

# PERISTALTIC PUMPS



What is a metering pump?  
Operation of Equipment  
Features and Benefits  
Key Components  
Types of Peristaltic Pumps  
ProMinent Offering



ProMinent®

# WHAT IS A METERING PUMP

## Positive Displacement Pumps

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graph TD; A[Positive Displacement Pumps] --> B[Reciprocating]; A --> C[Rotary]; B --> D[Piston]; B --> E[Plunger]; B --> F[Diaphragm]; C --> G[Gear]; C --> H[Lobe]; C --> I[Vane]; C --> J[Peristaltic]; C --> K[Screw]; C --> L[Progressive Cavity];
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### Reciprocating

Piston

Plunger

Diaphragm

### Rotary

Gear

Lobe

Vane

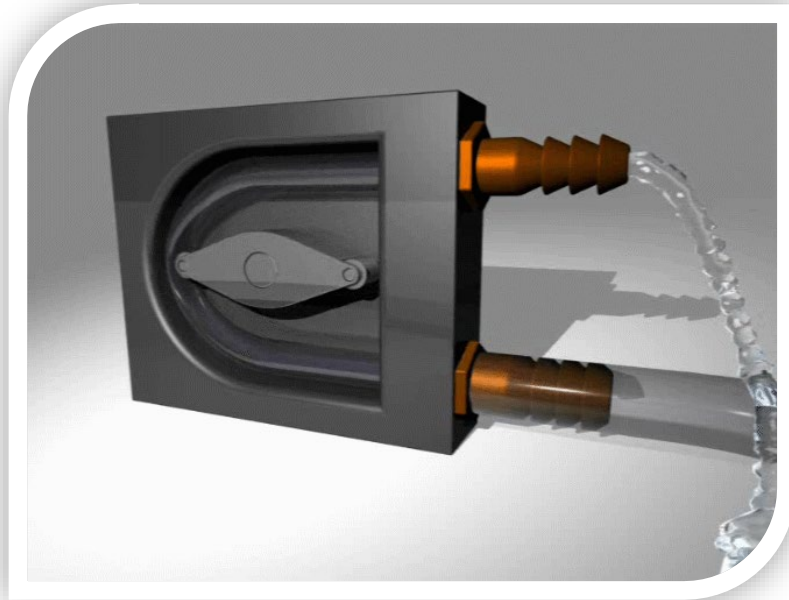
Peristaltic

Screw

Progressive Cavity

# OPERATION OF EQUIPMENT

Peristalsis is regarded as one of the simplest and most efficient means of pumping fluids.

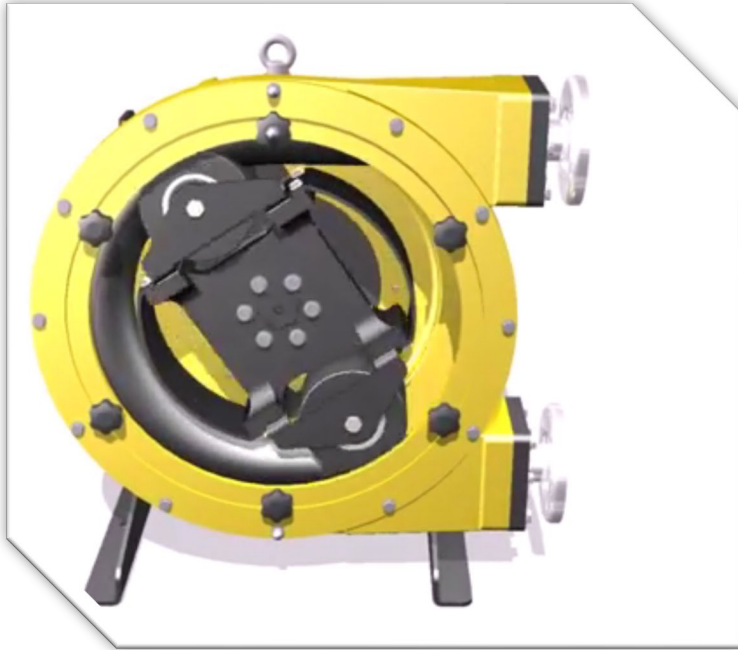


# FEATURES AND BENEFITS

The peristaltic dosing head is capable of dosing high demanding medias such as:

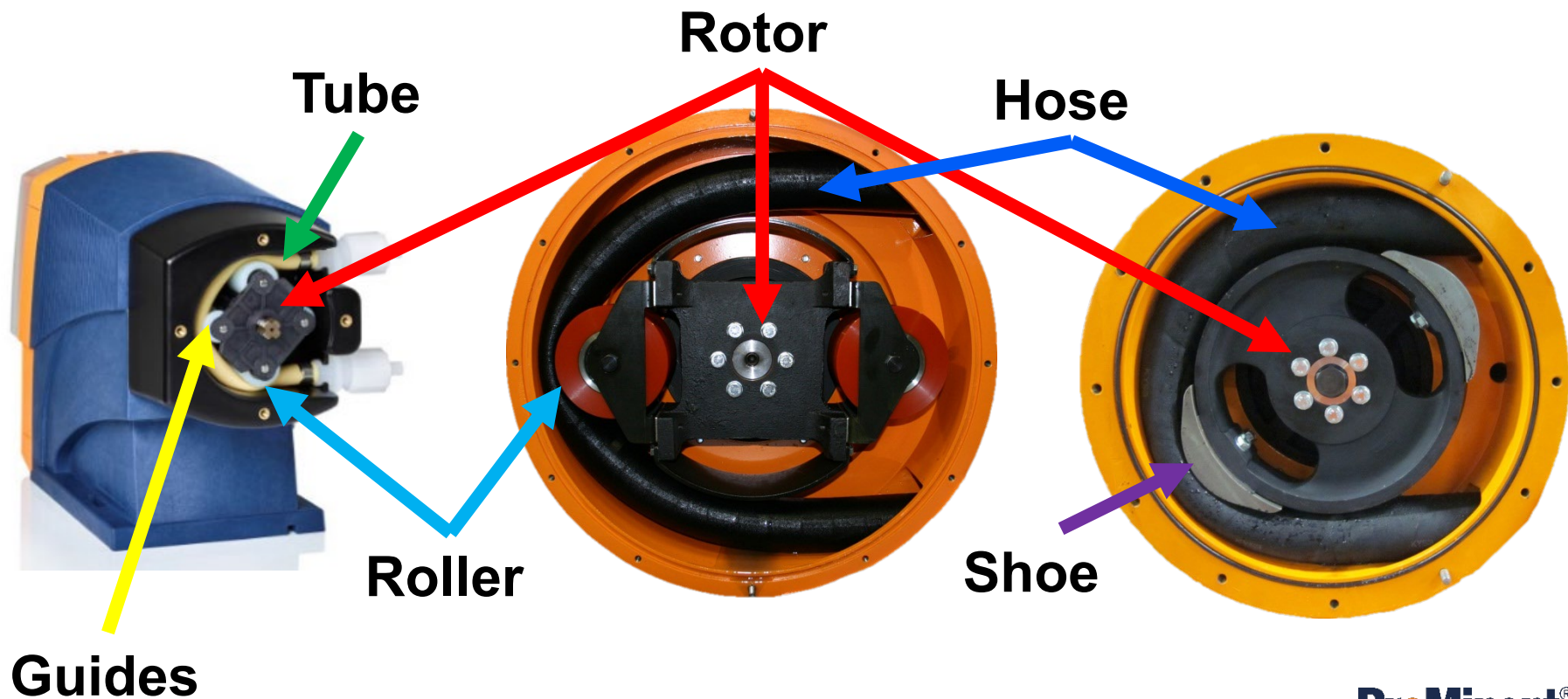
- Chemical off gassing
- High viscosity fluids
- Abrasive chemicals
- Shear-sensitive liquids
- Un-dissolved solids

