

# Flexsafe® RM

## Disposable Cultivation Chambers for Rocking Motion Bioreactors



### Product Information

The Flexsafe® RM is a single use bioreactor bag available in multiple sizes and configurations depending on customer requirements. The control of the complete manufacturing process, from the resin to the final bag, ensures consistent and reproducible quality of the Flexsafe® bioprocessing bags.

### Applications

Our Biostat® RM bioreactors use rocking motion mixing technology which is ideal for cell cultivation with low shear stress. Easy to use, it is hassle free and applicable to all cell types, including

- Mammalian cells
- Plant cells
- Insect cells
- Microbial cells
- Stem cells and
- T-cells.

## Flexibility and Configurations

The Flexsafe® RM bags are available in 1 L, 2 L, 10 L, 20 L, 50 L, 100 L and 200 L size. Bags are available as basic, optical and perfusion configurations.

Basic bags are designed for use in seed train and production applications without pH and DO control.

Optical bags feature integrated single use opto-chemical pH and DO sensors, which are already pre-calibrated. Used together with the Biostat® RM control tower, they allow high end cultivation with full process automation.

Basic and optical bags up to 50 L size are also available with screw caps (38 mm diameter). The screw cap can be used for the insertion | removal of larger objects inside a laminar flow cabinet, e.g. microcarriers.

Perfusion bags are available in two versions:

A) With an integrated 1.2 µm perfusion membrane (PES). The membrane is fixed at the bottom of the bag, forming a compartment for removal of cell free media. The wave created by the agitation moves over the surface of the membrane, thereby flushing the membrane with every rocking motion. This innovative and patented design\* ensures low fouling and long cultivation times.

B) ATF perfusion bags are designed for the convenient connection



**Figure 1:** Viable Biomass Sensor (BioPAT® Viamass) Integrated in the Flexsafe® RM Bag – Connection to the Hardware Component.

## Working Volumes and Surface Areas of Flexsafe® RM Standard Bags

Bag Size (Total Volume)	Min. Working Volume* [L]	Max. Working Volume [L]	Surface Area [mm <sup>2</sup> ]**
1 L	0.1	0.5	127296
2 L	0.2	1	172260
10 L	1	5	303360
20 L	2	10	633080
50 L	5	25	985320
100 L	10	50	1421724
200 L	20	100	2777064

## Easy Implementation

Flexsafe® RM Bags are supplied gamma irradiated and ready to use. The Flexsafe® RM bag is mounted on the bag holder of the rocker easily and secured on both sides through fixation clamps.

## Sensors

Precise and reliable single-use sensors for pH and DO come pre-installed and sterilized with the bag. The sensors are pre-calibrated and the calibration data is supplied together with the bag.

2 L to 200 L bags are also available with integrated sensors for measurement of viable biomass (Viamass). All 2nd generation Biostat® B with RM systems can be equipped with the BioPAT® Viamass electronics. Please contact your local Sartorius Stedim Biotech representative for further information.

## Validation and Extractable Testing

Flexsafe® RM Bags have been qualified applying the most complex and innovative test regimes. Biological, chemical and physical tests combined with extractable testing prove lowest extractable and leachable levels and excellent compatibility to the relevant pharmacopoeias and guidelines. For more information, please refer to our Validation Guide and Extractable Guide.

## Quality Assurance

All relevant materials are selected following applicable regulations and standards such as FDA, CFR's, cGMPs and in-house guidelines. Finished Flexsafe® RM bags undergo final product quality control which is certified with a Quality Assurance certificate.

\* Perfusion bag design protected by Sartorius patents US 9,017,977 B2 and EP2268788B1

# Technical Data

## Flexsafe® RM Bag Sizes and Available Components

Total Volume (L)	1	2	10	20	50	100	200
Working volume (L)**	0.1-0.5	0.2-1	1-5	2-10	5-25	10-50	20-100
<b>Bag Types</b>							
Basic	■	■	■	■	■	■	■
Basic & optical with screw cap		■	■	■	■		
Optical		■	■	■	■	■	■
Perfusion with integrated membrane		■	■	■	■		
Perfusion with connection to ATF module		■	■	■	■	■	■
Basic, optical, perfusion & perfusion ATF with Viamass		■	■	■	■	■	■

Main Components	Basic	Optical	Perfusion
Connectors	Female   Male Luer Female   Male MPC Clave® connector	Female   Male Luer Female   Male MPC Clave® connector	Female   Male Luer Female   Male MPC Clave® connector Opta® connector
Filters	Air Inlet   Air Outlet	Air Inlet   Air Outlet	Air Inlet   Air Outlet
Ports	Sampling Fill   harvest with dip tube Acid   Base Screw Cap	Sampling Fill   harvest with dip tube Acid   Base Screw Cap	Sampling Fill   harvest with dip tube Acid   Base Perfusion feed   harvest Screw Cap
Sensors	Single-use viable biomass (BioPAT® Viamass) 10-50 L	Optical chemical pH Optical chemical DO Single-use viable biomass (BioPAT® Viamass)***	Optical chemical pH Optical chemical DO Single-use viable biomass (BioPAT® Viamass)***
Perfusion	-	-	Perfusion membrane PES 1.2 µm   Opta aseptic connector to ATF system
Tubing material	LDPE, Silicone, PVC, C-Flex®, PharMed®, Natvar TPE		

\*\* Bags with sensors might require higher minimum working volumes depending on rocking rate and angle. We recommend using 20% of the total as the minimum working volume.

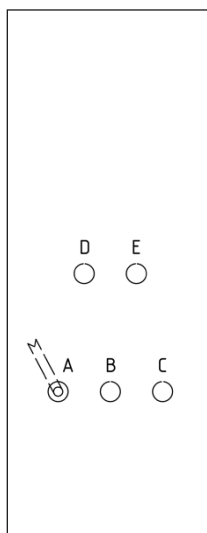
\*\*\* Manufactured under license from HAMILTON.

# Bag Configurations – Flexsafe® RM Basic Bags

## Flexsafe® RM 1 L basic

DFB001L

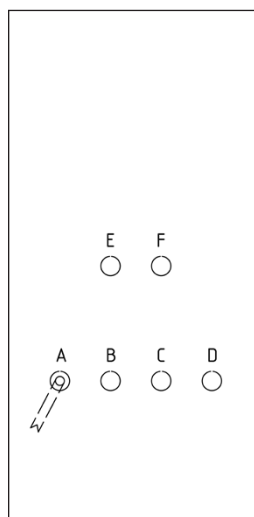
Ports	
Port A	Dip Tube Silicone, C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer
Port B	Septum for needle-free sampling, FM-Luer
Port C	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port D	Gas Outlet Filter with Check Valve, M-Luer
Port E	Gas Inlet Filter 1/4" Hose barb



## Flexsafe® RM 2 L basic

DFB002L

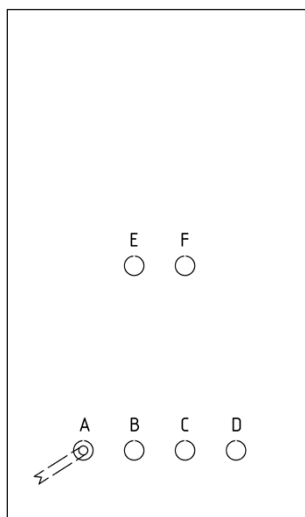
Ports	
Port A	Dip Tube Silicone, C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer
Port B	Septum for needle-free sampling, FM-Luer
Port C; D	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port E	Gas Outlet Filter with Check Valve, M-Luer
Port F	Gas Inlet Filter 1/4" Hose barb



## Flexsafe® RM 10 L basic

DFB010L

Ports	
Port A	Dip Tube Silicone, C-Flex® 374 tubing 1/4" x 7/16" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer
Port C	Septum for needle-free sampling, FM-Luer
Port D	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port E	Gas Outlet Filter with Check Valve, M-Luer
Port F	Gas Inlet Filter 1/4" Hose barb

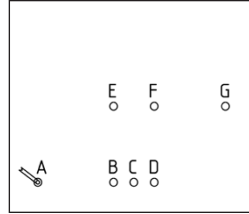


## Flexsafe® RM 20 L basic

DFB020L

### Ports

Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" x 7/16" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing 1/8" x ¼" (1000 mm), FM-Luer
Port C	Septum for needle-free sampling, FM-Luer
Port D; G	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port E	Gas Outlet Filter with Check Valve, M-Luer
Port F	Gas Inlet Filter ¼" Hose barb

