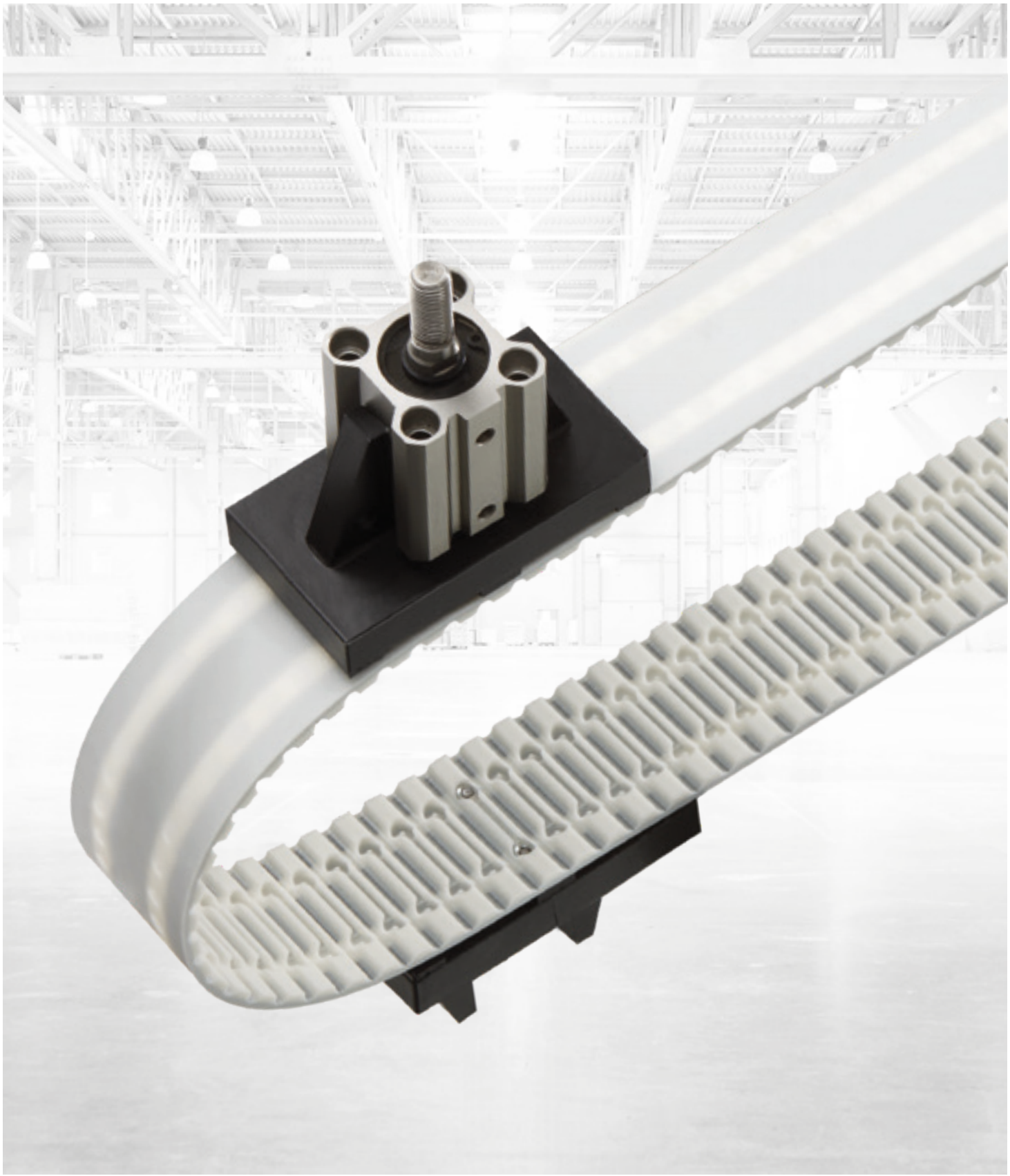
MATERIAL HANDLING

optibelt ATC-SYSTEM



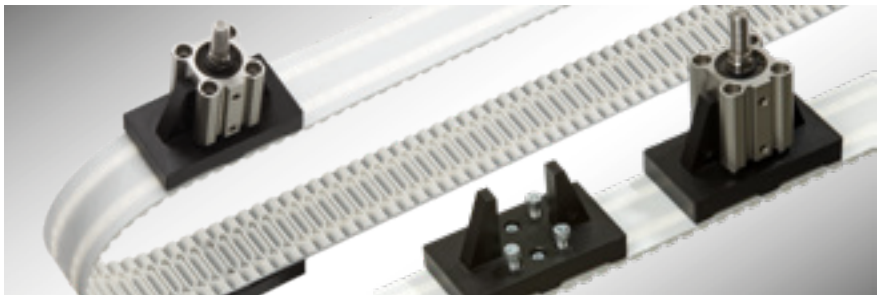
optibelt ALPHA ATC

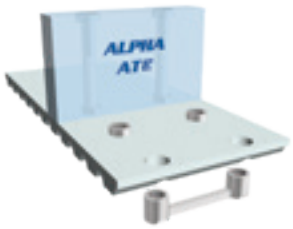
POLYURETHANE TIMING BELTS WITH FLEXIBLE CLEAT SYSTEM

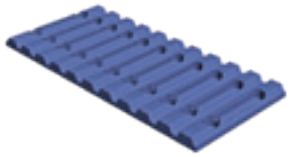
optibelt ALPHA ATC makes complex drive solutions possible in all areas of mechanical engineering under the most difficult conditions and extreme operational demands.

- **PATENTED DRIVE SYSTEM SOLUTION**
- **SIMPLE AND QUICK ASSEMBLY**
- **FLEXIBLE PROFILE ASSEMBLY ON SITE**

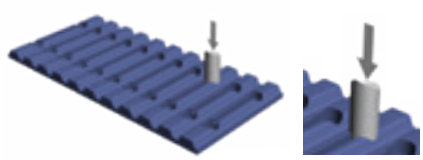
optibelt ATC-SYSTEM
– FOR FLEXIBLE TRANSPORT APPLICATIONS



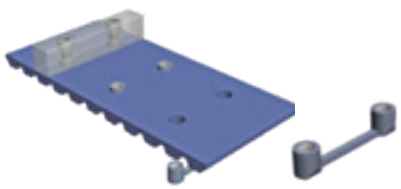




ATC profile with recesses for **ATC-IN** inserts in each tooth



Punching of a through-hole with **ATC-PT** punching tool



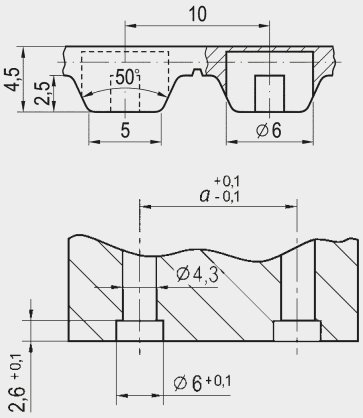
ATC profile with punched holes for **ATC-IN** inserts and installation of a screw-on cleat

The user of the **ATC-System** can fasten screw-on cleats quickly and easily to a freely selectable tooth, on the spot. The connection can be fastened and detached directly by the user. As a result, varying forms of transported goods can be conveyed on the same drive and base belt using different screw-on cleats. With detachable cleat fastenings, the costs for stock-keeping of wear and spare parts can be reduced.

ATC inserts also make it possible to screw parts on directly, such as highly precise metal workpiece carriers, without using welded-on, specially manufactured cleats with inserts. Furthermore, screw-on cleats can transmit higher forces in comparison to permanently connected cleats. In addition, a smaller minimum pulley diameter can be chosen for the same fastening strength. Screw-on cleats for the **ATC-System** are available on request.

