Leader in the Production of Safety Devices equipments for Machine Tools



SAFETY GUARDS - PMU n° 04/3/E Catalogue



Presentation

Tecno Più S.r.l., on the industrial safety market since 1994, is pleased to introduce itself to new customers as a well established "All made in Italy" company, with the firm intention to impose itself as a valid alternative to standard production available on the market, characterized by "outdated" solutions, no longer in step with the needs required by today job market such as Functionality - Versatility - Quick Service. **Tecno Più** has always been convinced to ensure these features, changing the "approach" to safety guard use, notably of submissive type, into an opportunity of investment in general health and safety.

With this aim, we are proud to present our new *catalogue PMU 04/3/E*, enriched with a renewed range of items, conveniently expanded with different exclusive devices, designed and produced by *Tecno Più* as precursors of the "*Third generation of safety guards*".

- Other devices and innovative technical solutions will be tested and introduced on the market in the near future, side by side with those ones which have always been the "favourite pieces" of Tecno Più production, such as rubbing articulated arms, the whole lightness together with high stiffness of different components and the wide visual field of the protective shields.

Conformity

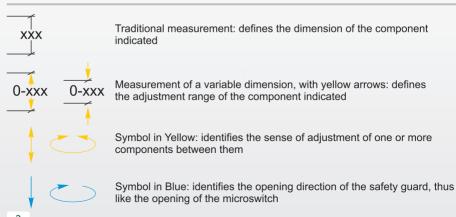
- All safety devices made by Tecno Più S.r.l. are marked **(€** in conformity with relevant EU provisions.
- All Microswitches, used for safety guard interlocking, are of positive contacts opening type, as prescribed by standards: IEC EN 60947-5-1, VDE 0660-206.

Used materials

Quality, functionality and reliability follow each other by selecting first-order technical materials, such as plastic materials, used for the production of protective shields, and aluminium outlines where lightness and stiffness are necessary.

Catalogue description

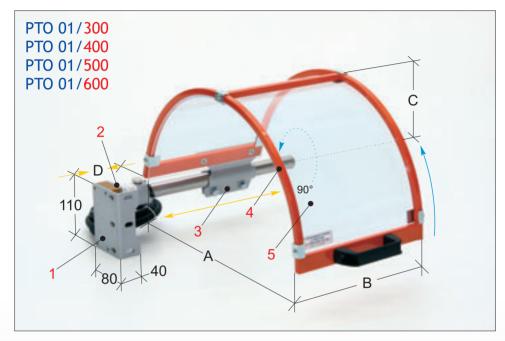
In order to let its items be clear and simple to evaluate, $Tecno\ Più$ presents the catalogue $PMU\ O4/3/E$ in single-card form, enriched with a technical description and an elaborate, functional-dimensional graphic, where an appropriate symbol for interpretation has been used, as described below:





Safety guard for chuck Lathe

Classic safety guard equipped with steel-framed shield - The only one positionable until near the machine head - Available in various dimensions



Protects the operator from direct contact with the upper part of the chuck lathe and from lubricant-coolant projection.

Frontally and laterally attachable at the base - Equipped with semicircular shield, adjustable until near the machine head.

- 1 Frontal and lateral anchorage stirrup
- 2 Safety microswitch main box 90° rotation n.2 NC contacts
- 3 Shield connection clamp with support arm in pressed steel
- 4 Shield structure in tubular steel
- 5 Thermo-shaped shield in shockproof and oil-resistant plastic material

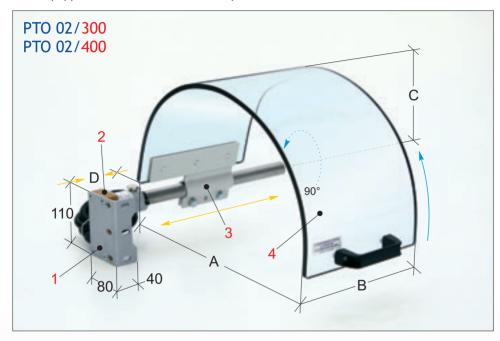


Code	Α	В	С	D
PTO 01/300	300	200	180	0-215
PTO 01/400	400	235	230	0-150
PTO 01/500	500	235	280	0-150
PTO 01/600	600	235	330	0-150



Safety guard for chuck Lathe

The shield shape makes it ideal to be positioned until near the machine head Equipped with monolithic shield in plastic material - Available in various dimensions



Protects the operator from direct contact with the upper part of the chuck lathe and from lubricant-coolant projection.

Frontally and laterally attachable at the base - Equipped with semicircular monolithic shield, adjustable until near the machine head.

- Frontal and lateral anchorage stirrup
- 2 Safety microswitch main box 90° rotation- n.2 NC contacts
- 3 Adjustable shield connection clamp with support arm in pressed steel
- 4 Monolithic shield in thick plastic shockproof and oil-resistant material

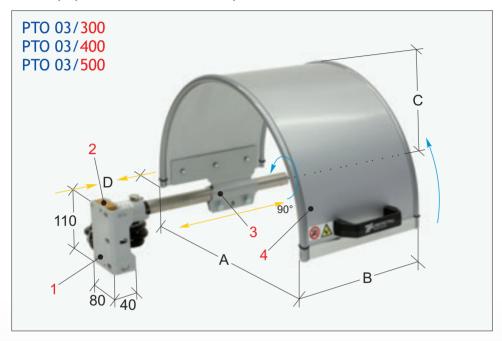
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Code	Α	В	С	D
PTO 02/300	300	200	200	0-200
PTO 02/400	400	220	250	0-190



Safety guard for chuck Lathe

The shield shape makes it ideal to be positioned until near the machine head - Equipped with "opaque" monolithic shield in composite material - Available in various dimensions



Protects the operator from direct contact with the upper part of the chuck lathe and from lubricant-coolant projection.

Frontally and laterally attachable at the base - Equipped with semicircular monolithic shield, adjustable until near the machine head.

- 1 Frontal and lateral anchorage stirrup
- 2 Safety microswitch main box 90° rotation- n.2 NC contacts
- 3 Adjustable shield connection clamp with support arm in pressed steel
- 4 Monolithic shield in "opaque" composite material: <u>aluminium hd polyethylene aluminium</u>

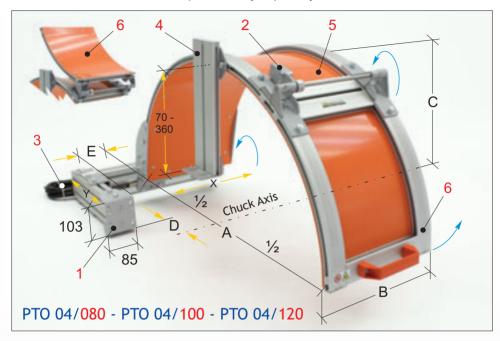


Code	Α	В	С	D
PTO 03/300	300	200	200	0-200
PTO 03/400	400	220	250	0-190
PTO 03/500	500	240	300	0-180



Safety guard for big chuck Lathe

Remarkably strong item, designed for chuck lathes up to Ø 1000 mm - Equipped with shield which can be opened totally or partially - Available in various dimensions



Prevents the operator from direct contact with rotating chuck lathe and helps in containing the lubricant-coolant and the working swarfs.

The strong support structure (point 1), fully "X - Y" adjustable, allows easy anchoring on the rear side of the machine and, if necessary, also on the front.

Equipped with semicircular shield, divided into two sections to allow opening of only the front side (point 6) or total opening, overturning it completely towards the back. Complete with double safety microswitch.

- 1 Anchorage and support structure of the shield, adjustable in the X Y axes
- 2-3 Safety microswitches of the two shield opening systems n.2 NC contacts
- 4 Adjustable structure to support the shield on the lathe head
- 5 Shield made of aluminium sheet and profiles, completely overturnable on the back or lockable through a special system of its rotation axis.
- 6 Front section of the shield designed for frequent openings during working operations

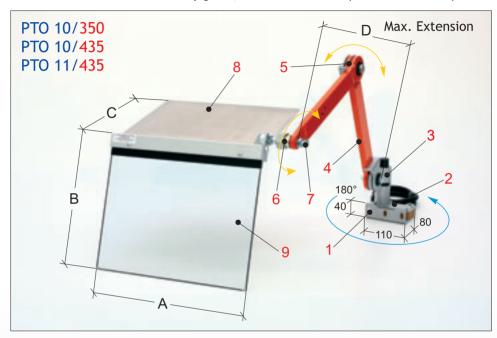


Code	Α	В	C	D	E
PTO 04/080	800	300	400	165-375	5-120
PTO 04/100	1000	350	500	265-475	5-70
PTO 04/120	1200	350	600	365-575	5-70



Lathe carriage safety guard

Specific multi-adjustable item, to be installed on the longitudinal carriage Combined with the chuck safety guard, allows an excellent protection of the operator



Protects the operator from direct contact with rotating components of the chuck and from the projection of shavings and lubricant-coolant.

