

HYDRO-PNEUMATIC PRESSES



HP series

mäder hydro-pneumatic presses are operated only by compressed air, activating the hydraulic power stroke automatically. They combine the advantages of pneumatic and hydraulic presses.

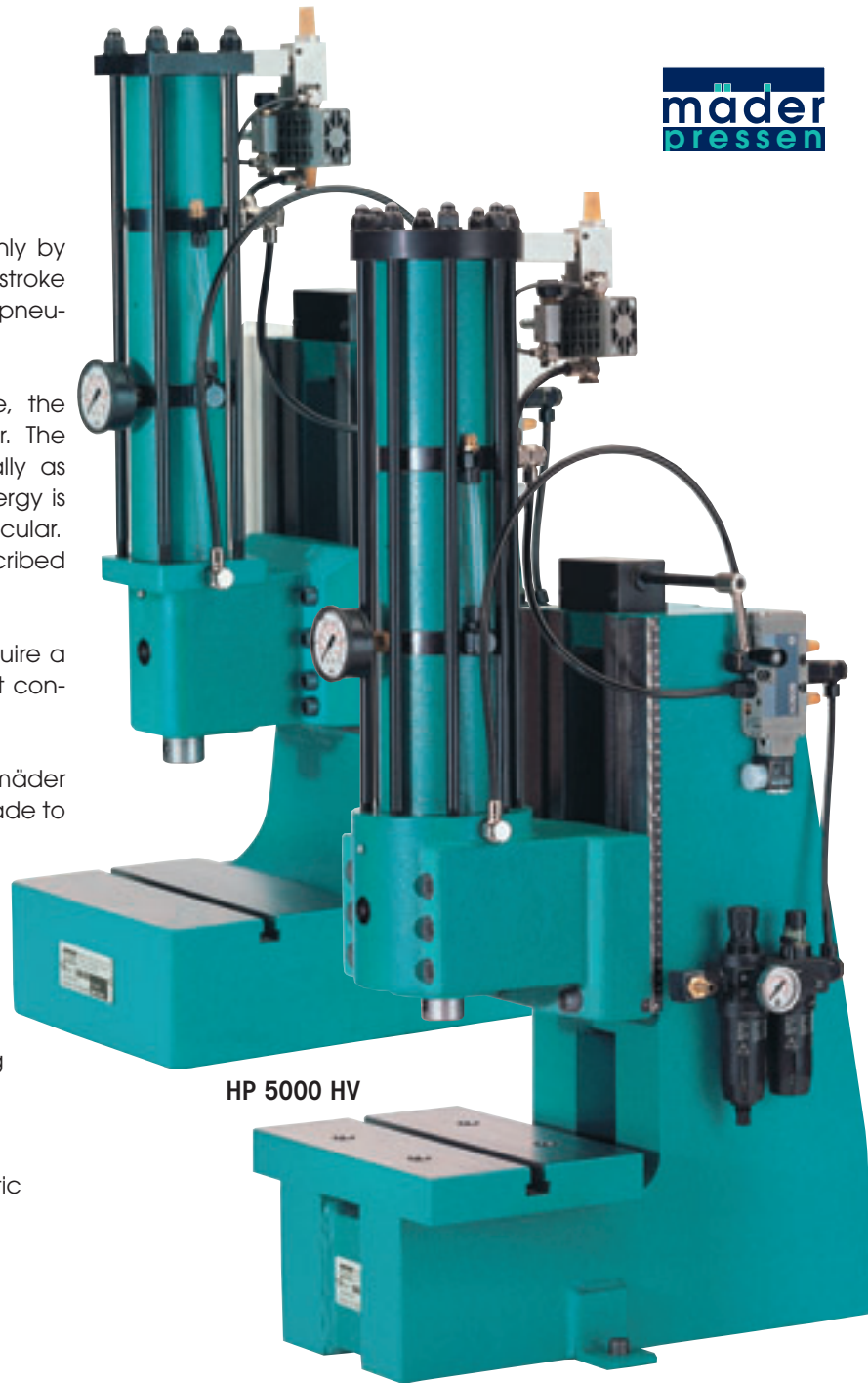
During the pneumatically operated rapid stroke, the workpiece is approached rapidly at low power. The hydraulic power stroke commences automatically as soon as resistance is met. This is why the input energy is used most economically with these models in particular. The operation of hydro-pneumatic presses is described on the following pages.