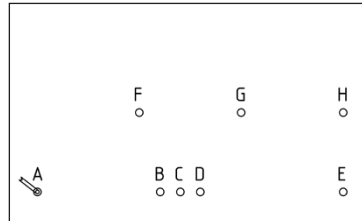


## Flexsafe® RM 50 L basic

DFB050L

### Ports

Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" x 7/16" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing 1/8" x ¼" (1000 mm), FM-Luer
Port C	Septum for needle-free sampling, FM-Luer
Port D; H	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port E	C-Flex® 374 tubing ¼" x 7/16" (1000 mm), M-MPC
Port F	Gas Outlet Filter with Check Valve, M-Luer
Port G	Gas Inlet Filter ¼" Hose barb

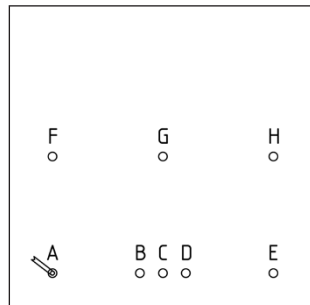


## Flexsafe® RM 50 L basic (US)

DFB050L----01US

### Ports

Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" x 7/16" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing 1/8" x ¼" (1000 mm), FM-Luer
Port C	Septum for needle-free sampling, FM-Luer
Port D; H	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port E	C-Flex® 374 tubing ¼" x 7/16" (1000 mm), M-MPC
Port F	Gas Outlet Filter with Check Valve, M-Luer
Port G	Gas Inlet Filter ¼" Hose barb

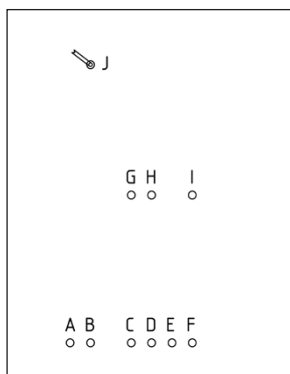


## Flexsafe® RM 100 L basic

DFB100L

### Ports

Port A; C	Silicone tubing $\frac{3}{16}$ " x $\frac{5}{16}$ " (50 mm), FM-Luer
Port B	C-Flex® 374 tubing $\frac{3}{8}$ " x $\frac{5}{8}$ " (1000 mm), M-MPC
Port D; E	Septum for needle-free sampling, FM-Luer
Port F	C-Flex® 374 tubing $\frac{1}{8}$ " x $\frac{1}{4}$ " (1000 mm), FM-Luer
Port G	Gas Outlet Filter, M-Luer
Port H; I	Gas Inlet   Outlet Filter $\frac{1}{4}$ " Hose barb
Port J	Dip Tube Silicone, C-Flex® 374 tubing $\frac{3}{8}$ " x $\frac{5}{8}$ " (1000 mm), M-MPC

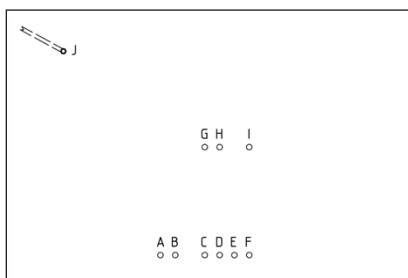


## Flexsafe® RM 200 L basic

DFB200L

### Ports

Port A; C	Silicone tubing $\frac{3}{16}$ " x $\frac{5}{16}$ " (50 mm), FM-Luer
Port B	C-Flex® 374 tubing $\frac{3}{8}$ " x $\frac{5}{8}$ " (1000 mm), M-MPC
Port D; E	Septum for needle-free sampling, FM-Luer
Port F	C-Flex® 374 tubing $\frac{1}{8}$ " x $\frac{1}{4}$ " (1000 mm), FM-Luer
Port G	Gas Outlet Filter, M-Luer
Port H; I	Gas Inlet   Outlet Filter $\frac{1}{4}$ " Hose barb
Port J	Dip Tube Silicone, C-Flex® 374 tubing $\frac{3}{8}$ " x $\frac{5}{8}$ " (1000 mm), M-MPC

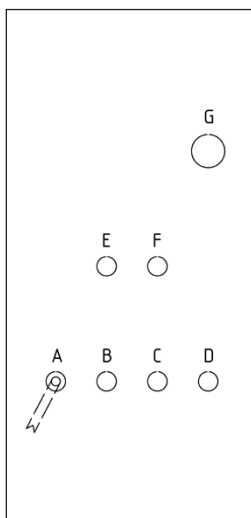


## Flexsafe® RM 2 L basic Screw Cap

DFB002L----01SC

### Ports

Port A	Dip Tube Silicone, C-Flex® 374 tubing $\frac{1}{8}$ " x $\frac{1}{4}$ " (1000 mm), FM-Luer
Port B	Septum for needle-free sampling, FM-Luer
Port C; D	Silicone tubing $\frac{3}{16}$ " x $\frac{5}{16}$ " (50 mm), FM-Luer
Port E	Gas Outlet Filter with Check Valve, M-Luer
Port F	Gas Inlet Filter $\frac{1}{4}$ " Hose barb
Port G	Screw Cap 38 mm

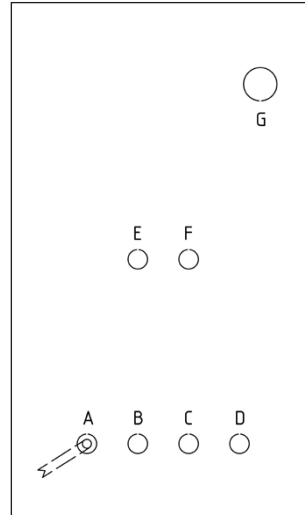


## Flexsafe® RM 10 L basic Screw Cap

DFB010L----01SC

### Ports

Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" x 7/16" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer
Port C	Septum for needle-free sampling, FM-Luer
Port D	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port E	Gas Outlet Filter with Check Valve, M-Luer
Port F	Gas Inlet Filter ¼" Hose barb
Port G	Screw Cap 38 mm

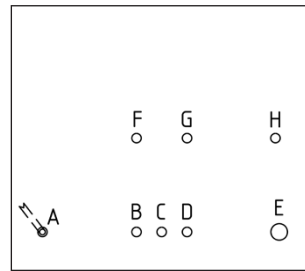


## Flexsafe® RM 20 L basic Screw Cap

DFB020L----01SC

### Ports

Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" x 7/16" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer
Port C	Septum for needle-free sampling, FM-Luer
Port D; H	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port E	Screw Cap 38 mm
Port F	Gas Outlet Filter with Check Valve, M-Luer
Port G	Gas Inlet Filter ¼" Hose barb

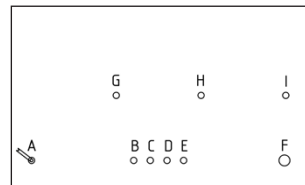


## Flexsafe® RM 50 L basic Screw Cap

DFB050L----01SC

### Ports

Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" x 7/16" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer
Port C	Septum for needle-free sampling, FM-Luer
Port D; I	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port E	C-Flex® 374 tubing ¼" x 7/16" (1000 mm), M-MPC
Port F	Screw Cap 38 mm
Port G	Gas Outlet Filter with Check Valve, M-Luer
Port H	Gas Inlet Filter ¼" Hose barb

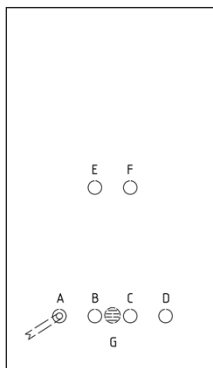


## Flexsafe® RM 10 L basic Viamass

DFB010L----VM

### Ports

Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" x 7/16" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer
Port C	Septum for needle-free sampling, FM-Luer
Port D	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port E	Gas Outlet Filter with Check Valve, M-Luer
Port F	Gas Inlet Filter ¼" Hose barb
Port G	BioPAT® Viamass sensor

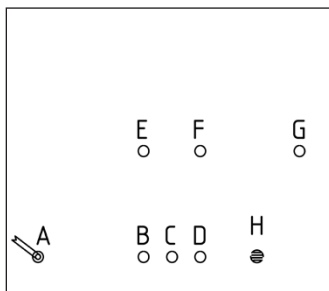


## Flexsafe® RM 20 L basic Viamass

DFB020L----VM

### Ports

Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" x 7/16" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer
Port C	Septum for needle-free sampling, FM-Luer
Port D; G	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port E	Gas Outlet Filter with Check Valve, M-Luer
Port F	Gas Inlet Filter ¼" Hose barb
Port H	BioPAT® Viamass sensor

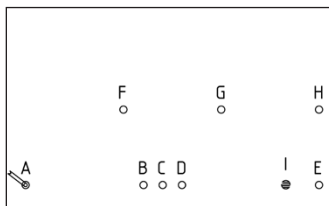


## Flexsafe® RM 50 L basic Viamass

DFB050L----VM

### Ports

Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" x 7/16" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer
Port C	Septum for needle-free sampling, FM-Luer
Port D; H	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port E	C-Flex® 374 tubing ¼" x 7/16" (1000 mm), M-MPC
Port F	Gas Outlet Filter with Check Valve, M-Luer
Port H	Gas Inlet Filter ¼" Hose barb
Port I	BioPAT® Viamass sensor



