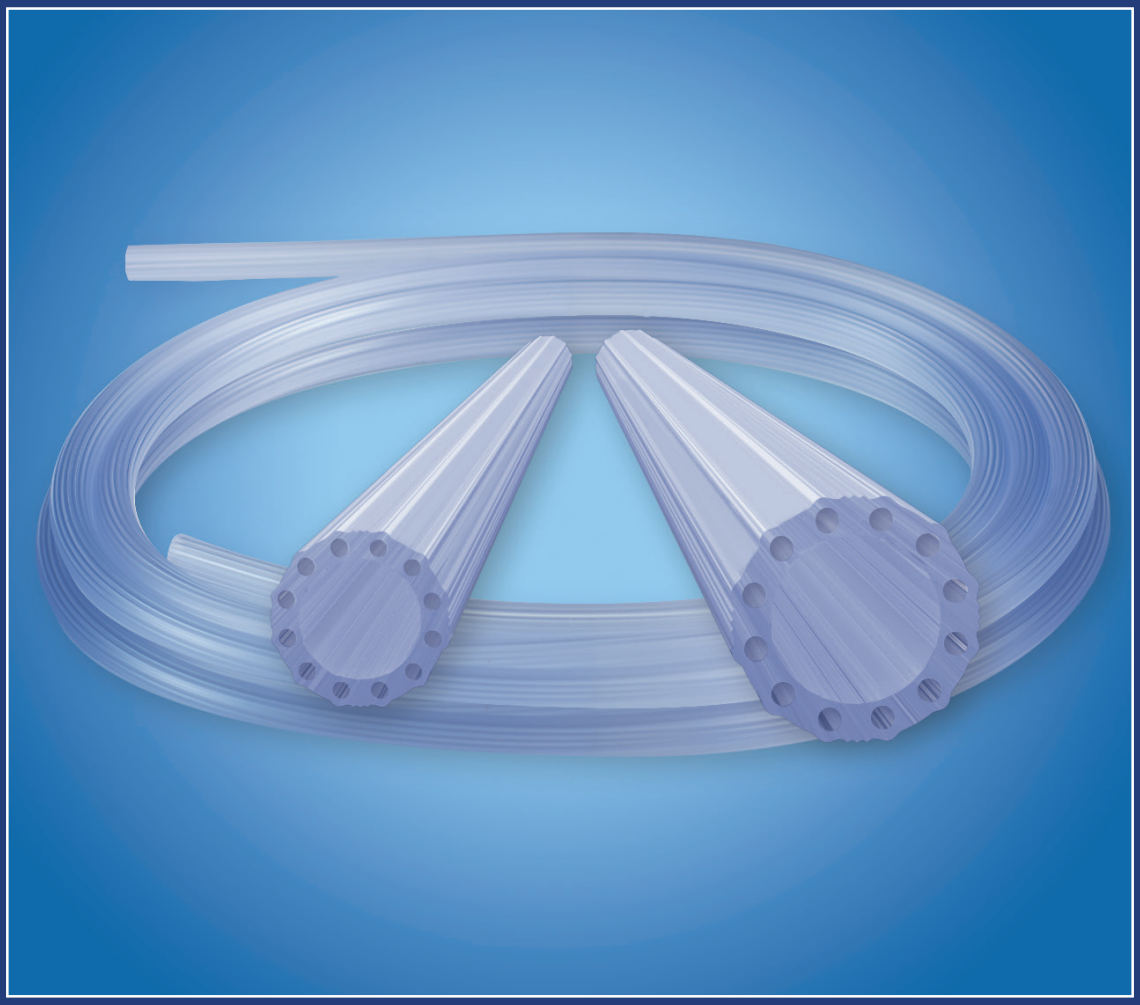
EXTRU·Flex 1000®

LATEX FREE

MultiLumen



Now introducing the more sustainable EXTRUDAN MultiLumen Tube

EXTRUDAN®

more Sustainable Medical Devices

Est. 1984

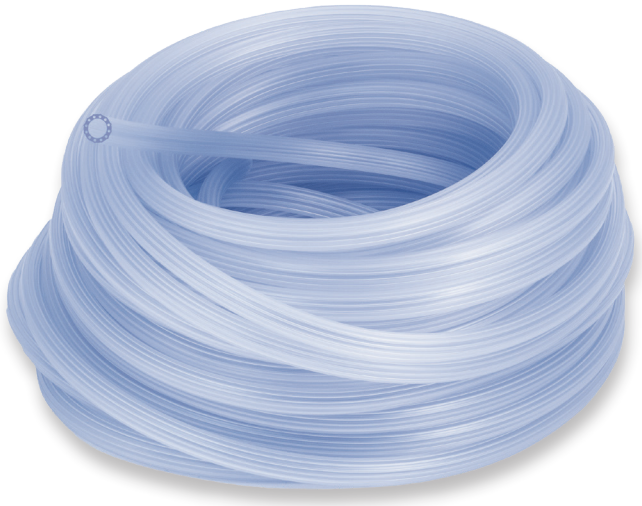
EXTRUDAN®

EXTRUDAN and the Climate

In our efforts to develop less resource demanding, more sustainable medical devices we have started at one end. The one that meets the patient and the user: The physical product. We will gradually move more to the inside of the company to address indirect resources used to design and produce our products.

