International Standard 6898

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

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

UDC 621.979.63 **Ref. No. ISO 6898-1984 (E)**

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

Price based on 8 pages

Foreword

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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

Printed in Switzerland

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.*

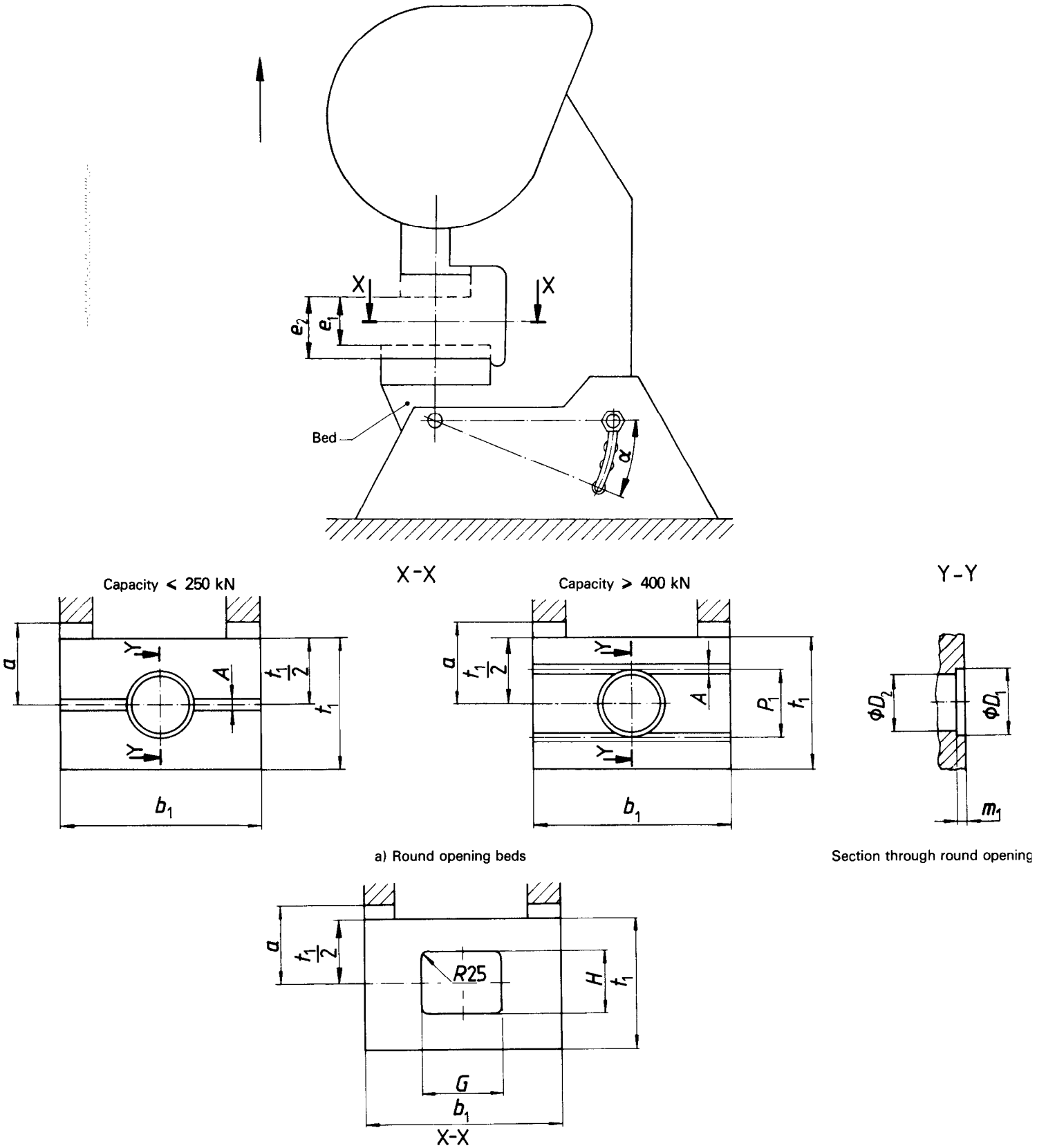
ISO/R 286, *ISO system of limits and fits — Part 1 : General, tolerances and deviations.*

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.

