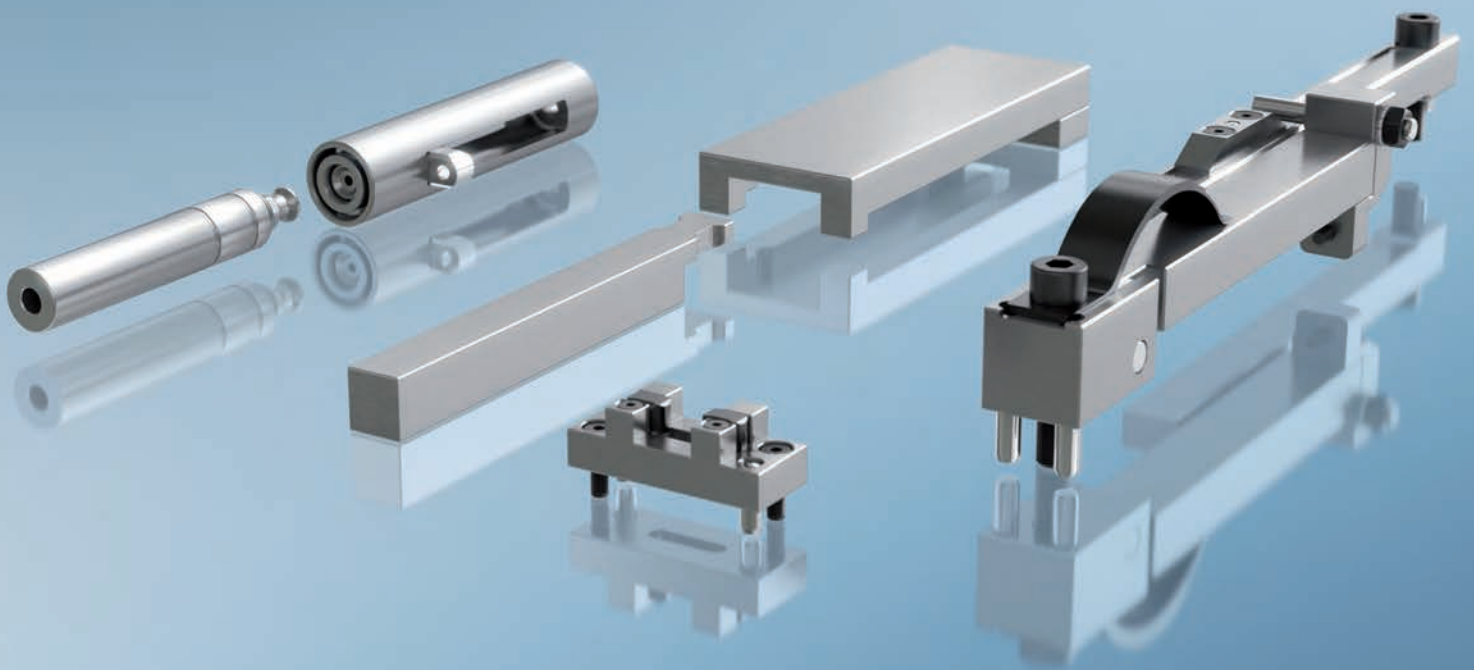
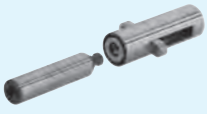
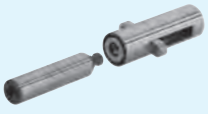
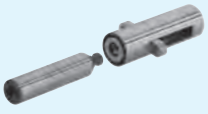
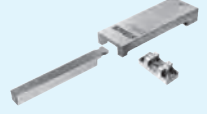
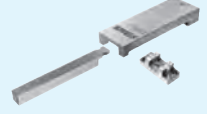
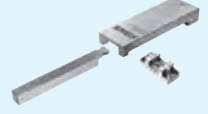














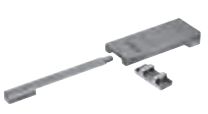
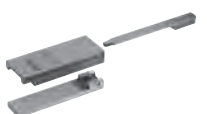






STRACK[®]
NORMALIEN



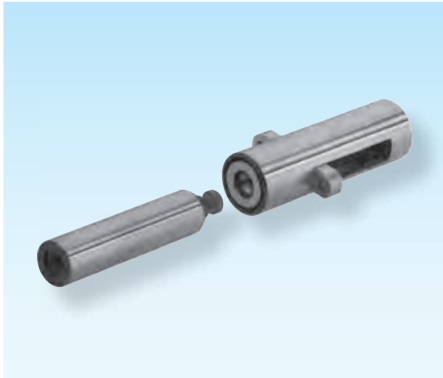
KLINGENZÜGE
LATCH LOCKS
OUVRES-MOULES

					
Z 3-1/3-11 6.6	Z 3-2/3-21 6.8	Z 3-3/3-31 6.10	Z 4-1 6.12	Z 4-15 6.14	Z 4-2 6.16
					
Z 4-11 6.20	Z 4-16 6.22	Z 4-21 6.24	Z 4-12 6.28	Z 4-17 6.29	Z 4-22 6.30
					
Z 4-30 6.32	Z 4-32 6.33	Z 5-0 6.35	Z 5-1 6.36	Z 5-2 6.37	Z 5-31 6.38
					
Z 5-32 6.39	Z 5-4 6.40	Z 6-1/6-15/6-2 6.42	Z 7-1/7-15/7-2 6.44	Z 4-19 6.46A	
					
deutsch 6.82	english 6.112	français 6.142			

Rundklinkenzüge

Round latch locks


Crochets cylindriques

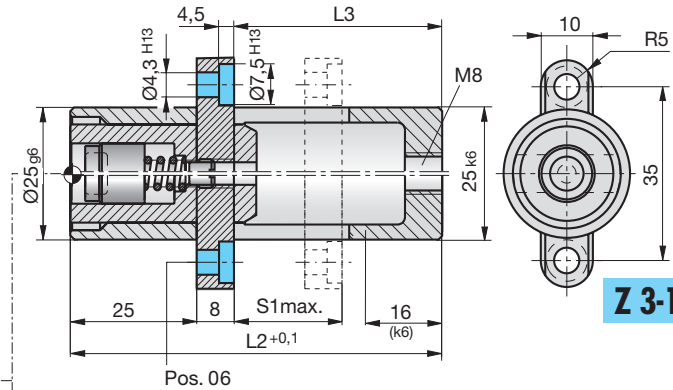
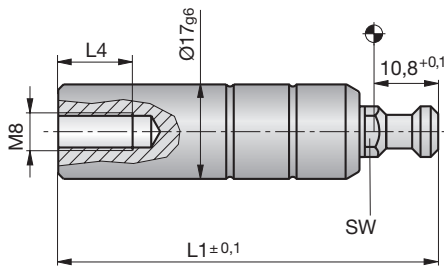


S1max.	L1	L2	L3	L4	S1max.	L1	L2	L3	L4
16	45	66	33	20	40	100	90	57	40
16	70	66	33	40	40	125	90	57	40
16	100	66	33	40	60	125	110	77	40
					60	150	110	77	40

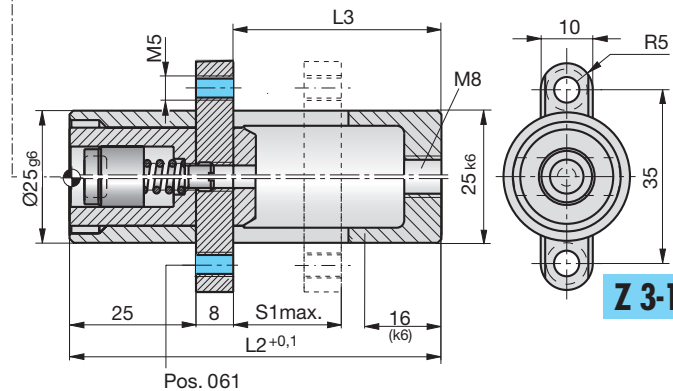
Z 3-1-
Z 3-11-

i deutsch 6.82-88
english 6.112-118
français 6.142-148

 Z 3-1-S1max-L1



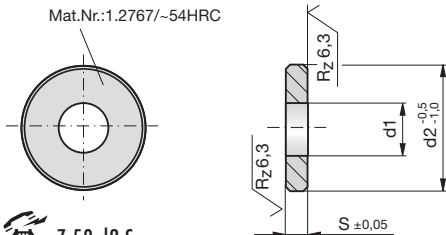
Z 3-1




Z 3-11

**Distanzscheiben
Distance washers
Cale d'épaisseur**

Mat.Nr.:1.2767/-54HRC

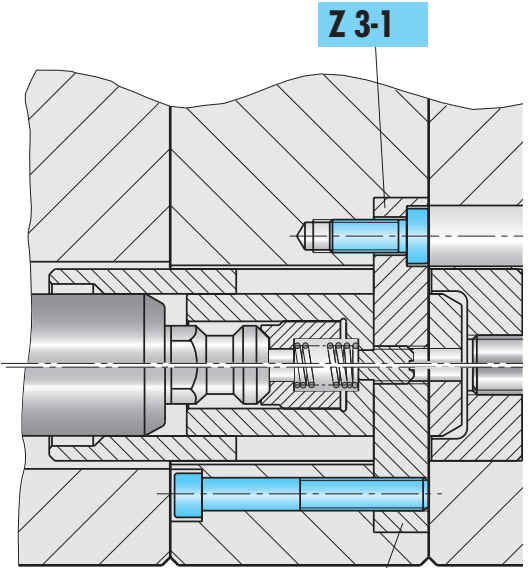
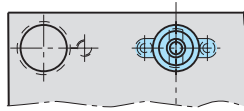
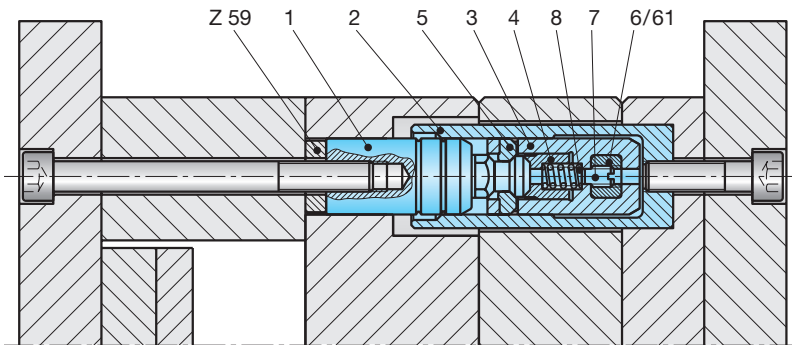


 Z 59-d2-S

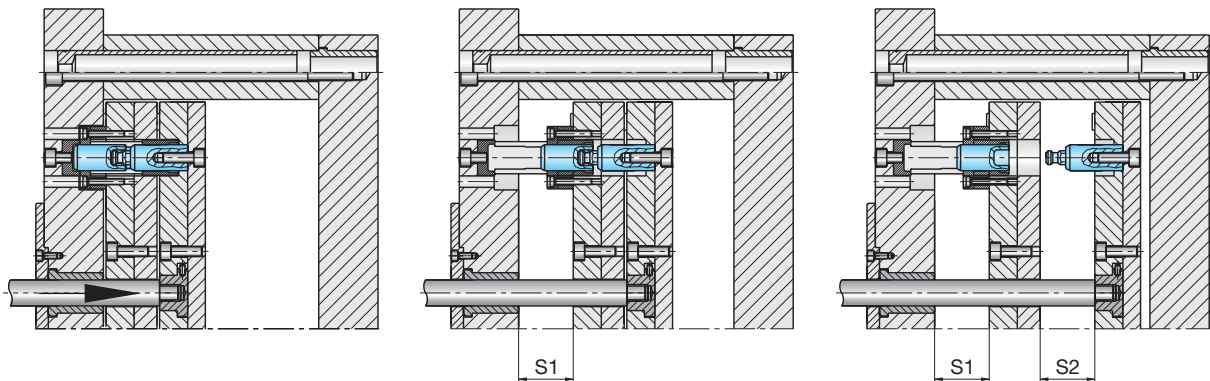
d2	S	d1	d2	S	d1
17	5	8,5	25	5	8,5
	10	8,5		10	8,5

Z 3-1- ... Z 3-11-

Einbau als Klinkenzug
Installation as latch lock
Montage d'Ouvres-moules



Einbau als Zweistufenauswerfer
Installation as Two stage ejector
Montage d'éjecteur a deux etages

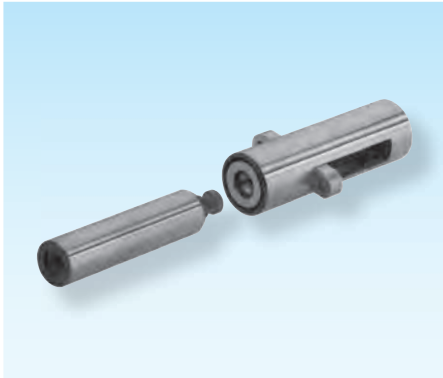


Type	Pos. Item Pos.	L1	L2	Bezeichnung	Description	Désignation	Stück Quant. Nbr.	Mat.-Nr. Mat.-No	Festigkeit Hardness Résistance
1/11	01	45	-	Zugbolzen	Latch bar	Colonne d'attelage	1	1.5920	58 HRC
	01	70	-	Zugbolzen	Latch bar	Colonne d'attelage	1	1.5920	58 HRC
	01	100	-	Zugbolzen	Latch bar	Colonne d'attelage	1	1.5920	58 HRC
	01	125	-	Zugbolzen	Latch bar	Colonne d'attelage	1	1.5920	58 HRC
	01	150	-	Zugbolzen	Latch bar	Colonne d'attelage	1	1.5920	58 HRC
1/11	02	-	66	Gehäuse	Housing	Boîtier cylindrique fendu	1	1.5920	58 HRC
	02	-	90	Gehäuse	Housing	Boîtier cylindrique fendu	1	1.5920	58 HRC
	02	-	110	Gehäuse	Housing	Boîtier cylindrique fendu	1	1.5920	58 HRC
1/11	03	-	-	Kolben	Piston	Piston	1	1.2343	52 HRC
	04	-	-	Sicherungsbuchse	Securing ring	Manchon de retenue	1	1.2379	56 HRC
	05	-	-	Rasten	Catches	Segments	2	1.2379	56 HRC
1	06	-	-	Mitnehmer	Driver	Barrette d'entraînement	1	1.2343	52 HRC
11	061	-	-	Mitnehmer	Driver	Barrette d'entraînement	1	1.2343	52 HRC
1/11	07	-	-	Gewindestift M5x8	Socket set screw M5x8	Vis fendue sans tête M5x8	1	DIN 915	
	08	-	-	Feder	Spring	Ressort	1	1.7103	

Rundklinkenzüge

Round latch locks

Crochets cylindriques

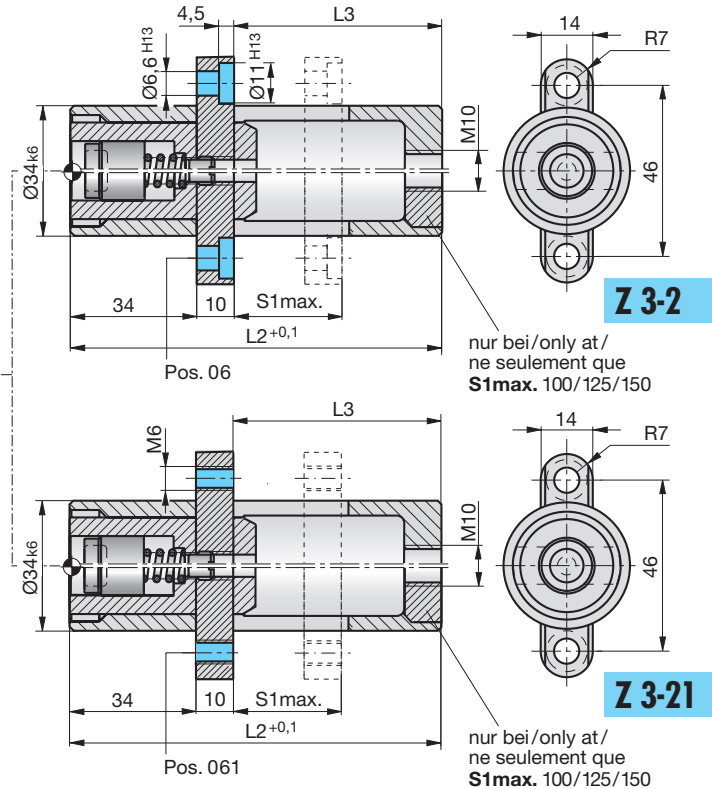
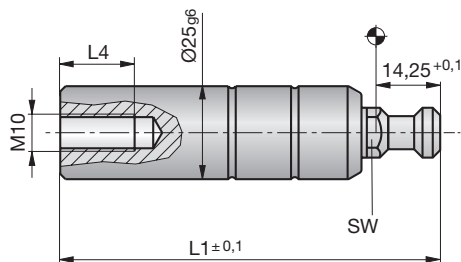


S1max.	L1	L2	L3	L4	S1max.	L1	L2	L3	L4
25	70	86	42	40	100	220	161	117	40
25	120	86	42	40	100	270	161	117	40
25	170	86	42	40	125	220	186	142	40
50	120	111	67	40	125	270	186	142	40
50	170	111	67	40	150	220	211	167	40
75	120	136	92	40	150	270	211	167	40
75	170	136	92	40					

Z 3-2-
Z 3-21-

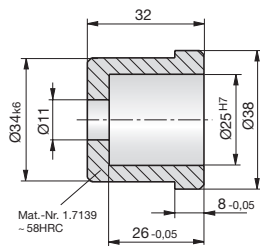
i deutsch 6.82-88
english 6.112-118
français 6.142-148

Z 3-2-S1max-L1



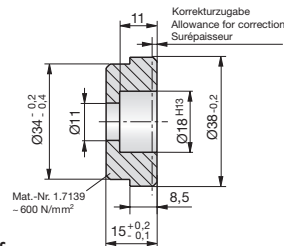
6

Führungsbuchse
Guide bush
Bague de guidage



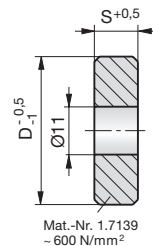
Z 3-2-Pos.

Gegenlager
Counter bearing
Butée



Z 3-2-Pos.

Distanzscheiben
Distance washers
Cale d'épaisseur



Z 3-2-Pos.-S

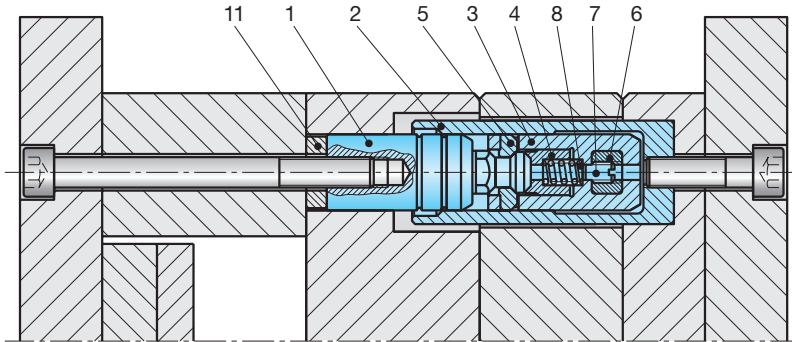
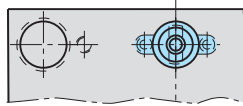
Pos.
09

Pos.
10

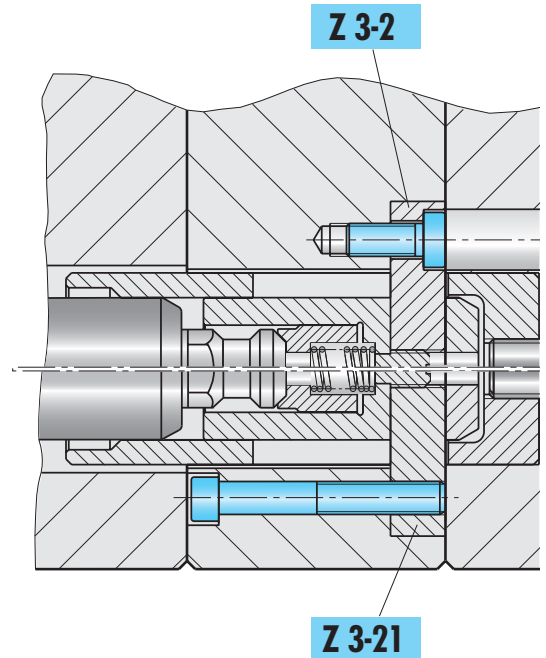
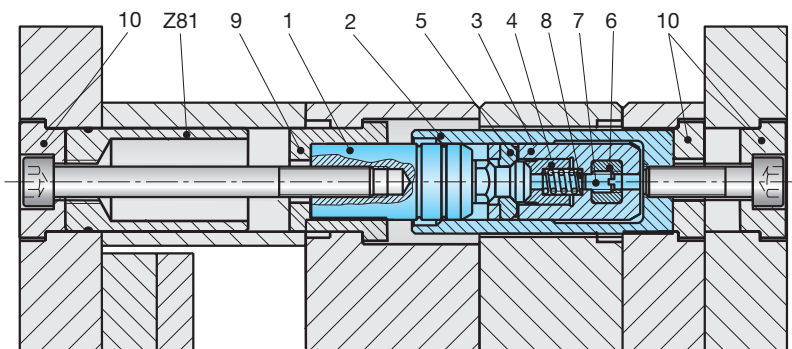
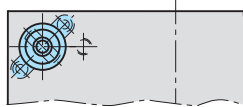
Pos.	S	D	Pos.	S	D
11	5	25	12	5	34
	10	25		10	34

Z 3-2- ... Z 3-21-

Einbau unabhängig vom Führungssystem
Installation independent of guide system
Montage indépendant du système de guidage



Einbau in die Führungssystembohrungen
Installation in the guide system bores
Montage dans les alésages du système de guidage

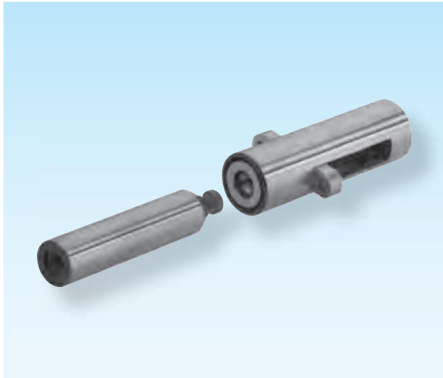


Type	Pos. Item Pos.	L1	L2	Bezeichnung	Description	Désignation	Stück Quant. Nbr.	Mat.-Nr. Mat.-No Mat.-Nr.	Festigkeit Hardness Résistance
2/21	01	70	-	Zugbolzen	Latch bar	Colonne d'attelage	1	1.5920	58 HRC
	01	120	-	Zugbolzen	Latch bar	Colonne d'attelage	1	1.5920	58 HRC
	01	170	-	Zugbolzen	Latch bar	Colonne d'attelage	1	1.5920	58 HRC
	01	220	-	Zugbolzen	Latch bar	Colonne d'attelage	1	1.5920	58 HRC
	01	270	-	Zugbolzen	Latch bar	Colonne d'attelage	1	1.5920	58 HRC
2/21	02	-	86	Gehäuse	Housing	Boîtier cylindrique fendu	1	1.5920	54 HRC
	02	-	111	Gehäuse	Housing	Boîtier cylindrique fendu	1	1.5920	54 HRC
	02	-	136	Gehäuse	Housing	Boîtier cylindrique fendu	1	1.5920	54 HRC
	02	-	161	Gehäuse	Housing	Boîtier cylindrique fendu	1	1.5920	54 HRC
	02	-	186	Gehäuse	Housing	Boîtier cylindrique fendu	1	1.5920	54 HRC
	02	-	211	Gehäuse	Housing	Boîtier cylindrique fendu	1	1.5920	54 HRC
2/21	03	-	-	Kolben	Piston	Piston	1	1.2343	52 HRC
	04	-	-	Sicherungsbuchse	Securing ring	Manchon de retenue	1	1.2379	56 HRC
	05	-	-	Rasten	Catches	Segments	2	1.2379	56 HRC
2	06	-	-	Mitnehmer	Driver	Barrette d'entraînement	1	1.2343	52 HRC
21	061	-	-	Mitnehmer	Driver	Barrette d'entraînement	1	1.2343	52 HRC
2/21	07	-	-	Gewindestift M6x8	Socket set screw M6x8	Vis fendue sans tête M6x8	1	DIN 915	
	08	-	-	Feder	Spring	Ressort	1	1.7103	

Rundklinkenzüge

Round latch locks

Crochets cylindriques

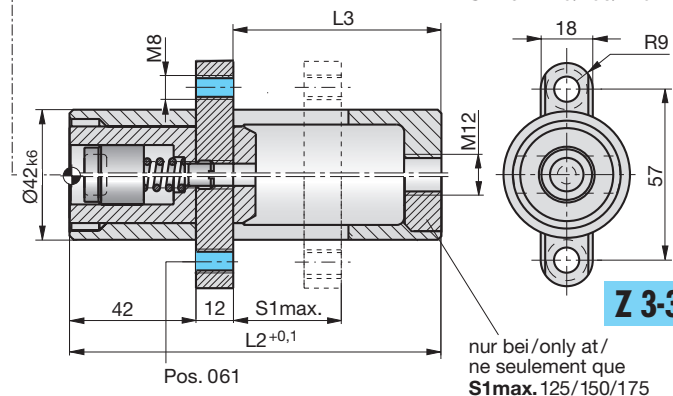
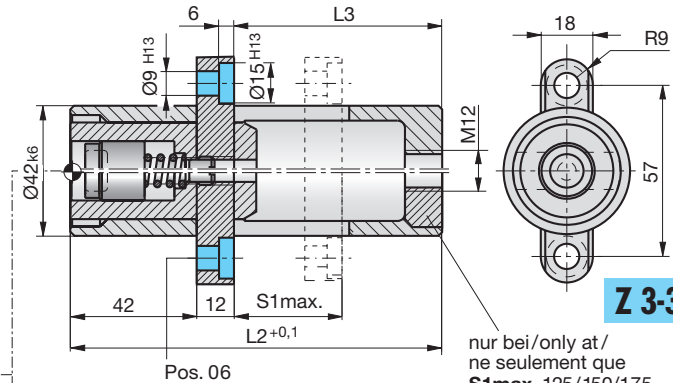
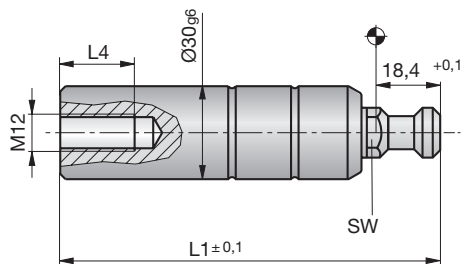


S1max.	L1	L2	L3	L4	S1max.	L1	L2	L3	L4
50	125	130	76	50	125	275	205	151	50
50	175	130	76	50	125	325	205	151	50
50	225	130	76	50	150	275	230	176	50
75	175	155	101	50	150	325	230	176	50
75	225	155	101	50	175	275	255	201	50
100	175	180	126	50	175	325	255	201	50
100	225	180	126	50					

**Z 3-3-
Z 3-31-**

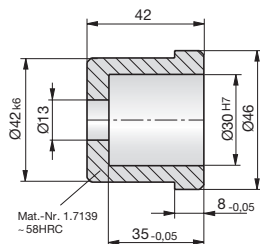
i deutsch 6.82-88
english 6.112-118
français 6.142-148

Z 3-3-S1max-L1



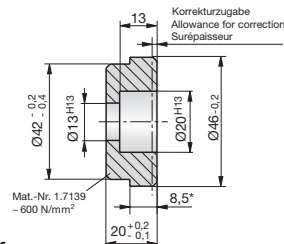
6

**Führungsbuchse
Guide bush
Bague de guidage**



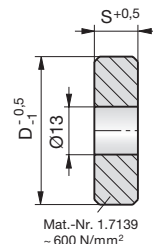
Z 3-3-Pos.

**Gegenlager
Counter bearing
Butée**



Z 3-3-Pos.

**Distanzscheiben
Distance washers
Cale d'épaisseur**



Z 3-3-Pos.-S

Pos.
09

Pos.
10

Pos.
11
10

S
5
30

D
30
30

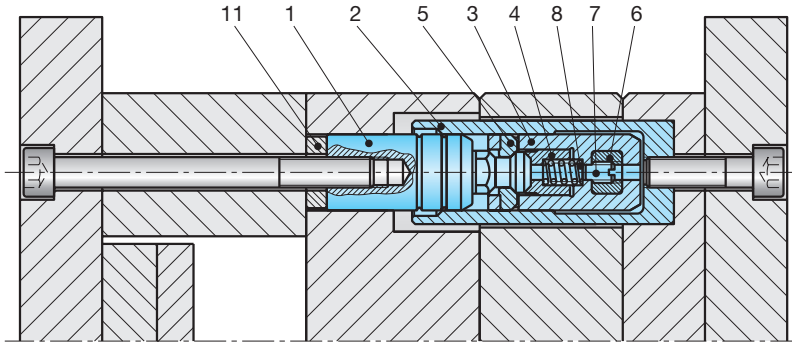
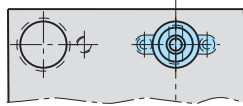
Pos.
12
10

S
5
10

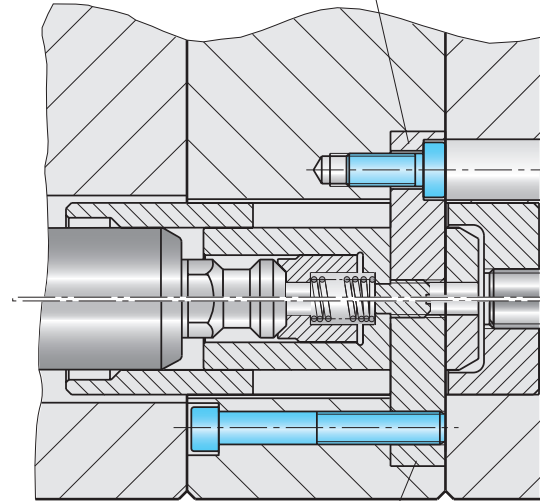
D
42
42

Z 3-3- ... Z 3-31-

Einbau unabhängig vom Führungssystem
Installation independent of guide system
Montage indépendant du système de guidage

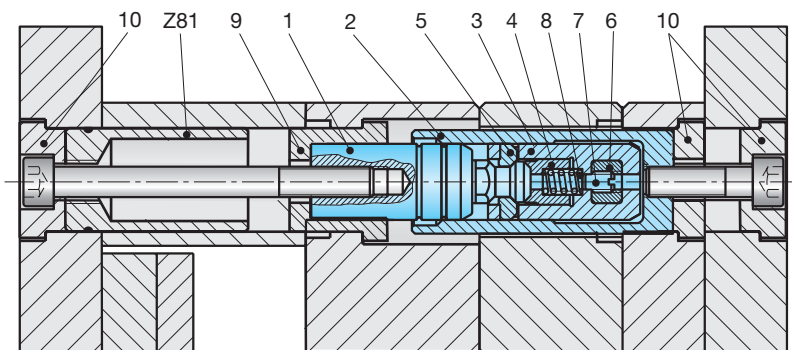


Z 3-3



Z 3-31

Einbau in die Führungssystembohrungen
Installation in the guide system bores
Montage dans les alésages du système de guidage



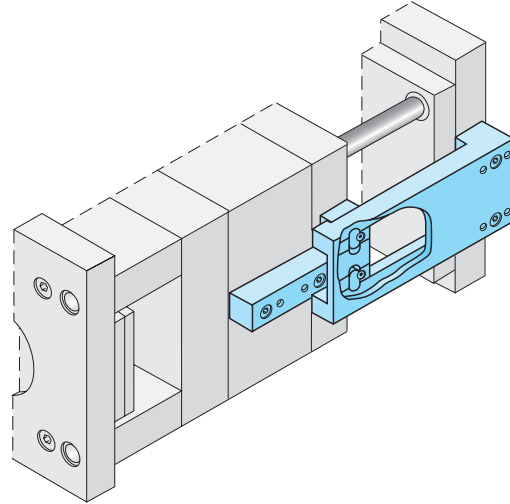
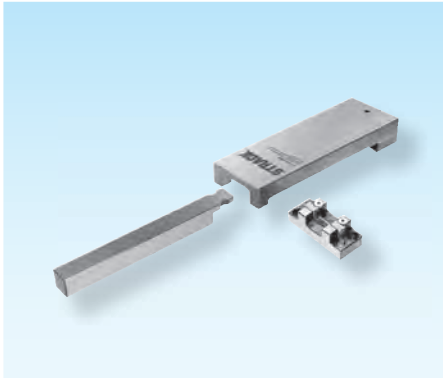
6

Type	Pos. Item Pos.	L1	L2	Bezeichnung	Description	Désignation	Stück Quant. Nbr.	Mat.-Nr. Mat.-No Mat.-Nr.	Festigkeit Hardness Résistance
3/31	01	125	-	Zugbolzen	Latch bar	Colonne d'attelage	1	1.5920	58 HRC
	01	175	-	Zugbolzen	Latch bar	Colonne d'attelage	1	1.5920	58 HRC
	01	225	-	Zugbolzen	Latch bar	Colonne d'attelage	1	1.5920	58 HRC
	01	275	-	Zugbolzen	Latch bar	Colonne d'attelage	1	1.5920	58 HRC
	01	325	-	Zugbolzen	Latch bar	Colonne d'attelage	1	1.5920	58 HRC
3/31	02	-	130	Gehäuse	Housing	Boîtier cylindrique fendu	1	1.5920	54 HRC
	02	-	155	Gehäuse	Housing	Boîtier cylindrique fendu	1	1.5920	54 HRC
	02	-	180	Gehäuse	Housing	Boîtier cylindrique fendu	1	1.5920	54 HRC
	02	-	205	Gehäuse	Housing	Boîtier cylindrique fendu	1	1.5920	54 HRC
	02	-	230	Gehäuse	Housing	Boîtier cylindrique fendu	1	1.5920	54 HRC
	02	-	255	Gehäuse	Housing	Boîtier cylindrique fendu	1	1.5920	54 HRC
3/31	03	-	-	Kolben	Piston	Piston	1	1.2343	52 HRC
	04	-	-	Sicherungsbuchse	Securing ring	Manchon de retenue	1	1.2379	56 HRC
	05	-	-	Rasten	Catches	Segments	2	1.2379	56 HRC
3	06	-	-	Mitnehmer	Driver	Barrette d'entraînement	1	1.2343	52 HRC
31	061	-	-	Mitnehmer	Driver	Barrette d'entraînement	1	1.2343	52 HRC
3/31	07	-	-	Gewindestift M6x8	Socket set screw M6x8	Vis fendue sans tête M6x8	1	DIN 915	
	08	-	-	Feder	Spring	Ressort	1	1.7103	

