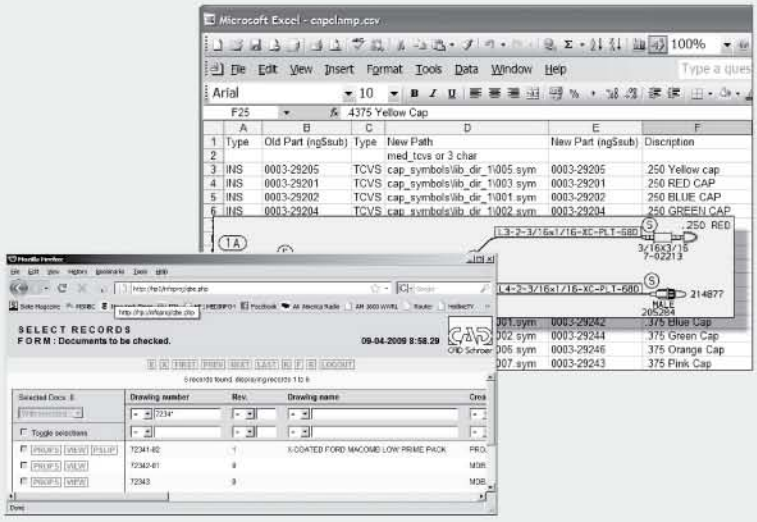
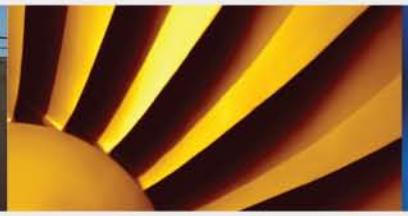
TERUMO

Terumo Cardiovascular Systems & MEDUSA4®

At the Pulse of Product Assembly

PARTNERS IN SUCCESS





CAD Schroer

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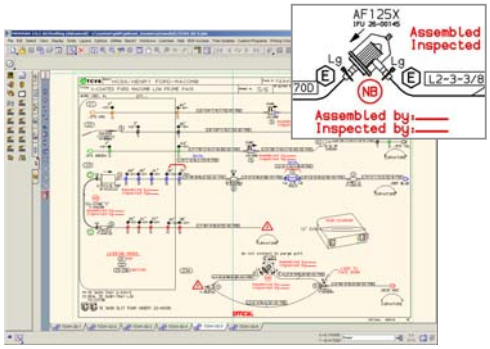
Terumo Cardiovascular Systems Case Study:
MEDUSA4 at the Pulse of Product Assembly

When it comes to matters of the heart, surgeons around the world depend on the U.S.-based specialist company Terumo Cardiovascular Systems Corporation (Terumo CVS) to provide leading-edge technology for patient care. Terumo's product design and drafting department in Ashland, Massachusetts, focuses on a line of essential disposable products for cardiac surgery. Here, CAD Schroer's MEDUSA4 drafting and diagramming package and the MEDINFO document management system are at the pulse of the company's engineering design and data management processes.



One of Terumo CVS' multi-page MEDUSA4 schematics for custom medical device assembly, packaging and shipping

About Terumo Cardiovascular Systems Corporation

Terumo CVS develops, manufactures and distributes medical devices for cardiac and vascular surgery with an emphasis on cardiopulmonary bypass, intra–operative monitoring and vascular grafting. Each year, millions of patients around the world benefit from the use of Terumo CVS products. The parent company, Terumo Corporation, is a global medical device manufacturer focused on cardiac and vascular specialties, hospital products and home health care. Terumo has more than 11,000 associates in 82 sales offices and 17 production facilities around the world.

Custom Assembly Process Drawings

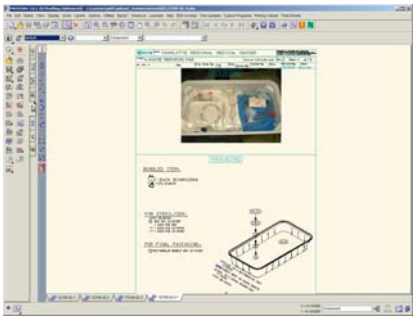
At Terumo CVS in Ashland, every device assembly drawing is a custom drawing based on individual order specifications from a cardiac surgery center. The company has an extensive library of custom symbols for the parts it uses in assembling its boxes of disposable medical devices. These devices are used by expert surgeons around the world and include state-of-the-art self-venting blood oxygenators.

Bob Capistran is the Drawing and Design Manager at Terumo CVS. "MEDUSA4 has dramatically improved our process for designing and controlling our manufacturing specifications," he says. "This improvement has benefited our customers by decreasing turnaround time for implementation of new and revised designs."

MEDRaster Colour™ - Clear and Concise Assembly Instructions

Terumo CVS ensures that staff members assembling their custom medical device packs are furnished with unambiguous, visual specifications.

