

# Optimum™

## The new standard in fluid dispensing

What makes EFD's new Optimum dispensing components better than the rest? Engineered Fluid Dispensing™. Each patent pending component has been designed as part of a complete, integrated system that improves yields and reduces costs by producing the most accurate, repeatable fluid deposits possible.

Our syringe barrels are made of a new, proprietary polypropylene blend that delivers exceptional clarity and dimensional stability. The unique internal design enhances fluid flow and minimizes turbulence and shear during filling and dispensing.

Matching pistons are available in five styles to ensure control for virtually any fluid in any application. When fluid is dispensed, the close tolerance double-wiping action eliminates waste and residue.

Syringe barrel adapters have a new design that facilitates installation/removal, and a positive safety locking action that prevents accidental disengagement.

New tip caps protect fluid with a precisely engineered venting system that prevents air from entering through the luer during installation. The gripping action of the tip cap is designed to maximize the seal and yet be easily removed by the user.

*Precision-fit adapter for easy, safe attachment*

*Channeled, double-wiper piston eliminates trapped air, waste and dripping*

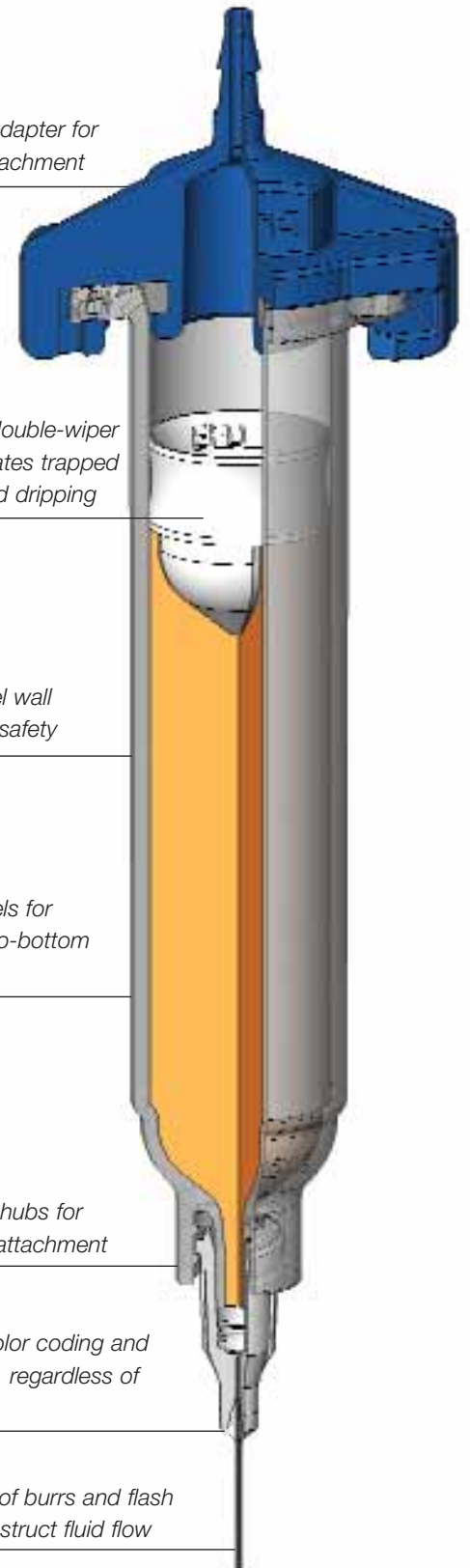
*Uniform barrel wall thickness for safety*

*0° taper barrels for smooth top-to-bottom piston travel*

*Threaded tip hubs for safe, secure attachment*

*Consistent color coding and tip diameters, regardless of style/length*

*Tips are free of burrs and flash that could obstruct fluid flow*



## Components

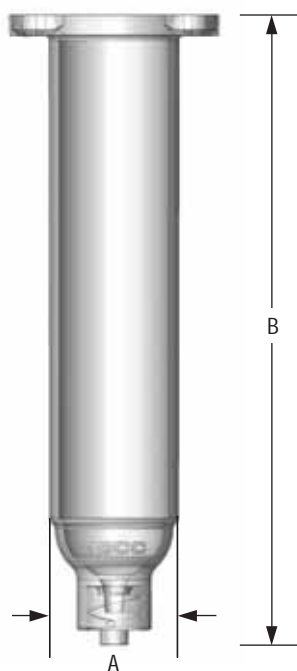


## Syringe Barrels

EFD produces the highest quality syringe barrels and pistons in the industry. Syringe barrels and pistons are produced in our own silicone-free facilities, where they are subjected to stringent quality control inspections throughout the entire manufacturing process.