Klinkenzüge

Latch locks

Ouvres-moules



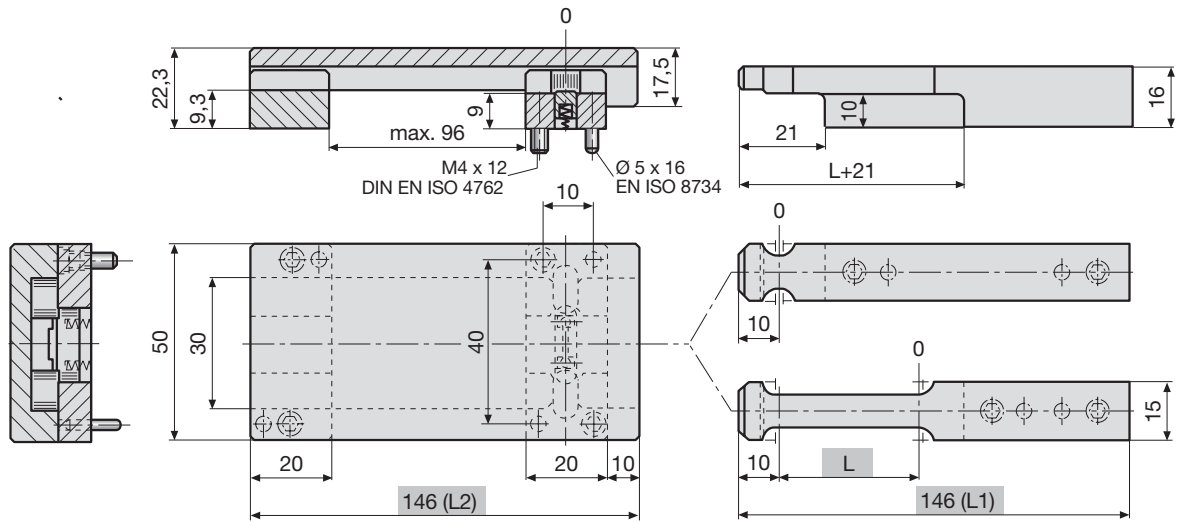
Z 4-1-

i deutsch **6.89-98**
english **6.119-128**
français **6.149-158**

 Z 4-1-Type

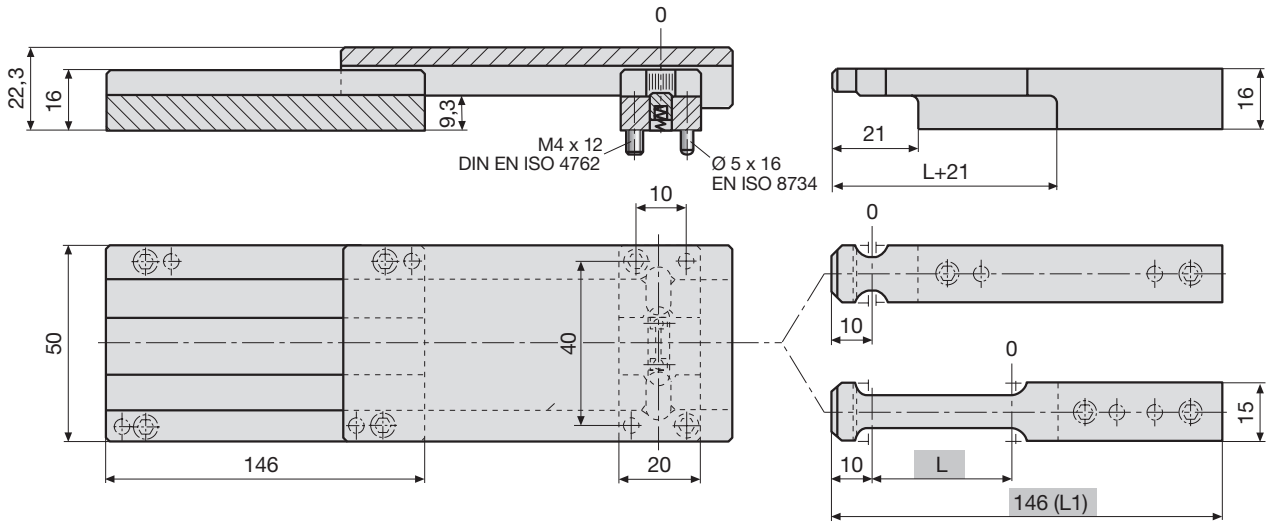


6

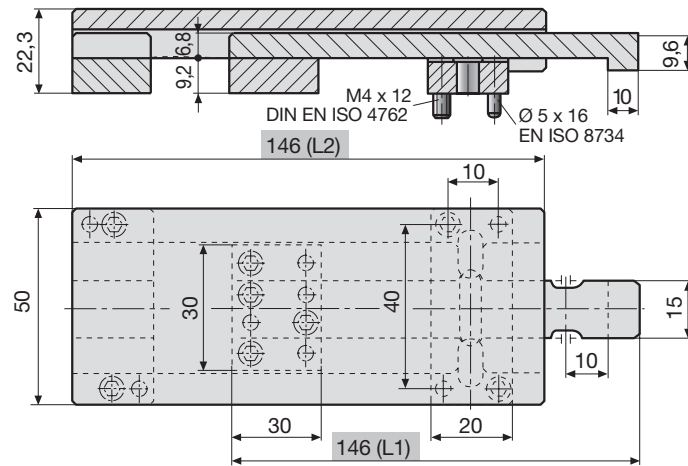


Type	L	Type	L
0-0	0	50-0	50
25-0	25	75-0	75

Z 4-1-



Type	L	Type	L
0-41	0	50-41	50
25-41	25	75-41	75



Type
1-0



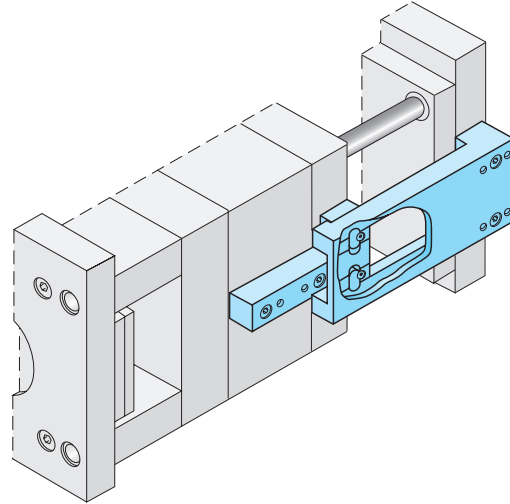
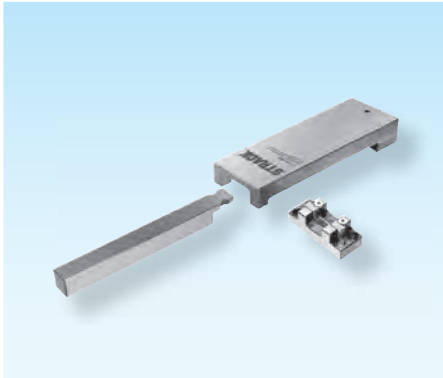
L , L1 , L2

in anderen Längen auf Anfrage
in other lengths on request
en autre longueurs sur demande

Klinkenzüge


Latch locks

Ouvres-moules



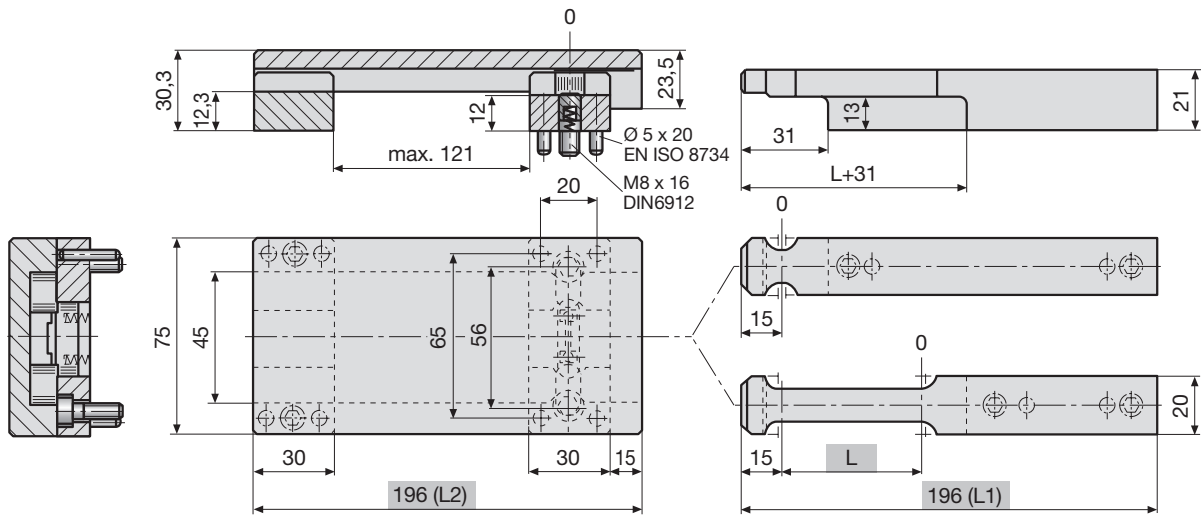
Z 4-15-

i deutsch **6.89-98**
english **6.119-128**
français **6.149-158**

 Z 4-15-Type

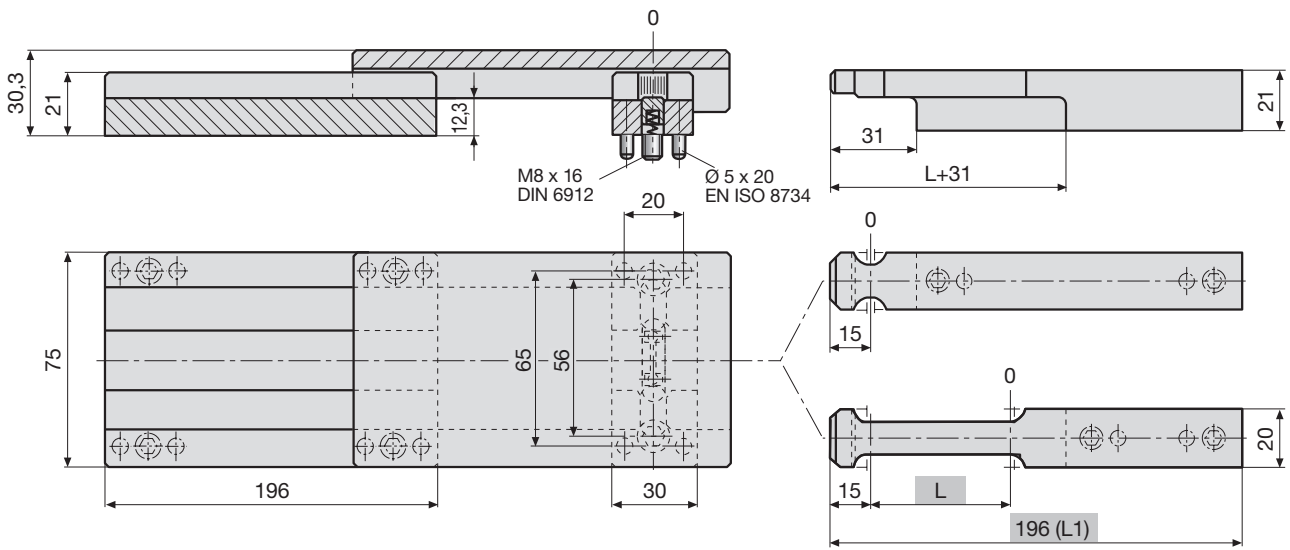


6

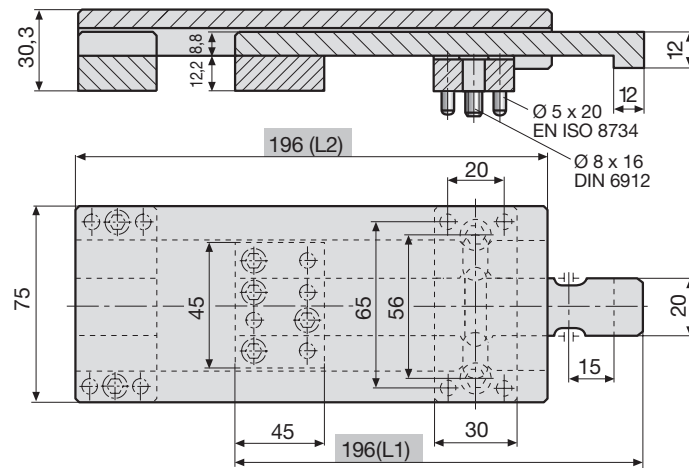


Type	L	Type	L
0-0	0	50-0	50
25-0	25	75-0	75

Z 4-15-



Type	L	Type	L
0-41	0	50-41	50
25-41	25	75-41	75



Type
1-0



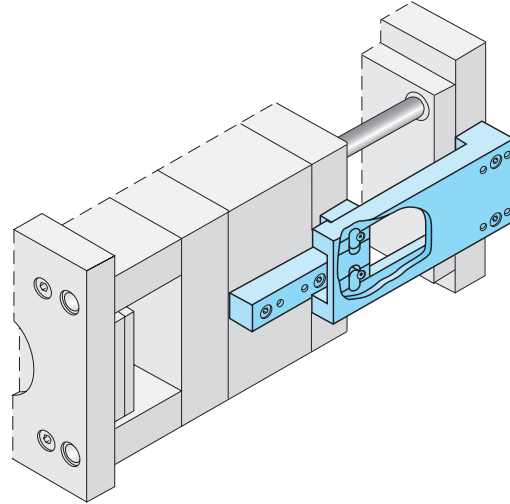
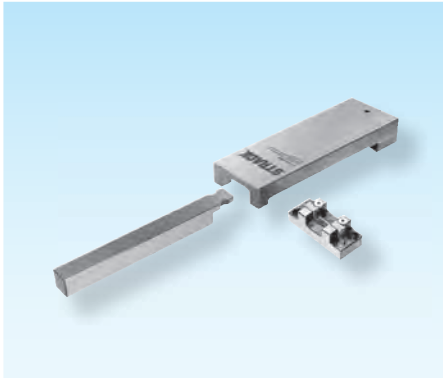
L , L1 , L2

in anderen Längen auf Anfrage
in other lengths on request
en autre longueurs sur demande

Klinkenzüge

Latch locks

Ouvres-moules



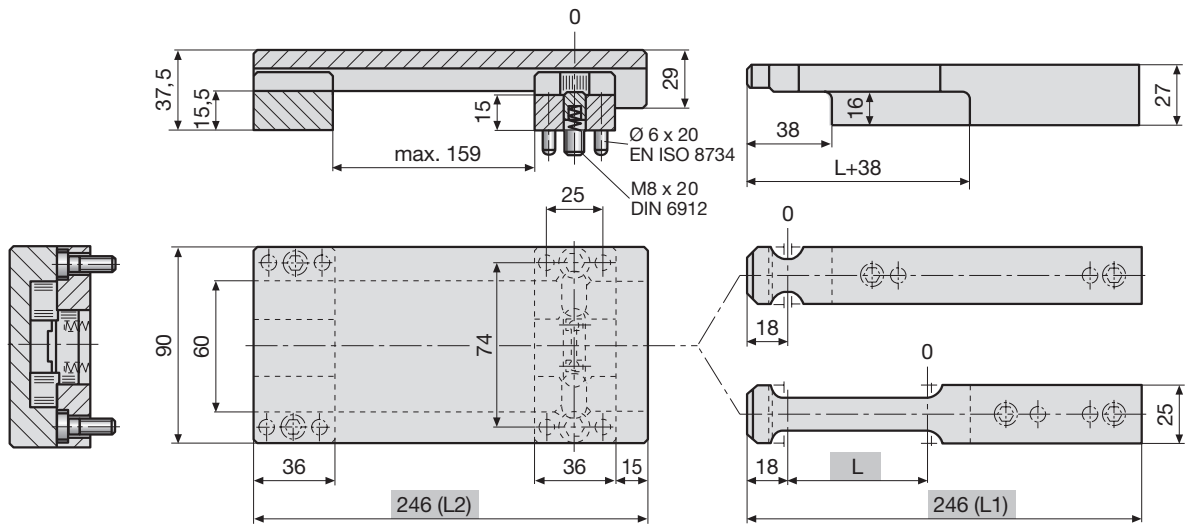
Z 4-2-

i deutsch **6.89-98**
english **6.119-128**
français **6.149-158**

 Z 4-2-Type

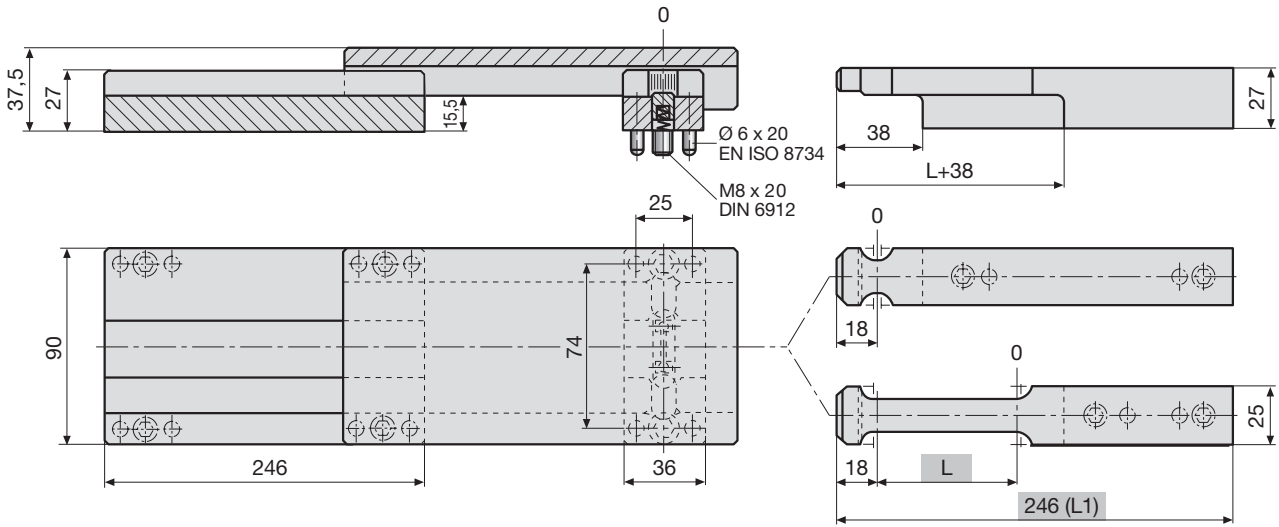


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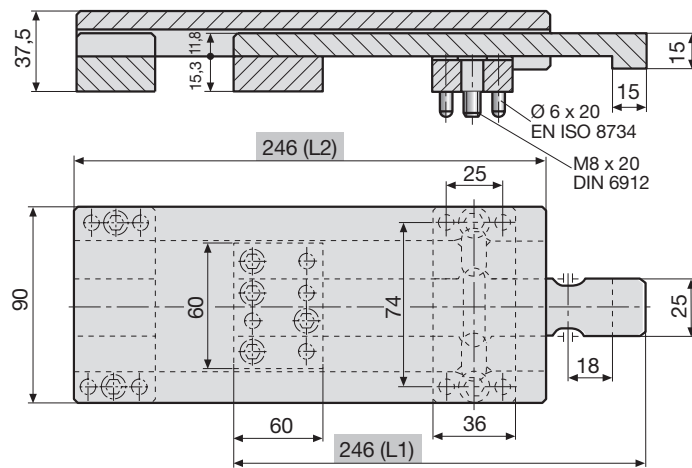


Type	L	Type	L
0-0	0	50-0	50
25-0	25	75-0	75

Z 4-2-



Type	L	Type	L
0-41	0	50-41	50
25-41	25	75-41	75









Type
1-0

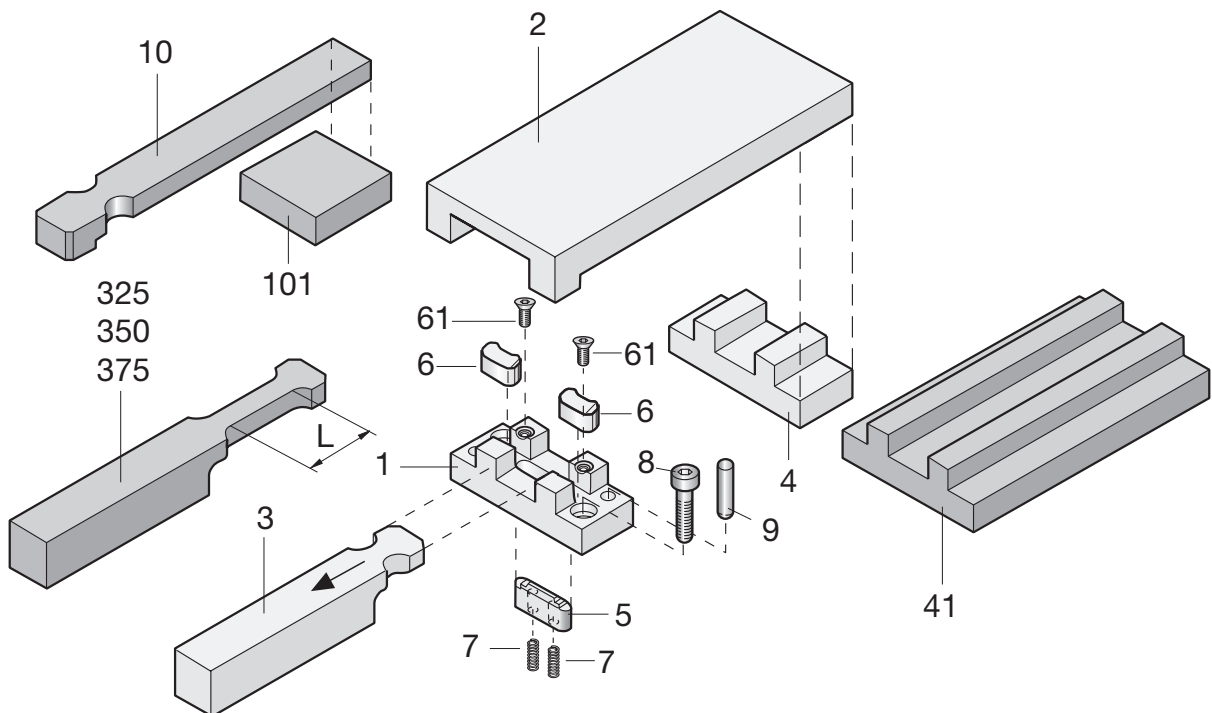


L , L1 , L2

in anderen Längen auf Anfrage
in other lengths on request
en autre longueurs sur demande

Klinkenzüge		Latch locks		Ouvres-moules	
Z 4-1-	<p>i deutsch 6.89-98 english 6.119-128 français 6.149-158</p>				
 Z 4-1-Type					
Z 4-15-	<p>i deutsch 6.89-98 english 6.119-128 français 6.149-158</p>				
 Z 4-15-Type					
Z 4-2-	<p>i deutsch 6.89-98 english 6.119-128 français 6.149-158</p>				
 Z 4-2-Type					

6



Z 4-1- ... Z 4-2-

Stückliste

Parts list

Liste des pièces

Type	Pos. Item Pos.	Bezeichnung	Description	Désignation	Stück Quant. Nbr.	Mat.-Nr. Mat.-No Mat.-Nr.	Symbol Symbol Symbole	Festigkeit Hardness Résistance
01	1	Klinkengehäuse	Latch housing	Support mobile	1	1.2767	X45NiCrMo4	48 HRC
02	2	Steuerplatte	Control plate	Plaque support	1	1.2162	21MnCr5	~630 HV 10 ¹⁾
03	3	Zugleiste	Latch bar	Crochet	1	1.2162	21MnCr5	~630 HV 10 ¹⁾
0325	325	Zugleiste m. Verzögerung, L = 25 mm	Latch bar with delay, L = 25 mm	Crochet de traction à retardement, L = 25 mm	1	1.2162	21MnCr5	~630 HV 10 ¹⁾
0350	350	Zugleiste m. Verzögerung, L = 50 mm	Latch bar with delay, L = 50 mm	Crochet de traction à retardement, L = 50 mm	1	1.2162	21MnCr5	~630 HV 10 ¹⁾
0375	375	Zugleiste m. Verzögerung, L = 75 mm	Latch bar with delay, L = 75 mm	Crochet de traction à retardement, L = 75 mm	1	1.2162	21MnCr5	~630 HV 10 ¹⁾
04	4	Traverse	Steady	Tasseau	1	1.1730	C45W3	~650 N/mm ²
041	41	Traverse, lang	Long steady	Tasseau long	1	1.1730	C45W3	~650 N/mm ²
05	5	Sperre	Catch stop	Verrou	1	1.2767	X45NiCrMo4	54 HRC
06	6	Raste	Catch	Clavette	2	1.2767	X45NiCrMo4	54 HRC
061	61	Senkschraube	Countersunk screw	Vis à tête fraisée	2			
07	7	Druckfeder	Spring	Ressort de pression du verrou	2			
08	8	Zylinderschraube	Cap screw	Vis 6 pans creux	2			
09	9	Zylinderstift	Dowel pin	Goupille cylindrique	2/4/4			
10	10	Ausstoßerleiste	Reverse latch bar	Poussoir	1	1.2162	21MnCr5	~630 HV 10 ¹⁾
101	101	Unterlage	Spacer	Support	1	1.1730	C45W3	~650 N/mm ²

¹⁾ Einsatzhärtetiefe (Eht)
Thickness of hardened layer = 0,4 - 0,6 mm
Épaisseur de la couche durcie

Lieferumfang

Scope of delivery

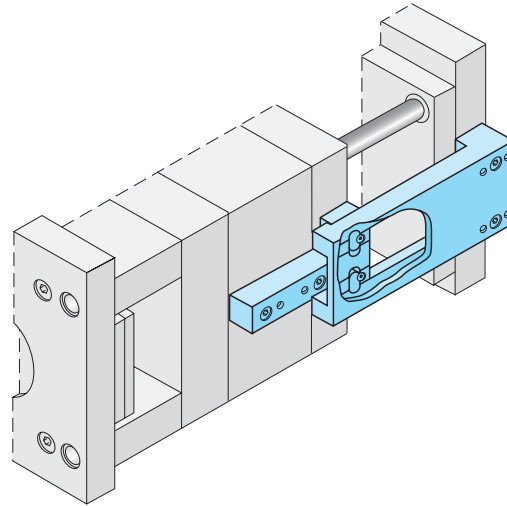
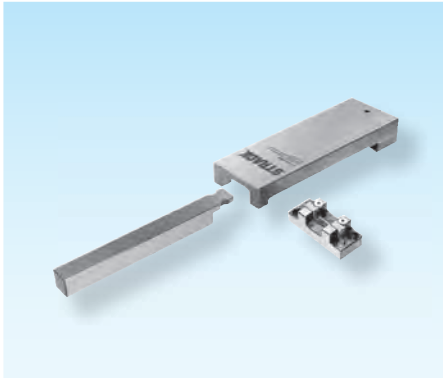
Contenu de la livraison

Z4-1-0-0 Z4-15-0-0 Z4-2-0-0	Z4-1-25-0 Z4-1-50-0 Z4-1-75-0 Z4-15-25-0 Z4-15-50-0	Z4-15-75-0 Z4-2-25-0 Z4-2-50-0 Z4-2-75-0	Z4-1-0-41 Z4-15-0-41 Z4-2-0-41	Z4-1-25-41 Z4-1-50-41 Z4-1-75-41 Z4-15-25-41 Z4-15-50-41	Z4-15-75-41 Z4-2-25-41 Z4-2-50-41 Z4-2-75-41	Z4-1-1-0 Z4-15-1-0 Z4-2-1-0
01	01		01	01		01
02	02		02	02		02
03	0325		03	0325		
	0350			0350		
	0375			0375		
04	04		041	041		04
05	05		05	05		
06 + 061	06 + 061		06 + 061	06 + 061		06 + 061
07	07		07	07		
08	08		08	08		08
09	09		09	09		09
						10
						101

Klinkenzüge

Latch locks

Ouvres-moules



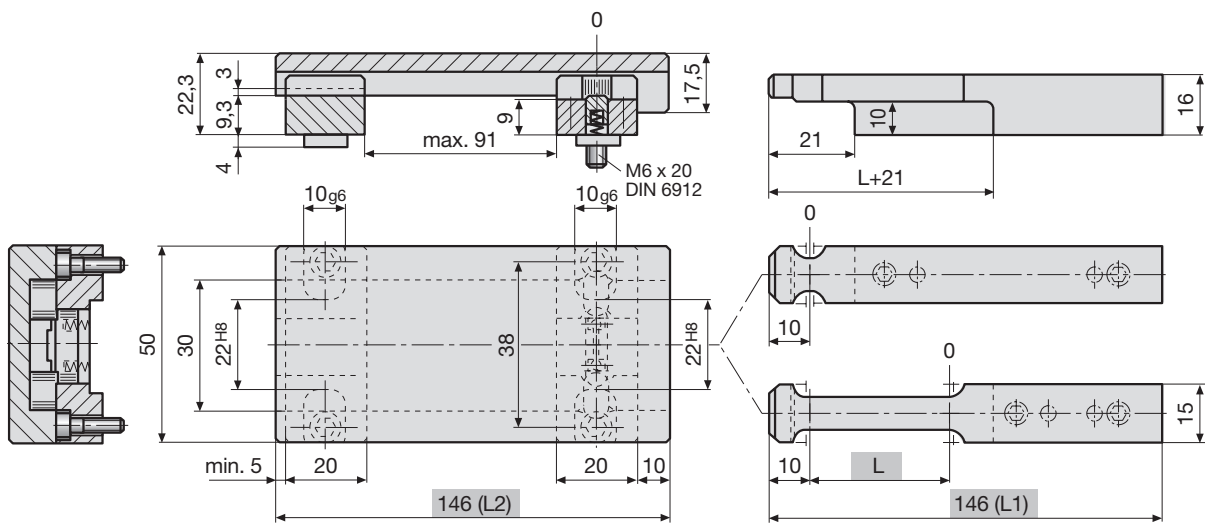
Z 4-11-

i deutsch **6.89-98**
english **6.119-128**
français **6.149-158**

 Z 4-11-Type

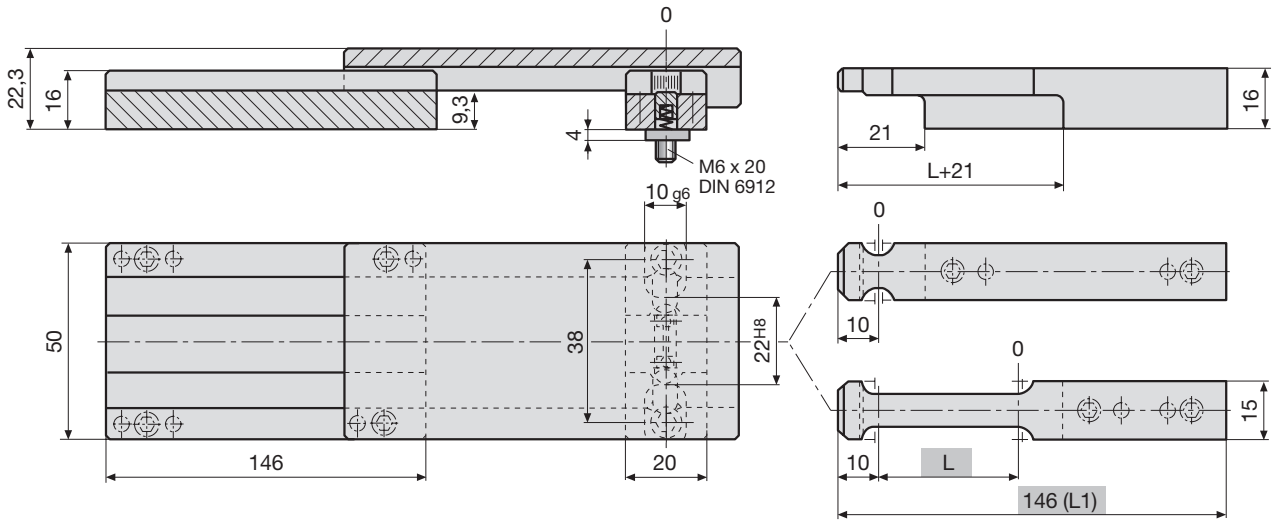


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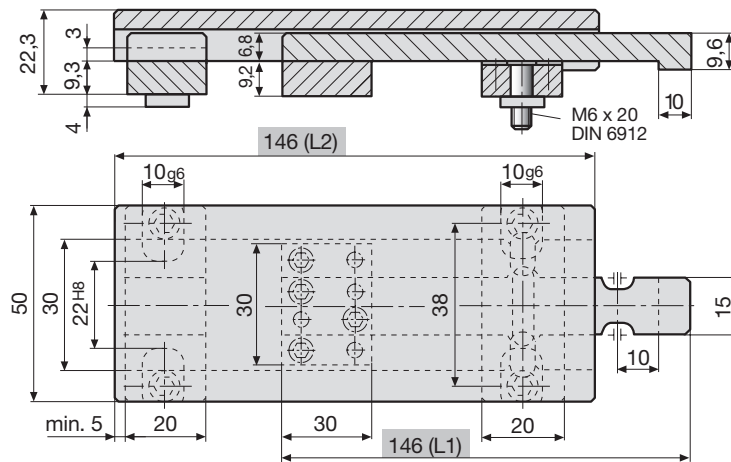


Type	L	Type	L
0-0	0	50-0	50
25-0	25	75-0	75

Z 4-11-



Type	L	Type	L
0-41	0	50-41	50
25-41	25	75-41	75



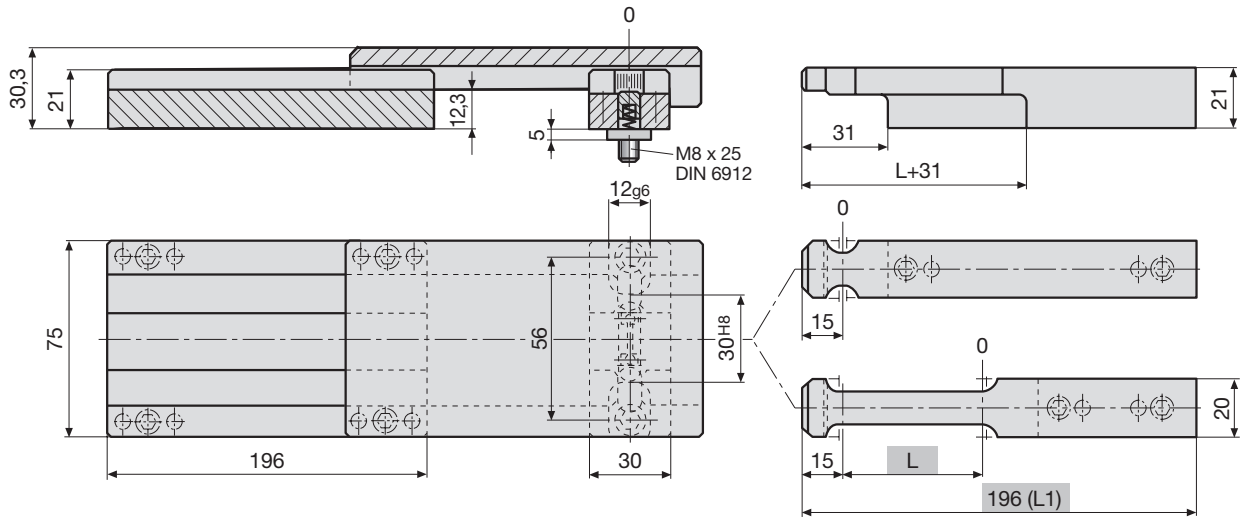
Type
1-0



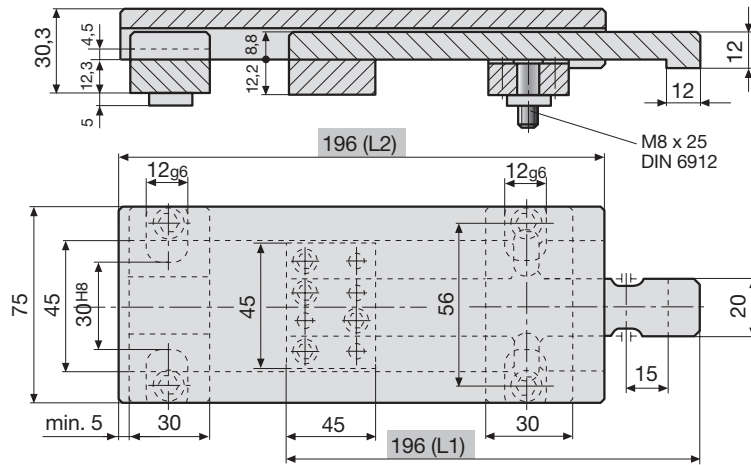
L , L1 , L2

in anderen Längen auf Anfrage
in other lengths on request
en autre longueurs sur demande

Z 4-16-



Type	L	Type	L
0-41	0	50-41	50
25-41	25	75-41	75



Type
1-0



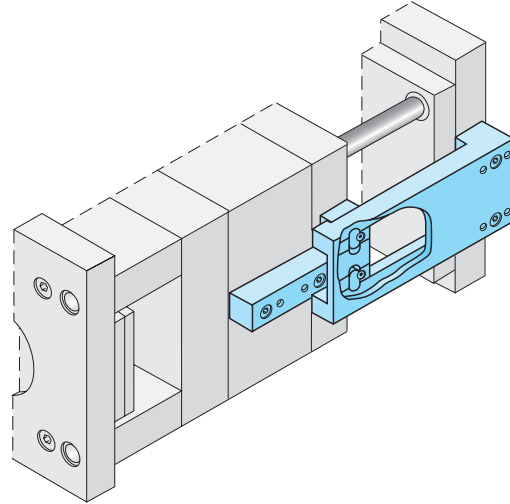
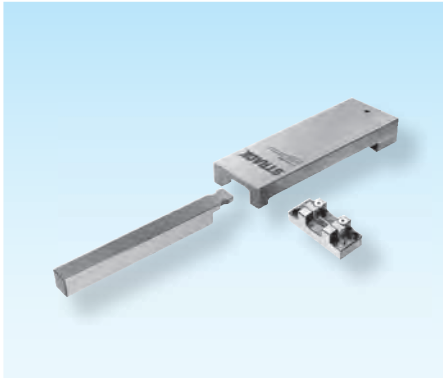
L , L1 , L2

in anderen Längen auf Anfrage
in other lengths on request
en autre longueurs sur demande

