

ReadyToProcess connectivity

READYTOPROCESS

Cytiva's ReadyToProcess™ platform of ready-to-use products are designed to provide maximum flexibility. The products simplify and speed up bioprocessing, reduce upfront investment, and accelerate development. The platform also helps eliminate wasteful practices, and increases manufacturing agility. ReadyToProcess products provide smooth interconnectivity and seamless, scalable implementation in biopharmaceutical operations, allowing fully flexible manufacturing facilities.

ReadyToProcess systems and accessories are supported by a wide range of integrated devices that help maintain secure connectivity throughout the manufacturing process. ReadyToProcess connectivity products include Sterile Tube Fuser-Dry, Sterile Tube Fuser-Wet, and Tube Sealer. Simple, sterile connections between media bags, as well as leak proof seals of thermoplastic tubing are examples of ReadyToProcess connectivity solutions.

ReadyToProcess connectivity products provide the links between our systems and components, allowing:

- rapid and secure workflows
- maintenance of sterile integrity
- simple, flexible connectivity

Sterile Tube Fuser

Sterile Tube Fuser (available as Dry or Wet models) is a fully automated device for welding together dry or wet thermoplastic tubing in an aseptic operation without the need for a laminar flow cabinet or similar environmental control device. The instrument is useful for connecting tubing between sterile containers, bioreactor bags, and process equipment. Sterile Tube Fuser-Dry can connect a wide range of tubing diameters (o.d. up to 22.2 mm, 7/8").



Fig 1. Sterile Tube Fuser and Tube Sealer are products within ReadyToProcess platform for smooth connectivity.

Sterile Tube Fuser-Wet can connect C-Flex® tubing diameters (1/4" and 7/16" o.d.) for the rapid and secure transfer of large volumes of inoculum, media buffers, process intermediates, and other products.

Benefits of using Sterile Tube Fuser include:

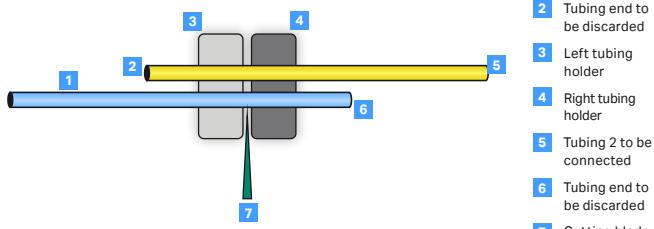
- Ease of use
- Enhanced user safety
- Reduced cooling time
- Reduced blockages in smaller tube sizes
- Covers a wide array of tubing sizes

Operation

Sterile Tube Fuser is simple to use and operates according to the steps outlined in Figure 2. Once the tubing is placed in the holders, the remaining operation is automated and rapid, with a total operational time of 2 to 3 min.

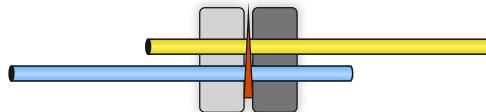
Sterile Tube Fuser

(A)



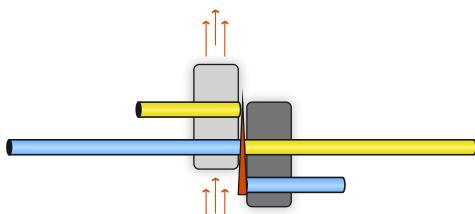
- 1 Tubing 1 to be connected
- 2 Tubing end to be discarded
- 3 Left tubing holder
- 4 Right tubing holder
- 5 Tubing 2 to be connected
- 6 Tubing end to be discarded
- 7 Cutting blade

(B)



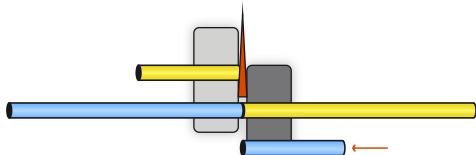
Blade heats up and then cuts through both tubing pieces.

