



Pharmaceutical Drug Delivery System Insert Screw



Overview

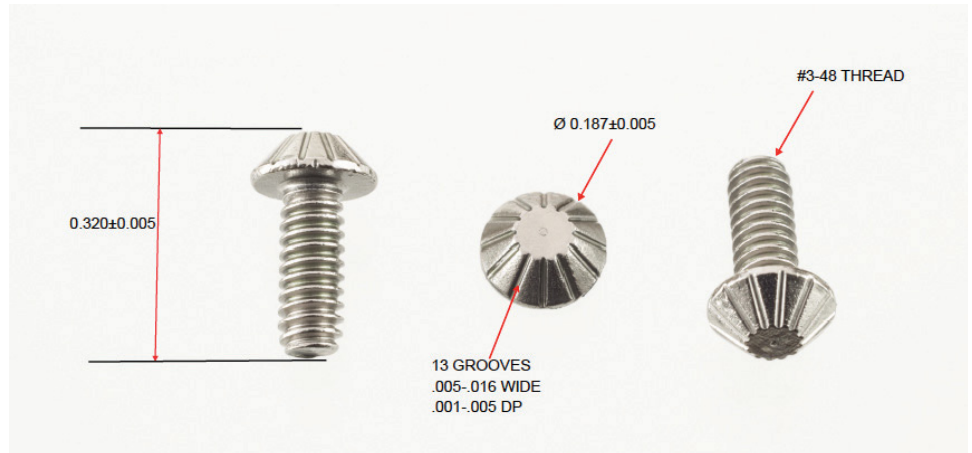
Industry: Medical

Application: Custom rubber over mold stainless steel precision drug delivery control insert screw

Paragon Medical collaborated with a Fortune 500 global pharmaceutical services leader to design and produce a replacement stainless steel insert screw meeting these goals:

- Improving adjustment control
- Mitigating contamination
- Increasing component part geometry and tolerance
- Supplying in excess of 100,000,000 pieces/year

Paragon Medical designed a net shape micro screw producing no scrap, and in the process, developed machine automation and sensor controls to ensure six sigma yield while eliminating costly inspection by the customer. Paragon Medical's proprietary manufacturing cell control system eliminated the pre-existing condition of malformed and contaminated parts reaching the company's customer.



Critical Tolerances:

- Thread: #3-48
- Head Diameter: 0.187"; +/- 0.005"
- Part Length: 0.320"; +/- 0.005"
- Head Grooves: Width = 0.005-.016";
Depth = 0.001-0.005"

Manufacturing Processes:

- Cold Heading
- Upsetting
- Micro Threading
- Proprietary Thread and
Concentricity Detection System

Material:

302HQ Stainless Steel

Unique Benefits

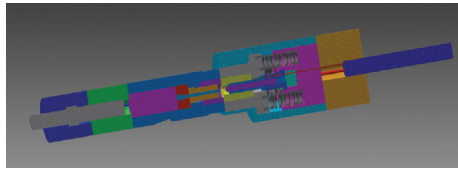
- 100% Net Shape – No Material Scrap
- Six Sigma in process controls
- Work hardening enhances component durability and product life cycle
- Custom contamination-free manufacturing cell

Engineered Cold Formed Solutions For The Most Demanding Applications

Paragon Medical is a global pioneer in collaborative design, development, manufacture and control of miniature and micro-miniature metal components for customers seeking a better solution for yield, strength, assembly and cost through the application of cold forming technologies.

Mechanical design and assembly firms the world over turn to Paragon Medical for their most advanced near-net-shape part requirements to eliminate material scrap, increase mechanical strength and reduce costly secondary operations.

Paragon Medical employs vertically integrated LEAN practices in design, manufacturing, order and global inventory management including stock custom



miniature and micro components for JIT delivery to international customers in medical markets.

Our engineering team applies advanced progression, materials characterization, tooling and manufacturing knowledge to develop cost-effective production routines for each customer's requirements.

Using finite element analysis, quick-turn prototyping, CAD/CAM, soft tooling and in-house tool-making, Paragon Medical has the depth and capabilities to move your project quickly into production.

About Paragon Medical

We act as a **close partner throughout development** to optimize product designs with collaborative solutions that help you deliver the best patient care at the highest total value.

We have the **advanced manufacturing capabilities** needed for medical device component and product manufacturing. We have the ability to engineer and manufacture metal components and assemblies such as springs, stampings, ultra-high precision machined parts, bellows and laser technologies.

We deliver a level of innovation that reduces partner-customer risk and supplier-managed quality that **simplifies your supply chain**, allowing you to bring your products to market faster.

Finally, because we have over 100 years of experience as well as a **commitment to quality** and to **developing long-term partnerships** with our customers, you can be confident in Paragon Medical as your manufacturing partner.

Quality Systems, Controls, Materials

Standards:

- ISO9001:2008
- ITAR
- NIST Traceability

Material Control:

- DFARS
- RoHS
- AMS

Dimensioning & Tolerancing:

- AOI
- RAM Optical Metrology
- Micrometers
- Optical Comparators
- Drop Gages
- Pin Gages
- Vernier
- 100% Inspection Capabilities

Materials:

- 302 Stainless Steel, 304 Stainless Steel 42-6 Stainless Steel
- 48 Alloy, 52 Alloy ASTM-F30
- Copper
- Copper Core 2:1, 3:1, & Special Ratios Inconel X750
- Kovar ASTM-F15
- Molybdenum
- Nickel – Pure, Nickel Iron Alloys Niobium
- Platinum/Iridium
- RA330-04
- Silver



Paragon Medical

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