

Shotpeener Pro

For restoration of deformed steel belts

Efficient flattening of deformed steel belts used in WBP presses, cooling lines and bake ovens.

The IPCO Shotpeener Pro is a powerful, efficient and portable tool used to blast steel shot onto the surface of a steel belt in order to release tensions and rectify deformations caused during the belt's operation.

A blasting head travels across the belt at one terminal drum – while the press is still running – and 'shoots' special balls at high pressure across the width of the belt. Air pressure, belt speed and the type of shot can be varied to achieve the best result.

Shot peening has been used as a belt repair solution for many years, mainly in the WBP industry, but also on belts used on cooling lines and in bake ovens. The next generation Shotpeener Pro incorporates a number of technical advances that deliver significantly increased performance:

- Increased blasting effect.
- 30% greater flattening capacity.
- Faster results.
- Streamlined process with less cleaning.
- Easier, safer operation.

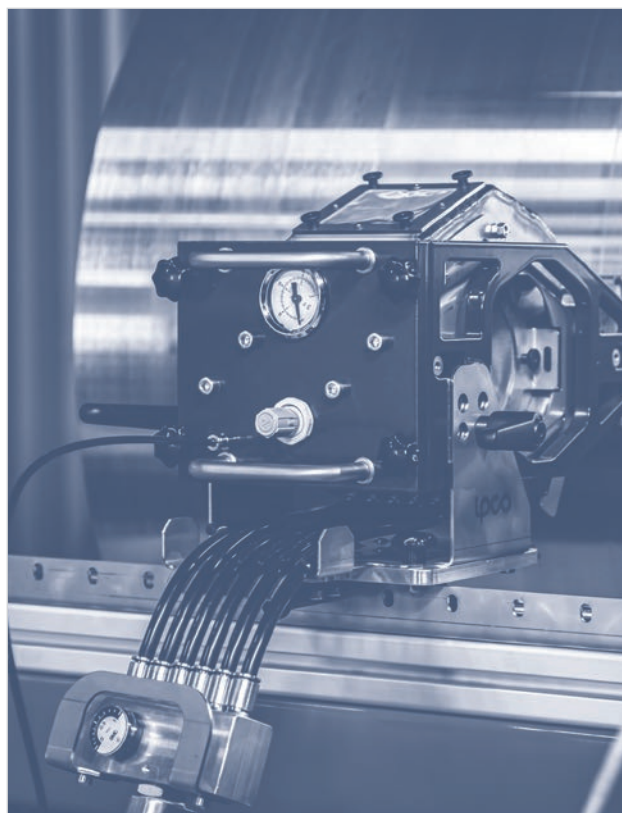
Application

While the shot peening process is also suitable for cooling and bake oven belts, it is most widely used to restore press belts in the WBP industry where the condition of the belt has a direct impact on the quality of end product.

Deformations and uneven tension in a press belt will not only limit its working life, but can adversely impact on product quality.

Belt deformation can be caused by a number of factors including contact with other system components such as belt supports and press plates, or by influences inherent to the process itself such as heat distribution or the product itself. This creates stress patterns causing the belt to acquire a concave shape on the product side, resulting in adverse effects such as:

- Unexpected repairs due to belt edge damage.
- Tracking problems.
- Belt vibration.
- Reduced belt life (due to high stresses particularly at cross welds).
- Poor quality end product (due to uneven pressure/heat distribution).
- Uneven wear of idler rollers.
- Insufficient/excessive contact with safety scraper.
- Poor quality of eventual repairs.
- Movement of the product on the belt.
- Uneven lubrication of bottom side.



Premium quality belt for premium quality end product

Successful production of board products requires the application of controlled pressure and heat across the full width of the belt.

The Shotpeener Pro balances the stresses in a belt, restoring it to a perfectly flat condition without interrupting normal production, thereby ensuring the correct application of heat and pressure to the end product. The increased performance of the Shotpeener Pro means it is possible to restore belts that might previously have been beyond repair.

The benefits of the shot peening process are numerous and include:

- Premium quality end product.
- Prolonged belt life.
- Reduced likelihood of unexpected repairs.
- Reduced scrap.
- More efficient production.

Service application areas

Shot peening can be carried out on any steel belt but the main applications are:

WBP

- Belt thickness: 2.3 – 3.5 mm.
- Grades 1500SM, 1650SM.