Since mäder hydro-pneumatic presses do not require a hydraulic unit, they can be used even in the most confined spaces.

All hydro-pneumatic presses can be supplied with mäder standard controls (see Page 23) or with controls made to customers' specification.

Further quality features:

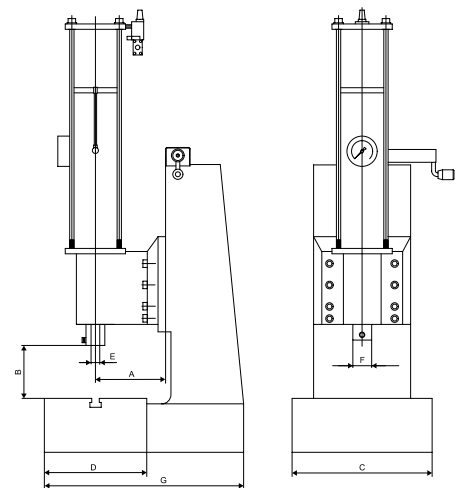
- hardened anti-twist ram
- long, honed ram guide for highest precision
- two lengths of power stroke available
- simple height adjustment of the press head using a bevel gear
- side-mounted measuring strip for rapid repetition of settings when changing tools
- simple triggering as with double-action pneumatic cylinder
- low noise: under 75 dBA



HP 5000 HV

HP 10000 HV

Type		HP 3000 HV	HP 5000 HV	HP 10000 HV
Capacity at 6 bar	kN	30	50	100
	kp	3000	5000	10000
Total stroke	mm	40	50	50
thereof power stroke*	mm	4/8	5/10	5/10
Capacity of rapid stroke at 6 bar	kN	1.5	2.5	4.5
Capacity of return stroke at 6 bar	kN	1.3	1.7	4.1
Throat	A mm	130	150	150
Daylight	B mm	123 - 322	119 - 320	117 - 312
Table size	C x D mm	200 x 190	305 x 210	310 x 220
T-slot width similar to DIN 650	mm	14	14	14
Ram bore Ø x depth	E mm	16 ^{H7} x 30	20 ^{H7} x 34	20 ^{H7} x 34
Ram Ø	F mm	35	40	40
Port size		R 1/4"	R 1/4"	R 1/4"
Space requirement	C x G mm	200 x 385	305 x 440	310 x 500
Weight	kg	approx. 78	approx. 163	approx. 287

