



Examples of tubing connection:

HOW to CONNECT iPRECIO's Outlet Tubing to my catheter / tubing, cannula?

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Both iPRECIO SMP-310R and SMP-200's Outlet Tubing can be connected to typical 3Fr size catheter and tubing for laboratory small animal. We introduce several additional cases in below as well as introducing recommended unique tubing and catheter supplied by our partners.

iPRECIO's outer tubing (It is same tubing used both for SMP-310R and SMP-200.)

[SMP-310R]

[SMP-200]

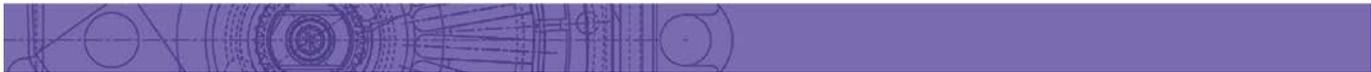


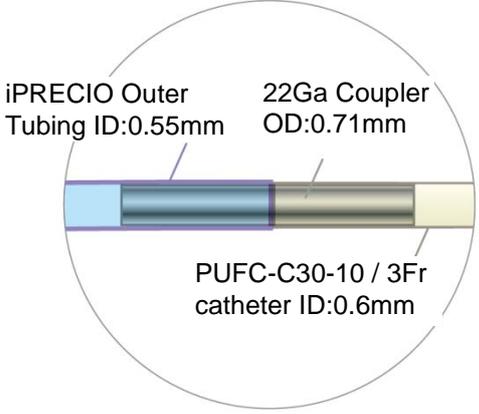
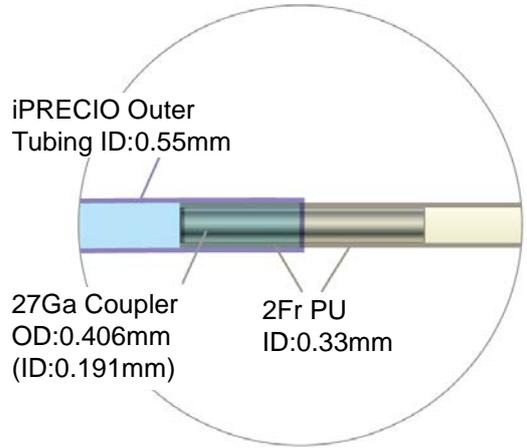
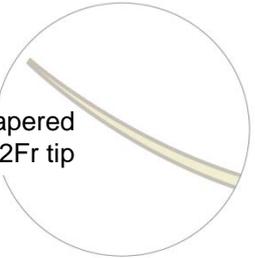
[OD] 1.2mm · [ID] 0.55mm , [Length] approx. 140mm(SMP-310R), 135mm(SMP-200)

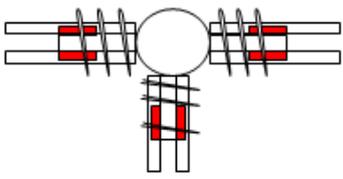
Material : SEBS Medical Grade

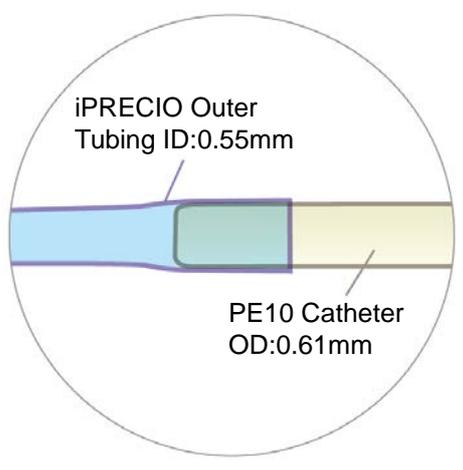
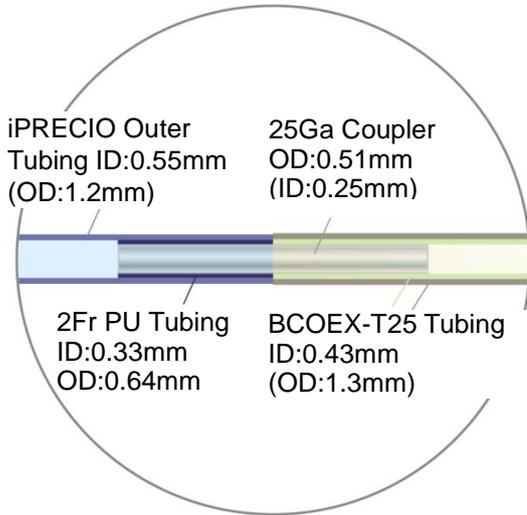
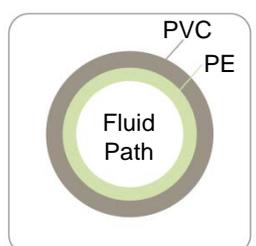
Standard Connection