"We use the MEDUSA4 MEDRaster Colour module to add photographs or colour images to our drawing specifications," Bob explains, "This makes it very easy for workers to see exactly what the finished, assembled and packaged product should look like."

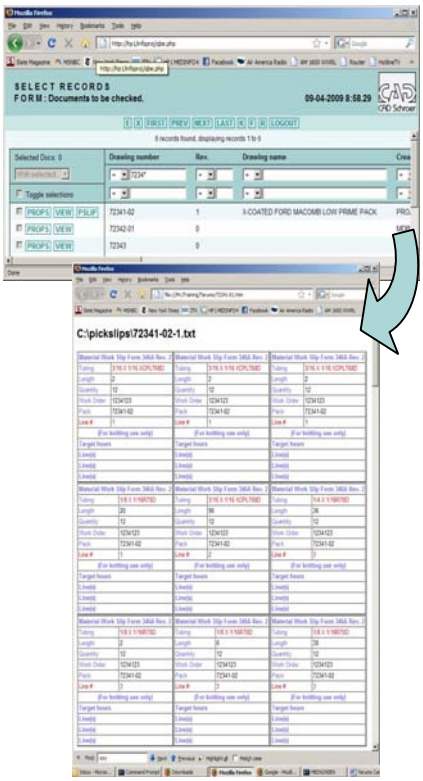


The MEDUSA4 MEDRaster Colour module allows Terumo CVS to add colour images and photographs to assembly and packaging instructions.

MEDInfo™ - Flexible Web-based Data Management

After a design is created with MEDUSA4 and has gone through Terumo's careful approval process, it is released to production through CAD Schroer's MEDUSA4 MEDINFO engineering data and document management system.

Terumo CVS uses MEDInfo to manage all design revisions. Access to the drawing vault is through an internal Web server.



The MEDInfo Web-based document management system, which can create on-demand materials lists directly from MEDUSA4 drawings

Customizations for Process Optimization

CAD Schroer has developed a number of MEDInfo customizations to suit Terumo's processes and optimize workflow. To further aid clarity for assembly workers, for example, engineers are prompted to attach instruction sheets, which can be issued

at the back of a drawing set. These might provide warnings or important additional information and can be added or deleted as required.

Other MEDInfo customizations include:

- Allowing only the latest revision of a design to be viewed/printed by "read-only" authorized users
- Drawing locking and notification if a new revision is in-work by the drafting department
- Auto-generation of multi-page PDF documents of all approved designs
- Multi-sheet management of drawings

ERP Systems Integration

After design release, the system automatically generates bills of materials, which are sent to Terumo CVS' materials management system for purchasing and production.

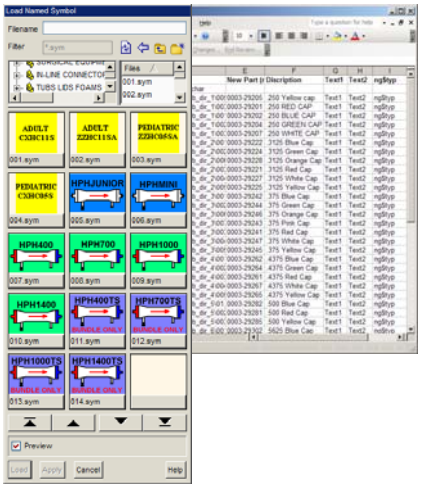
"MEDUSA4's flexibility and customizability allows for easy integration into existing corporate processes and systems," explains Don Terepka, Technical Consultant at CAD Schroer's U.S. office in New York. "Each company is unique, and we work together with clients to create and support custom tools that optimize their design, development and production processes."

Obsolete Parts Management

Another example of a customization for significant efficiency gains is an Obsolete Parts Management Tool developed by CAD Schroer for Terumo CVS. As technology moves on and parts or materials for medical devices change, Terumo CVS needs to update its designs to reflect such changes. This has to be done efficiently, limiting the amount of costly and error-prone manual interventions required.

CAD Schroer devised a solution which accesses a central spreadsheet that tracks all existing and replacement parts.

On demand, all drawings in the database can be updated with new parts as mapped by the spreadsheet. PDF copies of all graphically modified drawings are then automatically regenerated for Web-based view-only use.



The MEDUSA4 Symbol Manager is used to select and place parts onto designs from an extensive library. An Excel-based tool auto-replaces parts that have become obsolete in all relevant designs.

Fast and Reliable Support

Under its maintenance agreement, CAD Schroer offers full support for the customizations it writes for clients.

Terumo CVS' Bob Capistran works in partnership with CAD Schroer's technical consultants. "The customer support that the MEDUSA4 programmers have provided has been exceptional. We can really count on getting quality support in a timely manner," he concludes.

For more information about Terumo Cardiovascular Systems, please visit www.terumo-cvs.com.

To find out more about MEDUSA4, please visit www.cad-schroer.com.

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