Product Optimization

The process of improving the physical product is a process we call Product Optimization. It is the process or methodology of making our products as perfect, functional and effective as possible. What this means in practical terms we will discuss below. Out of the philosophy 'less is more' we have started to re-design our products to be made with less resources. Further we have improved the materials used especially if the new material has a lower specific weight than the former. The result is less resources used to produce the same product. In that way we have created Medical Devices with a 18-50% lower energy/carbon footprint. Further we have been able to re-design components of a product to be connected mechanically to other parts of the entire product without using chemicals in the form of a solvent to glue 2 components together. The result is less emissions of greenhouse gasses.



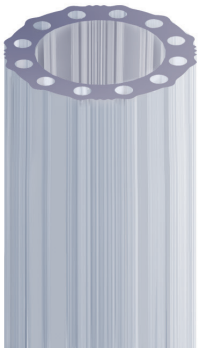
Fortunately, one optimization often leads to another. Less of one material leads to less of another. When products are of lower weight, they demand less strong packaging materials which is another area we need to look into. The handling of the lighter carton boxes of products becomes easier. It needs less energy to move the now lighter goods around.

The finished products are placed on pallets and sterilized. The resources used to sterilize lower weight products are also expected to be somewhat lower. We will look into this theme when we get more experience with in-house sterilization. Already now we know that we save one onloading and an offloading after we changed from external sterilization as per April 2022.

Optimization of a Product – an Example

One of our most sold products is a connecting tube with a so-called fingertip connector to regulate the vacuum of a suction catheter. The tube is used between a suction catheter and the suction liner that is the fluid collecting device that is connected to a hospitals central vacuum system.

Optimization of the tube



The tube made from medical grade PVC of typically 2-meters length was reduced from 5.8/8.3mm diameter to the more optimal size of 5.6/8.0 mm diameter. This reduces the weight. Then material was taken out of the wall of the tube. 12 tiny lumen are to be seen at the wall of the extruded MultiLumen Tube. The only reason for placing the lumens inside the wall is to reduce the weight. The weight reduction gained by reducing the tube diameter slightly and taking material out of the wall is 25%. Weight reduction equals a similar amount of CO_2 saved over the product's life time including the disposal of 25% less waste.

Optimization of the Fingertip Connector

New Fingertip Connector

Traditional Fingertip Connector

The traditional Fingertip Connector used is a standard model that can be used to connect different tubes and funnels. The new re-designed fingertip was adapted to fit only the one size of tube mentioned above. The change of the design of the fingertip reduced the weight of the Fingertip Connector by 26%. The CO_2 reduction as well as the waste reduction is 26%.

For some purposes we are able to change material used to procedure the traditional Fingertip Connector from medical grad PVC to the lighter material Polyethylene (PE) (see Ref. No. 1324 page 6 and 1310 page 8). The change of material reduces the weight and the waste by 33%.

Above Fingertip-Funnels Tube is just one example of many different products where we use the same tube but with other connectors or funnels.

At EXTRUDAN we make several hundred different products. Some of them are sold in million of copies during a year. That makes even small changes have an effect. To illustrate the 25% saving of the weight as a specific amount of PVC we can take the longest tube we offer. It is a so-called Funnel – Funnel Connecting Tube (see Ref. No. 1301 6000 80 ML on page 9). The 5.6/8.0 mm diameter MultiLumen Tube weighs 25% less than the traditional tube or 56 grams per 6-meter tube. As the tube is normally sold by the 1000 pcs the saved PVC material is 56 kg per 1000 products.

EXTRUDAN and the climate – what to expect?

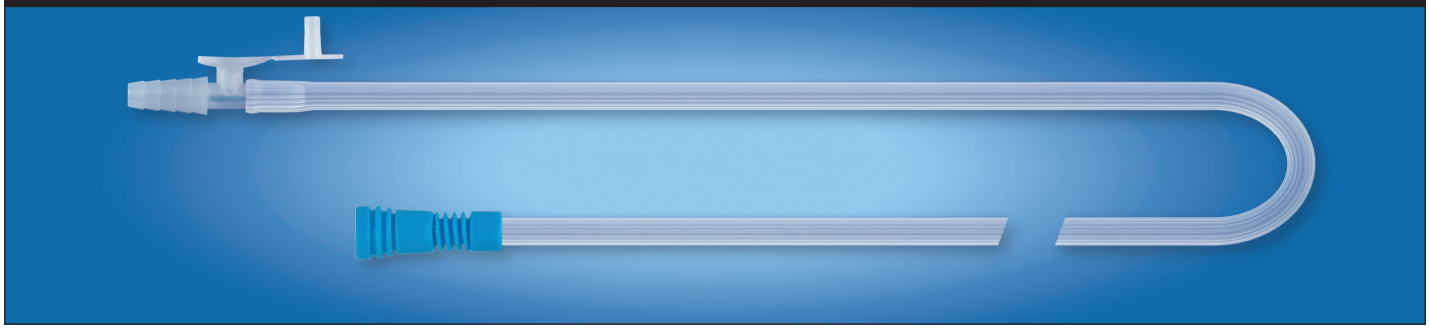
MultiLumen Tubes is the beginning. They have already now been improved with a new technology to produce them and have been tested extensively in the market prior to the general introduction which happens now. MultiLumen Tubes will be updated on a regular basis. We aim to work further on the structure of the lumens and expect to be able to save more material. MultiLumen Tubes are a vital part of our aim to deliver Sustainable Medical Devices. The technology to extrude as well as the MultiLumen Tube's design and function is patent protected.

