

Metal Forming

Presses and automatic production lines



VAPTECH is a global supplier of custom made solutions and services for hydropower, metal forming and biomass processing industries.

For almost 100 years long history VAPTECH has established the worldwide known trademarks



and



which stand for innovation, reliability and durability of custom made press lines and automation.

For the past 15 years more than 5 000 VAPTECH presses have been successfully installed all over the world.

METAL FORMING



As a global manufacturing company VAPTECH cares about the quality of production and its impact on the ecosystems and the employees. In this regard VAPTECH constantly improves products, working conditions and performance.



THE COMPANY IS CERTIFIED:

- **ISO 9001:2008**
Quality standard;
- **ISO 14001:2004**
Environmental standard;
- **BS OHSAS 18001: 2007** Occupational health and safety standard.

VAPTECH develops, designs, manufactures and installs high quality metal forming press lines with nominal force from 300 to 15 000 kN, suitable for precise cutting, forging, blanking, deep-draw forming, progressive and transfer tool processing and many other.

- **C-frame mechanical presses** with nominal force from 300 to 4 000 kN
- **H-frame mechanical presses** with nominal force from 1 000 to 15 000 kN
- **C-frame hydraulic presses** with nominal force from 600 to 2 500 kN
- **H-frame hydraulic presses** with nominal force from 1 000 to 12 000 kN
- **O-frame presses** with nominal force from 300 to 1 000 kN

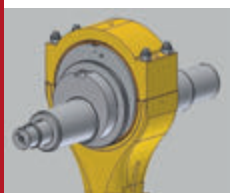
With its automated press lines for metal processing, including decoilers, feeders, straighteners and other auxiliary press equipment **VAPTECH** delivers to its customers complete solutions and optimal production technologies.

Auxiliary devices developed according the specific needs of the press line:

- Uncoiling devices
- Straightening devices
- Feeding devices
- Devices for part handling
- Quick die change devices
- Dies and tooling
- Scrap removal devices
- Unloading devices
- Special designed automation devices



- Welded steel structure of the press frame, heat treated, sand blasted and painted. The heat treatment provides stress relief of the press frame, guaranteeing maximum stiffness and rigidity.



- Eccentric mechanism completed with forged steel alloy eccentric shaft and eccentric bushing, allowing stroke length adjustment. Our unique solution allows more than 30 different stroke lengths to be pre-set.
- Automatic, semi-automatic or manual stroke adjustment, ensuring convenient and fast stroke length adjustment.
- Connecting rod with pivot bolt, allowing slide position adjustment.



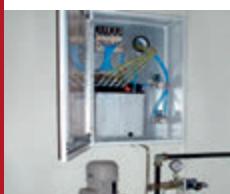
- Cast iron flywheel, providing the necessary energy for all kind of cold-press operations, such as cutting, stamping, punching, bending, sizing, etc.
- Clutch-brake unit with pneumatic control via dual electromagnetic valve.



- Helical gear operating in oil. Compared to the conventional spur gears the helical gear runs more smoothly and quietly, furthermore helical gear can withstand much greater torque than conventional spur gear.



- The use of clamping device instead of keyway connection is a great improvement in the connection between the eccentric shaft and the gear. It provides no stress concentration on the shaft and is much more long lasting than a key.



- Centralized automatic lubrication, providing oil to all necessary points like sliding bearings, slide guides and pivot bolt.
- Oil recirculation – used oil is returned back into the lubrication system, filtered and used again.
- Oil level indication – if the level of the oil is below the limit, the press stops and indicates lubrication fault.
- Oil pressure indication – if there is a pressure drop in the lubrication system the press stops and indicates lubrication fault.
- Oil temperature monitoring – if the oil temperature is over the limit the press stops and indicates lubrication fault.

-  6-8 guides slide, which provides high precision and accuracy.
-  Equipped with oil collection slots which return the used oil into the lubrication system.
-  Knock-out device with adjustable stroke, suitable for different kinds of tools.

-  Balancing cylinders of the slide, guaranteeing smooth operation of the press.
-  Flexible coupling between the cylinders and the slide providing self adjustment, which ensures the proper work of the cylinders and their long life.

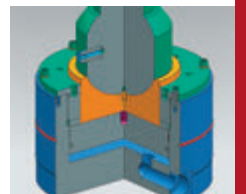
-  Hydraulic overload safety device with manual discharge, providing immediate stop of the press in case of overload.
-  Hydraulic overload safety device with completely automatic discharge is available as an option.

-  Electronic control panel with check control, completed with EU produced components:
 - SIEMENS LOGO controller for the main functionality of the presses;
 - Safety controller Telemecanique or PILZ;
-  Frequency control of the motor via inverter, providing speed variation.
-  Stroke counter with pre-selection of the desired strokes to be performed before stop of the press.

-  Touch screen, visualizing general information regarding the current operation and press settings.

Motorized slide height adjustment:

 - With a „UP/DOWN“ button;
 - Automatic with an input value on the touch screen;
-  „Two hands“ control unit for operation of the press in single stroke mode or automatic stroke mode.
-  Reverse of the main motor in case of blocked tool.
-  Mechanical barrier guard of the working zone.
-  Bolster plate with T-slots according the requirements of the customer and plug for the table of the press.
-  Photocell barrier guard.
-  Die cushion.
-  Pedal for operation of the press in single stroke mode or automatic stroke mode.
-  Anti vibration pads, reducing the vibrations transferred from the press to the workshop floor.

