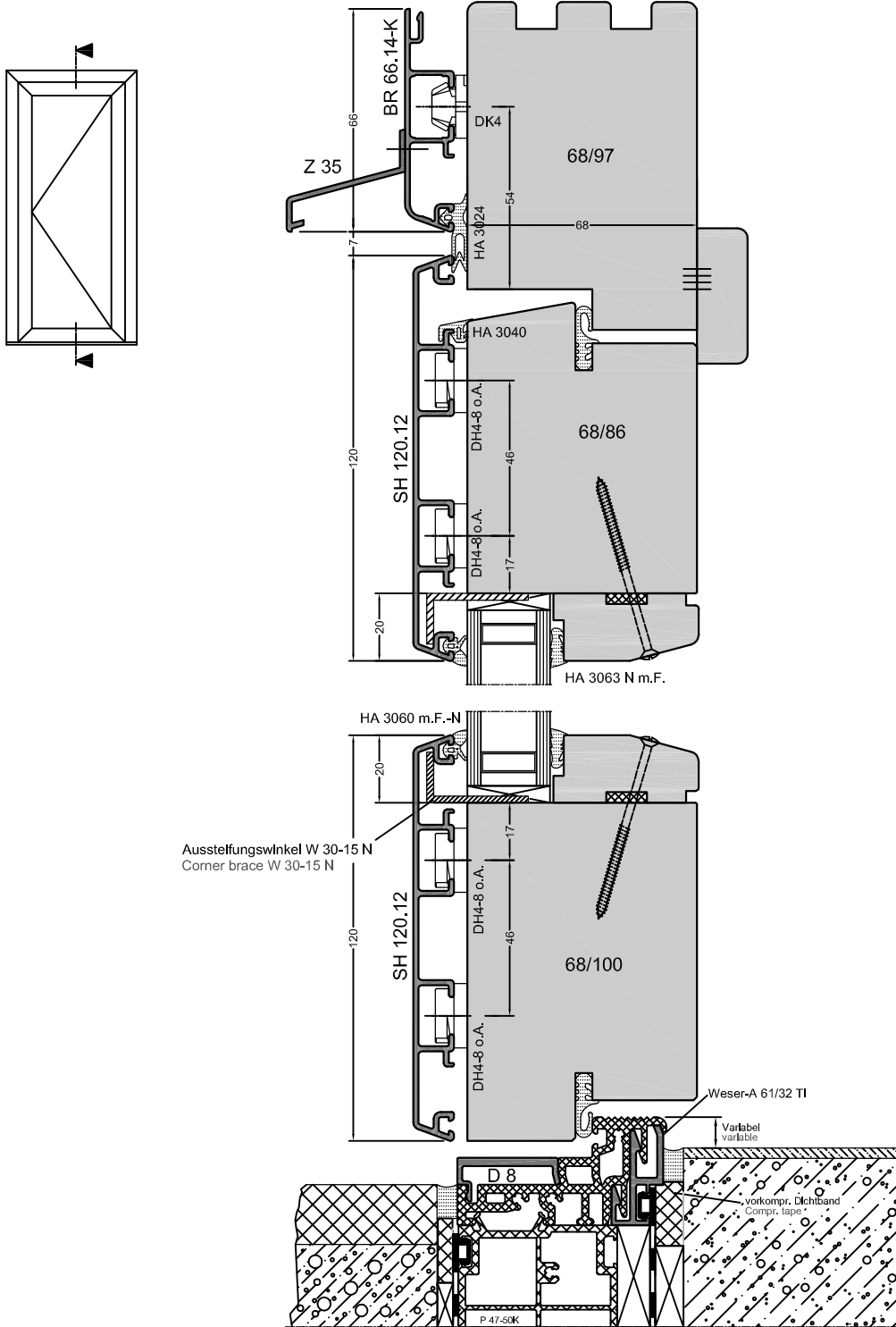


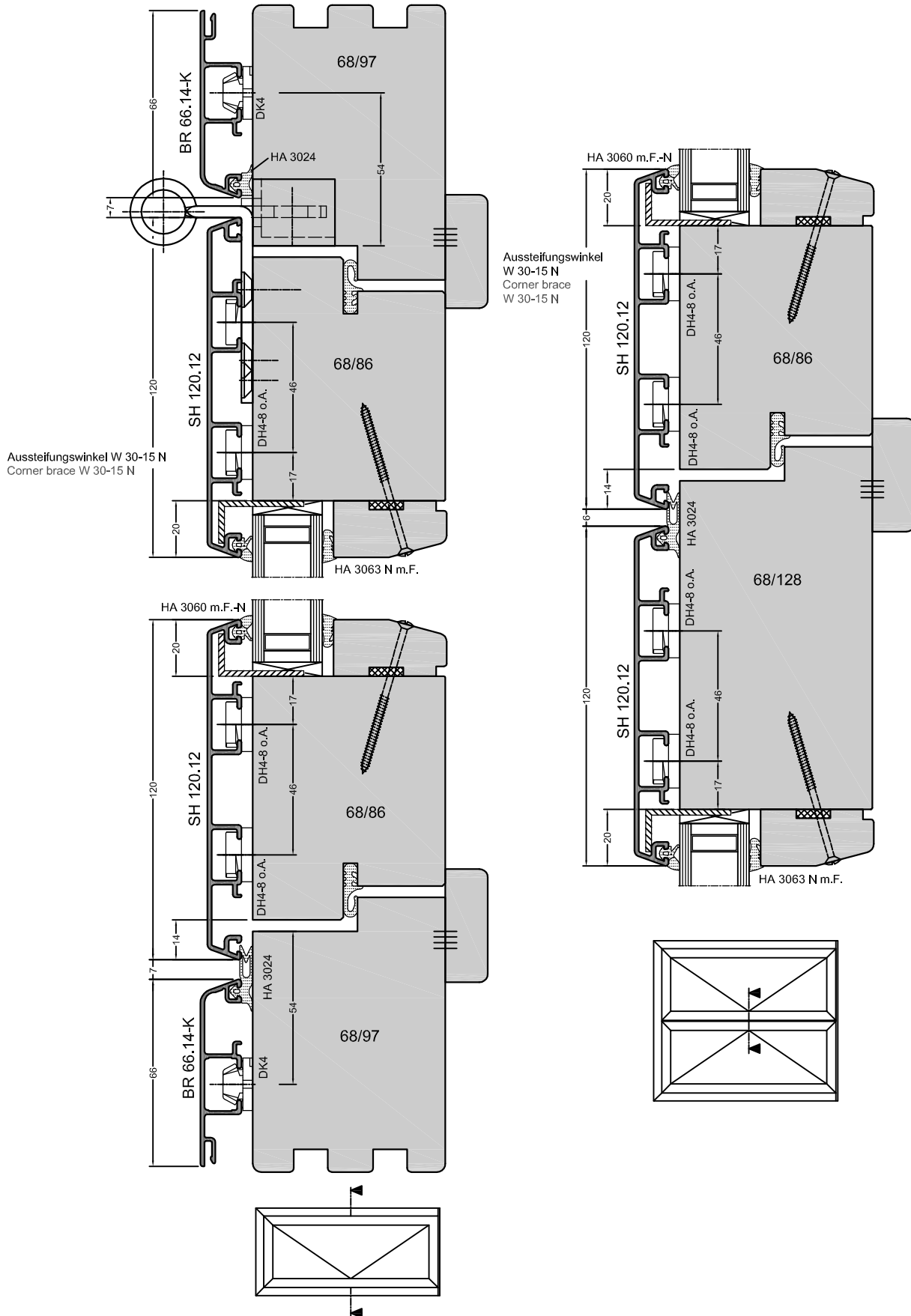


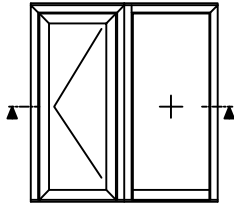
Zweiflügelige Drehtüre nach außen ohne Setzholz
Two-leaf revolving door opening outwards without mullion



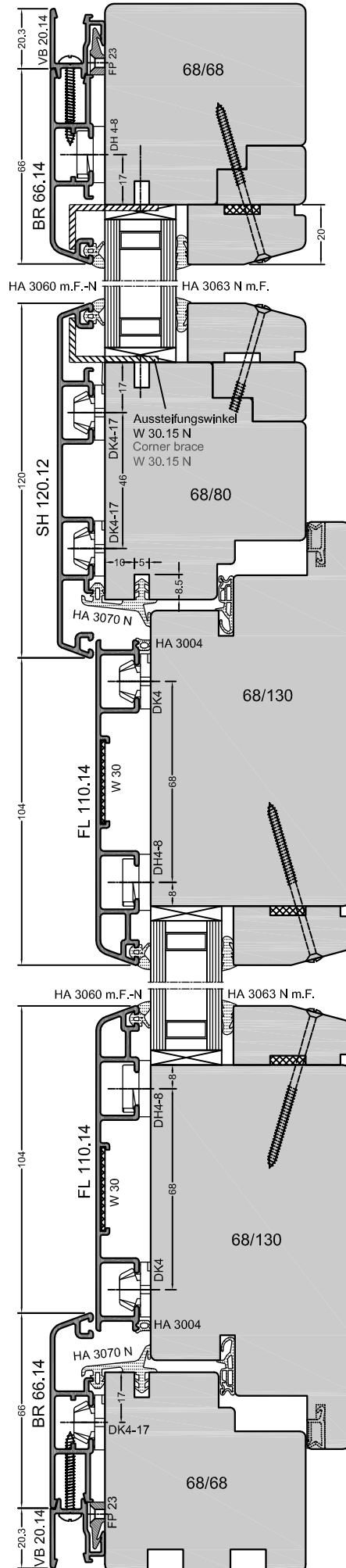
Drehtür nach außen
Revolving door opening outwards

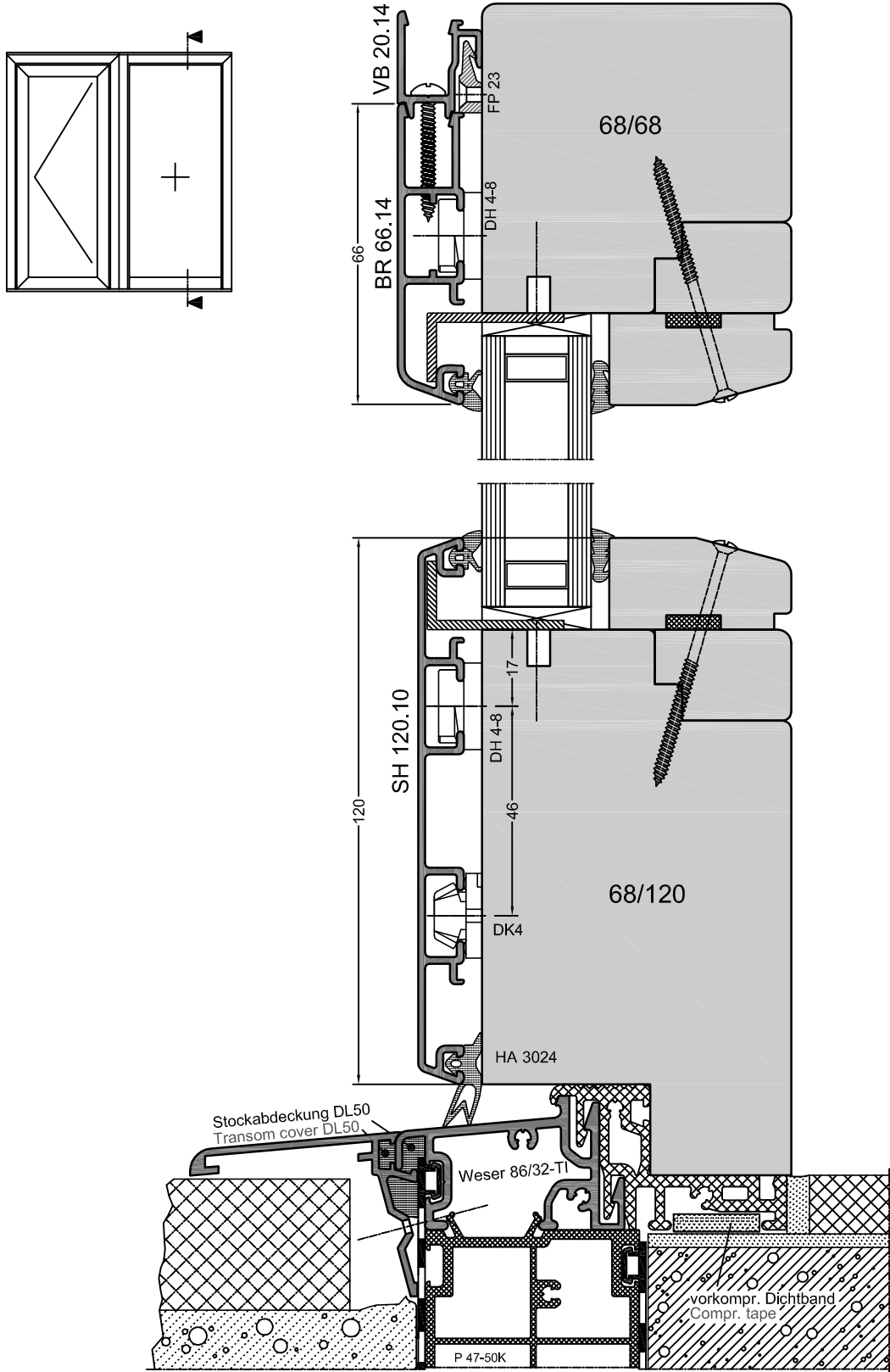


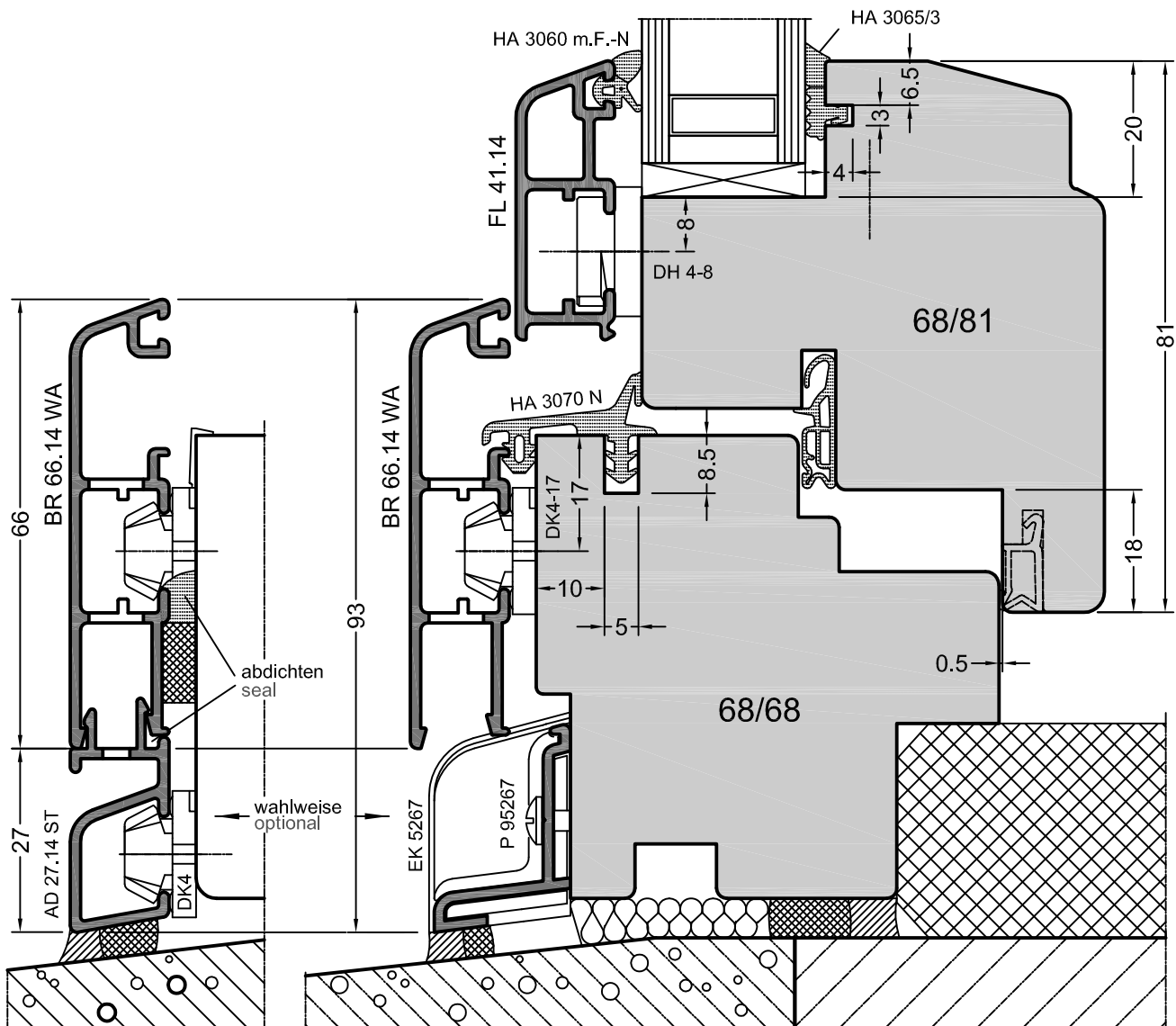
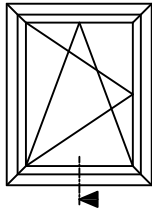




Maßstab 1:2
1:2 scale

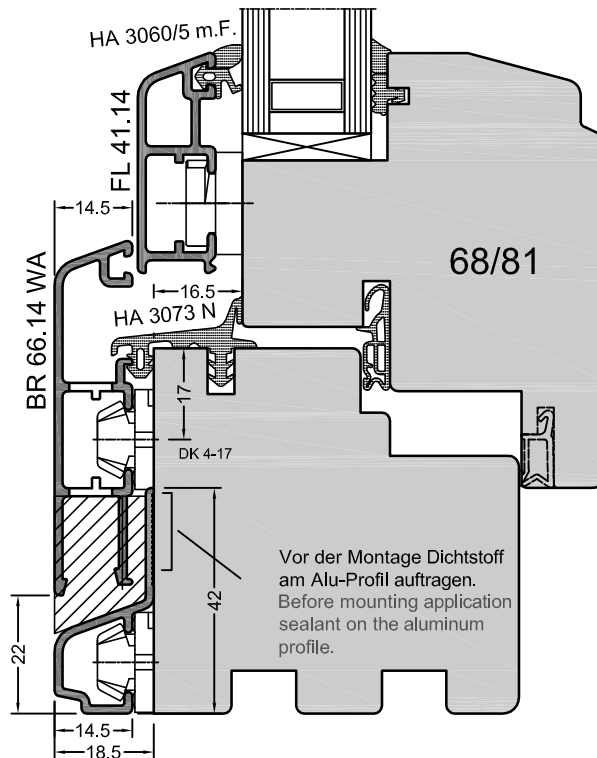
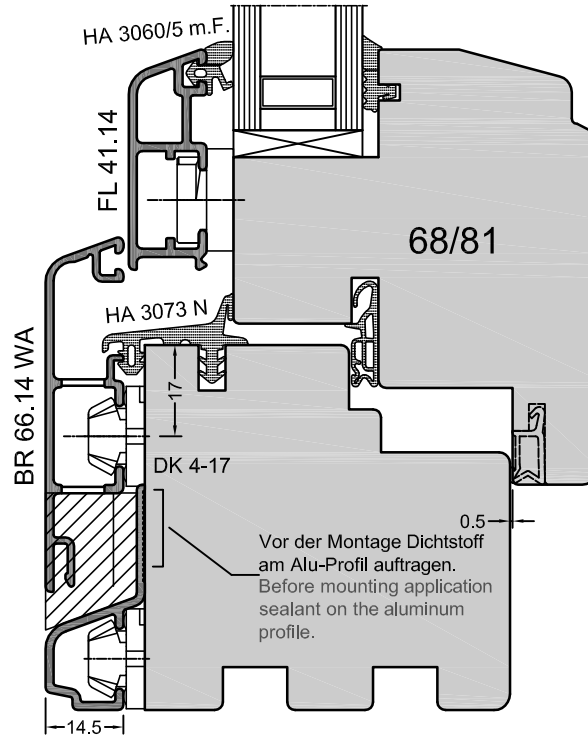


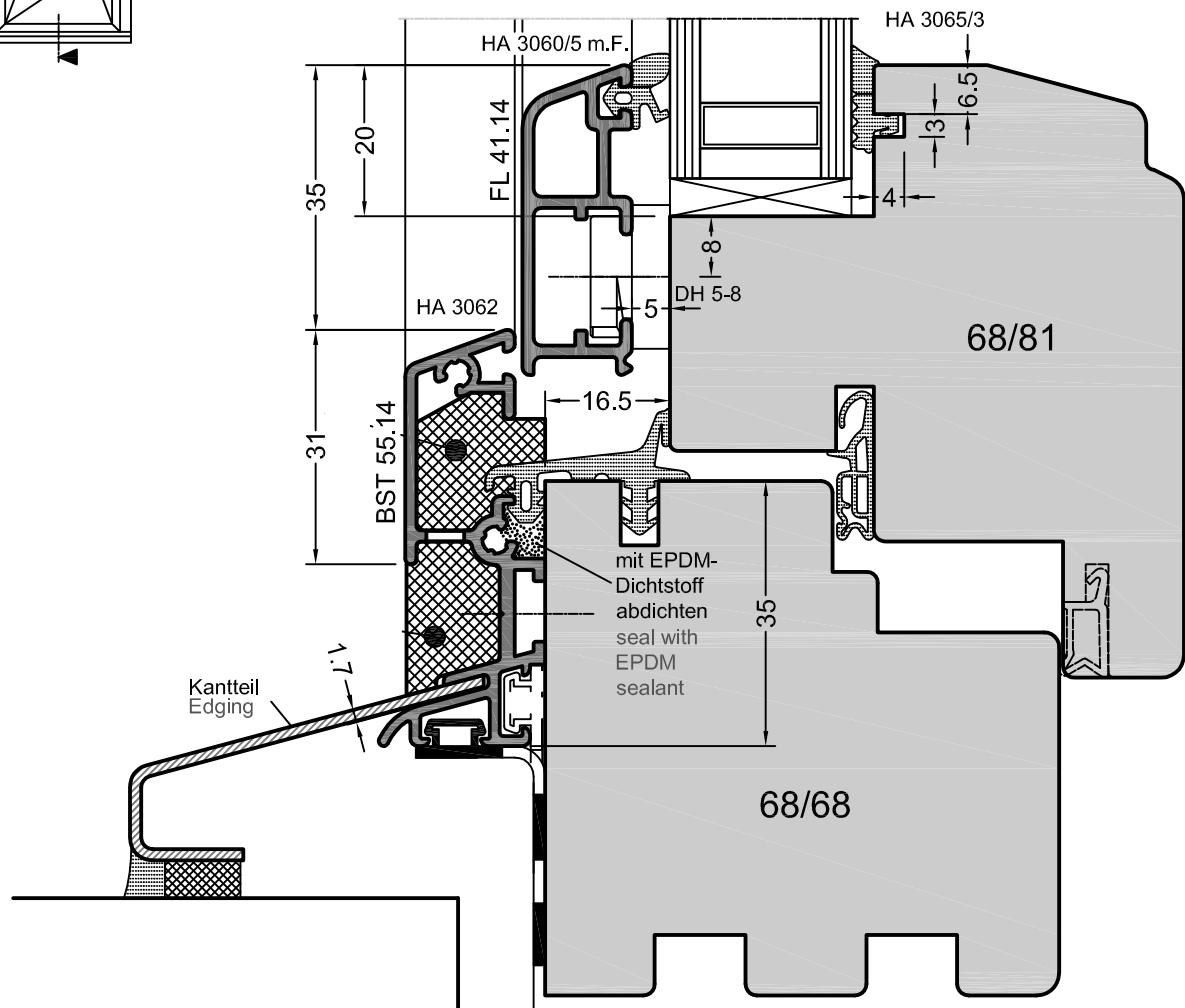
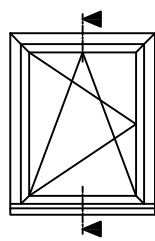


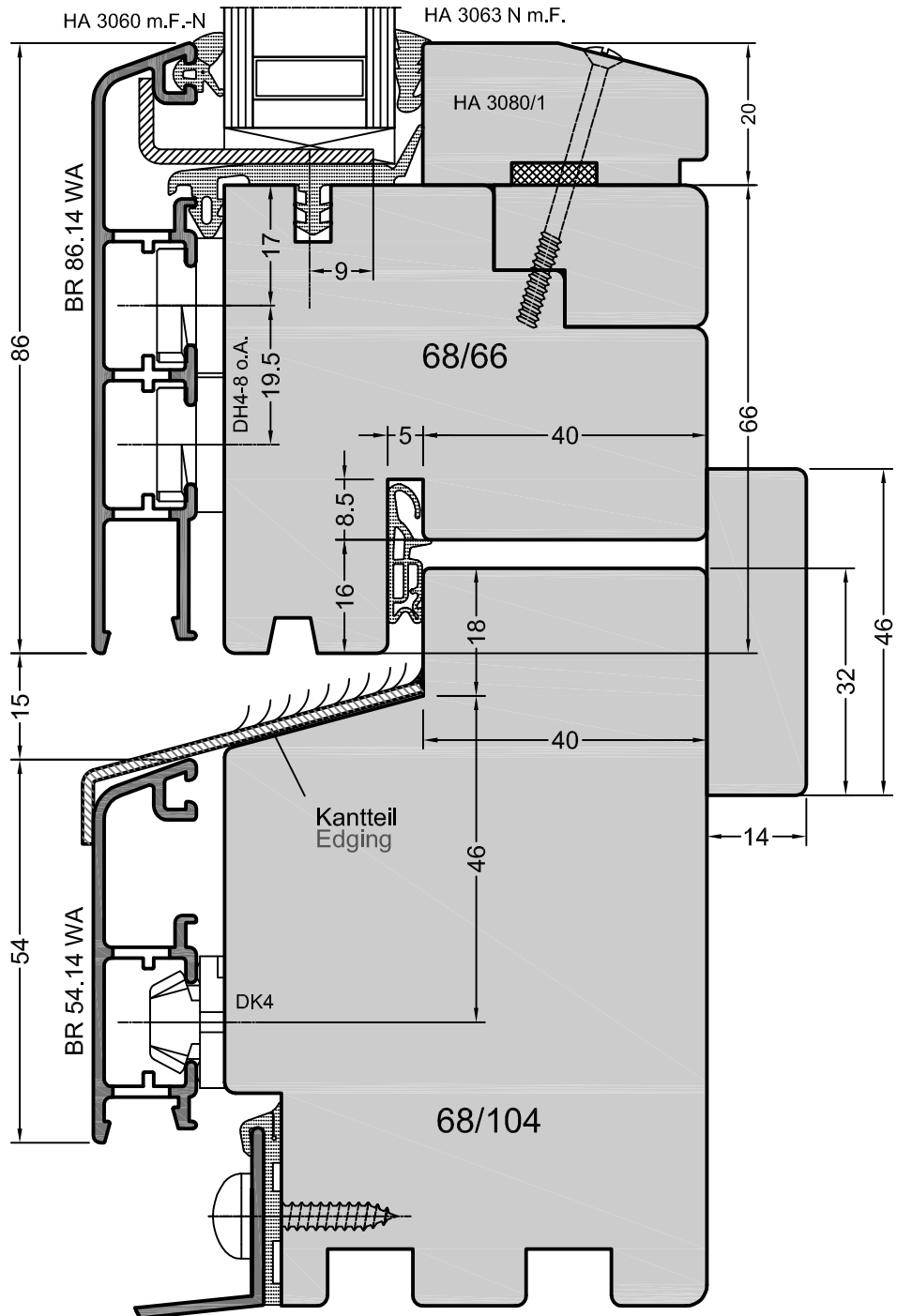
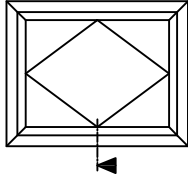


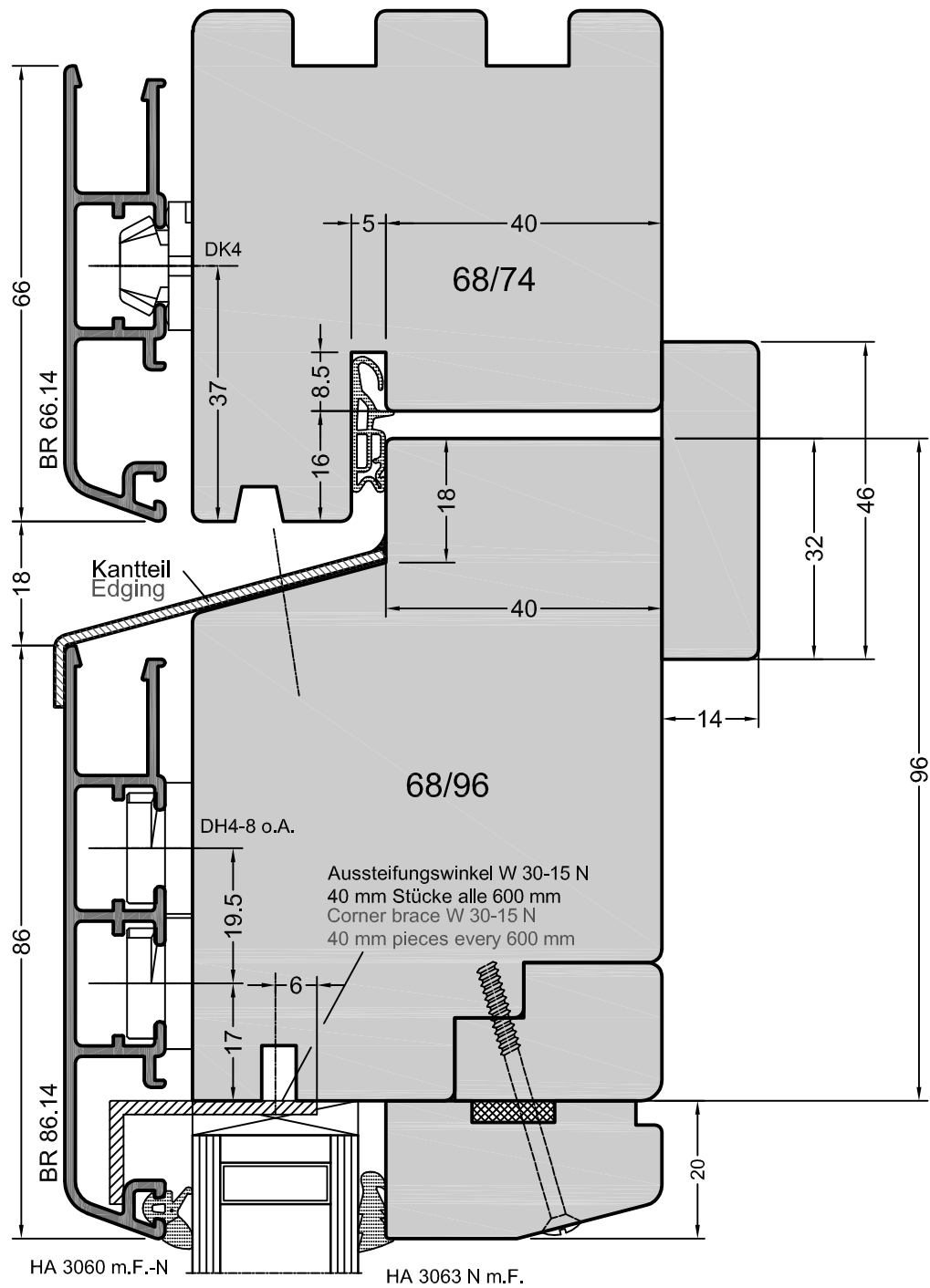
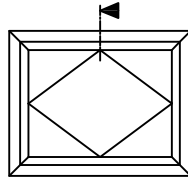


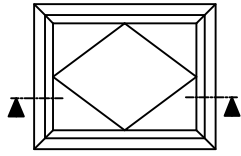
Steinbankanschluss
stone bed connection



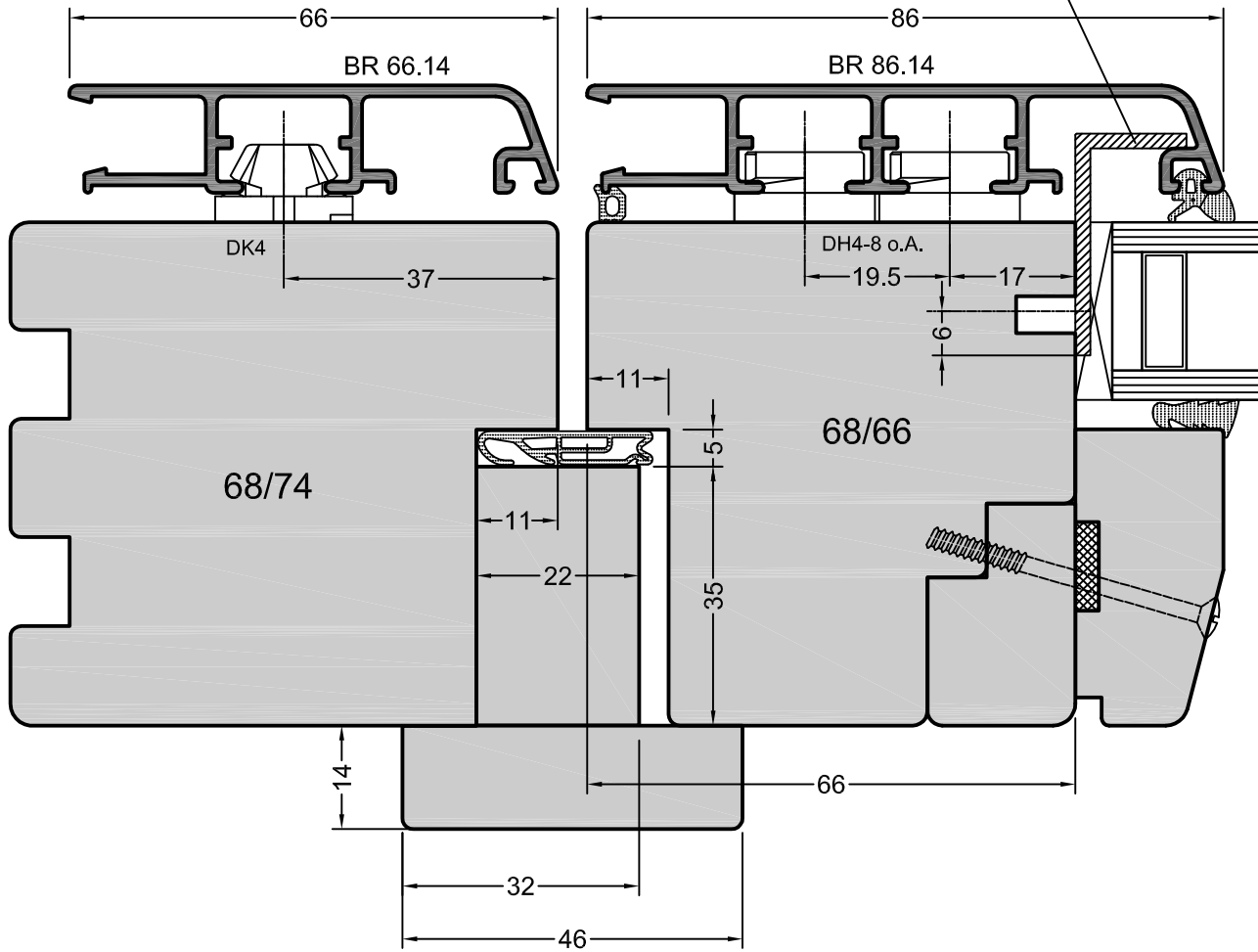






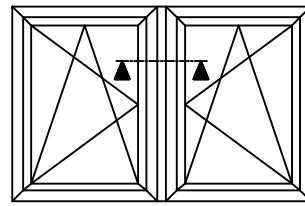
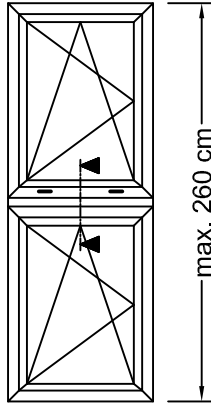