Attachable behind the longitudinal carriage - The shield, supported by articulated arms thanks to the ball socket joint, is completely adjustable and has an anti-shavings partition.

Complete with safety microswitch.

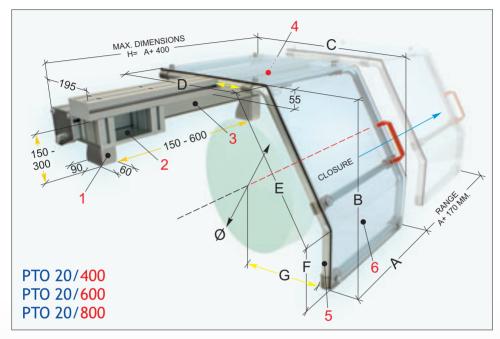
- Note: Item PTO 11/435 has an articulated arm with three elements.
- Available accessories: PMG 60/185 PBA 01/190 PBA 01/325 PBA 02/325

		Code	Α	В	С	D
1 2 3	Frontal and lateral anchorage stirrup Safety microswitch main box - 180° rotation - n.2 NC contacts Horizontal adjustment clamp	PTO 10/350 PTO 10/435 PTO 11/435	350 400 400	300 350 350	280 310 310	550 550 800
4 5 6 7	Articulated arms in tubular steel Rubbing articulation with friction disc Ball and socket joint for shield orientation Ball and socket joint release screws			-	7 (20	5
8 9	Upper anti-shavings partition - in aluminium Shield in shockproof and oil resistant plastic mat	terial		2	6	_



Sliding safety guard for Lathe

Particularly solid and functional item, designed for the secure protection of the operator from moving parts of the lathe - To be fixed on the machine head



Protects the operator from direct contact with rotating components of the chuck and from the projection of shavings and lubricant-coolant.

Attachable on the machine head, equipped with wide "visibility" sliding shield, with various adjustments for an easy adaptation to all machines - Available in three sizes, up to a Ø chuck of 800-900 mm - Complete with safety microswitch.

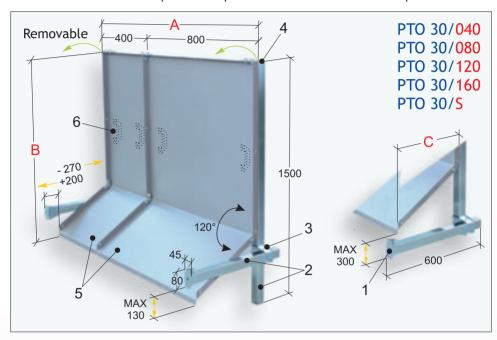
- 1 Anchorage stirrup with wide vertical adjustment
- 2 Sliding mobile protection support carriage
- 3 Auto-carrying guide in extruded aluminium, with sliding system composed from tempered and rectified steel guides-bearings, placed in protected internal position
- 4 Safety microswitch with separated actuator n.2 NC contacts
- 5 Shield structure in tubular steel and aluminium
- 6 Shield in shockproof and oil-resistant plastic material, of great thickness

Code	Ø	Α	В	С	D	Е	F	G
PTO 20/400	400-500	450	430	655	480	350	125	280-540
PTO 20/600	600-700	450	520	855	640	430	150	320-740
PTO 20/800	800-900	450	640	1065	800	530	180	370-950



Rear safety guard for Lathe

Modular system for rear protection and for shavings containment Made of rapid release panels - To be fixed on the lower part of the base



Protects operators from direct contact with moving parts accessible from the rear side and from the projection of shavings and lubricant-coolant.

Attachable at the base by a system of adjustable "cross" arms. Made from strong modular panels, removable by "rapid release".

- 1 Angular anchorage stirrup
- 2 Adjustable "cross" support arms in tubular steel
- 3 "Cross" clamp in pressed steel
- 4 Rapid release system of panels from vertical tubes
- Modular panels in sheet steel
 Rear manoeuvre handles

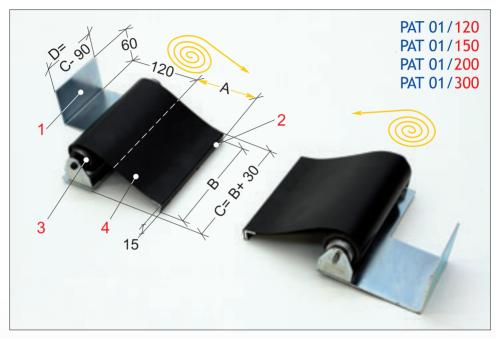
Code	A	В	С
PTO 30/040	400	1200	350
PTO 30/080	800	1200	350
PTO 30/120	1200 = 400+800	1200	350
PTO 30/160	1600 = 800+800	1200	350
PTO 30/S	••••		





Roll-up safety guard for Lathe advancing bars

Made from two units of self-roll up rolls, with tear and oil-resistant thread Designed for protecting the operator from the machine advancing bars



Item created for the frontal "segregation" of the lathe mother screw and the advancing bars. Protects the operator from direct contact with moving parts and avoids the possibility of "snagging" of work garments - Made from two units to fix to the two extremities of the longitudinal carriage, equipped with a particular self-sliding roll, operated from the inside by multiple springs - The protective ribbon is made of spread textile material and is resistant to coolants and abrasions - Each unit is purposely designed for its side of the carriage and is equipped with appropriate anchorage stirrups - During movement of the longitudinal carriage, the two units self- roll and unroll, constantly "segregating" the lathe mother screw and the advancing bars.

- Note: the extremity, equipped with the sliding roll, must be fixed onto the base side.

- 1 Base-side angular anchorage stirrups in pressed steel
- 2 Carriage-side angular anchorage stirrups in aluminium
- 3 Self-sliding roll in steel and aluminium
 - Protective ribbon in spread technical thread

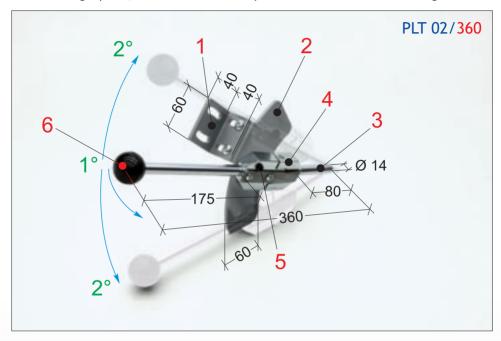


Code	Α	В
PAT 01/120	1200	150
PAT 01/150	1500	200
PAT 01/200	2000	200
PAT 01/300	3000	250



Lathe safety Lever

Double-movement universal device, for the insertion of chuck rotation - Provided in a single piece, to be installed as a replacement for one of the two original levers



Allows the activation of chuck rotation, performing a forced "double movement" manoeuvre. Suitable for installation on machines with one or two levers.

Provided in a single piece, to replace only one of the two original machine levers, normally identified as the most frequently used one, while the original remaining lever remains operational only for disconnection.

Equipped with universal levelling plate where a hole must be made that corresponds to the central "neutral" position - In this way, the safety bolt on the joint enters into the hole which in turn, in case of involuntary activation, sets the lever locking.

Activation of the chuck rotation occurs by performing in sequence: movement 1° and subsequently movement 2° - Disconnection occurs by directly performing movement 2° until the introduction of the safety bolt into the locking hole.

- 1 Adjustable angular anchorage stirrup in pressed steel
- 2 Levelling plate, to insert the locking pivot in pressed steel
- 3 Shaft to be inserted in the original joint of the chuck bar in steel
- 4 Joint equipped with safety pivot and recall spring in steel
- 5 Adjustable safety bolt
- 6 Manoeuvre lever equipped with round knob

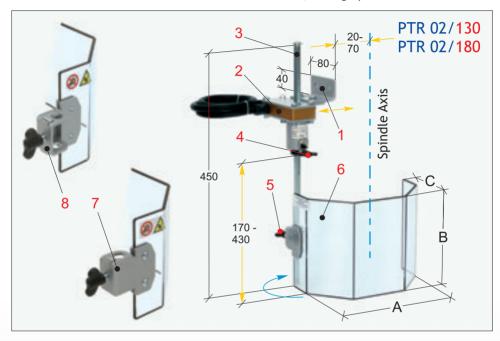


Drilling machine PTR 02



Safety guard for Drills and radial Drills

Solid and versatile, the only one with double shield adjustment Suitable for installation on traditional Drills, Pantographs and similar machines



Protects the operator from direct frontal contact with rotating spindle parts and from projection of shavings and lubricant-coolant - Attachable on the left side of the machine.

The semi-octagonal shield can be adjusted vertically by two different systems:

Shield-arm group, adjustable through the microswitch group (point 4) - The shield is adjustable through the arm (point 5).

