

STANLEY[®]
Engineered Fastening



**Engineered Fastening Solutions For
Heating, Ventilation & Air Conditioning
(HVAC) Applications**



The use of fasteners is essential for the HVAC industry to ensure reliable, efficient, and safe operation of equipment. It is vital to ensure that fasteners can endure harsh environmental conditions and prevent malfunctioning caused by vibration to guarantee the proper functioning of your HVAC equipment.

Choosing the right fastener is critical for preventing failures that can lead to costly downtime and equipment damage. STANLEY Engineered Fastening's commitment to quality, reliability, and innovation makes us a trusted partner for HVAC manufacturers looking for the best fastener solutions.




- 
Reduce
 - Total cost of ownership
 - Complexity in the assembly process
 - Corrosion & vibration loosening issues
- 
Improve
 - Joint performance
 - Strength and tightness
 - Assembly time
- 
Manage
 - Fasteners portfolio
 - Easy of assembly
 - New technologies & applications

**Revolutionizing the HVAC Industry:
Cutting-Edge Technology Trends You Can't Afford to Miss**



Ductless HVAC Systems



Air-To-Water Heat Pumps



Dual-Fuel Hybrid Heat Pumps

STANLEY Engineered Fastening Solutions

Comprehensive Range Of Solutions

Delivering total system solutions - best in class fasteners and tools to meet your needs with ease

Expertise Early Involvement & Application Engineering

Our commitment to understanding your HVAC challenges

On-Site Training & Installation Support

Experienced team with international experience to help you

Dedicated After-Sales Customer Service

Local support team to assist you after installation for your peace of mind

Commercial Applications

Explore the cutting-edge solutions provided by STANLEY Engineered Fastening for commercial heating and ventilation applications across various sectors.

Whether it's schools, hospitals, public buildings, or industrial manufacturing facilities, our solutions are designed to deliver superior performance and sustainability. With our advanced technology and expertise, we enable efficient heating and ventilation systems that optimize energy usage and reduce environmental impact.

Experience the future of commercial heating and ventilation with STANLEY Engineered Fastening, revolutionizing the way buildings are heated and ventilated for a more sustainable tomorrow.

HVAC Industrial Applications

Fasteners

- Avibulb® XT
- Avex ®
- Monobolt®
- Monobolt® 6.4mm



Tools

- XT3 Pneumatic
- BR12PP-8 Process Monitoring Smart Blind Rivet Tool



Heat pump system of big distribution warehouse



Chillers with fans cooling hot refrigerant on roof used in food industry manufacturing plant



Industrial air conditioning and ventilation system at a hospital



Case Study

Boosting Production Efficiency With Monobolt® Fasteners

When an Italian manufacturer of modular chassis parts for air conditioning units was looking to improve their assembly process, they turned to STANLEY Engineered Fastening for a solution.

Previous Assembly Solution

The previous assembly process involved using bolt, nuts, and washers, which required two workers to complete the process.

Customer Challenges

- Vibration issues causing strip-out
- Need for access to both sides of the assembly
- Thermal shock from traditional fasteners due to continuous fans in the units
- Assembly of modular parts with different grip ranges requiring various fastener SKUs for different grips

The STANLEY Solution Value

STANLEY Engineered Fastening provided a solution by introducing the **Avdel® Monobolt® 6.6 mm Stainless Steel Fastener** to perform the chassis assembly. The results were impressive:

- Reduced assembly time by 40% by eliminating the secondary torque tightening process
- Improved assembly strength and increased resistance to corrosion
- Advanced vibration-resistant capabilities, increasing the safety of the product
- Efficiencies were gained by reducing the number of SKUs needed in inventory

By choosing the right fastening solution, this Italian assembler was able to streamline their manufacturing process, boost production efficiency, and improve the overall quality and safety of their air conditioning units.



AVDEL

European HVAC Leader Achieves 40% Reduction in Production Time by Installing Monobolt® Fasteners for Air Conditioner Chassis Mounting

Residential Applications - Heating

When it comes to heating assemblies, the importance of reliable and secure fastening cannot be overstated. That's why our products are designed specifically to provide a strong, durable fastening that can withstand the demands of your assemblies.