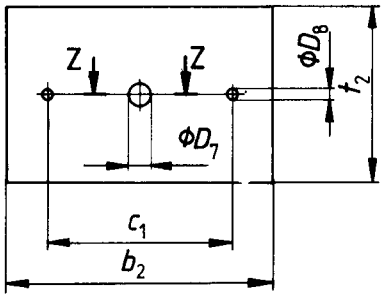


a) Round opening beds

Section through round opening

b) Rectangular opening bed

Figure 1 — Layout of press and alternative beds



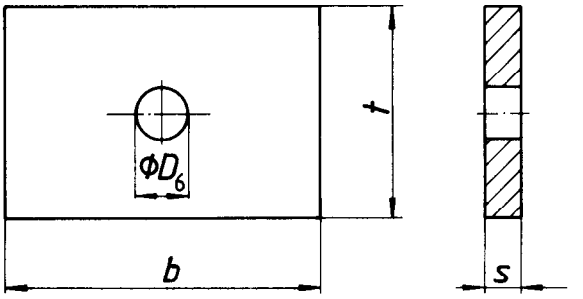
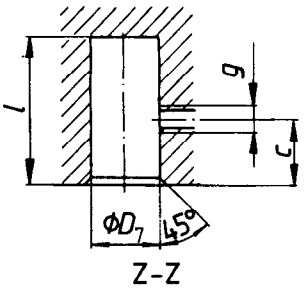


Figure 3 — Bedplates type 1
(for beds with round holes)



Stem hole

Figure 2 — Slide

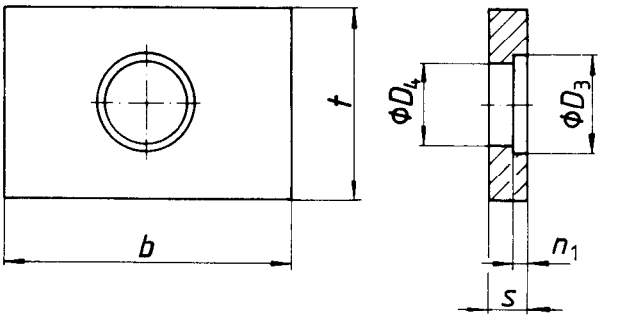
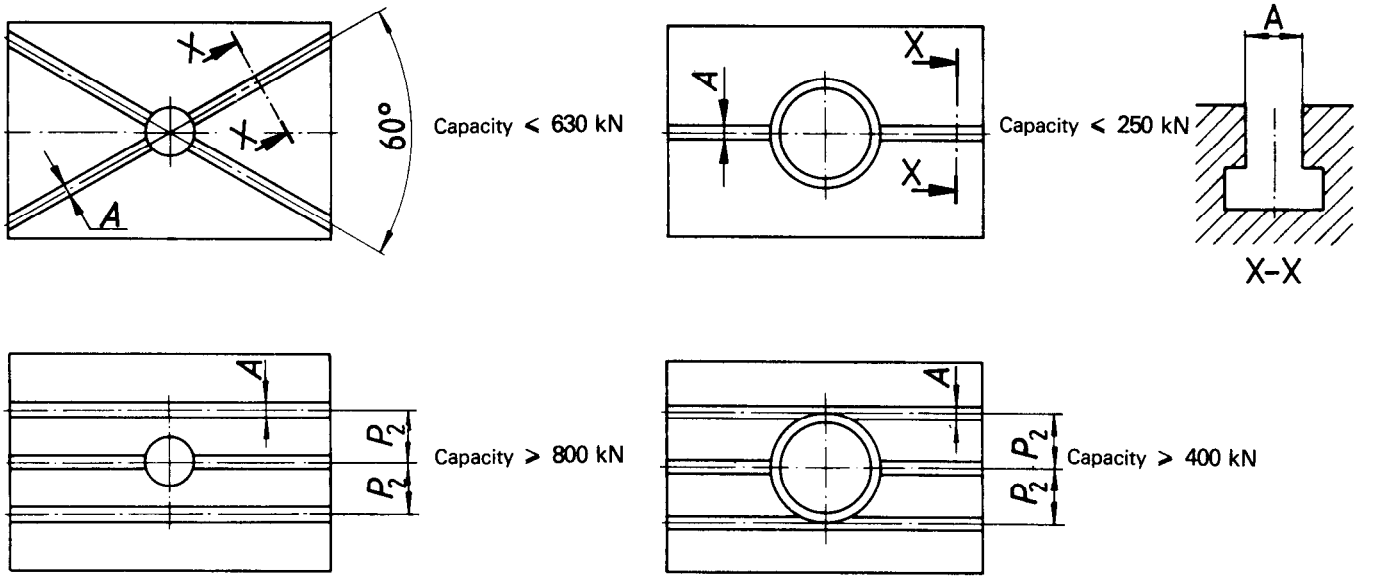


