

BÖLLHOFF

NEU

QUICK FLOW® Plus

Efficient fastening for thin sheet metal



QUICK FLOW® Plus thin sheet screw

Many sheet metal or thin walled components are now so thin that they require nut elements to provide the necessary stability when screwed together. Thanks to the QUICK FLOW® Plus thin sheet screw, you can dispense these additional elements.

The principle

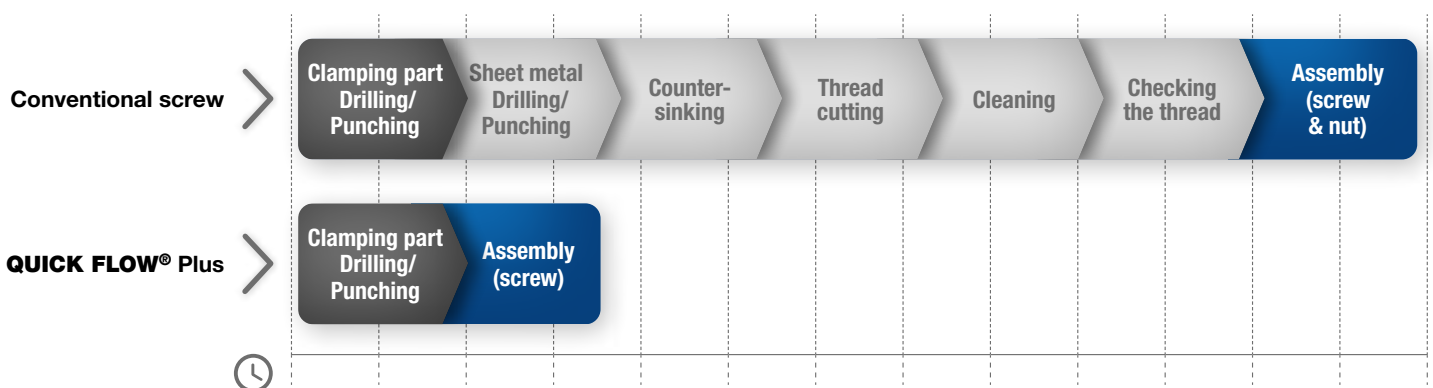
The QUICK FLOW® Plus Thin Sheet screw is a self-tapping fastener designed specifically for use with thin-walled components. Self-tapping screws are thread-forming fasteners that form the internal thread in the component during installation.

The internal thread is created with the forming zone of the thread. This is usually done by grooving. The requirement is that the thread has a higher strength than the material of the component and that the material to be screwed has sufficient ductility.

The use of self-tapping screws eliminates the need for time-consuming operations such as thread cutting or cleaning. QUICK FLOW® Plus offers the additional benefit of eliminating the need for a core hole. By eliminating these process steps, time is saved in the manufacturing process, which increases productivity and reduces fastening costs.

Further cost savings are achieved by eliminating the need for additional tooling and fasteners. The elimination of nut elements reduces weight. Only a one side access to the joint is required.

Time and cost savings by eliminating process steps



The challenge

Components and entire products are becoming lighter and lighter these days. The main reason for this is that lightweight construction enables more economical production and technological advantages. Increasing sustainability awareness shows that lightweight construction will continue to be a focus in the future. Lightweight construction also presents many challenges for design and technical implementation in construction and assembly that need to be mastered.

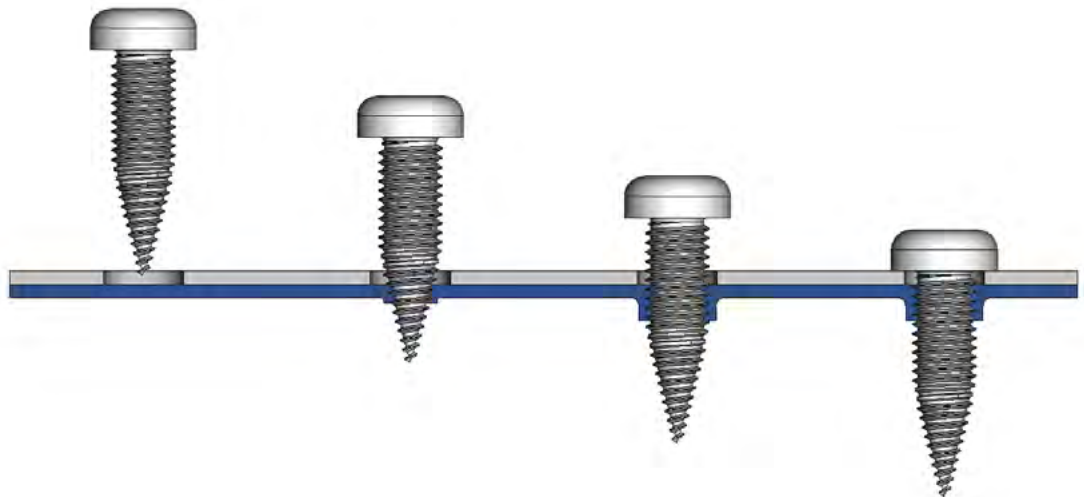
If the screw-in parts (sheets) are thinner than the thread pitch of the self-drilling screws in according to DIN EN ISO 1478 (wobble limit), the use of additional – unwanted – fasteners, such as nuts, are necessary. With QUICK FLOW® Plus as a self-tapping screw for thin sheets, this additional element is 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 the self-tapping technology saves material and manufacturing costs. It also simplifies the assembly process, contributing to a more sustainable production.

