

# Engineered Fluid Dispensing™



**EFD**<sup>®</sup>  
A NORDSON COMPANY

# Optimum™

The new standard in fluid dispensing.





What makes EFD's new Optimum dispensing product family 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 polymer 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 four styles to ensure control for virtually any fluid in any application, and features unique channels that prevent air entrapment during the filling process. 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.

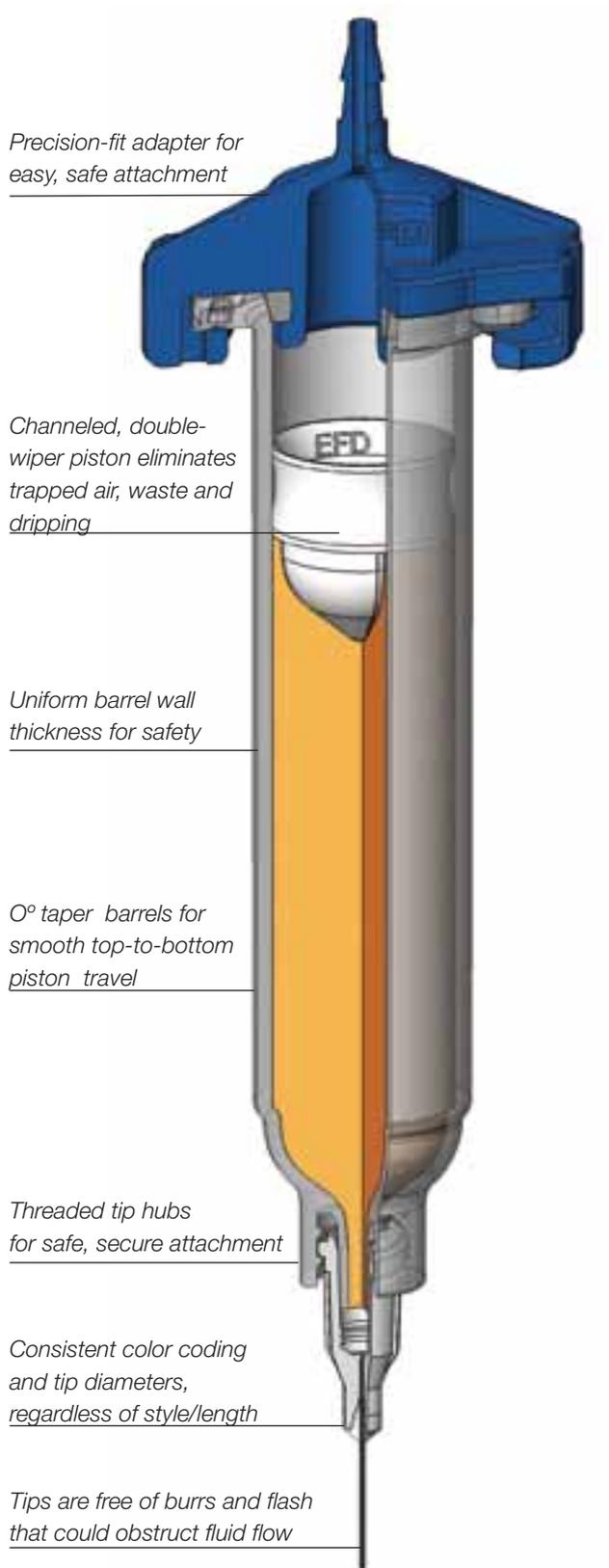
New tip caps protect fluid with a precisely engineered venting system that prevents air from entering through the Luer during installation. The gripping action of the tip cap is designed to maximize the seal and yet be easily removed by the user. End caps have been engineered for easy installation while providing an air-tight upper seal.

EFD... Engineered Fluid Dispensing

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# The Optimum System

Each Optimum component – from the adapter down to the dispensing tip – is precision engineered to function as a complete, integrated system that produces the most accurate fluid deposits possible.



## Syringe Barrels

Optimum syringe barrels are molded from a proprietary polymer that gives them exceptional clarity and chemical compatibility.

Computational Fluid Dynamics analysis was employed to develop a new syringe barrel design that provides fast, accurate dispensing with virtually no fluid waste.

