

# BÖLLHOFF

**NEW**

**QUICK FLOW® Plus**

Efficient fastening for thin sheet metal



**QUICK FLOW® Plus** thin sheet screw

Nowadays, many sheet metal or thin-walled components are so thin that they require nut elements to hold them in place during assembly. Thanks to the QUICK FLOW® Plus thin sheet screw, you can dispense with these additional elements.

The principle

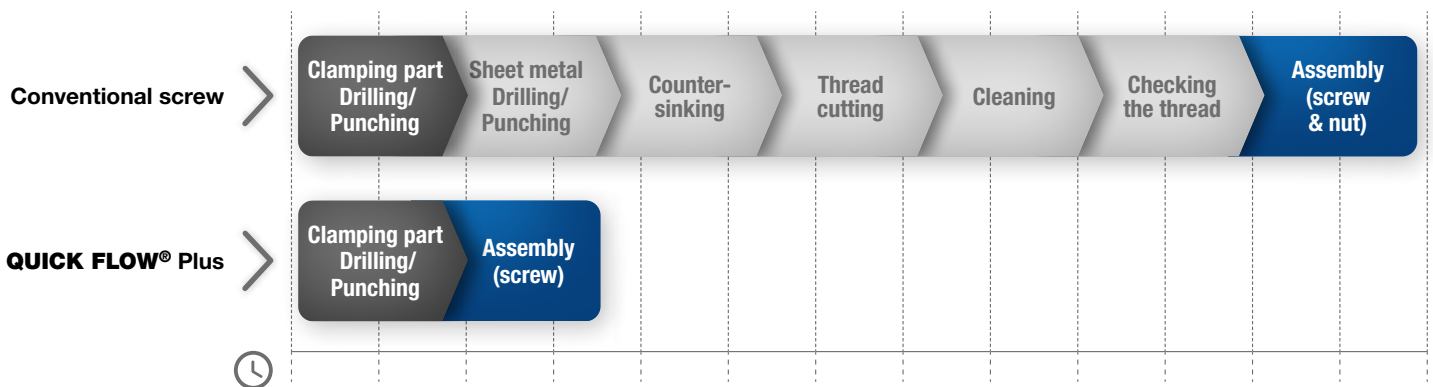
The QUICK FLOW® Plus thin sheet screw is a self-tapping fastener designed specifically for use in thin-walled components. Self-tapping screws are thread-forming fasteners that create the female thread by themselves when being installed.

The female thread is created with the forming zone of the male thread. This is usually done by grooving. This process requires the male thread to have higher strength than the workpiece material and for the material to have sufficient ductility.

By using self-tapping screws, time-consuming process steps such as thread cutting or cleaning the thread can be omitted. QUICK FLOW® Plus offers the additional benefit of eliminating the need for generating a core hole. By eliminating these process steps, time is saved in the manufacturing process, increasing productivity and reducing fastening costs.

Further cost savings are achieved by dispensing with additional tooling and nut elements, which results in weight reduction as well. Only one-sided access to the joint is required.

Time and cost savings by eliminating process steps



The challenge

In nowadays market, there is a growing trend towards designing products and product components with a lighter weight. The reason is that the use of lightweight construction allows for greater cost- and time-efficiency in production, as well as offering technological advantages. Due to a growing awareness of sustainability, lightweight construction will continue to be of importance in the future. Unfortunately, it also poses several design and engineering challenges in construction and assembly.

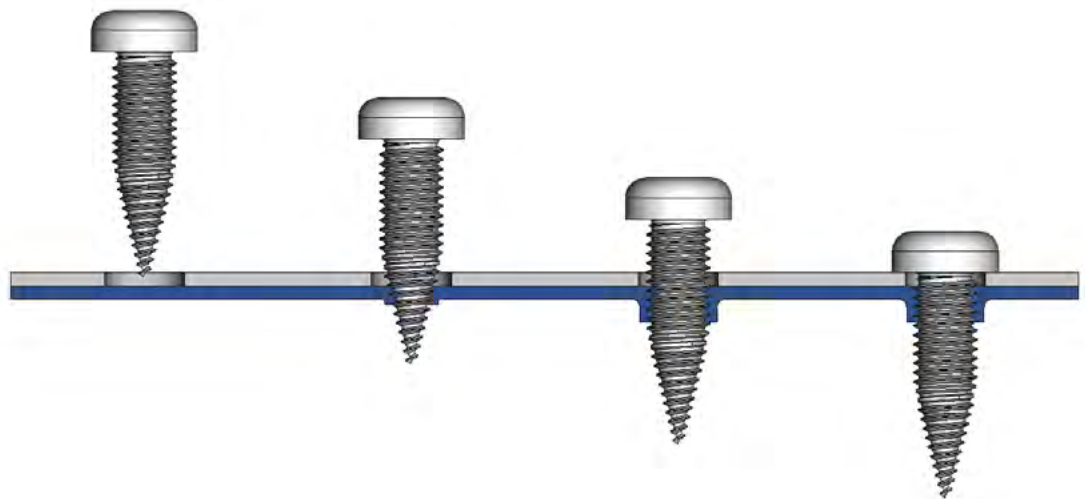
If the parts to be joined (sheets) are thinner than the pitch of the self-tapping screw according to DIN EN ISO 1478 (wobble limit), it is usually unavoidable to use additional - unwanted - nut elements to lock the joint. With QUICK FLOW® Plus as a self-tapping screw for thin sheet metal, these additional elements are no longer necessary.