Polyurethane [PU]		22Ga Coupler / Cannula	
3Fr	[OD] 0.9mm · [ID]0.6mm	22Ga	[OD] 0.71mm · [ID] 0.41mm
<p>iPRECIO Outer Tubing ID:0.55mm 22Ga Coupler OD:0.71mm</p> <p>3Fr PU ID:0.6mm</p>		<p>iPRECIO Outer Tubing ID:0.55mm 22Ga Coupler OD:0.71mm</p>	
<p>iPRECIO® catheter connects/compatible with 22 gauge size coupler and cannula. Insert 22 gauge oupler/cannula into iPRECIO® catheter by between 6-8mm to have maximum reliability. No glue required.</p> <p>Connection is same as 1Fr case using PUF-C30-10.</p>		<p>Example tubing/coupler/catheter include:</p> <ul style="list-style-type: none"> - 22 gauge coupler 22 Gauge coupler connects to 3Fr tubing. Insert 22 gauge into 3Fr tubing by 6-8mm of maximum reliability. - Cannula for brain infusion with 22 gauge side tube - Bi-lateral cannula for brain infusion with 22 gauge side tube 	



Connected Catheter/Tubing Material : Polyurethane [PU]			
1Fr	[OD] 0.4mm • [ID] 0.305mm	2Fr	[OD] 0.64mm • [ID] 0.33mm
 <p>iPRECIO Outer Tubing ID:0.55mm</p> <p>22Ga Coupler OD:0.71mm</p> <p>PUFC-C30-10 / 3Fr catheter ID:0.6mm</p>		 <p>iPRECIO Outer Tubing ID:0.55mm</p> <p>27Ga Coupler OD:0.406mm (ID:0.191mm)</p> <p>2Fr PU ID:0.33mm</p>	
 <p>Tapered 1.2Fr tip</p> <p>We would recommend the 3 Fr going to 1.2 Fr funnel catheter where the 3 Fr end would fit into iPRECIO catheter.</p> <p>We recommend an overlap of 6mm-8mm between the iPRECIO catheter and 3 Fr end of the funnel catheter</p> <p>Glue not required.</p>		<p>Overlap at least 6-8mm if possible. Glue not required.</p> <p>Another option : Tapered funnel catheter PUFC-C30-20 is also one of the option to have 2Fr size..</p>	

3-way valve [22Ga]	
 <p>In red is the 3Fr PU 3mm length. Oblique lines mean suture line.</p>	<ol style="list-style-type: none"> 1) Overlap the 22 gauge valve tubing with 3Fr PU (3mm) before connecting to iPRECIO® pump catheter. (3Fr PU (3mm) overlapping will improve the “sealing” and strength of the connection.) 2) Then insert the valve with 3mm length 3Fr PU into iPRECIO outer tubing. 3) If possible, suture as shown. <p>*Glue will not be necessary.</p>

Polyethylene [PE]		COEX Tubing	
PE10	[OD] 0.61mm • [ID]0.28mm	25Ga	[OD] 1.3mm • [ID]0.43mm
			