Another original and patent protected medical tube will be launched in the coming year. This tube will have a 50% lower carbon (CO_2) emission. We will have a limited capacity for some time and therefore it will be a supplement to the MultiLumen Tube that is the tube for here and now.

We work on various other elements that make out the products we offer. When you combine the different elements with the coming tube with even less carbon emission you may get an idea in which direction, we want to go. The goal is for EXTRUDAN to be a Net Zero carbon emitter. How fast we will reach that goal will depend on how well our new products will be accepted, but also some major investments in clean energy, we are looking at.

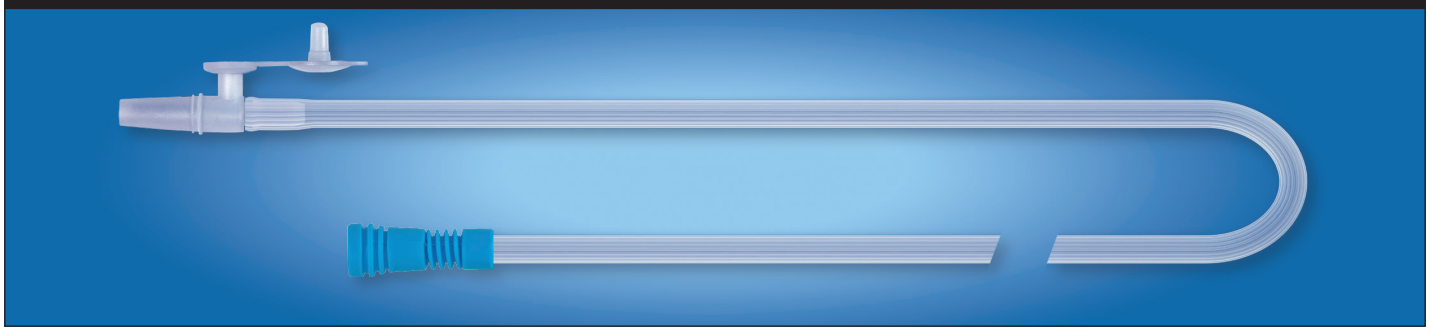
We hope you have found this message useful. We would like to invite to join us on this journey. We are convinced that the timing is right to introduce a range of MultiLumen products at existing prices that combine lower emission with less waste and thereby lower costs. There will be more things coming that will improve our offer of more Sustainable Medical Devices.

FUNNEL • VACUUM CONTROL • 1300 ML



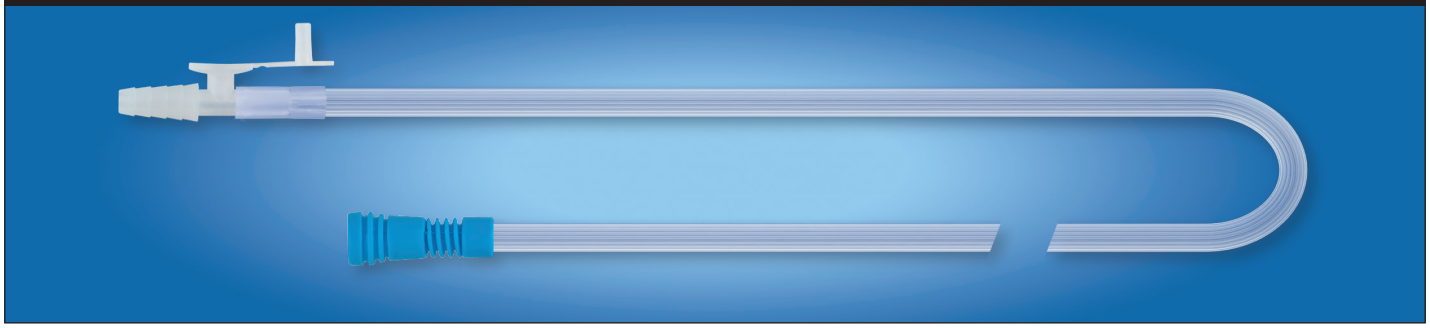
Tube Diameter (mm)	Length (mm)	Ref-No	Ref-No Non-sterile
5.6/8.0	1500	1300 1500 80 ML	1300 1500 80 ML US
5.6/8.0	1600	1300 1600 80 ML	1300 1600 80 ML US
5.6/8.0	1800	1300 1800 80 ML	1300 1800 80 ML US
5.6/8.0	2100	1300 2100 80 ML	1300 2100 80 ML US
5.6/8.0	2500	1300 2500 80 ML	1300 2500 80 ML US
5.6/8.0	3000	1300 3000 80 ML	1300 3000 80 ML US
7.0/10.0	1800	1300 1800 10 ML	1300 1800 10 ML US