**QUICK FLOW® Plus thin sheet screw**

The solution – QUICK FLOW® Plus thin sheet screw

QUICK FLOW® Plus is an economical alternative as its self-tapping technology reduces material usage and manufacturing costs. In addition, it simplifies the assembly process and thus contributes to a more sustainable production process.

The distinctive geometry of the tip in combination with a high case hardness enables self-tapping fastening without drilling a hole beforehand. The QUICK FLOW® Plus thin sheet screw, with its specially designed screw tip, creates a hole in the sheet metal during the fastening process and pulls the material through to the underside of the sheet, generating a pull-through element. At the same time, the screw tip forms a female thread.



Due to the generated pull-through, the female thread is longer than the sheet thickness. Furthermore, the thread pitch of QUICK FLOW® Plus is finer than the pitch of conventional sheet screws, which means that there is sufficient overlap of the formed thread flanks to create a stable joint. The QUICK FLOW® Plus thin sheet screw has a double thread. This additionally increases the surface area of the engaged thread flanks.

Efficient & process-reliable fastening



Another advantage of the QUICK FLOW® Plus double thread is that shorter cycle and process times are achieved. This results in increased efficiency. Automated assembly is also possible, the required process reliability is created by high overtorques. Furthermore, the packaging includes special bits. These bits have a special geometry that prevents the screw from wobbling, thus creating an optimised screwing process. Therefore, the screwing process is comfortable for the worker, even in difficult assembly situations.

QUICK FLOW® Plus is Boellhoff’s universal and economical thin sheet screw.

Your advantages at a glance	
<ul style="list-style-type: none"> <li>■ No pre-punching of the sheet</li> <li>■ Only one-sided accessibility required</li> <li>■ Cost savings on nut elements</li> <li>■ Short cycle times due to self-tapping screw with double thread</li> <li>■ Reduction of process costs</li> </ul>	<ul style="list-style-type: none"> <li>■ High process reliability during assembly due to higher overtorques</li> <li>■ Repeated disassembly and reassembly possible</li> <li>■ Included bits for convenient installation</li> <li>■ Automated assembly possible</li> <li>■ Secure and durable fastening</li> </ul>

## QUICK FLOW® Plus thin sheet screw – Application examples

### Application example from the ventilation and air conditioning industry – Custom ventilation systems

Ventilation systems for the public sector are usually designed and built as custom solutions for the respective building. During the final on-site installation, the technician determines the appropriate locations for additional elements such as switches or sockets.



#### QUICK FLOW® Plus thin sheet screws offer two advantages in this application:

##### Flexibility during assembly

The QUICK FLOW® Plus thin sheet screw creates a core hole with a pull-through during the screwing process. Therefore, there is no need to drill a hole into the sheet metal in advance. In addition, only one-sided accessibility is required for the installation process. The technician therefore has a maximum of flexibility in the positioning and mounting of the elements during final assembly.

##### Pre-hole-free fastening – without metal swarfs

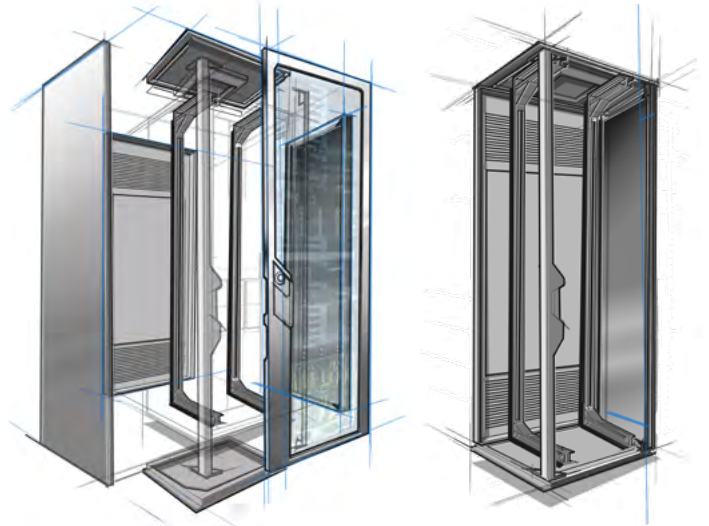
Compared to conventional drilling screws, QUICK FLOW® Plus thin sheet screws offer the advantage that the female thread is grooved into the sheet metal instead of being cut. Thread grooving has two major advantages over thread cutting. Firstly, the cold forming process generates a higher strength in the female thread and secondly, no chips are produced in the thread forming process. This is a big advantage for the application example shown as remaining chips in the ventilation system can cause rust and noise development and are therefore undesirable.

