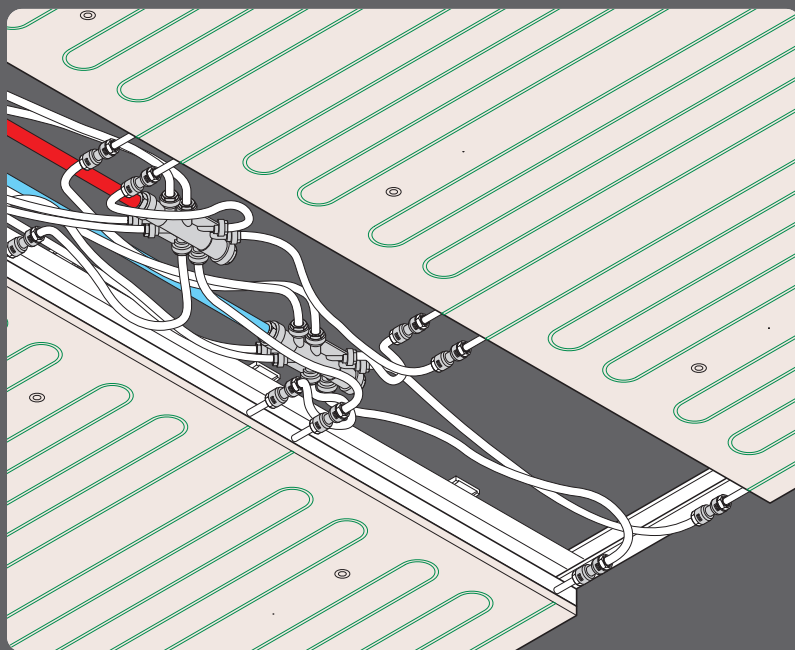


b!klimax radiant systems
Sistemi radianti b!klimax



b!klimax+ System with Plasterboard **b!klimax+ Cartongesso**

Heating and Cooling ceiling system
Climatizzazione estiva e invernale a soffitto



INSTALLATION MANUAL
MANUALE INSTALLAZIONE



SAFETY WARNINGS - AVVERTENZE PER LA SICUREZZA

Please, read this manual before installation and/or use of the equipment and keep it in an accessible place.

This equipment is part of complex installation; the designer's responsibility has to draw up the thermal diagram and statically verify the supporting structures.

The manufacturer's technical department is available at the phone numbers listed on the back of this manual for advice or particular technical requests.



CAUTION

Installation and maintenance should be performed by qualified personnel only.

Hydraulic systems and rooms in which the equipment is to be installed must meet the required standards regarding safety, accident and fire prevention currently in force in the

Leggere con attenzione questo manuale prima dell'installazione e/o dell'uso dell'apparecchiatura e conservarlo in un luogo accessibile.

La presente apparecchiatura costituisce un componente che fa parte di installazioni complesse: è compito del progettista redigere lo schema termico e verificare staticamente le strutture portanti.

L'ufficio tecnico del Costruttore si rende disponibile ai numeri indicati sul retro del presente manuale per consulenze o richieste tecniche particolari.



ATTENZIONE

L'installazione e la manutenzione vanno eseguiti solo da personale qualificato.

Gli impianti idraulici ed i locali di installazione delle apparecchiature devono rispondere alle norme di sicurezza, antinfortunistiche e antincendio in vigore nel Paese di utilizzo.



GENERAL WARNINGS - AVVERTENZE GENERALI

- If after unpacking the packages any anomaly is noted, do not proceed with the installation and call an authorized service centre of the manufacturer.
- After installation, dispose of the packaging as required by regulations currently in force in the country of use.
- Always demand genuine parts: failure to observe this rule will invalidate the warranty.
- The manufacturer will not be held responsible under any circumstances for the following cases:
 - Where the safety regulations and safety standards outlined above are not complied with, including those in force in the country of installation.
 - Failure to follow the directions contained in this manual.
 - Damage to people, animals or property resulting from improper installation and/or misuse of products or equipment.
 - Inaccuracies or typographical or transcription errors and in this manual.
 - Furthermore, the manufacturer reserves the right to stop production at any time and to make any changes they deem necessary or useful, without the obligation of prior notice.

- Se dopo aver disimballato i colli si nota una qualsiasi anomalia, non procedere all'installazione e rivolgersi ad un Centro di Assistenza autorizzato dal Costruttore.
- Alla fine dell'installazione smaltire gli imballi secondo quanto previsto dalle normative in vigore nel Paese di utilizzo.
- Esigere solo ricambi originali: la mancata osservazione di questa norma fa decadere la garanzia.
- Il Costruttore declina ogni responsabilità nei casi seguenti:
 - Non vengano rispettate le avvertenze e le norme di sicurezza sopra indicate, comprese quelle vigenti nei paesi di installazione.
 - Mancata osservanza delle indicazioni segnalate nel presente manuale.
 - Danni a persone, animali o cose, derivanti da una errata installazione e/o uso improprio di prodotti e attrezzature.
 - Inesattezze o errori di stampa e trascrizione contenuti nel presente manuale.
- Il Costruttore, inoltre, si riserva il diritto di cessare la produzione in qualsiasi momento e di apportare tutte le modifiche che riterrà utili o necessarie senza obbligo di preavviso.



DISPOSAL - SMALTIMENTO



In accordance with the provisions of the following European directives 2011/65/EU, 2012/19/EU and 2003/108/EC, regarding reducing the use of hazardous substances in electrical and electronic equipment, in addition to waste disposal.



In base a quanto previsto dalle seguenti direttive europee 2011/65/UE, 2012/19/UE e 2003/108/CE, relative alla riduzione dell'uso di sostanze pericolose nelle apparecchiature elettriche ed elettroniche, nonché allo smaltimento dei rifiuti.

The symbol of the crossed-out wheeled bin as shown on the product indicates that at the end of its useful life it must be disposed of separately from other waste.

The user must therefore dispose of the above equipment at the end of its useful life at an appropriate centre for the collection of electronic and electro-technical waste, or return it to the dealer when purchasing a similar new device in terms of one to one.

Il simbolo del cassonetto barrato riportato sull'apparecchiatura indica che il prodotto alla fine della propria vita utile deve essere raccolto separatamente dagli altri rifiuti.

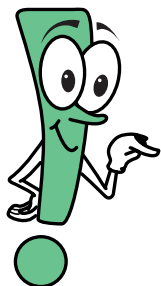
L'utente dovrà, pertanto, conferire l'apparecchiatura giunta a fine vita negli idonei centri di raccolta differenziata di rifiuti elettronici ed elettrotecnici, oppure riconsegnarla al rivenditore al momento dell'acquisto di una nuova apparecchiatura di tipo equivalente, in ragione di uno a uno.

Proper waste collection leading to the subsequent recycling, treatment and environmentally friendly disposal of the equipment helps to avoid possible negative effects on the environment and on health and promotes the recycling of the materials of which the equipment is made up.

Illegal disposal of the product by the user will lead to the application of penalties prescribed by current legislation in force.

L'adeguata raccolta differenziata per l'avvio successivo dell'apparecchiatura dismessa al riciclaggio, al trattamento e allo smaltimento ambientale compatibile contribuisce ad evitare possibili effetti negativi sull'ambiente e sulla salute e favorisce il riciclo dei materiali di cui è composta l'apparecchiatura.

Lo smaltimento abusivo del prodotto da parte dell'utente comporta l'applicazione delle sanzioni previste dalla vigente normativa in materia.



IMPORTANT WARNINGS - AVVERTENZE IMPORTANTI

- The measurements, types of profiles and installation solutions outlined in this manual are for guidance only. They can vary:
 - depending on the availability of materials on the market;
 - depending on the professionalism and experience of the installer and/or operator applying the plasterboard;
 - depending on the specific characteristics of the walls or ceiling (e.g. brick or pre-stressed, etc.) on which b!klimax panels are to be installed;
 - depending on the weight that the structure shall support (b!klimax panels weight, they weigh about 9,5 kg/m² + covering weight).
- RDZ is not responsible for incorrect installation or installation carried out with materials or procedures that do not meet the safety standards and regulations in force in the country of use.
- The positioning of the distributors must always take into account the location of b!klimax panels to be connected to it: if necessary, it is however possible to extend the length of the panels' pipes to reach the distributors more easily.
- Le misure, le tipologie dei profili e le soluzioni di installazione indicate nel presente manuale sono puramente indicative. Esse possono variare:
 - in base alla reperibilità dei materiali in commercio;
 - in base alla professionalità e all'esperienza dell'installatore e/o del cartongessista;
 - in base alle specifiche caratteristiche delle pareti o del soffitto (es. in laterizio oppure precompresso, ecc.) sui quali si devono applicare i pannelli b!klimax;
 - in base al peso che la struttura portante deve sostenere (peso dei pannelli b!klimax, pari a circa 9,5 kg/m² + peso del rivestimento).
- RDZ non si ritiene responsabile per installazioni errate o effettuate con materiali o con modalità che non rispondano alle normative e alle prescrizioni di sicurezza in vigore nel Paese di utilizzo.
- Il posizionamento dei distributori deve sempre tenere conto della collocazione dei pannelli b!klimax che dovranno essere collegati ad essi: in caso di necessità è tuttavia possibile prolungare la lunghezza delle tubazioni dei pannelli per raggiungere i distributori più agevolmente.



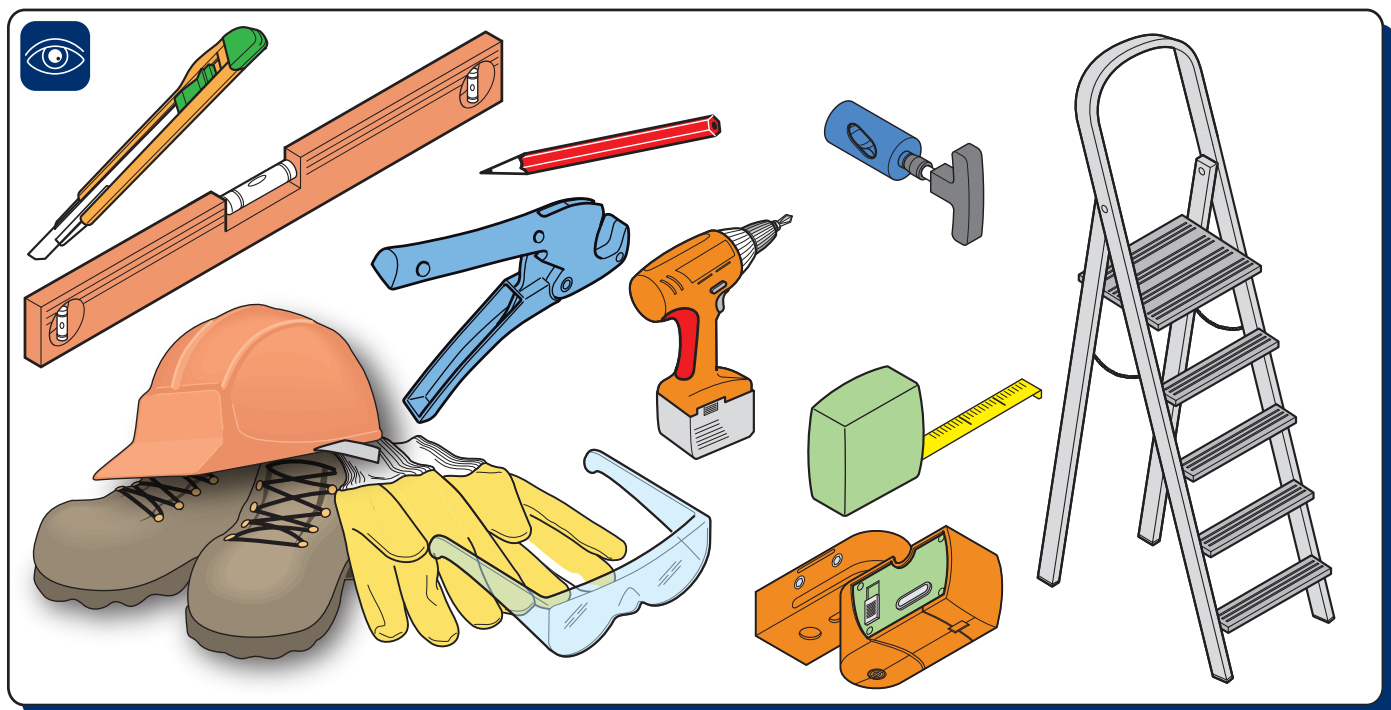
It is absolutely forbidden to use automatic fill mechanisms with b!klimax systems.



È assolutamente vietato l'uso di dispositivi di caricamento automatico dell'impianto con i sistemi b!Klimax.



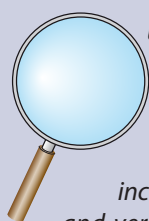
NECESSARY EQUIPMENT - ATTREZZATURA NECESSARIA





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1 DESCRIPTION - DESCRIZIONE



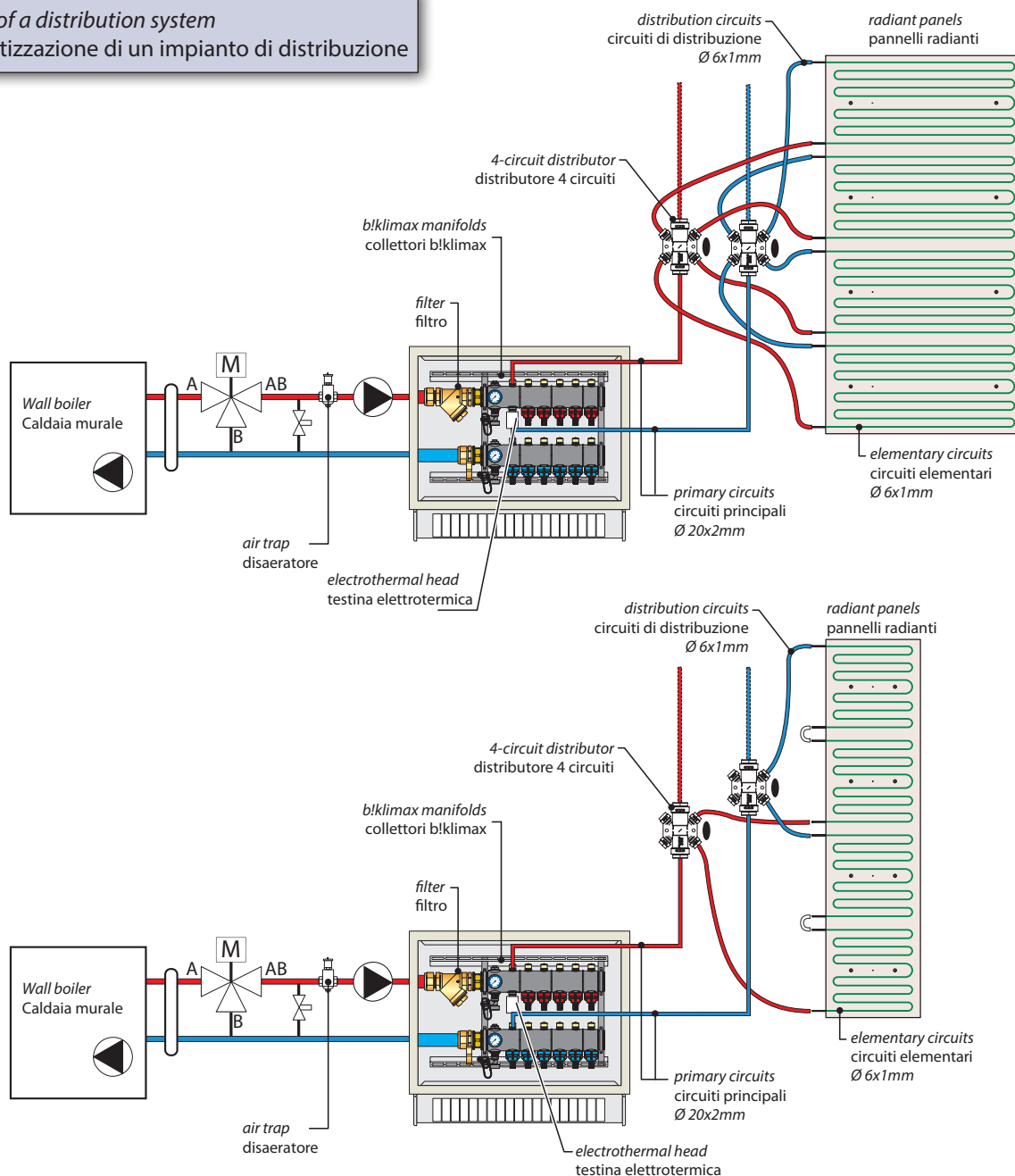
b!klimax by RDZ is a complete, highly innovative heating and cooling system for walls and ceilings, which ensures a very low thermal inertia. Thanks to b!klimax the human body can perfectly balance its heat exchanges, increasing the level of perceived comfort. Innovative and versatile, b!klimax represents the ideal solution in residential and industrial applications, both for new constructions as well as for modernising old buildings, where it is important to maintain comfortable conditions all year round.

b!klimax+ radiant panels with plasterboard make for fast and easy installation, and they consist of 12.5-mm thick plasterboard, where 4 hydraulic circuits of PE-HDXc pipe Ø 6 mm with oxygen barrier are fixed. These panels can be installed into a traditional false ceiling or false-wall metal structure, and they are used as heating and cooling system in residential and commercial buildings. Thermal insulation is available either as polystyrene layer or as rockwool layer. Minimum construction height: 12 cm only.

b!klimax di RDZ è un sistema completo, altamente innovativo e a bassissima inerzia termica per il riscaldamento e raffrescamento degli ambienti per mezzo dei soffitti e delle pareti. Grazie a questo sistema il corpo umano viene messo nella condizione di equilibrare perfettamente gli scambi termici con un conseguente innalzamento del livello di comfort percepito. Innovativo e versatile, b!klimax è ideale per edifici del settore residenziale e terziario, nuovi o in ristrutturazione, dove è indispensabile mantenere una condizione di comfort in tutte le stagioni.

I pannelli radianti b!klimax+ Cartongesso, di semplice e rapida installazione, sono costituiti da una lastra in cartongesso su cui sono fissati 4 circuiti idraulici realizzati mediante tubazione in PE-HDXc Ø 6 mm dotata di barriera contro la diffusione dell'ossigeno. Il sistema può essere installato a soffitto o a parete su tradizionale struttura metallica ed è particolarmente indicato per la climatizzazione estiva e invernale di tutti gli edifici del settore residenziale e terziario. I pannelli vengono forniti completi di isolamento in polistirene o in lana di roccia. Lo spessore minimo necessario per realizzare il sistema è di soli 12 cm.

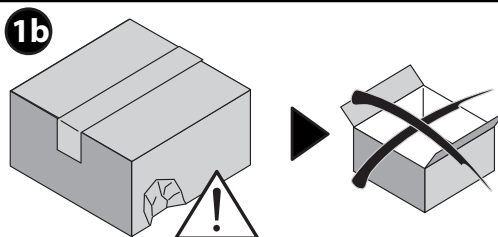
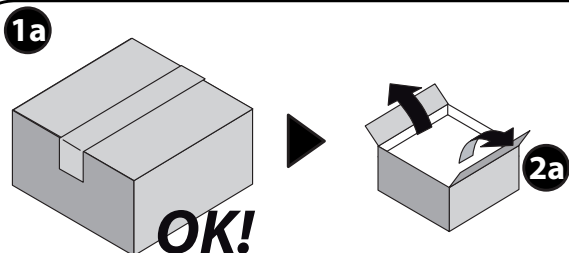
Outline of a distribution system
Schematizzazione di un impianto di distribuzione



2 UNPACKING - DISIMBALLO

Unpack all packages and check the contents carefully: if any anomaly is noted, do not proceed with the installation, contact an Authorized Service Centre.

Disimballare tutti i colli e controllarne attentamente il contenuto: se si rilevasse qualche anomalia, non procedere nell'installazione ma contattare un Centro di Assistenza Autorizzato.



3 COMPONENTS - COMPONENTISTICA

RADIANT PANELS / FILLING PANELS PANNELLI RADIANTI / PANNELLO DI TAMPONAMENTO

• Radiant panels

b!klimax+ radiant panels are made up of 12.5-mm thick plasterboard of 1.44 or 2.88 m². The plasterboard shows a drawing of 4 hydraulic circuits, made of PE-HDXc pipe Ø 6 mm, provided with push-fit fittings and oxygen barrier according to DIN 4726. Pipes are fixed to the panel through an aluminium metal diffuser, while thermal insulation (40-mm thick) is available either as polystyrene layer or as rockwool layer.

Size 2400x600x52 mm.

Size 2400x1200x52 mm.

• Filling panel

Neutral panel made up of 12.5-mm thick plasterboard of 2.88 m². Thermal insulation (40-mm thick) is available either as polystyrene layer or as rockwool layer. This panel is used to fill the area which is not covered with radiant panels and the area where distributors are installed. It can be cut according to the actual requirements.

Size 2400x1200x52 mm.

• Pannelli radianti

Pannello radiante b!klimax+ composto da una lastra in cartongesso di 1,44 o 2,88 m² di superficie e 12,5 mm di spessore. Sulla superficie della lastra sono stampati i disegni dei circuiti idraulici. Sul cartongesso sono fissati tramite un diffusore metallico in alluminio 4 circuiti idraulici realizzati mediante tubazioni in PE-HDXc Ø 6 mm (con raccordo ad innesto rapido) dotate di barriera contro la diffusione dell'ossigeno secondo DIN 4726. Il pannello è disponibile con isolamento di 40 mm in polistirene o in lana di roccia.

Misure totali: 2400x600x52 mm.

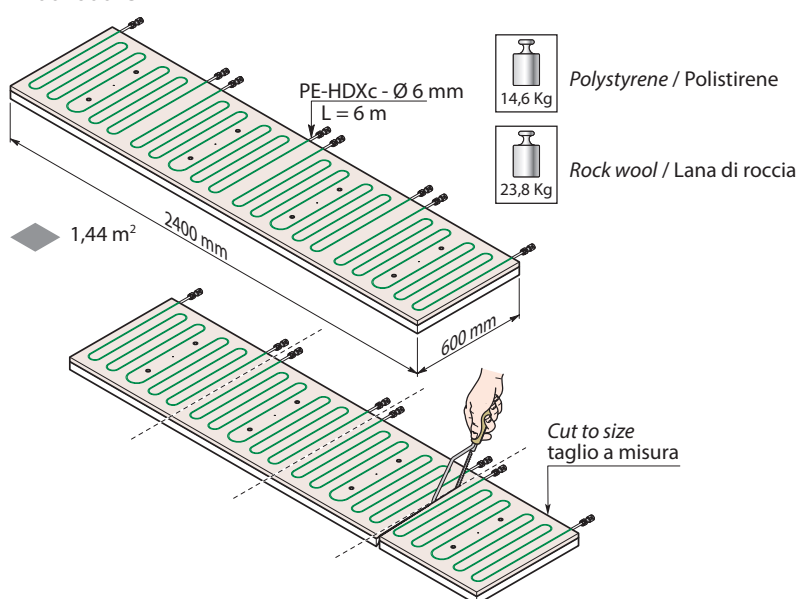
Misure totali: 2400x1200x52 mm.

• Pannelli di tamponamento

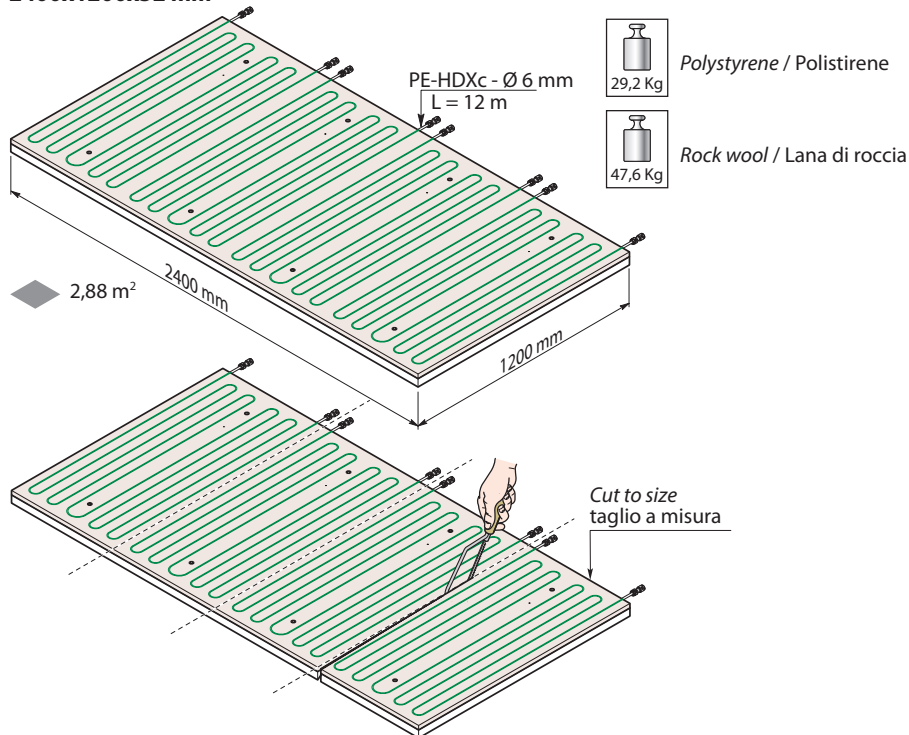
Pannello di tamponamento b!klimax+ composto da una lastra in cartongesso di 2,88 m² di superficie e 12,5 mm di spessore, disponibile con isolamento di 40 mm in polistirene o in lana di roccia. Necessario per tamponare le aree non coperte dai pannelli radianti e le aree di alloggiamento dei distributori. Può essere sezionato a seconda della necessità.

Misure 2400x1200x52 mm.

2400x600x52 mm

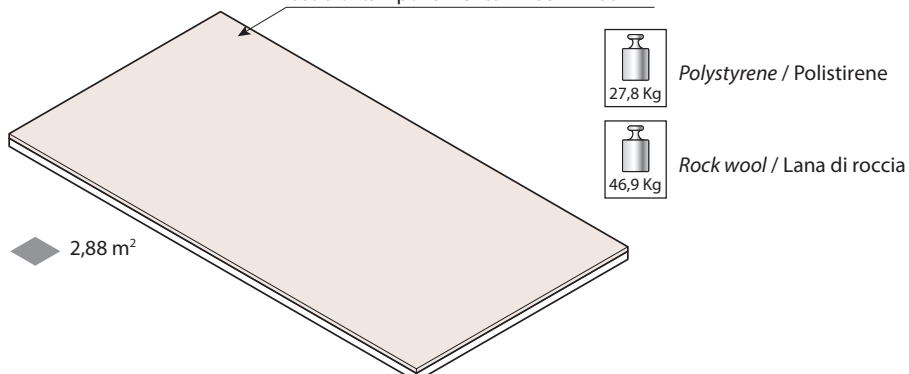


2400x1200x52 mm

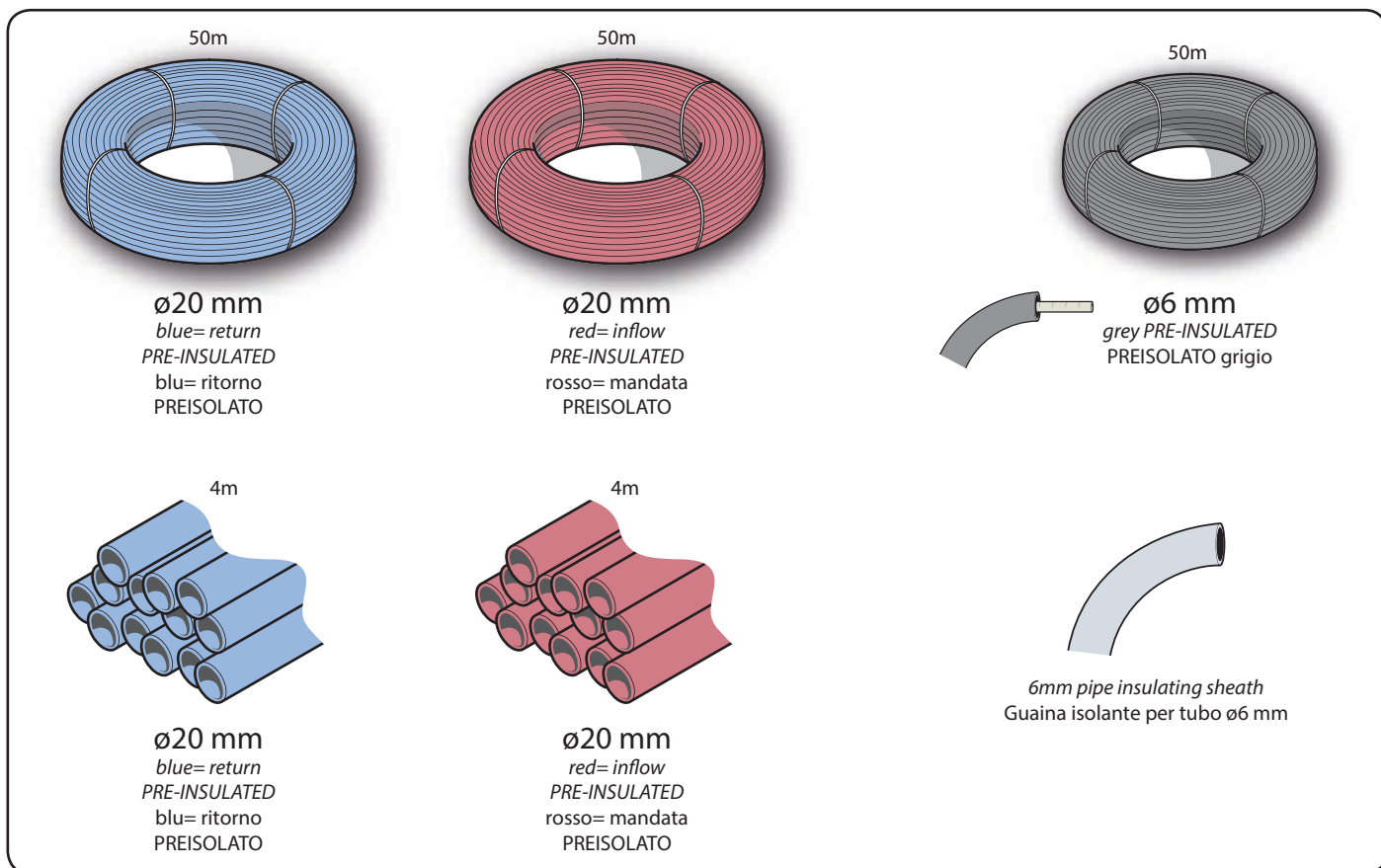


2400x1200x52 mm

filling panel 1200 x 2400
lastra di tamponamento 1200 x 2400



PIPES AND SHEATHS TUBI E GUAINA



- Ø 20 mm Pre-insulated PB pipe

PB pipe with oxygen barrier according to DIN 4726, Ø 20 mm, pipe insulation made of expanded polyethylene, thickness 6 mm. Reaction to fire class: BL-s1,d0. It is used to connect distributors with MAXI manifolds.

- 6 mm pre-insulated PB pipes

PB pipe Ø 6 mm with oxygen barrier according to DIN 4726, pipe insulation made of expanded polyethylene, reaction to fire class BL-s1,d0, thickness 6 mm. It is used to connect b!klimax+ and Quadrotto panels with the distributors.

- 6 mm pipe insulating sheath

Expanded elastomer with closed cells, smooth surface for thermal insulation of PB pipe Ø 6 mm. Package: 2 m.

- Tubo in PB preisolato Ø 20 mm

Tubo in PB con barriera anti-ossigeno secondo la norma DIN 4726 EN 12319-2, Ø 20 mm, rivestito con guaina isolante in polietilene espanso sp. 6 mm. Classe di reazione al fuoco: BL-s1,d0. Necessario per il collegamento dei distributori ai collettori MAXI.

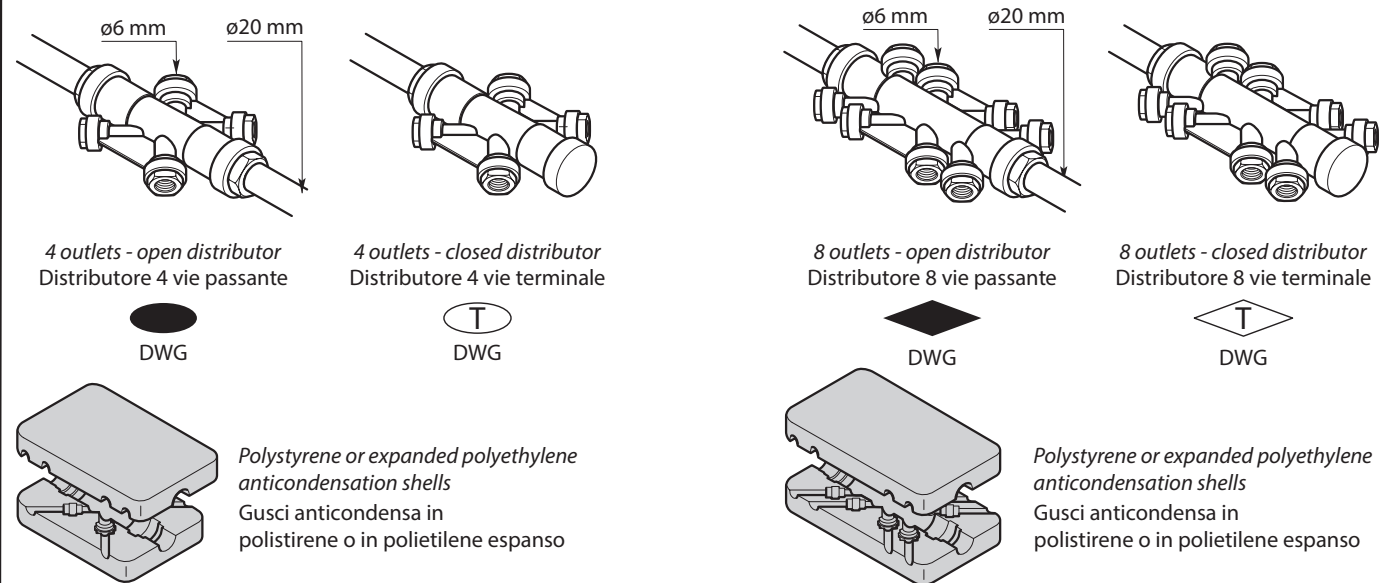
- Tubo in PB preisolato Ø 6 mm

Tubo in PB Ø 6 mm dotato di barriera anti-ossigeno secondo la norma DIN 4726 EN 12319-2, Ø 6 mm, rivestito con guaina isolante in polietilene espanso sp. 6 mm, classe di reazione al fuoco BL-s1,d0. Necessario per collegare i pannelli radianti tradizionali ai distributori.

- Guaina isolante per tubo da 6 mm

In elastomero espanso a celle chiuse, liscia in superficie, per l'isolamento termico del tubo in PB Ø 6 mm Viene venduta in elementi da 2 m.

DISTRIBUTORS AND ANTI-CONDENSATION SHELLS DISTRIBUTORI E GUSCI ANTICONDENSA



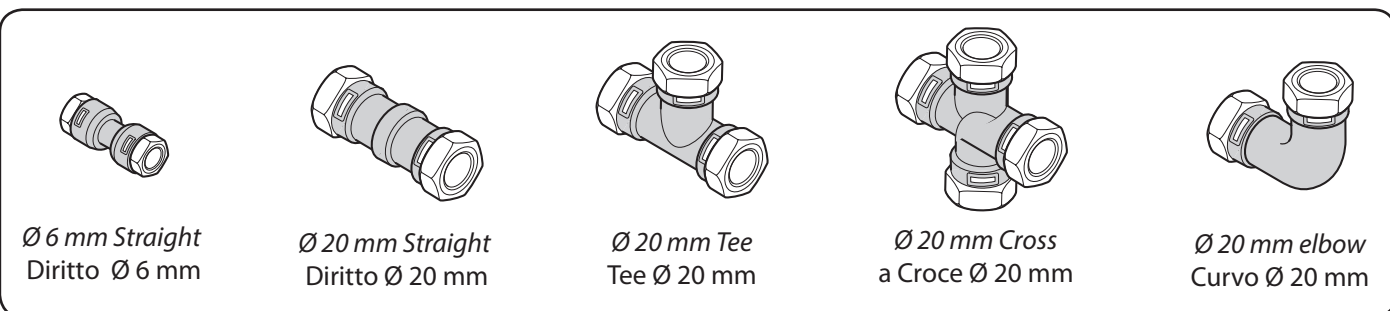
• Distributors

Pair of distributors made of plastic, specially shaped to guarantee easy connection with the pipes coming from b!klimax panels. These distributors are provided with anticondensation shells made of polystyrene or expanded polyethylene BL-s1,d0, push-fit pipe fittings for pipes Ø 6 mm and Ø 20 mm, and closing plastic bands. Available version: 4-way or 8-way open and closed distributors.

• Distributori

Coppia di distributori costruiti in materiale plastico, appositamente conformati per garantire un facile inserimento della tubazione dei pannelli b!klimax. I distributori sono dotati di gusci anticondensa disponibili con isolamento in polistirene o in polietilene espanso BL-s1,d0, raccordi ad innesto rapido per il tubo da 6 mm e per quello da 20 mm e fascette di chiusura. Modelli disponibili: a 8 e a 4 vie passanti e terminali.

PUSH-FIT FITTINGS RACCORDI RAPIDI



• Ø 6 mm Straight Push-fit Fitting

Used to lengthen 6mm piping and to place 600x600 mm panels in series

• Ø 20 mm Straight Push-fit Fitting

Used to lengthen the distribution line with 20mm piping

• Ø 20mm TEE push-fit fitting

Used to split the distribution lines with 20mm piping

• Ø 20 mm Cross push-fit fitting

Used to split the distribution lines with 20mm piping

• Ø 20 mm Elbow push-fit fitting

Used for transferring by 90 ° 20mm pipe in bars

• Raccordo rapido diritto da Ø 6 mm

Raccordo rapido dritto per allungare il tubo da 6 mm o per mettere in serie due pannelli da 600x600 mm.

• Raccordo rapido diritto da Ø 20 mm

Raccordo rapido dritto per allungare la linea di distribuzione con il tubo da 20mm.

• Raccordo rapido a TEE da Ø 20 mm

Si utilizza per sdoppiare le linee di distribuzione con il tubo da 20mm.

• Raccordo rapido a croce da Ø 20 mm

Si utilizza per sdoppiare le linee di distribuzione con il tubo da 20mm.

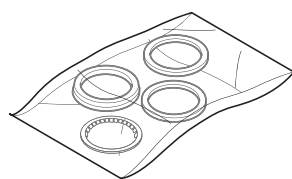
• Raccordo rapido curvo da Ø 20 mm

Si utilizza per eventuali spostamenti a 90° del tubo da 20mm in barre.

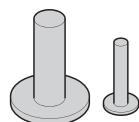
n.b.: Tutti i raccordi sono dotati di gusci anticondensa disponibili con isolamento termico in polistirene o in polietilene espanso classe BL-s1,d0.

n.b.: All fittings are provided with anticondensation shells made of polystyrene or expanded polyethylene BL-s1

INSTALLATION ACCESSORIES COMPLEMENTI DI INSTALLAZIONE



Ø 6mm and 20mm piping
junction kit bags
Sacchetto kit giunzione
ø6mm e ø 20mm



Ø 6mm e ø 20mm plug
Tappi da ø 6mm e ø 20mm



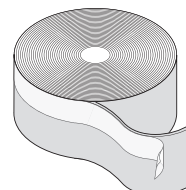
Industry system elbow
Curva Industry System



Lubricant for push-fit fitting
Lubrificante per raccordi rapidi



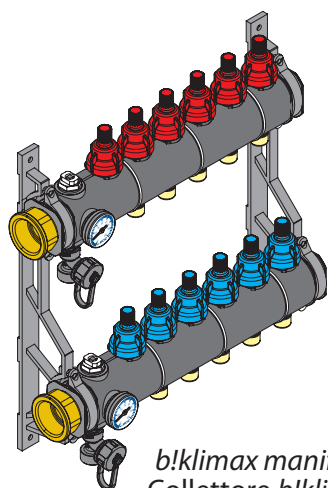
Fixing Screw
Vite per fissaggio



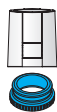
b!klimax perimeter belt
Cornice perimetrale b!klimax

- Ø 6 and 20mm piping junction kit bags
O-ring and sealant for push-fit pipe fitting recovery
- Ø 6 and Ø 20mm Closing Plugs for Outlets
They are used to close the outlet of a distributor.
- Industry system elbow
Elbow for 90° shifting with PE-HDXc pipes Ø 20 mm.
- Lubricant for push-fit pipe fittings:
Used to guarantee better insertion of the pipes into the pipe fittings and better preservation for O-rings.
- Screw and Washer
55-mm screws and washers made of stainless steel. They are used to fix b!klimax panels to the metal grid.
- b!klimax Perimeter Belt
Edge insulation for b!klimax and b!klimax+ ceiling systems, made of closed-cell expanded polyethylene. It acts as thermo-acoustic insulation and it absorbs plasterboard ceiling expansions.
- Sacchetto Kit giunzione per tubo da Ø 6 e 20mm
Contenente O-ring e anello di tenuta per ripristino giunzione di raccordo ad innesto rapido.
- Tappi di chiusura da Ø 6 e Ø 20mm
Utili qualora si debba chiudere un'uscita sul distributore.
- Curva Industry System
Curva per eventuali spostamenti a 90° del tubo in PB Ø 20 mm.
- Lubrificante per raccordi rapidi
Lubrificante per raccordi rapidi, consigliato per garantire un migliore inserimento della tubazione nei raccordi e un miglior mantenimento degli O-ring.
- Vite e Rondella
Vite lunghezza 55 mm e rondella in acciaio zincato per il fissaggio dei pannelli b!klimax ai profili metallici.
- Cornice perimetrale b!klimax
Cornice perimetrale per sistema radiante a soffitto b!klimax e b!klimax+. Realizzata in polietilene espanso elasticizzato a celle chiuse con funzione di isolamento termico e acustico e per le dilatazioni del rivestimento in cartongesso.