FUNNEL • LARGE VACUUM CONTROL FOR DUODENAL/STOMACH TUBE • 1320 ML



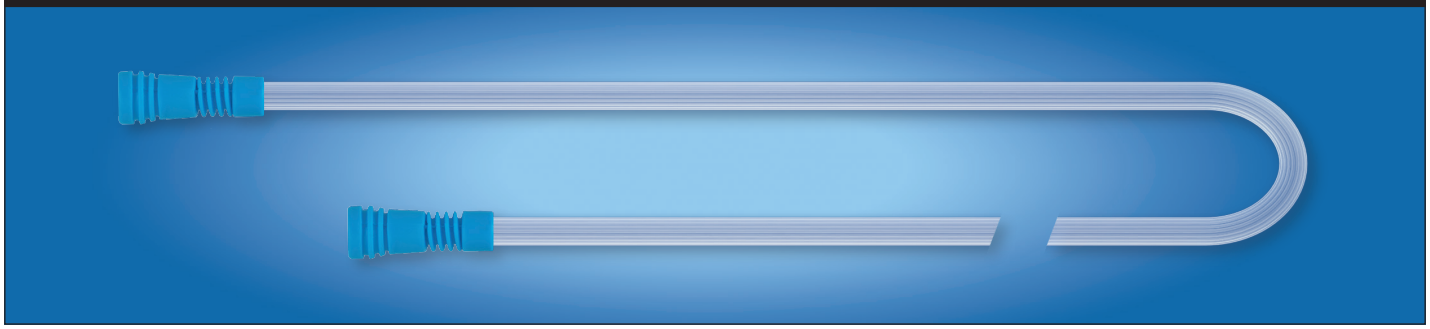
Tube Diameter (mm)	Length (mm)	Ref-No	Ref-No Non-sterile
5.6/8.0	1800	1320 1800 80 ML	1320 1800 80 ML US
5.6/8.0	2100	1320 2100 80 ML	1320 2100 80 ML US
7.0/10.0	1800	1320 1800 10 ML	1320 1800 10 ML US

FUNNEL • REMOVABLE VACUUM CONTROL • 1324 ML



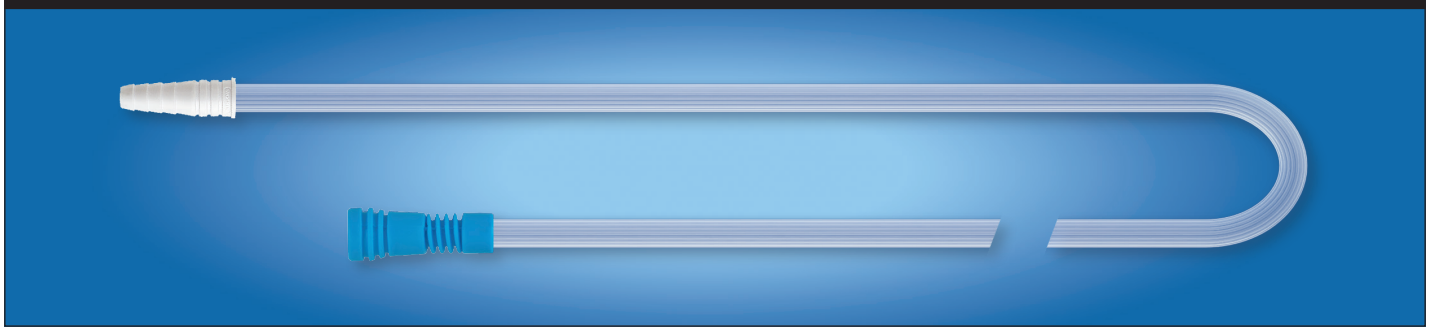
Tube Diameter (mm)	Length (mm)	Ref-No	Ref-No Non-sterile
5.6/8.0	1800	1324 1800 80 ML	1324 1800 80 ML US
7.0/10.0	1800	1324 1800 10 ML	1324 1800 10 ML US

