

LATCH LOCKS

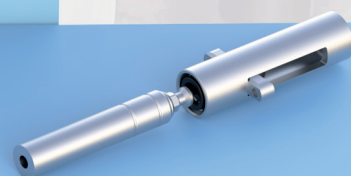
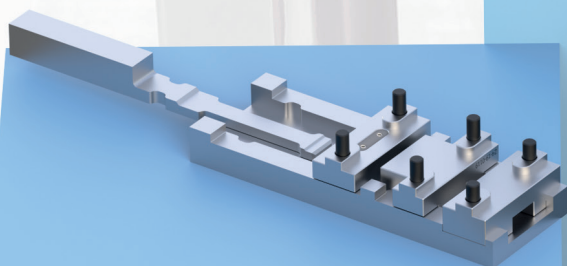
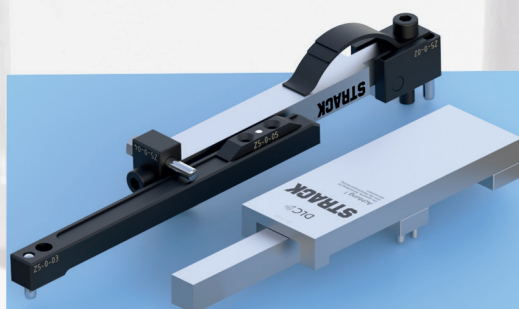
As individual as
your requirements.

Teile-Nr. Z4-15-02-S L 270
Komm.-Nr. 3167810
DLC

STRACK

ACHTUNG!

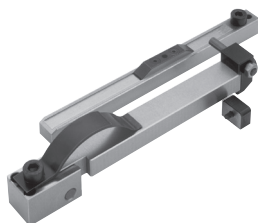
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über die Werkzeugsicherung
abzusichern



STRACK®

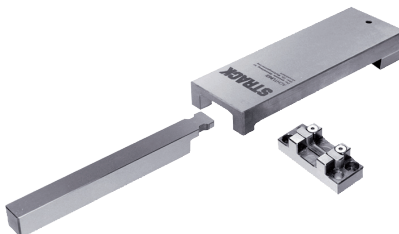
NORMALIEN

Z5



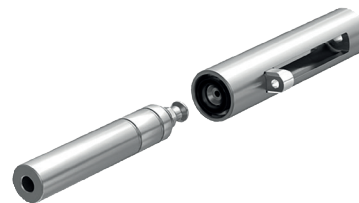
Hook latchlock

Z4



Flat latch lock

Z3



Round latch lock

The hook latchlock Z5 started the success story of the STRACK latch locks in 1976. Starting with 2 sizes at that time, the latch lock Z5 is currently available in 5 sizes and 3 variants.

Even after 45 years there is no way around the Z5 latch lock, when it concerns the use in extremely rough environments, such as the die casting production. If the latch lock Z5 is used on injection moulding tools, an extremely long service life can be achieved if the guidelines are observed and regular maintenance is carried out.

The Z4-5 is the strongest latch lock and is always manufactured according to customer specifications. All others can be supplied as standard parts but also ready for installation. For this purpose, the latch arm and the cam arm are cut to length according to the customer's specifications and additionally the cam is screwed and pinned to the cam arm.

In 1979 Strack Norma supplemented the latch lock Z5 with the flat latch lock Z4. At that time the classic three-plate applications advanced the development of the latch lock Z4. The flat latch lock Z4 is characterized by the fact that it locks the pulled plate and secures it there until the tension bar unlocks again by retracting. Meanwhile flat latch locks are available in 5 dimensions, with and without retardation and in one variant as a two stage ejector. In addition, there are three different possibilities of fixing the tension bar, the traverse and the latch housing.

The series of the latch locks Z4 is rounded off by the double stroke latch lock Z4-19. With the latch lock Z4-19 different ways can be travelled with one pair of latches, whereby both pulled plates can also be locked. The 4-19 is always manufactured according to customer specifications. For this purpose, the customer receives CAD drawings in advance.

