

# GARNET

General catalogue mechanical presses

HIDROGARNE

[www.hidrogarne.com](http://www.hidrogarne.com)



## High performance and excellence in hydraulic and mechanical presses.

HIDROGARNE has a business career that began in 1987 with the manufacture of machines solely for the Spanish market, successively we went extending through different European countries and we are currently exporting our hydraulic presses to more than 20 countries around the world.

It guarantees an experience of more than 33 years of innovation, quality and commitment to our customers.

The continuous progress during all these years places us as leaders in the manufacture of hydraulic presses.

In our new stage we have agreed to a technical-commercial and engineering collaboration with one of the most prestigious manufacturers in Europe in the manufacture of eccentric presses. They are specialized for 50 years in the manufacture of mechanical presses, automatic lines and high-performance transfer systems.

Convinced of the quality of our hydraulic presses, we have extended the manufacturing guarantee to a period of two years.

All our range of mechanical presses is designed and manufactured entirely at Europe.

We are specialized in the manufacture of mechanical presses with capacities, measurements and technical characteristics adapted to every customer needs.



# PE SERIES

The PE series mechanical presses are suitable for a wide variety of applications to industries that perform punching, stamping, cutting and deep drawing works.

They are made of S355JR steel, stabilized, and mechanized at the end of the welding process to ensure a perfect parallelism and precision. Calculated and designed with finite element software. With all this, we always guarantee our high standards of precision and quality.

The rod is built of high-strength forged steel and high-performance alloy bushings.

To guarantee perfect maintenance and operation, all our range is equipped with centralized automatic lubrication with a programmable progressive system.

## OVERLOAD AND COMPENSATION

An overload protection unit is installed to protect machine components and installed tools. A safety valve discharges the oil from the chamber when for any reason the reached set value is higher than the nominal load.

For an effective balance of the slide and the dies, the compensation is by means of two pneumatic cylinders.

## PNEUMATIC CLUTCH & BRAKE COMBINATION

The clutch-brake is electropneumatic, equipped with a double safety body solenoid valve and crossflow.

The pneumatic system includes a compensation tank, a regulator-lubricator filter, a control pressure switch, and a safety valve.

## ELECTRICAL INSTALLATION AND SAFETY

The control panel features a switch enabling the user to select the desired type of work in manual, semi-automatic or automatic position. Electrical and hydraulic manoeuvres are redundant and self-controlled. They incorporate an additional PLC for manoeuvre and safety.

Operation is carried out by low voltage two-hand push button and electric pedal.

Safety is guaranteed using lateral opening protections with level IV safety light curtains placed on the sides of the work area.

It meets and satisfies all the essential health and safety requirements in accordance with the CE standard.

The PE Series range of mechanical presses is divided into three models:

**PE MODEL:** Available with a power of 30 and 40 Tn.

The transmission between the drive shaft and the eccentric shaft is by means of a direct flywheel, there are no intermediate reductions between the drive shaft and the eccentric shaft, this system allows us higher speeds and productions. The slide is made of welded and stabilized steel with **4 ground prismatic guides**.

**PE-4 MODEL:** Available with a power from 40 to 315 Tn.

The transmission between the motor shaft and the eccentric shaft is by means of a gearbox with ground gears, this system allows us to work with a high tonnage at relatively low nominal speeds.

The slide is made of welded and stabilized steel with 4 ground prismatic guides. It incorporates a base for the recovery of the excess oil from the lubrication.

Models from 160 to 315 Tn. have automatic ram adjustment.

**PE-6 MODEL:** Available with a power from 125 to 315 Tn.

The transmission between the motor shaft and the eccentric shaft is by means of a gearbox with ground gears, this system allows us to work with a high tonnage at relatively low nominal speeds.

The slide is made of welded and stabilized steel with 6 ground prismatic guides.

It incorporates a base for the recovery of the excess oil from the lubrication. Automatic ram adjustment.