Heat Pumps

Mounting Brackets

Fasteners	Tools
<ul style="list-style-type: none"> Rivet Nut Eurosert® Rivet Nut Hexsert® 	<ul style="list-style-type: none"> XTN20 Pneumatic NB08PT-18 Battery Blind Rivet Nut Tool

Frame Chassis Assembly

Fasteners	Tools
<ul style="list-style-type: none"> Neospeed® Speed Fastening 	<ul style="list-style-type: none"> 7535 Pneumatic SB25PT-05 Battery Powered Speed Tool

Boilers

Control Panel Attachment

Fasteners	Tools
<ul style="list-style-type: none"> Open & Closed-End POP® Rivets Earth Tab Rivets 	<ul style="list-style-type: none"> XT1 & XT2 Pneumatic ProSet® PB2500 Battery

Frame Assembly

Fasteners	Tools
<ul style="list-style-type: none"> Open & Closed End POP® Rivets 	<ul style="list-style-type: none"> XT1 & XT2 Pneumatic ProSet® PB2500 Battery



Residential Applications - Ventilation

Airflow system applications can present significant challenges, including the need for corrosion-resistant and vibration-resistant fastening solutions to ensure reliable and efficient operation.

Fans

Fan Motor Support

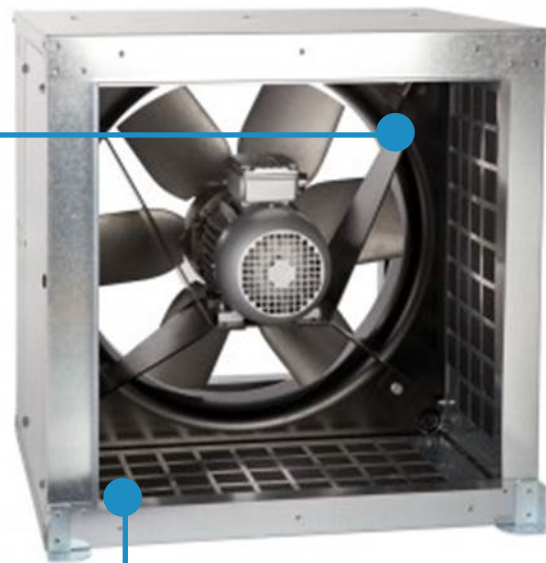
Fasteners

- NeoBolt®



Tools

- NeoBolt PB2500N Battery Tool



Chassis Assembly

Fasteners

- Avibulb® XT
- Avinox® XT



Tools

- XT3 & XT4 Pneumatic
- ProSet® PB3400 Battery



Air Pipes & Dumpers

Blades to Frame Assembly

Fasteners

- Neospeed® Speed Fastening



Tools

- 7535 Pneumatic Tool
- SB25PT-05 Battery Powered Speed Tool



Case Assembly

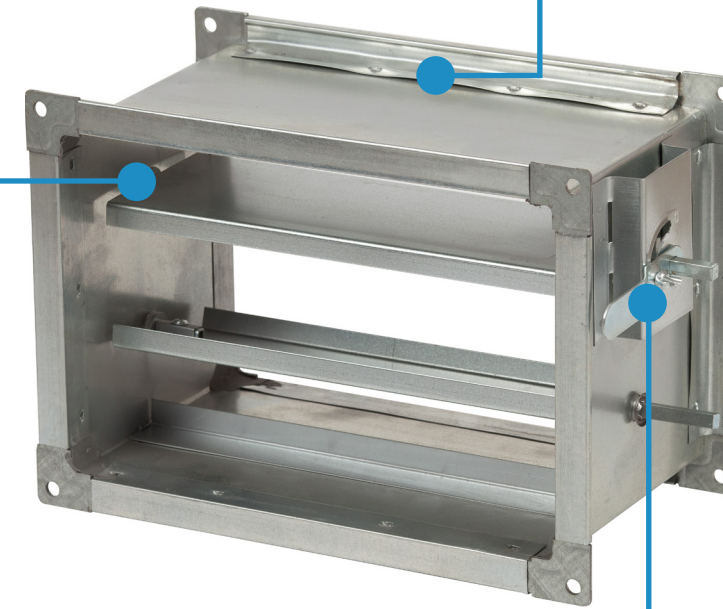
Fasteners

- Avibulb®
- Avinox®



Tools

- XT1 & XT2 Pneumatic
- ProSet® PB2500 Battery



Structure Attachments

Fasteners

- Vgrip® Structural Rivet



Tools

- XT1 & XT2 Pneumatic
- ProSet® PB2500 Battery



Residential Applications - Air Conditioning