Klinkenzüge


Latch locks

Ouvres-moules



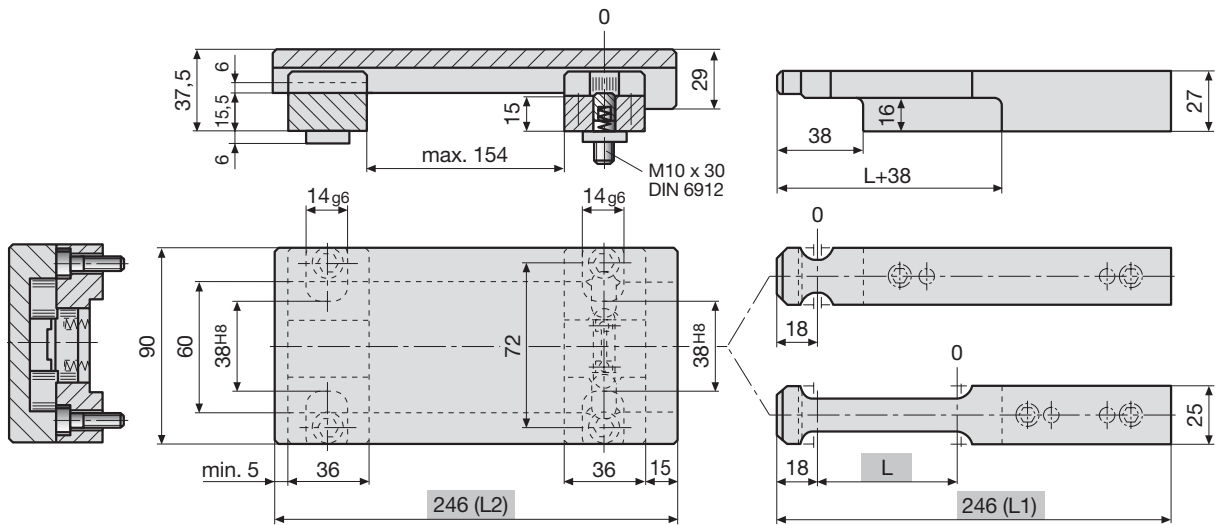
Z 4-21-

i deutsch 6.89-98
english 6.119-128
français 6.149-158

 Z 4-21-Type

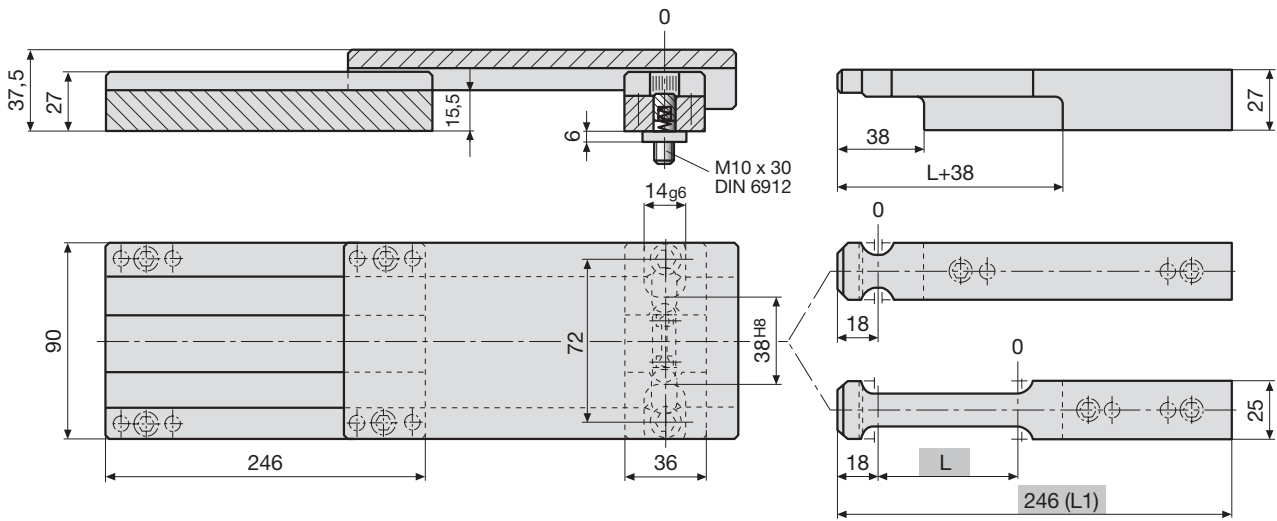


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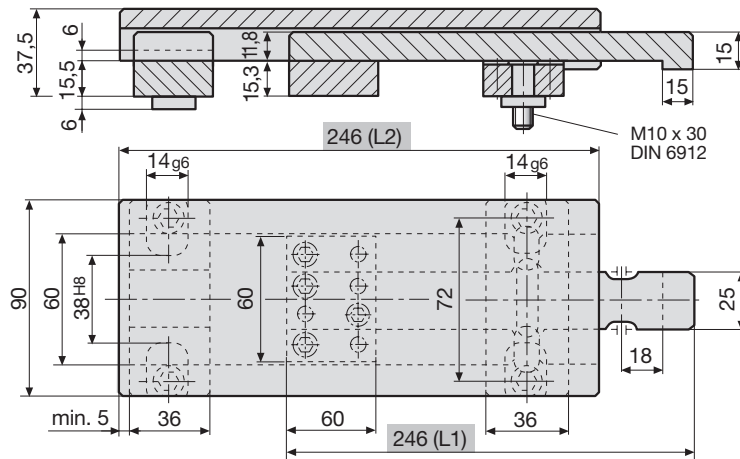


Type	L	Type	L
0-0	0	50-0	50
25-0	25	75-0	75

Z 4-21-



Type	L	Type	L
0-41	0	50-41	50
25-41	25	75-41	75



Type
1-0



L , L1 , L2

in anderen Längen auf Anfrage
in other lengths on request
en autre longueurs sur demande

Klinkenzüge

Latch locks

Ouvres-moules

Z 4-11-

i deutsch 6.89-98
english 6.119-128
français 6.149-158

Z 4-11-Type



Z 4-16-

i deutsch 6.89-98
english 6.119-128
français 6.149-158

Z 4-16-Type



Z 4-21-

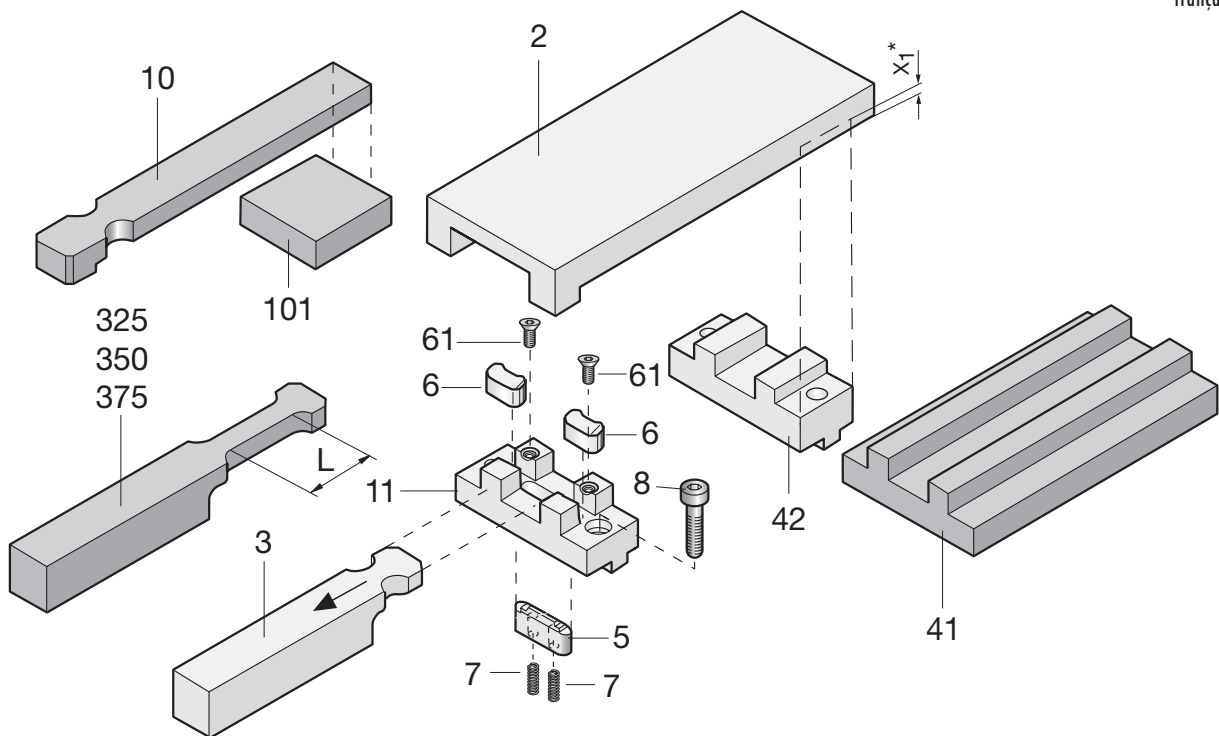
i deutsch 6.89-98
english 6.119-128
français 6.149-158

Z 4-21-Type



*** i** deutsch 6.95
english 6.125
français 6.155

6



Z 4-11- ... Z 4-21-

Stückliste

Parts list

Liste des pièces

Type	Pos. Item Pos.	Bezeichnung	Description	Désignation	Stück Quant. Nbr.	Mat.-Nr. Mat.-No Mat.-Nr.	Symbol Symbol Symbole	Festigkeit Hardness Résistance
011	1	Klinkengehäuse	Latch housing	Support mobile	1	1.2767	X45NiCrMo4	48 HRC
02	2	Steuerplatte	Control plate	Plaque support	1	1.2162	21MnCr5	~630 HV 10 ¹⁾
03	3	Zugleiste	Latch bar	Crochet	1	1.2162	21MnCr5	~630 HV 10 ¹⁾
0325	325	Zugleiste m. Verzögerung, L = 25 mm	Latch bar with delay, L = 25 mm	Crochet de traction à retardement, L = 25 mm	1	1.2162	21MnCr5	~630 HV 10 ¹⁾
0350	350	Zugleiste m. Verzögerung, L = 50 mm	Latch bar with delay, L = 50 mm	Crochet de traction à retardement, L = 50 mm	1	1.2162	21MnCr5	~630 HV 10 ¹⁾
0375	375	Zugleiste m. Verzögerung, L = 75 mm	Latch bar with delay, L = 75 mm	Crochet de traction à retardement, L = 75 mm	1	1.2162	21MnCr5	~630 HV 10 ¹⁾
041	41	Traverse, lang	Long steady	Tasseau long	1	1.1730	C45W3	~650 N/mm ²
042	42	Traverse	Steady	Tasseau	1	1.1730	C45W3	~650 N/mm ²
05	5	Sperre	Catch stop	Verrou	1	1.2767	X45NiCrMo4	54 HRC
06	6	Raste	Catch	Clavette	2	1.2767	X45NiCrMo4	54 HRC
061	61	Senkschraube	Countersunk screw	Vis à tête fraisée	2			
07	7	Druckfeder	Spring	Ressort de pression du verrou	2			
08	8	Zylinderschraube	Cap screw	Vis 6 pans creux	2			
10	10	Ausstoßerleiste	Reverse latch bar	Poussoir	1	1.2162	21MnCr5	~630 HV 10 ¹⁾
101	101	Unterlage	Spacer	Support	1	1.1730	C45W3	~650 N/mm ²

¹⁾ Einsatzhärtetiefe (Eht)
 Thickness of hardened layer = 0,4 - 0,6 mm
 Épaisseur de la couche durcie

Lieferumfang

Scope of delivery

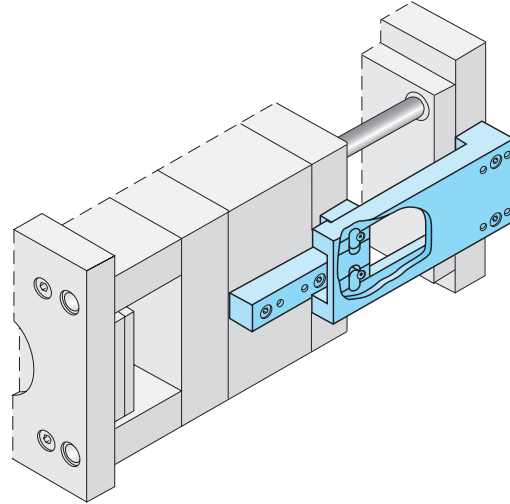
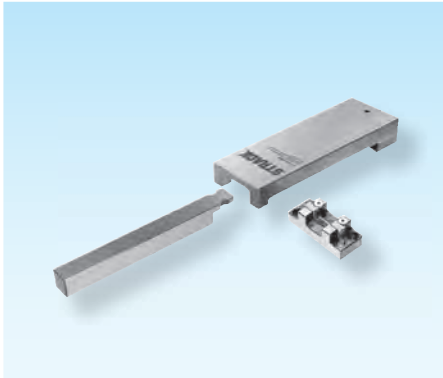
Contenu de la livraison

Z4-11-0-0 Z4-16-0-0 Z4-21-0-0	Z4-11-25-0 Z4-11-50-0 Z4-11-75-0 Z4-16-25-0 Z4-16-50-0	Z4-16-75-0 Z4-21-25-0 Z4-21-50-0 Z4-21-75-0	Z4-11-0-41 Z4-16-0-41 Z4-21-0-41	Z4-11-25-41 Z4-11-50-41 Z4-11-75-41 Z4-16-25-41 Z4-16-50-41	Z4-16-75-41 Z4-21-25-41 Z4-21-50-41 Z4-21-75-41	Z4-11-1-0 Z4-16-1-0 Z4-21-1-0
011	011		011	011		011
02	02		02	02		02
03	0325		03	0325		
	0350			0350		
	0375			0375		
042	042		041	041		042
05	05		05	05		
06 + 061	06 + 061		06 + 061	06 + 061		06
07	07		07	07		
08	08		08	08		08
						10
						101

Klinkenzüge

Latch locks

Ouvres-moules



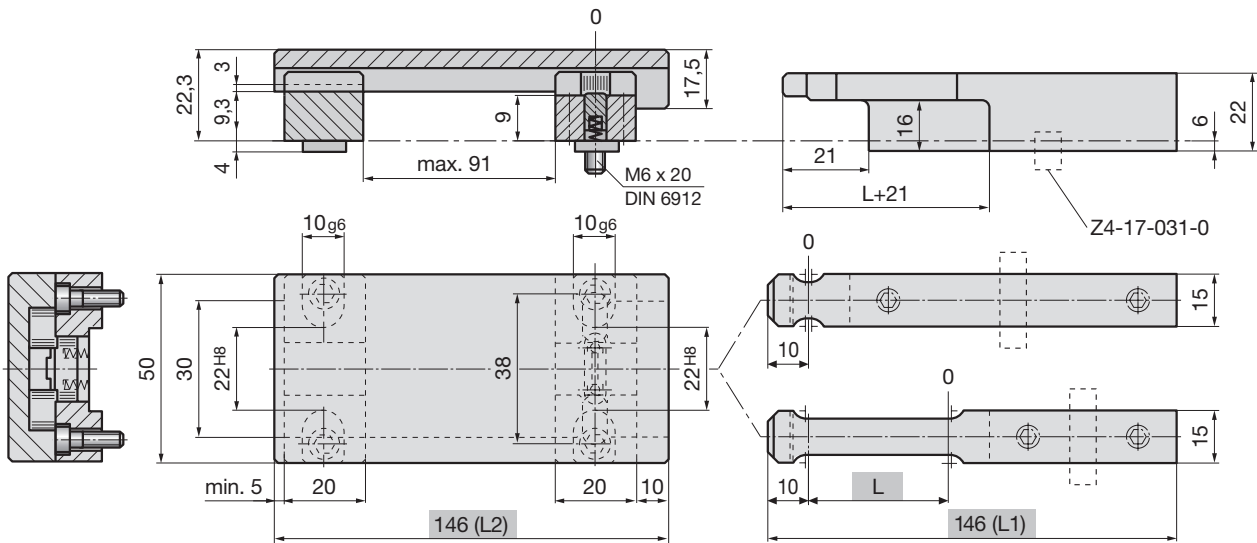
Z 4-12-

i deutsch **6.89-99**
english **6.119-129**
français **6.149-159**

 Z 4-12-Type



6



Type	L	Type	L
0-0	0	50-0	50
25-0	25	75-0	75

Klinkenzüge

Latch locks

Ouvres-moules

Z 4-12-

i deutsch 6.89-99
english 6.119-129
français 6.149-159

Z 4-12-Type



Z 4-17-

i deutsch 6.89-99
english 6.119-129
français 6.149-159

Z 4-17-Type



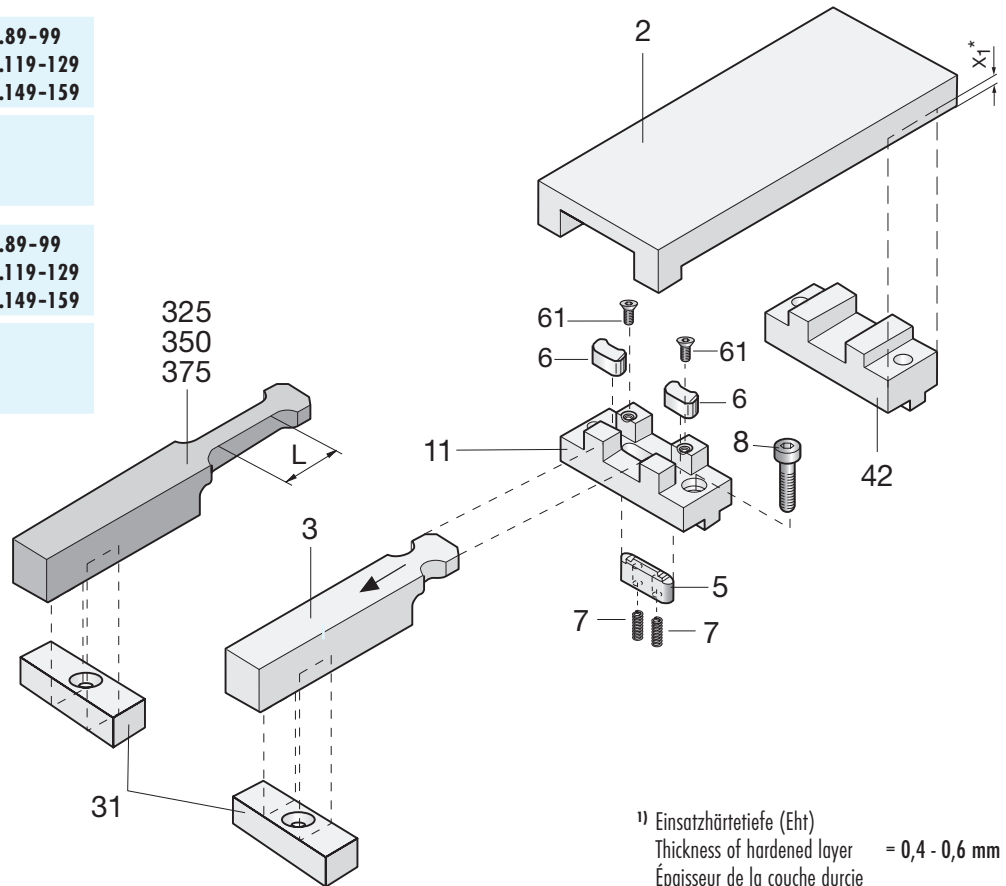
Z 4-22-

i deutsch 6.89-99
english 6.119-129
français 6.149-159

Z 4-22-Type



*** i** deutsch 6.95
english 6.125
français 6.155



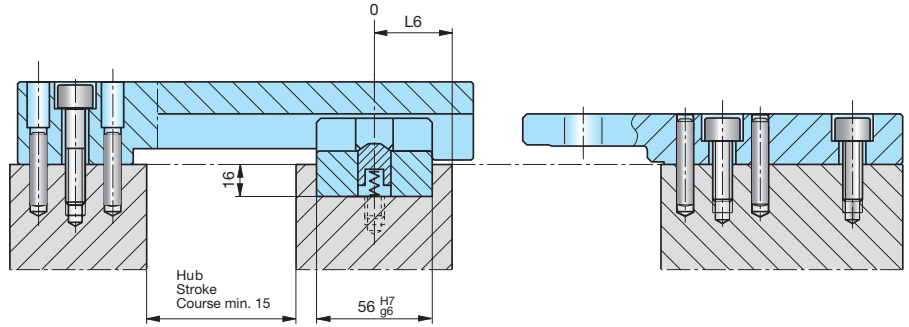
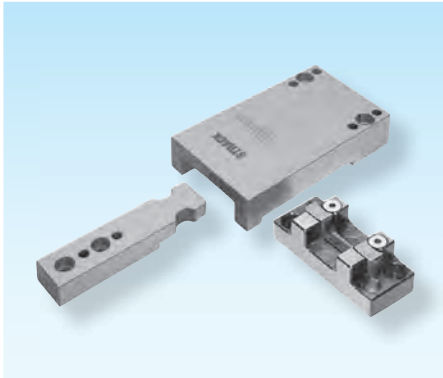
¹⁾ Einsatzhärtetiefe (Eht)
Thickness of hardened layer = 0,4 - 0,6 mm
Épaisseur de la couche durcie

Type	Pos. Item Pos.	Bezeichnung	Description	Désignation	Stück Quant. Nbr.	Mat.-Nr. Mat.-No Mat.Nr.	Symbol Symbol Symbole	Festigkeit Hardness Résistance
011	11	Klinkengehäuse	Latch housing	Support mobile	1	1.2767	X45NiCrMo4	48 HRC
02	2	Steuerplatte	Control plate	Plaque support	1	1.2162	21MnCr5	~630 HV 10 ¹⁾
03	3	Zugleiste	Latch bar	Crochet	1	1.2162	21MnCr5	~630 HV 10 ¹⁾
031	31	Passfeder	Parallel key	Clavette	1	1.2842	90MnCrV5	~770 N/mm ²
0325	325	Zugleiste m. Verzögerung, L = 25 mm	Latch bar with delay, L = 25 mm	Crochet de traction à retardement, L = 25 mm	1	1.2162	21MnCr5	~630 HV 10 ¹⁾
0350	350	Zugleiste m. Verzögerung, L = 50 mm	Latch bar with delay, L = 50 mm	Crochet de traction à retardement, L = 50 mm	1	1.2162	21MnCr5	~630 HV 10 ¹⁾
0375	375	Zugleiste m. Verzögerung, L = 75 mm	Latch bar with delay, L = 75 mm	Crochet de traction à retardement, L = 75 mm	1	1.2162	21MnCr5	~630 HV 10 ¹⁾
042	42	Traverse	Steady	Tasseau	1	1.1730	C45W3	~650 N/mm ²
05	5	Sperre	Catch stop	Verrou	1	1.2767	X45NiCrMo4	54 HRC
06	6	Raste	Catch	Clavette	2	1.2767	X45NiCrMo4	54 HRC
061	61	Senkschraube	Countersunk screw	Vis à tête fraisée	2			
07	7	Druckfeder	Spring	Ressort de pression du verrou	2			
08	8	Zylinderschraube	Cap screw	Vis 6 pans creux	2			

Klinkenzüge

Latch locks

Ouvres-moules



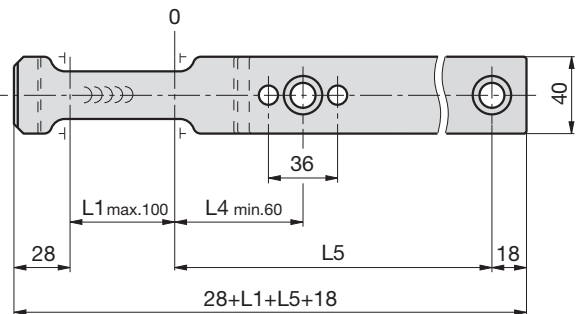
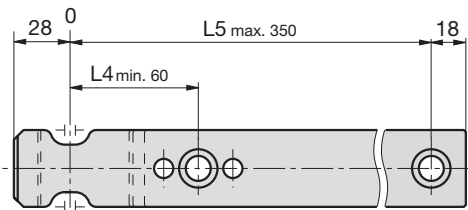
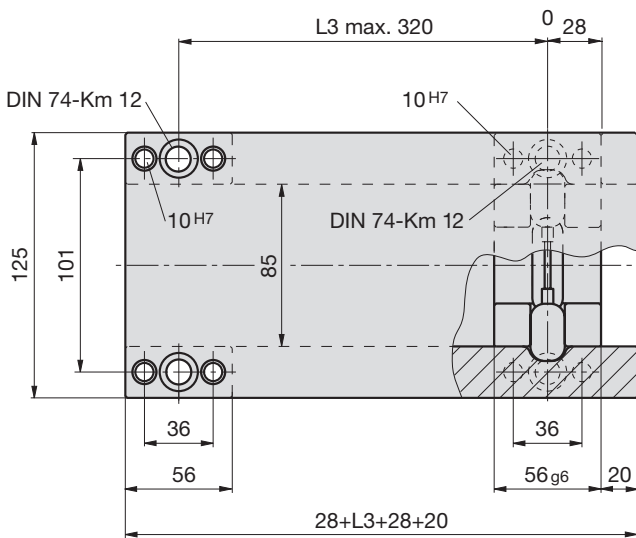
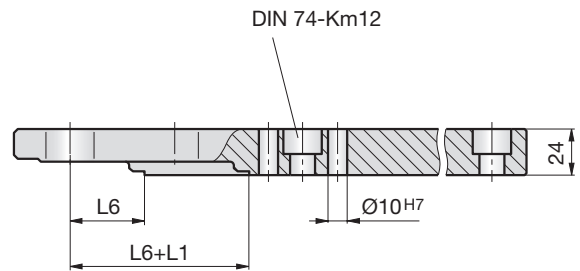
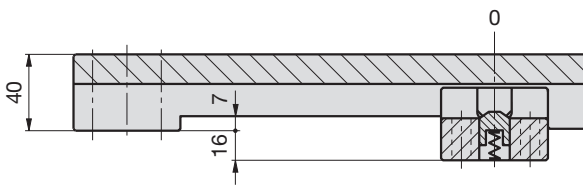
Z 4-30-

i deutsch **6.89-98**
english **6.119-128**
français **6.149-158**

Z 4-30-L1-
L3-L4-L5-L6



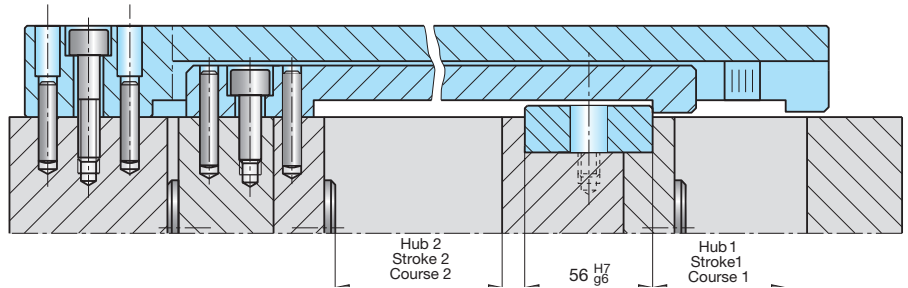
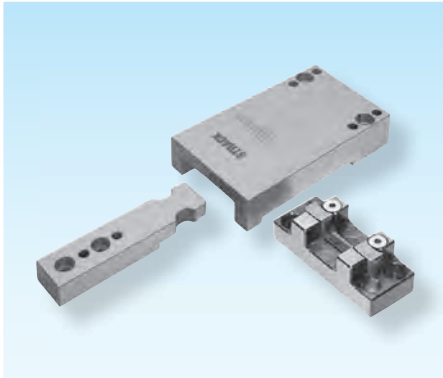
6



Klinkenzüge

Latch locks

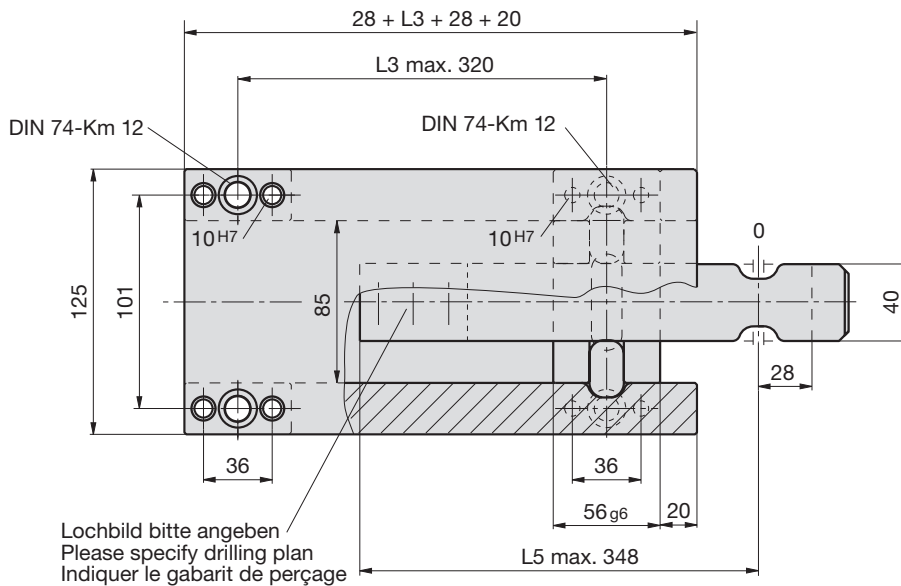
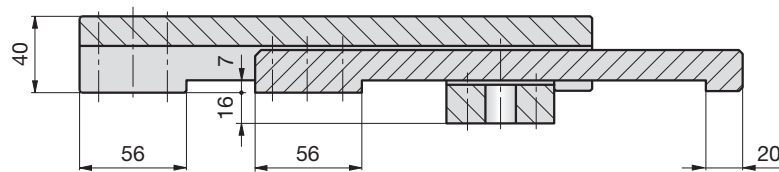
Ouvres-moules



Z 4-32-

i deutsch **6.89-98**
english **6.119-128**
français **6.149-158**

Z 4-32-L3-L5



Klinkenzüge
Latch locks
Ouvres-moules
Z 4-30-

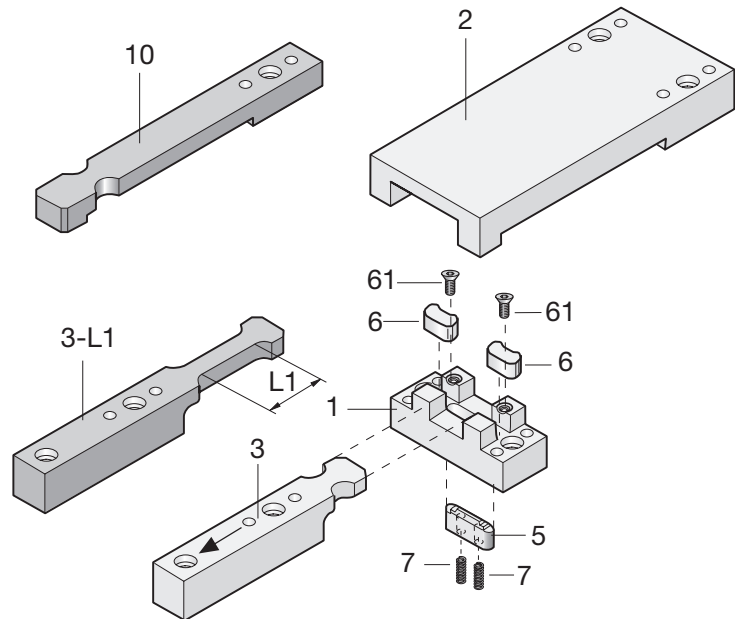
 deutsch 6.89-98
 english 6.119-128
 français 6.149-158

 Z 4-30-L1-
 L3-L4-L5-L6

Z 4-32-

 deutsch 6.89-98
 english 6.119-128
 français 6.149-158

Z 4-32-L3-L5


 Stückliste
 Parts list
 Liste des pièces

Type	Pos. Item Pos.	Bezeichnung	Description	Désignation	Stück Quant. Nbr.	Mat.-Nr. Mat.-No Mat.-Nr.	Symbol Symbol Symbole	Festigkeit Hardness Résistance
01	1	Klinkengehäuse	Latch housing	Support mobile	1	1.2767	X45NiCrMo4	48 HRC
02	2	Steuerplatte	Control plate	Plaque support	1	1.2162	21MnCr5	~630 HV 1 ¹⁾
03	3	Zugleiste	Latch bar	Crochet	1	1.2162	21MnCr5	~630 HV 1 ¹⁾
03 L1	3-L1	Zugleiste mit Verzögerung L1 = max. 100 mm	Latch bar with delay L1 = max. 100 mm	Crochet de traction à retardement L1 = max. 100 mm	1	1.2162	21MnCr5	~630 HV 1 ¹⁾
05	5	Sperre	Catch stop	Verrou	1	1.2767	X45NiCrMo4	54 HRC
06	6	Raste	Catch	Clavette	2	1.2767	X45NiCrMo4	54 HRC
061	61	Senkschraube	Countersunk screw	Vis à tête fraisée	2			
07	7	Druckfeder	Spring	Ressort de pression du verrou	3			
10	10	Ausstoßerleiste	Reverse latch bar	Poussoir	1	1.2162	C45W3	~630 HV 1 ¹⁾

¹⁾ Einsatzhärtetiefe (Eht)
 Thickness of hardened layer = 0,4 - 0,6 mm
 Épaisseur de la couche durcie

 Lieferumfang
 Scope of delivery
 Contenu de la livraison

Z4-30-0	Z4-30-L1	Z4-32
01	01	01
02	02	02
03	03-L1	
05	05	
06 + 061	06 + 061	06 + 061
07	07	
		10

Achtung!

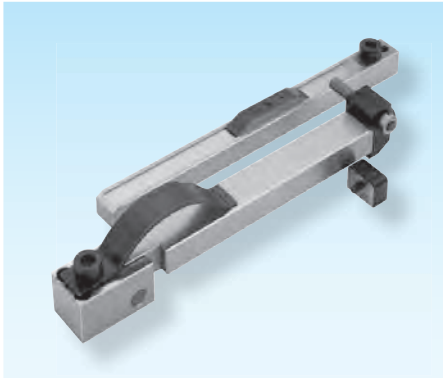
Bei einer Ersatzbestellung der Positionen 2, 3, 3-L1 und 10 erfolgt eine Lieferung ohne Befestigungsbohrungen.


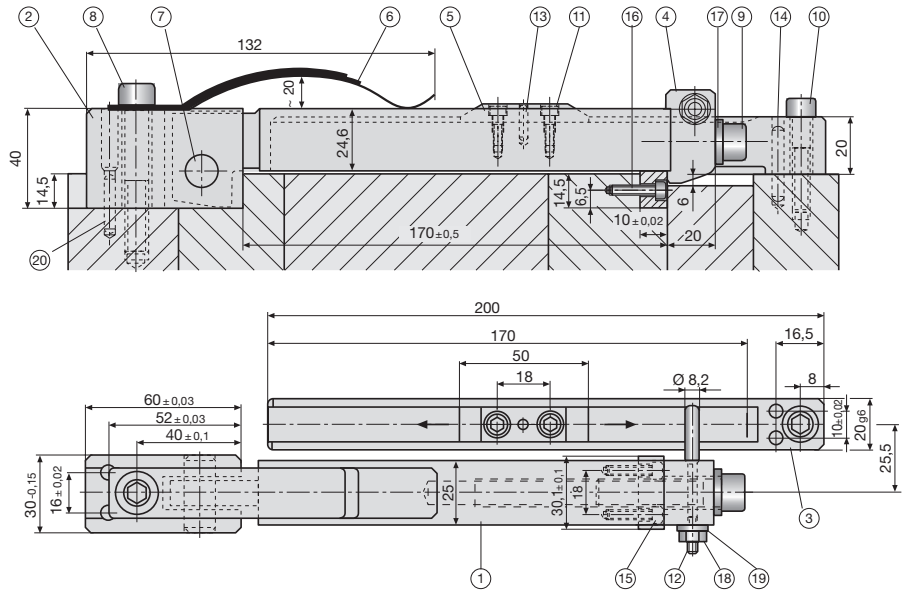
Warning!

If items 2, 3, 3-L1 or 10 are ordered as spare parts, they will be supplied without fixing holes.

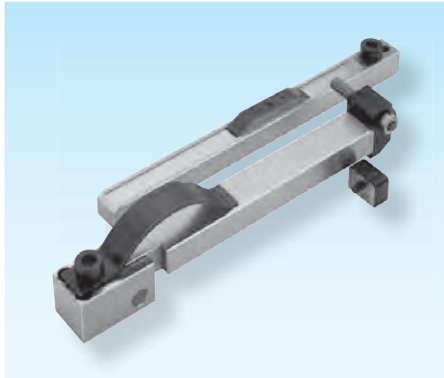
Attention!

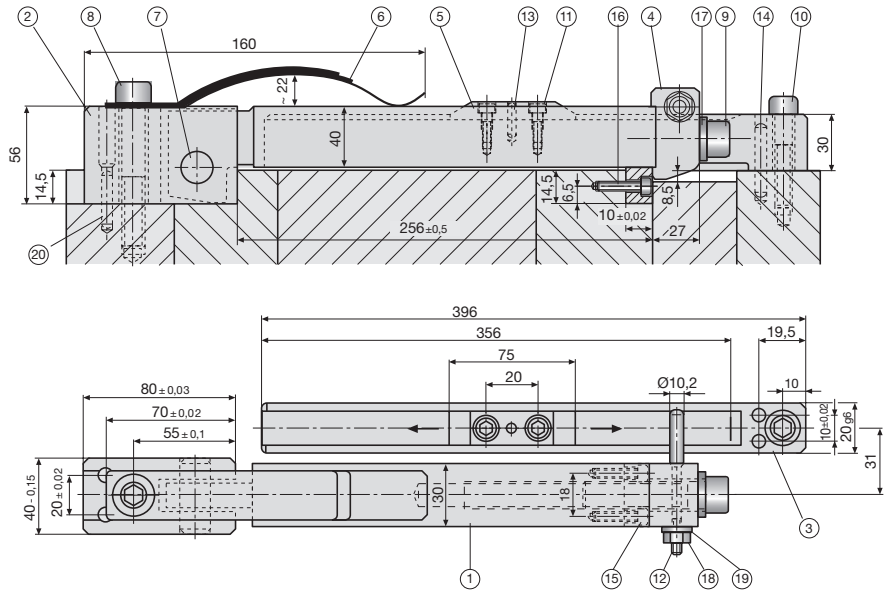
A la commande de pièces de rechange pour les réf. 2, 3, 3-L1 et 10 la livraison sera effectuée sans alésages de fixation.