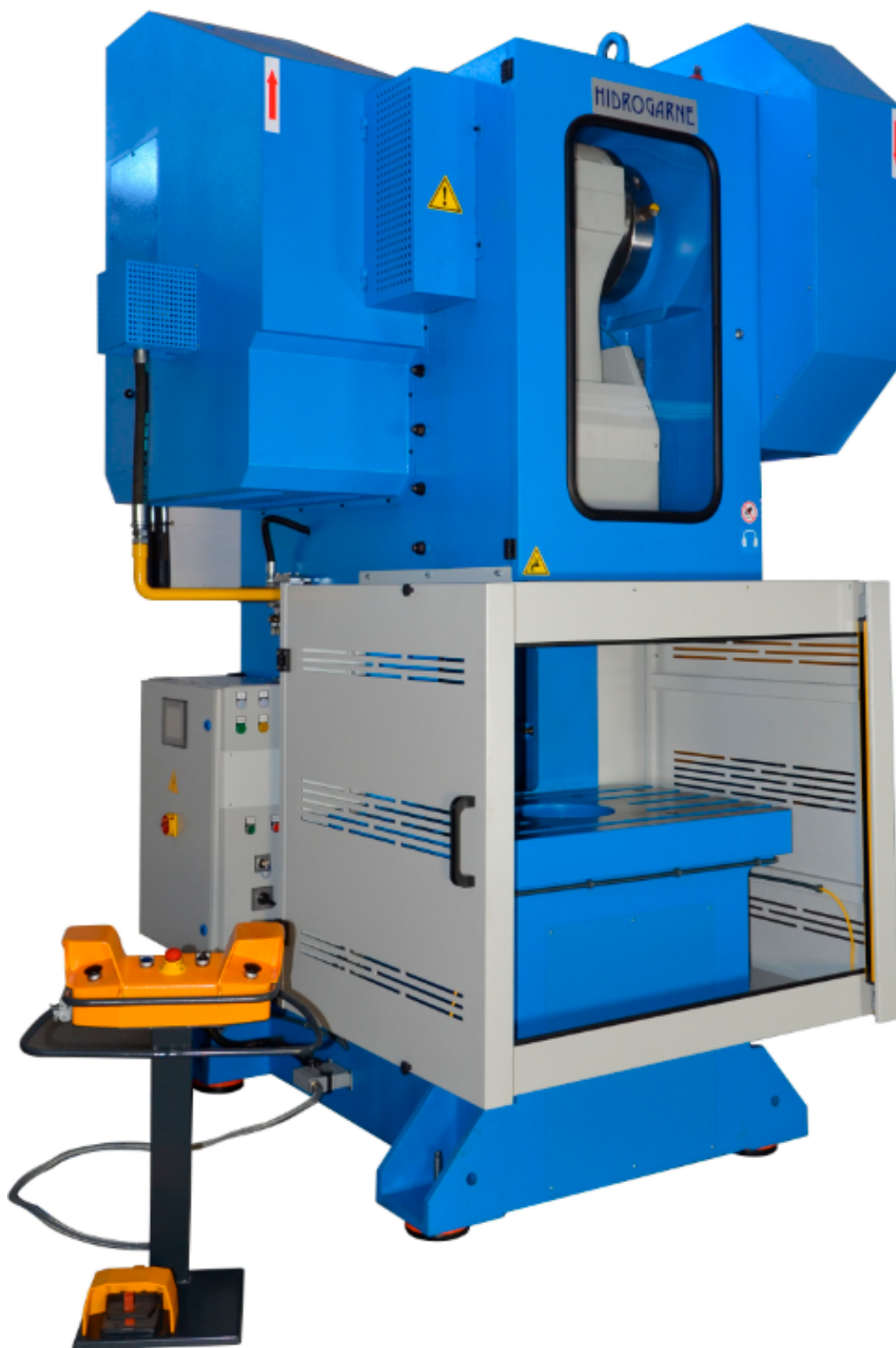
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## COMPLETE PRODUCTION LINES

**On request we have complete power lines, peripherals, and turnkey project solutions available**

# PE / PE-4 Series

C type 4 guided ram mechanical presses.

