

Clinical Guide



Table of Contents

Why IMed Products EZ-FLOW™ Elastomeric Pumps?.....	03
Benefits of EZ-FLOW™	04
Product Reference Diagram	06
Choosing the Right EZ-FLOW™ Elastomeric Pump.....	07
Filling Guides.....	08
Preparing the EZ-FLOW™ Elastomeric Pump.....	14
Guidelines for Infusion.....	17
Troubleshooting.....	18
Accessories.....	19

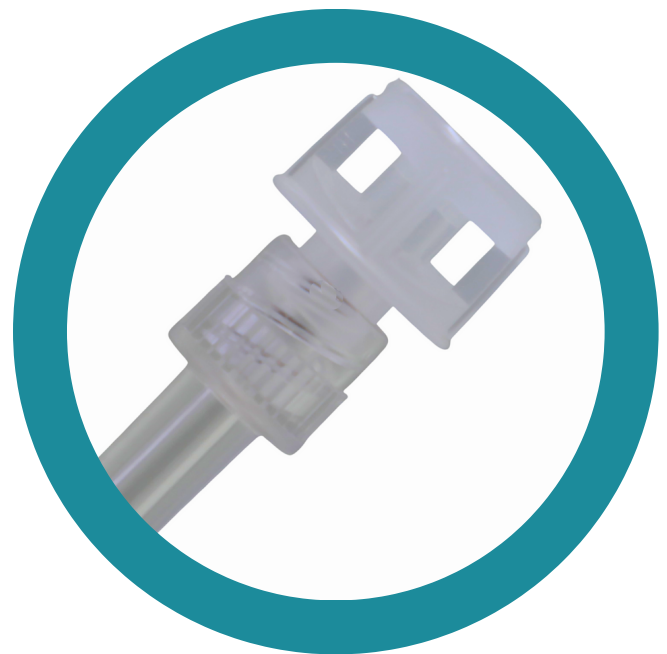


Why Choose EZ-FLOW™ Elastomeric Pumps?

EZ-FLOW™ Elastomeric Pumps are proven to be safe and effective and a convenient alternative to electronic infusion pumps. Ideally suited for infusion, long-term care, and outpatient chemotherapy treatments, EZ-FLOW™ gives the patient mobility and freedom to maintain an active lifestyle.

How Does the EZ-FLOW™ Elastomeric Pump Work?

EZ-FLOW™ delivers medication using a specially designed, multi-layered balloon-like reservoir. The pump exerts mechanical pressure, thereby administering the pump contents through an orifice tube at a predetermined flow rate. The rate is controlled by a flow restrictor at the end of the tubing and by flow restrictive tubing (EZ-FLOW™ Long Duration and Chemotherapy only). When used according to manufacturer's recommendations and instructions for use, flow accuracy is within +/- 15% of the nominal (label) flow rate (at 99% confidence level) when filled at nominal volume.



Welcome to IMED's EZ-Flow Elastomerics Benefits Guide

Our newest IMed Products line, EZ-FLOW™ elastomeric pumps, are a convenient alternative to electronic infusion pumps. Each elastomeric has a color code associated with it, which correlates to the flow rate. The EZ-FLOW™ elastomeric pump offers a safe and effective way to deliver medications while allowing patients freedom in their day-to-day lives without the worry of programming and battery power.



Fixed flow rate design requires no programming or drop counting.



Its small, lightweight design makes the Elastomeric Pump easy to transport in a discreet carry pouch.



Single-use only and designed to be safely disconnected and discarded.



No batteries, power cords, or IV poles required.



EZ FLOW™

ELASTOMERIC PUMP

Versatility

EZ-FLOW™ Elastomeric Pumps offer unparalleled versatility, catering to a wide range of medical applications including infusion therapy, long-term care, and outpatient chemotherapy treatments. Their adaptable design makes them suitable for various treatment scenarios, ensuring patients receive optimal care in different healthcare settings.

Drug Compatibility

Extensive drug compatibility studies and USFDA clearance certify EZ-FLOW™ Elastomeric Pumps for safe and effective use with a diverse range of medications. This compatibility ensures healthcare providers have flexibility in prescribing treatments, accommodating individual patient needs and preferences.