Klinkenzüge
Latch locks
Ouvres-moules

Z 5-1-

 i deutsch **6.100**
 english **6.130**
 français **6.160**
 Z 5-1-Pos.


Pos. Item Pos.	Bezeichnung	Description	Désignation	Stück Quant. Nbr.	Norm Standard Norme	Abmessung Dimensions Dimensions	Mat.-Nr. Mat.-No Mat.-Nr.	Festigkeit Hardness Résistance
1	Klinkenhebel	Latch arm	Levier	1			1.2312	~1000 N/mm ²
2	Lagerbock	Fixed block	Support fixe	1			1.2312	~1000 N/mm ²
3	Halteleiste	Cam arm	Tasseau de fixation	1			1.1730	650 N/mm ²
4	Klinkenkopf	Catch	Crochet	1			1.2767	~52 HRC
5	Kurvenleiste	Cam	Came de commande	1			1.2767	~52 HRC
6	Blattfeder, vergütet	Spring, tempered	Jeu de lames ressort, traité	3			1.0605	
7	Lagerbolzen	Pivot	Axe	1			1.7131	~58 HRC
8	Zylinderschraube	Cap screw	Vis 6 pans creux	1	DIN EN ISO 4762	M10 x 55		8.8
9	Zylinderschraube	Cap screw	Vis 6 pans creux	1	DIN EN ISO 4762	M10 x 30		8.8
10	Zylinderschraube	Cap screw	Vis 6 pans creux	1	DIN EN ISO 4762	M8 x 30		8.8
11	Zylinderschraube	Cap screw	Vis 6 pans creux	2	DIN EN ISO 4762	M5 x 12		8.8
12	Steuerstift	Cam follower	Goupille commande	1			1.7131	~58 HRC
13	Zylinderstift	Dowel pin	Goupille cylindrique	1	EN ISO 8734	Ø 4 x 16		
14	Zylinderstift	Dowel pin	Goupille cylindrique	2	EN ISO 8734	Ø 6 x 32		
15	Verschleißleiste	Stop	Barette d'usure	1			1.2842	~58 HRC
16	Zylinderschraube	Cap screw	Vis 6 pans creux	2	DIN EN ISO 4762	M4 x 12		8.8
17	Spannscheibe	Spacer	Rondelle plate	1	DIN 6796-10			
18	Mutter	Nut	Ecrou	1	ISO 4032	M8		
19	Fächerscheibe	Spacer	Rondelle spéciale	1	DIN 6798-8,4			
20	Zylinderstift	Dowel pin	Goupille cylindrique	2	EN ISO 8735	Ø 8 x 40		

Klinkenzüge
Latch locks
Ouvres-moules

Z 5-2-

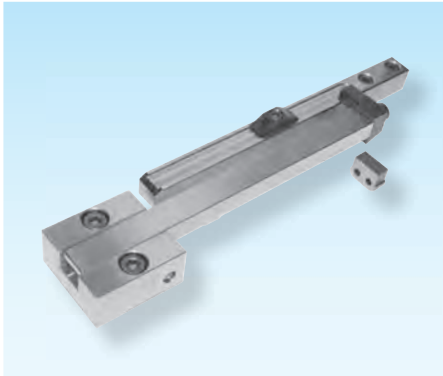
 i deutsch **6.100**
 english **6.130**
 français **6.160**
 Z 5-2-Pos.


Pos. Item Pos.	Bezeichnung	Description	Désignation	Stück Quant. Nbr.	Norm Standard Norme	Abmessung Dimensions Dimensions	Mat.-Nr. Mat.-No Mat.-Nr.	Festigkeit Hardness Résistance
1	Klinkenhebel	Latch arm	Lavier	1			1.2312	~1000 N/mm ²
2	Lagerbock	Fixed block	Support fixe	1			1.2312	~1000 N/mm ²
3	Halteleiste	Cam arm	Tasseau de fixation	1			1.1730	650 N/mm ²
4	Klinkenkopf	Catch	Crochet	1			1.2767	~52 HRC
5	Kurvenleiste	Cam	Came de commande	1			1.2767	~52 HRC
6	Blattfeder, vergütet	Spring, tempered	Jeu de lames ressort, traité	3			1.0605	
7	Lagerbolzen	Pivot	Axe	1			1.7131	~58 HRC
8	Zylinderschraube	Cap screw	Vis 6 pans creux	1	DIN EN ISO 4762	M12 x 70		8.8
9	Zylinderschraube	Cap screw	Vis 6 pans creux	1	DIN EN ISO 4762	M16 x 50		8.8
10	Zylinderschraube	Cap screw	Vis 6 pans creux	1	DIN EN ISO 4762	M8 x 40		8.8
11	Zylinderschraube	Cap screw	Vis 6 pans creux	2	DIN EN ISO 4762	M5 x 16		8.8
12	Steuerstift	Cam follower	Goupille commande	1			1.7131	~58 HRC
13	Zylinderstift	Dowel pin	Goupille cylindrique	1	EN ISO 8734	Ø 4 x 16		
14	Zylinderstift	Dowel pin	Goupille cylindrique	2	EN ISO 8734	Ø 6 x 40		
15	Verschleißleiste	Stop	Barette d'usure	1			1.2842	~58 HRC
16	Zylinderschraube	Cap screw	Vis 6 pans creux	2	DIN EN ISO 4762	M4 x 12		8.8
17	Spannscheibe	Spacer	Rondelle plate	1	DIN 6796-16			
18	Mutter	Nut	Ecrou	1	ISO 4032	M10		
19	Fächerscheibe	Spacer	Rondelle spéciale	1	DIN 6798-10,5			
20	Zylinderstift	Dowel pin	Goupille cylindrique	2	EN ISO 8734	Ø 10 x 60		

Klinkenzüge


Latch locks

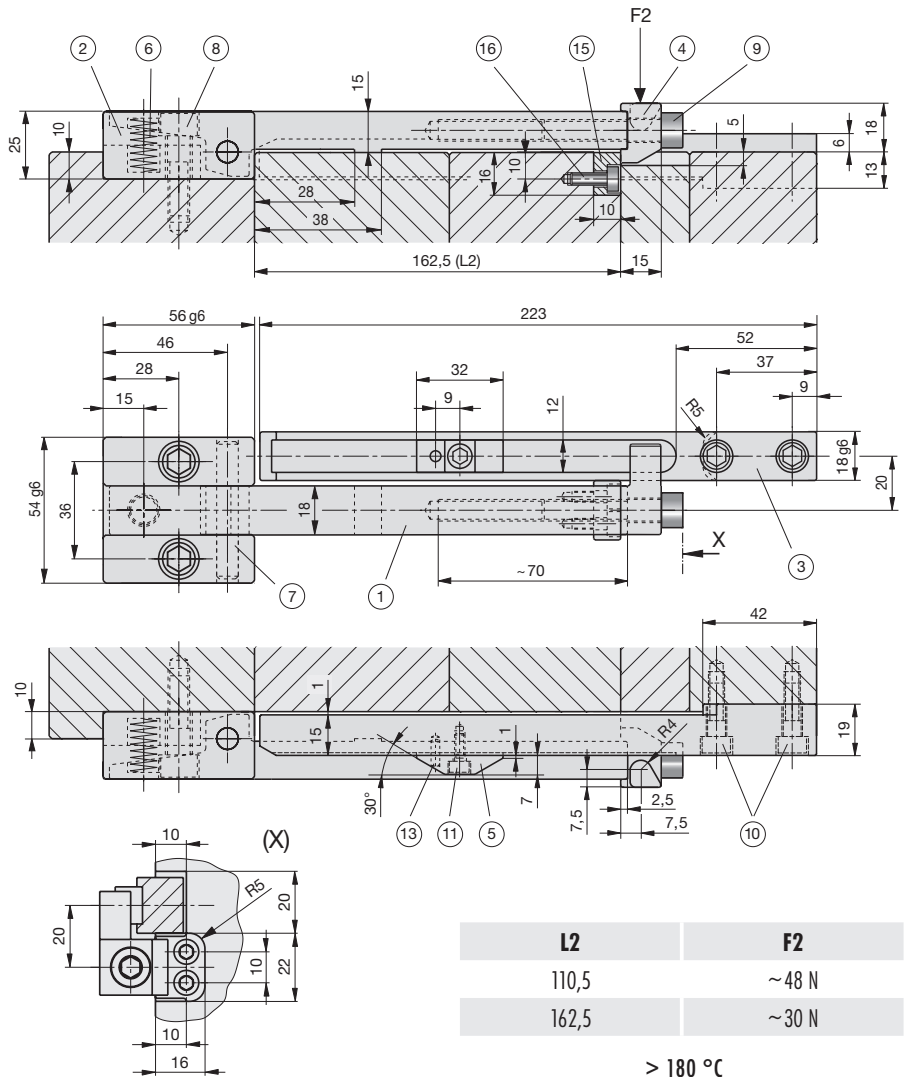
Ouvres-moules



Z 5-31-

i deutsch **6.101**
english **6.131**
français **6.161**

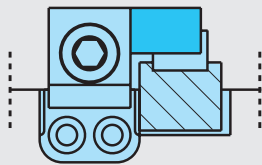
 Z 5-31-Pos.



L2	F2
110,5	~ 48 N
162,5	~ 30 N

> 180 °C

6

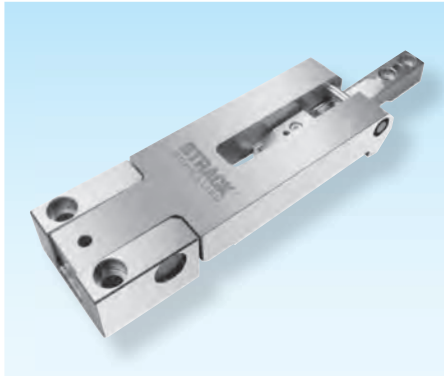


Pos. Item Pos.	Bezeichnung	Description	Désignation	Stück Quant. Nbr.	Norm Standard Norme	Abmessung Dimensions Dimensions	Mat.-Nr. Mat.-No Mat.-Nr.	Festigkeit Hardness Résistance
1	Klinkenhebel	Latch arm	Lever	1			1.2312	~ 1100 N/mm ²
2	Lagerbock	Fixed block	Support fixe	1			1.2312	~ 1100 N/mm ²
3	Halteleiste	Cam arm	Tasseau de fixation	1			1.2312	~ 1100 N/mm ²
4	Klinkenkopf	Catch	Crochet	1			1.2767	~ 52 HRC
5	Kurvenleiste	Cam	Came de commande	1			1.2767	~ 52 HRC
6	Druckfeder	Spring	Ressort de pression du verrou	1		11,3 x 20	1.1248	52,6 N/mm ²
7	Lagerbalzen	Pivot	Axe	1		Ø 8 x 50		~ 58 HRC
8	Zylinderschraube	Cap screw	Vis 6 pans creux	2	DIN EN ISO 4762	M8 x 30		8.8
9	Zylinderschraube	Cap screw	Vis 6 pans creux	1	DIN EN ISO 4762	M8 x 30		8.8
10	Zylinderschraube	Cap screw	Vis 6 pans creux	2	DIN EN ISO 4762	M6 x 20		8.8
11	Zylinderschraube	Cap screw	Vis 6 pans creux	1	DIN EN ISO 10642	M5 x 12		8.8
13	Zylinderstift	Dowel pin	Goupille cylindrique	1	EN ISO 8734	Ø 4 x 12		
15	Verschleißleiste	Stop	Barette d'usure	1			1.2767	~ 54 HRC
16	Zylinderschraube	Cap screw	Vis 6 pans creux	2	DIN EN ISO 4762	M4 x 12		8.8


Klinkenzüge

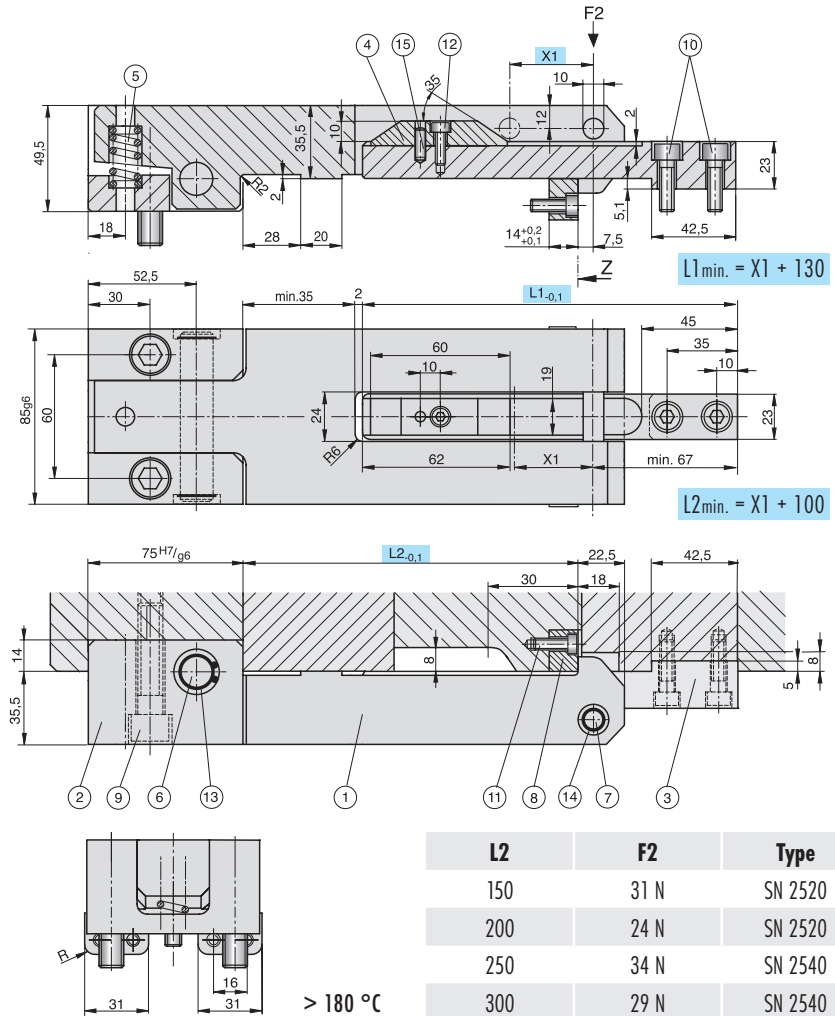
Latch locks

Ouvres-moules



Z 5-4-

 Z 5-4-L1-L2-X1



6

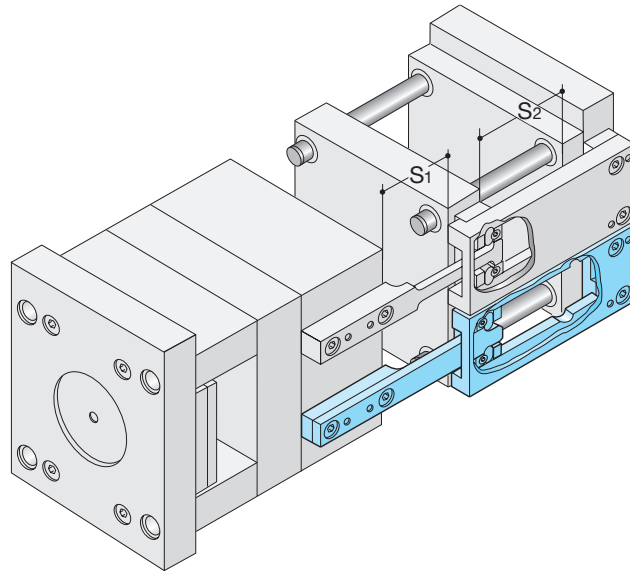
Pos. Item Pos.	Bezeichnung	Description	Désignation	Stück Quant. Nbr.	Norm Standard Norme	Abmessung Dimensions Dimensions	Mat.-Nr. Mat.-No Mat.-Nr.	Festigkeit Hardness Résistance
1	Klinkenhebel	Latch arm	Levier	1			1.2343	~45 HRC
2	Lagerbock	Fixed block	Support fixe	1			1.2312	1100 N/mm ²
3	Halteleiste	Cam arm	Tasseau de fixation	1			1.2312	1100 N/mm ²
4	Kurvenleiste	Cam	Came de commande	1			1.2767	~52 HRC
5.1	Druckfeder	Spring	Ressort de pression du verrou	1	DIN EN ISO 10243		SN 2520-16-38	
5.2	Druckfeder	Spring	Ressort de pression du verrou	1	DIN EN ISO 10243		SN 2540-16-38	
6	Lagerbolzen	Pivot	Axe	1		16 x 85	1.7131	~58 HRC
7	Steuerstift	Cam follower	Goupille commande	1		10 x 85	1.7131	~58 HRC
8	Verschleißleiste	Stop	Barette d'usure	2			1.2767	~54 HRC
9	Zylinderschraube	Cap screw	Vis 6 pans creux	2	DIN EN ISO 4762	M12 x 50		8.8
10	Zylinderschraube	Cap screw	Vis 6 pans creux	2	DIN EN ISO 4762	M8 x 25		8.8
11	Zylinderschraube	Cap screw	Vis 6 pans creux	4	DIN EN ISO 4762	M6 x 16		8.8
12	Zylinderschraube	Cap screw	Vis 6 pans creux	1	DIN EN ISO 4762	M5 x 16		8.8
13	Sicherungsring	Circlip	Circlip	2	DIN 471	16 x 1		
14	Sicherungsring	Circlip	Circlip	2	DIN 471	10 x 1		
15	Zylinderstift	Dowel pin	Goupille cylindrique	1	EN ISO 8734	∅ 6 x 16		

Sperrklinken

Push locks

Cliquets d'arrêt

Z 6-



Auswahl

Sperrklinken werden immer dann eingesetzt, wenn ein vorzeitiges Öffnen einer zweiten Trennebene (S2), z. B. bei 3-Plattenwerkzeugen in Verbindung mit Schiebern und/oder Kernzügen verhindert werden soll (siehe Abbildung).

Selection

Push Locks are used to prevent a second parting plane (S2) opening (T2) prematurely, e.g. in the case of 3-plate moulds in conjunction with slides and/or core pullers (see Figure).

Sélection

On utilise les cliquets d'arrêt chaque fois que l'on veut empêcher l'ouverture prématurée d'un deuxième plan de joint (S2), par ex. sur les moules à trois plaques en liaison avec tiroirs et/ou tire-noyaux (voir figure).

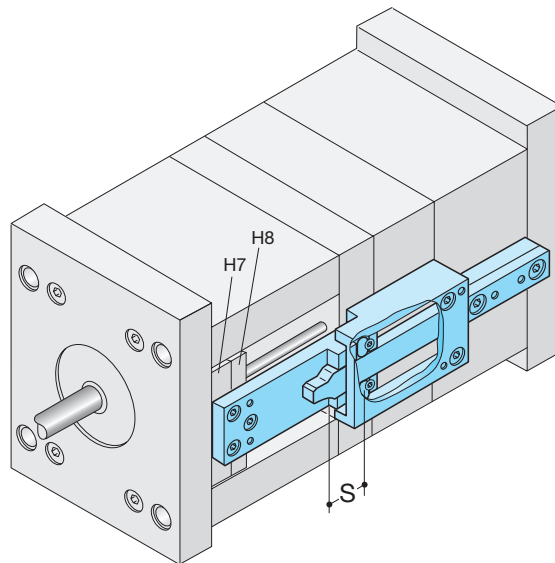
Auswerferrücksteller

Early return

Rappel d'éjection

6

Z 7-



Auswahl

Auswerferrücksteller werden immer dann eingesetzt, wenn werkzeugseitig Formschieber, Backen oder andere formgebende Elemente durch nicht zurückgestellte Auswerferstifte vor Beschädigungen mechanisch gesichert werden sollen.

Selection

Early returns are always used when it is desired, on the mould side, to provide mould slides, jaws or other shaping components with mechanical protection from damage caused by ejector pins which have not retracted.

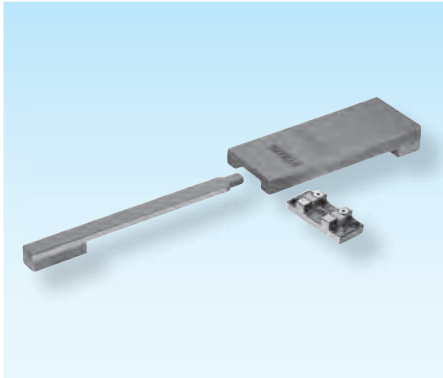
Sélection

On utilise les rappels d'éjection chaque fois que l'on veut préserver les tiroirs, coquilles ou autres éléments du moule de dommages dus à des tiges d'éjection non ramenées en arrière.

Sperrklinken

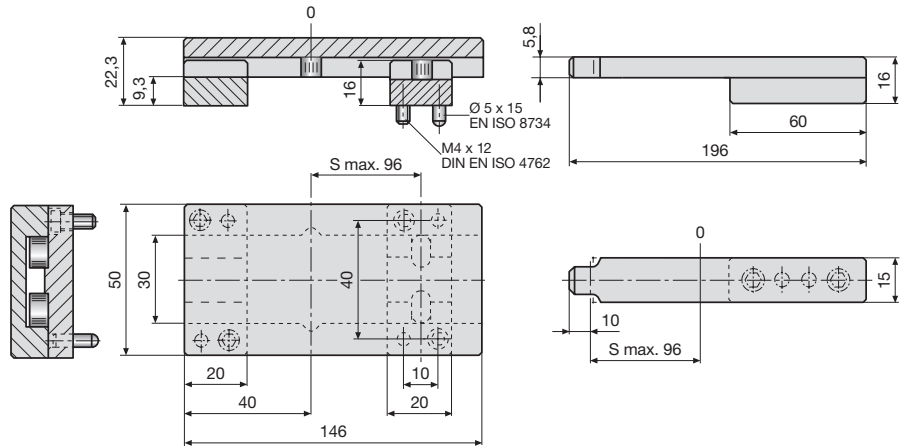
Push locks

Cliquets d'arrêt



Z 6-1

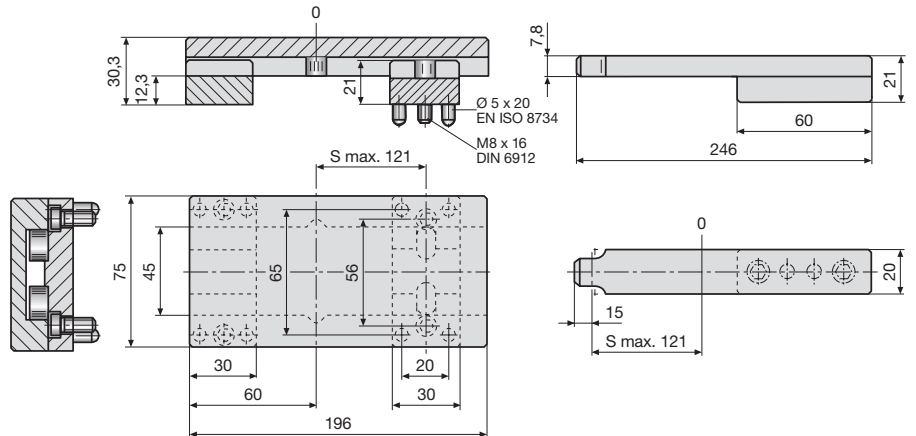
i deutsch 6.102-105
english 6.132-135
français 6.162-165



6

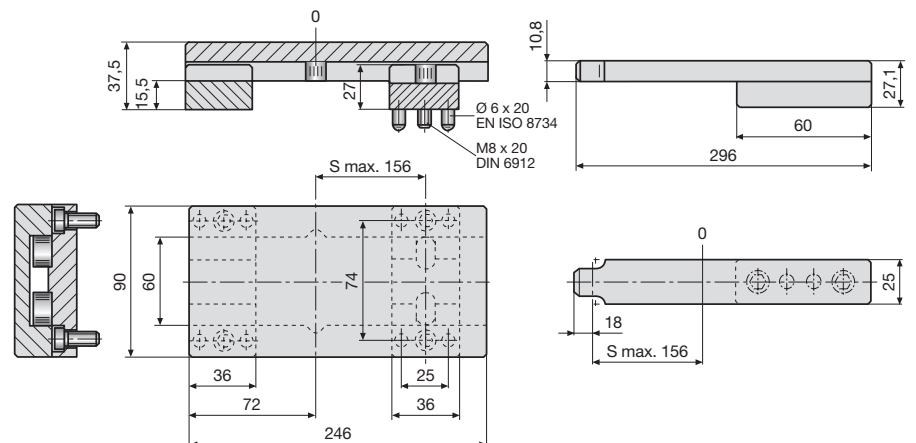
Z 6-15

i deutsch 6.102-105
english 6.132-135
français 6.162-165

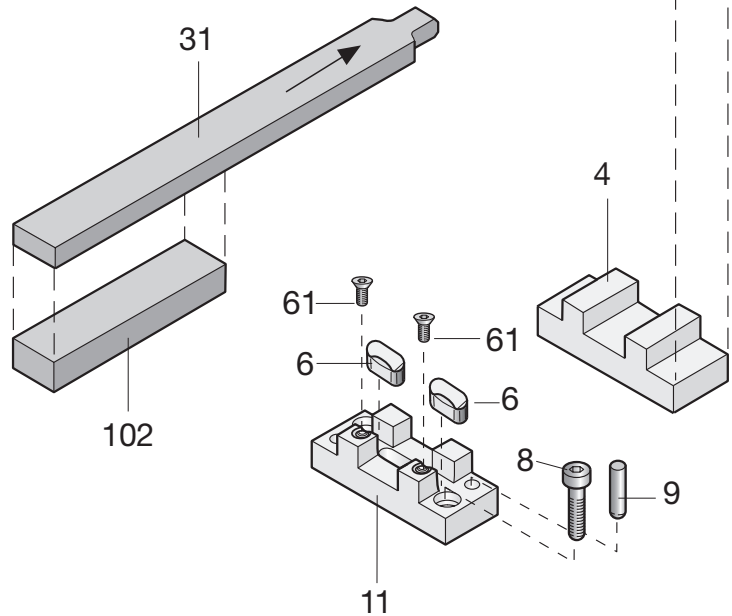
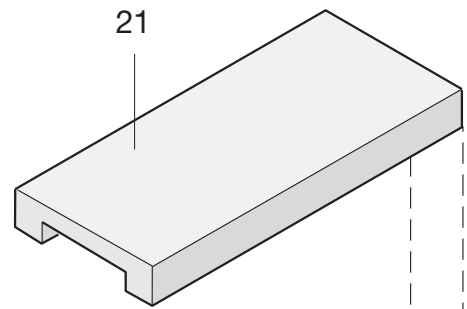
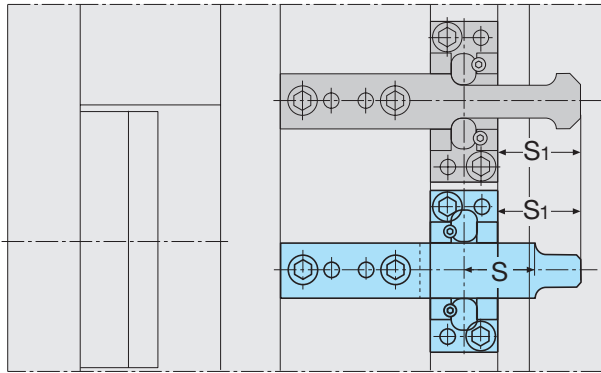


Z 6-2

i deutsch 6.102-105
english 6.132-135
français 6.162-165



Z 6-1 ... Z 6-2



Stückliste
Parts list
Liste des pièces

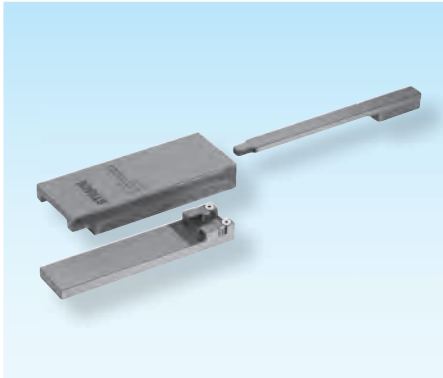
Type	Pos. Item Pos.	Bezeichnung	Description	Désignation	Stück Quant. Nbr.	Mat.-Nr. Mat-No Mat.Nr.	Symbol Symbol Symbole	Festigkeit Hardness Résistance
04	4	Traverse	Steady	Tasseau	1/1/1	1.1730	C45W3	~650 N/mm ²
06	6	Raste	Catch	Clavette	2/2/2	1.2767	X45NiCrMo4	54 HRC
061	61	Senkschraube	Countersunk screw	Vis à tête fraisée	2			
08	8	Zylinderschraube	Cap screw	Vis 6 pans creux	2/2/2			
09	9	Zylinderstift	Dowel pin	Goupille cylindrique	2/4/4			
11	11	Klinkengehäuse	Latch housing	Support mobile	1/1/1	1.2767	X45NiCrMo4	48 HRC
21	21	Steuerplatte	Control plate	Plaque support	1/1/1	1.2162	21MnCr5	~630 HV 10 ¹⁾
31	31	Steuerleiste	Control bar	Barre de commande	1/1/1	1.2162	21MnCr5	~630 HV 10 ¹⁾
102	102	Unterlage	Spacer	Support	1/1/1	1.1730	C45W3	~650 N/mm ²

¹⁾ Einsatzhärtetiefe (Eht)
Thickness of hardened layer = 0,4 - 0,6 mm
Épaisseur de la couche durcie

Auswerferrücksteller

Early return

Rappel d'éjection

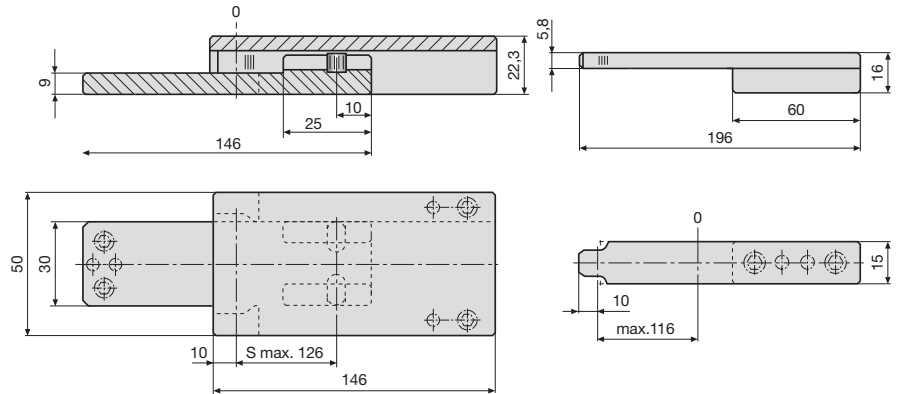


Z7-1

i deutsch 6.106-109
english 6.136-139
français 6.166-169



Z7-1



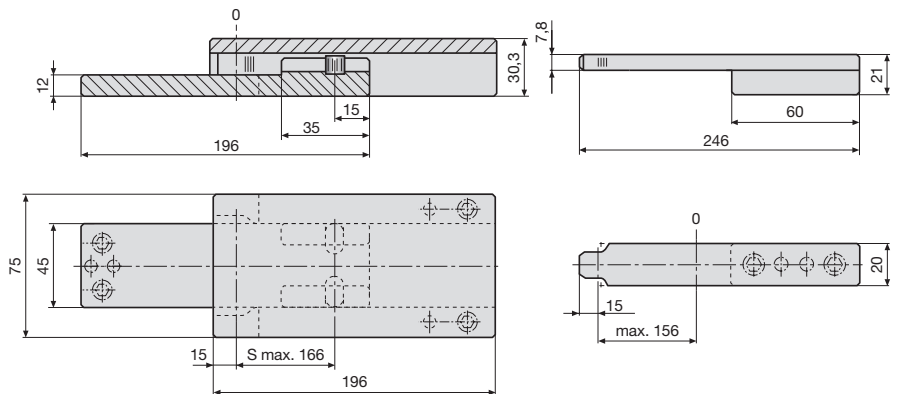
6

Z7-15

i deutsch 6.106-109
english 6.136-139
français 6.166-169



Z7-15

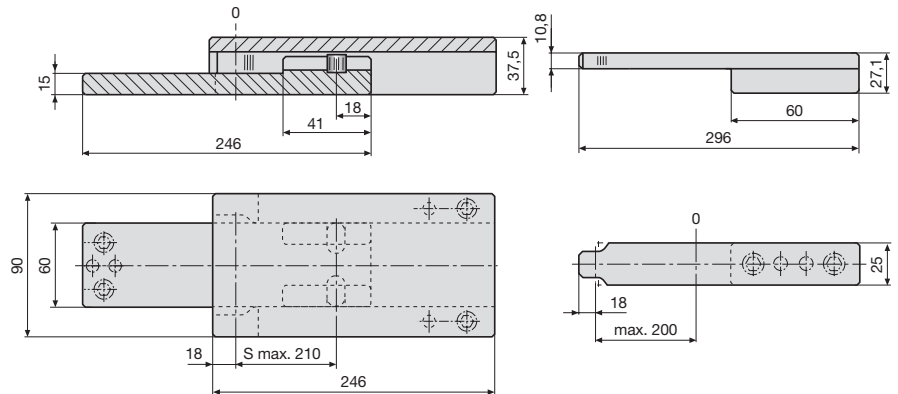


Z7-2

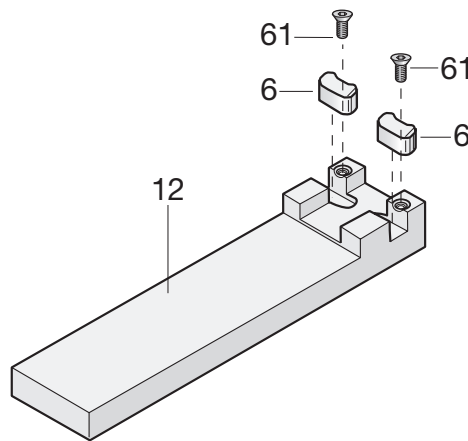
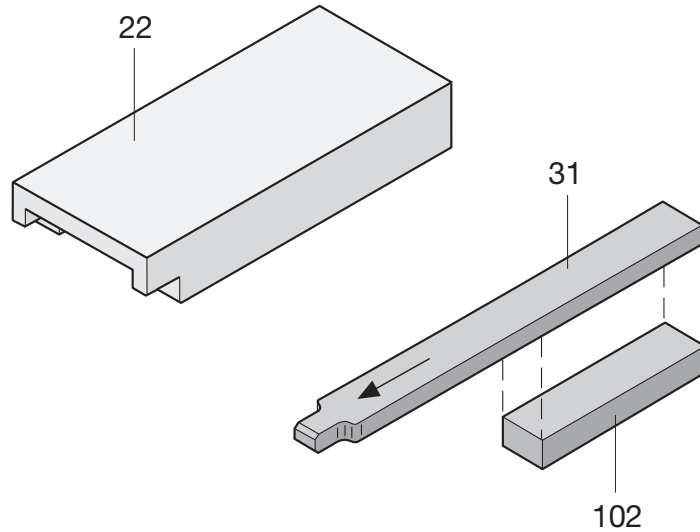
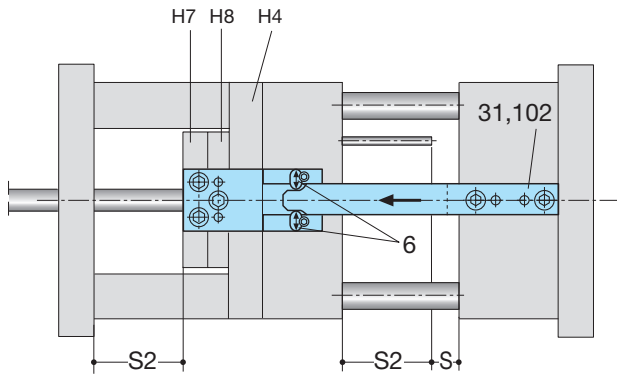
i deutsch 6.106-109
english 6.136-139
français 6.166-169



Z7-2



Z7-1 ... Z7-2



Stückliste
Parts list
Liste des pièces

Type	Pos. Item Pos.	Bezeichnung	Description	Désignation	Stück Quant. Nbr.	Mat.-Nr. Mat.-No Mat.Nr.	Symbol Symbol Symbole	Festigkeit Hardness Résistance
06	6	Raste	Catch	Clavette	2	1.2767	X45NiCrMo4	54 HRC
061	61	Senkschraube	Countersunk screw	Vis à tête fraisée	2			
12	12	Rastengehäuse	Latch housing	Plaque support de clavette	1	1.2162	21MnCr5	~630 HV 10 ¹⁾
22	22	Steuerplatte	Control plate	Plaque support	1	1.2162	21MnCr5	~630 HV 10 ¹⁾
31	31	Steuerleiste	Control bar	Barre de commande	1	1.2162	21MnCr5	~630 HV 10 ¹⁾
102	102	Unterlage	Spacer	Support	1	1.1730	C45W3	~650 N/mm ²

¹⁾ Einsatzhärtetiefe (Eht)
Thickness of hardened layer = 0,4 - 0,6 mm
Épaisseur de la couche durcie