### Features and Benefits

- Precision fit between syringe and piston ensures consistent fluid deposits
- Double-wiper piston improves fluid control, keeps fluids from dripping and eliminates waste by wiping the syringe wall clean
- Wide variety of styles and sizes
- Package labels include lot numbers for process control and traceability



#### BARREL DIMENSIONS

Size	A	B
3cc	11.1 mm (0.44")	73.0 mm (2.88")
5cc	14.3 mm (0.56")	68.3 mm (2.69")
10cc	19.1 mm (0.75")	88.9 mm (3.50")
30cc	25.4 mm (1.0")	115.9 mm (4.56")
55cc	25.4 mm (1.0")	173.0 mm (6.81")

Note: This data is typical and does not constitute a specification.

### SYRINGE BARREL & PISTON SETS

Each box contains one resealable bag of syringes and SmoothFlow™ pistons. Dust-free packaging.

Size	MOST FLUIDS	Light Block*	Opaque	Clear Barrels	QTY
	Clear Barrels	Amber Barrels	Black Barrels	Blue LV Barrier™	
3cc	7012074	7012085	7012091	7012075	(50)
5cc	7012096	7012103	7012109	n/a	(40)
10cc	7012114	7012126	7012130	7012118	(30)
30cc	7012136	7012145	7012149	n/a	(20)
55cc	7012153	7012160	7012164	n/a	(15)

Sets are available in clear for most fluids; translucent amber for UV and light-sensitive materials (\*240 to 550 nm); and opaque black for materials sensitive to light above 550 nm.

LV Barrier sets include tip caps and are designed for dispensing cyanoacrylates and very low viscosity fluids.

### SYRINGE BARRELS

Each box contains one resealable ESD-safe bag of syringes. Dust-free packaging.

Size	MOST FLUIDS	Light Block*	Opaque	QTY
	Clear Barrels	Amber Barrels	Black Barrels	
3cc	7012072	7012083	7012089	(50)
5cc	7012094	7012101	7012107	(40)
10cc	7012112	7012122	7012128	(30)
30cc	7012134	7012143	7012147	(20)
55cc	7012155	7012158	7012162	(15)

Note: 30cc and 55cc syringe barrels accept the same size barrel pistons, end caps and adapters. Order pistons separately.

\*Translucent amber for UV- and light-sensitive materials (240 to 550 nm).

## Pistons

Pistons are inserted into the syringe barrel after it has been loaded with fluid to ensure uniform dispensing, prevent dripping, and eliminate waste by wiping barrel walls clean as fluid is dispensed. Available in five styles:

**White** SmoothFlow™ Double-wiper pistons are used with most fluids.

**Beige** SmoothFlow pistons are loose-fitting and used with air-entrapped fluids.

**Red** SmoothFlow pistons are tight-fitting and used with mechanical dispensers.

**Orange** Flat-walled pistons have a looser fit to prevent “bouncing” when dispensing stringy, air-entrapped fluids.

**Blue** LV Barrier pistons are for cyanoacrylates and very low viscosity fluids.



### SYRINGE BARREL PISTONS

Size	White SmoothFlow	Beige SmoothFlow	Red SmoothFlow	Orange Flatwall	Blue LV Barrier	QTY
3cc	7012166	7012170	7012168	7012321	7014602	(50)
5cc	7012172	7012176	7012174	7012323	n/a	(40)
10cc	7012178	7012182	7012180	7012325	7014600	(30)
30, 55cc	7012184	7012188	7012186	7012327	7014598	(20)

## End and Tip Caps

End caps and tip caps provide an airtight seal that allows you to prefill syringe barrels or seal partially used syringes between shifts.

End caps feature a precision fit and use a convenient push-button to produce a snug, air-tight seal.

Tip caps have a large knurled gripping surface that simplifies attachment, and a vent that prevents air from being introduced into the syringe barrel during installation. Available in blue or green.