With the **ATC-System**, an **ATC-IN** insert for screwing on the cleat is laid into the prepared recess in the tooth. In the **optibelt ALPHA V** timing belt, these recesses are consistently available in all teeth in profiles **ATC10** and **ATC20**.

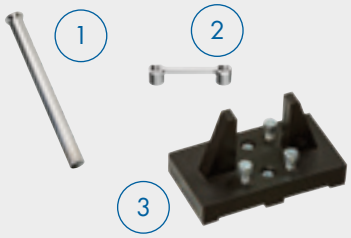
PROFILE ATC10



Connecting dimensions of a screw-on cleat with a centre distance “a” depending on the **ATC** insert

Cleats for belt widths 50 mm and 100 mm, which were designed for a fastening system available on the market using individual inserts, are compatible with the **ATC-System** for profile **ATC10**. Existing cleats can be used without the need for any additional measures.

ACCESSORIES



① **optibelt ATC-PT** punching tool

② **optibelt ATC-IN** insert
Material: stainless steel

③ Screw-on cleat

optibelt ATC-SYSTEM

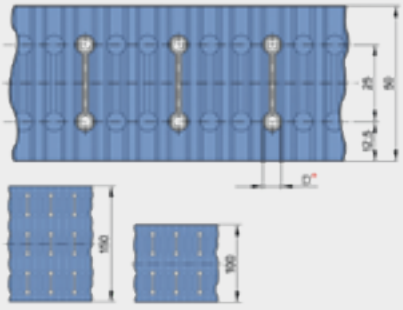
ASSIGNMENT AND PROPERTIES

ATC belt profile	ATC standard belt width [mm]	ATC insert	Number of ATC inserts/ blind holes or threads	Centre distance of blind holes or threads [mm]	Thread	Minimum length ALPHA V [mm]
ATC10	25 32 75	ATC-IN M4–14RF	1/2 1/2 2/4	14	M4	850 850 1050
ATC10	50 100 150	ATC-IN M4–25RF	1/2 2/4 3/6	25	M4	850 1050 1150
ATC20	50 100 150	ATC-IN M5–25RF	1/2 2/4 3/6	25	M5	1060 1160 1160

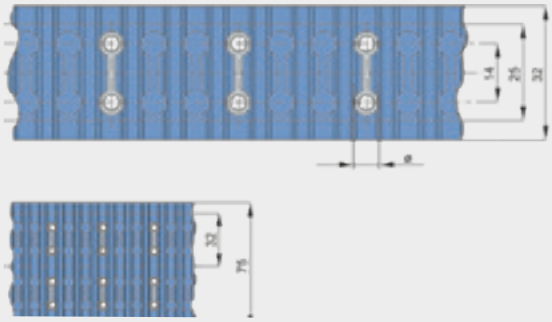
The belt top surface is smooth and does not initially contain any holes. Before the **ATC** insert is inserted, the two pre-formed blind holes in the recess of the selected tooth must be punched out with the **optibelt ATC-PT** punching tool to produce through-holes. To facilitate punching or perforating, the **optibelt ALPHA V** timing belt with **ATC10** and **ATC20** profiles does not have tension cords in the area of the blind holes.

The **optibelt ALPHA ATC** with profile **ATC10** in the standard design is also available with polyamide fabric on the tooth side (PAZ). The **ATC10** profile is also available with stainless-steel tension cords, for applications in the food and pharmaceutical industry.

The **ATC** stainless steel (RF) insert consists of two sleeves which are interconnected by a stable web. On the tooth side, the **ATC** insert is designed in such a way that it lies completely in the tooth contour and does not touch the tooth system of the timing belt pulley.