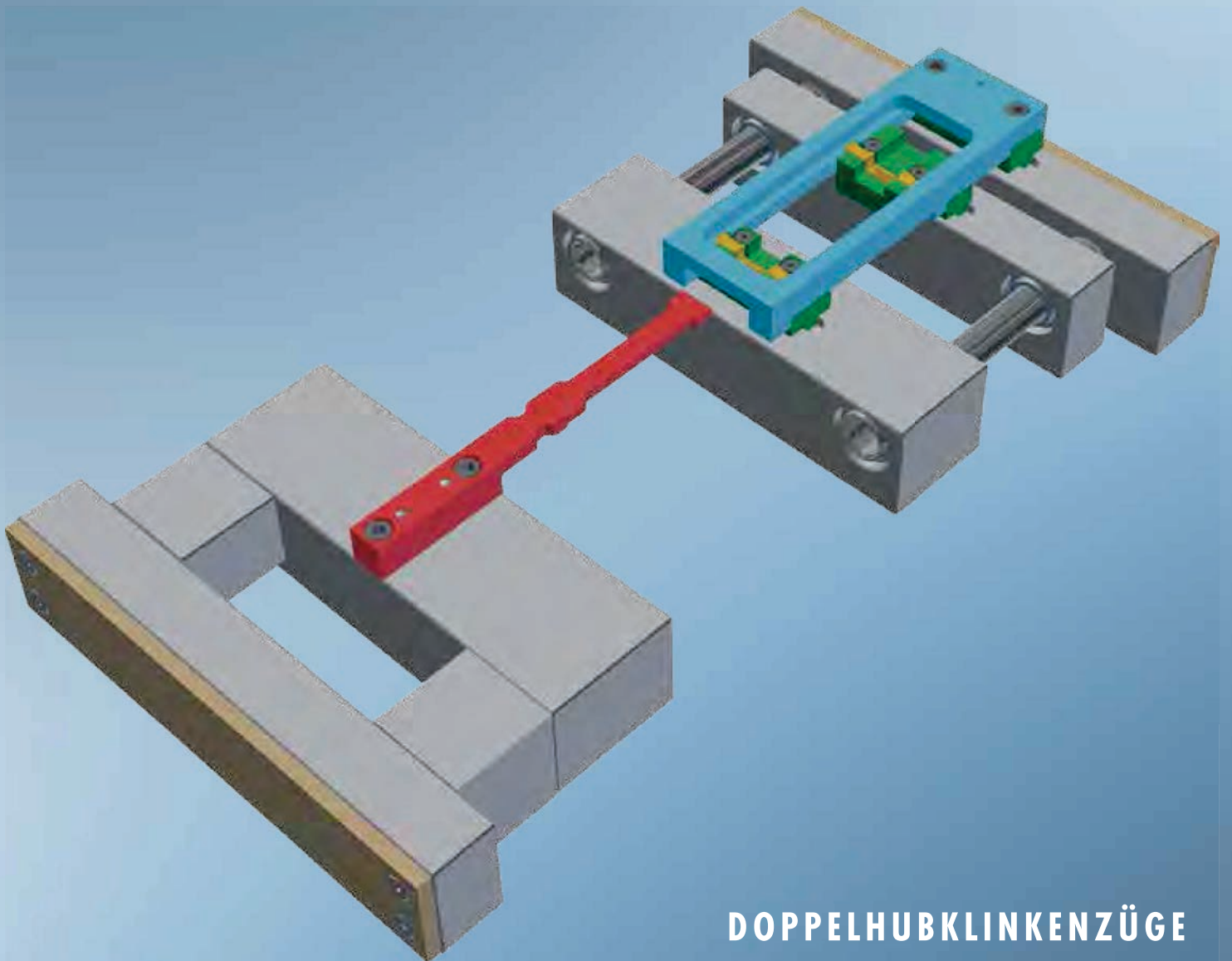
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6



DOPPELHUBKLINKEZÜGE
SONDERANFERTIGUNG

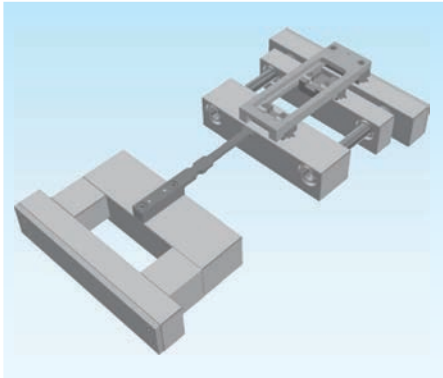
DOUBLE STROKE LATCH LOCKS
SPECIAL PRODUCTION

OUVRES-MOULES A DOUBLE COURSE
FABRICATION SPECIALE

Doppelhubklinzzüge
Sonderanfertigung

Double stroke latch locks
Special production

Ouvres-moules à double course
Fabrication spéciale



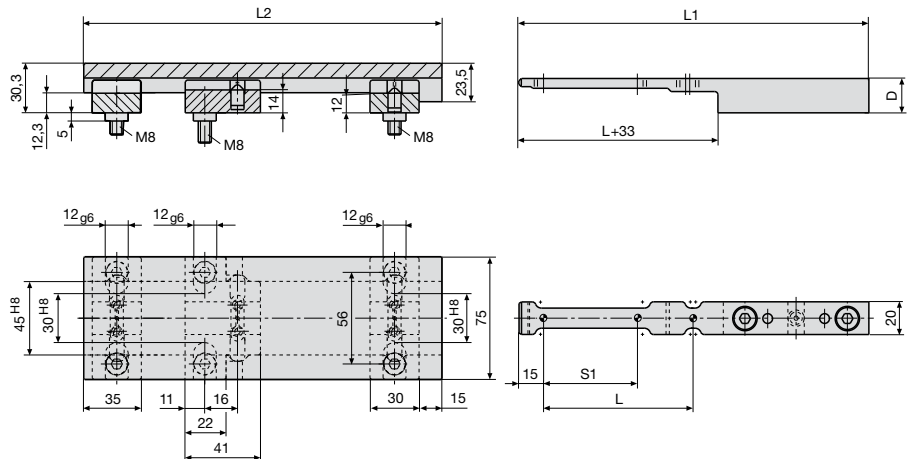
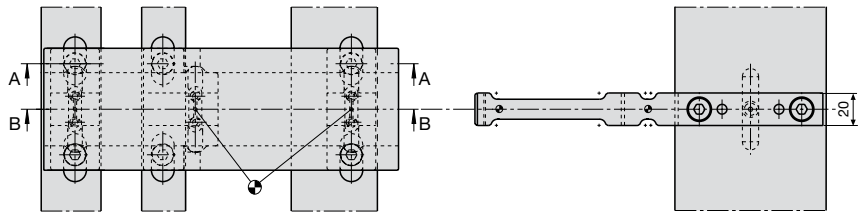
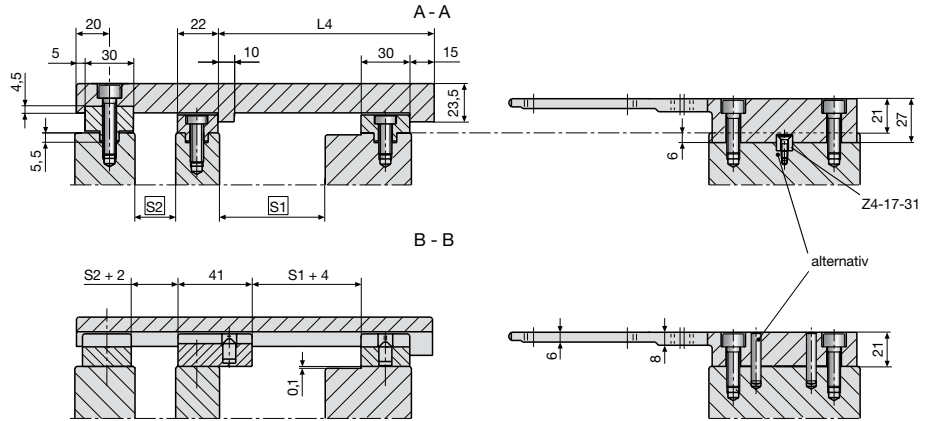
Z 4-19-

i deutsch **6.46D**
english **6.46D**
français **6.46D**

Z 4-19-S1-S2-L-
L1-L2-L4-L5-L6-D

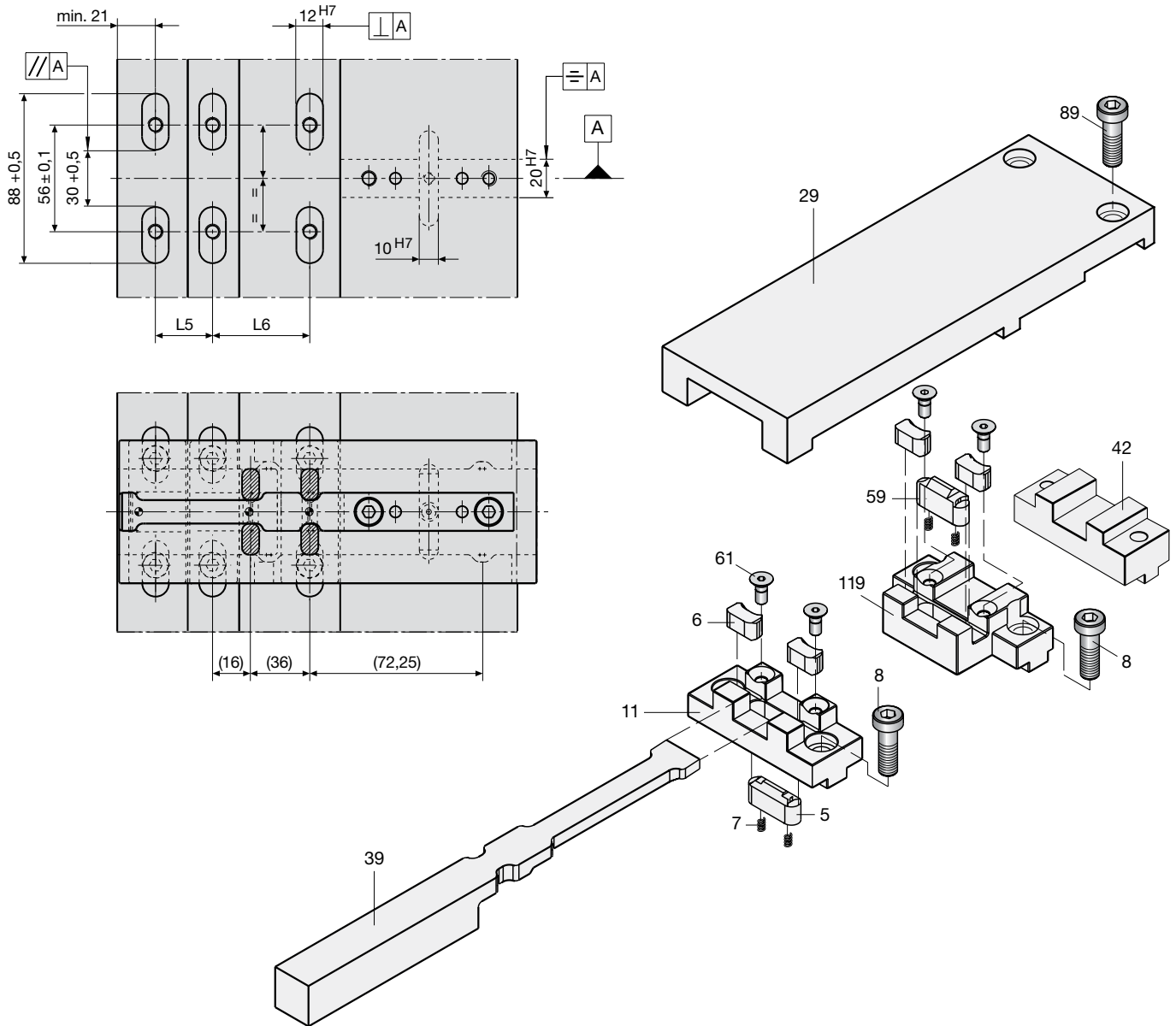


Sonderanfertigung: auf Anfrage
Special production: on request
Fabrication spéciale: sur demande



S1	S2	L	L1	L2	L4	L5	L6	D
60	12	96	207	213	131	39	52	21
60	12	96	207	213	131	39	52	27

Z 4-19-



Type	Pos. Item Pos.	Bezeichnung	Description	Désignation	Stück Quant. Nbr.	Mat.-Nr. Mat.Nr.	Symbol Symbol Symbole	Festigkeit Hardness Résistance
011	11	Klinkengehäuse	Latch housing	Support mobile	1	1.2767	X45NiCrMo4	46 HRC
0119	119	Klinkengehäuse	Latch housing	Support mobile	1	1.2767	X45NiCrMo4	46 HRC
029	29	Steuerplatte	Control plate	Plaque support	1	1.2311	40CrMnMoS86	Eht. 0.5-0.8
039	39	Zugleiste	Latch bar	Crochet	1	1.2311	40CrMnMoS86	Eht. 0.5-0.8
042	42	Traverse	Steady	Tasseau	1	1.1730	C45W3	~650 N/mm ²
05	5	Sperre	Catch stop	Verrou	1	1.2767	X45NiCrMo4	54 HRC
059	59	Sperre	Catch stop	Verrou	1	1.2767	X45NiCrMo4	54 HRC
06	6	Raste	Catch	Clavette	4	1.2767	X45NiCrMo4	54 HRC
061	61	Senkkopfschraube	Countersunk screw	Vis de fixation	4	DIN EN ISO 10642	M5 x 10	8.8
07	7	Druckfeder	Spring	Ressort de pression du verrou	4		Z 4-1-07	
08	8	Zylinderschraube	Cap screw	Vis 6 pans creux	4	DIN 7984	M8 x 25	8.8
089	89	Zylinderschraube	Cap screw	Vis 6 pans creux	2	DIN 7984	M8 x 40	8.8

Z 4-19-

**Doppelhubklinkenzug für
3 Trennebenen in Sonderanfertigung**

Z 4-19 mit Verzögerung

Mit Verzögerung heißt, zuerst wird die 1. Nebentrennfläche (S1) um den festgelegten Hub (S1) (z. B. 60 mm) und danach die 2. Nebentrennebene (z. B. 12 mm) gezogen und dann die Haupttrennebene (S3).

**Double-stroke latch locks for
3 parting planes in special production**

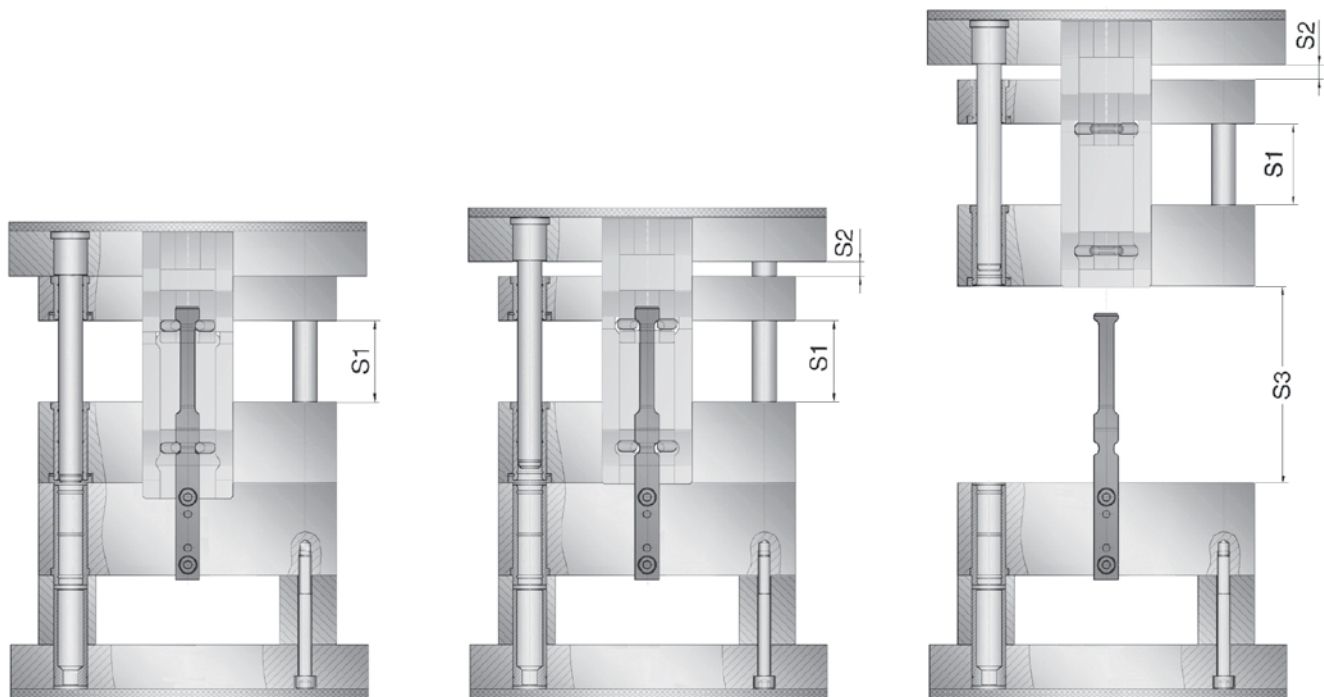
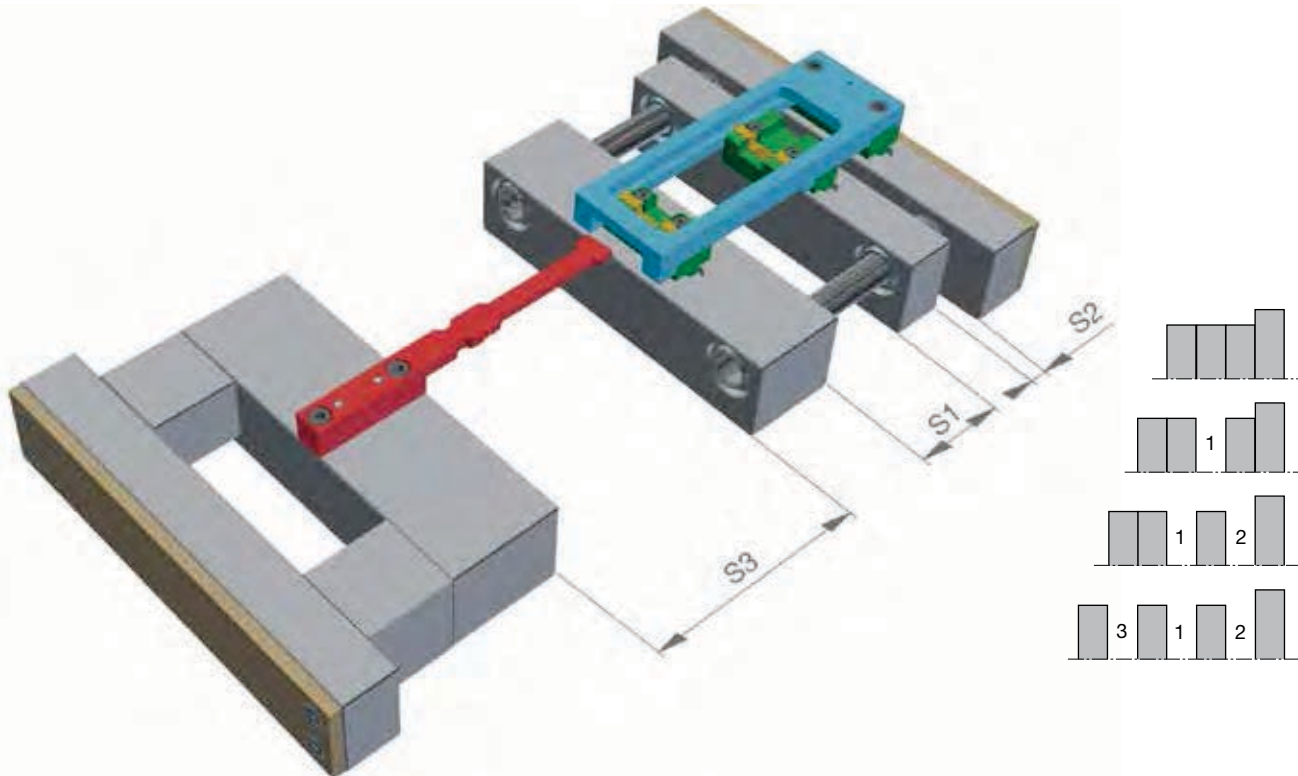
Z 4-19 with delay

With delay signifies that, at first the 1. side parting plane (S1) is advanced by the determined stroke (S1) (for example 60 mm) and thereafter the 2. side parting plane (for example 12 mm) is advanced and then the main parting plane (S3).

**Ouvres-moules à double course pour
3 plans de joint en fabrication spéciale**

Z 4-19 avec décélération

Avec décélération signifie, premièrement le 1. plan de joint secondaire est déplacé vers l'avant par la course déterminée (S1) (par exemple 60 mm), et ensuite le 2. plan de joint secondaire (par exemple 12 mm) et puis le plan de joint principal (S3).





Information english - Round latch locks Z 3-1 up to Z 3-31

Different heat expansion leads to a mismatch of the gauge for bore holes, particularly at hot runner moulds

In the following we show you a constructive possibility to compensate the different heat expansion of single plates for the latch locking unit, however, hereby the guiding properties, which are existing by standard, are lost. Tensile and locking forces are not affected.

For compensation possibility constructively that side offers on which the bolts are mounted and the drawn plate H1V.

1. Tie bolts

The tie bolt is carried radial floating that means it does not follow the modification in dimension and remains in its' original position, however can not be charged radially.

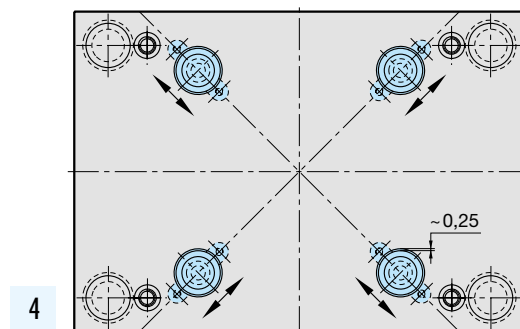
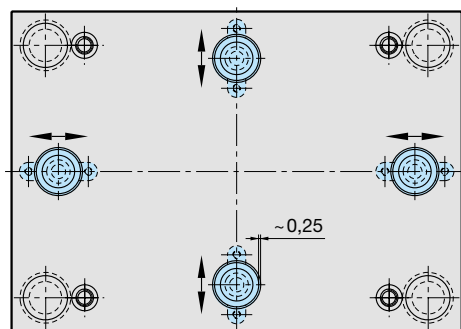
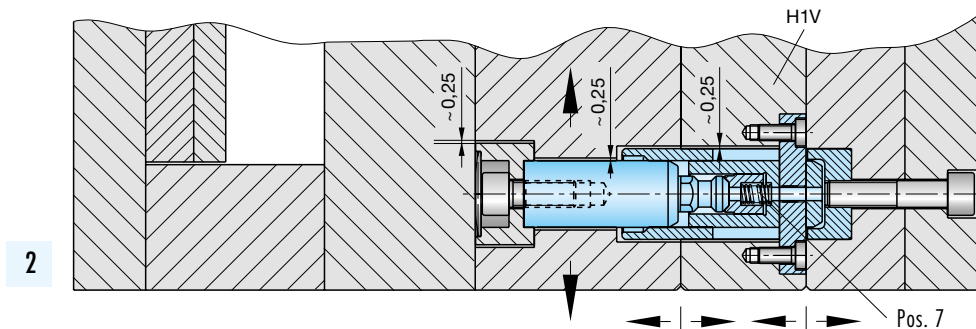
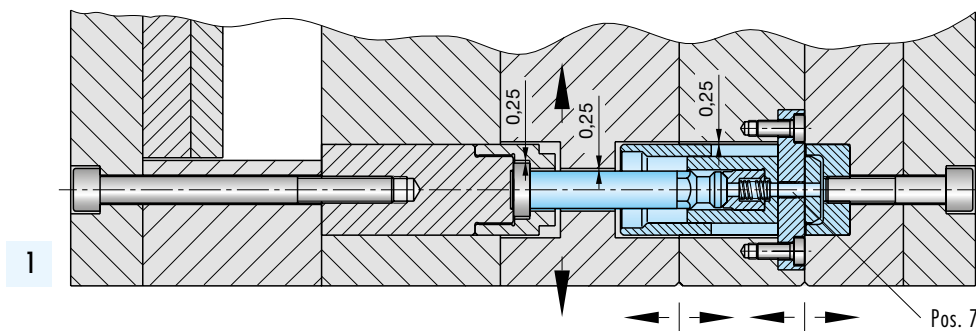
For this purpose we propose two different mounting possibilities which can be suitable for your construction.

The possible mismatch lies at ± 0.25 mm for each locking unit, that means the difference of lengths of the gauge for bore holes may have 0.5 mm (figure 1 + 2).

2. Drawn plate (H1V)

- This plate should not lead to the outside diameter of the housing, but has to be bored about 0.5 mm greater in diameter.
- The frictional puller have to be mounted in the direction of expansion, either crucially (figure 3) or diagonally (figure 4).

⚠ The central setscrew Pos. 7 should not be mounted.

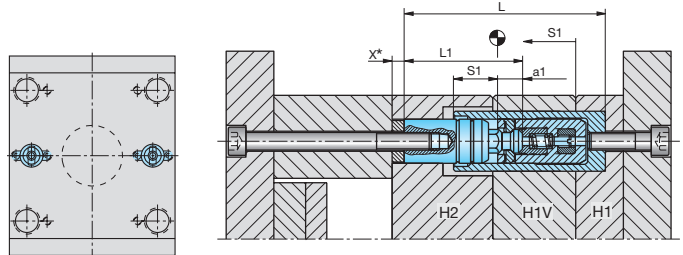


Information english - Round latch locks Z 3



Installation

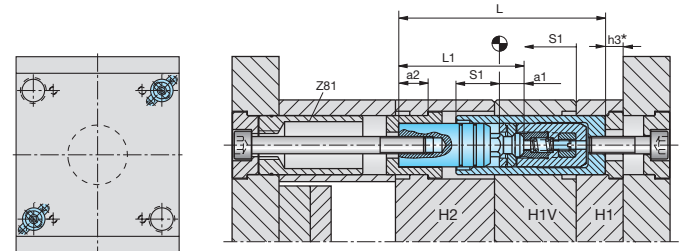
Installation independent of guide system Z 3-1, Z 3-2, Z 3-3



Technical guide values

Type	Stroke min. (mm)	Stroke max. (mm)	Tensile force max.	Locking force max.
Z 3-1	4	60	1.0 kN	0.5 kN
Z 3-2	4	150	2.0 kN	1.0 kN
Z 3-3	5	175	2.8 kN	1.4 kN

Installation independent of guide system Z 3-2, Z 3-3



Principle of operation

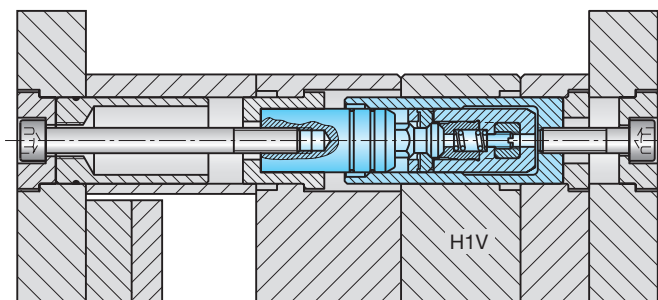
When the injection mould is opened, the mould plate (H1V) to be drawn at the same time in the direction of the arrow by the stroke (S1) determined by the design until the driver (6) comes to a stop in the housing (2) is drawn along. In this position, the catches (5) unlock and thus release the latch bar (1).

At the same time, the drawn mould plate (H1V) is locked via the housing (2), the

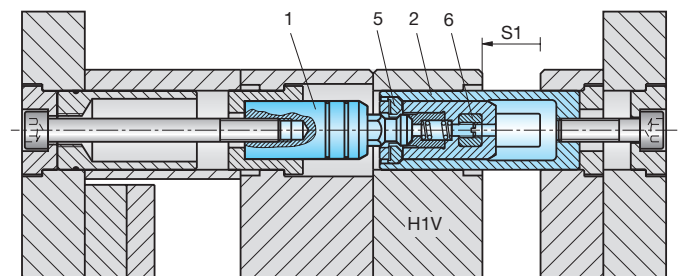
catches (5) and the piston (3) by the securing bush (4).

The actual parting of the mould is performed by moving the closing or ejector side further back by stroke S2 in the direction of the arrow. The closing operation is performed in the reserve sequence.

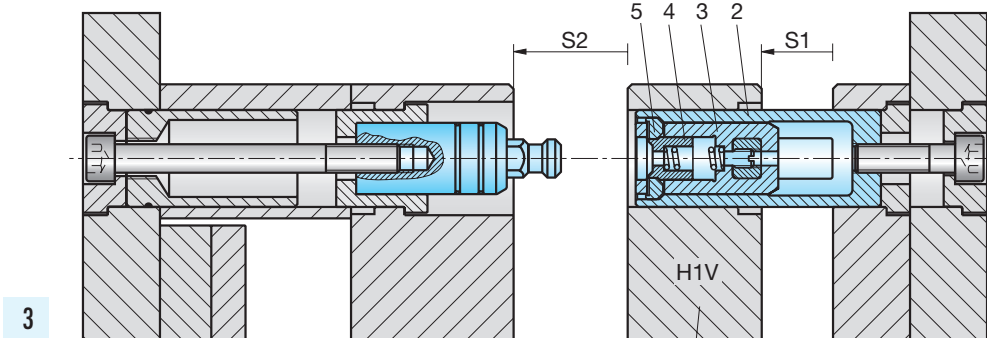
6



1



2



3

Plate locked

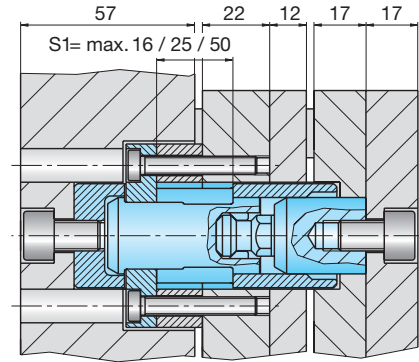
Information english - Round latch locks Z 3

Application as two stage ejector



Installation

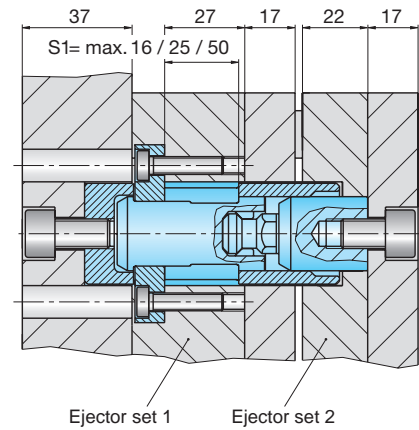
Variant 1



Technical guide values

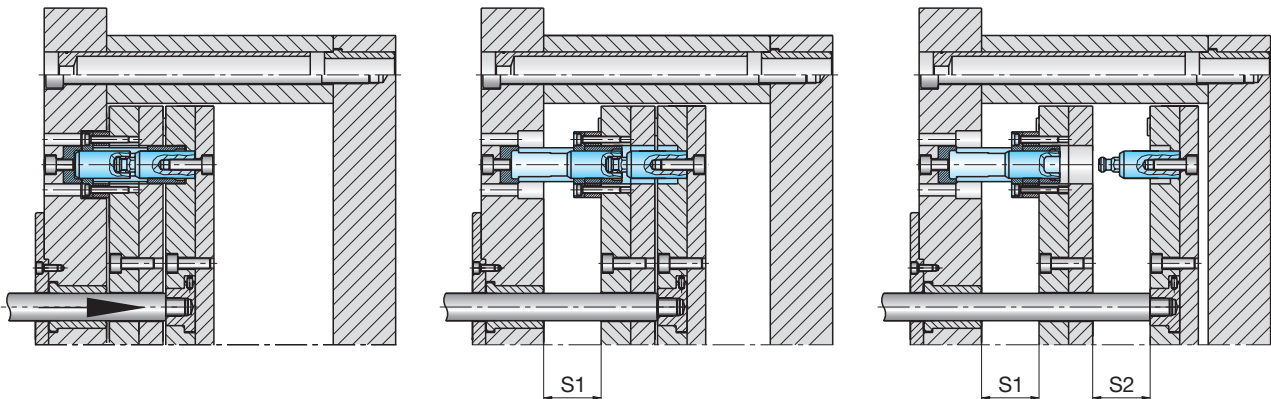
Type	Stroke min. (mm)	Stroke max. (mm)	Tensile force max.	Locking force max.
Z 3-1-16	4	16	1 kN	0.5 kN
Z 3-2-25	4	25	2 kN	1.0 kN
Z 3-2-50	4	50	2 kN	1.0 kN

Variant 2



6

Principle of operation



At first the two ejector-sets have to be pulled by the stroke (S1) determined by the design. Then, after having done the unlock of the catches, the second stroke (S2) is to be made by pushing now the front ejector-set more forward separately from the ejector-bar.

Information english - Round latch locks Z 3

1. Choice

At least two latch locks must be used.

Careful attention must be paid to the uniform setting of all the latch locks and to uniform drawing of the plate to be drawn, in order to avoid tilting the plate.

Guide values, not binding:

Type	Stroke min. (mm)	Stroke max. (mm)	Tensile force max.	Locking force max.
Z 3-1/Z 3-11	4	60	1.0 kN	0.5 kN
Z 3-2/Z 3-21	4	150	2.0 kN	1.0 kN
Z 3-3/Z 3-31	5	175	2.8 kN	1.4 kN

2. Locking function

The securing bush (4) locks the catches (5). This prevents the drawn mould plate (H1V) running back in an uncontrolled manner (see fig. 1).

The safety function is cancelled during the closing operation as soon as the latch bar (1) has moved into the piston such an extent that the catches (5) can be guided back towards the inside onto the latch bar (unlocking, see fig. 2).

⚠ If the round latch lock is fitted into the guide system, the plate (H1V) which is to be moved must be hardened.

The bore diameter d2 (34, 42) is to be matched to the external diameter of the housing 2 corresponding to a slide way with a tolerance of from +0.03 mm to +0.04 mm.

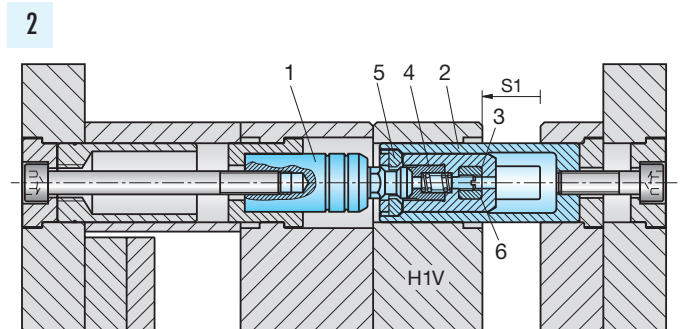
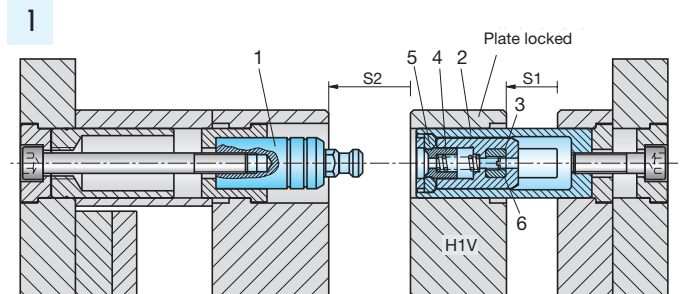
3. Locking force

The locking force is the force which must be overcome in order to push back the pulled mould plate (H1V) forcibly (prematurely).

4. Securing the mould

The blocked mould plate (H1V), before being unlocked by the latch bar (1), must be secured against impermissibly high closing forces in the stroke (S2) by the mould securing means of the injection moulding machine.

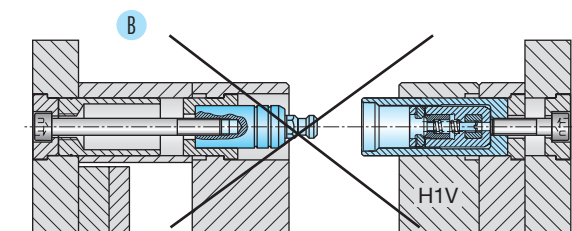
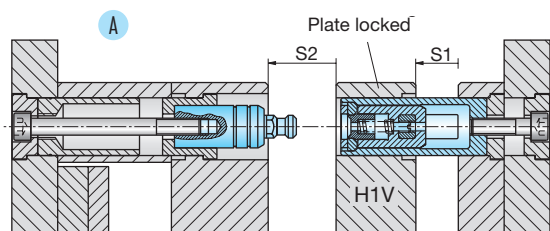
If there are mould slides with angle pins in the stroke region (S2), then the mould securing means must respond before the angle pins plunge into the mould slides.



If the mould is to be clamped with both mould halves separately, care should be taken that the drawn mould plate (H1V) is located in the limit position of the fully drawn stroke (S1), and the block is active, before the closing movement of the injection mould (see fig. 3).