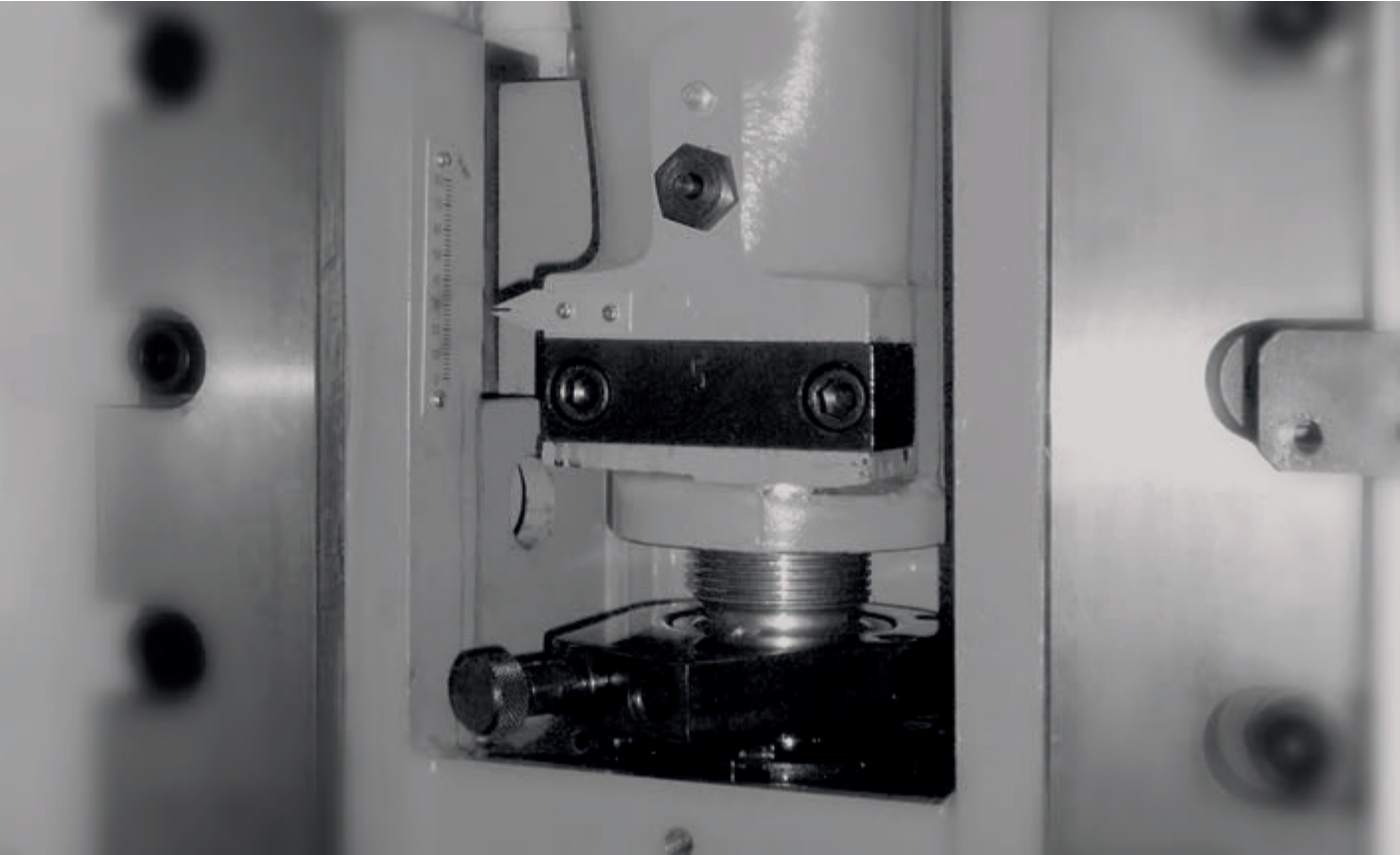




STANDARD EQUIPMENT AND OPTIONS	PE30H	PE45M	PE63AM	PE80AM
Manual stroke adjustment	YES	YES	YES	YES
Manual slide adjustment	YES	YES	YES	YES
Motorized slide adjustment	option	option	option	option
Mechanical overload safety device	YES	YES	YES	YES
Hydraulic overload safety device (man.discharge)	NO	NO	option	option
Hydraulic overload safety device (aut.discharge)	NO	NO	option	option
Gear (helical)	NO	NO	YES	YES
Automatic lubrication	YES	YES	YES	YES
Balancing cylinders	NO	NO	YES	YES
Two hands control unit	YES	YES	YES	YES
Pedal	YES	YES	YES	YES
Stroke counter	YES	YES	YES	YES
Mechanical barrier guard	YES	YES	YES	YES
Photocell barrier guard	option	option	option	option
Bolster plate and plug	option	option	option	option
Frequency inverter for speed variation	option	option	option	option
Touch screen	option	option	option	option
Die cushion	option	option	option	option
Anti vibration pads	option	option	option	option

