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# International Standard



# 6898

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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## Open front mechanical power presses — Capacity ratings and dimensions

*Presses mécaniques à bâti en col de cygne — Capacités et dimensions*

First edition — 1984-05-15

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UDC 621.979.63

Ref. No. ISO 6898-1984 (E)

Descriptors : machine tools, presses, dimensions, ratings, power.

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 6898 was developed by Technical Committee ISO/TC 39, *Machine tools*, and was circulated to the member bodies in November 1982.

It has been approved by the member bodies of the following countries :

Belgium	Germany, F.R.	Mexico
Brazil	Hungary	South Africa, Rep. of
China	India	Spain
Czechoslovakia	Italy	Sweden
Egypt, Arab Rep. of	Korea, Dem. P. Rep. of	Switzerland
France	Korea, Rep. of	United Kingdom

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Japan  
Poland

# Open front mechanical power presses — Capacity ratings and dimensions

## 1 Scope and field of application

This International Standard specifies capacity ratings and dimensions for open front mechanical presses with or without a passage through the frame and with or without a slope, in the range from 100 to 2 500 kN inclusive.

A choice of two values is given for some dimensions : these are designated series 1 and series 2. To minimize the variety of dimensions as far as possible it is intended that all the values for a given press should be selected from one of the series. However, in order to meet special requirements it is permitted to select the values for shut height only from either series 1 or series 2.

This International Standard provides for alternative types of bed, one with a round opening and the other a rectangular opening. The bed with the round opening has T-slots provided so that it can be used without a bedplate if required.

Two types of bedplate are specified as type 1 and type 2. Details are also given for the bedplug for beds with round holes and for the bedplate ring for bedplates of type 2.

## 2 References

ISO 273, *Fasteners — Clearance holes for bolts and screws.*

ISO/R 286, *ISO system of limits and fits — Part 1 : General, tolerances and deviations.*

ISO 299, *Machine tool tables — T-slots and corresponding bolts.*

ISO 6899, *Acceptance conditions of open front mechanical power presses — Testing of the accuracy.*

3 Dimensions

NOTE — a) and b) are alternative standards.