(C)



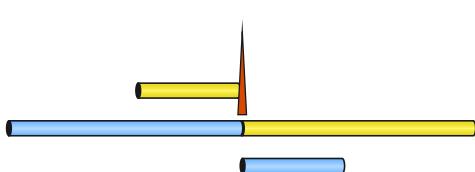
Tubing holders slide the cut tubing into alignment. Hot blade is held against the cut tubing to ensure sterility.

(D)



The blade returns to the start position and the tubing is simultaneously pushed together to form the connection.

(E)



Discard the used blade and cut tubing ends. Remove the connected tubing.

Sterile Tube Fuser has a wide range of applications, including:

- Sterile media transfer
- Vaccine manufacture
- Filling and formulation
- Bioreactor feed and harvest
- Pharmaceutical process fluid transfer
- High containment operations
- In-process pooling
- Buffer transfer

Technical specifications

Sterile Tube Fuser

Features	Typical welding cycle takes ~2 to 3 min
	Non-contact infrared blade temperature sensor
	Uses single-use PTFE coated cutting blades
	Serial communication port
	Can be used to weld most thermoplastic tubing
Tubing diameters	
Sterile Tube Fuser-Dry	1/4"-7/8" o.d. using interchangeable tubing holders
Sterile Tube Fuser-Wet	C-Flex tubing diameters of 1/4" and 7/16" o.d. using interchangeable tubing holders
Cutting blades (BLADES-IR/50)	Single-use in packs of 50
Dimensions (L × W × H)	395 × 355 × 265 mm (15.5" × 14" × 10.4")
Weight	16 kg (35 lb)
Utilities	Voltage: 100-120/220-240 VAC Frequency: 50/60 Hz
Environmental	This equipment is designed for use under the following conditions: • Indoor use • 0°C to 30°C • 2% to 80% rh, non-condensing

Fig 2. Schematic representation of the the steps involved when fusing tubes using Sterile Tube Fuser.

Tube Sealer

Tube Sealer (Fig 3) is a portable device that can heat-seal thermoplastic tubing from 6.4 to 31.8 mm o.d. The seal forms a tamper-proof and leak-proof closure for securing tubes from bags, bottles, and other vessels. Tube Sealer is preprogrammed for many brands of tubing, is fully automated for simplified operation (see Fig 4), and prevents fluids such as inoculum, products, media, and buffers from leaking through tubing, clamps, and plugs.

Key features of Tube Sealer include:

- Keypad-selectable programs for virtually all types and sizes of thermoplastic tubing up to 31.8 mm o.d.
- No adapters required over the entire size range
- Lightweight unit can be used anywhere in the plant or laboratory
- Microprocessor controlled motor ensures reproducible performance



Fig 3. Tube Sealer operator interface.

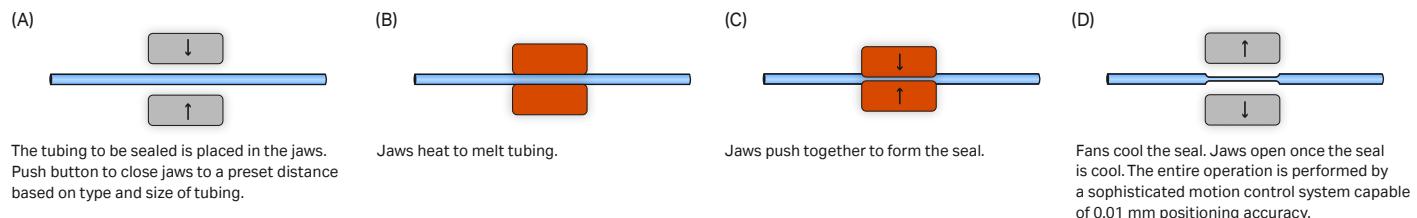


Fig 4. Schematic representation of the the steps involved when sealing tubes using Sterile Tube Sealer.