FUNNEL • FUNNEL • 1301/1302 ML



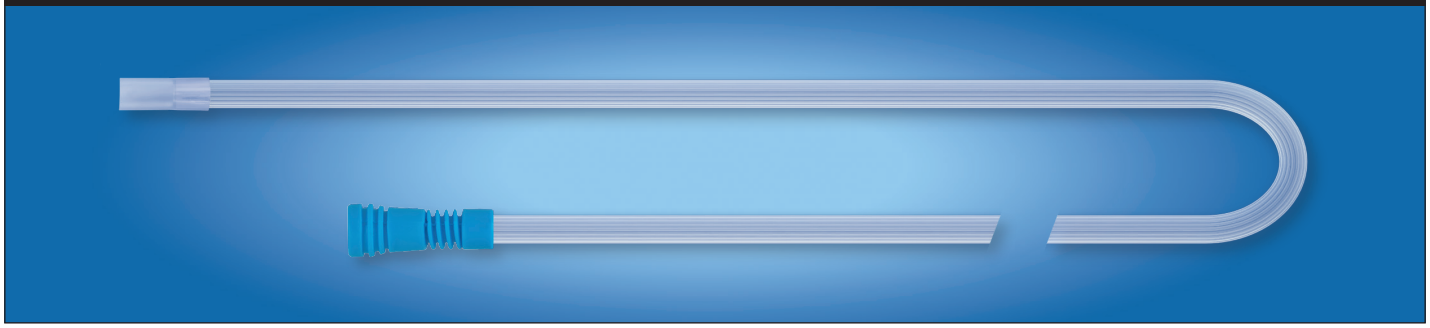
Tube Diameter (mm)	Length (mm)	Ref-No
5.6/8.0	2100	1301 2100 80 ML
5.6/8.0	3000	1301 3000 80 ML
5.6/8.0	3500	1301 3500 80 ML
5.6/8.0	4000	1301 4000 80 ML
7.0/10.0	2100	1302 2100 10 ML
7.0/10.0	3000	1302 3000 10 ML
7.0/10.0	3500	1302 3500 10 ML

FUNNEL • CONNECTOR • 1303 ML



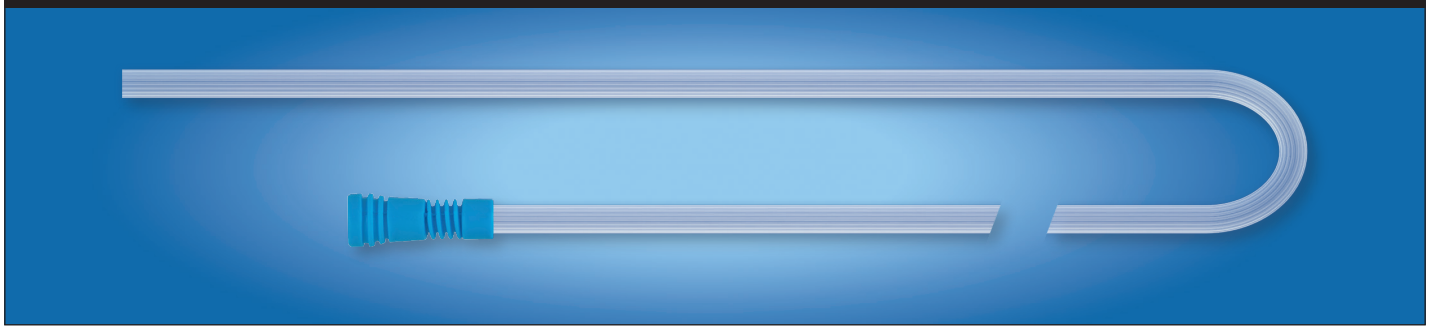
Tube Diameter (mm)	Length (mm)	Ref-No
5.6/8.0	2100	1303 2100 80 ML
5.6/8.0	3000	1303 3000 80 ML

FUNNEL • TUBE PIECE • 1304 ML



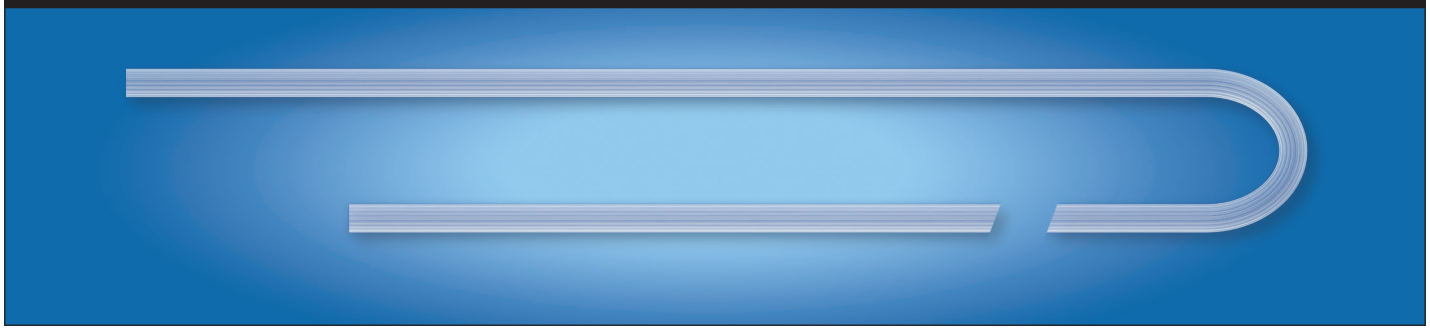
Tube Diameter (mm)	Length (mm)	Ref-No
5.6/8.0	2100	1304 2100 80 ML
5.6/8.0	3000	1304 3000 80 ML

