

# MONTAGEANLEITUNG

INDUSTRIE SEKTIONALTOR - PF NP, HL, HL-K, FTR, FHL, LHRF, FLR



**GRUPPE**

QUALITÄT FÜR HÖCHSTE ANSPRÜCHE

**DE**

MONTAGEANLEITUNG SEKTIONAL  
GARAGENTOR

**IT**

ISTRUZIONI PER IL MONTAGGIO  
PORTONI GARAGE SEZIONALI

**GB**

INSTALLATION INSTRUCTION  
SECTIONAL GARAGE

**SE**

MONTAGE INSTRUKTION GARAGE  
SEGMENTPORTAR

**FR**

DOORINSTRUCTIONS DE MONTAGE  
PORTE DE GARAGE SECTIONNELLE

**DK**

MONTERINGSVEJLEDNING GARAGE  
SEGMENTPORTE

 YouTube



DEUTSCHER  
QUALITÄTSSTANDARD



KOSTENLOSE LIEFERUNG  
DEUTSCHLANDWEIT !

\*AUSGENOMMEN INSELN



Geprüftes  
Onlineportal  
Informationsservice

tuev-saar.de/SC43356

BAUDISCOUNT  
ZERTIFIZIERTES  
ONLINEPORTAL

DE

## INFORMATIONS- UND WARZZEICHEN UND -SYMBOLE

**BEDEUTUNG**

Beschreibung, Empfehlungen, Hinweise


**GEFAHR**

Für den Benutzer bedeutet es eine Unfallgefahr, davon mit tödlichem Ausgang.


**HINWEIS**

Ein Hinweis, wie dem Verschleiß des Produktes vorzubeugen ist.


**DENKEN SIE DARAN** Funktionen von Schlüsselbedeutung oder nützliche Informationen. Den mit diesem Symbol versehenen Hinweisen ist die größte Aufmerksamkeit zu schenken.

**ZUSÄTZLICHE INFORMATIONEN**

Zusätzliche Informationen.


**VISUELLE BEMERKUNG** - Der Leser soll sich nach den visuellen Bemerkungen richten. Dieses Symbol kann auch in der Betriebsanweisung auftreten.

**BETRIEBS- UND WARTUNGSHANDBUCH**

Verweis auf den entsprechenden Punkt im „Betriebs- und Wartungshandbuch“.

**GEFÄHRDUNG**

**ELEKTRISCHE GEFÄHRDUNG**

**BRANDGEFÄHRDUNG**
**VERBOT**

**RAUCHEN IN DER NÄHE DER ANLAGE VERBOTEN**

**SICHERHEITSEINRICHTUNGEN NICHT ENTFERNEN**

**ANWEISUNGEN**
**BEVOR MIT DEN ARBEITEN ODER DER INSTANDSETZUNG BEGONNEN WIRD, SPANNUNG ABSCHALTEN.**

**MONTAGE UND WARTUNGSARBEITEN**
**NUR MIT ARBEITSHANDSCHUHEN AUSFÜHREN.**

**MONTAGE UND WARTUNGSARBEITEN**
**NUR MIT SCHUTZSCHUHWERK AUSFÜHREN.**

GB

## INFORMATION / WARNING SIGNS AND SYMBOLS

**MEANING**

descriptions, suggestions, comments


**DANGER**

A risk of accident, possibly a fatal one, to the user.


**ATTENTION**

Advice on how to prevent wear and tear of the product.


**REMEMBER** - Key functions or useful information.

Pay maximum attention to information denoted as shown.


**ADDITIONAL INFORMATION**

Additional information.


**VISUAL AID** - The user is advised to follow the visual aids.

The symbol may also be used in the operation manual.


**OPERATION AND MAINTENANCE MANUAL**

Refer to an appropriate item in "Operation and Maintenance Manual".

**DANGER**

**ELECTRICAL DANGER**

**FIRE DANGER**
**PROHIBITION**

**NO SMOKING IN THE VICINITY OF THE MACHINE**

**DO NOT REMOVE GUARDS**

**COMMANDS**
**BEFORE COMMENCING WORK OR REPAIRS, TURN OFF THE POWER SUPPLY.**

**INSTALLATION AND MAINTENANCE WORKS TO BE PERFORMED ONLY IN PROTECTIVE GLOVES.**

**INSTALLATION AND MAINTENANCE WORKS TO BE PERFORMED ONLY IN PROTECTIVE FOOTWEAR.**

FR

## SIGNES ET SYMBOLES D'INFORMATION ET DE PRÉ-CAUTION

**SIGNIFICATION**

description, suggestions, remarques


**DANGER**

Pour l'utilisateur signifie le risque d'accidents, y compris mortels.


**ATTENTION**

Conseil pour éviter l'usure du produit.


**SOUVENEZ-VOUS** Fonctions principales ou des informations utiles.

Il faut faire attention aux informations présentées à l'aide de ce symbole.


**INFORMATIONS SUPPLÉMENTAIRES**

Les informations supplémentaires.


**REMARQUE VISUELLE** - Lecteur doit suivre les remarques visuelles. Ce

symbole peut aussi se trouver dans le guide d'exploitation.


**GUIDE D'EXPLOITATION ET D'ENTRETIEN**

Renvoie à un point approprié dans le „Guide d'exploitation et d'entretien“.

**RISQUE**

**RISQUE ÉLECTRIQUE**

**RISQUE D'INCENDIE**
**INTERDICTION**

**INTERDICTION DE FUMER PRÈS DE LA MACHINE**

**N'ENLEVEZ PAS DE PROTECTIONS**

**CONSIGNES**
**COUPEZ L'ALIMENTATION ÉLECTRIQUE AVANT DE COMMENCER UN TRAVAIL OU UNE RÉPARATION.**

**IL FAUT ABSOLUMENT METTRE DES GANTS DE PROTECTION PENDANT LE MONTAGE ET LES TRAVAUX DE CONSERVATION.**

**IL FAUT ABSOLUMENT METTRE DES CHAUSSURES DE PROTECTION PENDANT LE MONTAGE ET LES TRAVAUX DE CONSERVATION.**

IT

## MARCHI E SIMBOLI INFORMATIVI E DI PERICOLO

**SIGNIFICATO**

descrizione, suggerimenti, osservazioni


**PERICOLO** Indica pericolo di incidente per l'utilizzatore, compreso il pericolo di incidente mortale.

**ATTENZIONE**

Consiglio per prevenire l'usura del prodotto.


**RICORDA** Funzioni chiave o informazioni utili. Bisogna fare la massima

attenzione alle informazioni indicate con questo simbolo.


**INFORMAZIONI AGGIUNTIVE**

Informazioni aggiuntive.


**AIUTO VISUALE**

L'utilizzatore deve seguire gli aiuti visuali.


**MANUALE PER L'USO E LA MANUTENZIONE.** Questo simbolo può trovarsi anche nel Manuale per l'uso. Rinvio al punto opportuno del „Manuale per l'uso e la manutenzione“.

**PERICOLO**

**PERICOLO ELETTRICO**

**PERICOLO D'INCENDIO**
**DIVIETO**

**VIETATO FUMARE NELLE VICINANZE DEL DISPOSITIVO**

**NON TOGLIERE LE PROTEZIONI**

**OBBLIGHI**
**SPEGNERE L'ALIMENTAZIONE PRIMA DI INTERVENIRE SULLA O RIPARAZIONE**

**INSTALLAZIONE E MANUTENZIONE ESEGUITI SOLO NEI GUANTI DA LAVORO**

**L'INSTALLAZIONE E I LAVORI DI MANUTENZIONE DEVONO ESSERE ESEGUITI UNICAMENTE CON CALZATURE DI PROTEZIONE.**

SE

## UPPLYSNINGS- OCH VARNINGSSYMBOLER

## TECKEN OCH SYMBOLER

beskrivning, förslag, anmärkningar



**FARA**  
Innebär fara för användaren, inklusive dödsfara.



**OBSERVERA**  
Råd för förebyggande av produktens slitage.



**KOM IHÅG** Viktiga funktioner respektive nyttig information. Information med denna symbol skall iaktas särskilt noga.



**YTTERLIGARE INFORMATION**  
Tillägsinformation



**VISUELL OBSERVATION**  
Tillägsinformation



**DRIFT- OCH UNDERHÅLLSMANUAL**  
Tillägsinformation

**RISK**


**ELEKTRISK RISK**



**BRANDRISK**

**GÖR INTE DET**


**FÖRBUD ATT RÖKA I NÄRHETEN AV ANORDNINGEN**



**TA INTE AV SÄKERHETSSKYDDEN**


**OBLIGATORISKA ÅTGÄRDER**

**STÅNG AV STRÖMFÖRSÖRJNINGEN INNAN DU BÖRJAR ARBETA ELLER REPARERA**



**MONTERING OCH UNDERHÅLLSARBETE SKA ENDAST UTFÖRAS I SKYDDSHANDSKAR.**



**MONTERING OCH UNDERHÅLLSARBETE SKA ENDAST UTFÖRAS I SKYDDSSKOR.**

DK

## INFORMATION - OG ADVARSELSTEGN OG SYMBOLER

## BETYDNING

beskrivelse, forslag, bemærkninger



**FARE** For brugeren betyder det, at der er risiko for ulykke, herunder med dødelig udgang.



**BEMÆRK**  
Råd vedrørende forhindring af slitage af produktet.



**HUSK** Nøglefunktioner el. nyttige oplysninger. Læg særlig mærke til oplysninger markeret med dette symbol.



**SUPPLERENDE OPLYSNINGER**  
Supplerende oplysninger.



**VISUEL BEMÆRKNING** Læseren skal følge de visuelle bemærkninger. Symbolet kan desuden forekomme i driftsvejledningen.



**DRIFTS- OG VEDLIGEHOLDELSESMANUAL**  
Henvielse til det relevante punkt i "Drifts- og vedligeholdelsesmanualen"

**FARE**


**ELEKTRISK FARE**



**BRANDFARE**

**FORBUD**


**RYGNING I NÆRHEDEN AF Udstyret FORBUDT**



**SIKKERHEDSANORDNINGER MÅ IKKE FJERNES**


**ANVISNINGER**

**EL-FORSYNING FRAKOBLES INDEN PÅBEGYNDELSE AF ARBEJDE EL. REPARATION.**



**UNDER MONTERING OG VEDLIGEHOLDELSesarbejder SKAL DER ALTID BÆRES ARBEJDSHANDSKER.**



**UNDER MONTERING OG VEDLIGEHOLDELSesarbejder SKAL DER ALTID BÆRES SIKKERHEDSFODTØJ.**

## DE

### Allgemeine Montageempfehlungen

1. Die Montage ist durch ein geschultes Montageteam mit entsprechenden Qualifikationen durchzuführen,
2. Es sind die geltenden Arbeitsschutzvorschriften zu beachten. Eine besondere Aufmerksamkeit ist auf die Arbeitssicherheit sowohl bei der Arbeit mit elektrischen Geräten als auch in der Höhe zu richten,
3. Das Montagegelände ist entsprechend zu markieren und zu sichern,
4. Der Montagegrund soll folgende Eigenschaften besitzen:
  - bei Frost - trockene und ebene Oberfläche mit entsprechender Festigkeit, hergestellt gemäß den geltenden Bauvorschriften,
  - bei Metallkonstruktionen - ordnungsgemäße Konstruktion und Festigkeit.
5. Zur Montage werden, abhängig vom Material, folgende Elemente verwendet:
  - bei Stahlbeton oder Vollziegel - Spreizdübel ø14 mm x 100 mm (für Stützen der Welle), Spreizdübel ø10 mm x 55 mm (für Führungsleisten),
  - bei Stahlkonstruktionen - Schrauben M8 (für Stützen der Welle), Schrauben M6 (für Führungsleisten) oder selbstbohrende Schrauben ø6,3 mm (die Wände der Stahlkonstruktion sollen eine Dicke von mindestens 3 mm haben).
  - bei Wänden aus Hohlmaterialien - entsprechende Montagesysteme, die für diese Materialart bestimmt sind,
  - bei anderen Materialien (Hochlochziegel, Gasbeton usw.) - Dübel für Hochlochziegel und Gasbeton, z. B. Typ Fischer SX
6. Bei der Montage von Federn und Seitenstützen ist besondere Vorsicht zu üben (sehr große Verdrehkräfte)
7. Es sind den Montagearbeiten zugeordnete Informations- und Warnzeichen zu beachten.
8. Nach der Montage, Überprüfung und eventueller Korrektur der Toreinstellung ist eine Benutzerschulung im Bereich Produktbedienung durchzuführen.
9. In Räumen, in denen die Tore montiert wurden, ist für die ordnungsgemäße Belüftung zu sorgen. Sonst ist das Tor korrosionsgefährdet.
10. Das Tor ist durch geeignete Maßnahmen gegen aggressive, korrosiv wirkende Mittel (die z.B. in Ziegeln oder im Mörtel enthalten sein können) zu schützen.

## GB

### General installation tips

1. The installation should be performed by a properly trained and qualified installation team.
2. Observe the binding OHS regulations. Pay special attention to maintaining safety when performing electrical works or works at height.
3. The installation site should be properly marked and secured.
4. The installation substrate should have the following qualities:
  - in the case of walls - dry and even surface of suitable strength, prepared in accordance the binding construction regulations,
  - in the case of metal structures - proper strength and structural correctness.
5. Depending on the substrate, the following fasteners should be used:
  - in the case of reinforced concrete or full brick substrate ø14 mm x 100 mm expansion bolts (for shaft supports), ø10 mm x 55 mm expansion bolts (for guide rails),
  - in the case of steel structures - M8 bolts (for shaft supports), M6 bolts (for guide rails) or ø6.3 mm self-drilling screws (steel structure walls should be at least 3 mm thick).
  - in the case of walls made of materials containing pockets of air - appropriate installation systems for this kind of substrate,
  - in the case of other materials (slotted bricks, gas concrete, etc.) - plugs for slotted bricks and gas concrete, e.g. Fischer SX,
6. Pay special attention when installing springs and side supports (these are subject to considerable twisting forces).
7. Pay attention to informational and warning signs for particular installation activities.
8. After the gate has been installed, checked and adjusted, if necessary, provide a training for the user on the operation of the product.
9. The relevant ventilation ought to be ensured in the rooms where the doors are to be assembled. Otherwise the door will be subject to corrosion.
10. The relevant door protection against aggressive agents causing corrosion (e.g.

## FR

### Indications générales de montage

1. Le montage doit être fait par une équipe de montage qualifiée,
2. Il faut respecter les consignes de sécurité en vigueur. Portez une attention particulière à la sécurité lors de l'utilisation des appareils électriques et à celle de travail en hauteur,
3. Le terrain de montage doit être bien marqué et en sécurité,
4. Le terrain de montage doit se caractériser:
  - dans le cas des murs une surface sèche et plate d'une résistance appropriée faite selon la réglementation de la construction en vigueur,
  - dans le cas des constructions en métal correction de construction et de résistance.
5. Pour le montage, selon la surface, on utilise:
  - dans le cas de la surface de béton armé ou de brique pleine chevilles à expansion Ø14 mm x 100 mm (pour les supports d'arbre, (chevilles à expansion Ø10 mm x 55 mm (pour les glissières),
  - dans le cas des constructions en fer des vis M8 (pour les supports d'arbre, (des vis M6) pour les glissières (ou des vis Ø6,3 mm clou Parker) parois de la construction en fer doivent être de 3 mm d'épaisseur au minimum).
  - dans le cas des murs en matériaux contenant les espaces aériens des systèmes de montage conformes à cette sorte de surface,
  - dans le cas des autres matériaux (brique à joints minces, béton-gaz, etc.) vis pour les briques à joints minces, béton-gaz, p.ex. de type Fischer SX
6. Portez une attention particulière à la sécurité lors du montage des ressorts et des supports latéraux (de très grandes forces de torsion se produisent).
7. Les activités de montage sont accompagnées des symboles d'information préventive auxquels il faut faire attention.
8. Après avoir monté, vérifié et fait une correction éventuelle du positionnement de la porte, il est nécessaire de faire montrer à l'utilisateur comment il faut se servir d'un produit donné.
9. Assurer une bonne aération des locaux où les portes de garage sont montées. Sinon la porte de garage risque d'être soumise à la corrosion.
10. Assurer une bonne protection de la porte contre les produits agressifs et corrosifs (p.ex. produits contenus dans des briques ou du mortier).

11. Bei Toren, die in Waschanlagen montiert werden, sind an Stellen, an denen der Korrosionsschutz u.U. unterbrochen wurde, geeignete Schutzmaßnahmen zu treffen.

### Montagewerkzeuge:

Schlagbohrmaschine  
Metallbohrmaschine  
Schrauber mit regulierbarer Eindrehkraft  
Kantenschleifmaschine / Metallsäge  
Stahlstäbe ø16 mm (zum Aufspannen von Federn)  
Metallbohrer ø5,0 mm und ø6,8 mm  
Betonbohrer ø10 mm und ø14 mm  
Schlüssel mit Schlüsselweiten: 10; 13; 14; 15; 17  
Innensechskantschlüssel 4 mm; 5 mm; 6 mm  
Entsprechende Leiter/ Gerüst  
Hammer  
Maßstab  
Bleistift  
Wasserwaage

Mittel zur Sauberhaltung:  
Handfeger, Handschaufel, Staubsauger

### HINWEIS

Das Produkt kann erst benutzt werden, nachdem der Montagevorgang vollständig abgeschlossen ist!  
Der Montageort ist in Sauberkeit zu halten und nach abgeschlossener Montage sorgfältig in Ordnung zu bringen.

originating from bricks or mortar) ought to be ensured.

11. In case of the doors assembled in car washes, the place for the possible break in the corrosion protection ought to be properly protected.

### Installation tools:

Hammer drilling machine  
Metal drilling machine  
Power screwdriver with adjustable operation  
Angle grinder / metal saw  
Steel rods ø6 mm (for tightening springs)  
Metal drills ø5.0 mm and ø 6.8 mm  
Concrete drills ø10 mm and ø 14 mm  
Wrenches: 10; 13; 14; 15; 17  
Hex wrenches 4 mm; 5 mm; 6 mm  
Proper ladder / scaffolding  
Hammer  
Measuring tape  
Pencil  
Level

Cleaning tools:  
Brush, scoop, vacuum cleaner

### ATTENTION

Product may only be used after the entire installation process has been completed!  
Maintain cleanliness during the installation and clean

11. Pour les portes de garages montées dans des stations de lavage de voiture, protéger dûment les endroits où la protection anti-corrosion seraient éventuellement abîmée.

### Outils de montage:

Perceuse à percussion  
Perceuse pour le métal  
Visseuse de force de vissage réglée  
Rectifieuse d'angle / scie à métal  
Barres de fer ø16 mm (pour tendre des ressorts)  
Foret pour le métal ø5,0 mm et ø6,8 mm  
Forets pour le béton ø10 mm et ø14 mm  
Clefs de: 10; 13; 14; 15; 17  
Clefs imbus de 4 mm; 5 mm; 6 mm  
Échelle convenable / échafaudage  
Marteau  
Mètre  
Crayon  
Courbe de niveau

Accessoires d'entretien:  
balayette, pelle, aspirateur

### ATTENTION

La porte peut être utilisée seulement après avoir terminé entièrement le montage!  
Pendant le travail, le lieu de pose doit rester propre. Après le travail, il faut mettre tout en ordre.



## IT

### Indicazioni generali di installazione

1. L'installazione deve essere eseguita da una squadra di installazione istruita e qualificata.
2. Bisogna attenersi alle norme di sicurezza e igiene del lavoro in vigore. Bisogna fare particolare attenzione alla sicurezza di lavoro con le apparecchiature elettriche, e alla sicurezza di lavoro in luoghi elevati.
3. La zona di installazione deve essere opportunamente segnalata e messa in sicurezza.
4. Le superfici sulle quali va eseguita l'installazione devono possedere le seguenti caratteristiche:
  - in caso di muratura: superficie asciutta e piana, con resistenza adeguata, realizzata secondo le norme edili in vigore,
  - in caso di strutture metalliche: correttezza strutturale e di resistenza.
5. Per l'installazione, a seconda della superficie, si utilizzano:
  - in caso di muri in calcestruzzo armato e in mattoni pieni: tasselli a espansione Ø14 mm x100 mm (per il montaggio dei pannelli laterali), tasselli a espansione Ø10 mm x 55 mm (per il montaggio delle guide),
  - in caso di strutture in acciaio: viti M8 (per i sostegni dell'albero), viti M6 (per le guide) o viti Ø6,3 mm autofilettanti (le pareti della struttura in acciaio devono avere almeno 3 mm di spessore),
  - in caso di pareti con materiali con intercapedini d'aria: sistemi di montaggio adatti alla determinata struttura,
  - in caso di altri materiali (mattoni forati, gasbeton) - tasselli per mattoni forati e gasbeton ad esempio tipo Fischer SX
6. Bisogna operare con particolare prudenza durante il montaggio delle molle e dei supporti laterali (presenza di forze di torsione molto elevate).
7. Bisogna fare attenzione ai segnali di informazione e avvertenza attribuiti alle operazioni di installazione.
8. Dopo l'installazione, il controllo e l'eventuale correzione delle regolazioni del portone o della serranda, bisogna condurre la formazione dell'utilizzatore circa l'utilizzo del prodotto.
9. Bisogna assicurare un'opportuna ventilazione degli ambienti nei quali vengono montati

- i portoni o le serrande. In caso contrario il portone è esposto a corrosione.
- 10. Bisogna assicurare una corretta protezione del portone o della serranda da mezzi aggressivi e corrosivi (ad esempio provenienti dai mattoni o dalla malta).
- 11. Nei portoni installati negli autolavaggi bisogna proteggere opportunamente gli eventuali punti di interruzione della protezione anticorrosione.

### Strumenti per l'installazione:

Trapano a percussione  
 Trapano per metallo  
 Avvitatore con regolazione della forza di torsione  
 Smerigliatrice angolare / seghetto da metallo  
 Barre in acciaio Ø16 mm (per la tensione delle molle)  
 Punte per metallo Ø5,0 mm, Ø9,0 mm e Ø14,0 mm  
 Punte per calcestruzzo Ø10 mm e Ø14 mm  
 Chiavi di dimensioni: 10; 13; 14; 15; 17  
 Chiavi a brugola 4 mm; 5 mm; 6 mm  
 Scala / impalcatura adatta  
 Martello  
 Metro  
 Matita  
 Livella

Mezzi per la pulizia  
 Scopa, paletta, aspirapolvere

### ATTENZIONE

Il prodotto può essere utilizzato solo dopo il termine completo del processo di installazione!  
 Il luogo di installazione va mantenuto pulito, e al termine dell'installazione pulire con cura

## SE

### Allmänna rekommendationer för montering

1. Monteringen ska utföras av ett utbildat monteringssteam som har lämpliga kvalifikationer.
2. Gällande skydds- och säkerhetsföreskrifter ska följas. Särskild uppmärksamhet bör ägnas åt säkerheten hos elektrisk utrustning och säkerheten vid arbete på hög höjd.
3. Monteringsområdet ska vara tillräckligt märkt och säkrat.
4. Monteringsunderlaget ska vara:
  - när det gäller väggar/murar – en torr och jämn yta med tillräcklig hållfasthet, framställd enligt gällande byggregler,
  - när det gäller metallkonstruktioner – korrekt konstruktion och hållfasthet.
5. För montering, beroende på underlaget, används följande:
  - när det gäller underlag av armerad betong eller massivt tegel – pluggar Ø14 mm x100 mm (till axelfästen), pluggar Ø10 mm x 55 mm (till styrskenor),
  - när det gäller stålkonstruktioner – skruvar M8 (till axelfästen), skruvar M6 (till styrskenor) eller självborrande skruvar Ø6,3 mm (stålkonstruktionens väggar bör vara minst 3 mm tjocka),
  - när det gäller väggar av material som innehåller luftfickor – monteringsssystem lämpliga för denna typ av underlag,
  - när det gäller andra material – håltegel, lättbetong m.m.) – pluggar till håltegel och lättbetong, t.ex. SX från Fischer.
6. Var särskilt försiktig när du monterar fjädrar och sidostöd (det uppstår mycket höga vridkrafter).
7. Var uppmärksam på informations- och varningsskyltar som är knutna till monteringsåtgärder.
8. Användaren måste utbildas i hanteringen av produkter efter utförd montering, testning och eventuell justering av portens inställningar.
9. Sörj för god ventilation i lokaler där portarna är monterade. Annars är det risk för korrosion på porten.
10. Skydda porten mot aggressiva frätande ämnen (som kommer t.ex. från tegel eller murbruk) på rätt sätt.

11. I portar som monteras i tvätthallar ska eventuella ställen som saknar korrosionsskydd skyddas på ett lämpligt sätt.

### Monteringsverktyg:

Slagbormaskin  
 Bormaskin för metall  
 Bormaskin med reglerbar skruvkraft  
 Vinkelslip/ metallsåg  
 Stålstänger Ø16 mm (för att spänna fjädrar)  
 Borr för metall Ø5,0 mm och Ø6,8 mm  
 Borrar för betong Ø10 mm och Ø14 mm  
 Nycklar av följande storlekar: 10; 13; 14; 15; 17  
 Insexnycklar 4 mm; 5 mm; 6 mm  
 Lämplig stege/ byggnadsställning  
 Hammare  
 Måttband  
 Blyertspenna  
 Vattenpass

Rengöringsmedel:  
 Sopborste, sopskyffel, dammsugare

### OBSERVERA

Man kan börja använda produkten enbart efter avslutandet av hela monteringsprocessen!  
 Monteringsområdet skall hållas rent och efter monteringen skall noggrann städning genomföras.

## DK

### Generelle monteringshenvisninger

1. Montering skal udføres af kvalificeret montører.
2. Man skal overholde gældende sikkerheds- og sundheds regler. Der skal lægges særlig hensyn til sikkerhed ved arbejde med elektriske anlæg/maskiner og ved arbejder i højden.
3. Monteringsområdet skal beskyttes og sikres på en passende måde.
4. Monteringsgrund skal kendetegne sig ved følgende faktorer:
  - ved murer tør og jævn undergrund med passende holdbarhed, udført i overensstemmelse med gældende byggeforskrifter
  - ved metal konstruktioner
  - korrekt konstruktion og dens holdbarhed.
5. Til montering afhængig af undergrundstypen, anvender man:
  - i tilfælde af jernbeton
  - eller tegl undergrunden støttebolte/tværbolte Ø14 mm x100 mm (til montering af sideplader), tværbolte Ø10 mm x 55 mm (til montering af styringer/styringslister),
  - i tilfælde af stål konstruktioner
  - skruer M8 (til støtte af akslen), skruer M6 (til styringslister) eller træskruer Ø6,3 mm selv borende (stål konstruktionens vægge skal min. være 3 mm tykke)
  - i tilfælde af vægge, udført i specialt materiale med luftrum passende monteringsystem til hver eneste undergrundstype,
  - ved andet materiale (tegl med sprækker, gasbeton, osv.) træskruer til tegl med sprækker og gasbetonen, for eksempel Fischer SX type
6. Der skal lægges særlig hensyn til montering af fjeder og sidestøtter (der opstår store sidesvingninger).
7. Der skal lægges mærke til informations-advarsels tegn i forbindelse med monteringsaktiviteter.
8. Efter montering, kontrol og eventuel justering af portens eller gitterens indstillinger skal man gennemføre indledende vejledningskurser for fremtidige brugere.
9. Der skal sikres en passende rumventilation, hvor portene eller gitterne bliver

monteret. I andet tilfælde er porten udsat for korrosion.

10. Der skal sikres passende beskyttelse af porten eller gitteren mod aggressive korrosionsfremkaldende midler (for eksempel: fra mursten eller mørtelen).
11. I tilfælde af porte monteret i bilvask bør man beskytte alle steder, hvor antikorrosions sikring kan blive afbrudt.

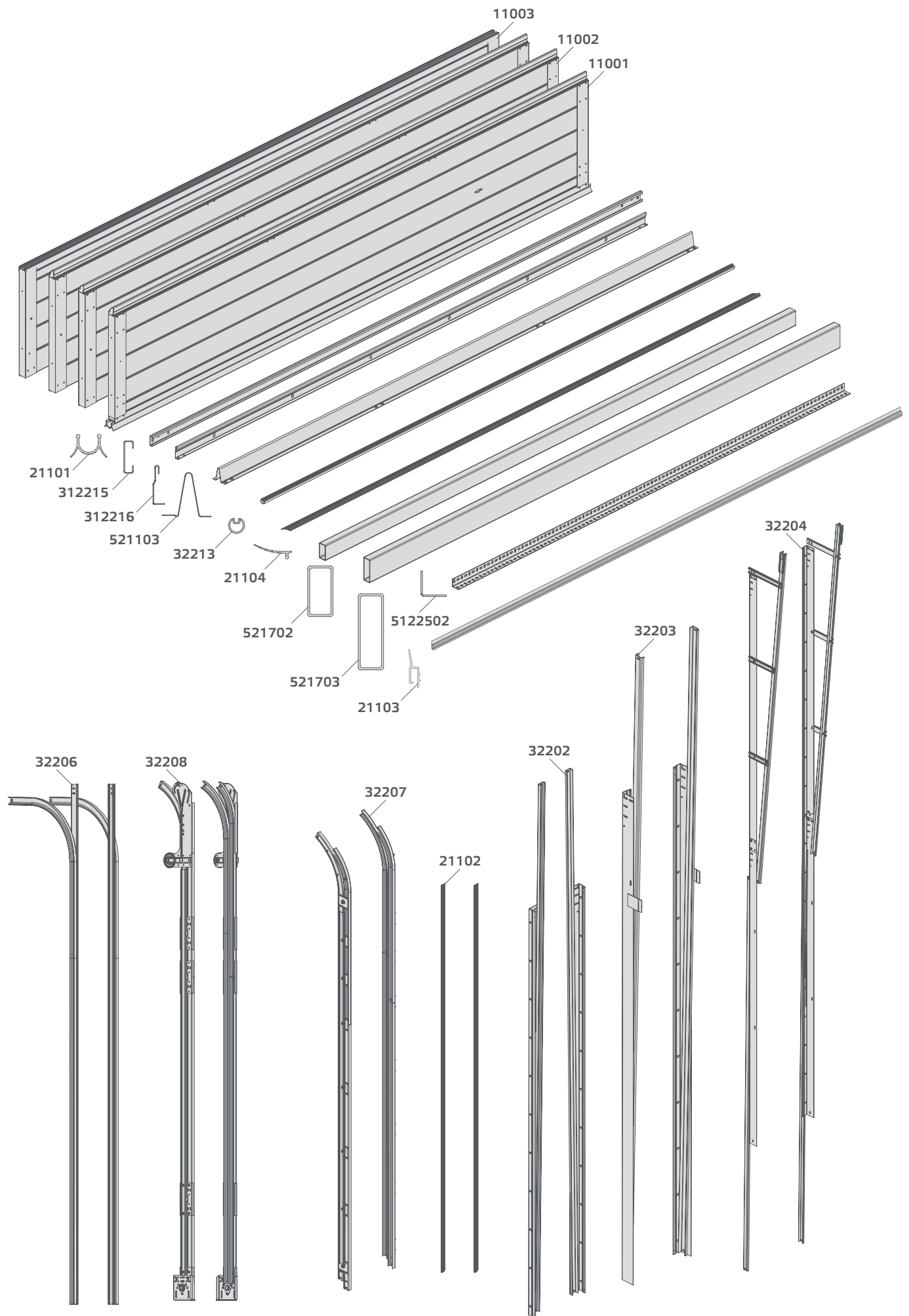
### Monteringsværktøj:

Slagboremaskine  
 Metalboremaskine  
 Skruemaskine med reguleret skruerkraft  
 Vinkelslibemaskine/nedstryger  
 Stålstave Ø16 mm (til spænding af fjeder)  
 Metalbor Ø5,0 mm, Ø9,0 mm og Ø14,0 mm  
 Betonbor Ø10 mm og Ø14 mm  
 Nøgler, størrelse: 10; 13; 14; 15; 17  
 Imbusnøgler 4 mm; 5 mm; 6 mm  
 Passende stige/stillads  
 Hammer  
 Mål, Blyant, Højdekurve, Elektrisk måler

Rengøringsmidler  
 Kost, skovle, støvsuger

### OBS

Produktet kan først anvendes, efter monteringsprocessen er blevet afsluttet!  
 Monteringsstedet skal holdes rengjort, efter afsluttet montering skal stedet omhyggeligt ryddes op.