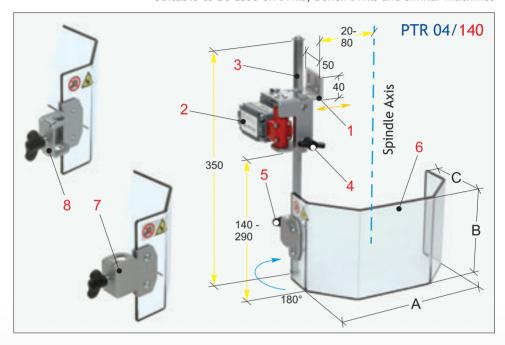
The shield support clamp can be placed inside (point 7) or outside (point 8), allowing a wide range of horizontal adjusting.

- 1 Anchorage stirrup in pressed steel
- 2 Safety microswitch main box 180° rotation n.2 NC contacts
- 3 Shield support vertical arm in steel hexagon
- 4 Arm-shield adjustment knob as regards the microswitch group
- 5 Shield adjustment knob as regards the supporting arm
- 6 Semi-octagonal shield in Polycarbonate



Code	Α	В	C
PTR 02/130	230	130	115
PTR 02/180	230	180	115

Small item, the only one with a double shield adjustment Suitable to be used on Drills, bench Drills and similar machines



Protects the operator from direct frontal contact with rotating spindle parts and from projection of shavings and lubricant-coolant - Attachable on the left side of the machine.

The semi-octagonal shield can be adjusted vertically by two different systems:

Shield-arm group, adjustable through the self-bearing microswitch (point 4) - The shield is adjustable through the arm (point 5).

The shield support clamp can be placed inside (point 7) or outside (point 8), allowing a wide range of horizontal adjusting.

- 1 Anchorage stirrup in pressed steel
- 2 Self-bearing safety microswitch 180° rotation n.2 NC contacts
- 3 Shield support vertical arm in steel hexagon
- 4 Arm-shield adjustment knob as regards the microswitch group
- 5 Shield adjustment knob as regards the supporting arm
- 6 Semi-octagonal shield in Polycarbonate



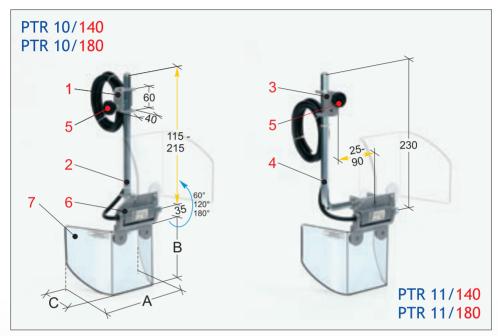
Code	Α	В	С
PTR 04/140	200	140	100

Drilling machine PTR 10-11

Tecno Più

Safety guard for Drills and similar machines

New item proposed with double fixing system, supported by adjustable hexagonal arms Equipped with microswitch integrated in the rotation hinge



Protects the operator from direct frontal contact with rotating spindle parts and from the projection of shavings and lubricant-coolant.

Shield equipped with innovative system of vertical opening, in the positions of 60° - 120° - 180°, supported by widely adjustable hexagonal arms - Available in two versions:

PTR 10/... Frontally fixable version - PTR 11/... Laterally fixable version.

The safety microswitch is integrated in the special hinge that supports the shield.

- 1 Anchorage stirrup, frontal version in pressed steel
- 2 Support arm, frontal version in steel hexagon
- 3 Anchorage stirrup, lateral version in pressed steel
- 4 Support arm, lateral version in steel hexagon
- 5 Release knob for the vertical adjustment of the shield
- 6 Shield support hinge, with integrated microswitch n.2 NC contacts
- 7 Semi-hexagonal shield in Polycarbonate



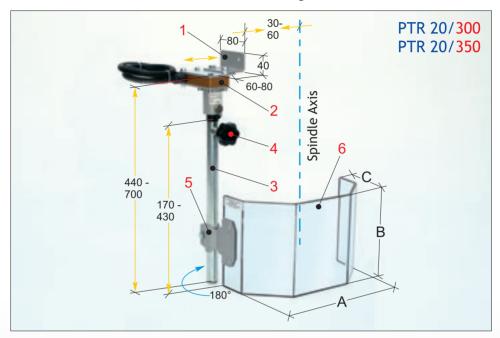
Code	Α	В	С
PTR 10/140 - PTR 11/140	200	140	110
PTR 10/180 - PTR 11/180	200	180	110

Drilling machine PTR 20



Safety guard for radial Drills

Item equipped with vertical adjustment of the shield with telescopic arm system
Suitable to be used on large-dimension Drills and Radial Drills



Protects the operator from direct frontal contact with rotating spindle parts and from the projection of shavings and lubricant-coolant.

Attachable on the left side of the machine - Supplied with semi-octagonal shield equipped with double system of vertical adjustment: 1= telescopic shield-arm group, adjustable by the internal hub-Shield - 2= adjustable on the same arm - Complete with safety microswitch.

- 1 Anchorage stirrup in pressed steel
- 2 Safety microswitch main box 180° rotation n.2 NC contacts
- 3 Telescopic shield support arm in tubular steel
- 4 Arm-shield release knob from the internal hub
- 5 Clamp with shield release screw from the telescopic arm
- 6 Semi-octagonal shield in thick Polycarbonate

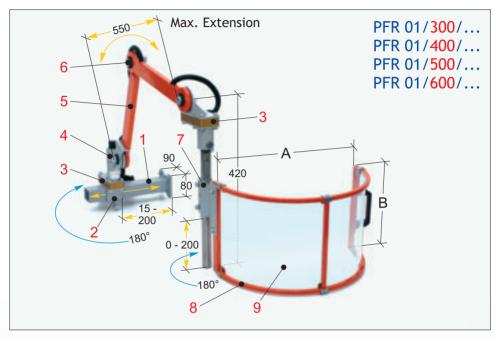


Code	Α	В	С
PTR 20/300	300	200	150
PTR 20/350	350	240	175



Adjustable safety guard for universal Mills

Classic universal safety guard with articulated arms - The rubbing articulations make it particularly versatile and able for immediate placement - Available in various dimensions



Protects the operator from direct contact with rotating parts of the vertical spindle and from the projection of shavings and lubricant-coolant.

Attachable on the base flank, equipped with semi-circular shield with double opening system: 1= shield openable horizontally on its axis - 2= "swinging" total of the safety guard, outside the field of work - Complete with double safety microswitch.

- Note: Specify the mounting side by adding the suffix: /DX = Right /SX = Left
- Available accessories: PMG 60/185 PBA 01/190 PBA 01/325 PBA 02/325

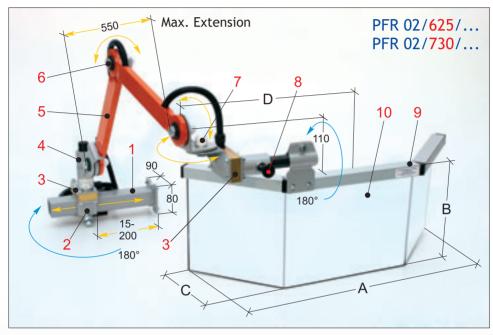
1	Levelling anchorage stirrup - in tubular steel	Code	Α	В
2	Depth-adjustable safety guard support			
3	Safety microswitch main box - 180° rotation - n.2 NC contacts	PFR 01/300	300	200
4	Horizontal adjustment clamp	PFR 01/400	400	235
5	Articulated arms in tubular steel	PFR 01/500	500	235
6	Rubbing articulation with friction disc	PFR 01/600	600	235
7	Shield-arm connection clamp - in pressed steel			
8	Shield structure - in tubular steel			-
9	Thermo-formed shield - in plastic shockproof and		P F	_

oil-resistant material



Multi-adjustable safety guard for universal Mills

Thanks to the proven system of rubbing articulated arms, it is the only one to be truly, versatile and manageable - Suitable for frequent changes of operation



Protects the operator from direct contact with rotating parts of the vertical spindle and from the projection of shavings and lubricant-coolant.

Attachable on the base flank, equipped with wide "visibility" shield and double opening system: 1= Shield openable vertically with position-locking knob. 2= "swinging" total of safety guard, outside field of work.