A = Right; B = Wrong

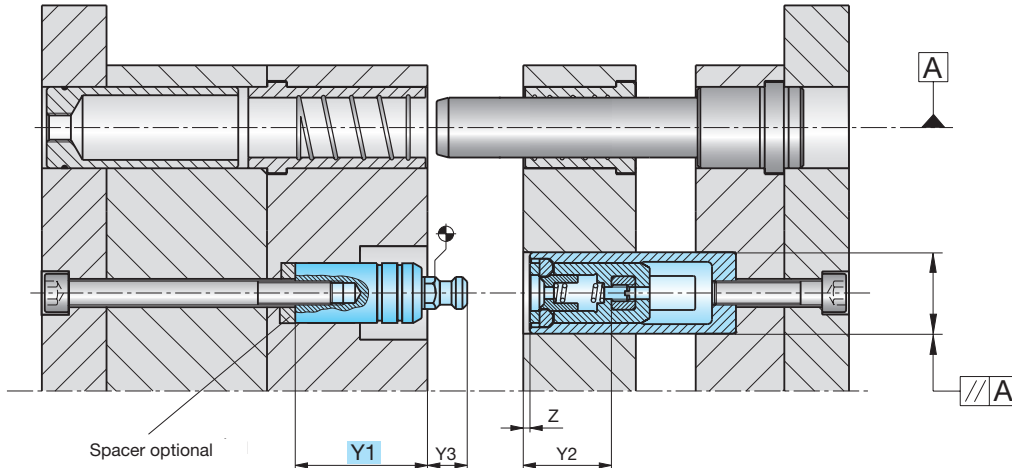
3



Information english - Round latch locks Z 3

Installation and assembly instructions

The latch locks are to be fitted symmetrically and parallel to the mould guide. (Installation independent of guide system)

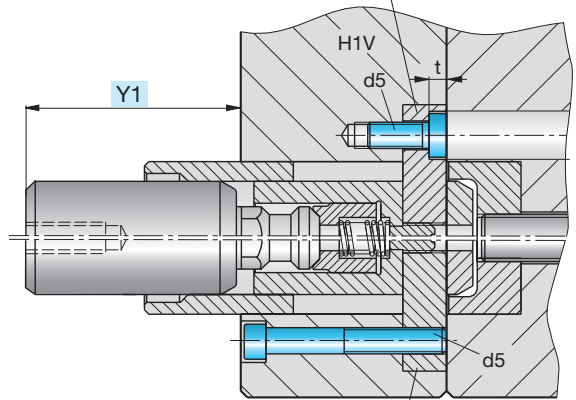
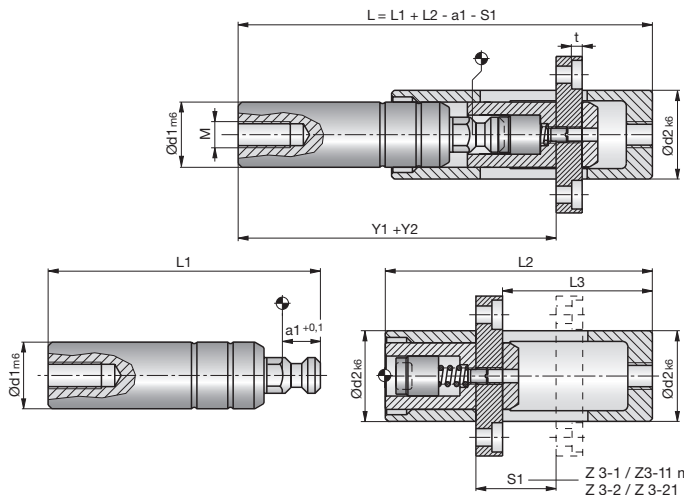


The zero points (⊕ positioning points) indicated in the following illustrations are used to coordinate the designs and dimensions during mould design. Careful attention should be paid to **setting all the latch locks** uniformly in dimensi-

ons Y1, Y2 and Y3 and to drawing the plate which is to be drawn uniformly, in order to prevent the plate from tilting.

6

Z 3-1/Z 3-2/Z 3-3

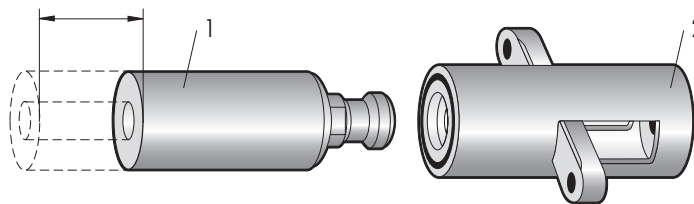


Z 3-11/Z 3-21/Z 3-31

Z 3-1 / Z3-11 min. 4 mm – max. 60 mm
Z 3-2 / Z 3-21 min. 4 mm – max.150 mm
Z 3-3 / Z 3-31 min. 5 mm – max.175 mm



Latch bars (1) can be shortened as required. Housing (2) must not be altered.

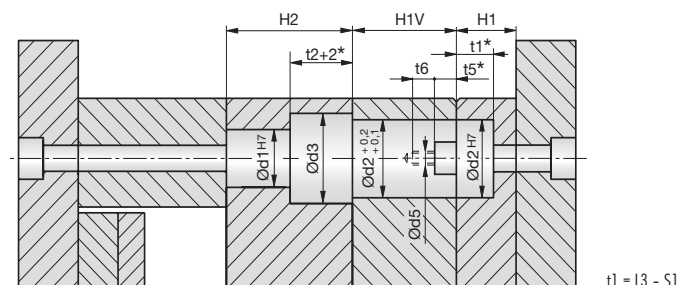
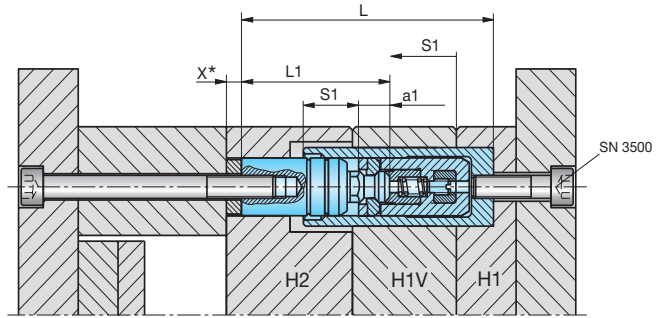
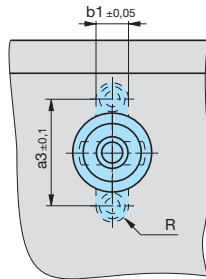
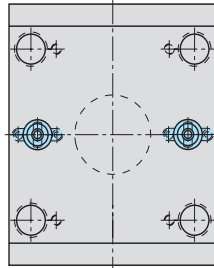


Type	a1	a2	a3	b1	d1	d2	d3	d4	d5	t	t5	t6	M	R
Z 3-1/Z 3-11	10.80	-	35	10.1	17	25	27	-	M4	4.5	8	8	8	5
Z 3-2/Z 3-21	14.25	18	46	14.1	25	34	36	39	M6	4.5	10	10	10	7
Z 3-3/Z 3-31	18.40	27	57	18.1	30	42	44	47	M8	6.0	12	12	12	9

Information english - Round latch locks Z 3

Installation independent of the guide system

Other installation variants are possible.
Please take account of the dimensions, identified "x*".
L1, L2 and L3 see page 6.6/6.8/6.10.



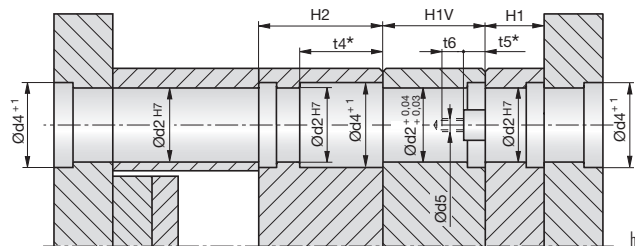
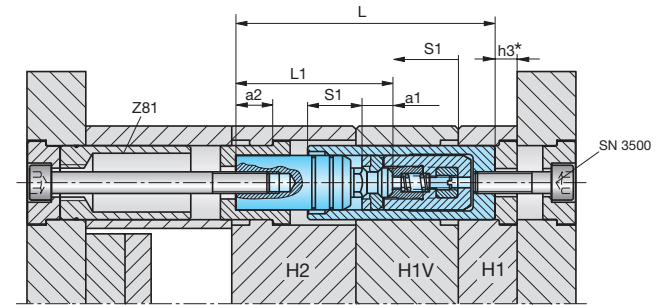
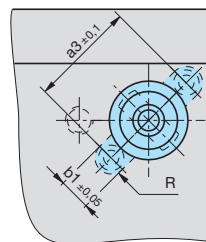
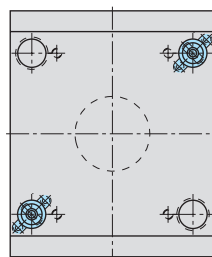
$$t1 = L3 - S1$$

$$t2 = L2 + S1 - L3 - H1V$$

$$X = H2 + H1V + a1 + L3 - L1 - L2$$

S1 = Opening stroke of the mould plate (H1V) to be drawn
t4/X = Precise adaption is necessary when mounting

Installation in the guide system bores



$$h3 = H1 + S1 - L3$$

$$t4 = L1 + L2 - L3 - H1V - a1 - a2$$



Following the installation of the round latch locks, check the stroke (opening travel S1) of the mould plate (H1V) moving away, and correct if necessary.

Information english - Round latch locks Z 3

Disassembly

1. Loosen the locking means of the driver (Item 6) by unscrewing the set screw (7) using a hexagon socket key (size 4).
2. Pull the driver (6) out of the piston (3).
3. Then push the piston (3) out of the housing.
4. Then remove the catches (5) and the securing bush (4) with spring (8) from the piston.

Assembly

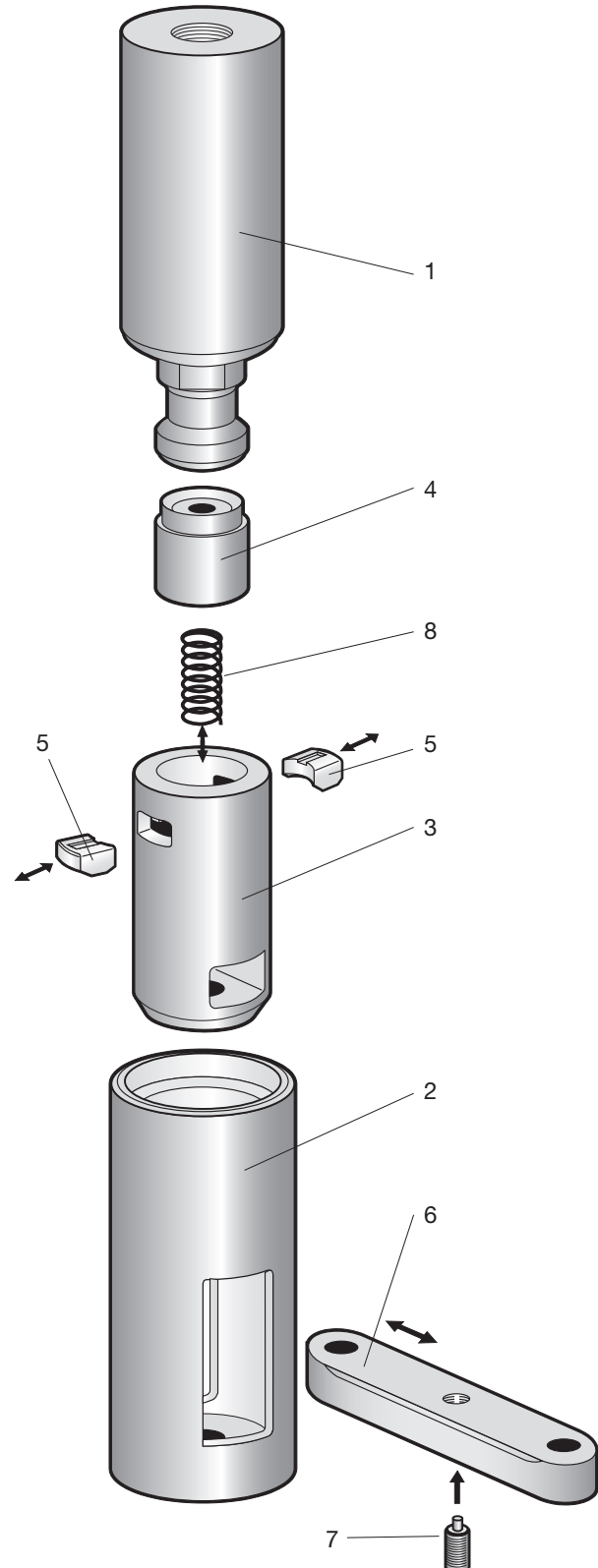
1. Insert the securing bush (4) with spring (8) into the piston (3) and then add the two catches (5).
2. Insert the preassembled piston with Items 3, 4, 5 and 8 into the housing (2) and position it such that the aperture in the piston for the driver (6) is located symmetrically in relation to the cut-out.
3. Next, press the securing bush (4) downwards to such an extent that the catches (5) can move inwards, in order to push the entire piston unit into the housing.
4. Push the driver (6), with set screw (7) fitted, into the aperture in the housing (2) and piston (3), align it centrally, and screw the set screw into (3) in order to lock it.

Maintenance



All functional components of the latch locks must be lubricated regularly.

The mounting screws must be checked regularly and tightened.



Information english - Latch locks Z 4

Application examples

Production and design features:

1. Increased Production

The Z 4 latch lock permits high opening and closing speeds - faster moulding cycles are possible.

2. Safe Function

The actuated plate is stopped and locked mechanically in the limit position. It can only move back into its initial position when the latch bar has returned into the latch housing.

No additional limitstops are required.

3. Solid

Reduction of wear and higher tractive power owing to

- concentric power transmission by two catches
- solid design
- all parts hardened in wear areas.

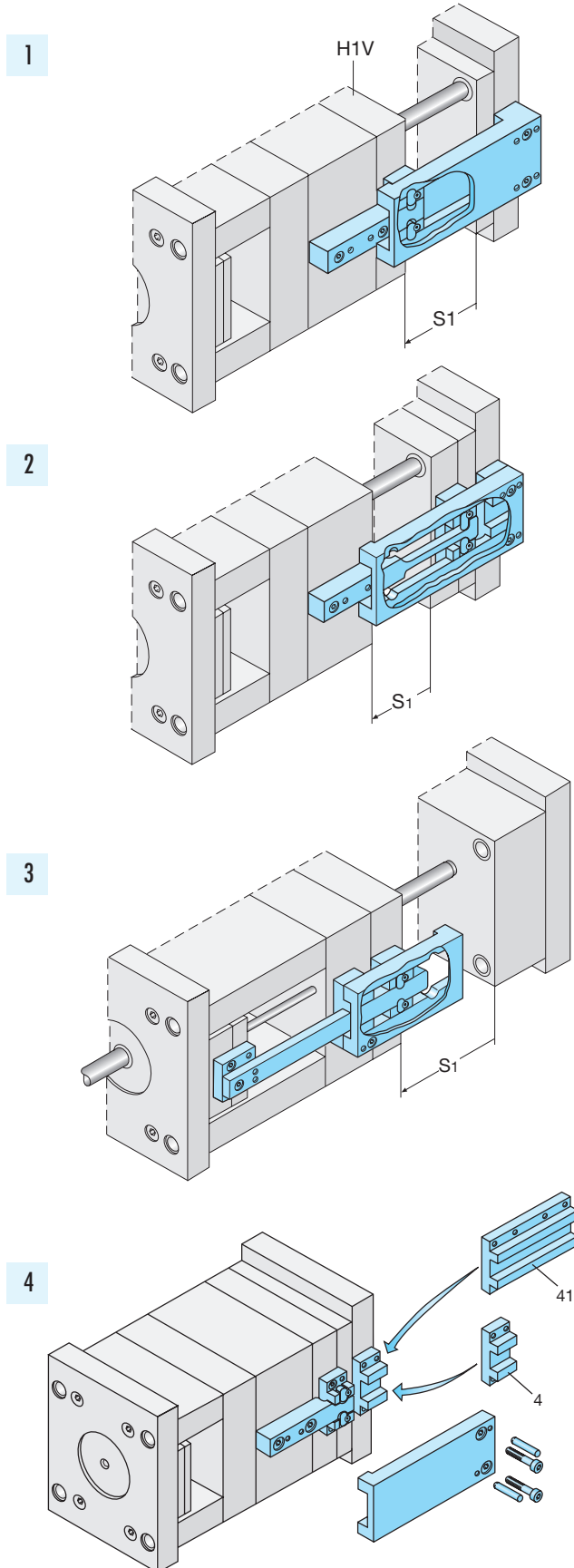
4. Simple Mounting

Easy mounting and adjustment. (See page Info 6.124)

5. Wide Range of Applications

Different latch locks of the Z 4 line can be combined to permit a great variety of possible movements within the mould tool:

- 1) Latch lock without delay; stripper plate is actuated directly.
- 2) Latch lock with delay; stripper plate is only actuated after a predetermined opening stroke of the main parting plane.
- 3) Combination of two latches into a two-stage ejector.
- 4) Alternative installation of an extended cross-beam to improve the bolt-on feature in special designs.



Information english - Latch locks Z 4-1 to Z 4-30

no delay

Principle of operation:

Figure 1

Injection mould is closed, catches (6) locked only to the latch housing (1) and the latch bar (3).

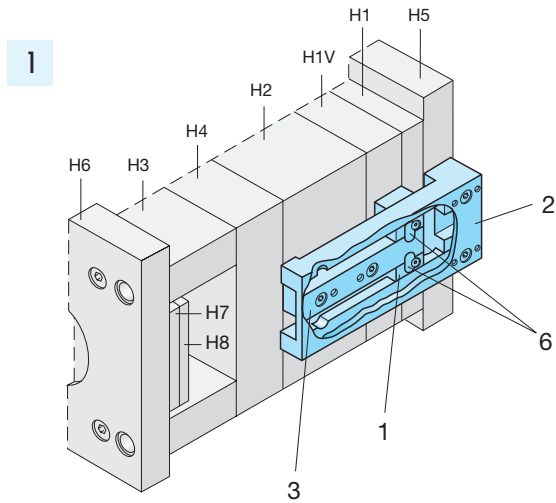


Figure 2

When the injection mould is opened, the mould plate (H1V) to be actuated is drawn along at the same time in the direction of the arrow by the stroke (S1) determined by the design until the latch housing (1) comes to a stop against the control plate (2).

In this position, the catches (6) unlock and recess into the cutouts in the control plate (2), releasing the latch bar (3).

Simultaneously the actuated mould plate (H1V) is locked by the latch housing (1), the catches (6) and the control plate (2) with the stop (5) (see also figure 3)

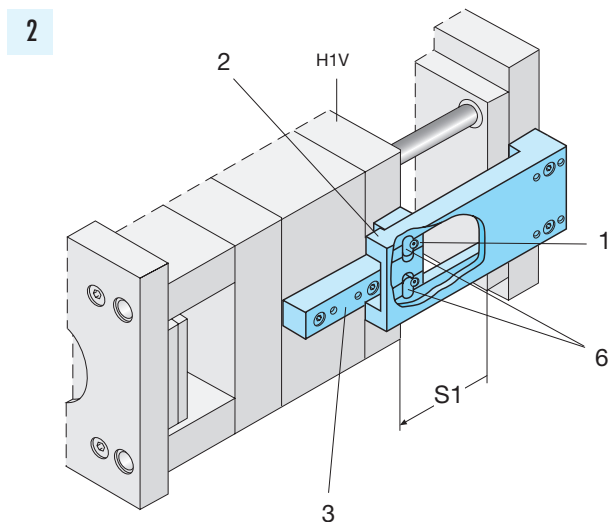
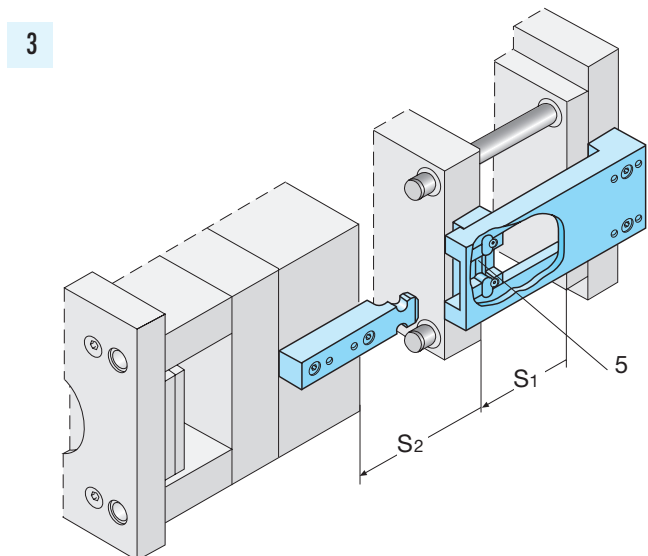


Figure 3

The main parting plane is opened by moving the closure or ejector side further backwards by the stroke (S2) in the direction of the arrow.

The closing process is effected in reverse order.



6

Information english - Latch locks Z 4-1-25 to Z 4-30

with delay

Principle of operation:

Figure 1

Injection mould is closed, catches (6) locked only to the latch housing (1).

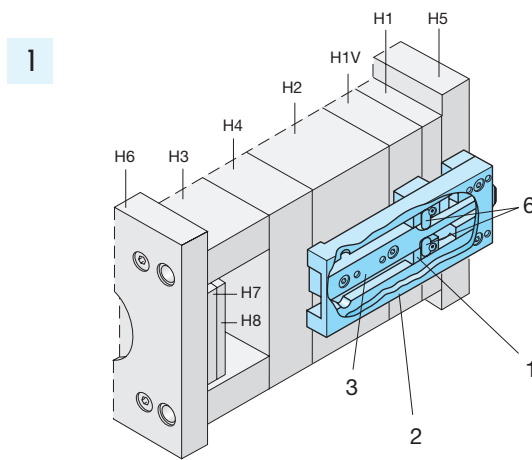


Figure 2

When the mould tool opens, the closure or ejector side first travels backwards by "S1" in the direction of the arrow, i. e. by the delay of the latch bar (3), until the latch bar (1) is stopped at the catches (6).

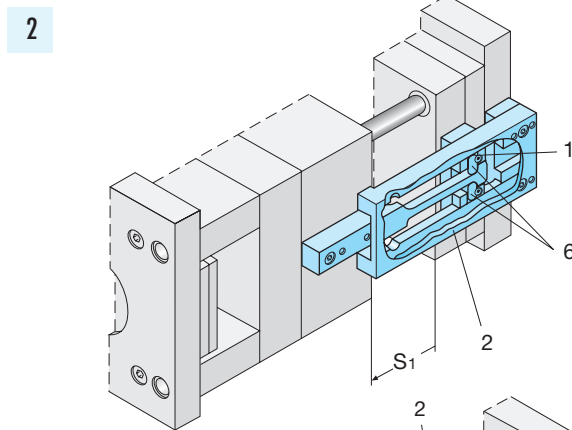


Figure 3

As the ejector side moves further backwards, the mould plate (H1V) to be actuated is carried along by the specified travel "S2" until the latch housing (1) is stopped by the control plate (2).

In this position the catches (6) unlock, enter the cutout in the control plate (2) and thus release the latch bar (3).

Simultaneously, the actuated mould plate is locked by the latch housing (1) and the catches (6) with stop (5) (see also figure 4).

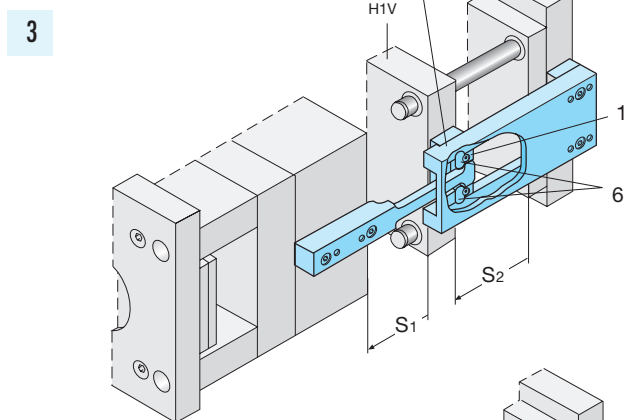
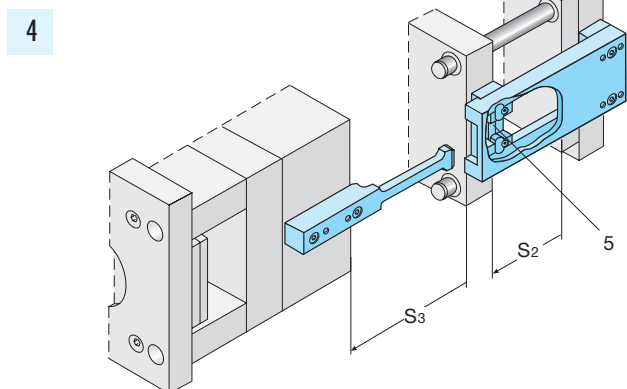


Figure 4

Further mould parting is effected by further retraction of the closing and ejector side by the stroke (S3) in the direction of the arrow.



Information english - Latch locks Z 4-1-1 to Z 4-32

Two stage ejector; stripper plate combined with ejector plates

Principle of operation:

Figure 1

The ejector bar (10) is bolted to the ejector set (H7 and H8). The latch housing (1) is bolted to the stripper plate (H2V). The latch housing (1) is bolted to the stripper plate (H2V). The ejector bar (10) is positively locked to the latch housing (1) by the catches (6).

Figure 2

When the injection mould opens, the closure side first travels by the specified travel "S1" in the direction of the arrow. At this stage the latch lock does not perform any function.

Figure 3

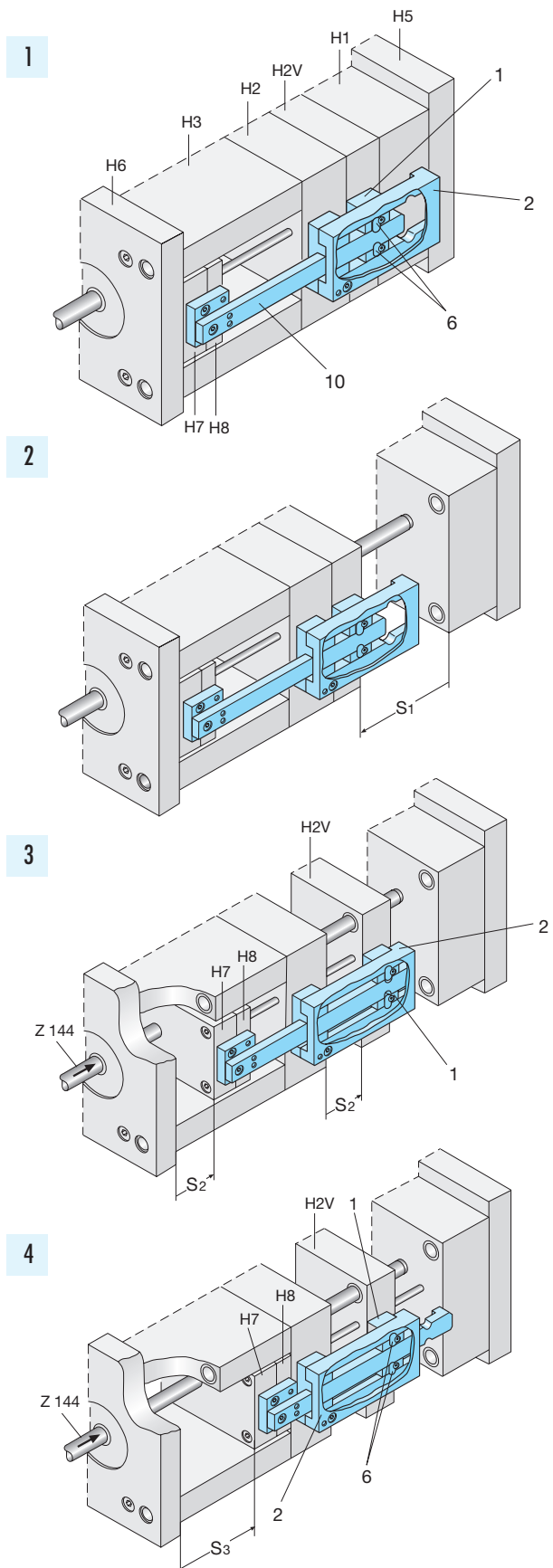
Now, as the hydraulic ejector of the moulding machine advances the ejector rod (Z 144) which is connected to the ejector set (H7 + H8), the ejector set (H7 and H8) as well as the stripper plate (H2V) move forward synchronously by "S2" until the latch housing (1) is stopped at the control plate (2).

In this position, the catches (6) enter the cutouts in the control plate (2) and release the ejector bar (10). At this point, the stripper plate (H2V) is locked.

Figure 4

The continued forward movement of ejector rod (Z144) increases the ejection stroke of ejector set (H7 + H8) to stroke end "S3" so that the ejector pins can eject the moulding from the stripper plate.

The closing process is effected in reverse order.



Information english - Latch locks Z 4-1-1 to Z 4-32

Two stage ejector; double ejector set combination

Principle of operation:

Figure 1

The ejector bar (10) is bolted to the ejector set (H7+H8). The latch housing (1) is bolted to the ejector set (H7' + H8'). The ejector bar (10) is positively locked to the latch housing (1) by the catches (6).

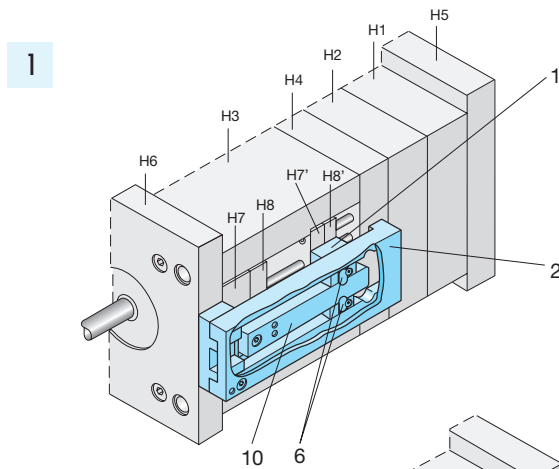


Figure 2

When the mould opens, the closure side first travels by "S1" in the direction of the arrow. At this stage the latch lock does not perform any function.

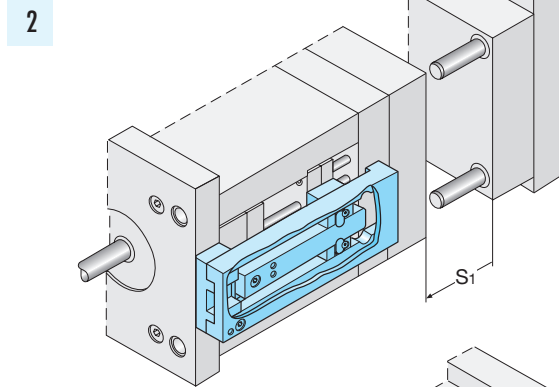


Figure 3

Now, as the hydraulic ejector of the moulding machine advances the ejector rod (Z 144) which is connected to the ejector set (H7 + H8), the two ejector sets (H7 + H8) as well as (H7' und H8') move forward synchronously until the ejector set (H7' und H8') is stopped at the mould plate (H4).

In this position, the latch housing (1) simultaneously reaches the stops of the control plate (2). The catches (6) enter the cutouts in the control plate (2) and release the ejector bar (10).

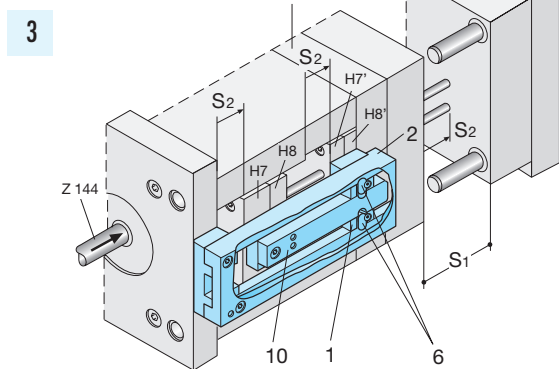
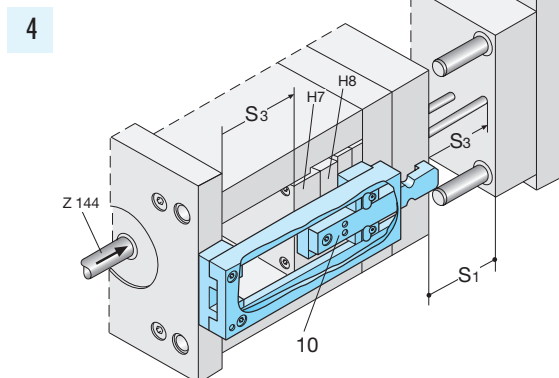


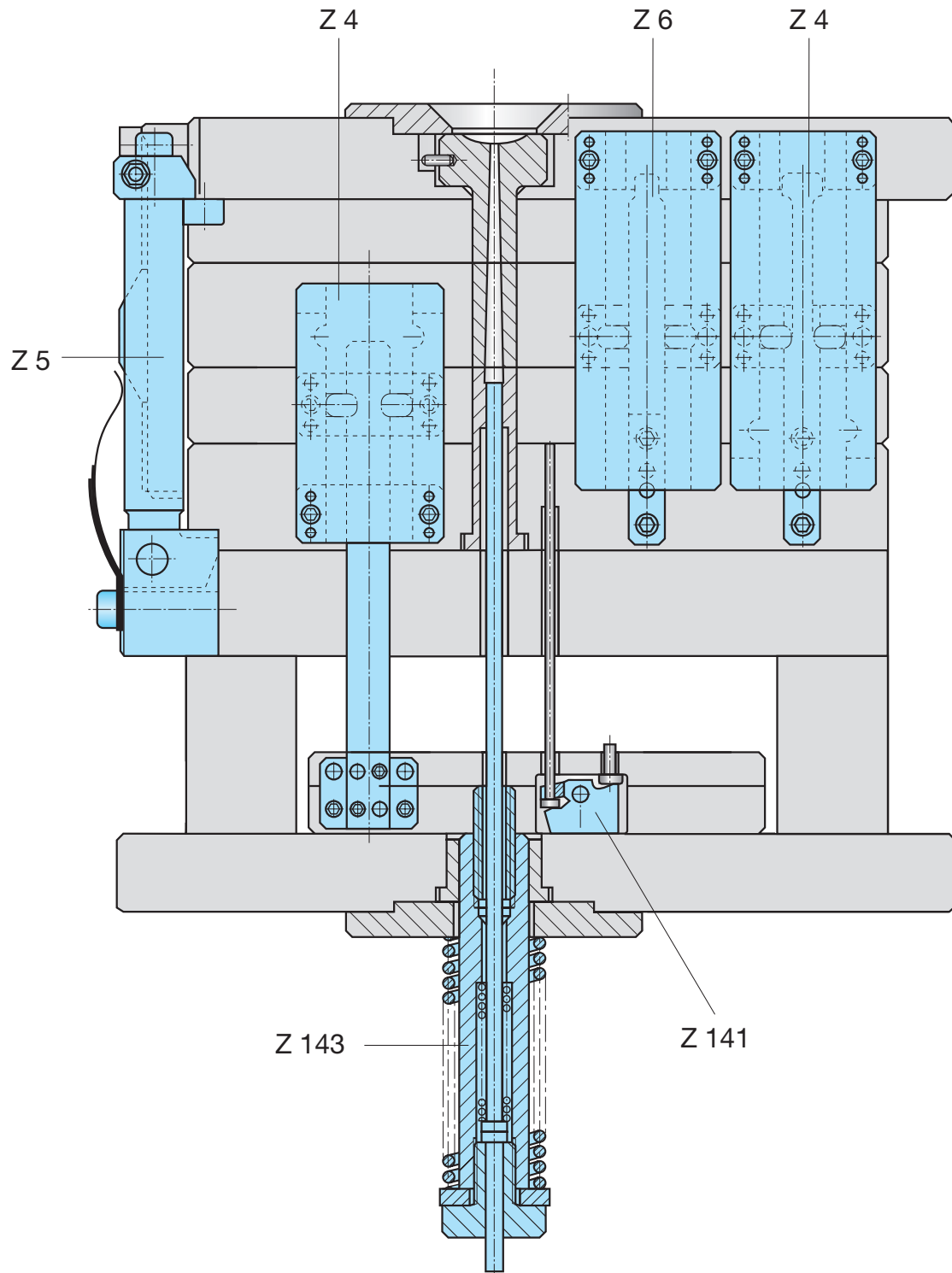
Figure 4

By further forward movement of the ejector rod (Z 144) the ejector set (H7 + H8) continues to advance by travel "S3" so that the ejector pins in ejector set (H7' + H8') can eject the moulding.

The closing process is effected in reverse order.



Information english - Latch locks Z 4 to Z 6



Information english - Latch locks Z 4

1. Choice

At least two latch locks must be used. The choice of latch lock is determined by the stripping forces, the weights moved and the forces acting on the latch lock (symmetrical or unsymmetrical).

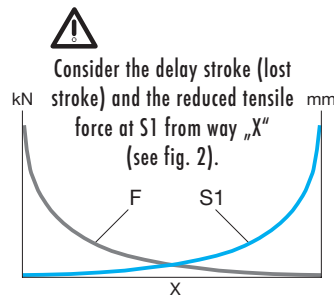
Z 4-11, -12, -16, -17, -21 and -22 latch locks vary, having a more stable latch housing and reinforced threaded joint, they can also be mounted on much thinner mould plates.