**QUICK FLOW® Plus** thin sheet screw – Application examples

QUICK FLOW® Plus thin sheet screws are the optimal choice for applications where tolerances may occur or where the final position of certain parts is not determined until the installation, as well as for applications where swarfs should be avoided.

**Further application examples**

Enclosures of control cabinets



Attaching additional components to heat pumps

Mounting accessories onto e-bikes



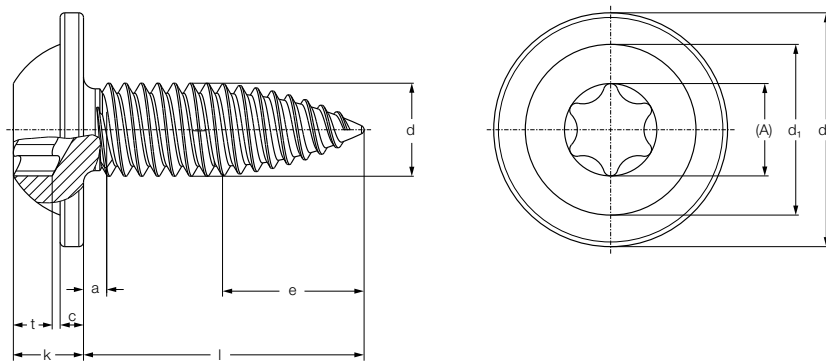
**QUICK FLOW® Plus** thin sheet screw – Standard product range

**B 52035 – form F/TX**  
button head with pressed-on washer

Case-hardened, galvanized.  
Hexalobular socket drive



Length mm	Diameter (d)	
	4.0 mm	5.0 mm
12	52035F/TXB412	–
19	52035F/TXB419	–
22	–	52035F/TXB522



Diameter d	d <sub>1</sub> Nominal dimension	d <sub>2</sub>		A	k max.	t		c max.	a max.	e Nominal dimension	Tool size
		min.	max.			min.	max.				
4.0	7.3	9.5	10.0	3.95	3.1	1.27	1.66	1.1	1.0	7.00	TX20
5.0	9.2	10.8	11.5	4.5	3.7	1.52	1.91	1.35	1.0	9.00	TX25

Nominal dimension	Length l	
	min.	max.
12	11.6	12.4
19	18.6	19.4
22	21.6	22.4



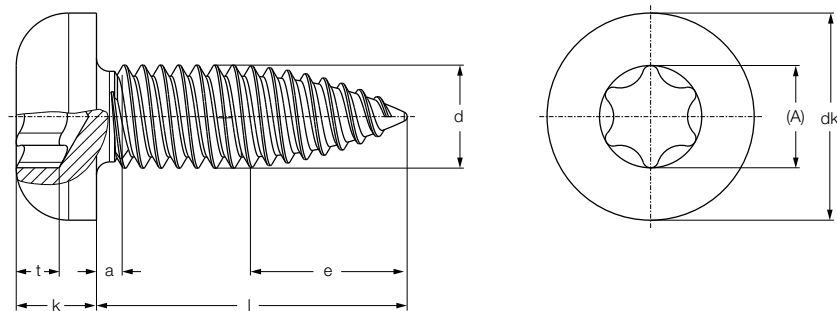
**QUICK FLOW® Plus** thin sheet screw – Standard product range

**B 52035 – form C/TX**  
button head

Case-hardened, galvanized.  
Hexalobular socket drive



Length mm	Diameter (d) 4.0 mm
19	52035C/TXB419



Diameter d	dk		A	k max.	t		a max.	e Nominal dimension	Tool size
	min.	max.			min.	max.			
4.0	7.64	8.0	3.95	3.1	1.27	1.66	1.0	7.00	TX20

Nominal dimension	Length l	
	min.	max.
19	18.6	19.4

Other dimensions and head shapes are available on request.

# BÖLLHOFF

Passion for successful joining.

## **Böllhoff Group**

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