Aussteifungswinkel W 30-15 N
40 mm Stücke alle 600 mm
Corner brace W 30-15 N
40 mm pieces every 600 mm

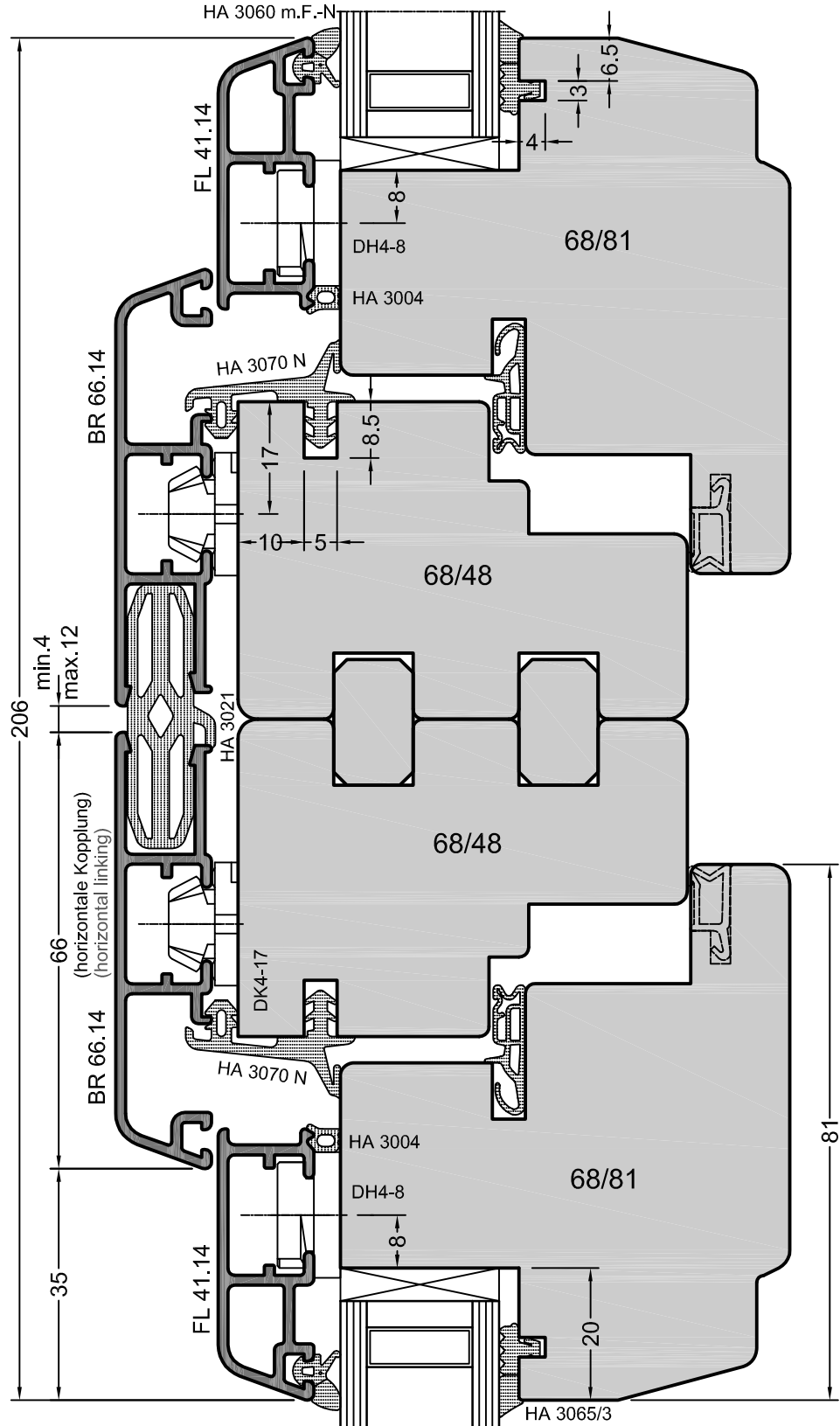
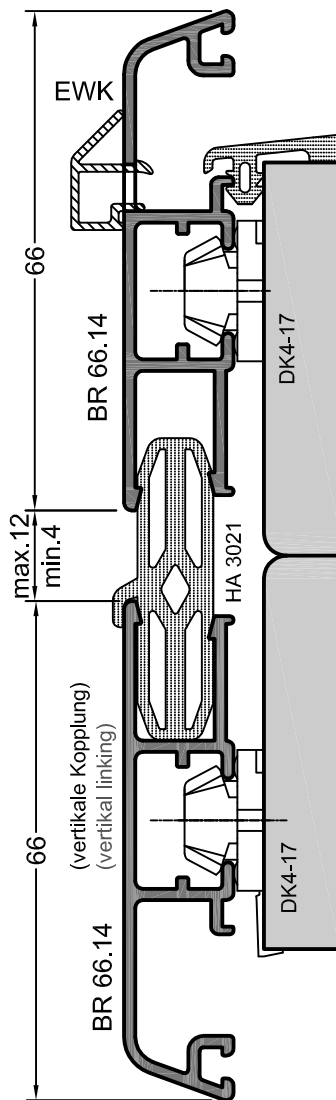


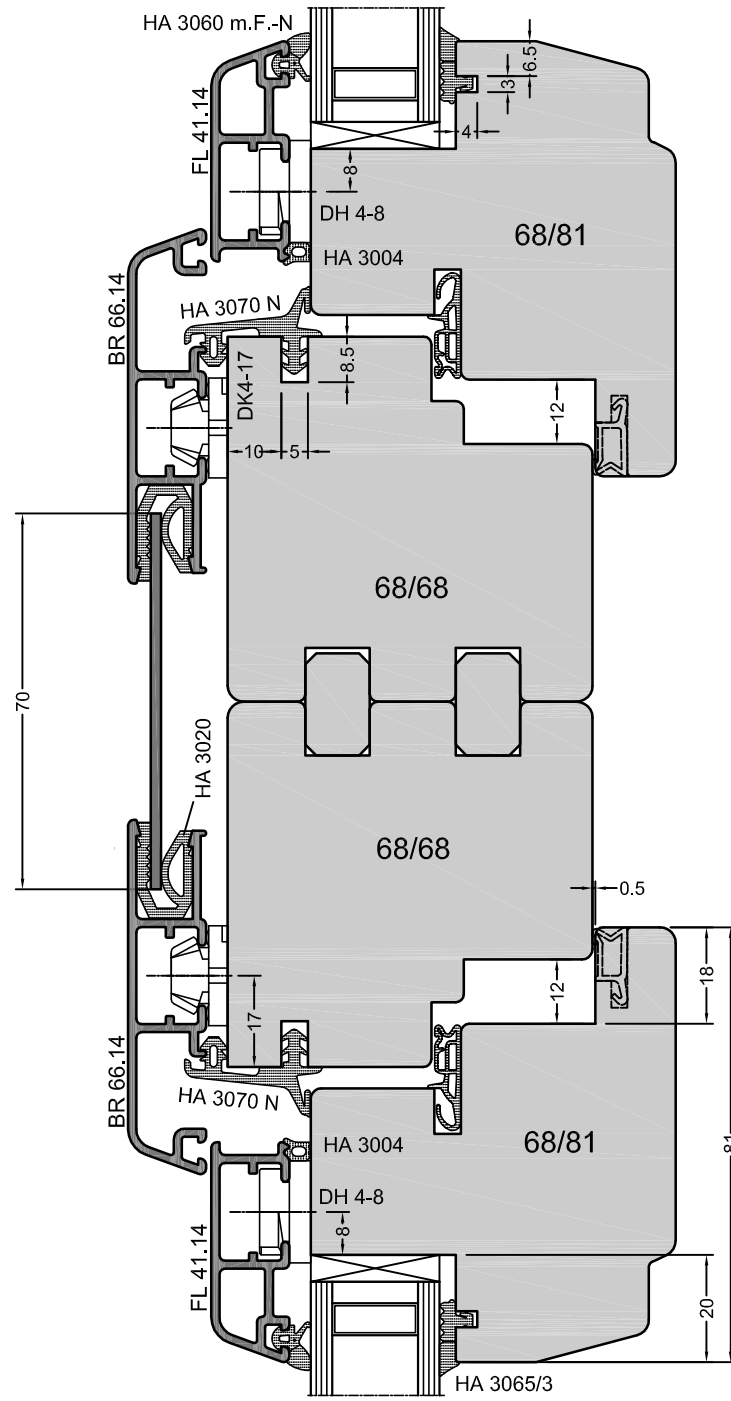
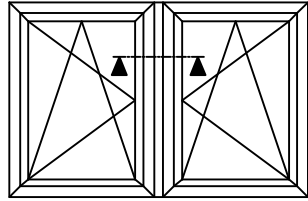
MIRA 5

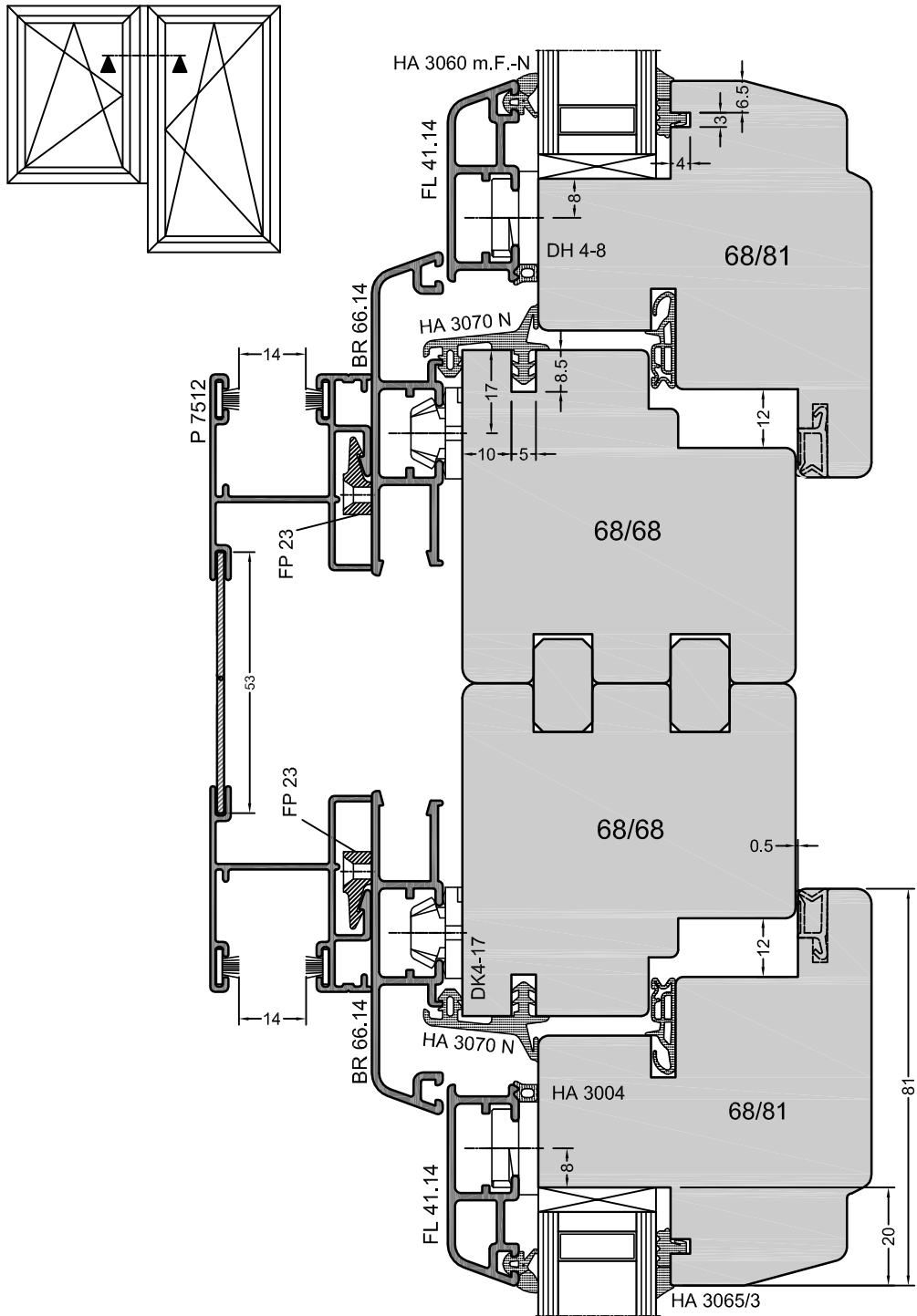
Vertikale Kopplung
Vertikal linking

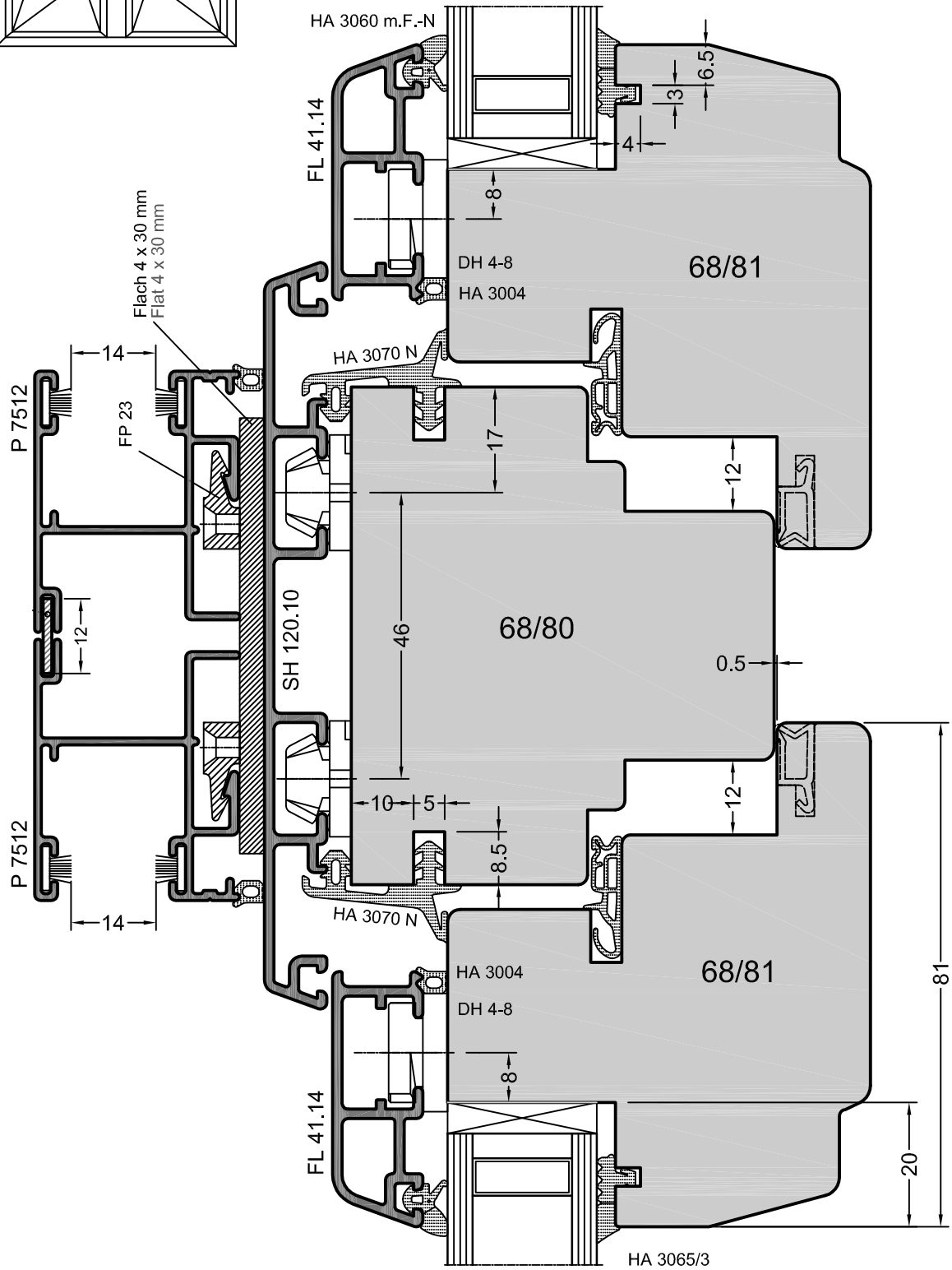
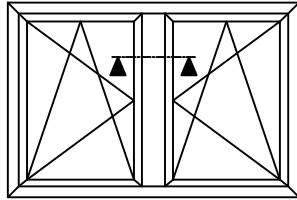


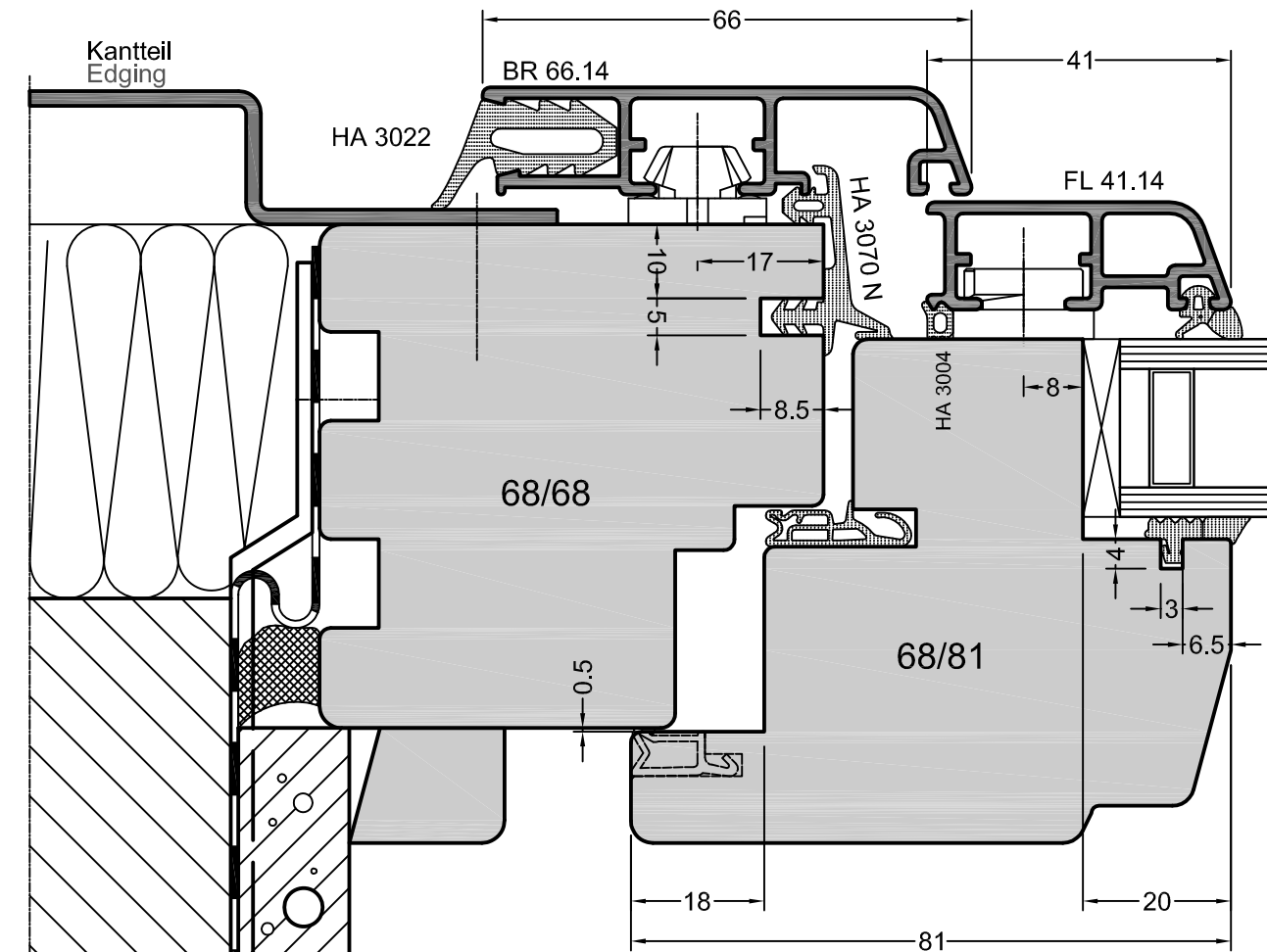
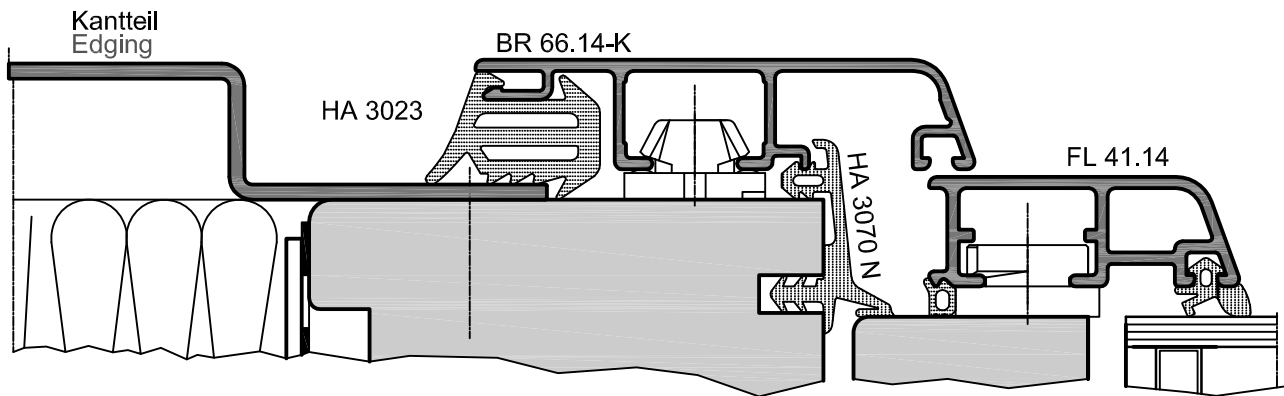
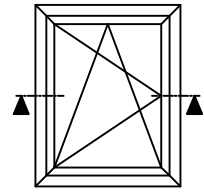
Horizontale Kopplung
Horizontal linking

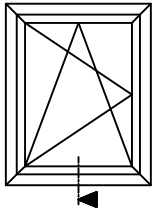




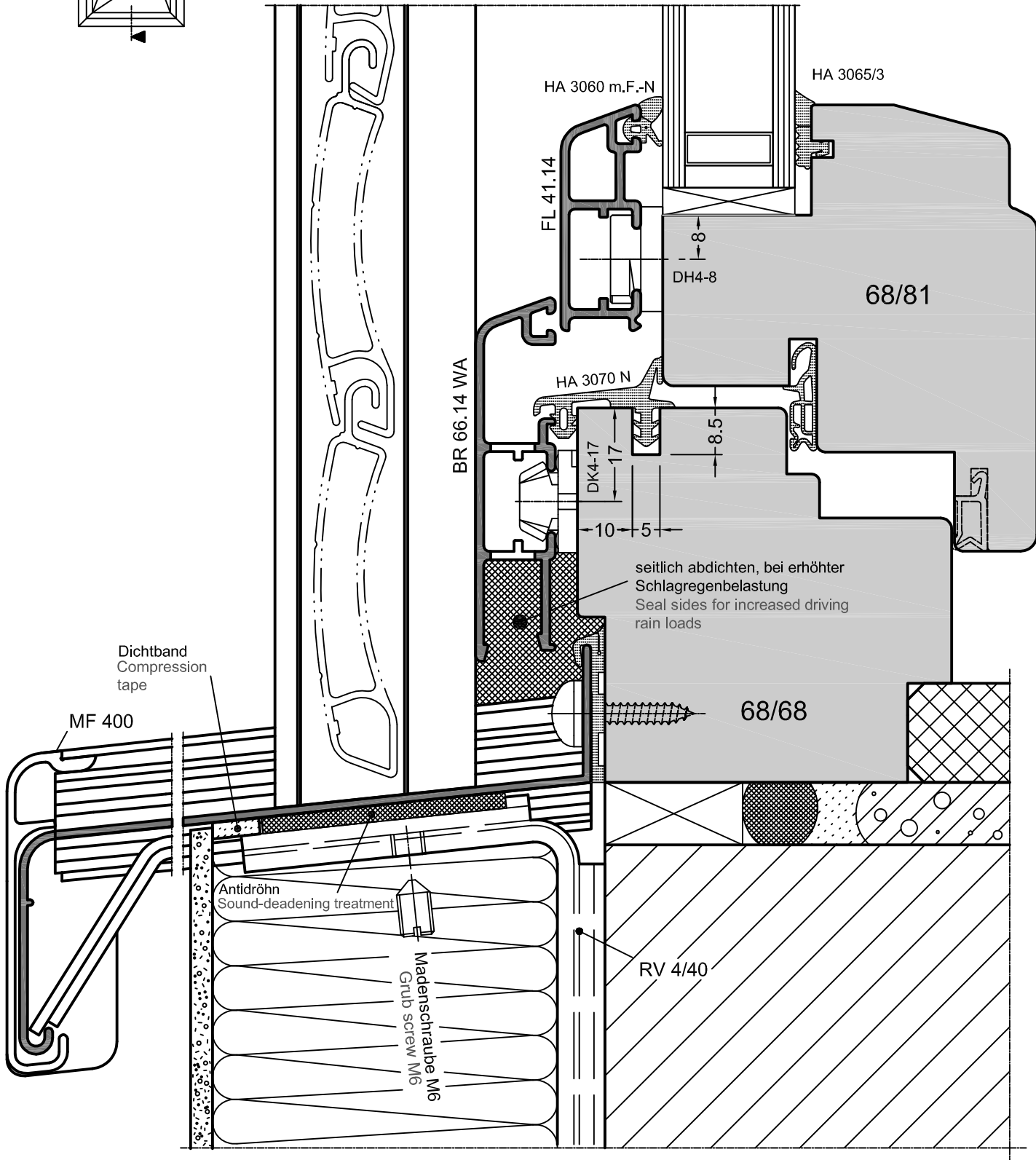


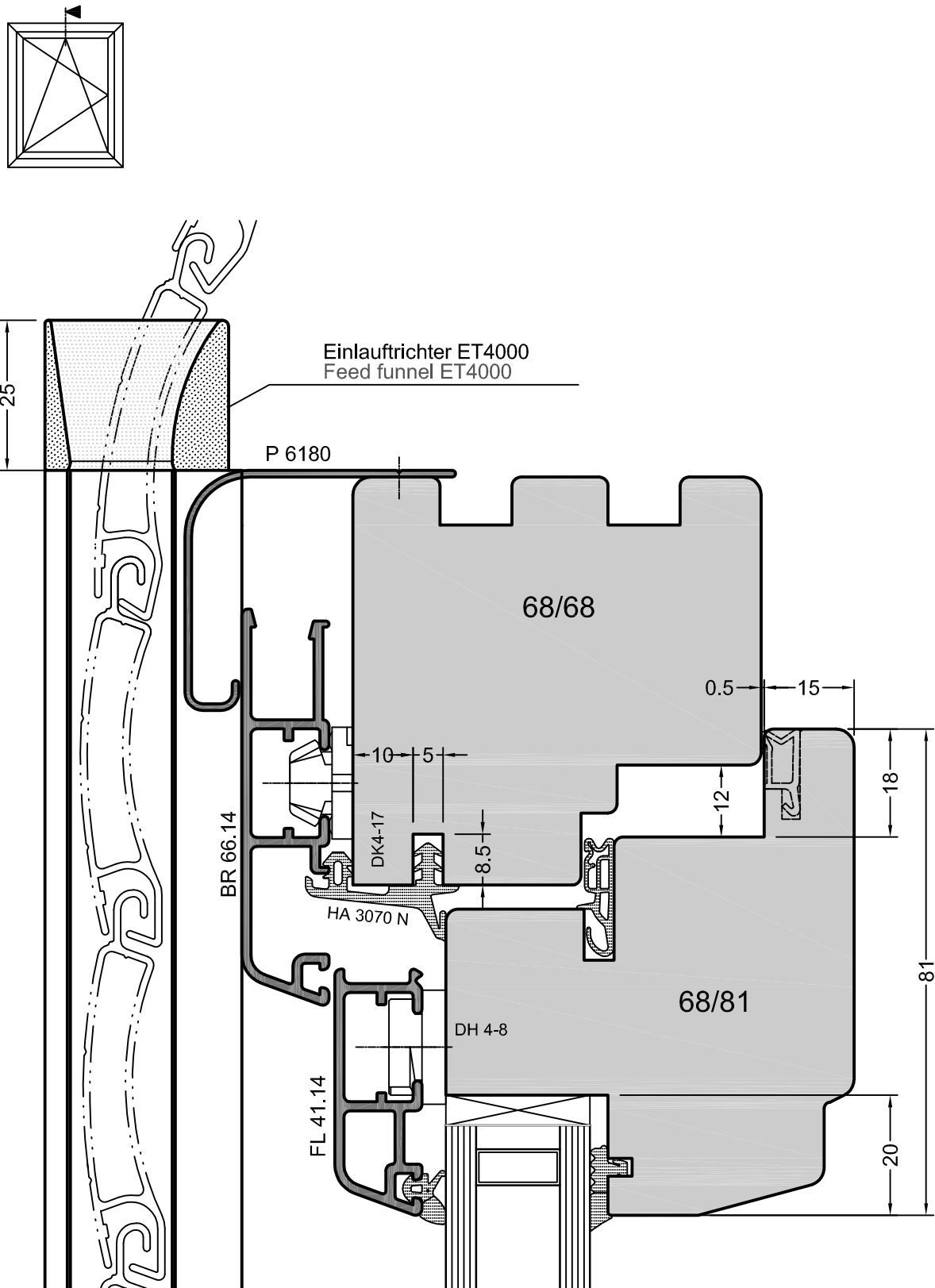


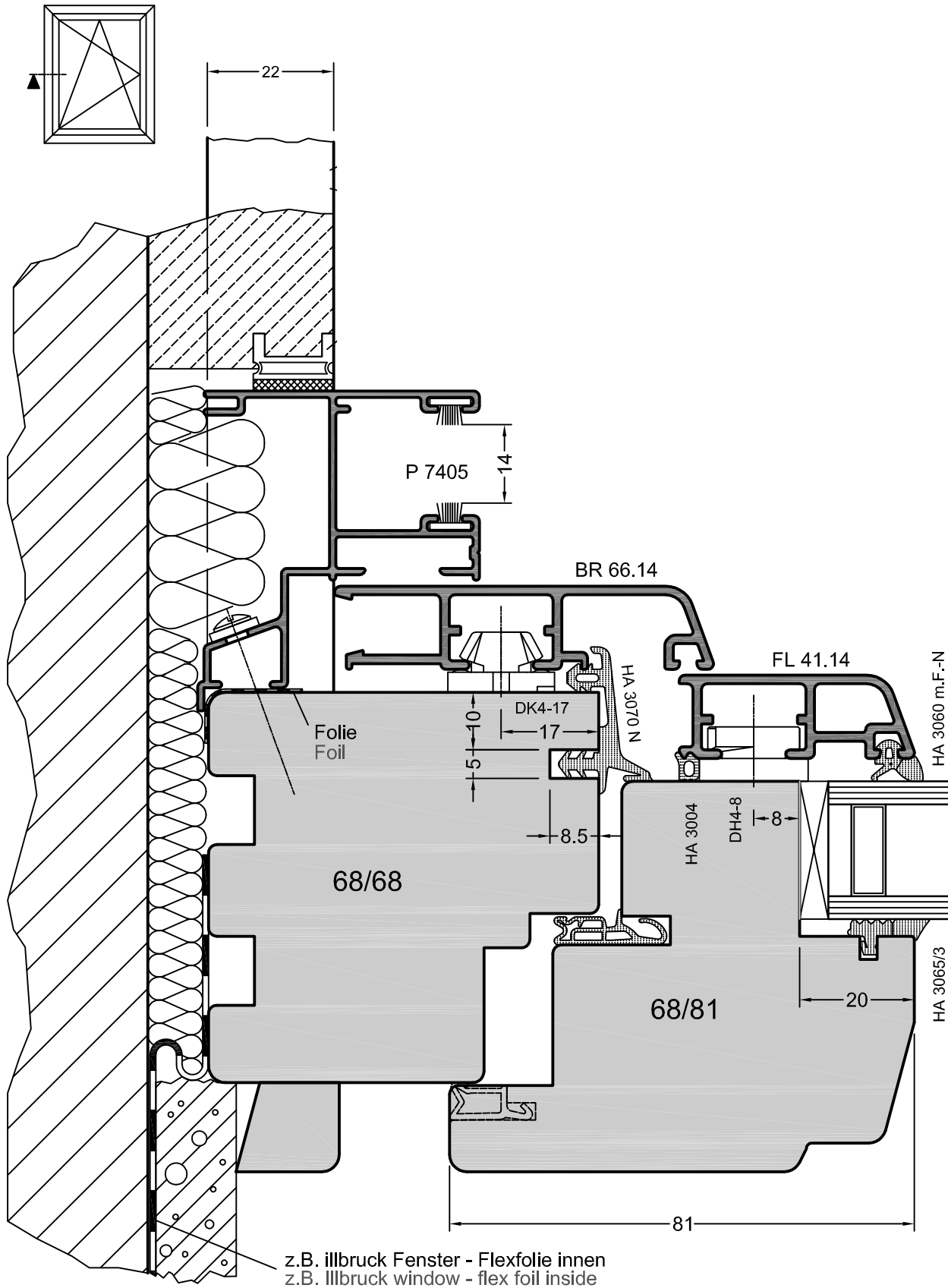


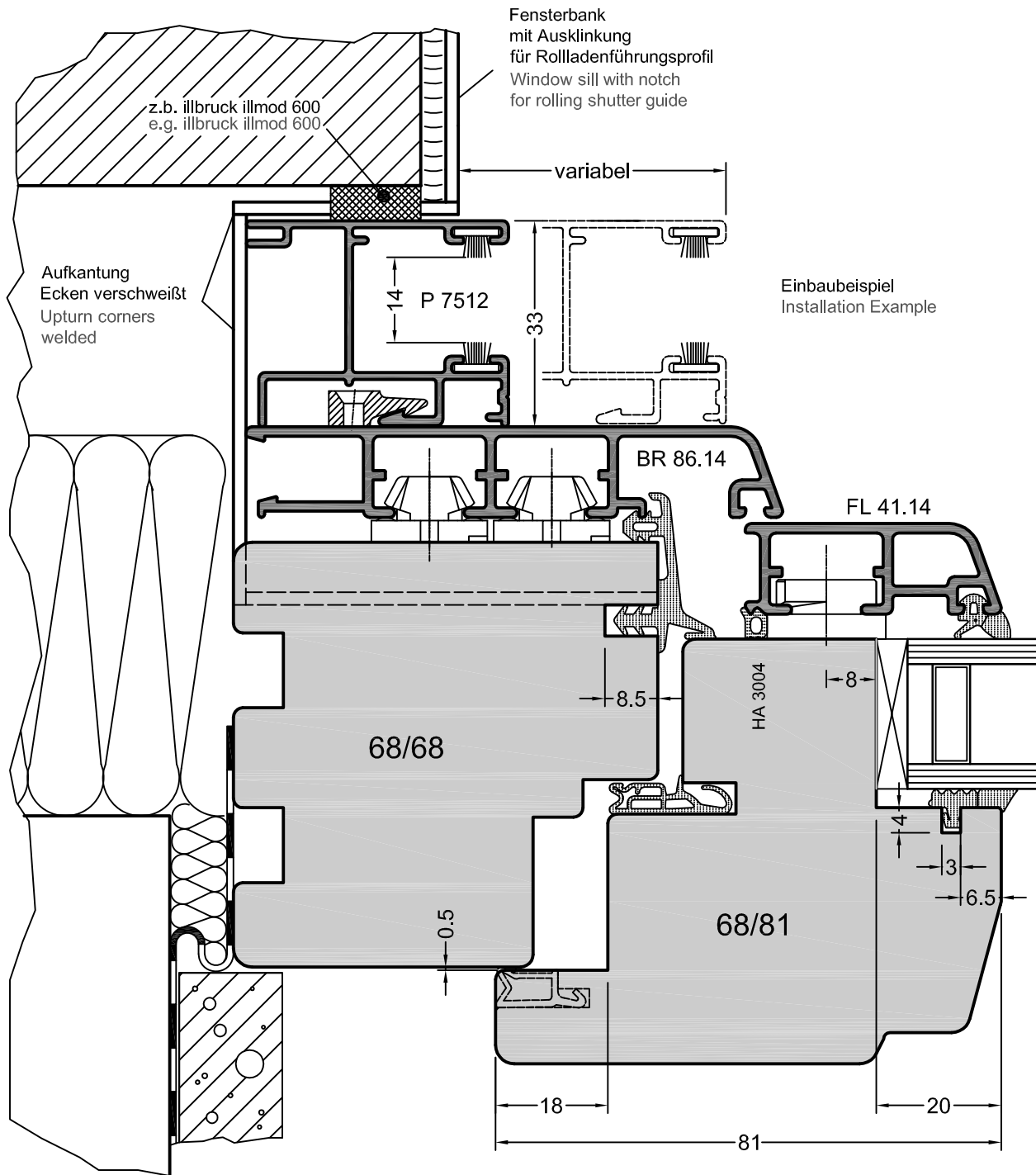
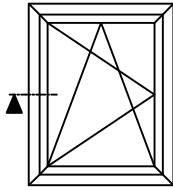