B!KLIMAX MANIFOLD COMPONENTS COMPONENTI DI UN COLLETTORE B!KLIMAX



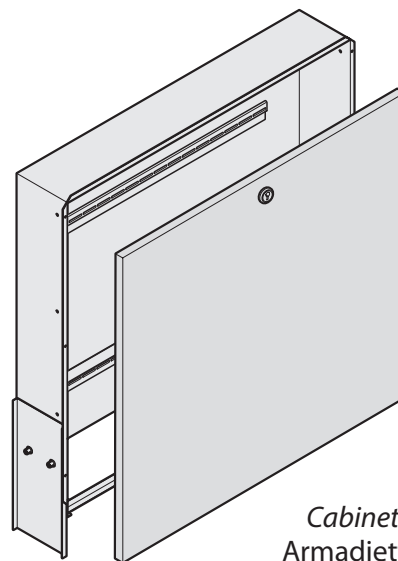
b!klimax manifold
Collettore b!klimax



Electrothermal head
Testina elettrotermica



Air trap
Degasatore



Cabinet
Armadietto

• b!klimax Manifolds

b!klimax manifold, Ø 1 ¼", made of plastic material, ideal for high flow-rate. It is equipped with shut-off valves, which can be combined with electrothermic heads controlled by a thermostat, air vent and discharge valves, thermometers on inflow and return flow, fixing brackets, Y filter and push fit fitting with key sliding for pipe Ø 20 mm. It can be installed with the pipes upwards or downwards. Anticondensation shells are supplied as standard.

• Electrothermal head

Electrothermic servocontrol to manage each circuit through room thermostat. It is provided with limit microswitch, and it can be installed in any position, even upsidedown. Display of the functioning mode (open/close), easy installation thanks to fast hooking adapter (supplied as standard). Input 230 V with and without limit microswitch. Degree of protection IP 54. It can be used with CONTROL, TOP-COMPOSIT and b!klimax manifolds.

• Air trap

The air separator is made of brass, and it is used to collect the air that accumulates in the hydraulic circuit so that it can be eliminated. It is a necessary component in b!klimax and b!klimax+ systems, but it is recommended also in the other systems. FF (female - female) pipe connections.

• Cabinet for b!klimax manifold

This cabinet made of zinc-plated sheet iron is used to contain b!klimax manifolds. There are suitable outlets for pipes both upwards and downwards. The cabinet is equipped with a protective cover for plaster, a white metal door painted with epoxy powders, and lockset.

• Collettori b!klimax

Collettore b!klimax attacco F da 1 ¼" in materiale plastico, studiato per elevate portate. Dotato di valvole termostattizzabili e di intercettazione, valvole di sfiato e scarico impianto, termometri in andata e ritorno, staffe di fissaggio, filtro a Y e raccordi rapidi con scorrimento a pulsante per il tubo da Ø 20. Il collettore b!klimax può essere installato con partenza dei tubi verso il basso o verso l'alto. Il collettore viene fornito completo di gusci anticondensa.

• Testina Elettrotermica

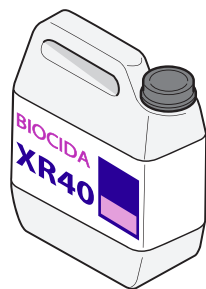
Testina elettrotermica per comando del singolo circuito tramite termostato ambiente. Può essere installata anche capovolta. Visualizzazione dello stato di funzionamento (aperta/chiusa), facilità di montaggio grazie al sistema di aggancio rapido tramite adattatore (compreso). Funzionamento: 230 V con e senza micro di fine corsa. Grado di protezione IP 54 (in tutte le posizioni). Utilizzabile con i collettori CONTROL, TOP-COMPOSIT e b!klimax.

• Separatore di microbolle

Separatore di microbolle costruito in ottone per la disaerazione degli impianti. Obbligatorio nei sistemi radianti a soffitto b!klimax e b!klimax+, consigliato negli altri sistemi. Attacchi FF.

• Armadietto collettore b!klimax

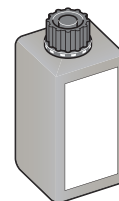
Armadietto realizzato in lamiera zincata, per l'alloggiamento dei collettori b!klimax. Predisposto per l'uscita dei tubi sia verso l'alto che verso il basso. Dotato di coperchio di protezione per intonaci e portina metallica verniciata a polveri di colore bianco con serratura.



Biocide XR40
Biocida XR40



Inhibitor XR20
Inibitor XR20



Retard 180M
Retard 180M

• **BIOCIDE XR40**

Sanitiser and Biocide provides protection for surface heating and cooling systems against bacterial and fungal contamination. Such contamination can cause blockages in some parts of the installation, for example in the pipes, manifolds, valves or heat exchanger. Non-corrosive substance, easy and quick to dose. Biocide XR40 is compatible with Inhibitor XR20, and they shall be both used at first fill of the radiant system in the primary circuit. Dosage: 1% of the water contained in the system. Package: 3 L.

• **INHIBITOR XR20**

The inhibiting treatment provides protection for heating systems against corrosion. It can be used in installations with aluminium components, and it is suitable for any kind of installation. Dosage: 2% of the water contained in the system. Package: 3-10 L.

• **RDZ RETARD 180 M**

Retarder for gypsum plaster applications and bonding agents. Dosage: 0.5% of the water necessary to dilute the bonding agent (100 g in 20 L of water or 1 can every 50 m²). Recommended with traditional b!klimax panels.

• **BIOCIDA XR40**

Sanitizzante e biocida stabilizzato per preservare nel tempo l'efficienza dell'impianto radiante eliminando il rischio di proliferazione di organismi, quali batteri e funghi, che possono causare l'ostruzione di alcune parti del sistema come tubazioni, collettori, valvole e scambiatori di calore. Non corrosivo, sicuro da maneggiare e compatibile con l'impiego di Inibitor XR20, Biocida XR40 deve essere aggiunto nel circuito primario durante le operazioni di riempimento. Dosaggio: 1% sull'acqua dell'impianto. Confezione: 3 L.

• **INIBITOR XR20**

Additivo per impianti di riscaldamento. Trattamento preventivo contro incrostazioni delle parti metalliche, applicabile anche in impianti con componenti in alluminio. Adatto a tutti gli impianti. Dosaggio al 2% sull'acqua dell'impianto. Confezione: 3-10 L.

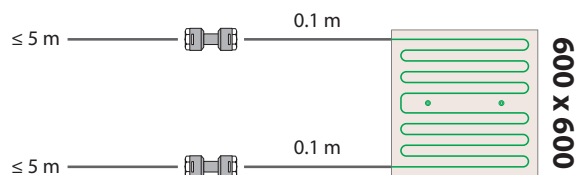
• **RDZ RETARD 180 M**

Additivo ritardante di presa per gessi e collanti. Dosaggio consigliato 0.5% sulla quantità di acqua necessaria per impastare la colla (100 g. su 20 L d'acqua oppure 1 conf. ogni 50 m²). Consigliato sui pannelli b!klimax tradizionali.

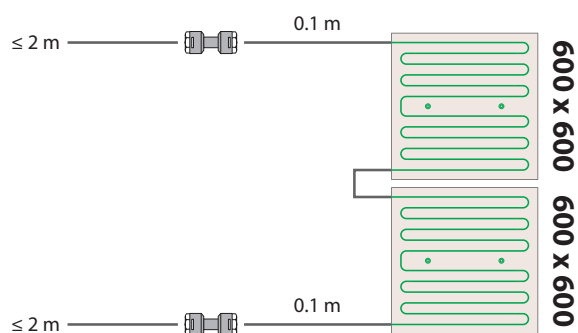
4 CONNECTION EXAMPLES - ESEMPI DI COLLEGAMENTO

Possibility of extending the circuits of b!klimax panels
Possibilità di allungo dei circuiti dei pannelli b!klimax

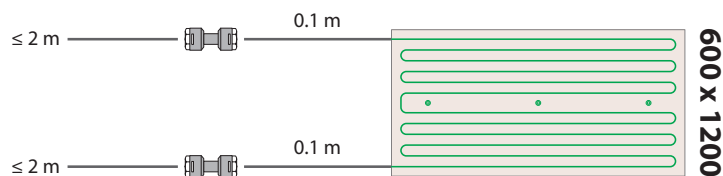
1/2 Elementary circuit
1/2 Circuito elementare



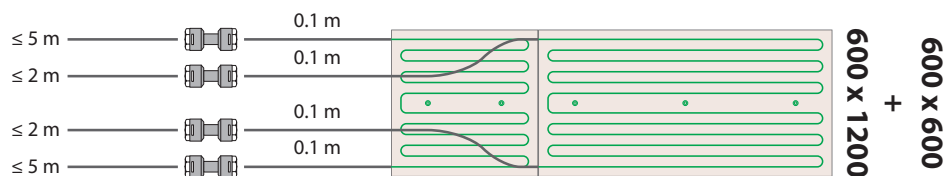
1 Elementary circuit
1 Circuito elementare



1 Elementary circuit
1 Circuito elementare

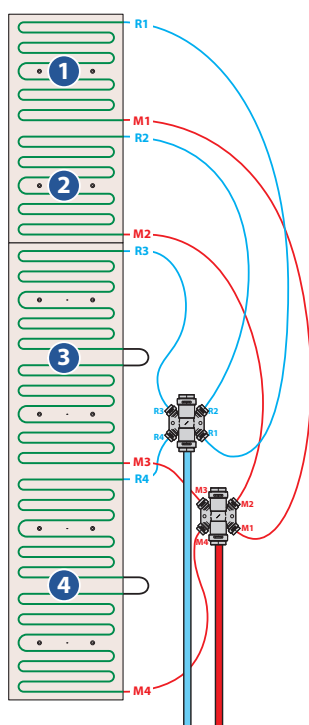


**1 Elementary circuit +
1/2 Elementary circuit**
**1 Circuito elementare +
1/2 circuito elementare**

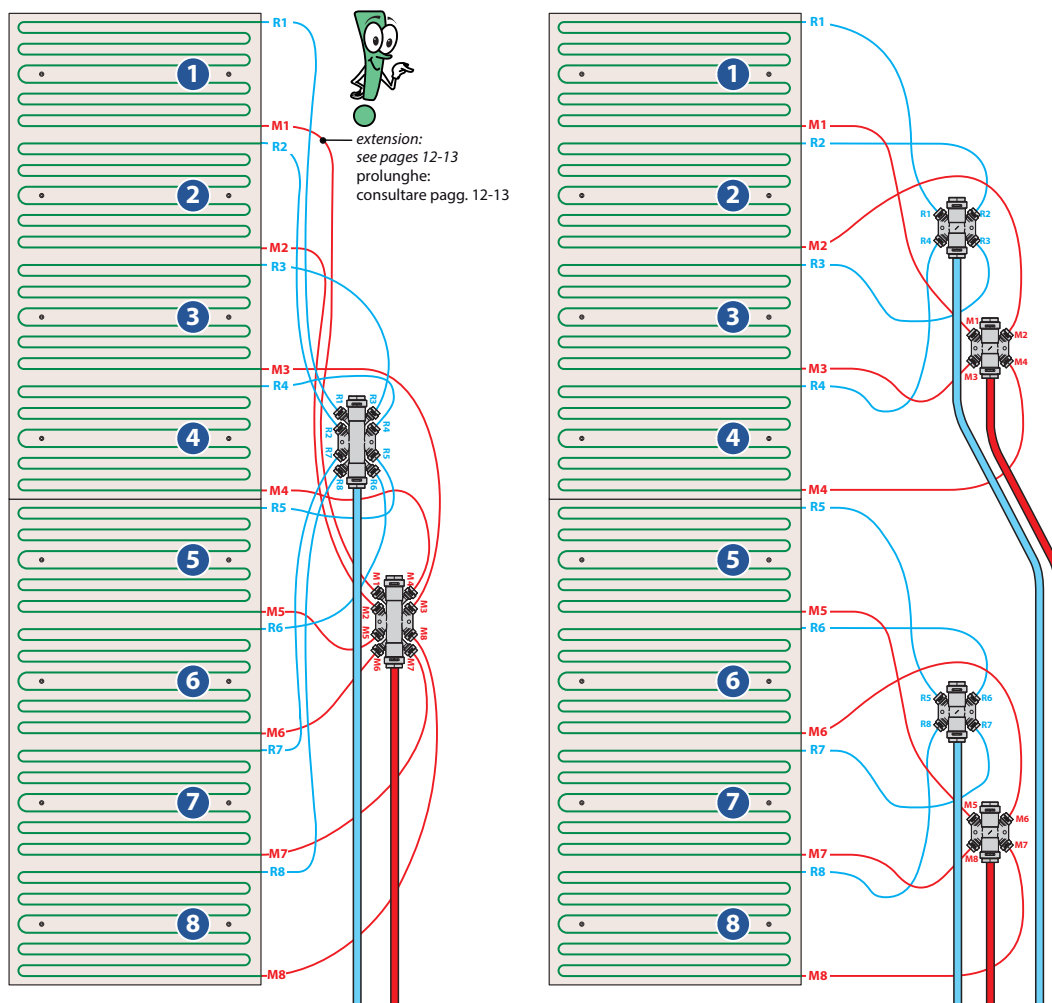




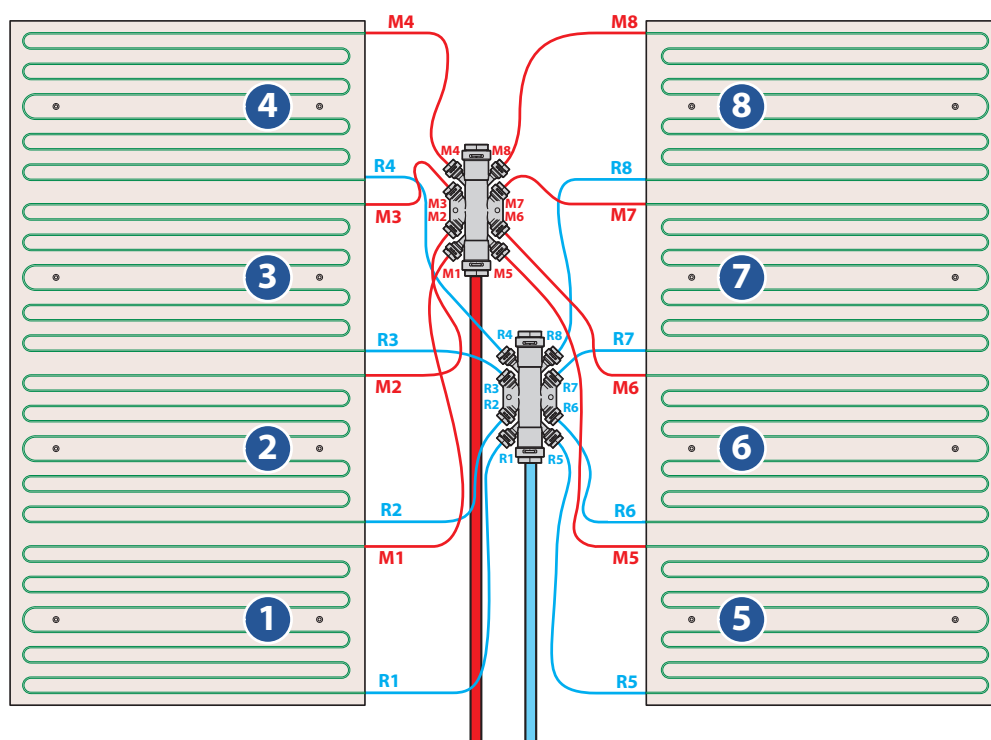
Illustrative examples of connections for 600mm panels in series or parallel ones
Esempi indicativi di collegamento per pannelli da 600mm in serie o parallelo



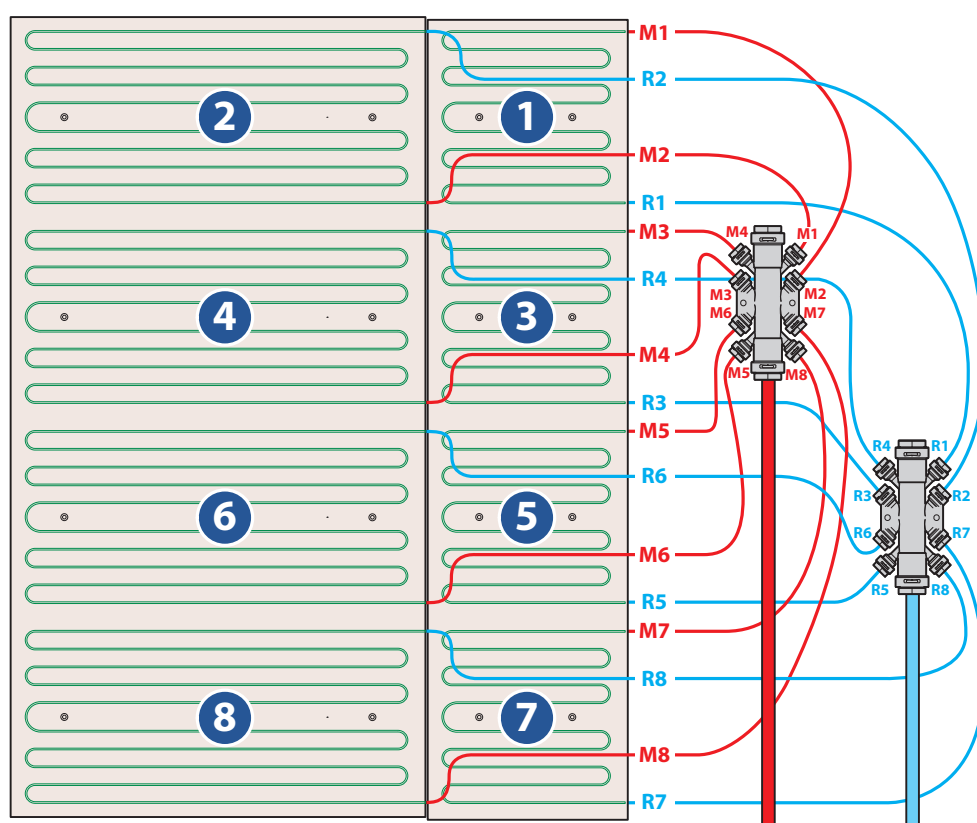
Illustrative examples of connections for 1200mm panels
Esempi indicativi di collegamento per pannelli da 1200mm



Illustrative examples of connections for 1200 panels on opposite sides
 Esempi indicativi di collegamenti per pannelli da 1200 contrapposti

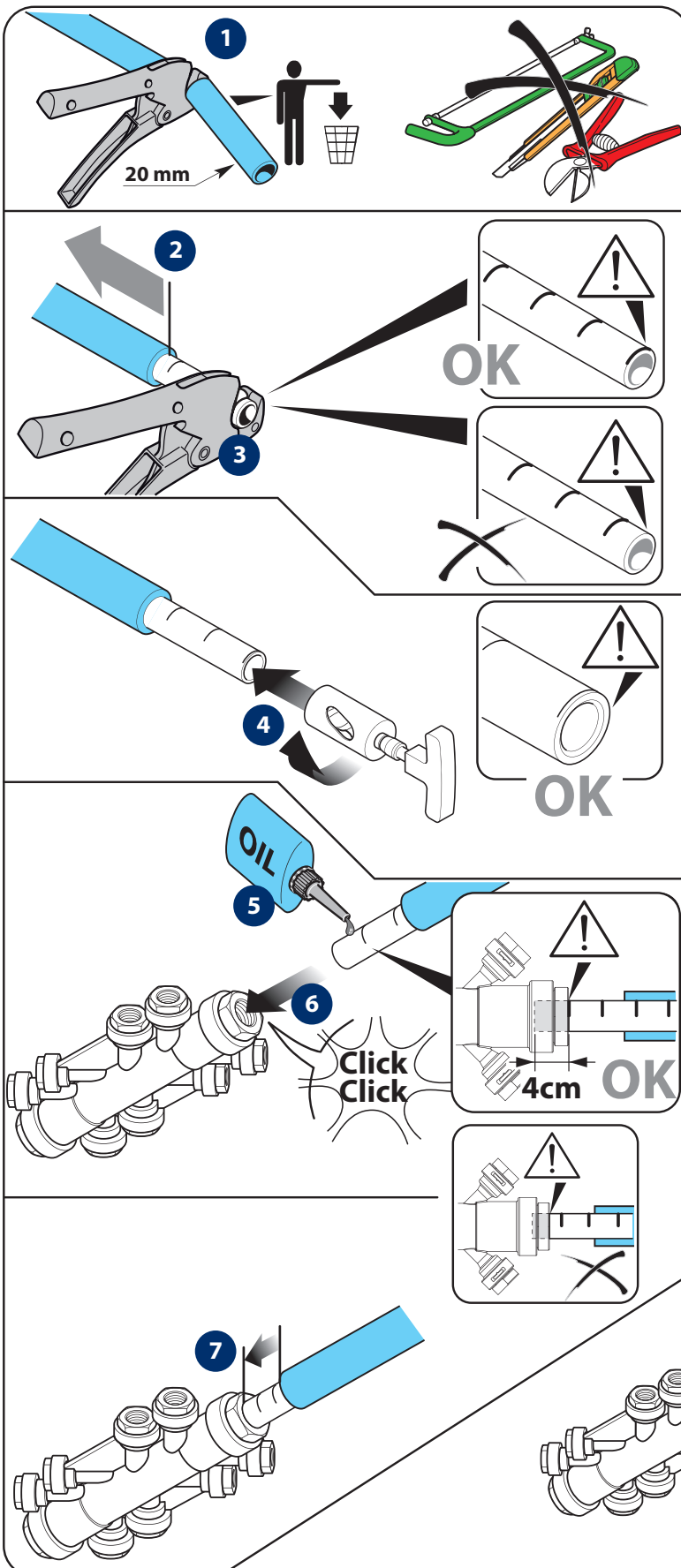


Illustrative examples of connections for 600+1200 mm panels
 Esempi indicativi di collegamento per pannelli da 600+1200mm



5 NOTES FOR CONNECTIONS - AVVERTENZE PER I COLLEGAMENTI

Important notes about connections for **20-mm** pipes
Avvertenze per i collegamenti con tubo da **20mm**



Cut the exceeding sheath by using a pipe cutter

- 1 Tagliare la guaina in eccesso utilizzando una forbice tagliatubo.

Make the sheath run over the pipe and move it away from the cut.

- 2 Far scorrere la guaina lungo il tubo allontanandola dal punto di taglio.

Cut the pipe on the tally mark; in this way you can easily check the right installation of the pipe (see stages 5-6).

- 3 Tagliare la tubazione in corrispondenza della linea indicativa in modo da facilitare la verifica di corretto inserimento (vedi sequenza 5-6).

Use a pipe flaring tool in order to make pipe connection easier

- 4 Svasare il tubo con il calibratore in modo da facilitare l'inserimento nel raccordo

Use oil inside and outside the pipe in order to make the introduction into the pipe fitting easier.

- 5 Oliare la tubazione sia internamente che esternamente in modo da facilitare l'inserimento nel raccordo.

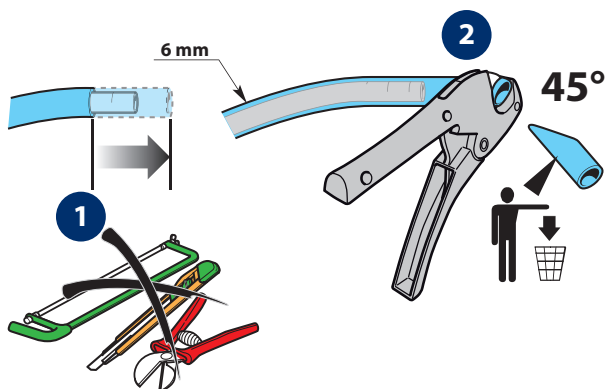
Introduce the pipe, making sure that the next mark coincides with the fitting edge.

- 6 Inserire la tubazione verificando che la linea successiva a quella precedentemente tagliata coincida con il bordo del raccordo.

Check the right installation of the pipe into the fitting by pressing it out softly.

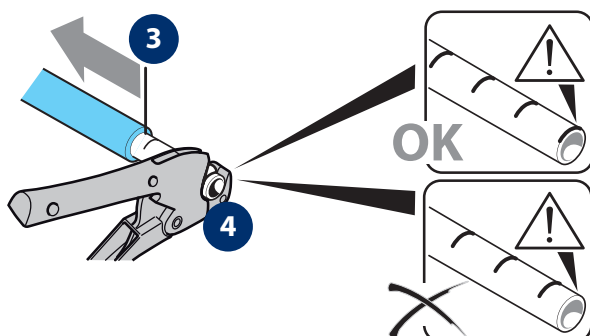
- 8 Verificare la corretta installazione del tubo nel raccordo con una leggera pressione di estrazione.

Important notes about connections for 6-mm pipes
Avvertenze per i collegamenti con tubo da 6mm



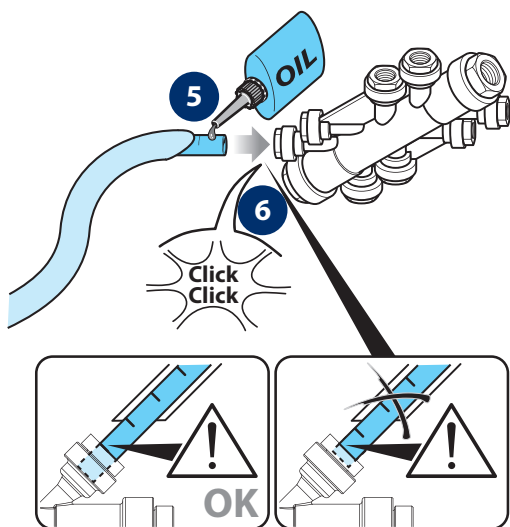
1 Cut the exceeding sheath by using a pipe cutter; the cut should be done with 45° inclination.

2 Tagliare la guaina in eccesso utilizzando una forbice tagliatubo; il taglio deve essere effettuato a circa 45°.



3 Make the sheath run over the pipe and move it away from the cut.

4 Far scorrere la guaina lungo il tubo allontanandola dal punto di taglio.

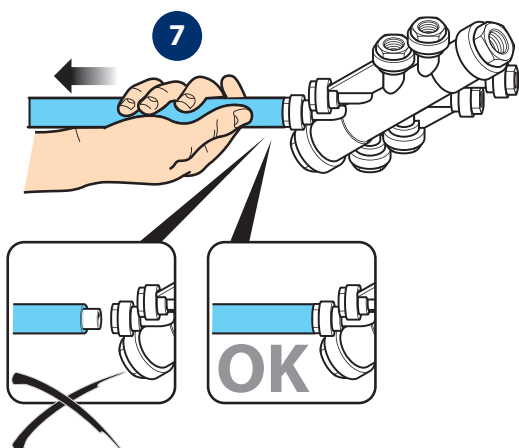


5 Cut the pipe on the tally mark; in this way you can easily check the right installation of the pipe (see stages 6).

4 Tagliare la tubazione in corrispondenza della linea indicativa in modo da facilitare la verifica di corretto inserimento (vedi sequenza 6).

5 Use oil inside and outside the pipe in order to make the introduction into the pipe fitting easier.

5 Oliare la tubazione sia internamente che esternamente in modo da facilitare l'inserimento nel raccordo.



6 Introduce the pipe, making sure that the next mark coincides with the fitting edge.

6 Inserire la tubazione verificando che la linea successiva a quella precedentemente tagliata coincida con il bordo del raccordo.

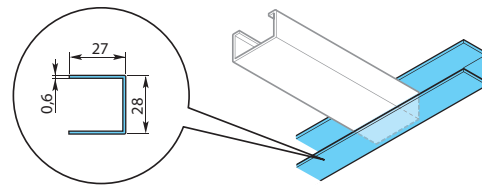
7 Check the right installation of the pipe into the fitting by pressing it out softly.

7 Verificare la corretta installazione del tubo nel raccordo con una leggera pressione di estrazione.

Guide for perimeter walls / Guida per pareti perimetrali

The guide is fastened over the entire perimeter of the room; the pillars rest on its inner area on two opposite sides.

La guida viene fissata al perimetro della stanza; al suo interno su due lati contrapposti poggiano i montanti.



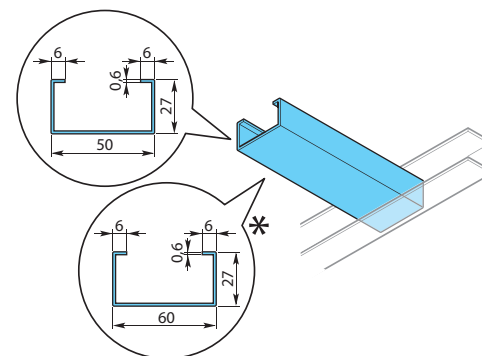
Profile for false walls and false ceilings / Profilo per contropareti e controsoffitti

This type of profile composes the framework necessary to support b!klimax panel.

La tipologia di profilo costituisce l'intelaiatura atta a supportare il pannello b!klimax.

* The examples mentioned in this manual refer to a structure with 50-mm profile, as this is the most popular in Italy; however b!klimax panel can also support 60-mm structures

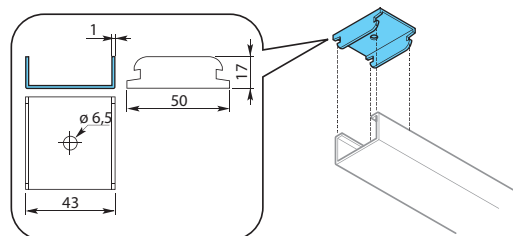
* Negli esempi del manuale è stata ipotizzata una struttura con profilo da 50mm, essendo la più usata in Italia; il pannello b!klimax può comunque supportare anche strutture da 60mm



Fixing clips / Cavalieri di fissaggio

Supports for profiles: they must be used in accordance with the manufacturer's instructions (plasterboard weight + b!klimax panels weight, they weigh about 9,5 kg/m²).

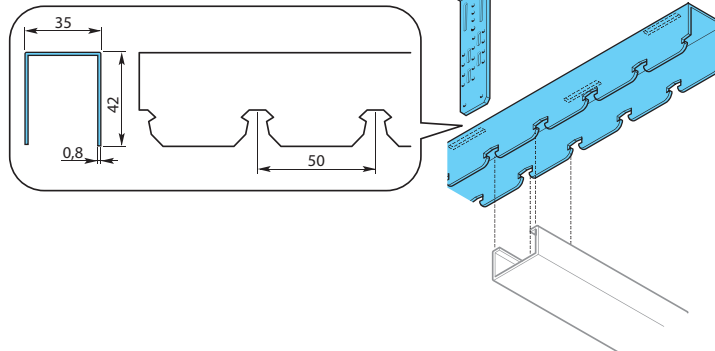
Sostengono i profili: il loro utilizzo deve seguire le indicazioni del produttore (devono poter sostenere la lastra in cartongesso oltre al peso del pannello b!klimax che è di circa 9,5 kg).



Snap profiles / Profili a scatto

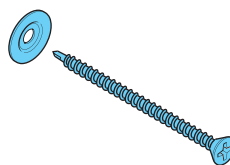
They support the interaxial load bearing columns according to the structure yield that must be calculated according to the manufacturer's instructions (plasterboard weight + b!klimax panels weight, they weigh about 9,5 kg/m²).

Sostengono i montanti interassati in base alla portata della struttura che deve essere calcolata seguendo le indicazioni del produttore (devono poter sostenere la lastra in cartongesso oltre al peso del pannello b!klimax che è di circa 9,5 kg/m²).



55mm self-perforating phosphate screw and countersunk stainless steel washer

Viti autoperforanti fosfatate 55 mm e rondella inox svasata

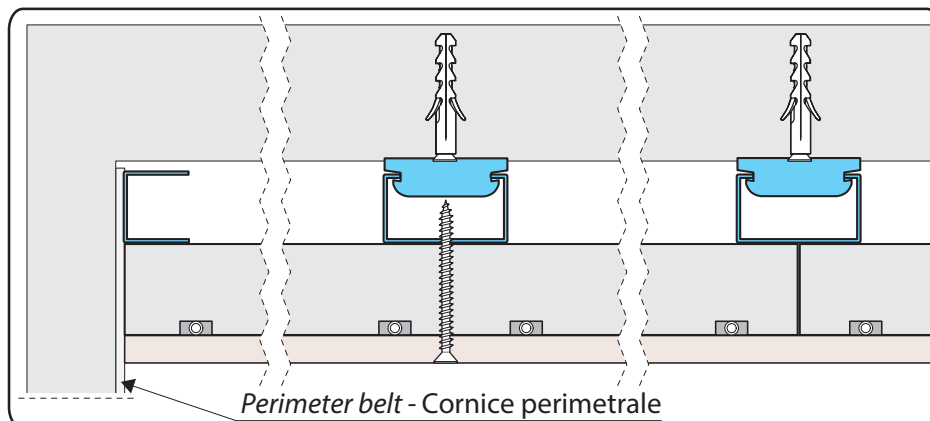


Sizes and types of profiles shown are purely by way of example.

Le misure e le tipologie dei profili rappresentati hanno valore puramente indicativo.

7 STRUCTURE EXAMPLE - ESEMPI DI STRUTTURE

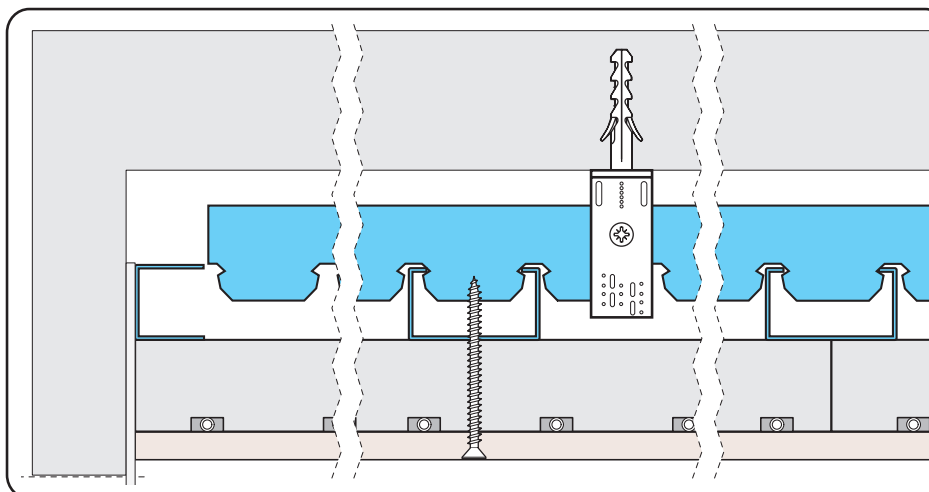
Adherent structure
Struttura in aderenza



Use an adherent structure only where minimal overall thickness is required. The use of this type of structure involves longer installation than an "orthogonal" structure type.

Si consiglia l'utilizzo della struttura in aderenza solo dove viene richiesto il minimo spessore d'ingombro. L'utilizzo di questa tipologia di struttura comporta un impiego di tempo maggiore per il montaggio rispetto ad una struttura tipo "ortogonale".

Snap structure (RECOMMENDED)
Struttura con profilo a scatto
(CONSIGLIATA)



8 WALL INSTALLATION - INSTALLAZIONI A PARETE

The main types of structures suitable for wall radiant panels are:

- Adherent structures
- Snap structures (adherent or hanging)

Le principali tipologie di strutture adatte per fissare a parete i pannelli radianti sono:

- Struttura in aderenza
- Struttura a scatto (in aderenza o pendinata)

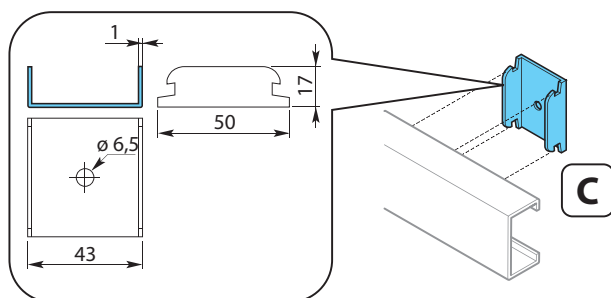
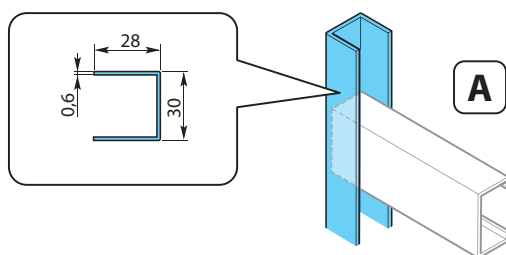
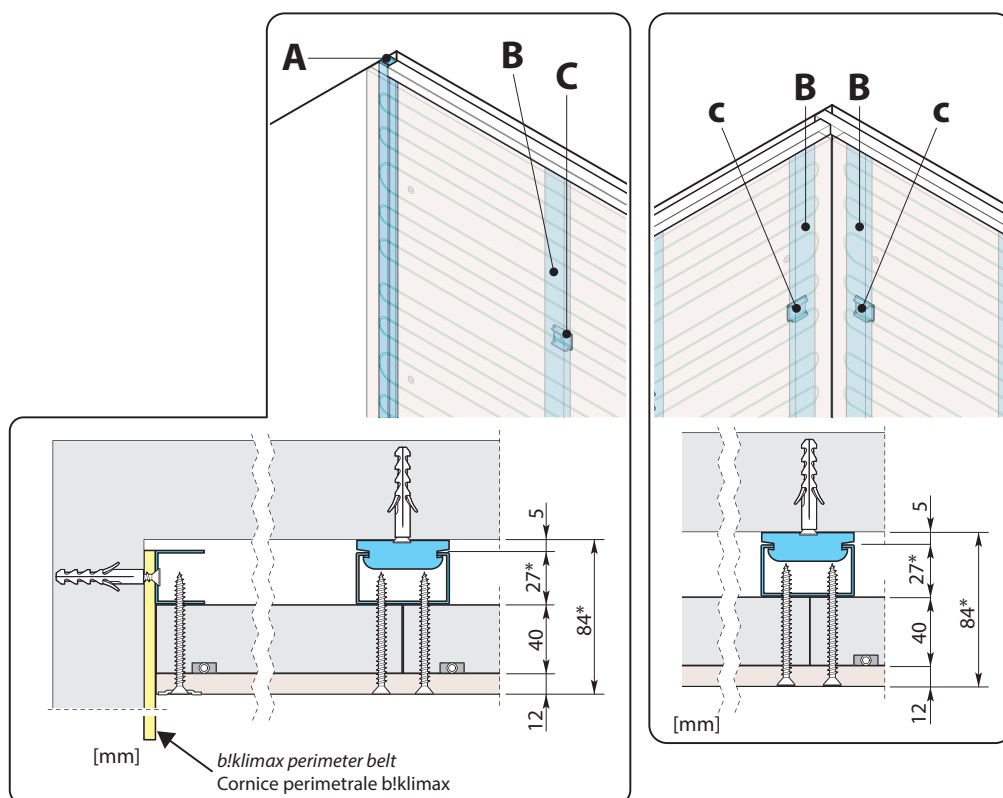
8.1 ADHERENT STRUCTURES - STRUTTURA IN ADERENZA

Adherent structure- components used

Struttura in aderenza - componenti utilizzati

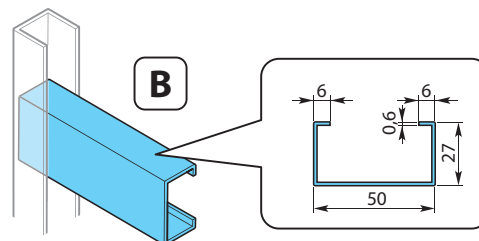
SINGLE WALL
PARETE SINGOLA

DOUBLE WALL
PARETE DOPPIA



* Variable dimension depending on the profile used.

* Quota variabile in base al profilo utilizzato.



All sizes for profiles shall be considered as indicative and they are suitable for a standard installation; in any case you can use profiles with sizes different from the ones mentioned in this manual.

Tutte le quote dei profili sono da considerarsi puramente indicative e per un'installazione standard, è comunque possibile l'utilizzo di profili con misure diverse da quelle descritte

1

2

.....