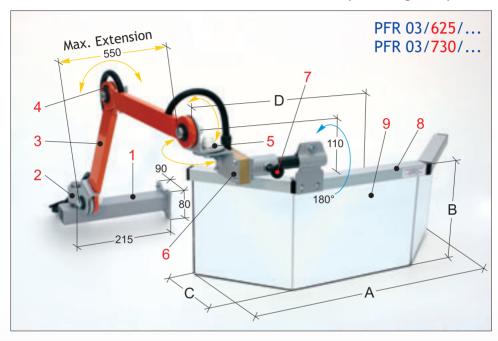
- Note: Specify the mounting side by adding the suffix: /DX = Right /SX = Left
- Available accessories: PMG 60/185 PBA 01/190 PBA 01/325 PBA 02/325

1 2 3	Levelling anchorage stirrup - in tubular steel Depth-adjustable safety guard support Safety microswitch main boxes - 180° rotation - n.2 NO	C conta	cts	
4	Horizontal adjustment clamp			
5	Articulated arms in tubular steel			
6	Rubbing articulation with friction disc	Code	PFR 02/625	PFR 02/730
7	Angular junction for the vertical turnover of the			
	shield	Α	620	725
8	Shield opening unlocking knob	В	250	300
9	Shield structure in aluminium profile	C	170	200
10	Shield in plastic shockproof and oil-resistant material	D	405	430



Adjustable safety guard for universal Mills

Universal safety guard with rubbing articulated arms - Practical and manageable Suitable for frequent changes of operation



Protects the operator from direct contact with rotating parts of the vertical spindle and from the projection of shavings and lubricant-coolant.

Attachable on the base flank, equipped with wide "visibility" shield with vertical opening system and position-unlocking knob.

Complete with safety microswitch.

- Note: Specify the mounting side by adding the suffix: /DX = Right /SX = Left
- Available accessories: PMG 60/185 PBA 01/190 PBA 01/325 PBA 02/325

1	Levelling anchorage stirrup - in tubular steel
2	Horizontal adjustment clamp
3	Articulated arms in tubular steel
4	Rubbing articulation with friction disc
5	Angular junction for the vertical turnover

- 6 Safety microswitch main box 180° rotation n.2 NC contacts
- 7 Shield opening unlocking knob

of the shield

- 8 Shield structure in aluminium profile
- 9 Shield in plastic shockproof and oil-resistant material

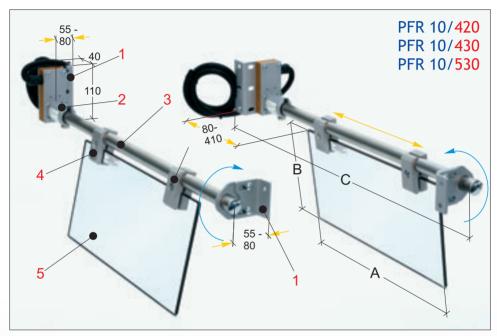
Code	PFR 03/625	PFR 03/730
Α	620	725
В	250	300
С	170	200
D	405	430





Safety guard for horizontal slide Mills

Item composed of two mirrored elements, to be installed on the sides of the horizontal slide - Equipped with easy adjustments for a frequent change of operation



Protects the operator from direct contact with the horizontal shaft-spindle and its parts placed in rotation and accessible from the two sides of the machine (the frontal "segregation" of the dangerous parts is excluded), in addition to the projection of shavings and lubricant-coolant. Horizontally attachable to the two sides of the slide - Equipped with axially and radially adjustable shields, shapeable if needed for possible interference with the equipment in use. Equipped with double safety microswitch.

- 1 Adjustable angular stirrups, for microswitch box anchorage and support of the horizontal arm in pressed steel
- 2 Safety microswitch main box 180° rotation n.2 NC contacts
- 3 Horizontal shield support arm in tubular stainless steel
- 4 Fixing clamps for the axial and radial adjustment of the shield in aluminium
- 5 Shield in plastic shockproof and oil-resistant material

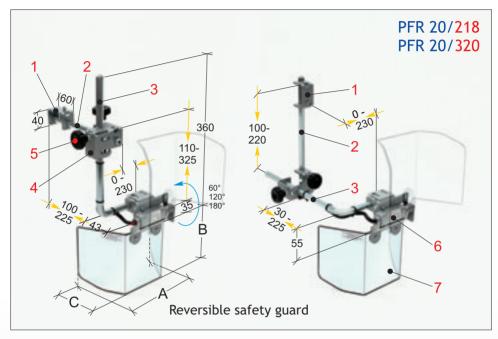


Code	Α	В	С
PFR 10/420	400	200	830
PFR 10/430	400	300	830
PFR 10/530	500	300	930



Safety guards for small Mills and similar machines

Exclusive item supported by adjustable hexagonal arms - Equipped with vertical opening shield, with microswitch integrated in the rotation hinge



Protects the operator from direct contact with rotating parts of the vertical spindle and from the projection of shavings and lubricant-coolant.

Shield equipped with innovative vertical "spring" opening system in the 60°- 120°- 180° positions - Supported by widely-adjustable hexagonal arms, reversible between themselves to make available various fixing configurations.

The safety microswitch is integrated in the special hinge that supports the shield.

- 1 Anchorage stirrup in pressed steel
- 2 Straight support arm in hexagonal steel
- 3 Angular support arm in hexagonal steel
- 4 "Cross" clamp for arm adjustment in pressed steel
- 5 "Cross" clamp adjustment knobs
- 6 Shield support hinge with integrated microswitch n.2 NC contacts
- 7 Semi-hexagonal shield in plastic shockproof and oil-resistant material



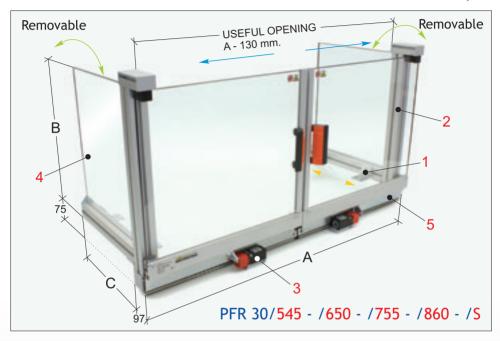
Code	Α	В	С
PFR 20/218	250	180	110
PFR 20/320	300	200	125



Perimeter safety guard to install on the Table

Equipped with two total opening sliding doors and removable lateral panels

Also customized on request



Protects the operator from direct contact with rotating parts of the spindle and from the projection of shavings and lubricant-coolant.

Attachable on the perimeter of the machine table - Equipped with two "total opening" sliding doors on ball guides, made in thick plastic material, "shapeable" for potential vice passage.

The lateral panels are removable for an easier operation of long pieces.

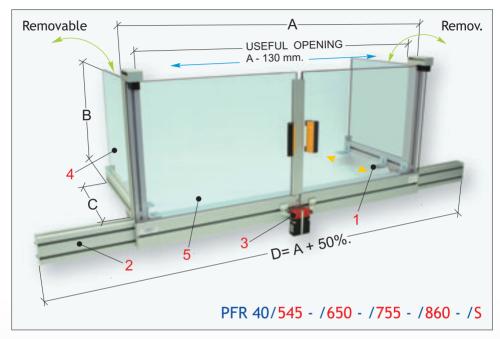
- 1 Angular anchorage stirrups in pressed steel
- 2 Perimeter structure in aluminium profile
- 3 Safety microswitches with separated actuator n.2 NC contacts
- 4 Removable lateral panels in plastic shockproof and oil-resistant material
- 5 Sliding ball guides, with an excursion equal to their length

1/24/1	Code	PFR 30/545	PFR 30/650	PFR 30/755	PFR 30/860	PFR 30/S
75	A B C	1000 450 350	1200 500 400	1400 550 450	1600 600 500	



Perimeter safety guard to install on the Table

Equipped with two total opening sliding doors and removable lateral panels
Also customized on request



Protects the operator from direct contact with rotating parts of the spindle and from the projection of shavings and lubricant-coolant.

Equipped with two "total" opening doors, sliding on Polyethylene "skates", made in thick plastic material, "shapeable" for potential vice passage.

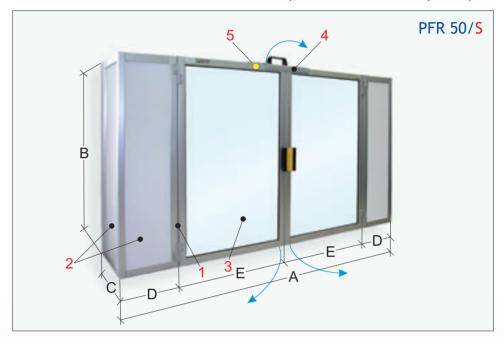
- 1 Angular anchorage stirrups in pressed steel
- 2 Perimeter structure in aluminium profile
- 3 Safety microswitches with separated actuator n.2 NC contacts
- 4 Removable lateral panels in plastic shockproof and oil-resistant material
- 5 Front panels in plastic shockproof and oil-resistant material

	Code	PFR 40/545	PFR 40/650	PFR 40/755	PFR 40/860	PFR 40/S
75	A B C D	1000 450 350 1500	1200 500 400 1800	1400 550 450 2100	1600 600 500 2400	



Perimeter safety guard to install on the Table

Made from two central doors with "knocker" opening and fixed lateral "L"- shaped structures - Made only on request



Protects the operator from contact with rotating spindle parts and from the projection of shavings and lubricant-coolant. Made according to the measurements of the machine table, to which it becomes anchored with the appropriate stirrups - Made from a external structure in aluminium outline, two central doors, with "knocker" opening and "compass" locking system, they are dressed in plastic transparent shockproof and oil-resistant material, while the lateral fixed structures are dressed in "blind" stratified plastic laminate.