<p>As the iPRECIO catheter is flexible, the 0.61 OD tubing can be inserted into the 0.55 ID tubing and we recommend an overlap of at least 8mm to ensure a good seal. Less overlap increases risk of disconnection.</p> <p>Sharp edges of PE tubing should be rounded off especially for chronic infusions. (damage to iPRECIO catheter)</p> <p>Glue not required</p>		 <p>CO-EX™ tubing Supplied by Instech Laboratories</p> <p>We recommend to use CO-EX™ tubing when iPRECIO® pump is not used in-vivo to minimize evaporation. Reduce iPRECIO Catheter to a minimum. CO-EX™ tubing has a chemically inert fluid path of Polyethylene (PE) and an outer wall of PVC thereby making it easy to bond to luers and other components and reduce kinking common with PE.</p> <p>For connection, using 25Ga stainless coupler and 2Fr short length PU tubing inside of iPRECIO catheter (outside of 25Ga coupler) to adjust the diameter.</p>	

Brain Cannula

Standard Cannula with Side Arm/Port [21Ga / 22Ga]



Bilateral Cannula with Side Arm/Port [21Ga / 22Ga]



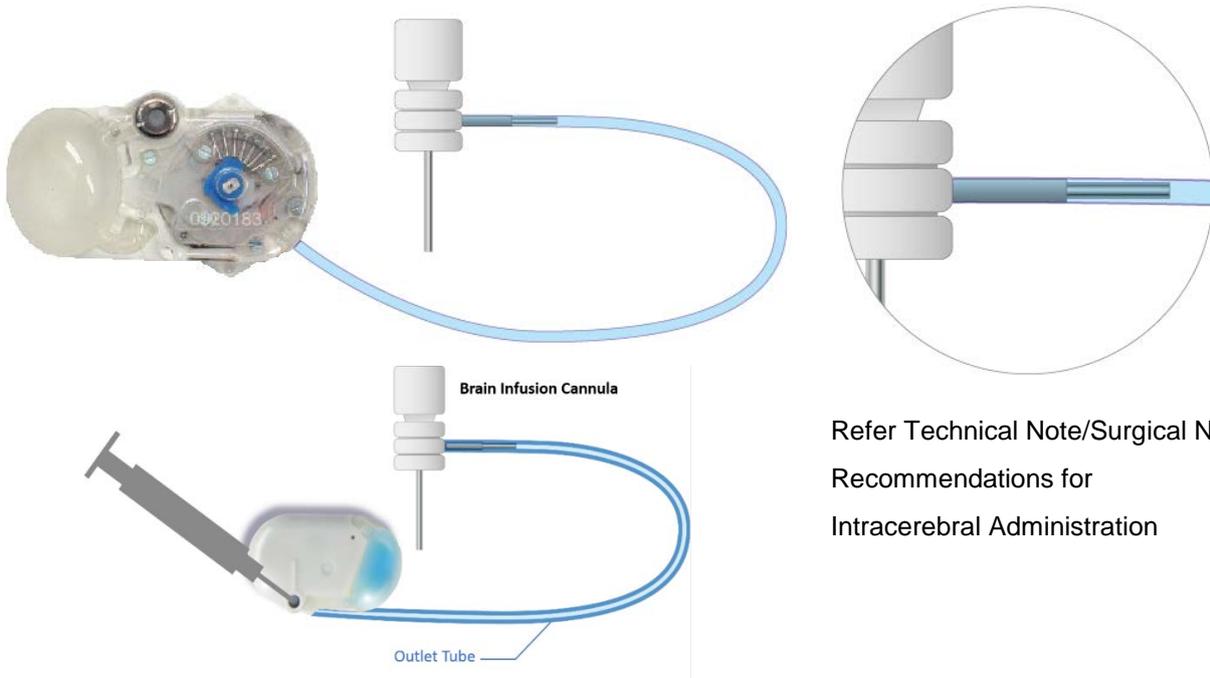
http://www.plastics1.com/Gallery-PRC.php?FILTER_CLEAR&FILTER_FCATEGORY=Infusion&FILTER_F1=Guide%20cannula&FILTER_F3=Osmotic%20cannula

Most commercially available cannula's have a side arm/port which is 22 gauge or 21 gauge.