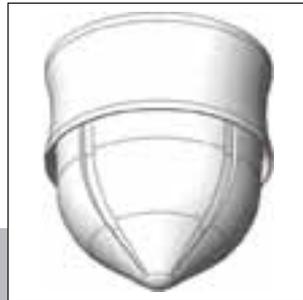
The unique internal profile ensures smooth, unimpeded laminar flow, without fluid turbulence or dead zones that could trap air. A tapered internal Luer minimizes fluid shear during dispensing and filling operations.

Optimum syringe barrels are available in general-purpose clear, light-blocking amber and light-proof black configurations in 3, 5, 10, 30 and 55cc capacities.

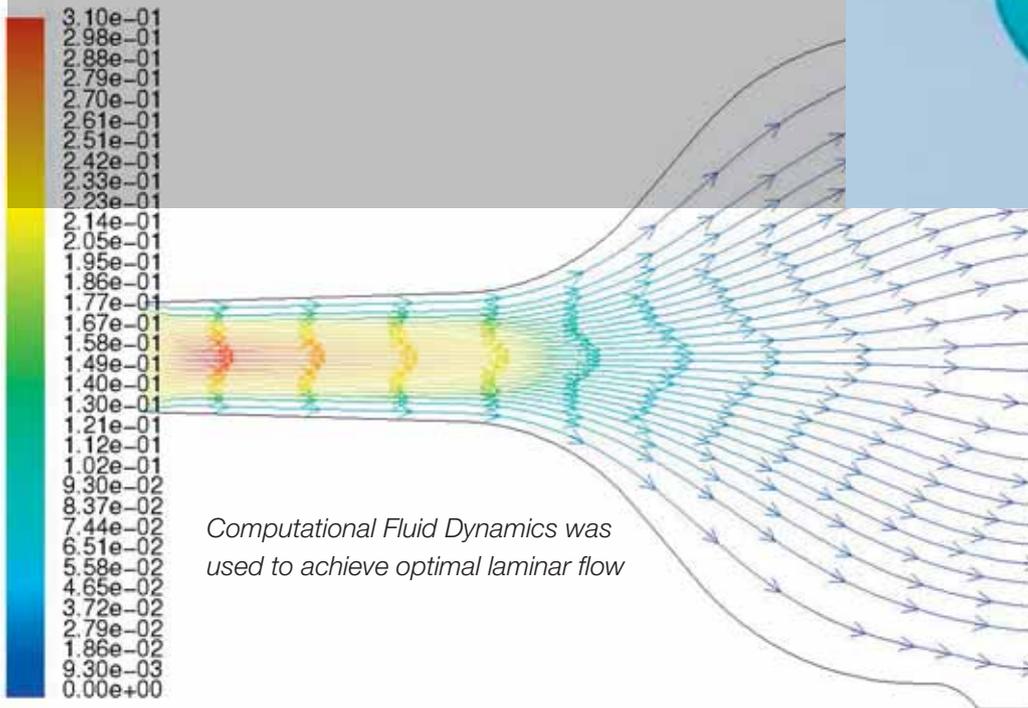
# Pistons

Optimum pistons mate perfectly with syringe barrels to provide accurate, consistent fluid deposits and smooth, unobstructed travel.

Unique features include precision molded channels that prevent air entrapment, a smooth profile radius that reduces fluid shear, and precision wiping edges that eliminate waste as fluid is dispensed.



*Pistons are available in four different styles that provide fast, consistent application of any fluid*