Complete with safety microswitch.

- 1 Perimeter structure in aluminium profile
- 2 Lateral panels in stratified shockproof and oil-resistant plastic laminate
- 3 Knocker doors in plastic transparent shockproof and oil-resistant material
- 4 Safety closure with "compass" system
- 5 Safety microswitch with separated actuator n.2 NC contacts

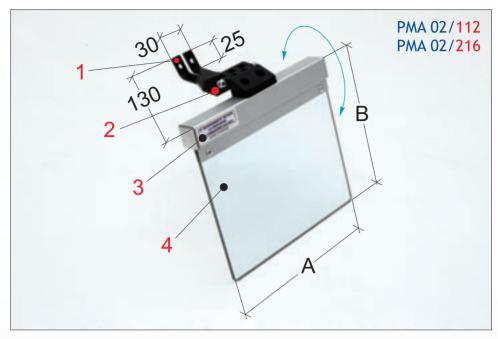


Code	Α	В	С	D	Ε
PFR 50/		••••	••••	••••	



Safety guard for Grinder and tool Grinder

Single shield to be fixed on the grindstone cap, for protection from sparks and emery - Equipped with rubbing articulation for rapid adjustment



Protects the operator's face from the projection of sparks and emery.

The particular form of the anchorage stirrup also allows use on machines with two "flange" caps. Equipped with rubbing articulation for rapid adjustment and wide plastic shockproof material shield.

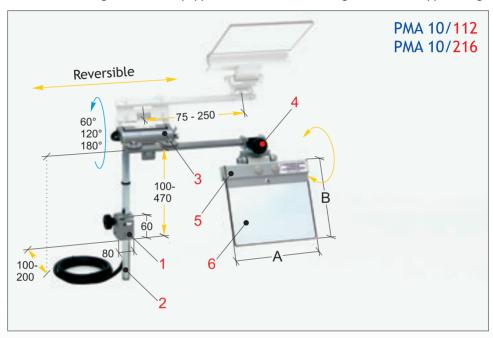
1	Anchorage stirrup - in pressed steel	Code	Α	В
2	Rubbing articulation - in reinforced polyamide			
3	Shield support border - in aluminium profile	PMA 02/112	160	145
4	Shield in plastic shockproof material	PMA 02/216	200	185





Safety guard for Grinder and tool Grinder

Safety guard with single right-left reversible shield, supported by multi-adjustable hexagonal arms - Equipped with microswitch integrated in the support hinge



Protects the operator's face from the projection of sparks and emery.

The particular multi-adjustable hexagonal arms structure allows an easy anchorage on the most different structures, allowing use even on machines with grindstone in "overhang" position. The hinge that supports the protective shield is integrated with the safety microswitch.

1	Anchorage stirrups - in pressed steel
2	Adjustable support arms - in steel he
	Chilatela announce make kilom bilance in kannan i

- xagon Shields group rotation hinge, integrated with safety microswitch - n.2 NC contacts
- Articulated clamp for the horizontal and vertical adjustment of the shield
- Shield support border in aluminium profile 5
- 6 Shield in plastic shockproof material

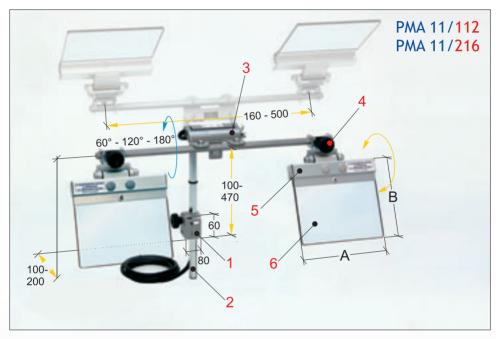
Code	Α	В
PMA 10/112	160	145
PMA 10/216	200	185





Safety guard for Grinder and tool Grinder

Double-shield safety guard, supported by multi-adjustable hexagonal arms. Equipped with microswitch integrated in the support hinge



Protects the operator's face from the projection of sparks and emery.

The particular multi-adjustable hexagonal arms structure allows an easy anchorage on the most different structures, allowing use even on machines with grindstone in "overhang" position. The hinge that supports the protective shield is integrated with the safety microswitch.

1	Anchorage stirrups - in pressed steel
2	Adjustable support arms - in steel hexagon
3	Shields group rotation hinge, integrated wit
	microswitch n 2 NC contacts

3	shields group rotation ninge, integrated with safety
	microswitch - n.2 NC contacts
4	Articulated clamp for the horizontal and vertical

	adjustment of	the shield	b	
E .	Chield support	harder	in aluminium	profile

5 Shield support border - in aluminium profile

6 Shield in plastic shockproof material

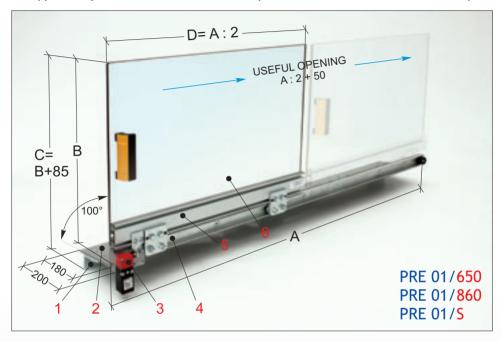
Code	Α	В
PMA 11/112	160	145
PMA 11/216	200	185





Safety guard for universal and surface Grinders

Equipped with sliding door on a steel guide and tempered bearings Supported by inclined structure used for liquid collection - Also customized on request



Protects the operator from direct contact with rotating parts of the grindstone and from the projection of lubricant-coolant - Attachable to the machine by solid inclined sheet metal, also used for liquid collection.

Equipped with sliding door made in thick shockproof plastic material, sliding on steel guides and positioned externally - Complete with safety microswitch.

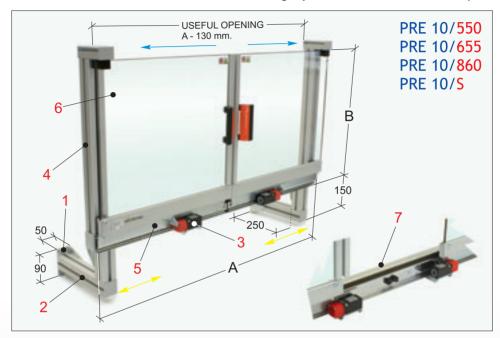
- 1 Angular anchorage stirrups
- 2 Inclined support sheet metal in sheet steel
- 3 Safety microswitch with separated actuator with n.2 NC contacts
- 4 Steel sliding guide with tempered bearings
- 5 Shield support structure in aluminium profile
- 6 Shield in shockproof and oil-resistant thick plastic material



Code	PRE 01/650	PRE 01/860	PRE 01/S
A	1200	1600	
B	500	600	

Safety guard for universal and surface Grinders

Equipped with two sliding doors on telescopic total-opening ball guides Available with double anchorage system - Also customized on request



OCNO PIÙ

Protects the operator from direct contact with rotating parts of the grindstone and from the projection of lubricant-coolant.

Attachable to the fix base of the machine with two horizontally multi-adjustable supports, (point 2) that allow an anchorage of the guard from the bottom side (as shown) or frontally - the supports are also easily shortened if necessary - Equipped with two "total opening" sliding doors on ball guides, made in thick plastic material - Complete with double safety microswitch.

- 1 Angular anchorage stirrups in pressed steel
- 2 Multi-adjustable support structure, with two different attachment systems
- 3 Safety microswitch with separated actuator n.2 NC contacts
- 4 Perimeter structure in aluminium profile
- 5 Sliding ball guides, with an excursion equal to their length
- 6 Shields in shockproof and oil-resistant thick plastic material
- 7 Inner inclined structure for lubricant liquid collection in aluminium sheet



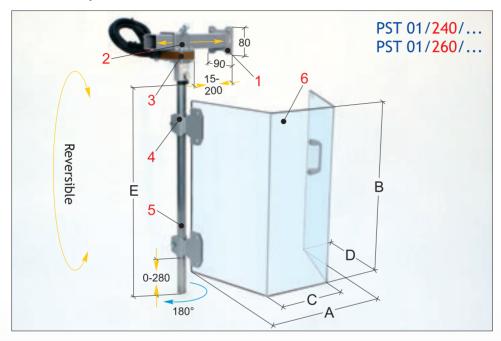
(Code	PRE 10/550	PRE 10/655	PRE 10/860	PRE 10/S
	A B	1000 510	1200 560	1600 660	

Slotting machine PST 01



Safety guard for Slotting - Broaching machines

Item characterized by the vertical reversibility of the support system, for an easy installation on the most different machines - Available in two dimensions



Protects the operator from direct contact with alternate moving parts of the vertical slide and from the projection of shavings.