Priming Cap

The innovative priming cap featured on EZ-FLOW™ Elastomeric Pumps eliminates the need for a pinch clamp during priming. This unique feature streamlines the setup process, saving time and reducing the risk of errors; enhancing overall workflow efficiency.

Efficiency

EZ-FLOW™ Elastomeric Pumps optimize efficiency in medication delivery through calibrated flow rates and a user-friendly design. With no pinch clamp required during priming and a fixed flow rate that eliminates the need for programming, these pumps simplify infusion procedures, saving time and reducing the likelihood of errors.

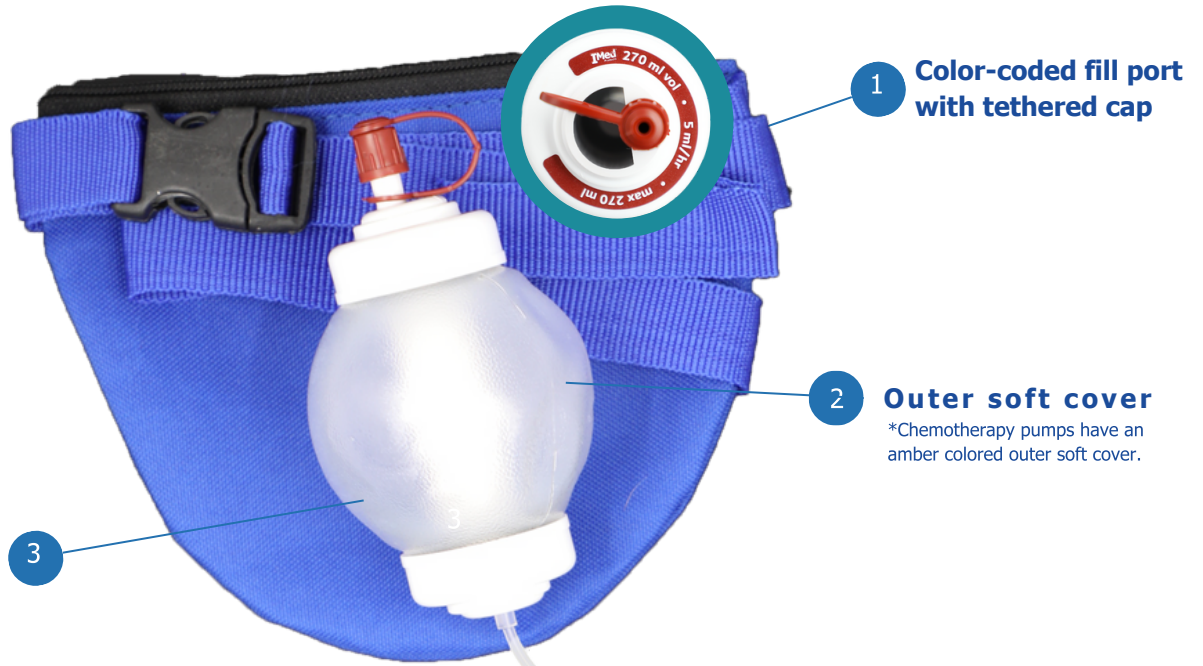
Performance

The performance of EZ-FLOW™ Elastomeric Pumps is unmatched, delivering precise and consistent medication doses to patients. Calibrated for accuracy and featuring innovative features like the priming cap, these pumps ensure reliable performance in various healthcare settings, enhancing patient safety and treatment efficacy.

Patient Benefits

Patients benefit greatly from the use of EZ-FLOW™ Elastomeric Pumps. The simple connection process and consistent medication delivery ensure a positive treatment experience. Patients can have confidence in the accuracy and reliability of their infusion therapy, leading to improved health outcomes and patient compliance.





1 Color-coded fill port with tethered cap

2 Outer soft cover
*Chemotherapy pumps have an amber colored outer soft cover.

Multi-layered elastomeric membrane

3

4 Pinch clamp

5 Air and particulate eliminating filter

6 Flow rate label

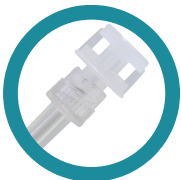
Non DEHP PVC administration tubing

7



Luer Tip Connector

8



Patient End Cap

9

*A priming cap is only used for long duration and chemotherapy pumps.