In the course of customer surveys at the end of the 1990s, it became apparent that a variant for internal installation was missing. This could be remedied in 1998 with the new round latch lock Z3.

The round latch lock Z3 is required when nothing can or may be screwed to the outside of the mould. Usually it is installed as latch lock but it can also be installed as a two-stage ejector in the case of a double ejector package. The position of the latch bar is a functional dimension and can easily be adjusted by means of spacers Z59. The different thermal expansions from the nozzle side to the ejector side can be compensated. Please observe the installation instructions.

Strack Norma can supply the round latch locks with latch bars cut to length.



The high art of ejection

The latch lock system Z4 to move mould plates in tools is a development of the company STRACK NORMA from Lüdenschheid. Now, the variant Z4-40 is available which can especially be used for larger tools with a tensile strength of up to 80 KN per latch lock. These latch locks are designed for plate sizes of more than 996 x 996 mm.

Latch locks have already been launched to the market by STRACK NORMA in the seventies. Due to the many combination possibilities and the high diversity of variants these latch locks are internationally well-known. In France, for example, the latch-locks are generally called “Les Stracks”.

Additional parting plane

Latch locks will always be used where an additional parting plane has to be created. For example, at some housing parts in which the adhesive forces in the mould are so high that at first it must be parallelly demoulded with a stripper plate before the ejector may become operational in order that the moulded part is not damaged or destroyed by the ejector pin.

A wide range of applications

In general, concerning the applications, it can be distinguished between latch-locks which are actuated by the stroke of the tool and latch locks which are controlled by the ejector stroke. At latch-locks which are actuated by the opening of the tool distinction is made between latch locks with and

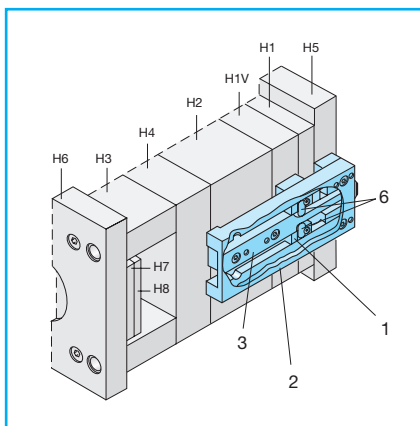
without retardation depending on whether at first the additional parting plane or the main parting plane is opened. Should the additional parting plane be opened reliably before the main parting plane, a

latch-lock without retardation is used.

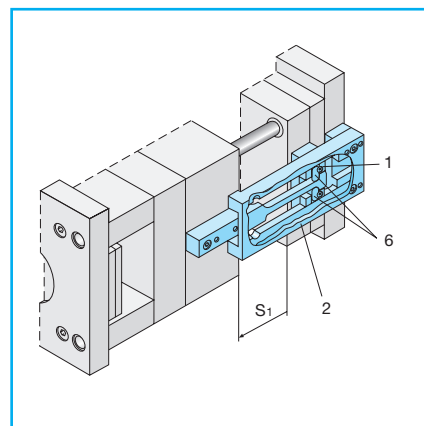
Should the main parting plane be opened at first to a defined level and then the additional parting plane be opened, to advance subsequently the

Functioning of a latch-lock with retardation

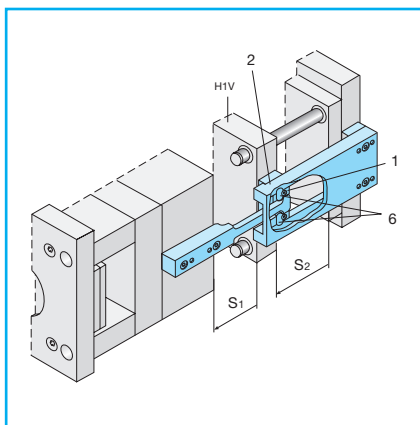
Meaning: 1 latch housing, 2 control plates, 3 traction bars, 5 catch, catch stops, S1,S2,S3 strokes, H1V mould plate