mit verstellbarem Halter RV 4/40
 with adjustable holder RV 4/40

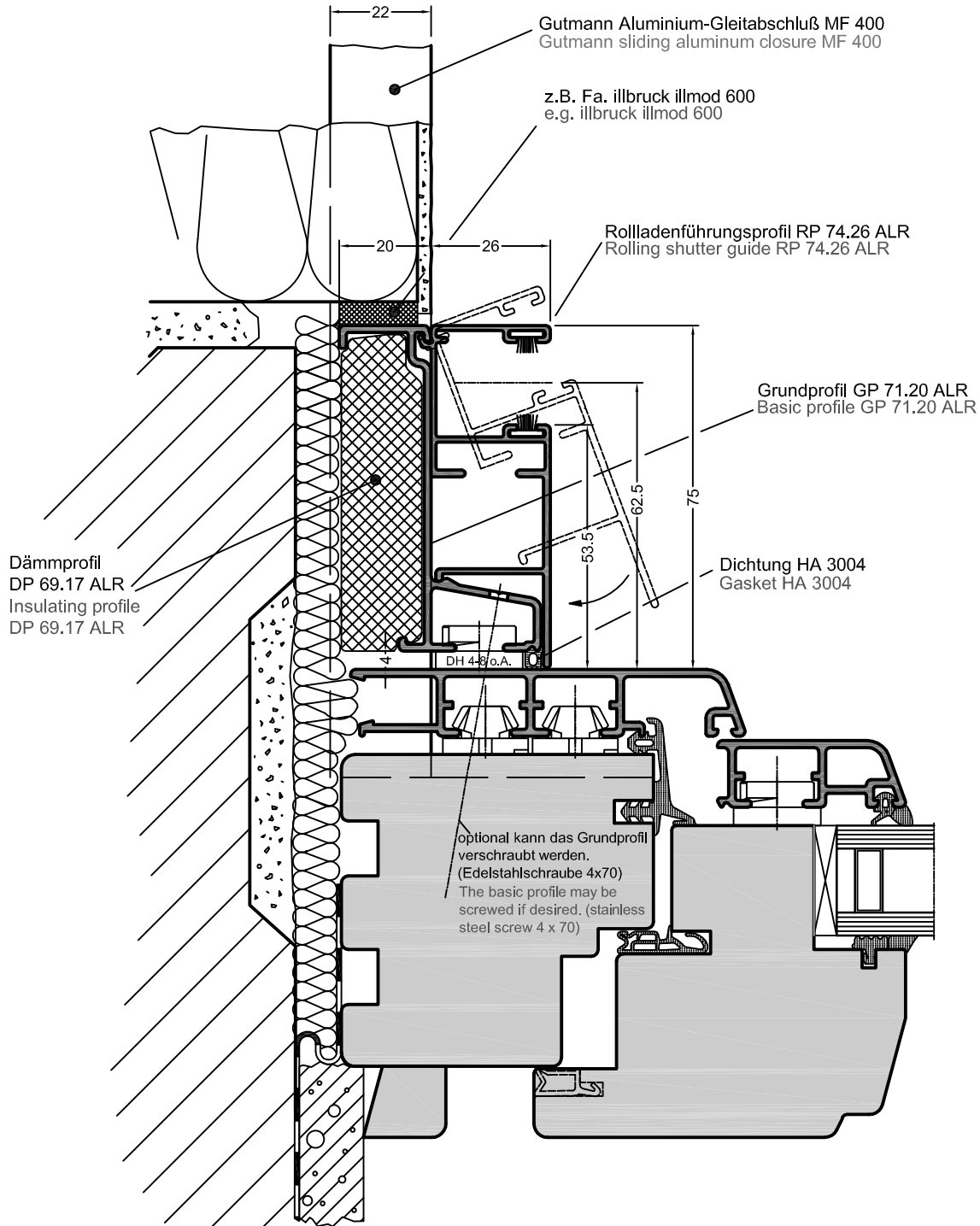






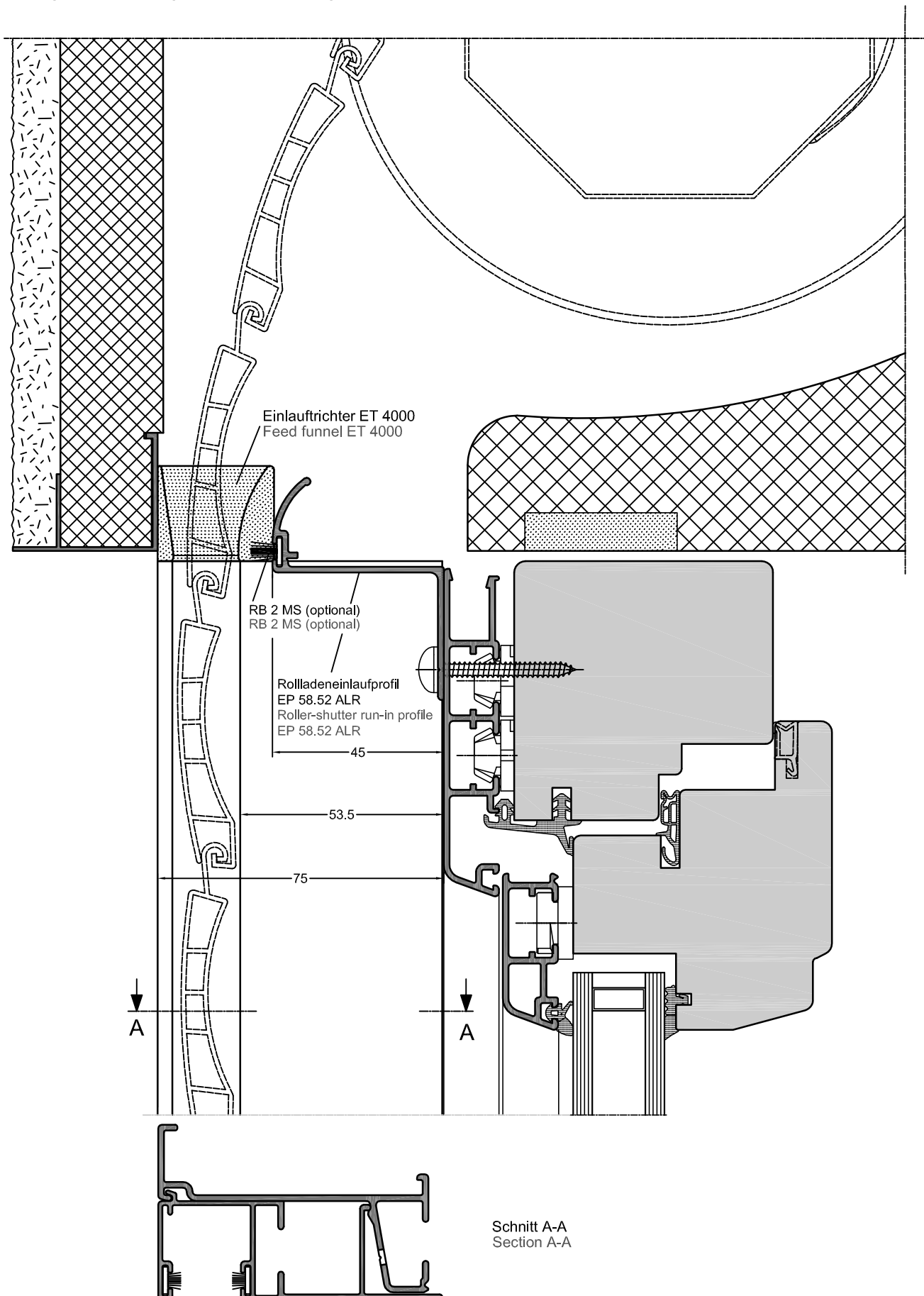


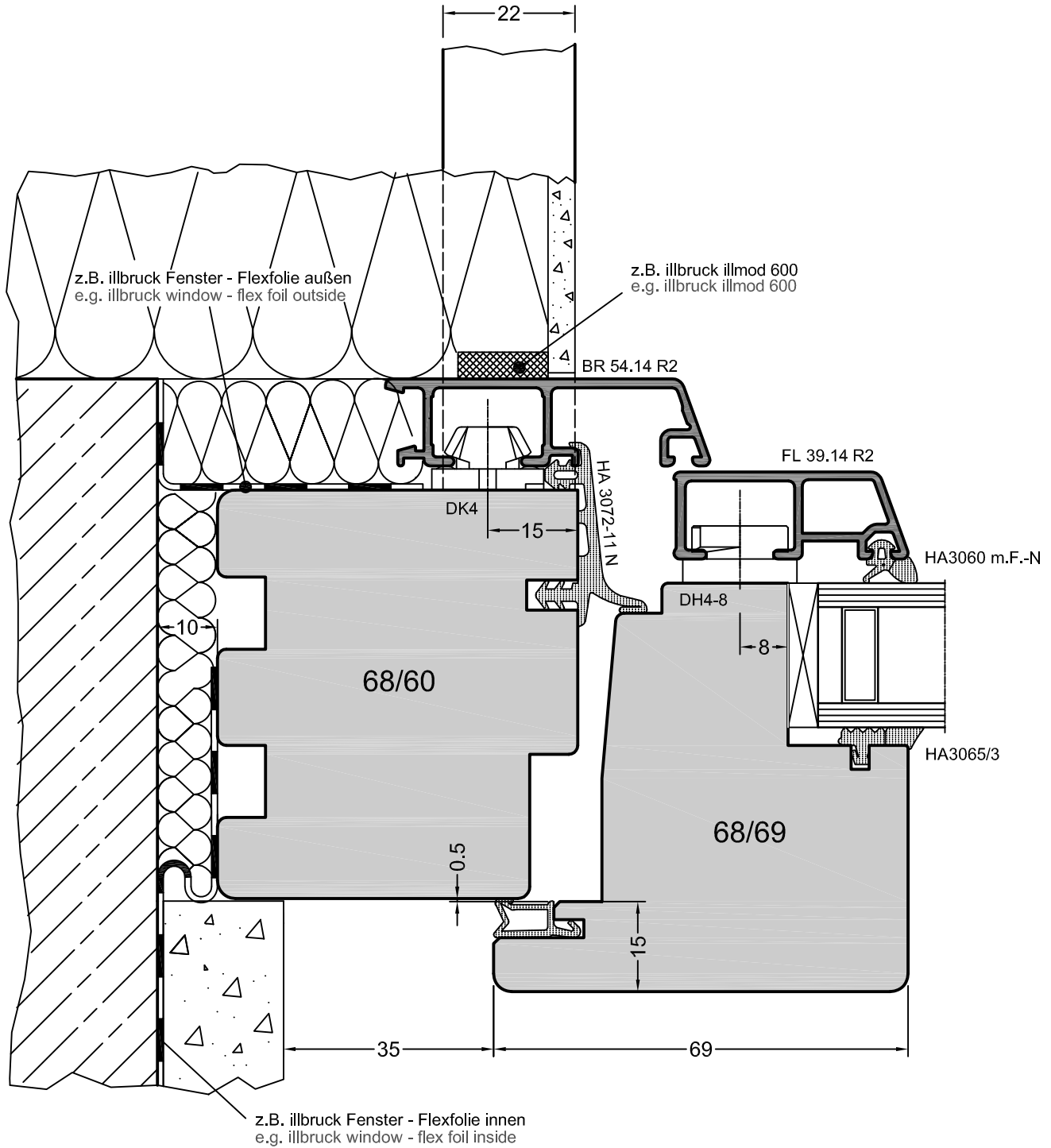
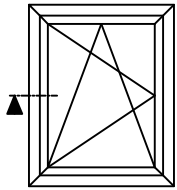
für außenliegende Revisionsdeckel (Zweiteiliges Rolladensystem)
for inspection caps in exterior position (two-piece rolling shutter system)



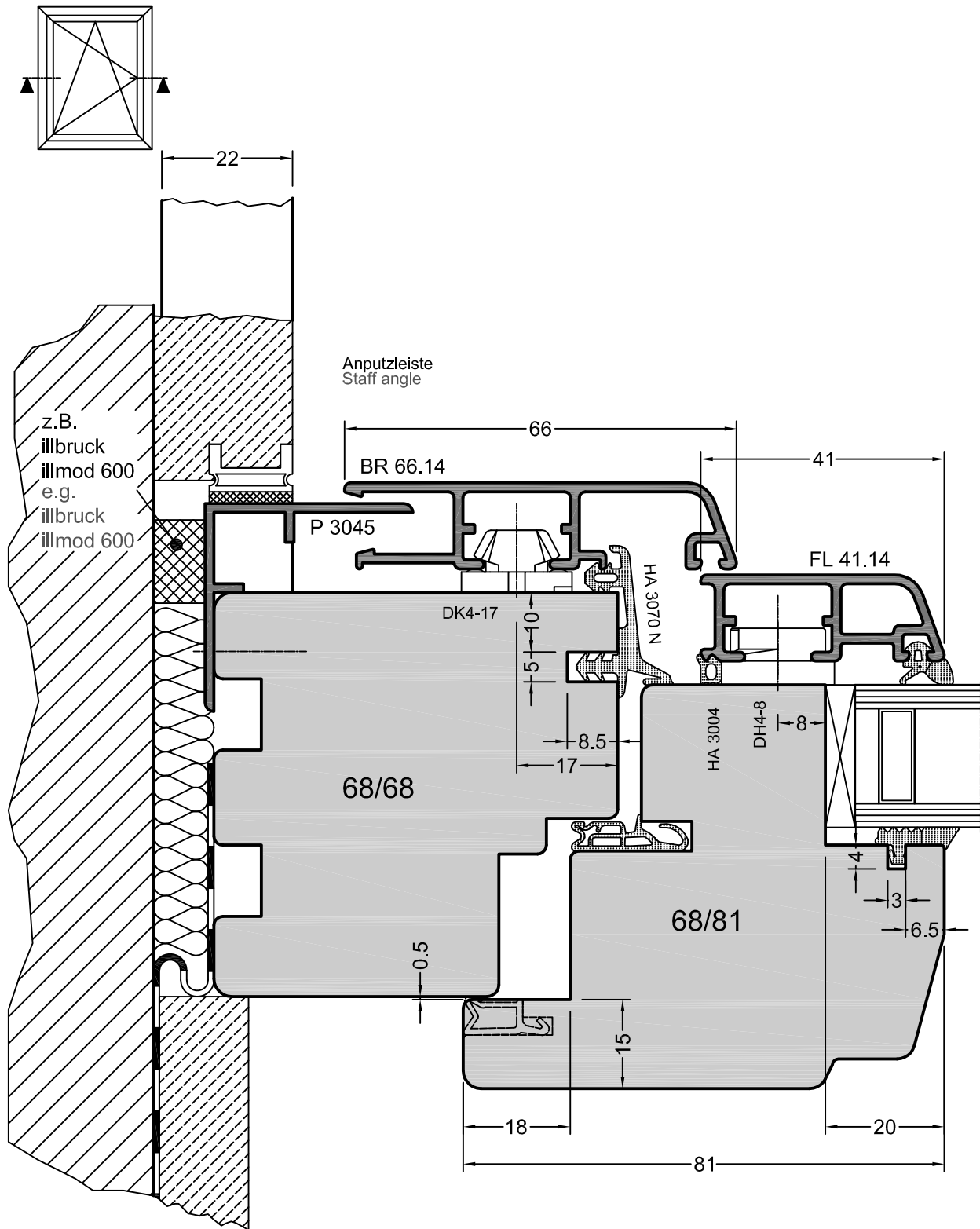
MIRA 5

für außenliegende Revisionsdeckel
for inspection caps in exterior position

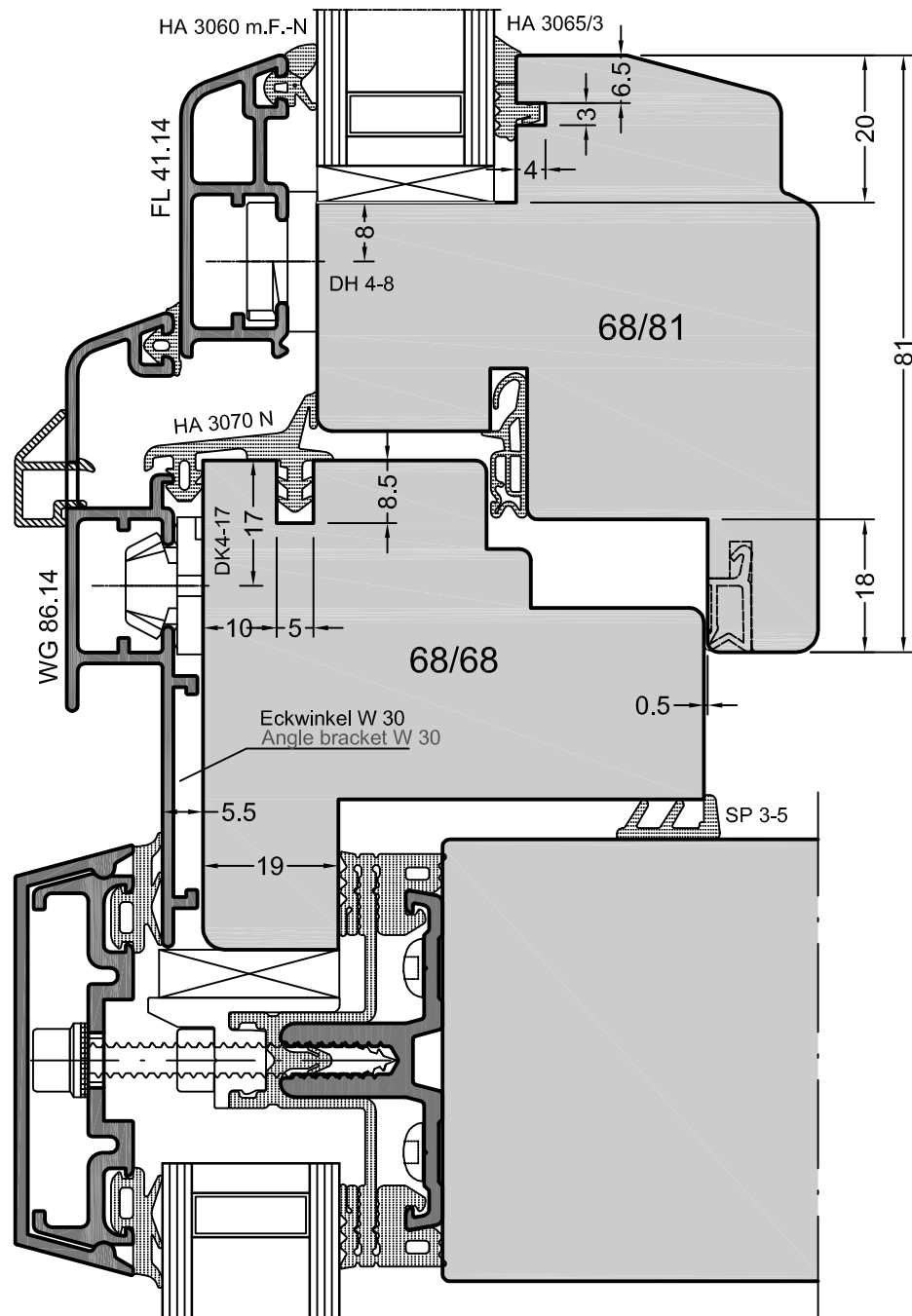
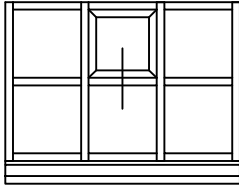




MIRA 5

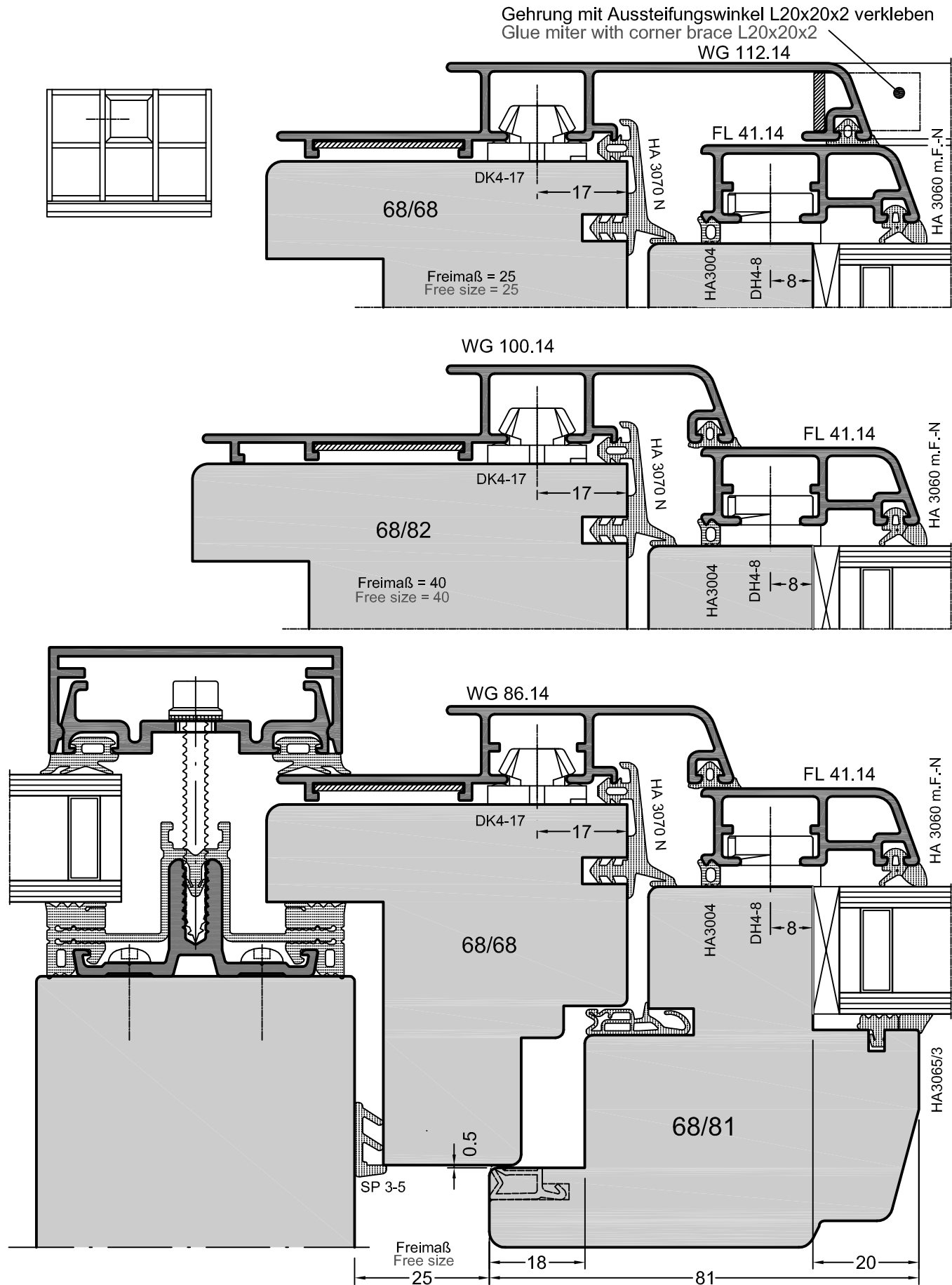


Pfosten-Riegel-System LARA GF
Mullion-transom system LARA GF

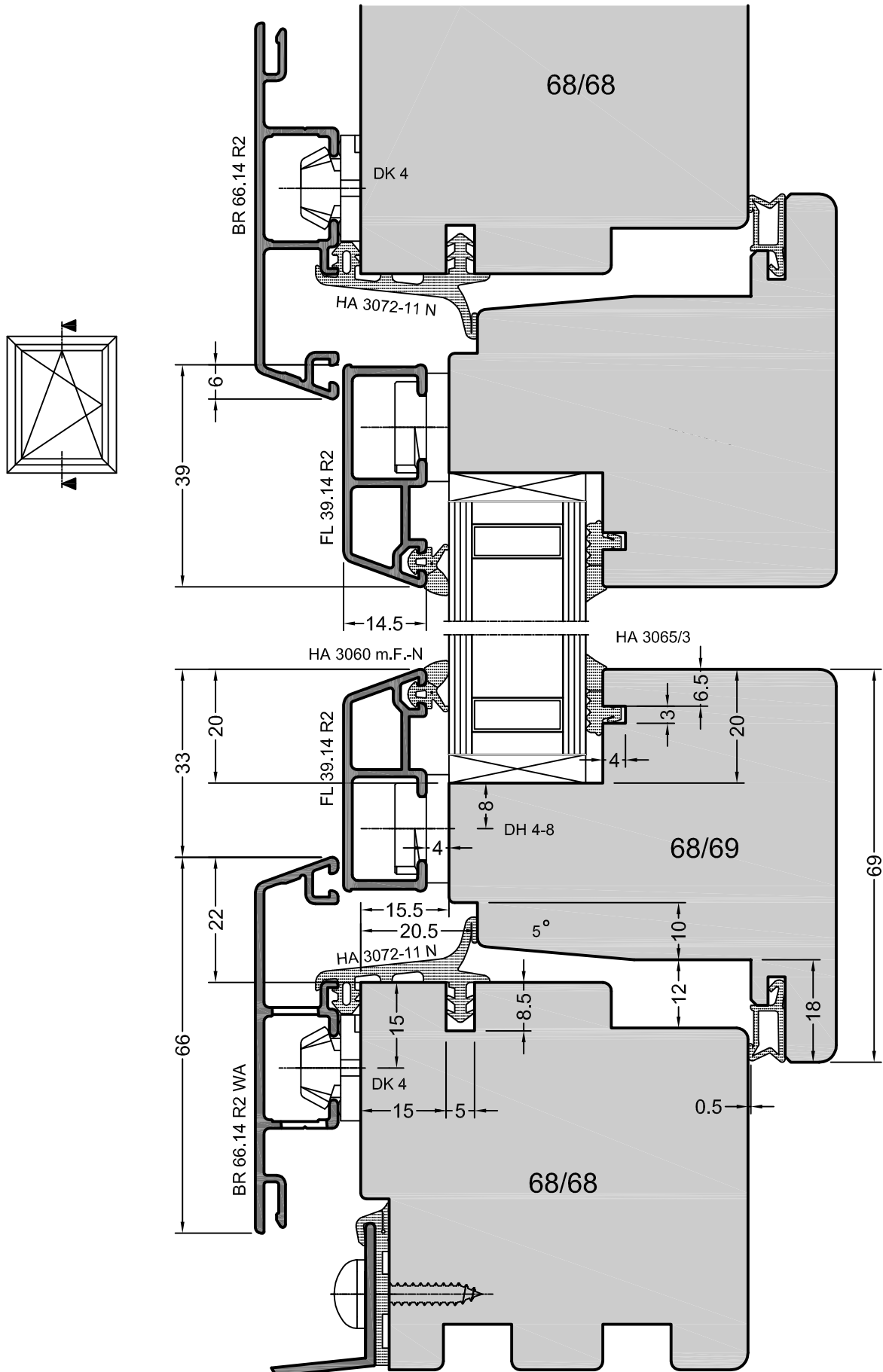


MIRA 5

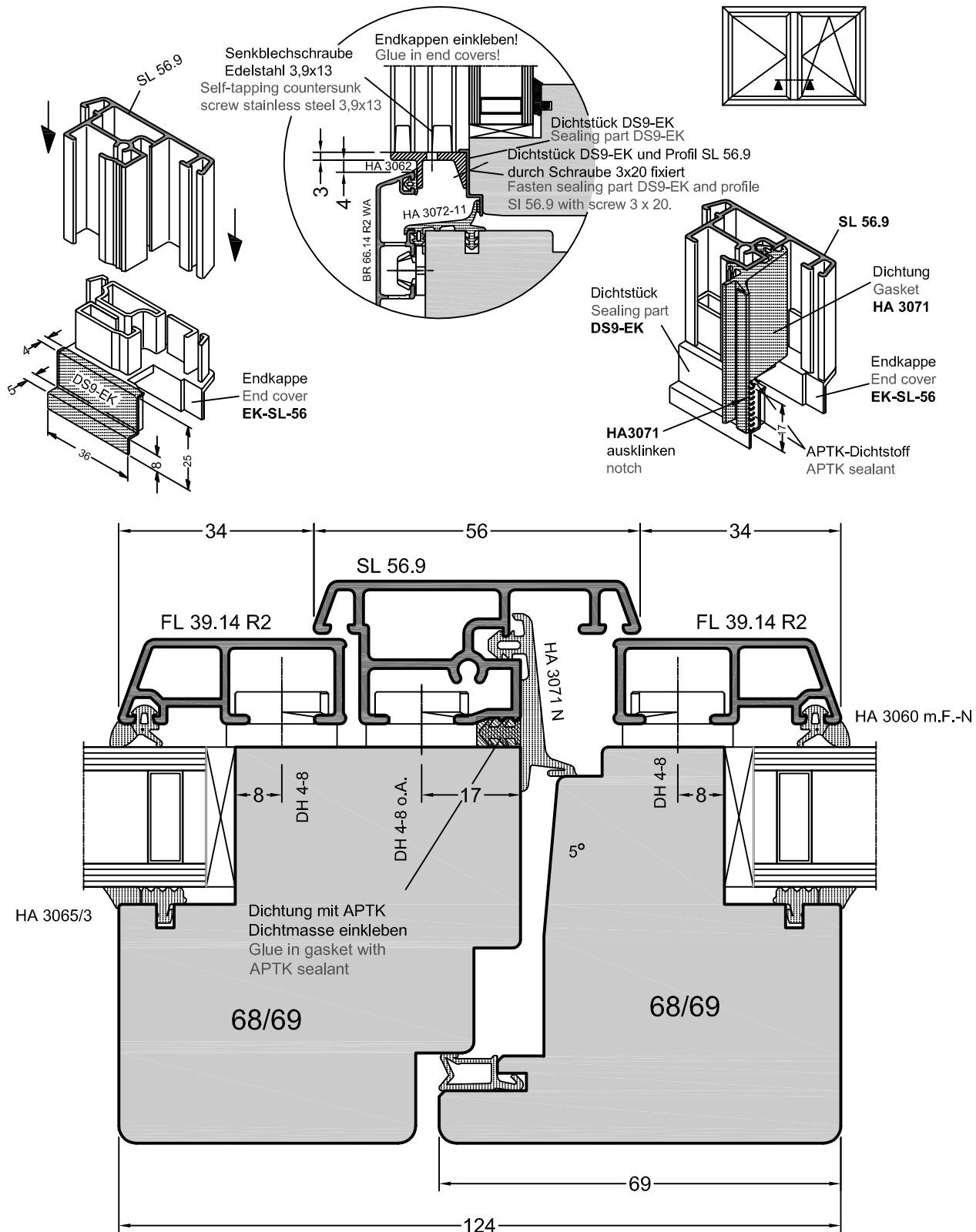
Wintergartenanschluss System LARA
Winter garden connection LARA system