12

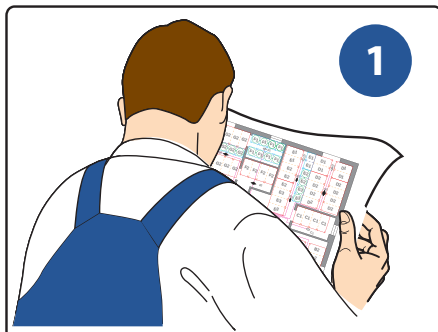
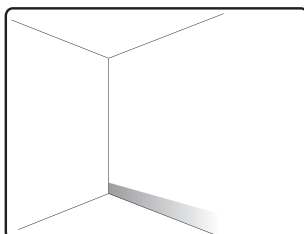
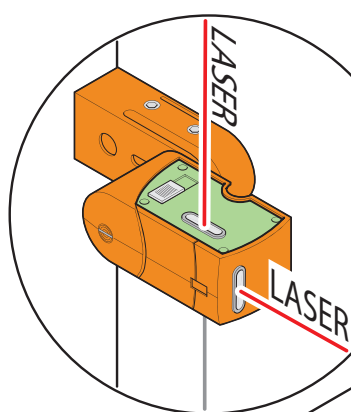
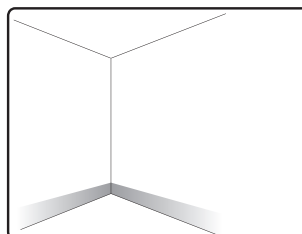
Progressive sequence of installation steps

Sequenza progressiva delle fasi di installazione

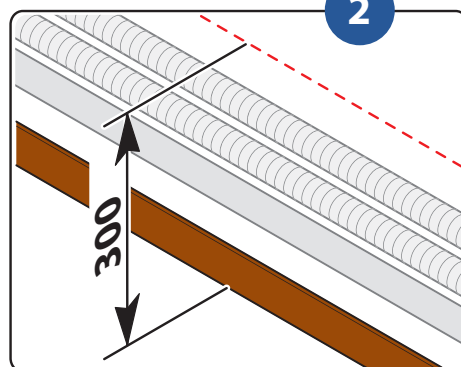
1

PERIMETER GUIDE INSTALLATION
INSTALLAZIONE GUIDE PERIMETRALI

The measurements indicated in all phases are given in mm
Le misure indicate in tutte le fasi sono in mm

**SINGLE WALL**
PARETE SINGOLA**DOUBLE WALL**
PARETE DOPPIA

3



2

300

300

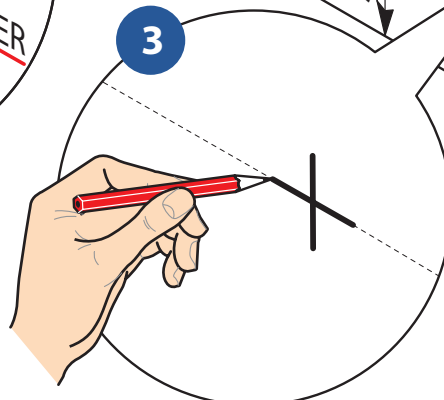
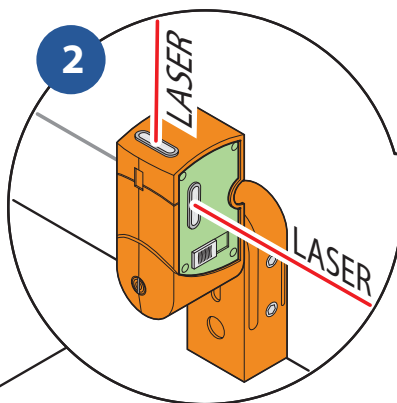
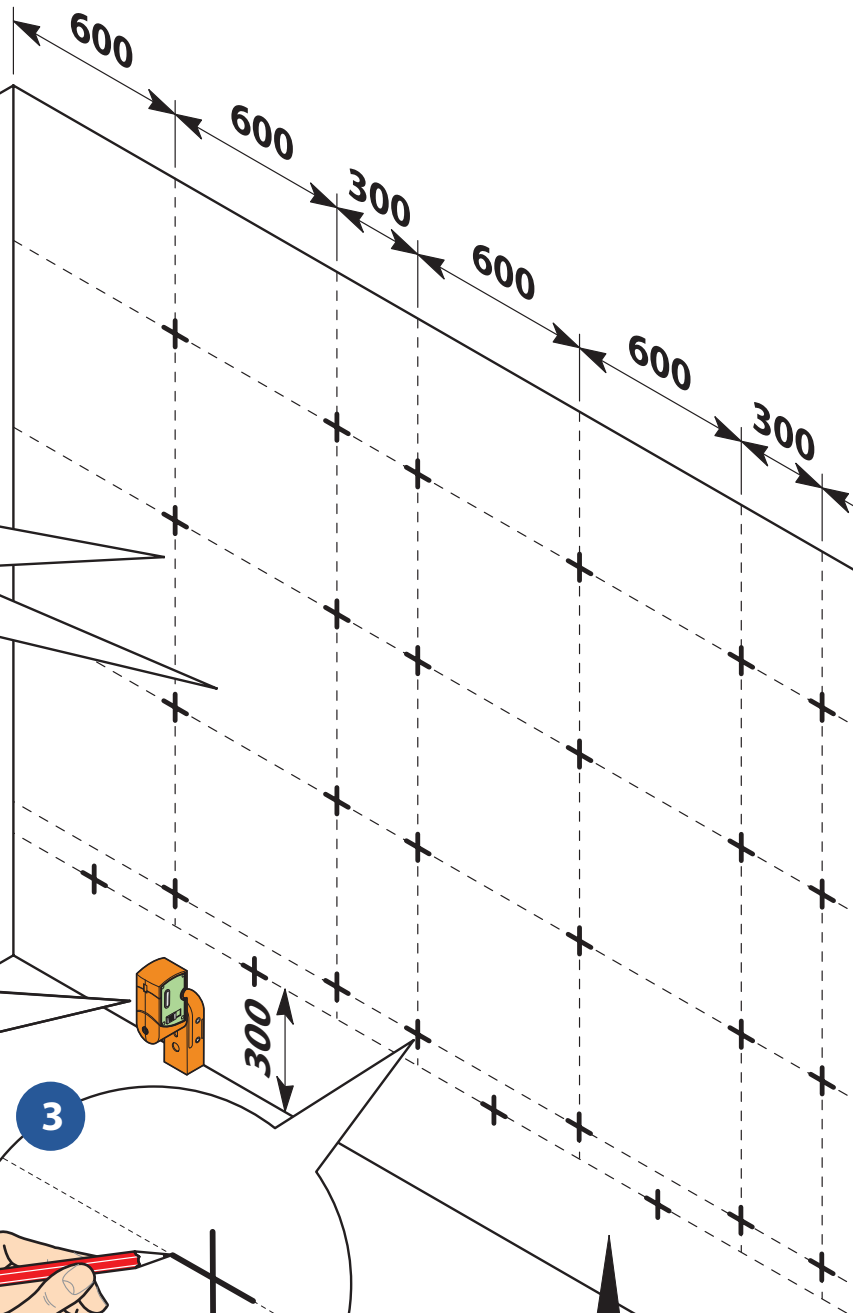
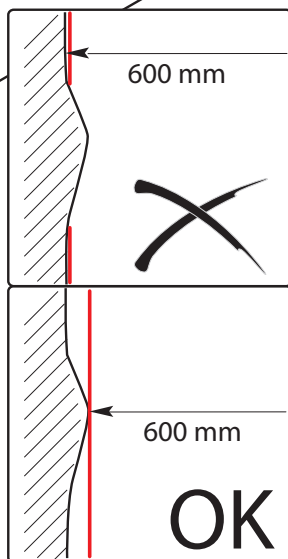
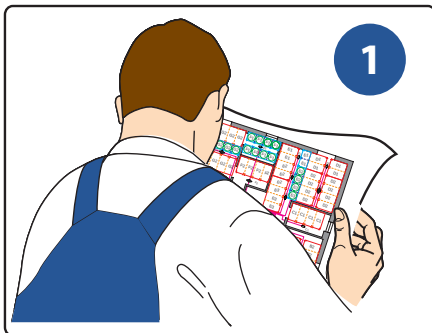




2a

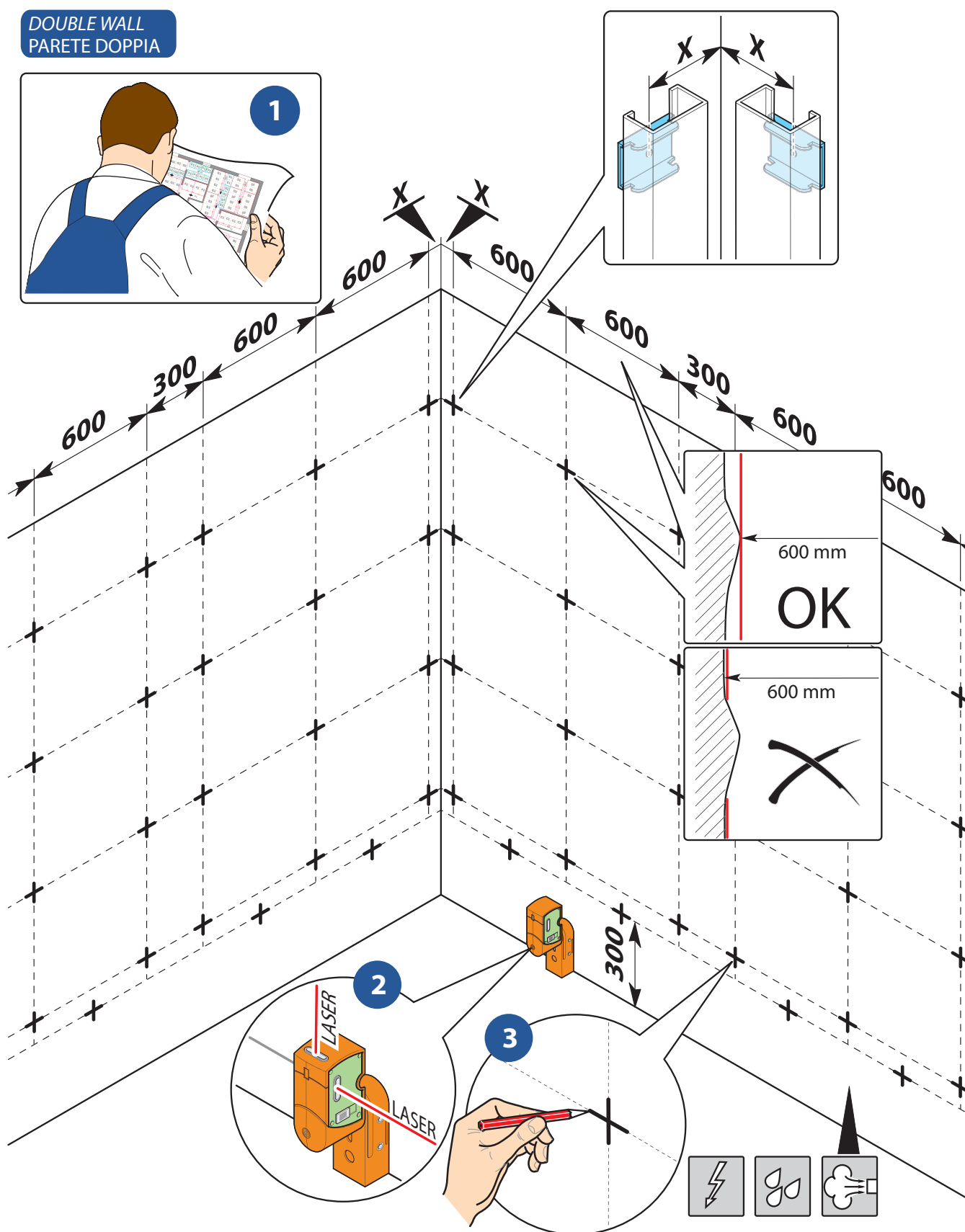
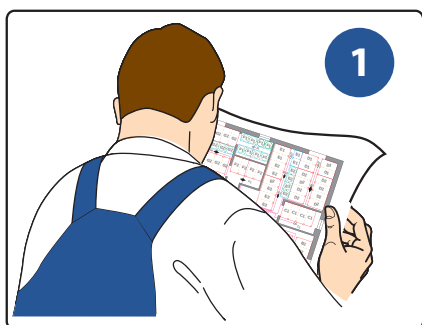
INSTALLATION OF FIXING ELEMENTS INSTALLAZIONE CAVALIERI DI FISSAGGIO

SINGLE WALL
PARETE SINGOLA



2b

DOUBLE WALL
PARETE DOPPIA

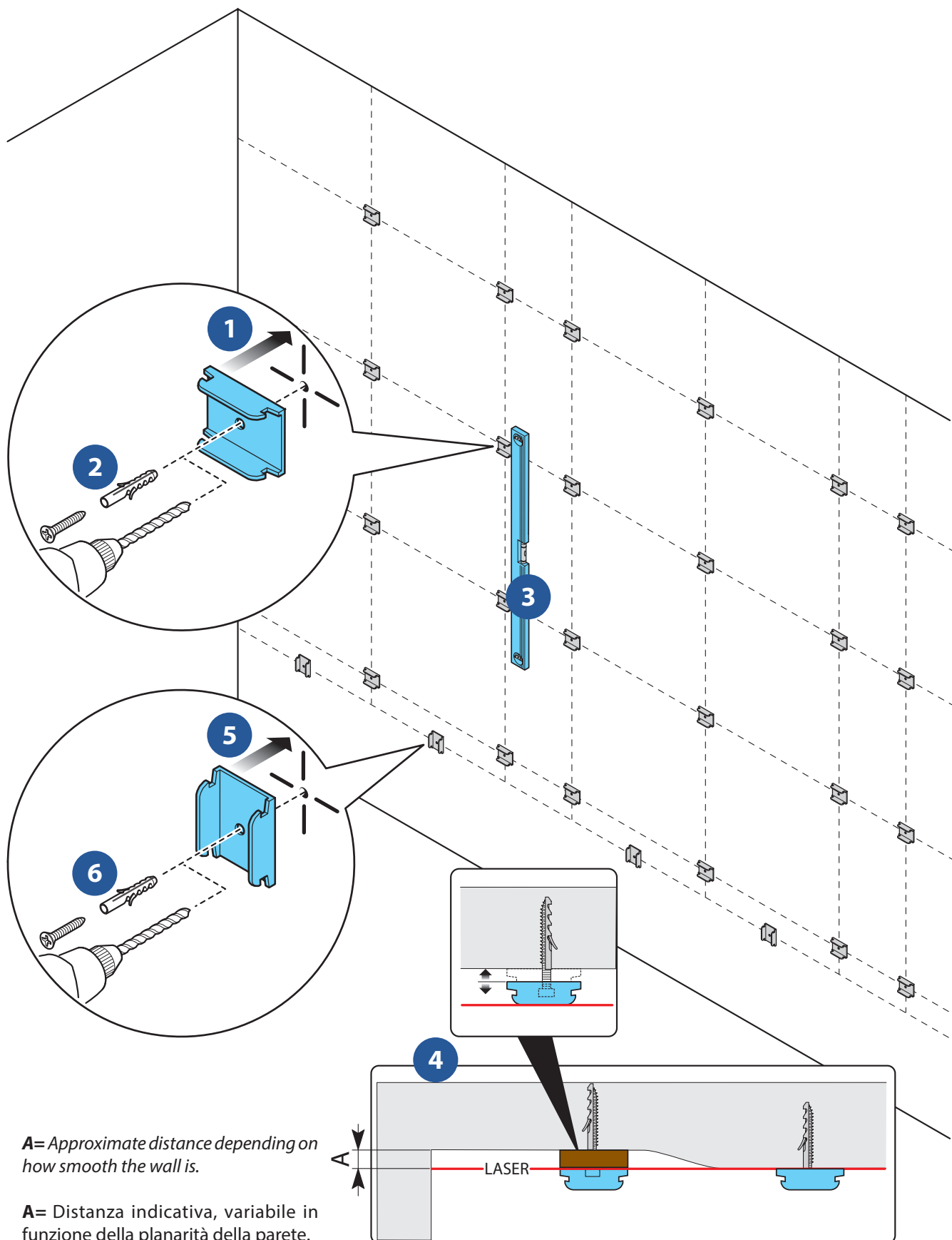


X= Distance equivalent to the thickness of the structure + the thickness of 52.5-mm panel (40-mm panel + 12.5-mm plasterboard).

X= Distanza equivalente allo spessore della struttura + lo spessore del pannello 52.5mm (40 mm pannello + 12.5 mm lastra cartongesso).

3

SINGLE WALL
PARETE SINGOLA

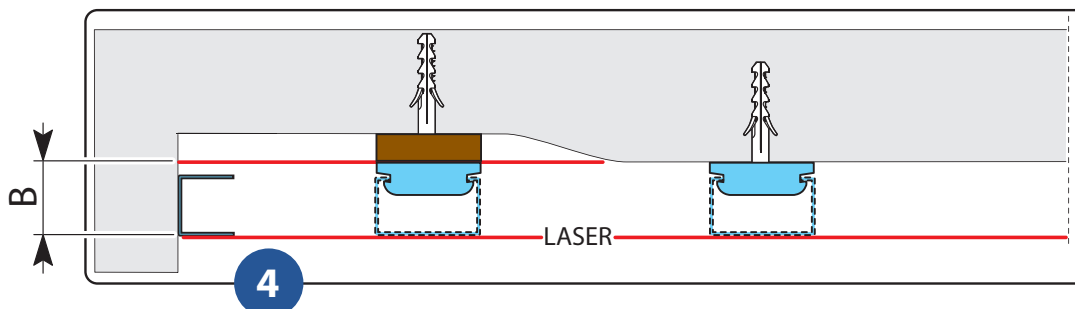
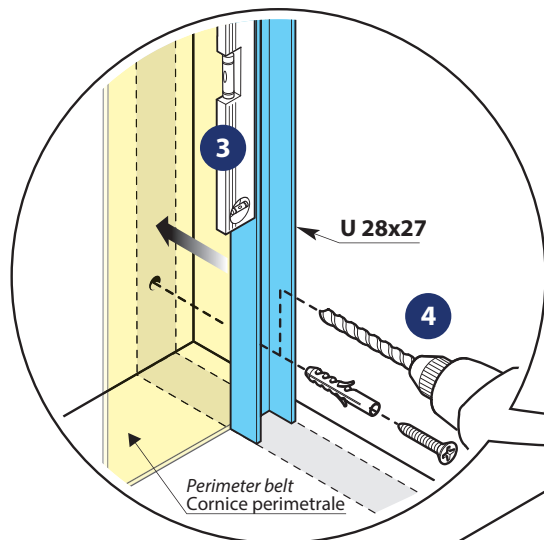
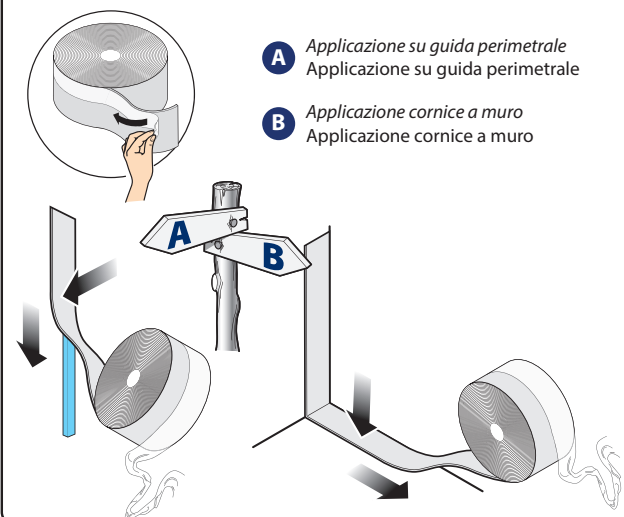


4

PERIMETER GUIDE INSTALLATION INSTALLAZIONE GUIDE PERIMETRALI

SINGLE WALL
PARETE SINGOLA

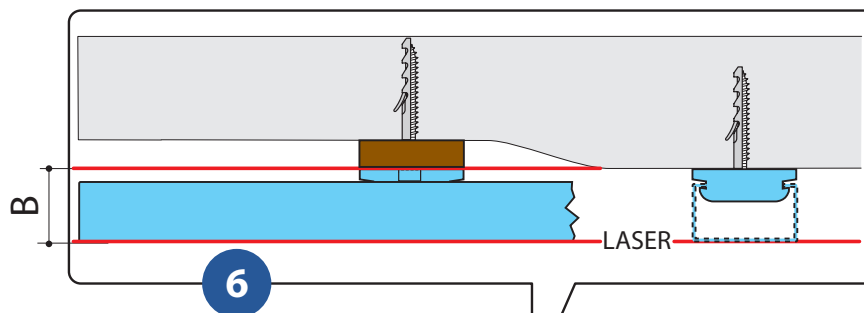
1 BIKLIMAX PERIMETER BELT INSTALLATION INSTALLAZIONE CORNICE PERIMETRALE BIKLIMAX



B = Approximate distance depending on the type of clip used.

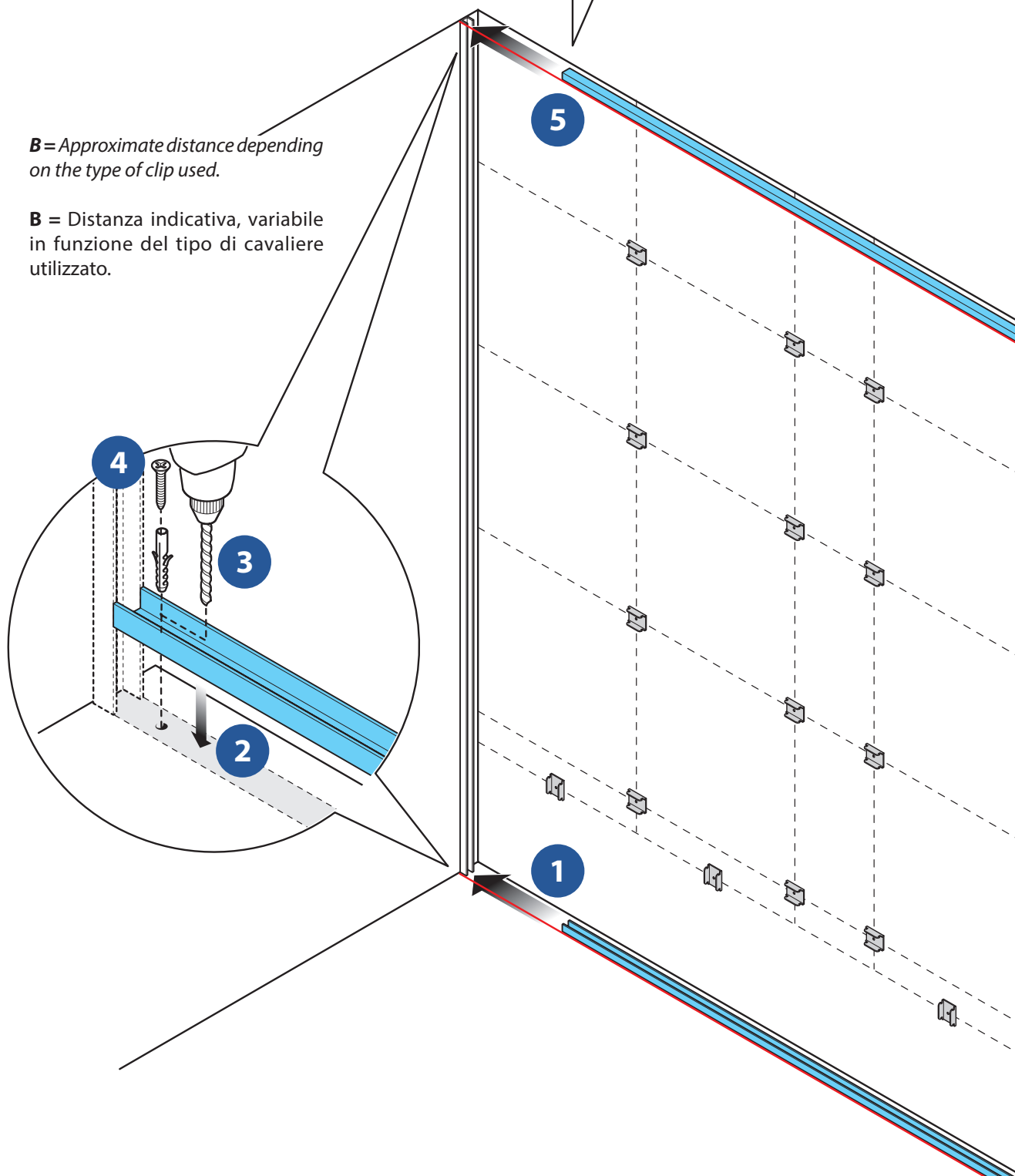
B = Distanza indicativa, variabile in funzione del tipo di cavaliere utilizzato.

5



B = Approximate distance depending on the type of clip used.

B = Distanza indicativa, variabile in funzione del tipo di cavaliere utilizzato.



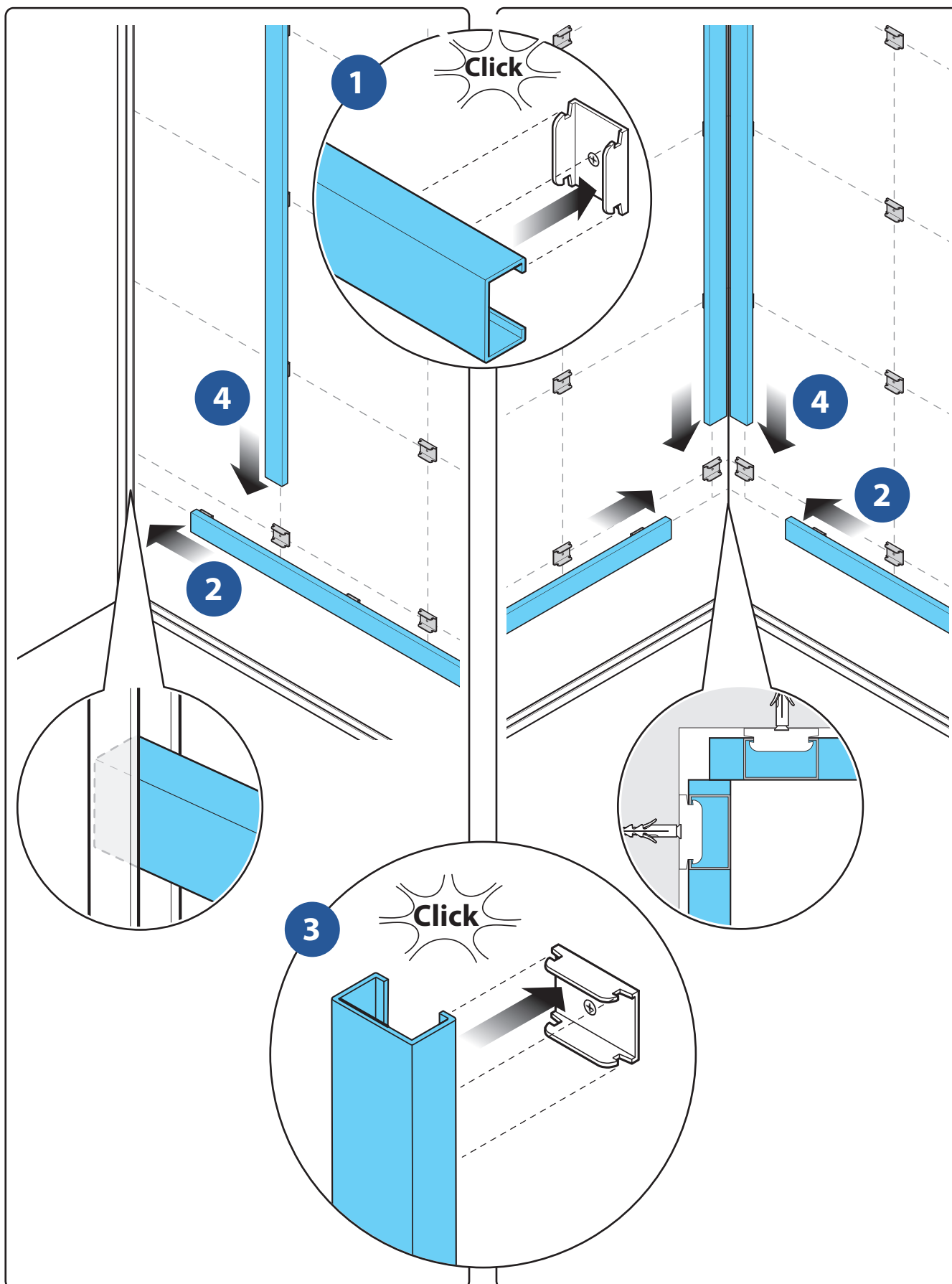


6

C-PROFILE INSTALLATION INSTALLAZIONE PROFILI A "C"

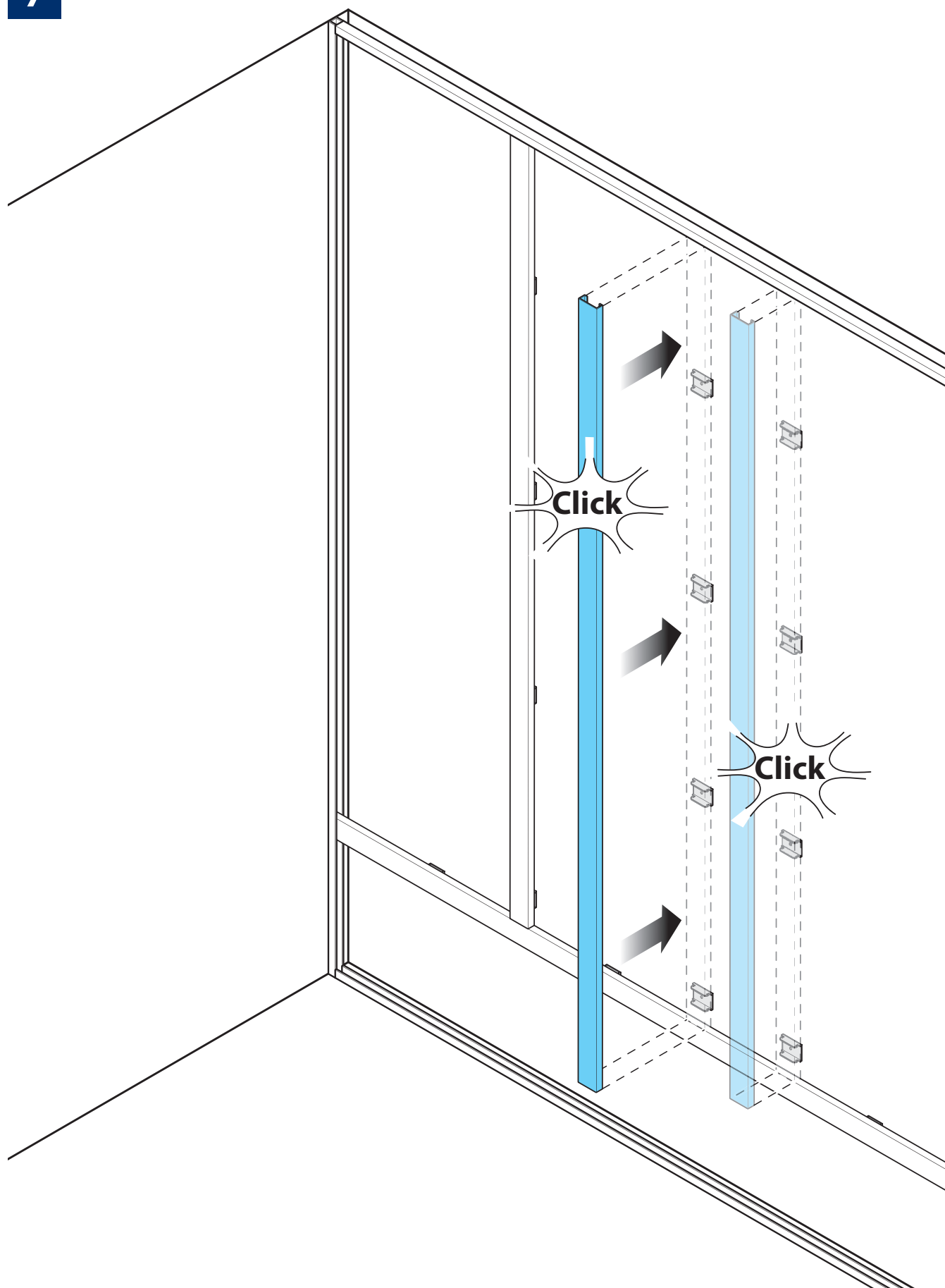
SINGLE WALL
PARETE SINGOLA

DOUBLE WALL
PARETE DOPPIA

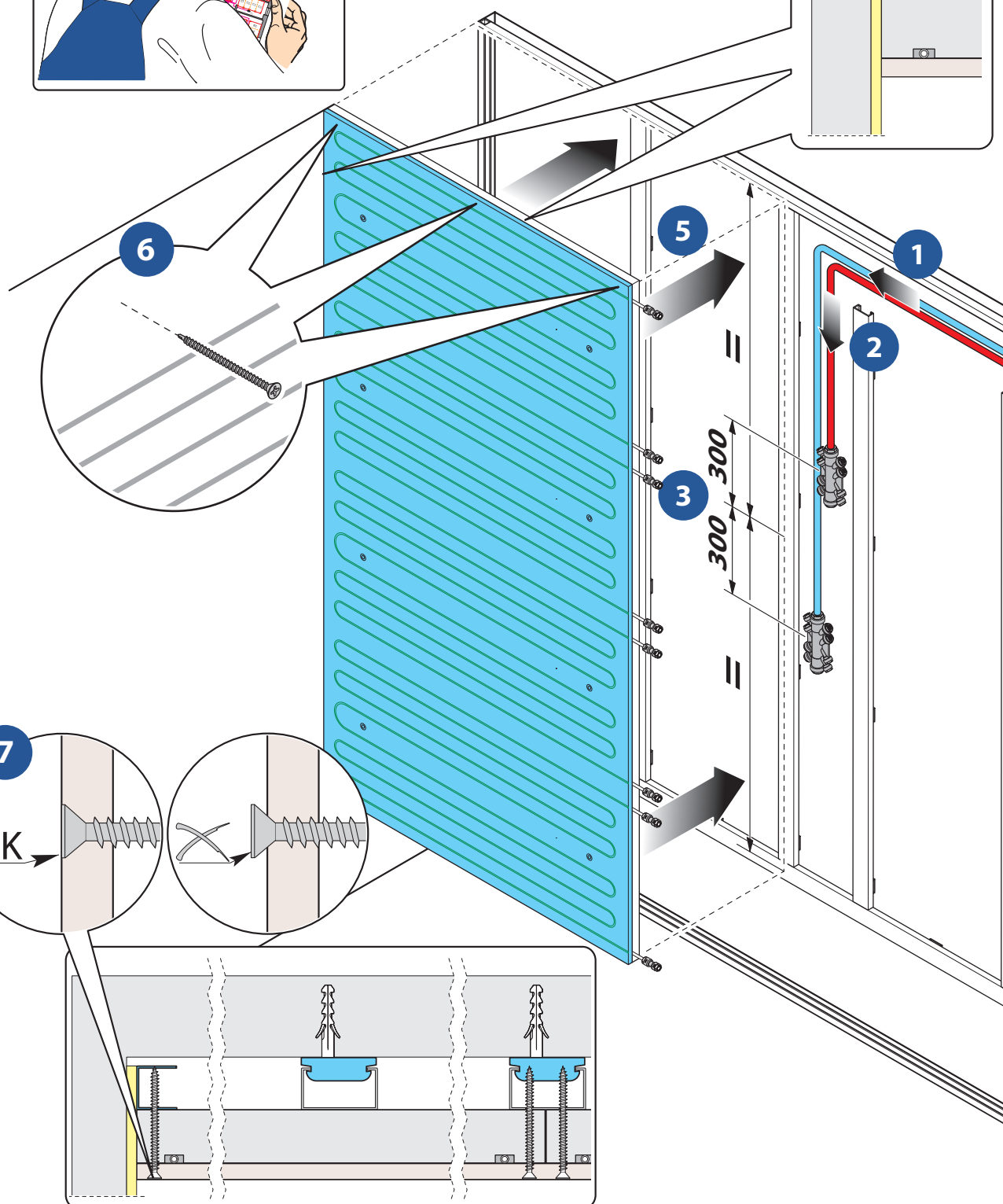
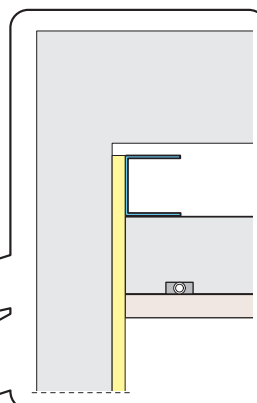
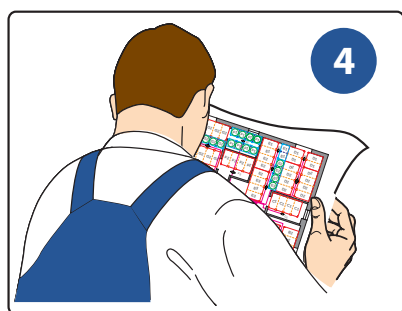




7



8

B!KLIMAX+ PANEL AND MAIN PIPE LINE INSTALLATION**INSTALLAZIONE PANNELLI B!KLIMAX+ E STESURA LINEE PRINCIPALI**

A

With "C" profile ≥ 27 mm
Con profili a "C" ≥ 27 mm

X = Consider 65 mm for each pair of distribution lines.