1 FUNNEL • 1305/1306 ML



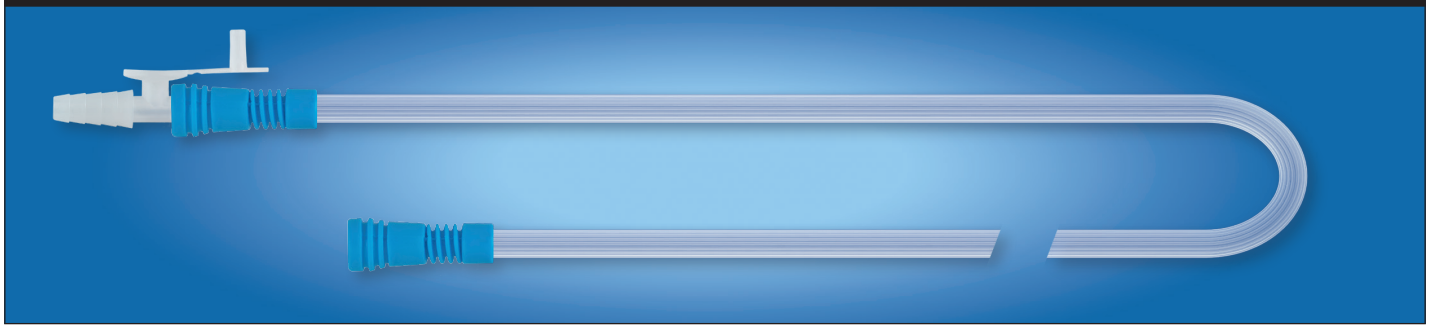
Tube Diameter (mm)	Length (mm)	Ref-No
5.6/8.0	2100	1305 2100 80 ML
5.6/8.0	3000	1305 3000 80 ML
7.0/10.0	2100	1306 2100 10 ML
7.0/10.0	3000	1306 3000 10 ML

WITHOUT FUNNEL • 1307/1308 ML



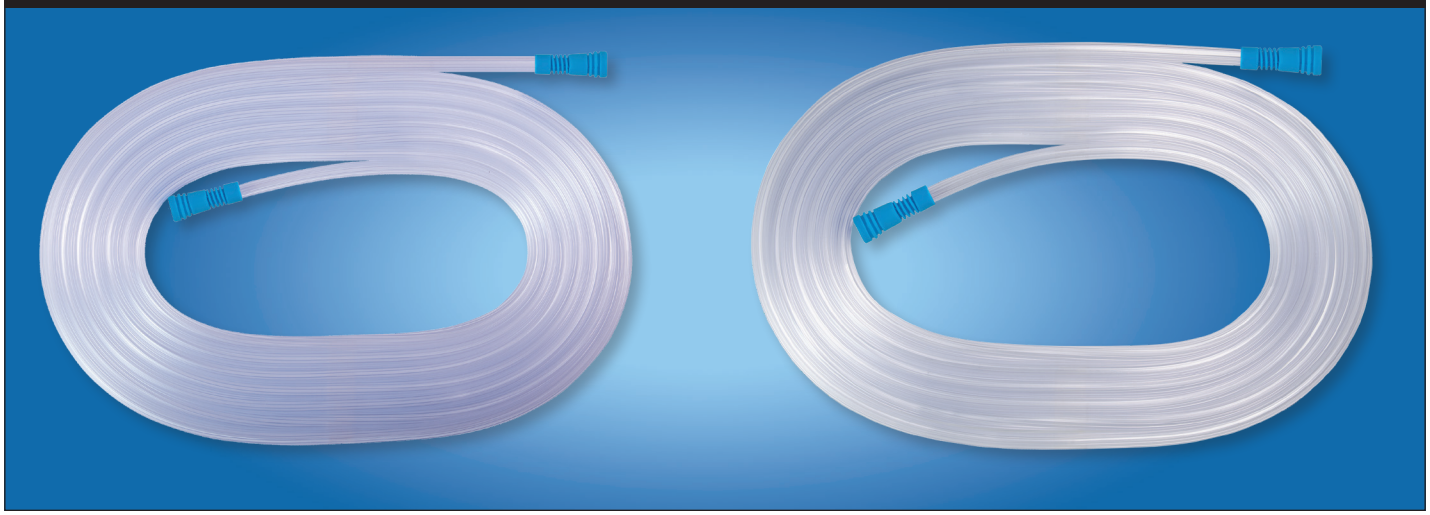
Tube Diameter (mm)	Length (mm)	Ref-No
5.6/8.0	2100	1307 2100 80 ML
5.6/8.0	3000	1307 3000 80 ML
7.0/10.0	2100	1308 2100 10 ML
7.0/10.0	3000	1308 3000 10 ML