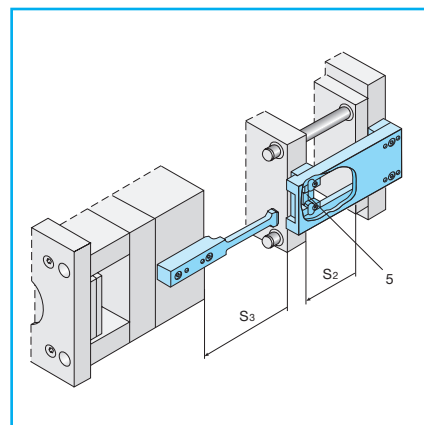
Closed mould



Opening parting plane 1



Opening parting plane 2



Mould completely opened

main parting plane completely, normally latch-locks with retardation are used.

The classic

An application example for this is the classic three-plate tool. Due to the tool movement, the moulded parts are separated at the pin-point gate by the distributor, the distributor is demoulded in the additional parting plane and the moulded parts are ejected in the main parting plane. The latch locks are assembled on the tool sides whereby at least two latch locks must be used which have to be adjusted free of play.

Two stage ejector

Another variant is the control of the latch locks by the ejector. Here a distinction is made between the combination stripper plate with ejector plates and the combination as double ejector set. The two stage ejector is used as a combination stripper plate with ejector

plates if the ejector set and the stripper plate have to open together whereby the stripper plate has to stop after a defined way, the ejector however has to advance completely. The two-stage ejector as ejector set however is used, for example, if undercuts must be released with the first set and only then, the part may only be ejected with the second set.

Production increasing

The latch-locks of the series Z4 allow high opening- and closing speeds due to low moving masses. Thus the utilisation is also ensured with high-speed tools.

Reliable

All wear parts are hardened. Additional stop elements are not needed. The high traction performance is reached by centric power transmission by means of two catches. Due to the fact that the forces are transferred torque-free, the wear is minimized.

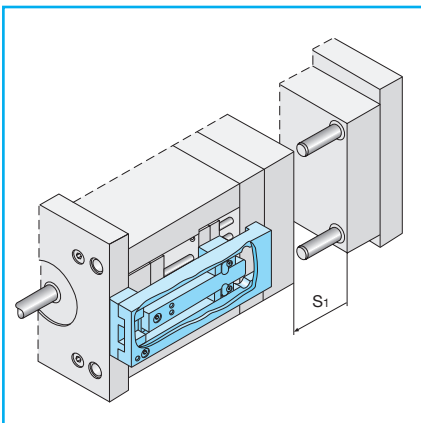
Easy mounting

For the mounting an even screw-on surface on the tool is sufficient. Traction bar and control plate are nitrited. So, with standard workshop tools, both parts can be shortened, positioned and provided with mounting holes. Additional stop elements, for example, guide screws are not needed. The latch locks can be adjusted evenly and free-of-play.

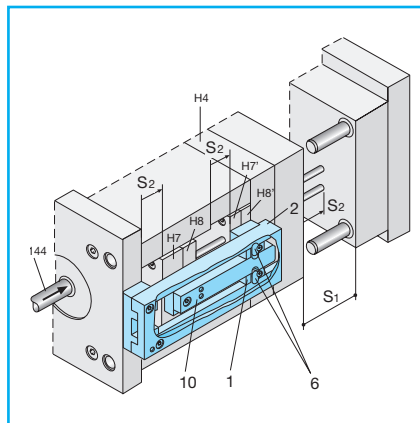
The simple mechanical construction, the proven design and the operation which is production-safe due to forced control characterize the latch lock compared to other designs, for example by the hydraulic cylinders which are operated by the machine control system.

