

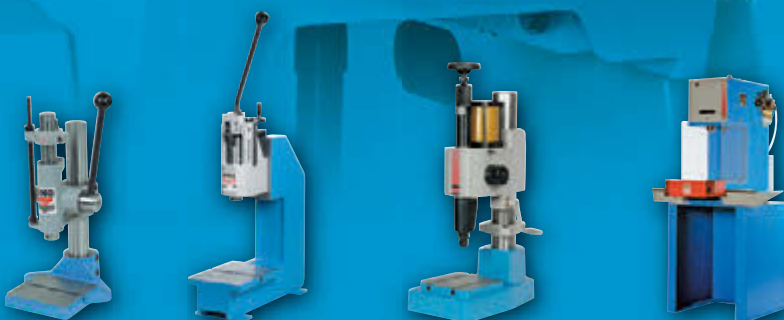
PRESSES

RANGING FROM 200 KG TO 80 T

Excellence in
productivity.

EMG

PRESSES



SUMMARY



Manual rack
presses
from 200 to 5,000 kg

4
to
9



Manual toggle
presses
from 500 to 2,000 kg

10
to
15



Impactor
presses
from 600 to 6,000 kg

16
to
19



Pneumatic
presses
from 360 to 6,000 kg

20
to
25



Hydro-pneumatic
presses
from 7 to 30 T

26
to
33



Mechanical
presses
from 6 to 80 T

34
to
42

A mark of excellence in productivity

EMG has earned its reputation of excellence thanks to its integrated design and production methods and a solid technological prowess. This is backed up by an efficient distribution network, in compliance with the expectations of manufacturers.

Benefitting from a strategy dedicated to quality and active search of performances, EMG equipments ensure competitiveness, reliability and durability which are the core values for productivity of companies in numerous domains:

- Watchmaking, jewellery,
- Mechanical optics,
- Electrical equipments,
- Automotive industry,
- Electrical goods, toys,
- Locksmithing...

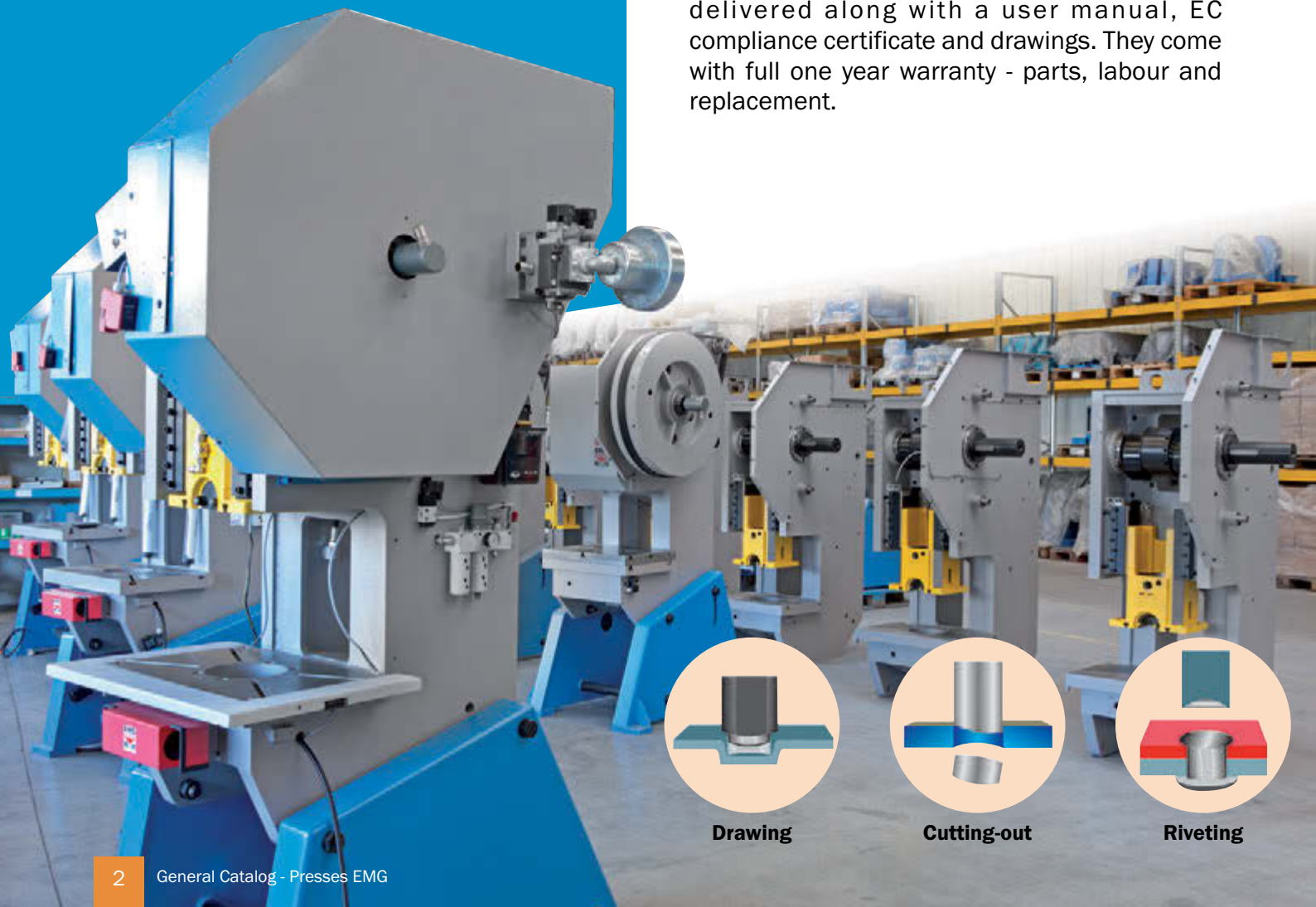


“Some important points” from standard to custom-made

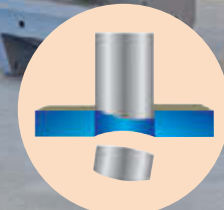
The various operations are executed carefully thanks to the power reserve of each model and a precision of a very rigorous assembly.

The entire EMG range offers a wide range of options and adaptations to satisfy the requirements of each application: LONG thus undertakes to design and equip special machines required by the specific activities of each and every profession.

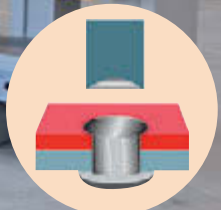
ISO-9001 certified since 2000, EMG presses are delivered along with a user manual, EC compliance certificate and drawings. They come with full one year warranty - parts, labour and replacement.



Drawing



Cutting-out



Riveting

Developing breakthrough technology for the last 60 years

Manufacturer with a well-recognized expertise, EMG has developed, for the last 3 generations, a wide range of products and services appreciated by the manufacturers all around the world.

Used successfully since 1966 in numerous industry sectors, EMG presses have been the most reliable partner of manufacturers, offering equipments synonymous to precision and durability.



Integrated production and skills

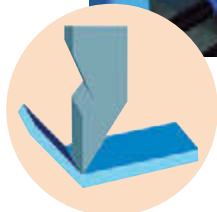
The production workshops facilitate integrated production from A to Z ensured by a multi-disciplinary team proficient in all the production steps, from designing to complex mechanical operations and assembly with precision, going through various machining operations: milling, turning, surface or cylindrical grinding. EMG also integrates thermal or surface treatment, mechanised-welding with machining, or paint.



EMG test space for your samples

EMG proposes for its customers, at its headquarters, a showroom and a test laboratory related to the production workshops, allowing using and handling all our models.

It is this department where all the tests on presses are carried out from the samples submitted by our customers and potential customers.



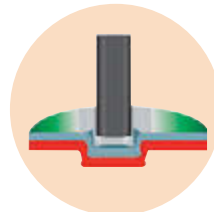
Folding



Pressing



Marking



Assembling





Manual rack
presses
from 200
to 5,000 kg



Power available depending on the force applied to the lever arm

Manual rack presses	2HR	3HR	4HR 4HRLP	14HR	18HR	50HR
Static power exerted on the lever in kg	Power restored by the press in the direction of the slider in kg					
5	35	60	90	110	190	350
10	75	120	180	220	380	700
15	110	180	270	330	570	1050
20	150	240	360	440	760	1400
25	185	300	450	550	950	1750
Maximum permitted power by the press	200	400	600	1400	1800	5000

1 - Manual rack presses from 200 to 600 kg

2HR - 3HR - 4HR - 4HRLP

Rack presses

The power is linear and constant over the whole travel according to the applied load on the lever.

These presses are robust, accurate, flexible and ergonomic. These are frequently used for assembly, connections of rings or bearings, small forms, various crimping operations, etc...

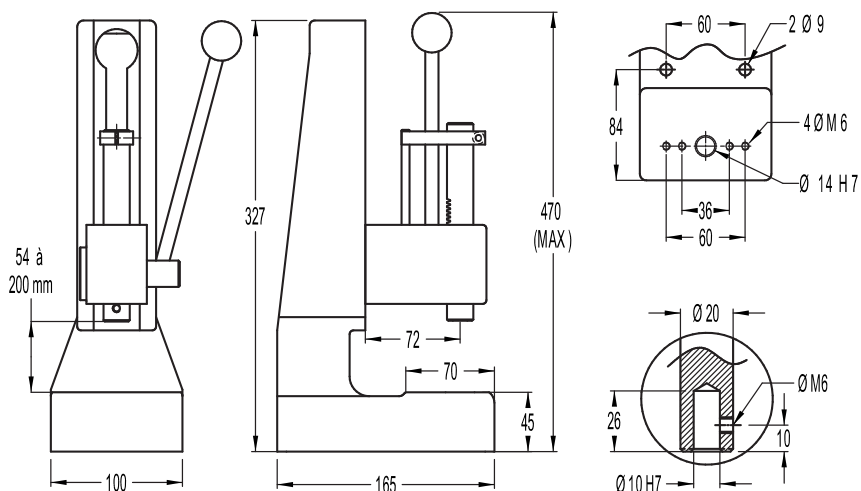
- *Slider adjusted and locked for rotation, ensuring longevity and precision.*
- *Automatic raising of the slider by spring (adjustable tension, except 2HR).*
- *Quick and reliable adjustment of the clear height.*
- *Accurate adjustment of bottom dead center by a mechanical stop ensuring the repetitiveness of the cycle.*
- *Adjustment of the starting position of the lever in order to optimize ergonomics of the press.*
- *Base support and press head made of FGL 250 cast iron, thus ensuring robustness and rigidity.*
- *Predisposition for fixation on a bench.*
- *No maintenance, no greasing.*
- *Paint: Frame in sky blue, RAL 5015
Tête Gris Platine RAL 7036.*



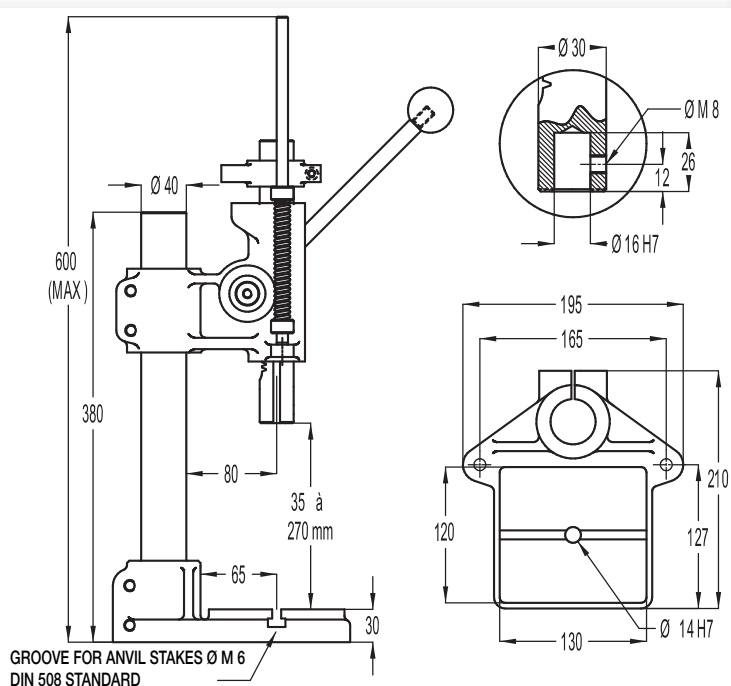
Technical characteristics:

	2HR	3HR	4HR	4HRLP
Power (kg)	200	400	600	600
Travel (mm)	0 to 50	0 to 80	0 to 100	0 to 100
Adjustable clear height (mm)	54 to 200	35 to 270	46 to 280	30 to 400
Swan-neck depth (mm)	72	80	95	155
Angle of rotation per mm of travel	4° 58	4° 02	3° 37	3° 37
Slider bore (mm)	10H7 x 24	16H7 x 26	16H7 x 26	16H7 x 26
Table bore	14H7	14H7	14H7	14H7
Table (mm)	100 x 70	130 x 120	160 x 145	210 x 220
Weight (kg)	8	17	25	40

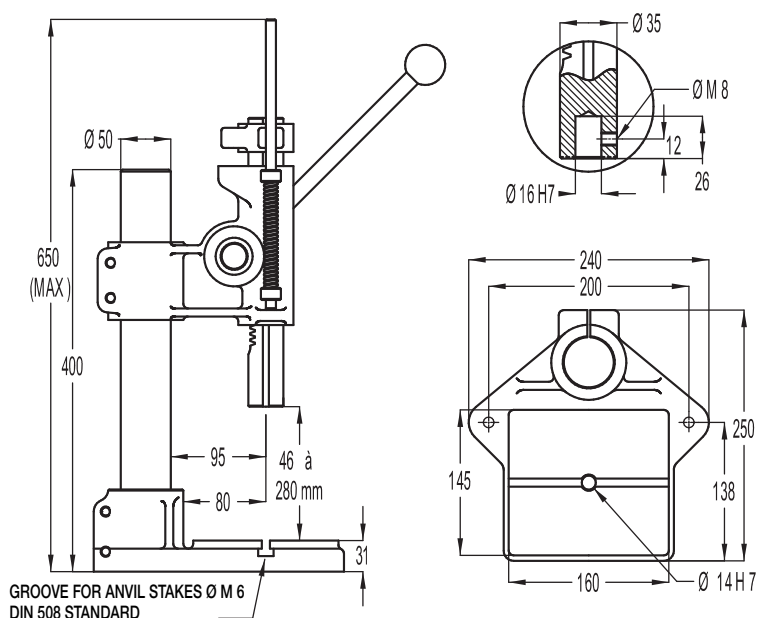
2HR



3HR



4HR



> Options

• Counter

5 digit counter with reset function..



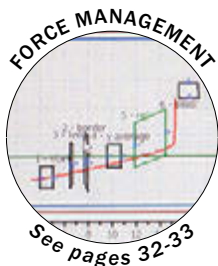
• BDC micrometric adjustment

Bottom dead center adjustment system, graduated after every 0.02mm.



• Quality control by force and/or displacement sensors

EMG proposes management solutions regarding force and/or displacement thanks to its force and displacement sensor solutions which can be adapted as per the requirement for a 100% control.



• Anvil stakes

Set of 2 anvil stakes for securing the tools in T slots.



• Collet

Collet chuck with ER25 collet for Ø1.5 to Ø16 mm shank (Ø to be selected).