### SNAP-TIGHT END AND TIP CAPS

Snap-on end caps provide tight seal.

Size	Blue	Green	QTY
3cc	7012190	7014470	(50)
5cc	7012192	7014471	(40)
10cc	7012194	7014472	(30)
30, 55cc	7012196	7014473	(20)

Snap-on tip cap seals syringe barrel.

One size	7012198	Blue	(50)
One size	7014476	Green	(25)

## Adapter Assemblies

No detail of the Optimum system has been overlooked.

Lightweight adapters are designed for fast attachment and feature slots that lock securely onto matching tabs on the syringe barrel.



### ADAPTER ASSEMBLIES

Size	Blue 0.9 m (3 ft) Hose	Blue 1.8 m (6 ft) Hose	Blue 0.9 m (3 ft) Hose w/ filter trap
3cc	7012341	7012059	7012063
5cc	7012054	7012058	7012062
10cc	7012339	7012057	7012061
30, 55cc	7012338	7012056	7012060

Blue molded one-piece, acetal adapter head with NBR O-ring, flexible polyurethane air hose (5/32" OD X 3/32" ID), male quick-connect and safety clip. For general use.

# Components



## Dispensing Tips

EFD produces the highest quality dispensing tips in the industry. All tips are produced in our own silicone-free facilities, and subjected to stringent quality control inspections throughout the entire manufacturing process.

### Features and Benefits

- Free of flash, burrs and contaminants
- Package labels include lot numbers for process control and traceability
- Consistent from style to style and lot to lot
- 360° SafetyLok™ thread ensures safe, positive attachment to syringe barrel
- Engineered hub flats for easy twist on, twist off



**Precision Stainless Steel** Passivated stainless steel tips handle a wide range of fluids and applications.

**Tapered** Smooth flow for application of medium- to high-viscosity fluids – especially thick or particle-filled materials like epoxies, RTVs and braze pastes.

**Flexible** Polypropylene shafts reach into hard-to-access areas and will not scratch delicate surfaces. Easily cut to size or angled as needed.

**Angled** Stainless steel tips are available with 45° and 90° bends.

**Brush** For spreading glues and greases. Available with soft or stiff bristles.

**Specialty** For specific applications: chamfered, ESD-safe, PTFE-coated and PTFE-lined, microdot tips and oval tips.










### PRECISION STAINLESS STEEL TIPS

Gauge	6.35 mm (0.25")	12.7 mm (0.50")	25.4 mm (1.0")	38.1 mm (1.5")	45° Bend/12.7 mm (0.5")	90° Bend/12.7 mm (0.5")	45° Bend/38.1 mm (1.5")	Color
14	7018029	7018043	7018032	7018035	7018044	7018045	7016906	Olive
15	7018056	7018068	7018059	7018062	7018069	7018070	n/a	Amber
18	7018107	7018122	7018110	7018113	7018123	7018124	7016908	Green
20	7018163	7018178	7018166	7018169	7018179	7018180	n/a	Pink
21	7005005	7018233	7018222	7018225	7018234	7018235	7016910	Purple
22	7018260	7018272	7018263	7018266	7018273	7018274	n/a	Blue
23	7018302	7018314	7018305	7018308	7018315	7018316	n/a	Orange
25	7018333	7018345	7018336	7018339	7018346	7018347	n/a	Red
27	7018395	7005008	n/a	n/a	7018404	7018405	n/a	Clear
30	7018424	7018433	n/a	n/a	7018434	7018435	n/a	Lavender
32	7018462	n/a	n/a	n/a	n/a	n/a	n/a	Yellow

Burr-free, polished, passivated stainless steel dispensing tips with polypropylene SafetyLok hubs for a secure fit to barrel reservoirs. Packaged 50 tips per box.





• 6.35 mm (0.25") tips: Fast point-to-point dispensing. • 12.7 mm (0.50") tips: Standard all-around precision dispensing tips. • 45° and 90° bent tips: Easy access into hard-to-reach areas.

### SMOOTHFLOW TAPERED TIPS

Gauge	Standard	Opaque Rigid	Color
14	7018052	7018049	Olive 
16	7018100	7018097	Grey 
18	7018158	7018147	Green 
20	7005009	7005006	Pink 
22	7018298	7005007	Blue 
25	7018391	7018370	Red 
27	7018417	n/a	Clear 





Use with gel cyanoacrylates, UV-cure adhesives, sealants, and particle-filled materials or any medium- to high-viscosity fluid. Molded of polyethylene with UV-light block additive. Packaged 50 tips per box.

