



WHITE PAPER

"SOLSONS" / "POP PROW" PIPE WRENCH (# PW1030AL)



PRODUCT

Invented Pipe Wrench for professionals, industries & DIY Sectors. Fits upon any pipe size, round bar, pipe fittings, hex, etc. Useful for Sanitary & Plumbing, Hydraulic & Pneumatic, DIY, Automotive & Refineries.

Introduction

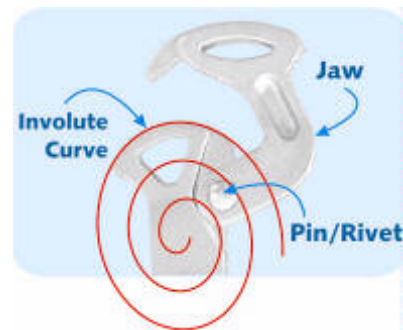
This Pipe Wrench is a time saving tool which automatically sets on any size of Pipe / round bar. Very quick setting is ensured. The usual rotating nut / screw found in the conventional pipe wrench is removed in its design and replaced with new & invented mechanism. This pipe wrench **automatically sizes** any pipe size / round bar from \varnothing 1/8" to \varnothing 3/4" (\varnothing 10 mm to \varnothing 30 mm).



The Design Approach

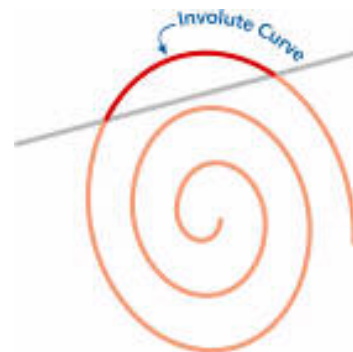
Involute Curve & Jaw

This Pipe Wrench is Invented on the principle of Involute Curve & Jaw mechanism as shown here.



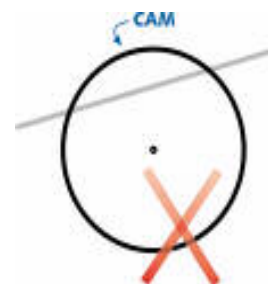
Benefits of the design of Involute Curve

This design of Involute Curve has been inspired from the natural "**free curve**" of a shell (found on the sea beach). The free curve of a shell does not have a centre and this has benefited our design approach.



When such free curve is used in designing a pipe wrench, then while clamping any pipe or round bar, there will always be an **optimum clamping force** generated from any applied force on the handle. Such optimum clamping force holds the pipe firmly and at the same time protects the pipe. The clamping force is directly proportionate to the variable size of the diameter of any pipe. The Design Dept. of "SOLSONS" has converted such natural free curve into the engineering language (called involute curve) and fed into CNC machines to create the moulds and dies for mass production.

It is found in some of the pipe wrenches where part of a Cam is being used upon the handle instead of Involute Curve.





Such Cam is part of a circle and every circle has a centre and thereby, an optimum clamping force cannot be generated by such pipe wrenches. Such pipe wrenches shall not hold the pipe perfectly or may damage the pipe. By using design of the Involute Curve, "SOLSONS" has brought to the world one of the best clamping devices in the form of their Pipe Wrench.

Slip-free grip

Slip-free grip on any pipe, as the Harder you turn the handle, the tighter it grips around any pipe. Unique placement of Involute Curve, Jaw & Rivet provides positive & optimum slip-free grip around any pipe / round bar.



Operates countless Pipes & Round bars

Due to its unique design, this pipe wrench can hold countless pipes & round bars falling within the capacity of \varnothing 1/8" to \varnothing 3/4" (\varnothing 10 mm to \varnothing 30 mm). There is always a step-less movement of the Jaw with reference to the curve.

Angular Teeth

The teeth of Jaw & Involute Curve are designed angular and opposite in direction for a firm & slip-less grip of any pipe or round bar.



Torque

The entire pipe wrench can withstand amazingly high Torque force of 100 lbFt. / 135 Nm.



Strongest Pin / Rivet

The Rivet is formed from a solid stainless steel bar by orbital riveting process which is the strongest part of the pipe wrench.

Quick Ratchet Action

One need not take out & re-clamp the pipe wrench on any pipe / round bar. While holding the Jaw with one hand, the Handle can be swung keeping the pipe wrench upon the pipe. Most convenient at emergency tasks.

Material & Parts

Jaw & Involute Curve

Jaw & Involute Curve of the pipe wrench are made out of high tensile precipitation hardening stainless steel grade 17-4 PH (UNS S17400). They are machined, heat treated and electro-polished to a gleaming finish. They are highly ductile and can withstand an amazing high torque of 100 lbFt / 135 Nm.

Handle

The handle is made out of Aluminum with velvet finish powder coating. The shape of ergonomic handle transfers maximum clamping force to the object – no need to extend the length of handle.

Rust-Proof Life Time

The entire pipe wrench is life time Rust-Proof as its Jaw, Involute Curve & Rivet are made out of stainless steel and the handle is made from aluminum.

The tool is available in a mess-free, neat and clean condition. No grease, oil, etc are found on the tool which can make it messy.

Packaging

This wrench is packed in an eco-friendly card pack (without any pvc shrink pack or bubble pack). Here, the buyer can feel the tool.


Fifty (50) tools fit in a carton.




How does it operate ?

FOR FASTER TIGHTENING

1 Apply the WRENCH on a pipe and its fittings as illustrated, for proper gripping.




Holding Pipe



Holding Hex

2 For tightening (clockwise movement), push the jaw a little & simultaneously turn the handle for firm grip.



FOR EASIER LOOSENING

1 Apply the WRENCH on a pipe and its fittings as illustrated, for proper gripping.



Pipe & its fittings



Union (Hex)

2 For tightening (counter-clockwise movement), push the jaw a little & simultaneously turn the handle for firm grip.



Please see the animation on this product page on www.solsonsusa.com

Applications



Design Certificate: # 181525 & # 178831
Patent Application # 3139/DEL/1998

Note: All above mentioned specifications are subject to change without notice.

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