• Capstan: travel + 100 mm, clear height increased

For bigger parts, possibility to increase the 100 mm travel (on the 4HR model), change the column to increase the clear height and replace the level by a 3-arm capstan.

4HR press with 200mm travel, clear height +600 mm and 3-arm capstan.



• Non return system

Non return system : does not release the lever until the end of travel (ensures complete and repeatable execution of the operation).

Working stroke : from 0 to 70 mm for 3HR press, from 0 to 83 mm for 4HR press.

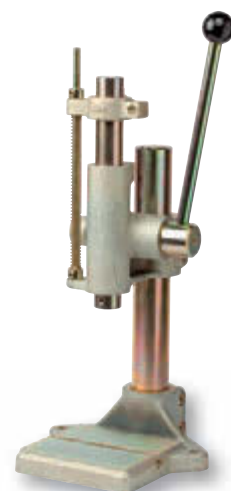


• Press version zinc/nickel plating

Laboratory press fully zinc-plated and/or nickel-plated.

These treatments are most commonly used in the world of anti-corrosion. It is to take advantage of their exceptional properties to protect a part against external aggressions.

Ideal for using the press in "salt mist" environments or to avoid pollution in a laboratory by painting and/or standard lubricating of our machines.



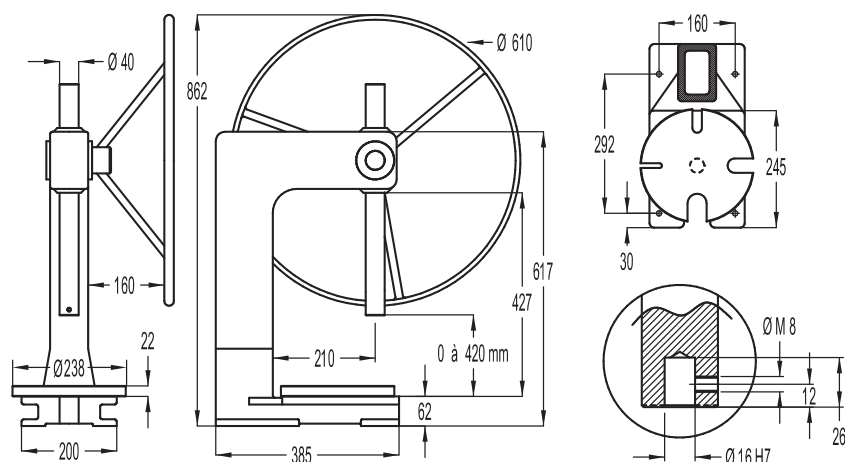
Additional options

- On request: special bores, press head only.
- Special RAL paint.
- Locking of the press head on the column for rotation.
- Engage the press when in position and release by lever.
- Special services on request (press modifications, small tooling and fitting).

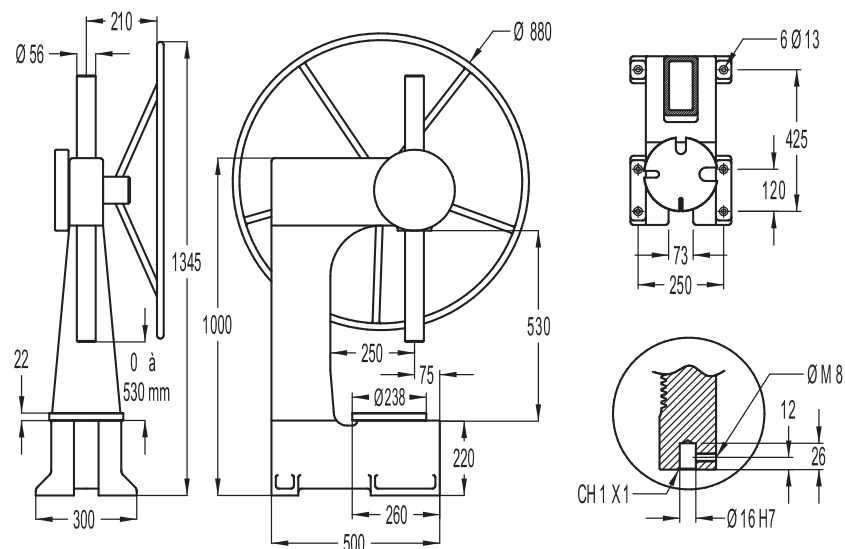


2 - High force capacity manual rack presses

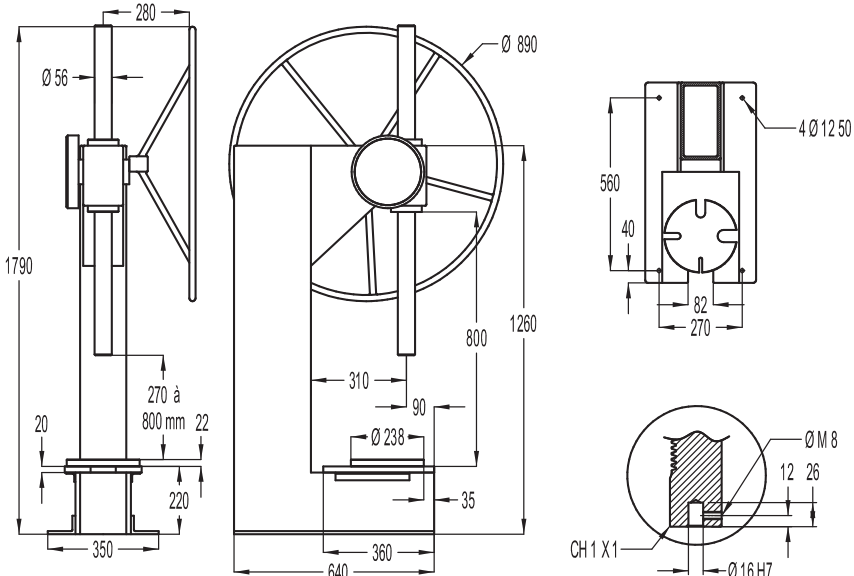
**14HR
18HR**



50HR



50HR LP



2 - High force capacity manual rack presses

14HR - 50HR - 50HR LP

Rack presses

The power is linear and constant over the whole travel according to the applied load on the capstan.

These models complete the range of rack presses. These presses, strongly built, propose significant power throughout the travel thanks to the high quality tempered steel pinions.

These models are used for assembly, connections and deep fitting, especially for applications requiring a significant travel and/or a significant clear height.

- **Control by 3-arm capstan or wheel.**
- **Slider adjusted and locked for rotation, ensuring longevity and precision.**
- **Tempered steel pinion.**
- **Cast iron or mechanically welded frame ensuring robustness and rigidity.**
- **Option for fixation on a bench.**
- **Removable circular table.**
- **Maintenance by grease nipple.**
- **Sky Blue paint - RAL 5015.**



+
of stroke
+
of clear height
+
of swan-neck

Technical characteristics:

	14HR	18HR	50HR	50HR LP
Power (kg)	1 400	1 800	5 000	5 000
Travel (mm)	0 to 420	0 to 420	0 to 530	270 to 800
Clear height (mm)	420	420	530	800
Swan-neck depth (mm)	210	210	250	310
Angle of rotation per mm of travel	2° 86	2° 86	12° 74	12° 74
Slider bore (mm)	16H7 x 26	16H7 x 26	16H7 x 26	16H7 x 26
Table (mm)	240 x 200	240 x 200	210 x 250	250 x 360
Table recess (mm)	55 x 90	55 x 90	70 x 120	82 x 115
Ø rotating table	238	238	238	238
Weight (kg)	45	50	145	145

Additional options

- On request: special bores.
- Special RAL paint.
- Travel end stop.
- Special services on request (press modifications, small tooling and fitting).





Manual toggle presses from 500 to 2,000 kg



Toggle presses

5HR - 7HR - 15HR - 20HR
15HR LP - 20HR LP

The maximum power is obtained at the end of travel according to the applied load on the lever.

These presses are robust, accurate, flexible and ergonomic. These are frequently used for assembly, connection of rings or bearings, small forms, various crimping operations, etc...

- *Slider adjusted and locked for rotation, ensuring longevity and precision.*
- *Automatic raising of slider by spring*
- *Quick and reliable adjustment of the clear height.*
- *Accurate adjustment of bottom dead center by a mechanical stop ensuring the repetitiveness of the cycle.*
- *Base support and press head made of FGL 250 cast iron, thus ensuring robustness and rigidity.*
- *No maintenance, no greasing.*
- *Option for fixation on a bench.*
- *Paint: Light blue RAL 5015 frame - Platinum grey RAL 7036 press head*

1 - Manual toggle presses from 500 to 2,000 kg

Technical characteristics:

	5HR	7HR	15HR	20HR
Power (kg)	500	700	1 500	2 000
Travel (mm)	50	40	30 or 60	60
Adjustable clear height (mm)	42 to 185	35 to 260	60 to 250	120 to 280
Swan-neck depth (mm)	72	95	102	130
Slider bore (mm)	10H7x24	16H7x26	16H7x26	16H7x26
Table bore	14H7	14H7	32H7	32H7
Table (mm)	100x70	160x145	200x180	220x200
Max. angle of rotation of the lever	90°	90°	90°	90°
Weight (kg)	9	25	32	65



2 - High force capacity manual toggle presses

Technical characteristics:

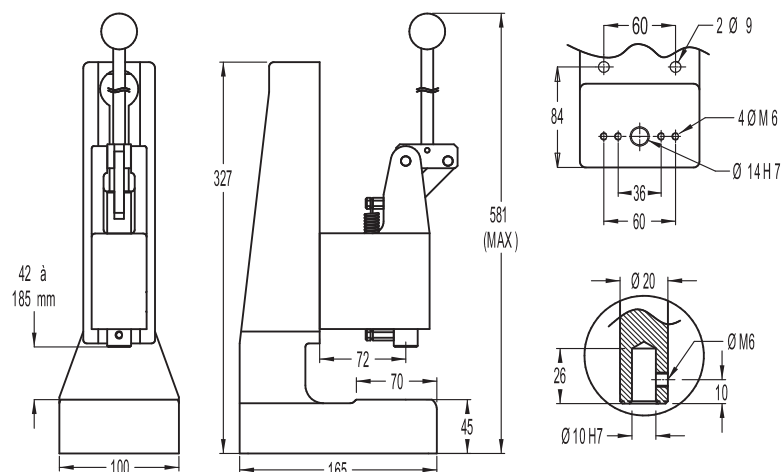
	15HR LP	20HR LP
Power (kg)	1 500	2 000
Travel (mm)	30 or 60	60
Adjustable clear height (mm)	220 to 280	230 to 290
Swan-neck depth (mm)	220	250
Slider bore (mm)	16H7 x 26	16H7 x 26
Table bore	32H7	32H7
Table (mm)	200 x 250	200 x 300
Max. angle of rotation of the lever	90°	90°
Weight (kg)	55	70