[22 Ga] OD: 0.71mm, ID: 0.41 mm

[21 Ga] OD: 0.81mm, ID: 0.51 mm

iPRECIO® SEBS outlet tubing will fit directly to the side port. It is 1.2 mm OD 0.55 mm ID. The 0.55 mm ID will stretch over 0.71 mm OD and 0.81 mm OD of 22 gauge and 21 gauge fine. Preferred is 21 gauge with overlap of 6-8mm. Use 21 gauge SS coupler or 22gauge with iPRECIO pumps.

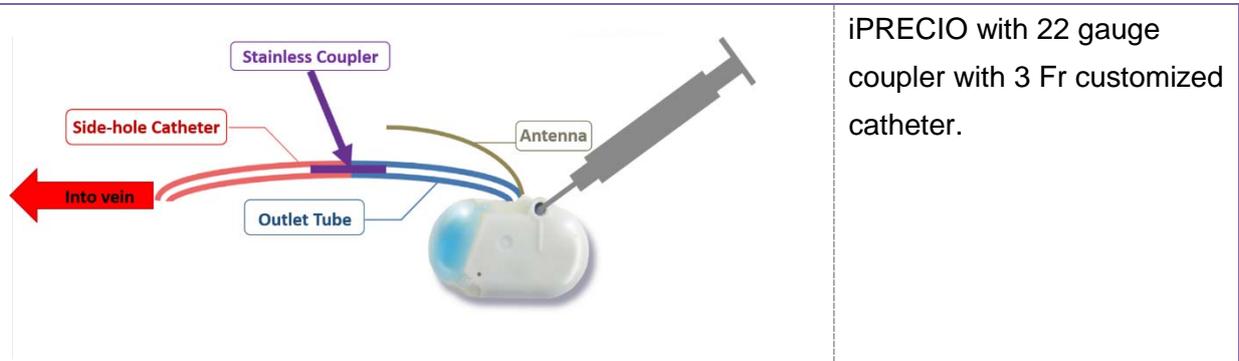


Refer Technical Note/Surgical Note:
Recommendations for
Intracerebral Administration

Fig. 1 Connect the brain infusion cannula to the pump

Example connection images for routes of administration

(from iPRECIO Technical Notes and Surgical Protocols)



iPRECIO with 22 gauge coupler with 3 Fr customized catheter.

Reference: Technical Note - Recommendations for Intraperitoneal Administration(SMP-200)
Surgical Protocol - Recommendations for Intraperitoneal Administration(SMP-310R)

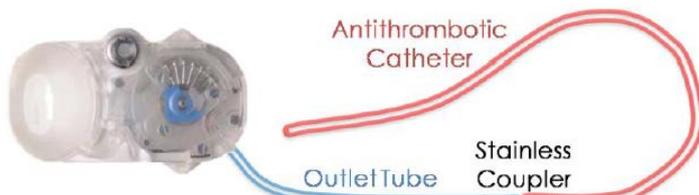


Fig. 1 Connect the antithrombotic catheter

iPRECIO with 22 gauge coupler with 3 Fr Antithrombotic catheter as well as funnel catheter.

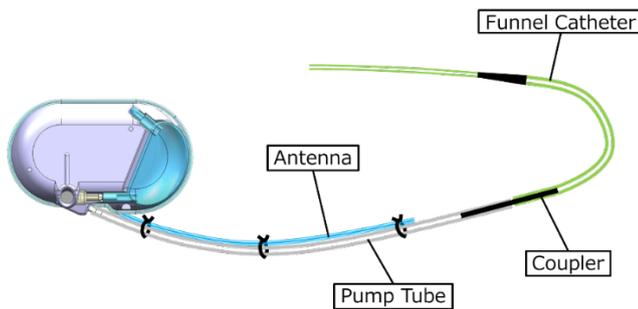


Fig.1 Antenna fixing and intravenous catheter connection

For SMP310R – no antenna fixing required. (no external antenna)

Reference: Technical Note - Recommendations for Intravenous Administration(SMP-200)
Surgical Protocol - Recommendations for Intravenous Administration in Mice(SMP-310R)