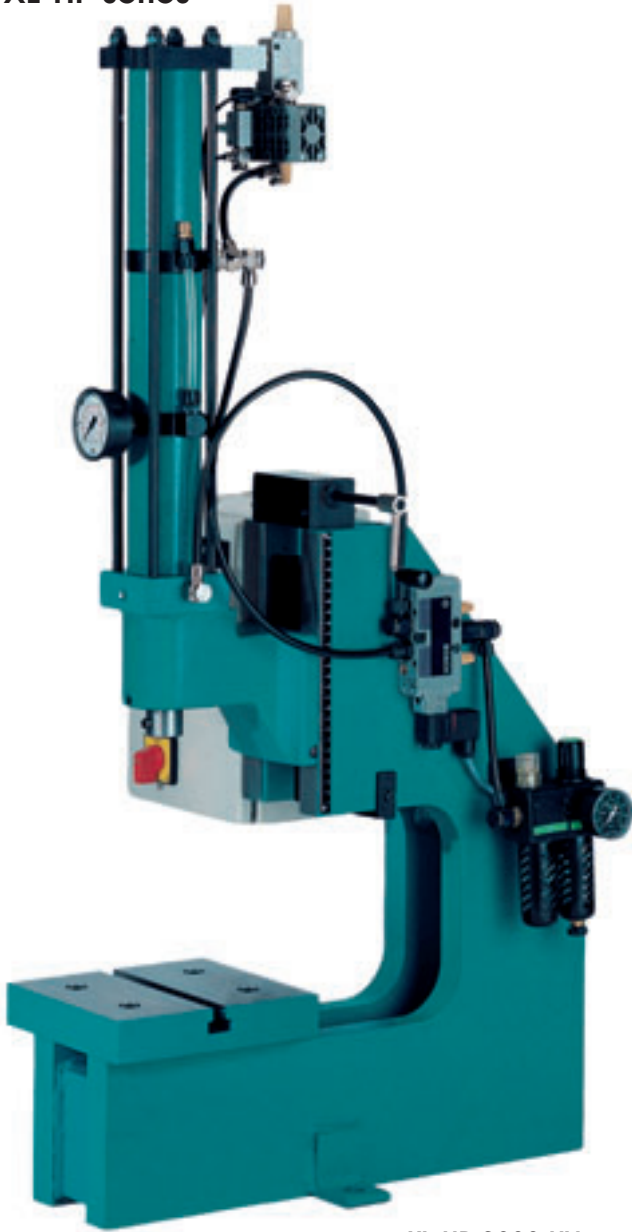


* Please indicate stroke length with order

Valve and service unit only in versions supplied with controls

HYDRO-PNEUMATIC PRESSES

XL-HP series



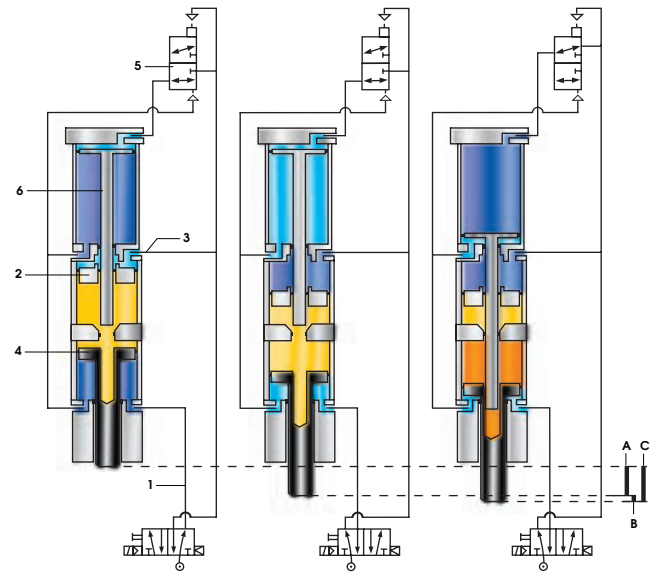
XL-HP 3000 HV

Typ		XL-HP 3000 HV	XL-HP 5000 HV
Capacity at 6 bar	kN	30	50
	kp	3000	5000
Total stroke	mm	40	50
thereof power stroke*	mm	4/8	5/10
Capacity of rapid stroke at 6 bar	kN	1.5	2.5
Capacity of return stroke at 6 bar	kN	1.3	1.7
Throat	A	mm	300
Daylight	B	mm	189 - 327
Table size	C x D	mm	200 x 220
T-slot width similar to DIN 650		mm	14
Ram bore Ø x depth	E	mm	16 ^{H7} x 30
Ram Ø	F	mm	35
Port size			R 1/4"
Space requirement	C x G	mm	200 x 550
Weight	kg	approx. 184	approx. 241

* Please indicate stroke length with order

Valve and service unit only in versions supplied with controls

Function diagram



Oil without pressure
 Oil under pressure

Air without pressure
 Air under pressure

Description of operation:

Initial position:

Compressed air line (1) is charged with compressed air, the rest of the system is unpressurised.

Rapid stroke (A):

Pressure is applied to the rapid stroke piston (2) via the compressed air connection (3). The piston advances and, through the hydraulic oil, thrusts the power stroke piston (4) downwards at high-speed until contact is made with the workpiece.

Power stroke (B):

The changeover unit (5) switches over automatically; compressed air is applied to the plunger (6), which advances and closes the oil chamber so that power transmission takes place. In the power stroke, the ram (4) advances with reduced speed and high-power.

A = rapid stroke B = power stroke C = total stroke

