

SUT ASSEMBLIES FOR THE BIOPHARMACEUTICAL INDUSTRY

Reduced cross contamination risks, simplified cleaning procedures and customizable solutions, are just a few key reasons single-use systems have emerged as a key manufacturing platform for the global biopharmaceutical community. WHK's BioSystems team offers decades of industry experience and we're ready to put it to work for you!



ASEPTIC TRANSFER BOTTLES

Our bottle assemblies accommodate most standard bottle sizes and offer a variety of configuration options.

- Typical applications include batch sampling, cell culture, media/buffer storage and general lab research
- From "Package to Production," sterilization options allow for immediate use right out of the bag
- Highly customizable to suit any design requirements



W-TPE™ BIOPHARM TUBING

Our material is specifically formulated and tested to meet the rigorous demands of the Biopharm industry.

- Extruded in an ISO Class 7 cleanroom environment
- Heat sealable/weldable
- BPA, Latex, Phthalate and animal free
- Class VI, USP 85, USP 87, USP 788



OVERMOLDING TECHNOLOGY

A core competency of WHK, injection molded solutions provide the cleanest, most secure fluid management products in the industry.

- Specializing in TPE and silicone materials
- With contract manufacturing, our diverse injection press sizing allows for full production scalability
- Experienced engineering team with material and processing expertise to handle the most demanding requirements



DEVICE ASSEMBLY

WHK understands the unique and challenging supply chain requirements facing OEMs.

- ISO 13485:2016 certified Quality Management System
- ISO Class 7 cleanroom manufacturing environment
- Comprehensive quality control systems and regulatory body experience
- Full suite of manufacturing capabilities
- Extensive experience manufacturing for single-use biopharmaceutical applications



CUSTOM TUBE SETS

We offer tube set design and manufacturing services using a wide variety of components and materials.

- Utilize industry leading brands like C-Flex®, Colder, Advantapure® and Pharmed BPT®
- High-quality, cost-effective sets with short lead times

Do More With WHK BioSystems

With Design Services, we will take you from pre-planning to production without losing sight of cost or quality. We also offer Complementary Manufacturing Services like RF welding, plastic machining, custom packaging and kit assembly!

[Find out more at whkbiosystems.com/capabilities](http://whkbiosystems.com/capabilities)

User is responsible for determining suitability and safety of all products for intended use. Information as supplied in this document is intended to provide guidance only. WHK BioSystems disclaims all liability regarding this products fitness for use. WHK BioSystems has also relied on raw material suppliers for a portion of the information and compliance statements contained in this document.



All SUT Assemblies are put together
by WHK BioSystems in the USA!



WHK BioSystems, LLC, is a wholly owned subsidiary of TSE Industries, Inc. 



THE WHK DIFFERENCE

- Maintain fluid path integrity
- Zero cleaning validation
- Component traceability
- Ideal for single-use systems
- Complete assembly capabilities
- Customizable solutions

COMPLETE BOTTLE ASSEMBLY TECHNICAL DATA

WHK BioSystems provides customers with a complete assembly solution through our ISO 13485 certified, Class 7 cleanroom manufacturing facilities. With our reliable supply chain management, we can furnish a product that includes component traceability during the manufacturing process, zero product cleaning, and 100% fluid path integrity. WHK offers a wide variety of stopper configurations, containers and accessories that meet the rigorous standards of the laboratory, biopharmaceutical, and life science industries. All materials are USP Class VI approved.

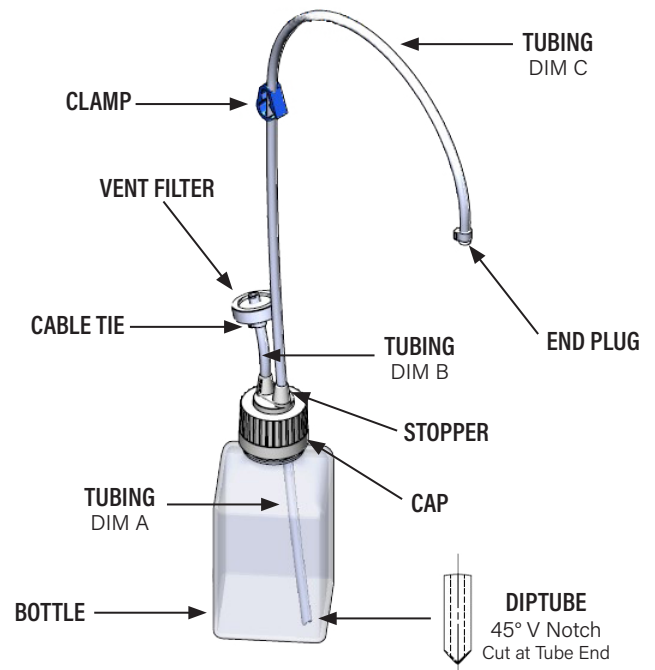
ANATOMY OF ASSEMBLY



WHK BioSystems offers a number of options and accessories when it comes to complete bottle assembly:

- Bottle choices come in a range of size, style and material options.
- Overmolded stoppers with multiple ports (positions or holes) that allow for easy access to bottle materials via W-TPE™ tubing without the full removal of stopper.
- W-TPE™ tubing is offered in a variety of diameters, thicknesses and cut-to-length sizes. Diptube notches are cut standard.
- Bottle caps fit most industry bottles and come in standard white. Optional colors for bottle identification are available.
- Customization options and components from industry brands are available upon request.

TYPICAL BOTTLE ASSEMBLY



BOTTLE ASSEMBLY PARTS DESCRIPTION

Filter, PVDF, 25 mm, .2µm	Open Top Cap, White, Polypropylene
TPE Overmolded Stopper, ADCF	End Plug, Polypropylene, ADCF
Pinch Clamp, Polypropylene, ADCF	PETG Bottle*
W-TPE™ Tubing (See chart on reverse side for complete part details)	

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The charts below provide guidance on choosing the proper container size, style and material, as well as stopper port arrangement, gamma dosing and W-TPE™ tubing length. Refer to our W-TPE™ Tubing Technical Data for complete details on tubing properties.

BOTTLE SIZE CHART



PART NO.	PORTS	BOTTLE MTL	FEED LINE ID	VENT LINE ID	IRRADIATION	DIM A	DIM B	DIM C
STPWB2-125-125mL-G	2	125mL PETG	.125"	.125"	Yes	4.50"	3"	18"
STPWB2-125-250mL-G	2	250mL PETG	.125"	.125"	Yes	6.00"	3"	18"
STPWB2-125-500mL-G	2	500mL PETG	.125"	.125"	Yes	7.50"	3"	18"
STPWB2-125-1L-G	2	1L PETG	.125"	.125"	Yes	9.00"	3"	18"
STPWB2-125-2L-G	2	2L PETG	.125"	.125"	Yes	11.25"	3"	18"
STPWB2-250-1L-G	2	1L PETG	.250"	.125"	Yes	9.00"	3"	18"
STPWB2-250-2L-G	2	2L PETG	.250"	.125"	Yes	11.25"	3"	18"
STPWB2-125-125mL	2	125mL PETG	.125"	.125"	No	4.50"	3"	18"
STPWB2-125-250mL	2	250mL PETG	.125"	.125"	No	6.00"	3"	18"
STPWB2-125-500mL	2	500mL PETG	.125"	.125"	No	7.50"	3"	18"
STPWB2-125-1L	2	1L PETG	.125"	.125"	No	9.00"	3"	18"
STPWB2-125-2L	2	2L PETG	.125"	.125"	No	11.25"	3"	18"
STPWB2-250-1L	2	1L PETG	.250"	.125"	No	9.00"	3"	18"
STPWB2-250-2L	2	2L PETG	.250"	.125"	No	11.25"	3"	18"

BOTTLE STYLES & SIZES



STYLE	CARBOY	SQUARE BOTTLE	ROUND BOTTLE	FLASK
SIZES	4L to 50L	30mL to 4L	3mL to 50L	125mL to 2000mL
MATERIAL	PP/PPCO, HDPE, LDPE, PC, FLPE	PPCO, HDPE, PC, PETG	PPCO, PC, PMP, FEP	PPCO, PC, PMP, FEP
COLORS	White Translucent, Clear, Yellow Tint	White Translucent, Clear, Yellow Tint	White Translucent, Clear	White Translucent, Clear
OPTIONS	With/Without Spigot	Wide or Narrow Mouth, Dilution	Wide Mouth, Narrow Mouth	Baffled

PLASTIC MATERIALS



PP/PPCO	Polypropylene	Good chemical compatibility, autoclavable, BPA-free
HDPE	High Density Polyethylene	Good chemical compatibility, not autoclavable, BPA-free
PC	Polycarbonate	Impact resistant, freezer to autoclave, Contains BPA
PETG	Polyethylene Terephthalate (Copolymer G)	Pre-sterilized, not autoclavable, BPA-free

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