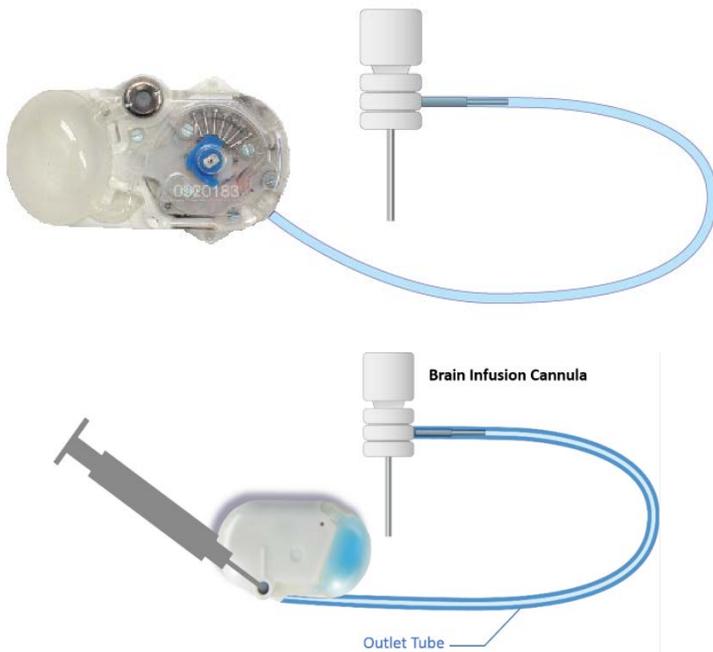


Fig. 1 Connect the brain infusion cannula to the pump

iPRECIO with 22 gauge side port cannula from Plastic One.
Direct fit.

Reference: Technical Note - Recommendations for Intracerebral Administration(SMP-200)
Surgical Note - Recommendations for Intracerebral Administration(SMP-310R)

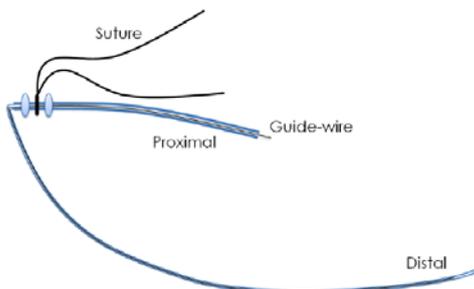


Fig. 2 Intrathecal Catheter Preparation

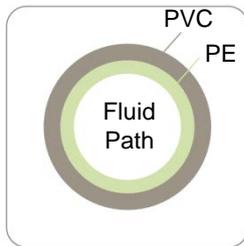
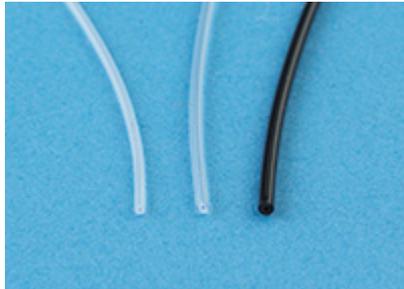
iPRECIO customized Intrathecal catheter from ReCathCo.

Reference: Technical Note - Recommendations for Intrathecal Administration(SMP-200)

Catheters and tubing:

Supplier : Instech Laboratories <https://www.instechlabs.com/products/catheters>

Co-Extruded PE/PVC Tubing



The tubing has a chemically inert fluid path of Polyethylene (PE) and an outer wall of PVC thereby making it easy to bond to luers and other components and reduce kinking common with PE.

Lineup

Part Number	Description
BCOEX-T25	Co-extruded PE/PVC tubing for 25ga, .017x.051in, spool, non-sterile (Unit: 100ft/30.5m)
BCOEX-T22	Co-extruded PE/PVC tubing for 22ga, .024x.064in, spool, non-sterile (Unit: 100ft/30.5m)
BCOEX-T22B	Co-extruded PE/PVC tubing for 22ga, black, .024x.072in, spool, non-sterile (Unit: 50ft/15m)

<http://www.instechlabs.com/Infusion/tubing/coex.php>

Tubing Coupler



Couplers are used to connect catheters to external infusion tubing. Plugs may be used to seal off a catheter before an infusion experiment begins. Couplers and plugs are available non-sterile in packages of 100. They may also be ordered sterile either individually packaged.