TECHNICAL CHARACTERISTICS		PE30H	PE45M	PE63AM	PE80AM
Nominal press force	kN	300	450	630	800
Stroke length	mm	6÷60	6÷90	8÷100	8÷120
Slide adjustment	mm	50	50	80	90
Nominal number of strokes per minute	min ⁻¹	145	130	100	80
Adjustable strokes per minute*	min ⁻¹	option	option	option	option
Shut height (distance table – slide)**	mm	270	290	350	350
Throat depth (C-frame depth)	mm	170	205	280	280
Distance between uprights	mm	210	240	350	330
Table dimensions	mm	550	700	900	1000
		310	400	560	600
Table hole diameter	mm	Ø125	Ø165	Ø250	Ø250
Slide dimensions	mm	280	320	450	550
		250	320	340	440
Slide guides	pcs	6	6	6	6
Slide hole diameter	mm	Ø32H7	Ø40H7	Ø50H7	Ø50H7
Table operating height	mm	780	790	800	800
Motor power	kW	2.2	5.5	5.5	5.5
Auxiliary motor for slide height adjustment	kW	NA	NA	NA	NA
Max. pressure in pneumatic system	bar	6	6	6	6
Overall dimensions	mm	1160	1125	1400	1400
		1460	1280	1390	1450
		2160	2325	2840	2940
Net weight	kg	2200	2850	4600	6000

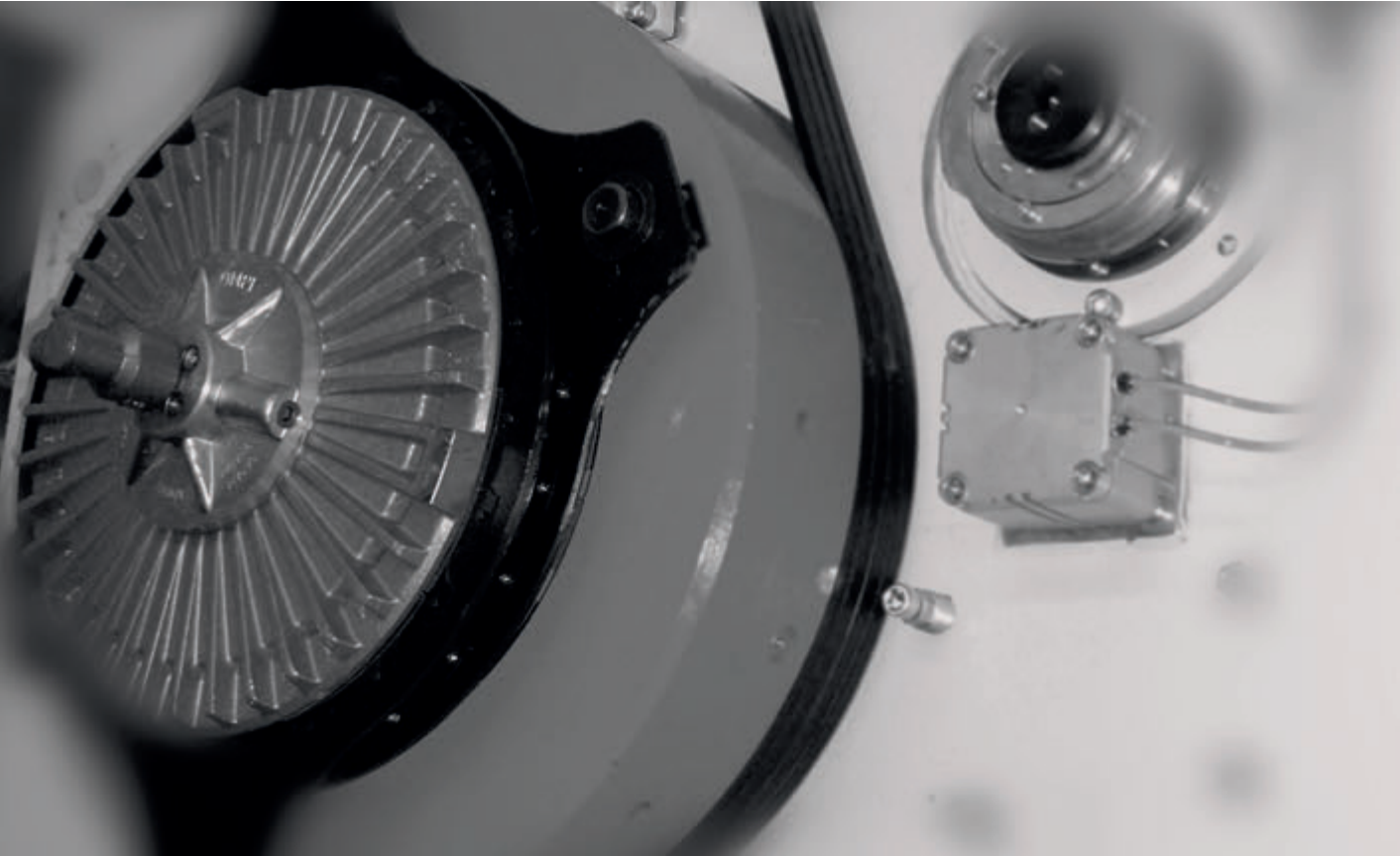
*Frequency inverter for motor speed variation
**Distance between the table and the slide, when in BDC, maximum stroke length and adjustment UP