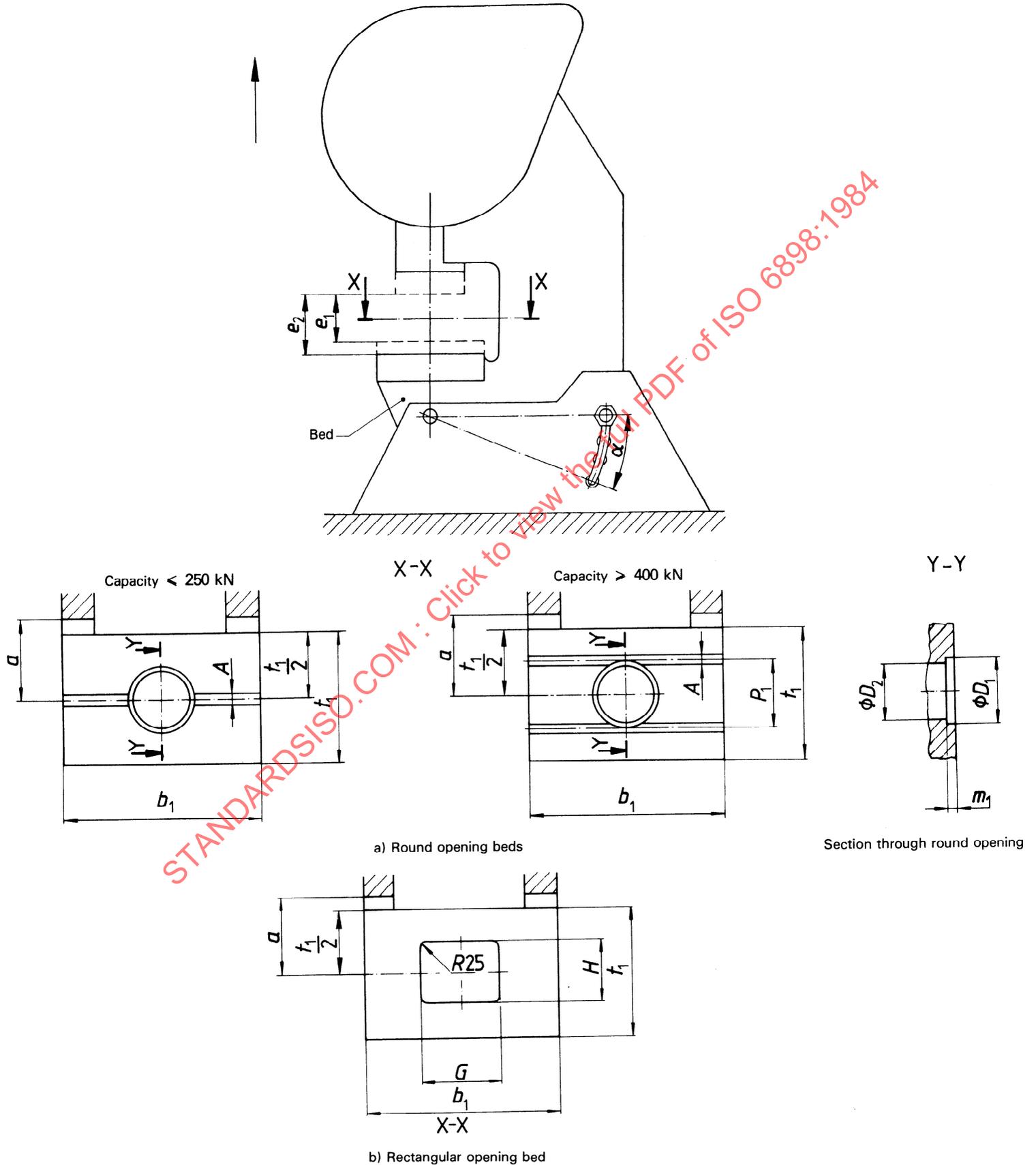


Figure 1 — Layout of press and alternative beds

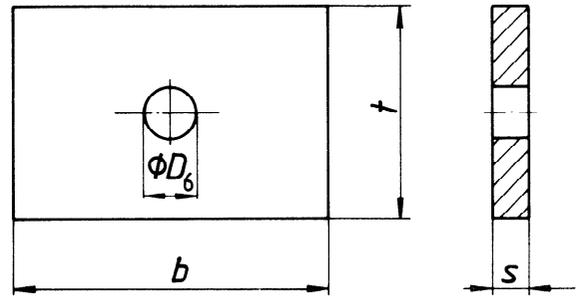
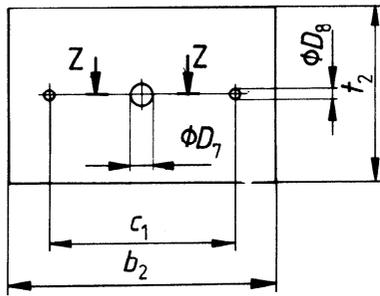
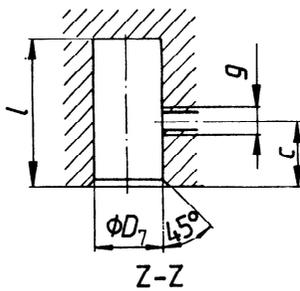


Figure 3 – Bedplates type 1  
(for beds with round holes)