X = Prevedere 65mm per ogni coppia di linee di distribuzione

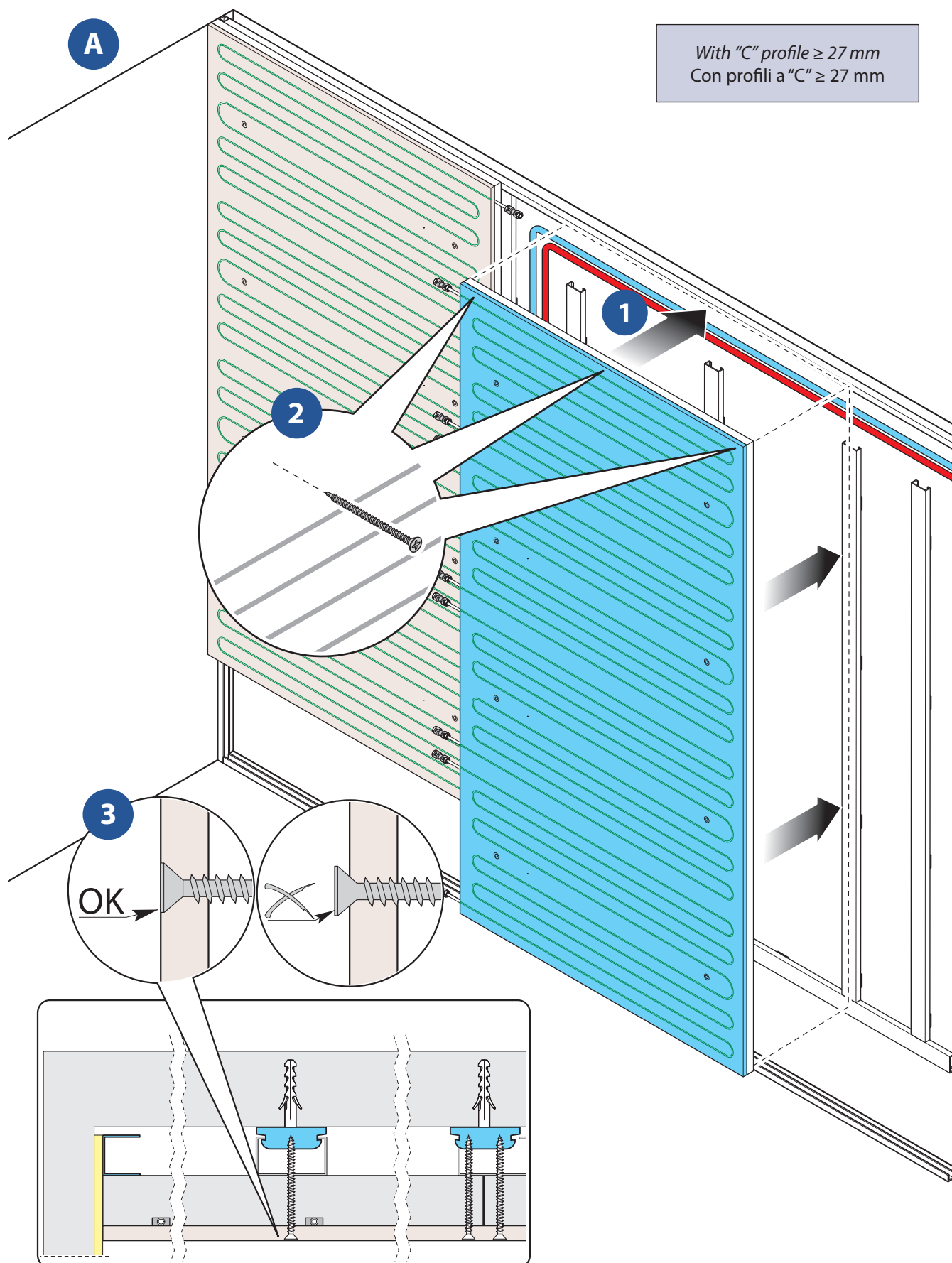
B

With "C" profile < 27 mm
Con profili a "C" < 27 mm

10

A

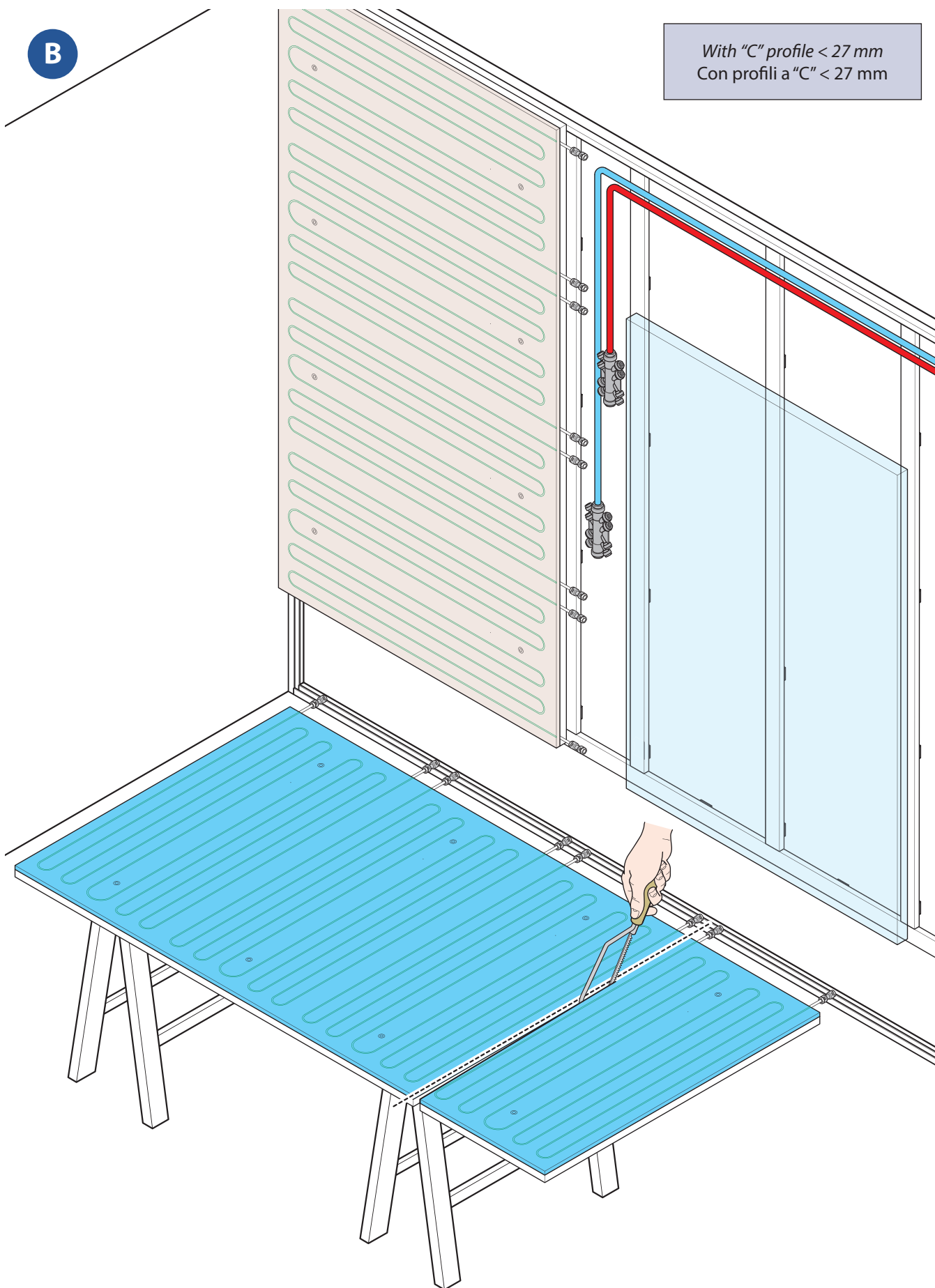
With "C" profile ≥ 27 mm
Con profili a "C" ≥ 27 mm



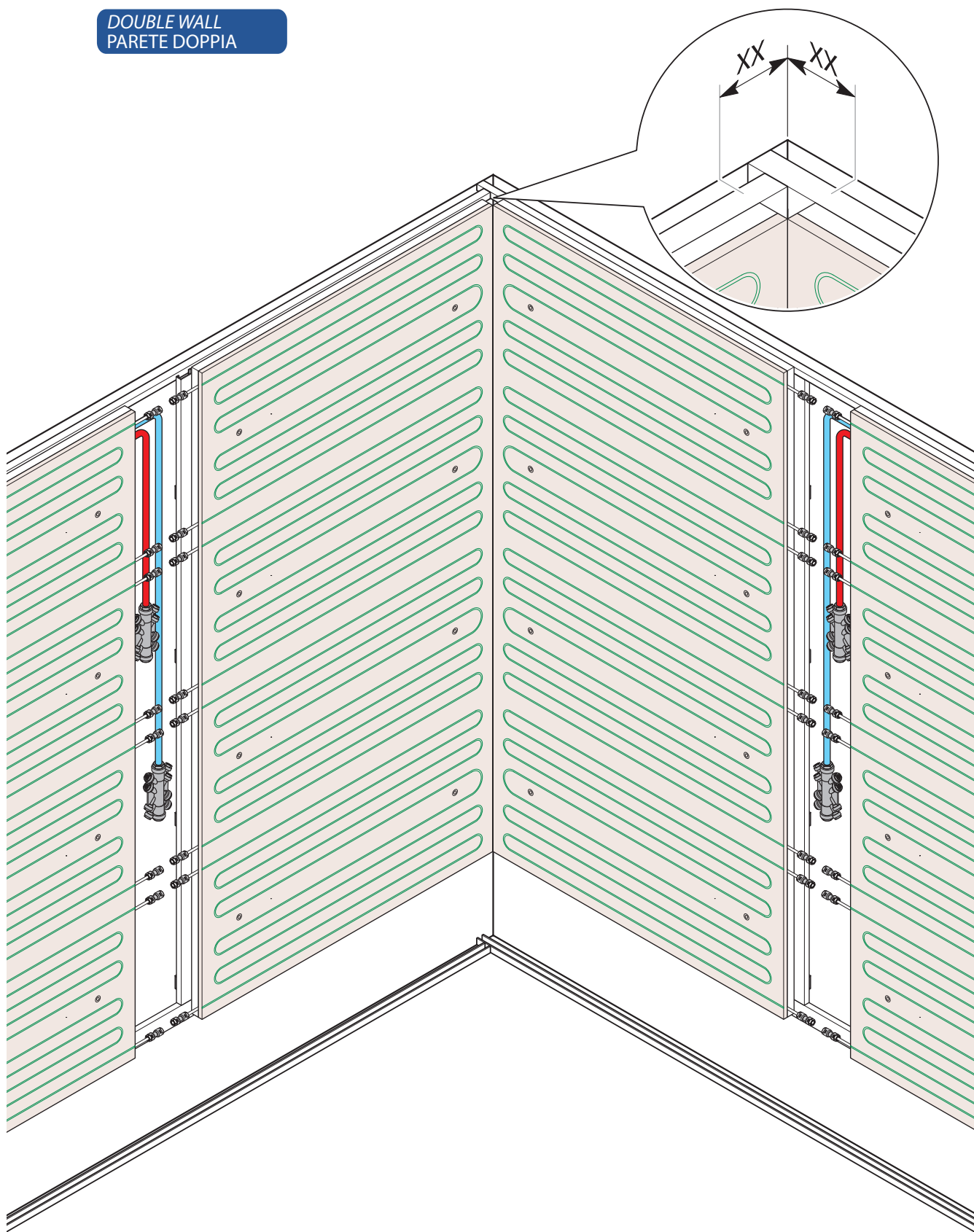


B

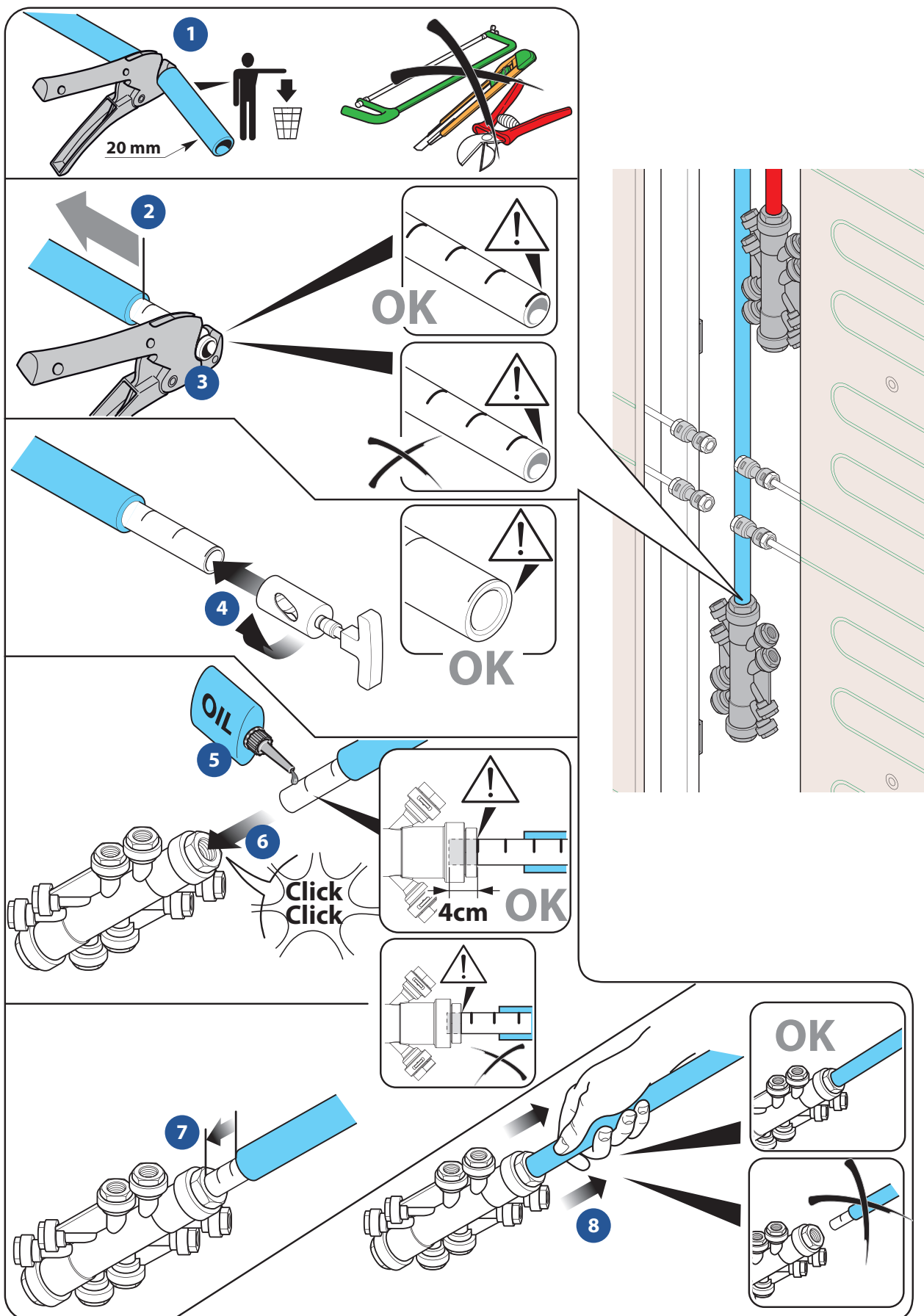
With "C" profile < 27 mm
Con profili a "C" < 27 mm



DOUBLE WALL
PARETE DOPPIA

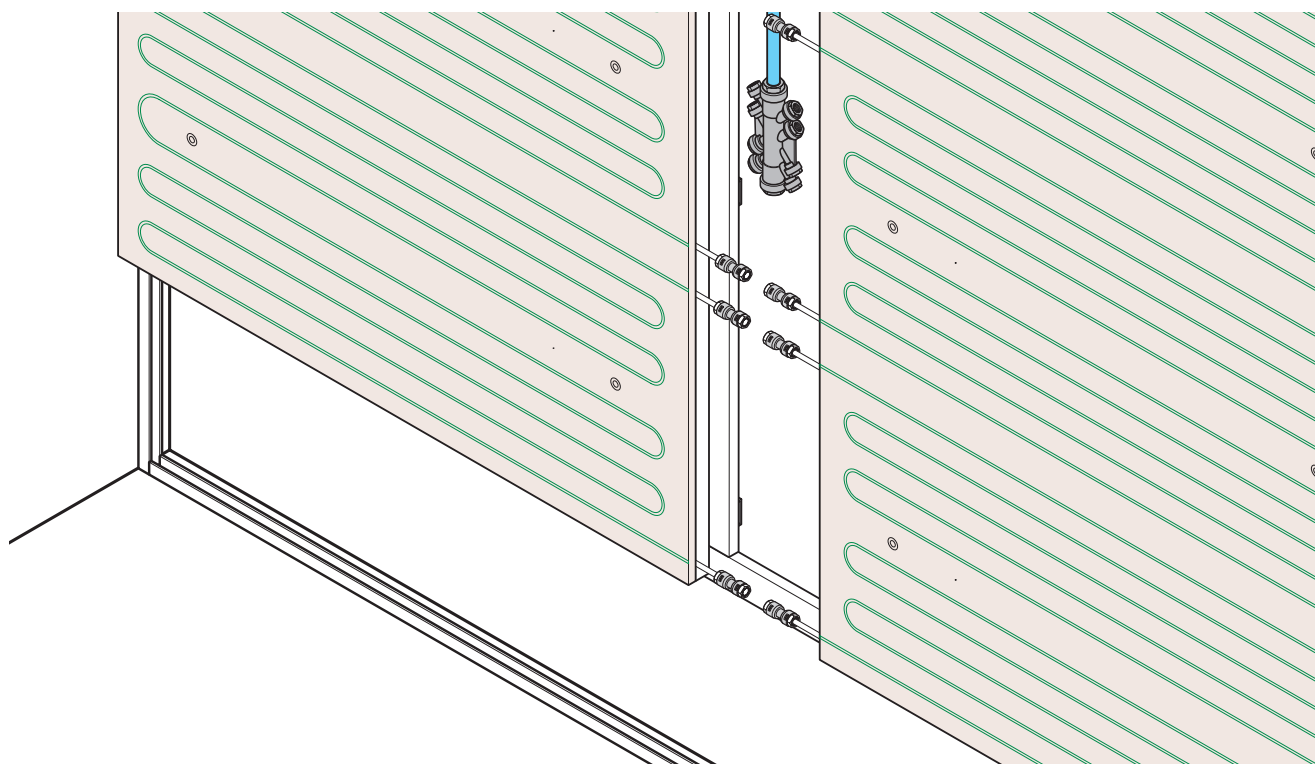


1

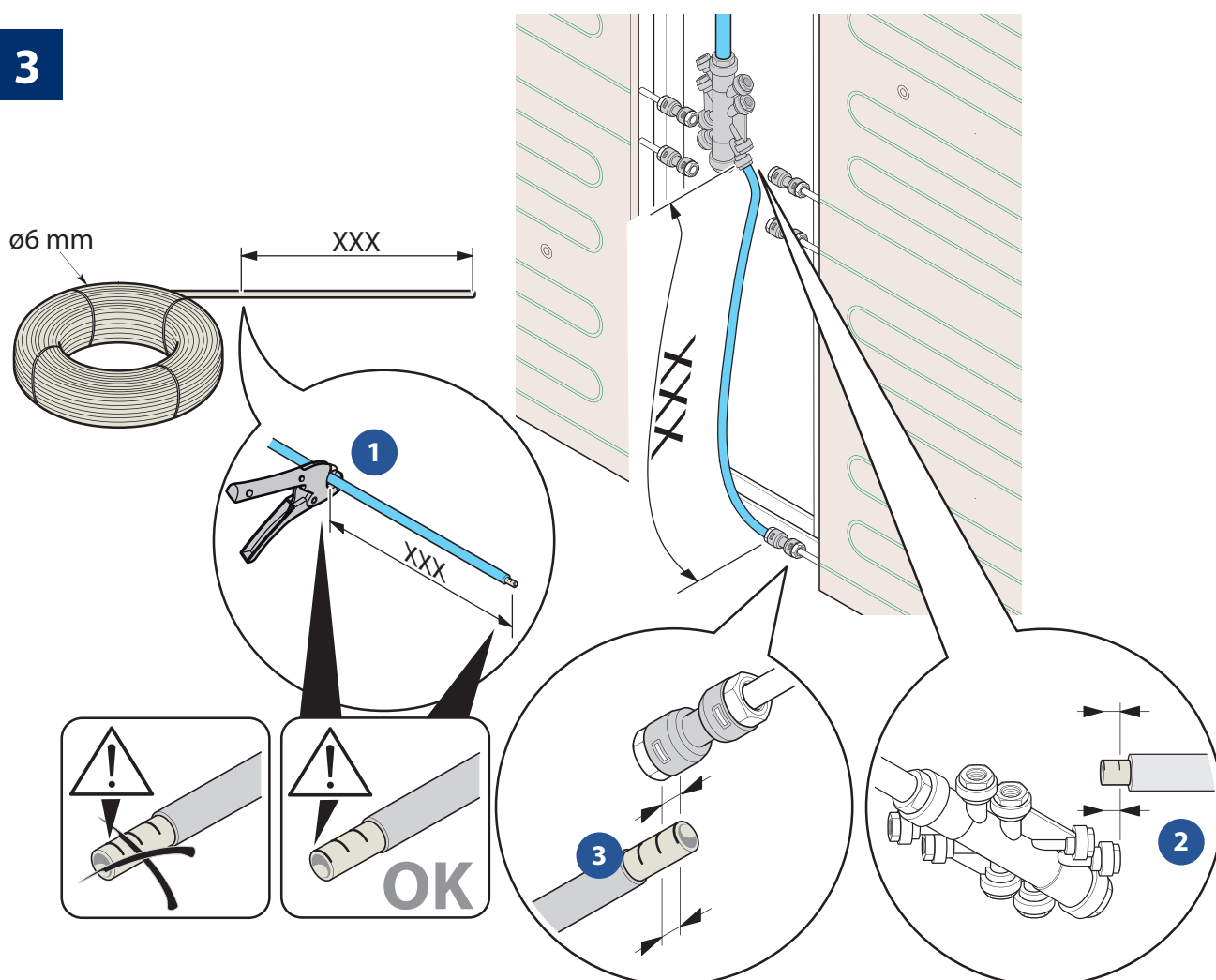
CONNECTION BETWEEN MAIN PIPES AND DISTRIBUTORS
COLLEGAMENTI LINEE PRINCIPALI-DISTRIBUTORI

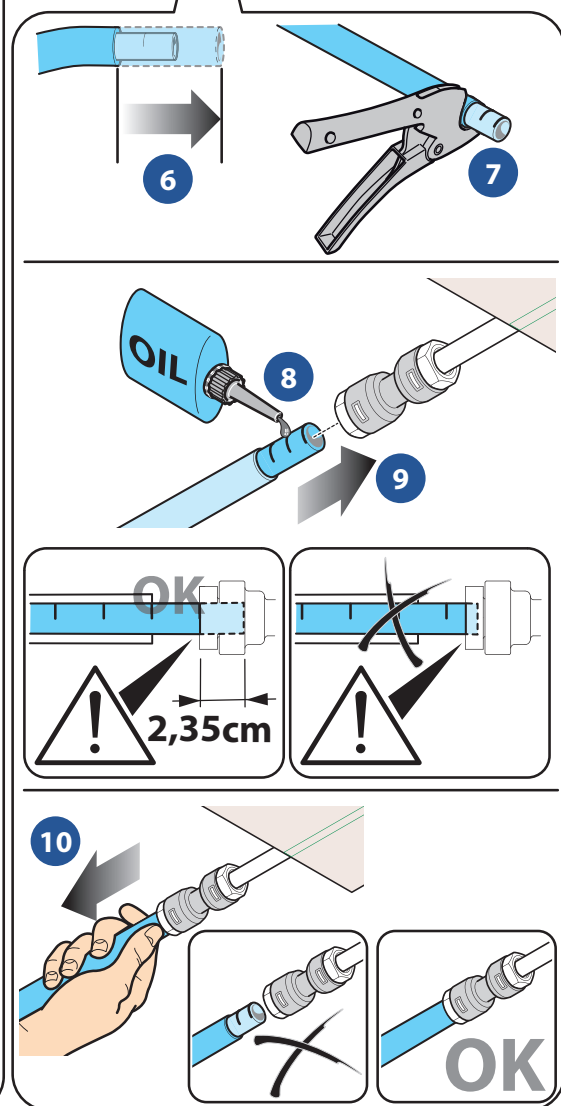
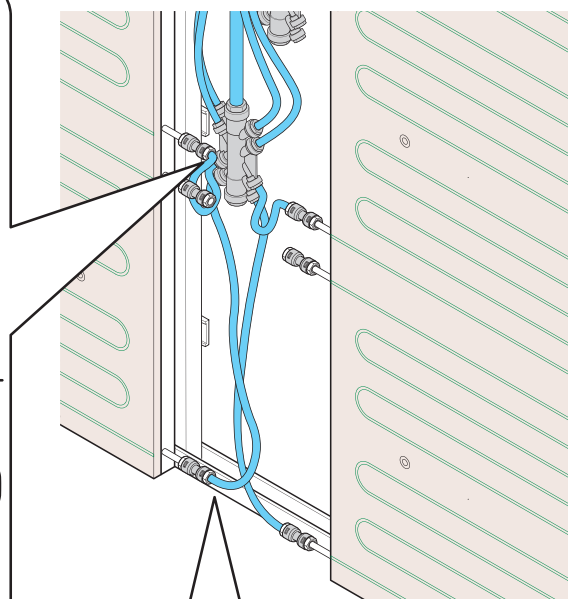
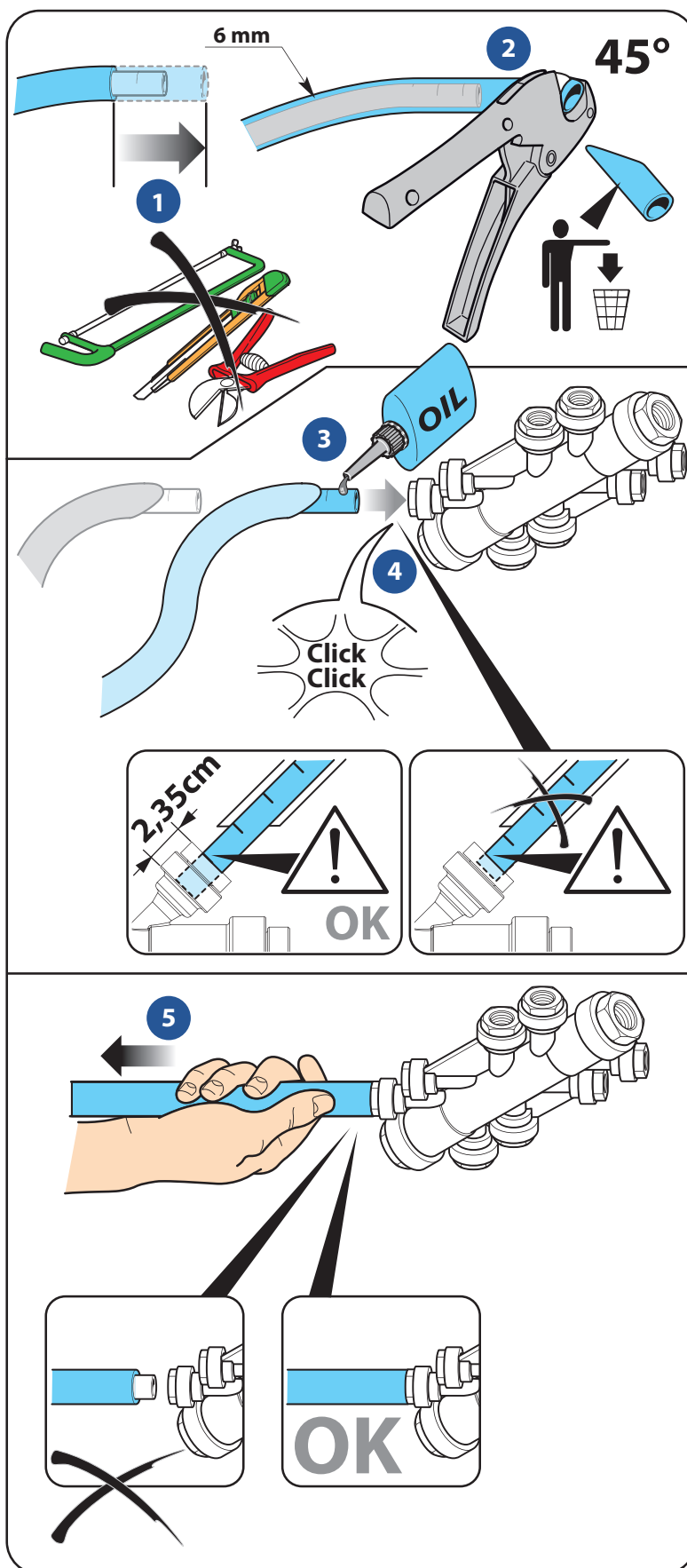
2

CONNECTION BETWEEN PANELS AND DISTRIBUTORS COLLEGAMENTI PANNELLI-DISTRIBUTORI



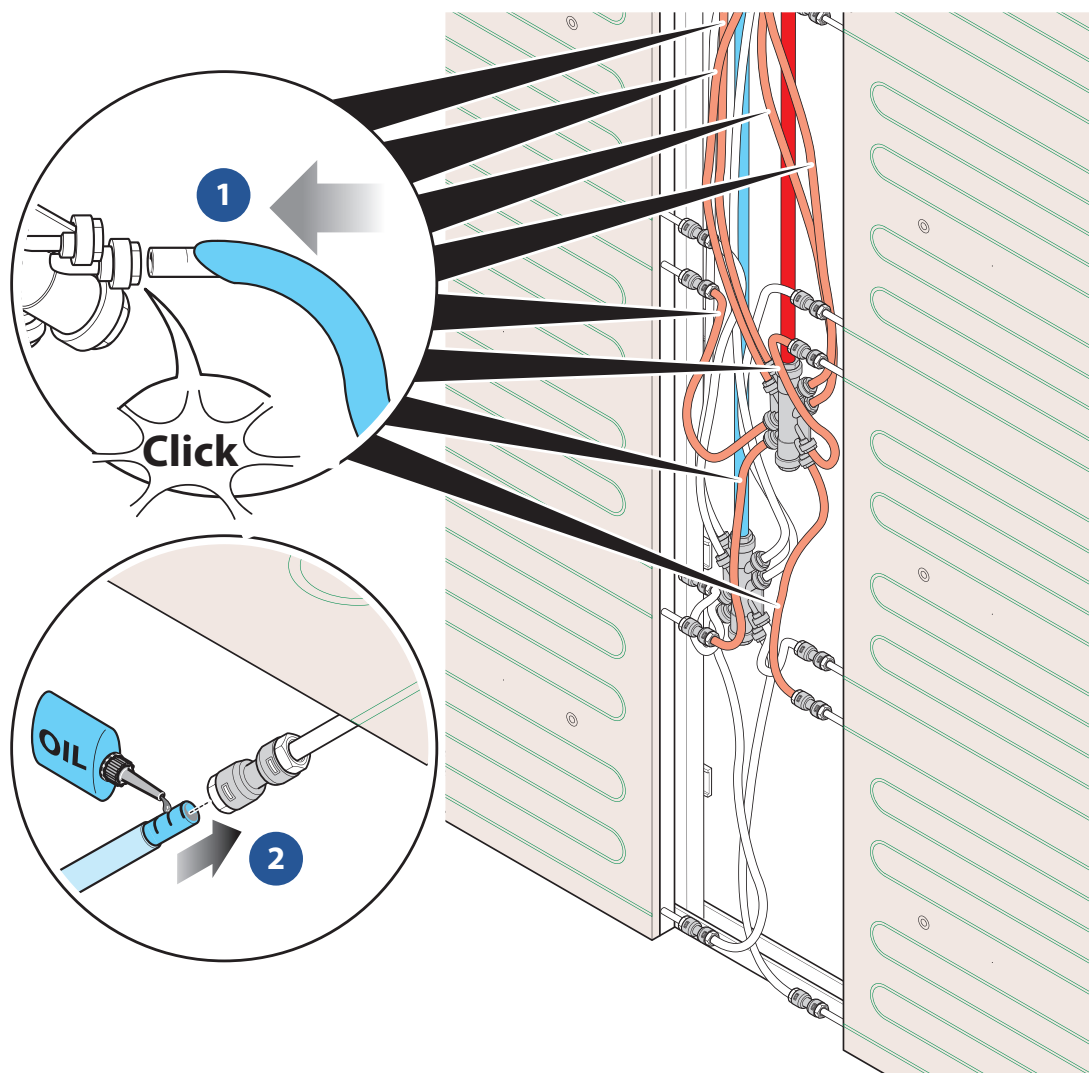
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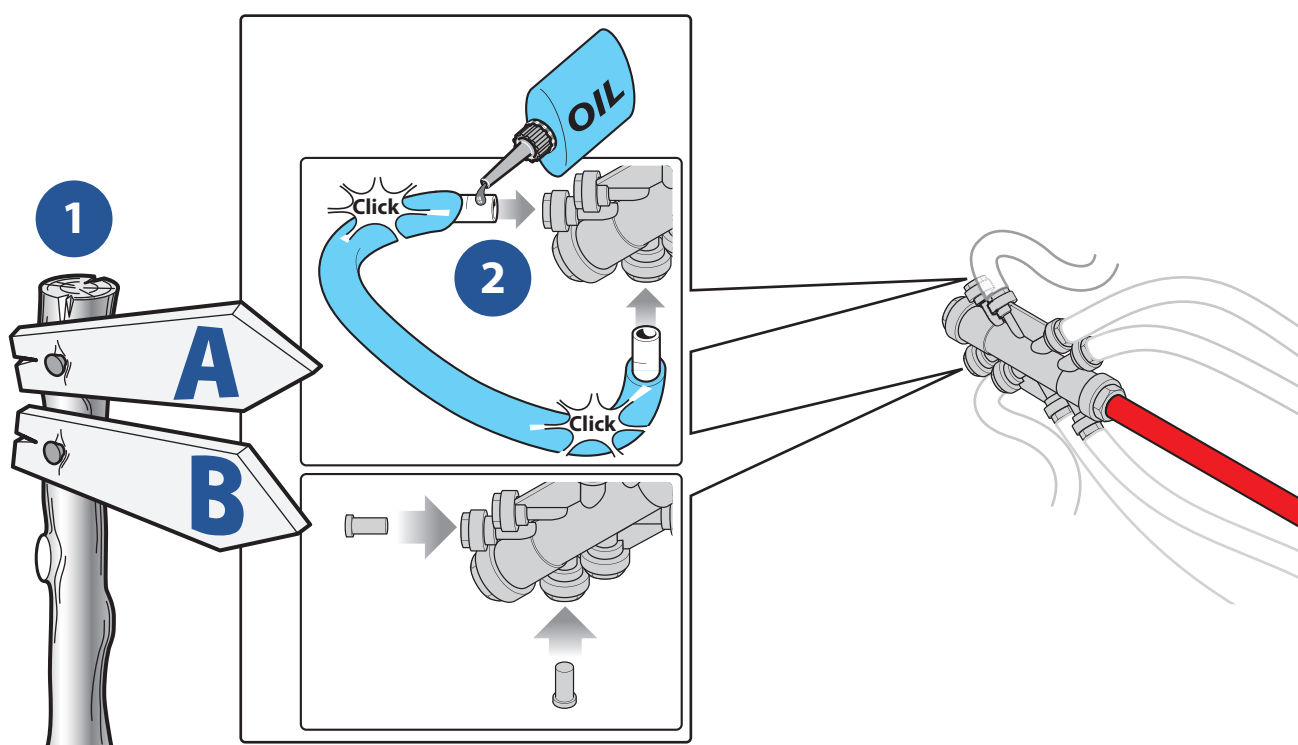


5



6

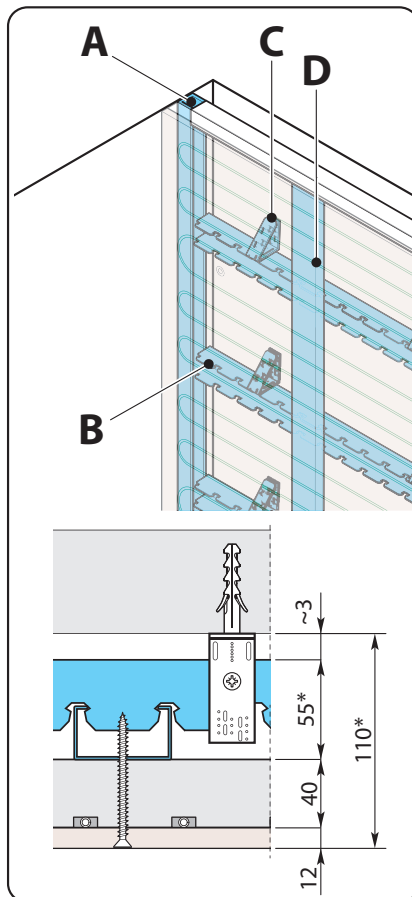
CLOSE UNUSED OUTLETS
TAPPARE EVENTUALI USCITE NON UTILIZZATE



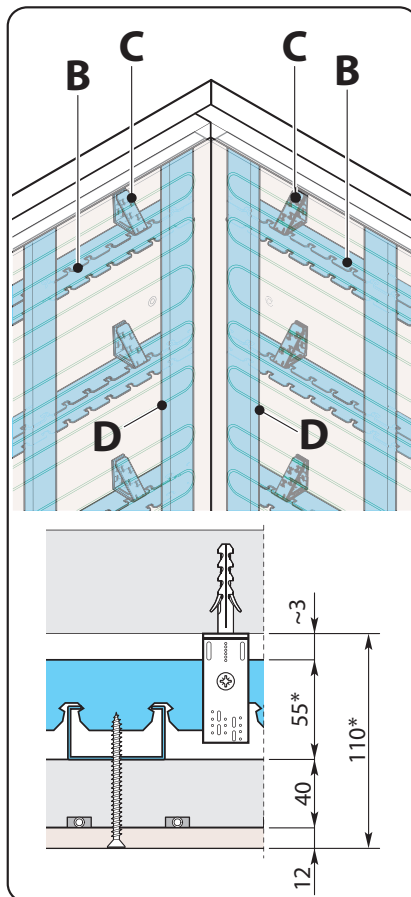
8.3 STRUCTURE WITH SNAP PROFILE - STRUTTURA CON PROFILO A SCATTO

Structure with snap profile - components used
Struttura con profilo a scatto - componenti utilizzati

SINGLE WALL
PARETE SINGOLA

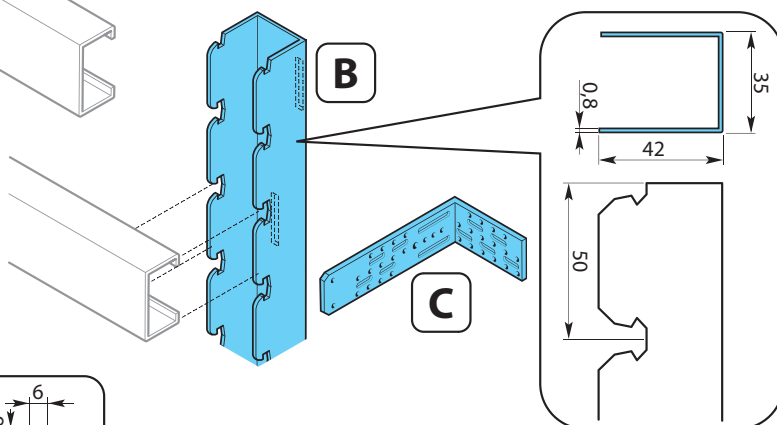
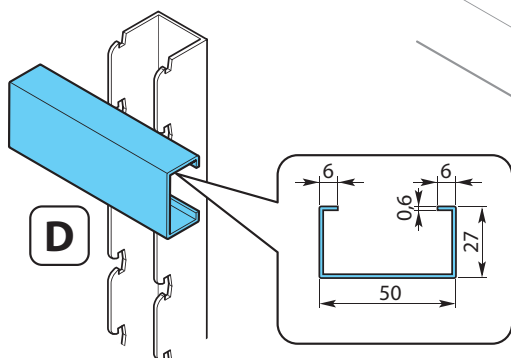
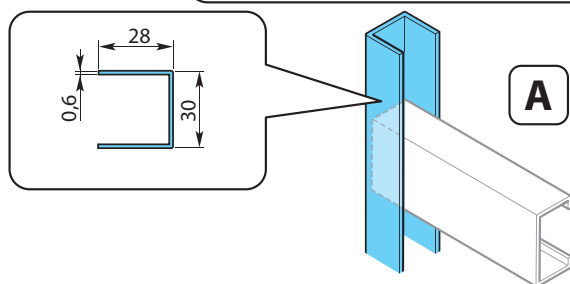


DOUBLE WALL
PARETE DOPPIA



* Variable dimension depending on the profile used.

* Quota variabile in base al profilo utilizzato.



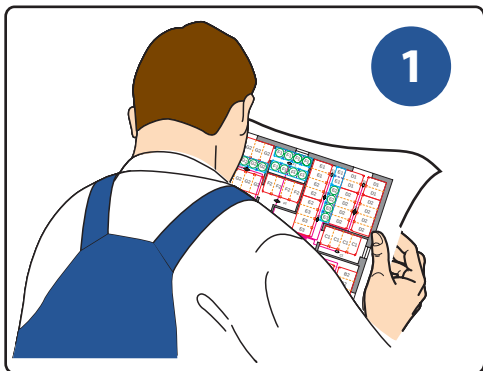
All sizes for profiles shall be considered as indicative and they are suitable for a standard installation; in any case you can use profiles with sizes different from the ones mentioned in this manual.

Tutte le quote dei profili sono da considerarsi puramente indicative e per un'installazione standard, è comunque possibile l'utilizzo di profili con misure diverse da quelle descritte

1a

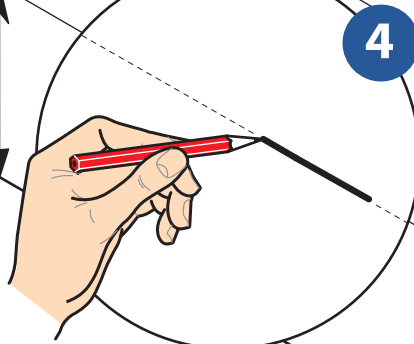
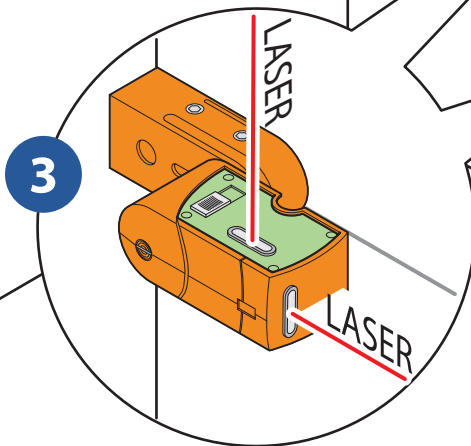
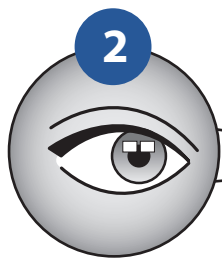
The measurements indicated in all phases are given in mm
Le misure indicate in tutte le fasi sono in mm

**SINGLE WALL
PARETE SINGOLA**



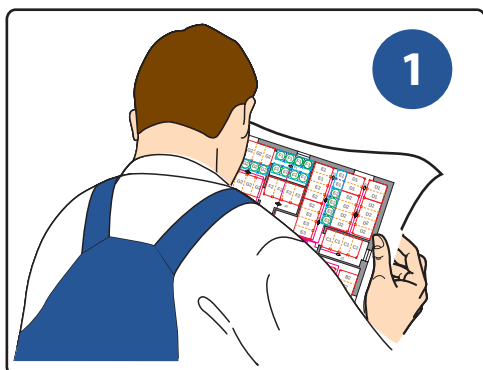
A = the height may vary according to the profiles manufacturer's instructions.

A= la quota può variare in base alle indicazioni del produttore dei profili.



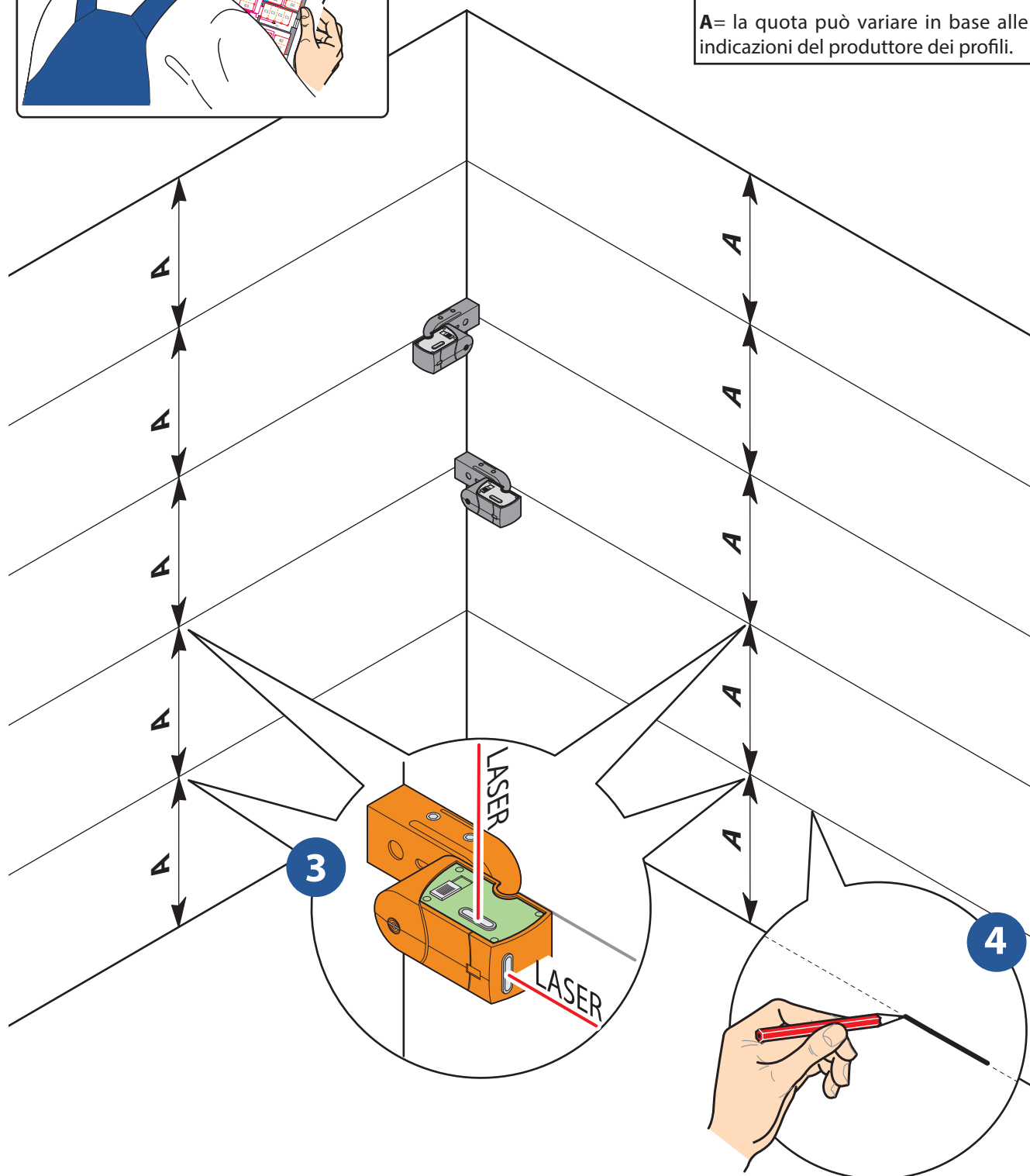
1b

DOUBLE WALL
PARETE DOPPIA



A= the height may vary according to the
profiles manufacturer's instructions.