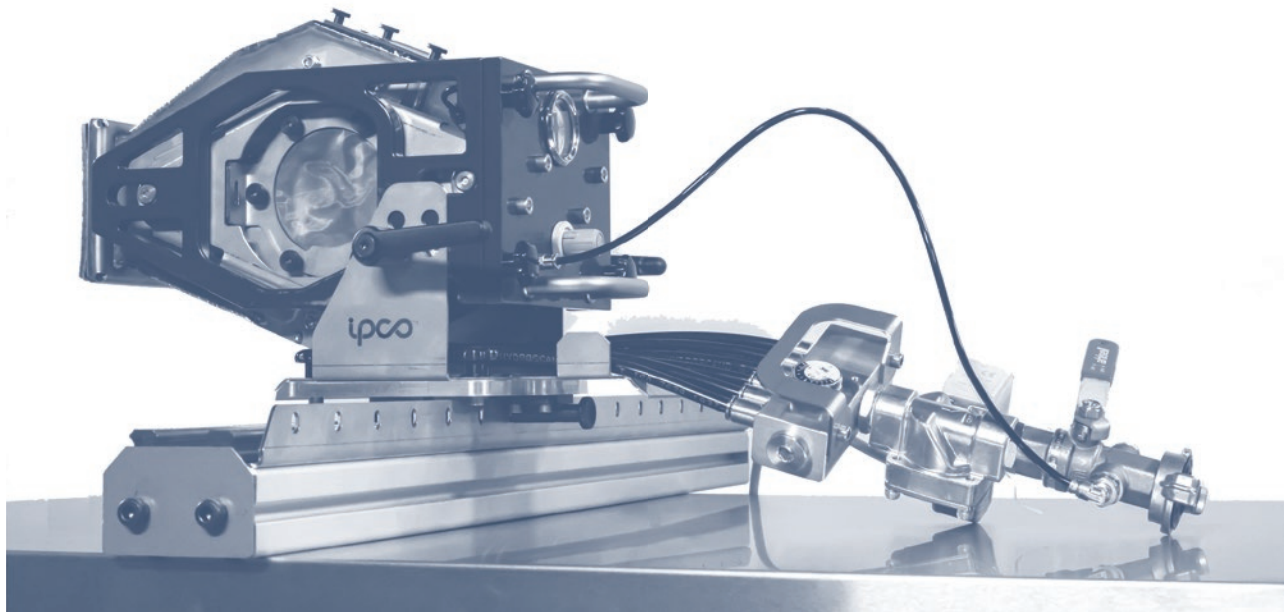
BOB

- Belt thickness: 1.0 – 1.4 mm.
- Grades 1100C, 1300C.

Coolers

- Belt thickness: 0.8 – 1.2 mm.
- Grades 1000SA, 1200SA, 1400SAF, 1500SAF, 1650SM, 1150SM.

Scope of supply



The Shotpeener Pro is supplied as a complete set including:

- Rail and carriage.
- Control box.
- Head, frame and cradle.
- 750ml steel shot EC-260.
- Clamping brackets (x2).
- Bracket for electronic control box.
- 20 m hose.
- Geka claw couplings Male (G $\frac{3}{4}$, G $\frac{1}{2}$).
- Screw clampers.
- Side filter sets (x3).
- Contact glue.

The kit also contains the following spare parts and consumables:

- Front gaskets (x10).
- Handle.
- Push-in fittings Ø4mm & Ø8mm hose.
- Rubber gaskets flat (x3).
- Rubber gasket with radius.
- Star knob M5.
- Knurled nut M3.

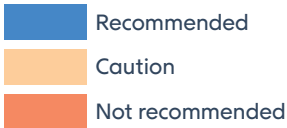
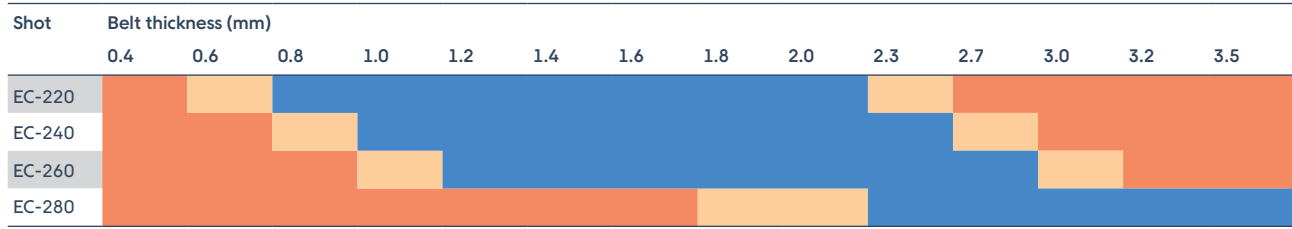
The tool is CE marked.

The entire kit is supplied in a protective, wheeled case.
Size: 826 x 533 x 312 mm. Weight: 43 kg.