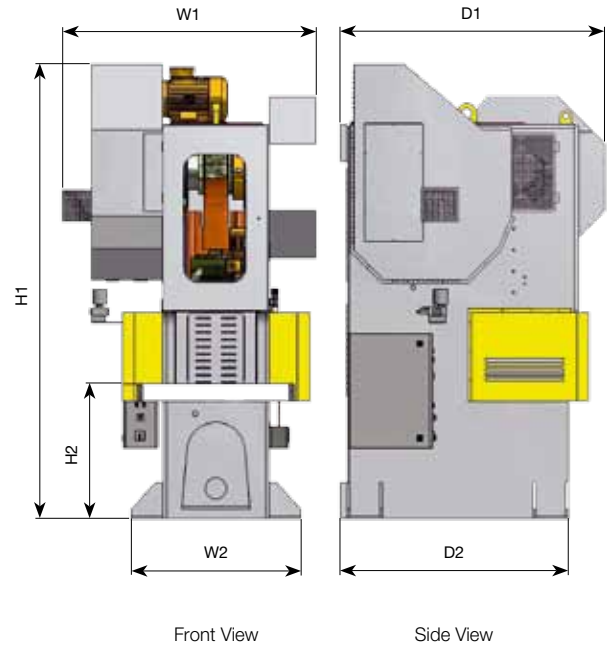


## STANDARD FEATURES

■ Pneumatic Clutch & Brake Combination
■ Dual Safety Valve
■ Both Hands Control
■ Foot Pedal Control
■ Central Motorized Lubrication System
■ Automatic Ram Adjustment (*)
■ Cam Limit with Proximity Switch
■ Programmable Control System (PLC)
■ Conformity of CE Machinery Directives
■ Photocell Safety Guard
■ Hydraulic Overload Protector
■ Adjustable Stroke Movement
■ Standard Anti-Vibration Pads
■ 2 Year Warranty (**)

## OPTIONAL ACCESSORIES

■ Automatic ram adjustment (from 60 to 125 Tn)
■ Inverter (speed variation)
■ Pneumatic or Hydraulic die ejector or cushion
■ Lower auxiliar table
■ Strain gauge system
■ NC digital display with memories



(\*) Only Between 160 Tons - 315 Tons  
 (\*\*) Normal Operating Conditions Excluding User Errors.

## DIMENSIONS

		PE 30	PE 40	PE-4 40	PE-4 60	PE-4 80	PE-4 100	PE-4 125	PE-4 160	PE-4 200	PE-4 250	PE-4 315
H1	m	2050	2000	2200	2350	2500	2760	2870	3200	3250	3280	3450
H2	m	700	670	670	670	700	800	800	950	950	950	950
W1	m	1300	1400	1370	1460	1500	1640	1680	1800	2100	2100	2150
W2	m	840	840	840	840	920	990	1000	1190	1360	1400	1450
D1	m	1100	1300	1220	1230	1400	1630	1650	1860	2130	2200	2280
D2	m	820	1040	1040	1070	1195	1420	1385	1610	1800	1920	2000

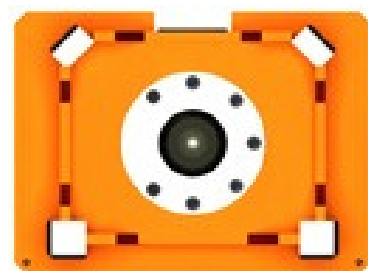
## TECHNICAL FEATURES

		30	40	40	60	80	100	125	160	200	250	315
Press Capacity	ton	30	40	40	60	80	100	125	160	200	250	315
Stroke per Minute	spm	125	125	60	60	60	50	50	45	40	40	35
Nominal Tonnage Height	mm	3,5	4	4	4,5	5	5,5	5,5	6	6,5	7	7,5
Stroke Adjustment	mm	10-75	10-90	10-90	10-100	10-115	10-135	10-135	20-150	20-170	20-180	20-200
*Max. Closed Mould Height	mm	225	250	250	270	285	315	315	350	430	420	400
Table - Ram Distance	mm	300	340	340	370	400	450	450	500	600	600	600
Ram Adjustment	mm	50	50	50	50	50	60	60	70	80	80	90
Table Dimension	mm	360x560	440x640	440x640	470x700	500x750	560x860	600x900	700x1100	800x1200	900x1200	900x1200
Ram Dimension	mm	260x340	280x380	280x380	310x410	340x440	420x520	315x550	370x620	400x700	400x700	400x700
Diameter of Table Hole	mm	140	170	170	190	220	250	250	280	300	310	320
Diameter of Ram Hole	mm	35	40	40	40	45	50	50	55	60	65	70
Throat Depth	mm	180	220	220	235	250	280	300	350	400	450	450
Motor Power	kW	2,2	3	3	4	5,5	7,5	11	11	15	18,5	22

\* Ram at B.D.C. Ram Adjustment is Up

# PE-6 Series

C type 6 guided ram mechanical presses.