FUNNEL • FUNNEL/FINGERTIP • 1310 ML FM



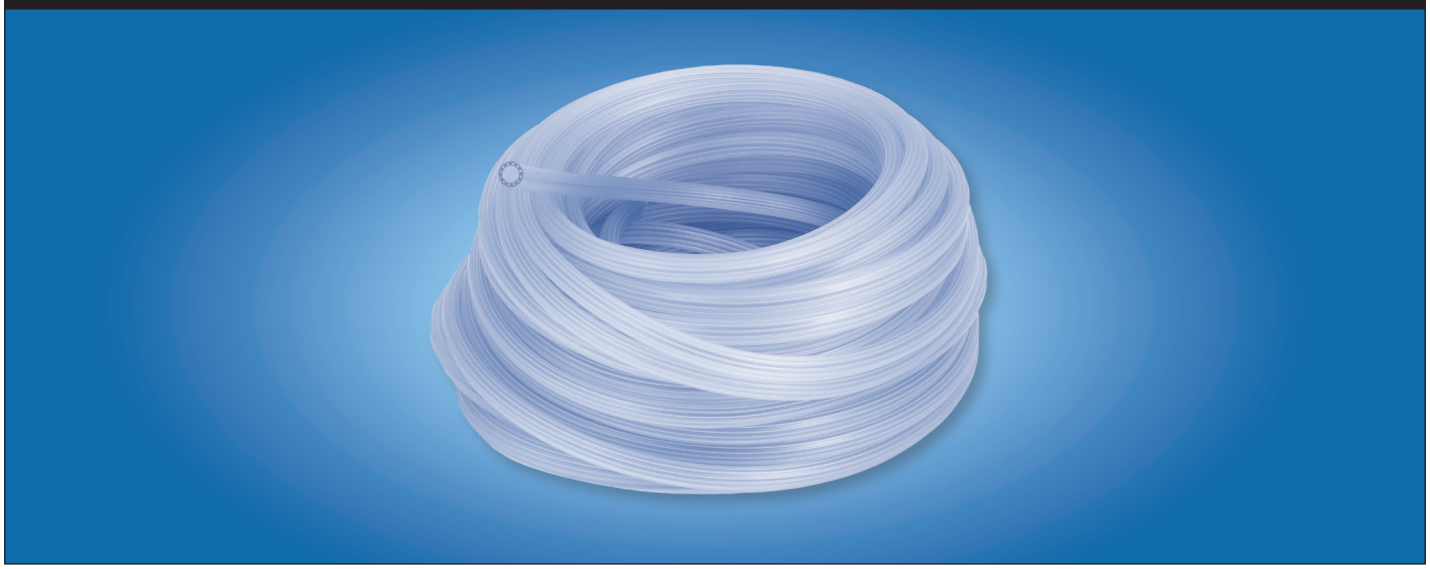
Tube Diameter (mm)	Length (mm)	Ref-No
5.6/8.0	2100	1310 2100 80 ML FM
5.6/8.0	3000	1310 3000 80 ML FM

FUNNEL • FUNNEL • 1301/1302 ML • 5.0 AND 6.0 METER LONG



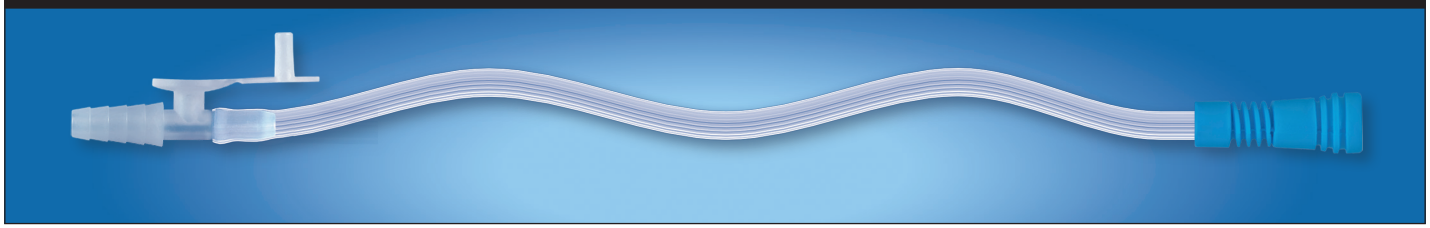
Tube Diameter (mm)	Length (mm)	Ref-No
5.6/8.0	5000	1301 5000 80 ML
5.6/8.0	6000	1301 6000 80 ML
7.0/10.0	5000	1302 5000 10 ML
7.0/10.0	6000	1302 6000 10 ML