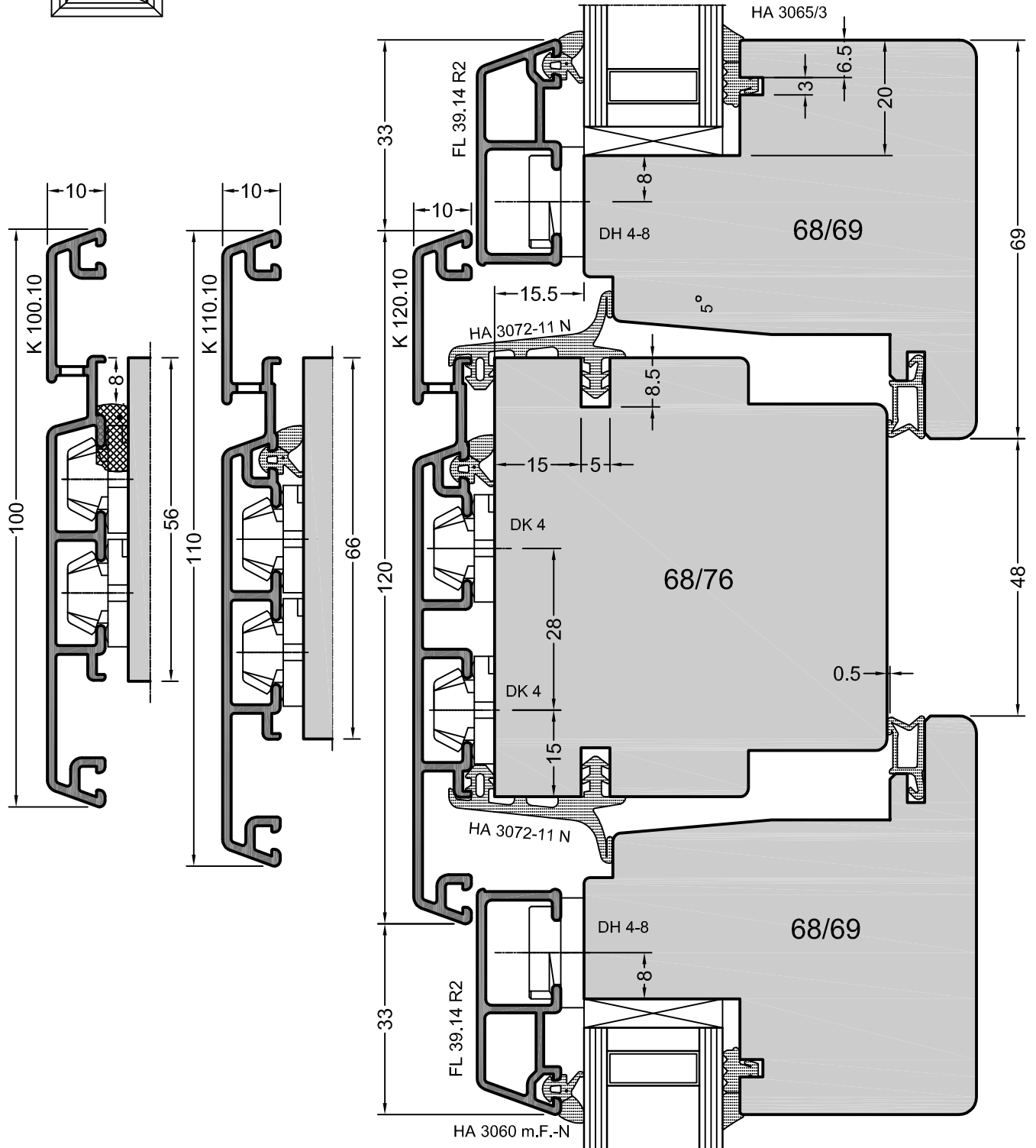
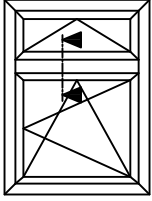
ohne Flügeldichtung, Flügelversatz 15 mm Holz Vertikalschnitt Holz-Alu-System MIRA
without sash gasket, sash offset 15 mm, wood vertical cross-section, MIRA wood-aluminum system



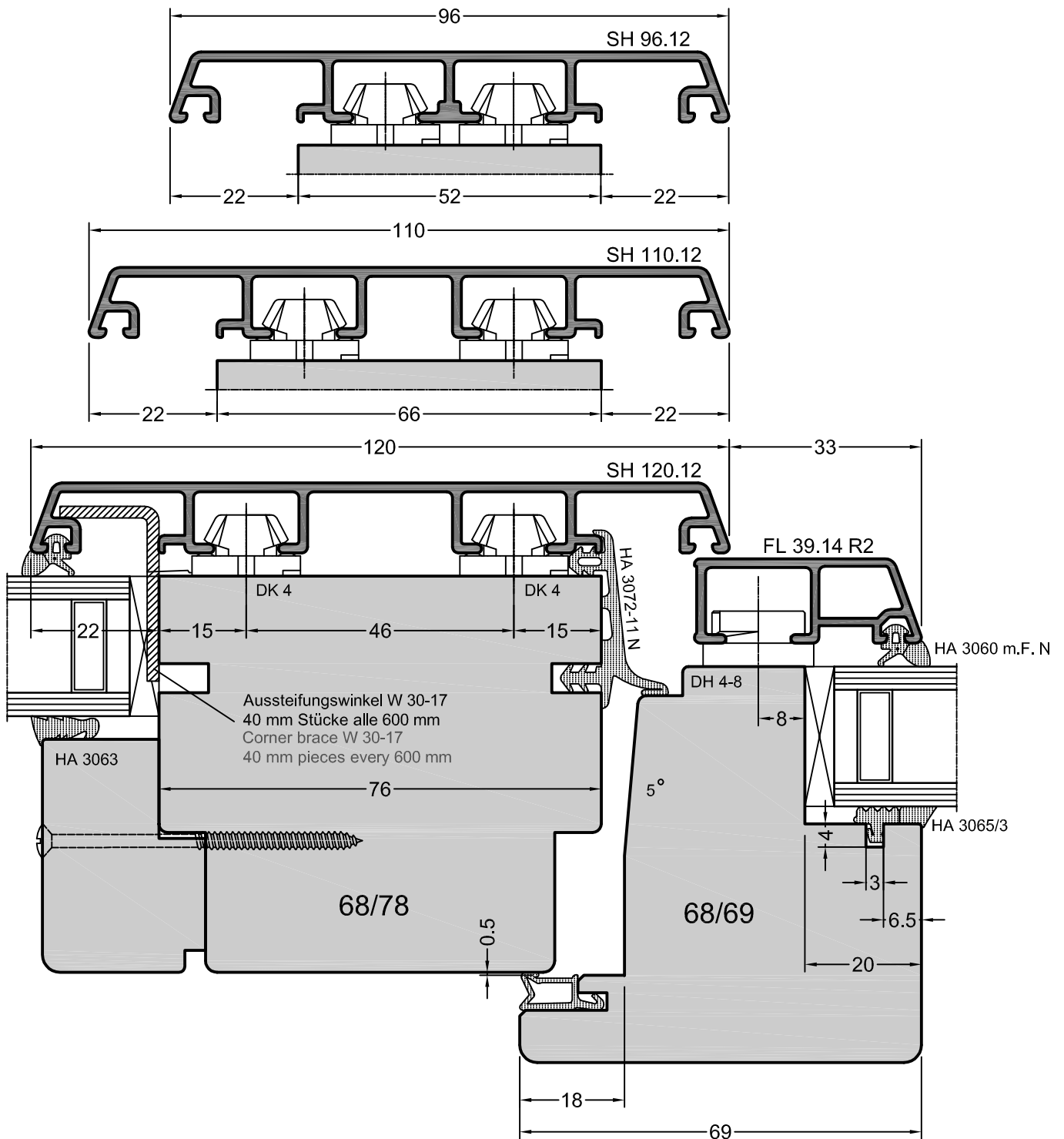
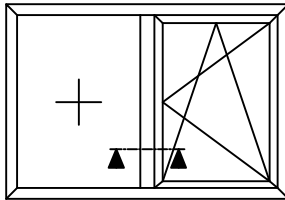
ohne Flügeldichtung mit Stulp, Flügelversatz 15 mm
without sash gasket with double rebate, sash offset 15 mm



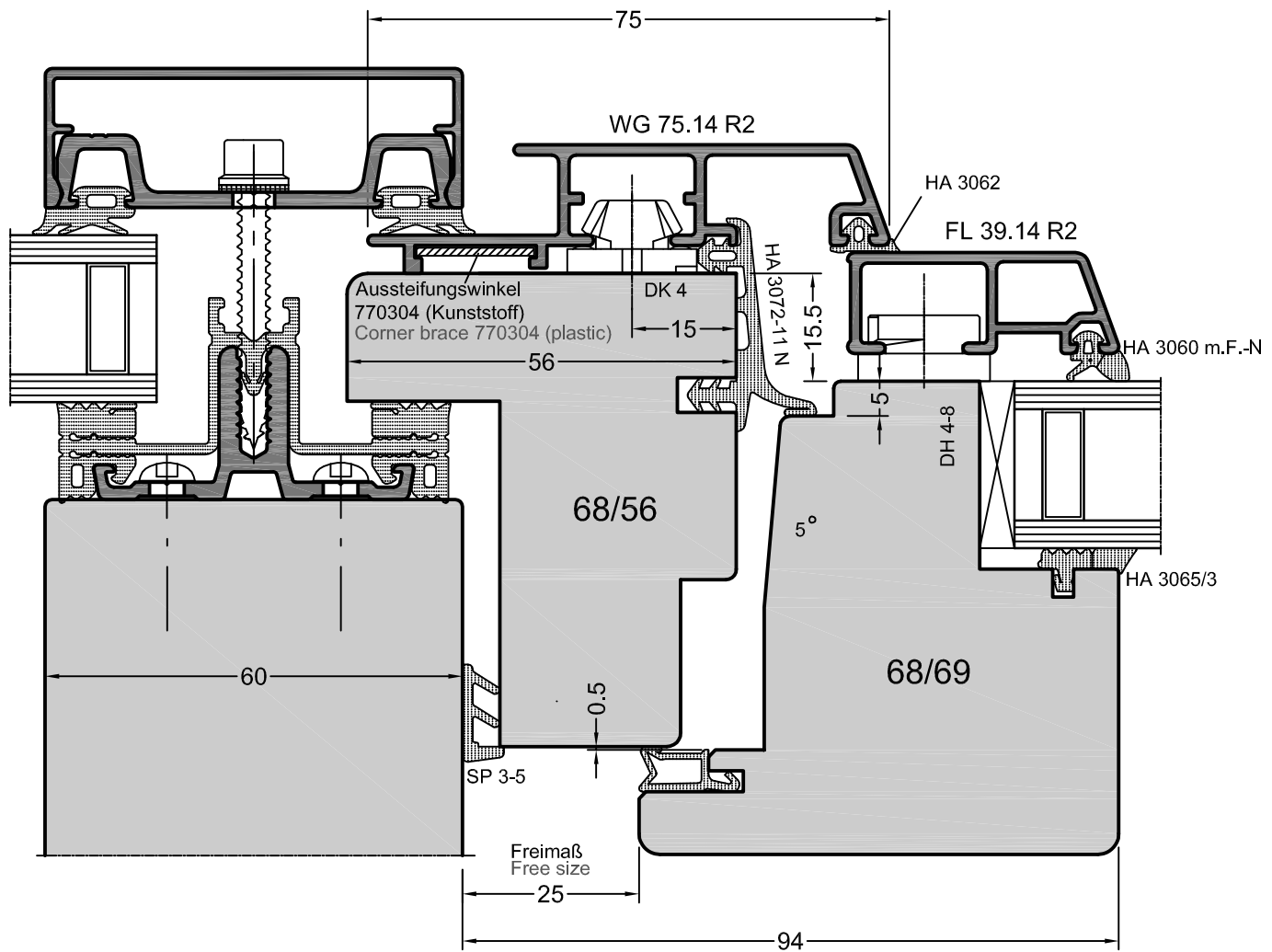
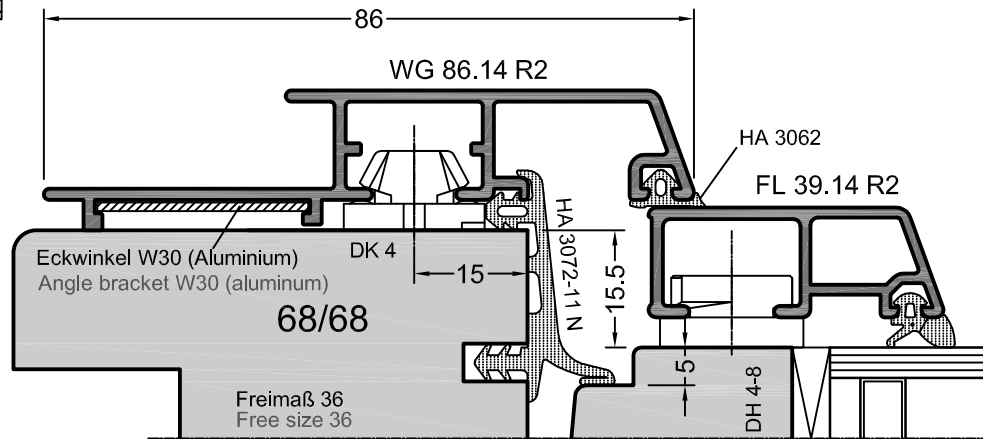
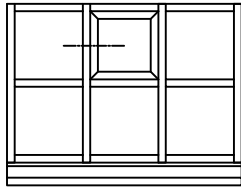
Flügelversatz 15 mm
Sash offset 15 mm



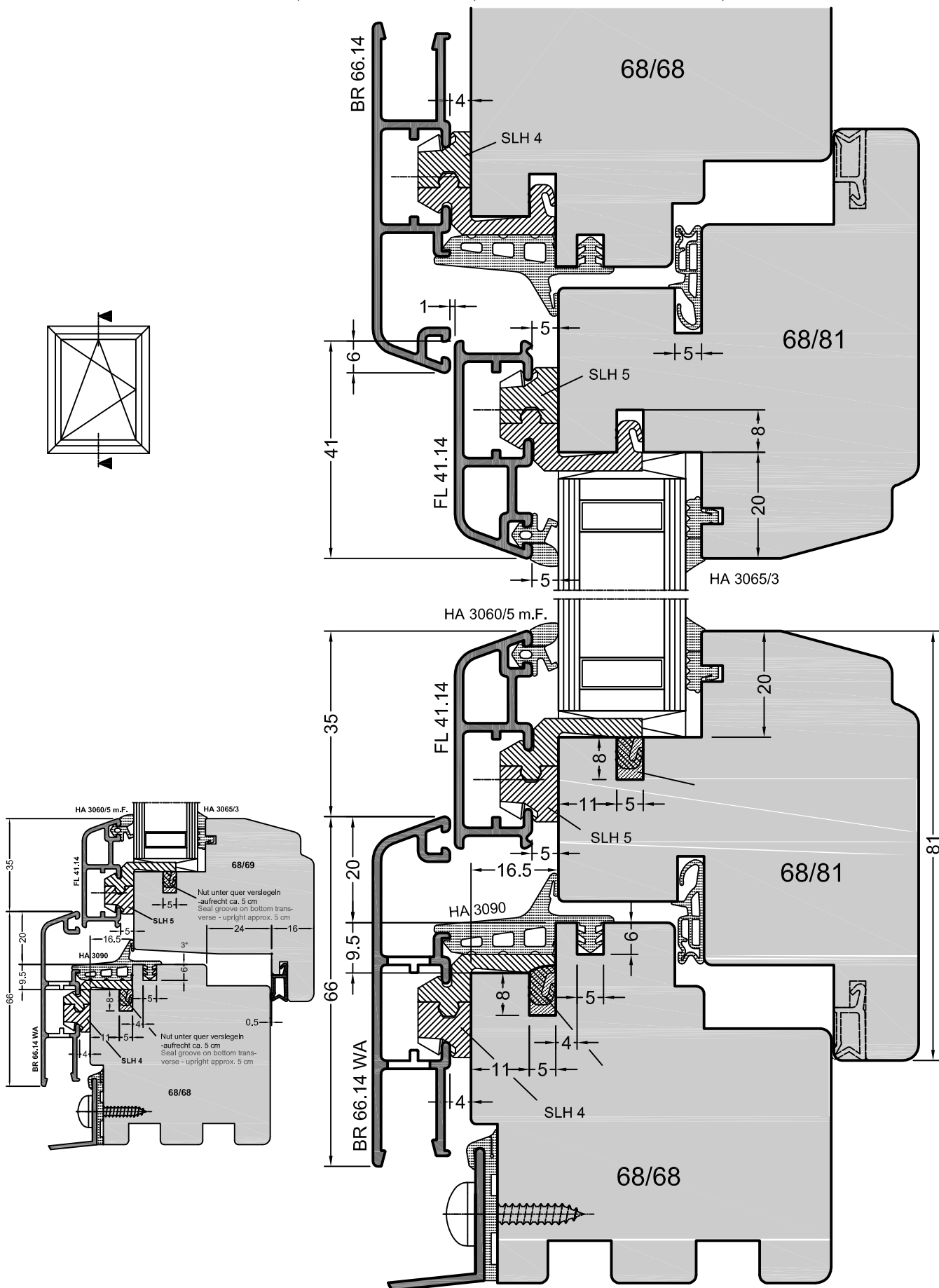
1 Teil festverglast
1 part fixed glazing



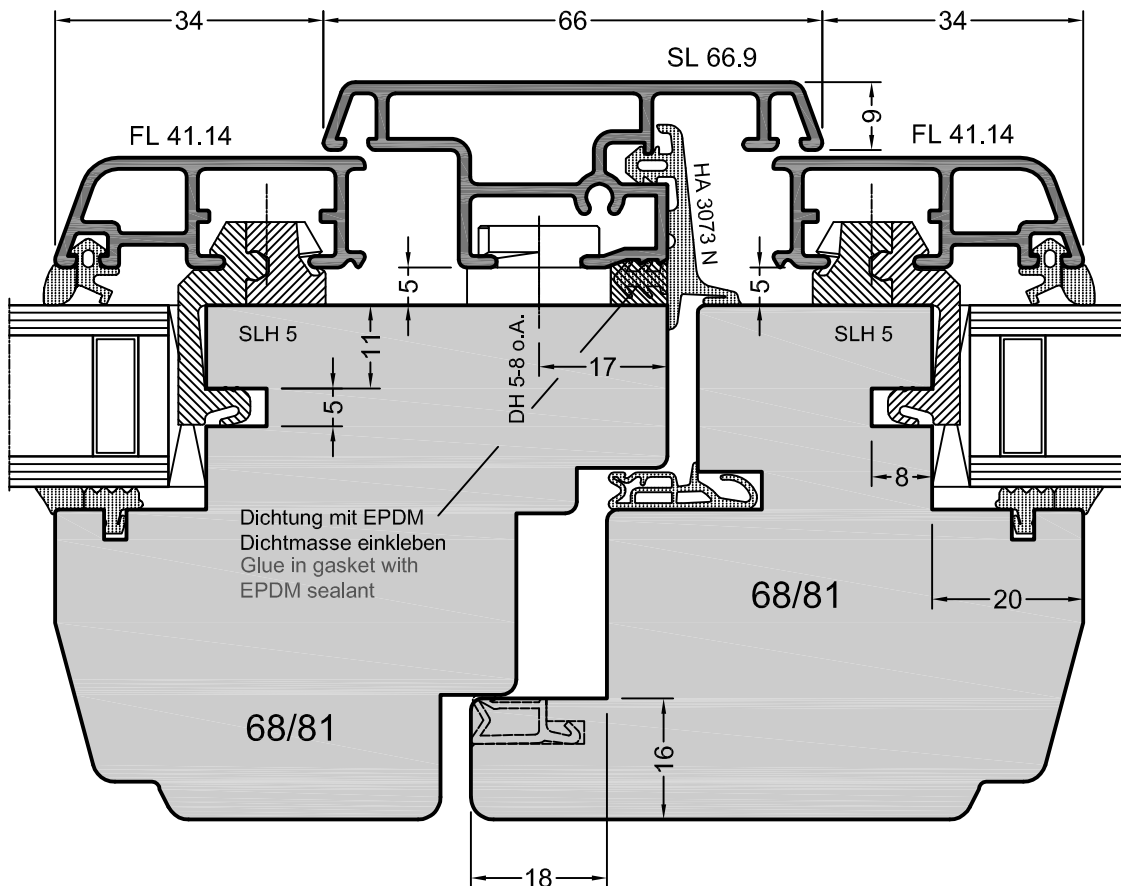
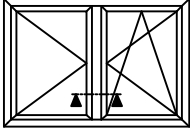
Wintergartenanschluss System LARA
Winter garden connection LARA system



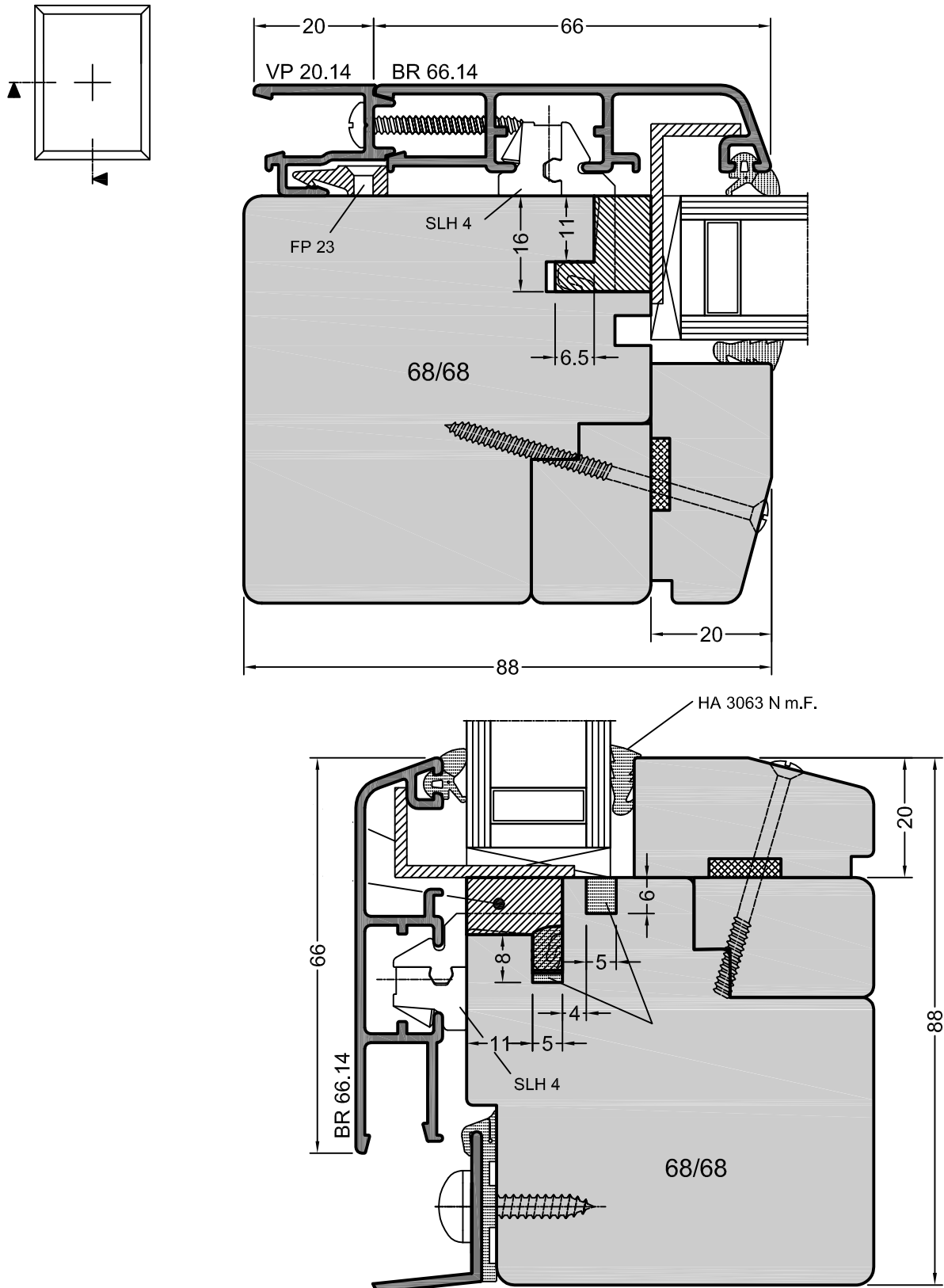
Schraubenloser Halter für Flügel- und Blendrahmen Flügelversatz 16 mm Holz Vertikalschnitt Holz-Alu-System MIRA
Screwless holder for sash and frame, sash offset 16 mm, wood vertical cross-section, MIRA wood aluminum system



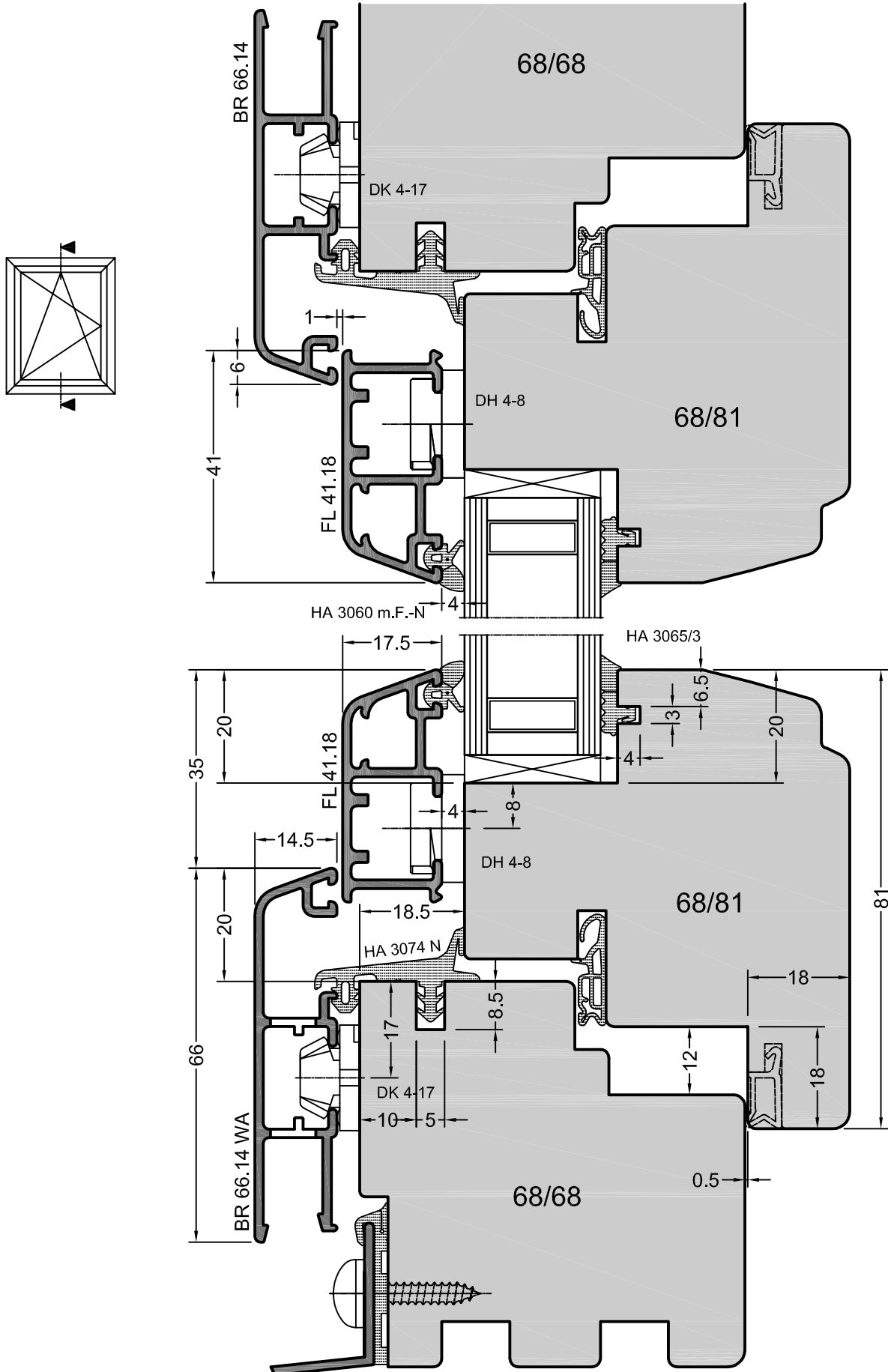
mit schraubenlosem Halter
 with screwless holders



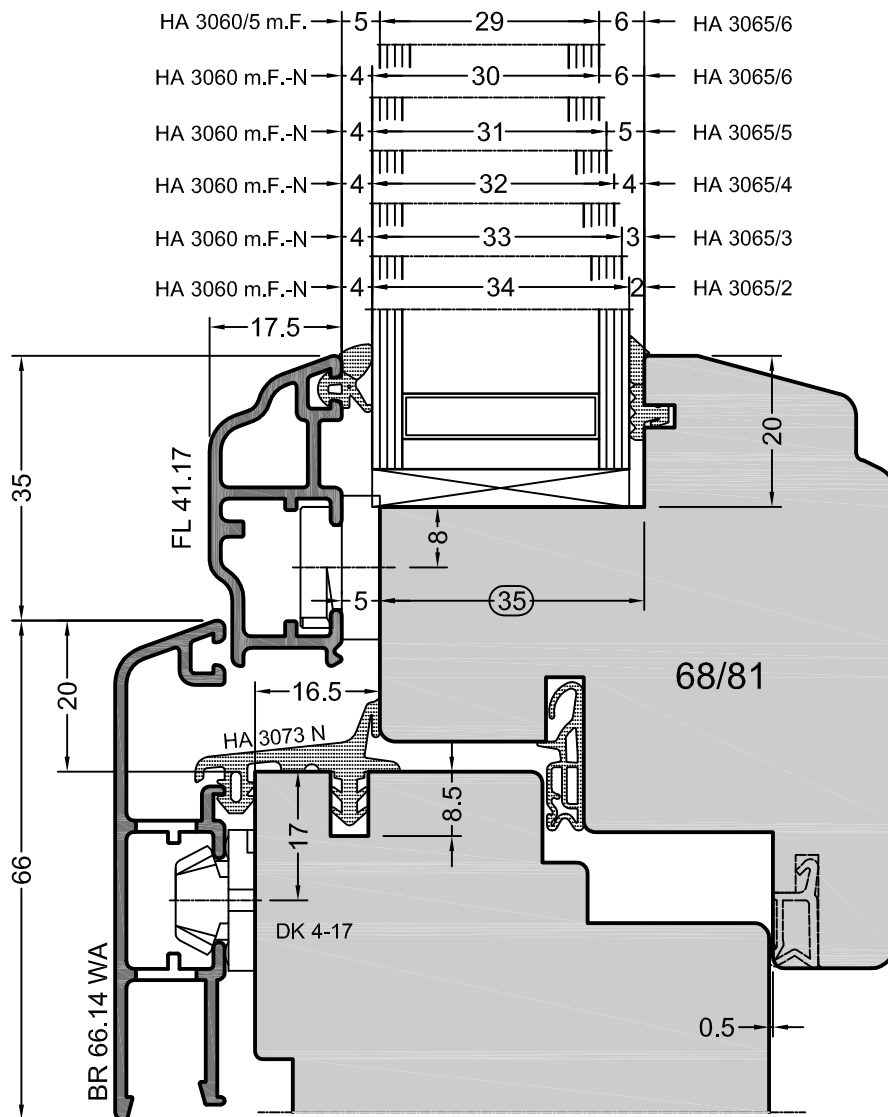
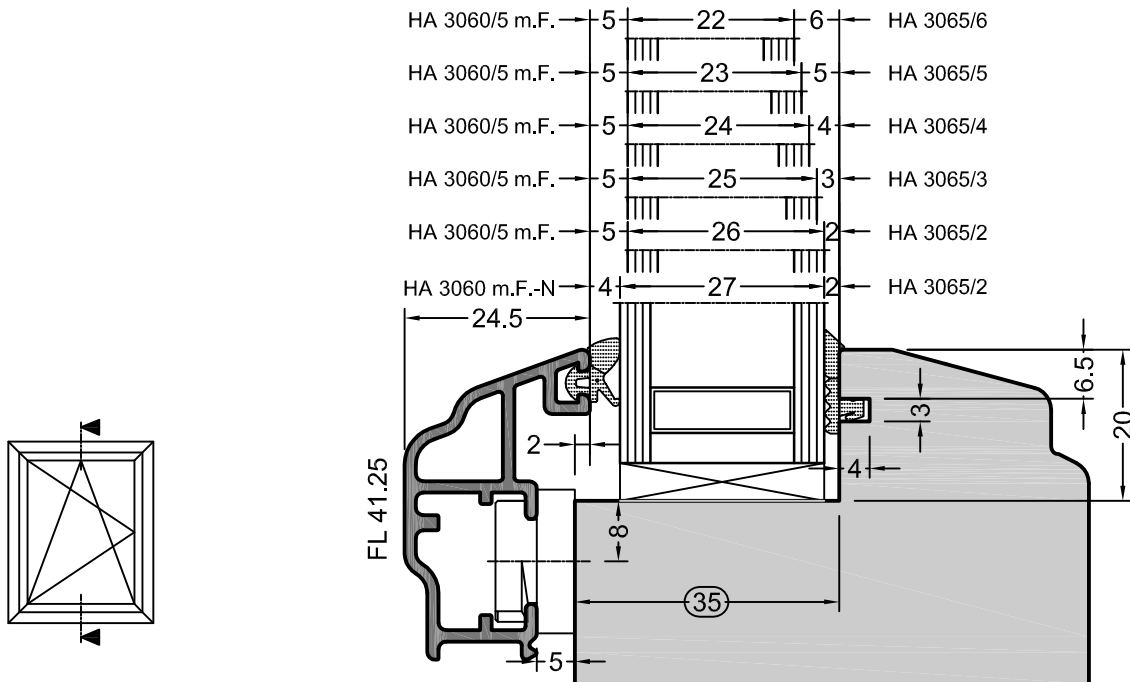
mit schraubenlosem Halter
with screwless holder