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TECHNICAL CHARACTERISTICS		PE100MA	PE120MA	PE130MA	PE150MA	PE160MA	PE180MA	PE200MA	PE220MA
Nominal press force	kN	1000	1200	1300	1500	1600	1800	2000	2200
Stroke length	mm	18÷150	18÷150	19÷165	19÷165	20÷180	20÷180	21÷220	21÷220
Slide adjustment	mm	100	100	100	110	110	120	120	120
Nominal number of strokes per minute	min ⁻¹	65	65	60	55	50	50	45	45
Adjustable strokes per minute*	min ⁻¹	option	option	option	option	option	option	option	option
Shut height (distance table – slide)**	mm	400	400	440	440	460	460	520	520
Throat depth (C-frame depth)	mm	330	330	360	360	400	400	420	420
Distance between uprights	mm	430	430	480	480	540	520	520	500
Table dimensions	mm	1100	1200	1200	1250	1300	1300	1400	1450
		670	700	700	700	780	800	800	820
Table hole diameter	mm	Ø300	Ø300	Ø300	Ø300	Ø380	Ø380	Ø355	Ø355
Slide dimensions	mm	660	750	750	850	900	1000	1000	1100
		450	500	550	560	600	600	600	680
Slide guides	pcs	6	6	6	6	6	6	6	6
Slide hole diameter	mm	Ø50H7	Ø50H7	Ø50H7	Ø50H7	Ø65H7	Ø65H7	Ø65H7	Ø65H7
Table operating height	mm	800	800	800	800	800	800	800	800
Motor power	kW	7.5	7.5	11	11	15	15	15	15
Auxiliary motor for slide height adjustment	kW	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Max. pressure in pneumatic system	bar	6	6	6	6	6	6	6	6
Overall dimensions	mm	1590	1635	1670	1700	1855	1855	1850	1855
		1860	1860	1900	1910	2160	2160	2100	2160
		3100	3200	3300	3340	3785	3785	3785	3785
Net weight	kg	8400	9200	11000	12100	13500	14500	15600	16500

*Frequency inverter for motor speed variation
**Distance between the table and the slide, when in BDC, maximum stroke length and adjustment UP

