

**FINN-POWER**

**X5-**

**Finn-Power  
Turret Punch Press  
Increases Quality & Profits  
at Brazilian Manufacturer**

*increased  
productivity...*

# quality manufac



*“The X5 had the best cost/ratio benefit of any of the machines that we considered purchasing.”*

Since 1991, Prolind Industrial, Ltda., São José dos Campos, Brazil, has been producing and assembling components, subsets and sets in aluminum and steel for the automotive, capital goods, railroad, and elevator sectors.

Prolind takes great pride in the quality of its products and services and considers them to be an essential factor in their success. The company's dedication to quality has been rewarded with certification of ISO/TS 16949 and ISO 14001. Prolind's manufacturing, engineering and logistics resources have prepared the company for the new demands of the global market.

In order to produce its sheet metal parts, Prolind has purchased such fabrication equipment as eccentric and hydraulic punch presses, press brakes, shears, MIG, MAG, TAG, and Projection welders; CNC folding machines, etc. In 2004,

the company developed a study in order to search for a new punching machine to replace an older eccentric punch press. “We needed newer technology and more reliability,” explains André Luis Gois, Analista de Métodos e Processo. “We were experiencing too much downtime with the older machine.”

Productivity was also a concern. Prolind was forced to send its complicated parts to a contract manufacturer where missed deadlines and quality control issues were becoming a problem. After obtaining input from their engineers and customers, Prolind chose the Finn-Power X5 turret punch press.

The X5 hydraulic turret punch press provides Finn-Power technology, performance, and reliability and is now available at an affordable investment and operating cost. This 23 metric ton turret punch press can fabricate sheet sizes up to 1,250 mm x 2,500 mm with a capacity of material thickness up to 8 mm.

The X5 has a robust O-frame of welded construction. The rigid machine frame and coordinate table construction permit high axis speed and acceleration. O-frame ensures perfect tool alignment when using full tonnage or nibbling processes.

## Brush Tables & Speed

According to André Luis Gois, another important Finn-Power feature for Prolind was the brush table that reduces fabrication noise levels and helps prevent the sheet surface from scratches. The sheet is well supported and moves slowly, and the table structure does not cause vibration which could be detrimental for micro joints. Gois was also impressed by the X5's speed. Finn-Power is a pioneer in hydraulic high-speed punching systems. The technically advanced hydraulic system offers reliable and fast punching and nibbling at lower noise levels.

The coordinate table moves the work piece in X and Y directions. The slides move on hardened precision linear guide bars with antifriction bearings and are driven by maintenance free AC servo motors. The rotation movement of the motors is transformed into linear movement over precision ball screws. Acceleration and deceleration of the axes is programmable. At the lowest acceleration level the axes start and stop smoothly, i.e. even heavy work pieces can be processed without loss in precision.

The X traverse is 2,584 mm; thus 1,250 mm x 2,500 mm sheet can be processed without repositioning. Working area can be expanded in X direction by automatic repositioning.

The turret has a total of 20 tool stations. Seventeen tool holders have been specified, and three are free for customer selection. Index or Multi-Tools can be chosen. The turret has 29 tools as standard, and the number can be expanded by adding Multi-Tool® stations. Maximum tool diameter is 88.9 mm.

In its flexibility, Finn-Power's tool carrier is unique. Automatic tool changing is accomplished by a bi-directionally rotating



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turret. The dies in the Finn-Power turret are supported during the punching cycle by a die support anvil that directs the punching force into the frame of the machine. The upper and lower turrets are machined together as a set to ensure permanent perfect alignment.

The Finn-Power turret is equipped with a large hub design, it is gear driven and 30 mm diameter shot pins are used. This allows perfect alignment in any place during the punching cycle. Tool change is performed parallel to the sheet positioning.

Other benefits of the X5 include:

**Tool Holders** – Finn-Power incorporates an individual tool holder concept that allows customers to design their own turret layouts. Unlike other designs, specific tool stations are not machined into the turret. Finn-Power offers the only flexible selection of tool holders in the industry. Any tooling style from Mate Precision Tooling or Wilson Tool International can be installed in a Finn-Power turret.

The tool holders for punching tools are installed separately in the turret plates. This gives total flexibility in service, maintenance and upgrading of the turret with additional index or Multi-Tool® tooling.

**Auto-Index** – Finn-Power's unique auto-index system precisely rotates the punch and die in their tool holders using a single A.C. servo-motor system. The system does not need to match separate servo-motors as in some other machines. Rotation in .001 degree programmable increments gives the machine the ability to rotate beyond 360 degrees, thus allowing the system to automatically select the shortest path to rotate to a programmed angle input into the NC part program with simplicity, speed, and reliability.

The auto-index system is rigidly built into the upper and lower frame of the press; there are no gearboxes built inside the turret. This system allows you to add or change index or Multi-Tool® stations whenever the need should arise. This exclusive Finn-Power Auto-Index design allows full tonnage work at maximum material thickness as well as nibbling at maximum speed with all Auto-Index stations. Prolind has two Auto-Index stations.

**Multi-Tool®** – Finn-Power's Multi-Tool stations increase the number of tools available in a turret, thus reducing set-up and increasing productivity. The Multi-Tool system allows multiple tools to be put in one station. Finn-Power Multi-Tool offers 6, 8, 10, or 24 different



punch/die combinations in only one station-a turret within a turret. Prolind has one 16-station Multi-Tool.

## Sheet Clamping

With auto-clamping, clamps close automatically once the sheet is fed into the clamps. Finn-Power's patented clamp setting (PCS) eliminates the need for clamp protection areas and automates clamp position setup. The machine is ready for the next job in a matter of seconds.

The X5 has a connection for third sheet clamp and automatic individual clamp move options. These options allow repositioning of each clamp while holding the sheet with the other clamps. Prolind has these features on its X5 turret punch press.

## Performance

"The X5 had the best cost/ratio benefit of any of the machines that we considered purchasing," says Gois. "We are paying for the machine with the profits that it produces. In addition, we are no longer using the services of the contract manufacturer. It took only three months with the X5 to bring all the contracted work in-house. At Prolind, we have a constant quality improvement program. The X5 is an important part of this program."

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# FINN-POWER

# X5

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*A nova puncionadeira hidráulica X5 proporciona a tecnologia, a performance e a confiabilidade da Finn-Power agora a um adequado investimento e custo de operação. Esta puncionadeira de 23 t pode produzir com chapas de até 1250 x 2500 mm com capacidade de material até 8 mm de espessura.*

Outras características:

- 20 estações de ferramentas
- Golpe de puncionamento controlado digitalmente
- Mesa de escovas para reduzir ruído e proteger o acabamento
- Travamento central para um posicionamento rápido dos grampos
- Auto Index e Multi-Ferramentas

Uma considerável lista de opções também disponível:

- Conjunto de Grampos Programáveis
- Work Chute para peças até 500 x 500 mm
- Sensor de torção de chapa

*Entre em contato ainda hoje para saber como a adequada tecnologia da Finn-Power pode ser instalada no trabalho de sua fabrica.*

*tecnologia...  
performance...  
confiabilidade...*

### A UM PREÇO ADEQUADO



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