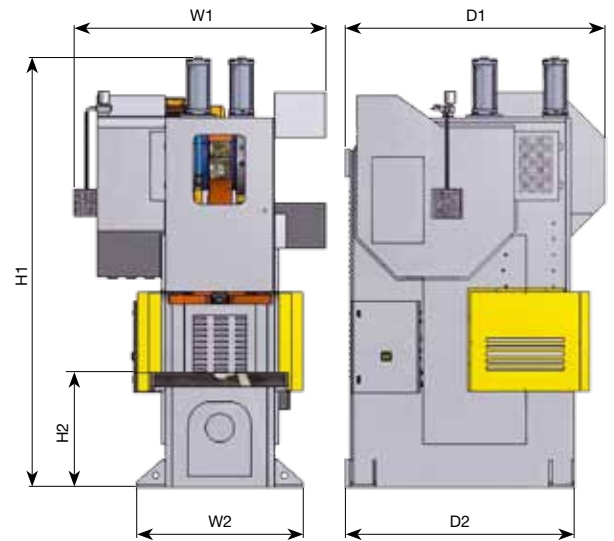


## STANDARD FEATURES

■ Pneumatic Clutch & Brake Combination
■ Dual Safety Valve
■ Both Hands Control
■ Foot Pedal Control
■ Central Motorized Lubrication System
■ Gears in Oil Tank
■ Automatic Ram Adjustment
■ Cam Limit with Proximity Switch
■ Programmable Control System (PLC)
■ Conformity of CE Machinery Directives
■ Photocell Safety Guard
■ Hydraulic Overload Protecto
■ Adjustable Stroke Movement
■ Pneumatic Balancing Cylinders
■ Standard Anti-Vibration Pads
■ 2 Year Warranty

## OPTIONAL ACCESSORIES

■ Automatic ram adjustment (from 60 to 125 Tn)
■ Inverter (speed variation)
■ Pneumatic or Hydraulic die cushion or ejector
■ Lower auxiliar table
■ Strain gauge system
■ NC digital display with memories



Front View

Side View

(\* Normal Operating Conditions Excluding User Errors)

## DIMENSIONS

		PE-6 125	PE-6 160	PE-6 200	PE-6 250	PE-6 315
H1	mm	3150	3350	3850	3850	3900
H2	mm	950	950	1050	1050	1050
W1	mm	1750	1950	2100	2150	2200
W2	mm	1150	1300	1450	1450	1450
D1	mm	1800	1900	2250	2300	2300
D2	mm	1550	1650	1950	2000	2000

## TECHNICAL FEATURES

		125	160	200	250	315
Press Capacity	ton	125	160	200	250	315
Stroke per Minute	spm	50	45	40	40	35
Nominal Tonnage Height	mm	5,5	6,5	7	7,5	7,5
Stroke Adjustment	mm	10-135	20-150	20-170	20-180	20-200
*Max. Closed Mould Height	mm	315	350	430	420	400
Table - Ram Distance	mm	450	500	600	600	600
Ram Adjustment	mm	60	70	80	80	90
Table Dimension	mm	650x1000	700x1100	800x1200	900x1200	900x1200
Ram Dimension	mm	460x700	520x700	550x760	600x900	620x900
Diameter of Table Hole	mm	260	280	300	310	320
Diameter of Ram Hole	mm	50	55	60	65	70
Throat Depth	mm	325	350	400	450	450
Motor Power	kW	11	11	15	18,5	22

\* Ram at B.D.C. Ram Adjustment is Up

# SERIES PM

The double stanchion presses PM series are suitable for a wide variety of applications to industries such as automotive, aerospace, rail and many more related to metal forming.

They are double reduction presses, with one or two connecting rods. They are made of S355JR steel, stabilized and machined at the end of the welding process to guarantee perfect parallelism and precision. Calculated and designed with finite element software. With all this, we always guarantee our high standards of precision and quality.

The rod is built of high-strength forged steel and high-performance alloy bushings.

To guarantee a perfect maintenance and operation, all our range is equipped with centralized automatic lubrication with a programmable progressive system.