Positions and recesses of profiles 50, 100 and 150 **ATC10** and **ATC20** for the corresponding inserts



Positions and recesses of profiles 25, 32 and 75 **ATC10** for the corresponding inserts

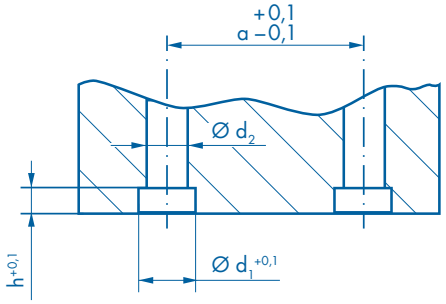
Profile	D*
ATC10	6
ATC20	7.5

optibelt ATC-IN INSERTS

ASSIGNMENT TO BELT PROFILES AND PROPERTIES

The two sleeves of the **ATC-IN** inserts have a continuous internal thread for fixing to the screw-on profiles. The sleeves, which protrude beyond the belt top surface, ensure that the profiles are centred.
The centring ensured by the two sleeves also provides anti-twist protection for the screw-on profiles.

The connecting dimensions of the screw-on profiles can be found in the accompanying table and drawing. The centre distance should be selected as for the **ATC-IN** insert.

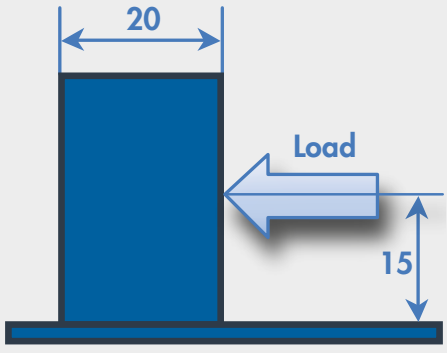


	$h^{+0.1}$	$d_1^{+0.1}$	d_2
ATC10	2.6	6	4.3
ATC20	3.1	7.5	5.3

The thrust, tensile or bending loads acting via one or both sleeves on the installed screw-on cleat are absorbed by the whole **ATC-IN** insert. Due to the introduction of force into the base belt over a large area, very high stability and functional reliability of the screw-on cleat fastening can be achieved with the **ATC-System**.

With an acting load on the screw-on cleat with a width of 50 mm and a force applied at a height of 15 mm, the following average breaking loads for the connection can be assumed for an **ATC-IN**-M4–25 insert:

ATC-IN insert	Average breaking load of an ATC connection
ATC-IN M4–25 RF	5200 N



Screw-on cleat with dimensions:
50 x 30 x 20 mm (w x h x d)

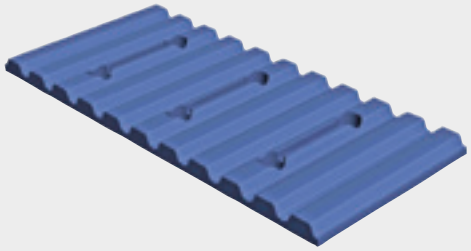
The values relate to a cleat with a load applied at a height of 15 mm. The values will vary for differently applied loads.

optibelt ATC-IN INSERTS

ASSIGNMENT TO BELT PROFILES AND PROPERTIES

Belt width [mm]	Belt profile	ATC insert	Number of inserts	Centre distance between threads [mm]	Thread	Minimum length for smallest belt width [mm] [1]	Note
25–150	AT10	ATC-IN M4–14	freely selectable depending on belt width	14 or free between inserts	M4	700	ALPHA SPECIAL
40–150	AT10	ATC-IN M4–25	freely selectable depending on belt width	25 or free between inserts	M4	700	ALPHA SPECIAL
45–150	AT20	ATC-IN M5–25	freely selectable depending on belt width	25 or free between inserts	M5	900	ALPHA SPECIAL

[1] Minimum length for larger widths on request; observe minimum lengths of base belts



optibelt ALPHA SPECIAL with AT profile with subsequently produced recesses including through-holes

For even smaller widths of **optibelt ALPHA SPECIAL** of 25 mm, we recommend using the second standard insert **optibelt ATC-IN** M4–14. This insert corresponds to the connecting dimensions of an **optibelt ATC-IN** M4–25 insert, but with a centre distance reduced from 25 mm to 14 mm.

optibelt ATC-IN inserts are available in batch sizes of 10/25/100 pieces.

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