### FLEXIBLE TIPS

Gauge	12.7 mm (0.50")	38.1 mm (1.5")	Color
15	7018085	7018080	Amber 
18	7018143	7018138	Green 
20	7018205	7018201	Pink 
25	7018366	7018362	Red 


Flexible polypropylene tubing for application into difficult-to-access areas. Easily drags along edges and around corners and prevents scratching. Tubing can be cut to length. Packaged 50 tips per box.

### CHAMFERED TIPS

Gauge	12.7 mm (0.50")	Color
18	7018129	Green 
23	7018321	Orange 
25	7018352	Red 
33	7018482**	Clear 



Use for microdot application of low viscosity fluids. Packaged 50 tips per box.  
\*\*7018482 is 6.35 mm (0.25") long and packaged 25 tips per box.

### OVAL TIPS

Gauge	12.7 mm (0.50")	Color
15	7018078	Amber 

Flat ribbon deposits of thick pastes, sealants & epoxies. Outlet size is 1.98 x 0.41 mm (.078" x .016"). Packaged 50 tips per box.

### TIP SHIELDS

Size	Part #	Color
3cc	7017715	Red 
5cc to 55cc	7017717	Black 

Reusable tip shields for light-sensitive and UV-cure adhesives. Fits over dispensing tip hub. Packaged 10 tip shields per box.



### BRUSH TIPS

Style	Standard	High Flow
soft bristle	7018490	7018491
stiff bristle	7018494	7018495

Spread glues and greases. Nylon bristles, 50.8 mm (2") length. Sold individually.





### PTFE-COATED TIPS

Gauge	ID	OD	12.7 mm (0.50")	Color
21	0.020	0.033	7018243	Purple 
23	0.013	0.026	7018326	Orange 

Controls wicking to stop drips in optical media applications. Packaged 20 tips per box.

### PTFE-LINED TIPS

ID	12.7 mm (0.50")	25.4 mm (1.0")	Color
0.020"	7018256	7005003	Grey 
0.006"	7018388	7005004	Pink 

Resists clogging of cyanoacrylates. Use for microdot application of low viscosity fluids. Packaged 50 tips per box.

### POLYETHYLENE NOZZLES

Size	Part #
6.35 x .318 cm (2.5 x .125")	7018555
6.35 x .157 cm (2.5 x .062")	7018557
10.6 x .157 cm (4.0 x .062")	7018559
10.6 x .08 cm (4.0 x .031")	7018561

Polyethylene nozzles thread into all cartridge sizes and 725 Series and 736HPA-NV valves. 1/4 NPT (6.35 mm) thread. Packaged 10 nozzles per bag.

### METAL NOZZLES

Gauge	Part #	ID mm	ID inch
7	7017630	3.8	.150
8	7017633	3.4	.135
10	7017638	2.7	.106
12	7017643	2.2	.085
14	7017651	1.6	.063
16	7017660	1.2	.047

38.1 mm (1 1/2") long metal nozzles with 1/4 NPT to fit 725 Series and 736HPA-NV valves.





APPLICATIONS	DISPENSING TIPS			
	Tapered	Stainless Steel	PTFE-Lined	Flexible
Very Low Viscosity Fluids	X	●	●	●
Particle-Filled Pastes	●	●	▲	X
Microdot Deposits	X	●	▲	●
Fluid is Reactive to Metal	●	X	●	●
Depositing in Recesses	▲	●	●	▲
Spreading/Smearing	●	▲	●	▲
Fast-Curing Glues	●	▲	●	●
Beading, Striping	●	●	●	▲
Easily Scratched Substrates	●	▲	●	●
<b>FLUIDS</b>				
Adhesives	●	●	●	●
Anaerobics	●	▲	●	▲
Conformal Coatings	●	▲	▲	X
Cyanoacrylates	●	▲	●	●
Gel Cyanoacrylates	●	▲	●	▲
Epoxies	●	●	●	X
Greases	●	●	●	X
Light-Cure Adhesives	X	▲*	▲*	X
Oils	▲	●	●	▲
Paints	▲	●	●	X
Sealants	●	▲	▲	X
Silver Epoxy	X	▲+	X	X
Solder Paste/Braze Pastes	●	●	▲	X
Solder Masks	●	●	▲	X
Solvents	X	●	●	●
UV-Cure Adhesives	●	▲*	▲*	-

Key	
●	Recommended
▲	Satisfactory
X	Do not use

\* OK if used with tip shield, part #7017715 or 7017717.  
+ Chamfered tips are recommended for best results.