Designed with a complex system of eccentric gears with opposite rotation that allows a double reduction in speed and long strokes. High energy is also obtained at very low nominal speeds, suitable for drawing operations.

The dimensions of the heights of the prismatic and sliding guides are to offer maximum rigidity facing the high demands, limiting the deformation of the work surfaces to minimum values.

## OVERLOAD AND COMPENSATION

An overload protection unit is installed to protect machine components and installed tools. A safety valve discharges the oil from the chamber when for any reason the reached set value is higher than the nominal load.

For an effective balance of the slide and the dies, the compensation is by means of two pneumatic cylinders.

## PNEUMATIC CLUTCH & BRAKE COMBINATION

The clutch-brake is electropneumatic, equipped with a double safety body solenoid valve and crossflow.

The pneumatic system includes a compensation tank, a regulator-lubricator filter, a control pressure switch, and a safety valve.

## ELECTRICAL INSTALLATION AND SAFETY

The control panel features a switch enabling the user to select the desired type of work in manual, semi-automatic or automatic position. Electrical and hydraulic manoeuvres are redundant and self-controlled. They incorporate an additional PLC for manoeuvre and safety.

Operation is carried out by low voltage two-hand push button and electric pedal.

Safety is guaranteed using lateral opening protections with level IV safety light curtains placed on the sides of the work area.

It meets and satisfies all the essential health and safety requirements in accordance with the CE standard.

The PM Series range of mechanical presses is divided into four models:

**PMF MODEL:** Available with a power from 100 to 400 Tn. The slide is with 6 prismatic guides. They are double reduction with one connecting rod and fixed stroke.

**PMV MODEL:** Available with a power from 100 to 400 Tn. The slide is with 6 prismatic guides. They are double reduction with one connecting rod and variable stroke.

**PMF2 MODEL:** Available with a power from 300 to 630 Tn. The slide is with 6 prismatic guides. They are double reduction with double connecting rod and fixed stroke.

**PMF 2L MODEL:** Available with a power from 300 to 630 Tn. The slide is with 6 prismatic guides. They are double reduction with double connecting rod and fixed stroke and large dimension tables.

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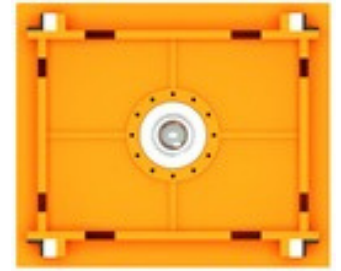
## COMPLETE PRODUCTION LINES

**On request we have complete power lines, peripherals, and turnkey project solutions available.**



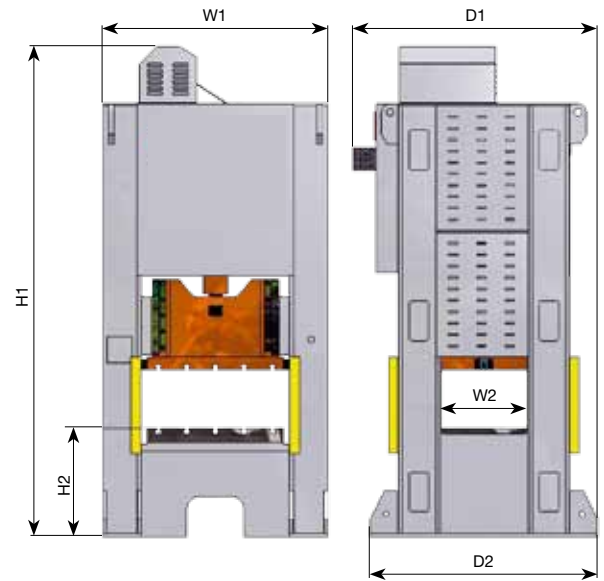
# PMF Series

H type one point mechanical presses.