The EZ-FLOW™ Elastomeric Pump is easy to fill and color-coded for quick and accurate device identification. A wide variety of sizes and flow rates are available along with an extensive library of drug stability data. The range of items (sizes) available offers dosing flexibility to administer various infusion therapies. Please refer to the Fill Volume and Delivery Time Tables in this guide as well as the Drug Stability Guide to help determine which product is best suited for the needed therapy.

Drug Stability

Drug Stability data is available on a wide range of medications. The Drug Stability Guidelines for the administration of medications using the EZ-FLOW™ were developed as a result of testing performed by independent laboratories, review of various medical publications and manufacturers' product information, and available elastomeric infusion pump drug stability data. The stability data relates to chemical stability of the drugs tested, not to sterility.

The pharmacist dispensing the drug is responsible for ensuring proper preparation using validated aseptic techniques to prevent microbiological contamination. For practice and quality standards, refer to USP <797> Pharmaceutical Compounding – Sterile Preparations and USP <800> Hazardous Drugs - Handling in a Healthcare Setting.

Contact your Territory Manager at 800.755.3800, or our website, www.integratedmedsys.com for the most up to date drug stability information.

Fill Volumes & Delivery Times

Refer to the tables on the following pages to determine the appropriate pump model based on the fill volume and desired delivery time. Residual volume information is also included.

The EZ-FLOW™ nominal flow rates are based on sodium chloride (0.9%, 31° C/88° F) as reference. Use of 5% dextrose will result in 10% slower flow rate or correspondingly 10% longer delivery time.

Note:

- Delivery times for partial or overfill volumes are approximate values
- Filling the pump more than the nominal fill volume results in a slower flow rate
- Filling the pump less than nominal fill volume results in a faster flow rate
- Do not fill the pump less than the minimal or more than the maximum fill volume specified on the chart
- It is recommended that the EZ-FLOW™ be filled with diluent before adding the drug/medication

EZ-FLOW Elastomeric Pumps - Short Duration Filling Guide

Item #	IM050050S	IM100050S	IM100100S	IM100200S	IM200100S	IM200200S	IM250050S	IM250100S
Nominal Fill Volume	50mL	100mL	100mL	100mL	200mL	200mL	250mL	250mL
Nominal Flow Rate	50mL/Hour	50mL/Hour	100mL/Hour	200mL/Hour	100mL/Hour	200mL/Hour	50mL/Hour	100mL/Hour
Min Fill Volume	50mL	75mL	50mL	50mL	150mL	150mL	150mL	200mL
Max Fill Volume	60mL	110mL	120mL	120mL	250mL	300mL	300mL	300mL
Residual Volume	2mL	2mL	2mL	2mL	3mL	2mL	3mL	3mL

Item #	IM250125S	IM250175S	IM250250S	IM250500S	IM270175S	IM400100S	IM400200S	IM500250S
Nominal Fill Volume	250mL	250mL	250mL	250mL	270mL	400mL	400mL	500mL
Nominal Flow Rate	125mL/Hour	175mL/Hour	250mL/Hour	500mL/Hour	175mL/Hour	100mL/Hour	200mL/Hour	250mL/Hour
Min Fill Volume	150mL	140mL	150mL	200mL	150mL	275mL	200mL	360mL
Max Fill Volume	300mL	300mL	300mL	230mL	300mL	550mL	500mL	550mL
Residual Volume	3mL	3mL	3mL	3mL	3mL	5mL	5mL	5mL