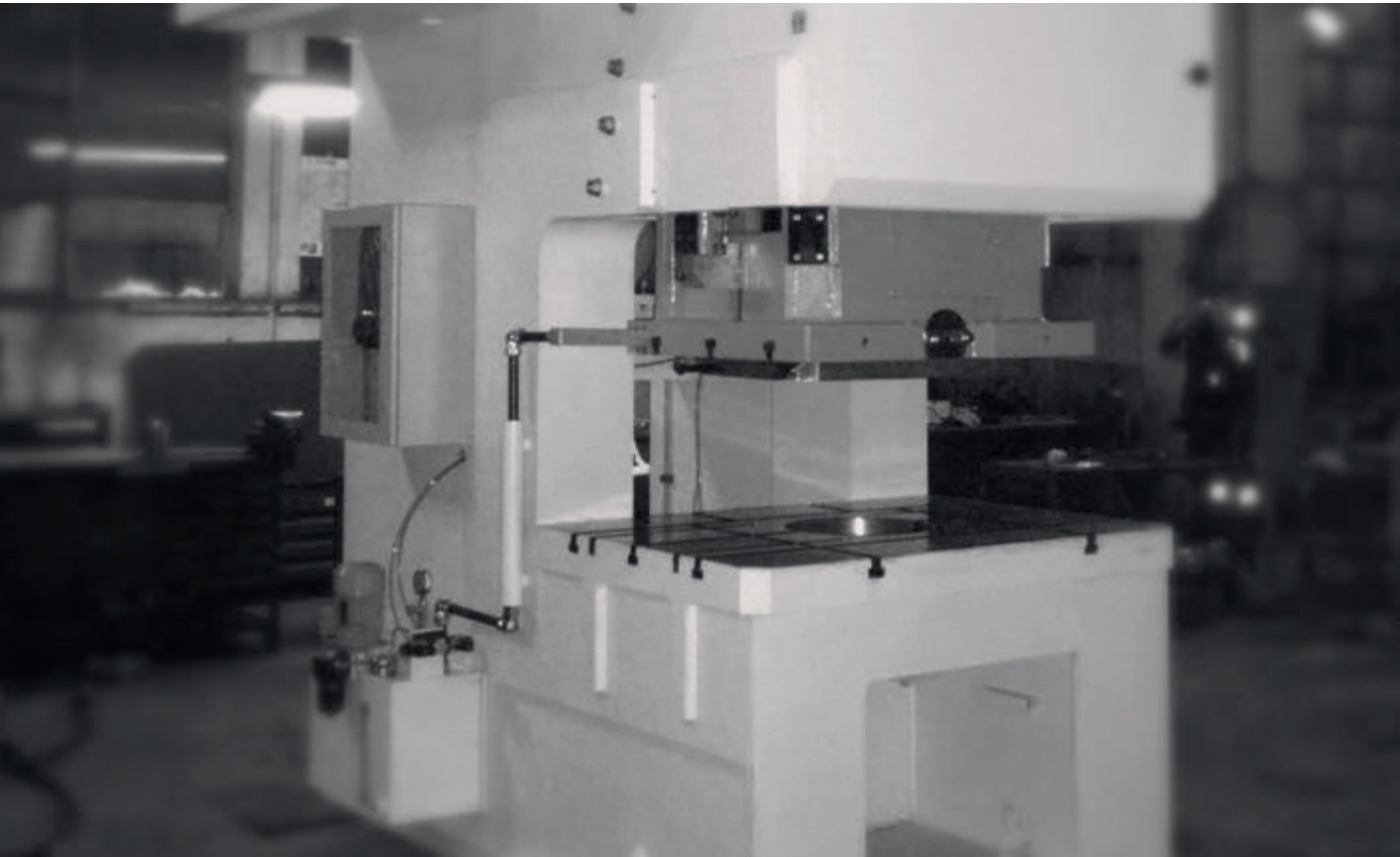




STANDARD EQUIPMENT AND OPTIONS	PE250C	PE315C	PE400C
Automatic stroke adjustment	YES	YES	YES
Motorized slide adjustment	YES	YES	YES
Hydraulic overload safety device (aut. discharge)	YES	YES	YES
Gear (helical)	YES	YES	YES
Automatic lubrication	YES	YES	YES
Balancing cylinders	YES	YES	YES
Two hands control unit	YES	YES	YES
Pedal	YES	YES	YES
Stroke counter	YES	YES	YES
Mechanical barrier guard	YES	YES	YES
Photocell barrier guard	option	option	option
Bolster plate and plug	option	option	option
Frequency inverter for speed variation	YES	YES	YES
Touch screen	YES	YES	YES
Die cushion	option	option	option
Anti vibration pads	option	option	option

TECHNICAL CHARACTERISTICS		PE250C	PE315C	PE400C
Nominal press force	kN	2500	3150	4000
Stroke length	mm	20÷250	20÷250	30÷160
Slide adjustment	mm	150	150	180
Nominal number of strokes per minute	min ⁻¹	45	45	45
Adjustable strokes per minute	min ⁻¹	35÷60	35÷60	35÷60
Shut height (distance table – slide)*	mm	560	660	510
Throat depth (C-frame depth)	mm	470	470	515
Distance between uprights	mm	650	634	754
Table dimensions	mm	1600	1600	1400
		910	910	1000
Table hole diameter	mm	Ø425	Ø400	Ø390
Slide dimensions	mm	1100	1100	950
		800	800	800
Slide guides	pcs	6	6	6
Slide hole diameter	mm	Ø65H7	Ø65H7	Ø65H7
Table operating height	mm	900	900	1005
Motor power	kW	30	30	45
Auxiliary motor for slide height adjustment	kW	1.1	1.1	1.1
Max. pressure in pneumatic system	bar	6	6	6
Overall dimensions	mm	2400	2400	2610
		2650	2650	2645
		4650	4700	4175
Net weight	kg	24000	26000	29100

*Distance between the table and the slide, when in BDC, maximum stroke length and adjustment UP





STANDARD EQUIPMENT AND OPTIONS	PE160D	PE200D	PE315D			PE400D
Monolithic press frame	YES	YES	YES	YES	YES	YES
Automatic stroke adjustment	YES	YES	YES	YES	YES	YES
Motorized slide adjustment	YES	YES	YES	YES	YES	YES
Slide guides	roller	roller	roller	sliding	roller	roller
Hydraulic overload safety device	YES	YES	YES	YES	YES	YES
Gear (helical)	YES	YES	YES	YES	YES	YES
Automatic lubrication	YES	YES	YES	YES	YES	YES
Balancing cylinders	YES	YES	YES	YES	YES	YES
Two hands control unit	YES	YES	YES	YES	YES	YES
Pedal	YES	YES	YES	YES	YES	YES
Stroke counter	YES	YES	YES	YES	YES	YES
Mechanical barrier guard	YES	YES	YES	YES	YES	YES
Photocell barrier guard	option	option	option	option	option	option
Bolster plate	YES	YES	YES	YES	YES	YES
Frequency inverter for speed variation	YES	YES	YES	YES	YES	YES
Touch screen	YES	YES	YES	YES	YES	YES
Die cushion	option	option	option	option	option	option
Anti vibration pads	option	option	option	option	option	option