Stem hole

Figure 2 – Slide

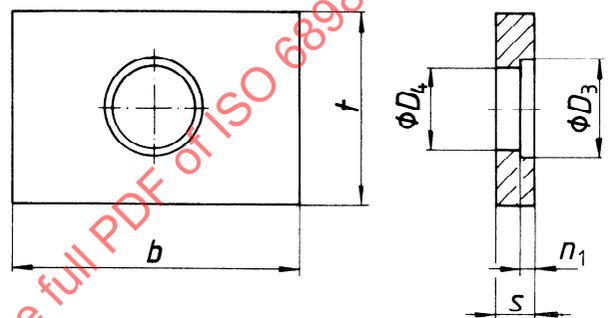
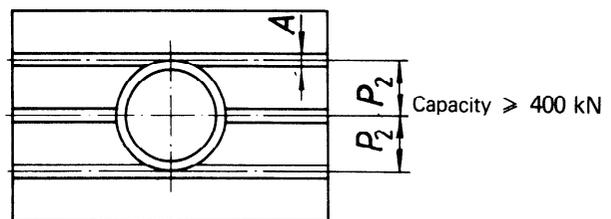
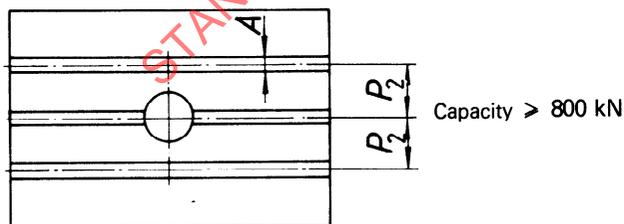
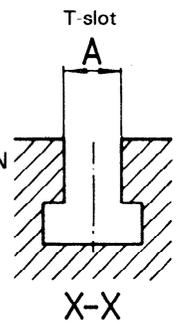
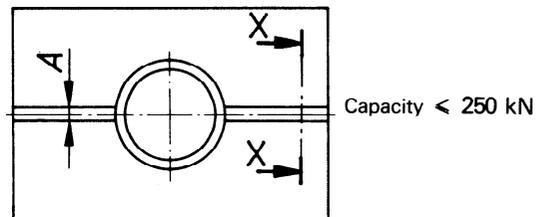
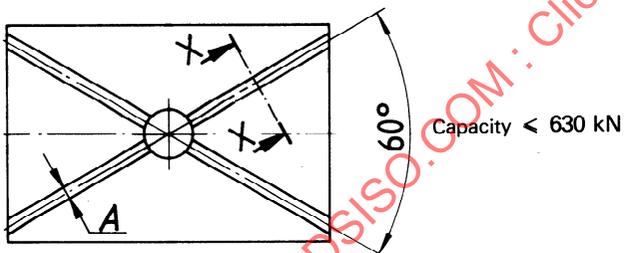