Item #	Nominal Fill Volume (mL)	Nominal Flow Rate (mL/h)	Nominal Duration (Min)	Approx. Nominal Duration (Hrs)	QTY	Color Code
IM050050S	50mL	50mL/hr	60 Min	1 Hour	24/Case	Green
IM100050S	100mL	50mL/hr	120 Min	2 Hours	24/Case	Green
IM100100S	100mL	100mL/hr	60 Min	1 Hour	24/Case	White
IM100200S	100mL	200mL/hr	30 Min	0.5 Hours	24/Case	Light Blue
IM200100S	200mL	100mL/hr	120 Min	2 Hours	24/Case	White
IM200200S	200mL	200mL/hr	60 Min	1 Hour	24/Case	Light Blue
IM250050S	250mL	50mL/hr	300 Min	5 Hours	24/Case	Green
IM250100S	250mL	100mL/hr	150 Min	2.5 Hours	24/Case	White
IM250125S	250mL	125mL/hr	120 Min	2 Hours	24/Case	Yellow
IM250175S	250mL	175mL/hr	90 Min	1.5 Hours	24/Case	Navy Blue
IM250250S	250mL	250mL/hr	60 Min	1 Hour	24/Case	Grey
IM250500S	250mL	500mL/hr	30 Min	0.5 Hours	24/Case	Maroon
IM270175S	270mL	175mL/hr	90 Min	1.5 Hours	24/Case	Navy Blue
IM400100S	400mL	100mL/hr	240 Min	4 Hours	24/Case	White
IM400200S	400mL	200mL/hr	120 Min	2 Hours	24/Case	Light Blue
IM500250S	500mL	250mL/hr	120 Min	2 Hours	24/Case	Grey

50 mL/hr	100 mL/hr	125 mL/hr	175 mL/hr	200 mL/hr	250 mL/hr	500 mL/hr
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Approximate Delivery Times - Short Duration Pumps

Hours:Min	IM050050S	IM100050S	IM100100S	IM100200S	IM200100S	IM200200S	IM250050S	IM250100S
0:15				50mL				
0:30			50mL	100mL				
0:45			75mL	120mL		150mL		
1:00	50mL		100mL			200mL		
1:15	60mL		120mL			250mL		
1:25								
1:30		75mL				300mL		
1:45								
1:55								
2:00		100mL			200mL			200mL
2:15		110mL						220mL
2:30								250mL
2:45					250mL			275mL
3:00							150mL	300mL
3:30								
4:00								
4:30								
5:00							250mL	
5:30							275mL	

Hours:Min	IM250125S	IM250175S	IM250250S	IM250500S	IM270175S	IM400100S	IM400200S	IM500250S
0:15								
0:30			150mL	250mL				
0:45		140mL	200mL	300mL	150mL			
1:00		175mL	250mL				200mL	
1:15	150mL	220mL	300mL				250mL	360mL
1:25								
1:30	180mL	250mL			270mL		300mL	400mL
1:45	220mL	300mL			300mL		350mL	475mL
1:55								
2:00	250mL						400mL	500mL
2:15	280mL						450mL	550mL
2:30	300mL						500mL	
2:45						275mL		
3:00						300mL		
3:30						360mL		
4:00						400mL		
4:30						450mL		
5:00						500mL		
5:30						550mL		

50 mL/hr	100 mL/hr	125 mL/hr	175 mL/hr	200 mL/hr	250 mL/hr	500 mL/hr
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EZ-FLOW Elastomeric Pumps - Long Duration Filling Guide

Item #	IM060005L	IM100002L	IM100005L	IM125005L	IM270001L	IM270002L	IM270004L	IM270005L	IM270010L	IM500020L
Nominal Fill Volume	60mL	100mL	100mL	125mL	270mL	270mL	270mL	270mL	270mL	500mL
Nominal Flow Rate	5mL/Hour	2mL/Hour	5mL/Hour	5mL/Hour	1mL/Hour	2mL/Hour	4mL/Hour	5mL/Hour	10mL/Hour	20mL/Hour
Min Fill Volume	30mL	75mL	75mL	75mL	270mL	150mL	230mL	250mL	230mL	360mL
Max Fill Volume	100mL	110mL	120mL	150mL	270mL	300mL	300mL	360mL	360mL	500mL
Residual Volume	2mL	2mL	2mL	2mL	3mL	3mL	3mL	3mL	3mL	5mL