Thanks to its reversibility it is attachable on the right or left flank of the base, in addition with the high or low support group - Equipped with a completely transparent monolithic shield.

Complete with safety microswitch.

- Note: Specify the mounting side by adding the suffix: /DX = Right /SX = Left.
 - 1 Levelling anchorage stirrup in tubular steel
 - 2 Depth-adjustable safety guard support
 - 3 Safety microswitch main box 180° rotation n.2 NC contacts
 - 4 Adjustable shield-arm fixing clamps in pressed steel
- 5 Vertical shield support arm in tubular stainless steel
- 6 Semi-hexagonal monolithic shield in thick plastic shockproof and oil-resistant material



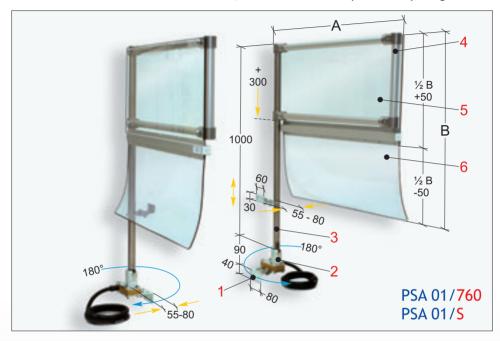
Code	Α	В	С	D	Ε
PST 01/240	400	400	200	250	600
PST 01/260	400	600	200	250	800

Sawing machine PSA 01



Safety guard for alternative Saw

Made from two elements to be fixed on the flanks of the base - Equipped with panels subdivided into two sections, the lower one is shapeable for passage of rods



Protects the operator from direct contact with alternative moving parts of the cut group accessible sideways as well as from the projection of metallic parts that could be generated. Posteriorly attachable on the two sides of the base - The shields are subdivided into two sections, the lower one is made of flexible Pvc, to be potentially shaped for the passage of rods in working. Complete with safety microswitch.

- 1 Adjustable angular anchorage stirrup in pressed steel
- 2 Safety microswitch main box 180° rotation n.2 NC contacts
- 3 Vertical shield support arm in tubular stainless steel
- 4 Shield structure in tubular aluminium
- 5 Upper section of shield in plastic shockproof and oil-resistant material
- 6 Lower section of shield in flexible Pvc, shapeable for the passage of rods

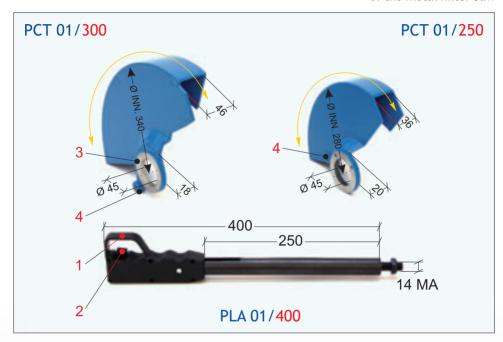


Code	Α	В
PSA 01/760 PSA 01/S	700	600



Various devices for metal Miter Saw

Command device and mobile safety guards, for machines lacking typical safety systems of the metal miter Saw



Universal items to apply to metal miter Saws, lacking typical safety systems of such machines.

The items: PCT 01/250 - PCT 01/300 are made of pressure-fused aluminium, they represent the mobile part of the complete safety guard, that must be integrated with the fixed part, normally already present on the machine or to be done opportunely - The mobile safety guard rotates automatically during the descent of the disc, thanks to the reaction arm fixed between the guard, (point 4) and the machine's fixed structure.

- **Note:** For a sure compatibility check with the machine, it is adviced to examine all the dimensions indicated, particularly the dimensions of the rotation collar: (point 3).

PCT 01/ $\frac{250}{250}$ = Safety guard with Ø maximum of a 250 mm disc - PCT 01/ $\frac{300}{300}$ = Safety guard with Ø maximum of a 300 mm disc.

PLA 01/400 = Universal command lever for Miter saws, equipped with ergonomic handle, with guard ring and pushbutton with contact: (3 Pin) - COM - NO - NC

- 1 Ergonomic handle with guard ring
- Pushbutton with contact (3 Pin) COM NO NC Contact rate: 16(4) A 250VAC 1E4 - 12(4) A 250VAC 5E4
- 3 Safety shield rotation collar
- 4 Reaction arm fulcrum point (not provided)

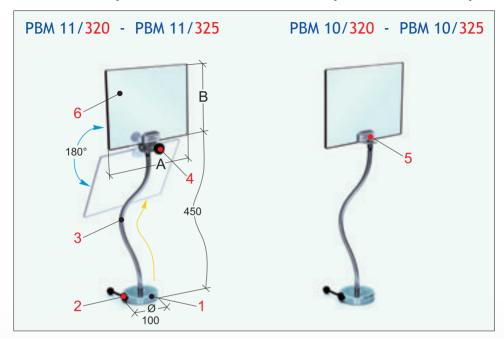


Various machines PBM 10-11



Safety guards with magnetic Base

Versatile magnetically-fixed item, offered in two versions: With adjustable shield on flexible arm - With adjustable shield also with joint



Protects the operator's face from the projection of emery, dusts and small parts generated during operations.

Equipped with a powerful magnetic base with eccentric disconnection lever.

To be used on bases of machines and flat iron surfaces - Offered in two versions: PBM 10/... with shield adjustment by the single flexible arm - PBM 11/... with shield adjustment by flexible arm and articulated joint.

- 1 Magnetic base Ø 100 mm. force of attraction 55 Kg.
- 2 Eccentric disconnection lever
- 3 Flexible articulated arm
- 4 Shield support clamp equipped with articulated joint and locking knob
- 5 Shield support clamp without joint
- 6 Shield in plastic shockproof and oil-resistant material



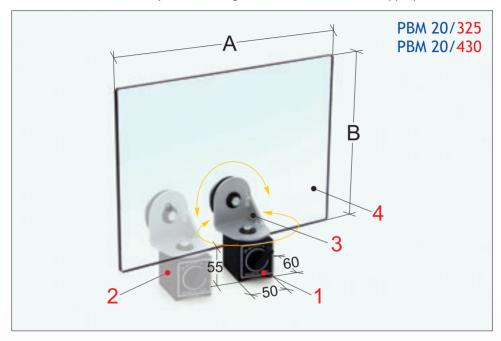
Code	Α	В
PBM 10/320 - PBM 11/320	300	200
PBM 10/325 - PBM 11/325	350	250

Various machines PBM 20



Safety guard with magnetic Base

Universal magnetically-fixed safety guard, provided with adjustable shield on two positions - Magnetic base insertable with appropriate selector



Protects the operator's face from the projection of emery, dusts and small parts generated during operations.

Equipped with a magnetic base with insertion selector - To be used on bases of machines and flat iron surfaces - Shield made of plastic shockproof and oil-resistant material, supplied with double fixing position and angular coupling for an easy positioning.

- Magnetic base dim. 50x60 mm. with insertion selector force of attraction 40 Kg.
- 2 Lateral mounting position of magnetic base
- Rubbing angular coupling in pressed steel
- 4 Shield in plastic shockproof and oil-resistant material

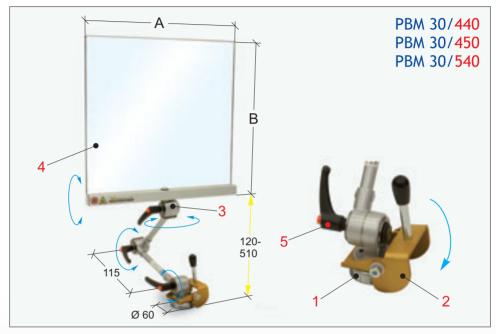


Code	Α	В
PBM 20/325	350	250
PBM 20/430	400	300

Various machines PBM 30

Safety guard with magnetic Base

Universal magnetically-fixed safety guard - The only one to be also positioned vertically, thanks to the powerful Neodymium magnet - Complete with release lever



Magnetic fastening item for universal use, suitable to be used on metal work surfaces and machinery bases - Its numerous articulations allow a shield positioning in any direction: vertically - horizontally "flag type" - with its upper end in contact with the base.

Its features make it suitable for general use: to grind - to assembly small components from possible accidental "projection" - extempored situations where rapidity of intervention is required and where a safety guard with electric interlock is not specifically requested.

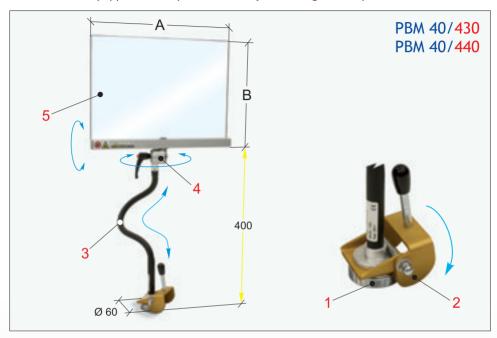
The powerful fastening Neodymium magnet can be used in any situation, even in vertical position or hanging from above.