Choosing the right air conditioning fasteners is critical for preventing equipment failures, reducing maintenance costs, and ensuring a safe and comfortable environment.

Ductless Air Conditioner Units

Frame to Wall Attachment

Fasteners

- Vgrip® Structural Rivet



Tools

- XT1 & XT2 Pneumatic
- ProSet® PB2500 Battery



Chassis Assembly

Fasteners

- Avibulb®
- Avinox®



Tools

- XT1 & XT2 Pneumatic
- ProSet® PB2500 Battery



Cooling System

Fasteners

- Avseal®
- Avseal® XT



Tools

- XT Series Pneumatic Tools
- ProSet® PB2500 Battery
- ProSet® PB3400 Battery



Air Conditioners

Control Box to Frame

Fasteners

- Hemlok®



Tools

- XT4 Pneumatic
- ProSet® PB3400 Battery



Frame Assembly

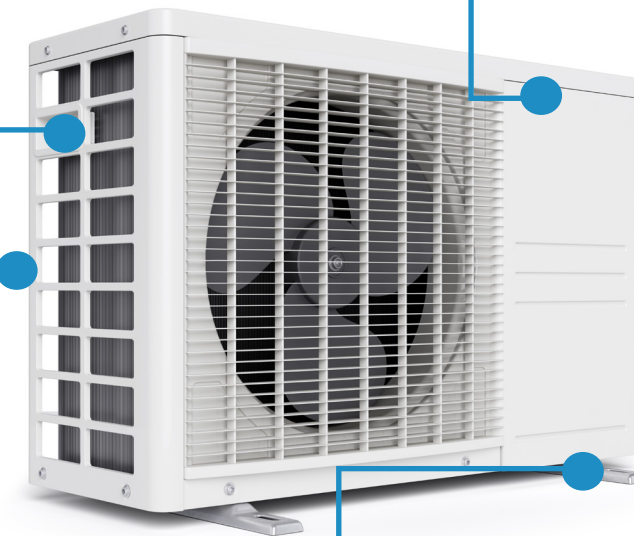
Fasteners

- Monobolt®



Tools

- XT3 Pneumatic
- ProSet® PB3400 Battery



Back Panel Attachment

- Crimptite®

Mounting Brackets

Fasteners

- Avibulb® XT
- Avinox® XT



Tools

- XT3 & XT4 Pneumatic
- ProSet® PB3400 Battery

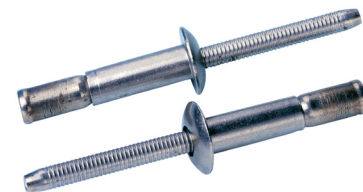


Structural Rivets

MONOBOLT®

Monobolt® blind rivets are designed and developed for demanding applications where safety and performance are paramount.

- Vibration-resistant
- Multi-grip capability
- High shear and tensile strength
- Stops sheet movement in non-standard holes
- Large gap-closing capability
- Visible mechanical lock for easy inspection
- Sizes: 3/16" (4.8mm) - 3/8" (10mm)
- Material: steel, aluminum, stainless steel
- Head style: protruding, countersunk



AVIBULB® XT | AVINOX® XT

Avibulb® XT is a structural breakstem fastener with a wide grip range and is ideal for thin sheet applications and use with softer materials.

Avinox® XT combines high performance with excellent cosmetics and are ideal for thin sheet materials.