Item #	Nominal Fill Volume (mL)	Nominal Flow Rate (mL/h)	Nominal Duration (Hrs)	Approx. Nominal Duration (Days)	QTY	Color Code
IM060005L	60mL	5mL/hr	12 Hours	0.5 Day	24/Case	Brown
IM100002L	100mL	2mL/hr	50 Hours	2 Days	24/Case	Yellow
IM100005L	100mL	5mL/hr	20 Hours	1 Day	24/Case	Brown
IM125005L	125mL	5mL/hr	25 Hours	1 Day	24/Case	Brown
IM270001L	270mL	1mL/hr	270 Hours	11 Days	24/Case	Red
IM270002L	270mL	2mL/hr	135 Hours	6 Days	24/Case	Yellow
IM270004L	270mL	4mL/hr	67 Hours	2.8 Days	24/Case	Orange
IM270005L	270mL	5mL/hr	54 Hours	2 Days	24/Case	Brown
IM270010L	270mL	10mL/hr	27 Hours	1 Day	24/Case	Light Green
IM500020L	500mL	20mL/hr	25 Hours	1 Day	24/Case	Maroon

1 mL/hr	2 mL/hr	4 mL/hr	5 mL/hr	10 mL/hr	20 mL/hr
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Approximate Delivery Times - Long Duration Pumps

Hours:Min	Day(s)	IM060005L	IM100002L	IM100005L	IM125005L	IM270001L	IM270002L	IM270004L	IM270005L	IM270010L	IM500020L
05:00:00		30mL									
10:00:00											
12:00:00		60mL									
13:00:00					75mL						
14:00:00				75mL							
16:00:00		80mL									
18:00:00					100mL						380mL
20:00:00		100mL		100mL						230mL	440mL
24:00:00	1										
25:00:00	1			120mL	125mL					250mL	500mL
27:00:00	1									270mL	
30:00:00	1									300mL	
32:00:00	1.3				150mL						
35:00:00	1.5										
36:00:00	1.5		72mL							330mL	
40:00:00	1.5		80mL								
46:00:00	1.5		96mL						240mL		
50:00:00	2		100mL						250mL		
54:00:00	2		108mL					230mL	270mL		
60:00:00	2										
62:00:00	2										
67:00:00								270mL			
68:00:00											
72:00:00	3								330mL		
75:00:00	3										
77:00:00	3							300mL			
80:00:00	3						200mL				
100:00:00	4						220mL				
125:00:00	5						250mL				
135:00:00	6						270mL				
144:00:00	6						300mL				
250:00:00	12					250mL					
270:00:00	12					270mL					

1 mL/hr	2 mL/hr	4 mL/hr	5 mL/hr	10 mL/hr	20 mL/hr
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EZ-FLOW Elastomeric Pumps - Chemotherapy Filling Guide

Item #	IM100002C	IM125005C	IM270002C	IM270005C	IM270010C	IM300006C
Nominal Fill Volume	100mL	125mL	270mL	270mL	270mL	300mL
Nominal Flow Rate	2mL/Hour	5mL/Hour	2mL/Hour	5mL/Hour	10mL/Hour	6mL/Hour
Min Fill Volume	75mL	75mL	150mL	240mL	230mL	250mL
Max Fill Volume	120mL	150mL	300mL	330mL	360mL	360mL
Residual Volume	2mL	2mL	3mL	3mL	3mL	3mL

Item #	Nominal Fill Volume (mL)	Nominal Flow Rate (mL/h)	Nominal Duration (Hours)	Approx. Nominal Duration (Days)	QTY	Color Code
IM100002C	100mL	2mL/hr	50 Hours	2 Days	12/Case	Yellow
IM125005C	125mL	5mL/hr	25 Hours	1 Day	12/Case	Brown
IM270002C	270mL	2mL/hr	135 Hours	6 Days	12/Case	Yellow
IM270005C	270mL	5mL/hr	54 Hours	2 Days	12/Case	Brown
IM270010C	270mL	10mL/hr	27 Hours	1 Day	12/Case	Light Green
IM300006C	300mL	6mL/hr	50 Hours	2 Days	12/Case	Pink

2 mL/hr	5 mL/hr	6 mL/hr	10 mL/hr
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Approximate Delivery Times - Chemotherapy Pumps