## STANDARD FEATURES

■ Pneumatic Clutch & Brake Combination
■ Dual Safety Valve
■ Both Hands Control
■ Foot Pedal Control
■ Progressive Motorized Lubrication System a
■ Gears in Oil Tank
■ Automatic Ram Adjustment
■ Shut Height Indicator
■ Mechanical Rotary Cam Limit Switch (4 Array)
■ Magnetic Cam Limit Switch
■ Programmable Control System (PLC)
■ Touch-Operated Monitor
■ Conformity of CE Machinery Directives
■ Double Sided Photocell Safety Guard
■ Hydraulic Overload Protector
■ Safety Block
■ Separated Plano Type Electric Pane
■ Pneumatic Balancing Cylinders
■ Rubber Anti-Vibration Pads
■ 2 Year Warranty (*)



Front View

Side View

(\*) Normal Operating Conditions Excluding User Errors

## OPTIONAL ACCESSORIES

■ Inverter (speed variation)
■ Pneumatic or hydraulic ejector
■ Pneumatic or hydraulic Die Cushion
■ Lower auxiliar table
■ Strain gauge system
■ NC disital display with memories

## DIMENSIONS

		PMF 125	PMF 160	PMF 200	PMF 250	PMF 300	PMF 400
H1	mm	4800	5250	5600	5900	6000	6000
H2	mm	850	900	900	900	950	1000
W1	mm	1750	1950	2150	2350	2450	2500
W2	mm	600	700	750	800	800	800
D1	mm	1950	2150	2250	2250	2300	2350
D2	mm	1800	2000	2050	2100	2100	2150

## TECHNICAL FEATURES

Press Capacity	ton	125	160	200	250	300	400
Stroke per Minute	spm	40-50	40-50	30-40	30-40	30-40	30-40
Nominal Tonnage Height	mm	5,5	6	6,5	7	7,5	7,5
Stroke Adjustment	mm	150	150	200	200	200	200
*Max. Closed Mould Height	mm	350	400	400	450	500	500
Table - Ram Distance	mm	500	550	600	650	700	700
Ram Adjustment	mm	0-80	0-100	0-120	0-120	0-120	0-140
Table Dimension	mm	900x1000	1000x1000	1000x1200	1100x1200	1100x1300	1100x1300
Ram Dimension	mm	900x1000	1000x1000	1000x1200	1100x1200	1100x1300	1100x1300
Motor Power	kW	11	15	18,5	18,5	22	30

\* Ram at B.D.C. Ram Adjustment is Up

# PMV Series

H type one point mechanical presses variable stroke.

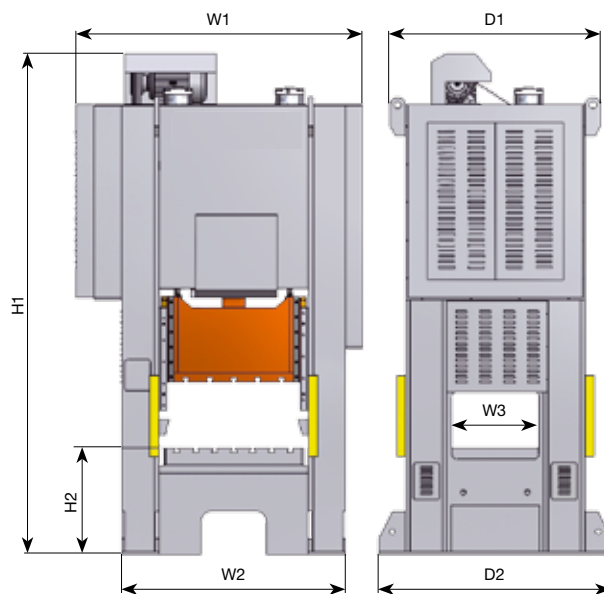


## STANDARD FEATURES

■ Pneumatic Clutch & Brake Combination
■ Dual Safety Valve
■ Both Hands Control
■ Foot Pedal Control
■ Progressive Motorized Lubrication System
■ Gears in Oil Tank
■ Automatic Ram Adjustment
■ Digital Ruler for Ram Adjusting
■ Adjustable Stroke Movement
■ Mechanical Rotary Cam Limit Switch (4 Array)
■ Magnetic Cam Limit Switch
■ Programmable Control System (PLC)
■ Touch-Operated Monitor
■ Conformity of CE Machinery Directives
■ Double Sided Photocell Safety Guard
■ Hydraulic Overload Protector
■ Safety Block /
■ Separated Piano Type Electric Panel
■ Pneumatic Balancing Cylinders
■ Rubber Anti-Vibration Pads
■ *2 Year Warranty (*)