The special tip geometry in combination with a high case hardness enables self-tapping fastening without pre-drilling. With its specially designed screw tip, the QUICK FLOW® Plus thin sheet screw forms a hole in the sheet metal during the screwing process and generates a pull-through on the bottom side of the sheet. At the same time, a internal thread is formed with the tip of the screw.



Due to the generated pull-through, the created internal thread is longer than the sheet thickness. In addition 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 of the 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 special bits are included in the packaging. These bits have a special geometry that prevents the screw from wobbling and therefore create an optimized screwing process. The screwing process is comfortable for the operator, even in difficult assembly situations.



QUICK FLOW® Plus is the universal and economical thin sheet screw from Böllhoff.

Your advantages at a glance

- | | |
|--|--|
| ■ No pre-punching of the sheet | ■ High process reliability during assembly due to higher overtorques |
| ■ Only one-sided accessibility required | ■ Repeated loosening and tightening possible |
| ■ Cost saving of nut elements | ■ Included bits for convenient installation |
| ■ Short cycle times due to self-tapping screw with double thread | ■ Automated assembly possible |
| ■ Reduction of process costs | ■ Secure and durable fastening |

QUICK FLOW® Plus thin sheet screw – Application examples

Application example from the ventilation and air conditioning industry – Individual ventilation systems

Ventilation systems for the public sector are usually designed and built as individual solutions for the respective building. During final installation on site, the technician decides where it is useful to install 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. This means that no hole needs to be drilled in the sheet metal in advance. In addition, only one-sided accessibility is required for the installation process. This gives the installer maximum flexibility in positioning and mounting of the elements during final assembly.

Pre-hole-free fastening – without chips

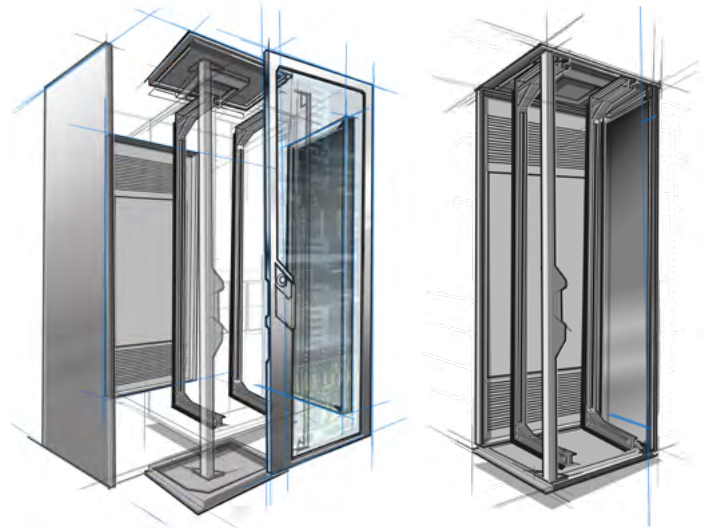
Compared to conventional drilling screws, QUICK FLOW® Plus thin sheet screws offer the advantage that the internal thread is grooved into the sheet metal and not cut. Thread grooving has two major advantages over thread cutting. Firstly, the cold forming generates a higher strength in the internal thread and secondly, no chips are produced in the thread forming process. This is a big advantage for the application example shown. Chips that remain in the ventilation system can cause to rust or to noise development and is 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 is not determined until final assembly, as well as for applications where the chips should be avoided.

Further application examples

Enclosures of control cabinet's



Attaching additional components to heat pumps

Mounting accessories on e-bikes



QUICK FLOW® Plus thin sheet screw – Standard product range

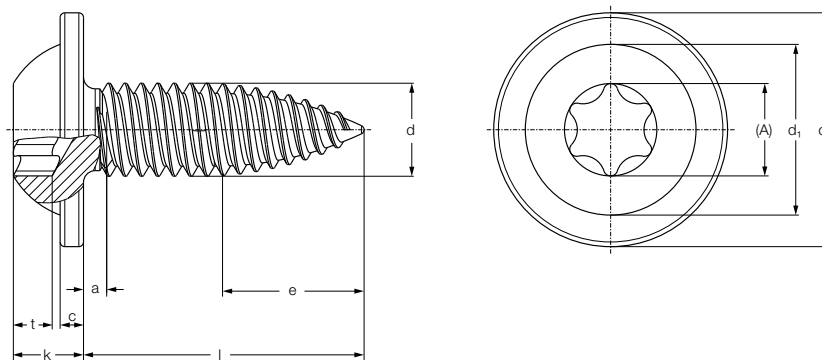
B 52035 – form F/TX

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 ₁ Nominal dimension	d ₂		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

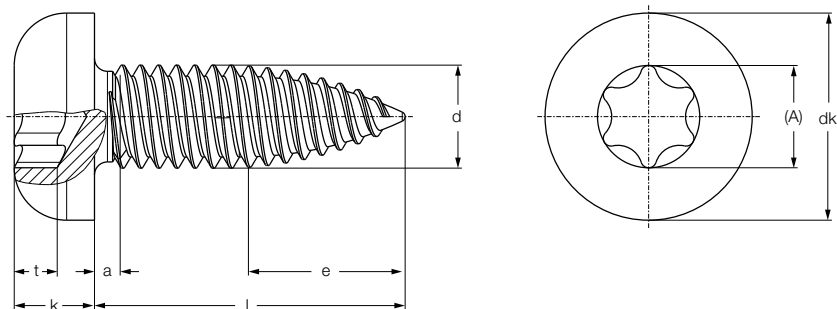
QUICK FLOW® Plus thin sheet screw – Standard product range

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.



Passion for successful joining.

Böllhoff Group

Innovative partner for joining technology with assembly and logistics solutions.

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