A= la quota può variare in base alle
indicazioni del produttore dei profili.



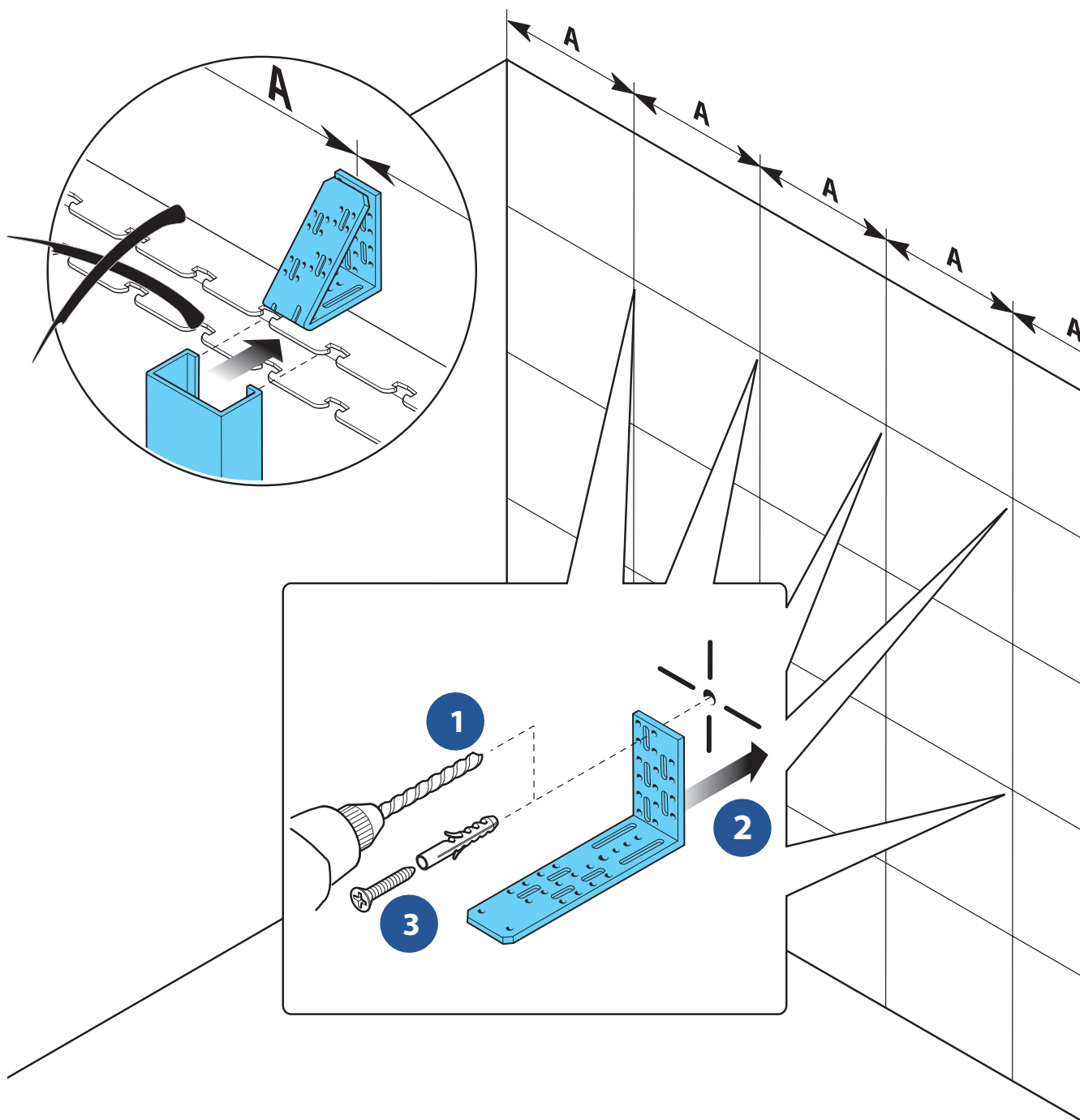
2

A = mounting distance indicated by the profile manufacturer.

Note: Height "A" must not interfere with the subsequent positioning of the 27x50 profiles.

A = distanza di fissaggio indicata dal produttore dei profili.

Nota bene: La quota "A" non deve interferire con il successivo posizionamento dei profili 27x50.

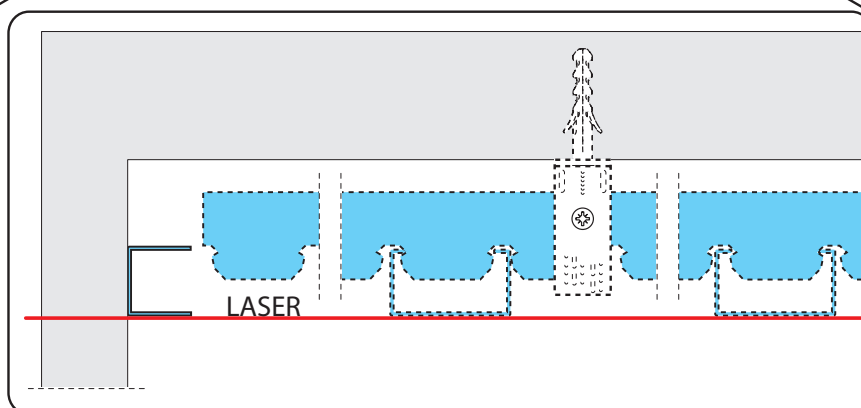
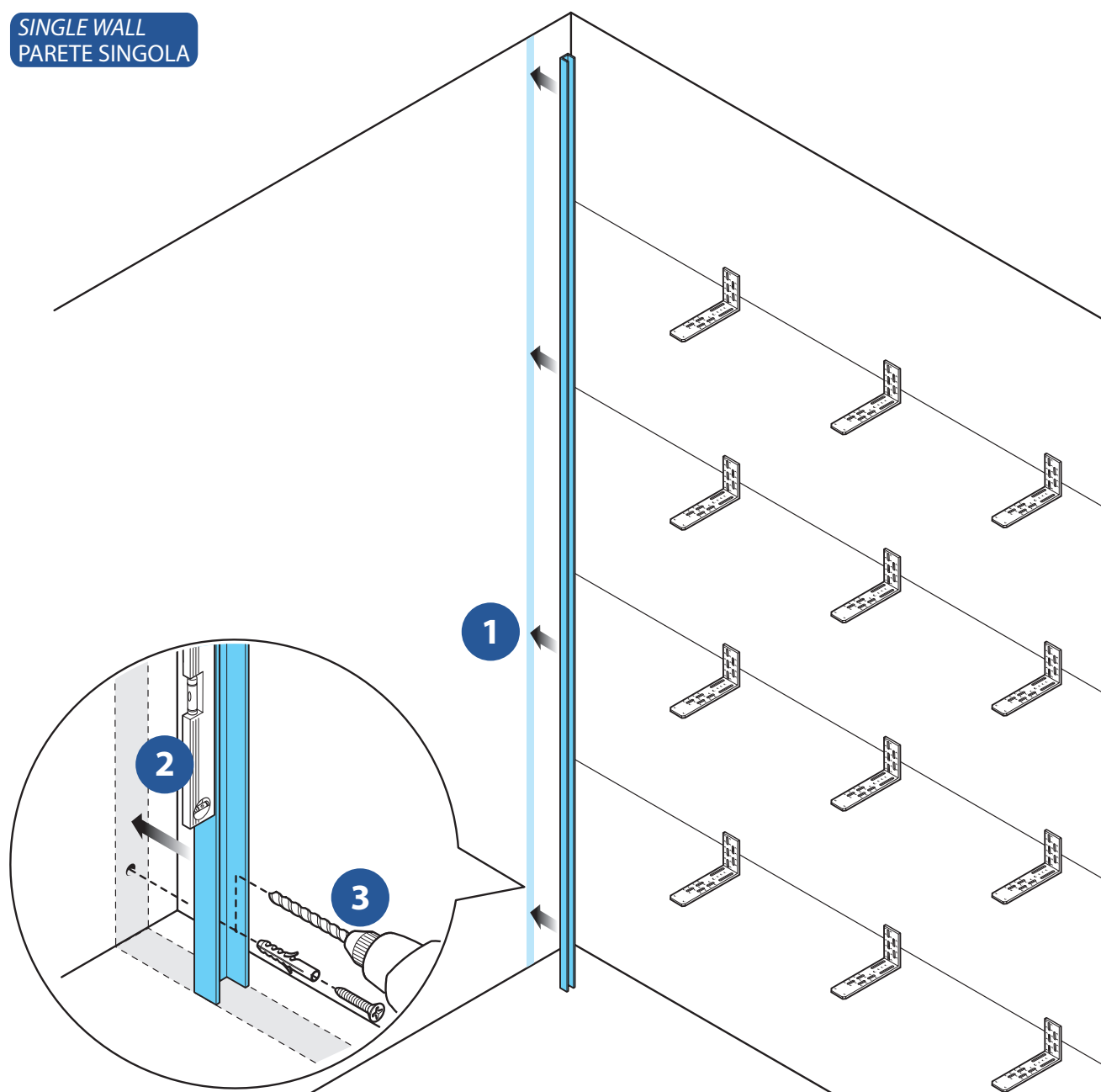




3

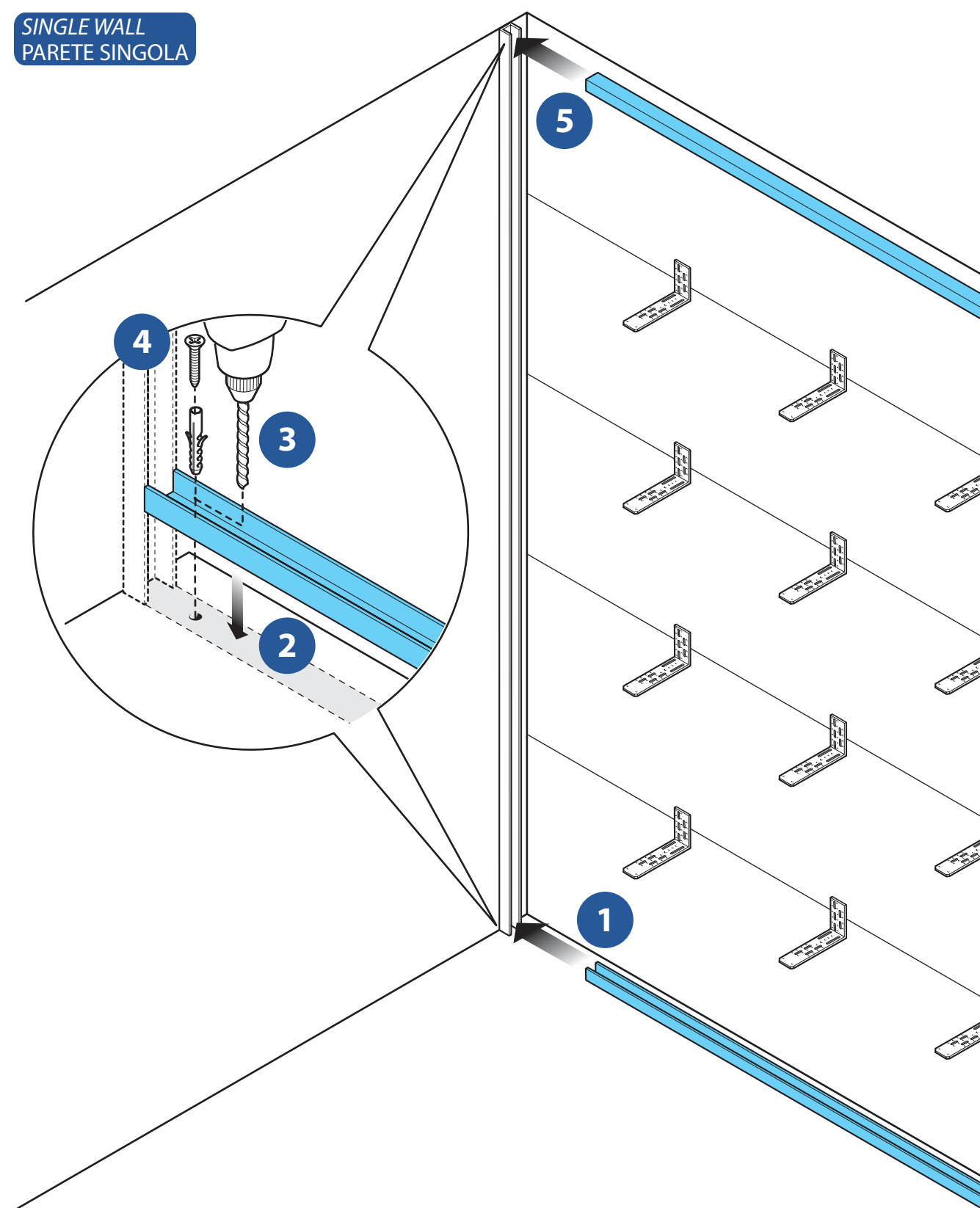
PERIMETER GUIDE INSTALLATION INSTALLAZIONE GUIDE PERIMETRALI

SINGLE WALL
PARETE SINGOLA



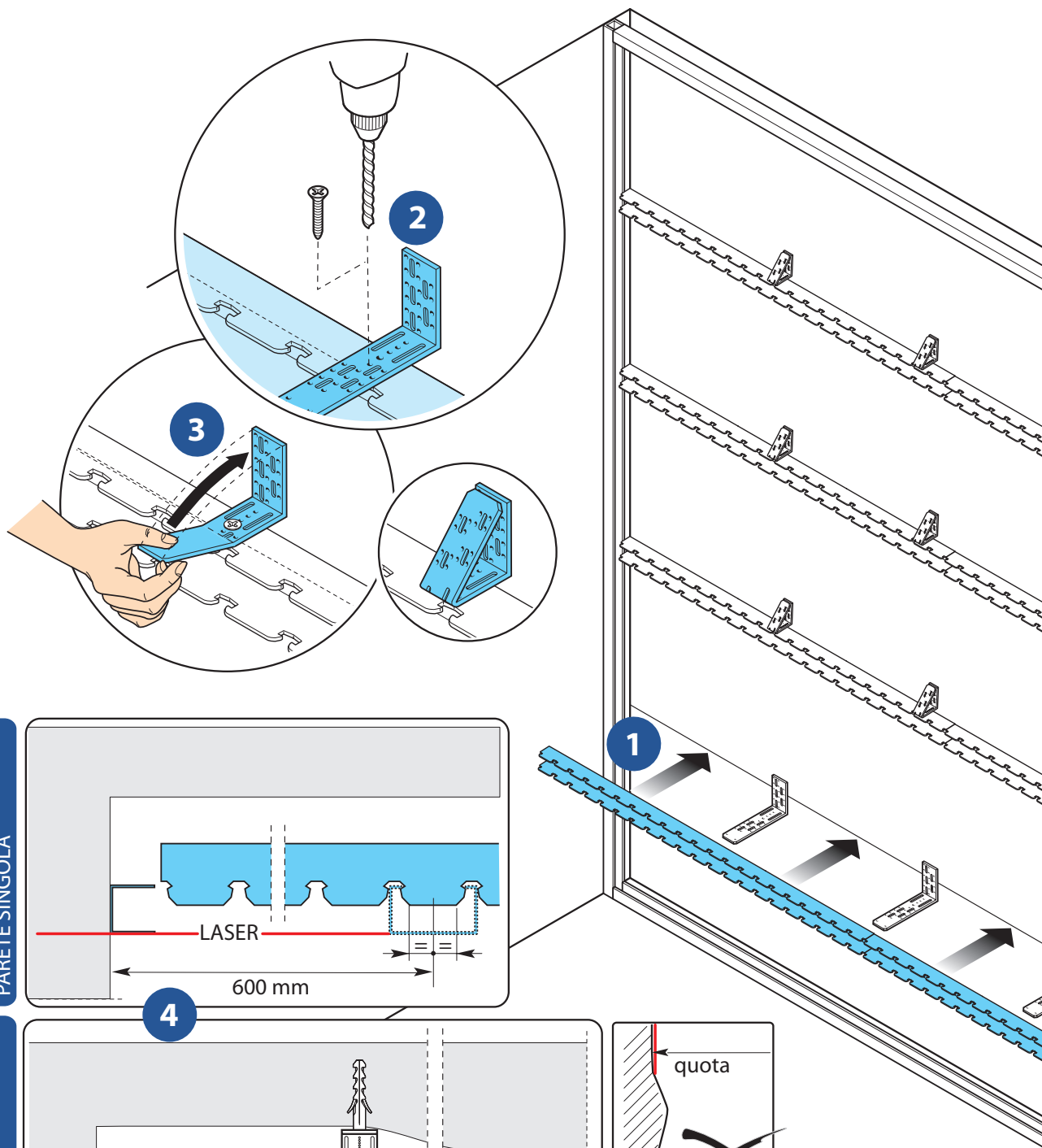
4

SINGLE WALL
PARETE SINGOLA

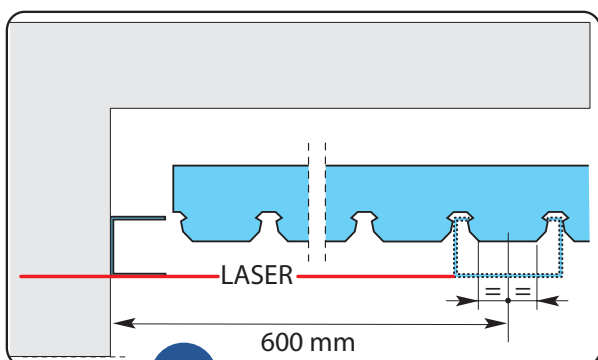


5

INSTALLATION OF SNAP PROFILE INSTALLAZIONE DEI PROFILI A SCATTO

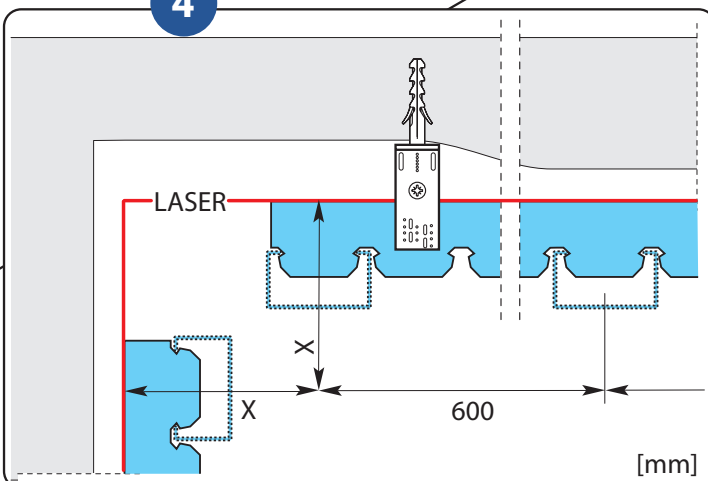


SINGLE WALL
 PARETE SINGOLA

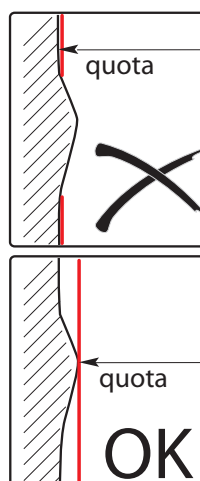


4

DOUBLE WALL
 PARETE DOPPIA



[mm]



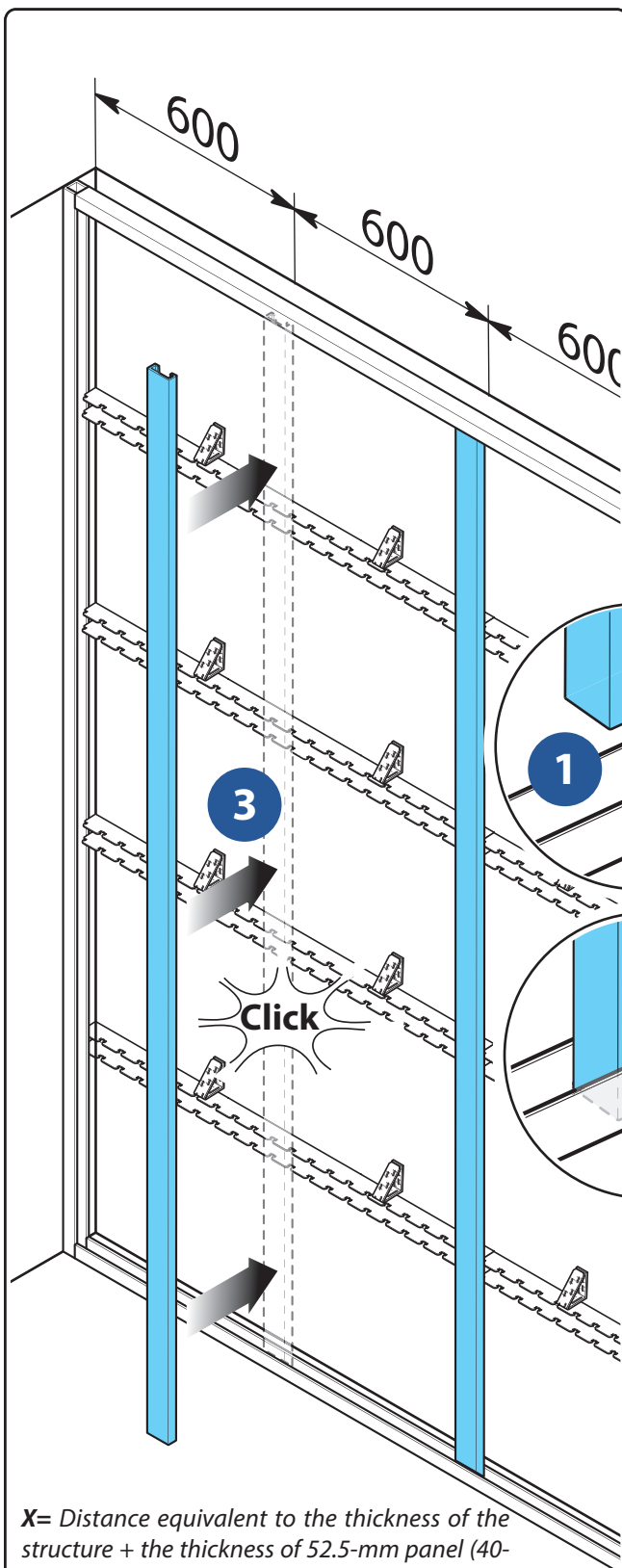
X= Distance equivalent to the thickness of the structure + the thickness of 52.5-mm panel (40-mm panel + 12.5-mm plasterboard).

X= Distanza equivalente allo spessore della struttura + lo spessore del pannello 52.5mm (40 mm pannello + 12.5 mm lastra cartongesso).

6

C-PROFILE INSTALLATION INSTALLAZIONE DEI PROFILI A "C"

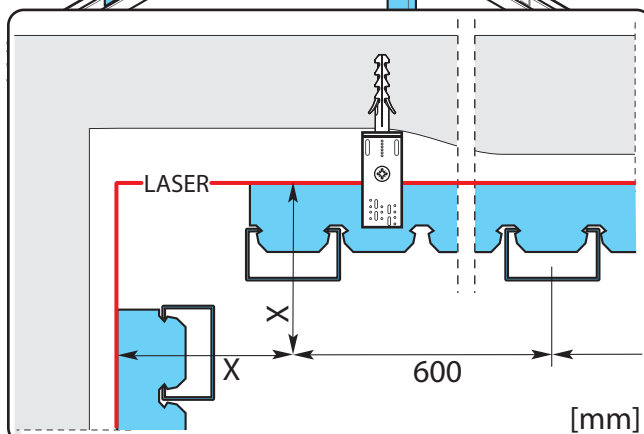
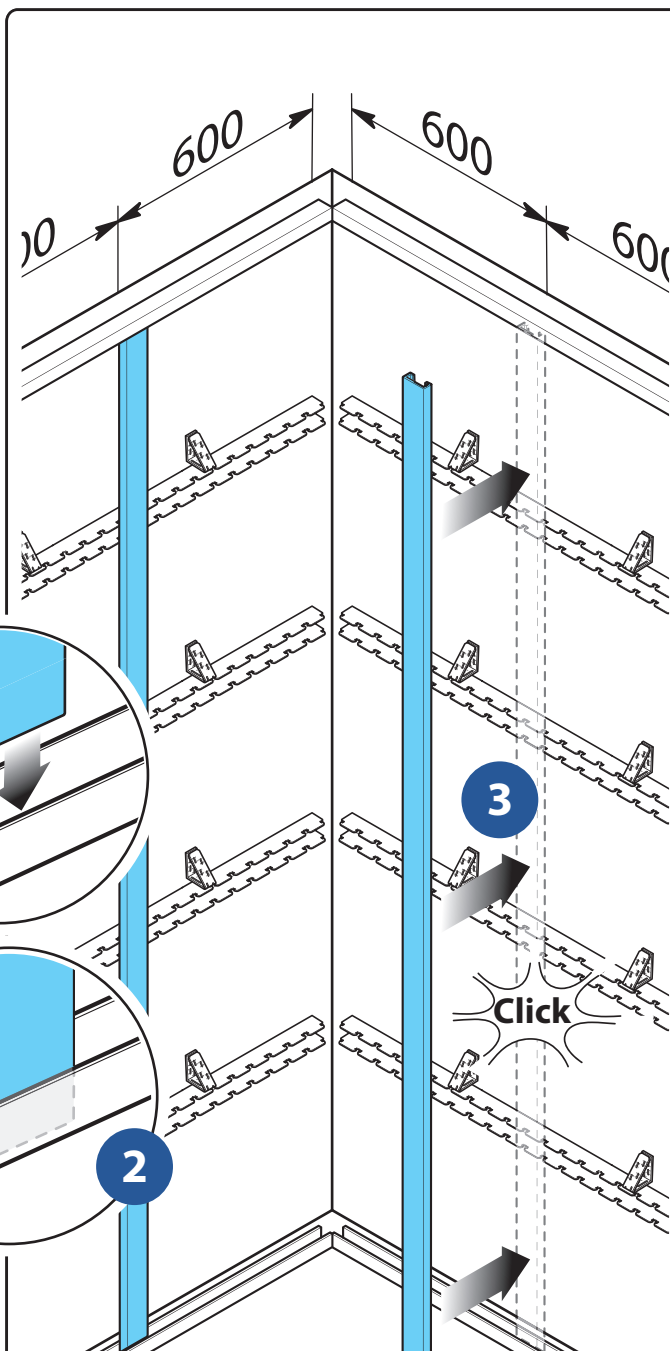
SINGLE WALL - PARETE SINGOLA



X= Distance equivalent to the thickness of the structure + the thickness of 52.5-mm panel (40-mm panel + 12.5-mm plasterboard).

X= Distanza equivalente allo spessore della struttura + lo spessore del pannello 52.5mm (40 mm pannello + 12.5 mm lastra cartongesso).

DOUBLE WALL - PARETE DOPPIA





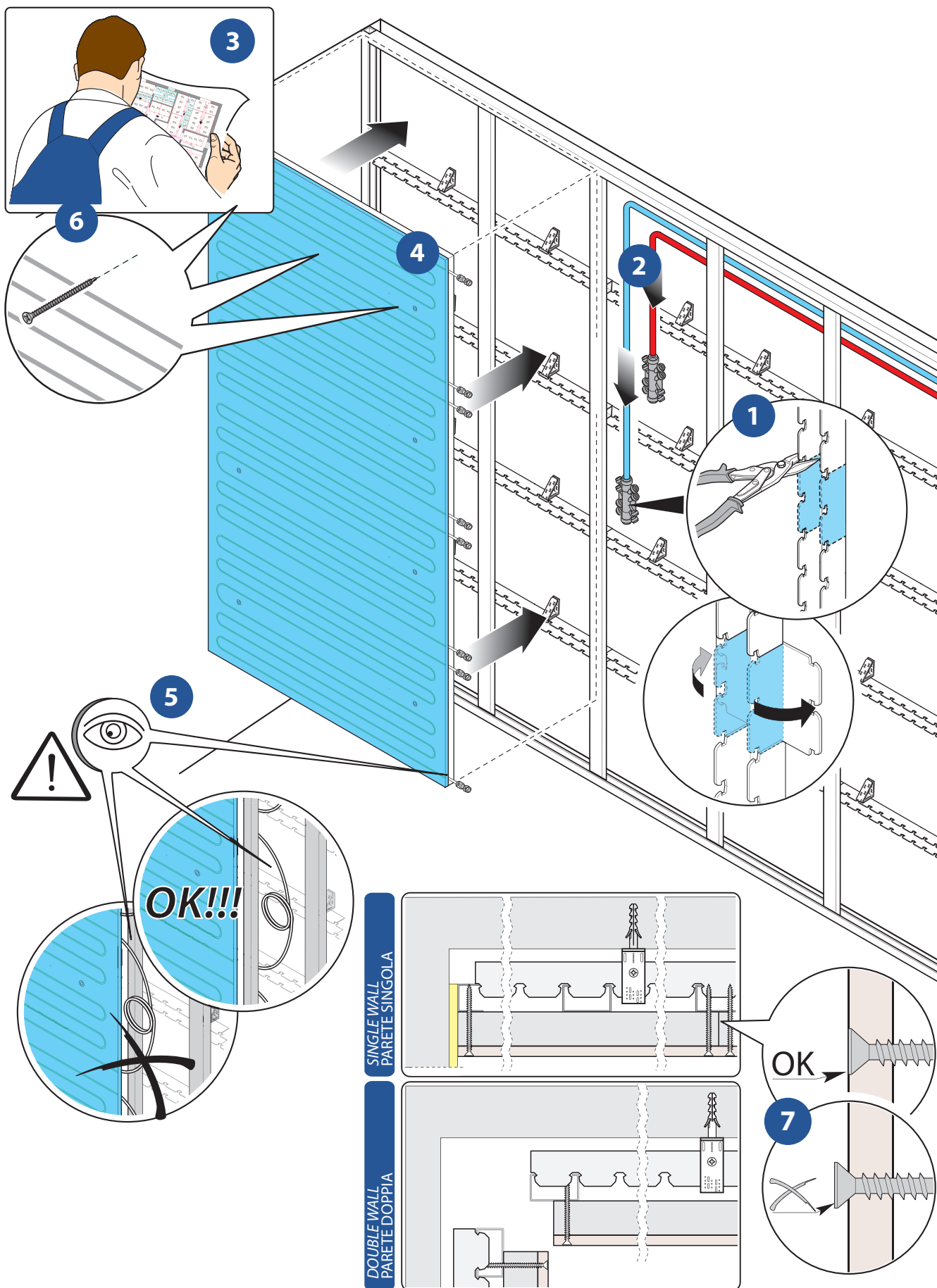
7a

B!KLIMAX+ PANEL AND MAIN PIPE LINE INSTALLATION

INSTALLAZIONE PANNELLI B!KLIMAX+ E STESURA LINEE PRINCIPALI

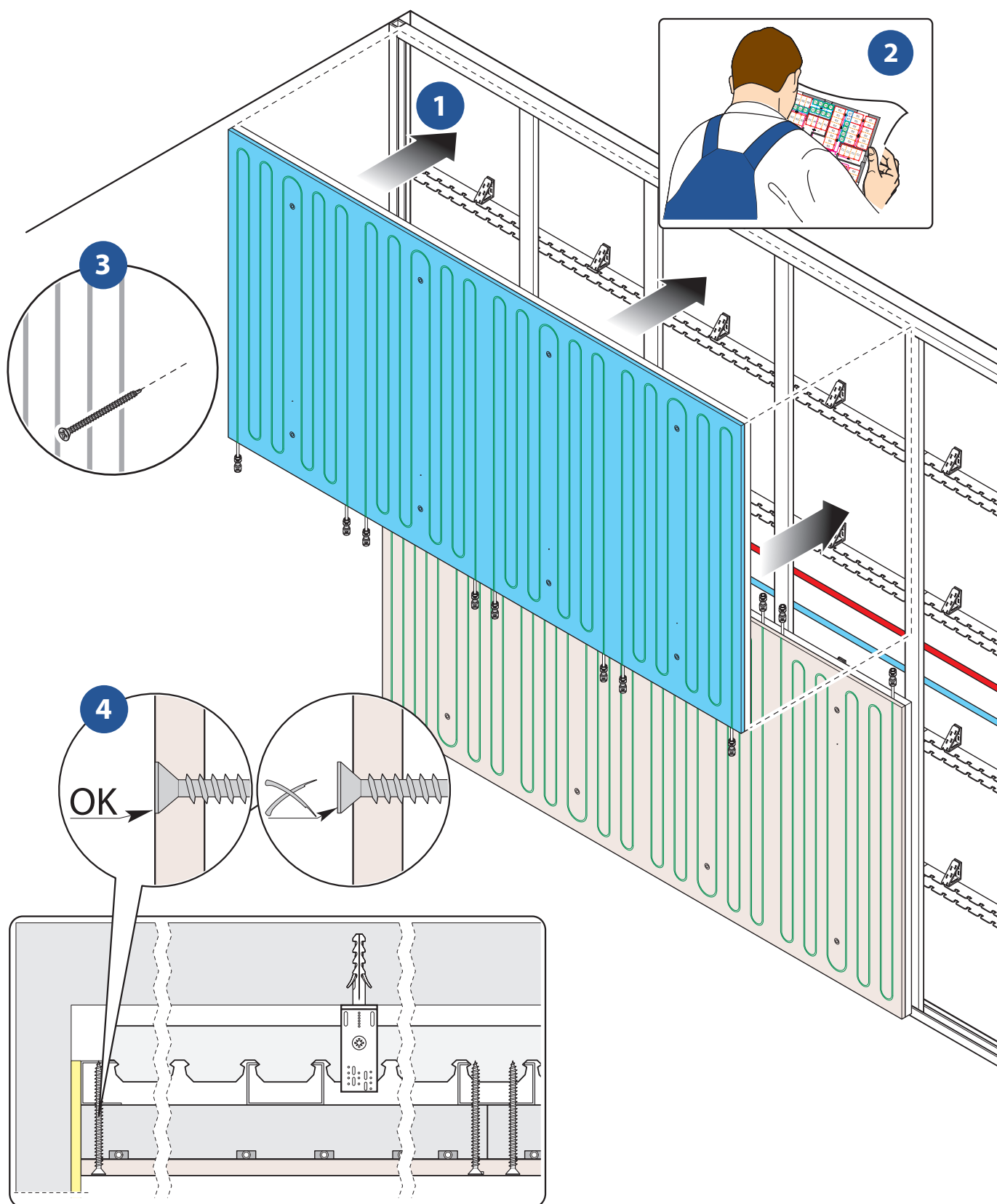


7b



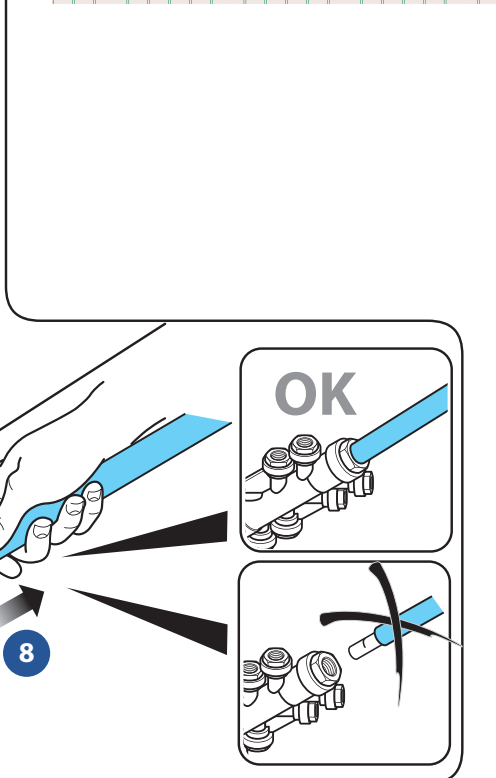
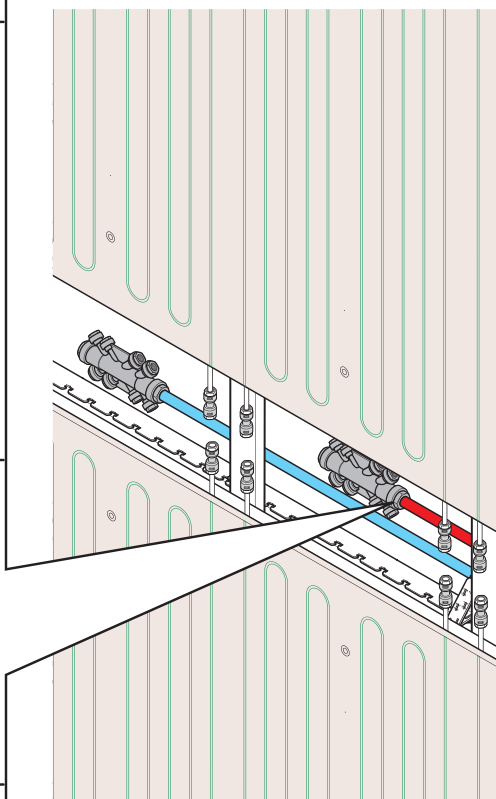
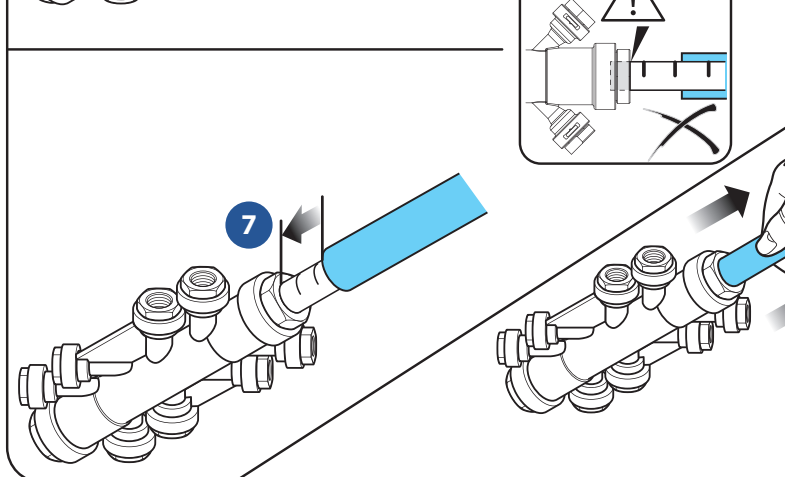
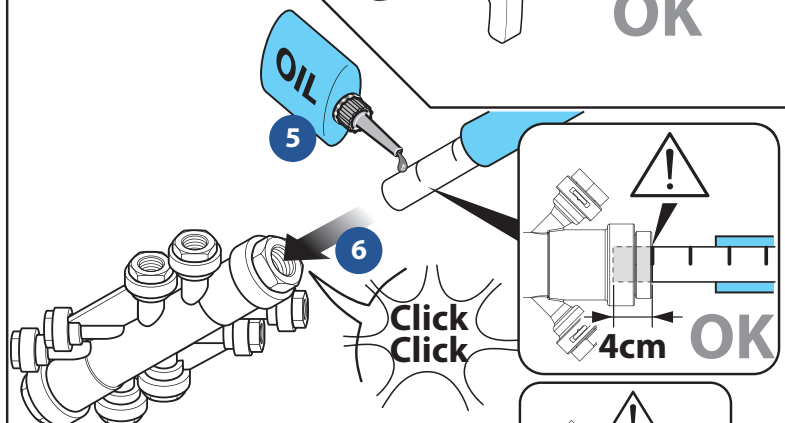
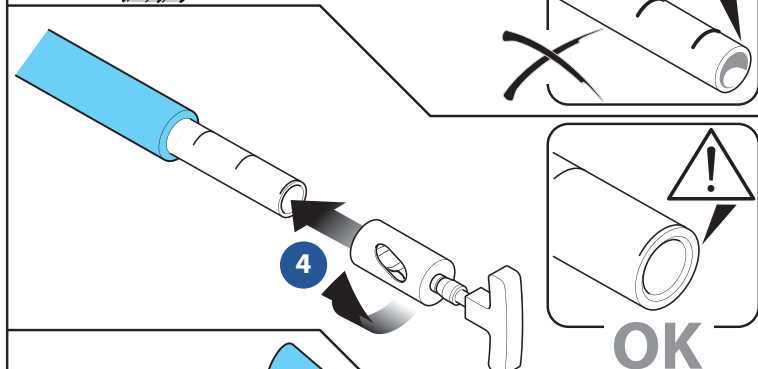
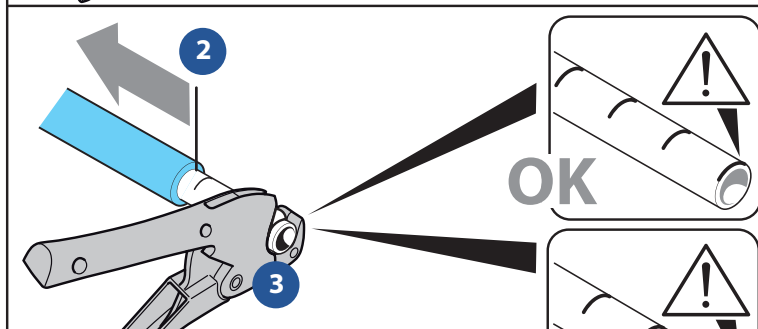
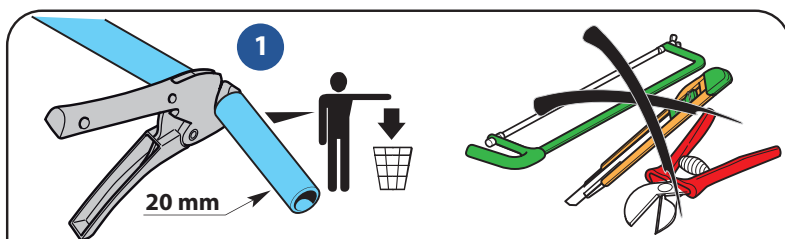