TECHNICAL CHARACTERISTICS			PE160D	PE200D	PE315D			PE400D
Nominal press force		kN	1600	2000	3150	3150	3150	4000
Stroke length		mm	20÷130	20÷130	40÷210	20÷220	40÷210	20÷220
Slide adjustment		mm	100	100	130	130	130	130
Number of strokes per minute		min ⁻¹	40÷120	40÷120	25÷70	25÷70	25÷70	20÷40
Shut height (distance bolster plate – slide)*		mm	560	560	500	580	500	550
Side openings	width	mm	520	520	710	800	710	770
	height	mm	760	760	900	900	900	900
Bolster plate dimensions	length	mm	1400	1600	2000	2500	2500	2200
	width	mm	900	900	1200	1200	1200	1250
	thickness	mm	150	150	180	180	180	180
Table hole		mm	request	request	request	request	request	request
Slide dimensions	length	mm	1400	1500	2000	2500	2500	2200
	width	mm	800	900	1200	1200	1200	1250
Table operating height		mm	800	800	800	800	800	800
Motor power		kW	37	37	45	45	55	55
Auxiliary motor for slide height adjustment		kW	3	3	3	3	3	3
Max. pressure in pneumatic system		bar	5.5÷6	5.5÷6	5.5÷6	5.5÷6	5.5÷6	5.5÷6
Overall dimensions	width	mm	2400	2400	2600	2600	2600	2615
	length	mm	3350	3550	4600	5080	5080	4610
	height	mm	4000	4000	4850	4910	4850	4890
Net weight		kg	24000	25000	44000	48800	48150	48200

*Distance between the bolster plate and the slide, when in BDC, maximum stroke length and adjustment UP





STANDARD EQUIPMENT AND OPTIONS	PE450D	PE500D		PE630D		PE800D
Tie rod press frame	YES	YES	YES	YES	YES	YES
Automatic stroke adjustment	YES	YES	YES	YES	YES	YES
Motorized slide adjustment	YES	YES	YES	YES	YES	YES
Slide guides	roller	sliding	roller	sliding	sliding	sliding
Hydraulic overload safety device	YES	YES	YES	YES	YES	YES
Gear (helical)	YES	YES	YES	YES	YES	YES
Automatic lubrication	YES	YES	YES	YES	YES	YES
Balancing cylinders	YES	YES	YES	YES	YES	YES
Two hands control unit	YES	YES	YES	YES	YES	YES
Pedal	YES	YES	YES	YES	YES	YES
Stroke counter	YES	YES	YES	YES	YES	YES
Mechanical barrier guard	YES	YES	YES	YES	YES	YES
Photocell barrier guard	option	option	option	option	option	option
Bolster plate	YES	YES	YES	YES	YES	YES
Frequency inverter for speed variation	YES	YES	YES	YES	YES	YES
Touch screen	YES	YES	YES	YES	YES	YES
Die cushion	option	option	option	option	option	option
Anti vibration pads	option	option	option	option	option	option