Hours:Min	Day(s)	IM100002C	IM125005C	IM270002C	IM270005C	IM270010C	IM300006C
16:00:00			75mL				
18:00:00							
20:00:00			100mL			230mL	
24:00:00	1						
25:00:00	1		125mL			250mL	
27:00:00	1					270mL	
30:00:00	1					300mL	
32:00:00			150mL				
36:00:00	1.5	75mL				330mL	
40:00:00	1.5	80mL					250mL
46:00:00	1.6	96mL			240mL		280mL
48:00:00	2				245mL		
50:00:00	2	100mL			250mL		300mL
54:00:00	2	108mL			270mL		320mL
60:00:00	2	120mL					
62:00:00	2.5						360mL
72:00:00	3			150mL	330mL		
75:00:00	3						
80:00:00	3						
96:00:00	4						
100:00:00	4			210mL			
125:00:00	5			260mL			
135:00:00	6			270mL			
144:00:00	6						
150:00:00	6			300mL			
168:00:00	7						

2
mL/hr

5
mL/hr

6
mL/hr

10
mL/hr

Instructions for Filling - Short Duration

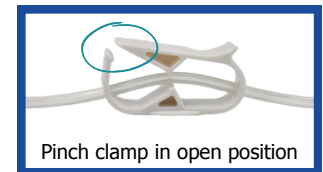
Use Aseptic Technique

1. Unscrew the fill port cap
2. EZ-FLOW™ Elastomeric Pump can be filled with a syringe or automated fluid dispensing device. Remove trapped air from the filling device and attach it securely to the fill port
3. Close the pinch clamp and fill the EZ-FLOW™ Elastomeric Pump with no more than the maximum recommended volume. When using a syringe to fill, push the plunger to dispense the fluid. Do not push the barrel onto the fill port as the syringe tip or fill port may break. Repeat as necessary
4. Remove filling device from the fill port. Screw on the fill port cap
5. Label with appropriate pharmaceutical and patient information

Priming the Administration Tubing

Use Aseptic Technique

1. Open the pinch clamp
2. Loosen the patient end cap. Medication will start to flow and fill the tubing. When all air is expelled, tighten the patient end cap
3. Close the pinch clamp



Priming Technique for Drugs

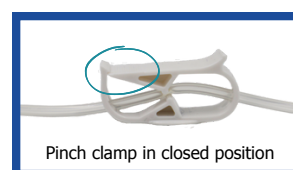
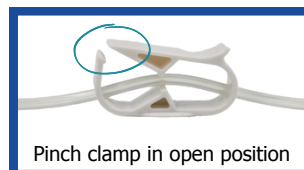
For Drugs Prone to Precipitation

1. Fill EZ-FLOW™ Elastomeric Pump with 10mL of diluent
2. Using the above priming method, prime the tubing
3. Fill the remaining volume with diluent and medication. At completion, the diluent will fill the entire tubing, protecting it from precipitation, while the pump reservoir will contain medication

Note:

Actual infusion time may vary due to the following:

- Filling the device less than the nominal volume generally results in faster flow rate
- Filling the device more than the nominal volume generally results in slower flow rate



Instructions for Filling - Long Duration & Chemotherapy

Use Aseptic Technique

1. Unscrew the fill port cap
2. EZ-FLOW™ Elastomeric Pump can be filled with a syringe or automated fluid dispensing device. Removed trapped air from the filling device and attach it securely to the fill port
3. **Note: the priming cap on long duration and chemotherapy pumps eliminates the use of the pinch clamp and removal of patient end cap when priming**
4. Fill the EZ-FLOW™ Elastomeric Pump with no more than the maximum recommended volume. When using a syringe to fill, push the plunger to dispense the fluid. Do not push the barrel onto the fill port as the syringe tip or fill port may break. Repeat as necessary
5. Remove filling device from the fill port. Screw on the fill port cap and close the pinch clamp
6. Label with appropriate pharmaceutical and patient information



Priming Technique for Drugs

For Drugs Prone to Precipitation

1. Fill EZ-FLOW™ Elastomeric Pump with 10mL of diluent
2. Using the above priming method, prime the tubing
3. Fill the remaining volume with diluent and medication. At completion, the diluent will fill the entire tubing, protecting it from precipitation, while the pump reservoir will contain medication

Note:

Actual infusion time may vary due to the following:

- Filling the device less than the nominal volume generally results in faster flow rate
- Filling the device more than the nominal volume generally results in slower flow rate



Storage

The EZ-FLOW™ Elastomeric Pump should be stored under general warehouse conditions at 68° F to 77° F (20° C - 25° C) and be protected from light sources and heat prior to filling with medication. Refer to the drug manufacturer's requirements for storage after filling the pump with medication.