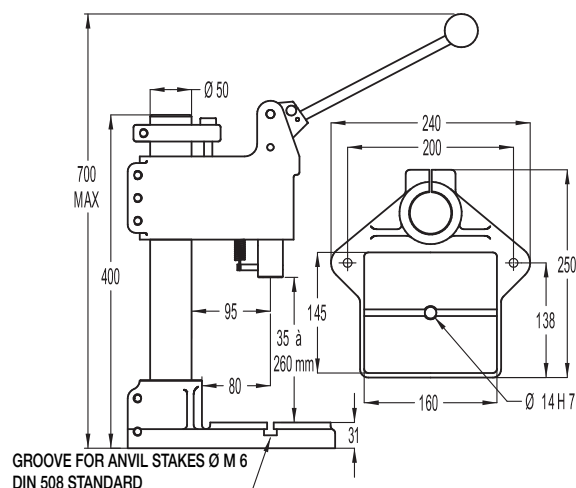
+
of clear
height
+
of swan-neck

1 - Manual toggle presses from 500 to 2,000 kg

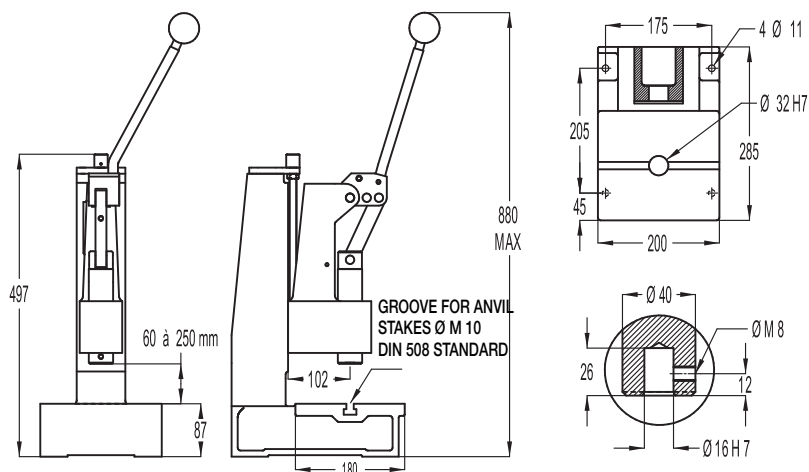
5HR



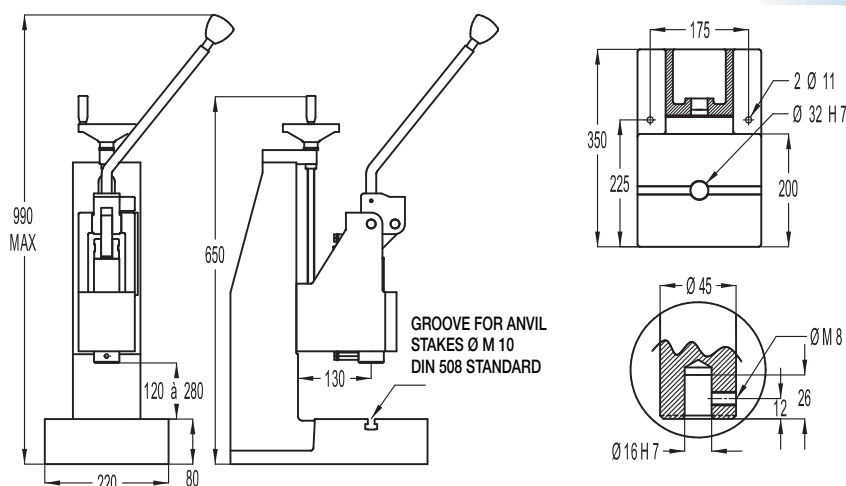
7HR



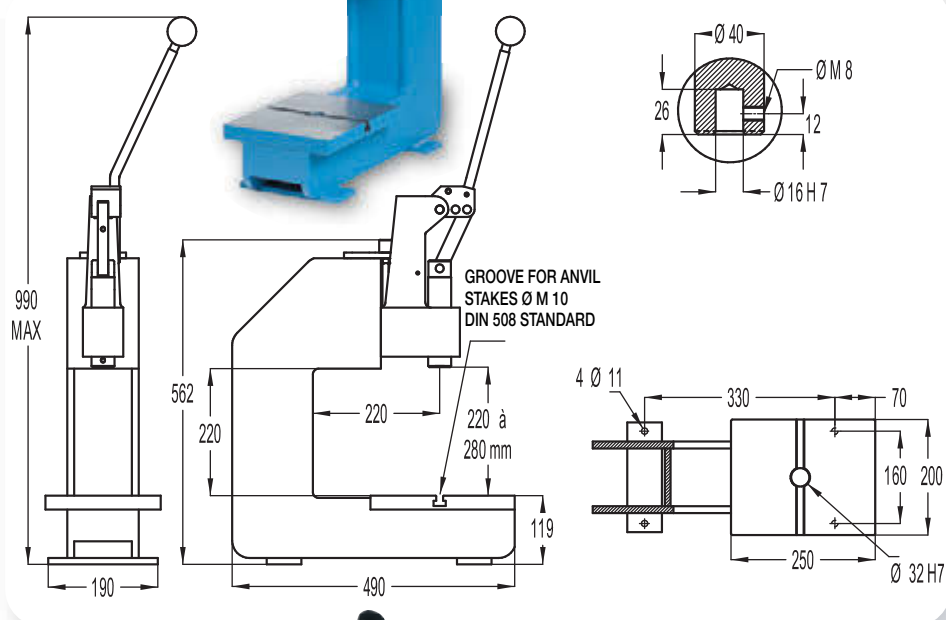
15HR



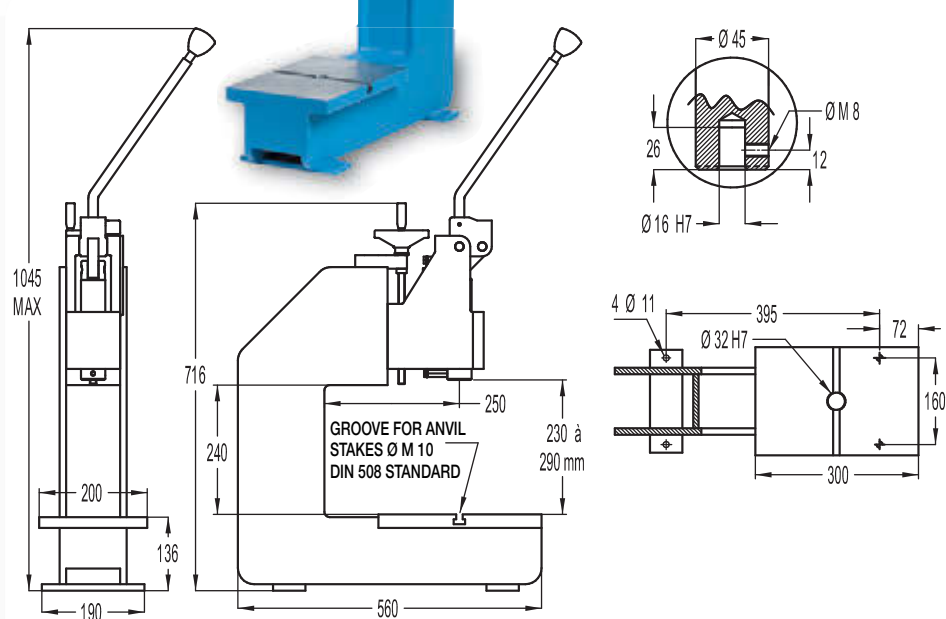
20HR



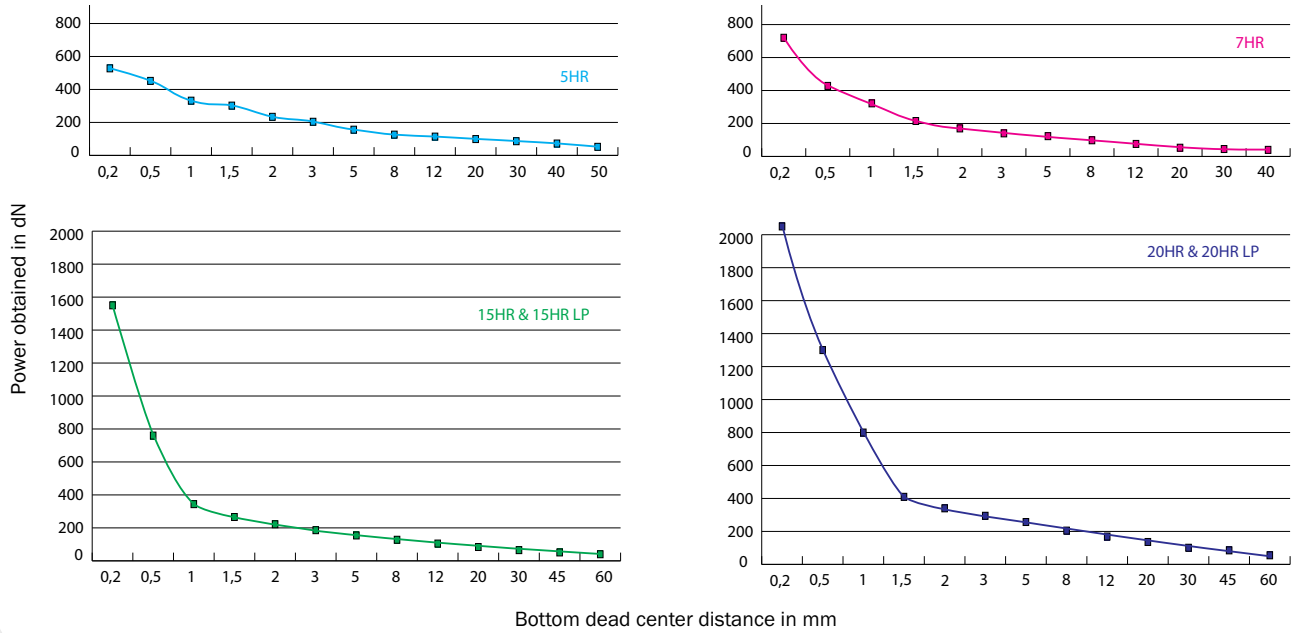
15HR LP



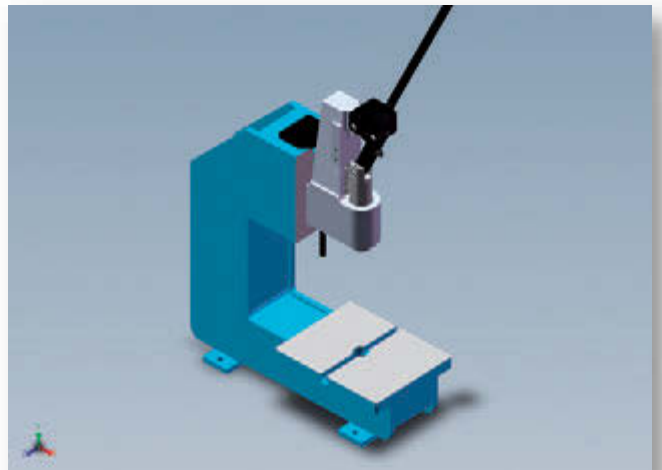
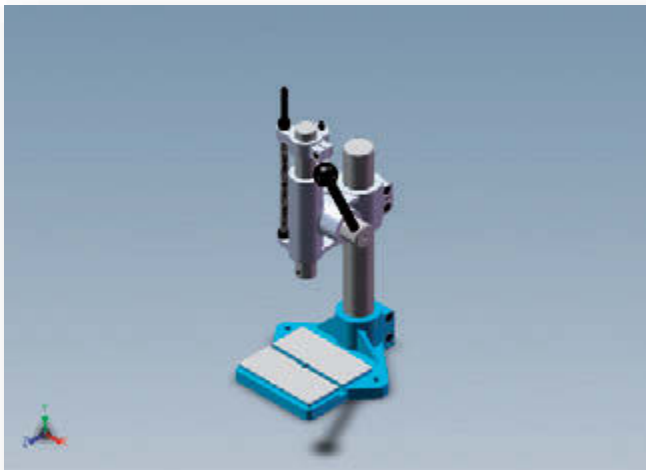
20HR LP



Power exerted by the press with a force of 20 Kg at the center of the spherical knob and perpendicular to the lever of the press



The 3D files of our manual presses are available on a simple request and will allow you to easily integrate our machines in your tooling, fitting and ergonomics studies from the workstation.



> Options

• Counter

5 digit counter with reset.



• Collet

Collet chuck with ER25 collet for Ø1.5 to Ø16 mm shank (Ø to be selected).



• BDC micrometric adjustment

Bottom dead center adjustment system, graduated after every 0.02mm.



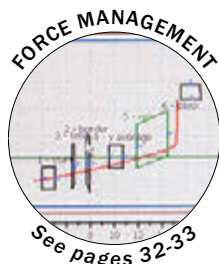
• Non return system

Non return system : does not release the lever until the end of travel (ensures complete and repeatable execution of the operation).



• Quality control by force and/or displacement sensors

EMG proposes management solutions regarding force and/or displacement thanks to its force and displacement sensor solutions which can be adapted as per the requirement, for a 100% control.



• Press version zinc/nickel plating

Laboratory press fully zinc-plated and/or nickel-plated. These treatments are most commonly used in the world of anti-corrosion. It is to take advantage of their exceptional properties to protect a part against external aggressions. Ideal for using the press in "salt mist" environments or to avoid pollution in a laboratory by painting and/or standard lubricating of our machines.



• Anvil stakes

Set of 2 anvil stakes for securing the tools in T slots.



Additional options

- On request: special bores, complete press head only.
- Special RAL paint.
- Locking of the press head on the column (on 7HR) for rotation.
- Engage the press when in position and release by lever.
- Special services on request (press modifications, small tooling and fitting).



Impactor presses from 600 to 6,000 kg



Impactor presses

PM6 - PM30 - PM60
PM6P - PM30P - PM60P

At the time of ISO standardization, identification and traceability of parts, EMG presses propose a range of impactor presses and numbering, riveting and crimping accessories combining performance, precision and security.

This range is found in numerous workshops. The power delivered is constant and regular, and remains exact irrespective of the force applied on the lever.

These presses have an adjustable impact force and a mechanism which forbidding the double impact return effect.

POSSIBILITY OF MARKING - Indicative values
(number of characters depending on the height and material)

	600 kg		3 000 kg		6 000 kg	
	Aluminium	Iron	Aluminium	Iron	Aluminium	Iron
1 mm	14	7	28	15	75	36
2 mm	12	5	24	12	65	26
3 mm	8	3	20	9	56	17
4 mm	6	2	16	8	50	15
5 mm	5	1	14	6	46	12
6 mm	-	-	6	3	40	8
10 mm	-	-	3	1	20	5

1 - Manual Impactor presses from 600 to 6,000 kg



PM6

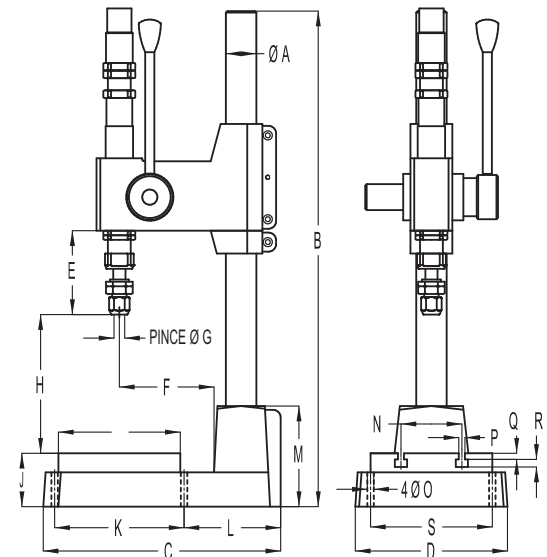
PM30

PM60

Table of values of manual impactor presses

	PM6	PM30	PM60		PM6	PM30	PM60
A	Ø 30	Ø 40	Ø 70	K	135	170	230
B	500	650	1000	L	80	127	190
C	215	312	445	M	70	132	190
D	130	200	280	N	50	80	120
E	46	110	145	O	Ø 6,50	Ø 8,50	Ø 10,50
F	86	123	174	P	6	8	12
G	Ø6 x 27	Ø 10 x 38	Ø 16 x 48	Q	9	10	13
H	30 - 250	40 - 250	70 - 520	R	6	8	9
I	100	160	220	S	90	160	230
J	50	70	90				

	PM6	PM30	PM60
Power (kg)	600	3 000	6 000
Max. downstroke (mm)	25	40	40
Impact stroke (mm)	0,2	0,2	0,2
Adjustable clear height (mm)	30 to 250	40 to 250	70 to 520
Swan-neck depth (mm)	86	123	174
Ø of the shank of the tool (mm)	Ø6 x 27	Ø10 x 38	Ø16 x 48
Table (mm)	100 x 100	160 x 160	220 x 220
Weight (kg)	11	30	100



2 - Pneumatic Impactor presses from 600 to 6,000 kg



PM6 P

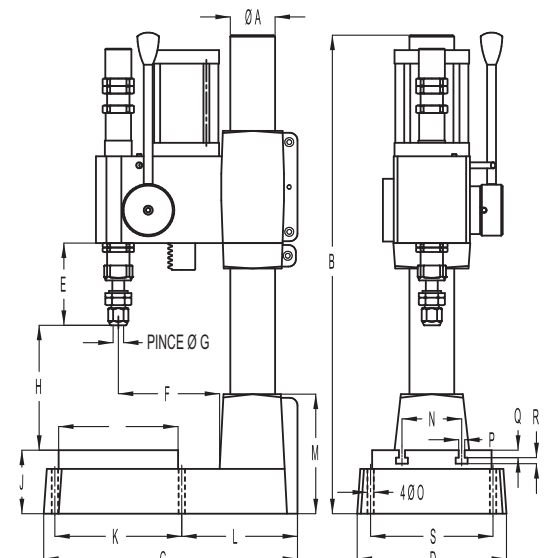
PM30 P

PM60 P

Table of values of manual impactor presses

	PM6 P	PM30 P	PM60 P		PM6 P	PM30 P	PM60 P
A	Ø 40	Ø 60	Ø 100	K	110	170	250
B	500	640	830	L	117	155	228
C	242	340	503	M	90	150	210
D	140	200	300	N	50	80	120
E	46,5	110	145	O	Ø 6,50	Ø 8,50	Ø 10,50
F	86	135	190	P	6	8	12
G	Ø6 x 27	Ø 10 x 38	Ø 16 x 48	Q	6	8	9
H	40 - 300	60 - 300	100 - 300	R	9	10	13
I	100	160	240	S	110	164	250
J	60	85	110				

	PM6 P	PM30 P	PM60 P
Power (kg)	600	3 000	6 000
Max. downstroke (mm)	30	40	45
Impact stroke (mm)	0,2	0,2	0,2
Adjustable clear height (mm)	40 to 300	60 to 300	100 to 300
Swan-neck depth (mm)	86	135	190
Ø of the shank of the tool (mm)	Ø6 x 27	Ø10 x 38	Ø16 x 48
Table (mm)	100 x 100	160 x 160	240 x 240
Weight (kg)	15	38	120



> Versions of the control for pneumatic presses



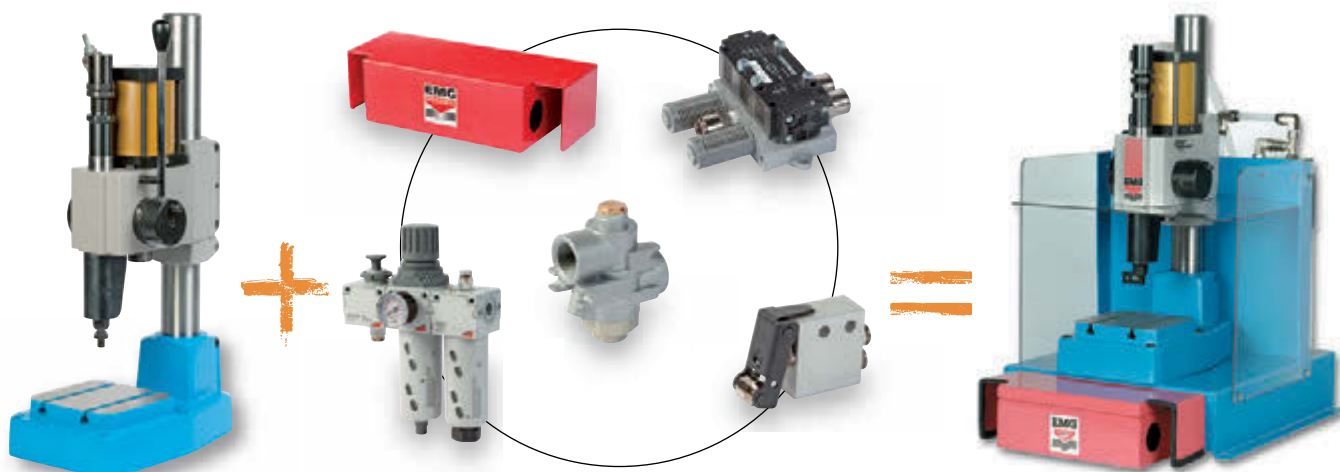
• Version 1: intended for integration by the customer

Only machine delivered, no controls, no equipment.