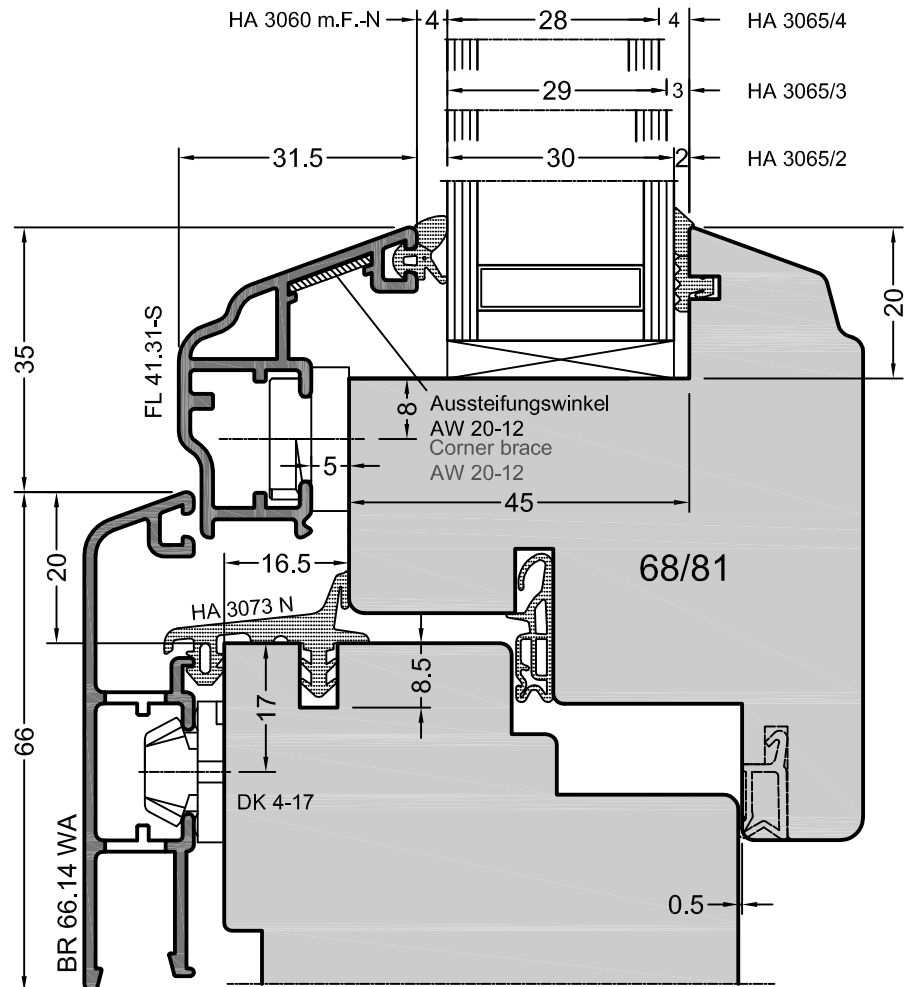
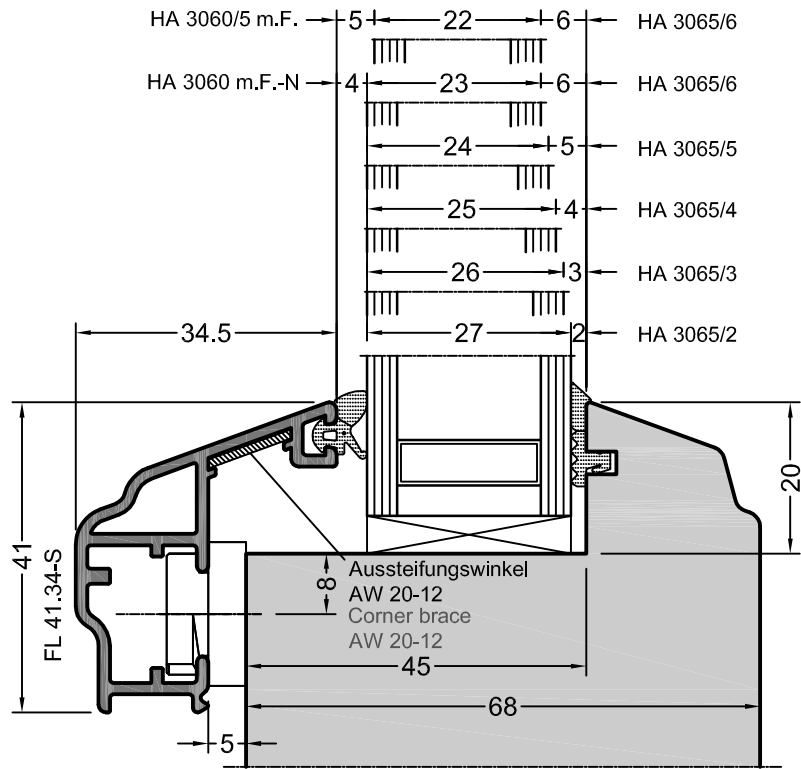
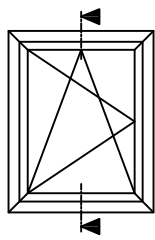
Flügelversatz 18 mm Holz Vertikalschnitt Holz-Alu-System MIRA
Sash offset 18 mm, wood vertical cross-section, MIRA wood-aluminum system



Flügelversatz 16 mm, Glasfalz 35 mm, Glasstärke 22mm - 34mm
Sash offset 16 mm, glass rebate 35 mm, glass thickness 22mm - 34mm

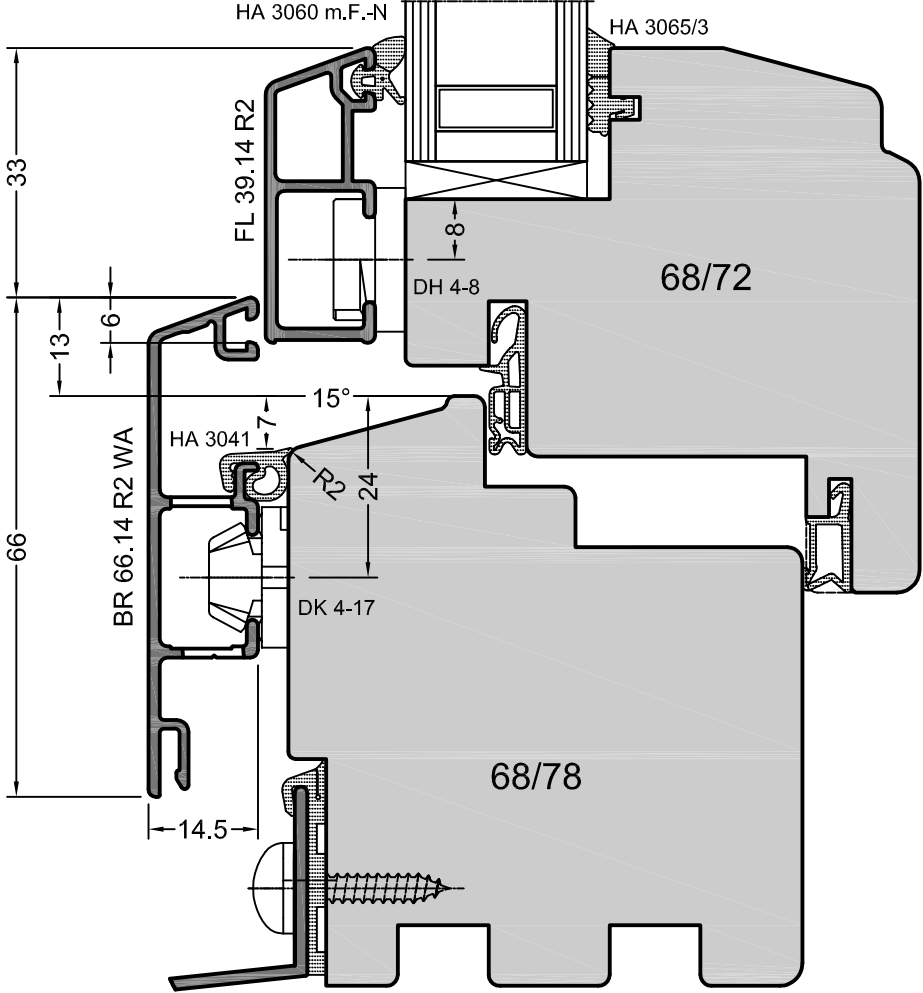
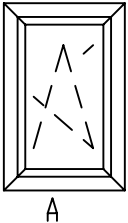


Flügelversatz 16 mm, Glasfalz 45 mm, Glasstärke 22mm - 30mm
Sash offset 16 mm, glass rebate 45 mm, glass thickness 22mm - 30mm

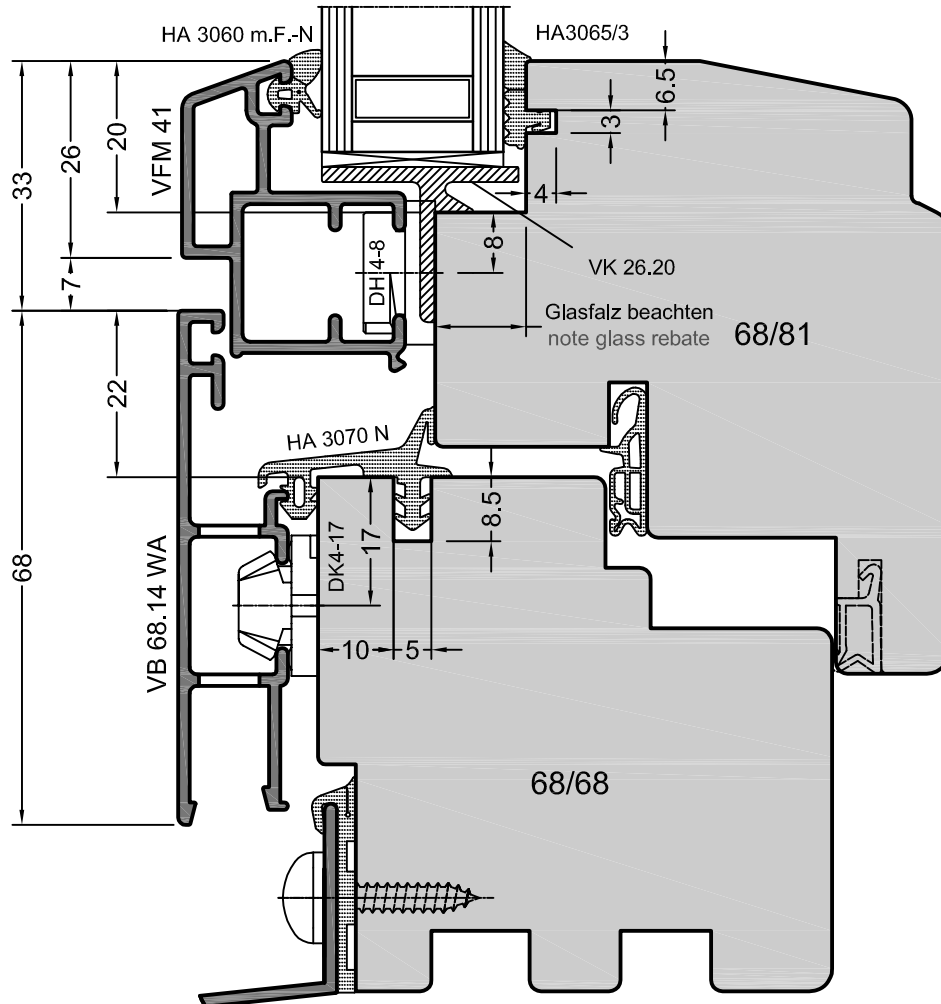
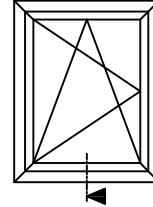


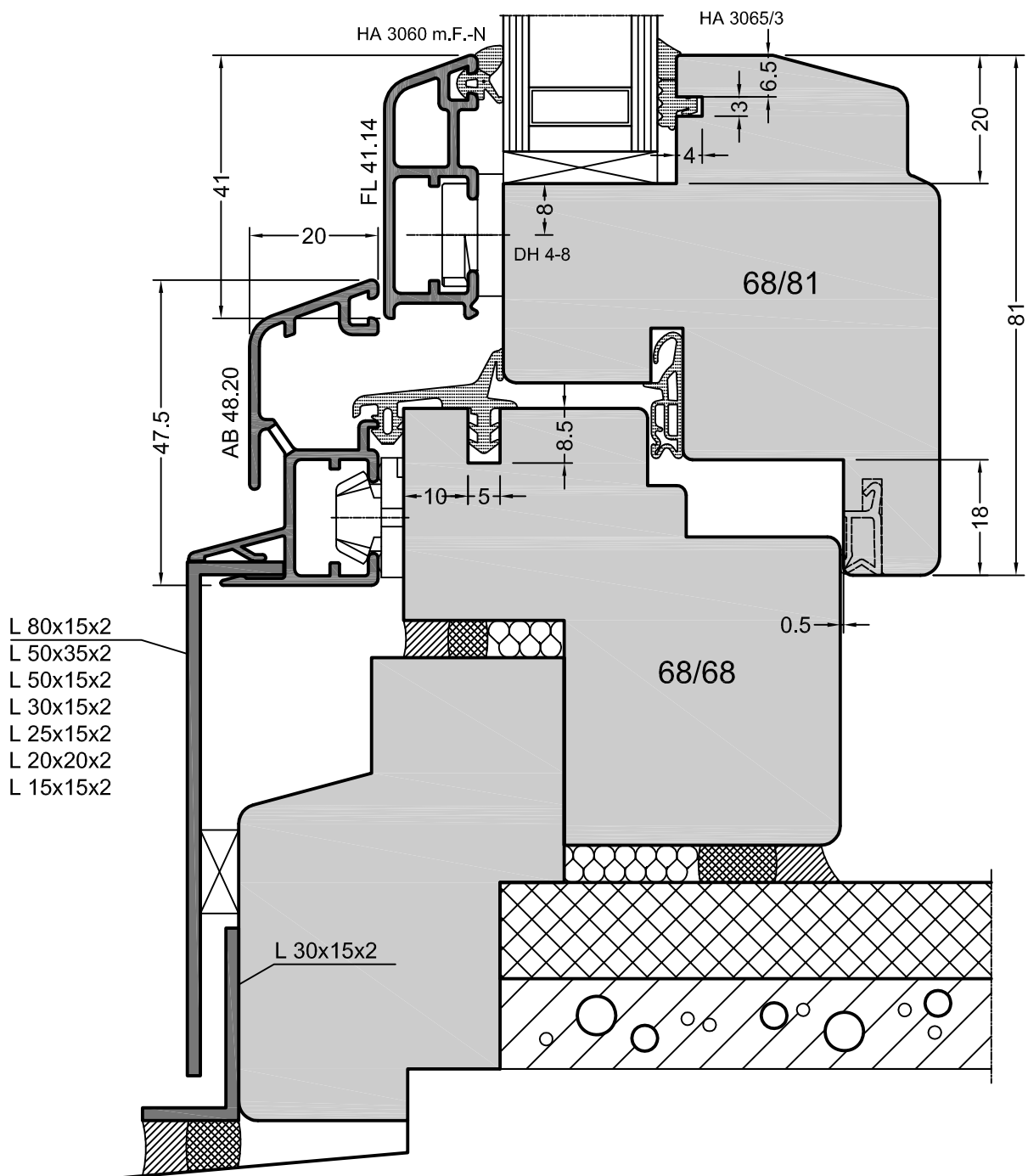
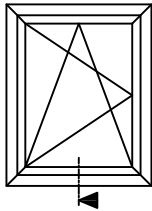


Dichtung HA 3041
Gasket HA 3041

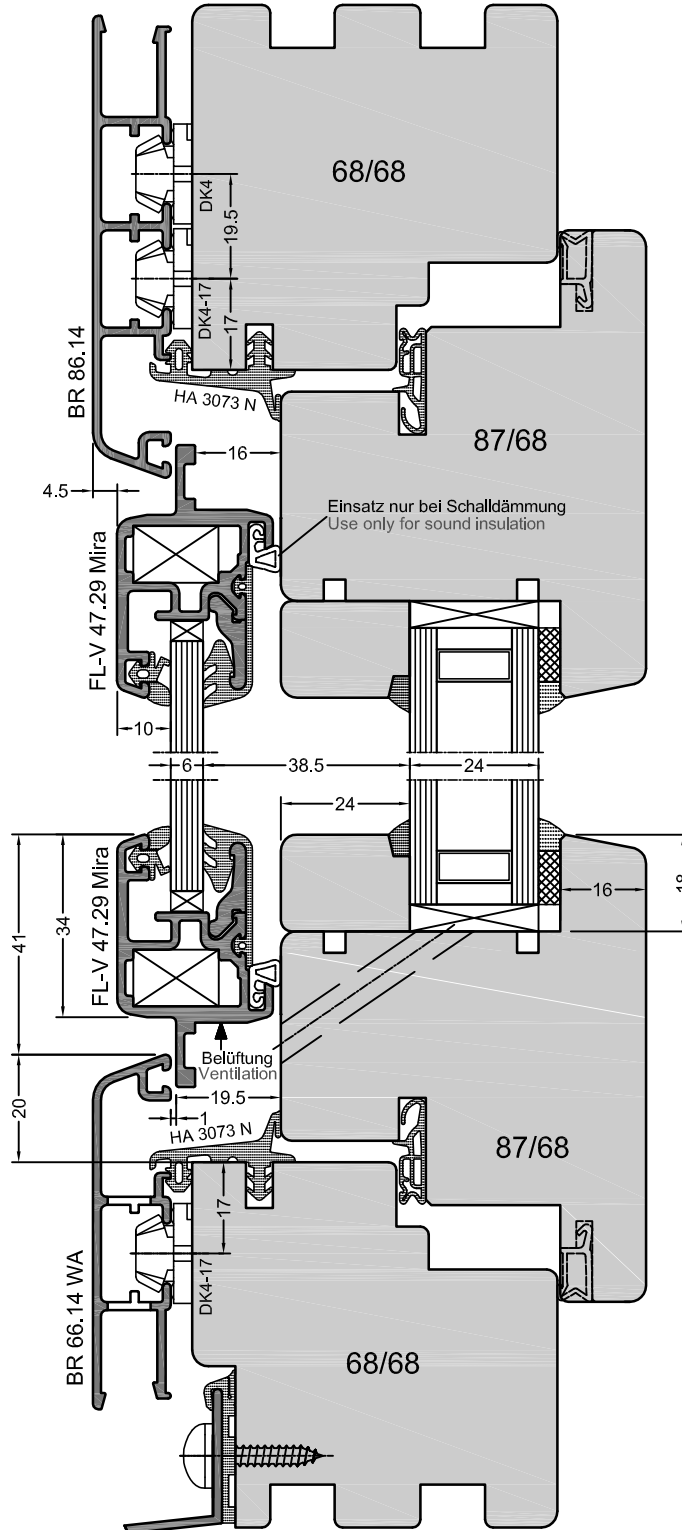
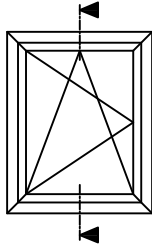


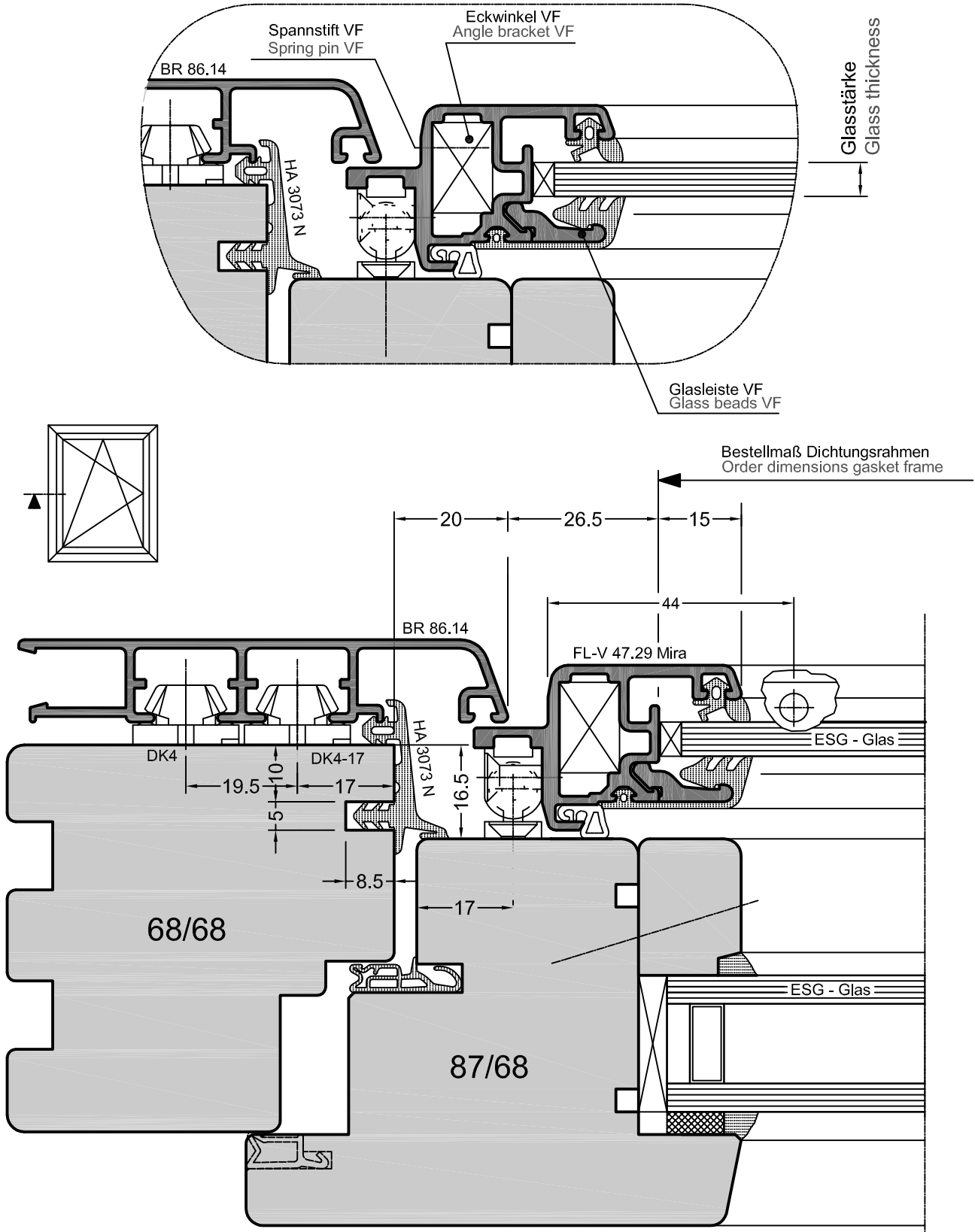
Flügelversatz 15 mm Holzquerschnitt System MIRA mit BRAGA Systemprofilen
Sash offset 15 mm wood cross-section MIRA system with BRAGA system profiles



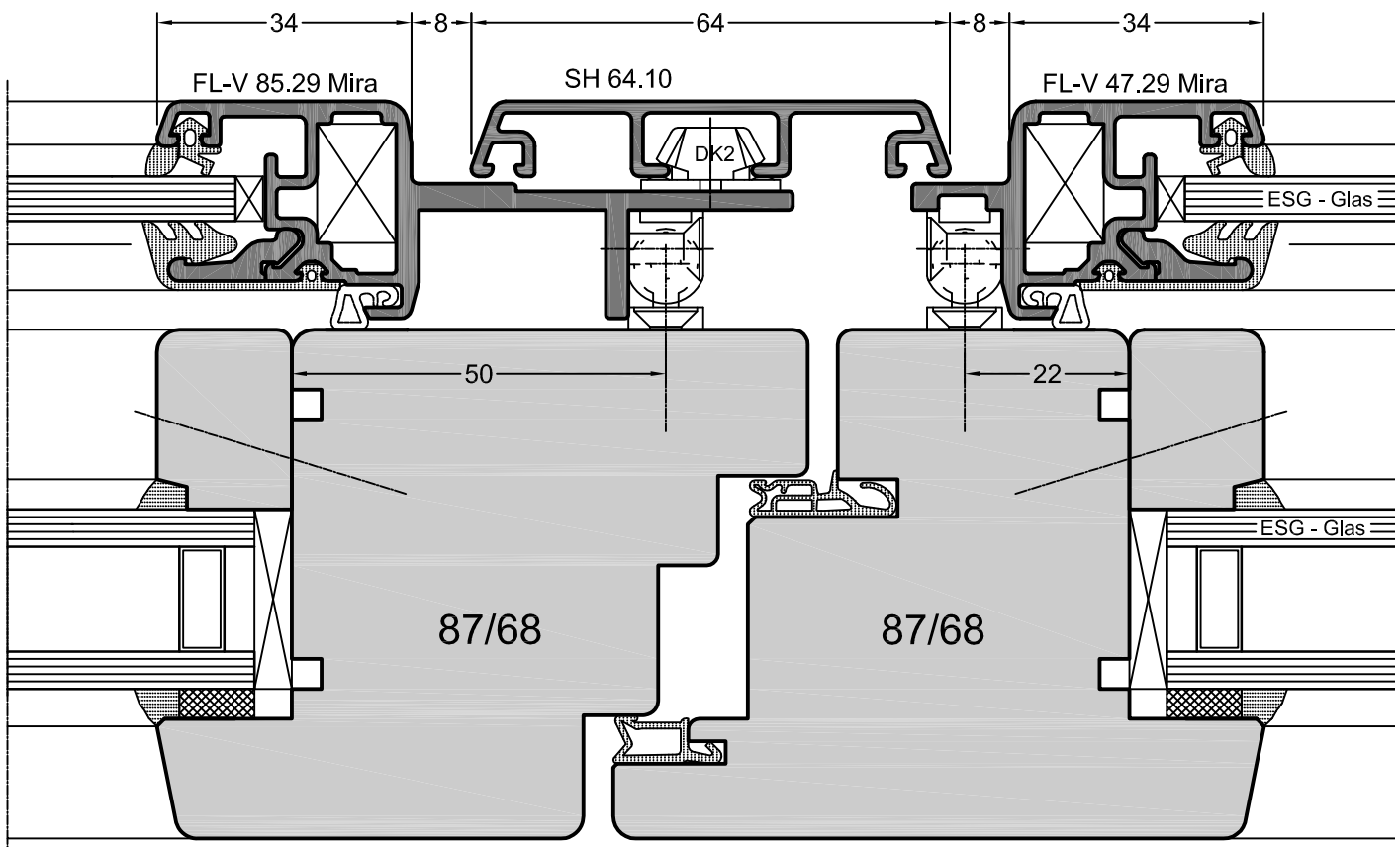
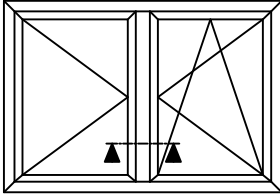


Flügelversatz 16 mm
Sash offset 16 mm

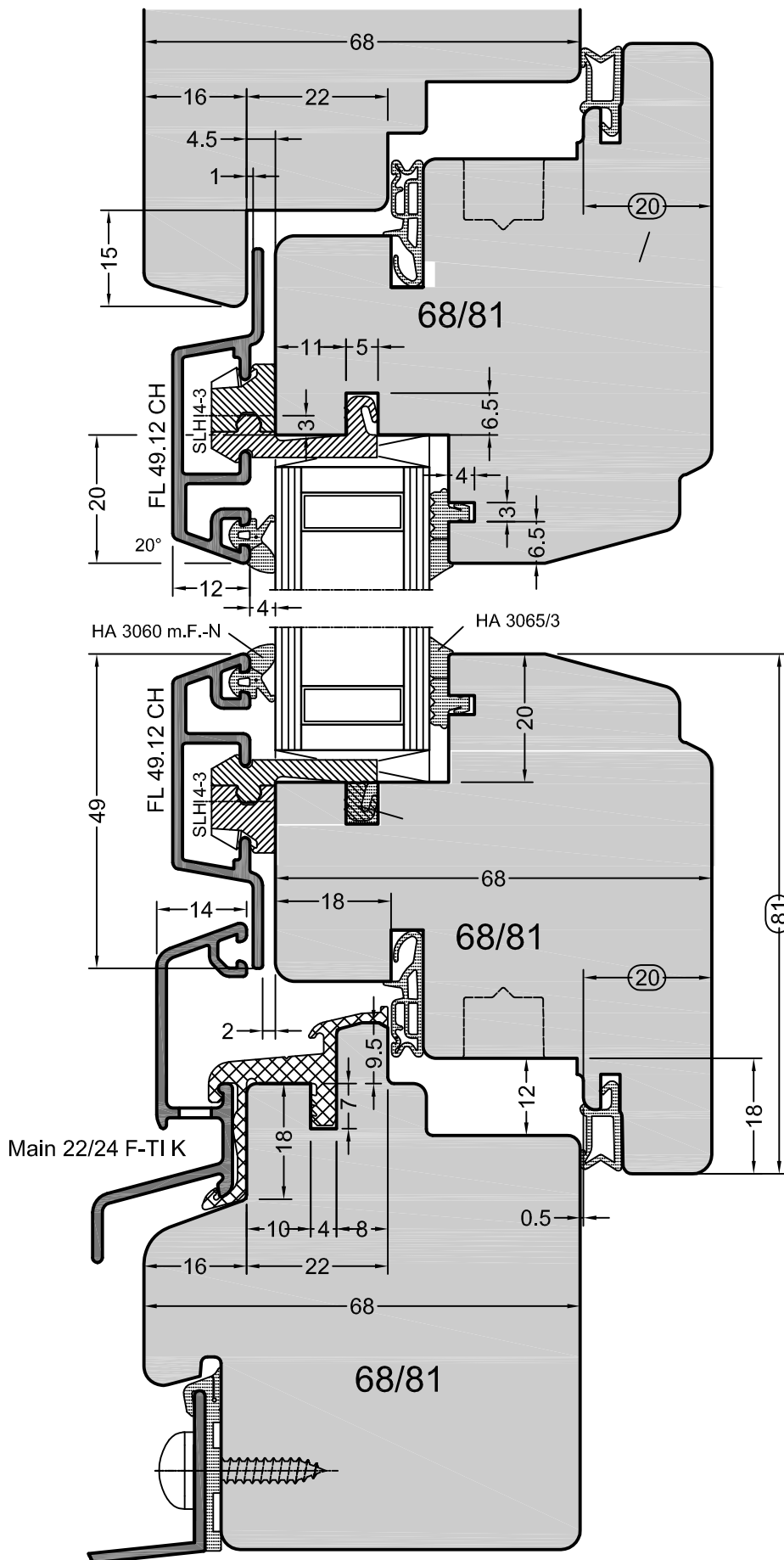
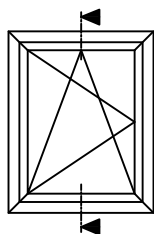