8



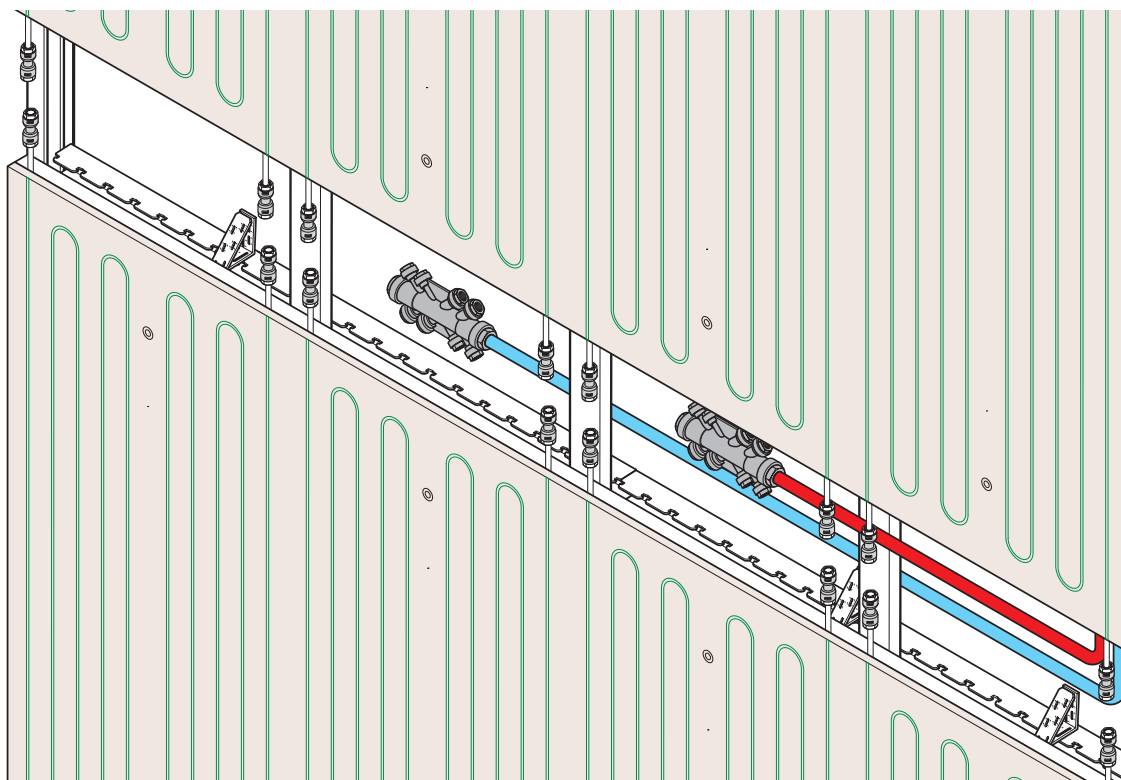
1

CONNECTION BETWEEN MAIN PIPES AND DISTRIBUTORS COLLEGAMENTI LINEE PRINCIPALI-DISTRIBUTORI

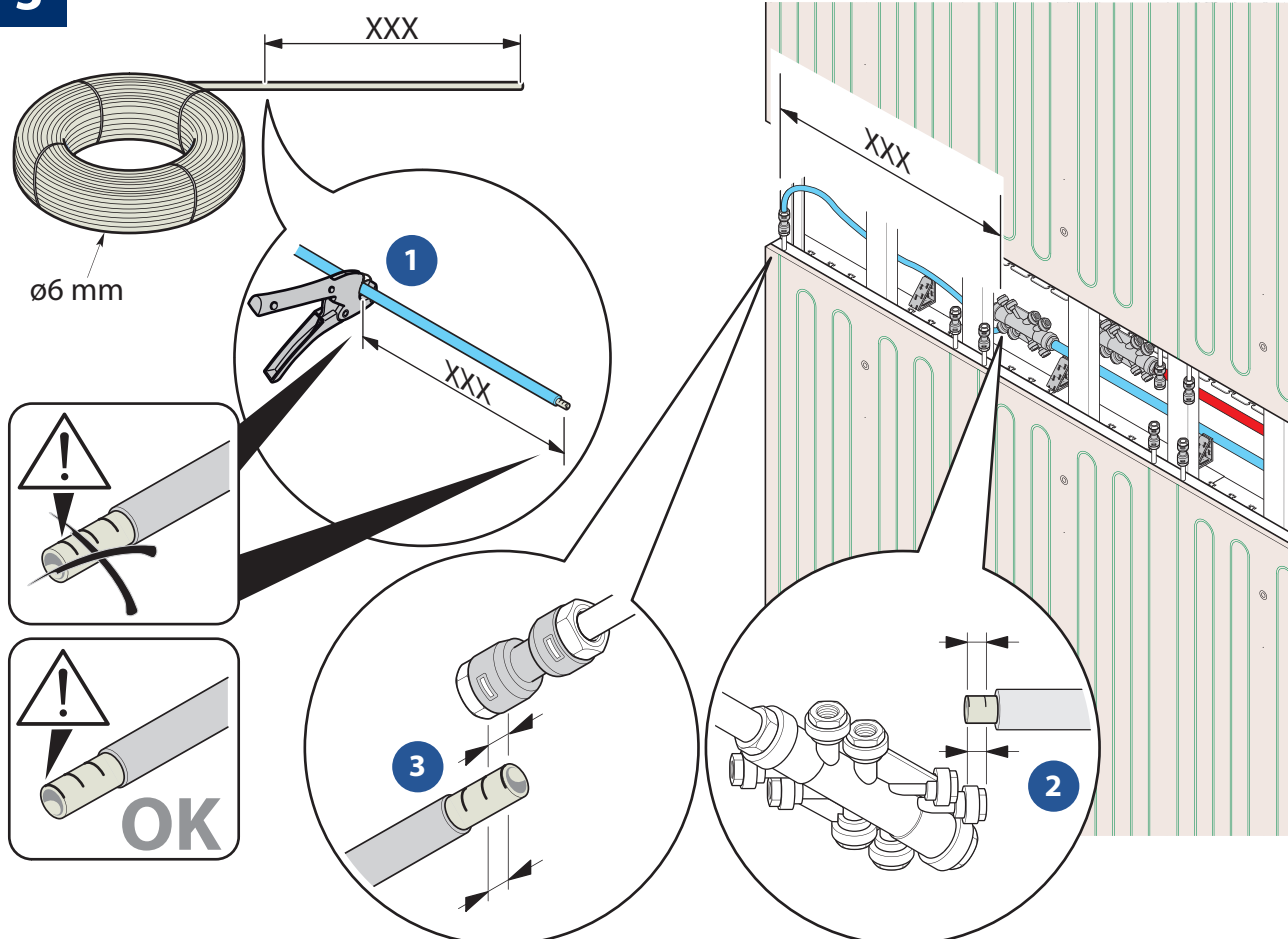


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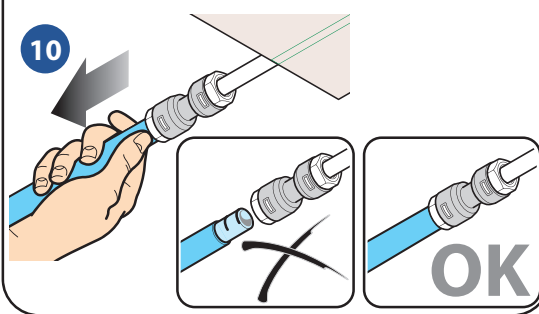
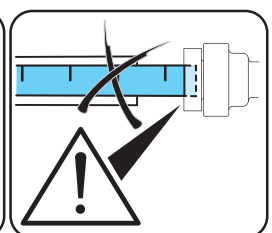
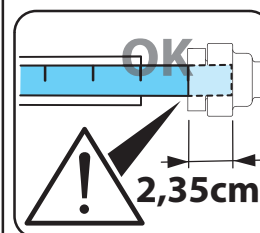
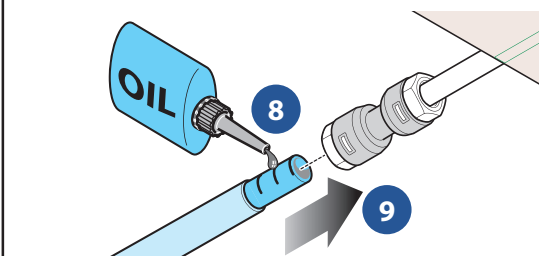
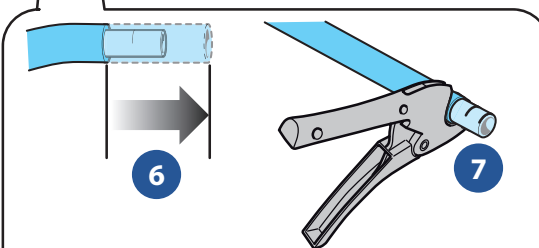
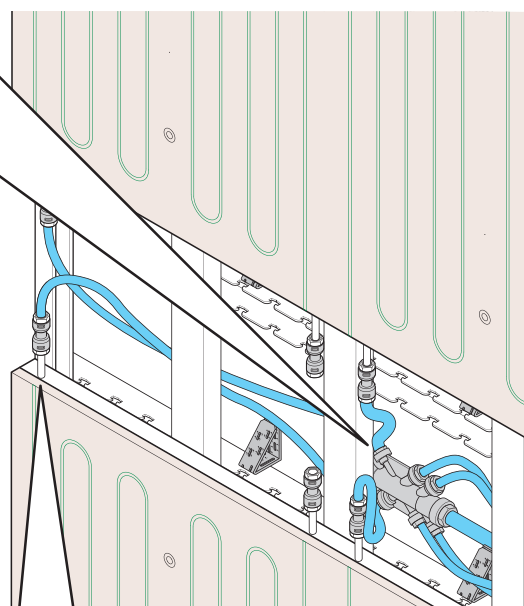
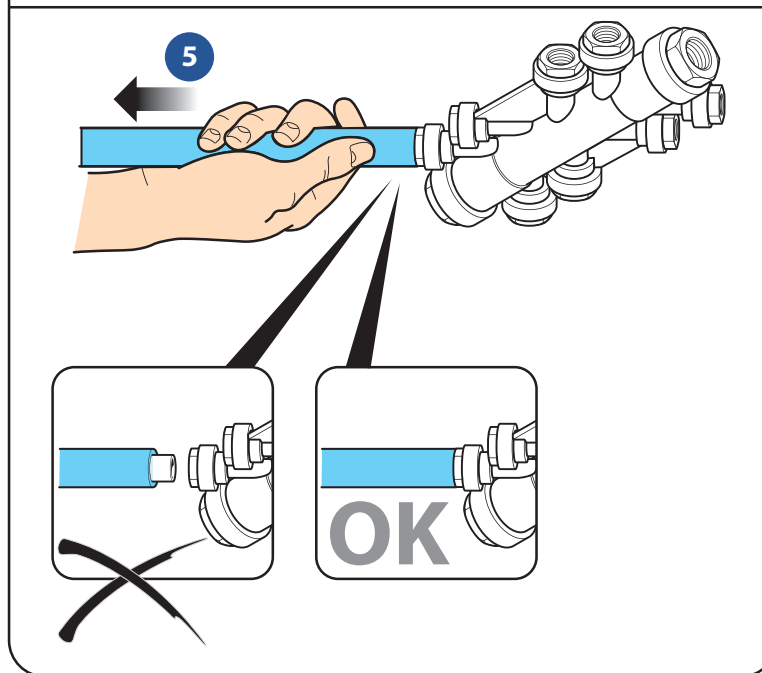
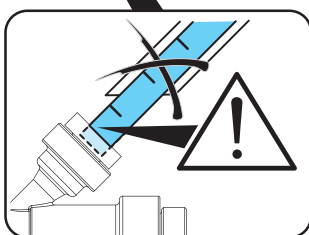
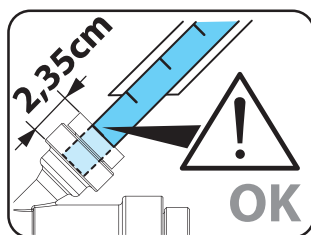
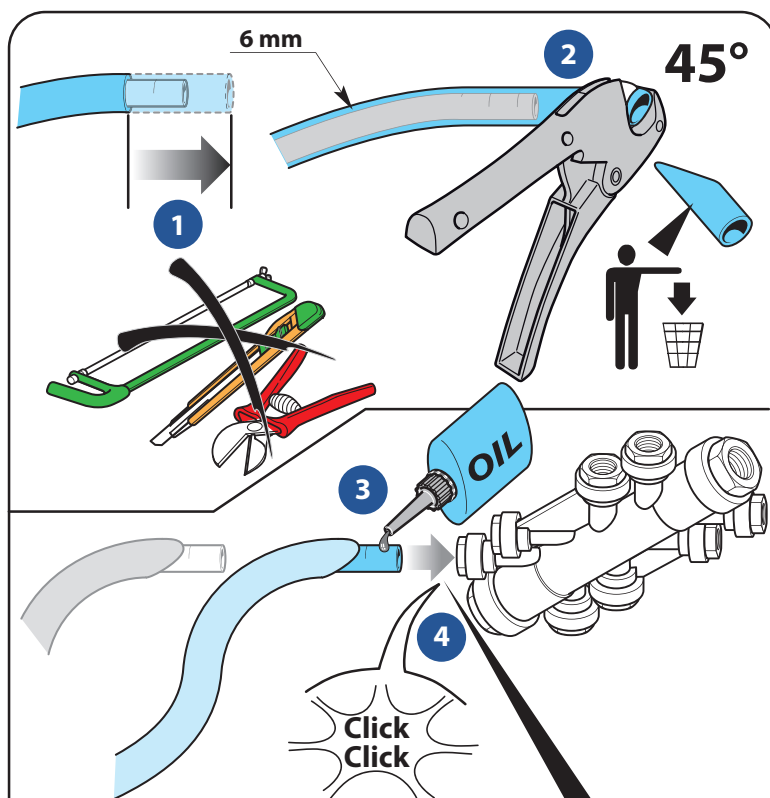
CONNECTION BETWEEN PANELS AND DISTRIBUTORS COLLEGAMENTI PANNELLI-DISTRIBUTORI



3

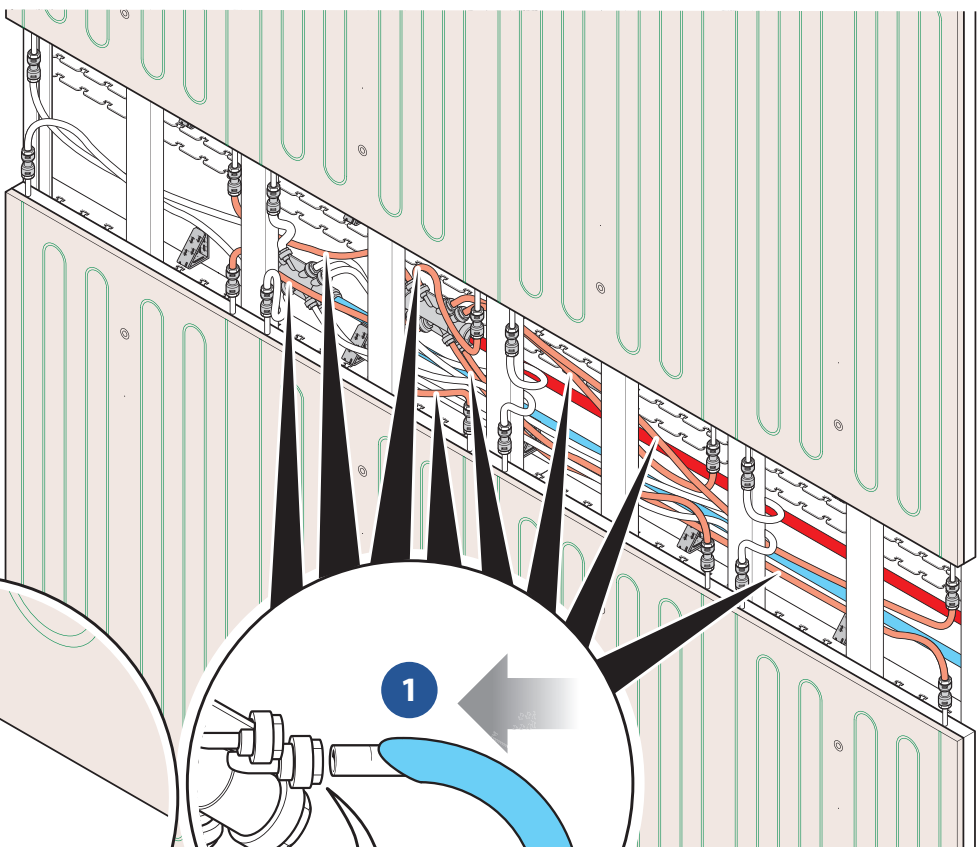
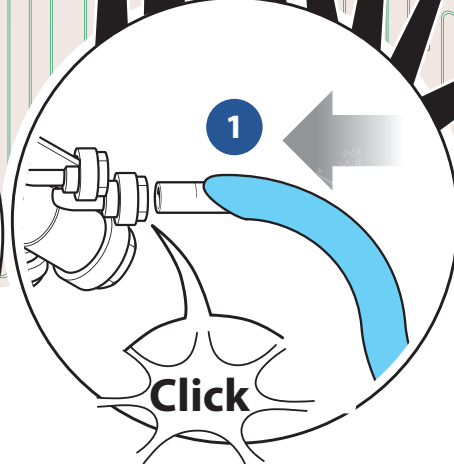
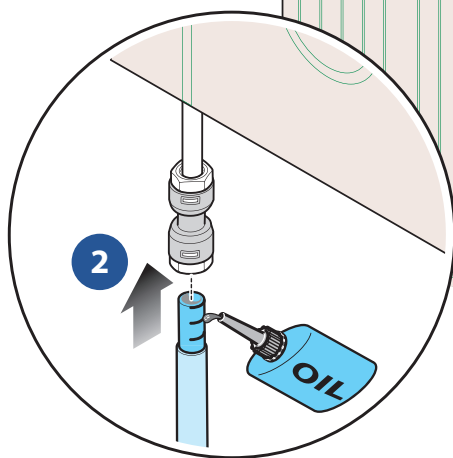
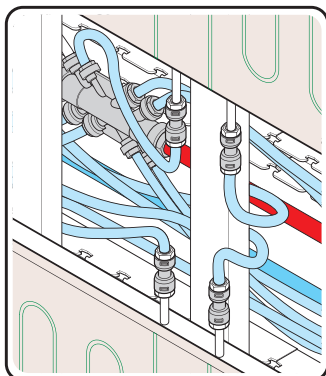


4





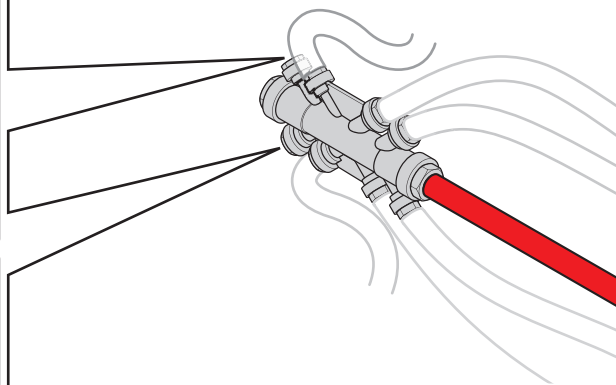
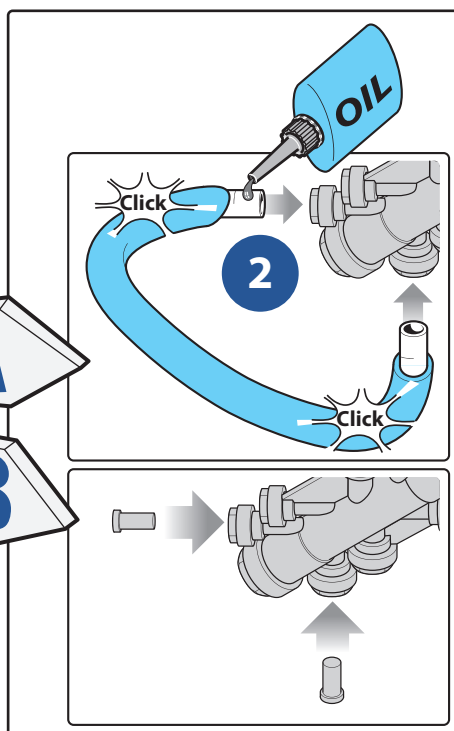
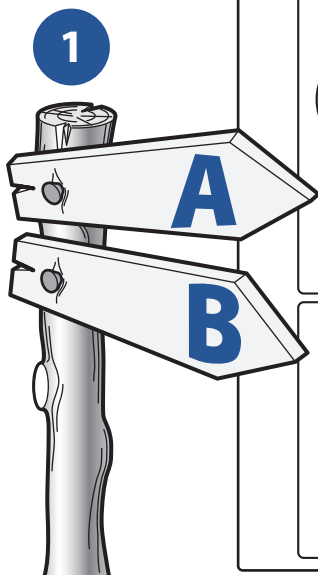
5



6

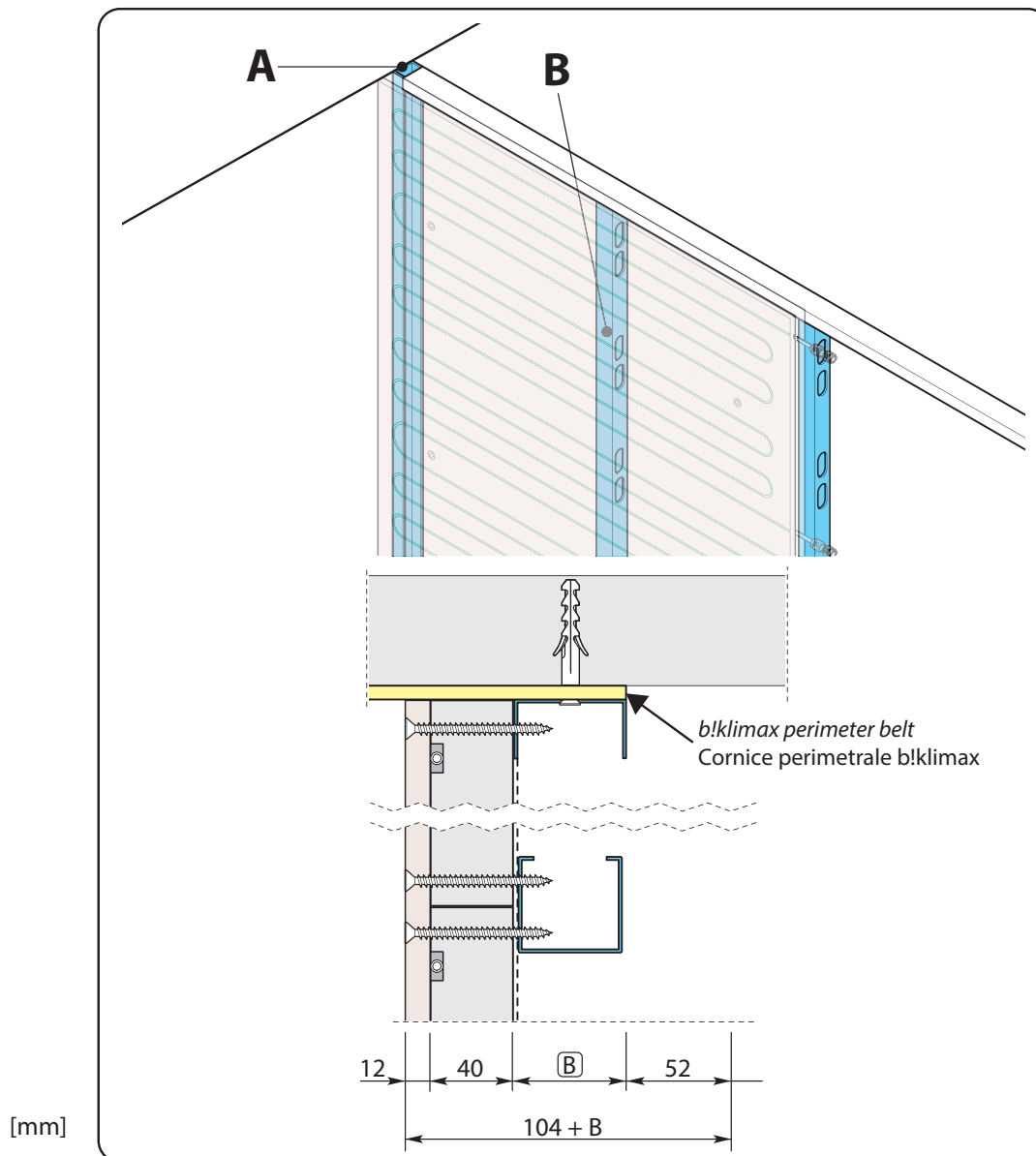
CLOSE UNUSED OUTLETS

TAPPARE EVENTUALI USCITE NON UTILIZZATE

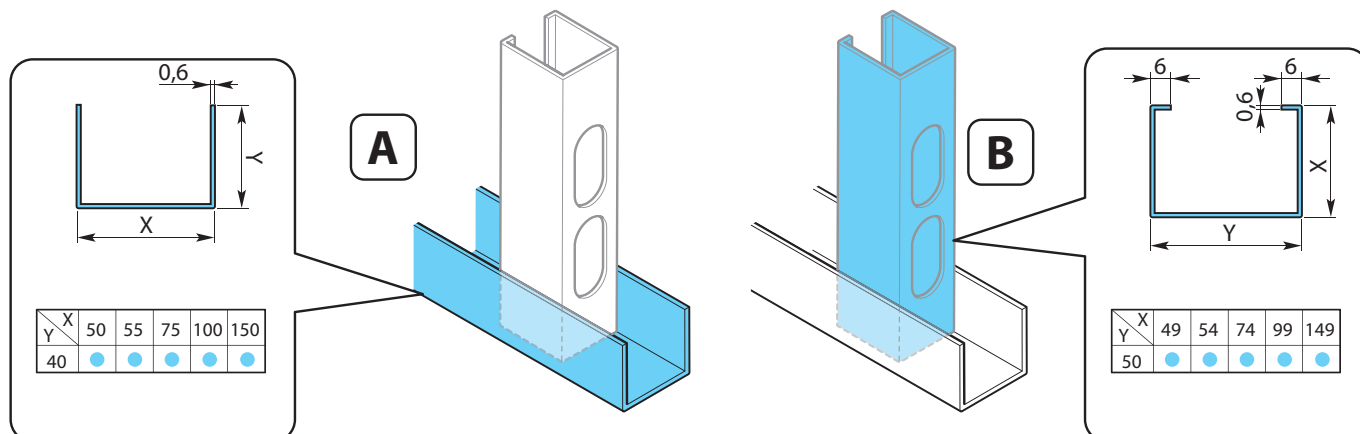


Partition wall- components used
Parete divisoria - componenti utilizzati

PARTITION WALL
PARETE DIVISORIA



[mm]



Measurements and types of profiles shown are purely by way of example.
Le misure e le tipologie dei profili rappresentati hanno valore puramente indicativo.



1

2

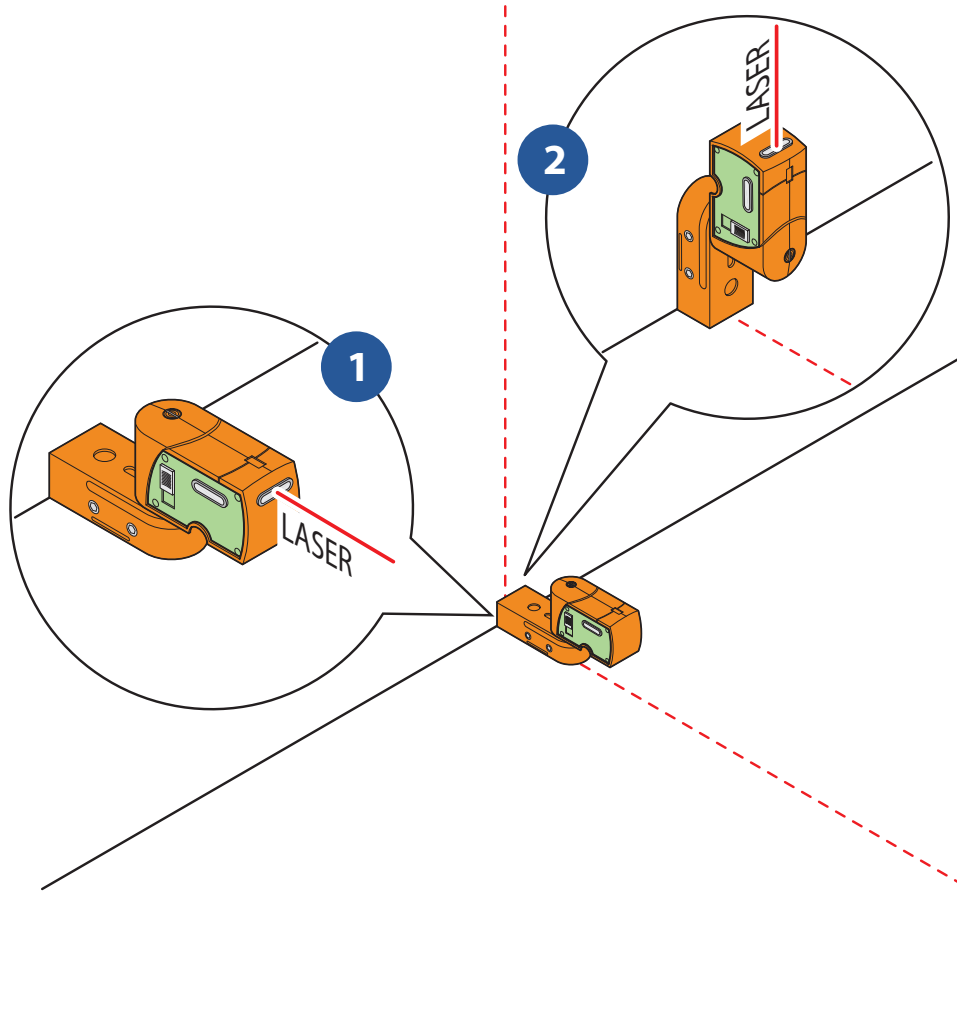
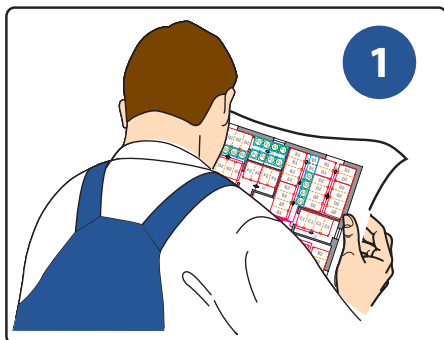
.....

12

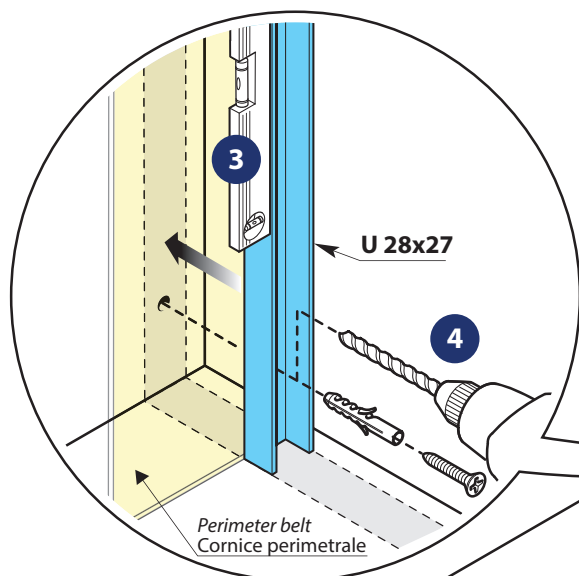
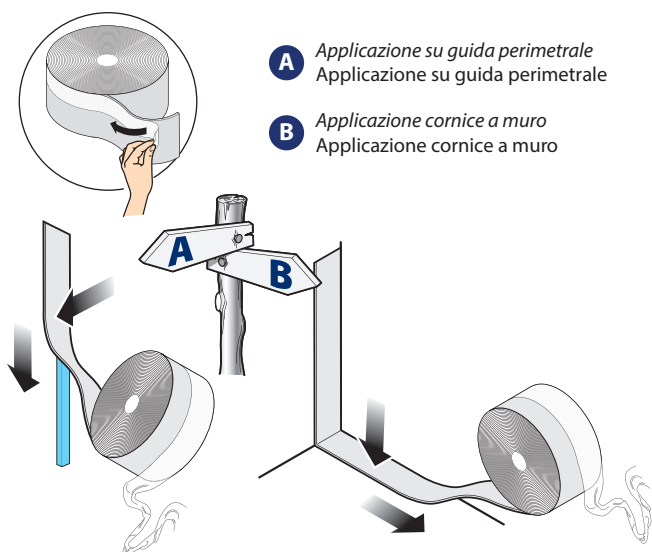
*Progressive sequence of installation steps**Sequenza progressiva delle fasi di installazione*

1

PERIMETER GUIDE INSTALLATION INSTALLAZIONE GUIDE PERIMETRALI

*The measurements indicated in all phases are given in mm**Le misure indicate in tutte le fasi sono in mm*

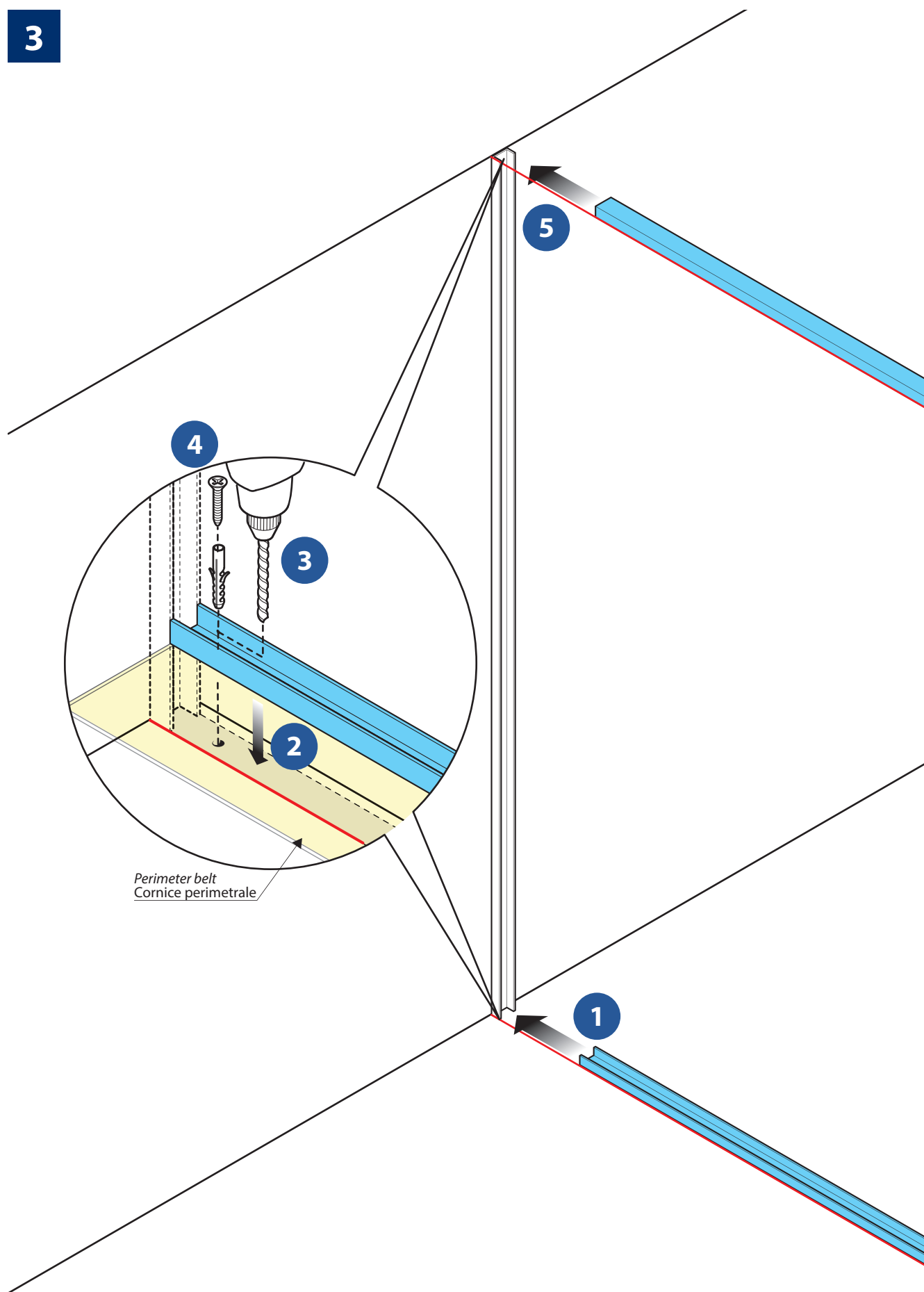
1 B!KLIMAX PERIMETER BELT INSTALLATION
INSTALLAZIONE CORNICE PERIMETRALE B!KLIMAX