Shot suitability

The size of shot used will depend on the surface finish, level of belt deformation, steel belt grade and belt thickness. This table is a guide to the suitability of shot types for different belt thicknesses. We strongly advise following these recommendations in order to achieve optimal flattening results.

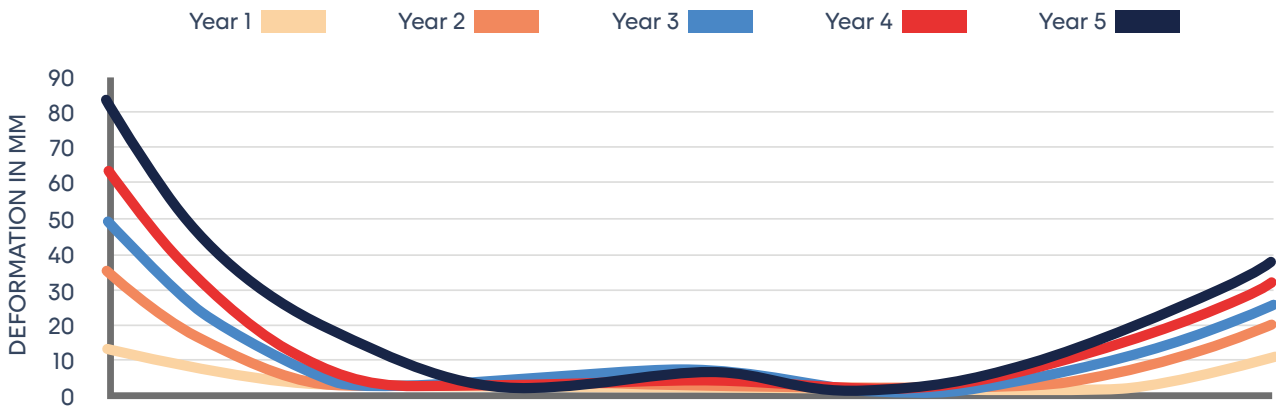


Shot	Min/max Ø (mm)	Filter system	Hardness ± 3%
EC-220	0.6 – 0.85	SFACCE-052	45-51 HRC / 440-620 HV
EC-240	0.71 – 1.0	SFACCE-052	45-51 HRC / 440-620 HV
EC-260	0.85 – 1.2	SFACCE-051	45-51 HRC / 440-620 HV
EC-280	1.2 – 1.7	SFACCE-051	45-51 HRC / 440-620 HV

Guidance for good maintenance

Shot peening should achieve total flatness of the belt without reaching blasting saturation. It is strongly recommended that deviation across the width of the belt should not be allowed to exceed 30 mm. This applies to even deformations, and is measured in the centre of the belt strand, as far as possible from any support.

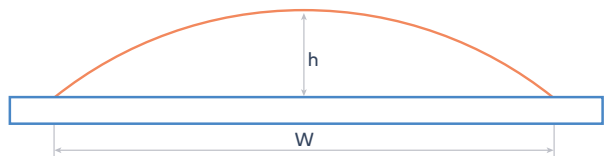
Adhering to this guidance ensures that belts can be restored to a totally flat condition, and that further shot peening repairs will be possible. Should belt deviation exceed 30 mm, subsequent shot peening repairs may not be 100% effective.



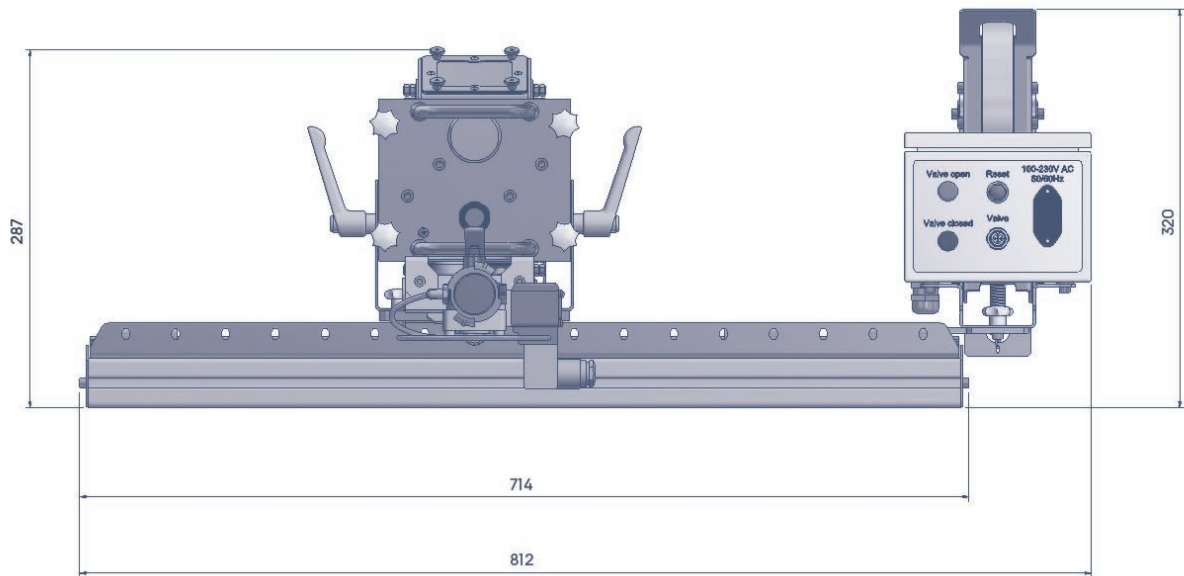
Typical shape evolution over a 5 year period