• Version 2: running condition with two hand controls

Version 1 + :

- Two hand controls with push buttons.
- Protection of side and top tables.
- Distributor, check valve and pneumatic fittings.
- Regulation and lubrication filter (lockable).

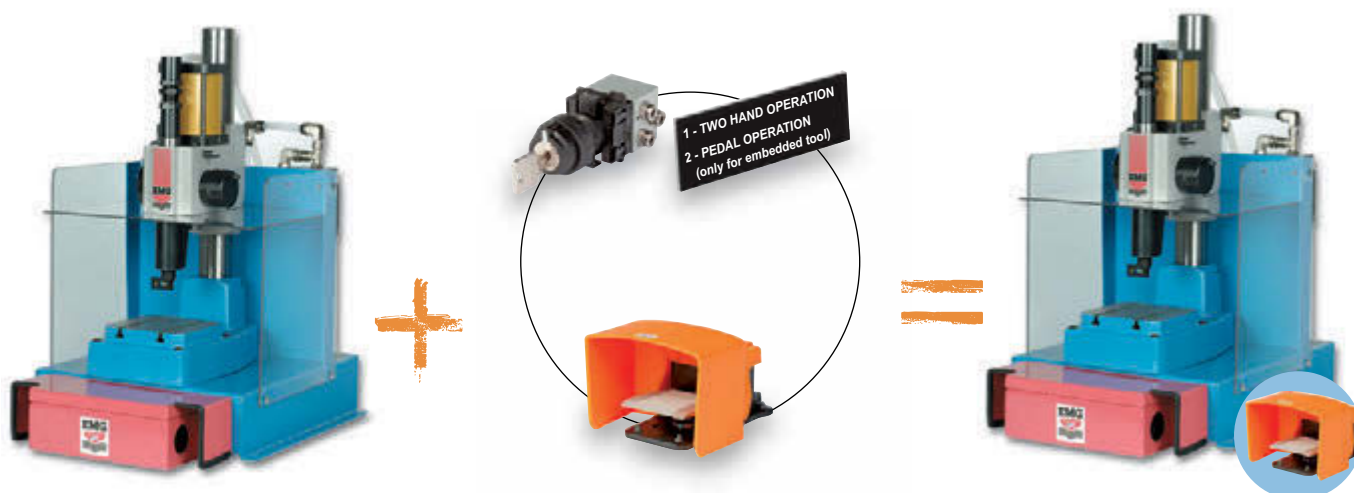


• Version 3: running condition with two hand or pedal controls

Version 2 + :

- Pedal control for embedded **tool working***
- 2-position key selector.

**Definition: The embedded tools must be intrinsically safe. Their corresponding openings and safety distances must be in compliance with the standards in force or must not exceed 6 mm. Any risk of additional deformation outside the embedded tools must be avoided.*



> Options

• Counter

5 digit counter with reset.



• Base support and lateral panels

Option press base support and set of 2 350x250 mm side panels.

These accessories allow designing a very ergonomic workstation:

- Legs passage 450 mm.
- Height of base support 730 mm (755 mm with anti-vibration supports).
- Lateral panels inclined for the 350 x 250 mm parts.



• Exhaust filter

Complete exhaust filter system for reduction in pollution and noise levels (75dB instead of 85).



• Anvil stakes

Set of 2 anvil stakes for securing the tools in T slots.



• Marking accessories

A significant range of accessories is available on request: manual or pneumatic numbering heads, press holders with characters, punches...



Additional options

- On request: special bores, complete press head only.
- Special RAL paint.
- Special services on request (press modifications, small tooling and fitting).





Pneumatic presses from 360 to 6,000 kg

Pneumatic presses

**6PHR - 8PHR - 1T - 1T LP
2T - 3T - 4,3 T
2T LP - 3T LP - 4,3T LP - 6T LP**

The range of EMG pneumatic presses completes the range of manual presses and perfectly complies with the customer requirements when the stroke rates are more significant and/or the power to be restored is high.

Single or continuous stroke, the range of EMG pneumatic presses is integrated into the workstations or production line, ensuring Ergonomy - Operator safety - Process reliability.

2 pneumatic presses range:

- Direct push double effect presses from 360 kg to 1t
- Indirect push double effect presses from 2t to 6t

These presses are robust, accurate, flexible and ergonomic. These are frequently used for assembly, connections of rings or bearings, small forms, various crimping operations, etc...

- Slider adjusted and locked for rotation, ensuring longevity and precision.
- Automatic load of the cylinder when controls released
- Quick and reliable adjustment, with locking ensuring perfect repetitiveness.
- Accurate adjustment of bottom dead center by a mechanical stop ensuring the repetitiveness of the cycle.
- Cast iron FGL 250 or mechanically welded frame ensuring robustness and rigidity.
- No maintenance, no greasing.
- Paint: Sky blue RAL 5015 frame - Platinum grey RAL 7036 press head.

All cylinders are manufactured by EMG and have millions of users across the world which ensures their exceptionally good quality. The slider is made of chromated steel set on rings and locked for rotation by a key. The piston slides effortlessly in the chromated cylinder, seals ensuring perfect sealing of the cylinder.

The power of our presses is indicated with a pressure at 6 bars and is proportionally adjustable as a standard from 3 to 6 bars.

E.g.: the 6PHR press delivers 360 kg at 6 bars, and thus 180 kg at 3 bars, 240 kg at 4 bars and 300 kg at 5 bars.



1 - Direct push double effect presses from 360 kg to 1,000 kg

	6PHR	8PHR	1T	1T LP
Power (kg)	360	700	1 000	1 000
Travel (mm)	0 to 50	0 to 100	0 to 100	0 to 100
Adjustable clear height (mm)	20 to 250	40 to 260	140 to 200	300
Swan-neck depth (mm)	95	95	100	180
Slider bore (mm)	16H7 x 26	16H7 x 26	16H7 x 26	16H7 x 26
Table bore	14H7	20H7	32H7	50H11
Table (mm)	160 x 145	200 x 170	300 x 200	300 x 200
Press speed (mm/sec.)	150	130	100	100
Air consumption (l.)	0,6	2,3	3,4	3,4
Weight (kg)	25	50	125	150

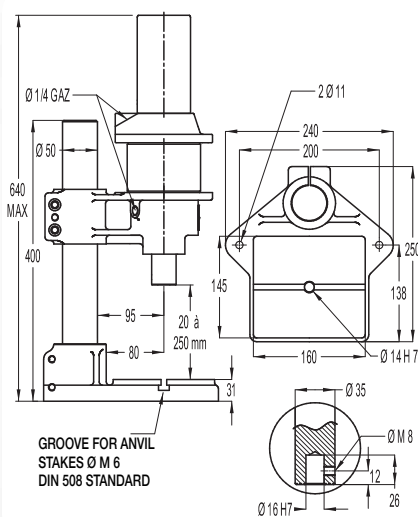


Stroke adjustment:

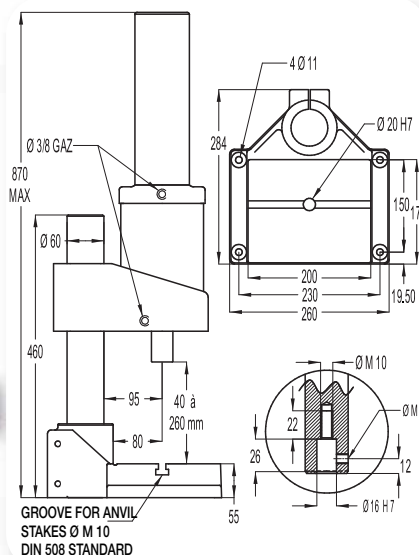
The stroke of our presses is adjustable by a mechanical precision nut, graduated to 1/10th of a mm with a locking ensuring a perfect repetitiveness of the cycle.
View of stroke end mechanical stop and information sensor for bottom dead center timeout (optional).



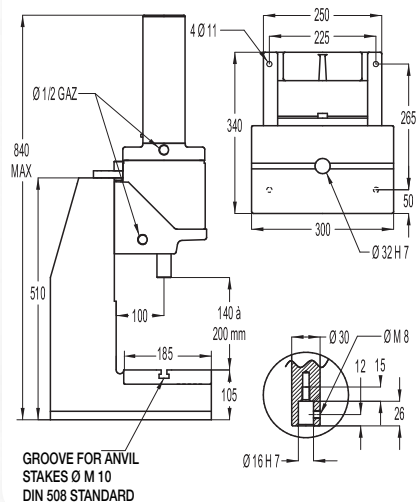
6PHR



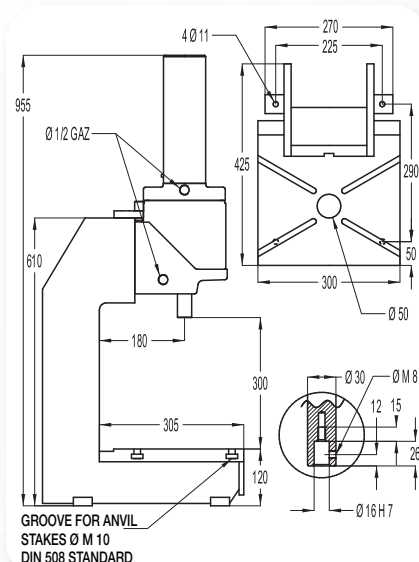
8PHR



1T



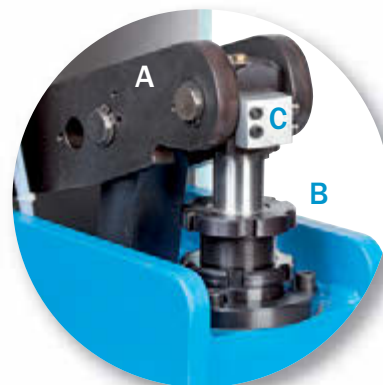
1T LP



2 - Indirect push double effect presses from 2 to 6 t

In order to obtain significant power with a lesser air consumption, EMG proposes a range of pneumatic presses with force multiplication by the principle of lever arm. This range of press is divided into 2 types of frames: standard or large passage LP.

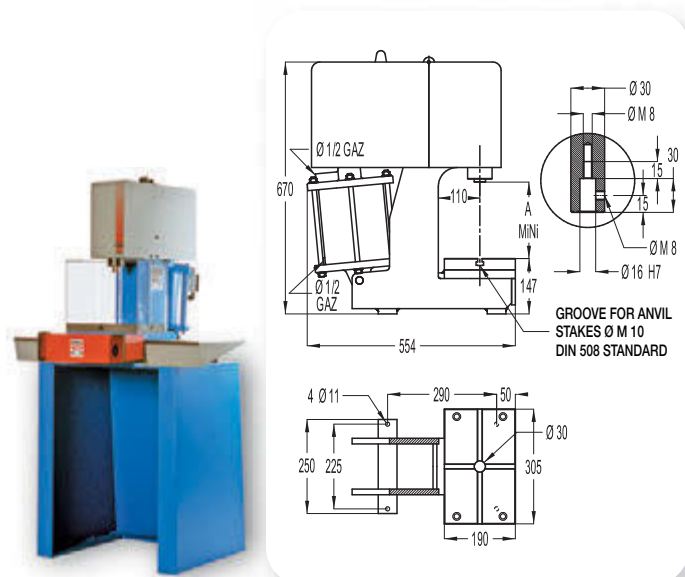
	2T	3T	4,3T
Power (kg)	2 000	3 000	4 300
Travel (mm)	0 to 69	0 to 54	0 to 40
Minimum clear height (A in mm)	200	180	175
Swan-neck depth (mm)	110	110	110
Slider bore (mm)	16H7 x 30	16H7 x 30	16H7 x 30
Table bore (mm)	30	30	30
Table (mm)	305 x 190	305 x 190	305 x 190
Press speed (mm/sec.)	75	48	26
Air consumption (l.)	5,2	5,2	5,2
Weight (kg)	150	150	150



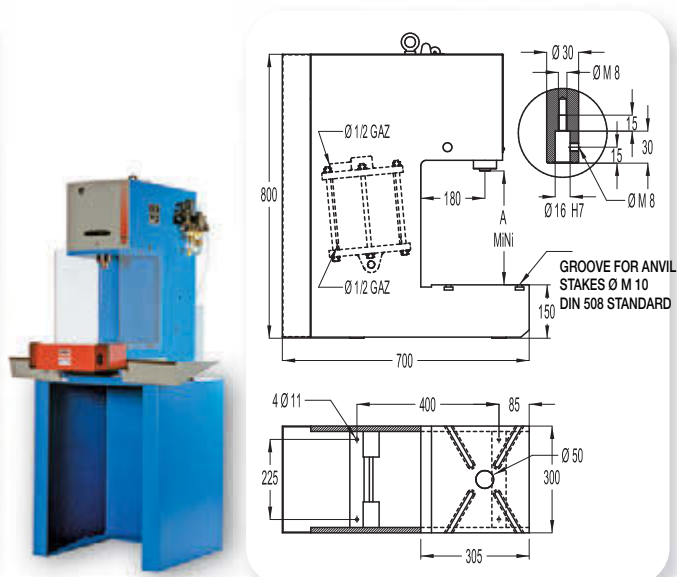
A : View of the lever arm.
B : View of the mechanical stop.
C : BDC timeout info sensor.