## OPTIONAL ACCESSORIES

■ Inverter (speed variation)
■ Pneumatic or hydraulic ejector or die cushion
■ Lower auxiliar table
■ Strain gauge system
■ NC digital display with memories



Front View

Side View

(\*) Normal Operating Conditions Excluding User Errors

## DIMENSIONS

		PMV 125	PMV 160	PMV 200	PMV 250	PMV 300	PMV 400
H1	mm	4800	5150	5450	5750	5950	6100
H2	mm	850	900	900	900	950	1000
W1	mm	2250	2350	2700	2700	2850	3000
W2	mm	1850	2000	2250	2250	2450	2550
W3	mm	600	700	750	800	800	800
D1	mm	1600	1800	1900	2000	2000	2000
D2	mm	1800	2000	2100	2200	2200	2200

## TECHNICAL FEATURES

		PMV 125	PMV 160	PMV 200	PMV 250	PMV 300	PMV 400
Press Capacity	ton	125	160	200	250	300	400
Stroke per Minute	spm	40-50	40-50	30-40	30-40	30-40	30-40
Nominal Tonnage Height	mm	5,5	6	6,5	7	7,5	7,5
Stroke Adjustment	mm	20-150	20-150	20-200	20-200	20-200	20-200
*Max. Closed Mould Height	mm	350	400	400	450	500	500
Table - Ram Distance	mm	500	550	600	650	700	700
Ram Adjustment	mm	0-80	0-100	0-120	0-120	0-120	0-140
Table Dimension	mm	900x1000	1000x1000	1000x1200	1100x1200	1100x1300	1100x1300
Ram Dimension	mm	900x1000	1000x1000	1000x1200	1100x1200	1100x1300	1100x1300
Motor Power	kW	11	15	18,5	18,5	22	30

\* Ram at B.D.C. Ram Adjustment is Up

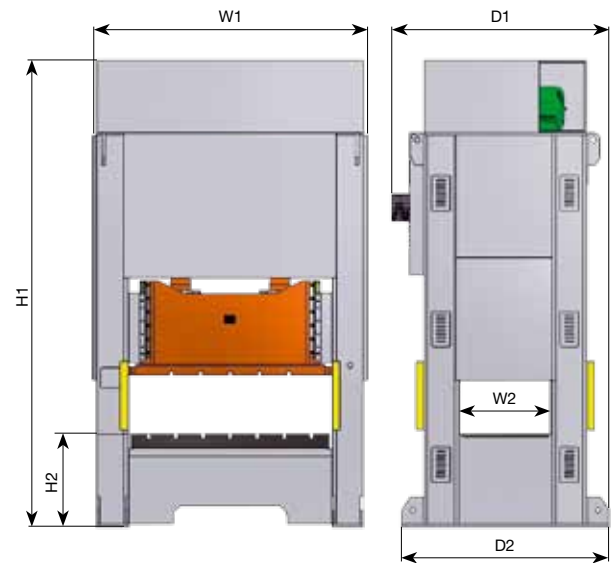
# PMF 2 / PMF 2L Series

H type two point mechanical presses fixed stroke.



STANDARD FEATURES

■ Pneumatic Clutch & Brake Combination
■ Dual Safety Valve
■ Both Hands Control
■ Foot Pedal Control
■ Progressive Motorized Lubrication System
■ Gears in Oil Tank
■ Automatic Ram Adjustment
■ Shut Height Indicator
■ Mechanical Rotary Cam Limit Switch (4 Array)
■ Magnetic Cam Limit Switch
■ Inverter
■ Programmable Control System (PLC)
■ Touch-Operated Monitor
■ Conformity of CE Machinery Directives
■ Double Sided Photocell Safety Guard
■ Hydraulic Overload Protector
■ Safety Block
■ Separated Piano Type Electric Panel
■ Pneumatic Balancing Cylinders
■ Rubber Anti-Vibration Pads
■ 2 Year Warranty (*)



Front View

Side View

(\*) Normal Operating Conditions Excluding User Errors

OPTIONAL ACCESSORIES

■ Inverter (speed variation)
■ Pneumatic or hydraulic ejector or die cushion
■ Lower auxiliary table
■ Strain gauge system,
■ NC digital display with memories