Figure 4 – Bedplates type 2  
(for beds with rectangular holes)



a) T-slots in bedplates type 1

b) T-slots in bedplates type 2

Figure 5 – T-slots for bedplates

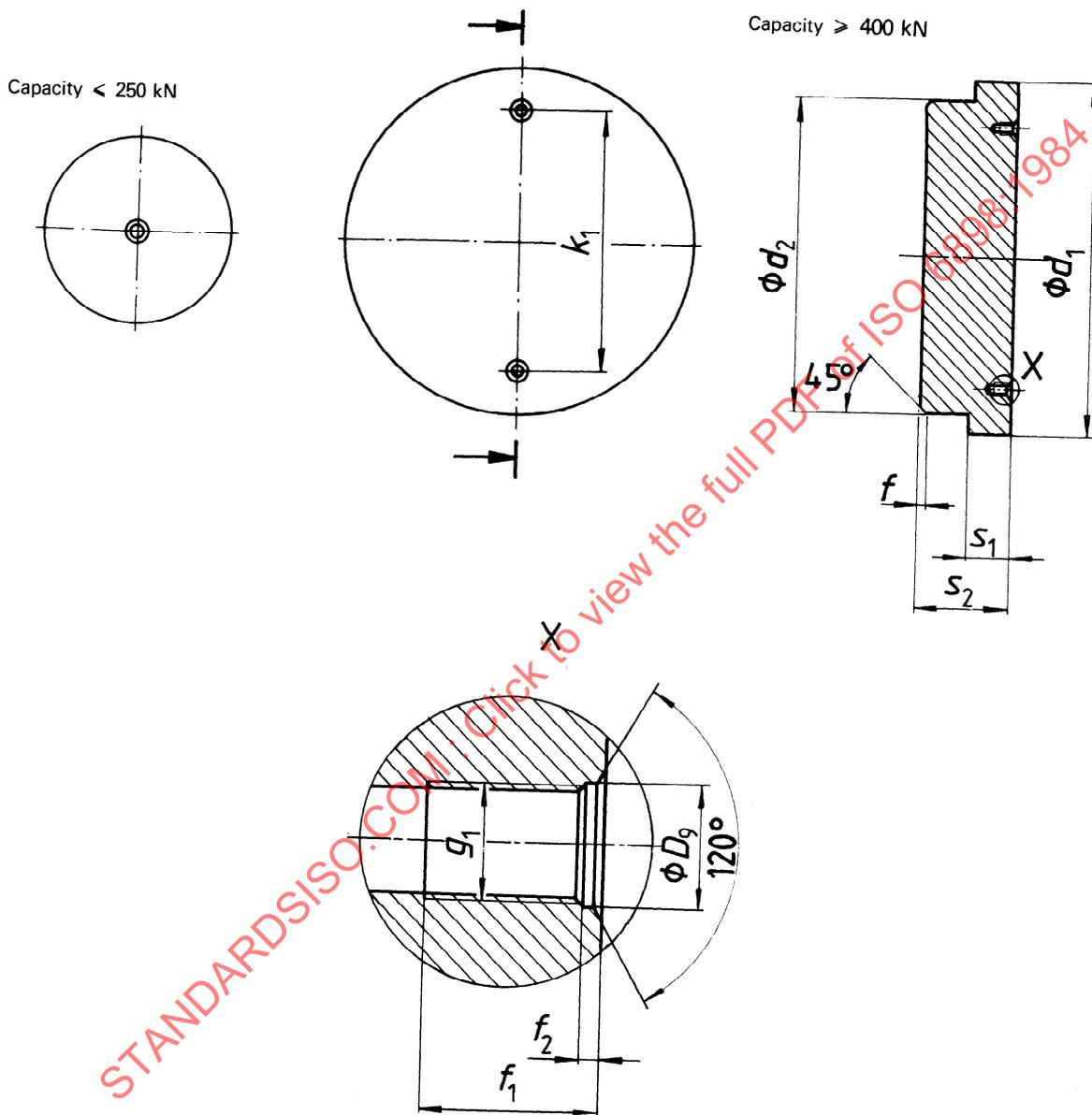


Figure 6 — Bedplug for beds with round holes

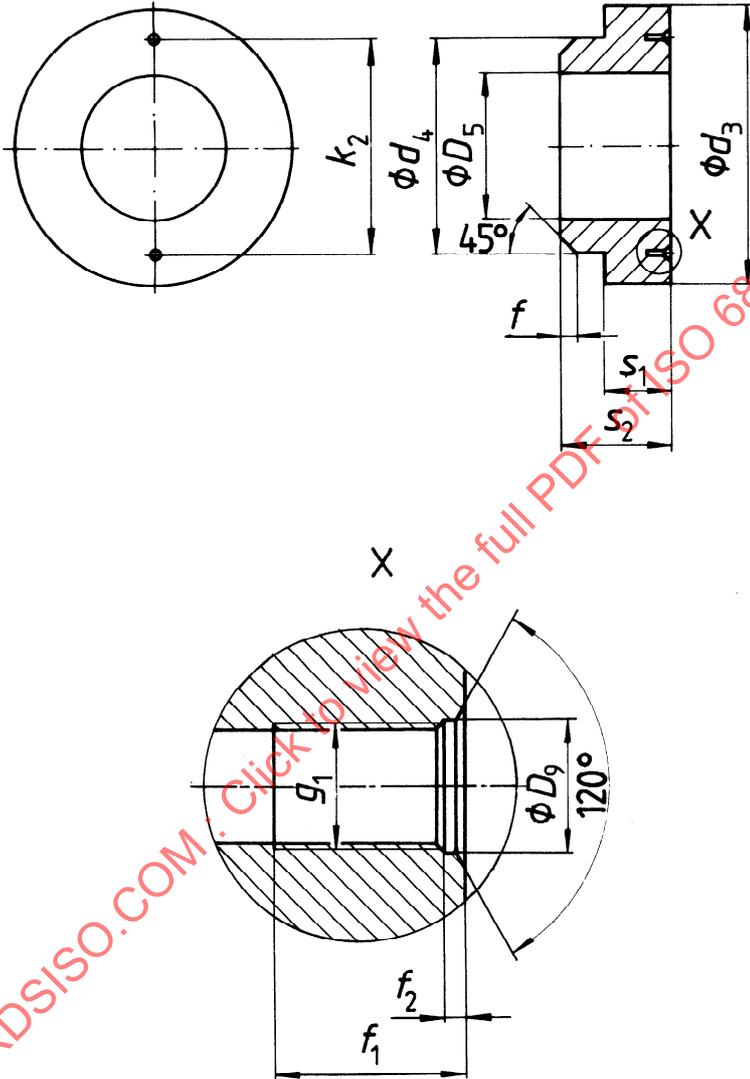


Figure 7 – Bedplate ring for bedplates type 2

Dimensions in millimetres  
 All sizes within brackets are non-preferred.  
 Capacities in kilonewtons  
 Pressure in megapascals and (bar)