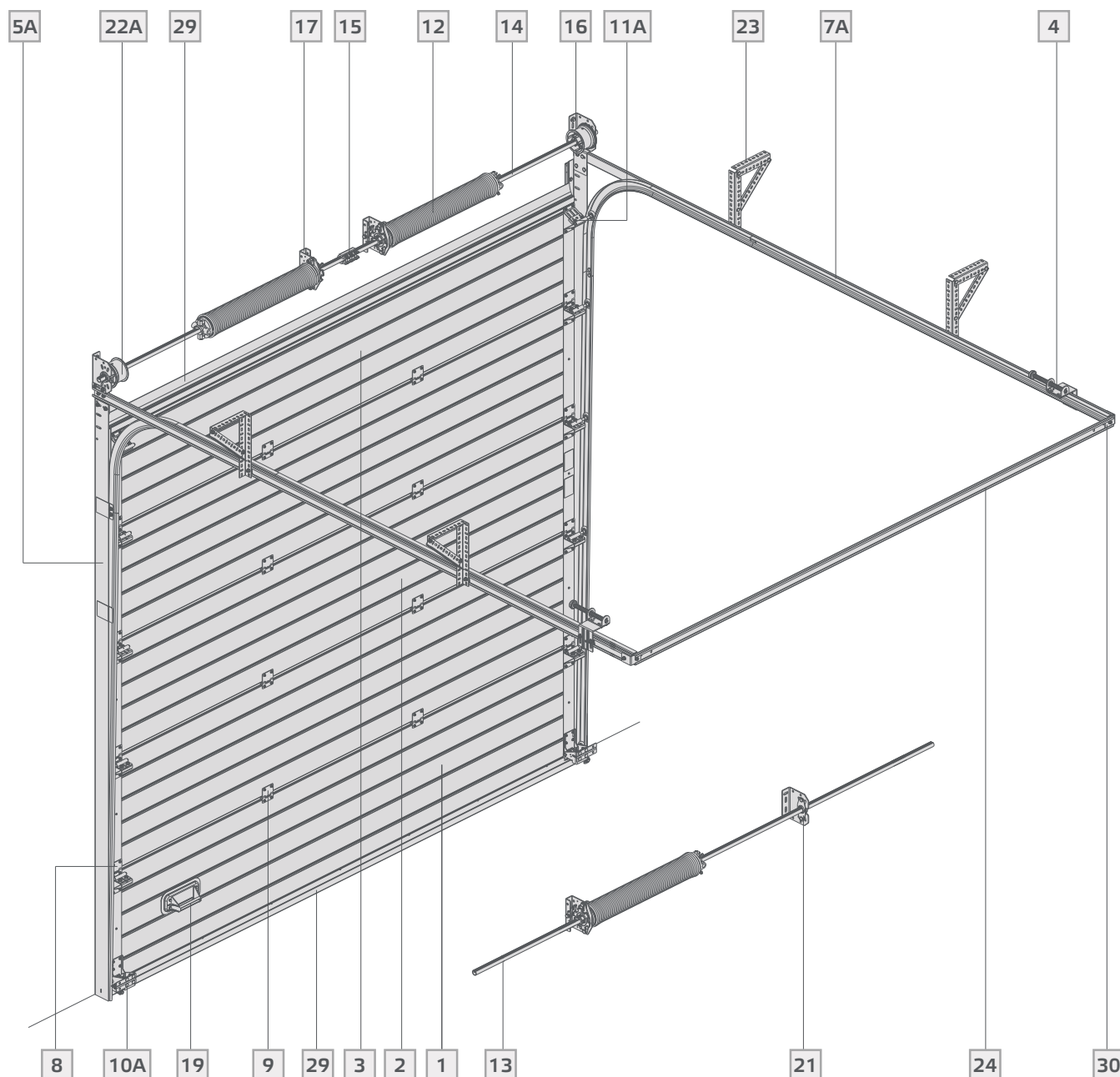
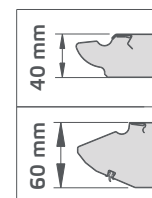


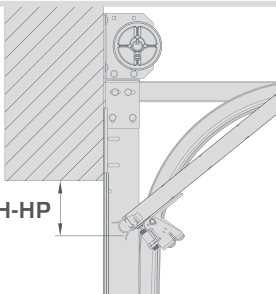
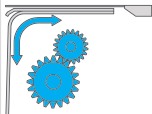
| DE LISTE DER ELEMENTE                                               | EN LIST OF ELEMENTS                                         | FR LISTE DES ÉLÉMENTS                                                | INDEX   |
|---------------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------------------------------------|---------|
| <b>1 - SEKTION</b>                                                  | <b>1 - PANEL</b>                                            | <b>1 - SECTION</b>                                                   |         |
| Untersektion mit Beschlag                                           | bottom section with fittings                                | section inférieure avec une ferrure                                  | 11001   |
| Mittelsektionen mit Beschlag                                        | middle sections with fittings                               | sections centrales avec une ferrure                                  | 11002   |
| Obersektion mit Beschlag                                            | top section with fittings                                   | section supérieure avec une ferrure                                  | 11003   |
| <b>2 - DICHTUNG</b>                                                 | <b>2 - SEAL</b>                                             | <b>2 - JOINT</b>                                                     |         |
| untere Dichtung (für untere Sektion)                                | bottom seal (for bottom panel)                              | joint bas (pour section inférieure)                                  | 21101   |
| seitliche Dichtungen (für senkrechte Winkleisen)                    | side seals (for vertical angles)                            | joints latéraux                                                      | 21102   |
| obere Dichtung (für Sturzleiste)                                    | top seal (for lintel profile)                               | joint haut (pour traverse de linteau)                                | 21103   |
| obere Dichtung                                                      | top seal                                                    | joint haut                                                           | 21104   |
| <b>3 - FÜHRUNGEN</b>                                                | <b>3 - TRACKS</b>                                           | <b>3 - RAILS</b>                                                     |         |
| Vertikale Winkel NP/LHR/LHRF/LHR-B/FLH/<br>FHL/FTR                  | angle bars NP/LHR/LHRF/LHR-B/FLH/FHL/FTR                    | cornières verticales NP/LHR/LHRF/LHR-B/FLH/<br>FHL/FTR               | 32202   |
| Vertikale Winkel HL/HL-K                                            | angle bars HL/HL-K                                          | cornières verticales HL/HL-K                                         | 32203   |
| Vertikale Winkel VL/VL-K                                            | angle bars VL/VL-K                                          | cornières verticales VL/VL-K                                         | 32204   |
| Horizontale Führungsleisten NP/HL/HL-K/FTR/FHL                      | horizontal guide rails NP/HL/HL-K/FTR/FHL                   | glissières horizontales NP/HL/HL-K/FTR/FHL                           | 32206   |
| Horizontale Führungsleisten LHR/LHR-B/LHRF                          | horizontal guide rails LHR/LHR-B/LHRF                       | glissières horizontales LHR/LHR-B/LHRF                               | 32207   |
| Horizontale Führungsleisten FLH                                     | horizontal guide rails FLH                                  | glissières horizontales FLH                                          | 32208   |
| Montage-Querstück                                                   | installation bar                                            | traverse de montage                                                  | 312215  |
| Sturzleiste                                                         | lintel profile                                              | traverse de linteau                                                  | 312216  |
| Welle                                                               | shaft                                                       | arbre                                                                | 32213   |
| <b>4 - FEDER</b>                                                    | <b>4 - SPRING</b>                                           | <b>4 - RESSORT</b>                                                   |         |
| Rechte Feder                                                        | right-hand spring                                           | ressort droit                                                        | 41001   |
| <b>5 - DER ELEMENTE</b>                                             | <b>5 - ELEMENTS</b>                                         | <b>5 - ARTICLES</b>                                                  |         |
| Seitenbänder                                                        | side hinges                                                 | charnières latérales                                                 | 52604   |
| Mittelbänder                                                        | middle hinges                                               | charnières centrales                                                 | 52606   |
| Unterbänder NP/LHRF/LHR/LHR-B/HL/HL-K/<br>VL/VL-K/FTR/FHL           | bottom hinges NP/LHRF/LHR/LHR-B/HL/HL-K/<br>VL/VL-K/FTR/FHL | charnières inférieures NP/LHRF/LHR/LHR-B/HL/<br>HL-K/VL/VL-K/FTR/FHL | 52902   |
| Unterbänder FLH                                                     | bottom hinges FLH                                           | charnières inférieures FLH                                           | 52903   |
| Schutz gegen Seilbruch bis 750 kg (einstell.)                       | protection in case of cord breaking, up to<br>750 kg (reg.) | protection contre la cassure de la corde jusqu'à<br>750 kg (rég.)    | 52904   |
| Oberbänder NP/HL/HL-K/VL/VL-K/FTR/FHL                               | top hinges NP/HL/HL-K/VL/VL-K/FTR/FHL                       | charnières supérieures NP/HL/HL-K/VL/VL-K/FTR/FHL                    | 52602   |
| Oberbänder LHR/LHR-B/FLH                                            | top hinges LHR/LHR-B/FLH                                    | charnières supérieures LHR/LHR-B/FLH                                 | 52609   |
| Oberbänder LHRF                                                     | top hinges LHRF                                             | charnières supérieures LHRF                                          | 52610   |
| Laufrolle, lang                                                     | roller, long                                                | galet long                                                           | 511201  |
| Verbindungsstück der Welle                                          | shaft connector                                             | joint de l'arbre                                                     | 522701  |
| Verbindungsstück der Welle >32m²                                    | shaft connector >32m²                                       | joint de l'arbre >32m²                                               | 522704  |
| Seitenstützen                                                       | side supports                                               | supports latéraux                                                    | 52802   |
| Seitenstützen >32m²                                                 | side supports >32m²                                         | supports latéraux >32m²                                              | 52803   |
| Allzweck-Wellenbock 152mm, 1 1/4"                                   | universal support of the shaft, 152mm, 1 1/4"               | support de l'arbre polyvalent 152mm, 1 1/4"                          | 52804   |
| Abstand des Seitenbocks                                             | spacer of the side support                                  | barre de distance de support latéral                                 | 522001  |
| Mittelstützen                                                       | middle supports                                             | supports centraux                                                    | 52802   |
| Mittelstützen mit Schutzeinrichtungen                               | middle supports with safety devices                         | supports centraux avec dispositifs de sécurité                       | 52901   |
| Abstandskonsolen Mitte                                              | spacing central consoles                                    | consoles centrales de distance                                       | 52701   |
| Verstärkte Abstandskonsolen Mitte                                   | spacing central consoles, reinforced                        | consoles centrales de distance renforcées                            | 52702   |
| hintere Konsole (Paar) LHR                                          | rear console (pair) LHR                                     | console arrière (paire) LHR                                          | 52703   |
| Zweiseitiger Halter                                                 | double-sided handle                                         | poignée bilatérale                                                   | 521803  |
| Sperrriegel                                                         | locking bolt                                                | verrou de blocage                                                    | 521402  |
| Trommeln NP/FLH/LHR/LHR-B/LHRF/FTR                                  | drums NP/FLH/LHR/LHR-B/LHRF/FTR                             | tambours NP/FLH/LHR/LHR-B/LHRF/FTR                                   | 51401   |
| Trommeln HL/HL-K/FHL                                                | drums HL/HL-K/FHL                                           | tambours HL/HL-K/FHL                                                 | 51402   |
| Trommeln VL/VL-K                                                    | drums VL/VL-K                                               | tambours VL/VL-K                                                     | 52403   |
| Konsolebalken 80x40                                                 | console beam 80x40                                          | poutre de console 80x40                                              | 521702  |
| Konsolebalken 120x40                                                | console beam 120x40                                         | poutre de console 120x40                                             | 521703  |
| Konsolen VL-K, HL-K groß                                            | consoles VL-K, HL-K big                                     | consoles VL-K, HL-K grand                                            | 52704   |
| Konsolen HL-K klein                                                 | consoles HL-K small                                         | consoles HL-K petit                                                  | 52705   |
| Konsolen LHR/LHR-B                                                  | consoles LHR/LHR-B                                          | consoles LHR/LHR-B                                                   | 52708   |
| (paarweise) Hintere Konsole LHR ohne Balken                         | (pair) Rear console LHR without beam                        | (paire) Console arrière LHR sans barre                               | 52711   |
| Zylinderschloss                                                     | cylinder lock                                               | serrure                                                              | 521302  |
| Verstärkungsprofil Omega B>4750                                     | reinforcement profile Omega B>4750                          | renfort Omega B>4750                                                 | 521103  |
| Türpuffer                                                           | bump rails                                                  | arrêts                                                               | 522301  |
| Torstopper-Winkel                                                   | fender angle bar                                            | équerre de butoir                                                    | 512503  |
| Keil für Hohlwelle                                                  | hollow shaft wedge                                          | cale pour arbre tubulaire                                            | 522201  |
| Keil für Hohlwelle gebogen                                          | hollow shaft wedge bent                                     | cale pour arbre tubulaire pliée                                      | 522202  |
| Distanzhülse 4mm                                                    | spacing sleeve 4mm                                          | douille d'écartement 4mm                                             | 521902  |
| Lager                                                               | bearing                                                     | palier                                                               | 522101  |
| Lager >380kg                                                        | bearing >380kg                                              | palier >380kg                                                        | 522103  |
| Lagerhalter                                                         | bearing retainer                                            | bague du palier                                                      | 512602  |
| Profilschelle 80x80                                                 | section clamp 80x80                                         | pince de profilé 80x80                                               | 522601  |
| Montagewinkel                                                       | installation angle bar                                      | cornière de montage                                                  | 522501  |
| Lochwinkel                                                          | perforated angle bar                                        | cornière perforée                                                    | 5122502 |
| Begrenzungsspanne                                                   | limiting clip                                               | fermoir de limite                                                    | 512801  |
| Stahlseile (Paar)                                                   | steel cables (pair)                                         | cordes en acier (paire)                                              | 51502   |
| Einfügen für C - Profil                                             | insert for C - profile                                      | insérer à - C profil                                                 | 522901  |
| Lagerspere des Allzweck-Wellenbocks                                 | bearing lock of the support of the shaft                    | verrouillage du roulement du support polyvalent<br>de l'arbre        | 522401  |
| Antriebskonsole                                                     | console for the drive                                       | console de motorisation                                              | 51712   |
| Seil für die Handbedienung                                          | manual operation cord                                       | corde pour manoeuvre manuelle                                        | 52503   |
| <b>6 - MUTTERSCHRAUBEN, SCHAFTSCHRAU-<br/>BEN, SCHRAUBENMUTTERN</b> | <b>6 - BOLTS, SCREWS, NUTS</b>                              | <b>6 - VIS, ÉCROUS</b>                                               |         |
| Mutterschrauben (M6x16)                                             | bolts (M6x16)                                               | vis (M6x16)                                                          | 613301  |
| Schraubenmutter (M6)                                                | nuts (M6)                                                   | écrous (M6)                                                          | 613502  |
| Mutterschrauben (M8x16)                                             | bolts (M8x16)                                               | vis (M8x16)                                                          | 613302  |
| Schraubenmutter (M8)                                                | nuts (M8)                                                   | écrous (M8)                                                          | 613501  |
| Mutterschrauben (M5x12)                                             | bolts (M5x12)                                               | vis (M5x12)                                                          | 613306  |
| Schraubenmutter (M5)                                                | nuts (M5)                                                   | écrous (M5)                                                          | 613504  |
| Schaftschrauben (6,3x16)                                            | screws (6,3x16)                                             | vis (6,3x16)                                                         | 613202  |
| Schaftschrauben (6,3x35)                                            | screws (6,3x35)                                             | vis (6,3x35)                                                         | 613203  |
| Schaftschrauben (4,2x9,5)                                           | screws (4,2x9,5)                                            | vis (4,2x9,5)                                                        | 613201  |
| Mutterschrauben (M10x25)                                            | bolts (M10x25)                                              | vis (M10x25)                                                         | 623308  |
| Schraubenmutter (M10)                                               | nuts (M10)                                                  | écrous (M10)                                                         | 613503  |
| Mutterschrauben (M8x25)                                             | bolts (M8x25)                                               | vis (M8x25)                                                          | 613307  |
| Mutterschrauben (M8x40)                                             | bolts (M8x40)                                               | vis (M8x40)                                                          | 623313  |



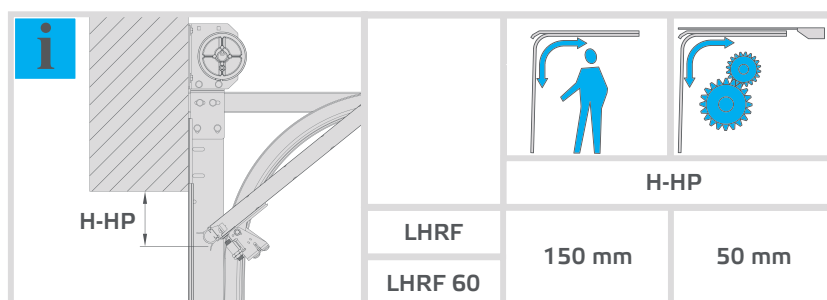
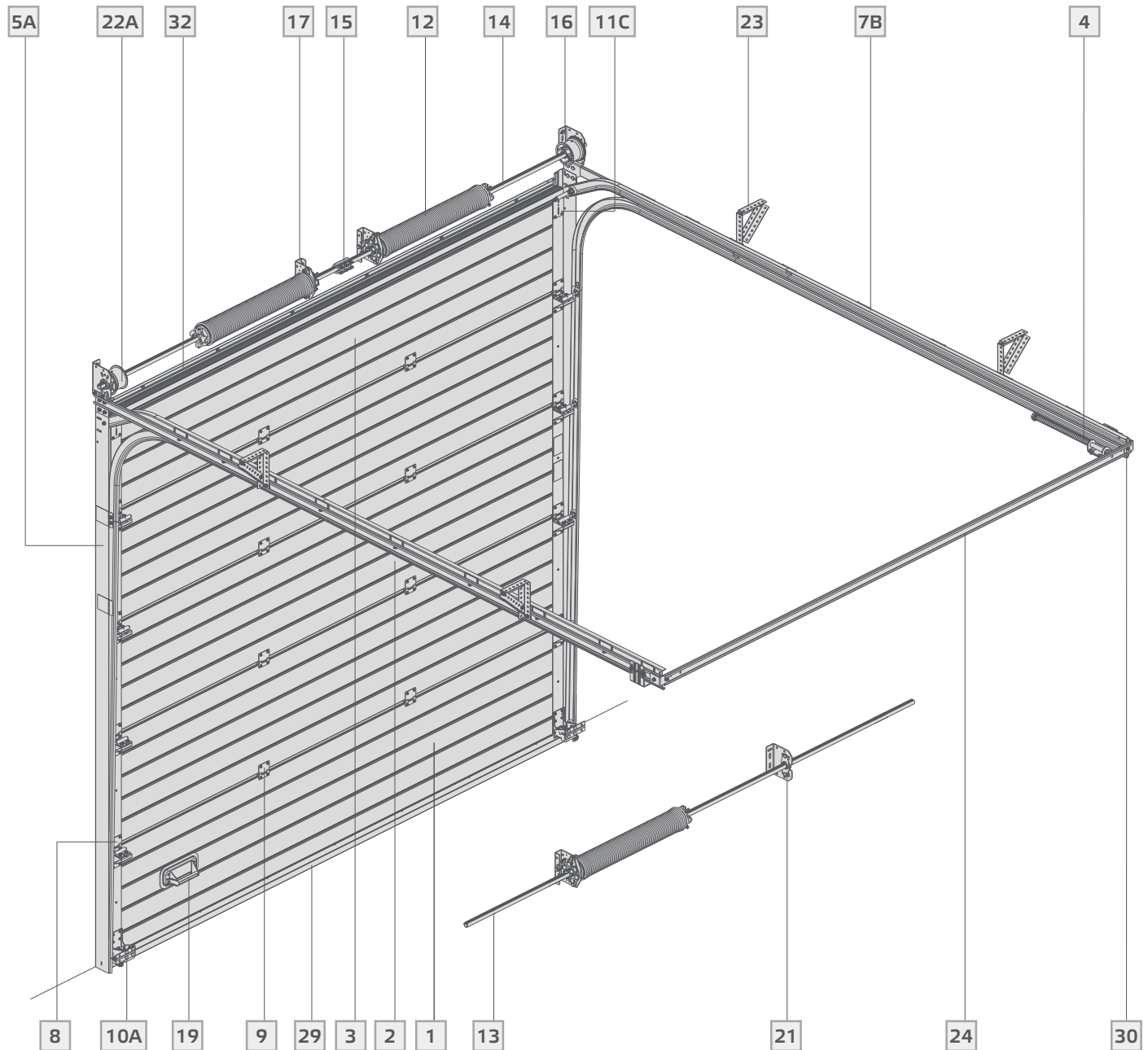
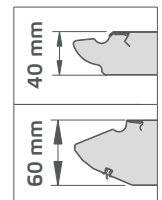
| IT ELENCO DEGLI ELEMENTI                                       | SE FÖRTECKNING ÖVER DE ASPEKTER                           | DK OVERSICHT OVER BESTANDDELE                            | INDEX   |
|----------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------|---------|
| <b>1 - PANNELLO</b>                                            | <b>1 - SEKTION</b>                                        | <b>1 - SEKTION</b>                                       |         |
| sezione inferiore con ferramenta                               | bottensektion med beslag                                  | undersektion med beslag                                  | 11001   |
| sezione centrale con ferramenta                                | mellansektioner med beslag                                | midtersektion med beslag                                 | 11002   |
| sezione superiore con ferramenta                               | toppsektion med beslag                                    | oversektion med beslag                                   | 11003   |
| <b>2 - GUARNIZIONE</b>                                         | <b>2 - TÄTNINGAR</b>                                      | <b>2 - TÆTNING</b>                                       |         |
| guarnizione per il pannello inferiore                          | tätning till nedre sektion                                | nedre tætning (til nedre sektion)                        | 21101   |
| guarnizioni per profili angolari verticali                     | tätningar till vertikala profiler                         | sidetætning (til lodret vinkel)                          | 21102   |
| sigiliul superior (pentru profilul boiandrugulu)               | guarnizione per il listello dell'architrave               | øvre tætning (til overtærskelsliste)                     | 21103   |
| sigiliul superior                                              | tätlist för top segment                                   | øvre tætning                                             | 21104   |
| <b>3 - GUIDE</b>                                               | <b>3 - LEDGÅNGAR</b>                                      | <b>3 - FØRINGSLISTER</b>                                 |         |
| profili angolari verticali NP/LHR/LHRF/LHR-B/<br>FLH/FHL/FTR   | vertikala vinkelfästen NP/LHR/LHRF/LHR-B/<br>FLH/FHL/FTR  | lodrette vinkler NP/LHR/LHRF/LHR-B/FLH/<br>FHL/FTR       | 32202   |
| profili angolari verticali HL/HL-K                             | vertikala vinkelfästen HL/HL-K                            | lodrette vinkler HL/HL-K                                 | 32203   |
| profili angolari verticali VL/VL-K                             | vertikala vinkelfästen VL/VL-K                            | lodrette vinkler VL/VL-K                                 | 32204   |
| guide orizzontali NP/HL/HL-K/FTR/FHL                           | horisontella styrskenor NP/HL/HL-K/FTR/FHL                | vandrette føringsskinner NP/HL/HL-K/FTR/FHL              | 32206   |
| guide orizzontali LHR/LHR-B/LHRF                               | horisontella styrskenor LHR/LHR-B/LHRF                    | vandrette føringsskinner LHR/LHR-B/LHRF                  | 32207   |
| guide orizzontali FLH                                          | horisontella styrskenor FLH                               | vandrette føringsskinner FLH                             | 32208   |
| traversa di montaggio                                          | tvärbalk för montering                                    | monterings tværstykke                                    | 312215  |
| listello dell'architrave                                       | tröskellist                                               | overtærskelsliste                                        | 312216  |
| albero                                                         | axel                                                      | aksel                                                    | 32213   |
| <b>4 - MOLLA</b>                                               | <b>4 - FJÄDER</b>                                         | <b>4 - FJEDER</b>                                        |         |
| molla                                                          | fjäder                                                    | feder                                                    | 41001   |
| <b>5 - ARTICOLI</b>                                            | <b>5 - OBJEKT</b>                                         | <b>5 - ELEMENTER</b>                                     |         |
| cerniere laterali                                              | sidogångjärn                                              | sidehængsler                                             | 52604   |
| cerniere centrali                                              | mittgångjärn                                              | midterhængsler                                           | 52606   |
| cerniere inferiori NP/LHRF/LHR/LHR-B/HL/<br>VL-K/VL-K/FTR/FHL  | bottengångjärn NP/LHRF/LHR/LHR-B/HL-K/<br>VL-VL-K/FTR/FHL | underhængsler NP/LHRF/LHR/LHR-B/HL-K/<br>VL-VL-K/FTR/FHL | 52902   |
| cerniere inferiori FLH                                         | bottengångjärn FLH                                        | underhængsler FLH                                        | 52903   |
| protezione in caso di rottura del cavo fino a<br>750 kg (reg.) | skydd vid repbrytning till 750 kg (justerbar)             | beskyttelse mod linebrug op til 750 kg (reg.)            | 52904   |
| cerniere superiori NP/HL/HL-K/VL/VL-K/FTR/FHL                  | toppgångjärn NP/HL/HL-K/VL/VL-K/FTR/FHL                   | overhængsler NP/HL/HL-K/VL/VL-K/FTR/FHL                  | 52602   |
| cerniere superiori LHR/LHR-B/FLH                               | toppgångjärn LHR/LHR-B/FLH                                | overhængsler LHR/LHR-B/FLH                               | 52609   |
| cerniere superiori LHRF                                        | toppgångjärn LHRF                                         | overhængsler LHRF                                        | 52610   |
| rullo lungo                                                    | lång rulle                                                | lang rulle                                               | 511201  |
| giunto dell'albero                                             | axelkoppling                                              | forbindelsesstykke til akslen                            | 522701  |
| giunto dell'albero >32m²                                       | axelkoppling >32m²                                        | forbindelsesstykke til akslen >32m²                      | 522704  |
| supporti laterali                                              | sidostöd                                                  | sidestøtter                                              | 52802   |
| supporti laterali >32m²                                        | sidostöd >32m²                                            | sidestøtter >32m²                                        | 52803   |
| supporto universale dell'albero 152mm, 1 1/4"                  | universalaxelstöd 152mm, 1 1/4 "                          | universal akselstøtte 152mm, 1 1/4"                      | 52804   |
| distanziale del supporto laterale                              | sidostödets distans                                       | afstandsstykke til sidestøtte                            | 522001  |
| supporti centrali                                              | mittstöd                                                  | midterstøtter                                            | 52802   |
| supporti centrali con dispositivi di sicurezza                 | mittstöd med skydd                                        | midterstøtter med sikringer                              | 52901   |
| console intermedie distanziali                                 | distansmittkonsoler                                       | midterste afstandskonsoller                              | 52701   |
| console intermedie distanziali rinforzate                      | förstärkede distansmittkonsoler                           | forstærkede midterste afstandskonsoller                  | 52702   |
| console posteriore (coppia) LHR                                | bakrekonsol (par) LHR                                     | konsol (sæt) LHR                                         | 52703   |
| maniglia a due lati                                            | dubbelsidigt handtag                                      | dobbeltsidig greb                                        | 521803  |
| catenaccio                                                     | låsregel                                                  | låserigel                                                | 521402  |
| tamburi NP/FLH/LHR/LHR-B/LHRF/FTR                              | trummor NP/FLH/LHR/LHR-B/LHRF/FTR                         | tromler NP/FLH/LHR/LHR-B/LHRF/FTR                        | 51401   |
| tamburi HL/HL-K/FHL                                            | trummor HL/HL-K/FHL                                       | tromler HL/HL-K/FHL                                      | 51402   |
| tamburi VL/VL-K                                                | trummor VL/VL-K                                           | tromler VL/VL-K                                          | 52403   |
| trave di consolle 80x40                                        | konsolbalk 80x40                                          | konsolbjælke 80x40                                       | 521702  |
| trave di consolle 120x40                                       | konsolbalk 120x40                                         | konsolbjælke 120x40                                      | 521703  |
| consolle VL-K, HL-K grande                                     | konsoler VL-K, HL-K stor                                  | konsol VL-K, HL-K stor                                   | 52704   |
| consolle HL-K piccolo                                          | konsoler HL-K liten                                       | konsol HL-K lille                                        | 52705   |
| consolle LHR/LHR-B                                             | konsoler LHR/LHR-B                                        | konsol LHR/LHR-B                                         | 52708   |
| (paio) Console posteriore LHR senza trave                      | (par) bakre LHR-konsol utan stråle                        | (par) bagerste LHR konsol u. bjælke                      | 52711   |
| serratura a cilindro                                           | cylinderlås                                               | spærrebolt                                               | 521302  |
| profilo rinforzante Omega B>4750                               | förstärkningsprofil Omega B>4750                          | Omega B>4750 styrkeprofil                                | 521103  |
| paracolpi                                                      | portstoppar                                               | dørstopper                                               | 522301  |
| angolare del tampone                                           | buffertnes vinkel                                         | stopper-vinkeljern                                       | 512503  |
| cuneo per l'albero cavo                                        | kil för ihålig axel                                       | nøgle t. rørksele                                        | 522201  |
| cuneo per albero cavo piegato                                  | böjd kil för ihålig axel                                  | nøgle t. rørksele bøjet                                  | 522202  |
| distanziale 4mm                                                | distanshylsa 4mm                                          | afstandsbolt 4mm                                         | 521902  |
| cuscinetto                                                     | kullager                                                  | forsyning                                                | 522101  |
| cuscinetto >380kg                                              | kullager >380kg                                           | forsyning >380kg                                         | 522103  |
| anello di fissaggio del cuscinetto                             | kullagerhus                                               | forsyningsbeslag                                         | 512602  |
| anello di fissaggio del profilo 80x80                          | profilklämma 80x80                                        | profilspænde 80x80                                       | 522601  |
| profilo angolare di montaggio                                  | fästvinkel                                                | monteringsvinkel                                         | 522501  |
| profilo angolare forato                                        | perforeret vinkelfäste                                    | perforeret vinkel                                        | 5122502 |
| catenaccio limitante                                           | begränsande lås                                           | begrænsningsspænde                                       | 512801  |
| funi (coppia)                                                  | linor (par)                                               | påsætning af rullen (et sæt)                             | 51502   |
| inserisci per profilo C                                        | infoga för C-profil                                       | indsæt for C-profil                                      | 522901  |
| blocco del cuscinetto del supporto universale<br>dell'albero   | lagerlås för universalaxelstöd                            | lås til leje v. universal akselstøtte                    | 522401  |
| console per l'azionamento                                      | konsol för driv                                           | drevkonsol                                               | 51712   |
| cavo per la gestione manuale                                   | länk till manuell drift                                   | snor t. manuel betjening                                 | 52503   |
| <b>6 - VITI, DADI</b>                                          | <b>6 - SKRUVAR, STOPPSKRUVAR, MUTTRAR</b>                 | <b>6 - MØTRIK, BOLT, SKRUE</b>                           |         |
| viti (M6x16)                                                   | skruvar (M6x16)                                           | bolt (M6x16)                                             | 613301  |
| dadi (M6)                                                      | muttrar (M6)                                              | møtrik (M6)                                              | 613502  |
| viti (M8x16)                                                   | skruvar (M8x16)                                           | bolt (M8x16)                                             | 613302  |
| dadi (M8)                                                      | muttrar (M8)                                              | møtrik (M8)                                              | 613501  |
| viti (M5x12)                                                   | skruvar (M5x12)                                           | bolt (M5x12)                                             | 613306  |
| dadi (M5)                                                      | muttrar (M5)                                              | møtrik (M5)                                              | 613504  |
| dadi (6,3x16)                                                  | stoppskruvar (6,3x16)                                     | skrue (6,3x16)                                           | 613202  |
| dadi (6,3x35)                                                  | stoppskruvar (6,3x35)                                     | skrue (6,3x35)                                           | 613203  |
| dadi (4,2x9,5)                                                 | stoppskruvar (4,2x9,5)                                    | skrue (4,2x9,5)                                          | 613201  |
| viti (M10x25)                                                  | skruvar (M10x25)                                          | bolt (M10x25)                                            | 623308  |
| dadi (M10)                                                     | muttrar (M10)                                             | møtrik (M10)                                             | 613503  |
| viti (M8x25)                                                   | skruvar (M8x25)                                           | bolt (M8x25)                                             | 613307  |
| viti (M8x40)                                                   | skruvar (M8x40)                                           | bolt (M8x40)                                             | 623313  |

# NP

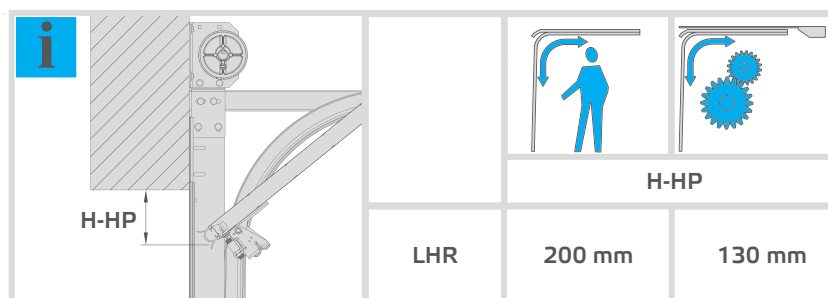
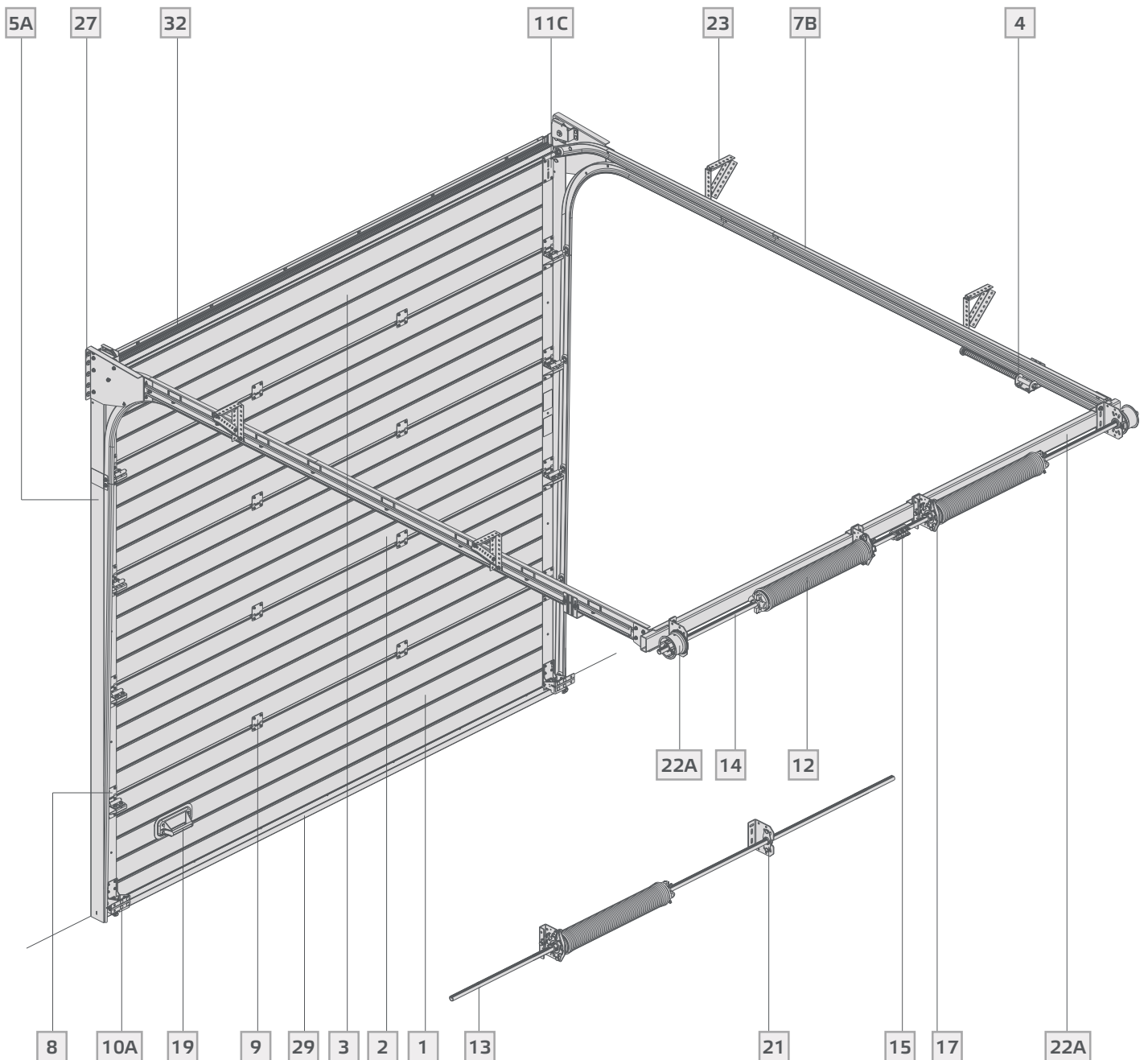


|                                                                                                                                                                                     |                                                                                                                                                                            |       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
|   <p>H-HP</p> |   |       |
|                                                                                                                                                                                     | H-HP                                                                                                                                                                       |       |
|                                                                                                                                                                                     | NP                                                                                                                                                                         | 50 mm |
|                                                                                                                                                                                     | NP 60                                                                                                                                                                      | 50 mm |

# LHRF

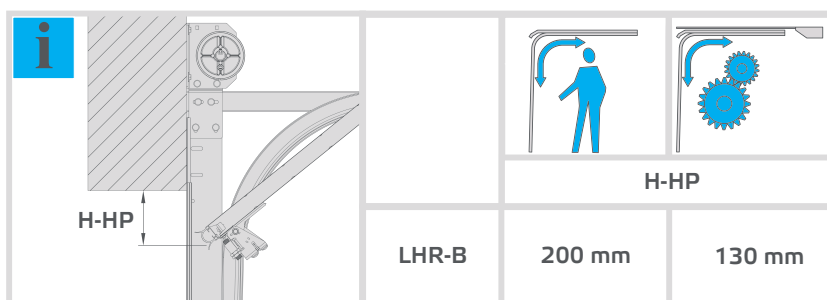
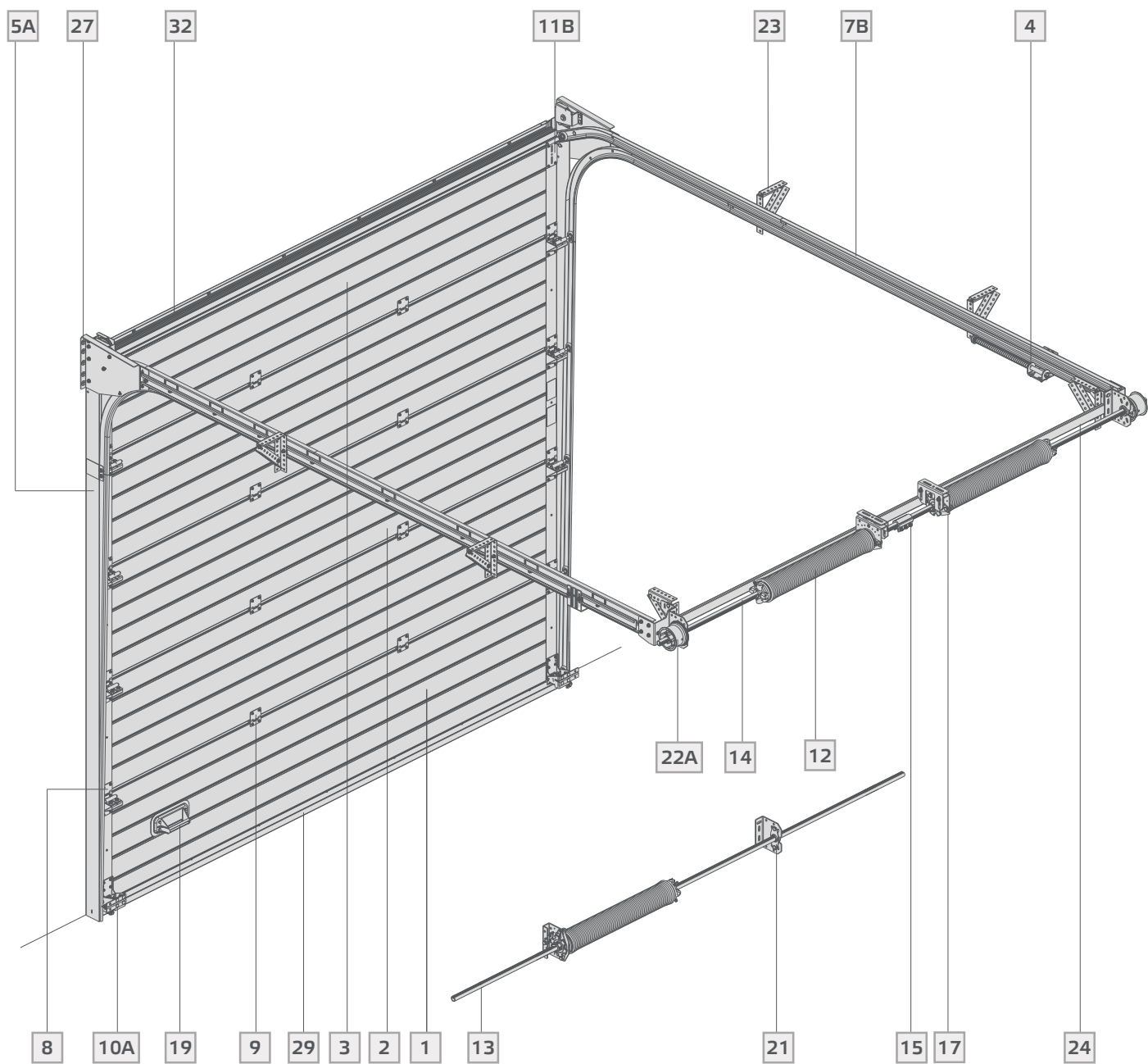