- 1 Support base with Neodymium magnet Ø 60 mm force of attraction 110 Kg
- 2 Detachment eccentric cam of magnetic base
- 3 Support arm with double articulation, for complete shield adjustment
- 4 Shield in plastic shockproof oil-resistant material, with aluminium structure
- 5 Knobs for articulations lock

	-
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Code	Α	В
PBM 30/440	400	400
PBM 30/450	400	500
PBM 30/540	500	400

Universal safety guard with multi-adjustable shield supported by a flexible arm Equipped with a powerful Neodymium magnet complete with release lever



Magnetic fastening item for universal use, suitable to be used on metal work surfaces and machinery bases. The support flexible arm, equipped with double final articulation, allows the shield to be adjusted in any direction until its tip reaches the base.

Its features make it suitable for general use: to grind - to assembly small components from possible accidental "projection" - extempored situations where rapidity of intervention is required and where a safety guard with electric interlock is not specifically requested.

The powerful fastening Neodymium magnet can be used in any situation, even in vertical position or hanging from above.

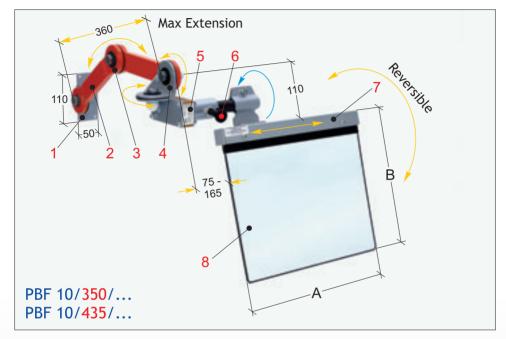
- 1 Support base with Neodymium magnet \emptyset 60 mm force of attraction 110 Kg
- 2 Detachment eccentric cam of magnetic base
- 3 Metal flexible arm, with external plastic material covering
- 4 Double articulation for complete shield adjustment
- 5 Shield in plastic shockproof oil-resistant material, with aluminium structure



Code	Α	В
PBM 40/430	400	300
PBM 40/440	400	400

acno Più Safeguard for hydraulic Presses and various machines

Universal rubbing articulated arms guard, with reversible opening direction Practical and immediately adjustable - Designed for frequent changes of operation



Protects the operator from direct contact with dangerous parts frontally segregated by the shield.

Frontally attachable to the machine - Equipped with wide "visibility" reversible opening shield: vertical or horizontal and left or right, with position-release knob - Available with safety microswitch.

- Note: Specify the mounting side by adding the suffix: /DX = Right /SX = Left
- Available accessories: PBA 01/190 PBA 01/325 PBA 02/325

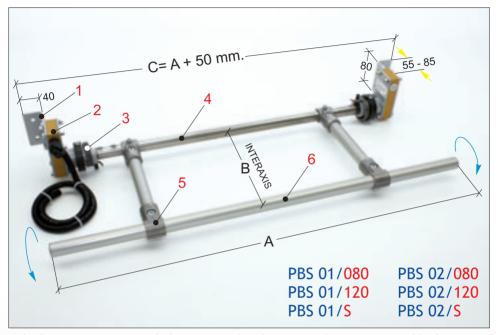
1	Angular anchorage stirrup - in pressed steel	Code	Α	В
2	Articulated arms in tubular steel			
3	Rubbing articulation with friction disc	PBF 10/350	350	300
4	Angular junction for vertical turnover of the shield	PBF 10/435	400	350
5	Main box with 180° rotation and safety microswitch			
	with n.2 NC contacts (optional)			
6	Shield-opening release knob		_	
7	Shield structure in aluminium profile	- 4	-	_

Shield in plastic shockproof and oil-resistant material

Various machines PBS 01 - 02

Safety bar for various Machines

Solid and versatile device, to be used as Stop - Start - Emergency system Operated with arms or feet - Also customized on request



Multi-function item, particularly strong and with various adjustments, suitable for use on different types of machines - Based on the purpose for which it is installed, it allows to operate the "Stop - Start" system, for the simple stopping and-or starting routine, or the "emergency" system for unexpected dangerous situation - Available with single microswitch, code PBS 01/... (assembled on the Left box and, if necessary, shifted on the Right) or with double microswitch, code PBS 02/....

Item designed to be mounted near the ground for being operated with feet (typical emergency function), or in raised position.

Equipped with adjustment of microswitch action.

- 1 Adjustable angular anchorage stirrups in pressed steel
- 2 Main boxes, equipped with one or two safety microswitches n.2 NC contacts
- 3 Spiral springs for the bar recall in resting position
- 4 Connection bar in tubular stainless steel
- 5 Clamps for adjustment of manoeuvre bar
- 6 Manoeuvre bar in tubular aluminium

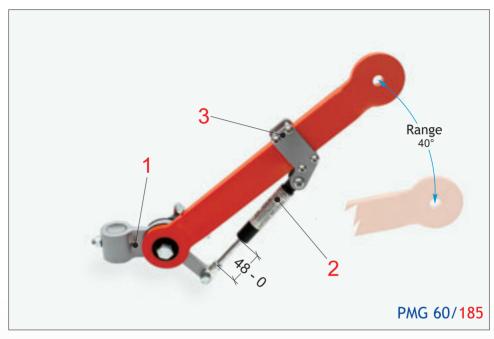


Code	PBS 0/080	PBS 0/120	PBS 0/S	
A	800	1200		
B	250	250		

Complementary accessories PMG 60

Balance Kit

Complete kit for the increase in manoeuvrability of all articulated arms safety guards Ideal for frequent changes in operation



Allows an increase in manoeuvrability of all safety guards originally equipped with articulated arms support system - Complete with all the necessary accessories and bolts, including the support clamp (point 1).

The kit is equipped with a gas spring (point 2) charged with a force of 60 Kg. (average value to undestand a good part of the cases of use), axially adjustable along the articulated arm, thanks to the particular clamp (point 3), this determines the operation range of the spring, corresponding to an angle of about 40° - The effect of the spring auto-suspension implies a reduced clamping of the first joint, (obviously the most subject to the effects of gravity) with consequent reduced physical force for the adjustment and smaller mechanical stress of the component.

- Note: The use of the PMG 60/185 Kit, thanks to its auto-suspension effect, contributes to a better functionality of the additional arm kits: PBA 01/325 - PBA 01/325.

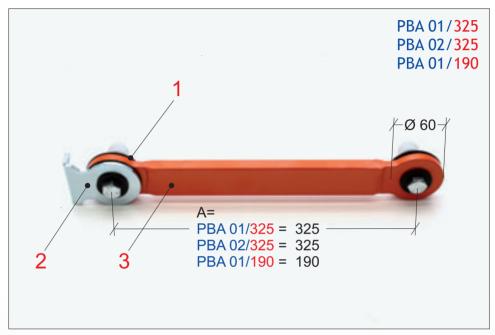
- Gas spring support clamp, to replace the original in welded steel
- 2 Gas spring loaded to 60 Kg.
- 3 Connection clamp with articulated arm, in pressed steel



Complementary accessories PBA 01

Additional articulated arms Kits

Complete kits proposed for the expansion of the range of action of all the safety guards equipped with rubbing articulated arms - Available in various configurations



Increases the shield range of action of all the items originally equipped with the articulated arms support system - Complete with all the necessary accessories and bolts - Available in three versions, according to the range and the rigidity requested:

PBA 01/325 = Simple articulated arm, wheel base 325 mm.

PBA 02/325 = Reinforced articulated arm (composed of two side by side arms) wheel base 325 mm.

PBA 01/190 = Simple articulated arm, wheel base 190 mm.

- Note: Item PBA 02/325 thanks to its rigidity is recommended to increase the range of action of safety guards with shield of a certain volume and weight, as well as all situations where it is considered necessary to increase the "locking" degree of the system and friction of the first arm. Other available accessories: the balancing kit with spring: PMG 60/185 is designed to better support heavy safety guards and to facilitate frequent vertical adjustments, therefore achieving an increase in the holding of the first arm.

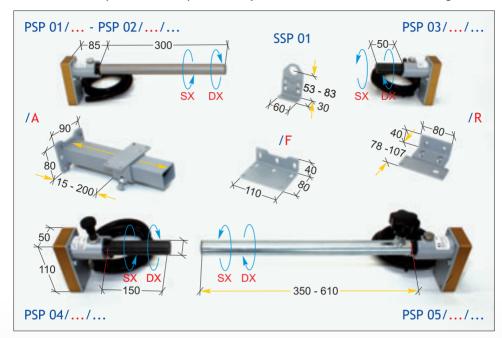
- 1 Friction disc Ø 60 mm in pressed brake lining
- 2 Joint opposition plate in pressed steel
- 3 Additional articulated arm in tubular and discs in welded steel



Complementary accessories PSP

Complete support Groups

Complete shield support kits, available as replacements of the originals and for the production of special safety devices - Available in various configurations



Shield support kits, complete with safety microswitch box, available as replacements for standard safety guards and for the production of special devices:

PSP 01/... = Group with microswitch box with 90° rotation - arm L=300 mm.