Recommended mould sizes, not binding

Type	Mould sizes	Stroke* S1 min. (mm)	Stroke* S1 max. (mm)	Tensile force max.	Locking force max.
Z4/Z 4-11(12)	up to 196x196	4.0	96/91	10 kN	1 kN
Z 4-15/Z 4-16(17)	up to 296x296	5.5	121/116	30 kN	3 kN
Z 4-2/Z 4-21(22)	up to 596x596	7.0	159/154	40 kN	4 kN
Z4-30	from 596x596	15.0	264	60 kN	6 kN

* longer strokes on request

From the way "X" the stroke "S2" already opens.
This must absolutely be considered at the stroke determination "S1".



If in doubt, always choose the next larger latch lock. A comparison of forces and costs shows that it is often better to use two large units instead of 4 smaller ones. Care must be taken to ensure that all latch locks are set uniformly and that the plate to be actuated is pulled evenly, in order to avoid skewing of the plate.

2. Locking Function

The lock (5) locks the catches (6). This prevents uncontrolled return travel of the pulled mould plate (H1V) (see figs. 1 and 3). This safety function is cancelled during the closing operation, as soon as the latch bar (3) has entered the latch housing (1) to the point that the catches (6) can be guided back into the cutouts in the latch bar (unlocking) (see fig. 4).

3. Locking Force

The locking force is the force required to push back the pulled mould plate (H1V) forcibly (prematurely); see section 1, choice.

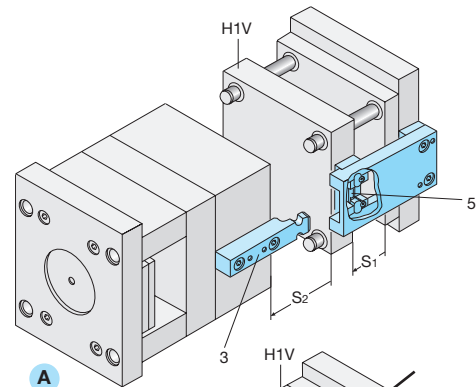
4. Mould Safety Device

Before being unlocked by the latch bar (3), the locked mould plate (H1V) must be protected against unacceptably high locking forces in stroke "S2" by the mould safety device of the injection moulding machine (see fig. 1).

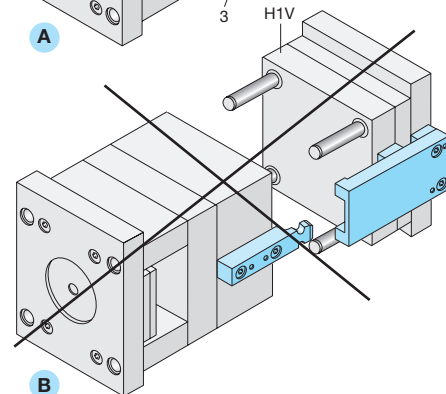
If there are mould slides with angle pins within the "S2" stroke range, the mould safety device must respond even before the angle pins enter the mould slides.

If the two mould halves are to be mounted separately, it is important to ensure that the drawn mould plate (H1V) is in the limit position of the fully drawn stroke "S1" and that the lock is active before the injection mould closes (see fig. 1).

1



A

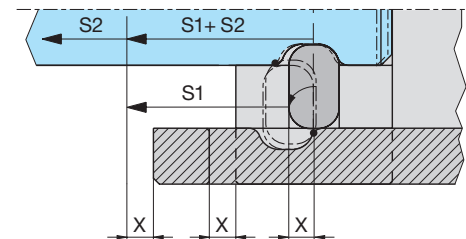


B

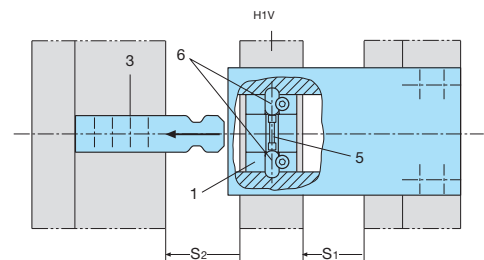
A = Right;

B = Wrong

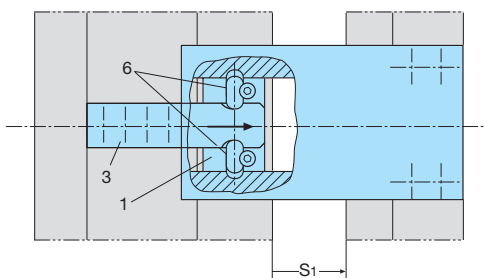
2



3



4



Information english - Latch locks Z 4

Notes on mounting and assembly

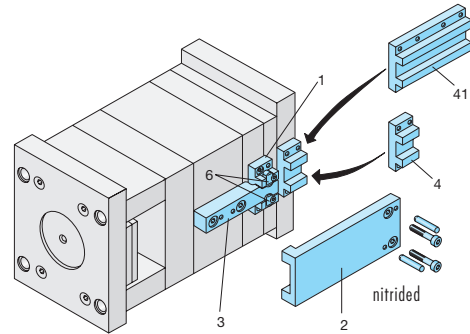
Mount the latch locks so that they are symmetrical, parallel and square to the mould guide pins, using the reference surfaces of the individual latch lock elements (see fig. 6).

Secure all screws with spring washers or Z 9092 adhesive.

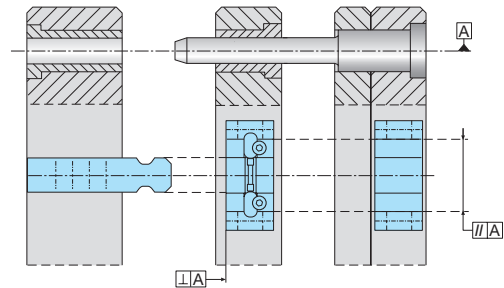
The control plate and the latch bar are nitrided on $\sim 630\text{HV } 10$, thickness of hardened layer = 0.4 - 0.6 mm

The zero points shown in the following diagrams (\odot positioning points) are there to help match the dimensions when designing the mould. It should be noted in this context that adjustment of the latch lock to a position with no play must be performed before the latch bar is dowelled.

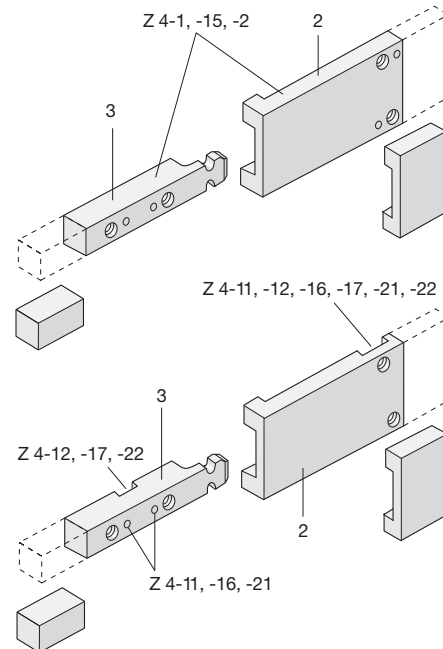
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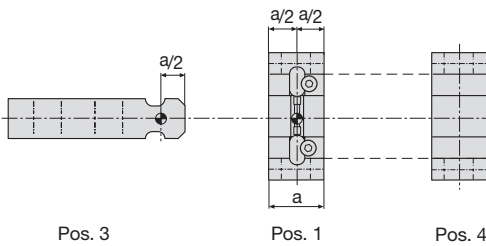
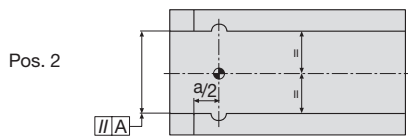
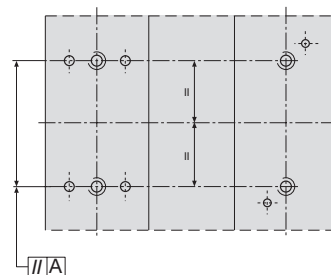
6



7



8



6

1. Preparatory work

Match the length of the control plate (2) and the latch bar (3) in accordance with the mould design and shorten, if necessary. If the control plate and latch bar are to be shortened, the hardened layer on the side faces must first be ground down (see fig. 7).

According to the type drill respectively grind fixing borings respectively sparings in the latch bar (3), control plate (2) and steady (4/41) (see fig. 5 and 7).


According to the type drill respectively mill fixing borings respectively sparings for the latch bar (3), latch housing (1), as well as the control plate including the steady (4/41) in the mould plate (see fig. 8 and 9).

Information english - Latch locks Z 4

Notes on mounting and assembly (continued)

For Z 4-11, -16 and -21 designs latch locks with location lugs on the latch housing (11) and steady (42), the required machining in the mould plates should be carried out at right angles to reference line A (see figs. 6, 9, 10 and 11).

This design of the latch locks Z 4-12, -17 and -22 is an alternative to the latch locks Z 4-11, Z 4-16 and Z 4-21. Apart from the latch bar (Item 3), the dimensions of Z 4-12 are identical to those of Z 4-11, the dimensions of Z 4-17 are identical to those of Z 4-16 and the dimensions of Z 4-22 are identical to those of Z 4-21. The height of the latch bar (Item 3) is changed, so that it can be fitted into the mould plate. The cylindrical pins for locking and fastening are dispensed with. For this purpose, a feather key (Item 31) is inserted in the mould plate and the latch bar (see fig. 11).

 A machined recess must be provided in the control plate (see Fig. 11). This applies only to the Z 4-11 designs (12, 16, 17, 21 and 22). For the models Z 4-12, -17 and -22 also fit the latch bar.

Please see catalogue, section 6 (pages 6.12 - 6.31) for dimensions.

2. Mounting and adjustment work with mould assembled

Proceed as follows:

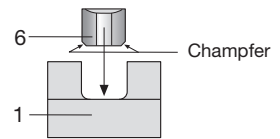
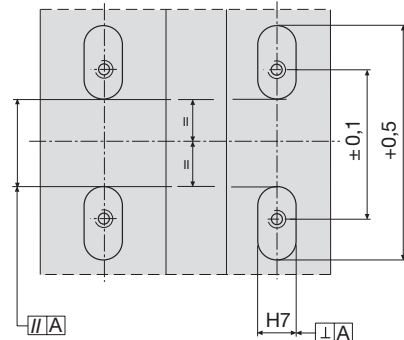
Screw down latch housing (1/11) and also attach dowels to latch housing (1).

Check the position of the catches (6). Insert the edges, which are chucked at the sides, downwards into the latch housing (1/11) (see figs. 5 and 10).

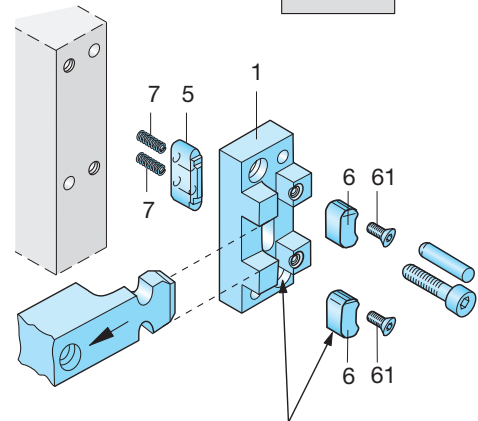
Screw the countersunk screw (61) in and tighten it. The holdings may not be clamped.


Insert the latch bar (3), place against the catches (6) and screw on gently parallel to the mould guide pins. Screw on the control plate (2) together with the steady (4/41/42), taking into consideration the stroke S1 determined by the design. Use gauge blocks if required (see figs. 5 and 13)

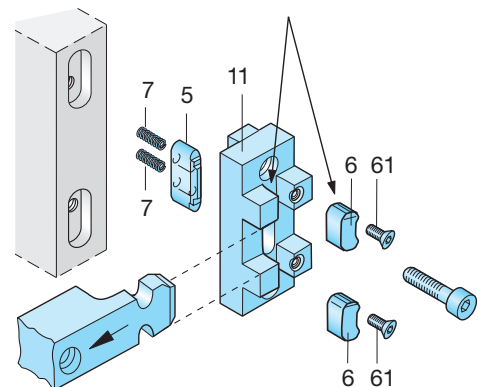
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10

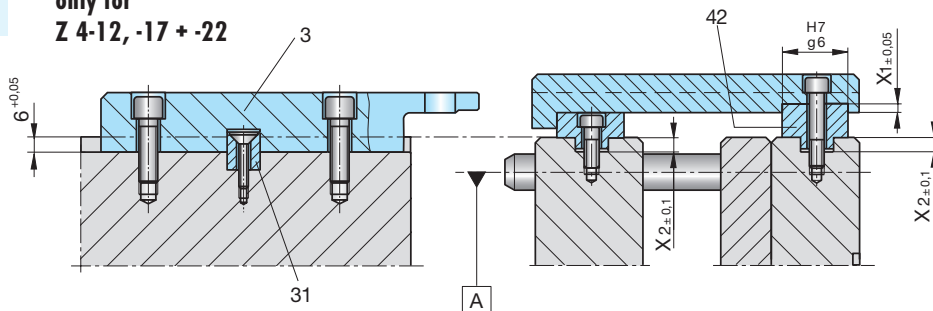


 Please observe the mounting position!



11

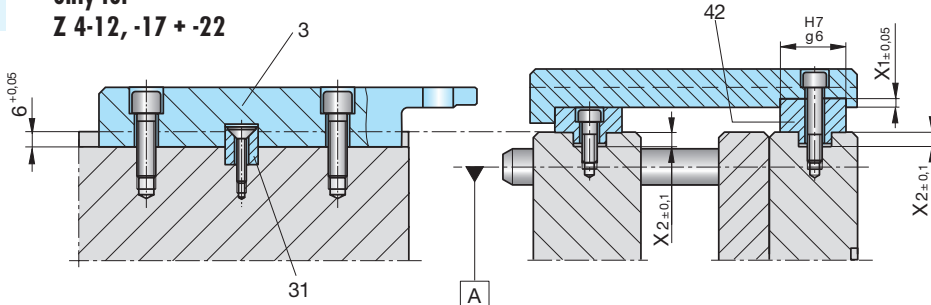
* only for
Z 4-12, -17 + -22



Type	X1	X2
Z 4-11	3.0	4.5
Z 4-16	4.5	5.5
Z 4-21	6.0	6.5
Z 4-12	3.0	4.5
Z 4-17	4.5	5.5
Z 4-22	6.0	6.5

Information english - Latch locks Z 4

11 * only for
Z 4-12, -17 + -22



Type	X1	X2
Z 4-11	3.0	4.5
Z 4-16	4.5	5.5
Z 4-21	6.0	6.5
Z 4-12	3.0	4.5
Z 4-17	4.5	5.5
Z 4-22	6.0	6.5

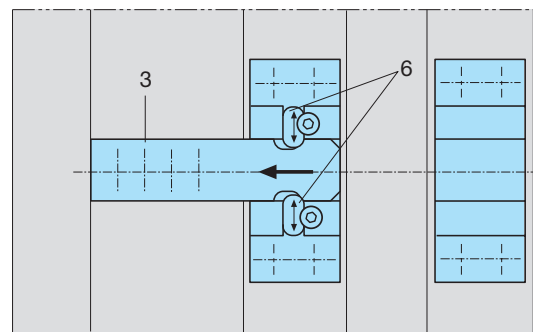
Notes on mounting and assembly (continued)

Adjust the latch bar (3) by pulling back onto the catches (6). Screw in loosely. Eliminate the play on the catches by further pulling on the latch bar. Tighten the screws and dowel the latch bar, according to type (see fig. 12). (Shown without mounted control plate (2)).

Use gauge blocks for fine adjustment of stroke "S1", dowel the control plate (2) and steady (4/41). This does not apply to steady (42), which must be subsequently inserted into the control plate (2) (see figs. 11 and 13).

Check manually for correct functioning.

12



3. Installation of a latch bar with delay (Item Nos. 325, 350, 375)

Procedure as latch bar (3-L1) without delay, except that the mould separation "S2" must first be opened by the exact delay stroke, so that the play on the catches (6) can be eliminated (see fig. 14). (Shown without mounted control plate (2)).

4. Attachment of a two-stage ejector (e.g. Z 4-1-1)

See Section 1-2 for installation and setting procedures.

The two-stage ejector must be adjusted so there is absolutely no play at all, because the mouldings will otherwise be damaged on ejection.

To adjust the catches (6) to "no play", the ejector bar (10) is drawn forwards in the direction of the arrow (see fig. 15).

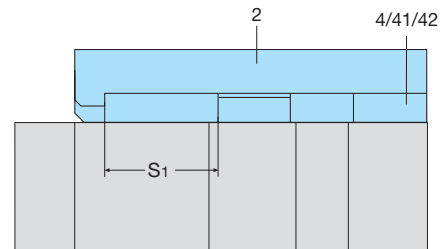
5. Maintenance

All functional components of the latch locks must be lubricated regularly.

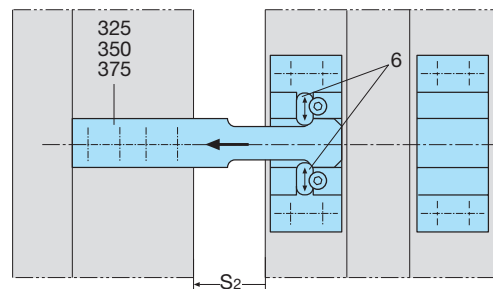


The mounting screws must be checked regularly and tightened.

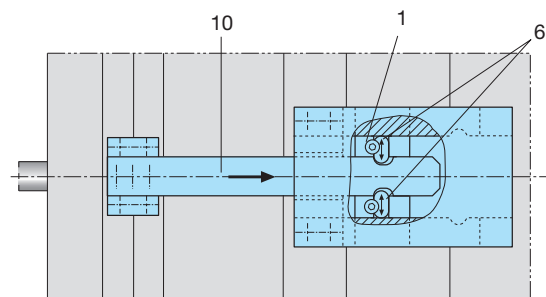
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14

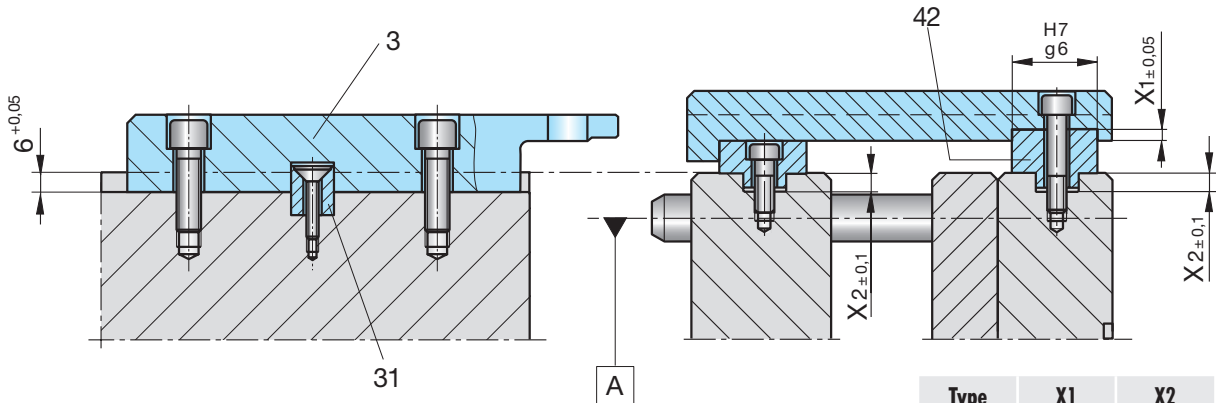


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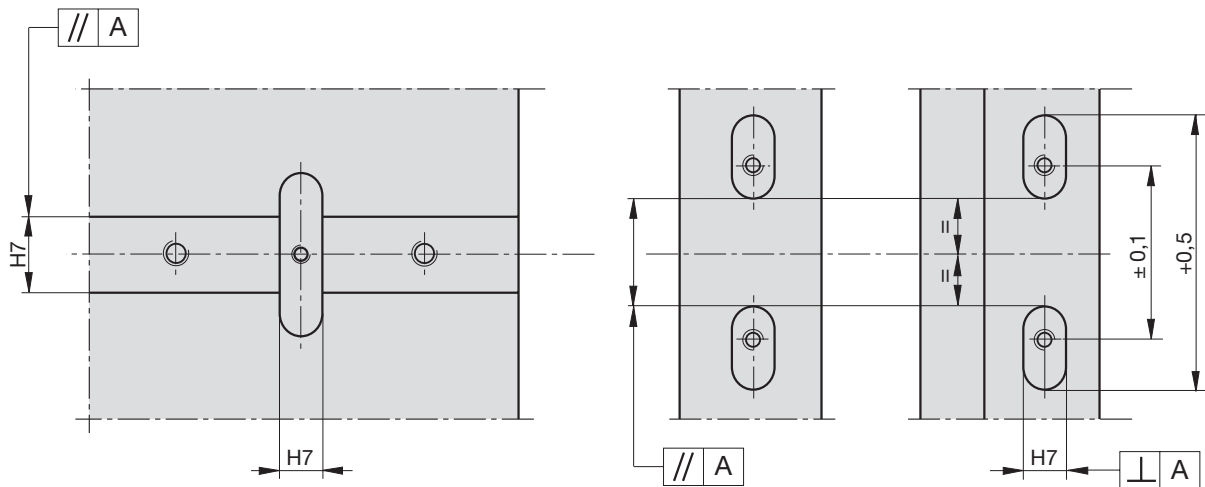


Information english - Latch locks Z 4-12, Z 4-17 and Z 4-22

Notes on mounting and assembly




Type	X1	X2
Z 4-12	3.0	4.5
Z 4-17	4.5	5.5
Z 4-22	6.0	6.5



This design of the latch locks Z 4 is an alternative to the latch locks Z 4-16 and Z 4-21. Apart from the latch bar (Item 3), the dimensions of Z 4-12 are identical to those of Z 4-11, the dimensions of Z 4-17 are identical to those of Z 4-16 and the dimensions of Z 4-22 are identical to those of Z 4-21.

The height of the latch bar (Item 3) is changed, so that it can be fitted into the mould plate. The cylindrical pins for locking and fastening are dispensed with. For this purpose, a feather key (Item 31) is inserted in the mould plate and the latch bar.

A further change to the latch bar (Item 3) relates to the control cam. This region has been changed so that in the front and rear regions the latch bar is machined so as to fit accurately and thus can also be used as a double ejector.

 The machined areas in the mould plates for position-ing are to be formed symmetrically, parallel and at right angles to the mould guide. All screws are to be secured with spring washers or with adhesive Z 9092.

Why a changed latch bar?

As is known, current latch bars are positioned by means of cylindrical pins. This causes problems if the plates have to be reground after hardening. A certain degree of play then arises in the region of the latch bars and the catches.

The feather key now allows you to machine a groove for accommodating the feather key at the appropriate location in the mould plate. After hardening, when all the plates have been ground, the actual dimension is taken from the plates and transferred to the latch bar. The latch bar is then provided with the cutout for the feather key, so that the latch bar can be attached without play when installing the latch lock.

For further information on the mounting and assembly, please see pages Info 6.125 - 6.128 and Info 6.132.

Information english - Latch locks Z 5-0, Z 5-1 and Z 5-2

1. Selection

The determining factors for the selection of the latch locks are not only the mould size but also the anticipated stripping forces, the weight of the stripper plate and the opening and closing speeds.

Recommended sizes, not binding

Type	Stroke min. (mm)	Tensile force max.
Z 5-0	7	6 kN
Z 5-1	10	10 kN
Z 5-2	14	20 kN

2. Principle of operation

The latch locks the mould plate in the selected mould half and, when the desired opening stroke (S_1) is reached, is released by the cam plate. The cam plate is adjustable within the housing and determines the point at which the mould is unlocked. The mould moves onwards in the parting plane. When the injection mould has closed again, the leaf springs press the latch lever back into its original position.

Notes on mounting and assembling

The length of the latch lever and the side track is a predetermined dimension. If this dimension does not correspond to the intended design, it must be shortened accordingly (see fig. 3):

- Z 5-0 = limit dimension for X1 - 75 mm, X2 - 80 mm
- Z 5-1 = limit dimension for X1 - 90 mm, X2 - 80 mm
- Z 5-2 = limit dimension for X1 - 150 mm, X2 - 130 mm

The bearing support (2) and wear plate (15) and, only for Z 5-0, the side track (3) are to be incorporated into the mould plates by the dimensions shown in the catalogue. Ensure adequate clearance for the latch lever.

After determining the desired mould opening stroke (S_1), bolt down the cam plate (5) and, after fine adjustment of all the latch locks, secure with pins (see fig. 2+3).



- If the latch lever (1) is shortened by more than $X/2$, one of the shorter leaf springs (6) should be removed.
- Mount the latch locks symmetrically, parallel and at right angles to the mould guide (see fig. 4).
- Take care to ensure uniform adjustment of all the latch locks and uniform drawing of the moving plate.
- Perform mounting and adjustment on the assembled mould.
- Use spring washers or adhesive Z 9092 to secure the mounting bolts.

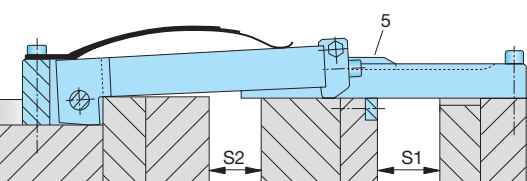
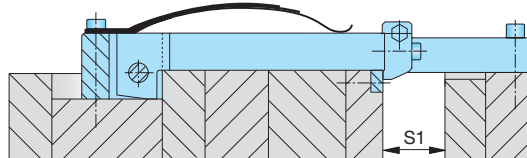
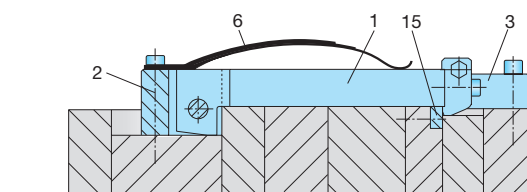
3. Maintenance

All working parts of the latch locks must be greased at regular intervals and the springs checked for correct function. Check the tightness of the mounting bolts at regular intervals.

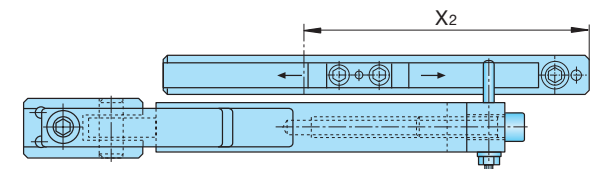
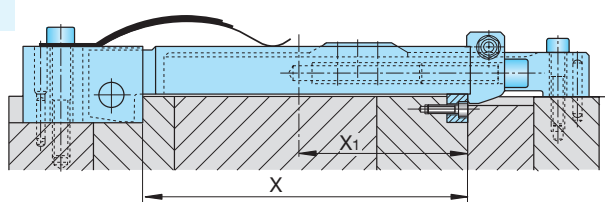
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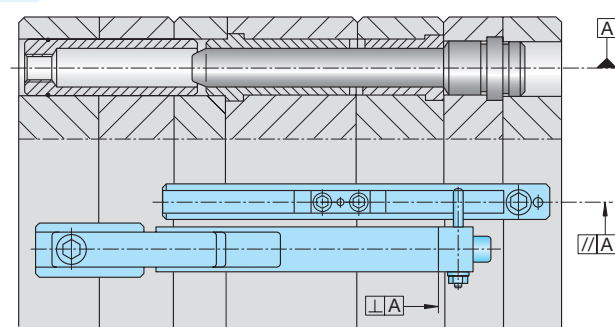
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3



4



Information english - Latch locks Z 5-31 and Z 5-32

Recommended sizes, not binding

Type	Stroke min. (mm)	Tensile force max.
Z 5-31	9	6 kN
Z 5-32	9	6 kN

Principle of operation

The latch locks the mould plate in the selected mould half and, when the desired opening stroke (S1) is reached, is released by the cam plate. The cam plate is adjustable within the housing and determines the point at which the mould is unlocked. The mould moves onwards in the parting plane. When the injection mould has closed, the pressure spring is pressing the latch lever back into its original position.

Notes on mounting and assembling

The length of the latch lever and the side track is a predetermined dimension. If this dimension does not correspond to the intended design, it must be shortened accordingly (see fig. 3):

Z 5-31 (-32) = limit dimension for X1 -52 mm, X2 -90 mm

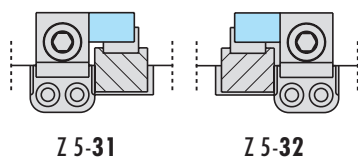
The bearing support (2) and wear plate (15) and the side track (3) are to be incorporated into the mould plates by the dimensions shown in the catalogue (see fig. 2). Ensure adequate clearance for the latch lever. After determining the desired mould opening stroke (S1), bolt down the cam plate (5) and, after fine adjustment of all the latch locks, secure with pins (see figs. 3, 4 + 5).



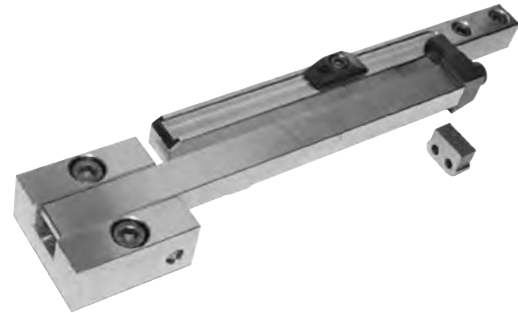
- Mount the latch locks symmetrically, parallel and at right angles to the mould guide (see fig. 5).
- Take care to ensure uniform adjustment of all the latch locks and uniform drawing of the moving plate.
- Perform mounting and adjustment on the assembled mould.
- Use spring washers or adhesive Z 9092 to secure the mounting bolts.
- If the latch lever is shortened, the spring force has to be examined.

Maintenance

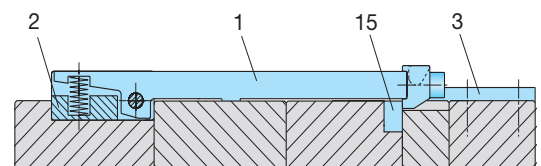
All working parts of the latch locks must be greased at regular intervals and the springs checked for correct function. Check the tightness of the mounting bolts at regular intervals.



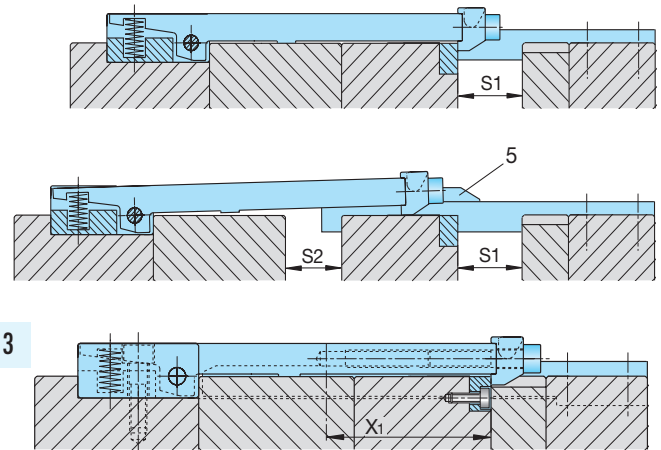
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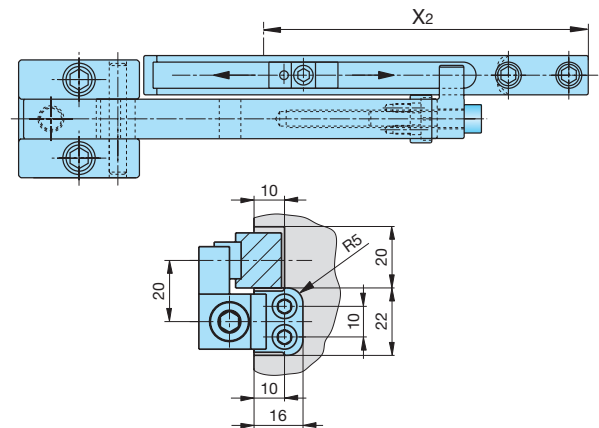
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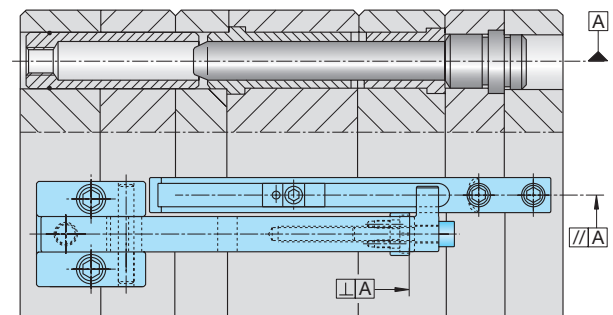
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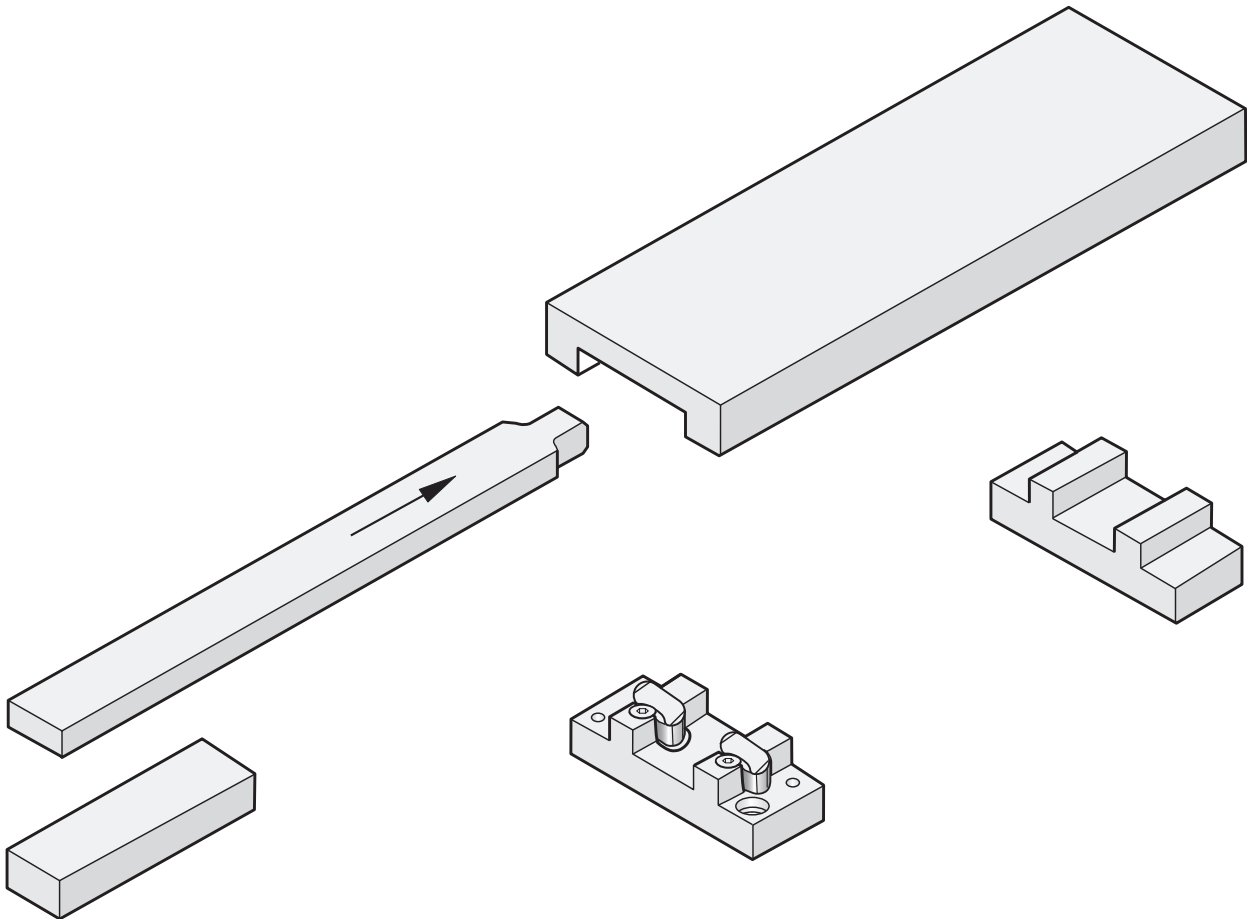


5



6

Information english - Push locks Z 6



6

A component having the following features:

1. Safe function

The Z 6 push lock is an addition to the Z 4 latch locks.

It is used to ensure that the mould tool's main parting plane is opened first. Only after opening the main parting plane, for example using a Z 4 latch lock (with delay), can the second parting plane be opened.

2. Simple mounting

Easy mounting and adjusting. No milling work required on injection mould

3. Wide range of applications

With the Z 6 push lock, the already wide range of applications offered by the combination of different latch lock variants of the Z 4 design has been extended yet again.

Information english - Push locks Z 6

Principle of Operation:

Figure 1

The control bar (31) is bolted to the mould plate (H2). The latch housing (11) is bolted to mould plate (H1V) plate and control plate (21) is bolted to the clamp plate (H5). The control plate (21) is positively locked to the latch housing (11) by the catches (6).