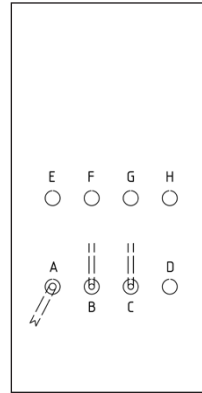


# Bag Configurations – Flexsafe® RM Optical Bags

## Flexsafe® RM 2 L optical

DFO002L

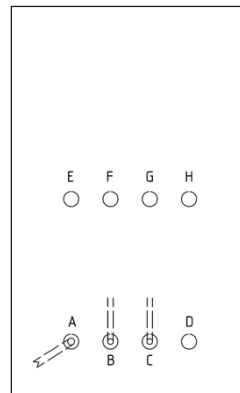
Ports	
Port A	Dip Tube Silicone, C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer
Port B	DO sensor
Port C	pH sensor
Port D	Septum for needle-free sampling, FM-Luer
Port E; H	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port F	Gas Outlet Filter with Check Valve, M-Luer
Port G	Gas Inlet Filter 1/4" Hose barb



## Flexsafe® RM 10 L optical

DFO010L

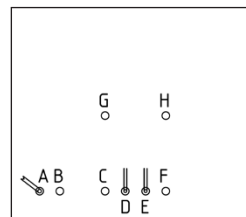
Ports	
Port A	Dip Tube Silicone, C-Flex® 374 tubing 1/4" x 7/16" (1000 mm), FM-MPC
Port B	DO sensor
Port C	pH sensor
Port D	Septum for needle-free sampling, FM-Luer
Port E	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer
Port F	Gas Outlet Filter with Check Valve, M-Luer
Port G	Gas Inlet Filter 1/4" Hose barb
Port H	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer



## Flexsafe® RM 20 L optical

DFO020L

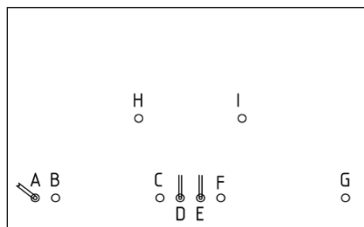
Ports	
Port A	Dip Tube Silicone, C-Flex® 374 tubing 1/4" x 7/16" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer
Port C	Septum for needle-free sampling, FM-Luer
Port D	DO sensor
Port E	pH sensor
Port F	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port G	Gas Outlet Filter with Check Valve, M-Luer
Port H	Gas Inlet Filter 1/4" Hose barb



## Flexsafe® RM 50 L optical

DFO050L

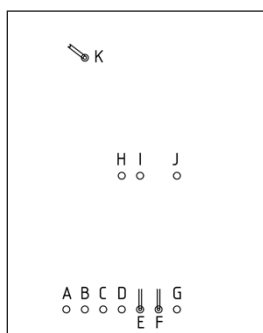
Ports	
Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" x 7/16" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer
Port C	Septum for needle-free sampling, FM-Luer
Port D	DO sensor
Port E	pH sensor
Port F	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port G	C-Flex® 374 tubing ¼" x 7/16" (1000 mm), M-Luer
Port H	Gas Outlet Filter with Check Valve, M-Luer
Port I	Gas Inlet Filter ¼" Hose barb



## Flexsafe® RM 100 L optical

DFO100L

Ports	
Port A	C-Flex® 374 tubing 3/8" x 5/8" (1000 mm), M-MPC
Port B	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port C; D	Septum for needle-free sampling, FM-Luer
Port E	DO sensor
Port F	pH sensor
Port G	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer
Port H	Gas Outlet Filter, M-Luer
Port I; J	Gas Inlet   Outlet Filter ¼" Hose barb
Port K	Dip Tube Silicone, C-Flex® 374 tubing 3/8" x 5/8" (1000 mm), M-MPC

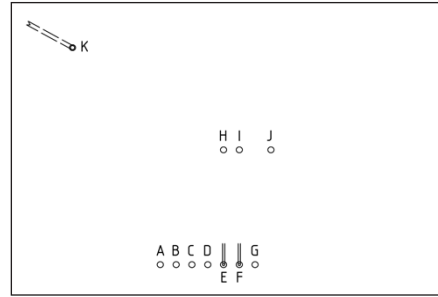


## Flexsafe® RM 200 L optical

DFO200L

### Ports

Port A	C-Flex® 374 tubing $\frac{3}{8}$ " x $\frac{5}{8}$ " (1000 mm), M-MPC
Port B	Silicone tubing $\frac{3}{16}$ " x $\frac{5}{16}$ " (50 mm), FM-Luer
Port C; D	Septum for needle-free sampling, FM-Luer
Port E	DO sensor
Port F	pH sensor
Port G	C-Flex® 374 tubing $\frac{1}{8}$ " x $\frac{1}{4}$ " (1000 mm), FM-Luer
Port H	Gas Outlet Filter, M-Luer
Port I; J	Gas Inlet   Outlet Filter $\frac{1}{4}$ " Hose barb
Port K	Dip Tube Silicone, C-Flex® 374 tubing $\frac{3}{8}$ " x $\frac{5}{8}$ " (1000 mm), M-MPC

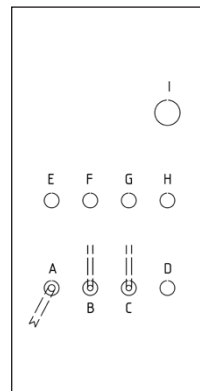


## Flexsafe® RM 2 L optical Screw Cap

DFO002L----01SC

### Ports

Port A	Dip Tube Silicone, C-Flex® 374 tubing $\frac{1}{8}$ " x $\frac{1}{4}$ " (1000 mm), FM-Luer
Port B	DO sensor
Port C	pH sensor
Port D	Septum for needle-free sampling, FM-Luer
Port E; H	Silicone tubing $\frac{3}{16}$ " x $\frac{5}{16}$ " (50 mm), FM-Luer
Port F	Gas Outlet Filter with Check Valve, M-Luer
Port G	Gas Inlet Filter $\frac{1}{4}$ " Hose barb
Port I	Screw Cap 38 mm

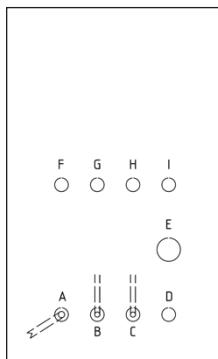


## Flexsafe® RM 10 L optical Screw Cap

DFO010L----01SC

### Ports

Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" × 7/16" (1000 mm), FM-MPC
Port B	DO sensor
Port C	pH sensor
Port D	Septum for needle-free sampling, FM-Luer
Port E	Screw Cap 38 mm
Port F	C-Flex® 374 tubing 1/8" × 1/4" (1000 mm), FM-Luer
Port G	Gas Outlet Filter with Check Valve, M-Luer
Port H	Gas Inlet Filter 1/4" Hose barb
Port I	Silicone tubing 3/16" × 5/16" (50 mm), FM-Luer
Port K	Dip Tube Silicone, C-Flex® 374 tubing 3/8" × 5/8" (1000 mm), M-MPC

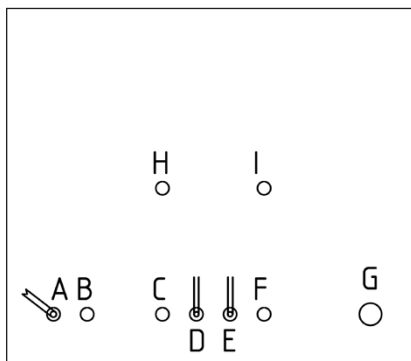


## Flexsafe® RM 20 L optical Screw Cap

DFO020L----01SC

### Ports

Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" × 7/16" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing 1/8" × 1/4" (1000 mm), FM-Luer
Port C	Septum for needle-free sampling, FM-Luer
Port D	DO sensor
Port E	pH sensor
Port F	Silicone tubing 3/16" × 5/16" (50 mm), FM-Luer
Port G	Screw Cap 38 mm
Port H	Gas Outlet Filter with Check Valve, M-Luer
Port I	Gas Inlet Filter 1/4" Hose barb