# LHR

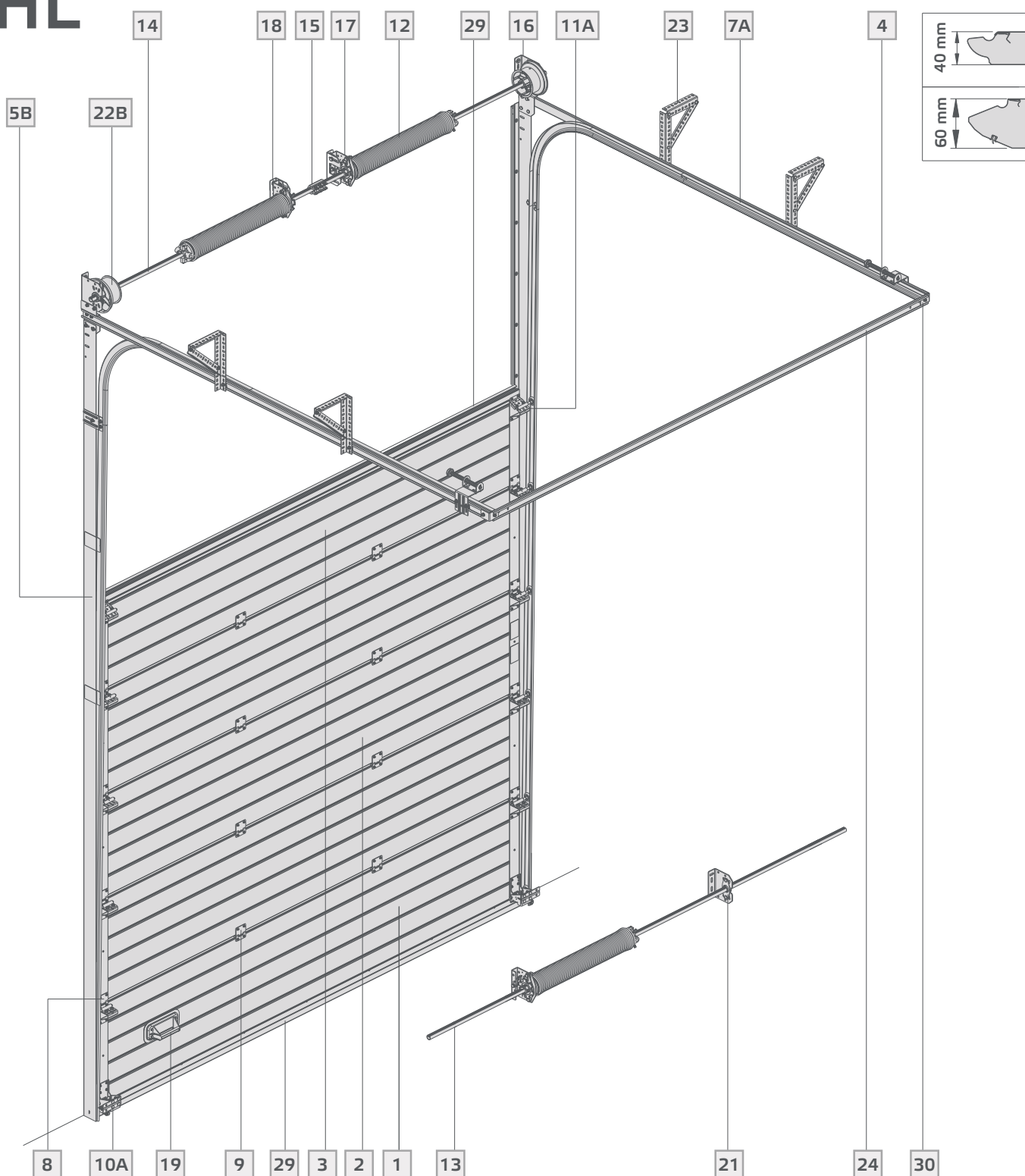


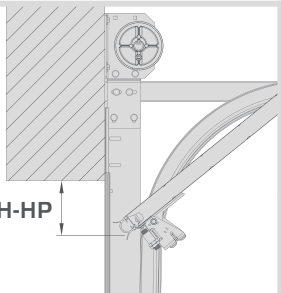
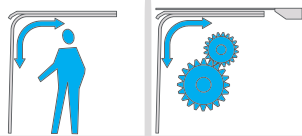


# LHR-B

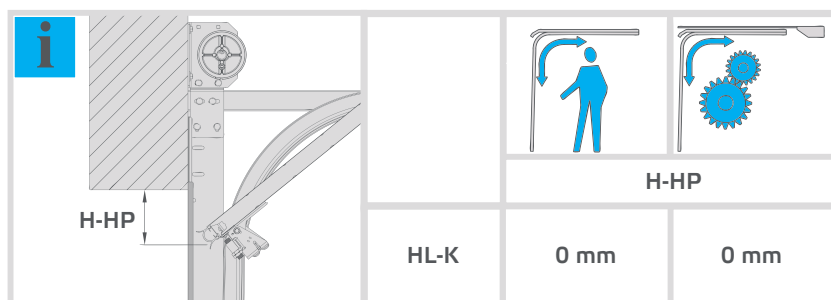
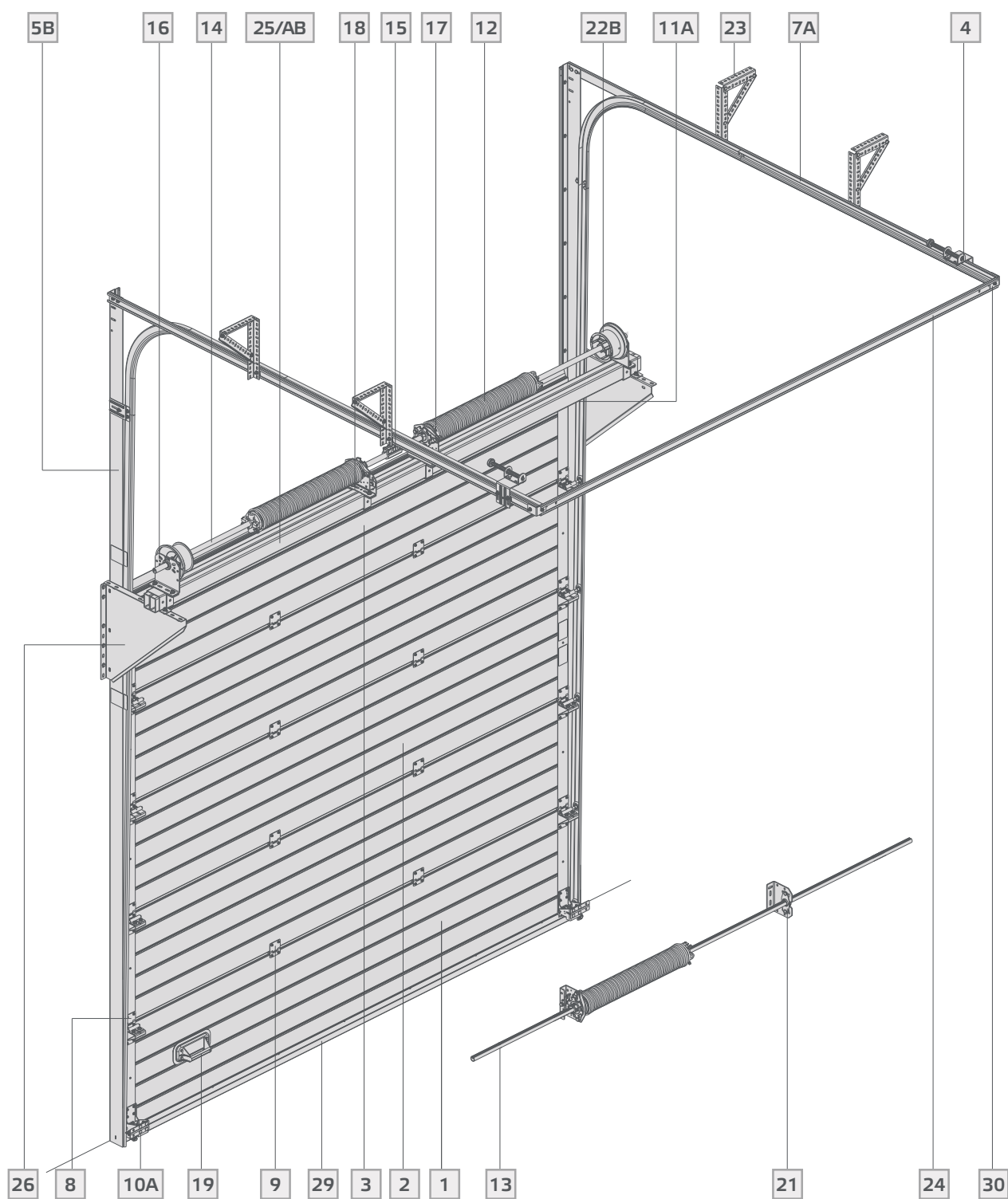


# HL

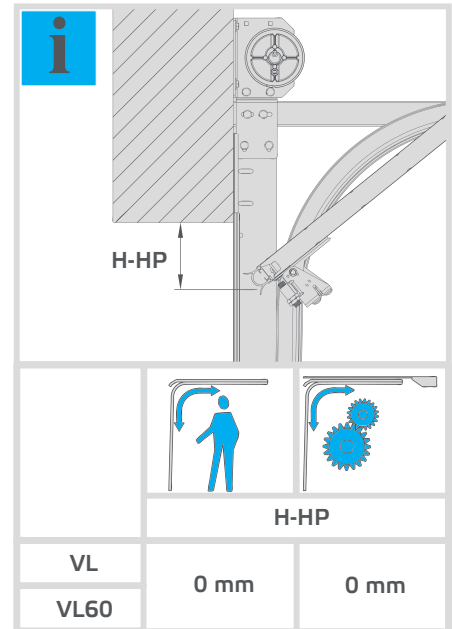
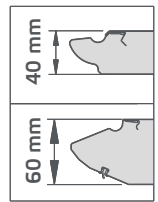
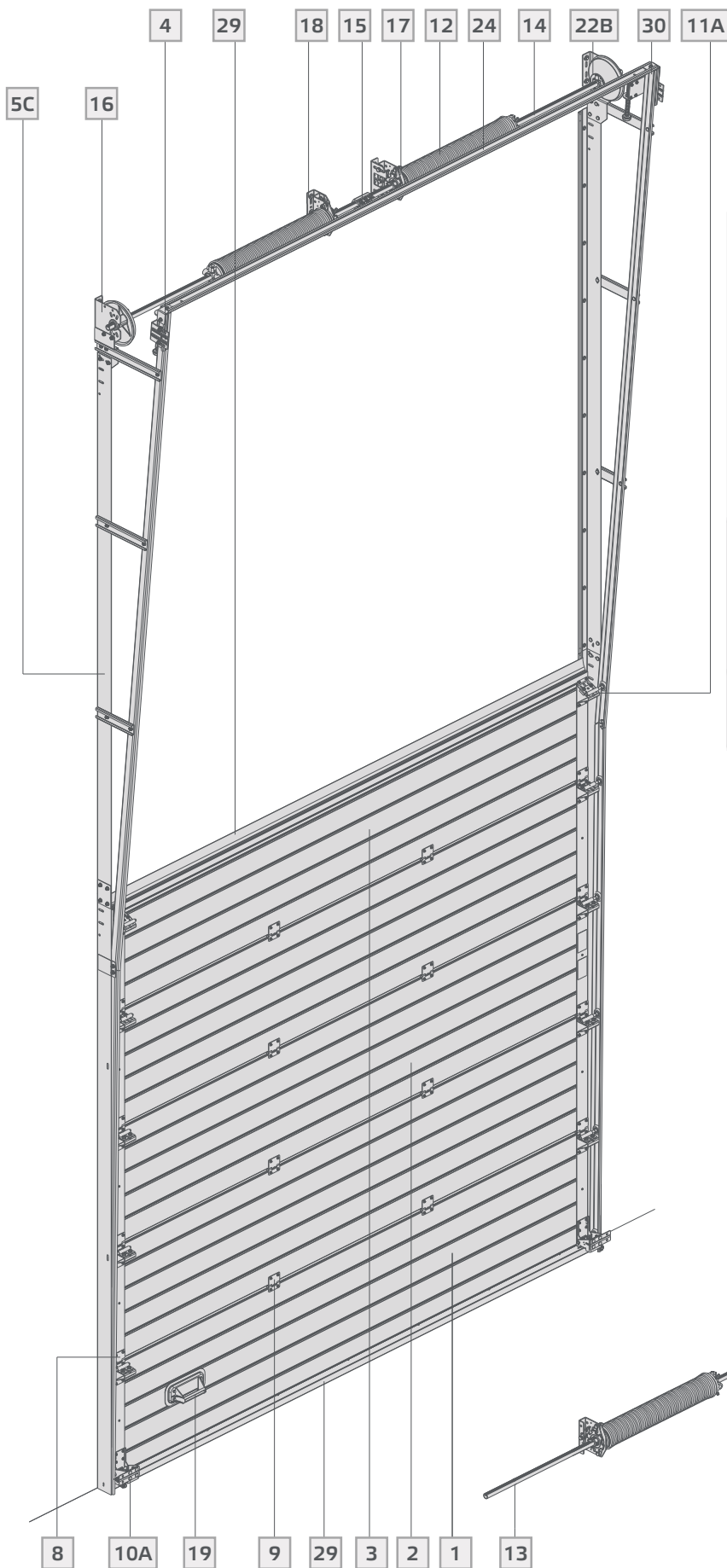


|                                                                                                                                                                                     |                                                                                                  |      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|------|
|   <p>H-HP</p> |  <p>H-HP</p> |      |
|                                                                                                                                                                                     | HL                                                                                               | 0 mm |
|                                                                                                                                                                                     | HL60                                                                                             | 0 mm |

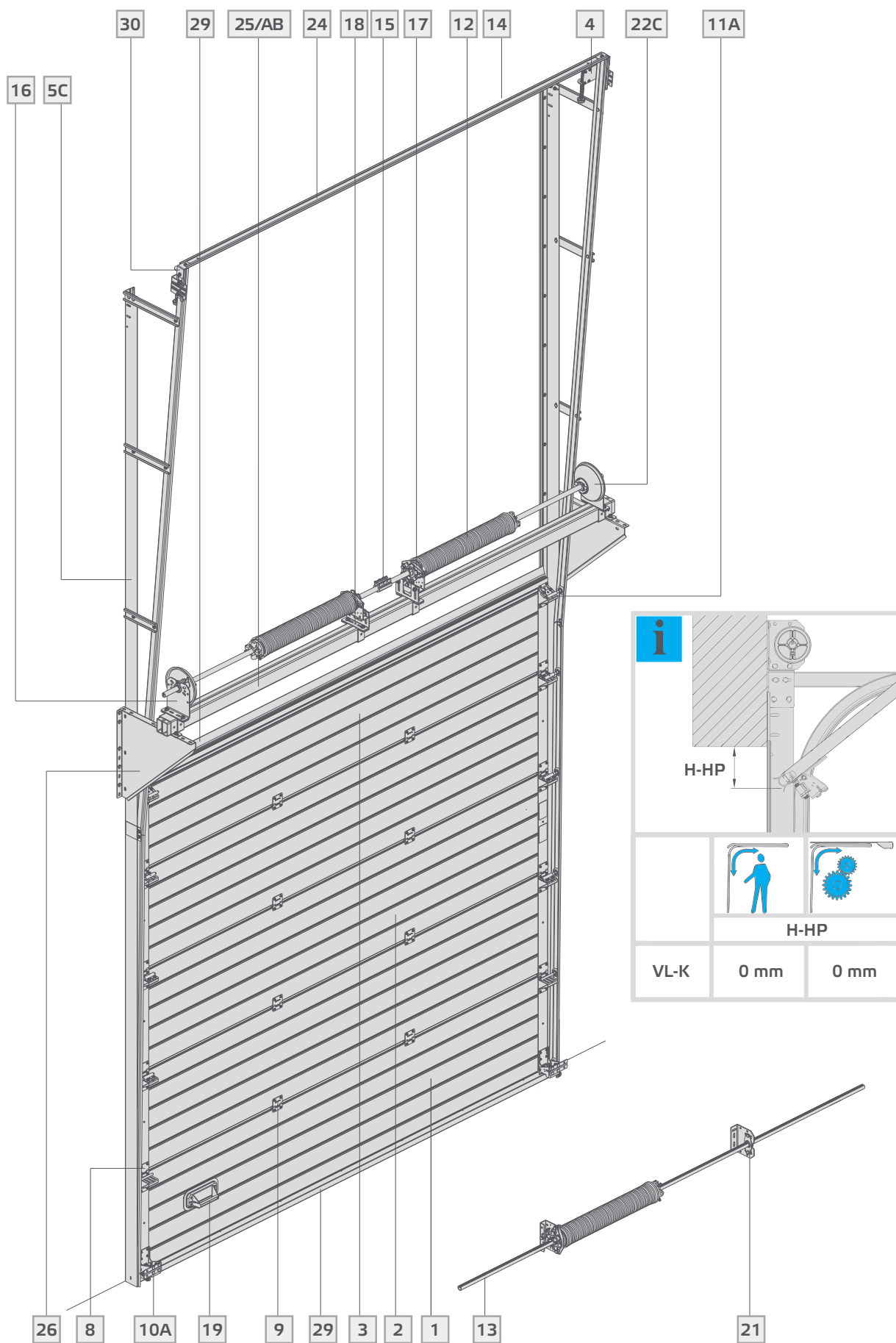
# HL-K



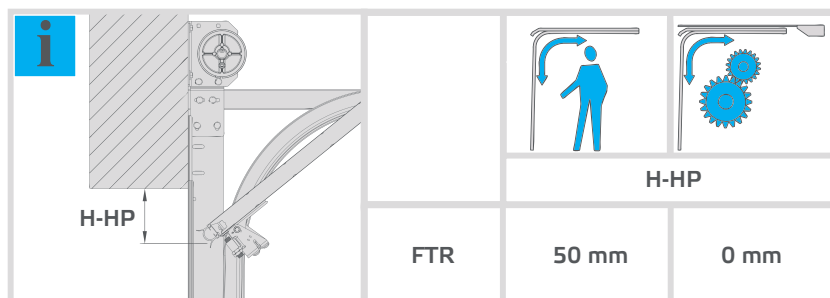
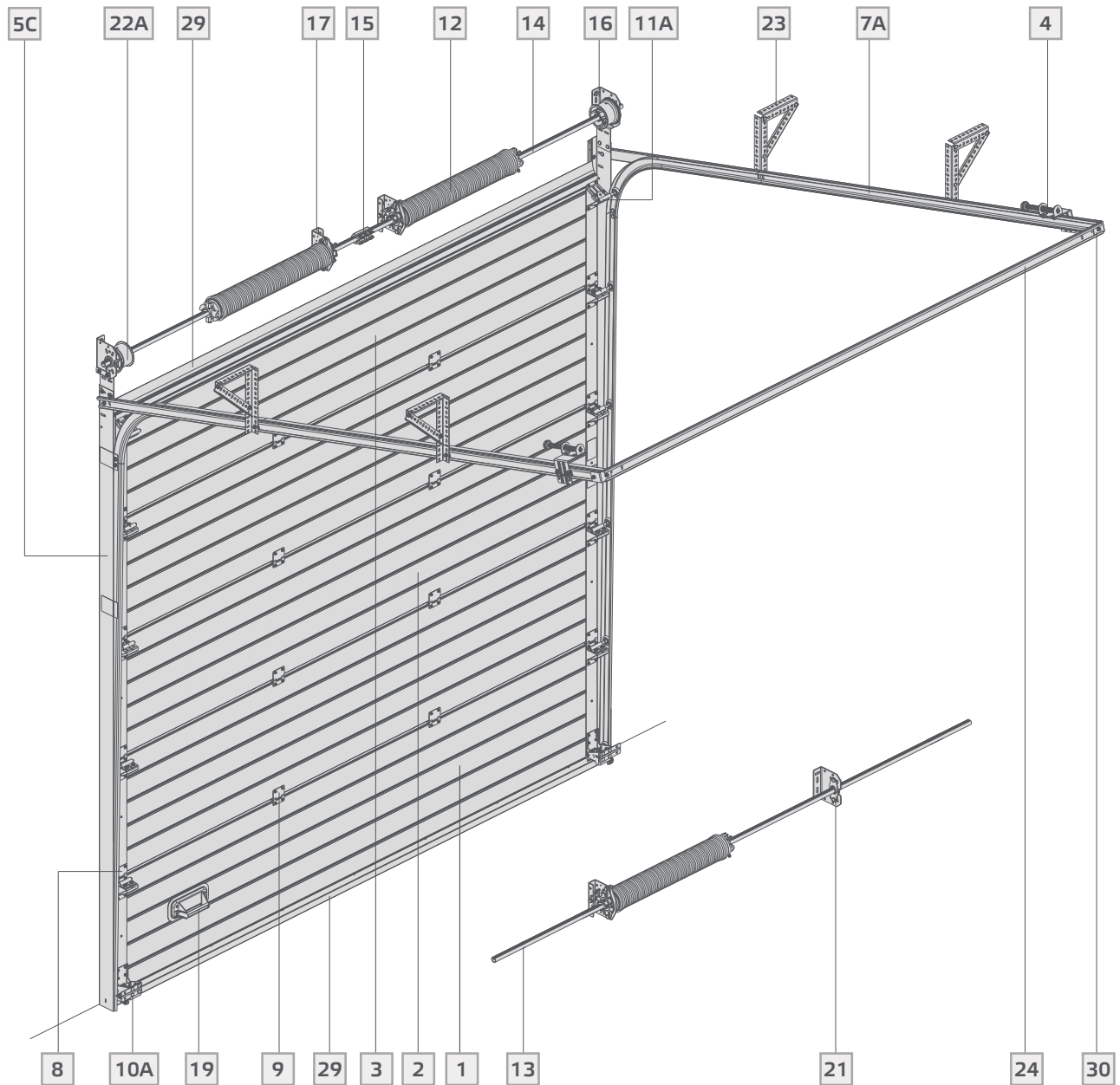
# VL



# VL-K

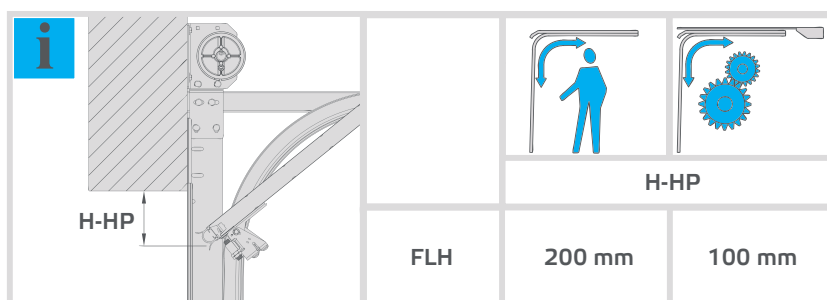
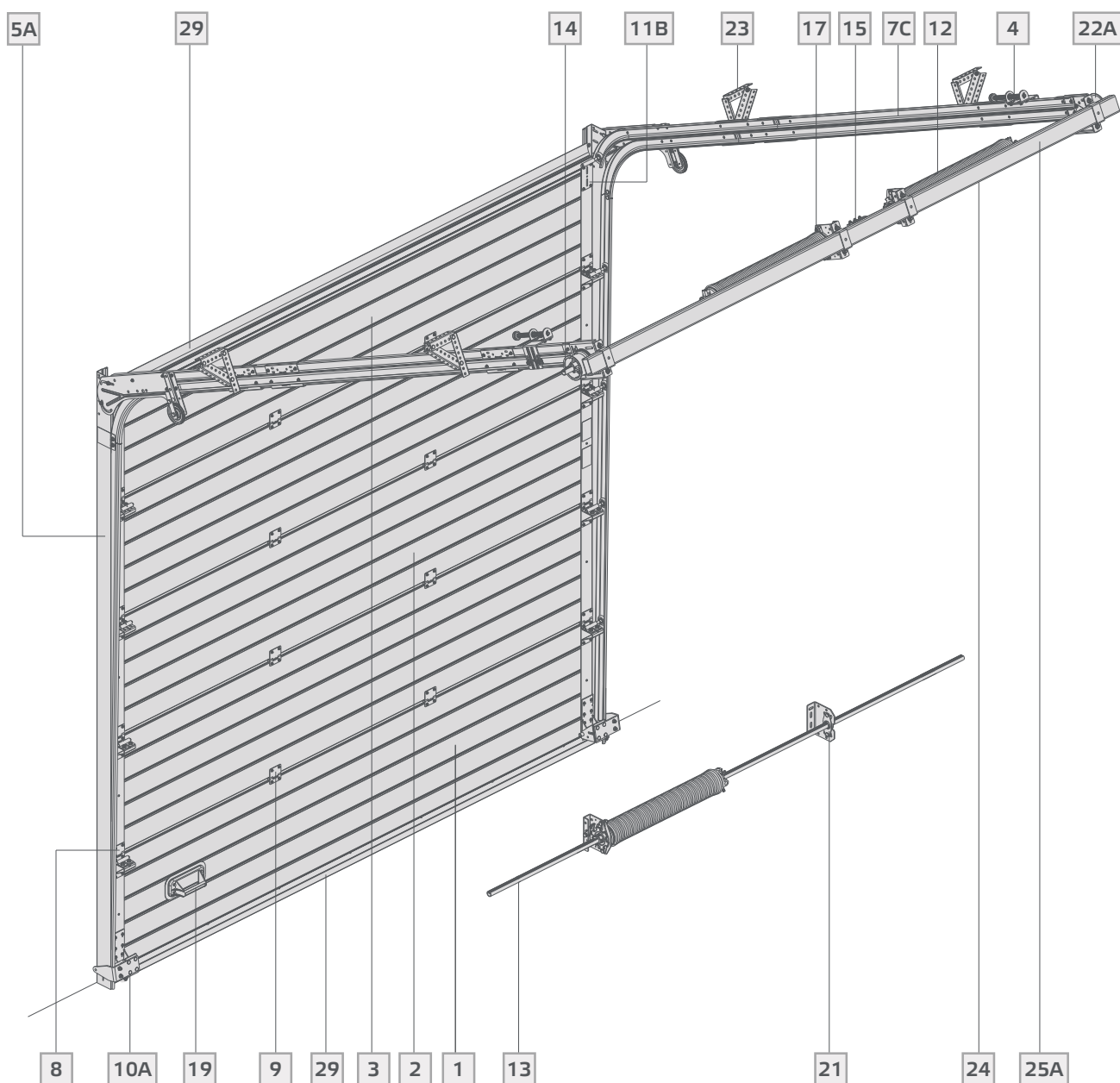


# FTR

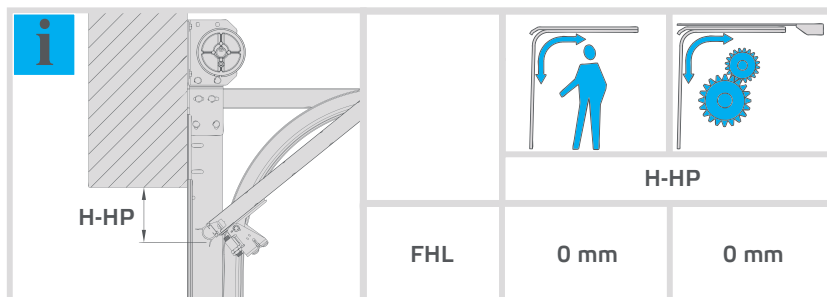
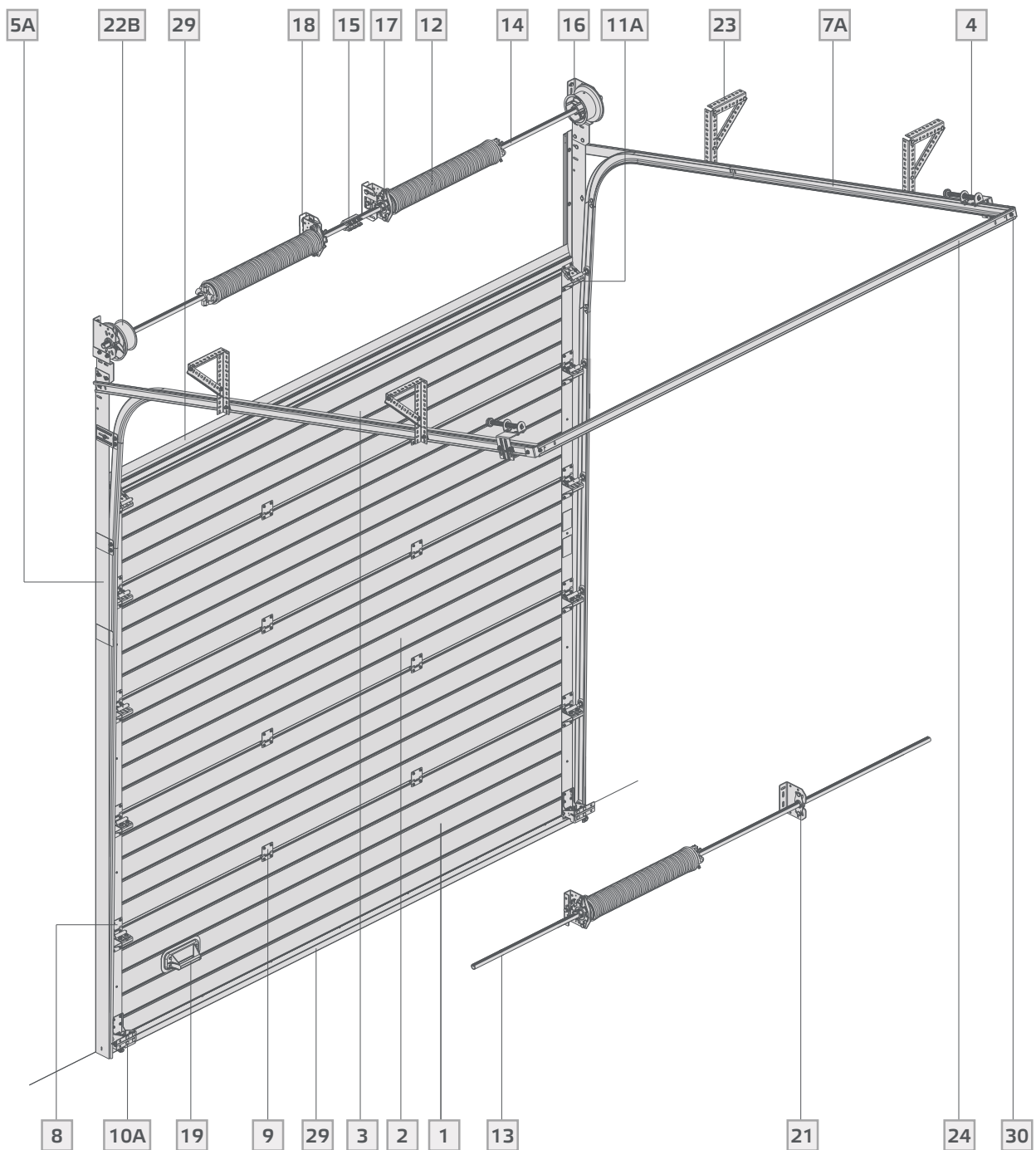


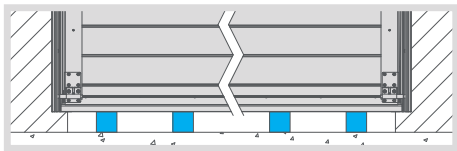


# FLH



# FHL





NP, HL, HL-K,  
FTR, FHL, LHRF,  
FLR

2.1

2.2

2.5

2.9  
2.10  
2.11

2.9  
2.10  
2.11

2.9  
2.10  
2.11

2.5

B+128

32202

32206

312215

5122502

C

C=D

2.1

2.2

2.5

2.9  
2.10  
2.11

2.9  
2.10  
2.11

2.9  
2.10  
2.11

2.5

B+128

32207

52708

5122502

C

C=D

2.1

2.2

2.6  
2.7  
2.8  
2.9

2.9  
2.10  
2.11

2.9  
2.10  
2.11

2.6  
2.7  
2.8  
2.9

B+128

32203

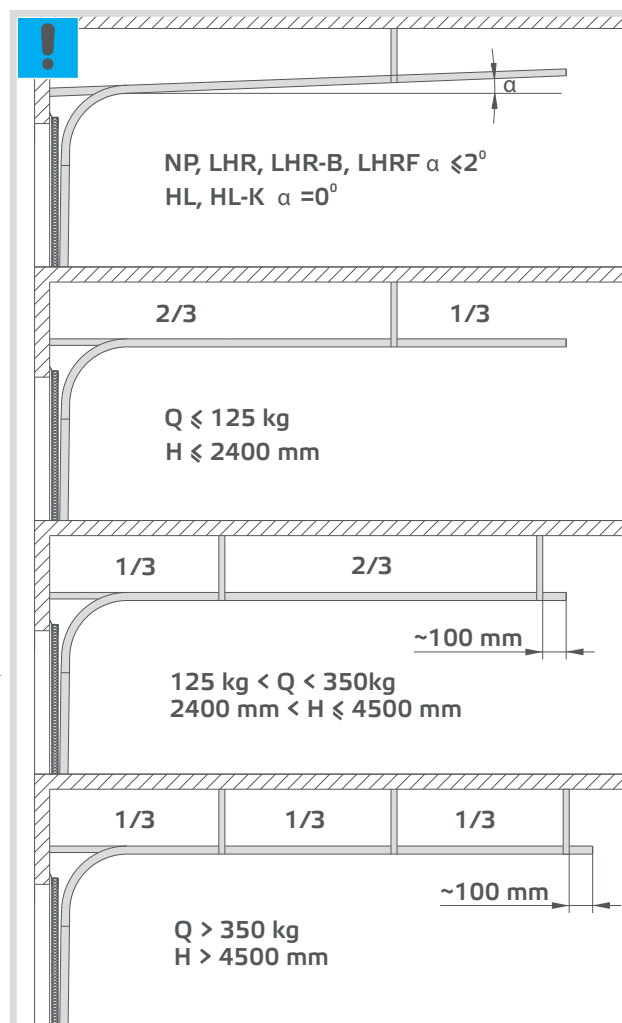
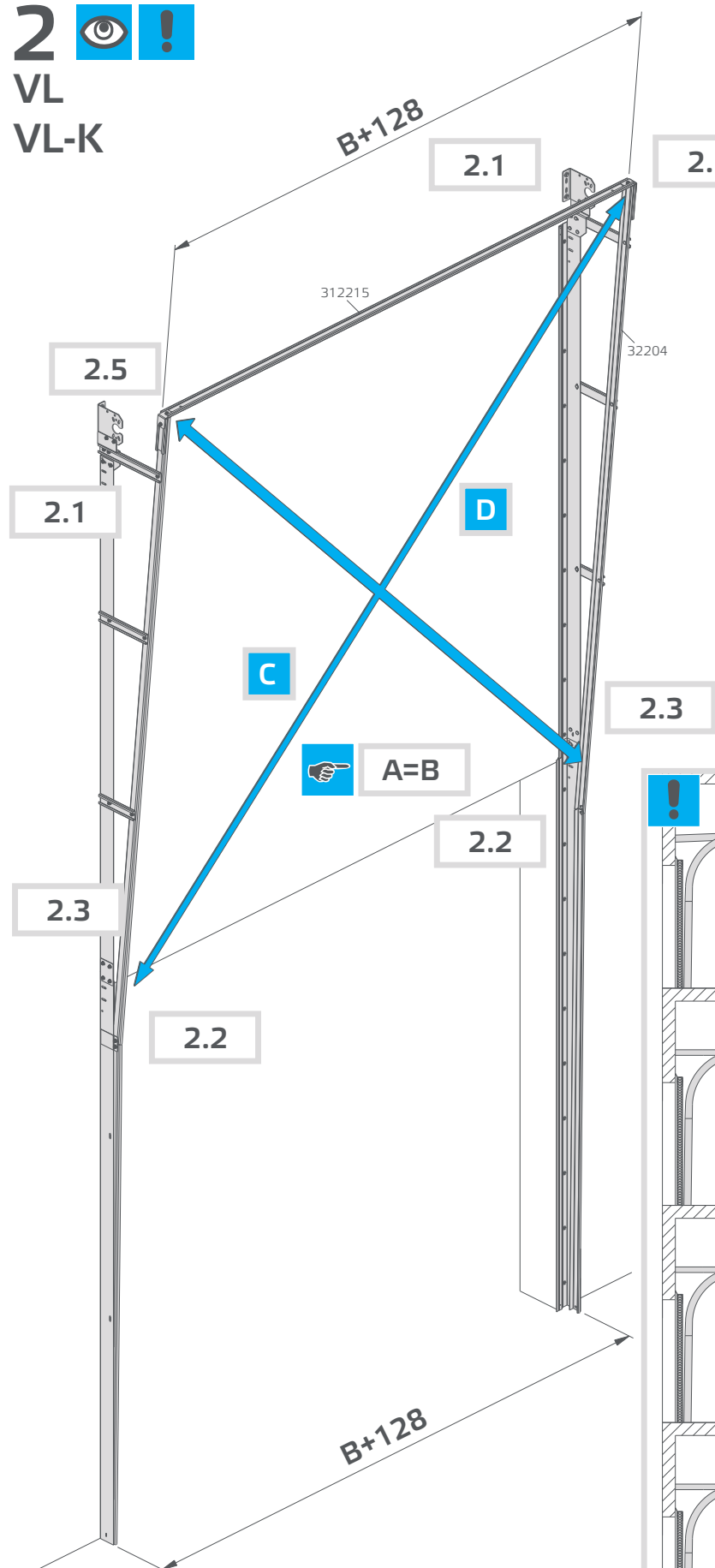
521702