2

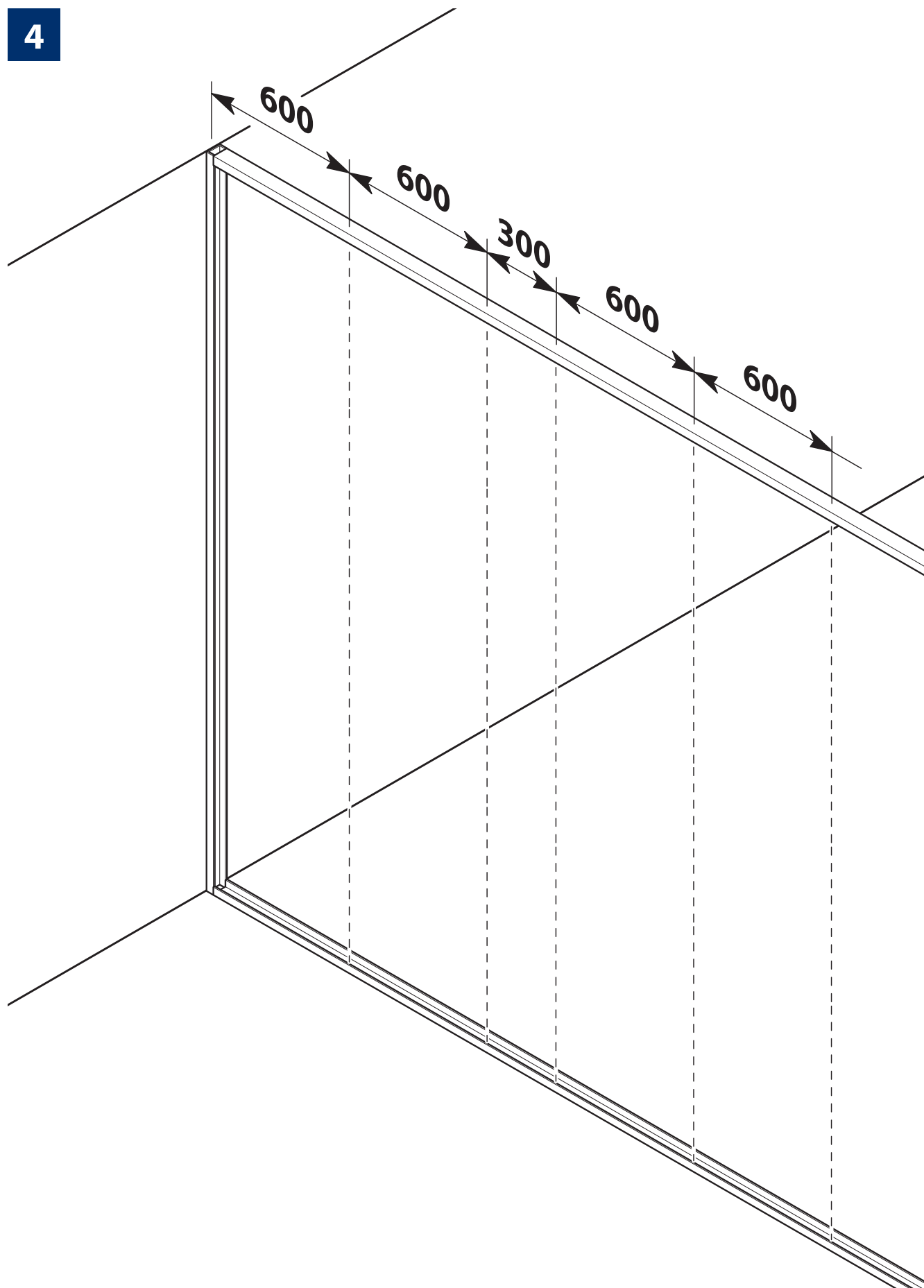


3





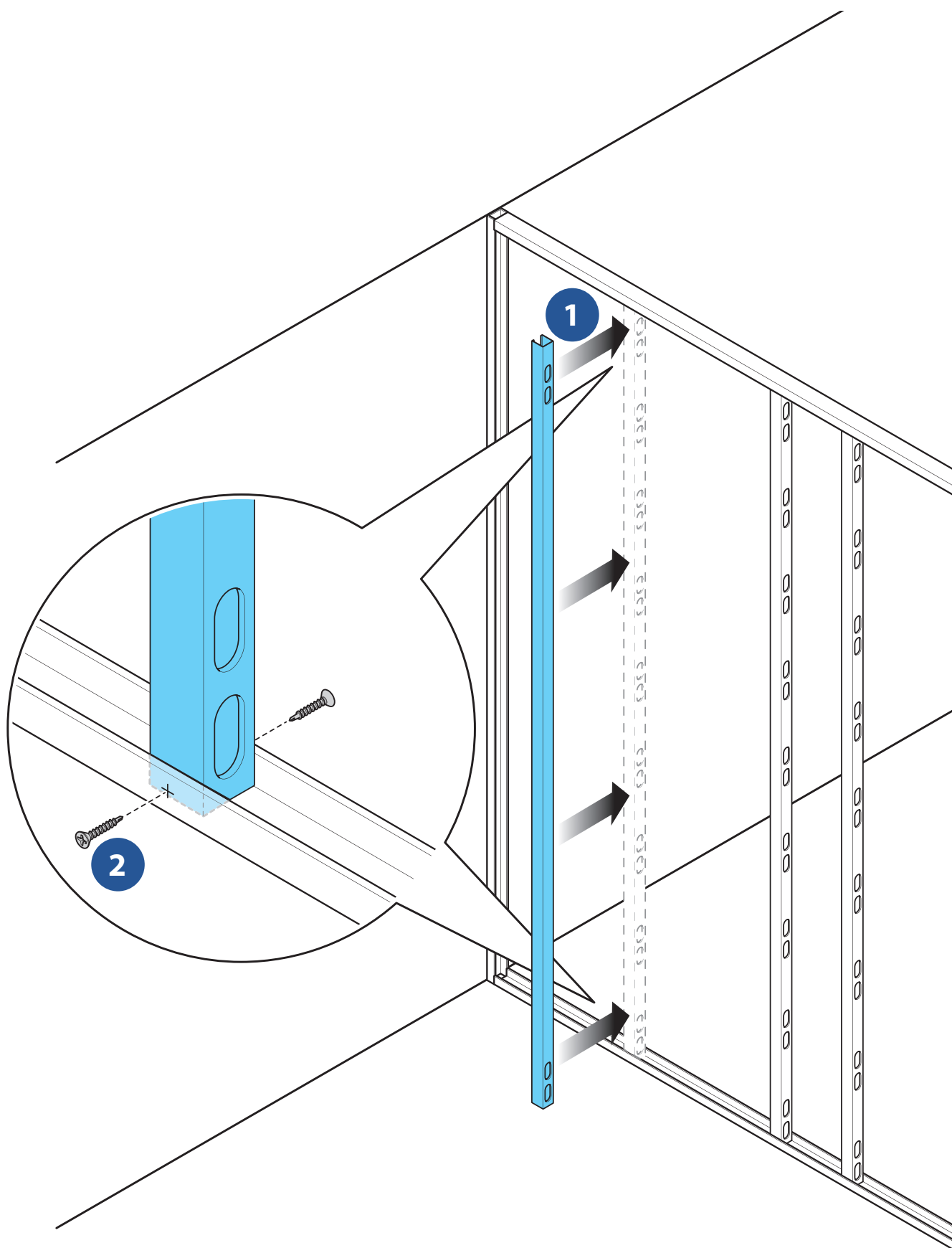
4





5

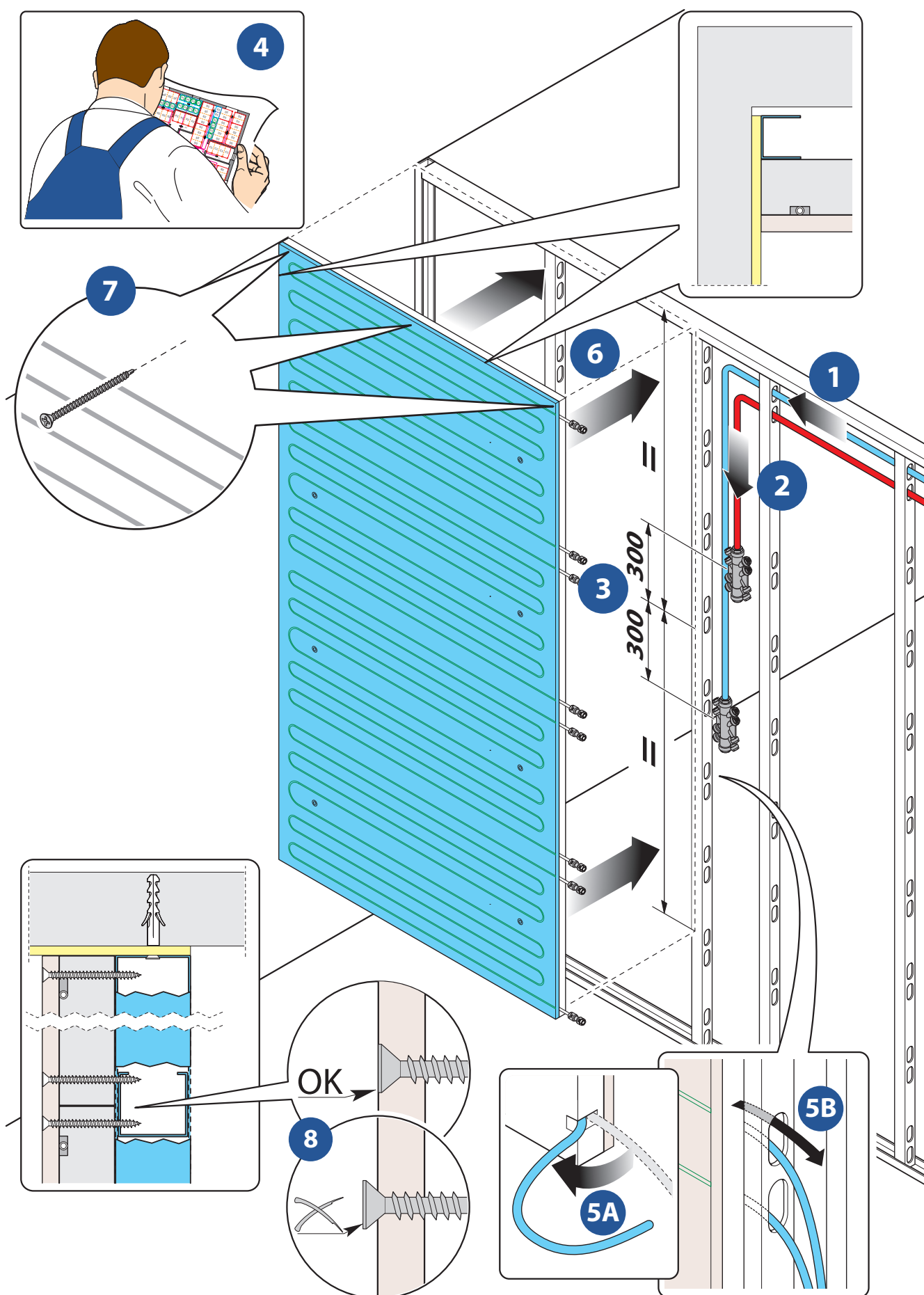
C-PROFILE INSTALLATION INSTALLAZIONE PROFILI A "C"



6a

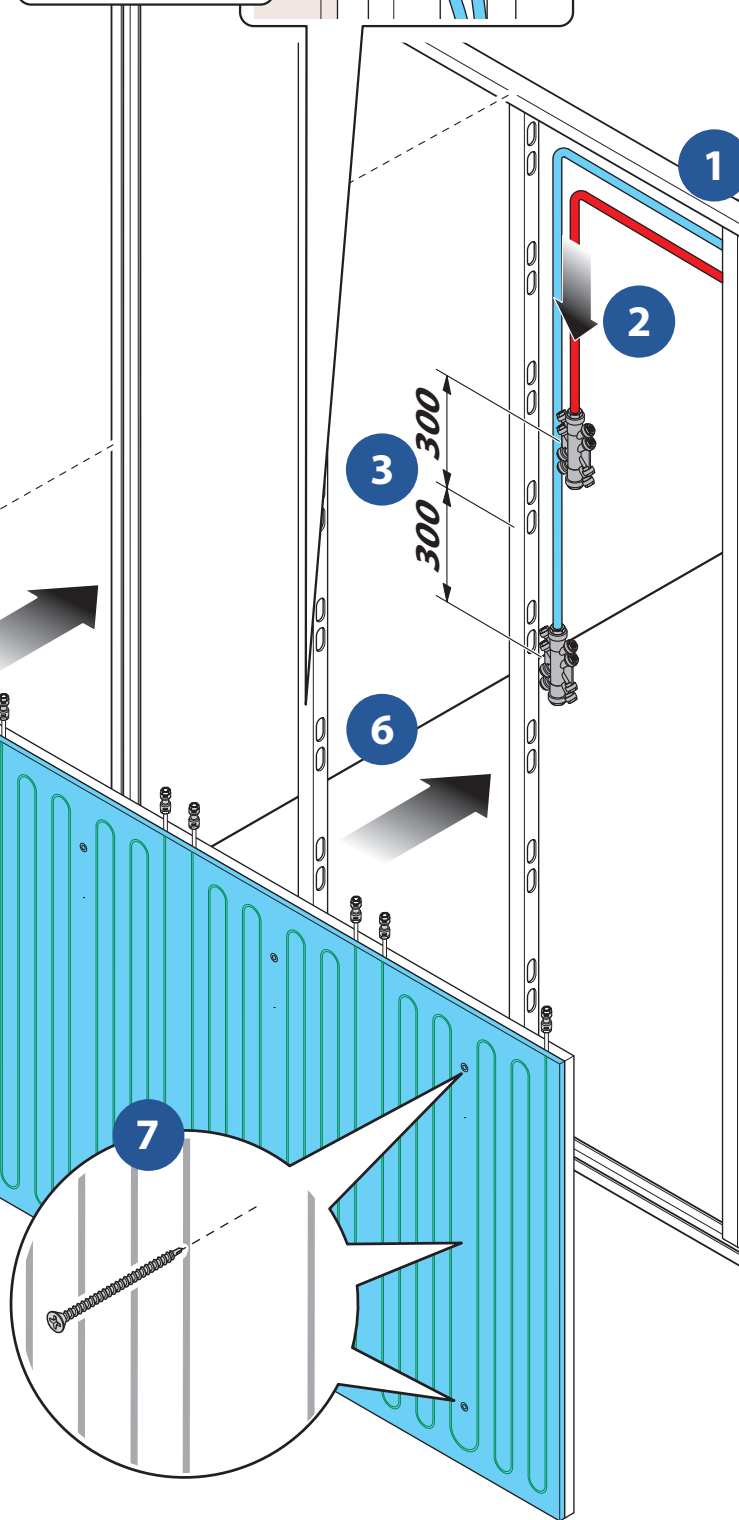
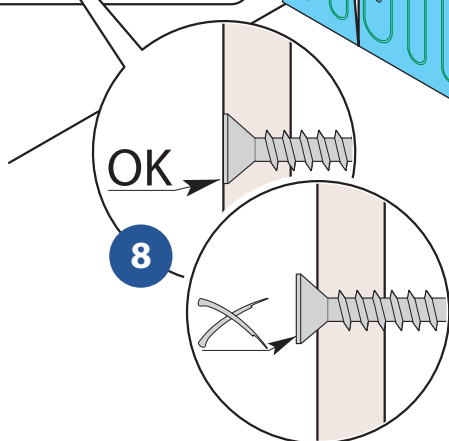
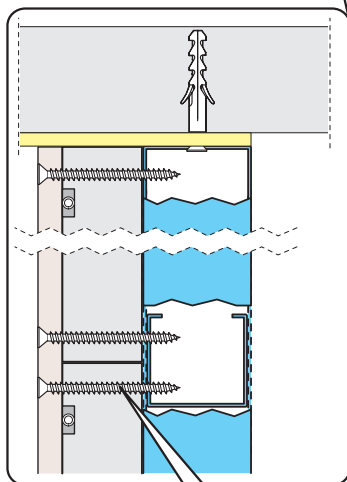
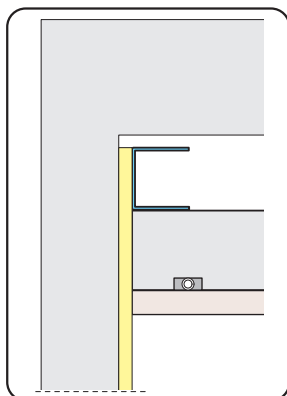
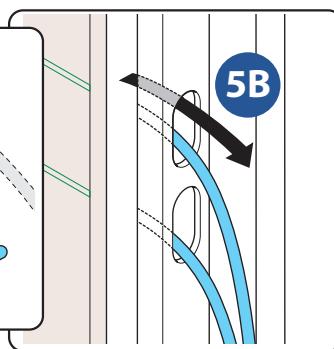
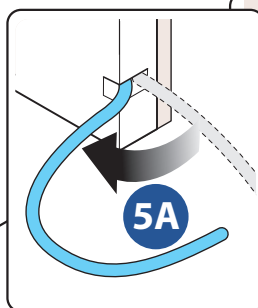
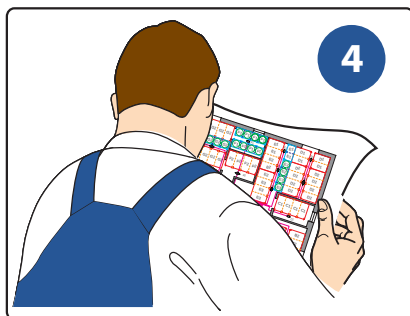
B!KLIMAX+ PANEL AND MAIN PIPE LINE INSTALLATION

INSTALLAZIONE PANNELLI B!KLIMAX+ E STESURA LINEE PRINCIPALI

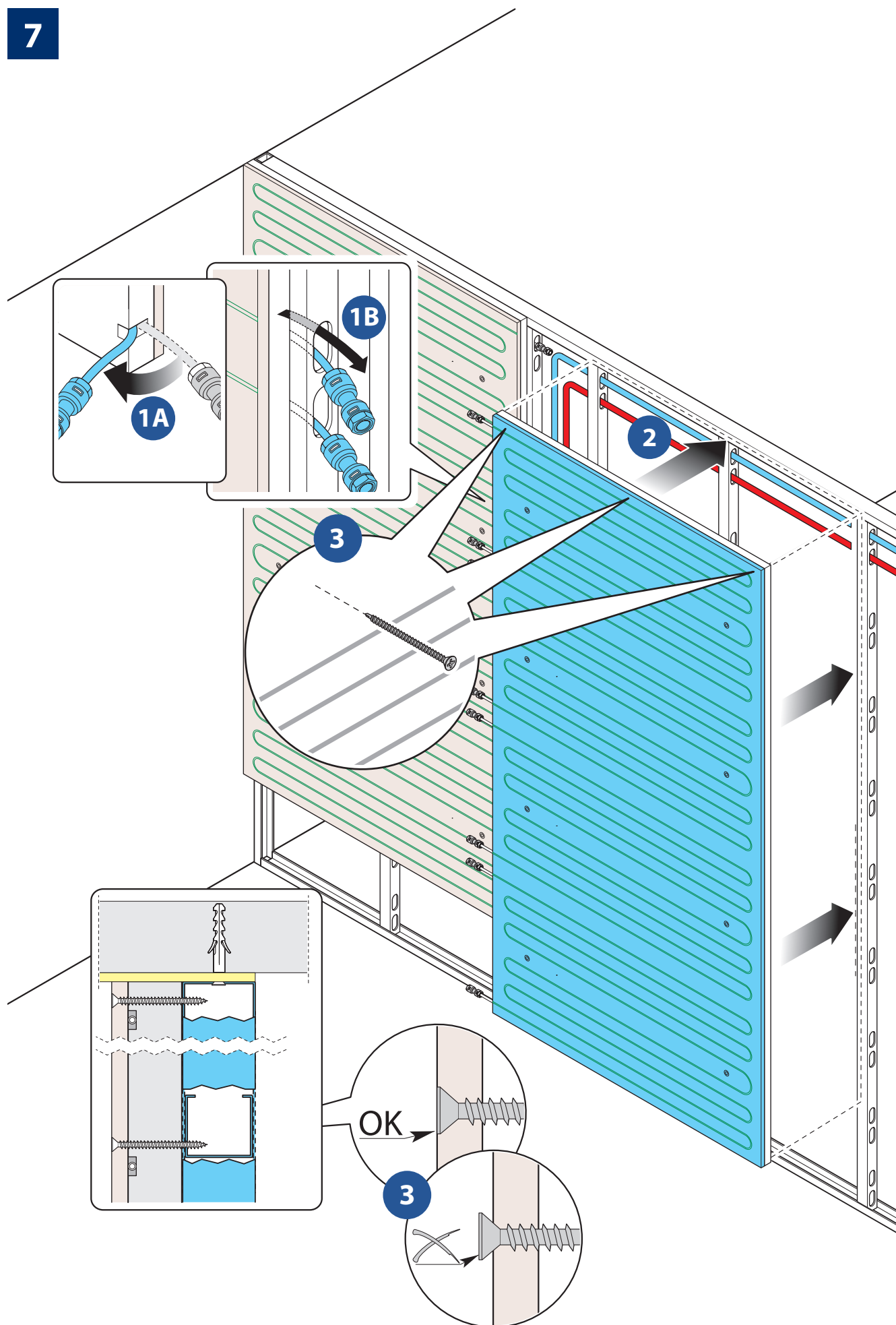




6b

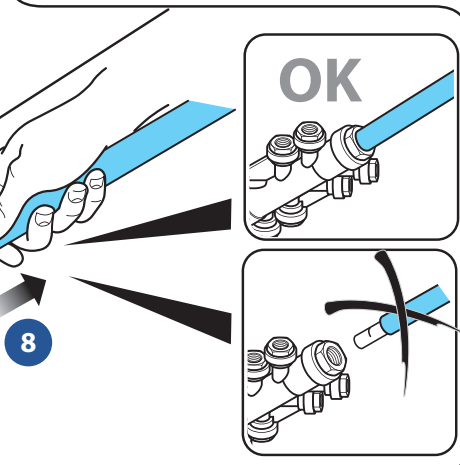
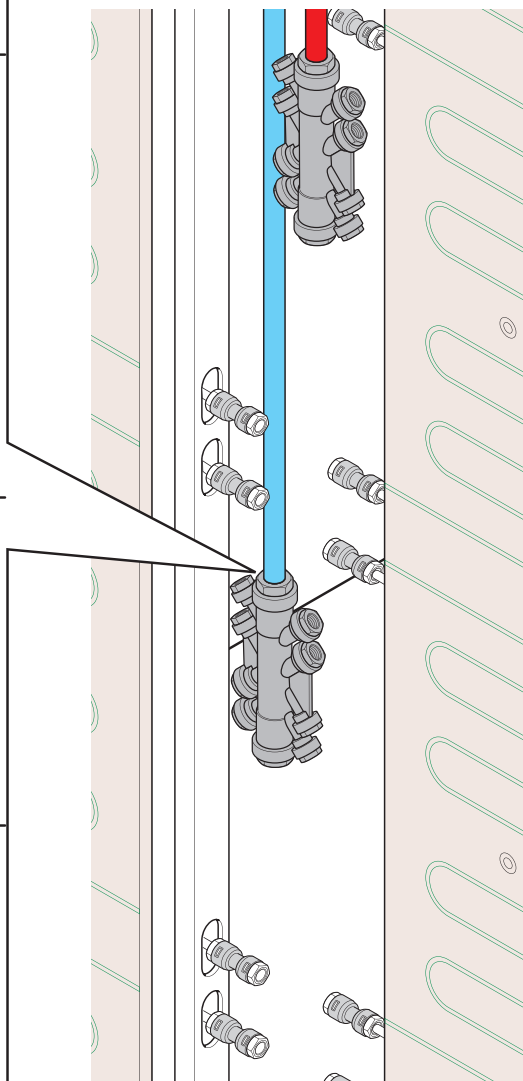
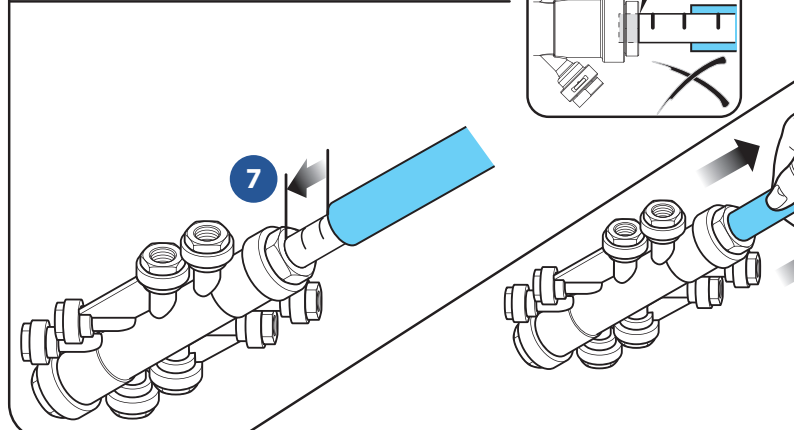
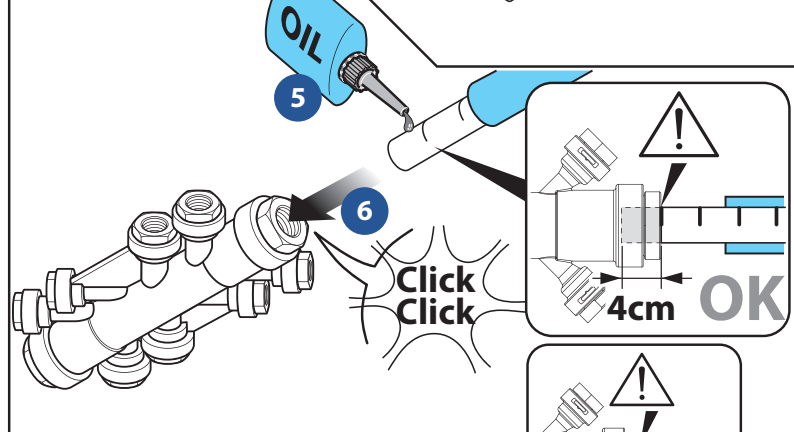
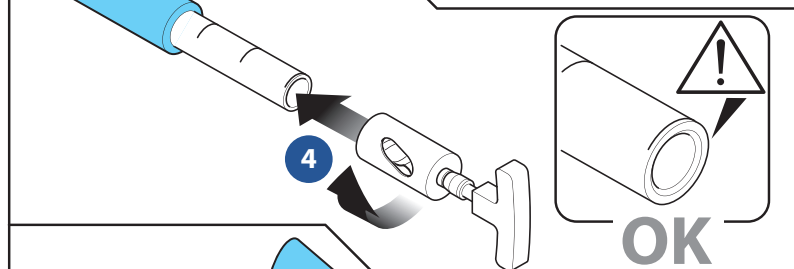
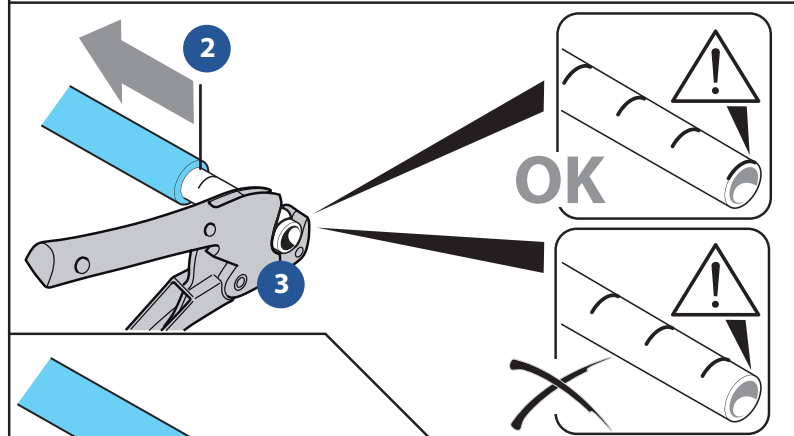
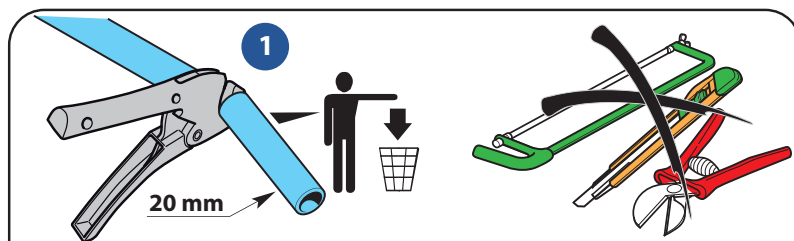


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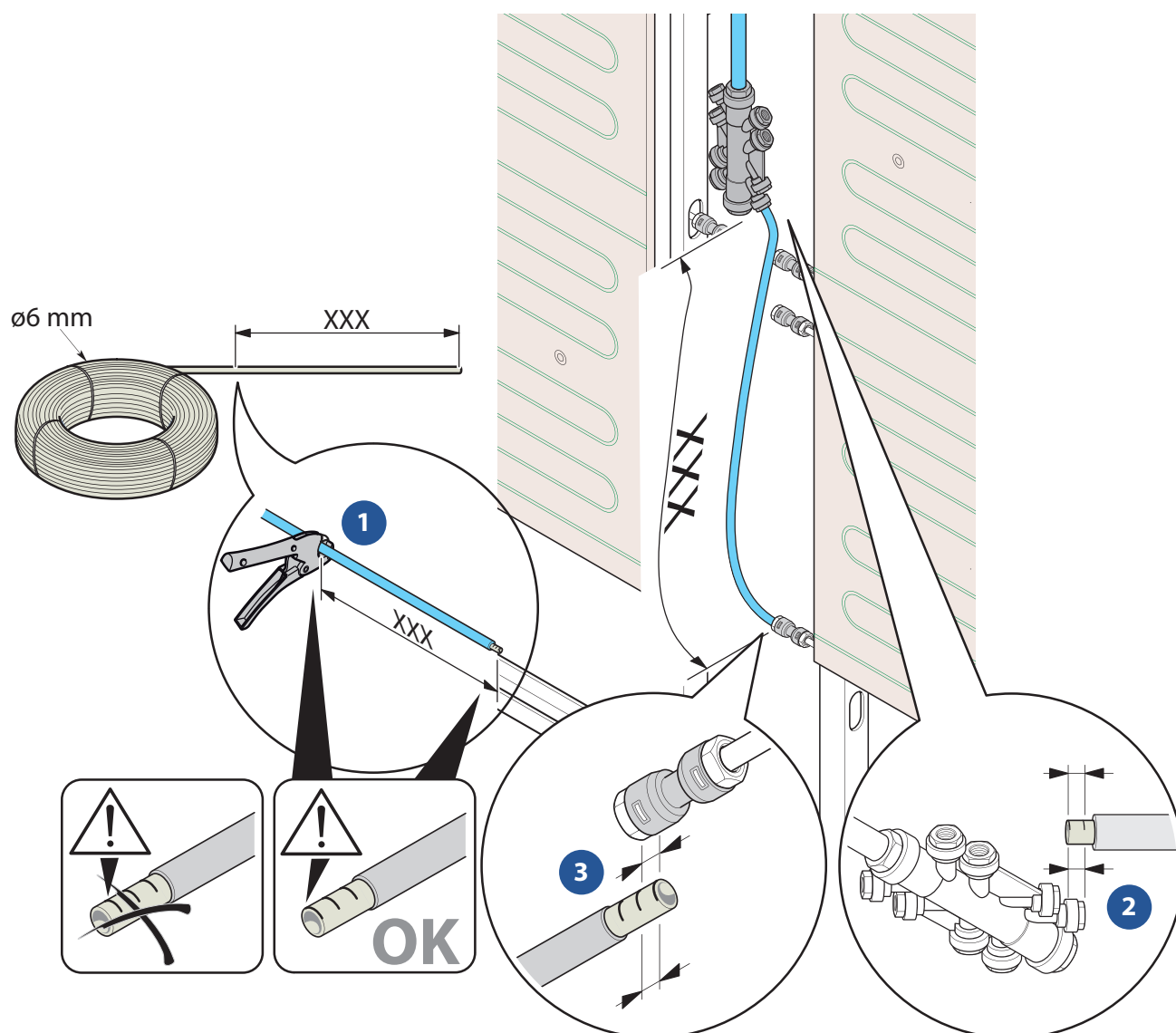
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CONNECTION BETWEEN MAIN PIPES AND DISTRIBUTORS COLLEGAMENTI LINEE PRINCIPALI-DISTRIBUTORI

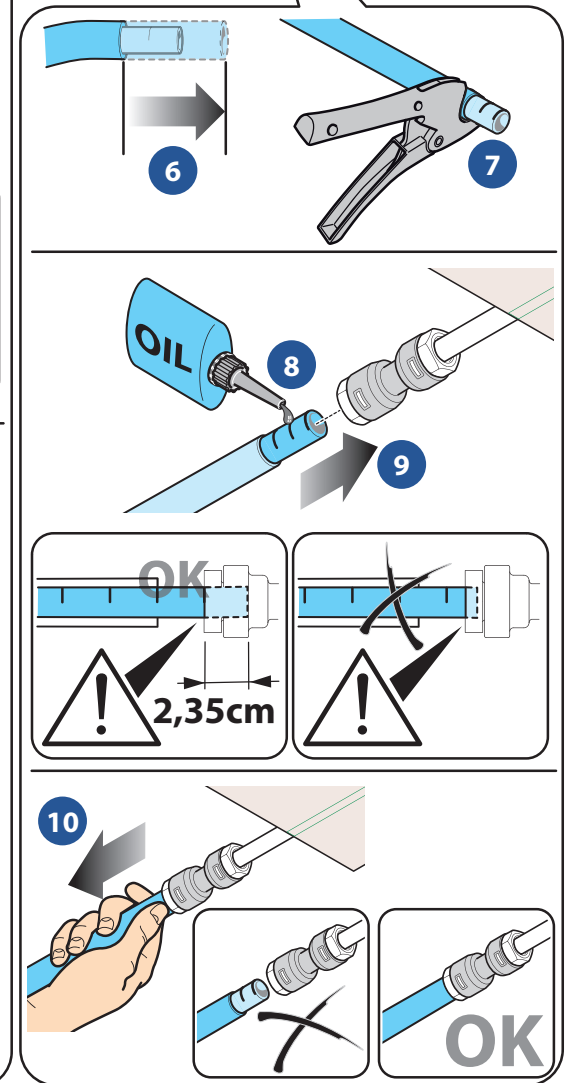
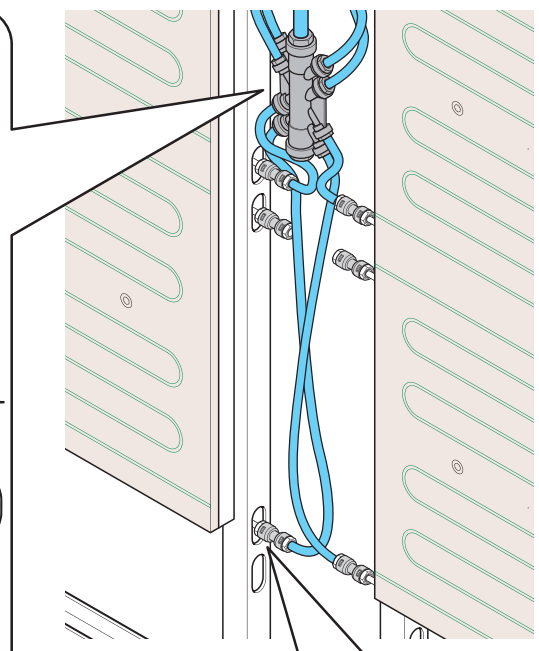
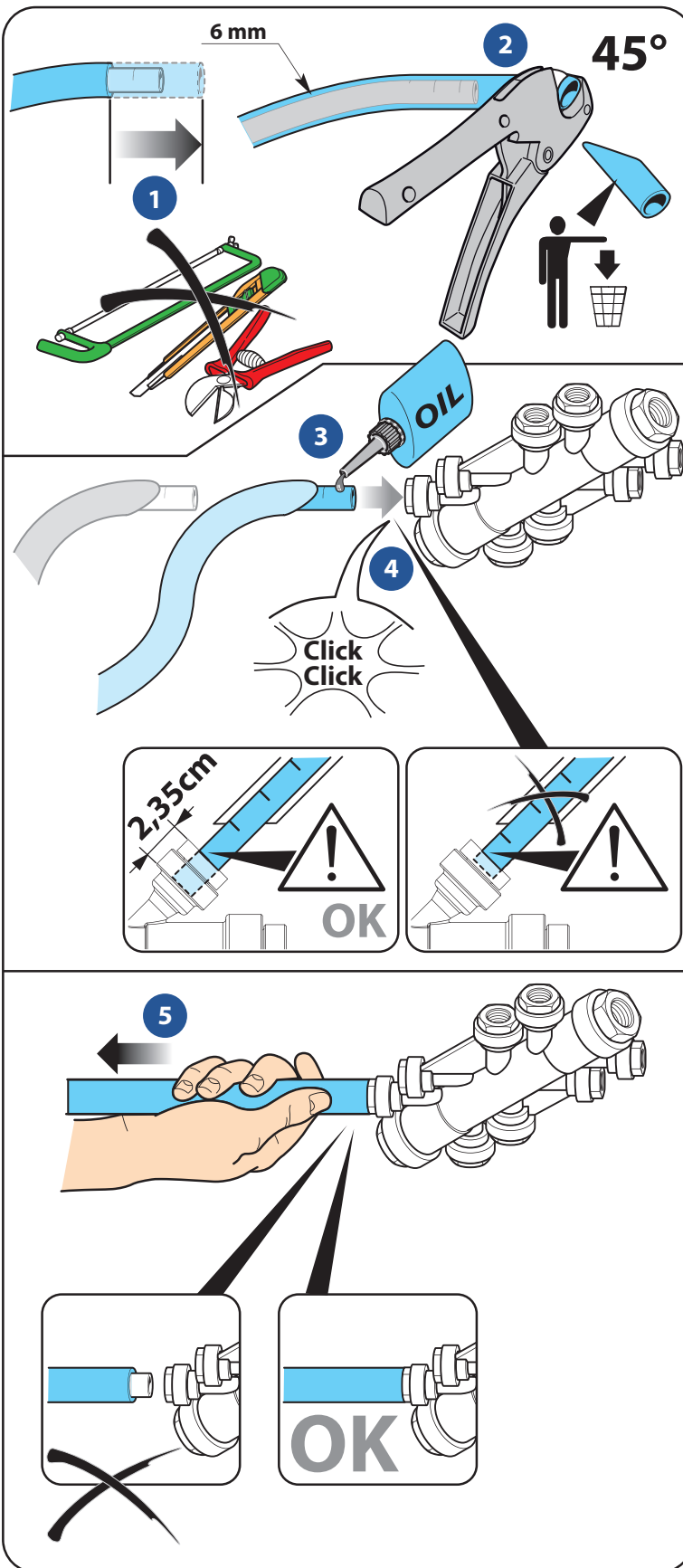


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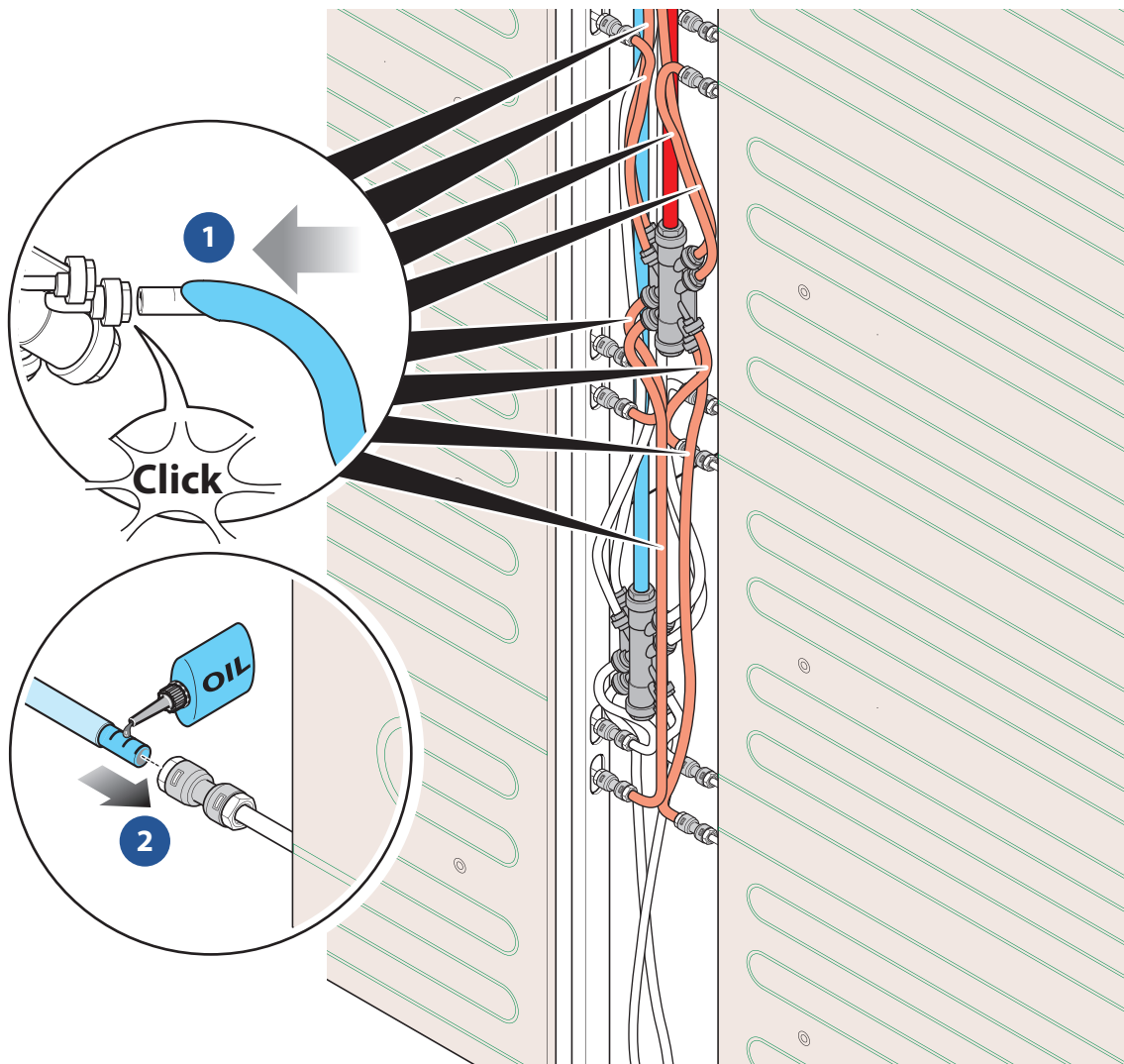
CONNECTION BETWEEN PANELS AND DISTRIBUTORS COLLEGAMENTI PANNELLI-DISTRIBUTORI