*Computational Fluid Dynamics was used to achieve optimal laminar flow*

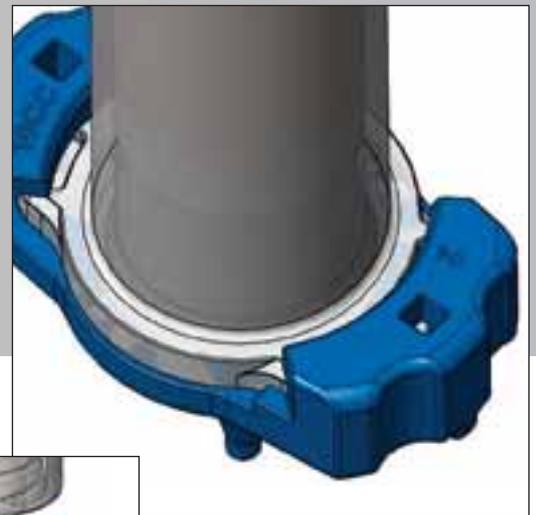
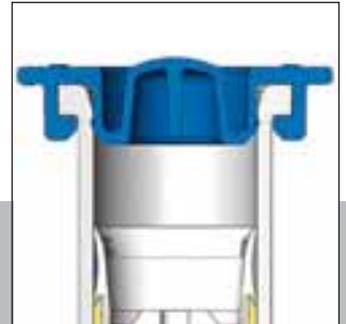
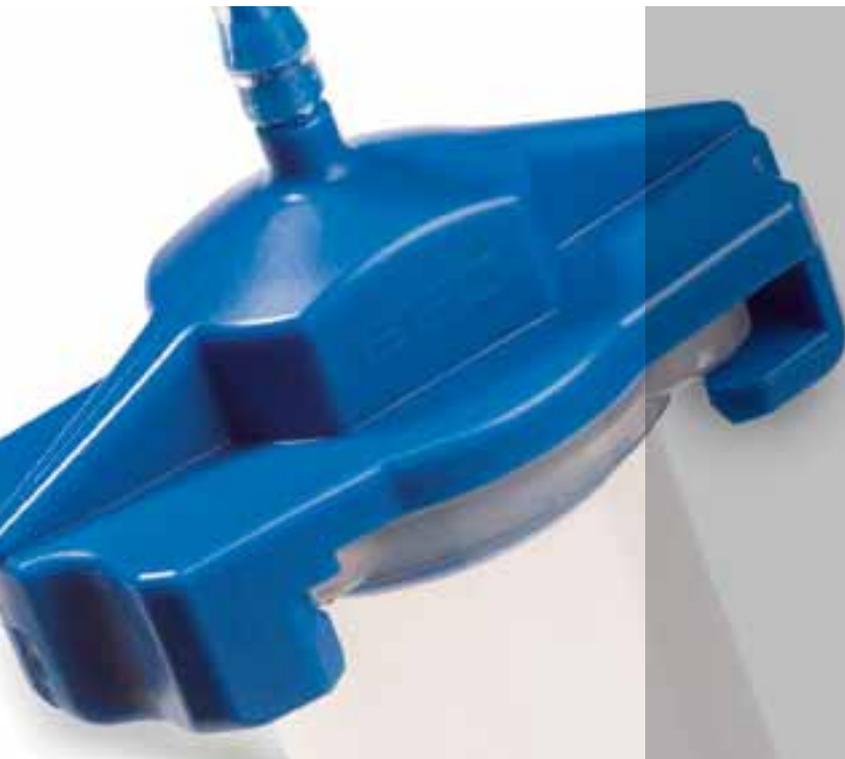
# Adapters, End Caps and Tip Caps

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.

End caps feature a precision fit and use a convenient pushbutton 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.



# Precision Dispensing Tips

EFD produces the highest quality dispensing tips in the industry. All tips are produced in EFD's own silicone-free facilities—without burrs, molding flash or other imperfections that could affect the accuracy of fluid deposits.

All EFD tips feature color-coded SafetyLok™ hubs for easy size identification and safe, secure attachment to syringe barrels. They are packaged in clean, lint-free containers that are lot numbered for traceability and process control.

EFD dispensing tips are produced in a wide variety of styles and sizes to meet any dispensing application and are available for same day shipment.





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For EFD sales and service in over 30 countries,  
contact EFD or go to [www.efd-inc.com](http://www.efd-inc.com)

**EFD, Inc.**

East Providence, RI USA  
USA & Canada: 800-556-3484; +1-401-434-1680  
[info@efd-inc.com](mailto:info@efd-inc.com) [www.efd-inc.com](http://www.efd-inc.com)

**EFD International Inc.**

Dunstable, Bedfordshire, UK  
0800 585733 or +44 (0) 1582 666334  
Ireland: 00800 8272 9444  
[europa@efd-inc.com](mailto:europa@efd-inc.com) [www.efd-inc.com](http://www.efd-inc.com)

**EFD, Inc., Asia**

China: +86 (21) 5854 2345  
[china@efd-inc.com](mailto:china@efd-inc.com) [www.efd-inc.com/cn](http://www.efd-inc.com/cn)  
Singapore: +65 6796 9522 [sin-mal@efd-inc.com](mailto:sin-mal@efd-inc.com)

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