### COLOR CODING FOR TIP SIZES

Color	Gauge	Inner Diameter		Outer Diameter	
		mm	inch	mm	inch
● Olive	14	1.54	.060	1.83	.072
● Amber	15	1.36	.053	1.65	.065
● Grey	16	1.19	.047	n/a	n/a
● Green	18	0.84	.033	1.27	.050
● Pink	20	0.61	.024	0.91	.036
● Purple	21	0.51	.020	0.82	.032
● Blue	22	0.41	.016	0.72	.028
● Orange	23	0.33	.013	0.65	.025
● Red	25	0.25	.010	0.52	.020
○ Clear	27	0.20	.008	0.42	.016
● Lavender	30	0.15	.006	0.31	.012
● Yellow	32	0.10	.004	0.24	.009

Note: OD dimensions are for stainless tips only.  
Whatever tip style, all sizes are color-coded to ensure the specified size is used.



## Cartridge Systems

Optimum cartridges and retainers have been designed to function as a complete, integrated system that improves yields and reduces costs in fluid packaging and dispensing processes.

Cartridge systems are designed for applications that require a reservoir larger than a 55cc syringe barrel. They are available in 2.5 fl oz, 6 fl oz, 12 fl oz, 20 fl oz and 32 fl oz capacities, and can be used to make timed or visual deposits.

### Features and Benefits

- Exceptional clarity to allow visual confirmation of fluid levels
- High-impact strength and dimensional stability
- ZeroDraft™ design ensures that internal diameter is consistent from top to bottom
- Excellent chemical compatibility with a wide range of fluids
- Available in clear, black, amber and green



The Clear Advantage™

CARTRIDGES		
Clear Cartridges		
Part #	Size	Qty/Box
7012389	2.5 fl oz (75 ml)	25
7012398	6 fl oz (180 ml)	25
7012407	12 fl oz (360 ml)	25
7012416	20 fl oz (600 ml)	10
7014088	32 fl oz (960 ml)	10
Part #	Size	Qty/Box
7012392	2.5 fl oz (75 ml)	250
7012401	6 fl oz (180 ml)	250
7012410	12 fl oz (360 ml)	250
7012417	20 fl oz (600 ml)	100
7014092	32 fl oz (960 ml)	100
Amber Cartridges		
Part #	Size	Qty/Box
7012390	2.5 fl oz (75 ml)	25
7012399	6 fl oz (180 ml)	25
7012408	12 fl oz (360 ml)	25
7012736	20 fl oz (600 ml)	10
7014089	32 fl oz (960 ml)	10
Part #	Size	Qty/Box
7012393	2.5 fl oz (75 ml)	250
7012402	6 fl oz (180 ml)	250
7012411	12 fl oz (360 ml)	250
7012737	20 fl oz (600 ml)	100
7014093	32 fl oz (960 ml)	100

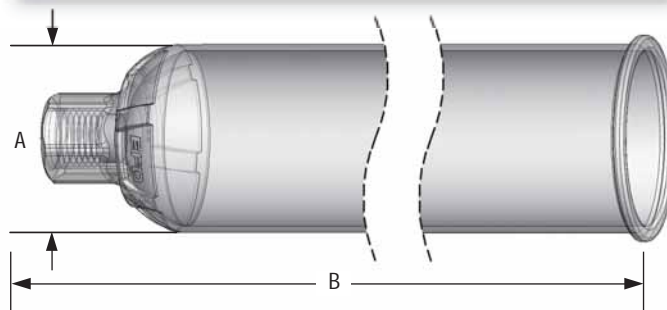
CARTRIDGES		
Black Cartridges		
Part #	Size	Qty/Box
7012391	2.5 fl oz (75 ml)	25
7012400	6 fl oz (180 ml)	25
7012409	12 fl oz (360 ml)	25
7013878	20 fl oz (600 ml)	10
7014091	32 fl oz (960 ml)	10
Part #	Size	Qty/Box
7012394	2.5 fl oz (75 ml)	250
7012403	6 fl oz (180 ml)	250
7012412	12 fl oz (360 ml)	250
7013879	20 fl oz (600 ml)	100
7014095	32 fl oz (960 ml)	100
Green Cartridges		
Part #	Size	Qty/Box
7014167	2.5 fl oz (75 ml)	25
7014170	6 fl oz (180 ml)	25
7014173	12 fl oz (360 ml)	25
7014176	20 fl oz (600 ml)	10
7014090	32 fl oz (960 ml)	10
Part #	Size	Qty/Box
7014168	2.5 fl oz (75 ml)	250
7014171	6 fl oz (180 ml)	250
7014174	12 fl oz (360 ml)	250
7014177	20 fl oz (600 ml)	100
7014094	32 fl oz (960 ml)	100