Technical specifications

Tube Sealer

Features	Seals thermoplastic tubing with outer diameters from 6.4–31.8 mm (1/4"-1 1/4") Typical sealing cycle takes 2 to 3 min Compact and portable Fully automated performance No accessories, compressed air or cooling water needed Factory settings for sealing most thermoplastic tubing
Dimensions (L × W × H)	165 × 356 × 203 mm (6.5" × 14" × 8")
Weight	8 kg (18 lb)
Utilities	Voltage: 100-120/220-240 VAC Frequency: 50/60 Hz
Environmental	This equipment is designed for use under the following conditions: <ul style="list-style-type: none">• Indoor use• 2°C to 32°C• 2% to 80% rh, non-condensing

ReadyToProcess connectivity

Sterile Tube Fuser-Dry, Sterile Tube Fuser-Wet and Tube Sealer are three of the connectivity solutions provided for Cytiva's platform of ReadyToProcess systems and components. These ReadyToProcess connectivity products provide secure, sterile links allowing rapid, secure workflows and maintaining sterile integrity. For further information on ReadyToProcess instruments, components, and connectivity, see *Related literature* and visit www.cytiva.com/readyttoprocess.

Ordering information

Sterile Tube Fuser

Product	Quantity	Code no.
Sterile Tube Fuser-Dry	1	28-9996-02
Sterile Tube Fuser-Wet	1	29-0041-70
Tube Holder Set for 15.5 mm (5/8") o.d. tubing	1	28-4116-81
Tube Holder Set for 19.1 mm (3/4") o.d. tubing	1	28-4116-82
Tube Holder Set for 11.2 mm (7/16") o.d. tubing	1	28-4116-83
Tube Holder Set for 11.2 mm (7/16") o.d. tubing (clamped tube holder set for wet welding; for use with STF-Wet)	1	29-0117-82
Tube Pinch Holder Set for 6.4 mm (1/4") o.d. tubing	1	29-0026-29
Tube Holder Set for 6.4 mm (1/4") o.d. tubing (clamped tube holder set for wet welding; for use with STF-Wet)	1	29-0118-37
Tube Holder Set for 8.0 mm (5/16") o.d. tubing	1	28-4116-85
Tube Holder Set for 9.6 mm (3/8") o.d. tubing	1	28-4116-86
Tube Holder Set for 12.5 mm (1/2") o.d. tubing	1	28-4116-87
Tube Holder Set for 22.2 mm (7/8") o.d. tubing	1	28-4116-88
Tube Holder Set for 14.3 mm (9/16") o.d. tubing	1	28-4128-99
Single-use stainless steel cutting blades with PTFE coating (50 blades/package)	1	28-4117-01
Blade Removal Tool	1	29-0119-31
STF Tube Data Management Tool (GUI)	1	29-0026-52
Clamp tool Assembly-STF-WET	1	29-0110-18

Tube Sealer

Product	Quantity	Code no.
Tube Sealer	1	28-4117-04
HLTS Tube Data Management Tool (GUI)	1	29-0027-82

Related literature

Data file: ReadyMate Disposable Aseptic Connectors	28-9379-02
Brochure: Plug & Play, ReadyToProcess, Ready-to-use technologies for greater speed and agility in bioprocessing	28-9790-83

cytiva.com/readyttoprocess

Cytiva and the Drop logo are trademarks of Global Life Sciences IP Holdco LLC or an affiliate. ReadyMate and ReadyToProcess are trademarks of Global Life Sciences Solutions USA LLC or an affiliate doing business as Cytiva.

ReadyMate is covered by US patent number 6,679,529 B2 owned by Johnson & Boley Holdings, LLC and licensed to Cytiva.

C-Flex is a registered trademark of Saint-Gobain Performance Plastics.

All other third-party trademarks are the property of their respective owners.

© 2020 Cytiva

All goods and services are sold subject to the terms and conditions of sale of the supplying company operating within the Cytiva business. A copy of those terms and conditions is available on request. Contact your local Cytiva representative for the most current information.

For local office contact information, visit cytiva.com/contact

CY13692-11Aug20-DF