	2T LP	3T LP	4,3T LP	6T LP
Power (kg)	2 000	3 000	4 300	6 000
Travel (mm)	0 to 69	0 to 54	0 to 40	0 to 50
Minimum clear height (A in mm)	315	300	295	305
Swan-neck depth (mm)	180	180	180	180
Slider bore (mm)	16H7 x 30	16H7 x 30	16H7 x 30	16H7 x 30
Table bore (mm)	50	50	50	50
Table (mm)	300 x 295	300 x 295	300 x 295	300 x 295
Press speed (mm/sec.)	75	48	36	20
Air consumption (l.)	5,2	5,2	5,2	9,8
Weight (kg)	200	200	200	230

2T - 3T - 4,3T



2T LP - 3T LP - 4,3T LP - 6T LP



> Versions of control for pneumatic presses



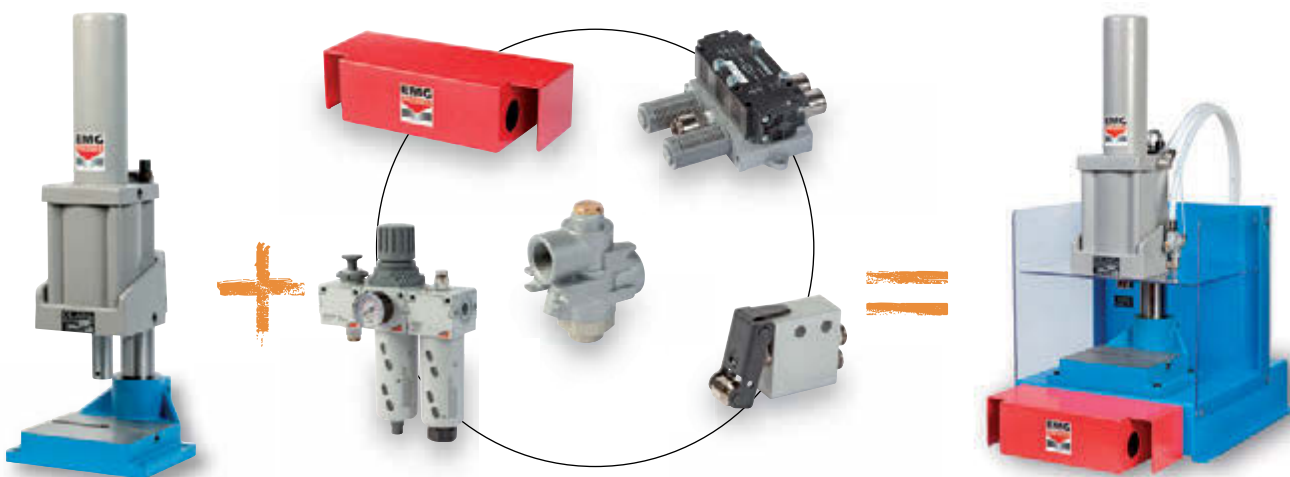
• Version 1: intended for integration by the customer

Only machine delivered, no controls, no equipment.

• Version 2: running condition with two hand controls

Version 1 + :

- Two hand controls with push buttons.
- Protection of side and top tables.
- Distributor, check valve, control valve of protection cover and pneumatic fittings.
- Regulation and lubrication filter (lockable).

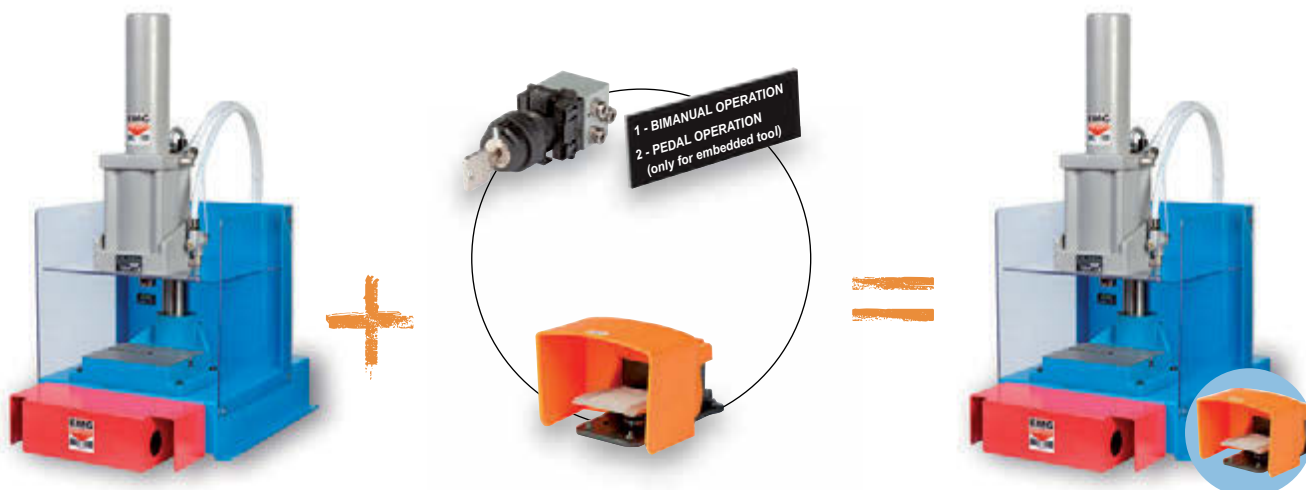


• Version 3: running condition with two hand or pedal controls

Version 2 + :

- Pedal control for embedded **tool work***
- 2-position key selector.

**Definition: The embedded tools must be intrinsically safe. Their corresponding openings and safety distances must be in compliance with the standards in force or must not exceed 6 mm. Any risk of additional deformation outside the embedded tools must be avoided.*



> Options

• Additional regulator

Additional regulator allowing working with a pressure from 0.5 to 6 bars.



• 3% regulator

Power regulator, adjustable from 0.5 to 6 bars with dial pressure gauge ensuring a repetitiveness of the cycle and precision up to 3%.



• 1% regulator

Power regulator, adjustable from 0.5 to 6 bars with digital pressure gauge ensuring a repetitiveness of the cycle and precision up to 1%.



• Quality control by force and/or displacement sensors

EMG proposes management solutions regarding force and/or displacement thanks to its force and displacement sensor solutions which can be adapted as per the requirement, for a 100% control.



• Counter

5 digit counter with reset function



• Exhaust filter

Complete exhaust filter system for reduction in pollution and noise levels (75dB instead of 85).



• Exhaust restrictor

Press speed regulation by exhaust restrictor.



- **BDC micrometric adjustment**

Bottom dead center adjustment system, graduated after every 0.02 mm.



- **Anvil stakes**

Set of 2 anvil stakes for securing the tools in T slots.



- **Collet**

Collet chuck with ER25 collet for $\varnothing 1.5$ to $\varnothing 16$ mm shank (\varnothing to be selected).



- **Base support and lateral panels**

Press base support and set of 2 350x250 mm side panels.

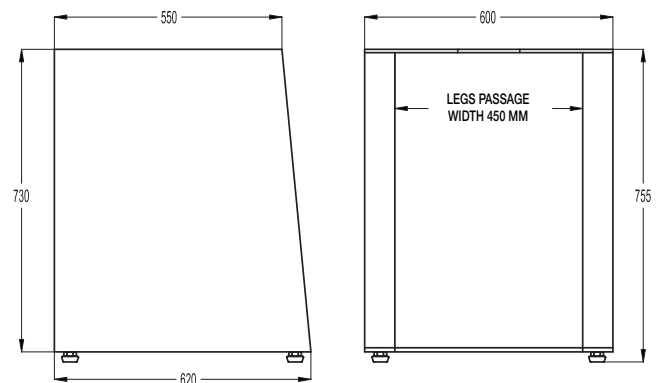
These accessories allow designing a very ergonomic workstation:

- Legs passage 450 mm.
- Height of base support 730 mm (755 mm with anti-vibration supports).
- Lateral panels inclined for the 350 x 250 mm parts.

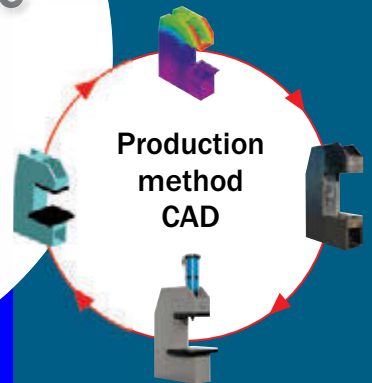
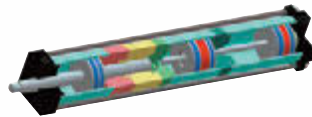


Additional options

- *Bottom Dead center timeout, allowing:*
 - Stalling the press from 0 to 15s at bottom dead center.
 - Ensuring attainment of bottom dead center thanks to a detection in the last mm.
- *Press locking at bottom dead center by a support on the two hand controls and engaged by an impulse on the two hand control.*
- *Special RAL paint.*
- *Special services on request (press modifications, small tooling and fitting).*



Hydro-pneumatic presses from 7 to 30 T



Hydropneumatic presses

7 T, 13 T ET 30 T FRAME RANGE

We are proceeding with compressed air type... Only!

Our cylinder is a compressed air cylinder with closed hydraulic circuits, which allows attaining the requested loads with a stroke which is triggered when the piston gets a resistance. The action is very simple and similar to pneumatic double effect cylinders. This technology thus combines the advantages of both pneumatic and hydraulic systems, without any adverse effects (no noisy and dirty hydraulic motors, low air consumption...).

- Rapidity
- Power
- Quality
- Economy
- Quiet
- No maintenance

The operating principle of EMG hydro-pneumatic cylinders is to divide the entire stroke into 3 parts: fast approach, working stroke and return stroke.



Fast approach:

The control valve injects compressed air into the piston chamber and actuates the working piston. The descent of the piston is quick but powerless: it is fast approach.

Working stroke:

When the working piston reaches the material, the control valve is reversed and triggers the 3/2 distributor which injects compressed air in the second piston chamber. The plunging shaft compresses oil and increases power.

Return stroke:

The control valve returns to its initial position. The air is evacuated by 3/2 distributor. The working pistons and traverse piston return to top speed in their initial position.

A very wide range of machines combining:

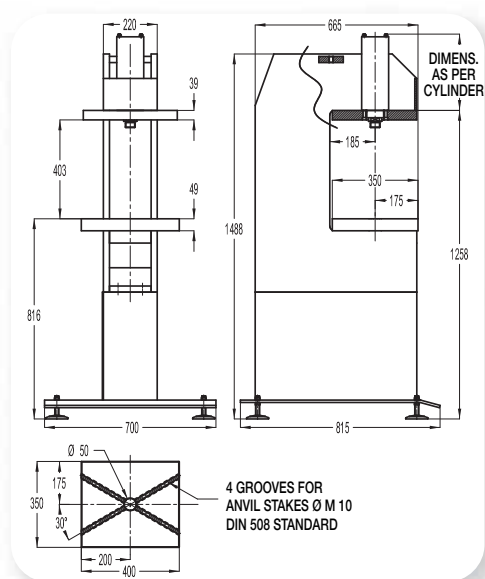
- 60+ different cylinders
- With 3 different frames

Hydro-pneumatic presses from 7 to 30 T

Examples	7 tons range frame
Power *	from 6 910 to 7 820 kg
Total stroke *	from 50 to 400 mm
Travel *	from 6 to 40 mm
Clear height	400 mm
Swan-neck depth	185 mm
Fixing of tool on cylinder	M30 x 2 x 25 mm
Total length of the cylinder *	from 650 to 1 790 mm
Table	400 x 350 mm
Weight *	500 kg
* as per the choice of the cylinder	



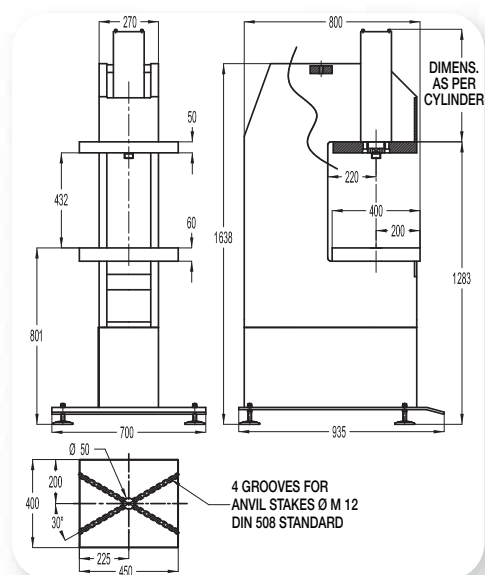
7 tons



Examples	13 tons range frame
Power *	from 13 380 to 14 000 kg
Total stroke *	from 50 to 300 mm
Travel *	from 6 to 40 mm
Clear height	430 mm
Swan-neck depth	220 mm
Fixing of tool on cylinder	M30 x 2 x 25 mm
Total length of the cylinder *	from 695 to 1 660 mm
Table	450 x 400 mm
Weight *	750 kg
* as per the choice of the cylinder	



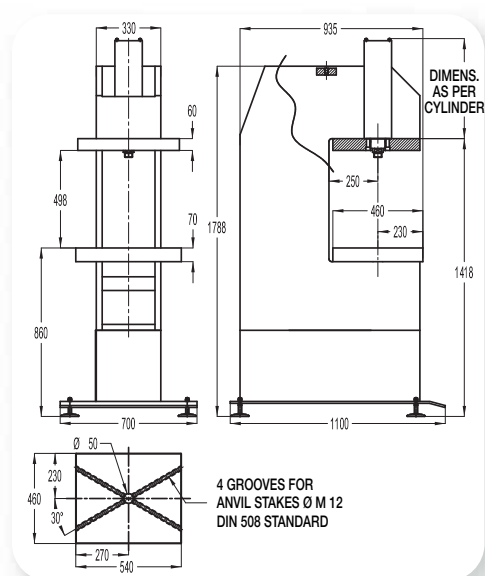
13 tons



Examples	30 tons range frame
Power *	from 28 300 kg to 30 650 kg
Total stroke *	from 50 to 400 mm
Travel *	from 6 to 40 mm
Clear height	500 mm
Swan-neck depth	250 mm
Fixing of tool on cylinder	M39 x 2 x 35 mm
Total length of the cylinder *	from 800 to 2 010 mm
Table	540 x 460 mm
Weight *	1 200 kg
* as per the choice of the cylinder	



30 tons



> Versions of the control for hydropneumatic presses



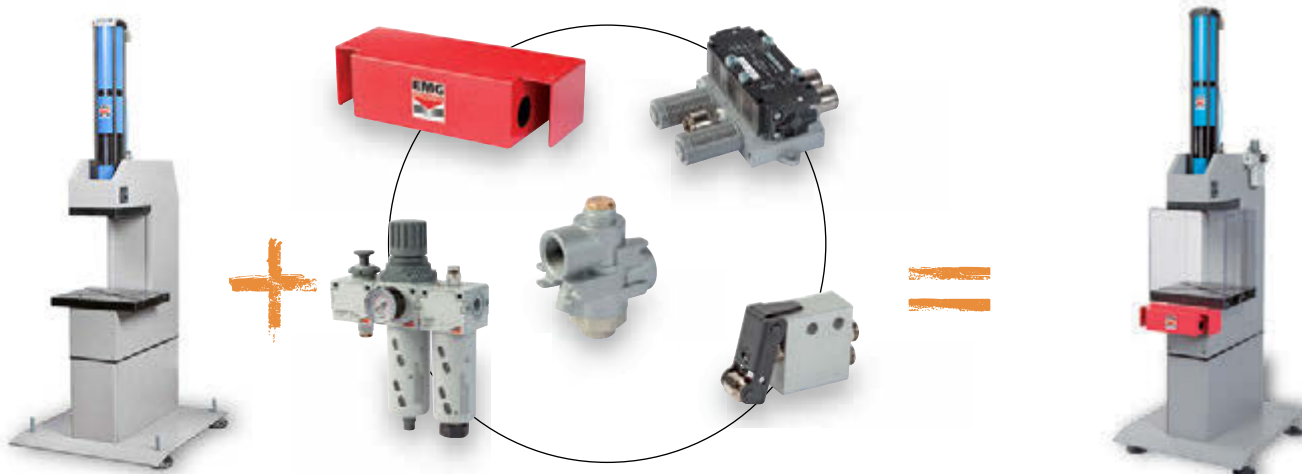
• Version 1: intended for integration by the customer

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• Version 2: running condition with two hand controls

Version 1 + :

- Two hand controls with push buttons.
- Protection of side and top tables.
- Distributor, check valve and pneumatic fittings.
- Regulation and lubrication filter (lockable).