Nominal capacity		Note referring	100	160	250	400	630	(800)	1 000	(1 250)	1 600	(2 000)	2 500
General data	<b>Throat depth</b>												
	$a_{min}$	series 1	165	180	210	235	260	285	310	340	370	405	440
		series 2	—	—	—	290	325	355	385	425	465	505	545
	<b>Shut height</b>												
	$e_1$	series 1	160	180	200	225	250	275	300	325	355	390	425
		series 2	200	225	250	280	315	345	375	410	450	490	530
	<b>Bed to slide distance</b>												
	$e_2$	series 1	225	250	275	305	335	365	395	425	460	500	550
		series 2	265	295	325	360	400	435	470	510	555	600	655
	<b>Slide adjustment</b>												
	series 1	40	45	50	56	63	71	80	90	100	112	125	
	series 2	—	—	—	80	85	90	100	112	125	140	160	
<b>Stroke length</b>													
	series 1	max.	63	71	80	90	100	112	125	140	160	180	200
		min.	12		16		20		25				
	series 2	max.	—		125	140	160	180	200	224	250	280	
		min.	—		16		20		25				
<b>Direct drive</b>													
	series 1	3	2	2	2	2,5	2,5	3	3	—			
	series 2		—			3	3	4	4	—			
<b>Geared drive</b>													
	series 1	3	—			4	4	4	4	6	6	6	6
	series 2		—			6	6	6	6	9	9	9	9
<b>Nominal air pressure</b>		4	0,5 (5)										
Bed	<b>Surface</b>												
	$b_1$	series 1	450	500	560	630	710	780	850	925	1 000	1 090	1 180
	$t_1$		315	355	400	450	500	550	600	655	710	780	850
	$b_1$	series 2	—			800	900	980	1 060	1 155	1 250	1 375	1 500
	$t_1$		—			560	630	690	750	825	900	980	1 060
	<b>Round opening</b>												
	$D_1$ tol. H11	5	180	200	225	250	280	305	335	365	400	435	475
	$D_2$		160	180	200	225	250	275	300	325	355	390	425
	<b>Shoulder depth</b>												
	$m_1$	6	36			45				56			
<b>Rectangular opening</b>													
$G$		225	250	280	315	355	390	425	460	500	550	600	
$H$		160	180	200	225	250	275	300	325	355	390	425	
<b>T-slots</b>													
width $A$	7	18			22				28				
pitch $P_1$	8	—			200		250			320		400	
<b>Maximum angle of inclination</b>													
$\alpha^\circ$		30						25					

Nominal capacity		Note referring	100	160	250	400	630	(800)	1 000	(1 250)	1 600	(2 000)	2 500		
Slide	<b>Surface</b>														
	$b_2$	series 1	280	315	355	400	450	490	530	580	630	690	750		
	$l_2$		180	200	225	250	280	305	335	365	400	435	475		
	$b_2$	series 2	—			500	560	615	670	735	800	875	950		
	$l_2$		—			315	355	390	425	465	500	550	600		
	<b>Stem hole</b>		40				50				65				
	$D_7$ tol. H7	5	75				85				105				
	$l$		40										45		
	$c$														
	<b>Clamping bolt</b>		M20										M24		
$g_2$															
<b>Attaching holes</b>		18				22				28					
$D_8$	series 1	235	265	300	335	375	410	450	490	530	580	630			
$c_1$	series 2	—			425	475	515	560	615	670	735	800			
Bedplate	<b>Surface</b>														
	$b$	series 1	440	490	550	620	700	770	840	905	980	1 070	1 160		
	$t$		305	345	390	440	490	540	590	645	700	770	840		
	$b$	series 2	—			790	890	970	1 050	1 135	1 230	1 355	1 480		
	$t$		—			550	620	680	740	815	890	970	1 050		
	<b>Through hole</b>														
	$D_6$	9	90	95	100	106	112	118	125	132	140	150	160		
	$D_3$ tol. H11	5 10	180	200	225	250	280	305	335	365	400	435	475		
	$D_4$	10	160	180	200	225	250	275	300	325	355	390	425		
	<b>Shoulder depth</b>		36				45				56				
$n_1$	10 6														
<b>Thickness</b>		65	70	75	80	85	90	95	100	105	110	125			
$s$															
<b>T-slots</b>		18				22				28					
width $A$	7														
pitch $P_2$	9	—				125				160				200	
pitch $P_2$	10	—				100				125				160	200
Bedplug	$d_1$ tol. d9	5	180	200	225	250	280	305	335	365	400	435	475		
	$d_2$		158	178	198	223	248	273	298	323	353	388	423		
	$g_1$		M10				M12				M16				
	$D_9$	11	10,5				13				17				
	$k_1$		—			180	200	215	235	255	280	305	335		
	$f$		2				3								
	$f_1$		15				18				24				
	$f_2$		1,5				2								
	$s_1$	6	36				45				56				
	$s_2$		63	68	73	78	83	88	93	98	103	108	123		