Lineup

Part Number	Description	Size
SC17/15	17ga x 15mm	[OD] 1.47mm · [ID] 1.07mm
SC20/15	20ga x 15mm	[OD] 0.91mm · [ID] 0.61mm
SC22/15	22ga x 15mm	[OD] 0.71mm · [ID] 0.41mm
SC22/8	22ga x 8mm	[OD] 0.71mm · [ID] 0.41mm
SC23/8	23ga x 8mm	[OD] 0.64mm · [ID] 0.33mm
SC25/10	25ga x 10mm	[OD] 0.51mm · [ID] 0.25mm
SC27/8	27ga x 8mm	[OD] 0.41mm · [ID] 0.20mm

<http://www.instechlabs.com/Infusion/tubing/connectors.php>

Intrathecal Catheter

Supplier : ReCathCo www.recathco.com

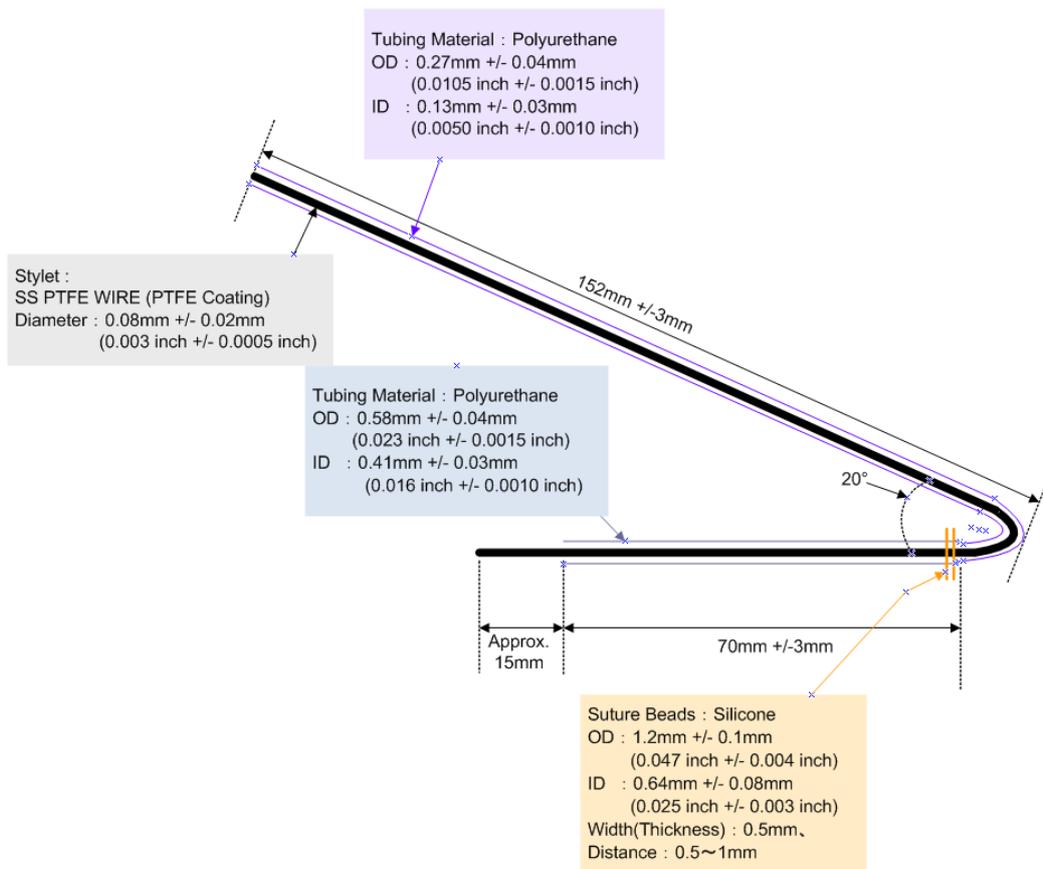
Model : 32Ga Catheter for use w/iPRECIO Pump

0220EO http://www.recathco.com/catheters/32Guage_Intrathecal.html



(Specialized for iPRECIO)

This specialized catheter is unique shape having stylet.