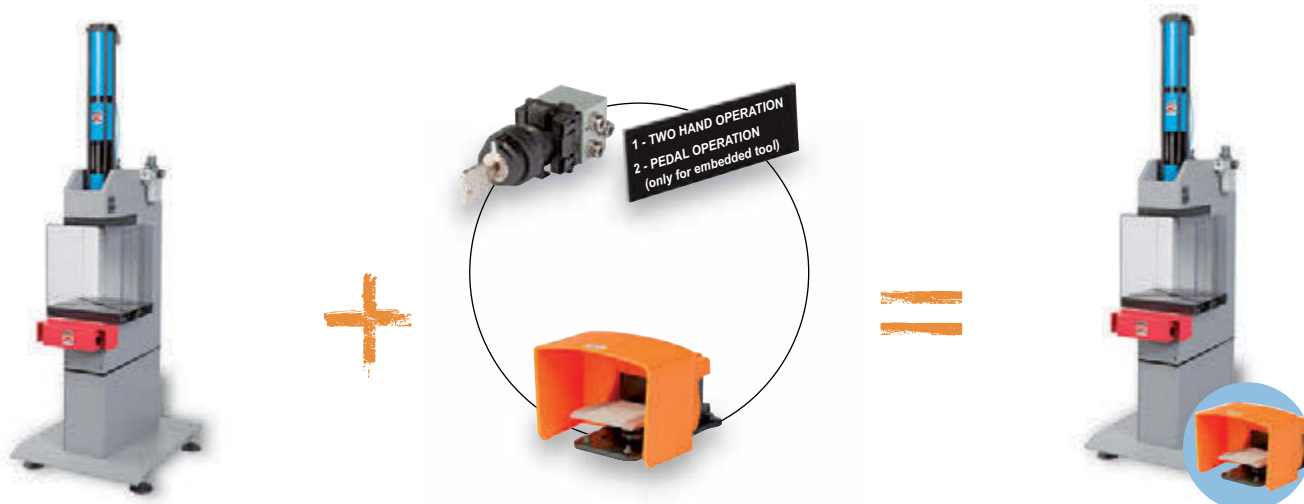


• Version 3: running condition with two hand or pedal controls

Version 2 + :

- Pedal control for embedded **tool work***
- 2-position key selector.

**Definition: The embedded tools must be intrinsically safe. Their corresponding openings and safety distances must be in compliance with the standards in force or must not exceed 6 mm. Any risk of additional deformation outside the embedded tools must be avoided.*



> Options

• Anti-rotation by 2 columns

System of anti-rotation by 2 columns. Attention to the loss of clear height:

- 7 T frame:
clear height = 265 mm
- 13 T frame:
clear height = 295 mm
- 30 T frame:
clear height = 340 mm



• Additional regulator

Additional regulator allowing working with a pressure from 0.5 to 6 bars.



• 3% regulator

Power regulator, adjustable from 0.5 to 6 bars with dial pressure gauge ensuring a repetitiveness of the cycle and precision upto 3%.



• 1% regulator

Power regulator, adjustable from 0.5 to 6 bars with digital pressure gauge ensuring a repetitiveness of the cycle and precision upto 1 %.



• Counter

5 digit counter with reset function.



• Exhaust filter

Complete exhaust filter system for reduction in pollution and noise levels (75dB instead of 85).



• Exhaust restrictor

Press speed regulation by exhaust restrictor.



• Anvil stakes

Set of 2 anvil stakes for securing the tools in T slots.



Additional options

- Bottom Dead center timeout, allowing:
 - Stalling the press from 0 to 15s at bottom dead center.
 - Ensuring attainment of bottom dead center thanks to a detection in the last mm.
- Press locking at bottom dead center by a support on the two hand controls and engaged by an impulse on the two hand control.
- Special services on request (press modifications, small tooling and fitting).

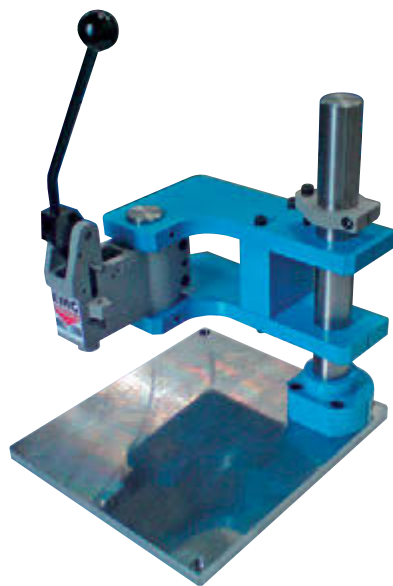




> Special services

In order to comply with the requirements of specific applications required by some professions, EMG proposes special tailor-made equipments, perfectly adapted to specifications and production constraints.

Thanks to its design department and a pool of more than 40 machines, EMG studies and carries out, on request, modifications or production of special presses as well as small fittings and press tooling.

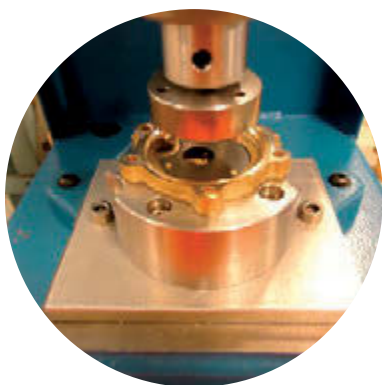
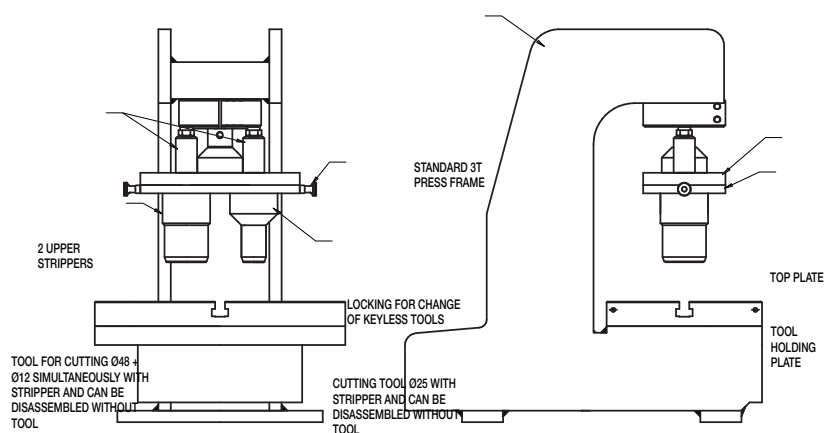


Offset 7HR press

Offset 7HR toggle press allowing increasing the swan-neck depth and work table.

Cutting tooling on 3T press

3T pneumatic press with a cutting tooling at 2 positions integrating an upper stripper for separating the parts.



3 point crimping tool

6PHR pneumatic press with a crimping tooling of 3 rivets for retaining a steel part in a stainless steel support.



Pneumatic press with electric controlling cabinet.



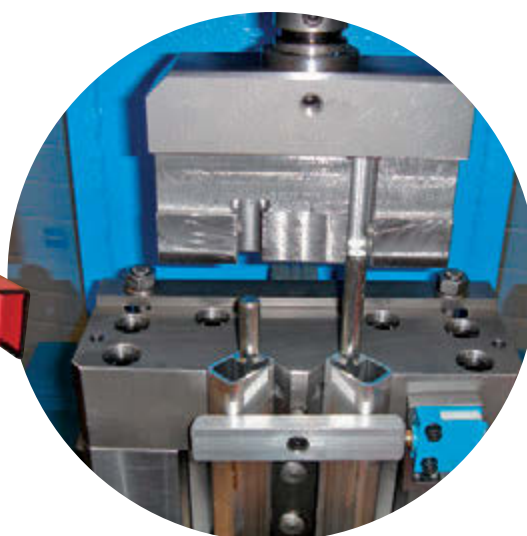
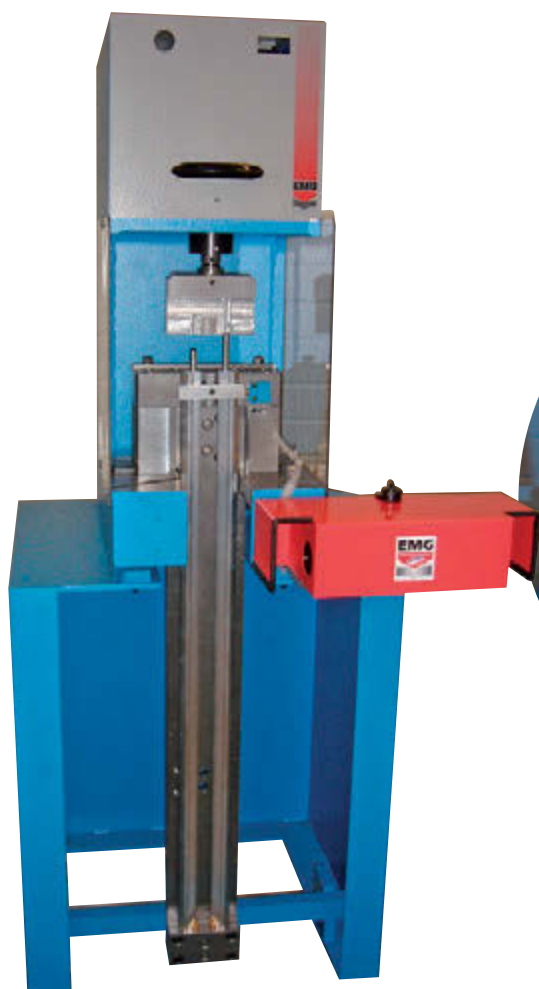
Press version zinc/nickel plating

Laboratory press fully zinc-plated and/or nickel-plated.

These treatments are most commonly used in the world of anti-corrosion.

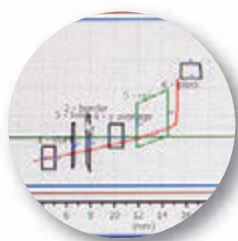


High-capacity manual rack press 50 HR LP



Tooling for fitting shaft in an aluminium profile on press 3t LP

- Modification of the frame for the passage of profile
- Study and realization of tooling



> Force management

EMG offers all types of effort and/or displacement management thanks to force and displacement sensor solutions adapted to each need, for 100% parts control. It is the quality guaranteed by the monitoring of industrial processes:

- > **Permanent quality control**
- > **Product process control**
- > **Total traceability**
- > **Monitoring the production**

The quality assurance goes through a permanent process check. The EMG presses, equipped with the force and / or displacement sensor allowing production of compliant parts from the start of the production process.

The detection of anomalies is immediate if the requested parameters are not met, the monitoring unit delivers an "OK" or "NOK" message by means of an optical display, a sound signal, or by locking the press in position.

This signal allows the operator to immediately isolate the defected part.

The information is stored in the control unit and can be exported to a PC for analysis, statistics or archiving.

- **Three standard solutions exist in the range.**
- **Specific solutions can be offered according to customer needs.**

Delivered in a ready to use condition, these systems are available in many versions depending on the complexity of the operations to be controlled and its precision.

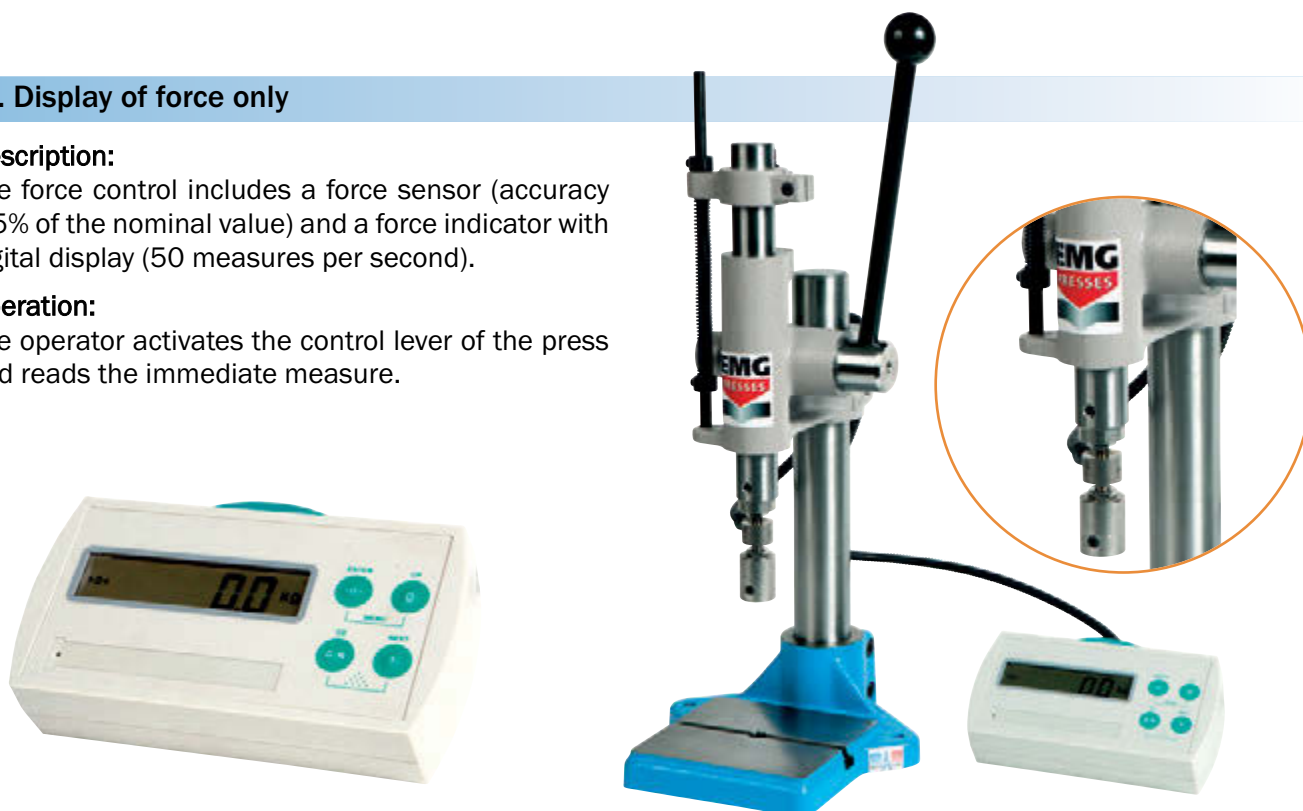
I. Display of force only

Description:

The force control includes a force sensor (accuracy 0.5% of the nominal value) and a force indicator with digital display (50 measures per second).

Operation:

The operator activates the control lever of the press and reads the immediate measure.



II. Force display with maximum value memory and OK NOK indicator

Description:

The force control includes a force sensor (accuracy 0.5% of the nominal value), a force indicator with 5-digit LCD display (20 measures per second) and a green/red indicator light + buzzer.

Operation:

The operator activates the press and makes a part.