Figure 4 — Bedplates type 2
(for beds with rectangular holes)



a) T-slots in bedplates type 1

b) T-slots in bedplates type 2

Figure 5 — T-slots for bedplates

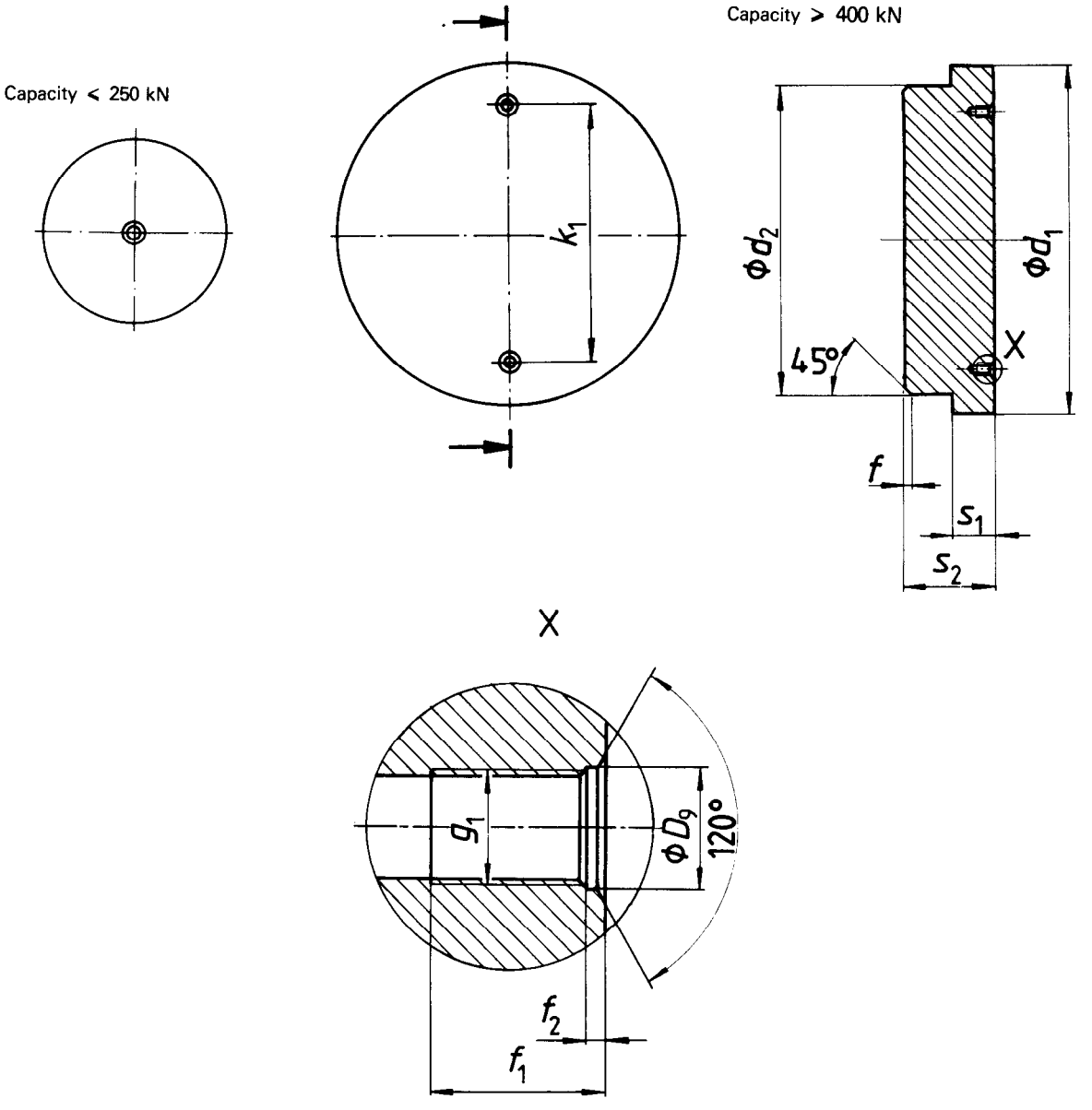


Figure 6 — Bedplug for beds with round holes

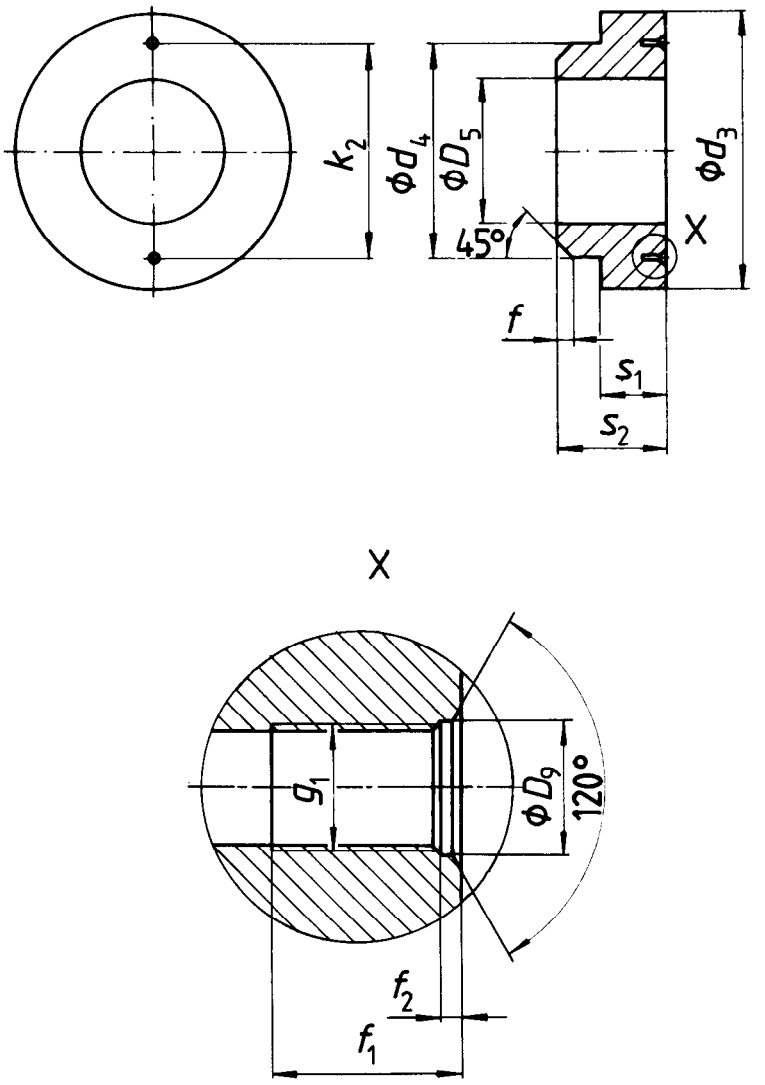


Figure 7 — Bedplate ring for bedplates type 2

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	**Throat depth** 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
	Shut height e_1	series 1	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
	Bed to slide distance e_2	series 1	2	225	250	275	305	335	365	395	425	460	500	550
		series 2		265	295	325	360	400	435	470	510	555	600	655
	Slide adjustment	series 1		40	45	50	56	63	71	80	90	100	112	125
		series 2		—	—	—	80	85	90	100	112	125	140	160
	Stroke length 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		
	Direct drive	series 1	3	2	2	2	2,5	2,5	3	3	—			
		series 2		—			3	3	4	4	—			
	Geared drive	series 1	3	—			4	4	4	4	6	6	6	6
		series 2		—			6	6	6	6	9	9	9	9
	Nominal air pressure		4	0,5 (5)										
Bed	**Surface** 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
	Round opening 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
	Shoulder depth m_1		6	36			45				56			