Functioning as two-stage ejector with control by ejector rod Z144

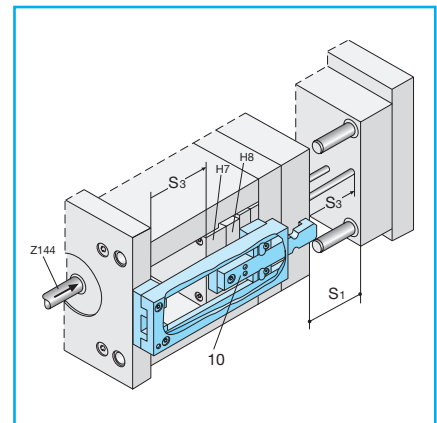
Meaning: 1 latch housing, 2 stops of the control plate, 6 catches, 10 ejector bar, H7, H8, ejector sets, S1, S2, S3 strokes, Z144 ejector bolts



Mould opened



Both ejector sets make the stroke S2

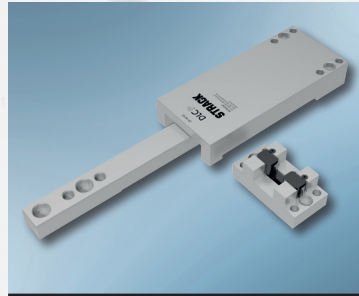


Ejector set (H7/H8) makes the stroke S3

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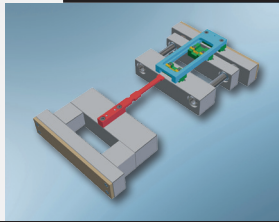


2016

Latch lock Z4-40/42
for the largescale mould
making with DLC coating on
catches and catch stops

2004

Latch-lock Z4-19
Double stroke
latch lock



1998

Z3-3
round latch lock



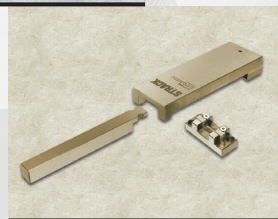
1992

Latch lock Z4-1
with tongue- and
groove joint



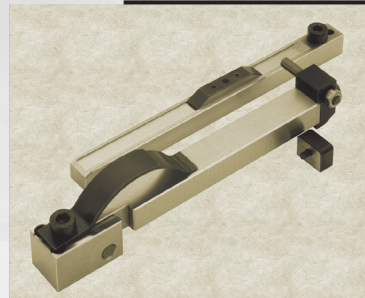
1979

Latch lock Z4-1
in 3 dimensions



1976

1. STRACK latch-lock
as Z5 in 2 sizes



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1
KL2
89,85 mm Weg

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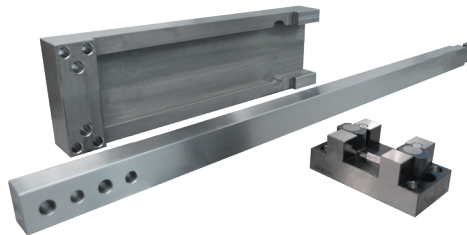
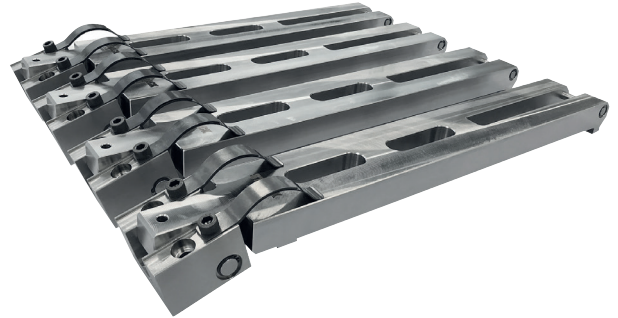
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Special latch locks

The wide range of latch locks allows the user new design freedom, while being supported by the application engineers in Lüdenscheld during the mould design phase.

The design takes into account the parameters of the platen movement sequence, platen thicknesses and strokes as well as the operating conditions (temperatures in the mould, with or without hot runner, etc.).

The solutions for realising movement sequences are as individual as the moulds of today. In addition to standard solutions, this very often leads to a multitude of special solutions, which are elaborated for the customer in „Team 1 - demoulding elements/ slides/ switches“ of Strack Norma.



Have we aroused your interest?

Then please contact us at

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