3

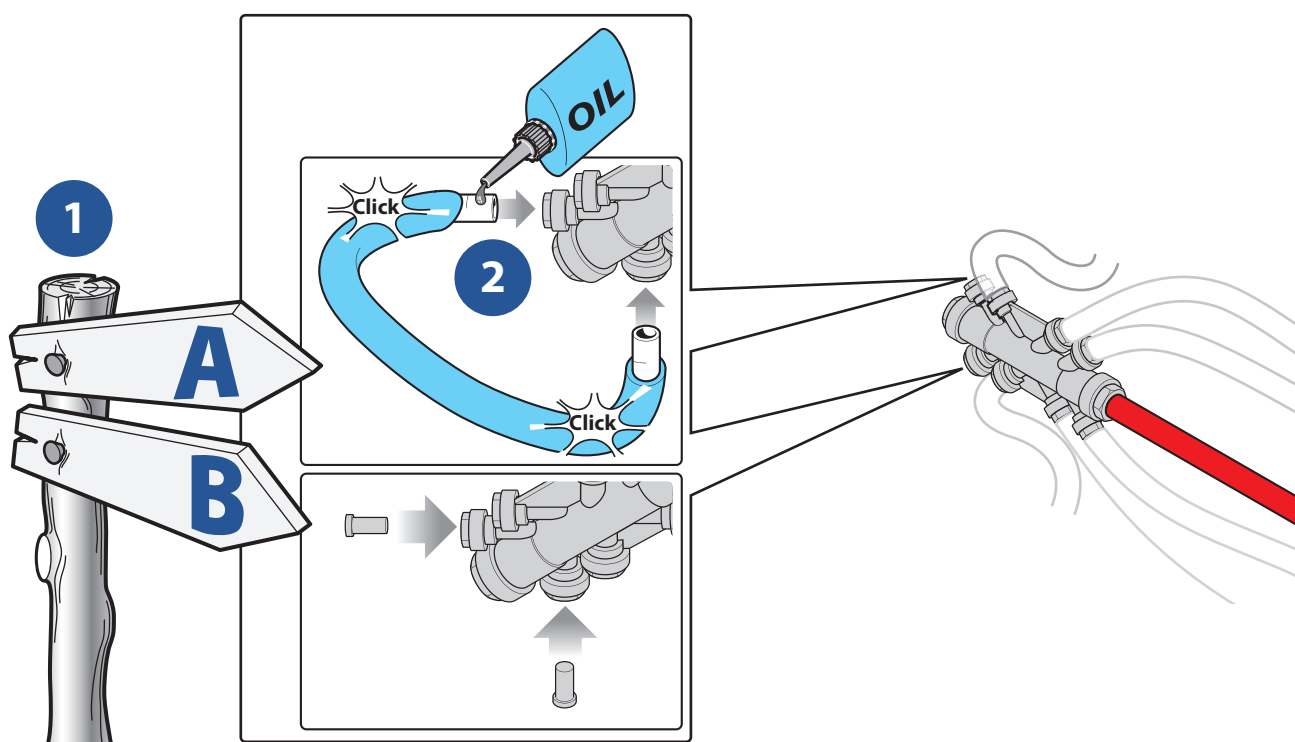


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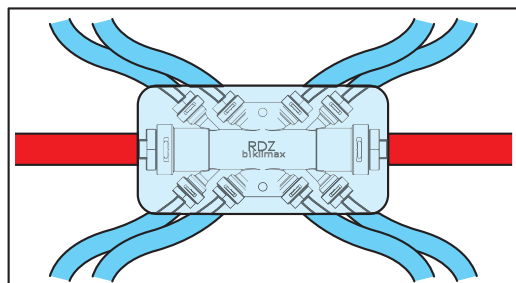
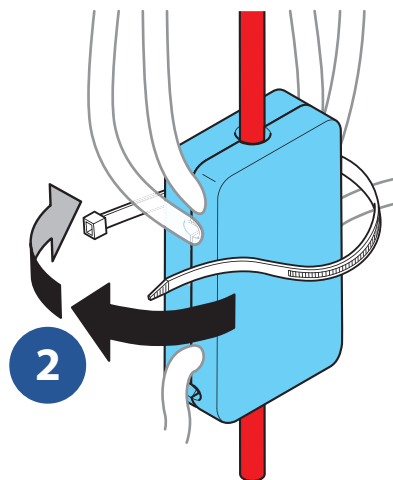
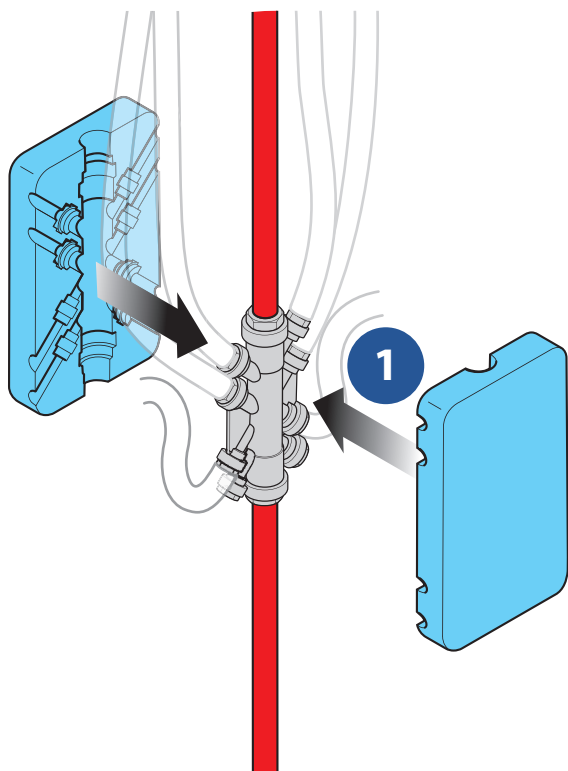
5

CLOSE UNUSED OUTLETS
TAPPARE EVENTUALI USCITE NON UTILIZZATE



1

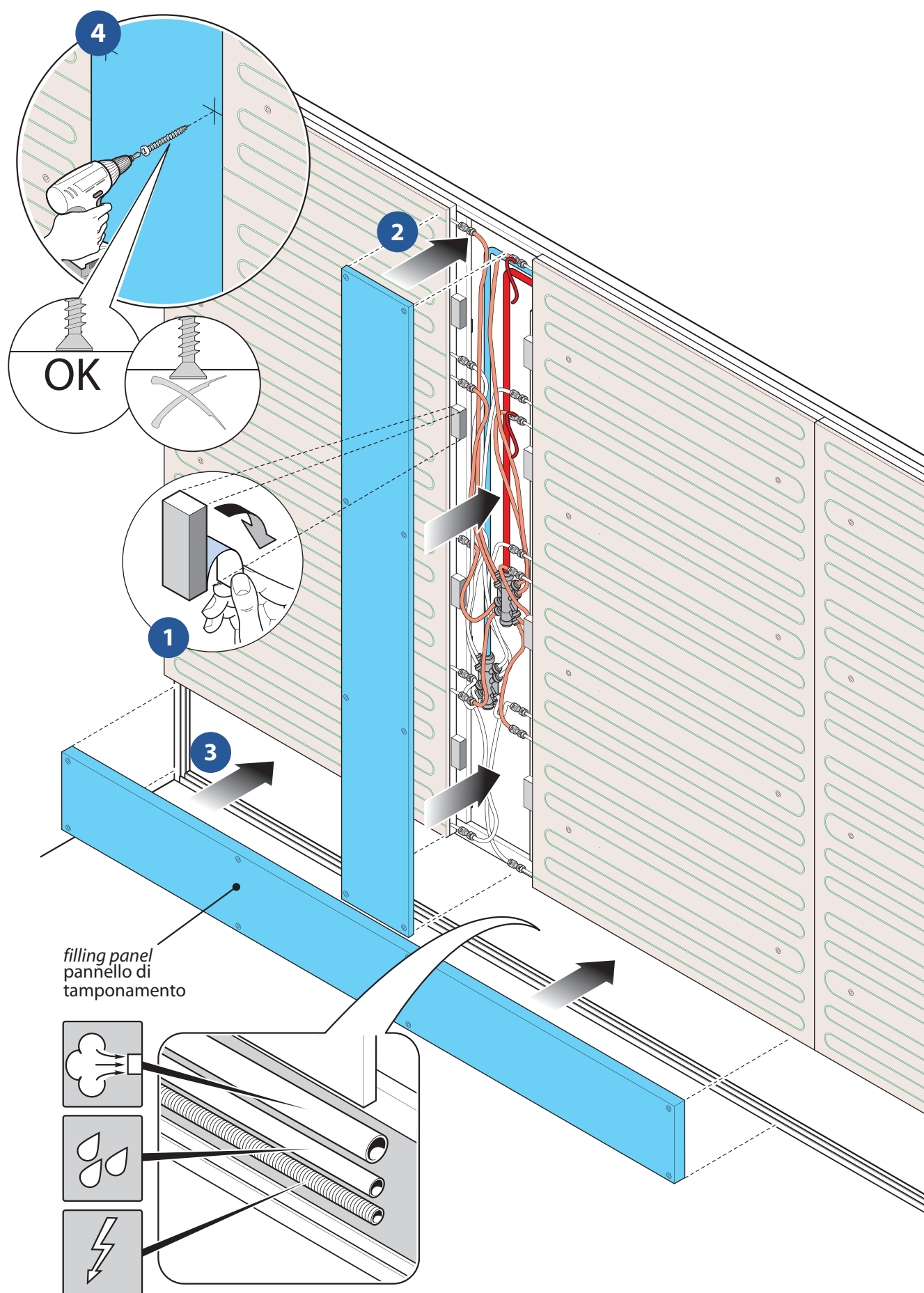
INSTALLATION OF INSULATING SHELLS **INSTALLAZIONE GUSCI ISOLANTI**



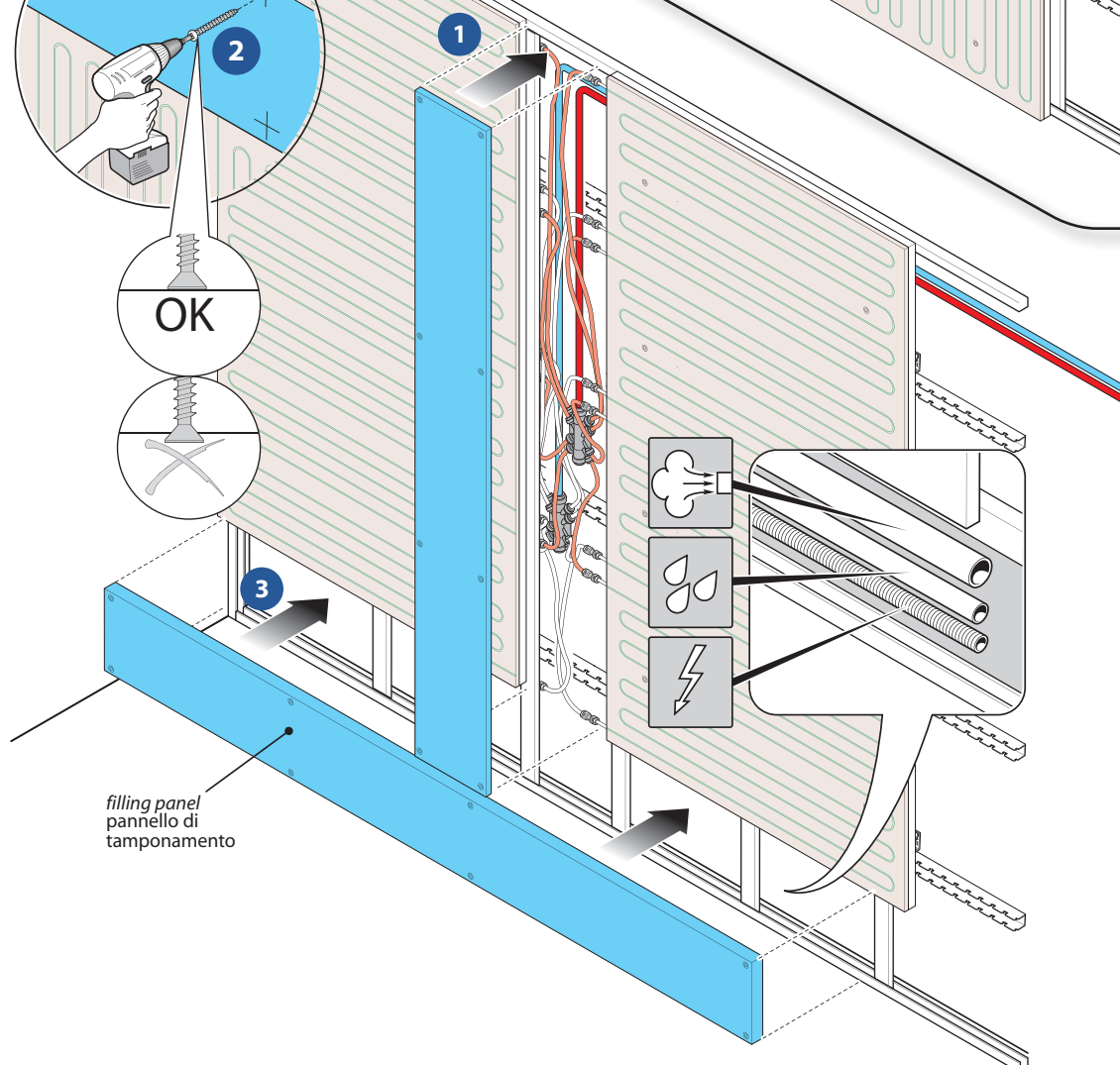
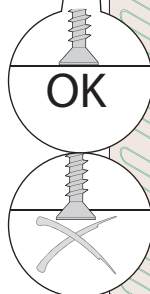
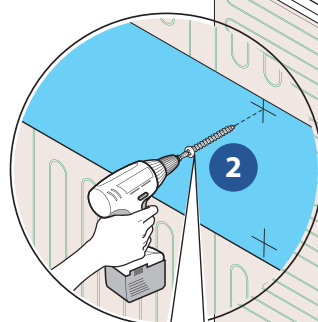
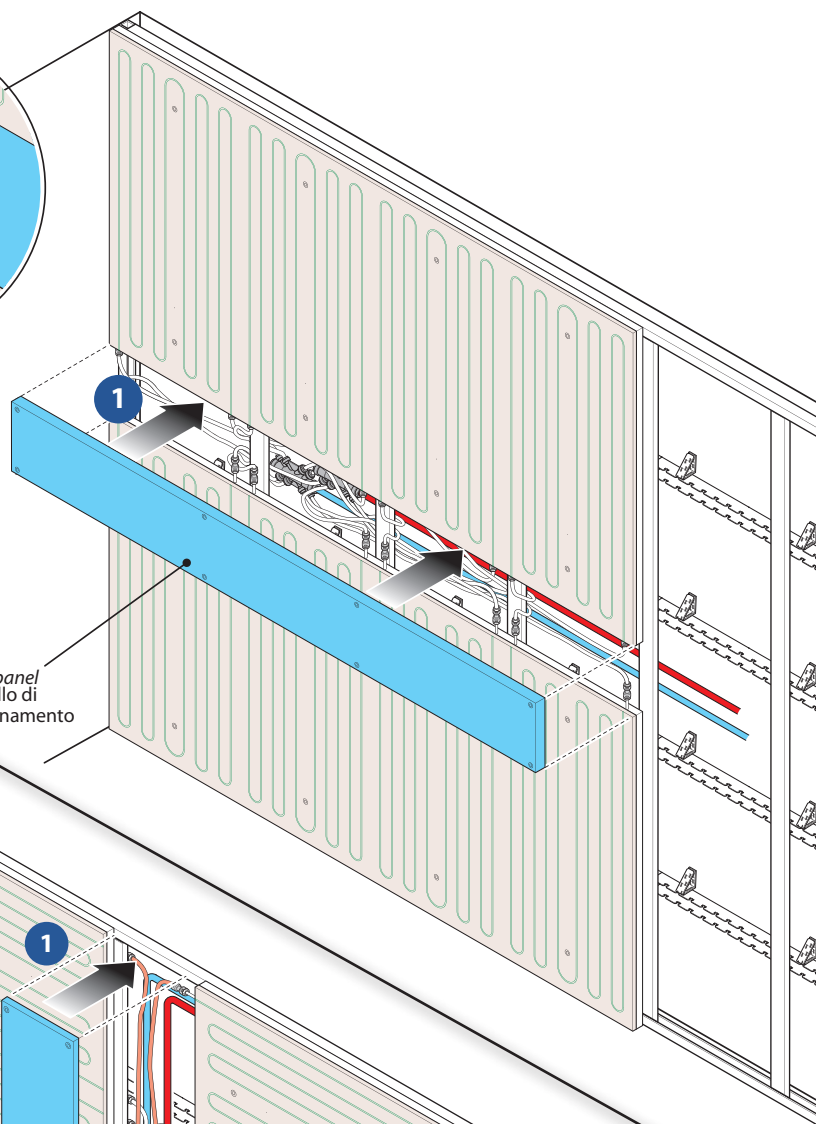
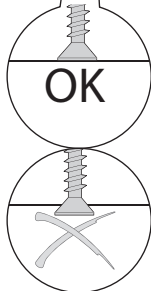
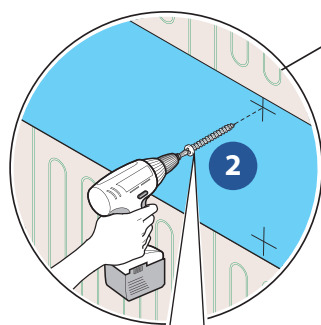


2a

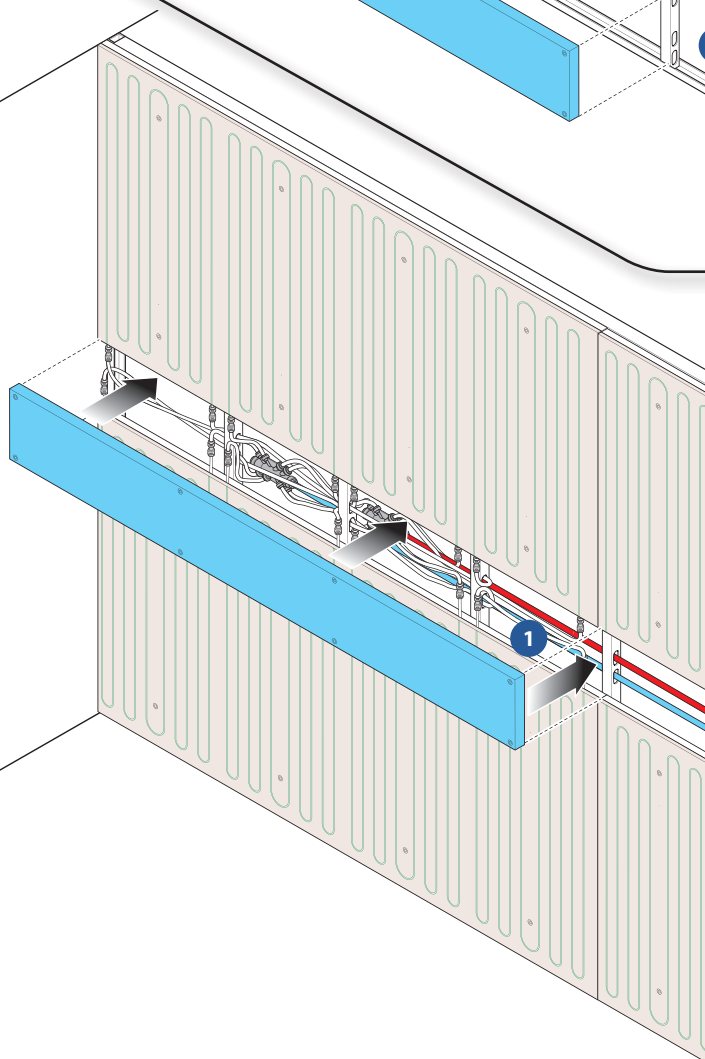
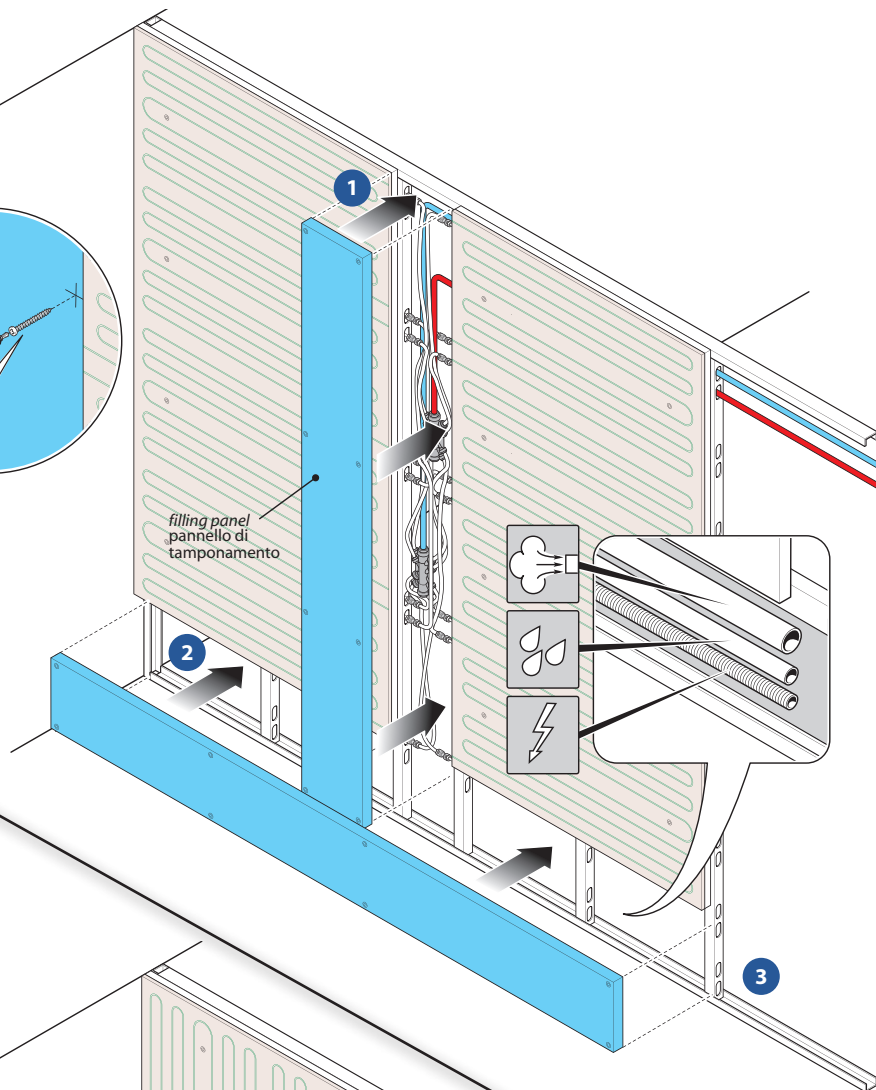
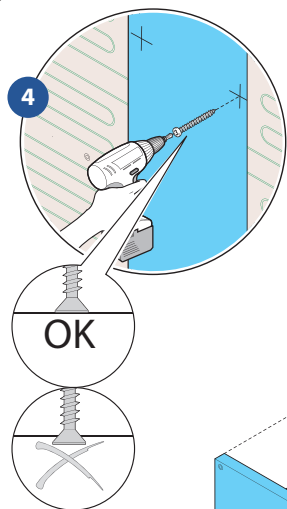
INSTALLATION OF FILLING PANELS INSTALLAZIONE DEI TAMPONAMENTI



2b



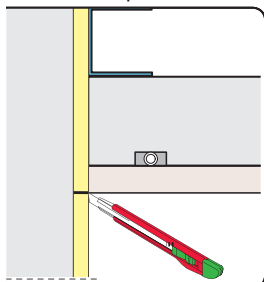
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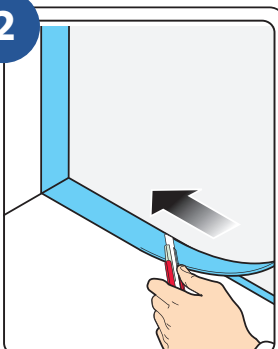


3

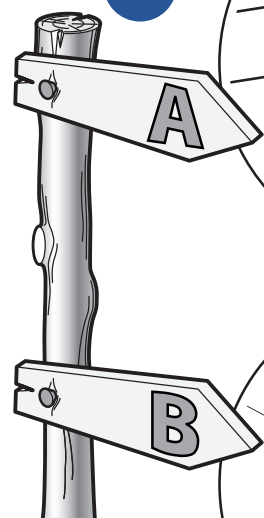
meter belt trimming
ritura cornice perimetrale



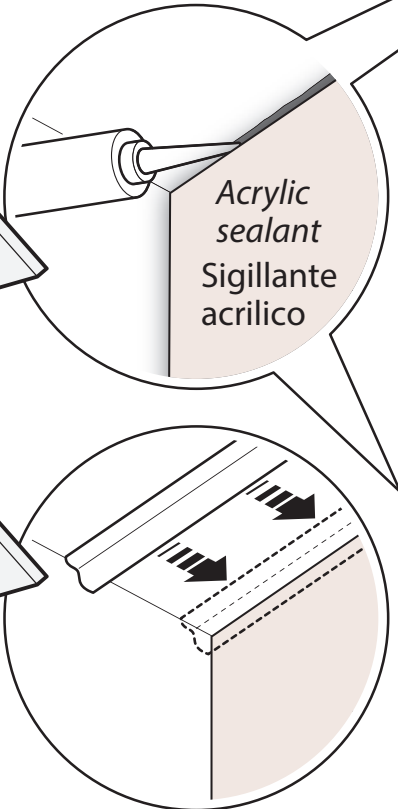
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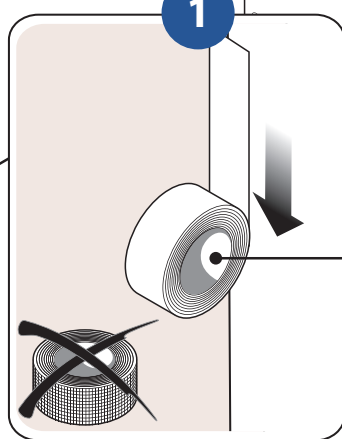
3



Acrylic sealant
Sigillante
acrilico



1



paper tape
nastro di carta

9 TESTING - COLLAUDO

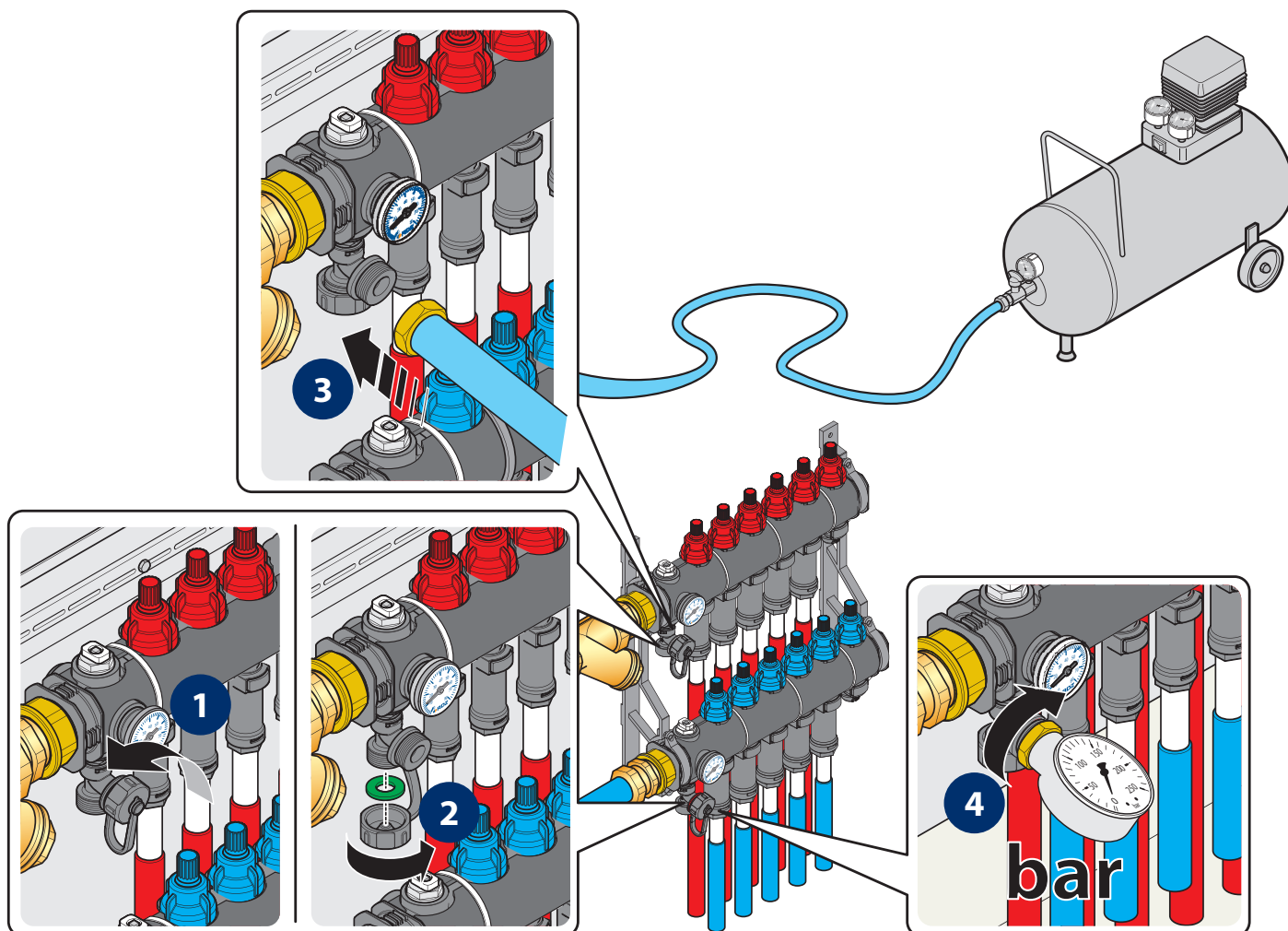
PRESSURE TESTING AND LEAKAGE CHECKING MESSA IN PRESSIONE DELL'IMPIANTO E VERIFICA DI EVENTUALI PERDITE



Final testing shall be carried out once all panes have been installed.

Il collaudo va eseguito dopo il completamento dell'installazione di tutti i pannelli.

1



1

Bar 10

2

Bar 1

10 bar x 5 min

*For 3 times
Per 3 volte*

The diagram illustrates the three steps for setting the pressure in a heating system:

- 1**: A close-up of the pressure gauge showing the needle pointing to 6 bar.
- 2**: A view of the heating system components, including the pump and valves. A blue arrow points to the filling valve, and the text "Close Chiuso" (Close Closed) is shown.
- 3**: A view of the pressure gauge showing the needle pointing to 12 bar, indicating the system is filled to the correct pressure. The text "6 bar x 24 h" is shown below the gauge.

4

Open Aperto

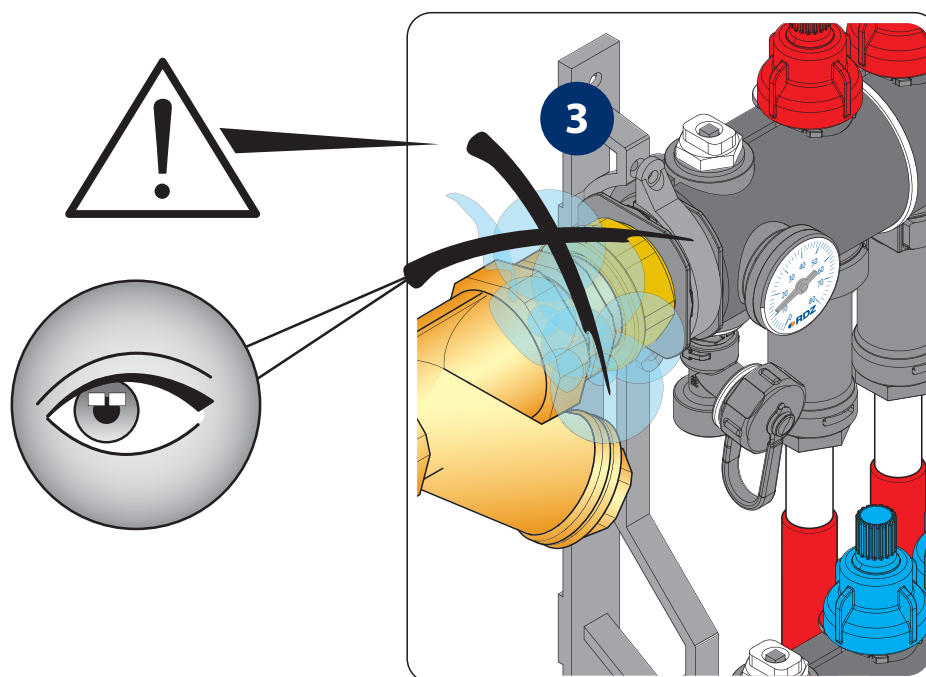
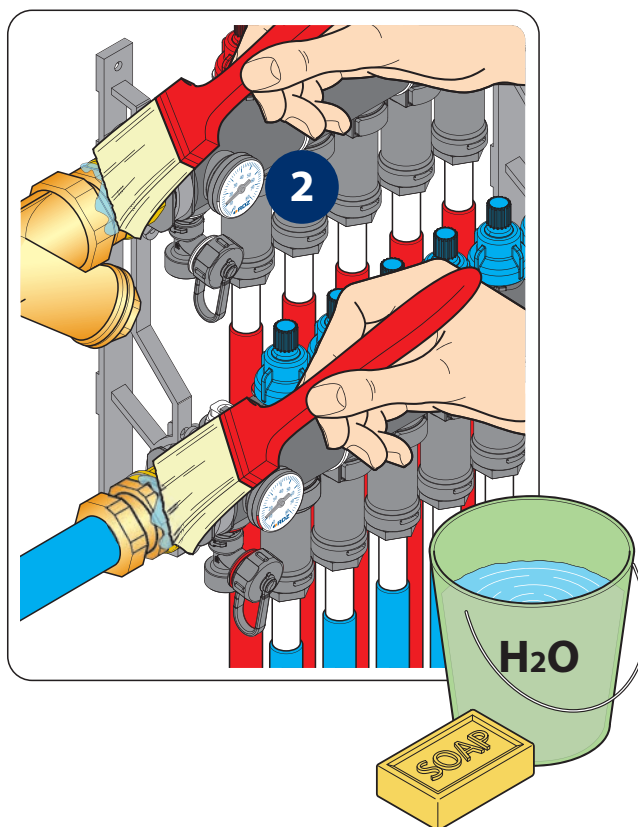
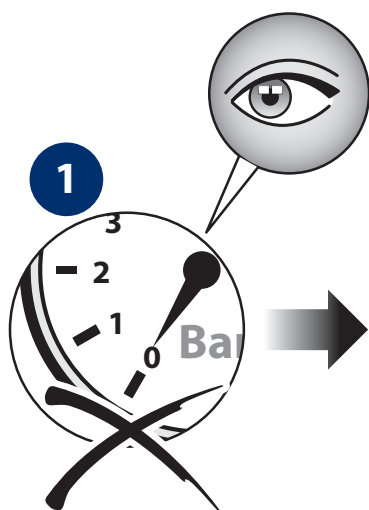
Diagram 5 shows a magnifying glass focusing on the barometer scale. The needle points to 1.2 on the scale, which is labeled 'Ba'.

Close
Chiuso

6

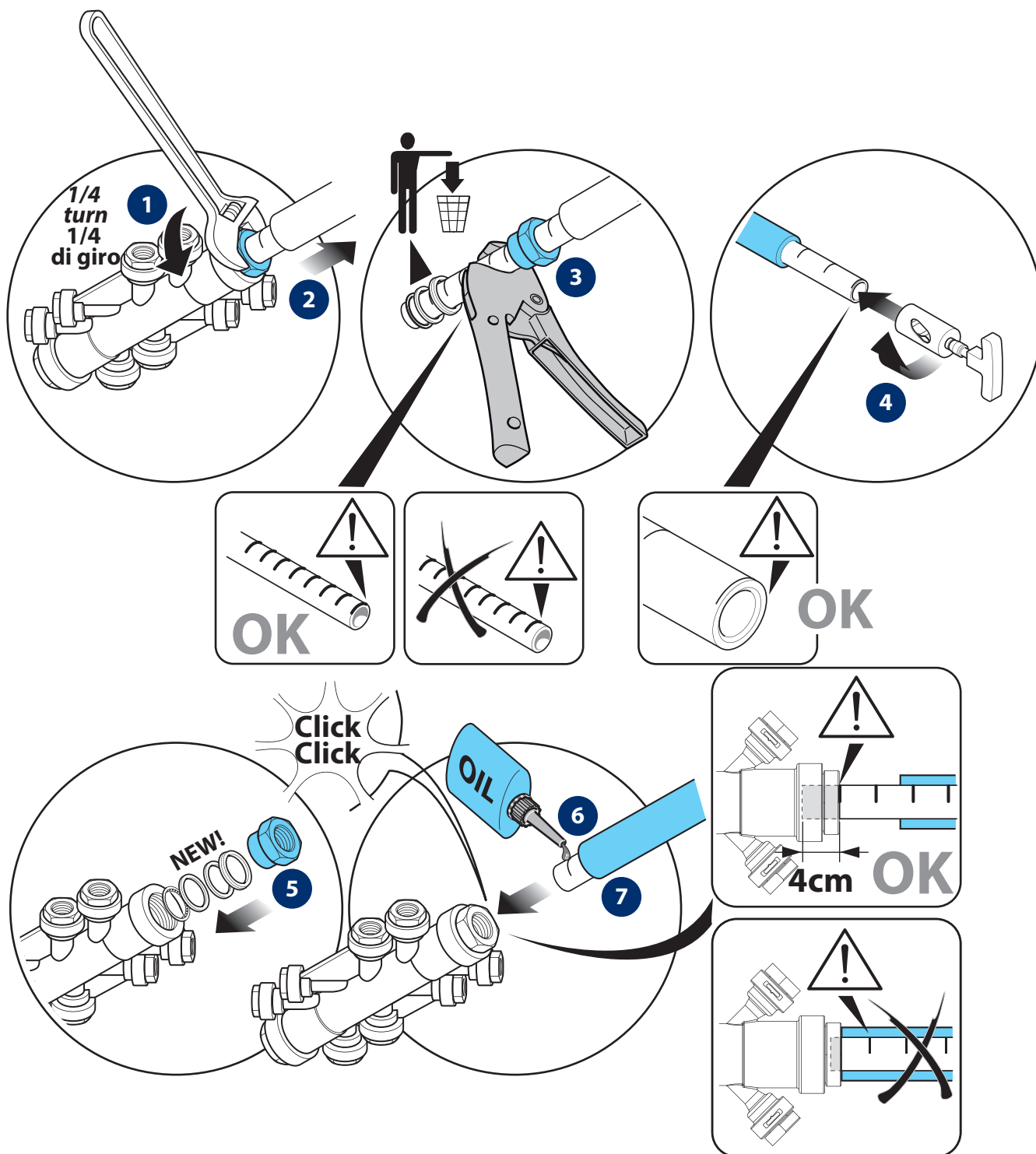


The system should remain at pressure until covering has been completed.
L'impianto deve rimanere in pressione fino al completamento del rivestimento.



1

**PUSH-FIT FITTINGS REPLACEMENT
SOSTITUZIONE DEI RACCORDI RAPIDI**

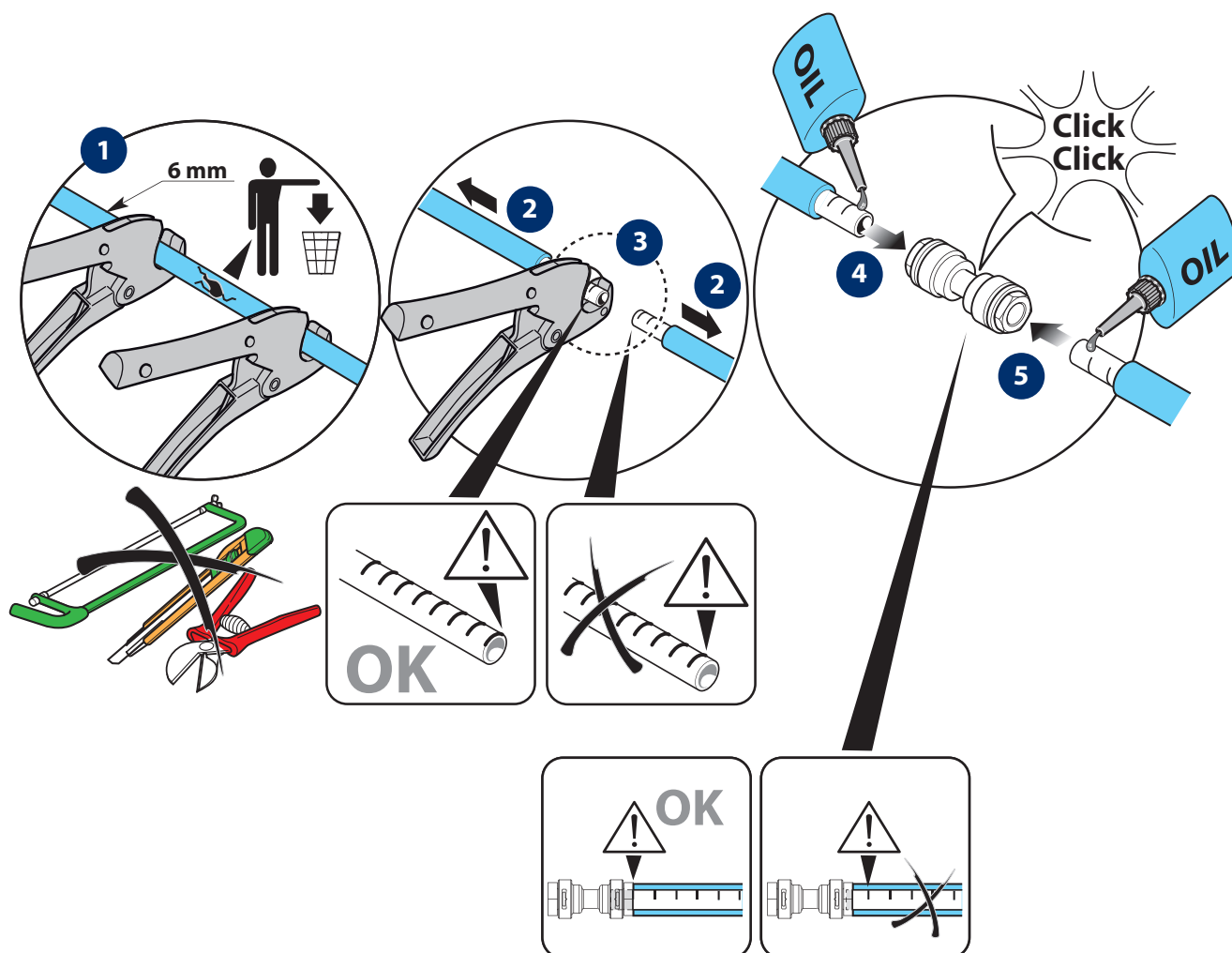




2

REPAIRING FOR DAMAGED PIPE

RIPARAZIONE DI UNA TUBAZIONE DANNEGGIATA



[illegible]

[illegible]

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02/2020



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**COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 =**