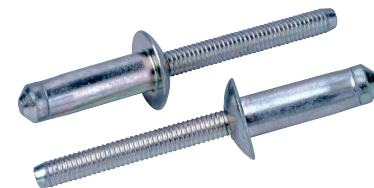
- High Strength and wide hole tolerance
- Versatile multi-grip capability
- Resists vibration and joint slippage
- High residual clamp load
- Spreads bearing load/clamp on the rear sheet
- Sizes: 1/4" (6.4mm)



HEMLOK®

This structural breakstem fastener has exceptional shear and tensile strength and a large blind side bearing area against the rear sheet. The large blind side bearing area spreads the load and prevents creep.

- Strong, vibration-resistant joints
- High residual clamp force
- Large bearing area ideal for thin sheet materials
- Exceptional shear and tensile strength
- Eliminates loose stem rattle and leaks
- Sizes: 1/4" (6.4mm)



Specialist Blind Rivets

VGRIP®

With excellent claim properties, a wide blind side after setting, and many other designed in features, VGrip® provides you with first-class fastener performance.

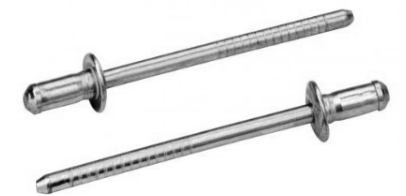
- Extended grip range capability
- Excellent claim properties
- Large blind side
- Positively retained mandrel head
- Rattle-free setting



AVIBULB® | AVINOX®

High-strength steel breakstem fasteners with excellent bulbing tail formation. Ideal for thin sheet materials. The Avdel® Avibulb® also has the advantage of good hole fill compensating for irregular, oversized, or misaligned holes.

- Retained stem
- High shear and tensile strength
- Good hole fill
- Ideal for applications requiring elevated temperatures.
- Sizes: 1/8" (3.2mm) - 5/32" (4.8mm)



POP OPEN & CLOSED-END RIVETS

Legendary POP® open-end and closed-end rivets are designed in variety of sizes, materials, and different lengths for a wide range of applications, but they all feature fast and simple installation.

- Wide range of diameters
- Wide range of lengths suitable for material thicknesses up to 26mm
- Break-head mandrels available in most sizes
- Blind hole, one-sided installation capability
- Closed-End rivets design is ideal for applications that need to be watertight or when stem retention is paramount
- Seals tight, preventing passage of vapor or liquid around or through the set rivet



Rivet Nuts

HEXSERT®

Hexsert® provides a blind threaded insert with a hexagonal body for high torque-to-turn and pull-out performance, particularly in soft metals.

- Can be used for very thin sheet materials from 0.50mm
- Can be installed in pre-coated applications without damaging the surface
- Sizes: M3 - M12
- Materials: Steel, Stainless Steel
- Headforms: low profile and large flange



EUROSERT®

The Eurosert® threaded insert provides load-bearing threads in sheet materials as thin as 0.25mm (0.01”).

- Blind hole one-sided installation capability
- Double diameter body and lead-in chamfer provide easy insertion into hole
- Thread Sizes: M3-M10
- Material: Steel, stainless steel
- Headforms: Low profile and large flange



Speed Rivets

NEOSPEED®

NeoSpeed® is the strongest, most versatile Speed Fastening system on the market delivering throughput up to four times greater than traditional threaded or breakstem fasteners.

- Up to 4x faster installation than traditional rivets
- Up to 3x greater hole tolerance than traditional rivets
- Half the installed weight of traditional rivets
- Wide multi-grip capability
- Sizes: 1/8” (3.2mm) - 5/32” (4.8mm)



Sealing Products

AVSEAL® & AVSEAL XT SEALING PLUGS

The Avseal® sealing plug improves quality and safety in demanding applications while simplifying hole preparation and installation, reducing assembly costs.

- Low and high pressure fluid sealing
- Reduced risk of rework and leak failures
- Simple hole preparation and installation process
- Manual and automated assembly methods
- Sizes: 4mm - 16mm



Lockbolts

NEOBOLT

High-strength, vibration-resistant, and eco-friendly, the NeoBolt® non-breakstem lockbolt fastening system is designed for use in heavy-duty structural applications.

- High shear and tensile strength
- Unmatched vibration-resistance
- No pin-break
- High clamp force
- Sizes: 3/16” (4.8mm) - 1” (25.4mm)
- Material: steel or aluminum
- Head style: round
- Collar option: flanged



Application Solutions

CRIMPTITE®

Engineered for maximum performance in thin metals, Crimptite® outperforms the competition. In tests performed, Crimptite® consistently showed higher strip-out torques and higher drive-to-strip ratios.