CONNECTING TUBES ON ROLLS • 1400 ML



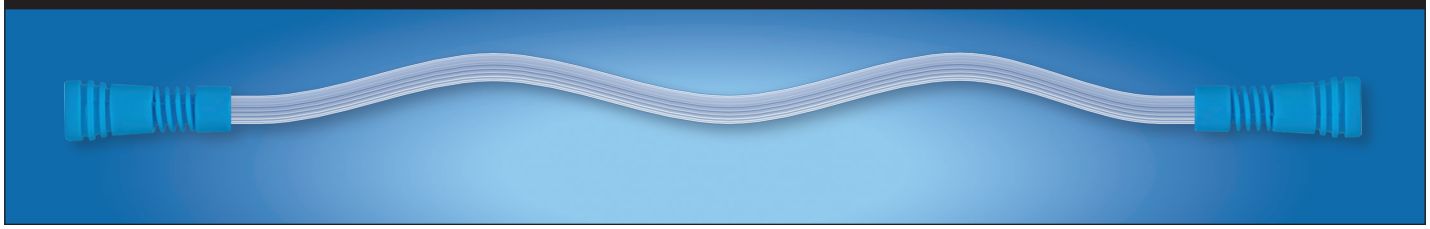
Tube Diameter (mm)	Length (meter)	Ref-No
5.6/8.0	50	1400 0050 80 ML
6.0/9.0	50	1400 0060 90 ML
7.0/10.0	50	1400 0070 10 ML
7.5/11.5	50	1400 0075 11 ML
8.0/11.0	50	1400 0080 11 ML
8.0/12.0	50	1400 0080 12 ML
9.0/13.0	50	1400 0090 13 ML
13.0/18.0	25	1400 0013 18 ML

FUNNEL • VACUUM CONTROL • 1300 ML S



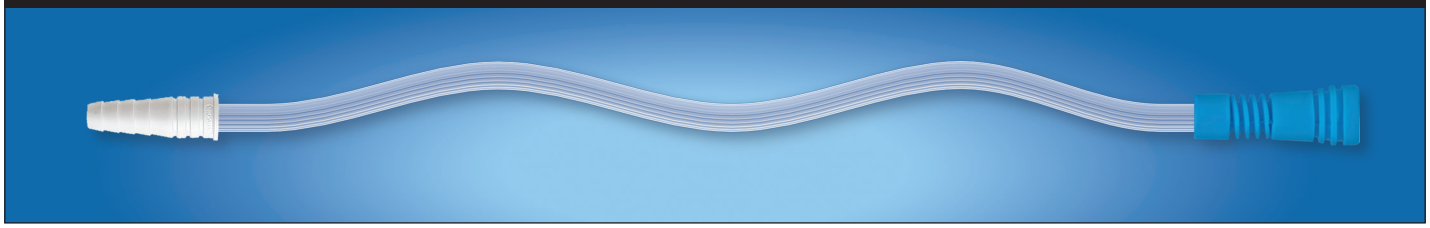
Tube Diameter (mm)	Length (mm)	Ref-No	Ref-No Non-sterile
5.6/8.0	1800	1300 1800 80 ML S	1300 1800 80 ML SUS
5.6/8.0	2100	1300 2100 80 ML S	1300 2100 80 ML SUS
7.0/10.0	1800	1300 1800 10 ML S	1300 1800 10 ML SUS

FUNNEL • FUNNEL • 1301/1302 ML S



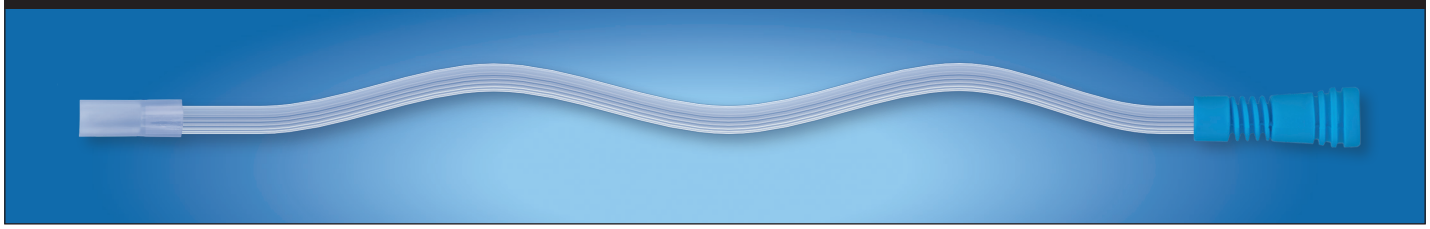
Tube Diameter (mm)	Length (mm)	Ref-No
5.6/8.0	2100	1301 2100 80 ML S
5.6/8.0	3000	1301 3000 80 ML S
7.0/10.0	2100	1302 2100 10 ML S
7.0/10.0	3000	1302 3000 10 ML S

FUNNEL • CONNECTOR • 1303 ML S



Tube Diameter (mm)	Length (mm)	Ref-No
5.6/8.0	2100	1303 2100 80 ML S
5.6/8.0	3000	1303 3000 80 ML S

FUNNEL • TUBE PIECE • 1304 ML S



Tube Diameter (mm)	Length (mm)	Ref-No
5.6/8.0	2100	1304 2100 80 ML S
5.6/8.0	3000	1304 3000 80 ML S

EXTRUDAN®

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more Sustainable Medical Devices

Est. 1984

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04.2022