**CARTRIDGES WITH PISTONS INSTALLED**

Clear Cartridges with Pistons Installed		
Part #	Size	Qty/Box
7012395	2.5 fl oz (75 ml)	250
7012404	6 fl oz (180 ml)	250
7012413	12 fl oz (360 ml)	250
7012418	20 fl oz (600 ml)	100
7014096	32 fl oz (960 ml)	100
Amber Cartridges with Pistons Installed		
Part #	Size	Qty/Box
7012396	2.5 fl oz (75 ml)	250
7012405	6 fl oz (180 ml)	250
7012414	12 fl oz (360 ml)	250
7012738	20 fl oz (600 ml)	100
7014097	32 fl oz (960 ml)	100
Black Cartridges with Pistons Installed		
Part #	Size	Qty/Box
7012397	2.5 fl oz (75 ml)	250
7012406	6 fl oz (180 ml)	250
7012415	12 fl oz (360 ml)	250
7013880	20 fl oz (600 ml)	100
7014099	32 fl oz (960 ml)	100
Green Cartridges with Pistons Installed		
Part #	Size	Qty/Box
7014169	2.5 fl oz (75 ml)	250
7014172	6 fl oz (180 ml)	250
7014175	12 fl oz (360 ml)	250
7014178	20 fl oz (600 ml)	100
7014098	32 fl oz (960 ml)	100

**CARTRIDGE DIMENSIONS**

Size	A	B
2.5 fl oz (75 ml)	43.2 mm (1.70")	98.8 mm (3.89")
6 fl oz (180 ml)	43.2 mm (1.70")	181.5 mm (7.15")
12 fl oz (360 ml)	43.2 mm (1.70")	314.3 mm (12.38")
20 fl oz (600 ml)	68.3 mm (2.69")	249.7 mm (9.83")
32 fl oz (960 ml)	68.3 mm (2.69")	346.4 mm (13.69")



Note: This data is typical and does not constitute a specification.







## Retainer Systems

Optimum cartridge retainers are molded from high-tensile, clarified nylon that permits easy visual monitoring of fluid levels. Large textured ribs provide an ergonomic grip for cap installation.

Retainer caps feature locking tabs that snap securely into detents on the retainer body with an audible click. A push-in air line connector on top of the cap eliminates the need for bayonet connectors.



RETAINER SYSTEMS	
Part #	Size
7012430	2.5 fl oz (75 ml)
7012433	6 fl oz (180 ml)
7012436	12 fl oz (360 ml)
7012439	20 fl oz (600 ml)
7013899	32 fl oz (960 ml)
Retainer Systems with 0-15 psi Regulator	
Part #	Size
7012431	2.5 fl oz (75 ml)
7012434	6 fl oz (180 ml)
7012437	12 fl oz (360 ml)
7013889	20 fl oz (600 ml)
Retainer Systems with 0-100 psi Regulator	
Part #	Size
7012432	2.5 fl oz (75 ml)
7012435	6 fl oz (180 ml)
7012438	12 fl oz (360 ml)
7012440	20 fl oz (600 ml)
7014100	32 fl oz (960 ml)
Retainer Bodies	
Part #	Size
7013857	2.5 fl oz (75 ml)
7013858	6 fl oz (180 ml)
7013859	12 fl oz (360 ml)
7013860	20 fl oz (600 ml)
7013900	32 fl oz (960 ml)
Retainer Cap Assemblies	
Part #	Size
7012531	2.5, 6, 12 fl oz (75, 180, 360 ml)
7012532	20, 32 fl oz (600, 960 ml)