52802

LHR  
LHR-B

# 2

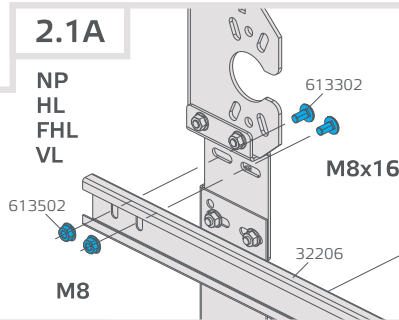
VL  
VL-K



2

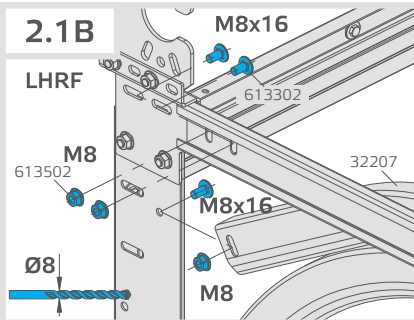
2.1A

NP  
HL  
FHL  
VL



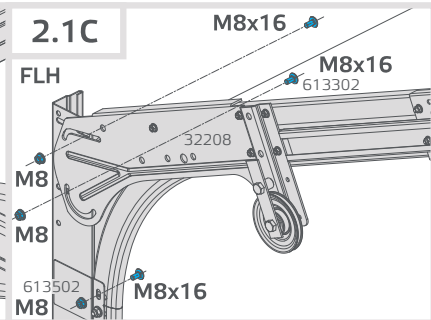
2.1B

LHRF



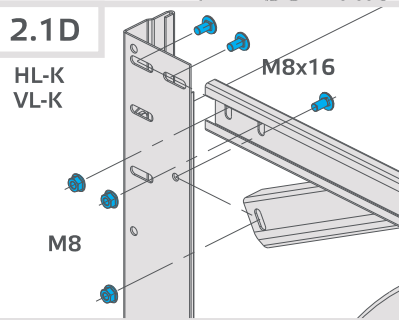
2.1C

FLH



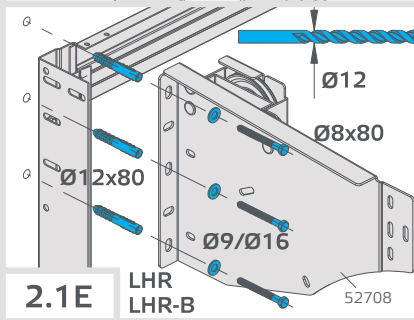
2.1D

HL-K  
VL-K



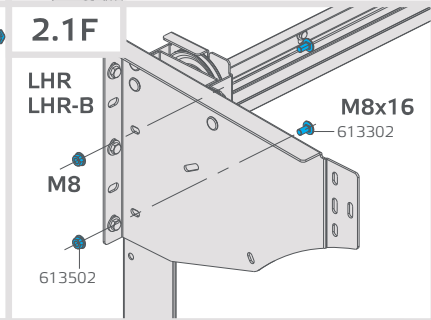
2.1E

LHR  
LHR-B



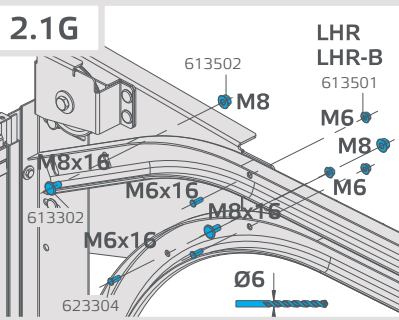
2.1F

LHR  
LHR-B



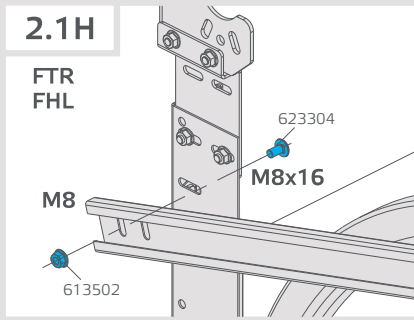
2.1G

LHR  
LHR-B



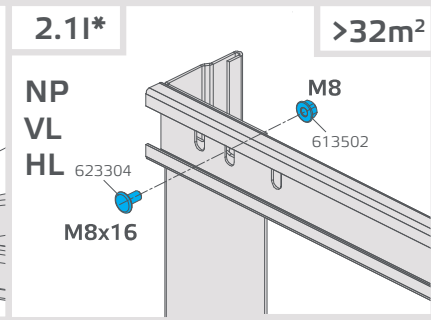
2.1H

FTR  
FHL



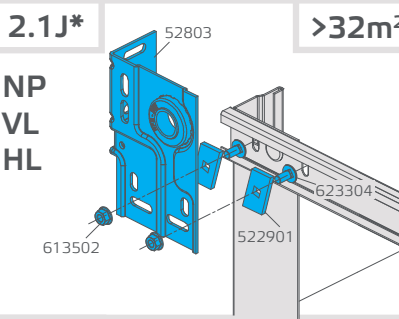
2.1I\*

NP  
VL  
HL



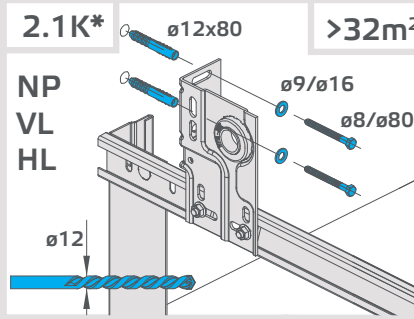
2.1J\*

NP  
VL  
HL



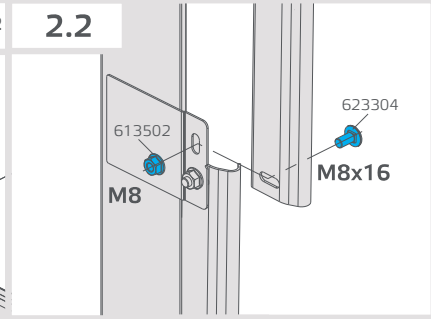
2.1K\*

NP  
VL  
HL



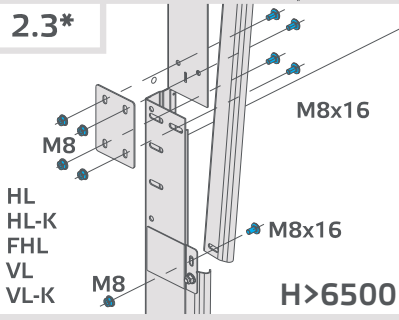
2.2

NP  
VL  
HL



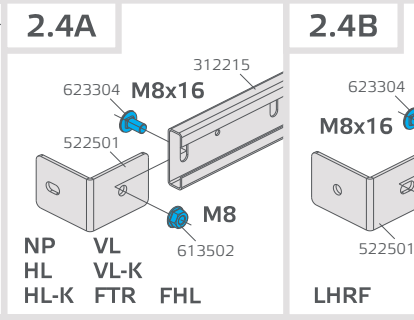
2.3\*

HL  
HL-K  
FHL  
VL  
VL-K



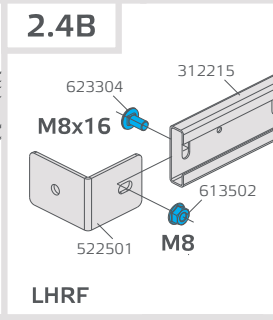
2.4A

NP  
HL  
HL-K



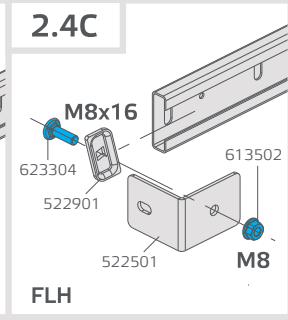
2.4B

VL  
VL-K  
FTR  
FHL



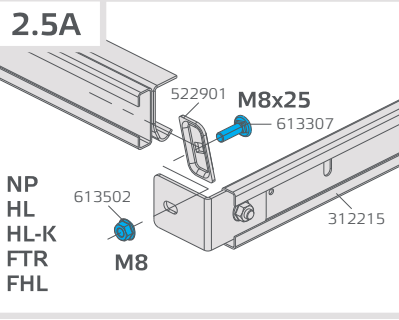
2.4C

LHRF



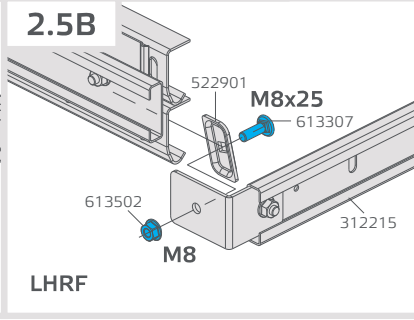
2.5A

NP  
HL  
HL-K  
FTR  
FHL



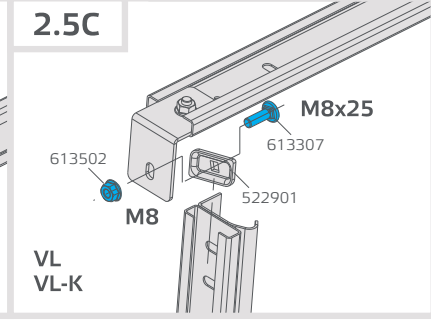
2.5B

LHRF



2.5C

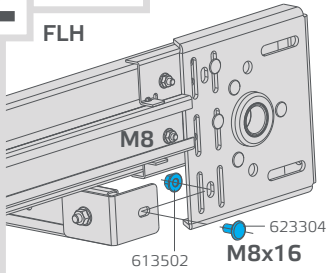
VL  
VL-K



2

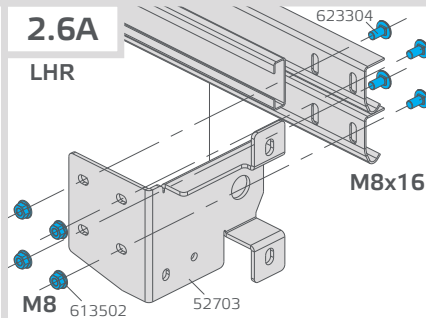
2.5D

FLH



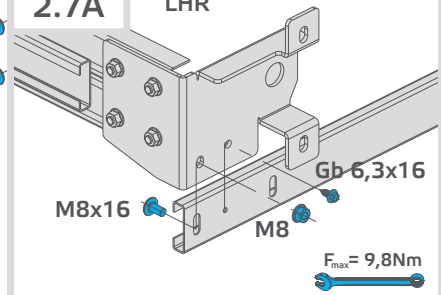
2.6A

LHR



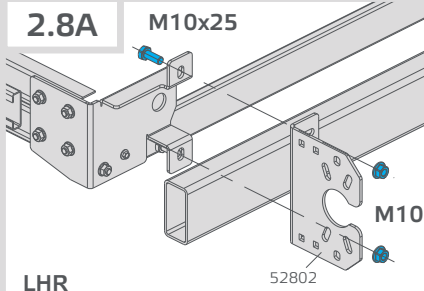
2.7A

LHR



2.8A

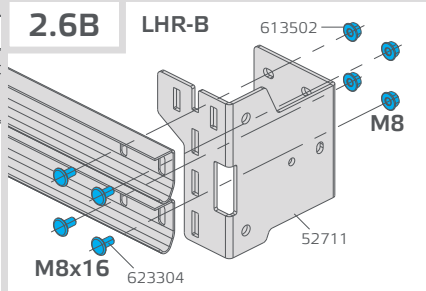
M10x25



LHR

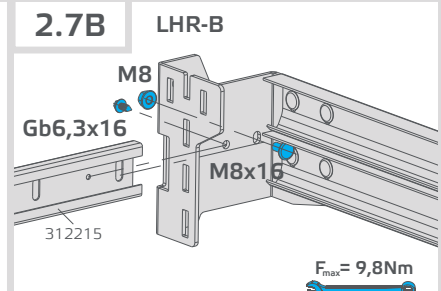
2.6B

LHR-B

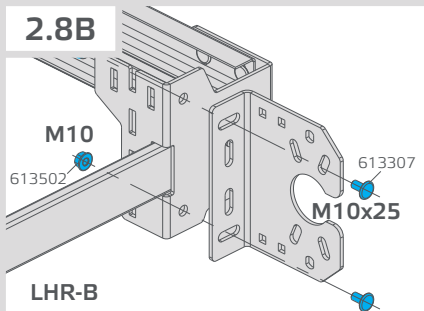


2.7B

LHR-B



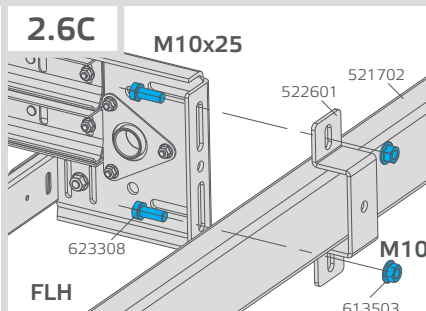
2.8B



LHR-B

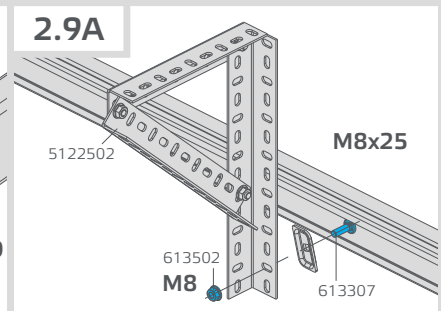
2.6C

M10x25

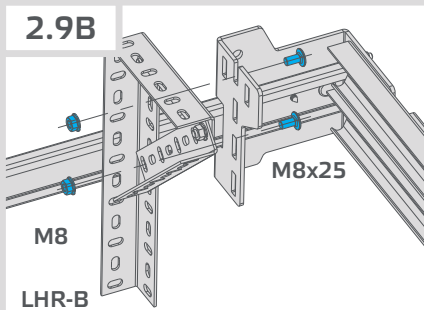


FLH

2.9A

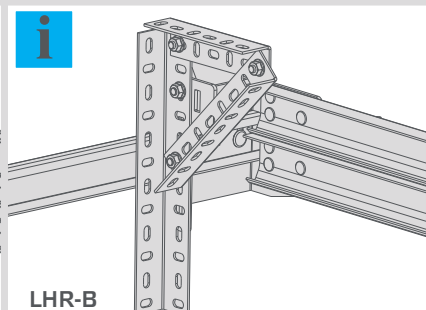


2.9B



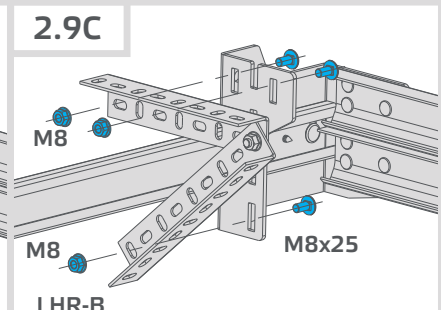
LHR-B

i

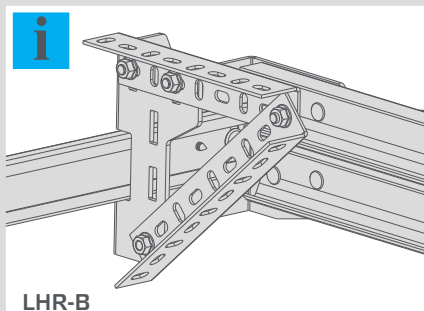


LHR-B

2.9C

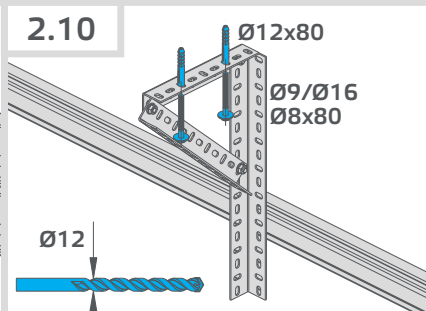


i

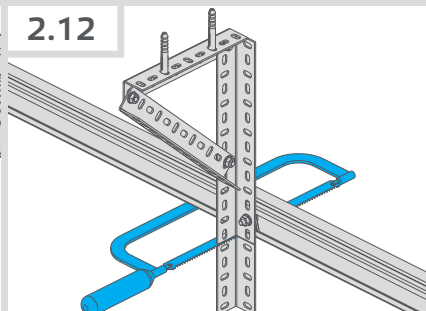


LHR-B

2.10

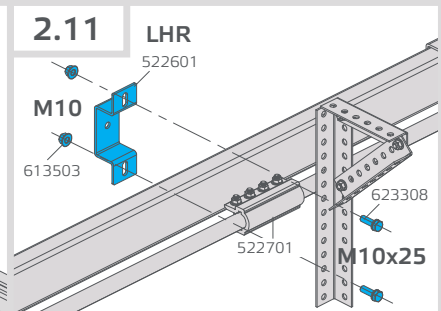


2.12



2.11

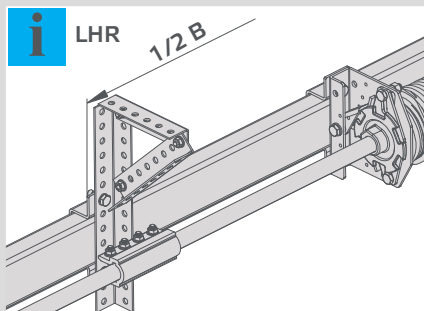
LHR



i

LHR

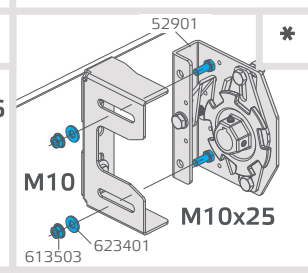
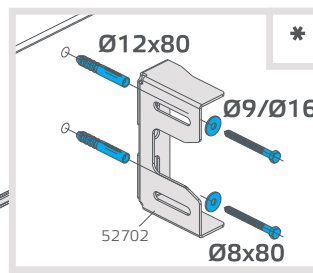
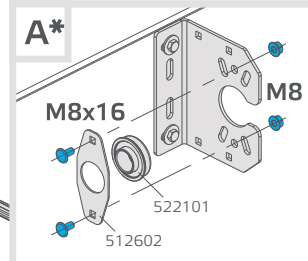
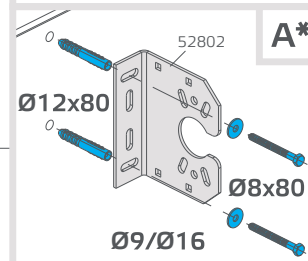
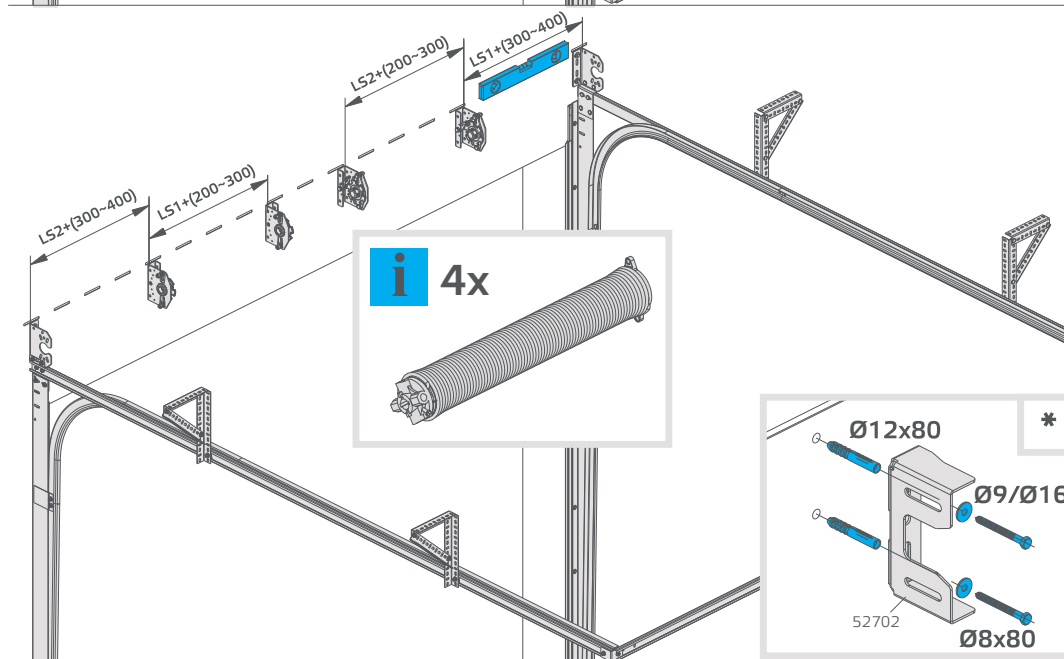
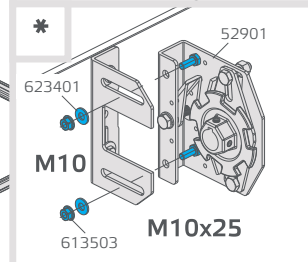
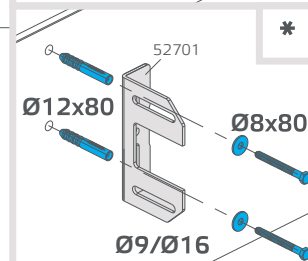
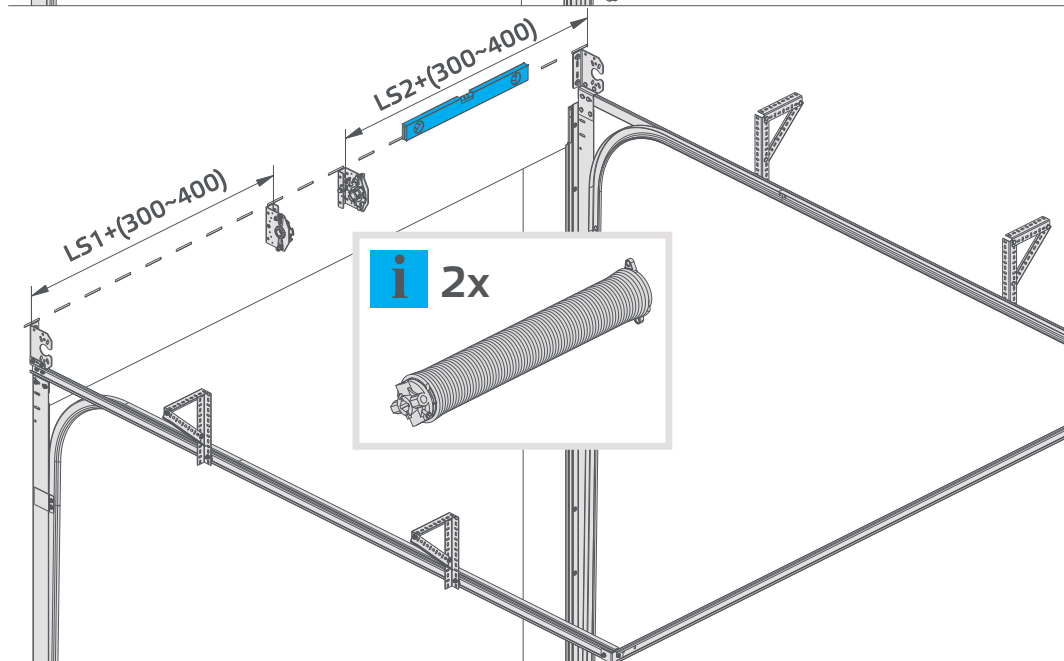
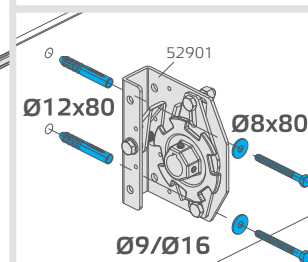
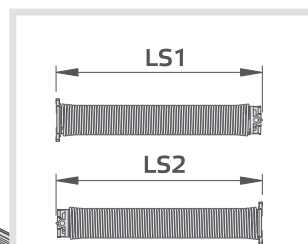
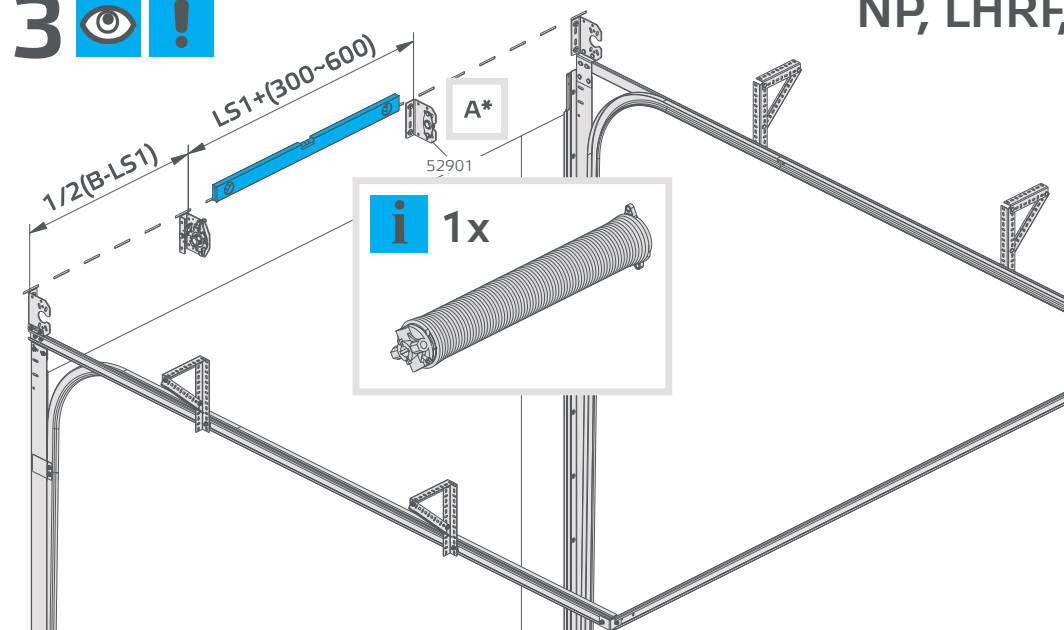
1/2 B





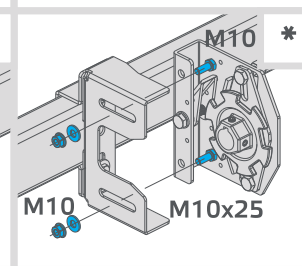
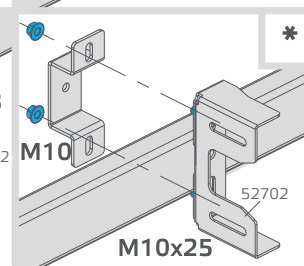
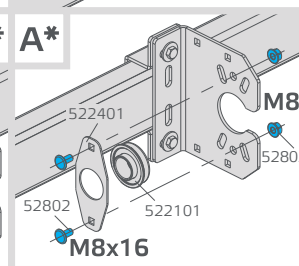
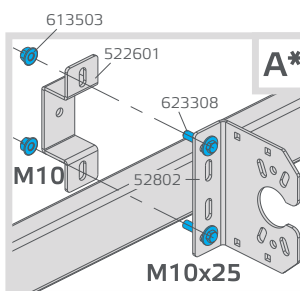
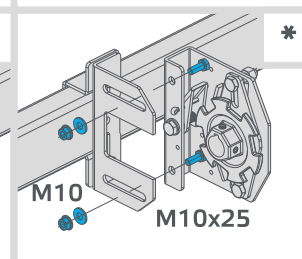
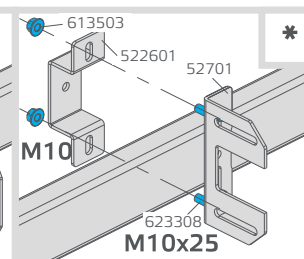
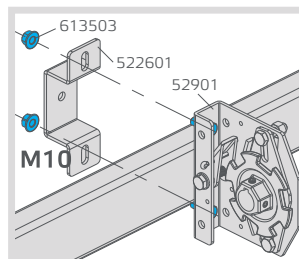
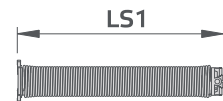
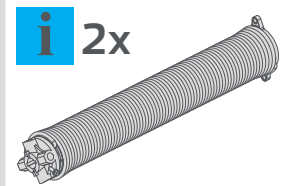
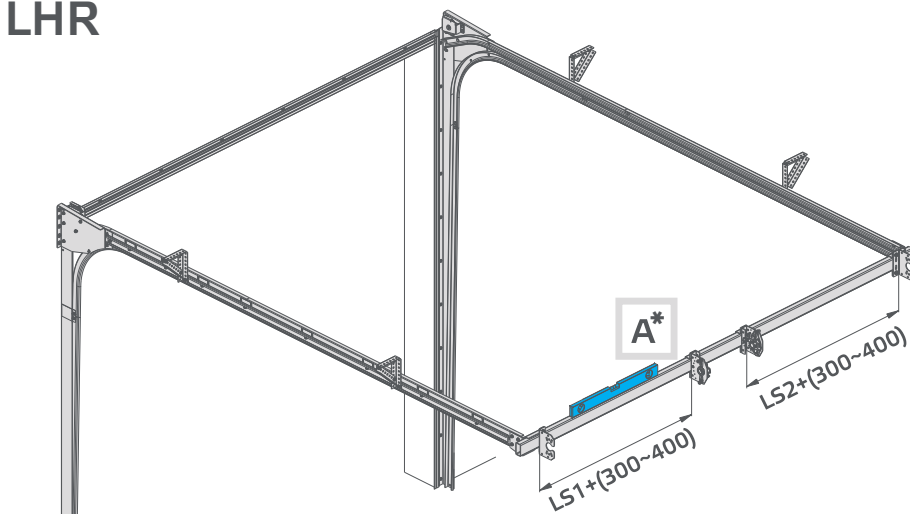
3  

NP, LHRF, HL, FTR, FHL

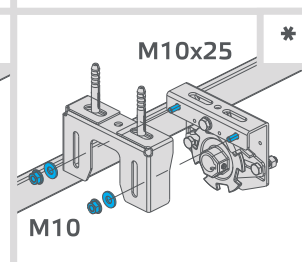
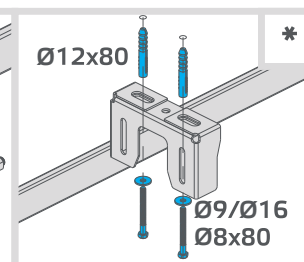
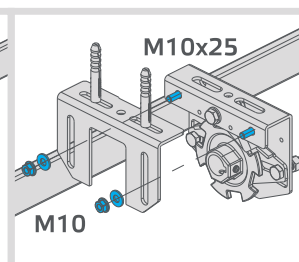
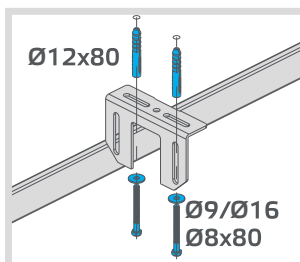
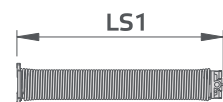
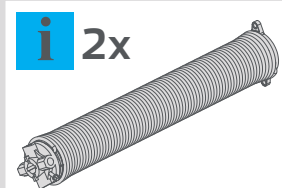
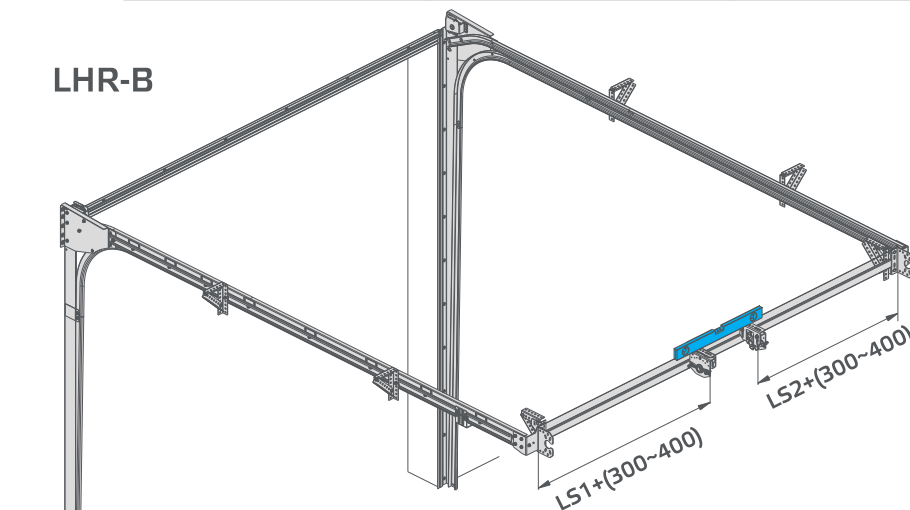


# 3

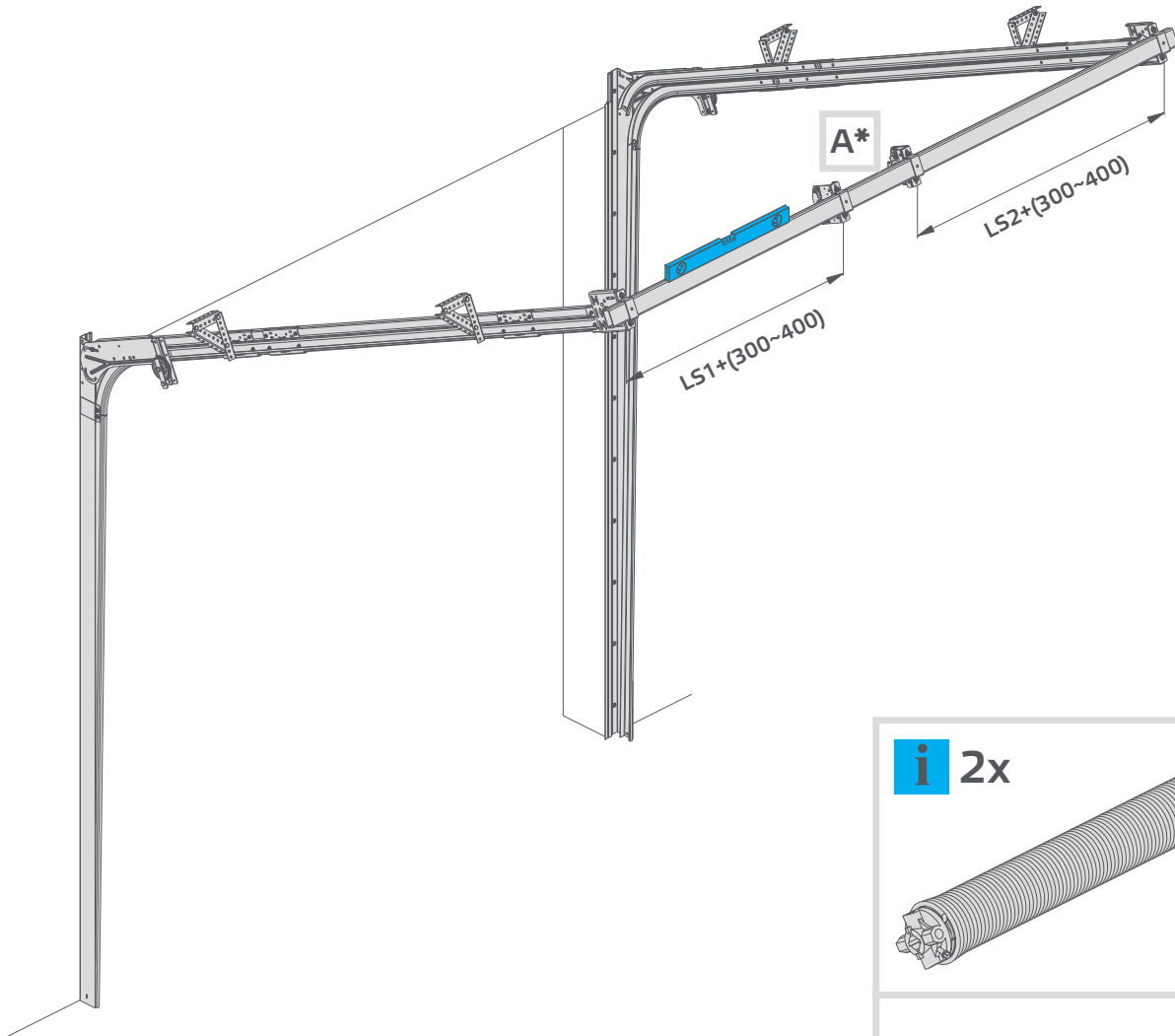
## LHR



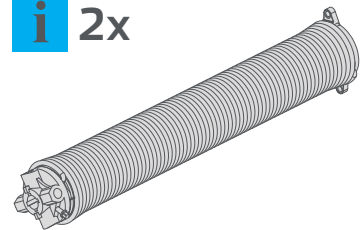
## LHR-B



**3**    
**FLH**



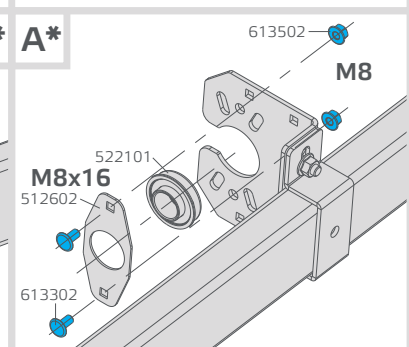
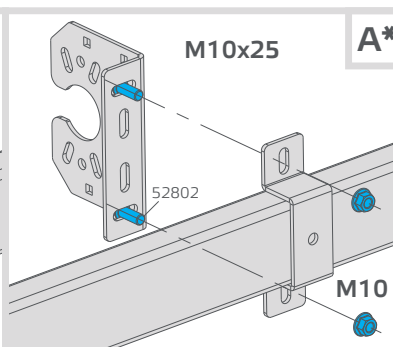
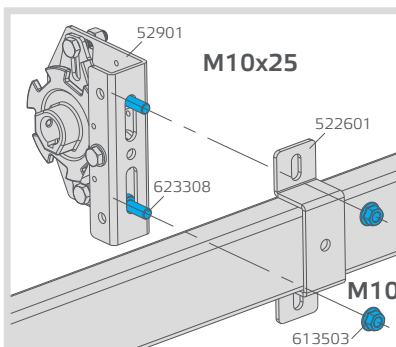
 **2x**