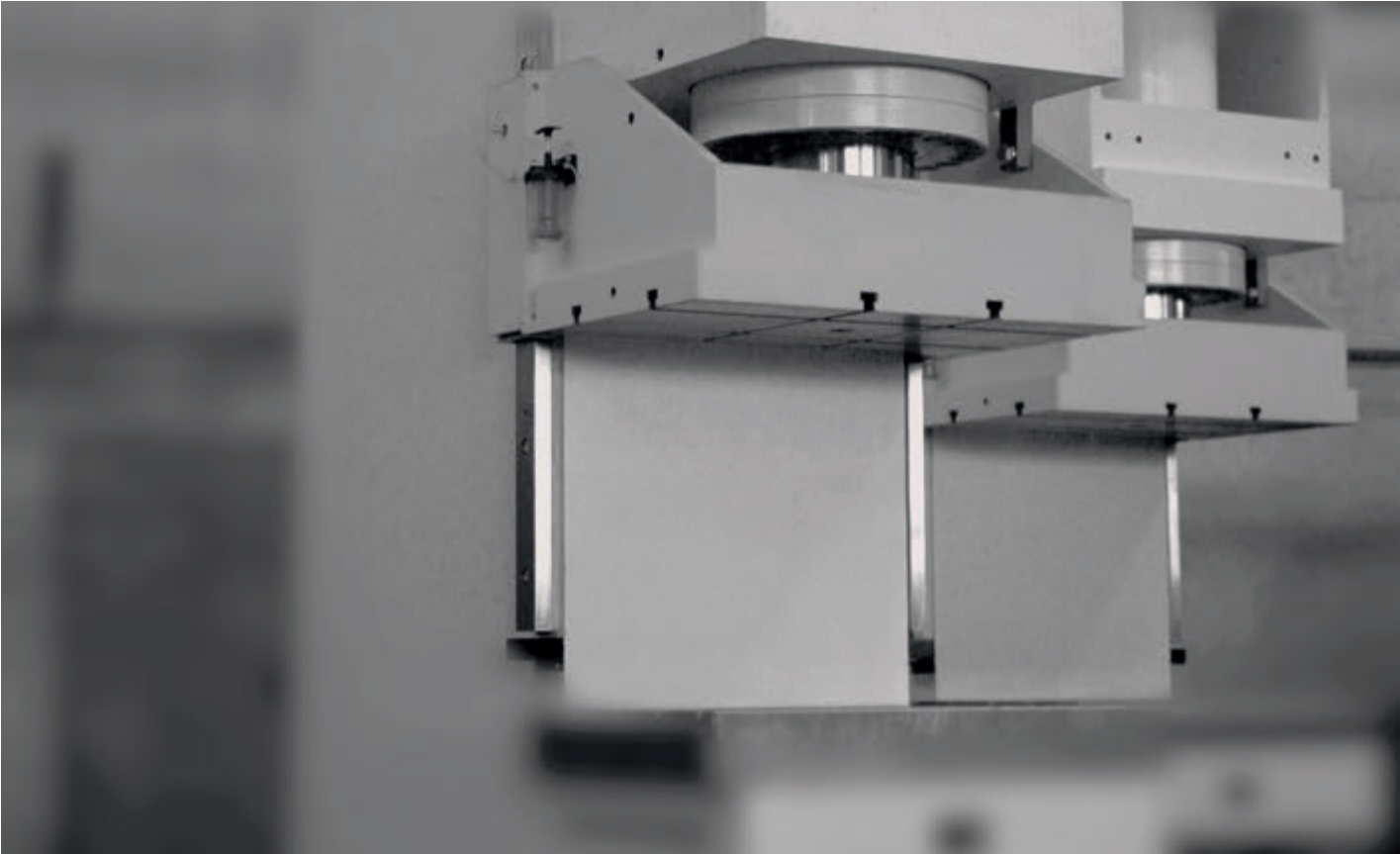
TECHNICAL CHARACTERISTICS			PE450D	PE500D		PE630D		PE800D
Nominal press force		kN	4500	5000	5000	6300	6300	8000
Stroke length		mm	20÷250	20÷250	20÷250	20÷300	20÷300	40÷350
Slide adjustment		mm	160	160	160	160	160	210
Number of strokes per minute		min ⁻¹	20÷40	20÷40	20÷40	15÷40	20÷50	10÷30
Shut height (distance bolster plate – slide)*		mm	700	700	700	700	700	1050
Side openings	width	mm	1000	1000	950	1080	1080	1100
	height	mm	1135	1135	1000	1560	1560	1700
Bolster plate dimensions	length	mm	2500	3000	3000	3000	3000	3500
	width	mm	1350	1350	1400	1800	1800	2000
	thickness	mm	180	200	200	180	180	210
Table hole		mm	request	request	request	request	request	request
Slide dimensions	length	mm	2500	2800	2800	3000	3000	3500
	width	mm	1250	1250	1250	1800	1800	2000
Table operating height		mm	800	800	800	800	800	800
Motor power		kW	75	75	75	90	90	130
Auxiliary motor for slide height adjustment		kW	3	3	3	3	3	3
Max. pressure in pneumatic system		bar	5.5÷6	5.5÷6	5.5÷6	5.5÷6	5.5÷6	5.5÷6
Overall dimensions	width	mm	3050	3050	2990	3380	3380	3540
	length	mm	4580	4980	5390	5600	5600	6900
	height	mm	5800	5800	5740	6650	6650	7850
Net weight		kg	78000	90000	90000	120000	120000	150000

*Distance between the bolster plate and the slide, when in BDC, maximum stroke length and adjustment UP