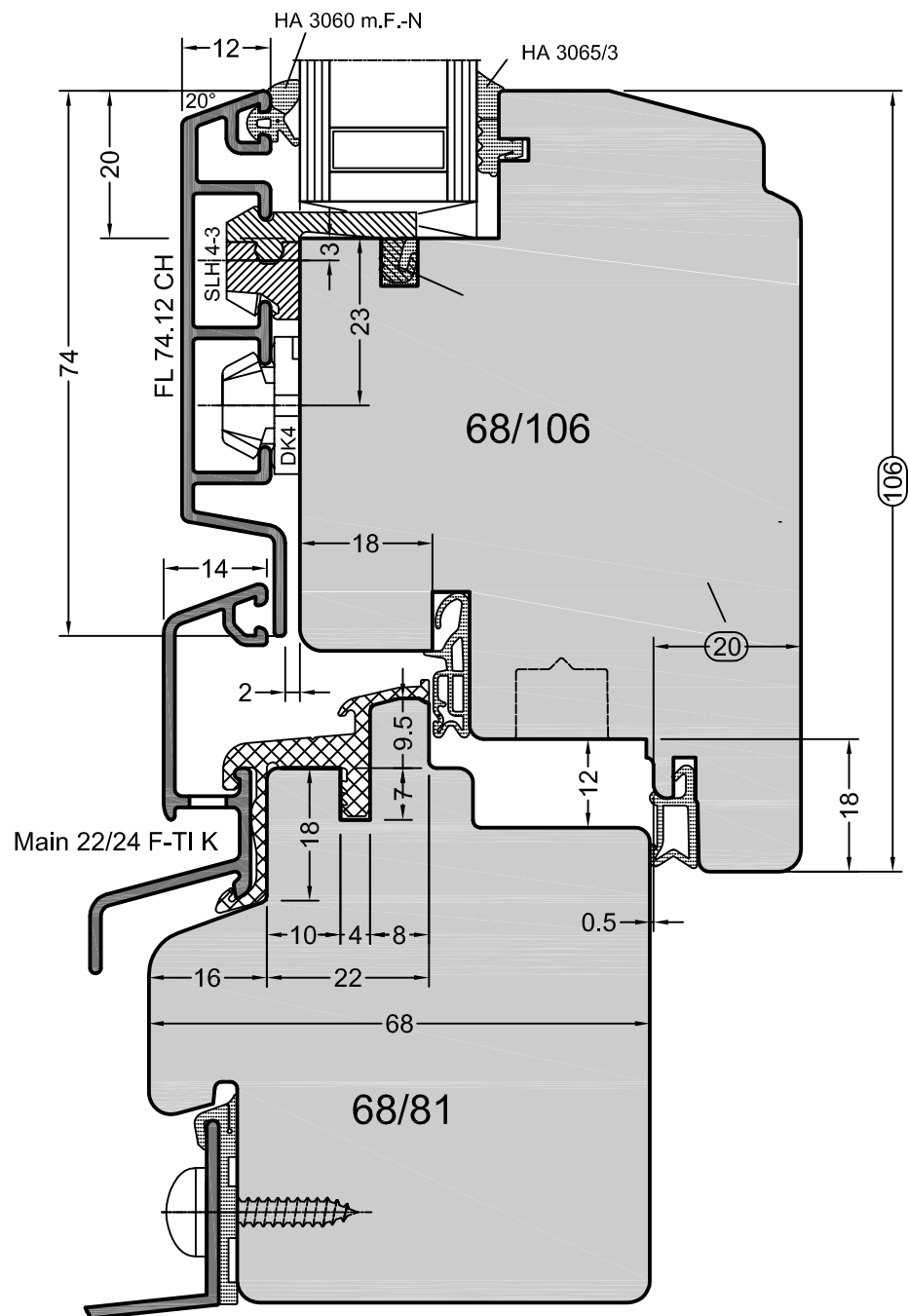
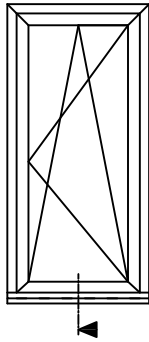
Zweiflügeliges Fenster mit Stulp
Two-Leaf window with double rabate



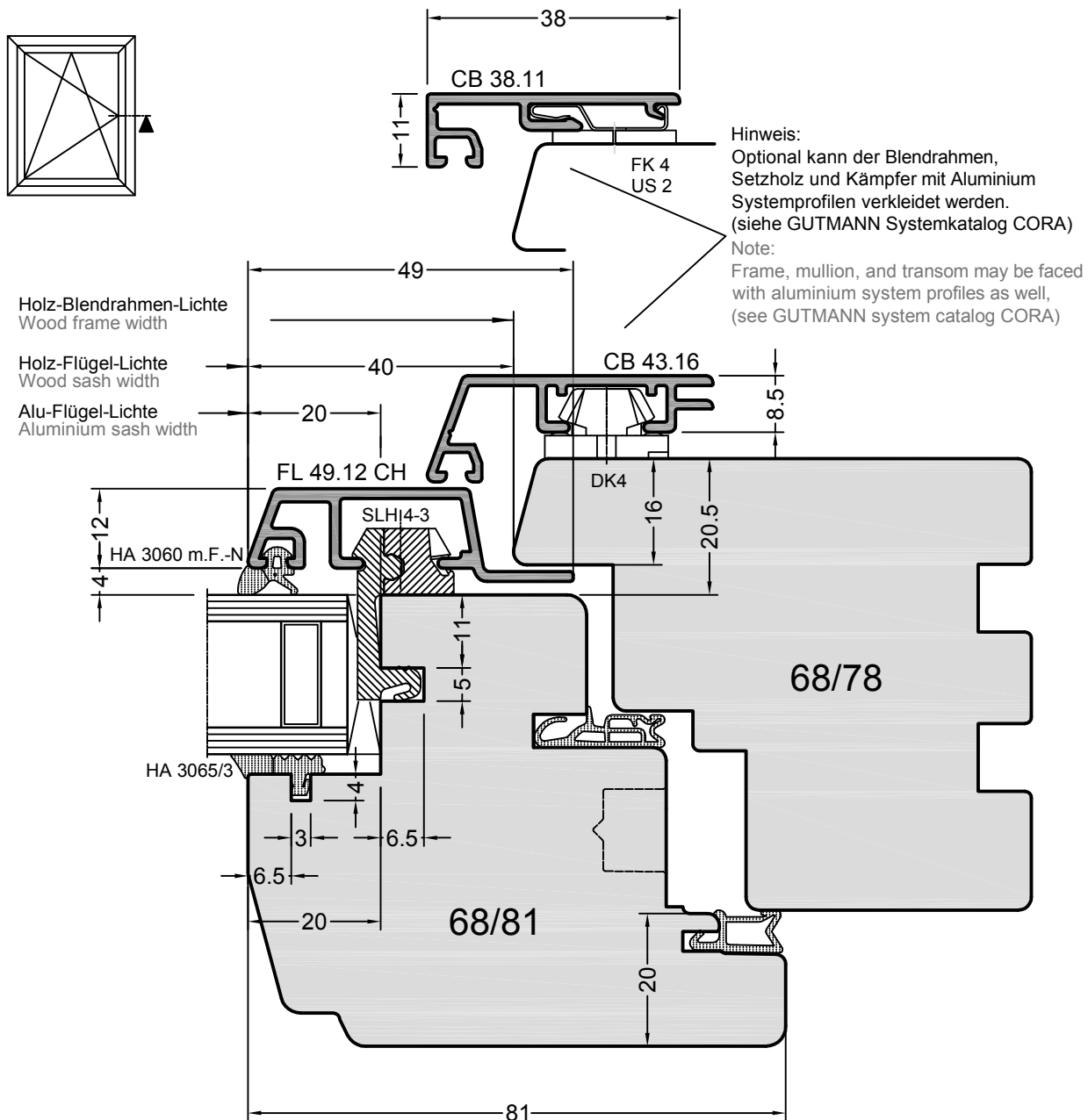
Holzfenster IV 68 mit angefräster Glasleiste und Alu-Flügel
Wood window IV 68 with milled glass bead and wood-aluminum sash



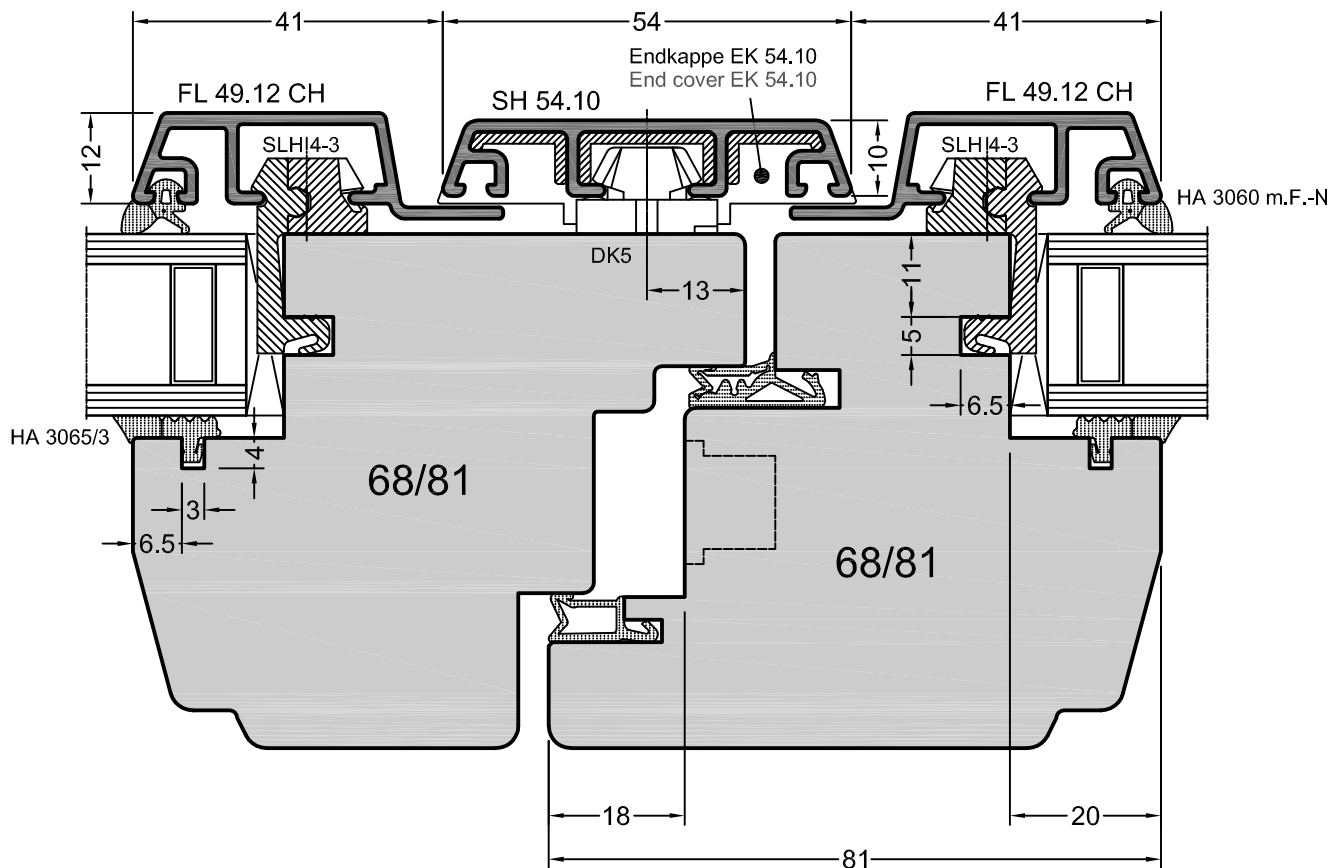
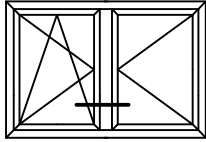
Drehkipptür IV 68 mit angefräster Glasleiste und Alu-Flügel
Tilt & Turn door IV 68 with milled glass bead and wood-aluminum sash



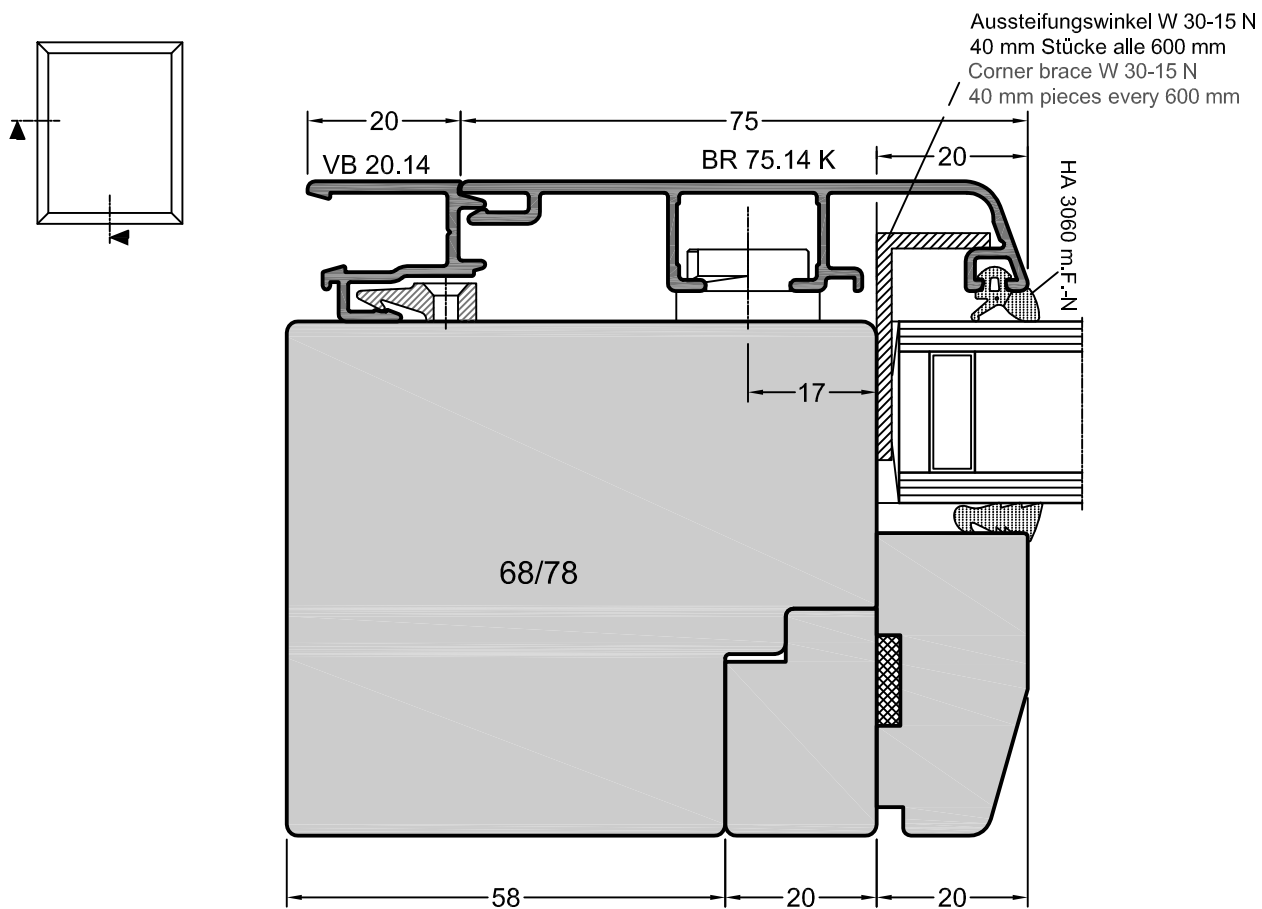
Holzfenster IV 68 mit angefräster Glasleiste und Holz-Alu-Flügel und Rahmenverkleidung
Wood window IV 68 with milled glass and wood-aluminium sash and frame face work



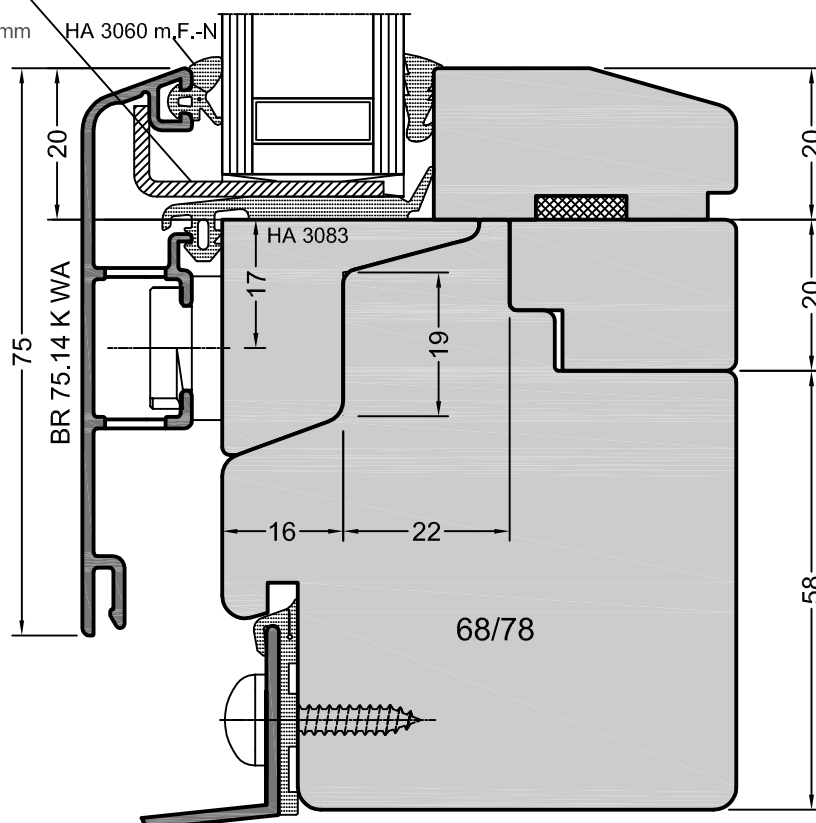
Holzfenster IV 68 mit angefräst Glasleiste und Holz-Alu-Flügel
Wood window IV 68 with milled glass bead and wood-aluminum sash



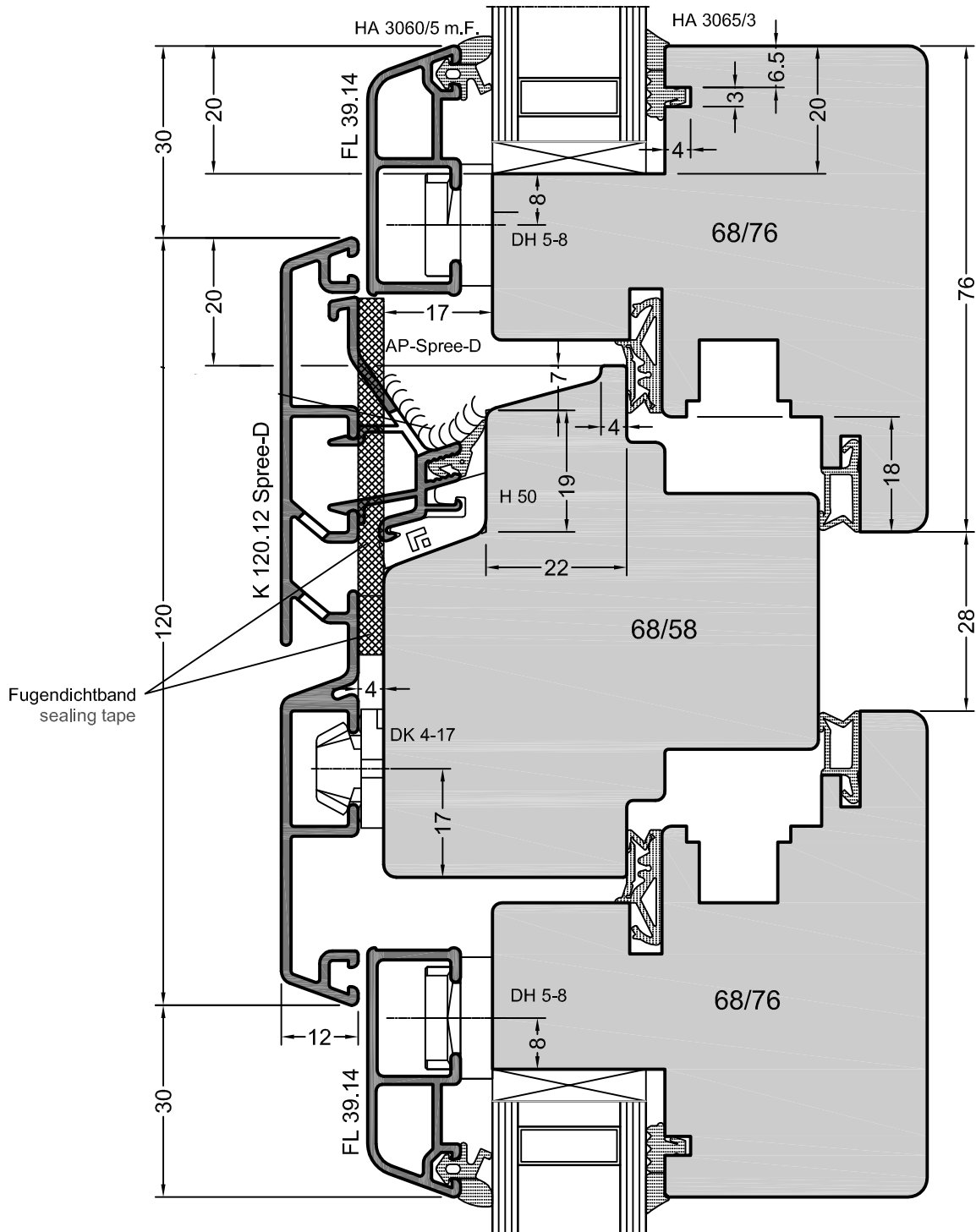
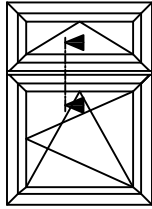
Mira Spree



Aussteifungswinkel W 33-12
40 mm Stücke alle 600 mm
Corner brace W 30-12 N
40 mm pieces every 600 mm

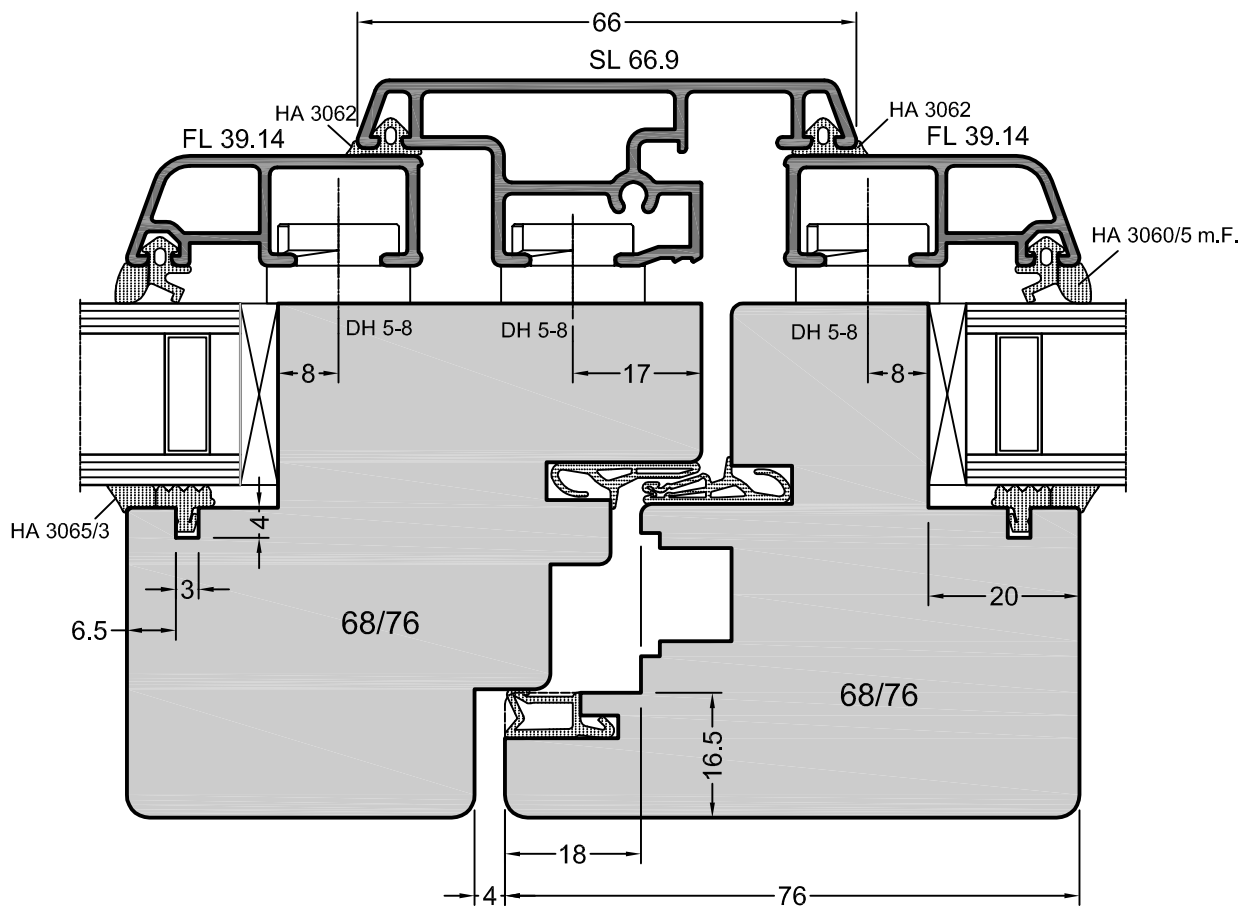
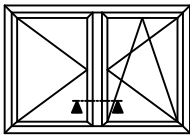


Mira Spree

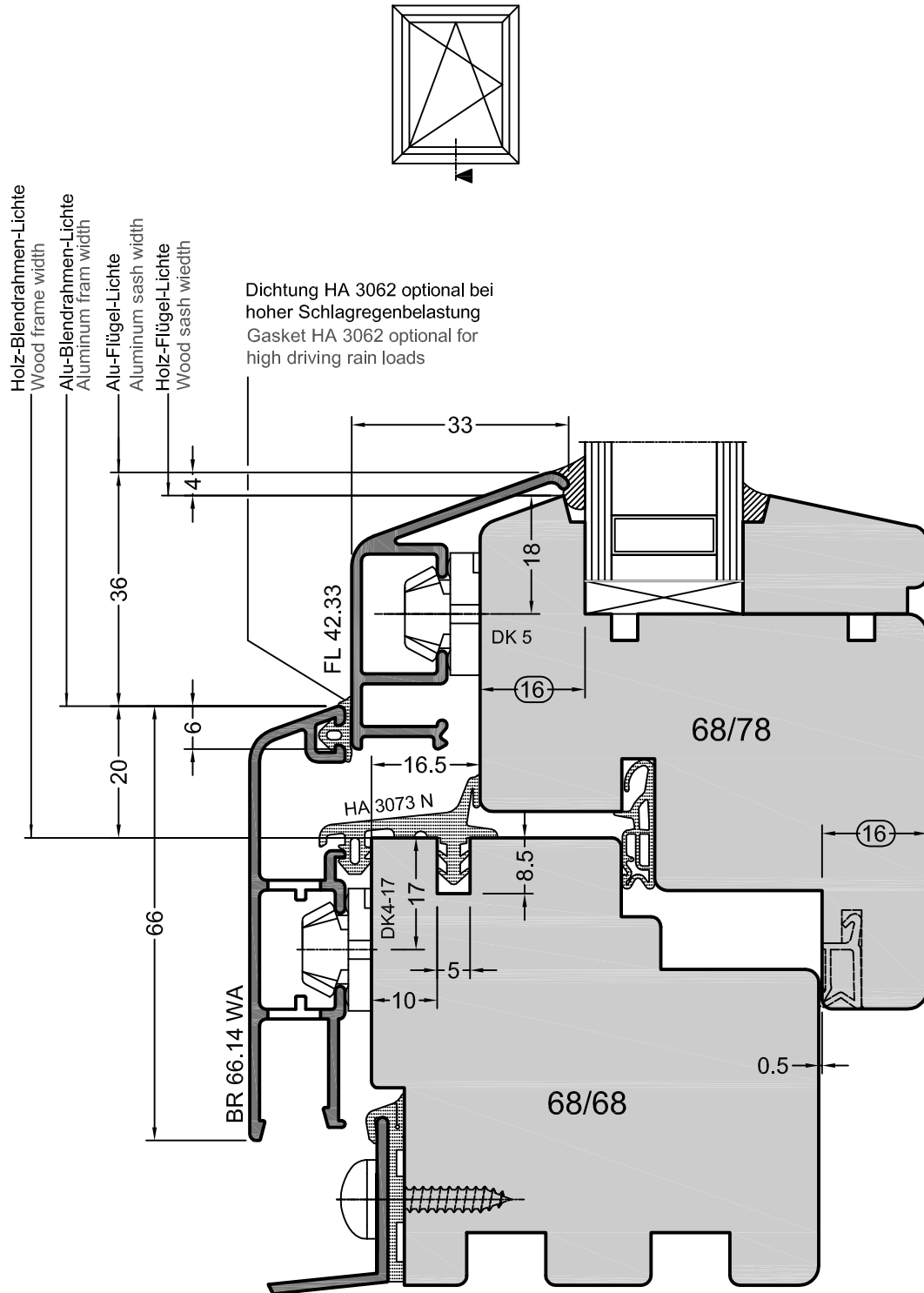


MIRA 5

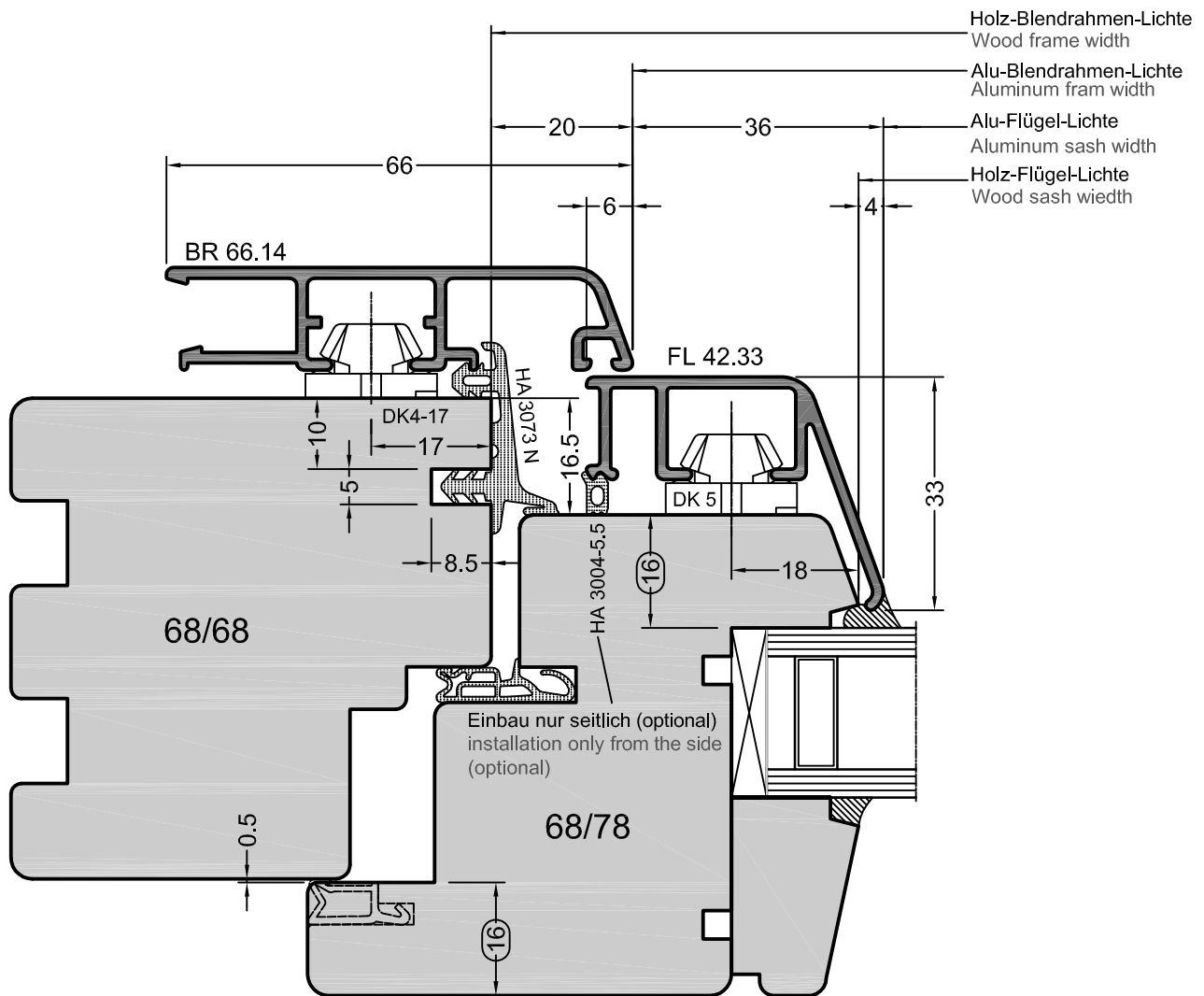
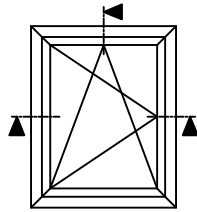
Mira Spree



Blendrahmen System MIRA - Flügel System MIRA Classic
Frame system MIRA- sash system MIRA classic

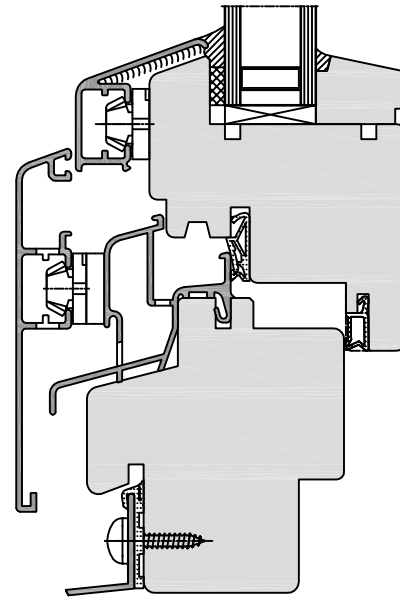


Blendrahmen System MIRA - Flügel System MIRA Classic
Frame system MIRA - sash system MIRA classic



MIRA classic ist das ideale System zur Herstellung von Holz-Alu-Fenster auf Basis von Standard-Holzfenstern mit ausgeprägter flächenversetzter Optik. Hoher Nutzen, ausgezeichnete Leistungsmerkmale und vielfältige Anwendungsmöglichkeiten zeichnen das System aus.

MIRA classic is the ideal system for wood-aluminium windows based on standard wood windows with a district offset design. The system features excellent performance characteristics and a broad variety of application possibilities.



Das vielfältige Profilsortiment lässt keine Gestaltungswünsche offen: Alle gängigen Fensterkonstruktionen und Öffnungsarten können in unterschiedlichen Designs und Profiltbreiten ausgeführt werden. Auch Schrägfenster und Rundbögen sind in allen Formen machbar.

Das Holz-Aluminium System **MIRA classic** basiert auf der Grundkonstruktion für Standard-Holzfenster "IV 68" mit Holzdicke von 68 mm an Flügel und Rahmen. Für die Herstellung des Holzrahmens sind daher keine Investitionen in besondere Fräswerkzeuge erforderlich.

Die Glasaufnahme erfolgt komplett im Holzfalz. Die Isolierglaskante ist somit ausgezeichnet gegen Wärmeverluste gedämmt. Der Glasaustausch wird von innen durch Lösen der Glasleiste ausgeführt. Zur Abdichtung der Profile zum Glas wird Silikon eingesetzt.

Die Aluschale ist Wetterschutz und farblich frei gestaltbares Architekturelement. Der Holzrahmen sorgt für Stabilität, hervorragende Wärmedämmung und verleiht dem Haus einen angenehm wohnlichen Charakter.