Brain Cannula

Supplier : Plastic One www.plastics1.com

Standard Cannula



Has a plastic pedestal molded around an L-shaped stainless steel tube that extends below the pedestal and to the side to connect to the pump. A break-off segment fits in the MH-300 mounting holder for placement. After the Cerebond, dental cement or cyanoacrylate gel has set, the segment is cut off. The remaining pedestal is then covered with skin and sutured for a subcutaneous mounting. 3280P and 3300P have a 21 gauge side arm. 3220P has a 22 gauge side arm.

All side connector tubes are 5 mm (.20") long.

Pedestal height: 3.0 mm (.118").

Pedestal diameter: 3.5 mm (. 138").

Break-off Post diameter: 3.5 mm (. 138")

Line up

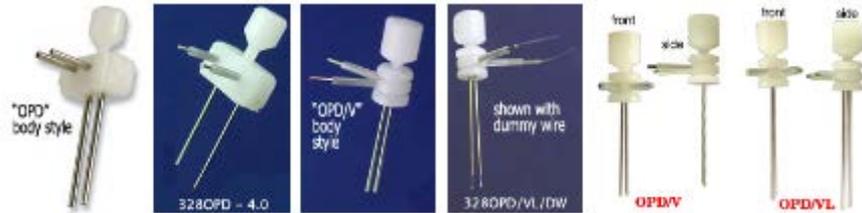
OP CANNULA PART NUMBER	TUBING SIZE (GAUGE)	TUBING LENGTH BELOW PEDESTAL MM (IN.)	MATES W/ DUMMY CANNULA	MATES W/ DUST CAP
322OP/SP	22	SPECIFY	322ID	322DC
328OP/SP	28	SPECIFY	NONE	321DC
328OP/DW/SP	28	SPECIFY	WITH REMOVABLE	321DC
			DUMMY WIRE	
330OP/SP	30	SPECIFY	NONE	321DC
330OP/DW/SP	30	SPECIFY	WITH REMOVABLE	321DC
			DUMMY WIRE	

http://www.plastics1.com/Gallery-PRC.php?FILTER_CLEAR&FILTER_FCATEGORY=Infusion&FILTER_F1=Guide%20cannula&FILTER_F3=Osmotic%20cannula

Bilateral Cannula



There are various body style types Plastics One can supply.



The 328OPD has 21 gauge side arms - 5mm (0.20") long.

The 322OPD-2.0 has 22 gauge side arms - 5mm (0.20") long.

The OPD body style dimensions are:

length= 7.5mm (.295"), height= 3.7mm (.146"), width = 3.8mm (.150")

Line up

OP DOUBLE CANNULA Part NUMBER	TUBING SIZE (Ga)	TUBING LENGTH BELOW PEDESTAL MM (IN.)	C/C DIST. MM (IN.)	BREAK-OFF POST MM(IN.)
3220PD-2.0/SP	22	SPECIFY	2 (.079)	5.1 (.201)
3280PD/V/SP	28	SPECIFY	0.4 (.016)	4.4 (0.173)
3280PD/VL/SP	28	SPECIFY	0.6 (.024)	4.4 (0.173)
3280PD-1.5/SP	28	SPECIFY	1.5 (.059)	5.1 (0.201)
3280PD-2.0/SP	28	SPECIFY	2 (.079)	5.1 (0.201)
3280PD-2.8/SP	28	SPECIFY	2.8 (.011)	5.1 (0.201)
3280PD-3.0/SP	28	SPECIFY	3 (.118)	5.1 (0.201)
3280PD-4.0/SP	28	SPECIFY	4 (.158)	5.1 (0.201)
3280PD-6.0/SP	28	SPECIFY	6 (.236)	5.1 (0.201)

http://www.plastics1.com/Gallery-PRC.php?FILTER_CLEAR&FILTER_FCATEGORY=Infusion&FILTER_F1=Guide%20cannula&FILTER_F3=Osmotic%20cannula