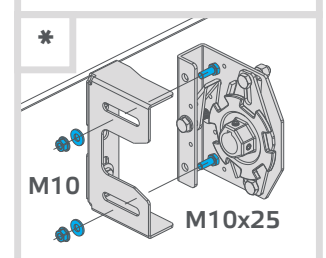
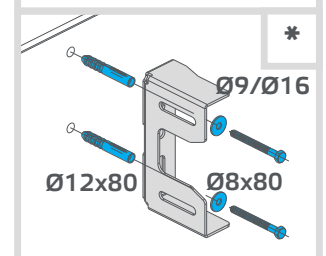
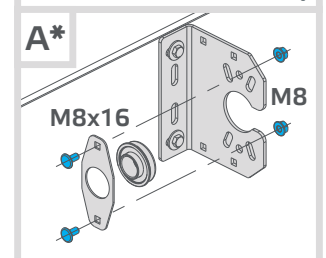
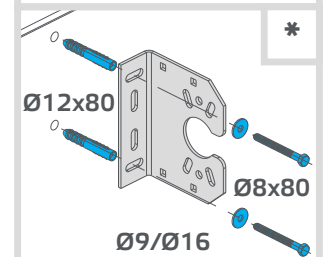
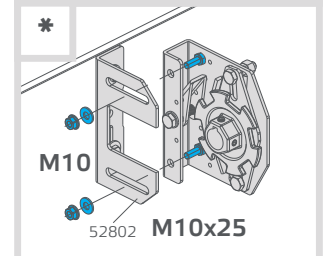
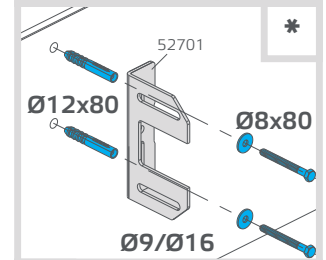
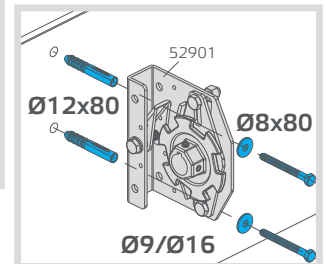
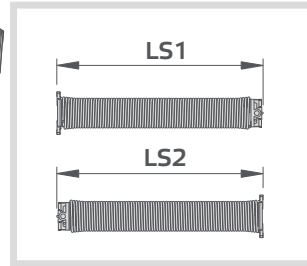
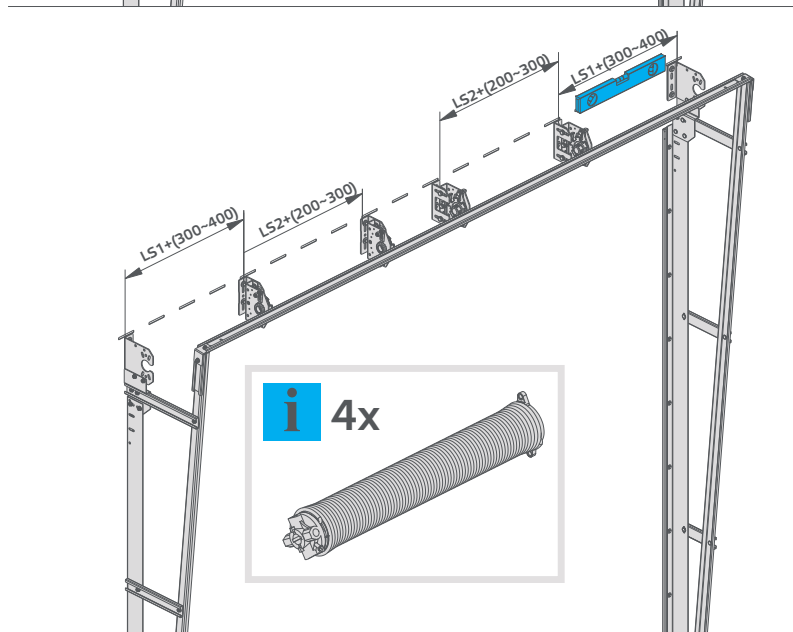
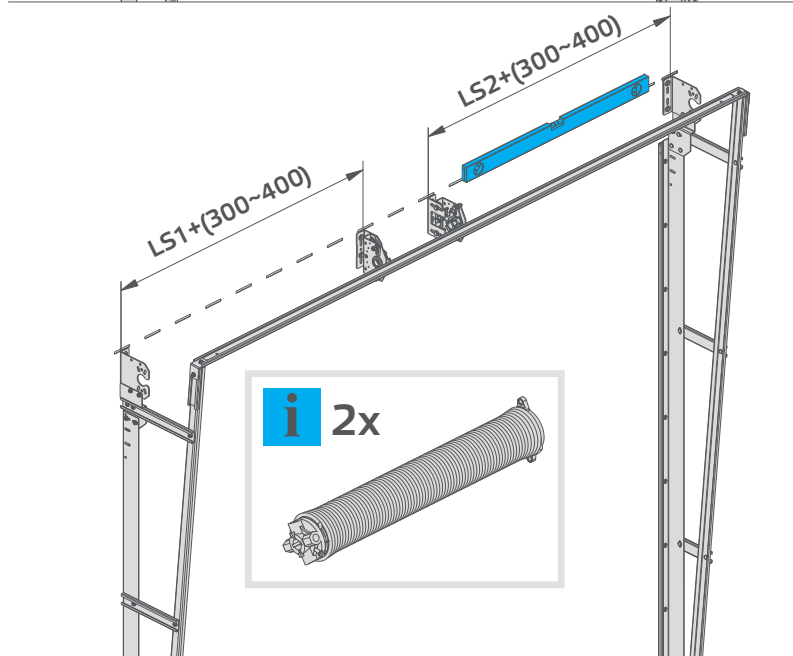
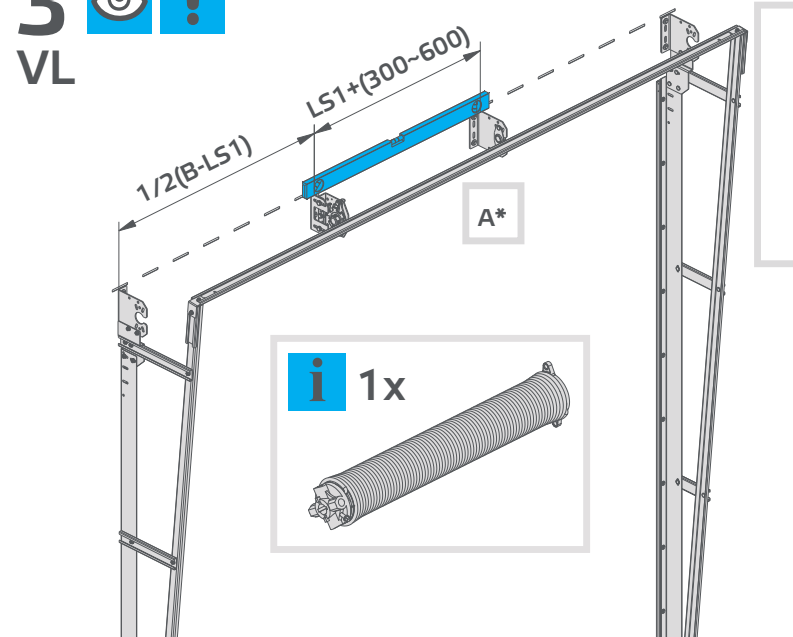
LS1



LS2



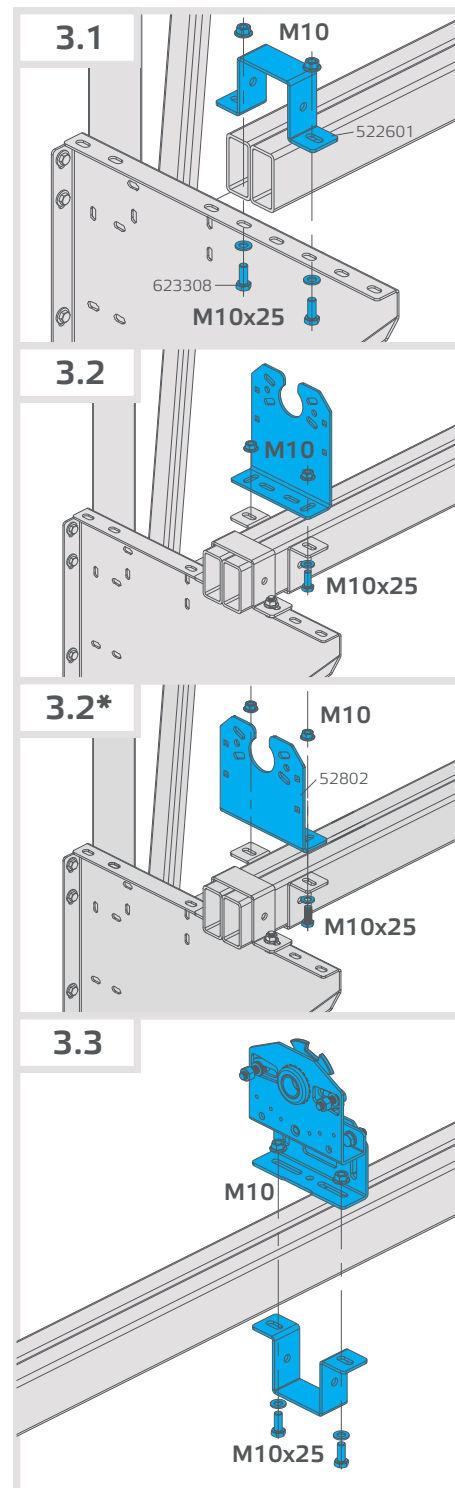
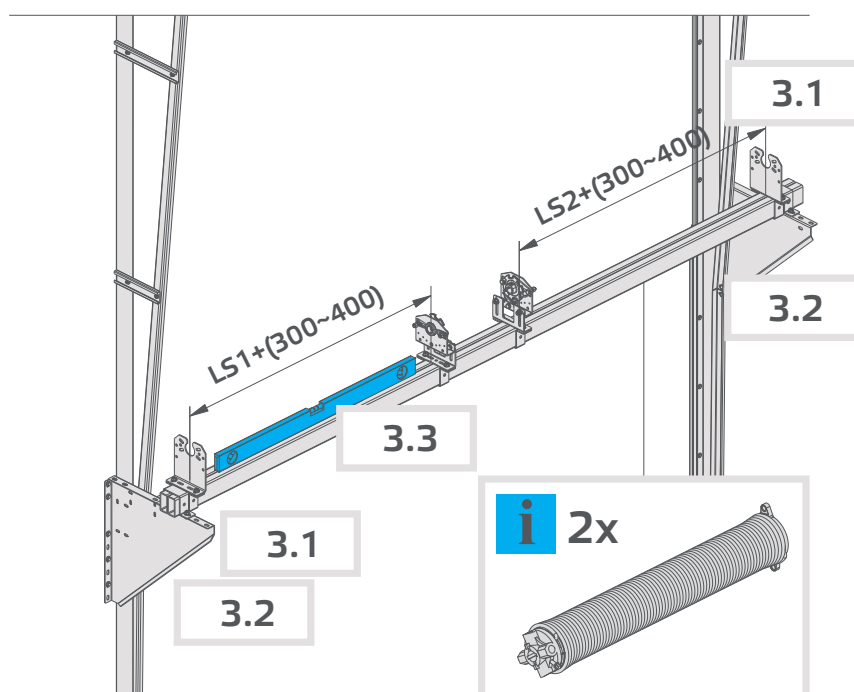
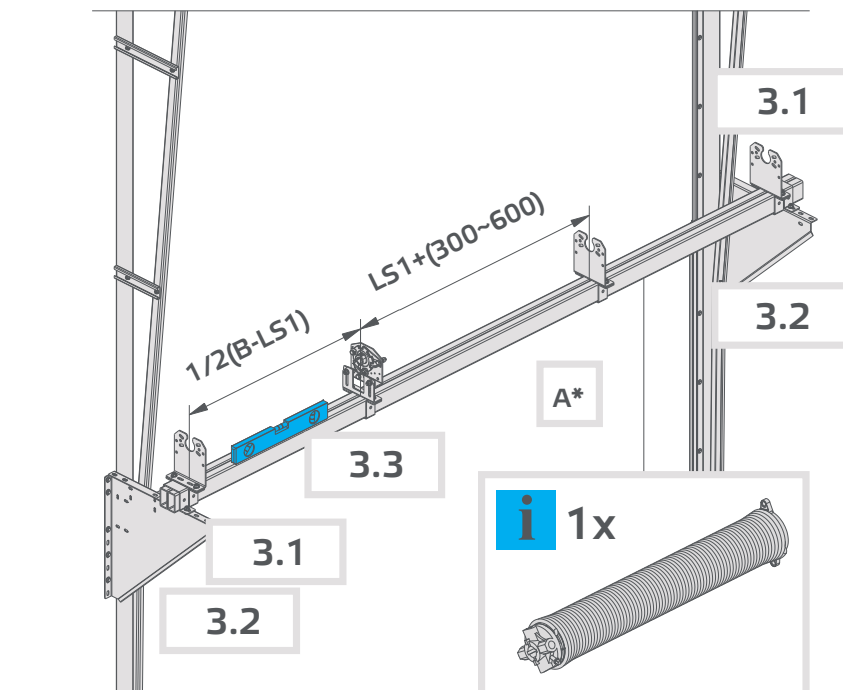
**3**  
VL



# 3

VL-K

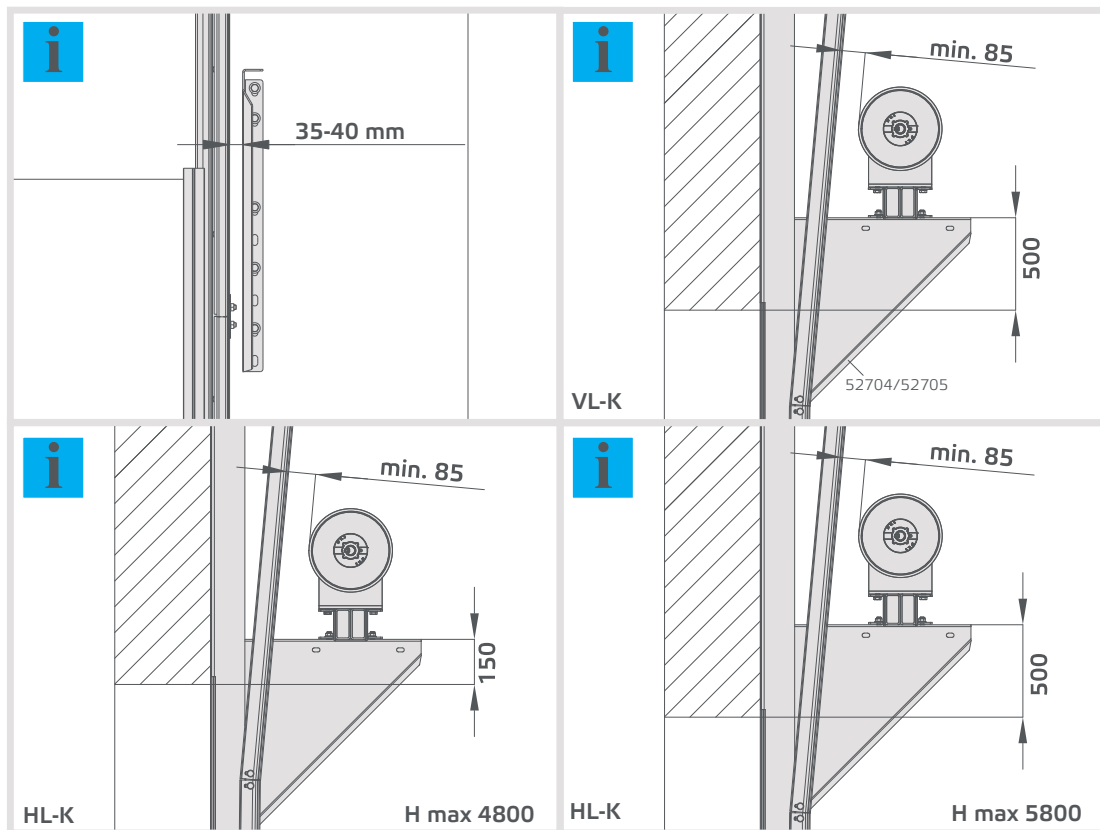
HL-K



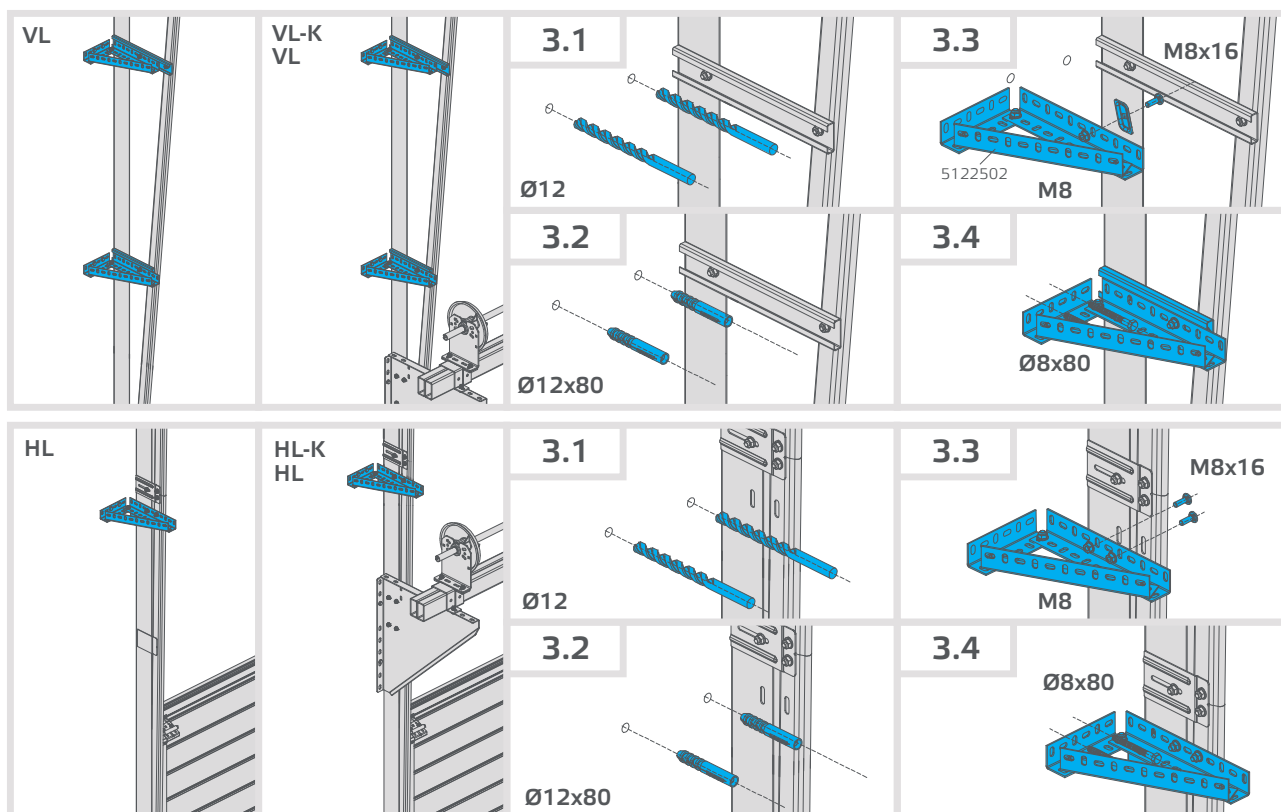
|                                                                                                                                                                                     |                                                                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <b>B ≤ 4000</b>                                                                                 |  <b>B &gt; 4000</b>                                                                                |
|  80x40  80x80 |  120x40  120x80 |

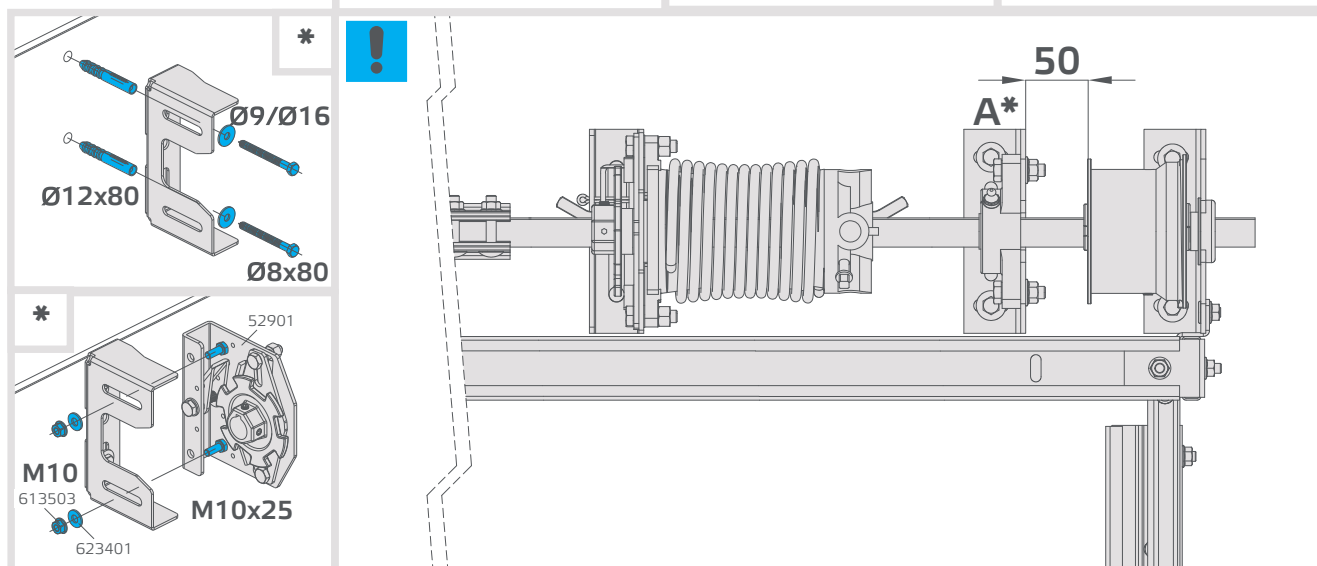
# 3

VL-K  
HL-K



# 3\*



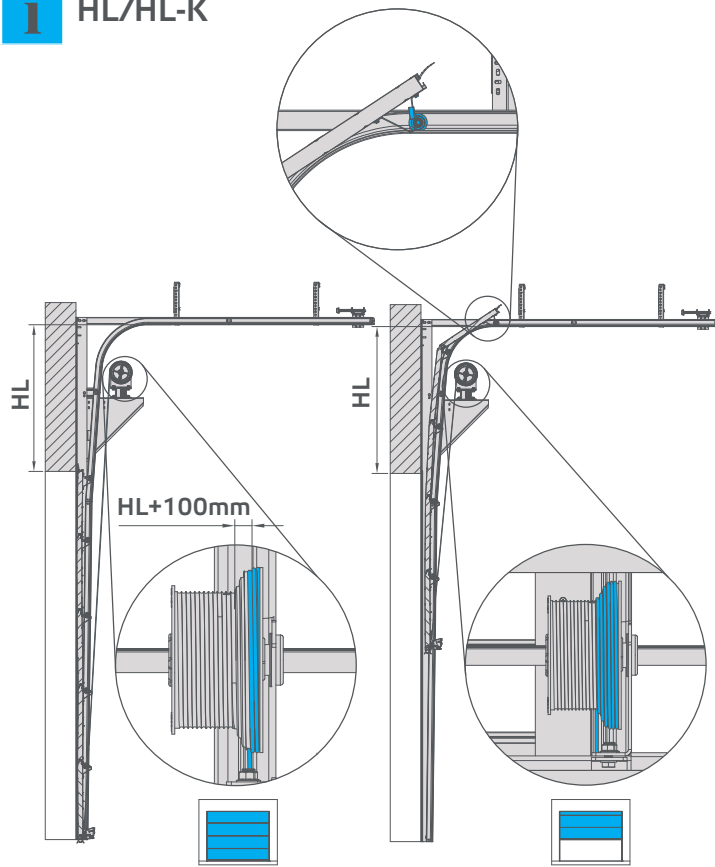




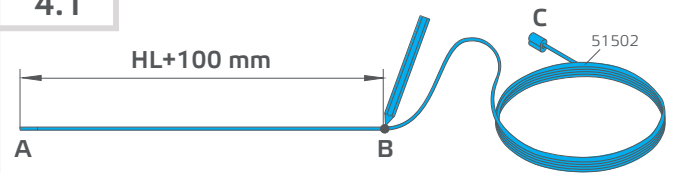
# 4



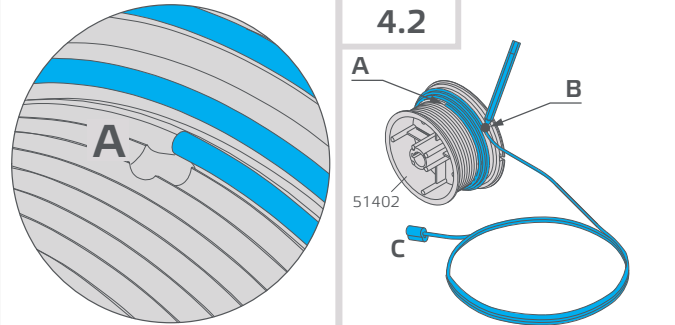
## i HL/HL-K



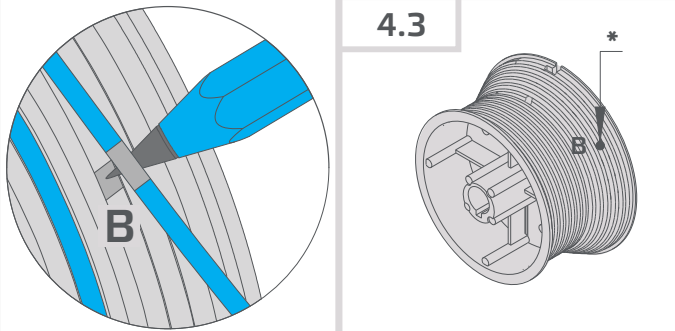
### 4.1



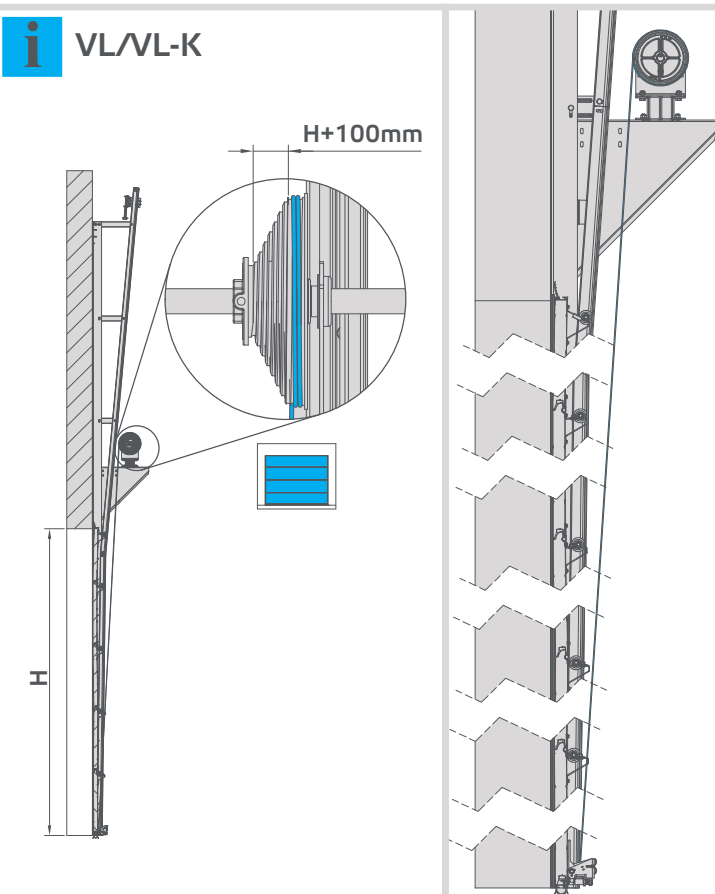
### 4.2



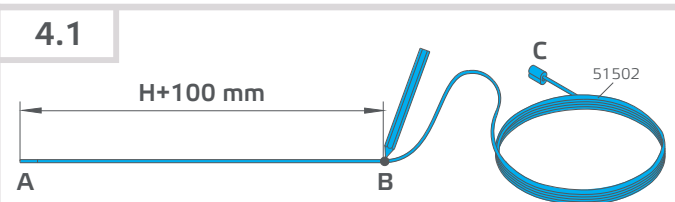
### 4.3



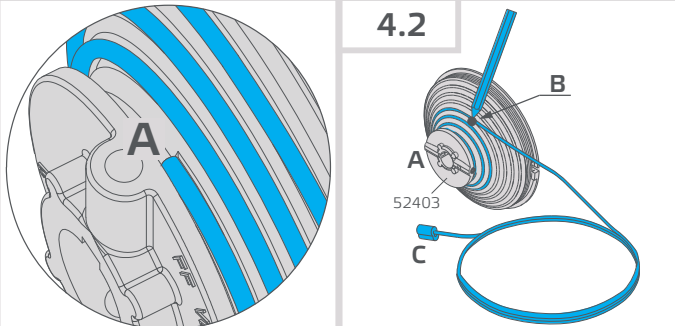
## i VL/VL-K



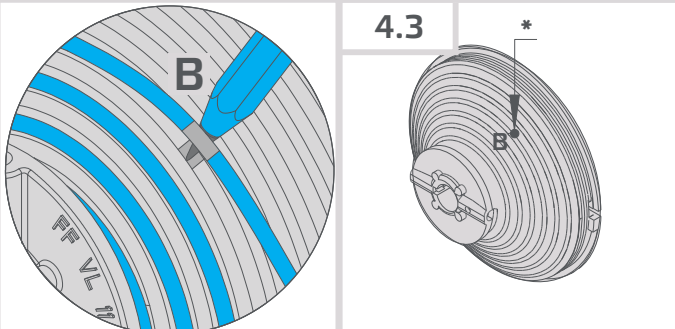
### 4.1

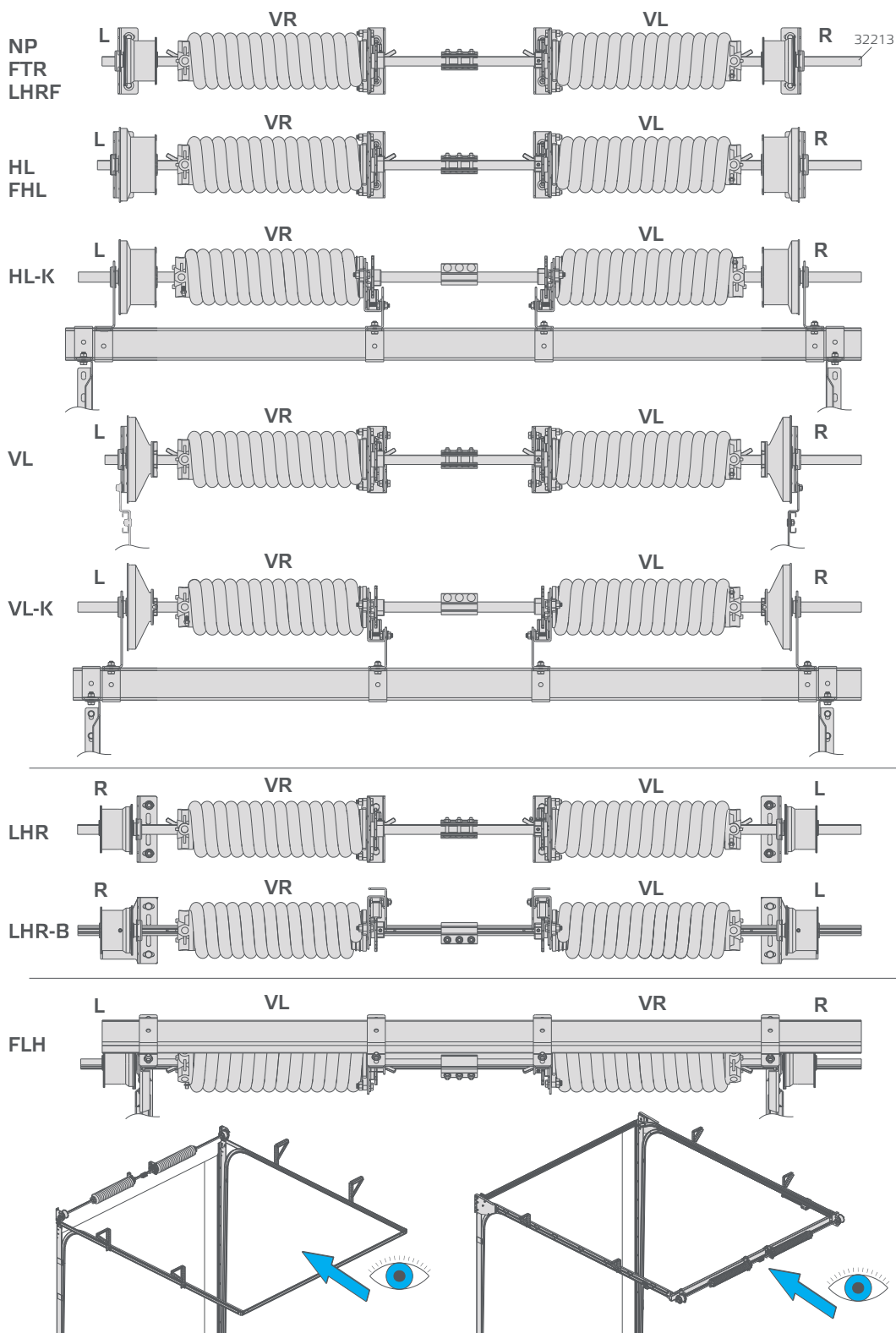


### 4.2



### 4.3





**L VR**

**PL** CZERWONY  
**GB** RED

**DE** ROT  
**FR** ROUGE

**RO** ROSU  
**CZ** ČERVENÝ

**IT** ROSSO  
**SE** RÖD

**RU** КРАСНЫЙ  
**SK** ČERVENÝ

**UA** ЧЕРВОНИЙ  
**DK** RØD



**R VL**

**PL** CZARNY  
**GB** BLACK

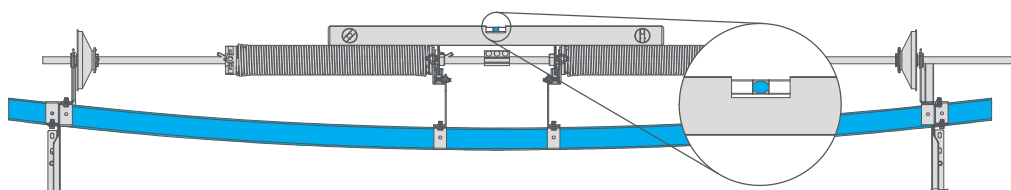
**DE** SCHWARZ  
**FR** NOIRE

**RO** NEGRU  
**CZ** ČERNÝ

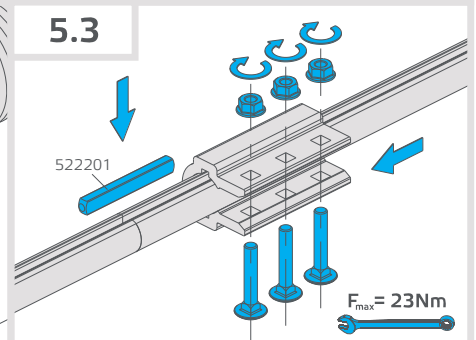
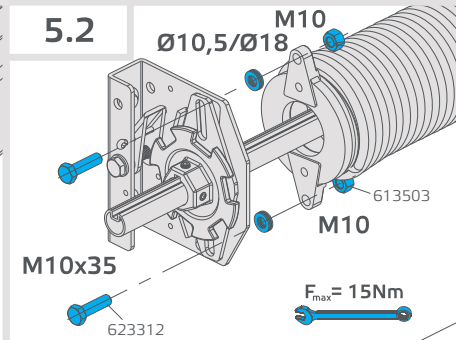
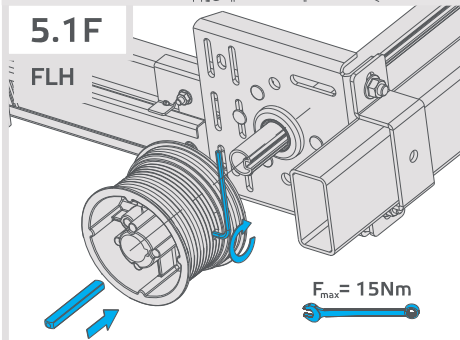
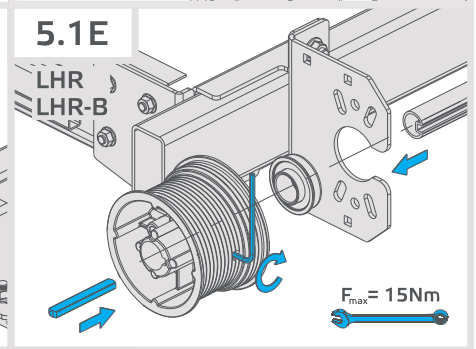
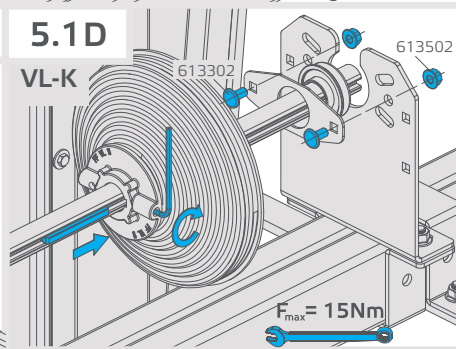
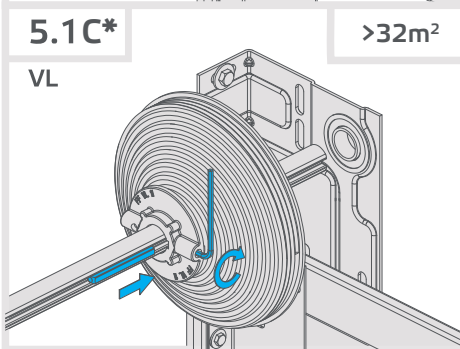
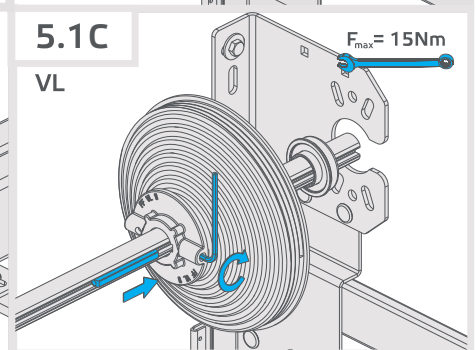
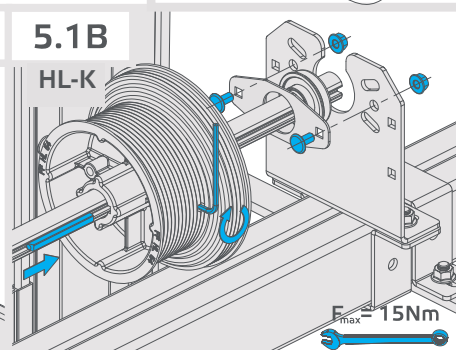
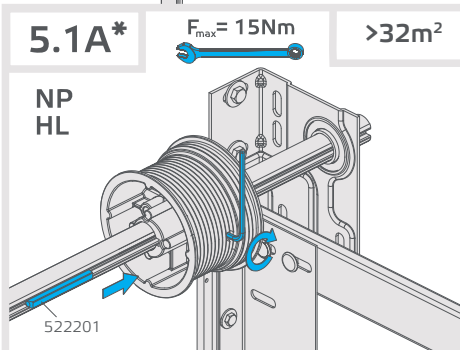
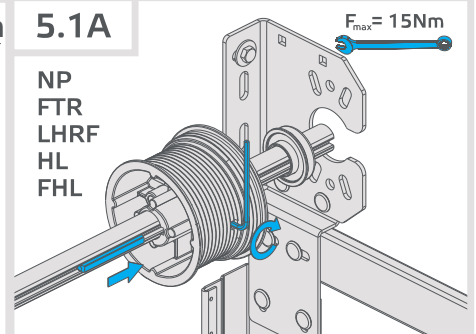
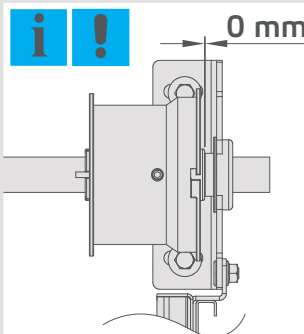
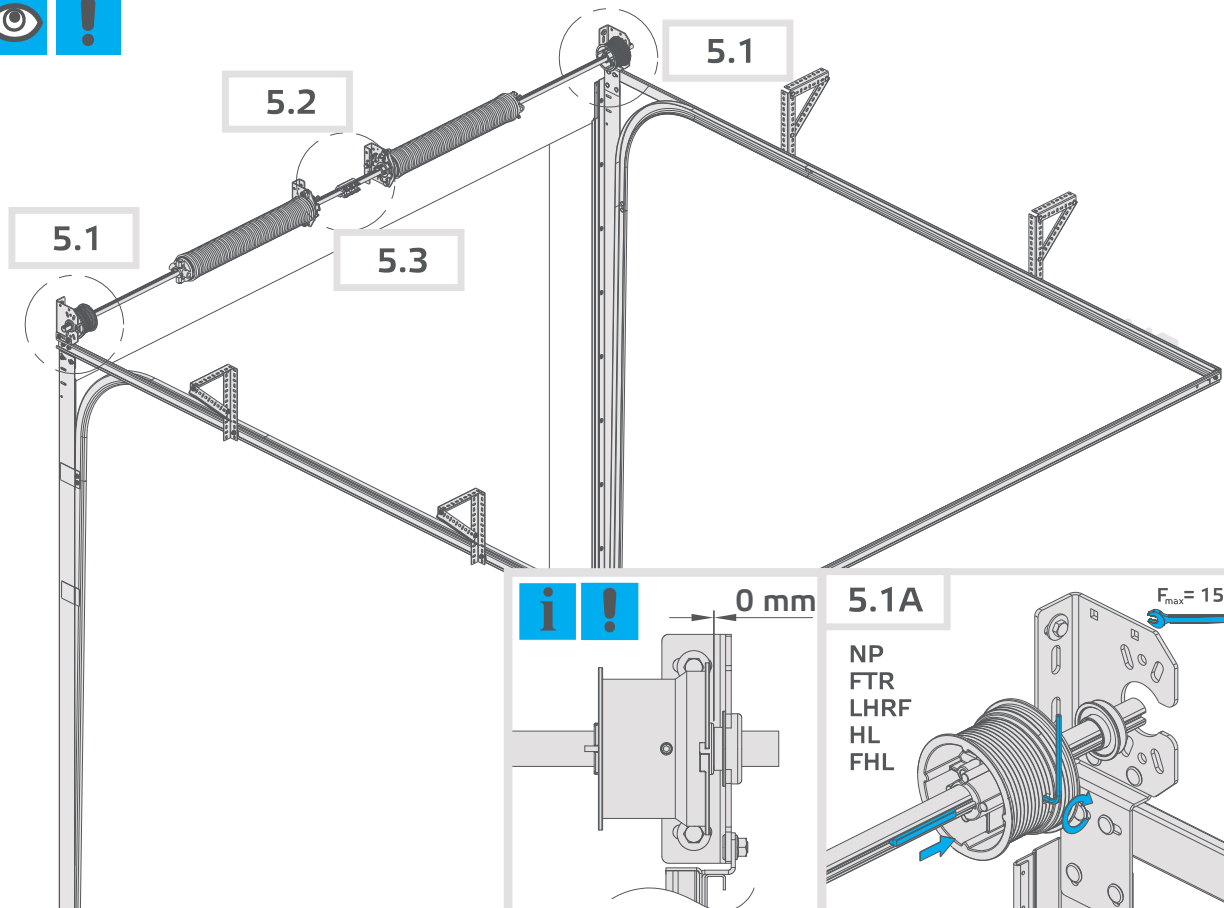
**IT** NERO  
**SE** SVART