- If the force value reaches the preset minimum threshold (S1), the green indicator lights up.
- If the force value exceeds the preset maximum threshold (S2), the red indicator lights up and the buzzer sounds
- A reset via a push-button on the front panel resets the last maximum value.



III. Effort and displacement management

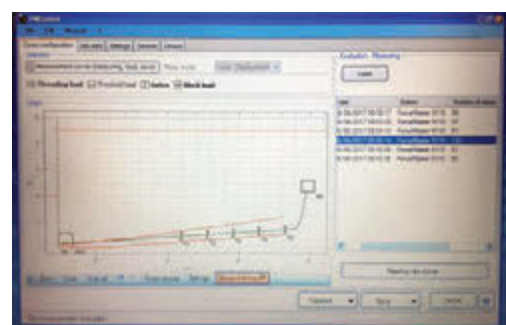
Description:

The force control includes a force sensor (2% accuracy of the nominal value), a displacement sensor (0.1 mm resolution), a FORCEMASTER process controller (1000 measures per second), OK / NOK indicator and a buzzer.

Operation:

It is necessary to parameterize the windows through which the curve produced by a typical part must pass (displacement in x, force in y with maximum 9 windows of passage).

As long as the resulting curve passes through the defined windows, the press operates normally and a green light validates each cycle. If during the operation the curve does not pass through one of the predefined windows, the press emits a sound signal (buzzer) and it is possible to set a lock for a pneumatic press. After isolating the bad part, the operator will have to reset the system by pressing a pushbutton and can then continue the production.





Mechanical presses from 6 to 80 T



Mechanical presses

6T - 15T - 25T - 45T - 80T

The range of EMG mechanical presses consist of 5 models from 6 to 80 T.

Being performance-oriented, these execute the most demanding applications with precision and reliability: watchmaking, jewellery, mechanical optics, electrical and electronic machines, automotive industry, electrical goods, toys, locksmithing...

Being durable, these guarantee you optimum quality and unparalleled productivity for a very long time!

The various operations are executed carefully thanks to the power reserve of each model and a very rigorous precision.

	6 T	15 T	25 T	45 T	80 T
Variable stroke (mm)	4 to 40	5 to 75	5 to 75	6 to 100	8 to 120
Clear height (mm)	200	300	300	350	400
Swan- neck depth (mm)	120	180	210	220	300
Number of cycle / mn	240	140	140	130	100
Adjustment of the swivel screw	0 to 30	0 to 50	0 to 60	0 to 70	0 to 100
Slider bore (mm)	Ø26H7x40	Ø38H7x55	Ø38H7x55	Ø50H7x65	Ø50H7x100
Motor power (kw)	0,5	1,1	2,2	5,5	7,5
Air consumption per cycle (l.)	0,2	0,6	0,7	0,9	0,7
Table dimension (mm)	450x220x30	450x320x40	550x400x48	650x430x57	850x600x67
Weight (kg)	450	900	1 400	3 100	5 000

> Characteristics of the range

• Frame

The frame is made of high quality mechanized-welded steel with swan-neck structure. Regular weld seams and proper welding supports ensure an exceptional rigidity and a resistance against cutting impacts even during an intensive use.

The very thick sides of the frame reduce the swan-neck opening.

• Slider

The slider is made of cast iron FGS 300 mounted on steel or bronze sliding rails, adjustable by screws. The assembly is completely adjusted and scraped manually. The adjustment is carried out by stops mounted on the press frame.

The bedplate of the slider has holes and a central bore for fixing tools.

The sliding rails have machining in the form of "oil grooves" allowing an efficient lubrication.

A knock-out bar goes through the slider. The adjustment is carried out by a stop mounted on the frame.

• Connecting rod/Swivel screw

The connecting rod is made of FGS 300 cast iron (steel on 80T) with bronze line completely scraped ensuring a perfect lubrication. It is lubricated by oil. The swivel screw is made of pre-treated steel, completed by a surface treatment.

• Shaft

The shaft is made of hardened forged steel. An over-sulfurization after machining reduces the wear and tear due to friction. It runs on lubricated rings.

• Stroke change

The stroke change is achieved very quickly by turning the disconnecting device a $\frac{1}{4}$ " of a turn and then selecting the desired Stroke length.

• Lubrification

The lubrication is centralized and ensured by a manual pump. The frequencies are to be adapted as per the cycles used (single or continuous stroke working).

Automatic pump (optional).

• Twin-body solenoid valve

It is self-controlled and assembled with heavy duty silencers.

• Clutch/Brake

The movements of the press are obtained by a monodisc air clutch and managed by a brake. An air reservoir compensates for the possible failures of the network starting from the 25t model.



> Standard equipments

- Two hand controls with push buttons.
- Central greasing by manual pump
- 6 digit counter with reset function, 8 digit counter without reset function
- Single or continuous stroke
- 20° inclinable frame (option 45t and 80t)
- Regulation with or without motor
- Positive ejector in the slider
- Balancing cylinders (45t and 80t)
- Slider hydraulic unblocking (45t and 80t)

- Automatic unblocking for the stroke adjustment (80t)
- EC compliance certificate
- User manual and electrical, pneumatic and hydraulic diagrams
- Periodical verification guide (regulatory follow-up, verification procedures, preventive maintenance, faults and remedies)

> Electrical equipment

In compliance with European standards. It manages all the cycles: single, continuous, adjustment.

> Paints

Sky blue: RAL 5015

Platinum grey: RAL 7036

> Work cycles

Standard presses

- Cycle 1: Manual setting without motor
- Cycle 2: Pulse control with motor
- Cycle 3: Single stroke working, synchronous working on the two hand control
- Cycle 4: Continuous working. Start of cycle synchronously on the two hand control and stop by push button.
- Cycle 5: Single stroke pedal working for embedded tool (pedal option)
- Cycle 6: Continuous pedal working retained for embedded tool (pedal option)
- Cycle 7: Single stroke pedal working with closed grids (pedal option)
- Cycle 8: Automatic working. Start of cycle by an external control (automaton...)

Cycles specific to presses with vertical automatic screen option

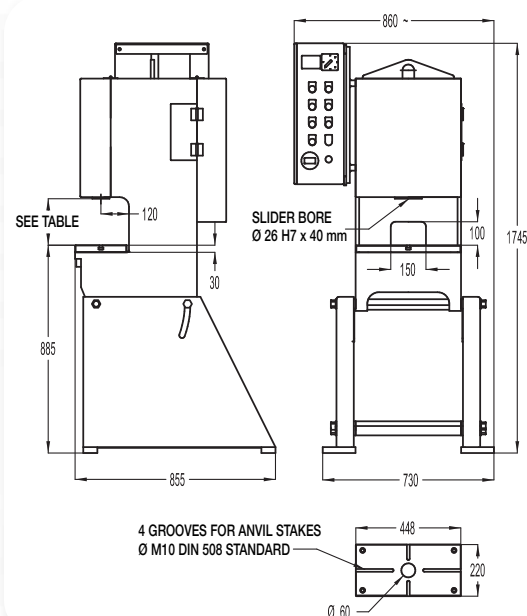
- Cycle 7: Single stroke pedal working with screen protection
- Cycle 8: Continuous pedal working retained with screen protection

Cycles specific to presses with electronic guards

- Cycle 4: Automatic working. Start of the cycle by an external command or by button (as per choice)
- Cycle 6: Single stroke working. Control by single pass
- Cycle 7: Single stroke working. Control by double pass
- Cycle 8: Single stroke working. Control by pedal with active guards

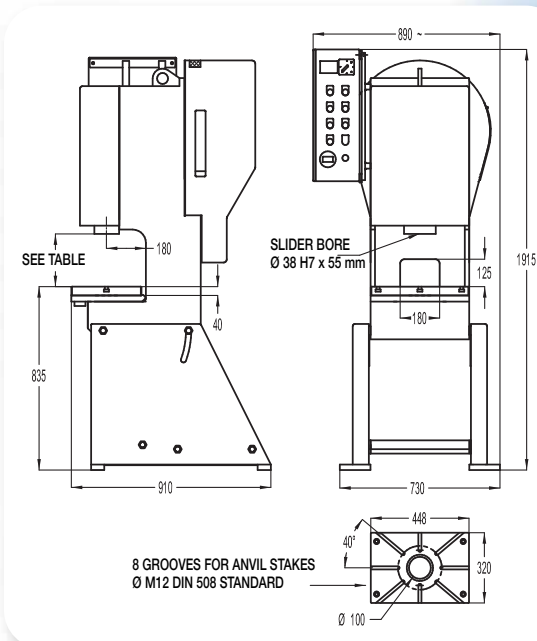
Presse 6 T

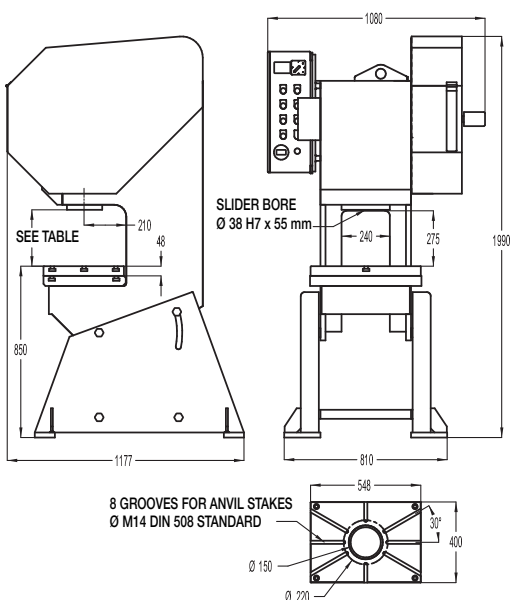
Stroke	Height at bottom dead center	Height at top dead center
4	178	182
10	175	185
18	171	189
25	167	192
32	164	196
36	162	198
39	160	199
40	160	200



Presse 15 T

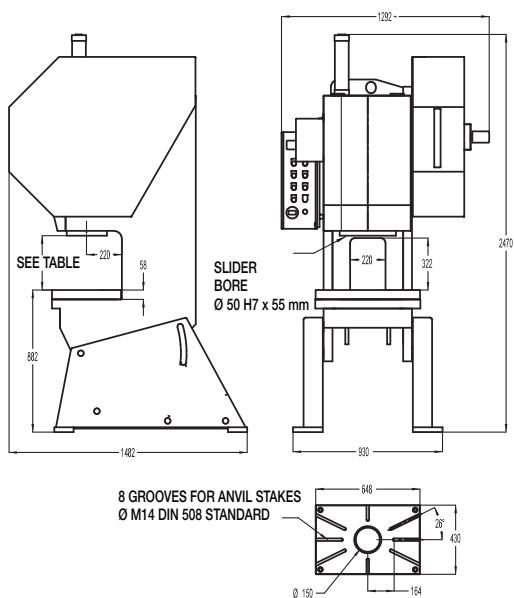
Stroke	Height at bottom dead center	Height at top dead center
5	261	266
20	253	273
38	245	283
53	237	290
65	231	296
72	227	299
75	226	301





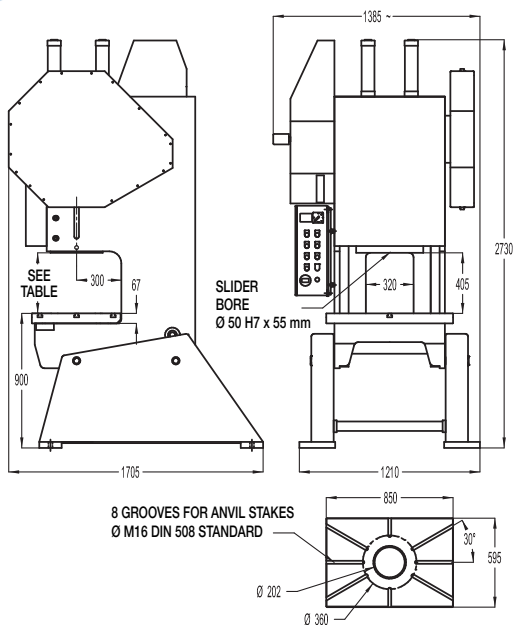
Presse 25 T

Stroke	Height at bottom dead center	Height at top dead center
5	262	267
13	258	271
24	252	276
34	248	282
44	242	286
53	238	291
61	234	295
67	231	298
71	229	300
74	227,5	301,5
75	227	302



Presse 45 T

Stroke	Height at bottom dead center	Height at top dead center
6	299	305
14	295	309
26	289	315
39	282	321
50	277	327
61	271	332
71	266	337
79	262	341
86	259	345
92	256	348
97	253,5	350,5
99	251,5	351,5
100	252	352



Presse 80 T

Stroke	Height at bottom dead center	Height at top dead center
8	332	340
18	328	346
32	321	353
46	314	360
60	306	366
73	300	373
85	295	380
95	290	385
104	285	389
111	282	393
116	279	395
119	278	397
120	278	398

Presses mécaniques de 6 à 80 tonnes

> Options

• Vertical screen



The automatic vertical screen ensures front and side protection of the operator and third party. A support on the pedal ensures the descent of the screen to its bottom dead center, the start of the cycle authorized only if the proximity edge does not encounter any obstacle.

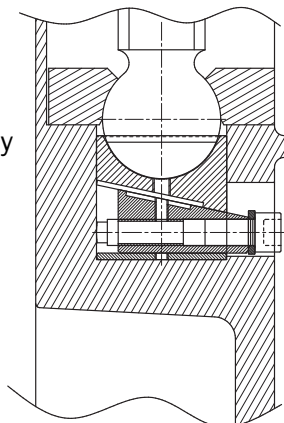
The operator can work with both hands free for loading or unloading parts even if the tool is not secured.

This machine gives you about 20% increased productivity with less fatigue and muscle strain.

Doors are mounted on hinges providing full access for quick and easy tool changing.

• Mechanical unlocking wedge (hydraulic and standard on 45T and 80T)

The bottom dead center slider unlocking wedge allows unlocking your press in a few minutes, without any change of parts.



• Electronic guards



Electronic guards allow front protection of the dangerous zone and control

the start of the cycle after one or two passes in the beam. Not requiring any use of two hand controls, this equipment ensures maximum safety while improving press productivity.

It is also possible to work with simple protection by using the pedal for starting the cycle.

Doors are mounted on hinges providing full access for quick and easy tool changing.

• Electronic cam

The electronic cam programmer from OMRON, associated with its encoder, allows managing 8 outputs in order to manage a feeding device, blower, pilot release, cutting unit or any other machine periphery.



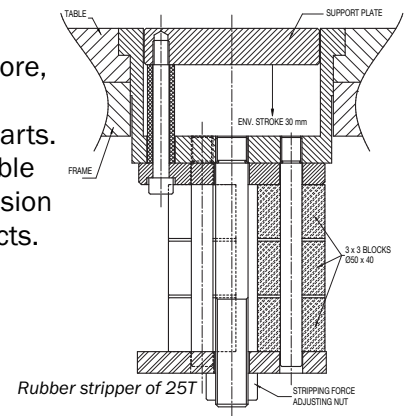
- Automatic greasing with level monitoring (standard on 45T and 80T)

Automatic lubrication is done in place of manual centralized greasing. It ensures better lubrication of the machine without any risk of omission of the operator. This option is strongly recommended in case of automatic working.



- Rubber stripper (6T, 15T, 25T)

Rubber stripper, mounted on table bore, allows ensuring the ejection of tooling parts. Its power is adjustable by adjusting the tension of the rubber contacts.