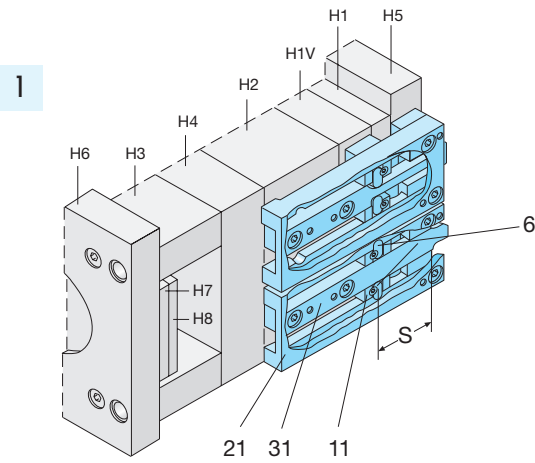


Figure 2

When the main parting plane of the injection mould is opened, the closure or ejector side initially moves back in the direction of the arrow by the specified opening travel (S1). Until this opening movement (S1) has ended, the mould cannot open in the second parting plane, since it is locked by the positive connection between control plate (21), latch housing (11) and catches (6). As soon as the opening movement (S1) has been completed, the latches (6) of the push lock (Z 6) are released and thus the locking of the second mould parting plane is eliminated. The catches (6) are guided out of the cutouts in the control plate (21) as soon as the limit stops of the latch bar (325, 350, 375 or 3-L1) bear against the catches (6) of the actual lock (Z 4).

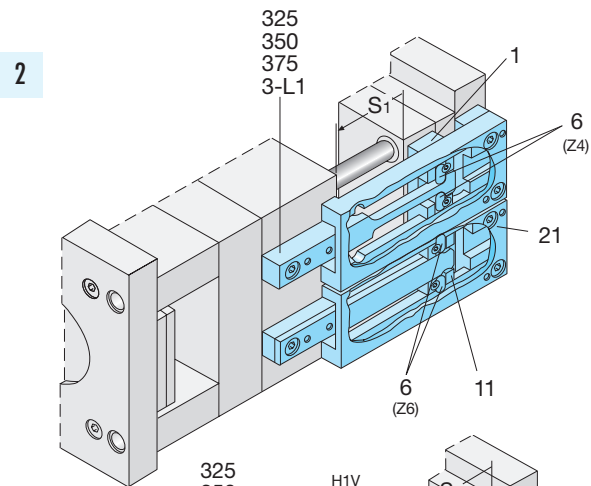


Figure 3

Now the latch (Z 4) draws the mould plate (H1V) forward by the opening stroke (S2) in the direction of the arrow „S2“. When this opening movement has been completed the actuated mould plate (H1V) is locked.

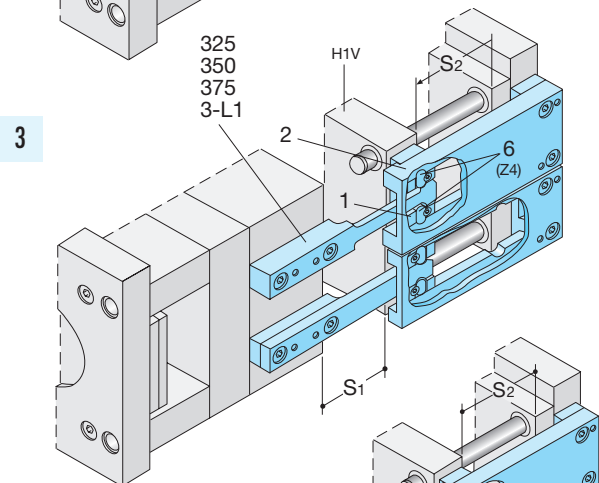
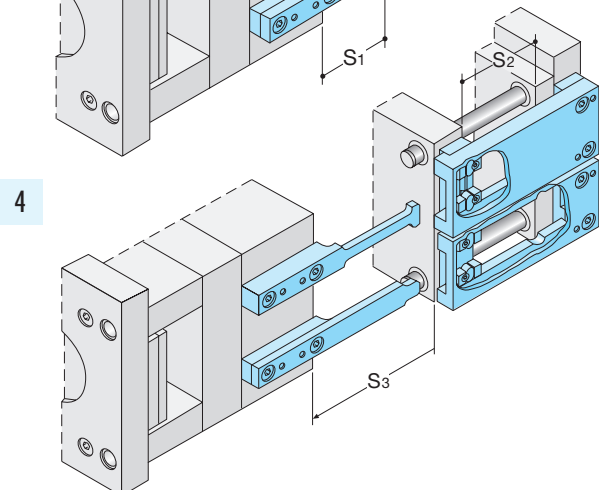


Figure 4

The main parting plane (S3) can now be fully opened. The closing process is effected in reverse order.



NOTE:

In combination with the Z 4 latch locks, the locking travel distance „S“ (see fig. 1), which must be completed before the second parting plane is opened, is shorter by half the width of the latches (6) than the delay travel of the latch bar (325, 350, 375 or 3-L1).

Information english - Push locks Z 6

1. Selection

Push Locks are used to prevent a second parting plane (S2) opening (T2) prematurely, e.g. in the case of 3-plate moulds in conjunction with slides and/or core pullers.

1

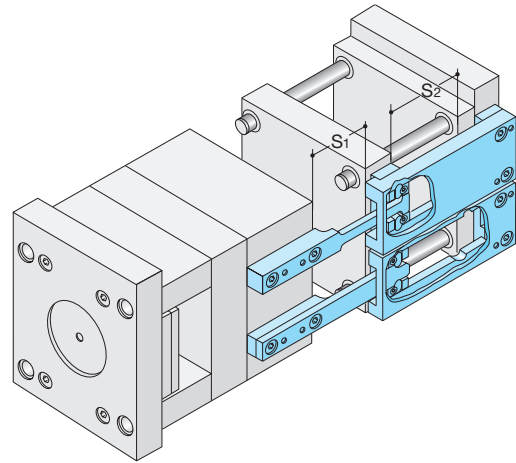
When combined with the Z 4 range of latch locks they can:

a) Open the mould

the main parting plane is to be opened first, the stripper plate having to remain in the starting position (e.g. when using slides and/or core pullers) until the main parting plane has opened completely through the distance „S1“ (cf. figure 1).

b) Close the mould

the closure sequence takes place as for the stripper movement in reverse order, i.e. the stripper plate (H1V) is moved backwards by the pulled stroke before the main parting plane is closed.



Fitting and mounting instructions

1. General



All push locks must be mounted square, parallel and symmetrical to the mould guide. Secure all screws with spring washers or STRACK NORM adhesive Z 9092 (fig. 2).

All areas of the control plate and control bar that are exposed to wear are case hardened to 58 HRC. The surface hardness is about 33 HRC on the bolting surfaces of the Z 6 latch lock, so that the mounting holes can be drilled.

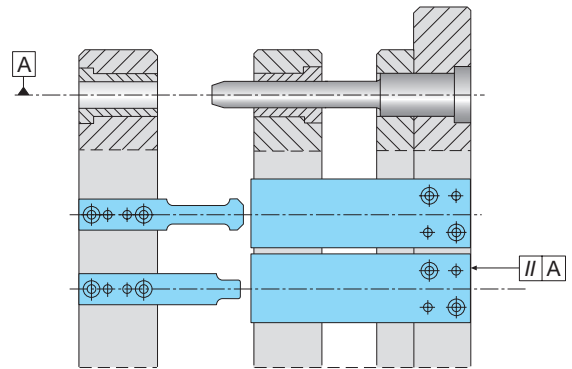
2. Preparatory work

Match the length of the control plate (21), control bar (31) and spacer (102) in accordance with the mould design and shorten if necessary. If the abovementioned components are to be shortened, the hardened layer on the side faces must first be ground down (see figure 3).

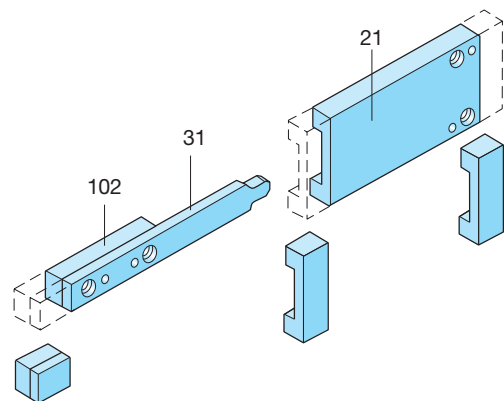
Drill mounting holes in control plate (21), steady (4), control bar (31) and spacer (102).

Drill mounting holes for control plate (21), steady (4), control bar (31) and spacer (102) in the mould plate. The parallel dowel holes for the latch housing (11) must be made in the mould plate at the same time (see figures 4 and 5).

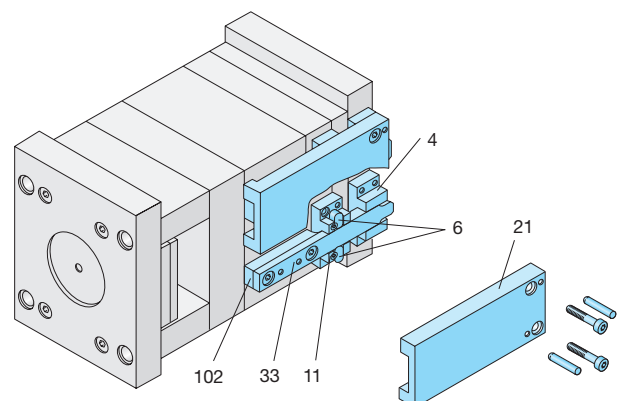
2



3



4



Information english - Push locks Z 6

Notes on mounting and assembly (continued)

3. Mounting and adjustment work with mould assembled

Proceed as follows:

Dowel and screw down latch housing (11). Check the position of the catches (6). Insert the edges, which are chucked at the sides, downwards into the latch housing (see figs. 4 and 5).

Insert the control bar (31) and screw on loosely. Adjust blocking travel (S) taking into account the specified dimension (S1), where $S = S1$ minus half catch width. Tighten control bar (31) so that it is fixed parallel to the mould guide and secure with pins (cf. figures 6 and 1).

Attach control plate (21) together with steady (4) and screw on loosely. Set the control plate to „no play“ by placing against the catches (6). Tighten the screws to be fixed in place and secure with pins (see figure 7).

Check correct functioning manually.

4. Mould safety device

The catches (6) of the push lock (Z 6) and of the latch lock (Z 4), when closing the injection mould, must be protected against unacceptably high locking forces in the strokes (S1 and S2) by the mould safety device of the injection moulding machine (see Figure 8A).



If there are mould slides with angle pins within the stroke range (S2), the mould safety device must respond even before the angle pins enter the mould slides.

If the two mould halves are to be mounted separately, it is important to ensure that the drawn mould plate (H1V) is in the limit position of the fully drawn stroke (S1) and that the lock is active before the injection mould closes.

A = Right;

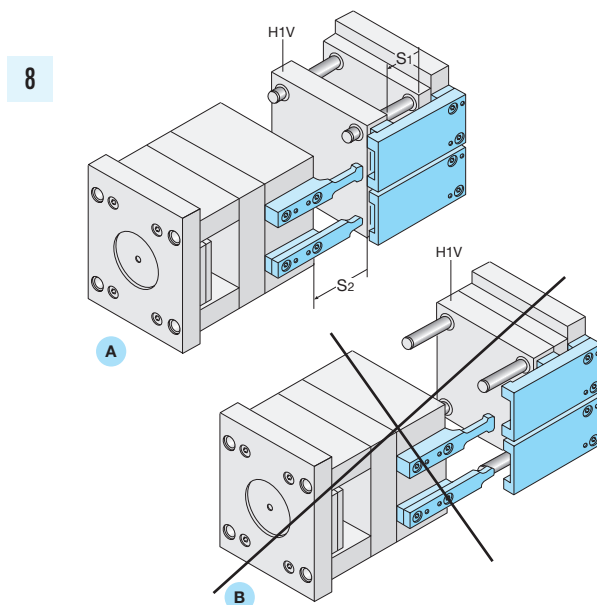
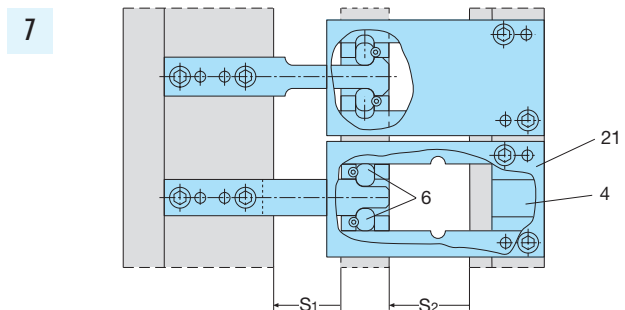
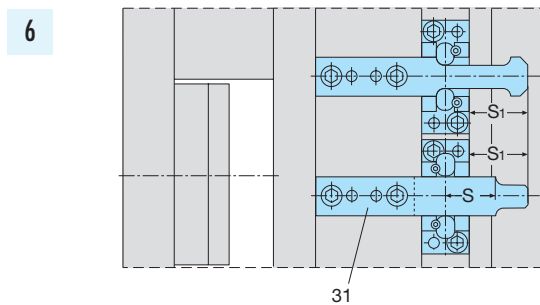
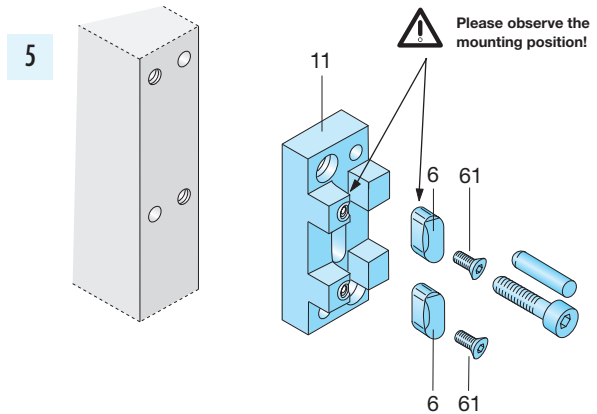
B = Wrong

5. Maintenance

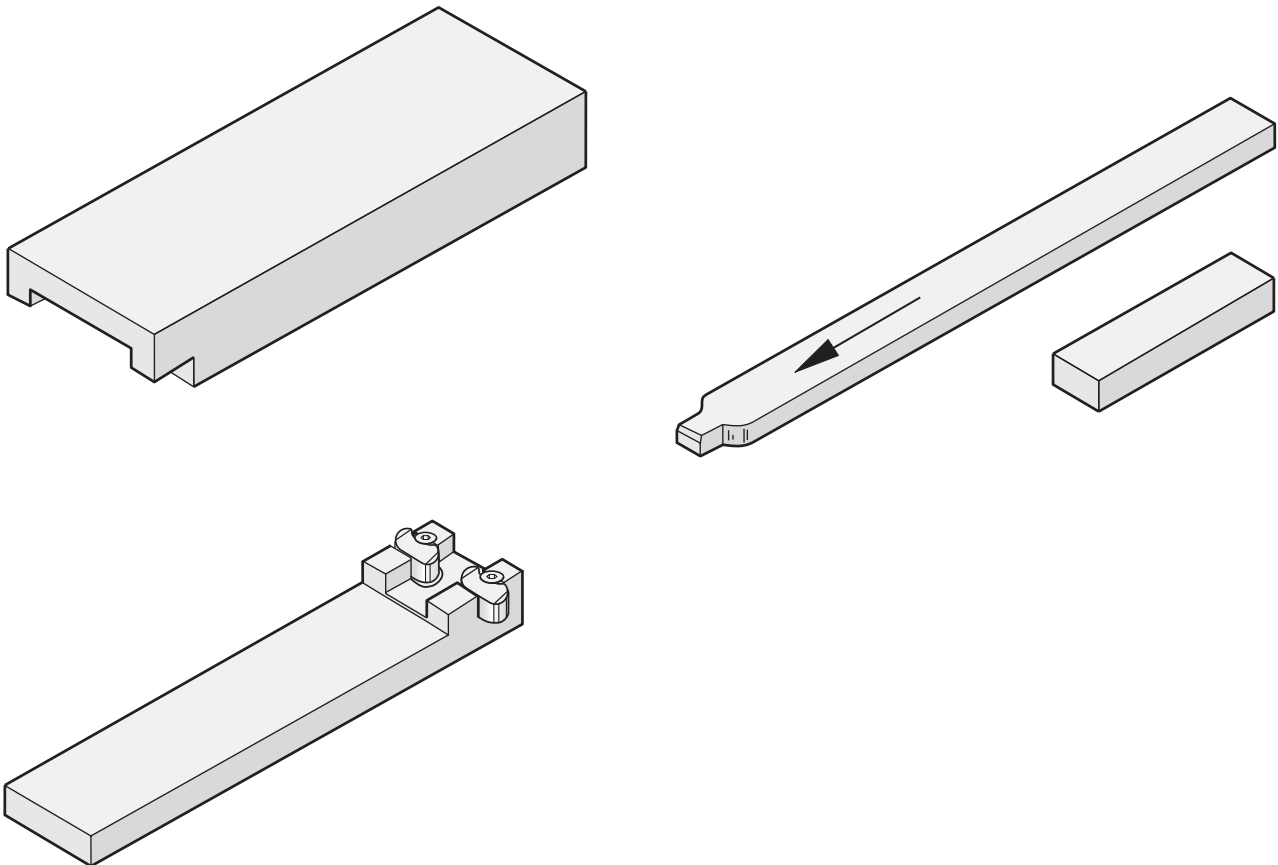


All the functional components of the push lock must be lubricated regularly (e.g. STRACK NORM Z 9080).

The fastening screws should be checked and tightened regularly.



Information english - Early return Z 7



6

A design having the following features:

1. Safe function

Early returns of the Z 7 series protect slides, jaws and shaping elements against damage by ejector pins

Such protection is required in particular when, for example, the connecting element between hydraulic injector of the injection moulding machine and the injection mould breaks. In this case, unless the Z 7 is used, the ejector pins will remain in the forward position and, on mould closure, will damage slides, jaws or shaping elements.

2. Simple Mounting

Easy mounting and adjusting. No milling work required on mould tool.

3. Wide range of applications

With the Z 7 early return, the already wide range of applications, offered by the combination of different latch variants of the Z 4 series and the Z 6 push locks, is further extended.

Information english - arly return Z 7

Principle of operation:

Figure 1

The control bar (31) with the spacer (102) is bolted to the mould plate (H1), the latch housing (12) is bolted to the ejector set (H7 and H8), and the control plate (22) is bolted to the mould plate (H2).

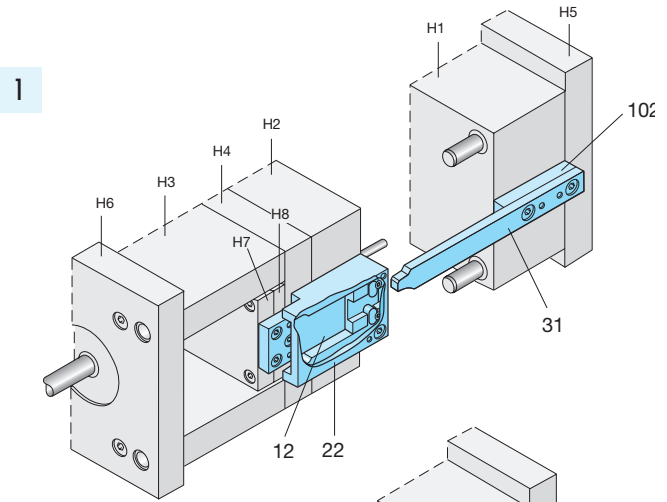


Figure 2

With the closing movement of the mould, the control bar (31) moves through the control plate (22) into the latch housing (12) until it is stopped at the catches (6).

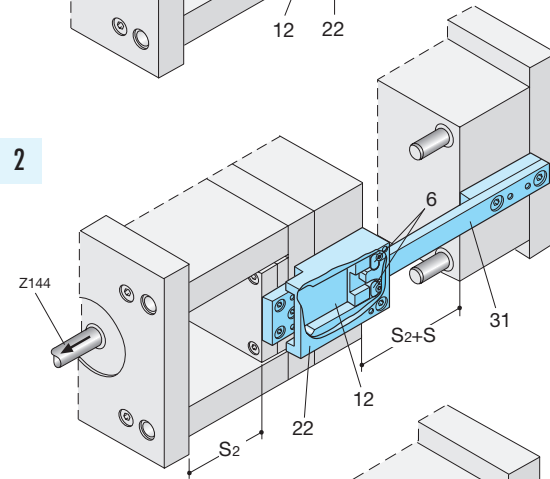


Figure 3

In this position, the control bar (31) presses on catches (6) and pushes the latch housing (12) connected to ejector set (H7 + H8) back to the initial position.

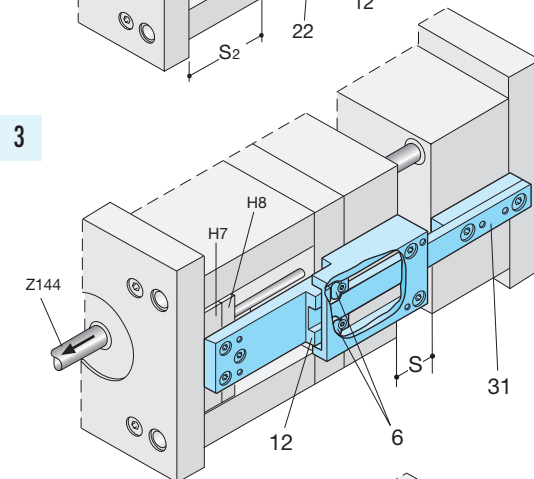
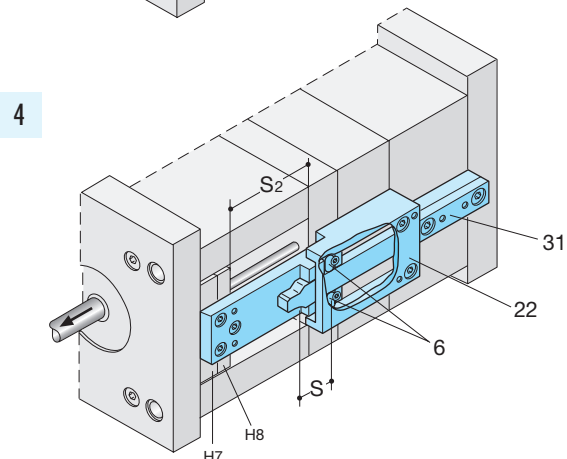


Figure 4

When this position has been reached, the catches (6) move into the cams of the guide plate (22) and the control bar (31) moves by the set safety travel „S” into its final position.

The opening process is effected in reverse order.

At this point attention has to be paid to travel „S₂” of the ejector set. This may only be actuated after the main parting plane has been parted at least by the travel distance „S₂ + S” (also see fig. 2).



Information english - Early return Z 7

1. Selection

Early returns are always used when it is desired, on the mould side, to provide mould slides, jaws or other shaping components with mechanical protection from damage caused by ejector pins which have not retracted.

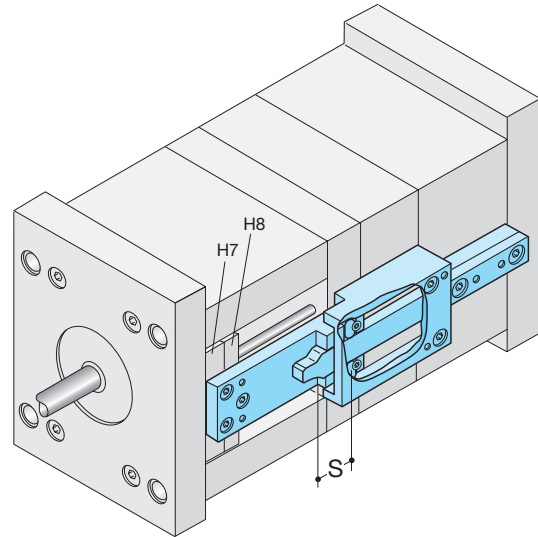
The final mould closure can only take place when the ejector set (H7 and H8) has been retracted by the individually specified distance (S) (safety stroke) (see figure 1).



If the ejectors are prevented from retracting, the mould safety device of the injection moulding machine must respond.

At least two returns are to be provided, adapted to the mould size, in order to avoid tilting of the plates.

1



Notes on mounting and assembly

1. General

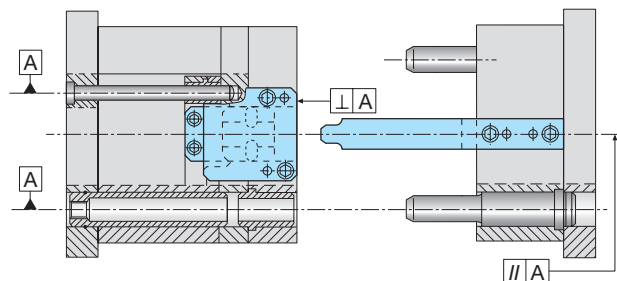
The early returns are to be arranged symmetrically, parallel and square to the mould guide (see figure 2). All screws are to be secured with spring washers or with jointing compound STRACK NORM Z 9092.



It should be ensured that the ejector set (H7 and H8) ends flush with the other mould plates at the end faces on both sides.

Control plate, control bar and catch housing are case-hardened to 58 HRC in the region exposed to wear. The surface hardness is about 33 HRC on the bolting surfaces of the early return Z 7, so that the mounting holes can be drilled.

2



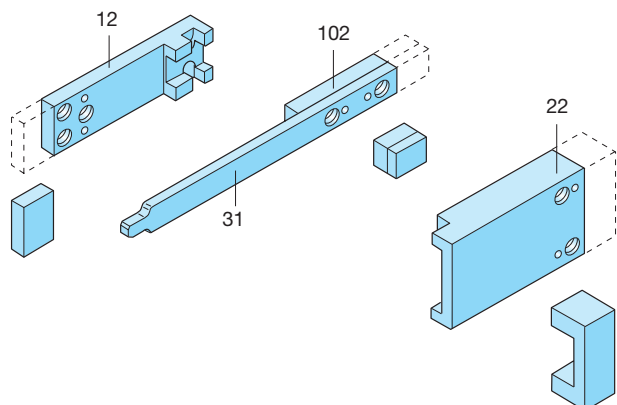
2. Preparatory work

Match the length of the catch housing (12), control plate (22), spacer (102) and control bar (31) in accordance with the mould design, and shorten if necessary (see figure 3).

If catch housing, control plate, spacer or control bar are to be shortened, the hardened layer on the side faces must first be ground down.

Drill mounting holes in control plate (22), catch housing (12), spacer (102) and control bar (31) (see figure 3).

3



Information english - Early return Z 7

Notes on mounting and assembly (continued)

Drill mounting holes for control plate (22), latch housing (12), spacer (102) and control bar (31) in the mould plate. The parallel dowel holes for the latch housing (12) must be made in the ejector set (H7 or H8) at the same time (see figure 4).

3. Mounting and adjustment work with mould assembled

Proceed as follows:

Fully instal injection mould with guide components. To do this, place ejector set (H7 and H8) against the mounting plate (H6) and secure it against movement (e.g. using screw clamp).

Screw on catch housing (12) and secure with pins. Watch out for position of catches (6). Insert the edges, which are chucked at the sides, downwards into the latch housing (see figures 4 and 5).

Insert the control bar (31) loosely. Attach control plate (22) and screw on loosely. Adjust control plate (22) in the direction of the arrow to „no play“ by placing against the catches (6), then secure with pins and tighten screws until position is fixed.

Pre-position control bar (31) and with spacer (102) screw loosely onto the mould plate (H1) (see figure 6).

Open mould parting; pre-tighten ejector set (H7 and H8) until it comes to bear against the mould plate (H4) and secure it so that it cannot move (e.g. using screw clamps).

Finely adjust the ejector stroke (S2) plus safety stroke (S) which is to be secured with the aid of gauge blocks.

Place all the control bars (31) uniformly and without play against the catches (6) and bolt them fixedly parallel to the mould guide and secure with pins (see figure 7).

Check correct functioning manually.

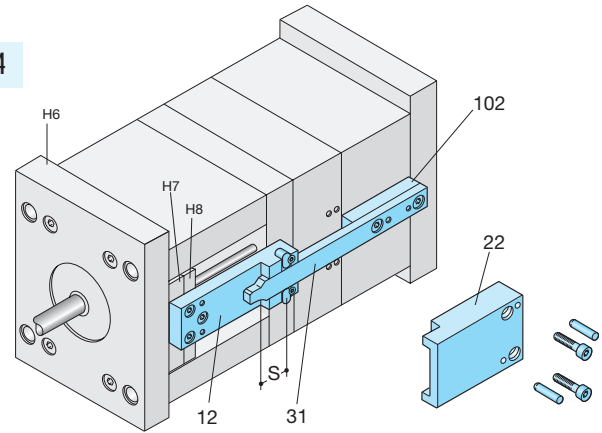
4. Maintenance



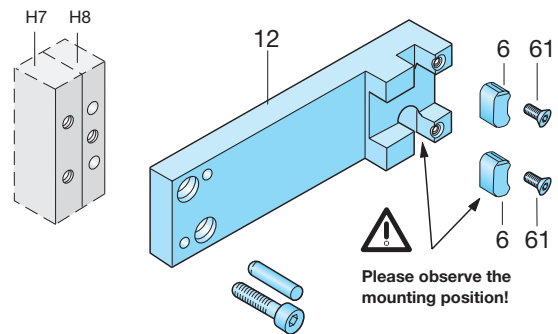
All the functional components of the early return must be lubricated regularly (e.g. STRACK NORM Z 9080).

The fastening screws should be checked regularly and tightened.

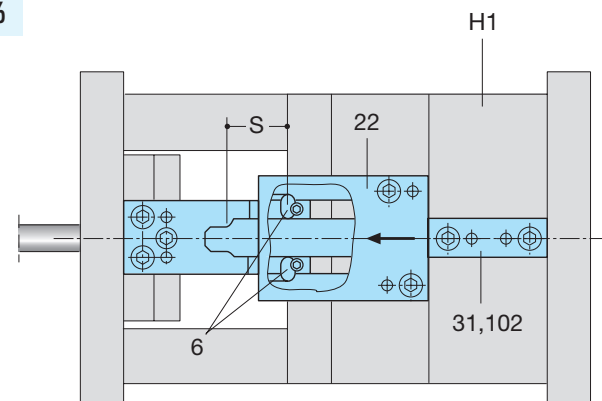
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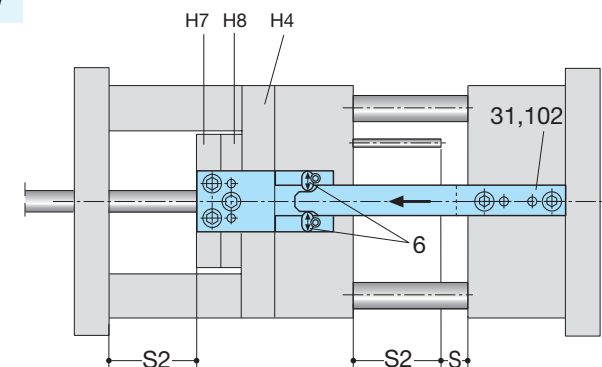
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6



7



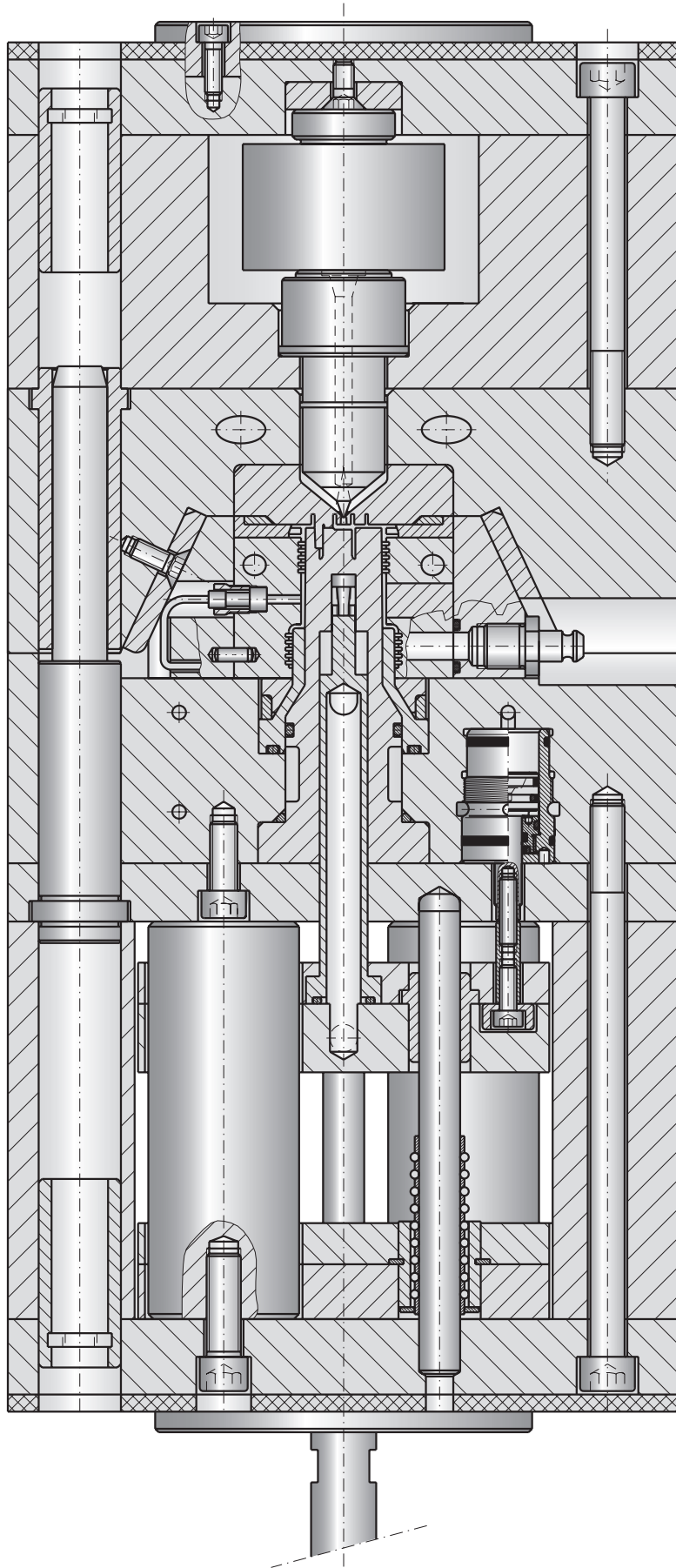


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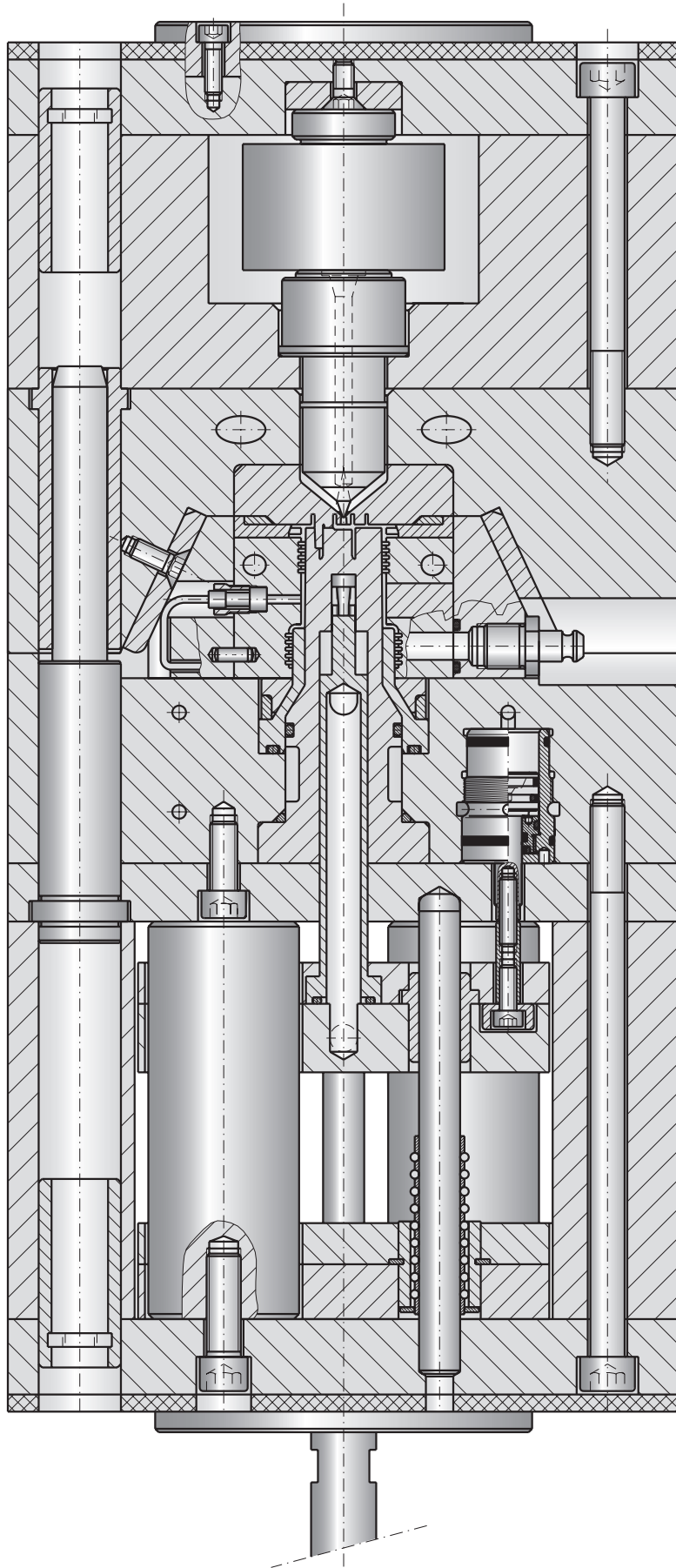
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