**RU** ЧЕРНЫЙ  
**SK** ČERNÝ

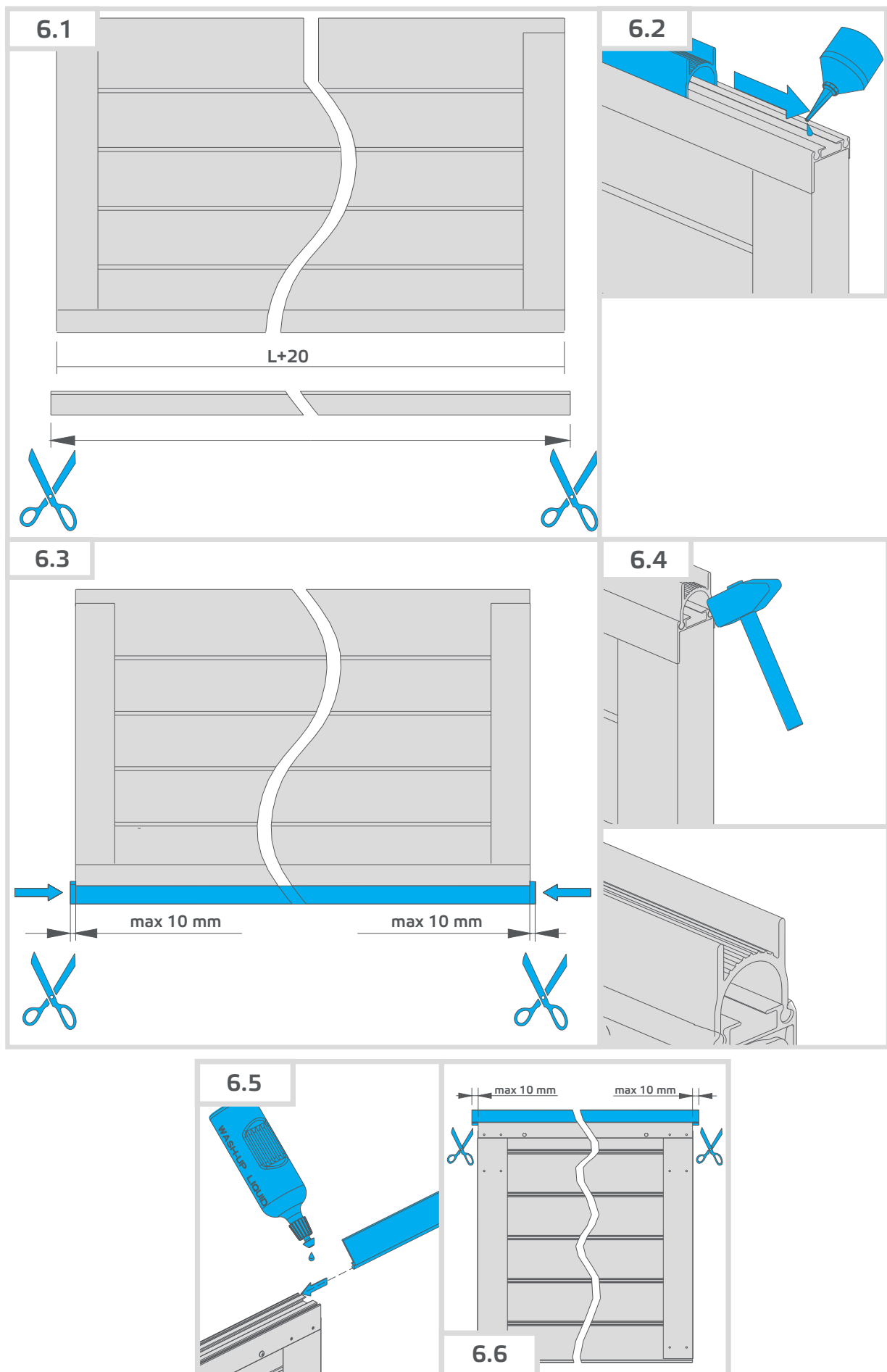
**UA** ЧОРНИЙ  
**DK** SORT



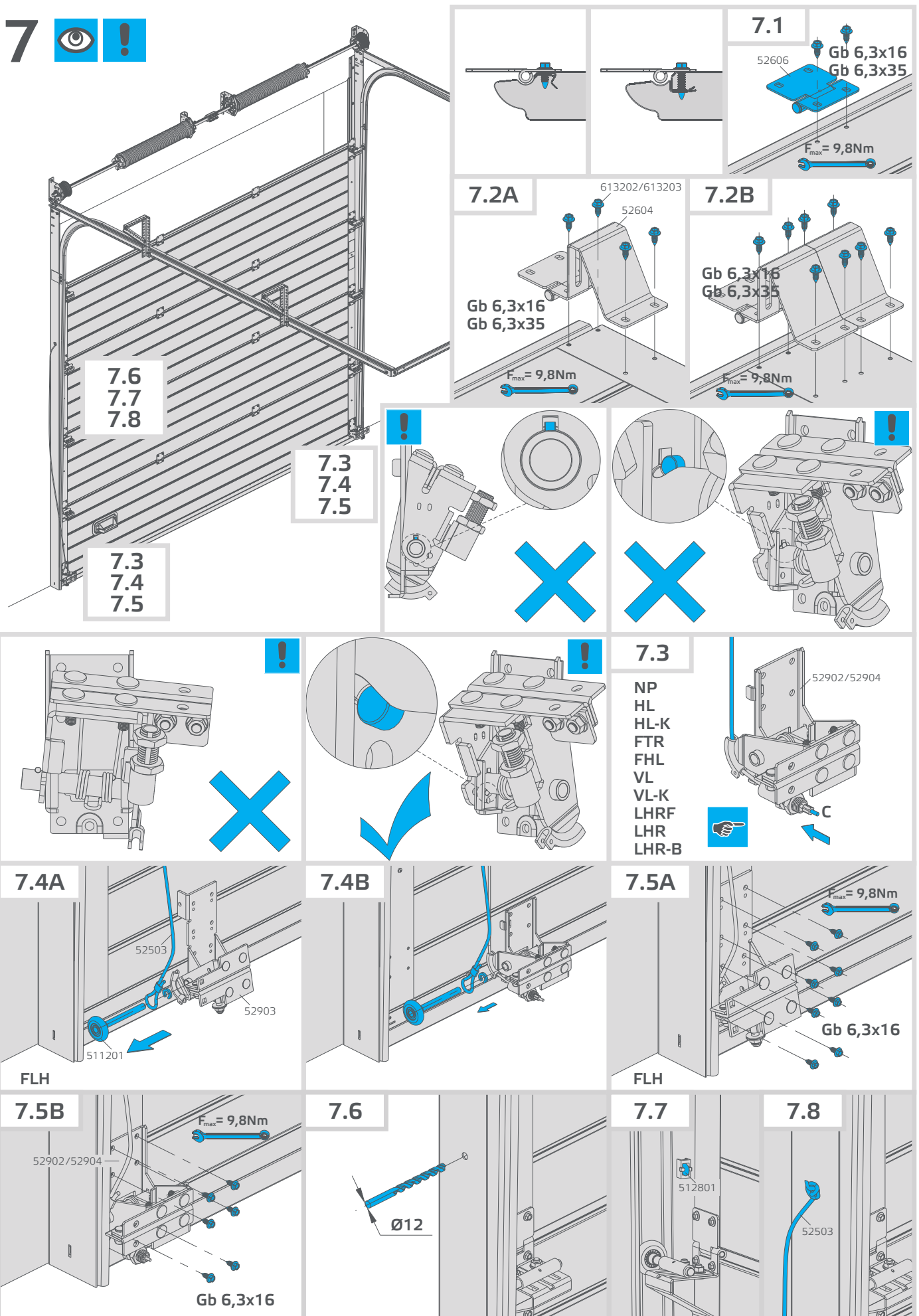
5  



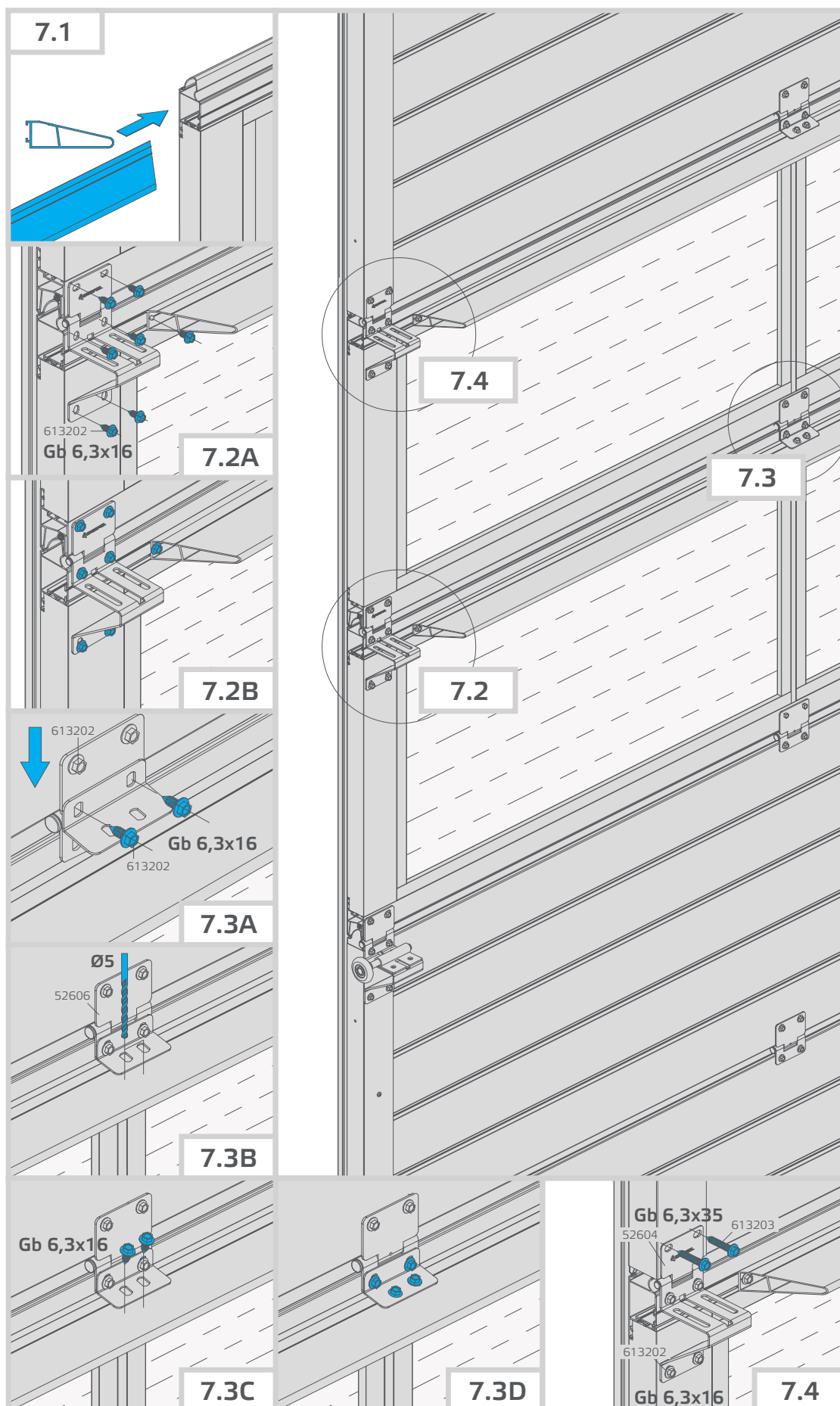
# 6\*



# 7

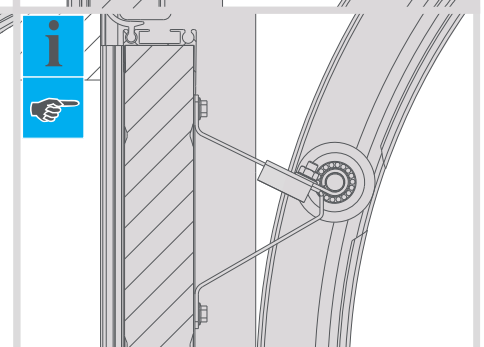
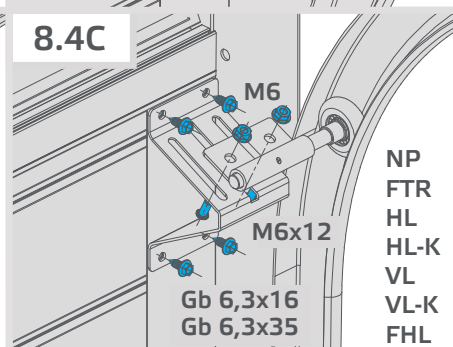
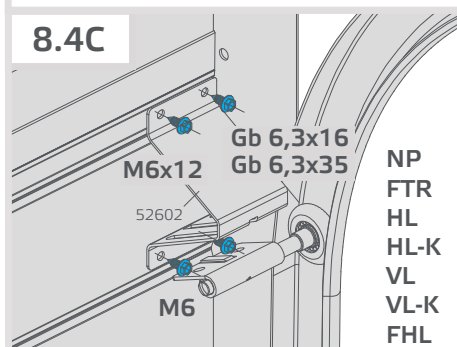
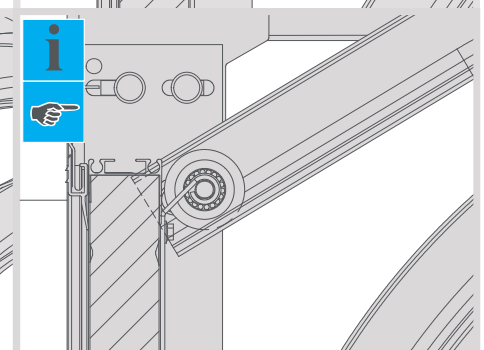
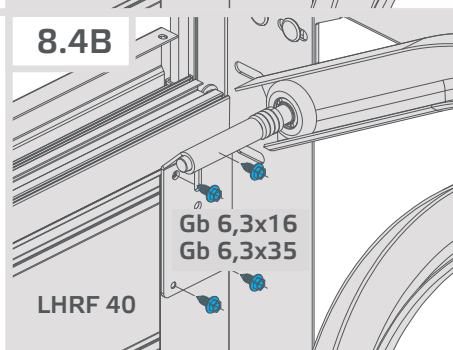
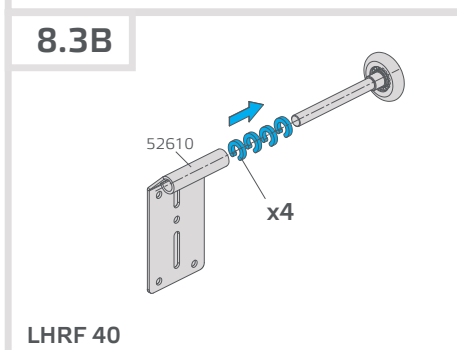
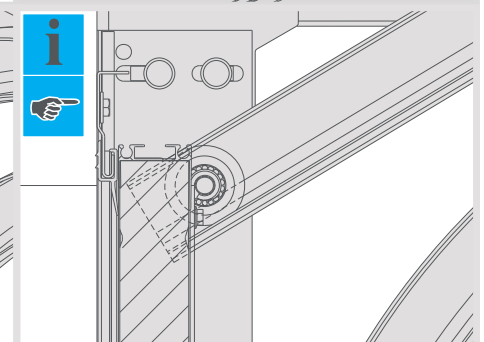
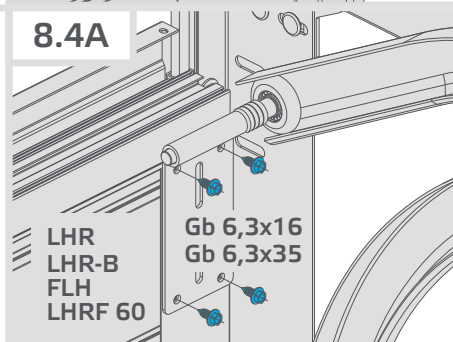
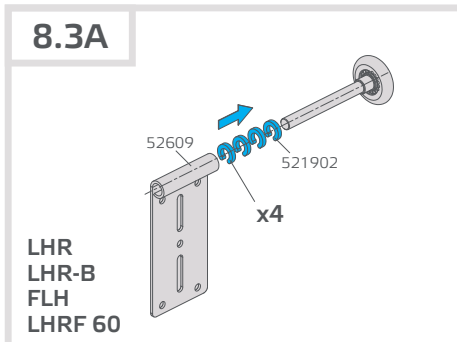
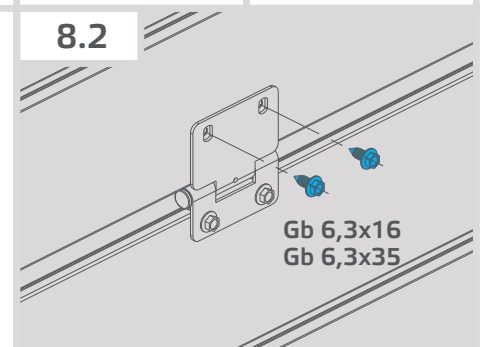
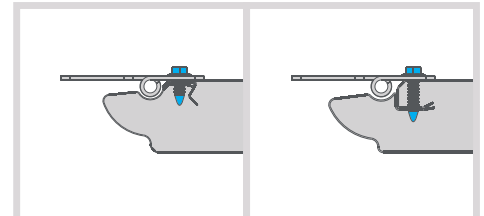
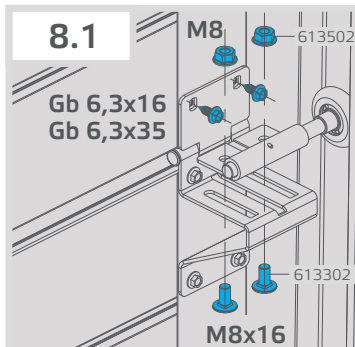
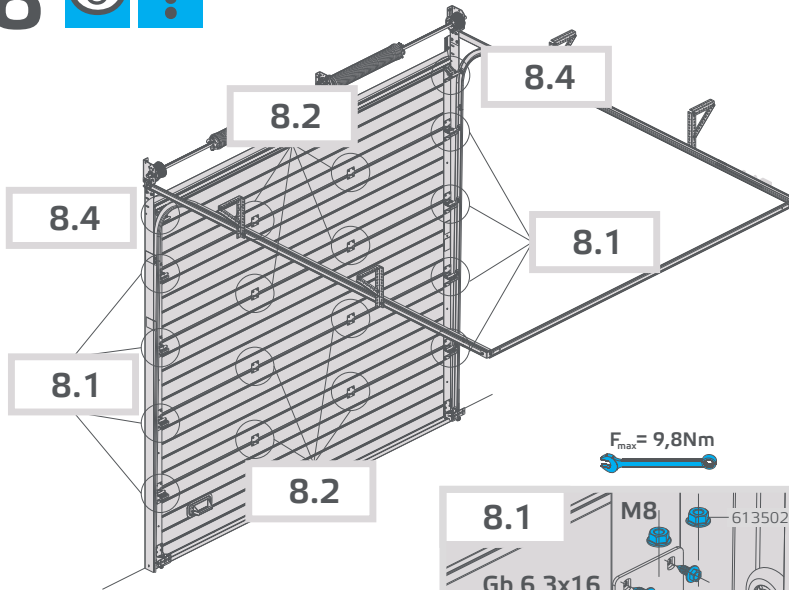


7\*    $F_{max} = 9,8Nm$  



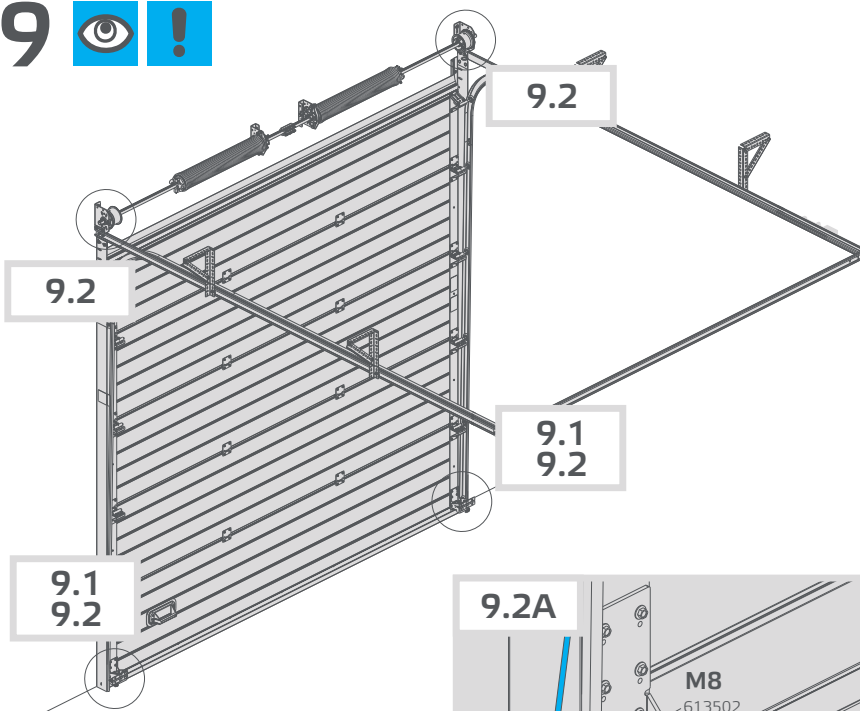


# 8

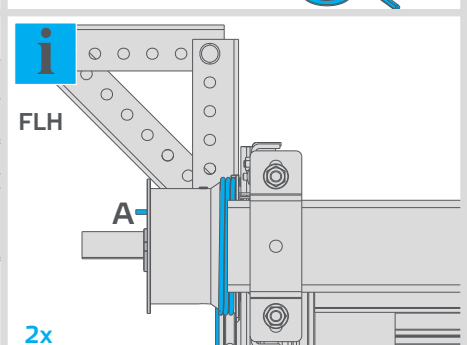
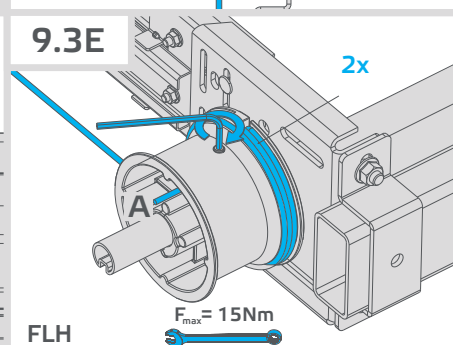
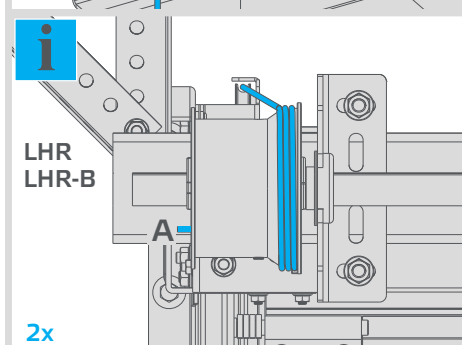
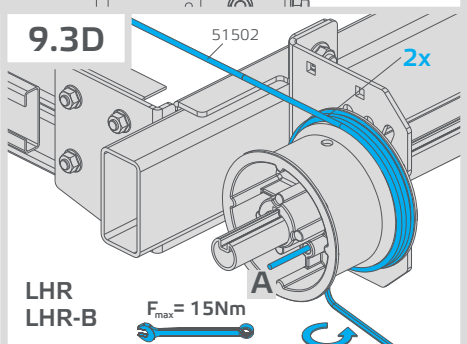
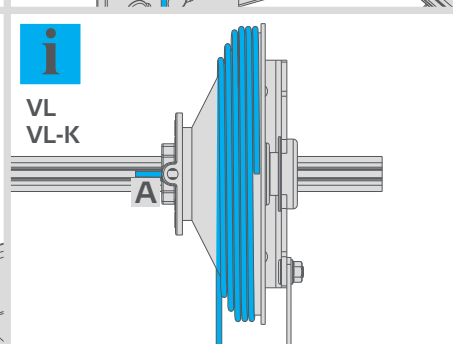
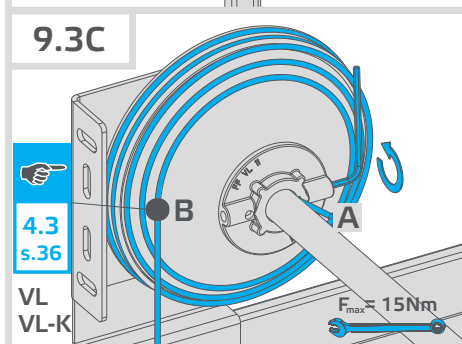
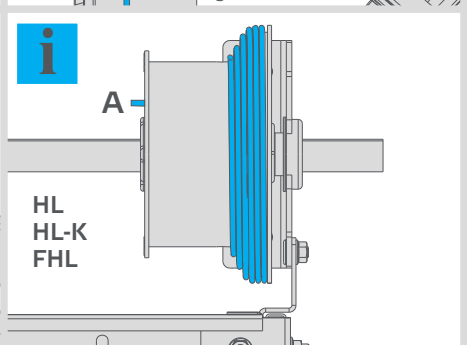
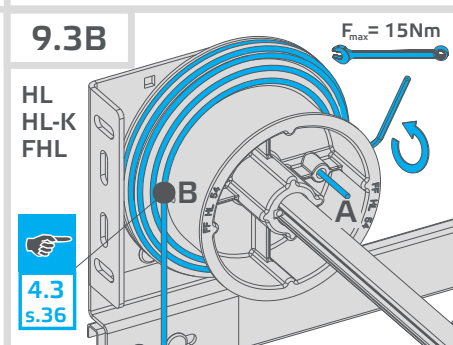
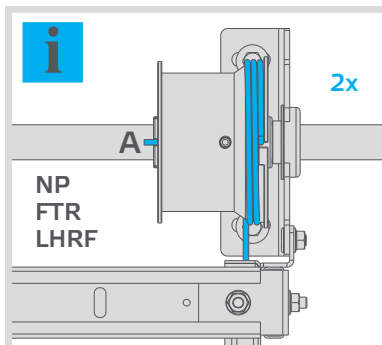
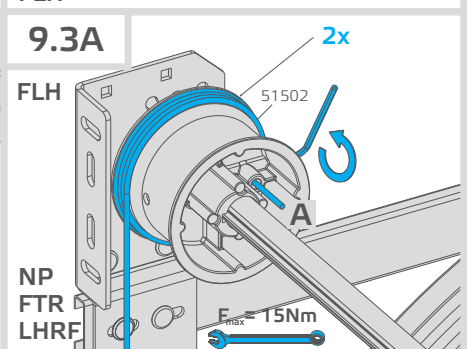
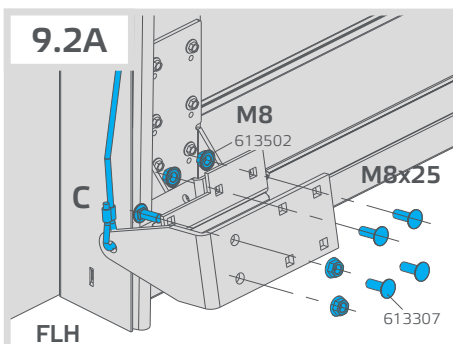
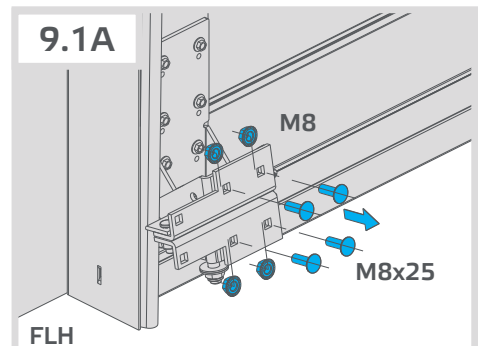