Alle Beschläge, die im Holzfensterbau eingesetzt werden, können verwendet werden. Die Alurahmen sind großzügig hinterlüftet und werden mit stabilen Haltern spannungsfrei auf dem Holz befestigt: So kann das Holz atmen und der Alurahmen kann sich ohne Behinderung der Temperaturschwankungen dehnen.

Umlaufende Dichtungen am Flügel sorgen für zuverlässige Abdichtung gegen Wind und Lärm. Die Falzentwässerung erfolgt unsichtbar und ohne störende Entwässerungskappen durch den Einsatz von bewährten Regenschutzschienen. Die Profile sind mit 5 oder 2 mm Radien an der Sichtkante verfügbar.

Setzholz- und Kämpferprofile gibt es in zwei Bauhöhen, die saubere Profilstöße auch bei komplizierten Fensterteilungen ermöglichen.

Die Rahmenverbindungen sind wahlweise geschweißt oder mit stabilen, gestanzten Eckverbindungen machbar: Elementgrößen sind bis 3,5 x 2,5 m möglich.

MIRA classic erreicht beste Dämmwerte von 1,5 W/m²K gemittelt am Rahmen 1,23 x 1,48 m. Die Dichtungswerte entsprechen den guten Werten der eingesetzten Holzfenster-Bauart.

The diverse range of profiles leaves no design wish unfulfilled: all standard window constructions and opening variations are available in different designs and profile widths. All shapes of slanted window and round arches may be realized as well.

The **MIRA classic** wood-aluminium system is based on the basic design of the standard wood window "IV 68" with a wood thickness of 68 mm at sash and frame. Making the wood frame therefore does not require the purchase of special milling tools.

The glass is taken up completely in the wood rebate. This ideally protects the edge of the sound-control glass from heat loss. Glass may be exchanged by releasing the glass beads on the inside. Silicone is used to seal the profiles towards the glass.

The aluminium shell provides weather protection and offers many color options for architectural components. The wood frame provides stability, outstanding thermal insulation, and gives the building a warm and pleasant feeling.

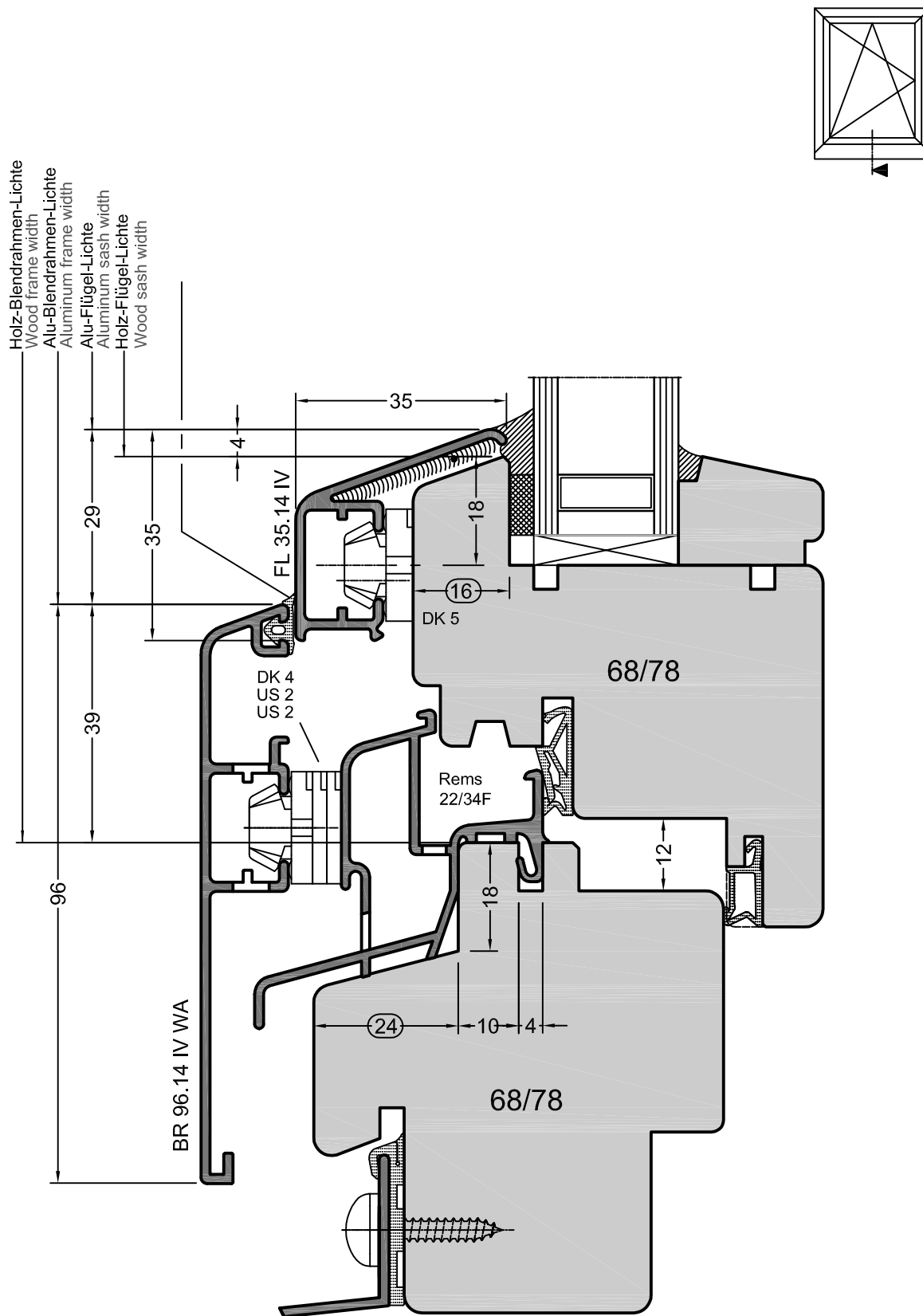
All fittings used in wood window construction may be applied here as well. The aluminium frames feature ample rear-ventilation and are mounted on the wood tension-free with stable fasteners: this allows the wood to breathe and the aluminium frame to expand without constraints during temperature fluctuations.

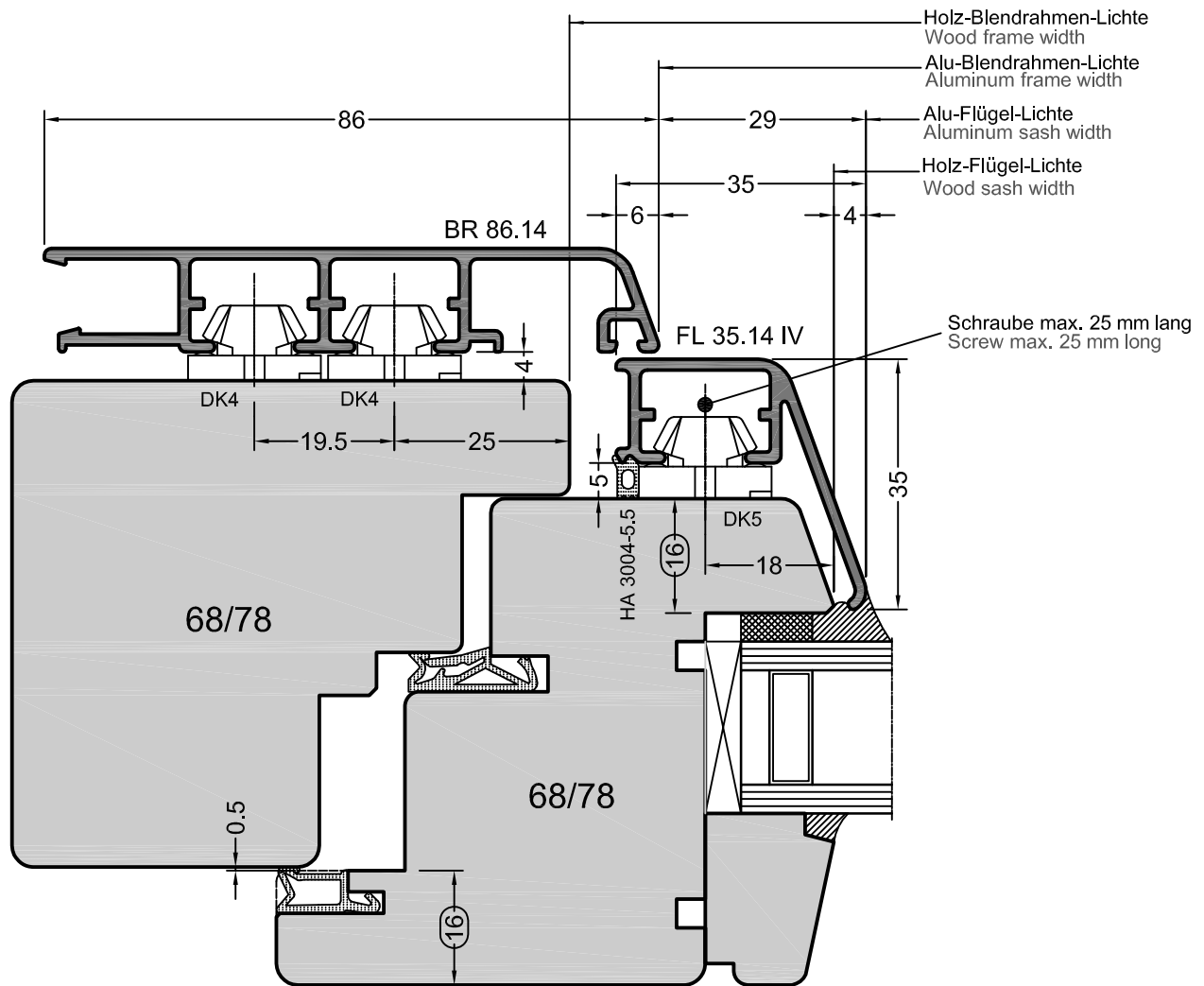
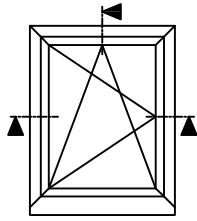
Circumferential gaskets at the sash reliably shut out noise and wind as well. Rebate drainage is generally invisible and is achieved without bothersome drainage caps by using the proven weather bars.

Profiles are available with 5 mm or 2 mm radii at the exposed edge, There are two structural heights of mullion and transom profiles, which facilitate clean profile butt joints even for complicated window divisions.

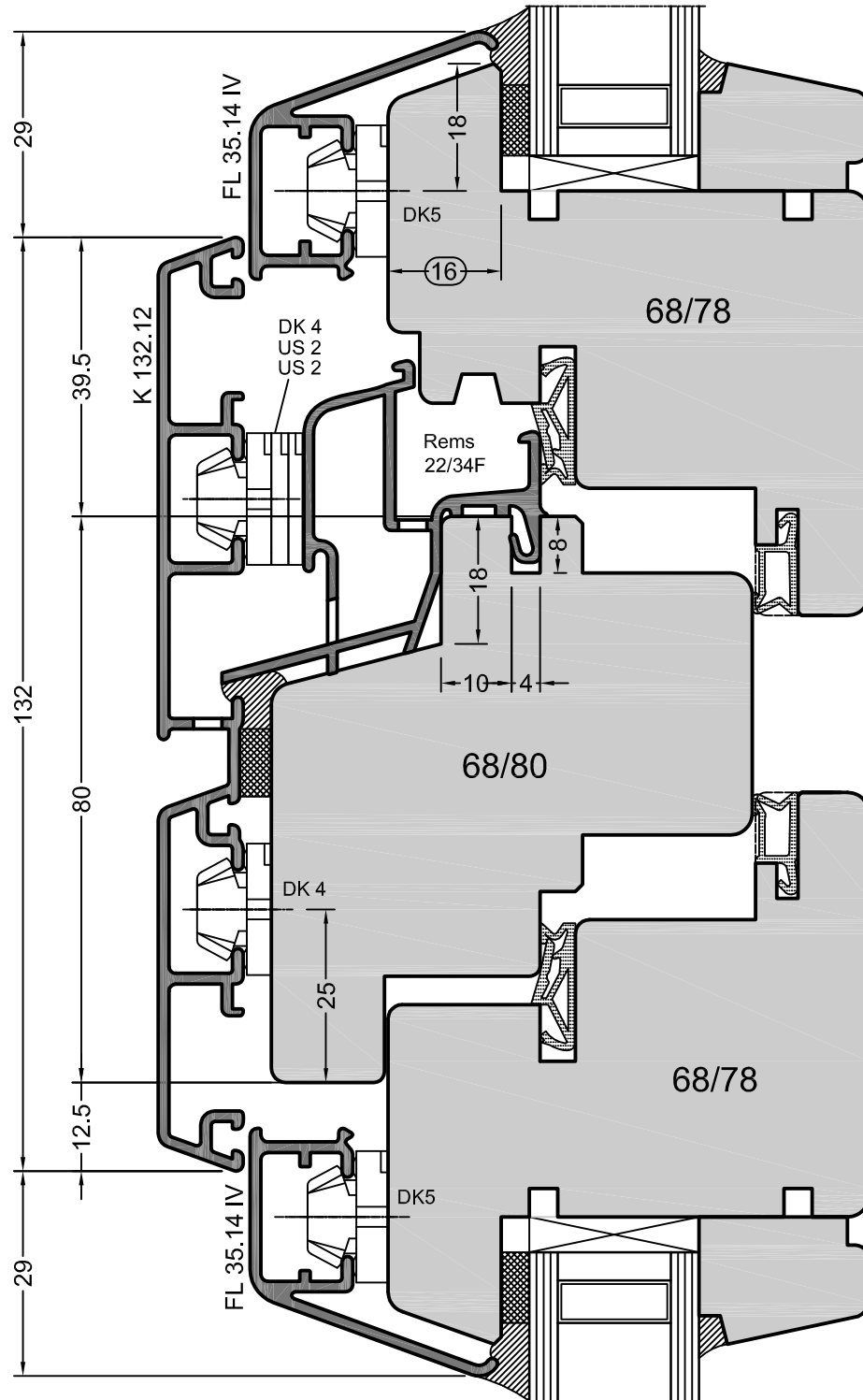
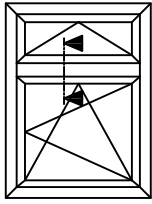
Frame connections are either welded or realized with sturdy, punched corner joints: Component sizes of up to 3.5 x 2.5 m are available.

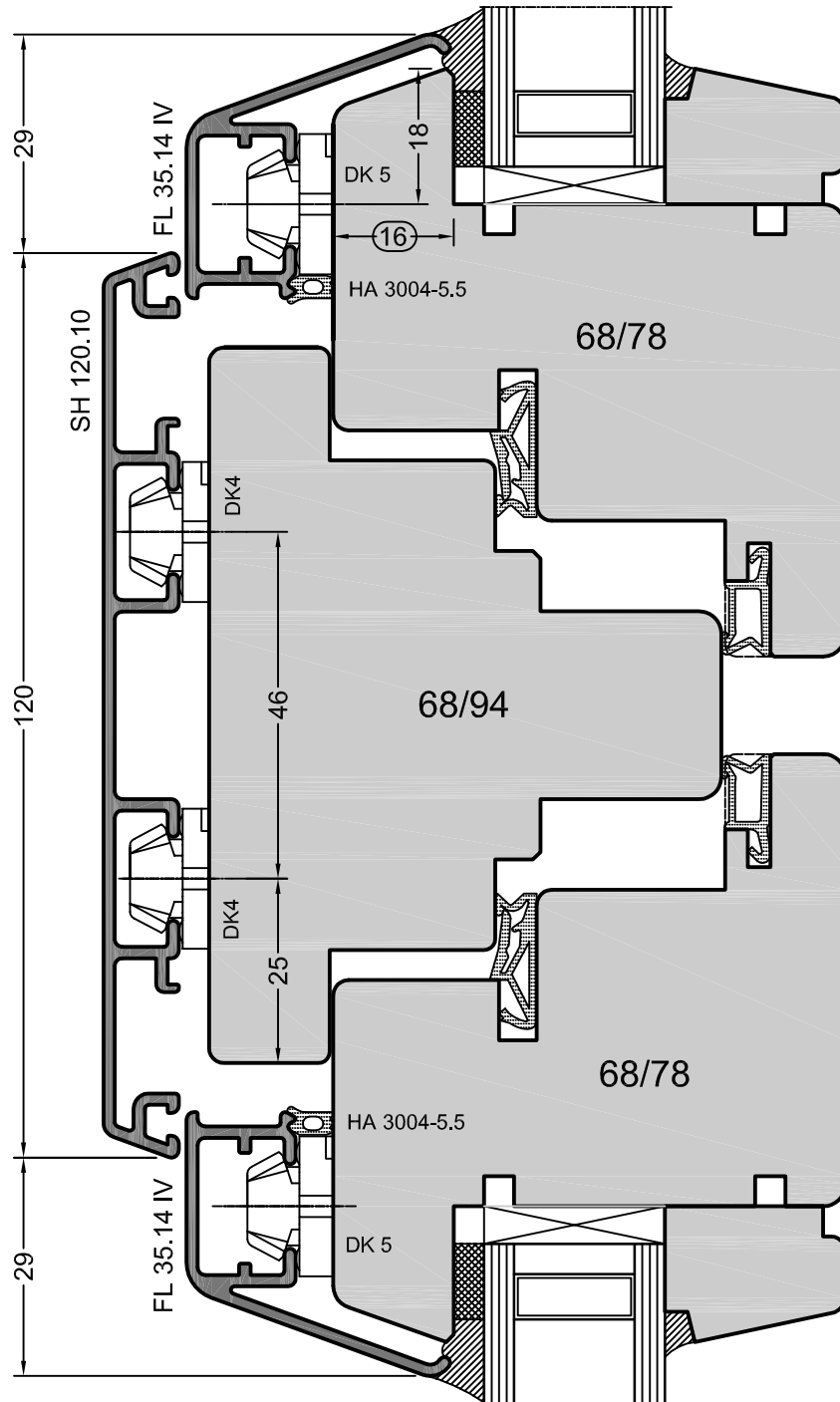
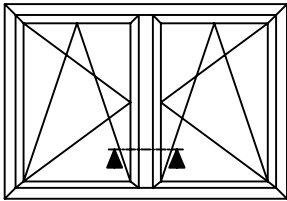
MIRA classic achieves optimal frame insulation values of 1.5 W/m²K on average from frames 1.23 m x 1.48 m. The tightness values are equal to the good values of the wood window type used.

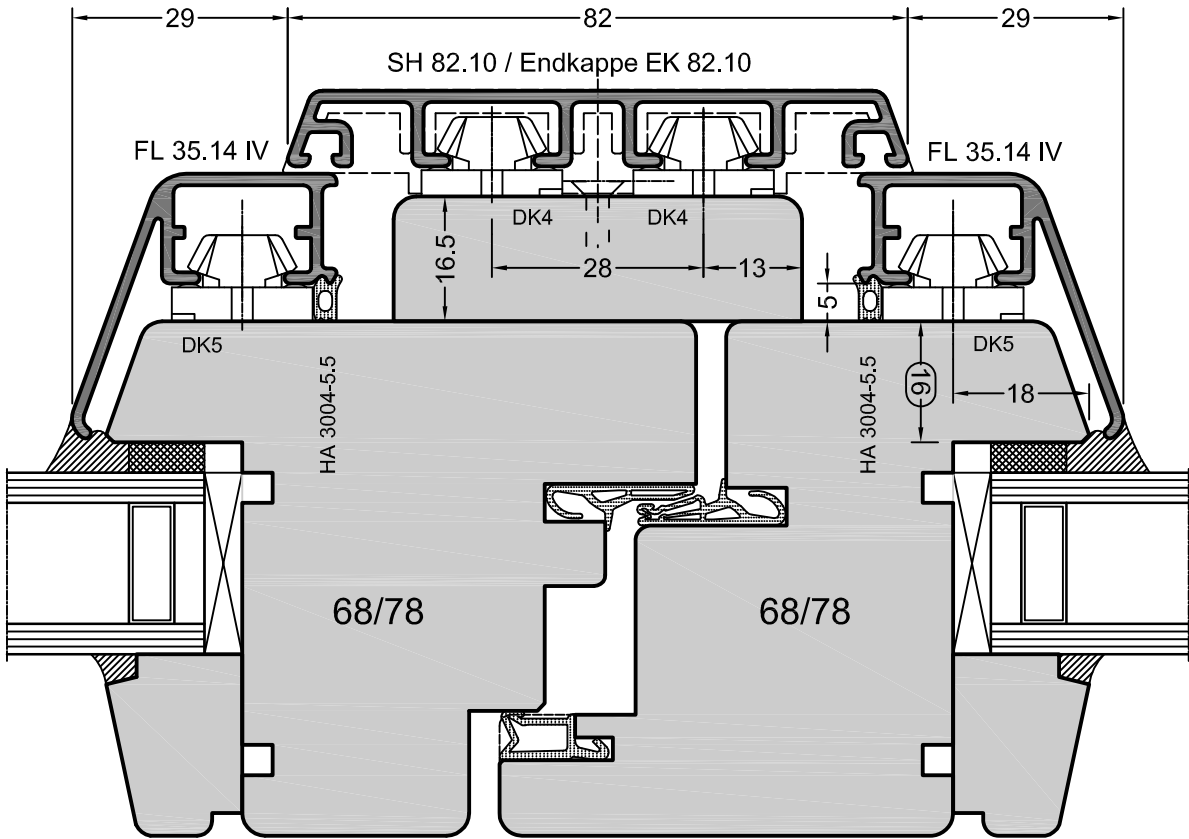
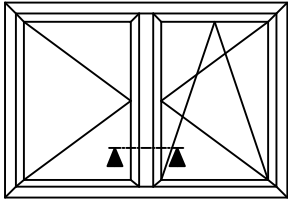


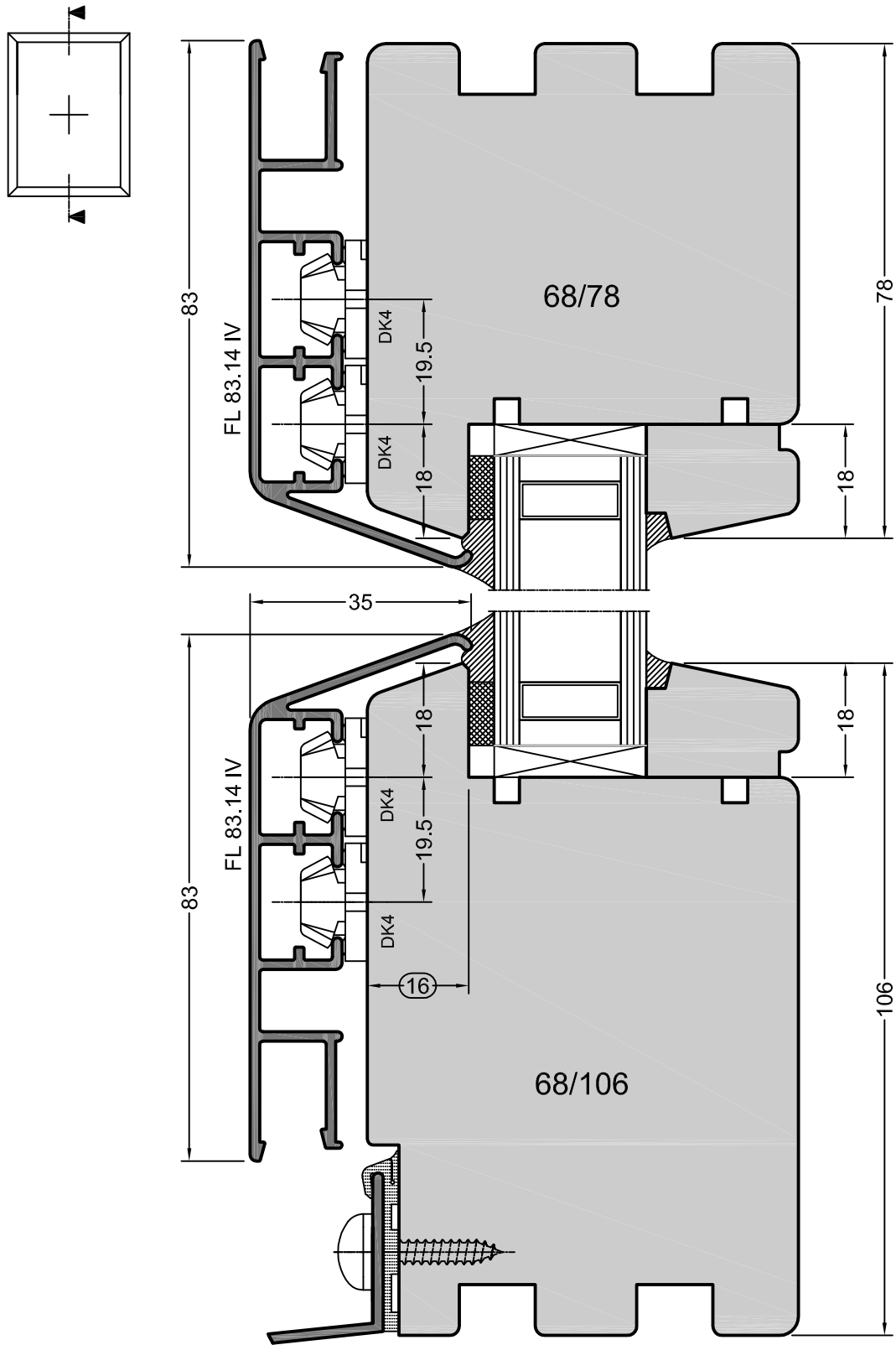


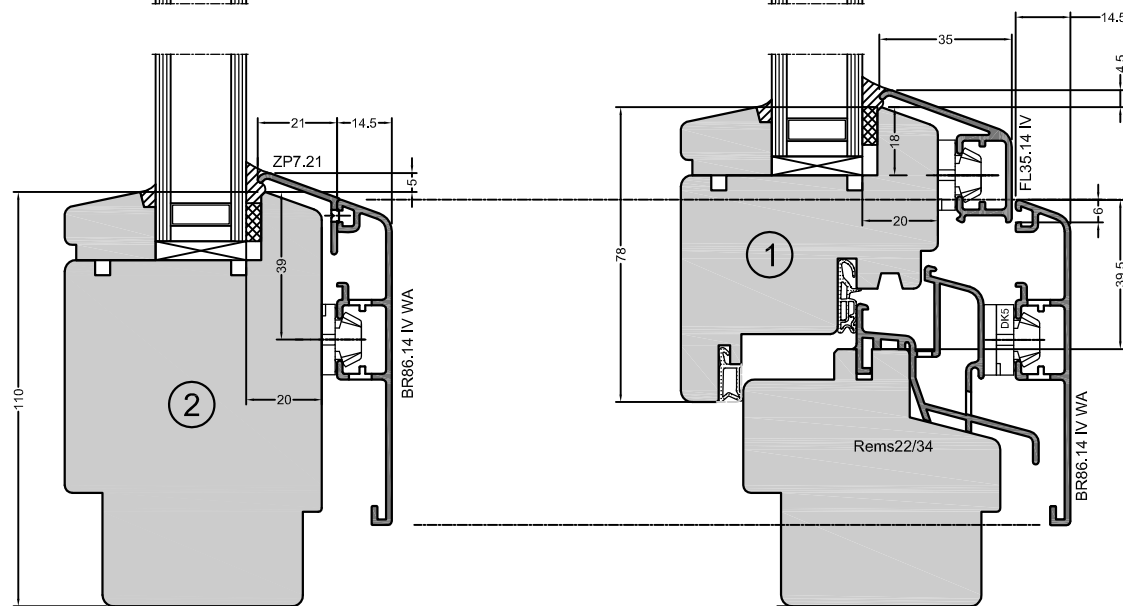
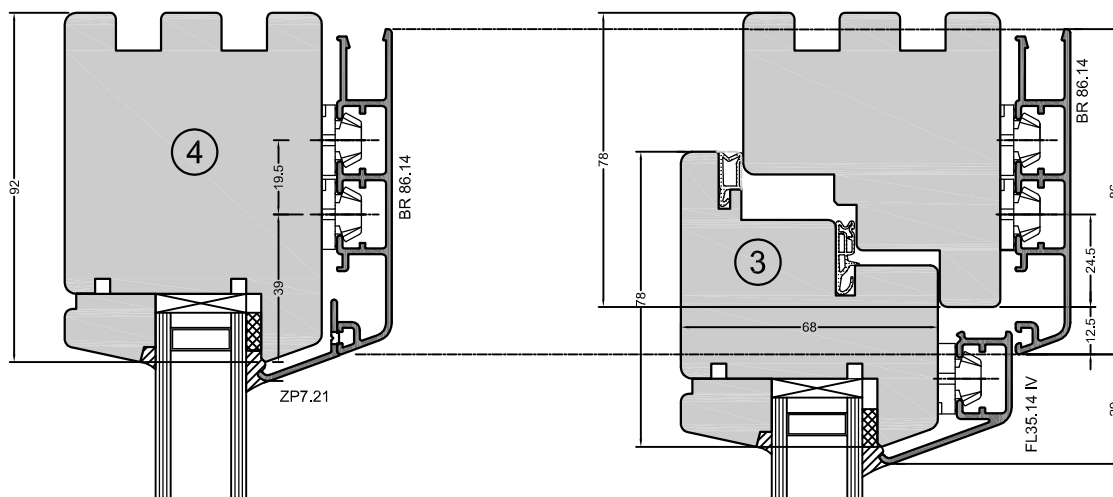
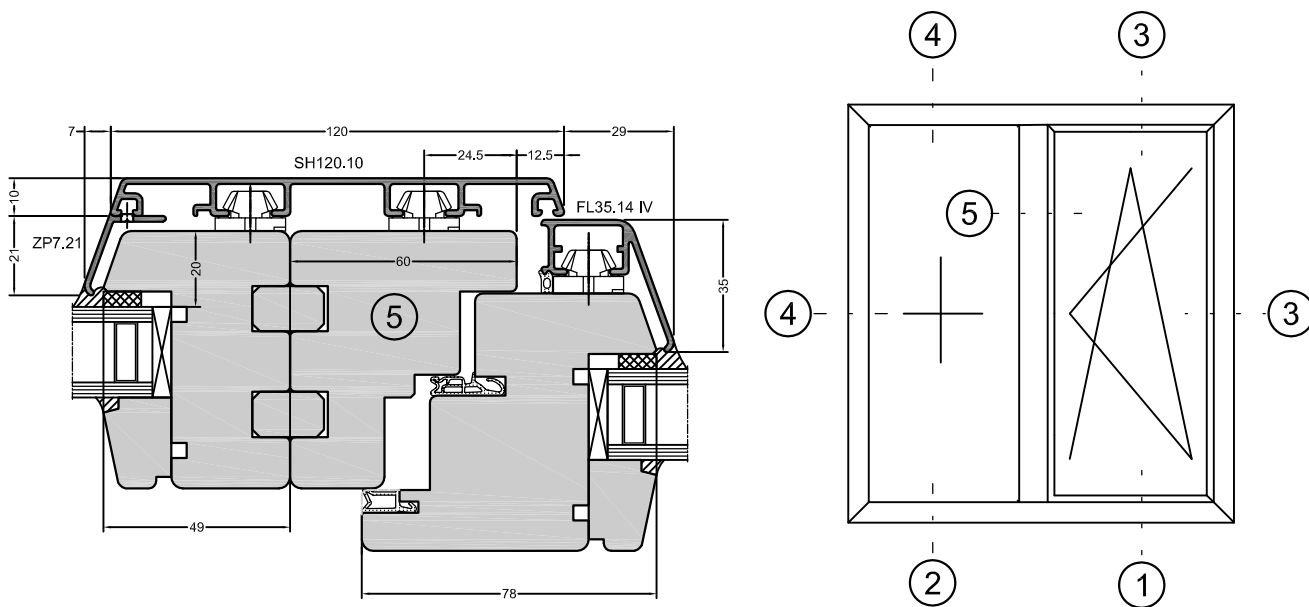
MIRA 5