	Rectangular opening G			225	250	280	315	355	390	425	460	500	550	600
	H			160	180	200	225	250	275	300	325	355	390	425
	T-slots width A		7	18			22					28		
	pitch P_1		8	—			200		250			320		400
	Maximum angle of inclination $\alpha°$			30					25					

	Nominal capacity	Note referring	100	160	250	400	630	(800)	1 000	(1 250)	1 600	(2 000)	2 500
Slide	**Surface**												
	b_2 series 1		280	315	355	400	450	490	530	580	630	690	750
	t_2 series 1		180	200	225	250	280	305	335	365	400	435	475
	b_2 series 2		—			500	560	615	670	735	800	875	950
	t_2 series 2		—			315	355	390	425	465	500	550	600
	Stem hole												
	D_7 tol. H7	5	40				50				65		
	l		75				85				105		
	c		40								45		
	Clamping bolt												
	g_2		M20								M24		
	Attaching holes												
	D_8		18			22					28		
	c_1 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	**Surface**												
	b series 1		440	490	550	620	700	770	840	905	980	1 070	1 160
	t series 1		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 series 2		—			550	620	680	740	815	890	970	1 050
	Through hole												
	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
	Shoulder depth												
	n_1	10 6	36			45				56			
	Thickness												
	s		65	70	75	80	85	90	95	100	105	110	125
	T-slots												
	width A	7	18			22					28		
	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

Nominal capacity		Note referring		100	160	250	400	630	(800)	1 000	(1 250)	1 600	(2 000)	2 500
Bedplate ring	d_3 tol. d9		5	180	200	225	250	280	305	335	365	400	435	475
	d_4			158	178	198	223	248	273	298	323	353	388	423
	D_5			90	100	112	125	140	155	170	185	200	215	235
	g_1			M10				M12					M16	
	D_9		11	10,5				13					17	
	k_2	10		125	140	160	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

NOTES

1 Shut height is measured from the bedplate surface to the slide surface with the maximum variable stroke, stroke down and slide adjustment up.

2 Bed to slide distance is measured from the bed surface to the slide surface with the maximum variable stroke, stroke down and slide adjustment up.

3 Distance above bottom dead centre at which the capacity of the press shall be measured on maximum stroke.

4 For the operation of pneumatic equipment.

5 Tolerances to ISO/R 286.

6 Bedplate ring and bedplug may be 0,05 mm max. above bedplate surface and bed surface, respectively.

7 T-slots dimensions to ISO 299.

8 Beds with round opening only.

9 Values corresponding to bedplates type 1.

10 Values corresponding to bedplates type 2.

11 Clearance holes to ISO 273.