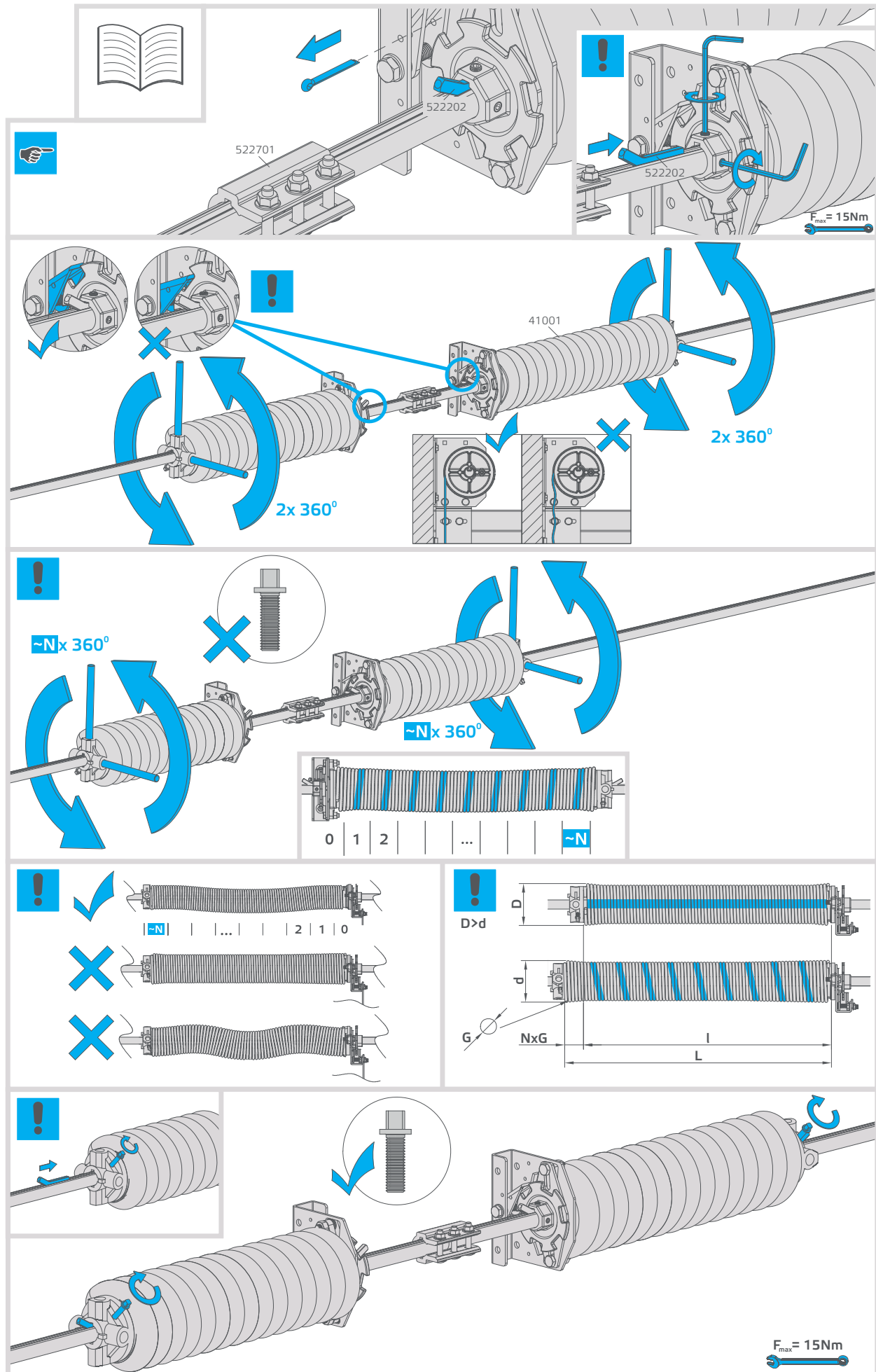
9  



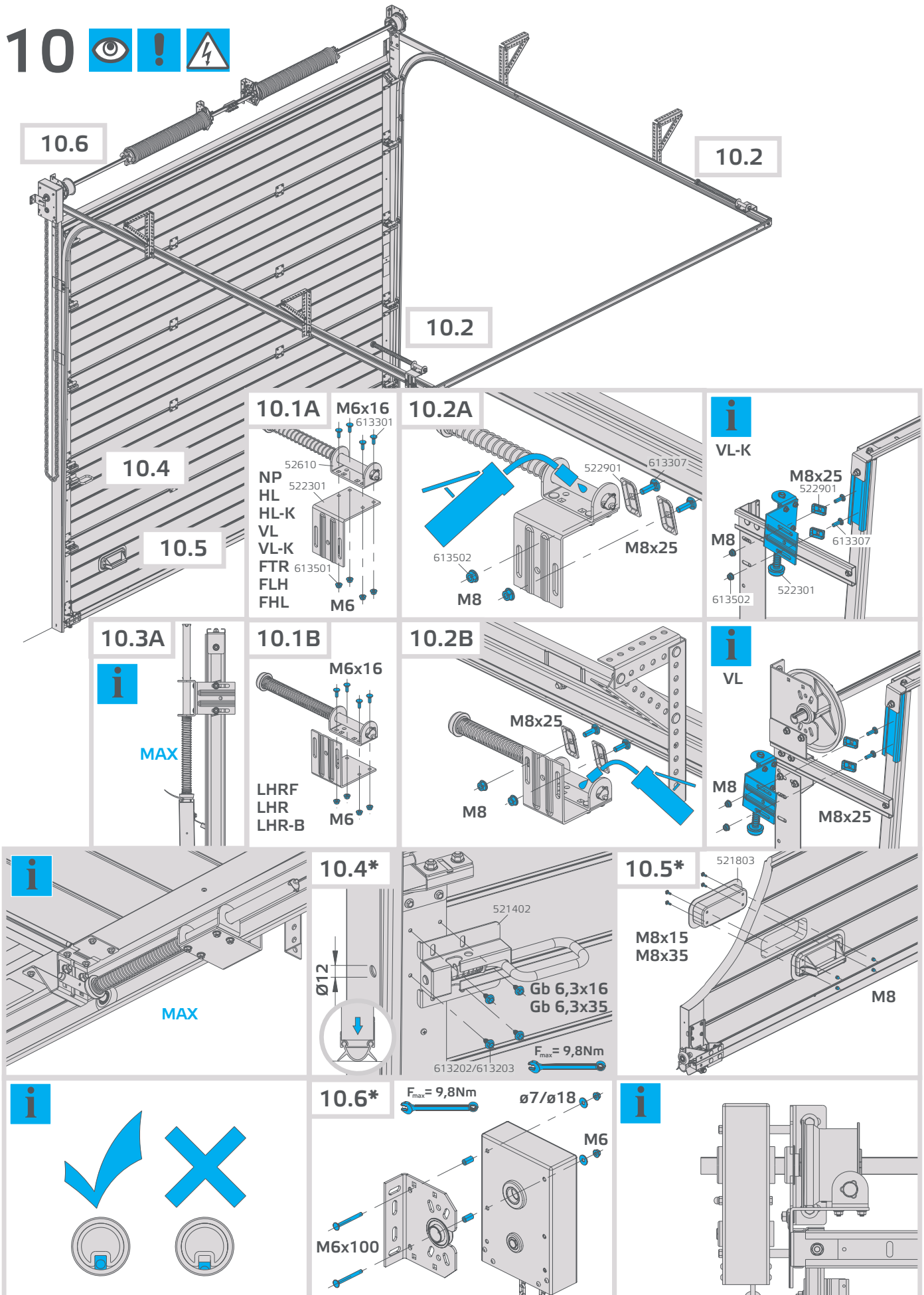
  4



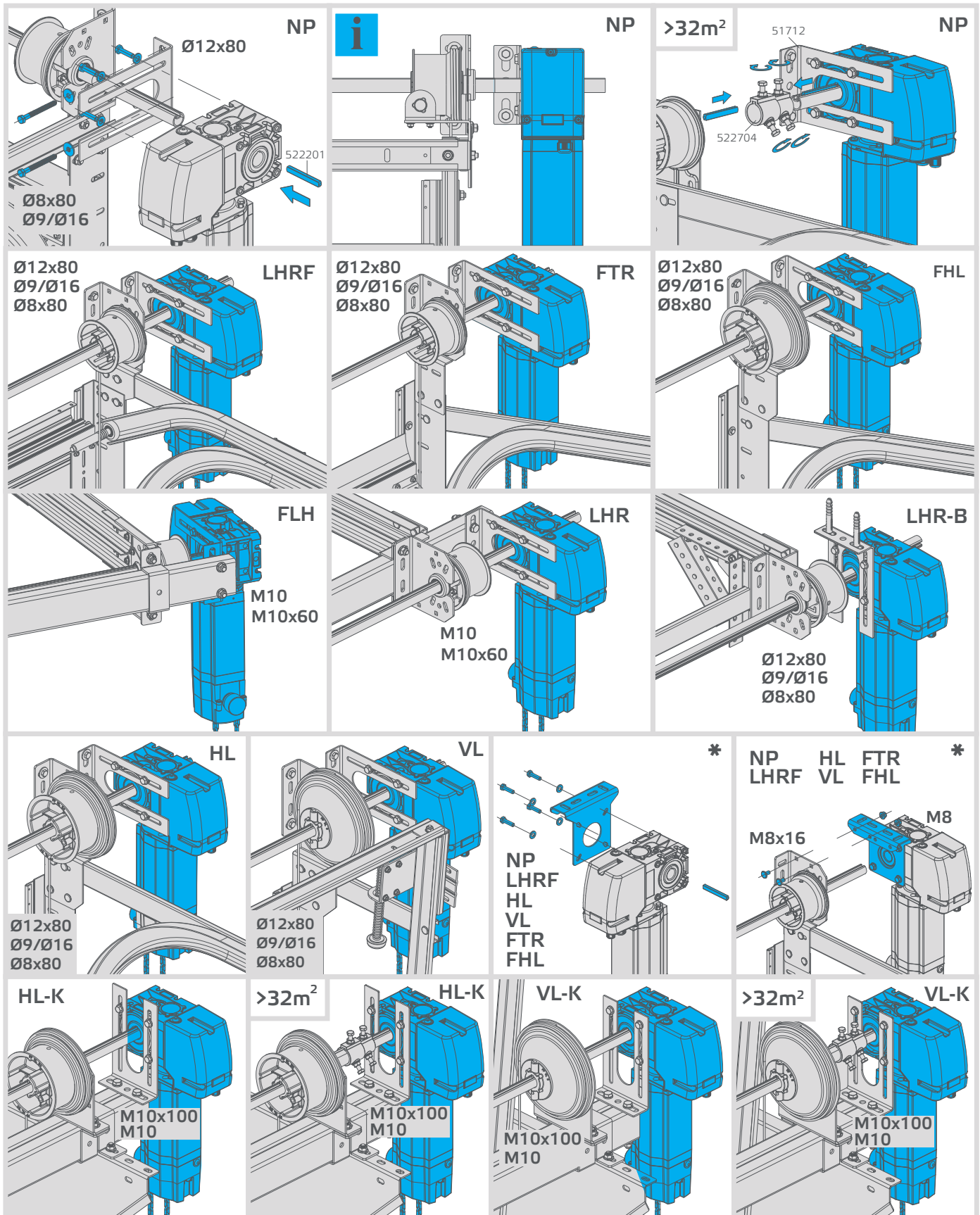
9



10   

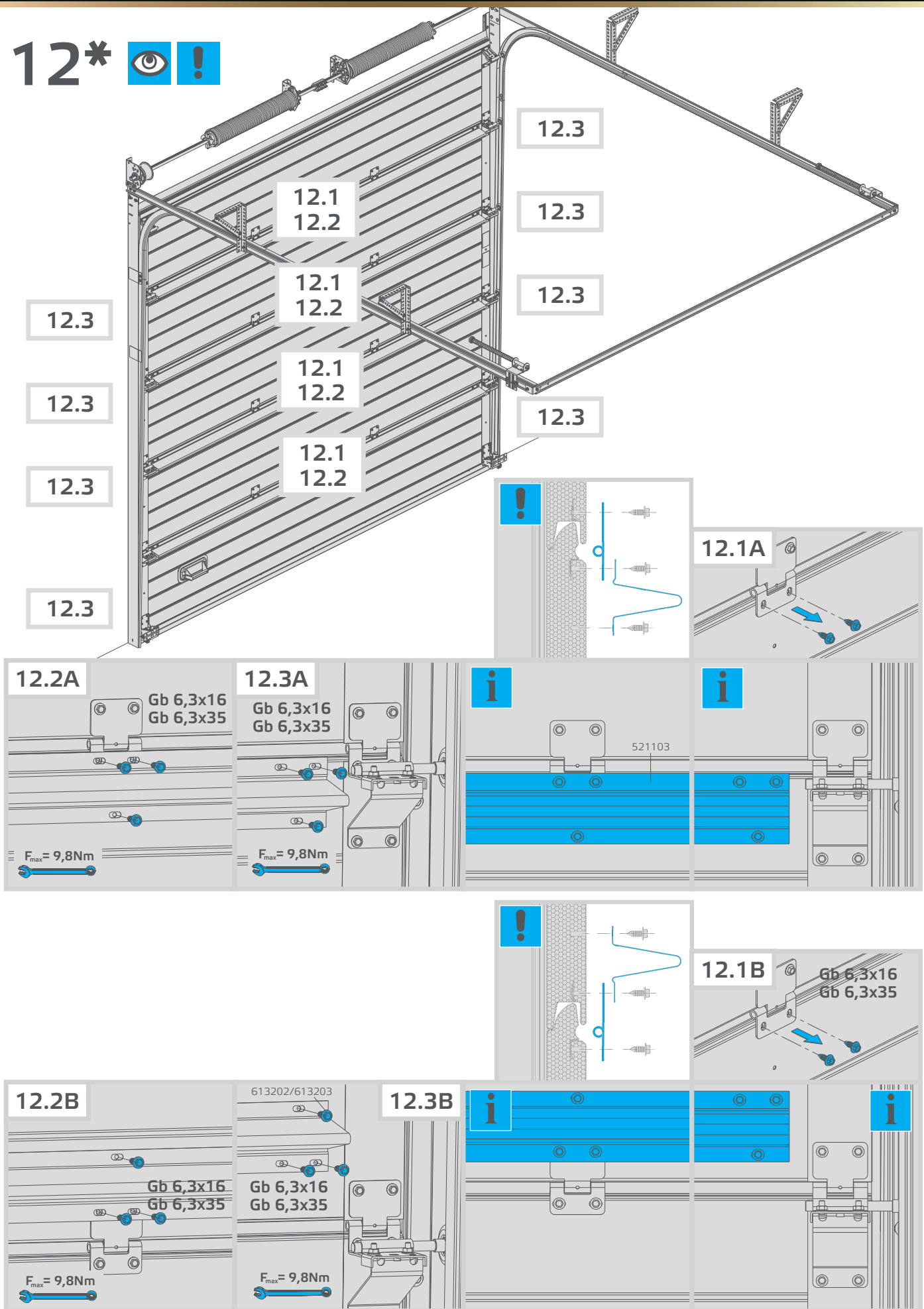


# 11\*

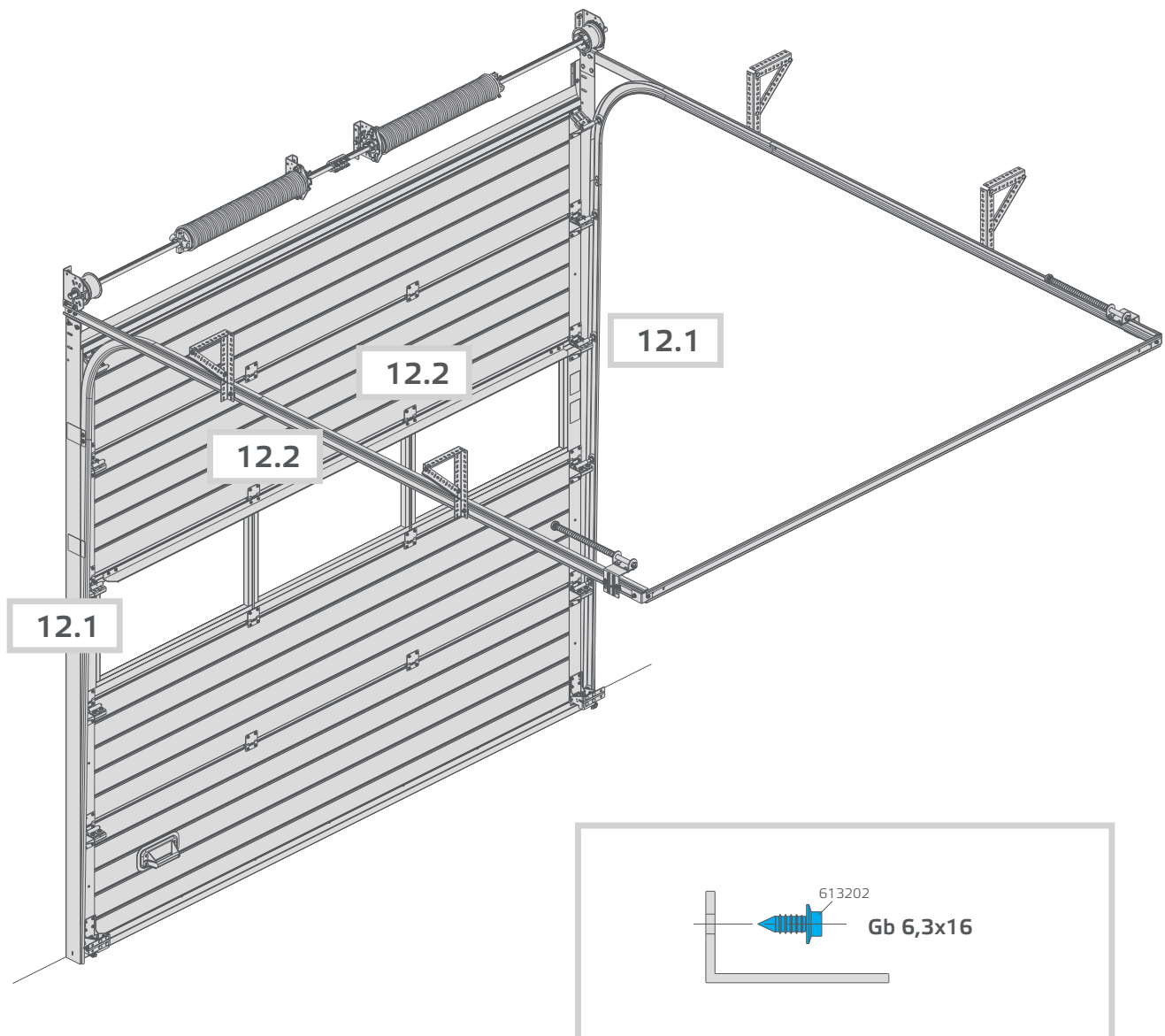




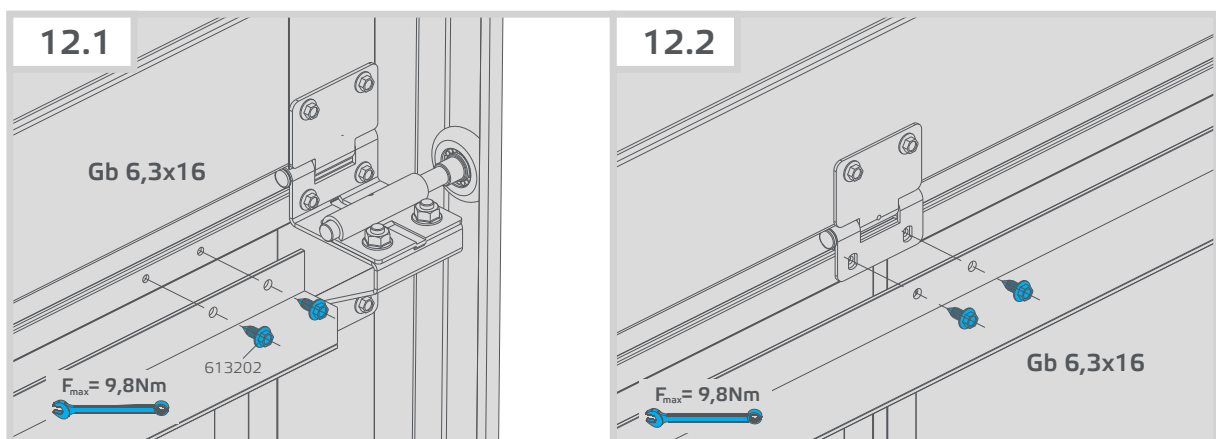
12\*  



12\*  

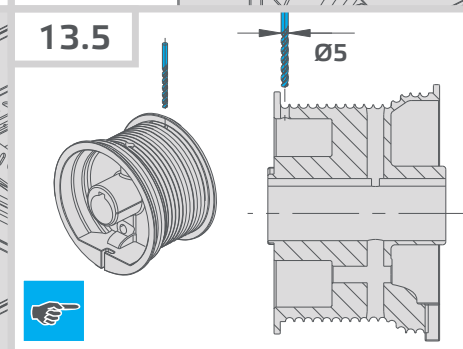
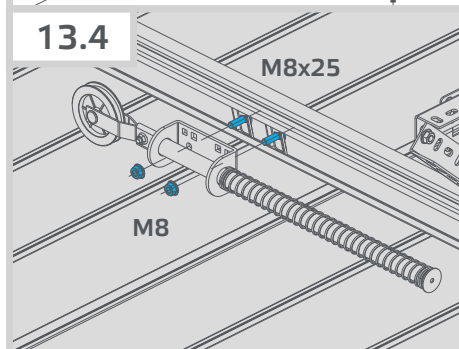
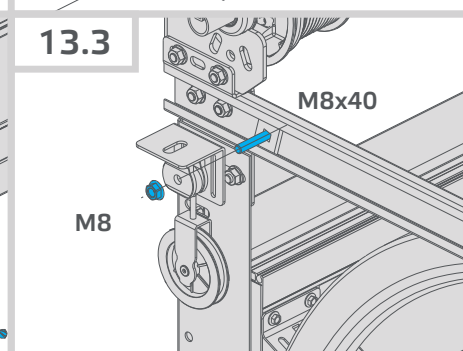
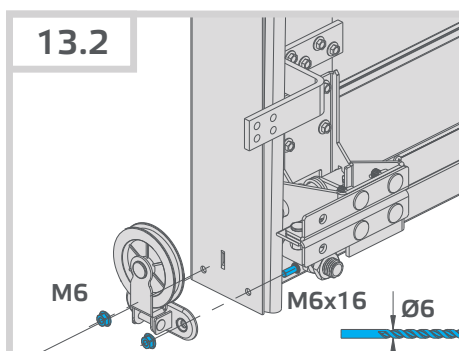
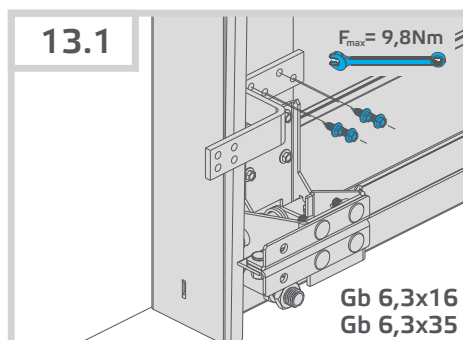
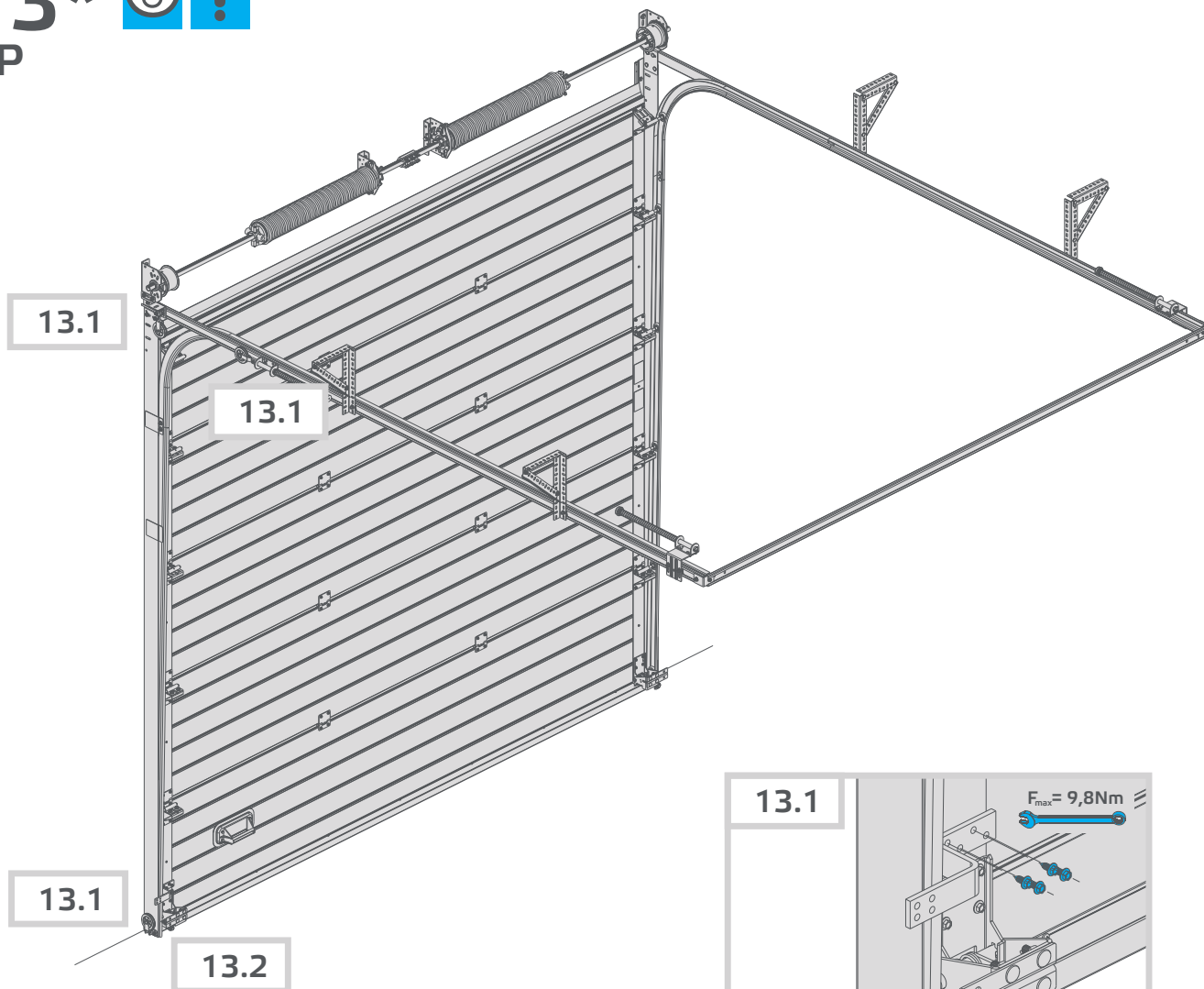


  7\*



# 13\*

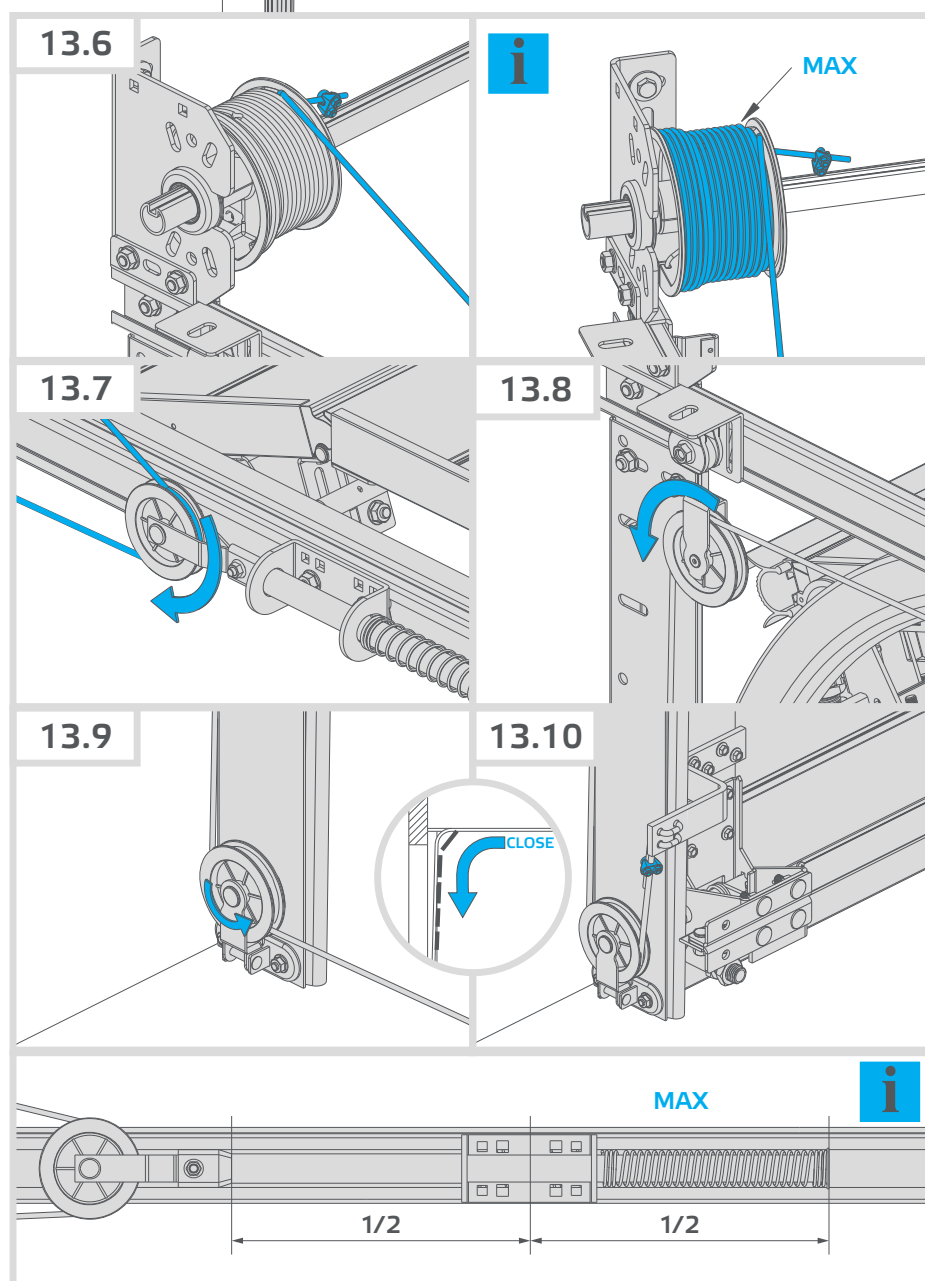
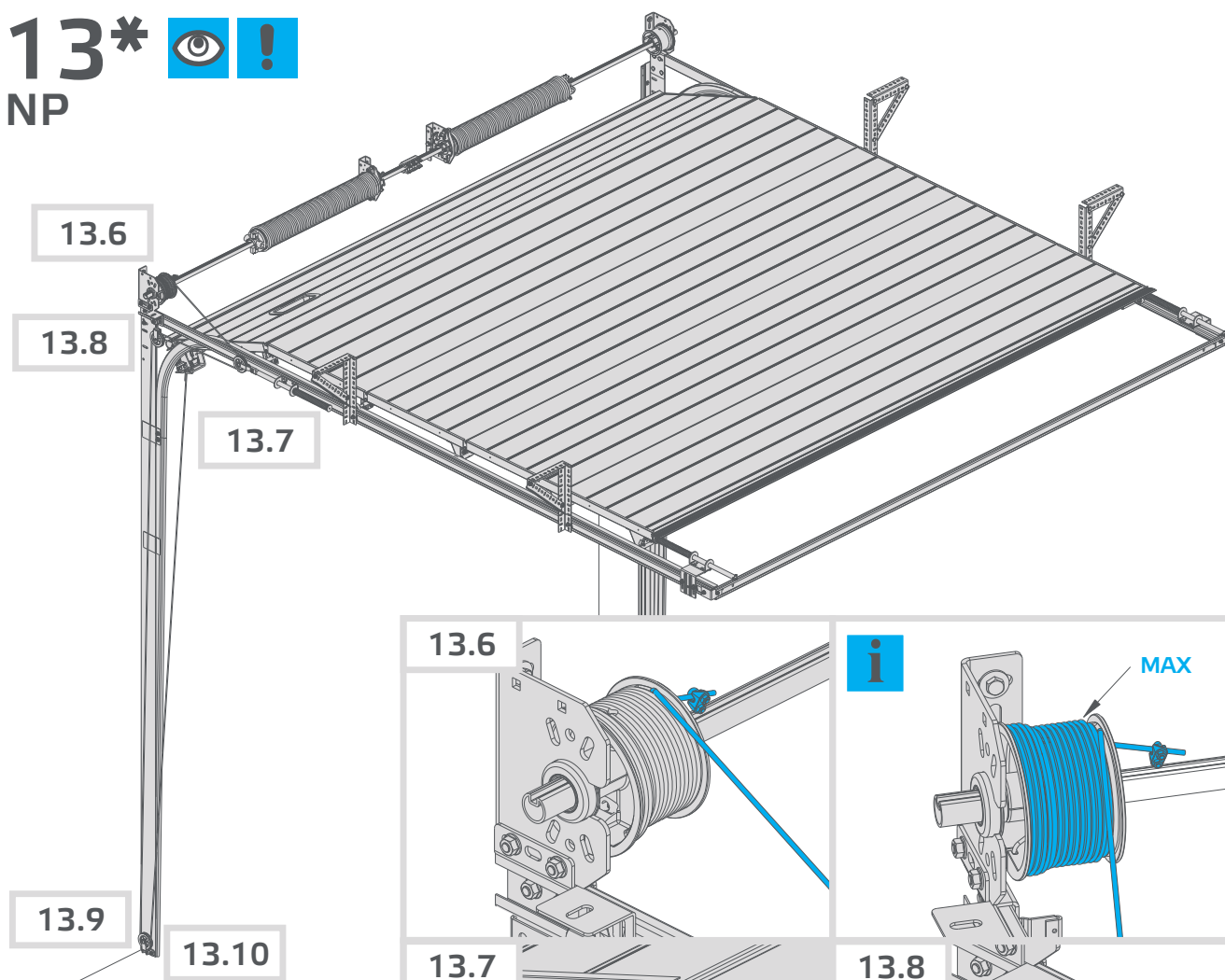
NP





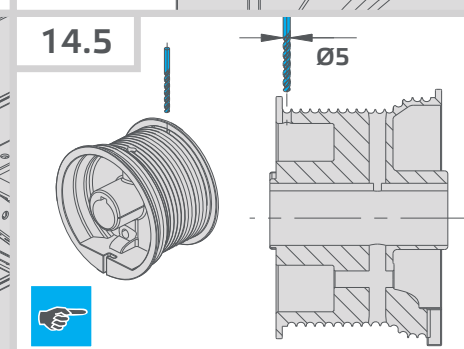
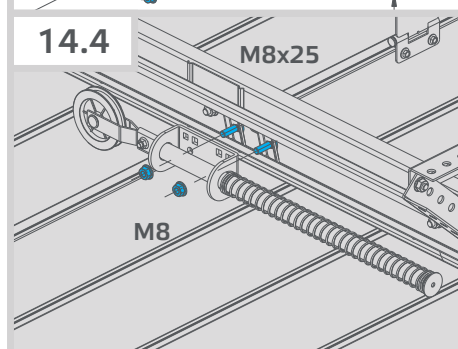
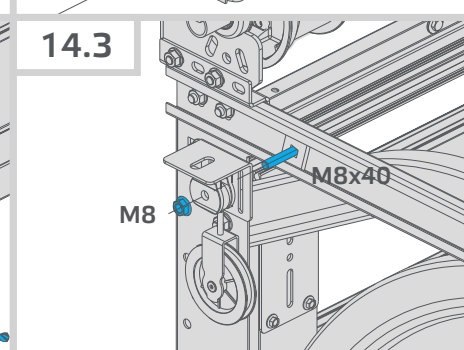
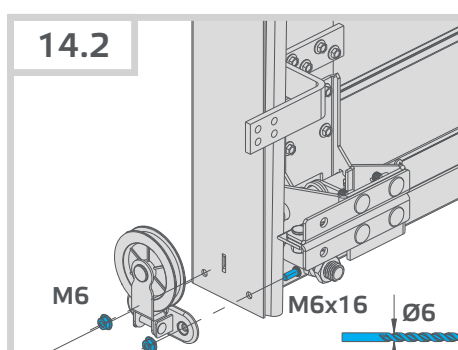
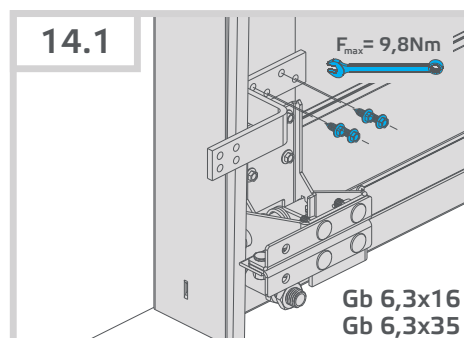
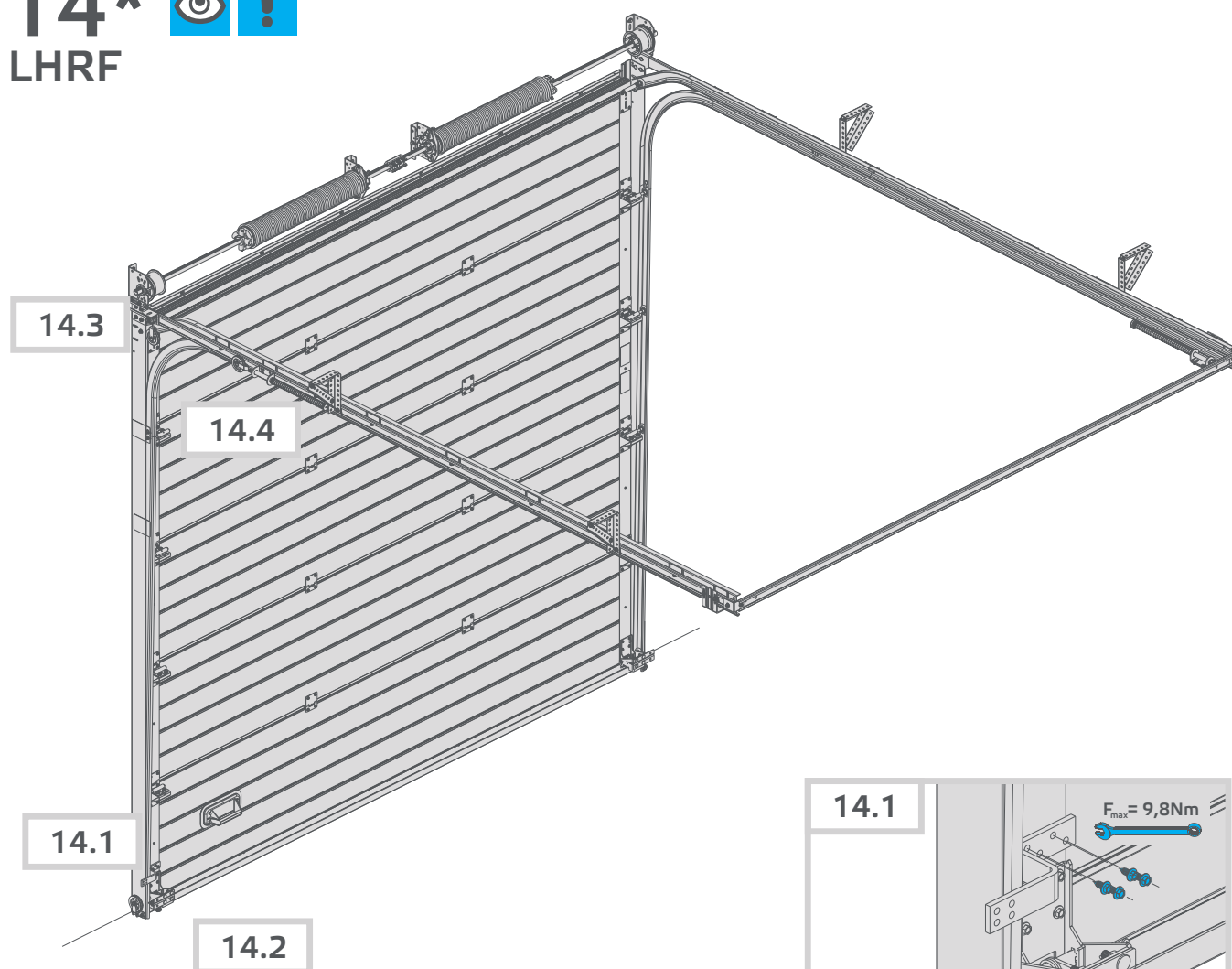
# 13\*