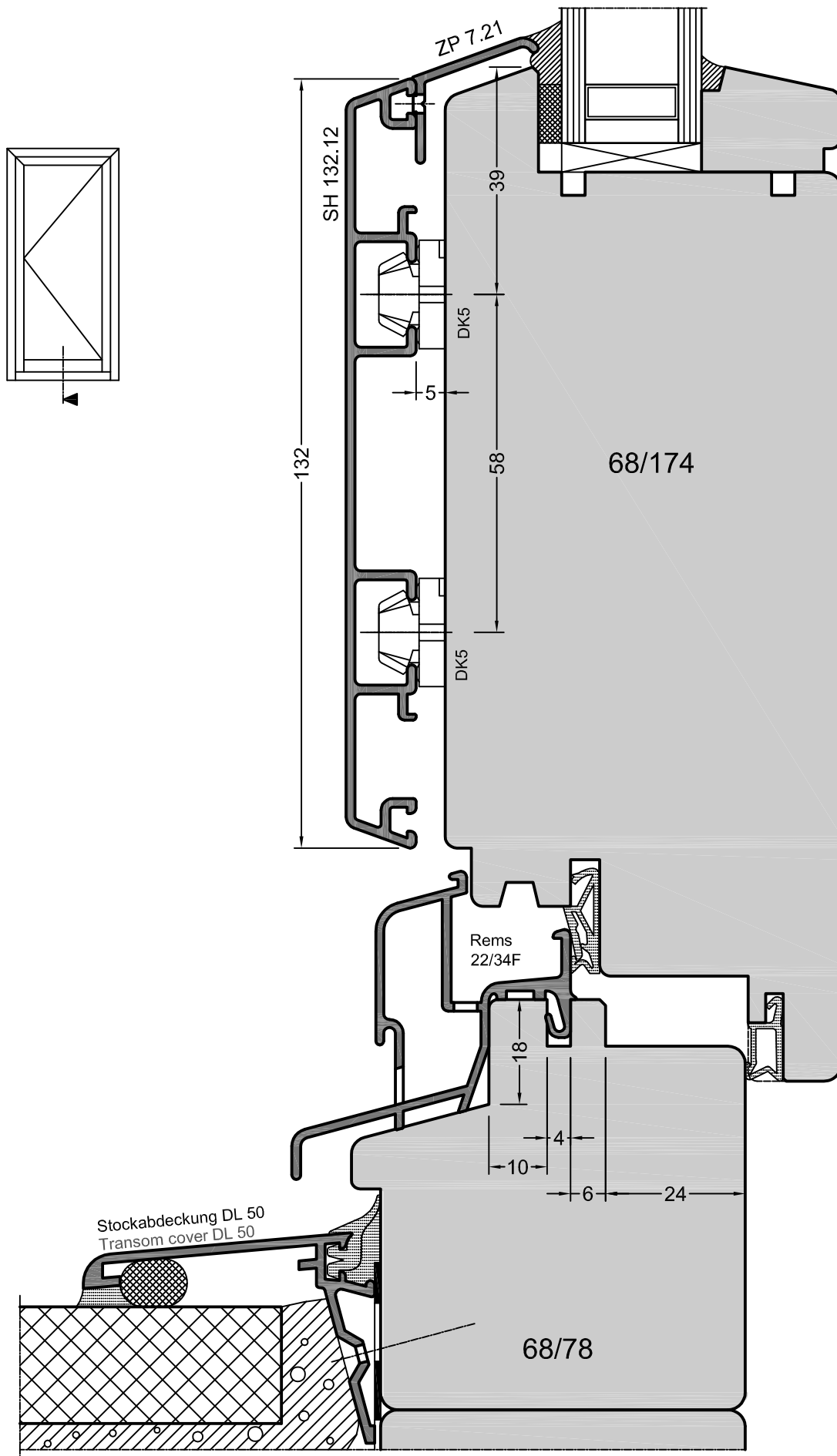


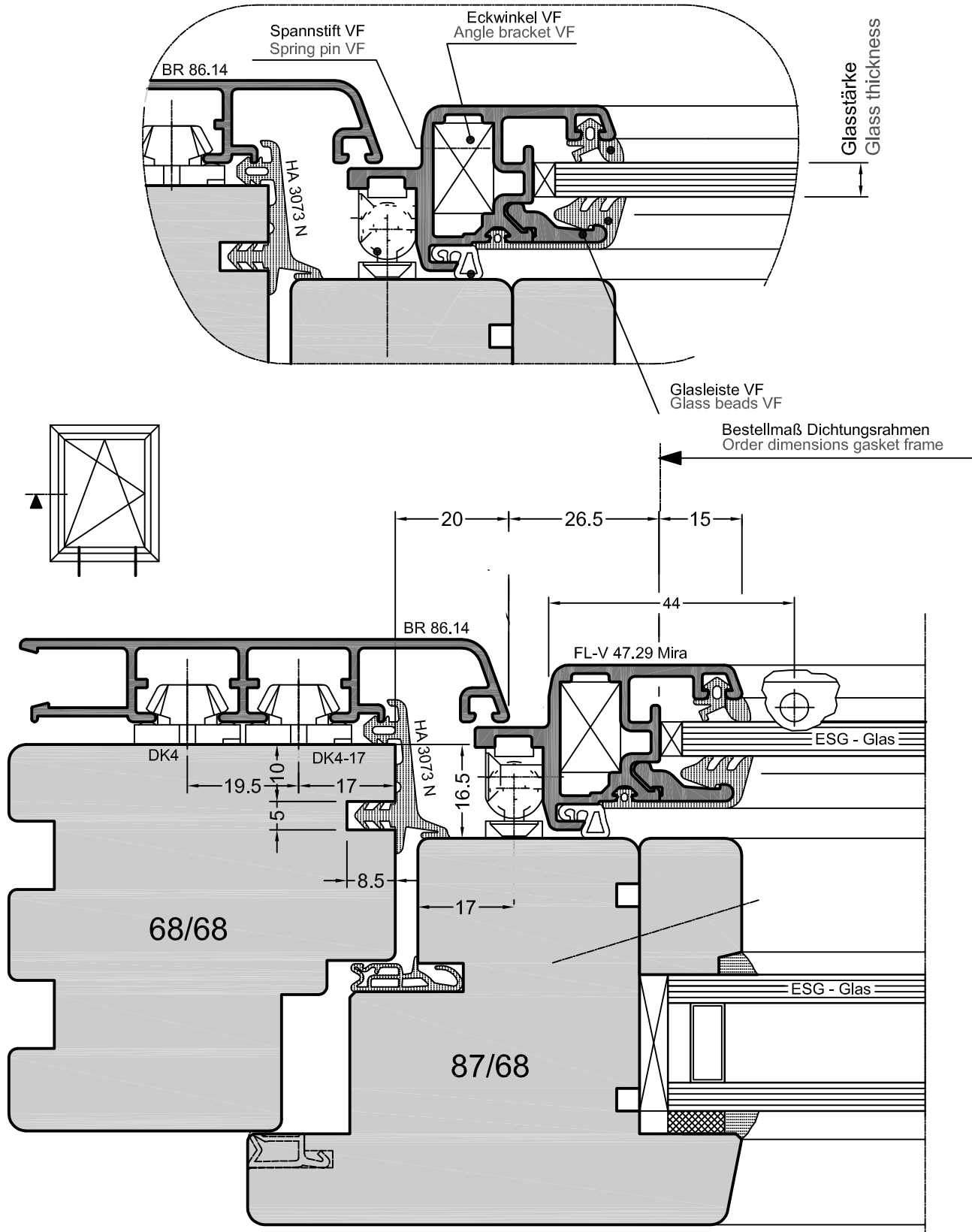


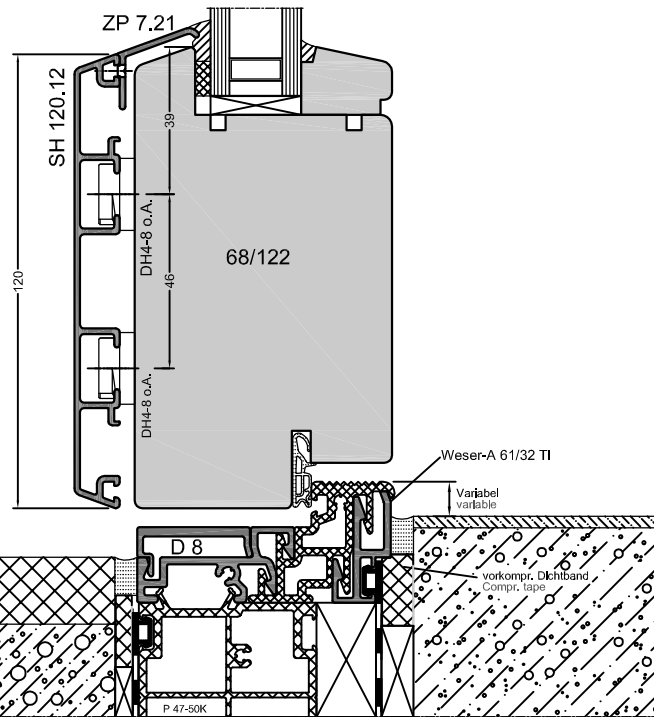
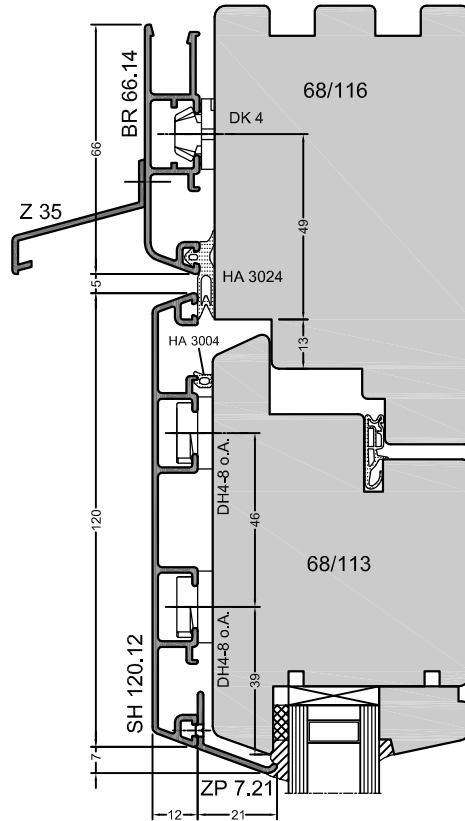
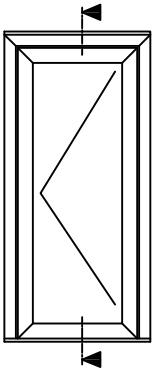




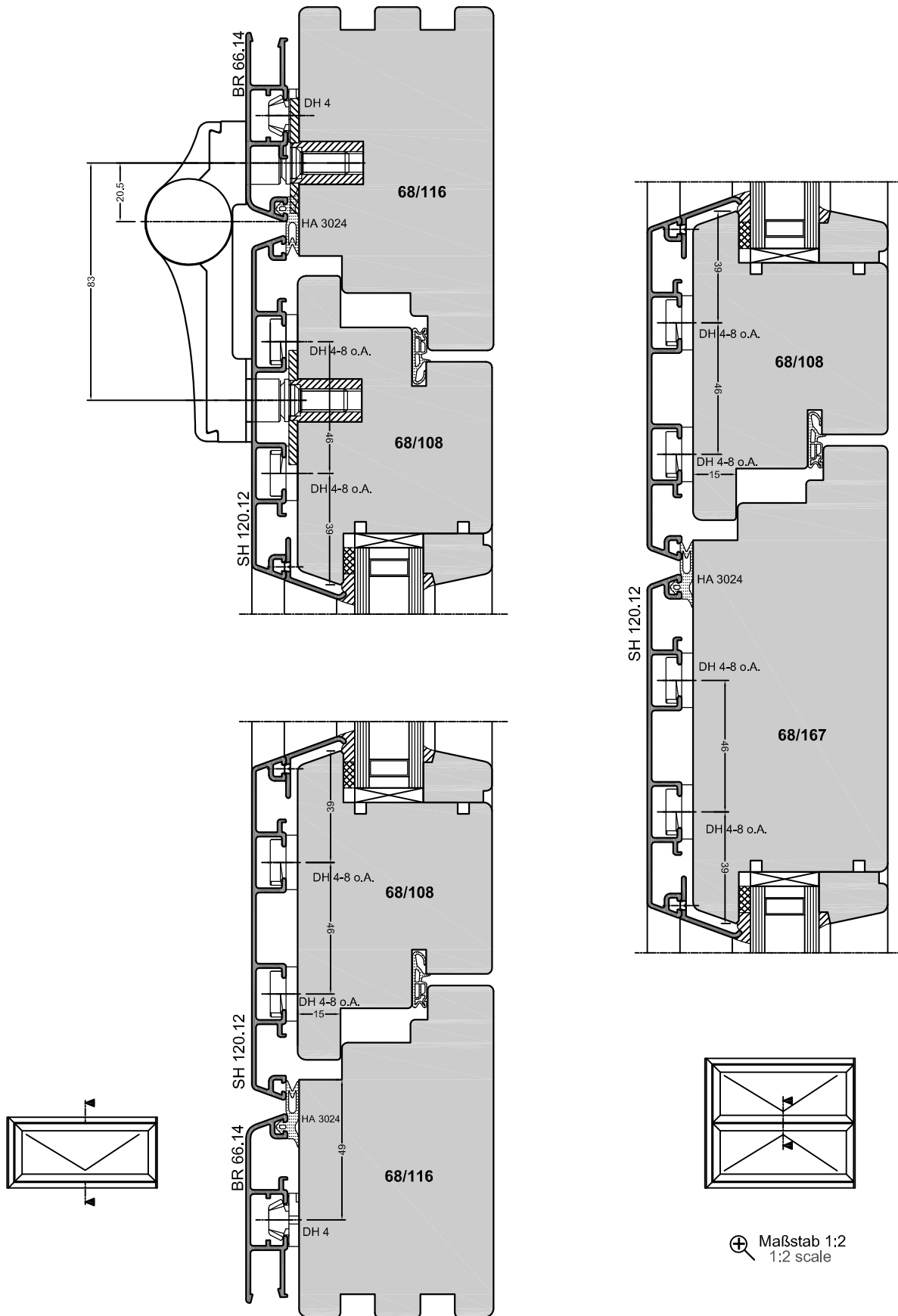




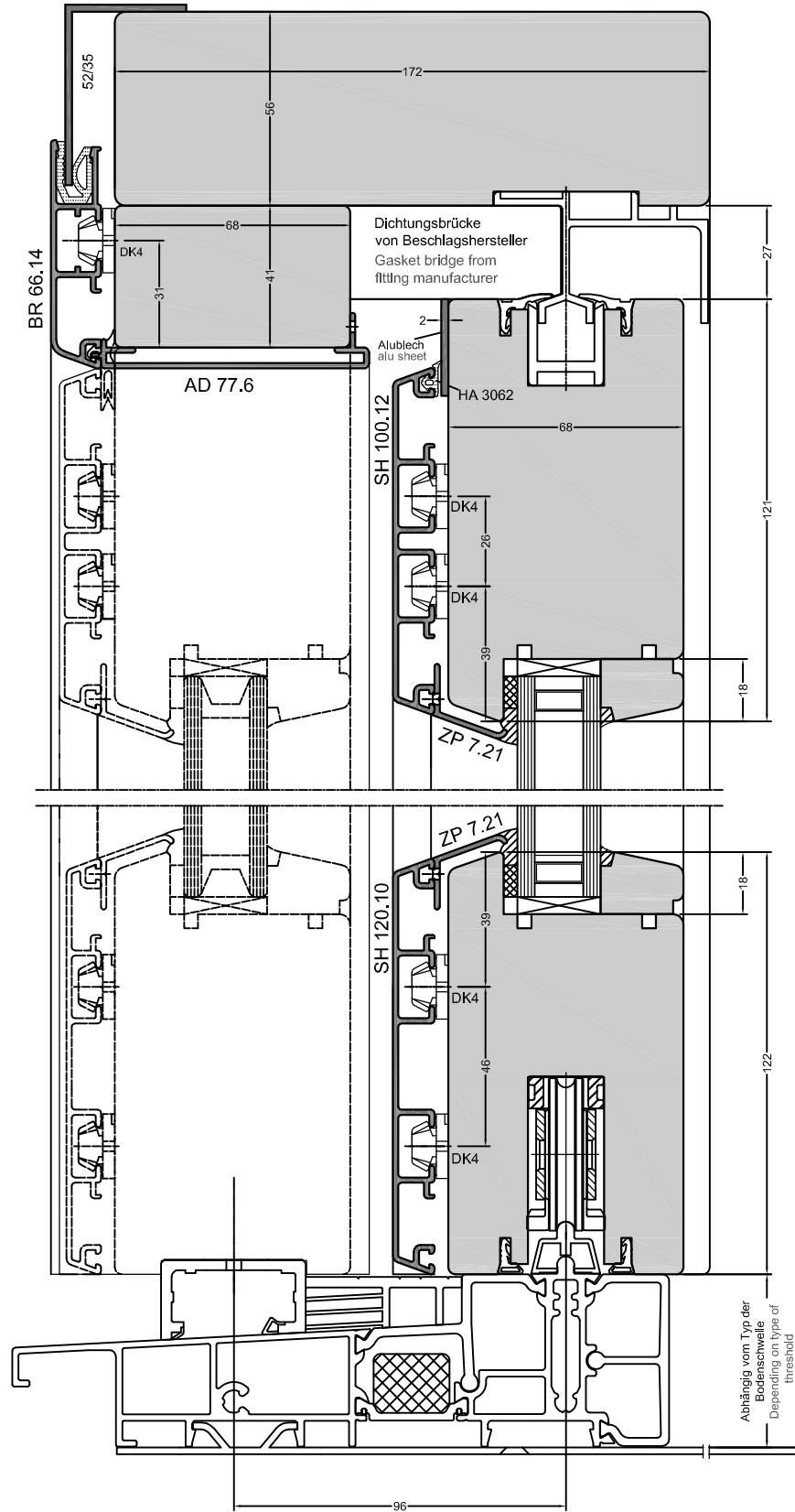
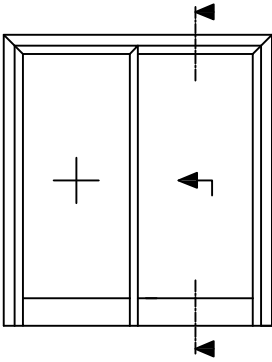


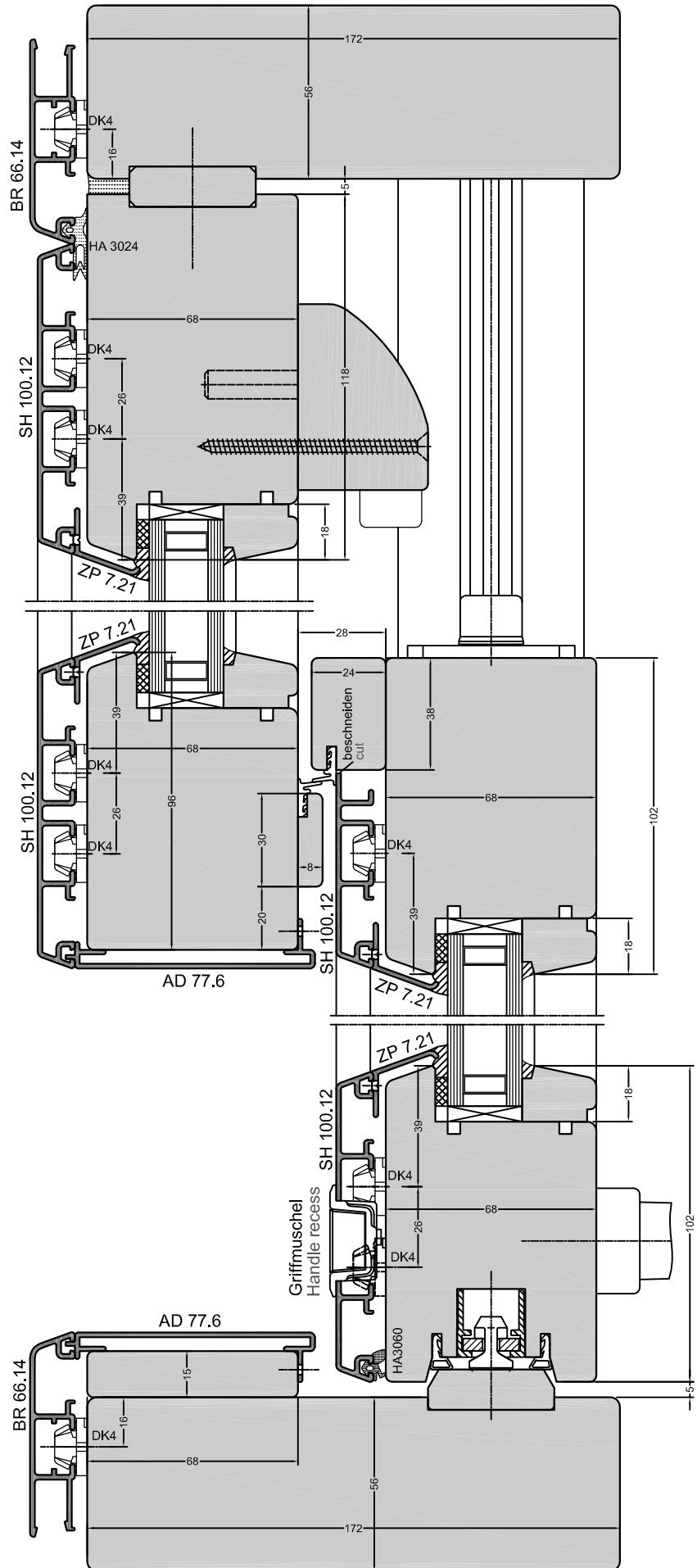
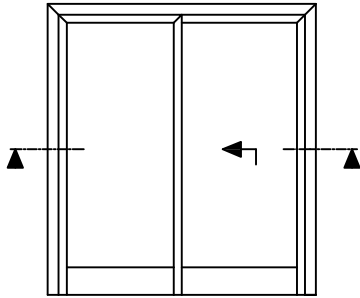


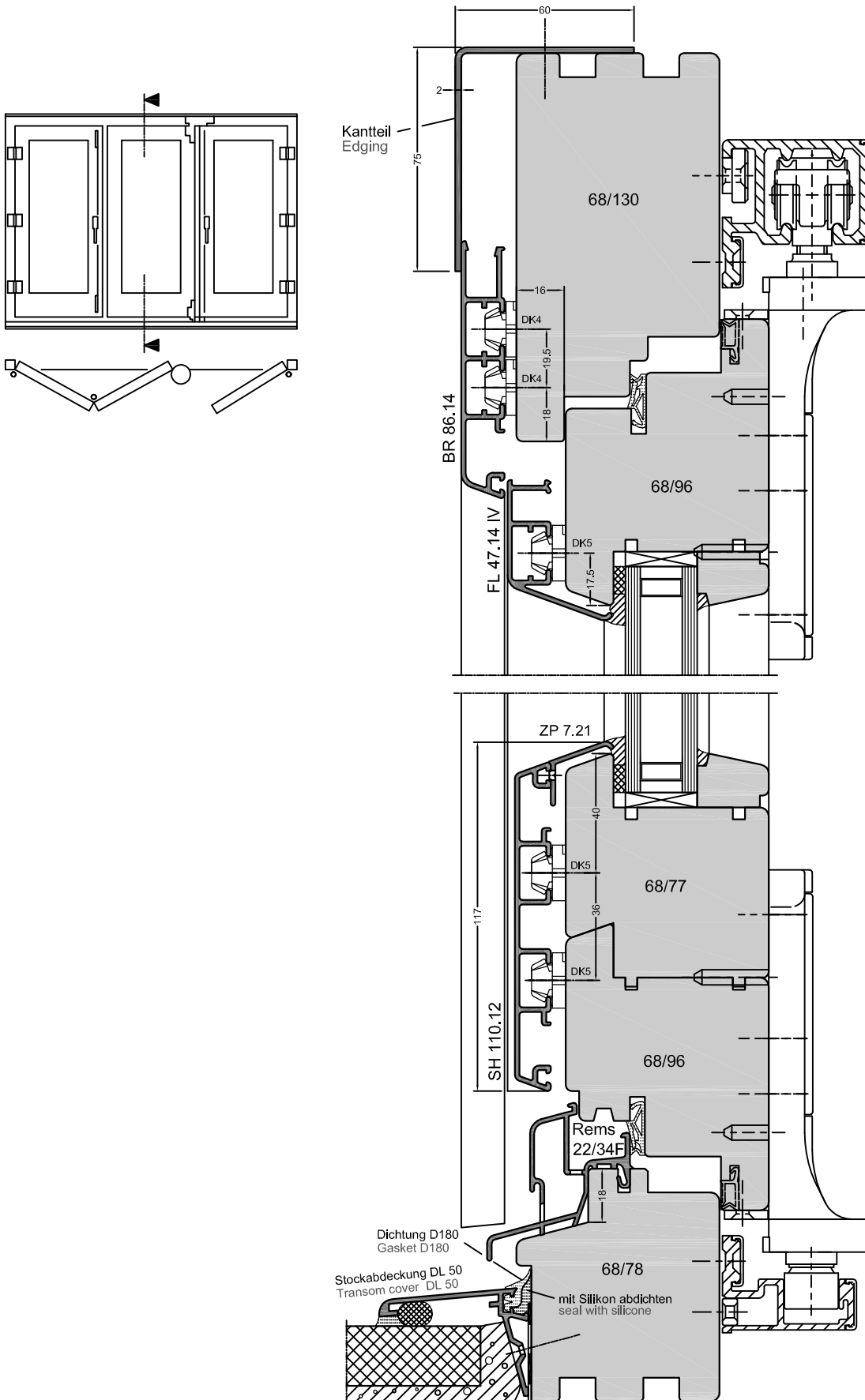
⊕ Maßstab 1:2
1:2 scale

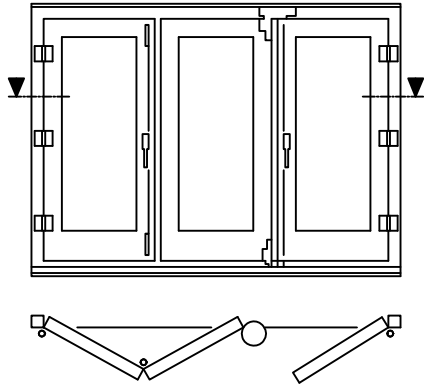


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1:2 scale

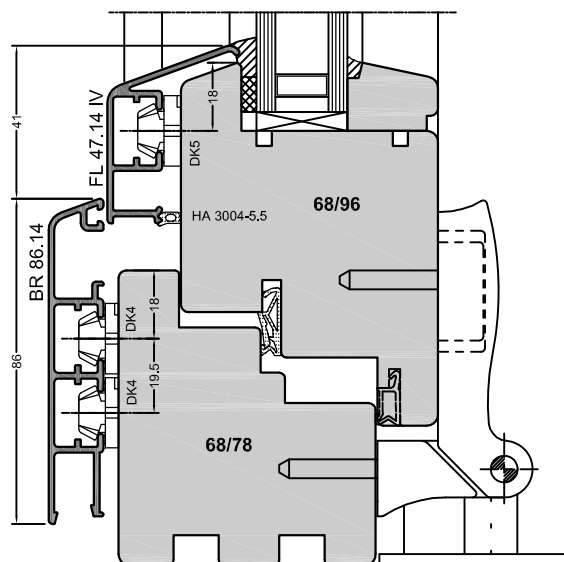
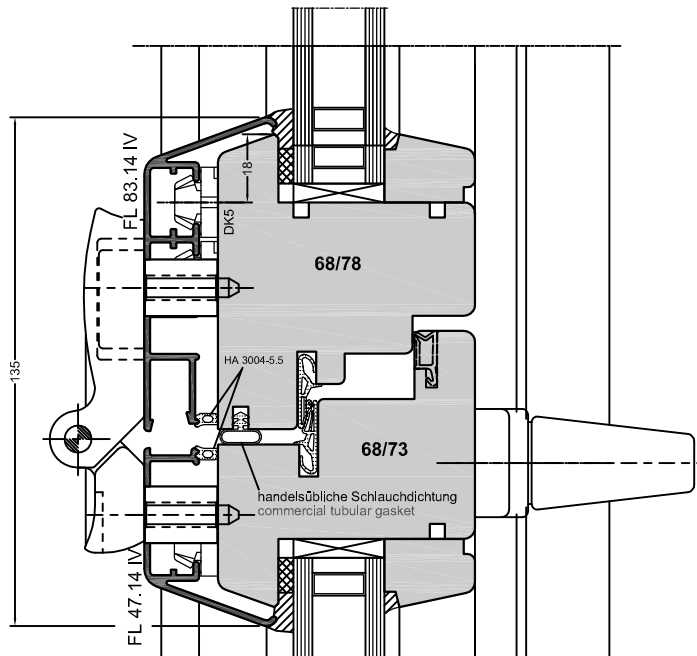
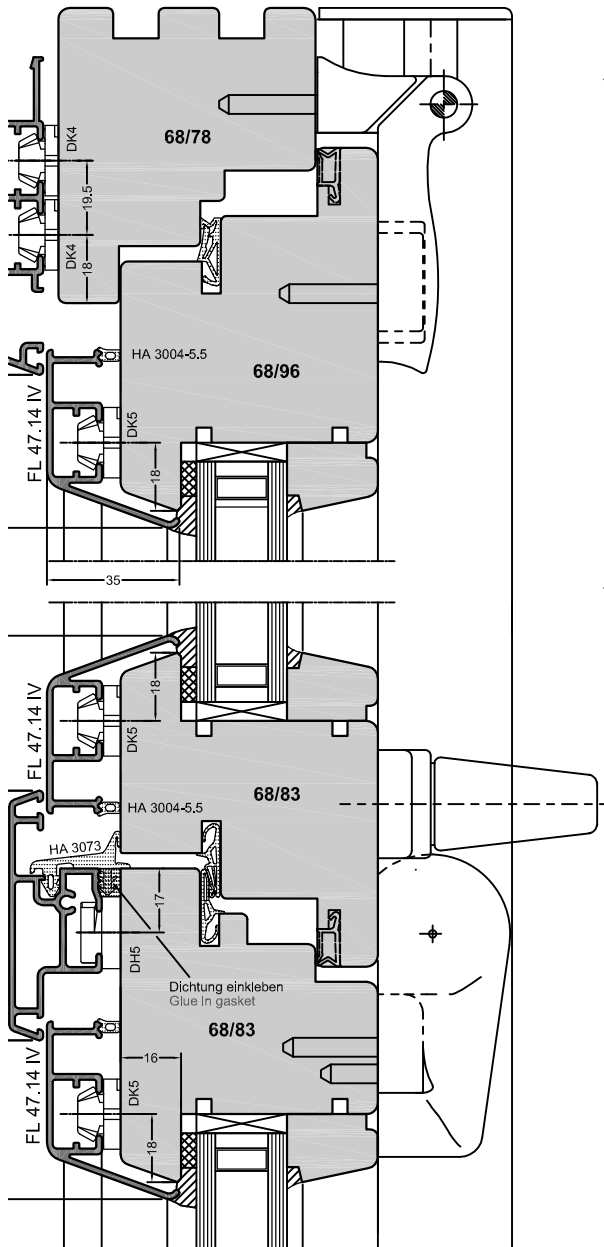


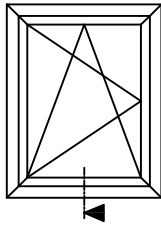




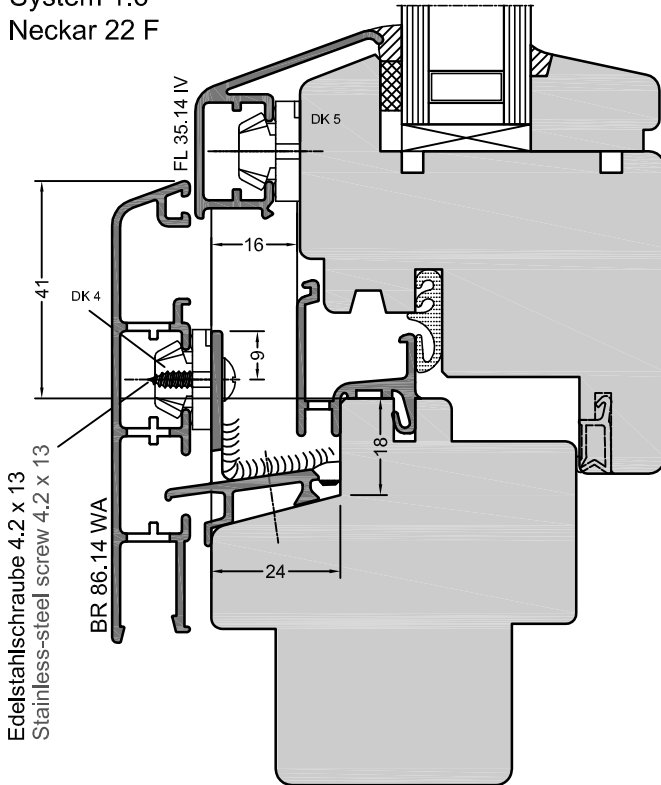


⊕ Maßstab 1:2
1:2 scale

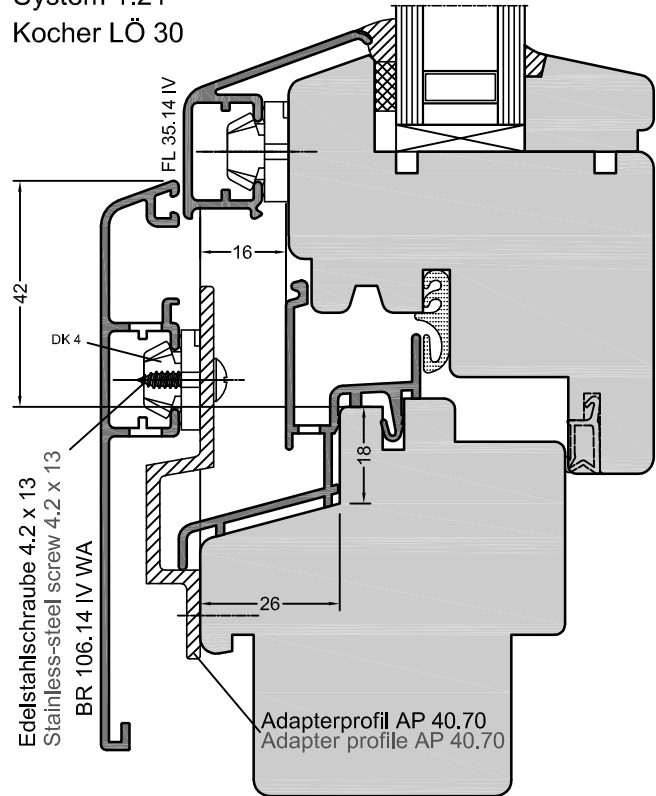




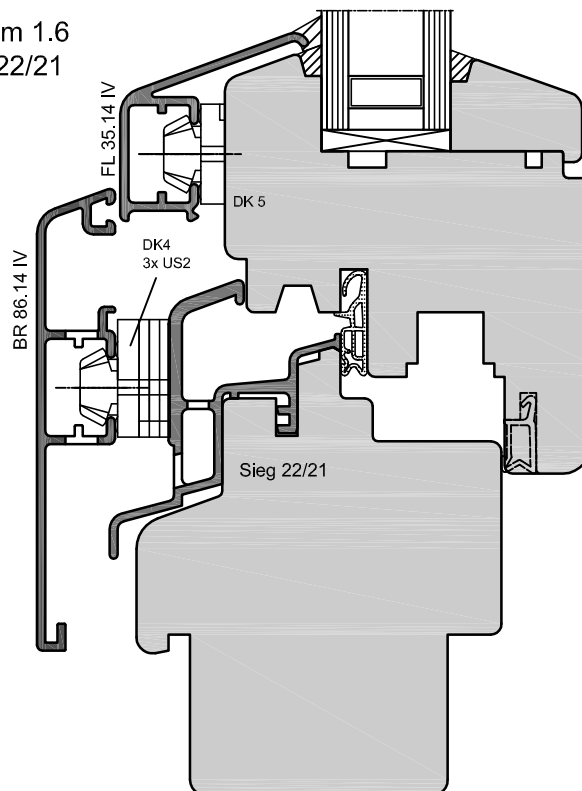
System 1.6
Neckar 22 F



System 1.21
Kocher LÖ 30



System 1.6
Sieg 22/21



System 1.21
Spree 27 OF