Prior to starting infusion, the pump should at room temperature.

The table below provides guidelines for the estimated amount of time it will take for the pump to reach room temperature after refrigeration based on the nominal fill volume. Please note the EZ-FLOW™ Pump should not be stored in a freezer.

Nominal Fill Volume	Refrigerated Temperature	Est. Time to Reach Room Temp
50mL - 100mL	35.6° F to 46.4° F (+2° to +8° C)	6 hours from refrigerator
50mL - 100mL	-0.4° F (-18° C)	12 hours from refrigerator
100mL+	35.6° F to 46.4° F (+2° to +8° C)	12 hours from refrigerator
100mL+	-0.4° F (-18° C)	18 hours from refrigerator

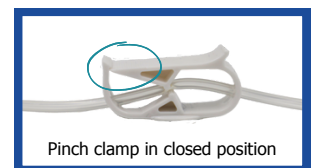


Starting Infusion

Use Aseptic Technique

- The EZ-FLOW™ Elastomeric Pump should be at room temperature before use, especially when infusate has been refrigerated
- Infusion should preferably be started 1-8 hours after filling
- Verify that the pinch clamp is closed
- Clean patient access point site as directed by facility protocol
 - Attach the patient connector to the injection site
- Begin infusion by opening the pinch clamp. Fluid will begin to flow immediately
- Ensure the pinch clamp remains in the open position and the tubing remains free of kinks
- If kinks are observed in the tubing they can be released by rolling the tubing between fingers to restore shape of tubing and facilitate fluid flow

Full Pump



During Infusion

- Depending on the size of the pump, you may notice a change in look and size of the pump fairly quickly. Note: It may take longer to see this change if the length of the infusion is more than 24 hours.
- Do not squeeze or play with the filled pump. Applied pressure may result in rupture or breakage and will result in increased flow rate.
- During use, place the pump in a carrying case, a pocket, or on a table/bed. Refer to page 20 for accessories available.
- Ensure the section of tubing from the filter to the luer tip connector is kept underneath clothing and in contact with the body.
- Do not use while bathing, showering, or swimming.
- Depending on therapy, if the patient is using the pump while sleeping:
 - Make sure the pump is placed on a bedside table or on top of the bed covers
 - Do not place the pump underneath the bed covers where the pump may become too warm
 - Do not place the pump on the floor or hang the pump on a bed post

During Infusion



End of Infusion

Infusion is complete when the elastomeric membrane is no longer expanded.

- Close the pinch clamp and disconnect from access site.
- Flush access site and dispose of pump and supplies as directed by your healthcare provider.

Patient guides for the EZ-FLOW™ Elastomeric Pump are available and should be provided to the patients prior to infusion. Healthcare providers are responsible for educating the patient on proper use.

Depending on the pump size, a change in the look and size of the pump may appear fairly quickly. It may take longer to see this change if the length of the infusion is more than 24 hours.

Note: Images used are EZ-FLOW™ standard pumps and are used for visualization purposes only.

End of Infusion



Troubleshooting

If pump does not seem to be working properly, please make sure:

- The pump is at room temperature.
- The pinch clamp is in the open position and moves freely on the tubing.
- All clamps on the catheter are open and filter is not covered.
- There are no kinks in the pump tubing.
- Verify that the fill volume is within the guidelines provided for the device that is being used. Underfilling the pump will cause it to flow faster than the labeled rate. Overfilling the pump will cause it to flow slower than the labeled flow rate.



Accessories Available from IMed Products

IMed Products™ durable pouches are economical and stylish for patients receiving outpatient infusion therapies via elastomeric pumps; ideal for patients on the go. Perfect for use with EZ-FLOW Elastomeric Pumps!

Item #	Description	Size	UOM
IM58010	IMed Elastomeric Pump Pouch	Holds up to 200mL	1/Each
IM58011	IMed Elastomeric Pump Pouch	Holds up to 500mL	1/Each

IM58010



IM58011



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