- Undercut washer head
- Shank threaded into undercut area to allow full engagement even in thin sheet metals
- Sizes from M3 to M8 (#4 to 5/16”)



EARTH TAB RIVETS

Designed to suit grounded applications, the Earth Tab Rivets provide reliable fastening solution for multiple earthing connections.

- Ideal when working with thin sheet metal panels or enclosures
- Provides strong, vibration resistant joints
- Dome-shaped head
- Body diameter: 4mm
- Rivet size: 5.2mm
- Grip range: 0-2mm



Installation Tools & Systems

PNEUMATIC TOOLS

Proset® XT1 | XT2

- Installs blind rivets up to 3/16" (4.8 mm) and up to 7 mm sealing plugs
- XT1 - Stroke 18 mm, Pull Force 6.5 kN & Weight 1.23 kg
- XT2 - Stroke 20 mm, Pull Force 8.9 kN & Weight 1.32 kg

Proset® XT3 | XT4

- Installs blind rivets and lockbolts up to 1/4" (6.4mm) and up to 12mm sealing plugs
- XT3 - Stroke 26 mm, Pull Force 17 kN & Weight 2.24 kg
- XT4 - Stroke 18 mm, Pull Force 23 kN & Weight 2.26 kg



Proset® XTN 20

- Installs blind rivet nuts from M3 to M10
- High force-to-weight ratio of 11.1 kN/kg.

- Operates in pull-to-force & full-to-stroke modes
- Fast, light, ergonomic with tool-free installation mandrel

BATTERY TOOLS

Proset® PB2500

- Installs rivets up to 3/16" (4.8mm)
- Fast and flexible installation
- Robust 20V Max battery powered by DEWALT

Proset® PB3400

- Installs rivets up to 1/4" (6.4mm)
- High-powered, long stroke
- Robust 20V Max battery powered by DEWALT

PB2500N

- Installs rivets up to 3/16" (4.8mm)
- Fast and flexible installation
- Robust 20V Max battery powered by DEWALT

NB08PT-18

- Installs 900 (M6 steel) blind rivet nuts on a single charge
- Built-in touchscreen and pull-to-force and pull-to-stroke
- DEWALT lithium-ion battery

SB25PT-05 Speed Fastening

- Installs 800 Steel 3/16" NeoSpeed fasteners with a single charge
- Easy to use, enhances operator mobility and accessibility

BR12PP-8 Process Monitoring

- Installs rivets from 1/8" to 3/16 (3.2mm to 4.8mm)
- Programmable, full error-proofing and process monitoring system



Our Global Presence



More than 50 locations around the world provide the most extensive range of fastening solutions and local support for our global customers.



STANLEY Engineered Fastening is a global supplier of fasteners for the HVAC industry. Our comprehensive range of fastener solutions meet the unique needs of your HVAC applications.



<p>AVDEL</p> <p>Structural Blind Fasteners</p>	<p>INTEGRA</p> <p>Plastic Components</p>	<p>NELSON</p> <p>Stud Welding</p>	<p>OPTIA</p> <p>Threaded Fasteners</p>	<p>POP</p> <p>Non-structural Blind Fasteners</p>	<p>STANLEY Assembly Technologies</p> <p>Specialist Assembly</p>	<p>TUCKER</p> <p>Automated Fastener Systems</p>

STANLEY
Engineered Fastening

Stanley Engineered Fastening — a division of Stanley Black and Decker — is the global leader in precision fastening and assembly solutions. Our industry-leading brands, Avdel®, Integra™, Nelson®, Optia™, POP®, STANLEY® Assembly Technologies, and Tucker®, elevate what our customers create. Backed by a team of passionate and responsive problem-solvers, we empower engineers who are changing the world.

STANLEY ENGINEERED FASTENING FAMILY OF BRANDS

AVDEL **INTEGRA** **NELSON** **OPTIA** **POP** **STANLEY** **TUCKER**
Assembly Technologies