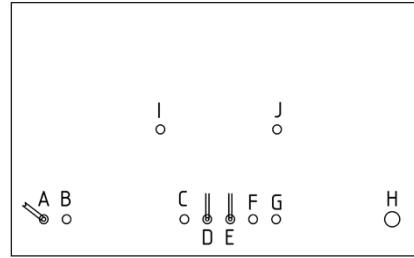


## Flexsafe® RM 50 L optical Screw Cap

DFO050L----01SC

### Ports

Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" x 7/16" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer
Port C	Septum for needle-free sampling, FM-Luer
Port D	DO sensor
Port E	pH sensor
Port F	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port G	C-Flex® 374 tubing ¼" x 7/16" (1000 mm), M-MPC
Port H	Screw Cap 38 mm
Port I	Gas Outlet Filter with Check Valve, M-Luer
Port J	Gas Inlet Filter ¼" Hose barb

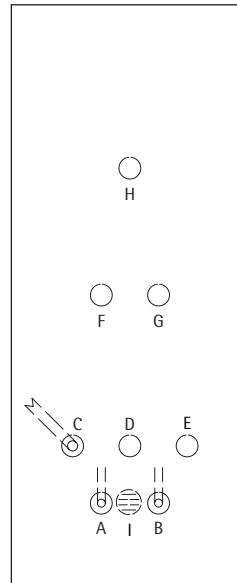


## Flexsafe® RM 2 L optical Viamass

DFO002L--VM

### Ports

Port A	DO sensor
Port B	pH sensor
Port C	Dip Tube Silicone, C-Flex® 374 tubing ¼" x 7/16" (1000 mm), FM-Luer
Port D	Septum for needle-free sampling, FM-Luer
Port E	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port F	Gas Outlet Filter with Check Valve, M-Luer
Port G	Gas Inlet Filter ¼" Hose barb
Port H	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port I	BioPAT® Viamass sensor

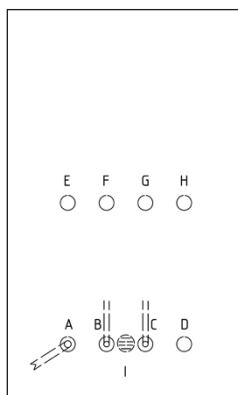


## Flexsafe® RM 10 L optical Viamass

DFO010L----VM

### Ports

Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" × 7/16" (1000 mm), FM-MPC
Port B	DO sensor
Port C	pH sensor
Port D	Septum for needle-free sampling, FM-Luer
Port E	C-Flex® 374 tubing 1/8" × 1/4" (1000 mm), FM-Luer
Port F	Gas Outlet Filter with Check Valve, M-Luer
Port G	Gas Inlet Filter ¼" Hose barb
Port H	Silicone tubing 3/16" × 5/16" (50 mm), FM-Luer
Port I	BioPAT® Viamass sensor

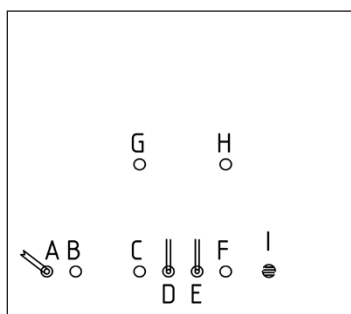


## Flexsafe® RM 20 L optical Viamass

DFO020L----VM

### Ports

Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" × 7/16" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing 1/8" × 1/4" (1000 mm), FM-Luer
Port C	Septum for needle-free sampling, FM-Luer
Port D	DO sensor
Port E	pH sensor
Port F	Silicone tubing 3/16" × 5/16" (50 mm), FM-Luer
Port G	Gas Outlet Filter with Check Valve, M-Luer
Port H	Gas Inlet Filter ¼" Hose barb
Port I	BioPAT® Viamass sensor

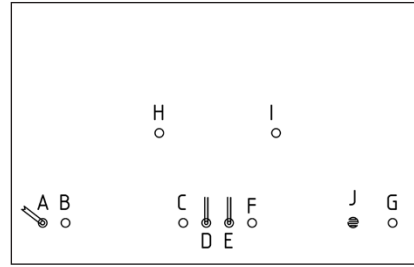


## Flexsafe® RM 50 L optical Viamass

DFO050L----VM

### Ports

Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" x ⅞" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing ⅛" x ¼" (1000 mm), FM-Luer
Port C	Septum for needle-free sampling, FM-Luer
Port D	DO sensor
Port E	pH sensor
Port F	Silicone tubing ⅜" x ⅝" (50 mm), FM-Luer
Port G	C-Flex® 374 tubing ¼" x ⅞" (1000 mm), M-MPC
Port H	Gas Outlet Filter with Check Valve, M-Luer
Port I	Gas Inlet Filter ¼" Hose barb
Port J	BioPAT® Viamass sensor

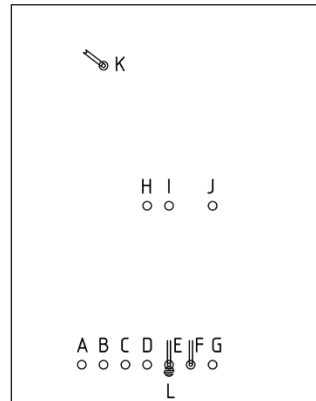


## Flexsafe® RM 100 L optical Viamass

DFO100L----VM

### Ports

Port A	C-Flex® 374 tubing ⅜" x ⅝" (1000 mm), M-MPC
Port B	Silicone tubing ⅜" x ⅝" (50 mm), FM-Luer
Port C; D	Septum for needle-free sampling, FM-Luer
Port E	DO sensor
Port F	pH sensor
Port G	C-Flex® 374 tubing ⅛" x ¼" (1000 mm), FM-Luer
Port H	Gas Outlet Filter, M-Luer
Port I; J	Gas Inlet   Outlet Filter ¼" Hose barb
Port K	Dip Tube Silicone, C-Flex® 374 tubing ⅜" x ⅝" (1000 mm), M-MPC
Port L	BioPAT® Viamass sensor

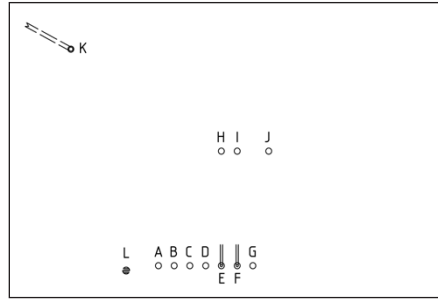


## Flexsafe® RM 200 L optical Viamass

DFO200L----VM

### Ports

Port A	C-Flex® 374 tubing $\frac{3}{8}$ " x $\frac{5}{8}$ " (1000 mm), M-MPC
Port B	Silicone tubing $\frac{3}{16}$ " x $\frac{5}{16}$ " (50 mm), FM-Luer
Port C; D	Septum for needle-free sampling, FM-Luer
Port E	DO sensor
Port F	pH sensor
Port G	C-Flex® 374 tubing $\frac{1}{8}$ " x $\frac{1}{4}$ " (1000 mm), FM-Luer
Port H	Gas Outlet Filter, M-Luer
Port I; J	Gas Inlet   Outlet Filter $\frac{1}{4}$ " Hose barb
Port K	Dip Tube Silicone, C-Flex® 374 tubing $\frac{3}{8}$ " x $\frac{5}{8}$ " (1000 mm), M-MPC
Port L	BioPAT® Viamass sensor



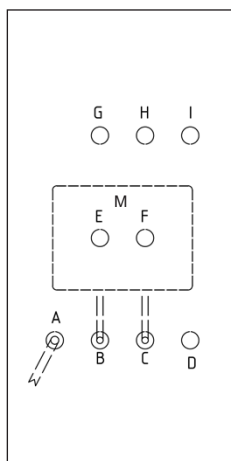


# Bag Configurations – Flexsafe® RM Perfusion Membrane Bags

## Flexsafe® RM 2 L perfusion

DFP002L--SM

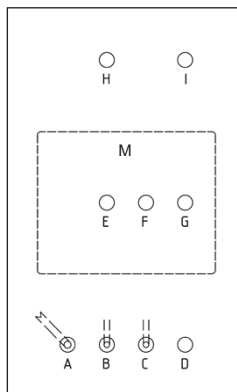
Ports	
Port A	Dip Tube Silicone, C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), PharMed® 1/16" x 3/16" (300 mm), FM-Luer (Perfusion Feed)
Port B	DO sensor
Port C	pH sensor
Port D	Septum for needle-free sampling, FM-Luer
Port E	Gas Outlet Filter with Check Valve, M-Luer
Port F	Gas Inlet Filter 1/4" Hose barb
Port G	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port H	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer
Port I	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), PharMed® 1/16" x 3/16" (300 mm), FM-Luer (Perfusion Harvest)
M	Perfusion membrane, PES 1.2 µm, fixed at the bottom of the bag