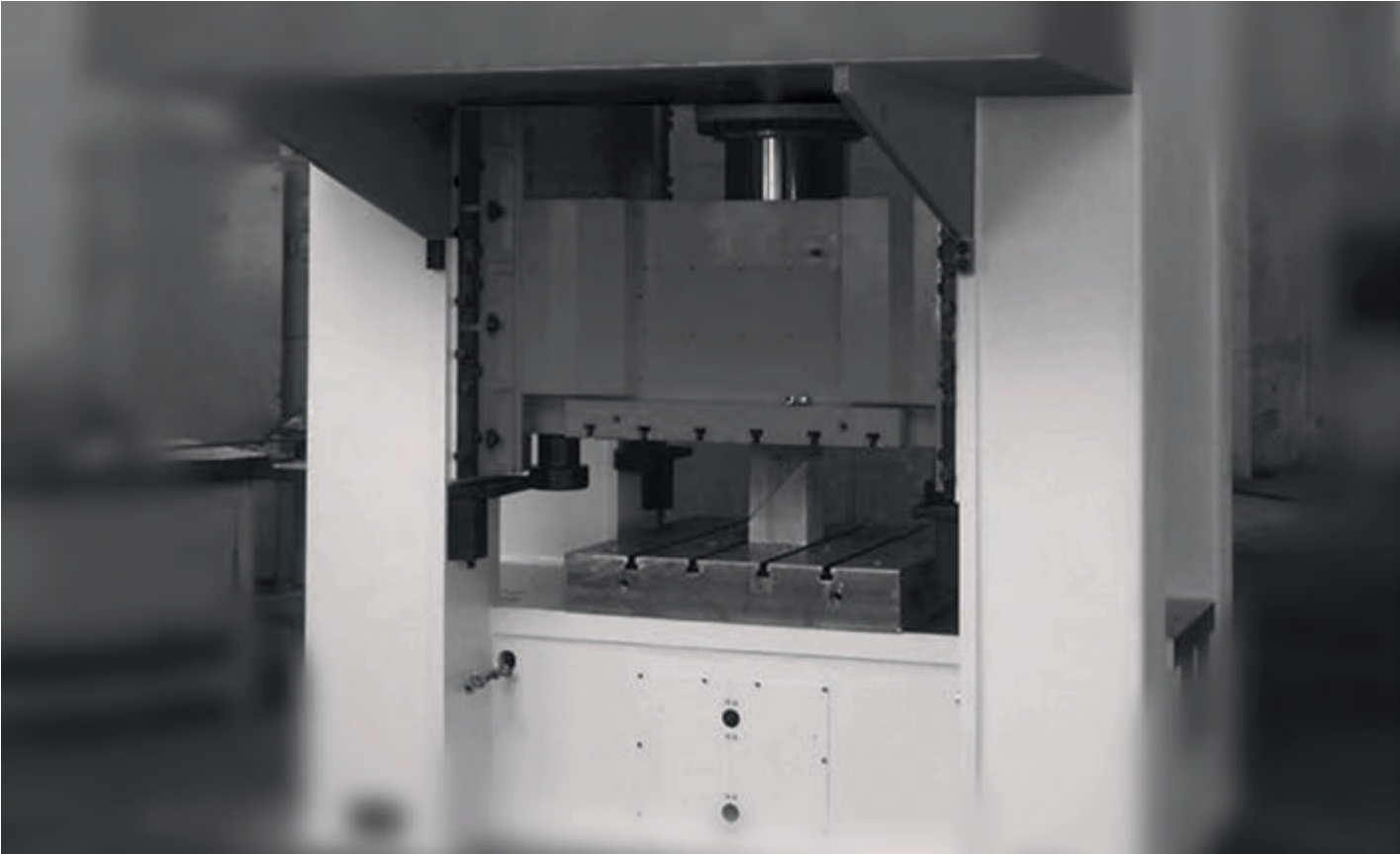


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TECHNICAL CHARACTERISTICS		PH600	PH800	PH1000	PH1200	PH1300	PH1600	PH2000	PH2500
Nominal press force	kN	600	800	1000	1200	1300	1600	2000	2500
Stroke length	mm	500	600	600	600	600	600	600	600
Working speed of the slide	mm/s	24	13	14	13	12	11	9	9
Forward speed of the slide	mm/s	310	110	260	270	270	350	300	300
Backward speed of the slide	mm/s	300	270	380	270	270	400	300	300
Distance table – slide	mm	800	800	800	800	800	800	800	800
Throat depth (C-frame depth)	mm	320	360	360	360	360	360	370	370
Bolster plate dimensions	mm	800	1000	1000	1000	1000	1000	1400	1400
		600	700	700	700	700	700	700	700
Slide dimensions	mm	630	1000	1000	1000	1000	1000	1100	1100
		450	600	600	600	600	600	600	600
Motor power	kW	15	18,5	18,5	18,5	18,5	22	30	37
Overall dimensions	mm	1020	1020	1040	1070	1260	1400	1820	1820
		1700	1700	1980	1990	2140	2005	2220	2220
		2950	3250	3775	3450	3775	3765	3930	3930
Net weight	kg	5300	7200	10500	11000	11500	14000	16500	17100
Oil tank capacity	l	500	600	490	460	490	490	490	550
Die cushion force	mm	200	300	400	450	700	700	700	800
Die cushion stroke	mm	260	260	260	260	300	300	300	300
Die cushion table	mm	500	500	600	600	600	600	600	600
		350	350	450	450	450	450	450	450



TECHNICAL CHARACTERISTICS		PH1000D	PH1600D	PH2000D	PH2500D	PH3150P	PH4000P	PH5000P
Nominal press force	kN	1000	1600	2000	2500	3150	4000	5000
Stroke length	mm	400	480	600	480	800	800	1000
Working speed of the slide	mm/s	30	30	25	9	15	18	18
Forward speed of the slide	mm/s	280	350	320	300	350	375	375
Backward speed of the slide	mm/s	380	350	320	300	350	360	360
Distance table – slide	mm	1000	670	670	650	1200	1200	1500
Distance between columns	mm	1300	1720	1720	1400	2010	2010	2510
		630	820	820	820	920	900	1000
Bolster plate dimensions	mm	1200	1500	1500	1350	2000	2000	2500
		1000	1000	1000	950	1200	1500	1600
Slide dimensions	mm	1200	1500	1500	1350	2000	2000	2500
		1000	1000	1000	950	1200	1500	1600
Motor power	kW	15	30	37	37	55	90	110
Overall dimensions	mm	1780	2385	2385	2300	3100		
		2110	2660	2660	2505	2920	-	-
		3660	4220	4220	3550	6050		
Net weight	kg		23300	25600	17300	36000	-	-
Oil tank capacity	l	600	1200	1200	1150	2000	-	-
Die cushion force	mm	request	request	request	request	request	request	request
Die cushion stroke	mm	request	request	request	request	request	request	request
Die cushion table	mm	request	request	request	request	request	request	request





Automated press line based on 315 tons mechanical H-frame press • **Berevoesti, Romania**



Automated press line based on 315 tons hydraulic H-frame press • **Tosno, Russia**



Automated press line based on 315 tons mechanical H-frame press • **Tolyatti, Russia**



Automated press line based on 630 tons mechanical H-frame press • **Erfurt, Germany**

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