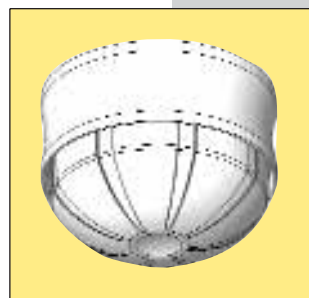
# Cartridges



## Pistons

Optimum pistons are precision molded from high-density polyethylene. The consistent fit perfectly matches cartridge walls for smooth, unobstructed travel and ensures consistent results in fluid packaging and dispensing processes.

Unique channels help dissipate air during the filling process, reducing or eliminating the need to centrifuge. Dual wiping edges eliminate waste and residue to lower production costs and simplify disposal of used cartridges.



PISTONS		
Part #	Size	Qty/Box
7012419	2.5, 6, 12 fl oz (75, 180, 380 ml)	25
7012421	20, 32 fl oz (600, 960 ml)	10
Part #	Size	Qty/Box
7012420	2.5, 6, 12 fl oz (75, 180, 380 ml)	250
7012422	20, 32 fl oz (600, 960 ml)	100

## Outlet/End Caps

End caps snap securely over cartridge flanges to prevent leaks and fluid contamination. The center push-button presses the cap against the cartridge wall to form a positive, airtight seal.

Self-venting outlet caps feature a large ribbed gripping area that simplifies manual installation, along with precision molded threads and a tapered seat that provides a snug, leakproof seal.

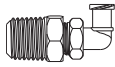

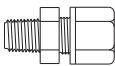
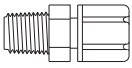


END CAPS			
Part #	Size	Color	Qty/Box
7012423	2.5, 6, 12 fl oz (75, 180, 380 ml)	Blue	25
7014475	2.5, 6, 12 fl oz (75, 180, 380 ml)	Green	25
7012425	20, 32 fl oz (600, 960 ml)	Blue	10
7014474	20, 32 fl oz (600, 960 ml)	Green	10
Part #	Size	Blue	Qty/Box
7012424	2.5, 6, 12 fl oz (75, 180, 380 ml)	Blue	250
7012739	2.5, 6, 12 fl oz (75, 180, 380 ml)	Green	250
7012426	20, 32 fl oz (600, 960 ml)	Blue	100
7012740	20, 32 fl oz (600, 960 ml)	Green	100
OUTLET CAPS			
Part #	Size	Color	Qty/Box
7012427	All	Blue	25
7014476	All	Green	25
7012428	All	Blue	250
7012741	All	Green	250






## CARTRIDGE FITTINGS

For Both Internal Molded Nozzle Cartridges and External Threaded Cartridges

Part	Part #	Material	Description
	7022420	Nylon	Barrel loader fitting 90° 1/4 NPT male Female luer lock to barrel elbow
	7022415	Stainless Steel	Barrel loader fitting 1/4 NPT male Female luer lock
	7017020	Black Polypropylene	1/4 NPT x 3/8 compression
	7017014	Black Polypropylene	1/4 NPT x 1/4 compression

## TIP ADAPTERS

Part	Part #	Material	Description
	7016941	White Acetal	1/4 NPT standard cartridge tip adapter
	7016945	Nickel-plated Brass	1/4 NPT special purpose tip adapter for 725D, 725DA Series, 725HF-SS, 736HPA-NV and cartridge
	7016948	Black Polypropylene	1/4 NPT tip adapter

## NOZZLES

38.1 mm (1 1/2") long metal nozzles with 1/4 NPT

Part #	Gauge	ID
7017630	7	3.8 mm (.150")
7017633	8	3.4 mm (.135")
7017638	10	2.7 mm (.106")
7017643	12	2.2 mm (.085")
7017651	14	1.6 mm (.063")

Disposable polypropylene nozzles thread into all cartridge sizes with 1/4 NPT

Part #	Size
7018555	6.35 x .318 cm (2.5 x .125")
7018557	6.35 x .157 cm (2.5 x .062")
7018559	10.2 x .157 cm (4.0 x .062")
7018561	10.2 x .08 cm (4.0 x .031")



# Cartridges