## Flexsafe® RM 10 L perfusion

DFP010L--SM

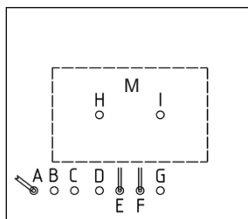
Ports	
Port A	Dip Tube Silicone, C-Flex® 374 tubing 1/4" x 7/16" (1000 mm), FM-MPC
Port B	DO sensor
Port C	pH sensor
Port D	Septum for needle-free sampling, FM-Luer
Port E	Gas Outlet Filter with Check Valve, M-Luer
Port F	Gas Inlet Filter 1/4" Hose barb
Port G	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), PharMed® 1/16" x 3/16" (300 mm), FM-Luer (Perfusion Feed)
Port H	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer
Port I	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), PharMed® 1/16" x 3/16" (300 mm), FM-Luer (Perfusion Harvest)
M	Perfusion membrane, PES 1.2 µm, fixed at the bottom of the bag



## Flexsafe® RM 20 L perfusion

DFP020L--SM

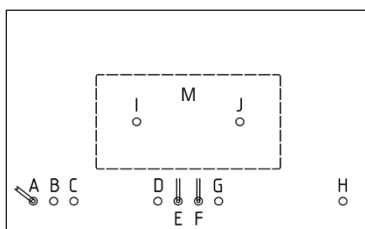
Ports	
Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" x 7/16" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing ⅛" x ¼" (1000 mm), FM-Luer
Port C	C-Flex® 374 tubing ⅛" x ¼" (1000 mm), PharMed® ⅛" x ¼" (300 mm), FM-Luer (Perfusion Feed)
Port D	Septum for needle-free sampling, FM-Luer
Port E	DO sensor
Port F	pH sensor
Port G	C-Flex® 374 tubing ⅛" x ¼" (1000 mm), PharMed® ⅛" x ¼" (300 mm), FM-Luer (Perfusion Harvest)
Port H	Gas Outlet Filter with Check Valve, M-Luer
Port I	Gas Inlet Filter ¼" Hose barb
M	Perfusion membrane, PES 1.2 µm, fixed at the bottom of the bag



## Flexsafe® RM 50 L perfusion

DFP050L--SM

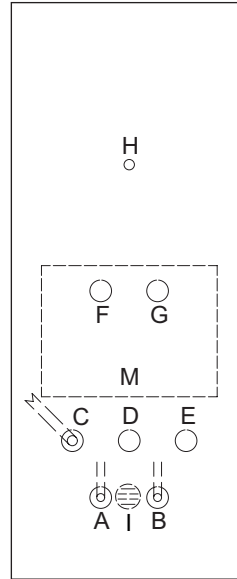
Ports	
Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" x 7/16" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing ⅛" x ¼" (1000 mm), FM-Luer
Port C	C-Flex® 374 tubing ⅛" x ¼" (1000 mm), PharMed® ⅛" x ¼" (300 mm), FM-Luer (Perfusion Feed)
Port D	Septum for needle-free sampling, FM-Luer
Port E	DO sensor
Port F	pH sensor
Port G	C-Flex® 374 tubing ⅛" x ¼" (1000 mm), PharMed® ⅛" x ¼" (300 mm), FM-Luer (Perfusion Harvest)
Port H	C-Flex® 374 tubing ¼" x 7/16" (1000 mm), M-MPC
Port I	Gas Outlet Filter with Check Valve, M-Luer
Port J	Gas Inlet Filter ¼" Hose barb
M	Perfusion membrane, PES 1.2 µm, fixed at the bottom of the bag



## Flexsafe® RM TX 2 L perfusion Viamass, TPE

DFT002L--SMVM1

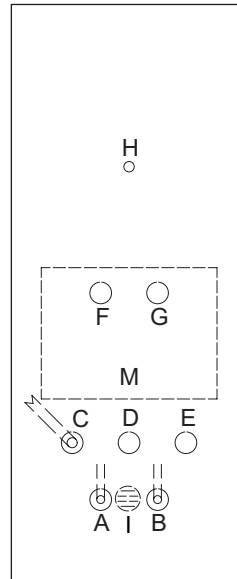
Ports	
Port A	DO sensor
Port B	pH sensor
Port C	Dip Tube Silicone, C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), PharMed® 1/16" x 3/16" (300 mm), C-Flex® 374 1/8" x 1/4" (500 mm) press-in plug (Perfusion Feed)
Port D	Septum for needle-free sampling, FM-Luer
Port E	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), PharMed® 1/16" x 3/16" (300 mm), C-Flex® 374 1/8" x 1/4" (500 mm), press-in plug (Perfusion Harvest)
Port F	Gas Outlet Filter, Sartopore® Air Midisart with Check Valve, M-Luer
Port G	Gas Inlet Filter, Sartopore® Air Midisart
Port H	Harvest port: C-Flex® 374 tubing 1/8" x 1/4" (1000 mm)
Port I	BioPAT® Viamass sensor
M	Perfusion membrane, PES 1.2 µm, fixed at the bottom of the bag



## Flexsafe® RM TX 2 L perfusion Viamass, PVC

DFT002L--SMVM2

Ports	
Port A	DO sensor
Port B	pH sensor
Port C	Dip Tube Silicone, C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), PharMed® 1/16" x 3/16" (300 mm), Tygon 3/32" x 5/32" (500 mm), press-in plug (Perfusion Feed)
Port D	Septum for needle-free sampling, FM-Luer
Port E	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), PharMed® 1/16" x 3/16" (300 mm), Tygon 3/32" x 5/32" (500 mm), press-in plug (Perfusion Harvest)
Port F	Gas Outlet Filter, Sartopore® Air Midisart with Check Valve, M-Luer
Port G	Gas Inlet Filter, Sartopore® Air Midisart
Port H	Harvest port: Silicone tubing 1/8" x 1/4" (50 mm), Tygon 3/32" x 5/32" (1000 mm), press-in plug
Port I	BioPAT® Viamass sensor
M	Perfusion membrane, PES 1.2 µm, fixed at the bottom of the bag

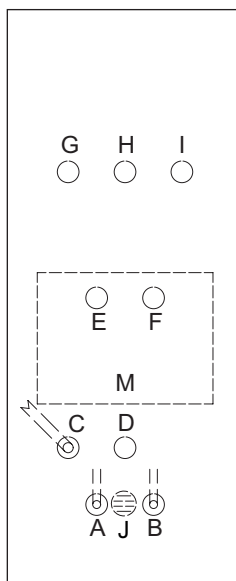


## Flexsafe® RM 2 L perfusion Viamass

DFP002L--SMVM

### Ports

Port A	DO sensor
Port B	pH sensor
Port C	Dip Tube Silicone, C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), PharMed® 1/16" x 3/16" (300 mm), FM-Luer (Perfusion Feed)
Port D	Septum for needle-free sampling, FM-Luer
Port E	Gas Outlet Filter with Check Valve, M-Luer
Port F	Gas Inlet Filter 1/4" Hose barb
Port G	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port H	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer
Port I	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), PharMed® 1/16" x 3/16" (300 mm), FM-Luer (Perfusion Harvest)
Port J	BioPAT® Viamass sensor
M	Perfusion membrane, PES 1.2 µm, fixed at the bottom of the bag

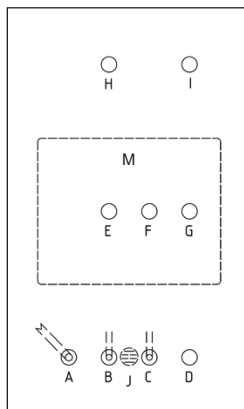


## Flexsafe® RM 10 L perfusion Viamass

DFP010L--SMVM

### Ports

Port A	Dip Tube Silicone, C-Flex® 374 tubing 1/4" x 7/16" (1000 mm), FM-MPC
Port B	DO sensor
Port C	pH sensor
Port D	Septum for needle-free sampling, FM-Luer
Port E	Gas Outlet Filter with Check Valve, M-Luer
Port F	Gas Inlet Filter 1/4" Hose barb
Port G	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), PharMed® 1/16" x 3/16" (300 mm), FM-Luer (Perfusion Feed)
Port H	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer
Port I	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), PharMed® 1/16" x 3/16" (300 mm), FM-Luer (Perfusion Harvest)
Port J	BioPAT® Viamass sensor
M	Perfusion membrane, PES 1.2 µm, fixed at the bottom of the bag