- Pneumatic stripper (25T, 45T, 80T)

Ensuring the same function as the rubber stripper, the pneumatic stripper delivers more significant power, from 3t on 25T and 45T presses, to 7t on 80T presses. Its air tank ensures constant pressure.



- Speed variator with selection by potentiometer

In order to adjust the stroke rate of the press in the automatic work cycles, or for a slow descent in regulation with motor phase, all the mechanical presses can be delivered with a speed variator, adjustable by potentiometer.



Additional options

- Pedal control for working with **embedded tools** or stroke < 6 mm.
- Supply cam with 3/2 valve and closing valve.
- 6 digit preselection counter in order to stop the press as soon as the quantity is reached.
- Halogen or neon or LED lamp lighting on 500 flexible lines.

- Expansion chamber on exhaust for reducing the sound levels (-2dB).
- Set of anvil stakes.
- Anti-vibration supports.
- Special RAL paint.

**Definition: The embedded tools must be intrinsically safe. Their corresponding openings and safety distances must be in compliance with the standards in force or must not exceed 6 mm. Any risk of additional deformation outside the embedded tools must be avoided.*

> Special equipments/services for mechanical presses



*Press version
for watchmaking*



*Possibility of special
painting on request*



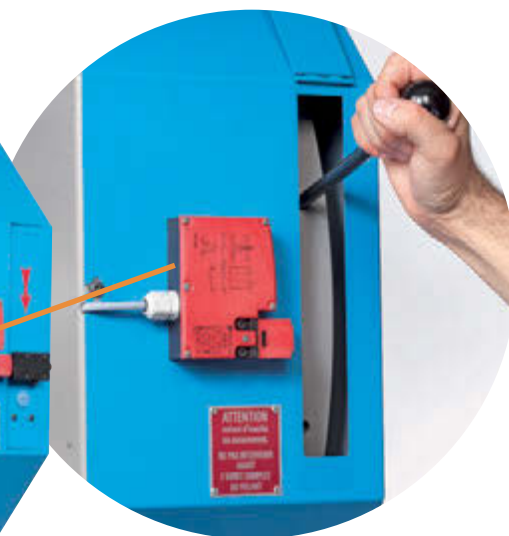
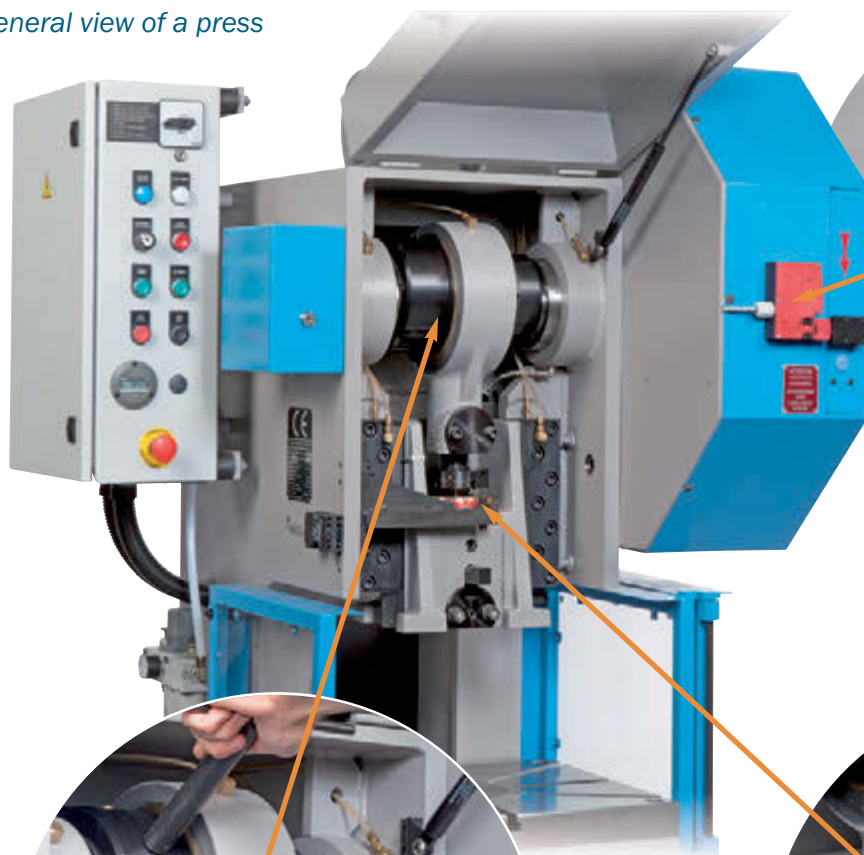
*25 T press with automatic
robotic loading*



Press with soundproofing box

> Production quality

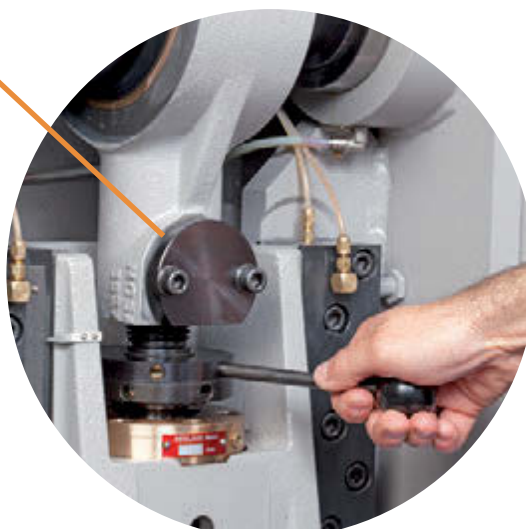
General view of a press



Bottom dead center regulation without motor



Quick stroke adjustment



Quick adjustment of the clear height



View of the 80T sprocket pinion assembly



Service key support



Inclination adjustment (hydraulic on 45 and 80T)

> Safety: a priority at EMG

EMG does not compromise with safety: its mechanical presses are in compliance with the requirements of "machine" directives and European standards and have received an EC type exam certificate attestation. From the start of production, EMG integrates, in its specifications, compliance with the standards in force as well as a study of ergonomics of the machine. The safety systems on presses shall ensure their first function, protection of the operator, but also offering an ergonomics optimizing the productivity.

3 types of protection = 3 EC type exam certificate attestations:

PEP-E series: standard press with grids

EC-E series: press with mobile safety screen

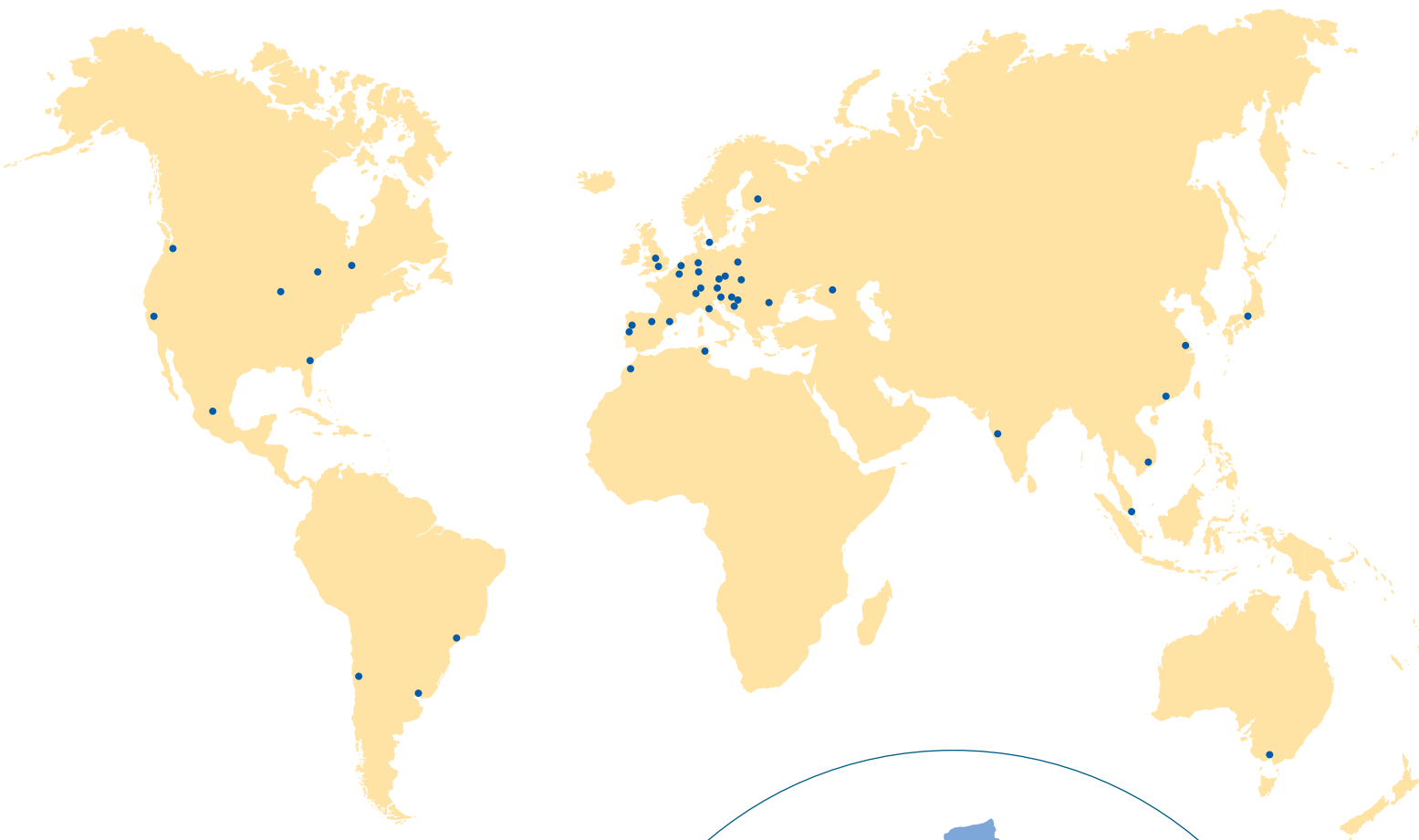
BI-E series: press with simple or double pass electronic guard



Want to ensure perfect quality services to your customers? EMG has implemented a quality management system in compliance with the requirements of ISO9001 standards, version 2008.

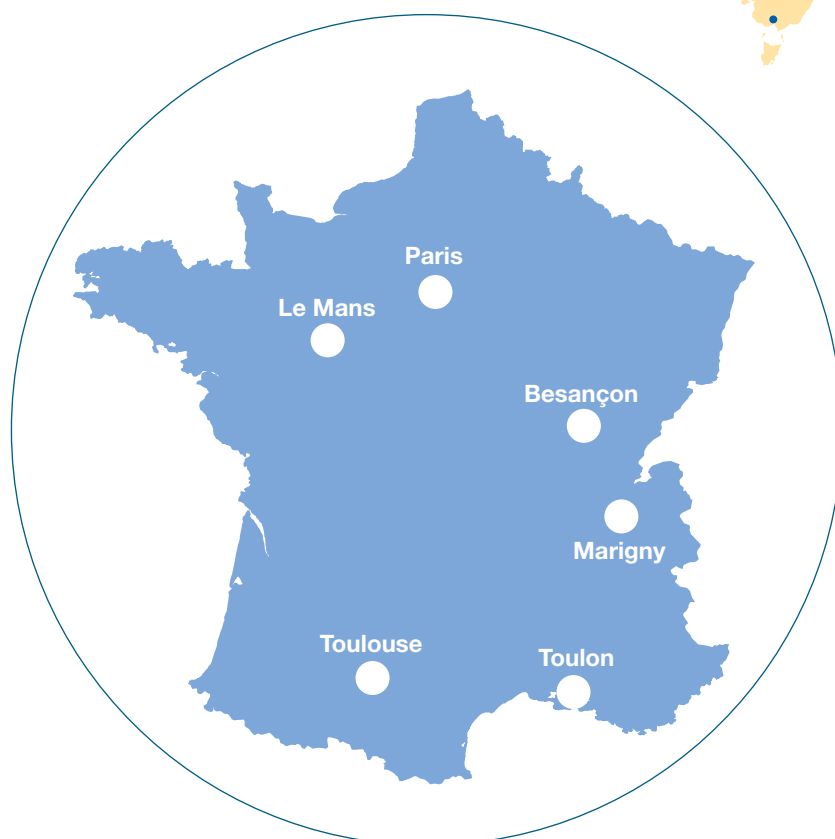
> EMG presence in France and around the world

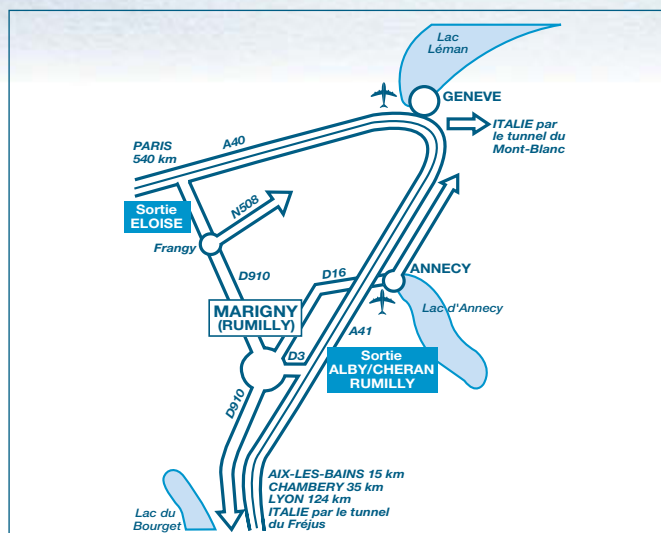
Presence across 5 continents with a strong and reliable chain of distributors, manufacturers or retailers selected by EMG which are locally recognized for their experience and quality-oriented service.



In France, our techno-commercial
are also machine-tool experts,
regularly trained on newer versions of
the equipments and accessories.

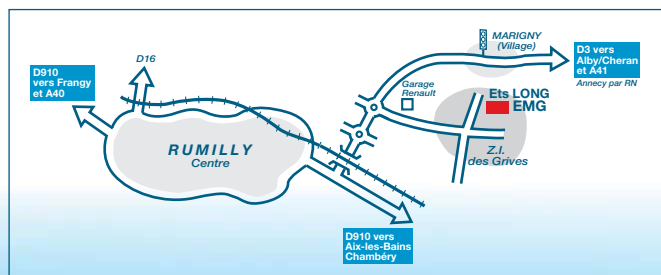
Within its distribution and sales
network, all our representatives are
specialists, thus ensuring the best
possible suggestions and the quality
offered by EMG manufacturer





EMG is set up in Haute-Savoie, a department on the border with Switzerland and Italy, and benefits from double advantage of an exceptional environment among lakes and mountains and a privileged commercial activity at the heart of Rhône-Alpes, second best French region and one of the most significant in European union.

Each EMG customer and partner throughout the world benefits, thanks to the equipments and services proposed by the brand, from a standard and a technical know-how inherited from a long industrial tradition and a permanent culture of research and development.



The EMG presses guarantee a better return of investment to the manufactures, thanks to its competitive acquisition and maintenance costs, high performance and an accurate and efficient ergonomy.

In addition to a set of efficient services and a very wide range, the total expertise of the design and production process also allows customers of the EMG brand to use a large choice of accessories and special services.

Some important points ensuring better productivity quickly and durably.



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