In local deformations due to scratches or lack of lubrication, the following equation should be applied:

$$\frac{W}{h} \geq 100$$



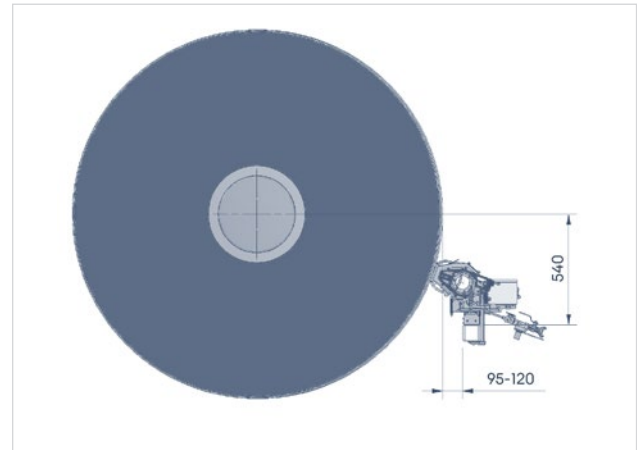
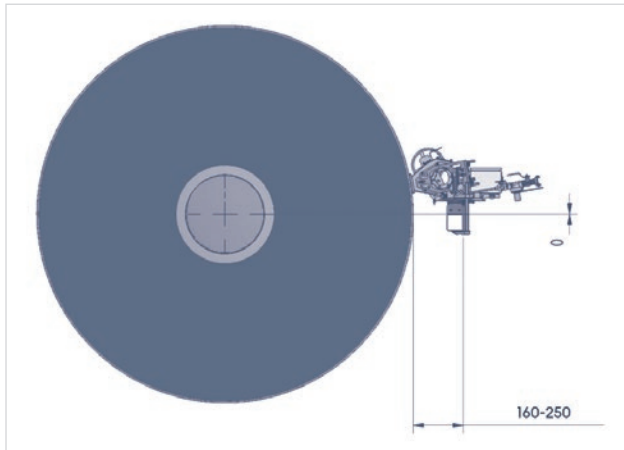
Customer installation requirements



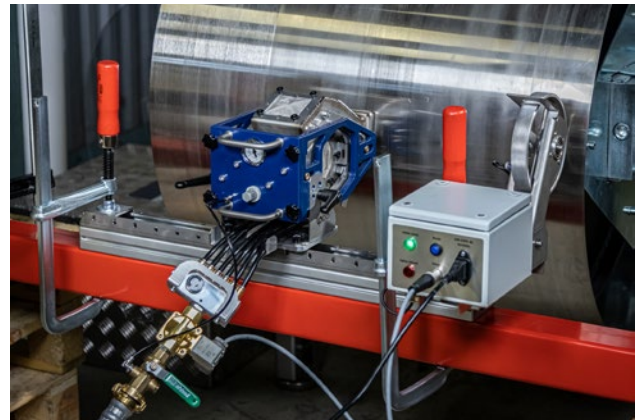
Operation of the Shotpeener Pro requires:

- Power supply: 100/230V AC-50/60 Hz
- Air pressure: 6-10 bar, 1 500 l/min (free of oil and water).

An 80 x 80 mm box section steel frame may also be required (as diagrams below) in order to support the rail on which the unit moves across the belt. This frame can be stored and used again.



These diagrams show the upper and lower limits of the ideal blasting position. We can work outside these limits if required, but this may require additional on-site preparation.



Data given in this document are nominal values and are not guaranteed. Information relating to material, specifications, properties and/or performance is intended as guidance on determining suitability, and may be subject to change without notice.