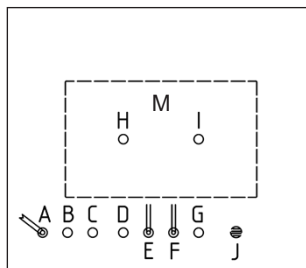


## Flexsafe® RM 20 L perfusion Viamass

DFP020L--SMVM

### Ports

Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" x 7/16" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing 1/8" x ¼" (1000 mm), FM-Luer
Port C	C-Flex® 374 tubing 1/8" x ¼" (1000 mm), PharMed® 1/8" x ¼" (300 mm), FM-Luer (Perfusion Feed)
Port D	Septum for needle-free sampling, FM-Luer
Port E	DO sensor
Port F	pH sensor
Port G	C-Flex® 374 tubing 1/8" x ¼" (1000 mm), PharMed® 1/8" x ¼" (300 mm), FM-Luer (Perfusion Harvest)
Port H	Gas Outlet Filter with Check Valve, M-Luer
Port I	Gas Inlet Filter ¼" Hose barb
Port J	BioPAT® Viamass sensor
M	Perfusion membrane, PES 1.2 µm, fixed at the bottom of the bag

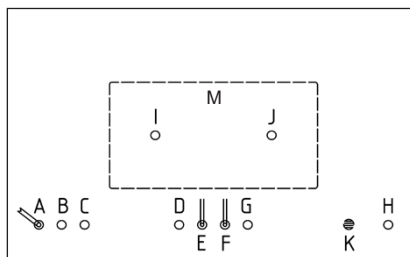


## Flexsafe® RM 50 L perfusion Viamass

DFP050L--SMVM

### Ports

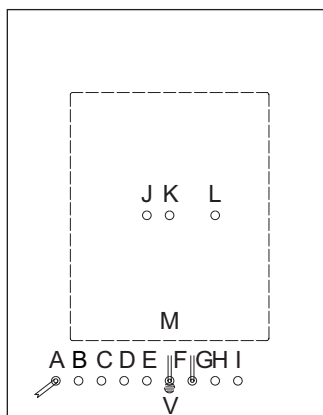
Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" x 7/16" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing 1/8" x ¼" (1000 mm), FM-Luer
Port C	C-Flex® 374 tubing 1/8" x ¼" (1000 mm), PharMed® 1/8" x ¼" (300 mm), FM-Luer (Perfusion Feed)
Port D	Septum for needle-free sampling, FM-Luer
Port E	DO sensor
Port F	pH sensor
Port G	C-Flex® 374 tubing 1/8" x ¼" (1000 mm), PharMed® 1/8" x ¼" (300 mm), FM-Luer (Perfusion Harvest)
Port H	C-Flex® 374 tubing ¼" x 7/16" (1000 mm), M-MPC
Port I	Gas Outlet Filter with Check Valve, M-Luer
Port J	Gas Inlet Filter ¼" Hose barb
Port K	BioPAT® Viamass sensor
M	Perfusion membrane, PES 1.2 µm, fixed at the bottom of the bag



## Flexsafe® RM 100 L perfusion Viamass

DFP100L--SMVM

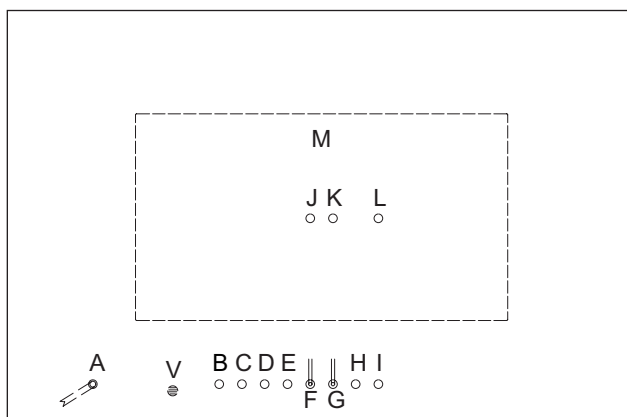
Ports	
Port A	Dip Tube Silicone, C-Flex® 374 tubing $\frac{3}{8}$ " x $\frac{5}{8}$ " (1000 mm), M-MPC
Port B	C-Flex® 374 tubing $\frac{1}{8}$ " x $\frac{1}{4}$ " (1000 mm), FM-Luer
Port C	C-Flex® 374 tubing $\frac{1}{4}$ " x $\frac{7}{16}$ " (1000 mm), PharMed® $\frac{3}{16}$ " x $\frac{5}{16}$ " (300 mm), FM-Luer (Perfusion Feed)
Port D	C-Flex® 374 tubing $\frac{3}{8}$ " x $\frac{5}{8}$ " (1000 mm), M-MPC
Port E	Septum for needle-free sampling, FM-Luer
Port F	DO sensor
Port G	pH sensor
Port H	C-Flex® 374 tubing $\frac{1}{4}$ " x $\frac{7}{16}$ " (1000 mm), PharMed® $\frac{3}{16}$ " x $\frac{5}{16}$ " (300 mm), FM-Luer (Perfusion Harvest)
Port I	Septum for needle-free sampling, FM-Luer
Port J	Gas Outlet Filter, M-Luer, $\frac{1}{4}$ " Hose barb
Port K	Gas Inlet   Outlet Filter, $\frac{1}{4}$ " Hose barb
Port L	Gas Inlet, $\frac{1}{4}$ " Hose barb
Port V	BioPAT® Viamass sensor
M	Perfusion membrane, PES 1.2 $\mu$ m, fixed at the bottom of the bag



## Flexsafe® RM 200 L perfusion Viamass

DFP200L--SMVM

Ports	
Port A	Dip Tube Silicone, C-Flex® 374 tubing $\frac{3}{8}$ " x $\frac{5}{8}$ " (1000 mm), M-MPC
Port B	C-Flex® 374 tubing $\frac{1}{8}$ " x $\frac{1}{4}$ " (1000 mm), Silicone, FM-Luer
Port C	C-Flex® 374 tubing $\frac{1}{4}$ " x $\frac{7}{16}$ " (1000 mm), PharMed® $\frac{3}{16}$ " x $\frac{5}{16}$ " (300 mm), FM-Luer (Perfusion Feed)
Port D	C-Flex® 374 tubing $\frac{3}{8}$ " x $\frac{5}{8}$ " (1000 mm), M-MPC
Port E	Septum for needle-free sampling, FM-Luer
Port F	DO sensor
Port G	pH sensor
Port H	Septum for needle-free sampling, FM-Luer
Port I	C-Flex® 374 tubing $\frac{1}{4}$ " x $\frac{7}{16}$ " (1000 mm), PharMed® $\frac{3}{16}$ " x $\frac{5}{16}$ " (300 mm), FM-Luer (Perfusion Harvest)
Port J	Gas Outlet Filter, M-Luer, $\frac{1}{4}$ " Hose barb
Port K	Gas Inlet   Outlet Filter, $\frac{1}{4}$ " Hose barb
Port L	Gas Inlet Filter $\frac{1}{4}$ " Hose barb
Port V	BioPAT® Viamass sensor
M	Perfusion membrane, PES 1.2 $\mu$ m, fixed at the bottom of the bag

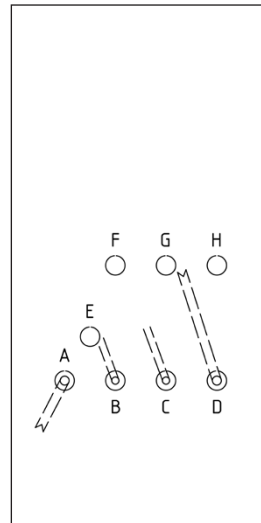


# Bag Configurations – Flexsafe® RM Perfusion ATF Bags

## Flexsafe® RM 2 L perfusion ATF

DFP002L--AT

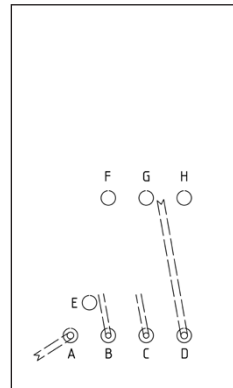
Ports	
Port A	Dip Tube Silicone, C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer
Port B	DO sensor
Port C	pH sensor
Port D	Dip Tube Silicone, Silicone tubing 3/8" x 5/8" (80 mm), M-Opta SFT-D to connect ATF system
Port E	Septum for needle-free sampling, FM-Luer
Port F	Gas Outlet Filter with Check Valve, M-Luer
Port G	Gas Inlet Filter 1/4" Hose barb
Port H	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer



## Flexsafe® RM 10 L perfusion ATF

DFP010L--AT

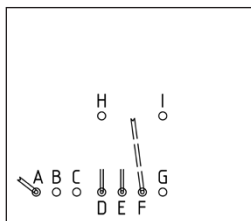
Ports	
Port A	Dip Tube Silicone, C-Flex® 374 tubing 1/4" x 7/16" (1000 mm), FM-MPC
Port B	DO sensor
Port C	pH sensor
Port D	Dip Tube Silicone, Silicone tubing 3/8" x 5/8" (80 mm), M-Opta SFT-D to connect ATF system
Port E	Septum for needle-free sampling, FM-Luer
Port F	Gas Outlet Filter with Check Valve, M-Luer
Port G	Gas Inlet Filter 1/4" Hose barb
Port H	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer



## Flexsafe® RM 20 L perfusion ATF

DFP020L--AT

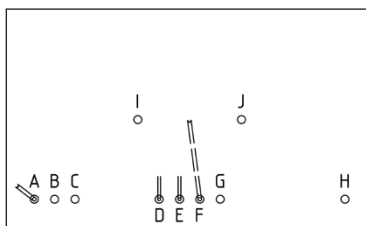
Ports	
Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" x 7/16" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer
Port C	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port D	DO sensor
Port E	pH sensor
Port F	Dip Tube Silicone, Silicone tubing 3/8" x 5/8" (80 mm), M-Opta SFT-D to connect ATF system
Port G	Septum for needle-free sampling, FM-Luer
Port H	Gas Outlet Filter with Check Valve, M-Luer
Port I	Gas Inlet Filter ¼" Hose barb



## Flexsafe® RM 50 L perfusion ATF

DFP050L--AT

Ports	
Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" x 7/16" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing 1/8" x 1/4" (1000 mm), FM-Luer
Port C	Silicone tubing 3/16" x 5/16" (50 mm), FM-Luer
Port D	DO sensor
Port E	pH sensor
Port F	Dip Tube Silicone, Silicone tubing 3/8" x 5/8" (80 mm), M-Opta SFT-D to connect ATF system
Port G	Septum for needle-free sampling, FM-Luer
Port H	C-Flex® 374 tubing ¼" x 7/16" (1000 mm), M-MPC
Port I	Gas Outlet Filter with Check Valve, M-Luer
Port J	Gas Inlet Filter ¼" Hose barb



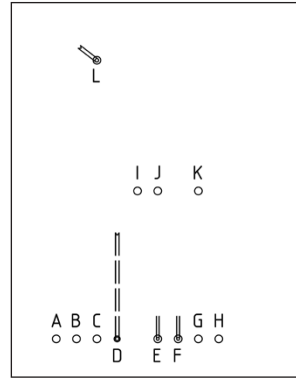


## Flexsafe® RM 100 L perfusion ATF

DFP100L--AT

### Ports

Port A	C-Flex® 374 tubing $\frac{3}{8}$ " x $\frac{5}{8}$ " (1000 mm), M-MPC
Port B	Silicone tubing $\frac{3}{16}$ " x $\frac{5}{16}$ " (50 mm), FM-Luer
Port C	C-Flex® 374 tubing $\frac{1}{8}$ " x $\frac{1}{4}$ " (1000 mm), FM-Luer
Port D	Dip Tube Silicone, Silicone tubing $\frac{1}{2}$ " x $\frac{3}{4}$ " (150 mm), M-Opta SFT-I to connect ATF system
Port E	DO sensor
Port F	pH sensor
Port G; H	Septum for needle-free sampling, FM-Luer
Port I	Gas Outlet Filter, M-Luer
Port J; K	Gas Inlet   Outlet Filter $\frac{1}{4}$ " Hose barb
Port L	Dip Tube Silicone, C-Flex® 374 tubing $\frac{3}{8}$ " x $\frac{5}{8}$ " (1000 mm), M-MPC

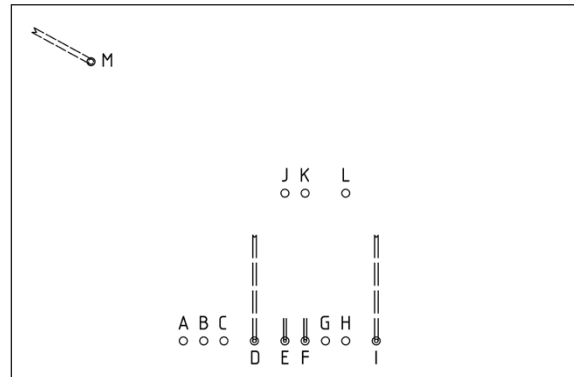


## Flexsafe® RM 200 L perfusion ATF

DFP200L--AT

### Ports

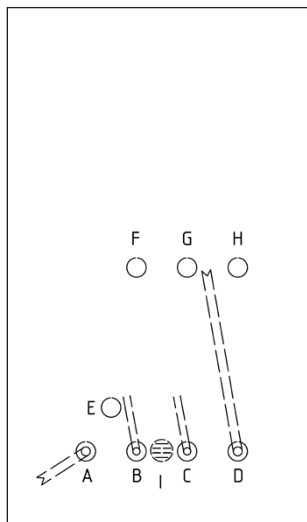
Port A	C-Flex® 374 tubing $\frac{3}{8}$ " x $\frac{5}{8}$ " (1000 mm), M-MPC
Port B	Silicone tubing $\frac{3}{16}$ " x $\frac{5}{16}$ " (50 mm), FM-Luer
Port C	C-Flex® 374 tubing $\frac{1}{8}$ " x $\frac{1}{4}$ " (1000 mm), FM-Luer
Port D; I	Dip Tube Silicone, Silicone tubing $\frac{1}{2}$ " x $\frac{3}{4}$ " (150 mm), M-Opta SFT-I to connect ATF system
Port E	DO sensor
Port F	pH sensor
Port G; H	Septum for needle-free sampling, FM-Luer
Port J	Gas Outlet Filter, M-Luer
Port K; L	Gas Inlet Filter $\frac{1}{4}$ " Hose barb
Port M	Dip Tube Silicone, C-Flex® 374 tubing $\frac{3}{8}$ " x $\frac{5}{8}$ " (1000 mm), M-MPC



## Flexsafe® RM 10 L ATF Viamass

DFP010L--ATVM

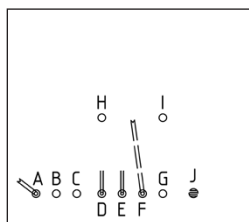
Ports	
Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" × 7/16" (1000 mm), FM-MPC
Port B	DO sensor
Port C	pH sensor
Port D	Dip Tube Silicone, Silicone tubing 3/8" × 5/8" (80 mm), M-Opta SFT-D to connect ATF system
Port E	Septum for needle-free sampling, FM-Luer
Port F	Gas Outlet Filter with Check Valve, M-Luer
Port G	Gas Inlet Filter ¼" Hose barb
Port H	C-Flex® 374 tubing 1/8" × ¼" (1000 mm), FM-Luer
Port I	BioPAT® Viamass sensor



## Flexsafe® RM 20 L ATF Viamass

DFP020L--ATVM

Ports	
Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" × 7/16" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing 1/8" × ¼" (1000 mm), FM-Luer
Port C	Silicone tubing 3/16" × 5/16" (50 mm), FM-Luer
Port D	DO sensor
Port E	pH sensor
Port F	Dip Tube Silicone, Silicone tubing 3/8" × 5/8" (80 mm), M-Opta SFT-D to connect ATF system
Port G	Septum for needle-free sampling, FM-Luer
Port H	Gas Outlet Filter with Check Valve, M-Luer
Port I	Gas Inlet Filter ¼" Hose barb
Port J	BioPAT® Viamass sensor

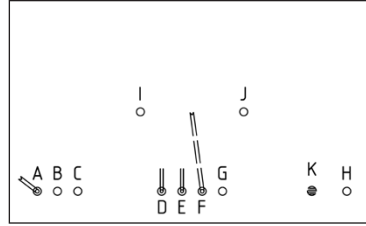


## Flexsafe® RM 50 L ATF Viamass

DFP050L--ATVM

### Ports

Port A	Dip Tube Silicone, C-Flex® 374 tubing ¼" x ⅞" (1000 mm), FM-MPC
Port B	C-Flex® 374 tubing ⅞" x ¼" (1000 mm), FM-Luer
Port C	Silicone tubing ⅜" x ⅝" (50 mm), FM-Luer
Port D	DO sensor
Port E	pH sensor
Port F	Dip Tube Silicone, Silicone tubing ⅜" x ⅝" (80 mm), M-Opta SFT-D to connect ATF system
Port G	Septum for needle-free sampling, FM-Luer
Port H	C-Flex® 374 tubing ¼" x ⅞" (1000 mm), M-MPC
Port I	Gas Outlet Filter with Check Valve, M-Luer
Port J	Gas Inlet Filter ¼" Hose barb
Port K	BioPAT® Viamass sensor