NP



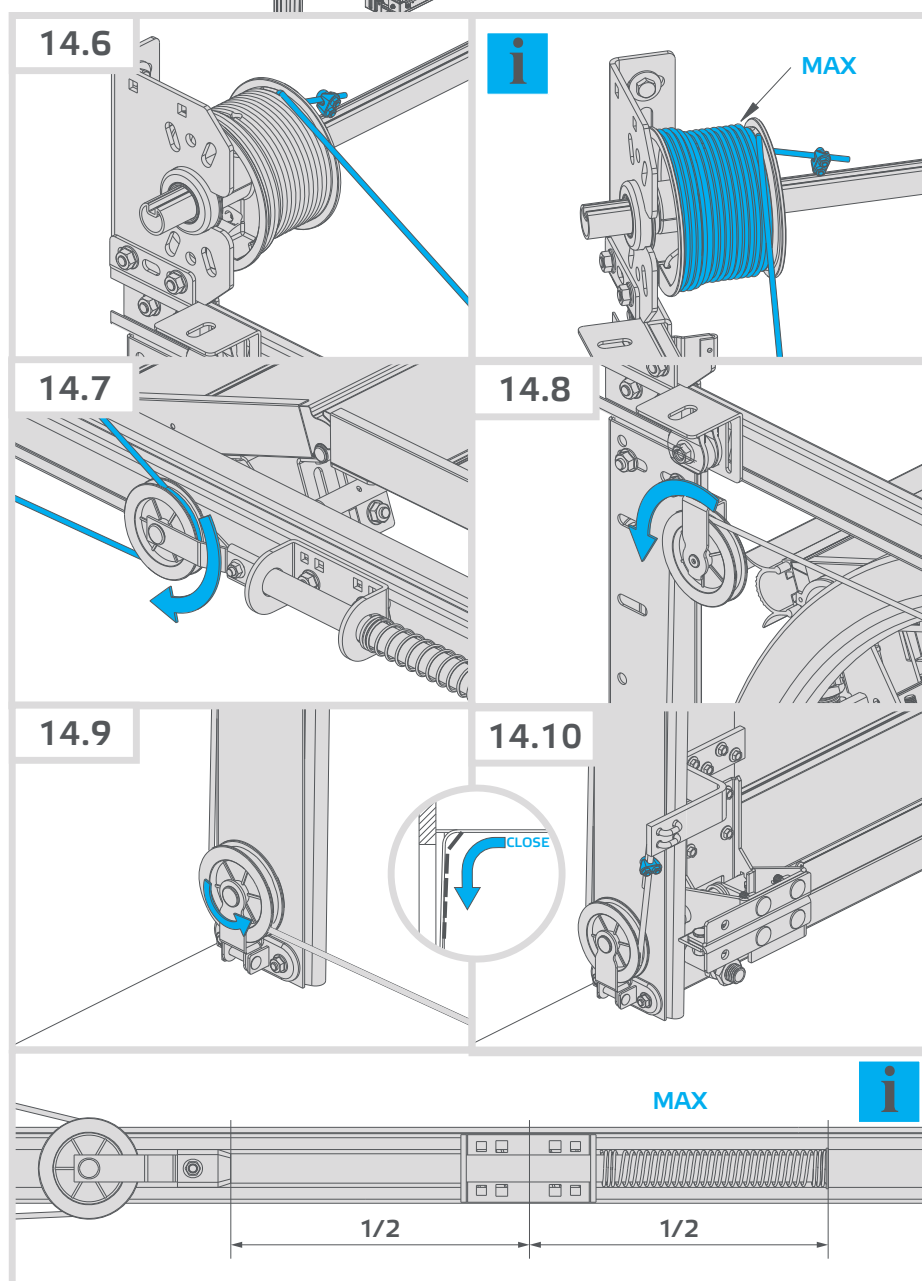
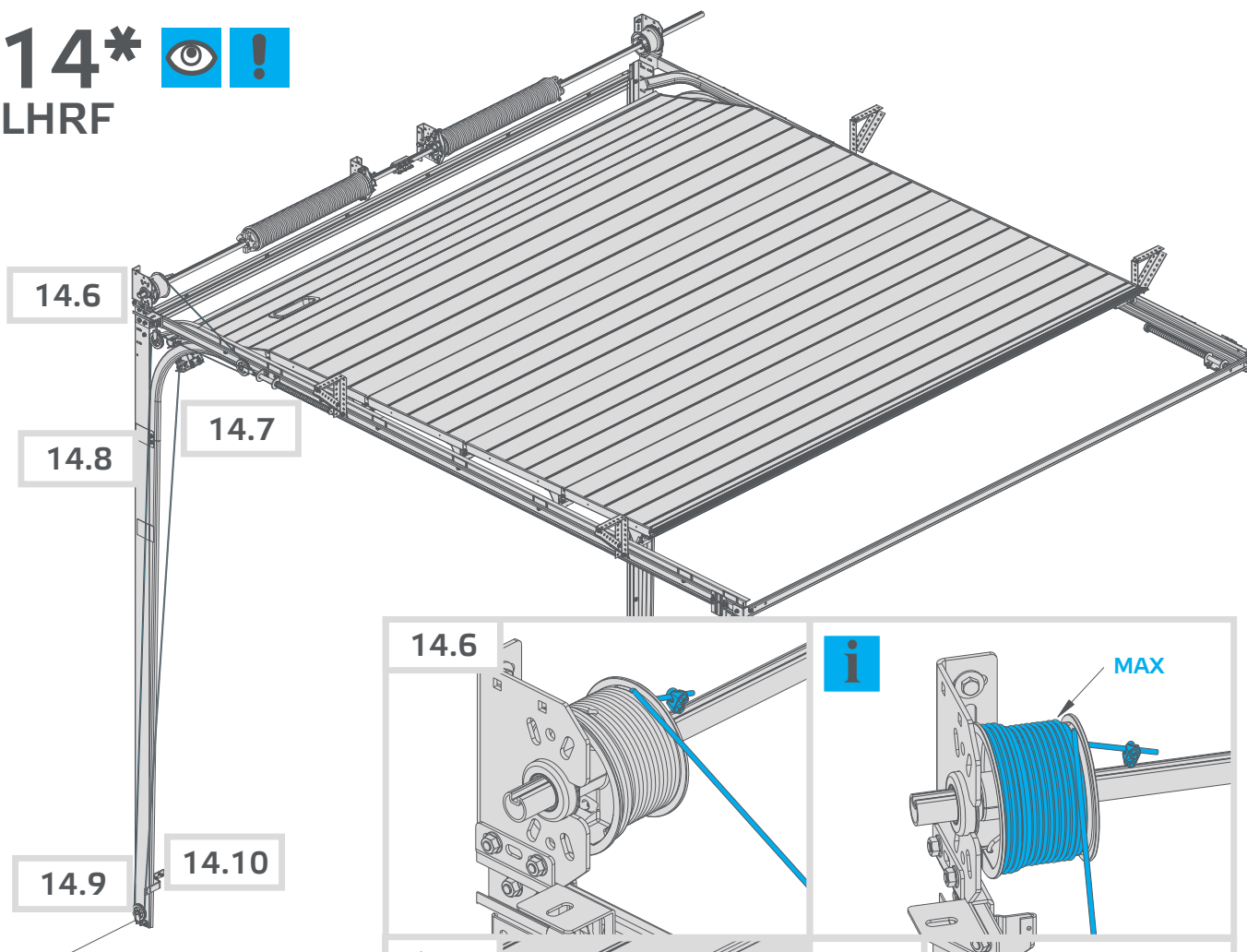
# 14\*

LHRF

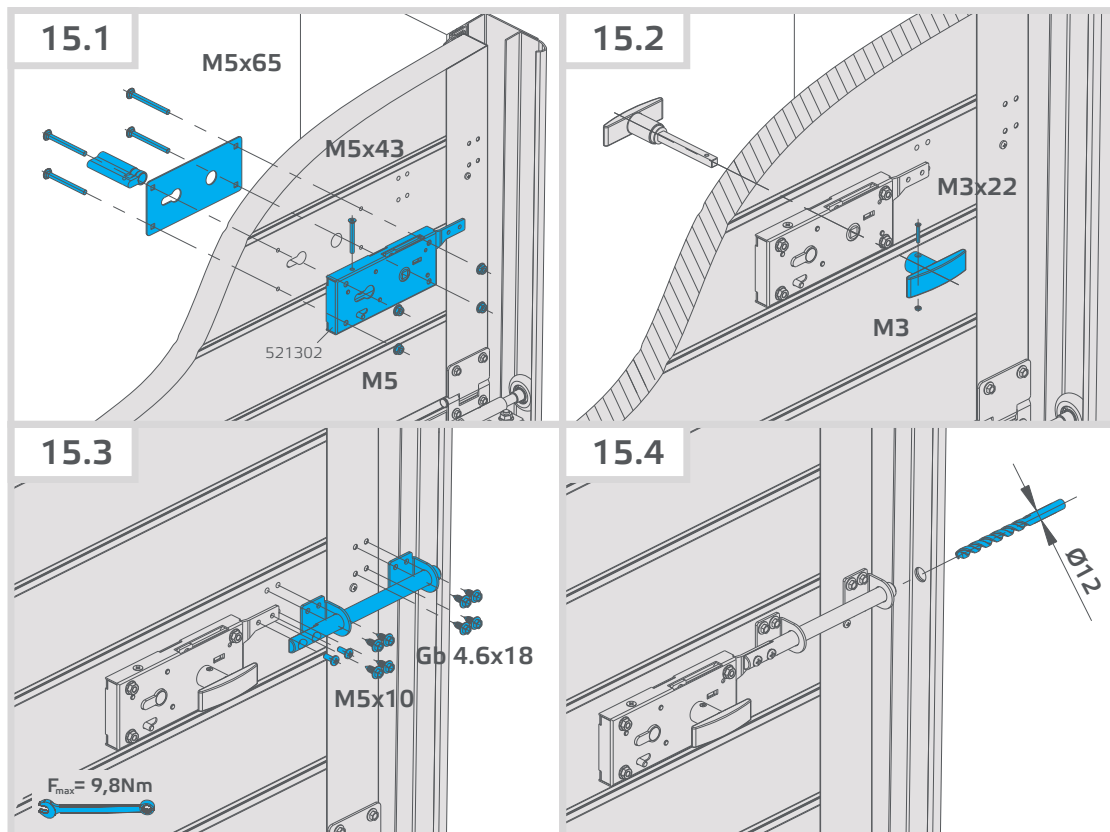
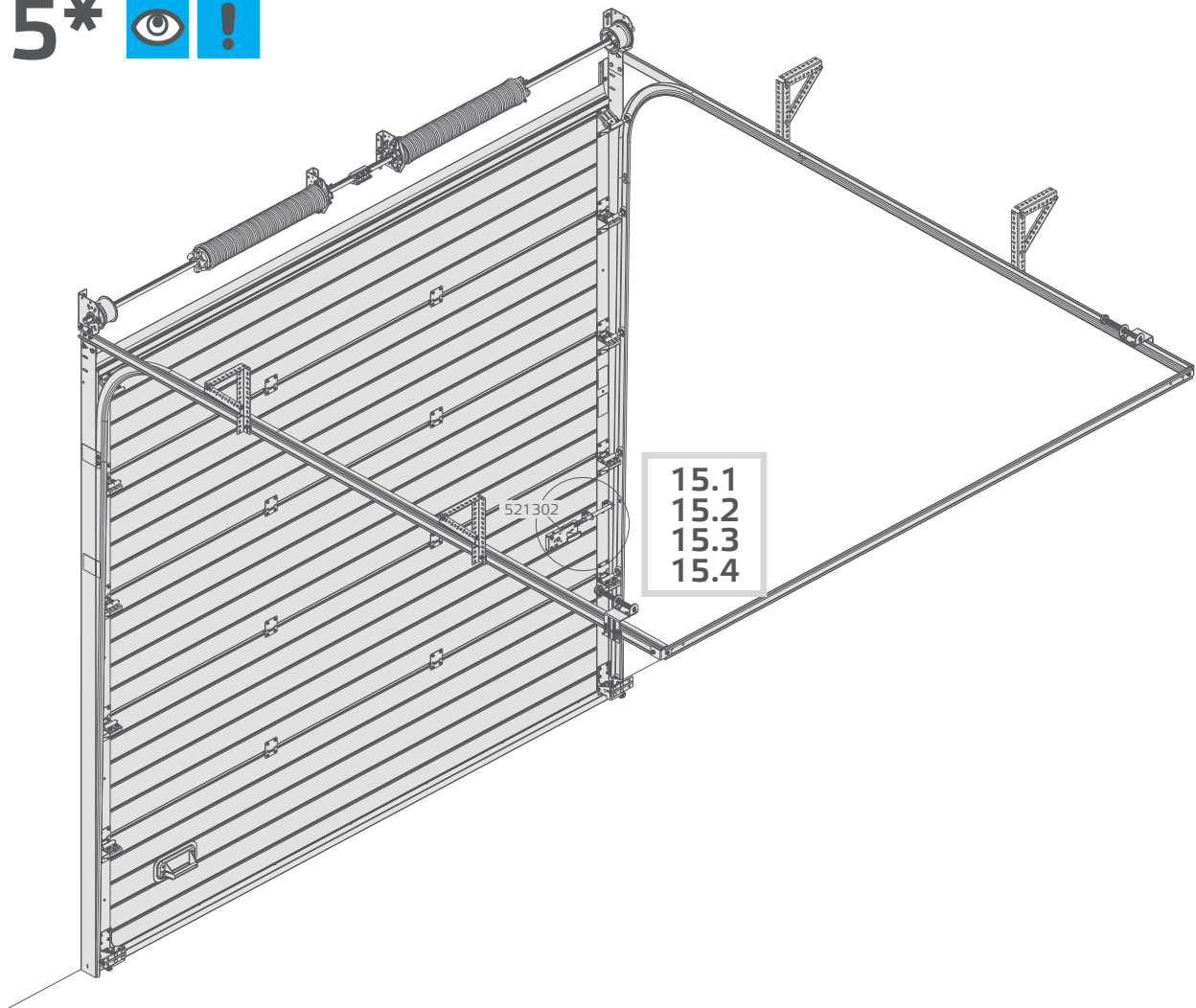


# 14\*

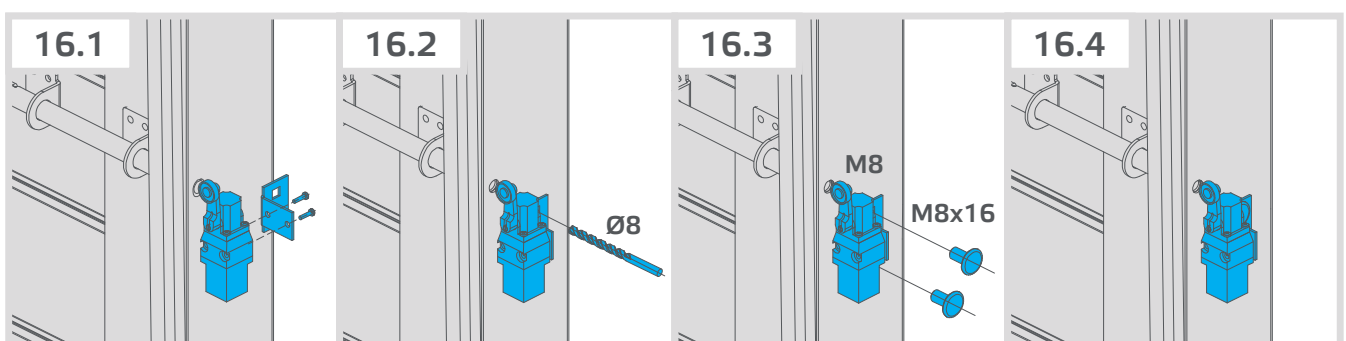
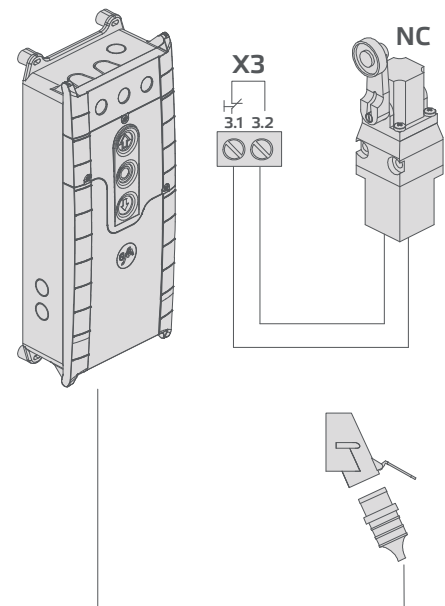
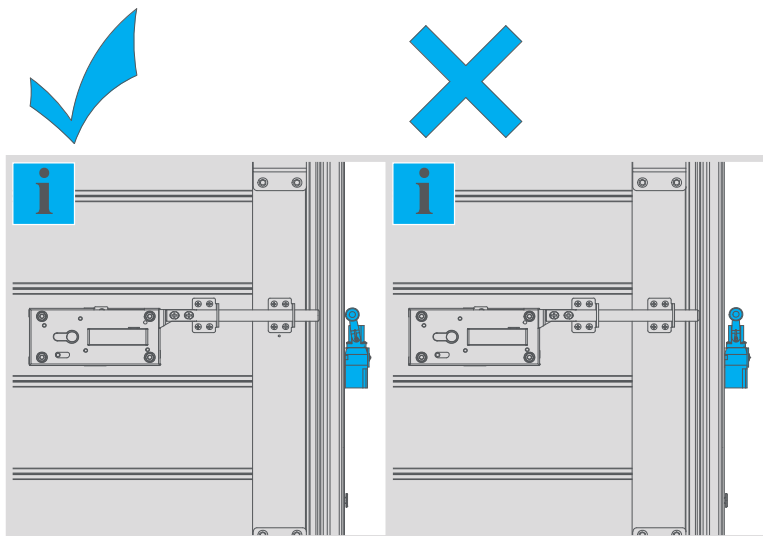
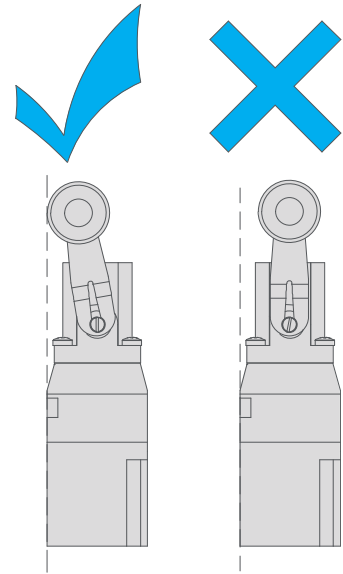
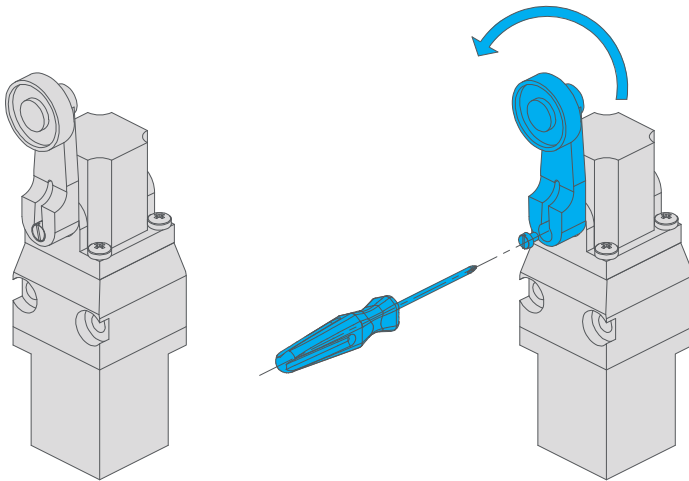
LHRF



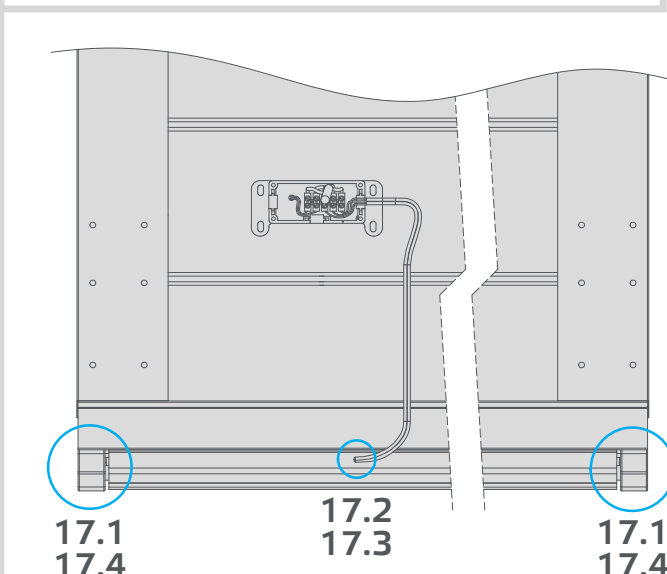
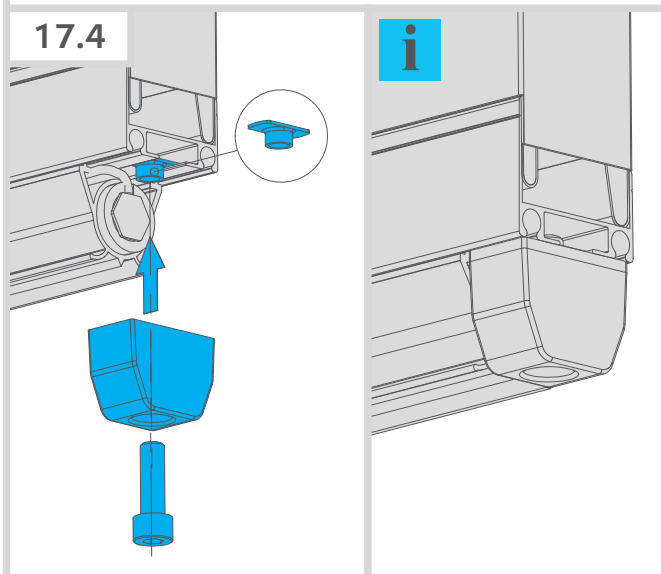
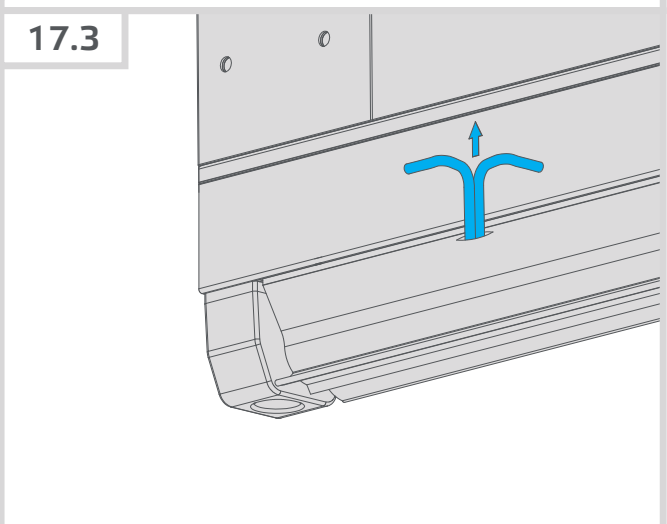
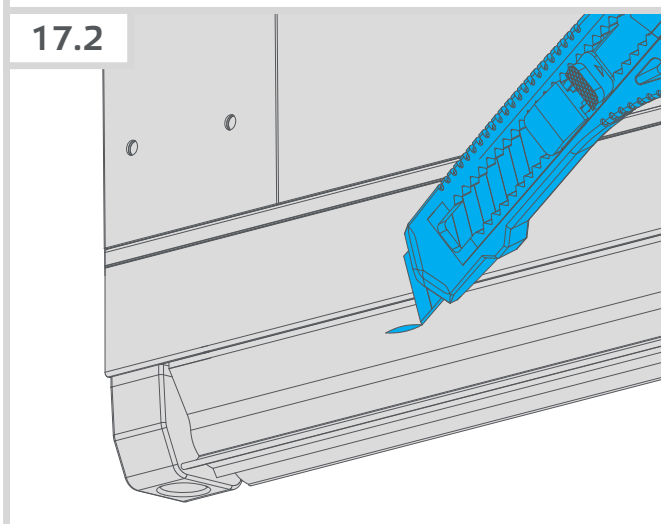
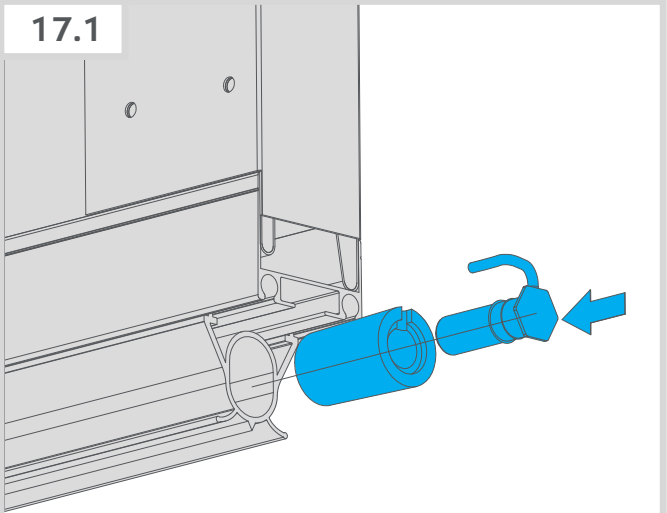
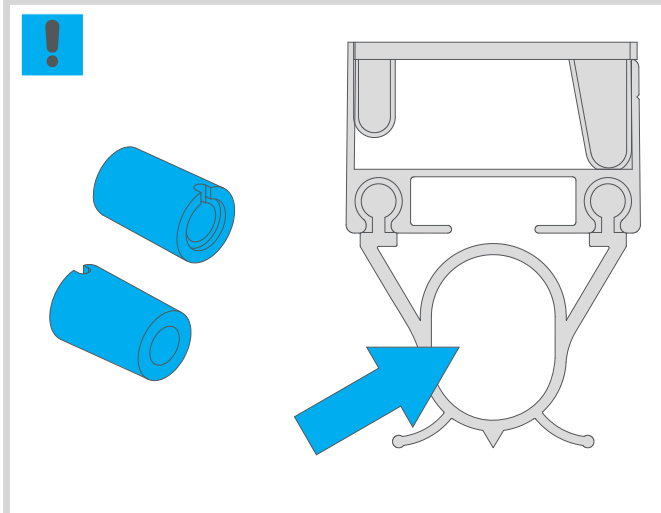
15\*  



# 16\*

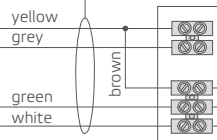
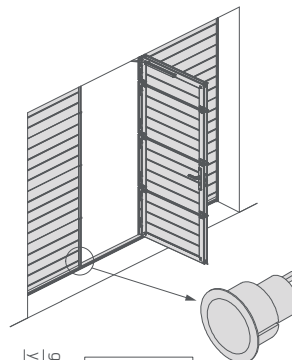
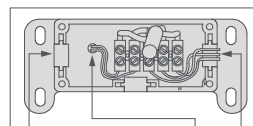
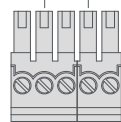
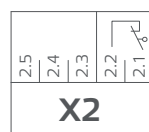
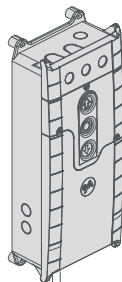
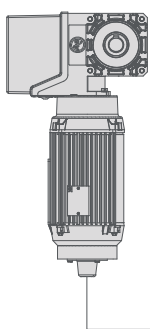
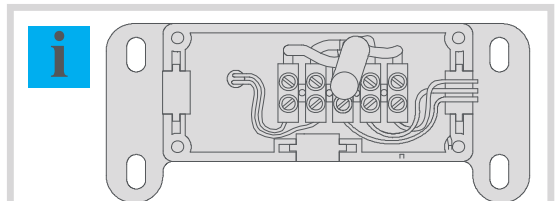
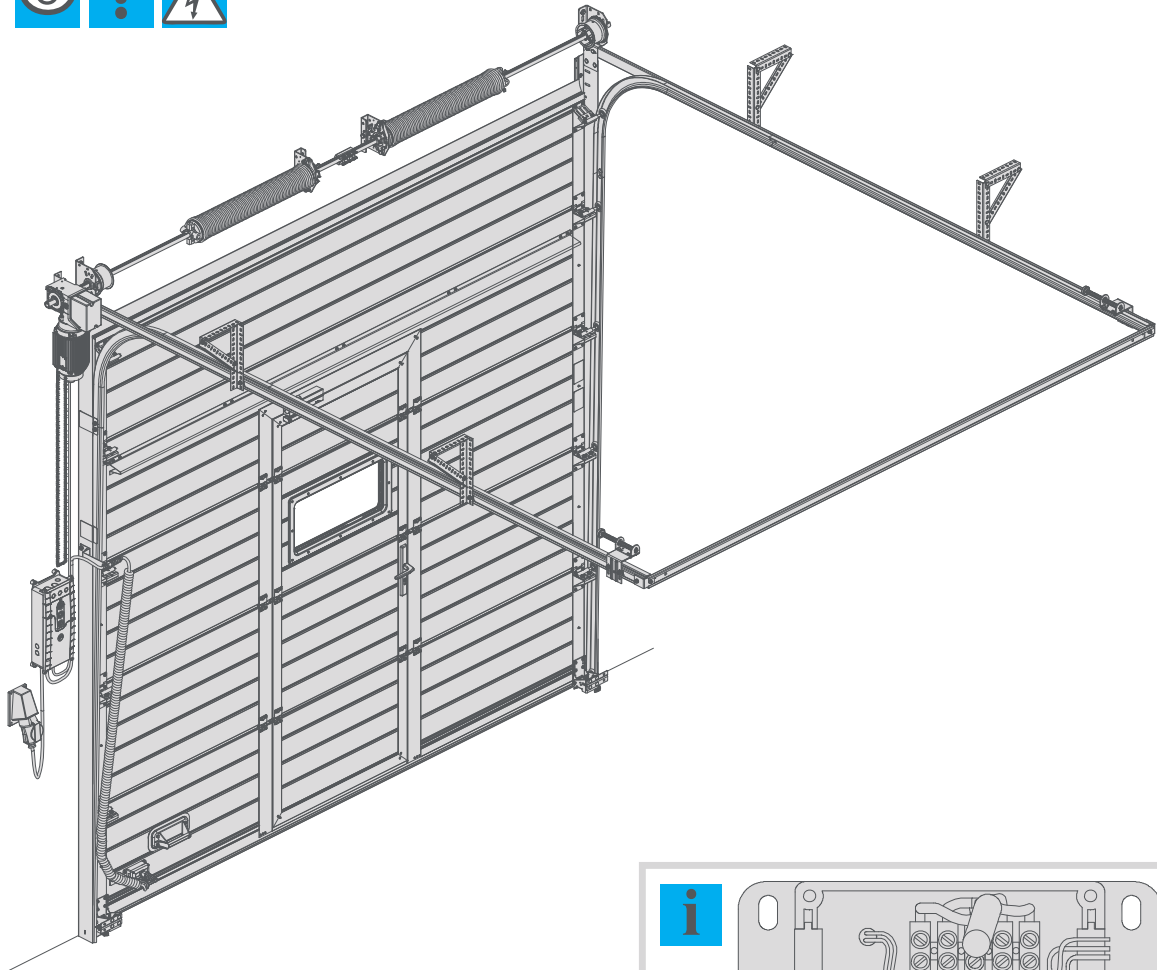


# 17\*

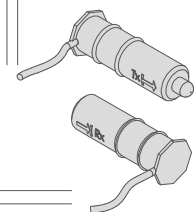




18\*   

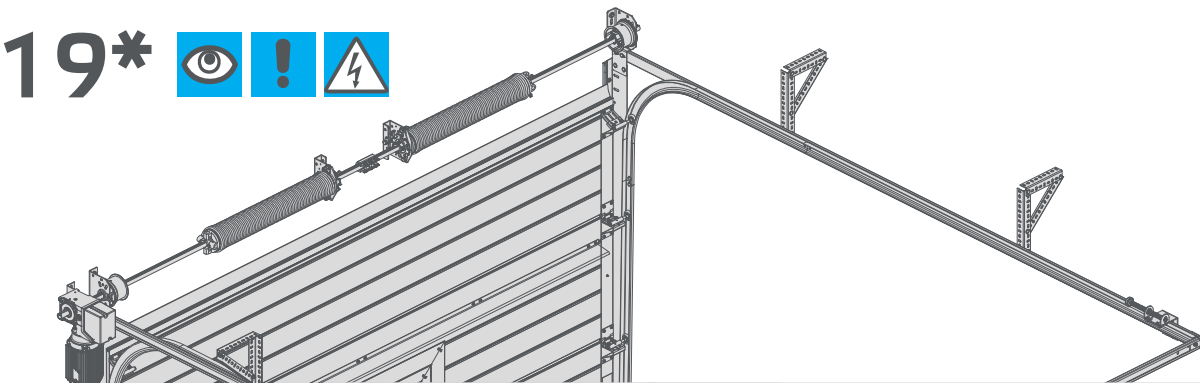


white: Weiß  
green: Grün  
brown: Braun  
yellow: Gelb  
grey: Grau



# 19\*



**19.1**  
**19.2**

**19.1**  
**19.2**

**19.2**

**19.2**

**19.5**  
**19.6**  
**19.7**  
**19.8**  
**19.9**

**19.3**

**19.3**

**19.4**

**19.5**

**19.5**

**19.6**

**19.7**

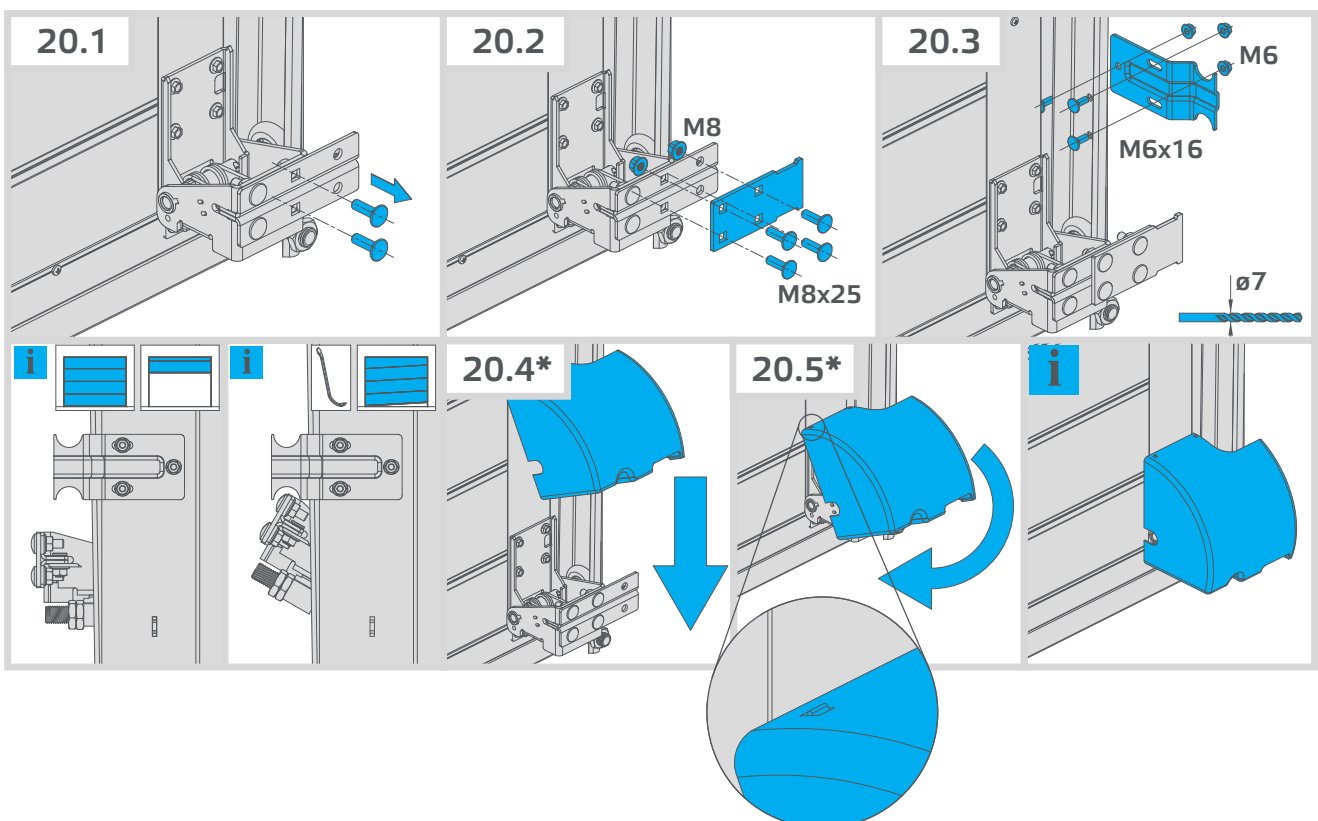
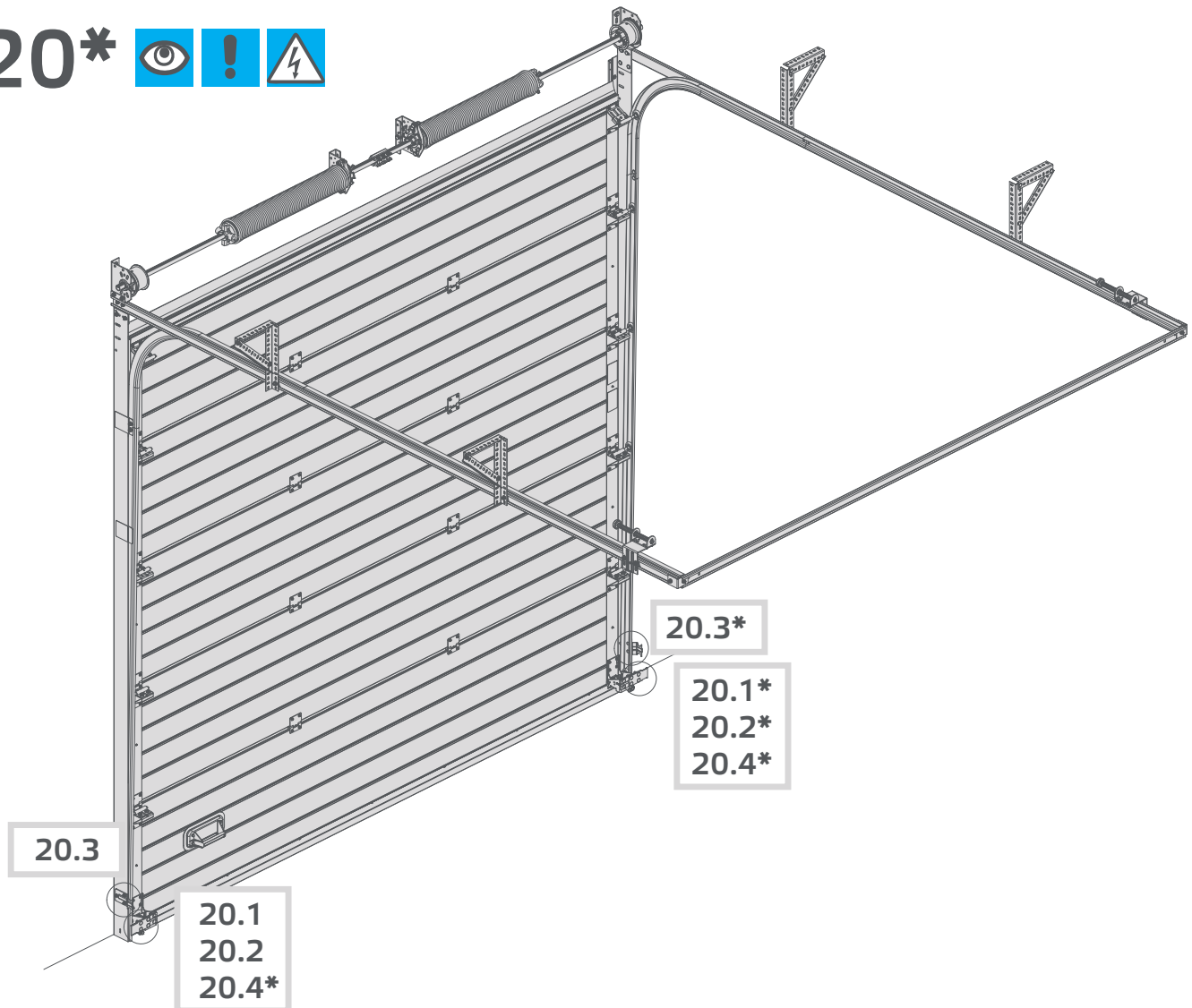
**19.8**

**19.8**

**19.9**

**19.9**

20\*   







PF GRUPPE FACHHÄNDLER:



EUROPAWEITER VERTRIEB DURCH DIE



**Baustoff-Euro-Trade**  
GmbH