DIMENSIONS

		PMF-2 200	PMF-2L 200	PMF-2 300	PMF-2L 300	PMF-2 400	PMF-2L 400	PMF-2 500	PMF-2L 500
H1	mm	5100	5300	5400	5550	5900	5950	6150	6400
H2	mm	1050		1050		1100		1100	
W1	mm	3600	3900	3700	3900	3600	3900	3600	3900
W2	mm	850		950		1000		1000	
D1	mm	2200		2400		2500		2600	
D2	mm	2200		2300		2200		2400	

TECHNICAL FEATURES

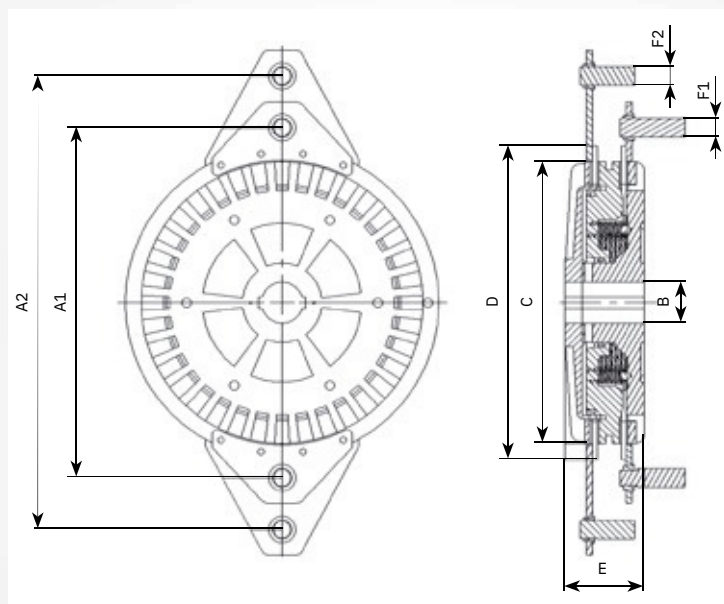
		200		300		400		500	
Press Capacity	ton	200		300		400		500	
Stroke per Minute	spm	30 - 40		30 - 40		30 - 40		25 - 35	
Nominal Tonnage Height	mm	8	7	8,5	7,5	8,5	7,5	9	8
Stroke Adjustment	mm	200	250	200	200	200	250	200	250
*Max. Closed Mould Height	mm	550		550		600		600	
Table - Ram Distance	mm	750	800	750	800	800	850	800	850
Ram Adjustment	mm	0-120		0-120		0-120		0-140	
Table Dimension	mm	1300x2500	1300x2800	1300x2500	1300x2800	1300x2500	1300x2800	1300x2500	1300x2800
Ram Dimension	mm	1300x2500	1300x2800	1300x2500	1300x2800	1300x2500	1300x2800	1300x2500	1300x2800
Motor Power	kW	22	30	30	37	37	45	45	55

\* Ram at B.D.C. Ram Adjustment is Up



PNEUMATIC CLUTCH AND BRAKE COMBINATIONS

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## FEATURES

- Design and make in According to European Standarts
- Double Sided Friction Discs, Long-Lasting Pads
- Quick and Easy Replacement of Friction Discs
- Cast (Spheroidal) Steel Body
- Plastic Collar for Vibration Absorption
- Low Air Consumption
- Precision Grip Under 0,1 Seconds

## DEVICE DIMENSIONS

		A.C. 4300	A.C. 5200	A.C. 6350	A.C. 8650	A.C. 37000
A1	mm	690	690	695	770	1100
A2	mm	690	690	1100	1100	1400
B	mm	70-80	90-100	90-100	100-120	130-150
C	mm	465	498	540	593	885
D	mm	535	570	620	680	985
E	mm	125,5	140	145	161	250
F1	mm	40-45	40-45	40-45	45-60	60-65
F2	mm	40-45	40-45	40-45	45-60	60-65

## TECHNICAL FEATURES

Clutch Torque	Nm	4300	5200	6350	8650	37000
Brake Torque	Nm	2400	2900	3600	4900	20000
Max. Speed	rpm	550	500	450	400	400
Avarage Air Consumption	dm <sup>3</sup>	1	1,2	1,45	1,95	4,5
Working Pressure	bar	5,5	5,5	5,5	5,5	5,5





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