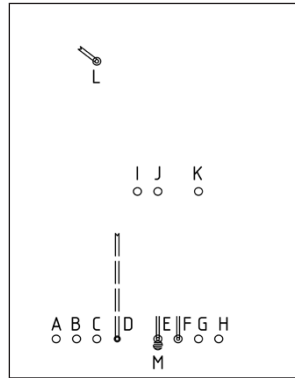


## Flexsafe® RM 100 L ATF Viamass

DFP100L--ATVM

### Ports

Port A	C-Flex® 374 tubing ⅜" x ⅝" (1000 mm), M-MPC
Port B	Silicone tubing ⅜" x ⅝" (50 mm), FM-Luer
Port C	C-Flex® 374 tubing ⅞" x ¼" (1000 mm), FM-Luer
Port D	Dip Tube Silicone, Silicone tubing ½" x ¾" (150 mm), M-Opta SFT-I to connect ATF system
Port E	DO sensor
Port F	pH sensor
Port G; H	Septum for needle-free sampling, FM-Luer
Port I	Gas Outlet Filter, M-Luer
Port J; K	Gas Inlet   Outlet Filter ¼" Hose barb
Port L	Dip Tube Silicone, C-Flex® 374 tubing ⅞" x ⅝" (1000 mm), M-MPC
Port M	BioPAT® Viamass sensor

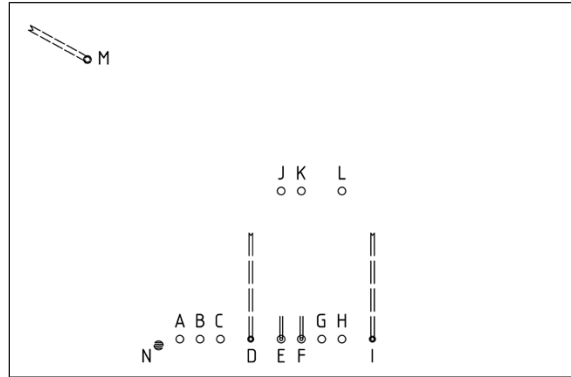


## Flexsafe® RM 200 L ATF Viamass

DFP200L--ATVM

### Ports

Port A	C-Flex® 374 tubing $\frac{3}{8}$ " x $\frac{5}{8}$ " (1000 mm), M-MPC
Port B	Silicone tubing $\frac{3}{16}$ " x $\frac{5}{16}$ " (50 mm), FM-Luer
Port C	C-Flex® 374 tubing $\frac{1}{8}$ " x $\frac{1}{4}$ " (1000 mm), FM-Luer
Port D; I	Dip Tube Silicone, Silicone tubing $\frac{1}{2}$ " x $\frac{3}{4}$ " (150 mm), M-Opta SFT-I to connect ATF system
Port E	DO sensor
Port F	pH sensor
Port G; H	Septum for needle-free sampling, FM-Luer
Port J	Gas Outlet Filter, M-Luer
Port K; L	Gas Inlet Filter $\frac{1}{4}$ " Hose barb
Port M	Dip Tube Silicone, C-Flex® 374 tubing $\frac{3}{8}$ " x $\frac{5}{8}$ " (1000 mm), M-MPC
Port N	BioPAT® Viamass sensor



# Ordering Information

## Bag Accessories

Order Code	Description
DS-----GF	Light conductor cable for Flexsafe® RM optical and perfusion (1 piece)
DS-----CGF	Clamp for fiber optic cable fixation (1 piece)
DS-----CV	Check valves for outlet filter of Flexsafe® RM (50 pcs)
DZ-----R2FH	Exhaust filter heater Flexsafe® RM
DZ-----R3FH	Exhaust filter heater Flexsafe® RM, type Midisart
DZ-----BH1	Flexsafe® RM Harvest Device for gravimetric harvesting

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## Minimum Order Quantities

Article Number	Product Description	Quantity per Order Code Bags per Box	Min. Order Quantity Number of Bags	Min. Order Quantity Number of Boxes
<b>Flexsafe® RM Basic Bags</b>				
DFB001L	Flexsafe® RM 1 L basic	5	10	2
DFB002L	Flexsafe® RM 2 L basic	5	5	1
DFB002L----01SC	Flexsafe® RM 2 L basic SC	5	10	2
DFB010L	Flexsafe® RM 10 L basic	5	5	1
DFB010L----01SC	Flexsafe® RM 10 L basic SC	5	10	2
DFB020L	Flexsafe® RM 20 L basic	5	5	1
DFB020L----01SC	Flexsafe® RM 20 L basic SC	5	10	2
DFB050L	Flexsafe® RM 50 L basic	5	5	1
DFB050L----01SC	Flexsafe® RM 50 L basic screw cap	5	10	2
DFB050L----01US	Flexsafe® RM 50 L basic US rocker	5	5	1
DFB100L	Flexsafe® RM 100 L basic	2	4	2
DFB200L	Flexsafe® RM 200 L basic	2	4	2

### Flexsafe® RM Optical Bags

DFO002L	Flexsafe® RM 2 L optical	5	5	1
DFO002L----01SC	Flexsafe® RM 2 L optical SC	5	10	2
DFO010L	Flexsafe® RM 10 L optical	5	5	1
DFO010L----01SC	Flexsafe® RM 10 L optical SC	5	10	2
DFO020L	Flexsafe® RM 20 L optical	5	5	1
DFO020L----01SC	Flexsafe® RM 20 L optical SC	5	10	2
DFO050L	Flexsafe® RM 50 L optical	5	5	1
DFO050L----01SC	Flexsafe® RM 50 L optical SC	5	10	2
DFO100L	Flexsafe® RM 100 L optical	2	4	2
DFO200L	Flexsafe® RM 200 L optical	2	4	2

Article Number	Product Description	Quantity per Order Code Bags per Box	Min. Order Quantity Number of Bags	Min. Order Quantity Number of Boxes
<b>Flexsafe® RM Perfusion Bags</b>				
DFP002L--SM	Flexsafe® RM 2 L perfusion 1.2 µm	3	3	1
DFP010L--SM	Flexsafe® RM 10 L perfusion 1.2 µm	3	3	1
DFP020L--SM	Flexsafe® RM 20 L perfusion 1.2 µm	3	3	1
DFP050L--SM	Flexsafe® RM 50 L perfusion 1.2 µm	3	3	1
DFP002L--AT	Flexsafe® RM 2 L perfusion ATF	3	3	1
DFP010L--AT	Flexsafe® RM 10 L perfusion ATF	3	3	1
DFP020L--AT	Flexsafe® RM 20 L perfusion ATF	3	3	1
DFP050L--AT	Flexsafe® RM 50 L perfusion ATF	3	3	1
DFP100L--AT	Flexsafe® RM 100 L perfusion ATF	2	4	2
DFP200L--AT	Flexsafe® RM 200 L perfusion ATF	2	4	2
<b>Flexsafe® RM with integrated Viamass Sensor</b>				
DFB010L----VM	Flexsafe® RM 10 L basic Viamass	5	5	1
DFB020L----VM	Flexsafe® RM 20 L basic Viamass	5	5	1
DFB050L----VM	Flexsafe® RM 50 L basic Viamass	5	5	1
DFO002L--VM	Flexsafe® RM 2 L optical Viamass	3	3	1
DFO010L----VM	Flexsafe® RM 10 L optical Viamass	5	5	1
DFO020L----VM	Flexsafe® RM 20 L optical Viamass	5	5	1
DFO050L----VM	Flexsafe® RM 50 L optical Viamass	5	5	1
DFO100L----VM	Flexsafe® RM 100 L opt Viamass	2	4	2
DFO200L----VM	Flexsafe® RM 200 L opt Viamass	2	4	2
DFT002L--SMVM1	Flexsafe® RM TX 2 L perf. Viamass, TPE	3	3	1
DFT002L--SMVM2	Flexsafe® RM TX 2 L perf. Viamass, PVC	3	3	1
DFP002L--SMVM	Flexsafe® RM 2 L perfusion Viamass	3	3	1
DFP010L--SMVM	Flexsafe® RM 10 L perfusion Viamass	3	3	1
DFP020L--SMVM	Flexsafe® RM 20 L perfusion Viamass	3	3	1
DFP050L--SMVM	Flexsafe® RM 50 L perfusion Viamass	3	3	1
DFP100L--SMVM	Flexsafe® RM 100 L perfusion Viamass	2	2	1
DFP200L--SMVM	Flexsafe® RM 200 L perfusion Viamass	2	2	1
DFP010L--ATVM	Flexsafe® RM 10 L ATF Viamass	3	3	1
DFP020L--ATVM	Flexsafe® RM 20 L ATF Viamass	3	3	1
DFP050L--ATVM	Flexsafe® RM 50 L ATF Viamass	3	3	1
DFP100L--ATVM	Flexsafe® RM 100 L ATF Viamass	2	4	2
DFP200L--ATVM	Flexsafe® RM 200 L ATF Viamass	2	4	2



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