PSP 02/.../... = Group with microswitch box with 180° rotation - arm L=300 mm. PSP 03/.../... = Group with microswitch box with 180° rotation - hub L=50 mm.

PSP 04/.../... = Group with microswitch box with 180 $^\circ$ rotation - arm L=150 mm. and unlocking knob of position 0 $^\circ$ and 180 $^\circ$

PSP 05/.../... = Group with microswitch box with 180° rotation - telescopic arm L=350 mm.

SSP 01 = Adjustable angular stirrup for the support of the terminal part of the arm \emptyset 25 mm.

- **Note:** Indicate the type of anchorage stirrup desired completing in the central part of the code the corresponding suffix:

/A = Heavy-type levelling anchorage stirrup.

/F = Frontal and lateral anchorage stirrup.

/R = Adjustable lateral anchorage stirrup.

- **Note:** Specify the operation direction of the microswitch indicating in the final part of the code the suffix: /DX = Right /SX = Left
- Note: All versions are equipped with microswitch of n.2 NC contacts.
- Example code: PSP 02/F/SX = Group with microswitch box with 180° rotation arm L=300 mm
- Frontal and lateral anchorage stirrup Operating microswitch on left side n.2 NC contacts.

THENO PIÙ

Electrical Devices PLS 02-03

Adjustable lamps for Machine tools

Equipped with a powerful led floodlight - Designed specifically to be used on tooling machines, according to applications foreseen in the directive EN 1837



Adjustable lamp proposed in three size and two different supply voltages.

Equipped with white light led floodlight, with 40.000 hours estimated lifetime.

The protection degree IP65 of all its components and resistance to lubricant-coolant oils, make it suitable for use in industrial environments and especially on tooling machines where the different adjustment devices allow an immediate orientation of its light beam which, in the standard version, is projected with angle of 60° .

PLS 02/... = Version with supply voltage, 24V-AC/DC - 6W.

PLS 03/... = Version with incorporated transformer, supply voltage 110÷230V-AC - 6W.

- **Note:** For version PLS 02/..., the use of an electromagnetic transformer (not electronic) is recommended.

- Spare parts:

PLS 02/L60 = Complete led group, with angle of the light beam at 60°-6W.

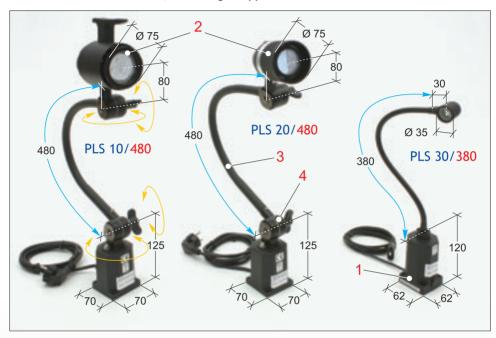
PLS 02/FST = Standard neutral filter, Ø 110 mm.

- Note: On request, floodlights with light beam at 25° and 40° and coloured filters are available.

- 1 PLS 02/... Metal supporting base supply 24V-AC/DC
- 2 PLS 03/... Plastic supporting base with transformer supply 110÷230V-AC
- 3 Adjustable articulation, frictionable or lockable in their seat
- 4 Adjustable led floodlight, with rear light switch

Electrical Devices PLS 10-20-30 Adjustable lamps for general use

Equipped with led floodlight - Suitable to be used on general machines and on work benches, according to applications foreseen in the directive EN 1837



Series of lamps suitable for different uses, immediately positionable thanks to the flexible arm and the various frictionable articulations - Available in different configurations and one supply voltage (110÷230V-AC) - Complete with incorporated transformer and white let floodlight, with 40.000 hours estimated lifetime.

PLS 10/... = Suitable for industrial environments, in particular on tooling machines.

Led Floodlight 3W - Light beam angle 30° - Protection degree IP65 - Supply voltage 110÷230V-AC. PLS 20/... = Suitable for general machines and work benches.

Led Floodlight 3W - Light beam angle 30° - Protection degree IP20 - Supply voltage 110÷230V-AC. PLS $30/\dots$ = Suitable for small tooling machines and locations for precision works.

Led Floodlight 1W - Light beam angle 45 $^{\circ}$ - Protection degree IP55 - Supply voltage 110 \div 230V-AC.

- Spare parts:

PLS 10/L30 = Complete led group - 3W - PLS 10/FST = Standard neutral filter, Ø 65 mm. PLS 20/L30 = Complete led group - 3W - PLS 20/FST = Standard neutral filter, Ø 50 mm.

- Note: On request, all models are available with flexible arm of different sizes.

- 1 PLS 30/... Plastic supporting base, equipped with light switch
- 2 PLS 10/... PLS 20/... Led floodlight with rear light switch
- 3 Metal flexible arm, with protective plastic sheath
- 4 Adjustable articulation, frictionable or lockable in their seat

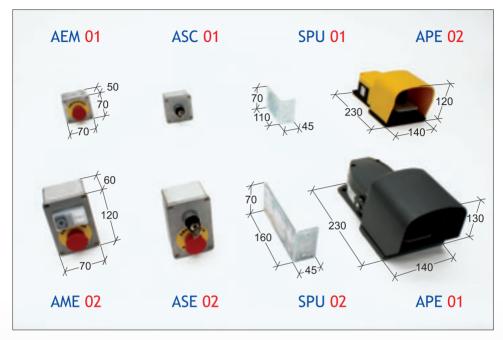
Electrical Devices



A....

Electrical control Devices

Control unit and complementary accessories, proposed in "heavy" configuration Made to fulfill the electrical safety requirements



Pushbutton station and foot switches made in pressure-fused aluminium, complete with accessories and available with angular anchorage stirrups.

AEM 01 = Single operator pushbutton station, with mushroom-shaped Emergency pushbutton, with n.1 NC contact - Yellow label Ø60 "Emergency".

ASC 01 = Single operator pushbutton station, with Selector of two stable positions 0-1 with extractable key, with n.1 NC contact.

AME 02 = Two-operators pushbutton station, with Start-Stop-Light pushbutton, (n.1 NC contact + n.1 NO contact) - mushroom-shaped Emergency pushbutton (n.1 NC contact) - Yellow label Ø60 "Emergency".

ASE 02 = Two-operators pushbutton station, with Selector of two stable positions 0-1 with extractable key (n.1 NC contact) - mushroom-shaped Emergency pushbutton (n.1 NC contact) - Yellow label Ø60 "Emergency".

SPU 01 = Angular anchorage stirrup, for single operator Pushbutton station - in pressed steel.

SPU 02 = Angular anchorage stirrup for two-operators Pushbutton station - in pressed steel.

APE 01 = Heavy-type Foot switch with lever against accidental operations - in aluminium pressure die-casting - n.1 NC contact + n.1 NO contact.

APE 02 = Foot switch with lever against accidental operations - in thermoplastic resin - n.1 NC contact + n.1 NO contact.

- Complementary accessories for pushbutton stations:

ANC 01 = supplementary NC contact - ANO 01 = supplementary NO contact.

Electrical Devices





M....

Electrical safety Devices

Safety microswitches, suitable for general use and replacement for standard safety devices Meets requirements for current regulations - Equipped with forced-opening contacts



Safety microswitches proposed in various configurations:

MCE 01 = Safety microswitch with separated actuator, with release electromagnet: (free actuator with excited electromagnet) - supply 24 VAC-DC - n.2 NC contacts - complete with straight and bent key (original replacement of some production safety devices with sliding doors).

MCH $\overline{01}$ = Safety microswitch with separated actuator, light version - n.2 NC contacts - complete with straight and bent key (original replacement of some production safety devices with sliding doors).

MCP 01 = Safety microswitch with separated actuator, heavy-duty version - n.2 NC contacts - complete with straight and bent key (original replacement of some production safety devices with sliding doors).

MCI 02 = Hinge for door support and safety shield, integrated with safety microswitch - n.2 NC contacts - connectable with item CCI 01 (original replacement of some production safety devices).

MPR 02 = Small-roller safety microswitch in metal, with pre-wired cable of 2 mt. - n.2 NC contacts (original replacement for some production devices, equipped with "microswitch box").

MPI 02 = Small-piston safety microswitch in metal, with pre-wired cable of 2 mt. - n.2 NC contacts (original replacement for most devices equipped with "microswitch box").



