

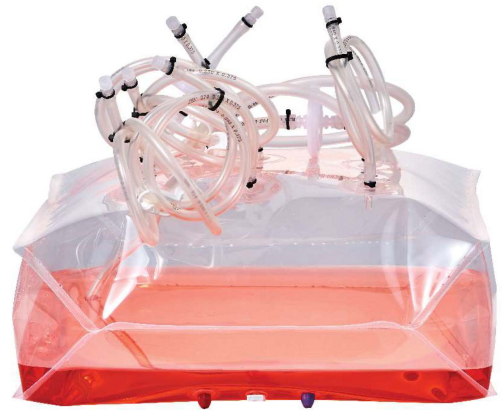
ORBTEC™ 3D BAG

Single Use Culture Bag for OrbTec Bioreactor

Parker's OrbTec 3D Bag is designed to seamlessly integrate with the OrbTec Bioreactor. Each bag offers safe handling of cell cultures, compatible with a wide range of pressures, temperatures, and pHs.

The bags are equipped with ports for gas, liquid, sampling, and media transfer. The product contact surface is ULDPE, while the middle and outer layers are EVOH and LDPE, respectively.

OrbTec 3D Bags also come pre-installed with optical pH and DO sensors, allowing for plug-and-play capabilities with the OrbTec Bioreactor. The bags are available in a range of sizes, from 5L to 1000L to allow for easy scale up and are ideal for cell culturing applications where sterility, integrity, and sensing are key.



Features & Benefits

- Integrated optical pH and DO ports
- Sterile sampling ports
- Gamma ray irradiation sterilization (25-50kGy)
- Easy integration with Parker filters, sensors, and pumping systems
- Manufactured in Class 7 clean room

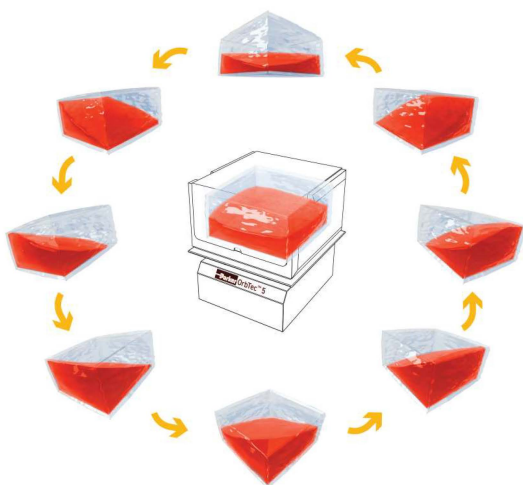


Diagram of 3D Bag inside OrbTec Bioreactor Rocker



Film Specifications

5-layer co-extruded film

The 5 co-extruded layers of the 13 mil, (0.325 mm) thick film are shown at right. Ultra low density polyethylene is the fluid contact layer, ethylene vinyl alcohol is the gas barrier layer, and low density polyethylene is the outer layer. Together, these layers offer the best combination of strength, flexibility, gas barrier and low extractables.

Mechanical properties

- Film thickness: 0.325mm
- Specific gravity: ASTM D-792 0.9 g/cm³
- Film strength:
 - Tensile strength: ASTM D-882 13.5 MPa
 - Elongation: ASTM D-882 290%
 - Elastic modulus: ASTM D-882 360 MPa
- Optical properties:
 - Haze: ASTM D-1003 7%
 - Clarity: ASTM D-1003 97%
 - Transmittance: ASTM D-1003 93%
- Barrier:
 - Water vapor transmission rate: ASTM F-1249 0.33 g / (m²*day)
 - Oxygen permeability: ASTM D-3985 <0.05 cm³ / (m²*day*atm)
 - Carbon dioxide permeability: ASTM F-2476 <0.02 cm³ / (m²*day*atm)

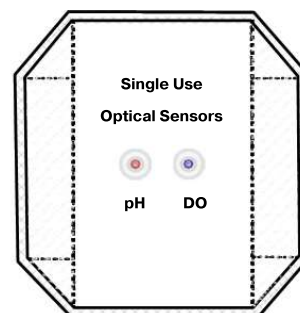
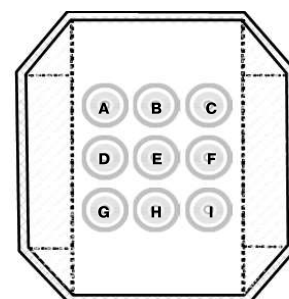
Validations

USP <665>	Extractables & Leachables, plastic containers
USP <85>	Bacterial Endotoxins - LAL Test
USP <88>	Biological Reactivity Testing, in vivo, class VI
USP <87>	USP <88> & Class VI
USP <788>	Sub-visible Particulates
TSE/BSE	EMA/410/01 and EP 5.2.8
ISO 10993-4	Hemolysis, Cytotoxicity
Gamma Sterilization	25 - 50 kGy
ISO 11137	Sterility Assurance Level (SAL) 10 ⁻⁶

The bags are produced in an ISO CLASS 7 clean rooms by trained individuals with thoroughly tested machinery. They are tested thoroughly for integrity, temperature and pressure before shipment in order to prevent issues from arising and are double packed to prevent contamination during transport.

Fluid Contact Side

ULDPE
TIE
EVOH
TIE
LDPE



Port Arrangements		
A	B	C
Gas Vent Line 1/4" Double Sided Port 1/4" TPE Tubing 0.2um Vent filter Check Valve	Gas Vent Line 1/4" Single Sided Port 1/4" TPE Tubing 0.2um Vent filter Check Valve	Liquid Line 1/4" Double Sided Port 1/4" TPE Tubing (3 ft.) Pinch valve
D	E	F
Liquid Line 1/4" Double Sided Port 1/4" TPE Tubing (3 ft.) Pinch valve	Liquid Line 1/4" Double Sided Port 1/4" TPE Tubing (3 ft.) Pinch valve	Gas Inlet 1/4" Single Sided Port 1/4" TPE Tubing (3 ft.) Pinch valve
G	H	I
Harvest Line PDO 1/8" 1/8" Double Sided Port 1/8" TPE Tubing (3 ft.) 1/8" interior sparging line Pinch valve	Liquid Line 1/4" Double Sided Port 1/4" TPE Tubing (3 ft.) Pinch valve	Sampling Port 1/8" Single Sided Port 1/8" TPE Tubing to needleless injection site 1/8" interior sparging line Pinch valve

Ordering Info.

Example part: ORB3D-0025-W

ORB3D	—		—	
		Size (L)		Connector Type ¹
		0005		W
		0025		A
		0050		
		0100		
		0200		
		0500		
		1000		

¹Option for welding ports or aseptic connectors

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