# FEATURES AND BENEFITS

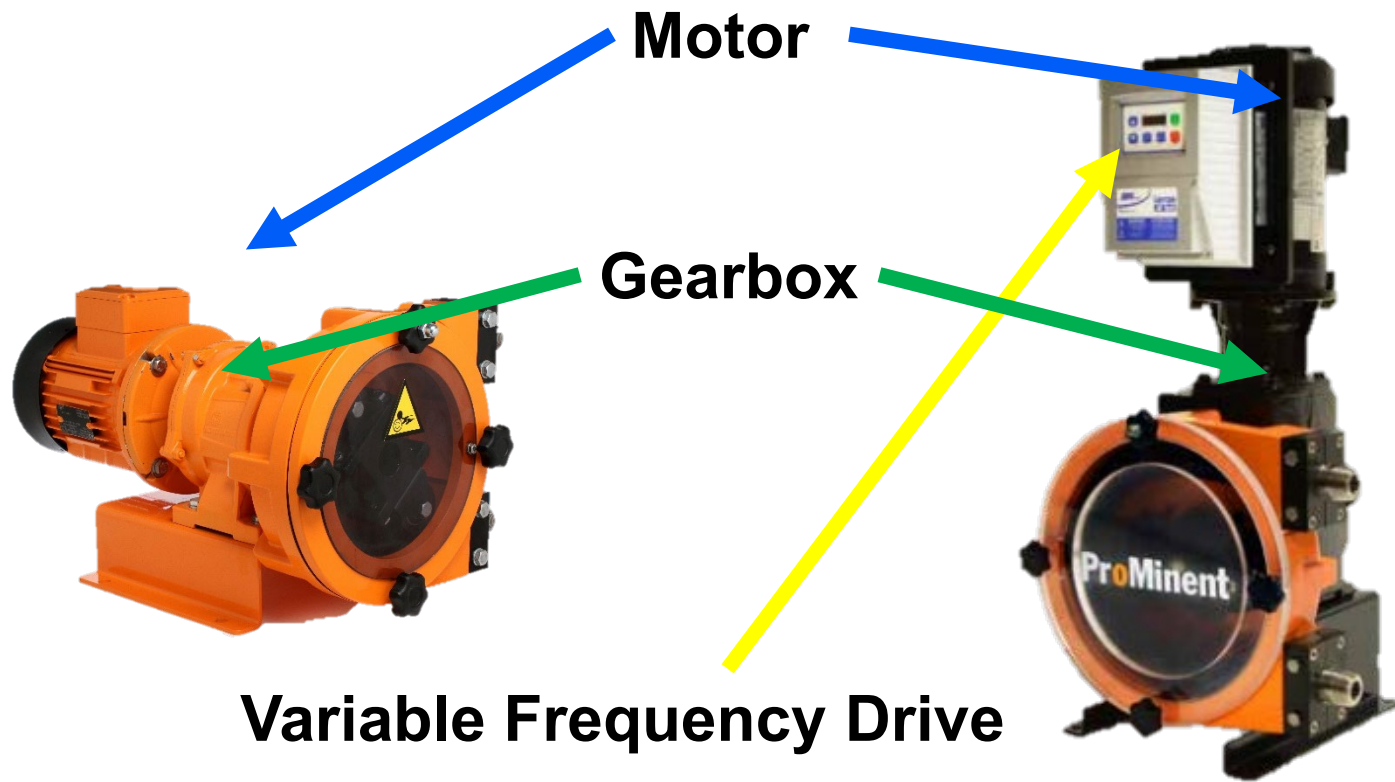


- Easy maintenance, low cost, and short down-time
- Only one wearing part the hose/tube
- Valveless
- Chemical only in contact with hose/tube
- Seal-less design
- Pressures to 232psi
- Self priming/dry priming
- Reversible rotation
- High suction capabilities

# KEY COMPONENTS



# KEY COMPONENTS





# TYPES OF PERISTALTIC PUMPS

- Tube Pump
  - Typically, lower pressure, up to 102psi
  - Casing and rollers are dry and use non-reinforced tube
- Hose Pump
  - Work under higher pressure, up to 232psi
  - Reinforced hoses hence the name “hose pump”

Roller Pump



Shoe Pump







# PROMINENT OFFERING

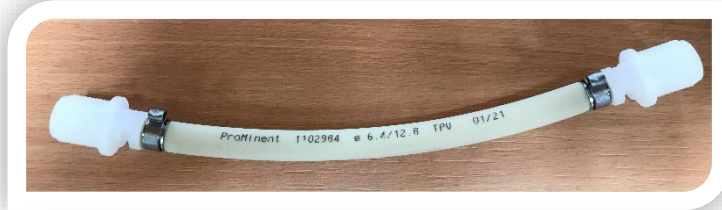
# DULCOFLEX CONTROL DFXA

- Feed rates between 17.17GPH and 6mL/h(0.038 gal/day)
- Turndown Ratio 3000:1
- 101PSI
- Direct output in liter/h or gallon/h
- Controlling via 0/4-20 mA, Contact, Timer, CANopen, Profibus or manual setting
- LED status display
- 3 freely configurable in and outputs
  - As Input
    - To Start Process Timer
    - As AUX 2, 3, or 4
  - As Output
    - Error Messages
    - Warning Messages
    - Timer



# DULCOFLEX CONTROL DFXA

- Absolutely no tools required for a fast tubing replacement
  - Menu guided service
- Reversible flow
- Excellent chemical resistance and long service life of tube
- Available tube materials
  - TPV (FDA compliant) Santoprene
  - PUR Versilon (72.5psi only) Polyurethane
  - SEBS (44psi only)
- PVDF tubing connectors
- NSF61, FDA
- Leak Detection
- Brushless DC Motor



# TECHNICAL DATA

Capacity Data										
Pump Version	Capacity at Maximum Backpressure				Max. Speed	Connector Size	Suction Lift		Shipping Weight	
	psig	(bar)	gph	(l/h)			ft	(m)	lbs	(kg)
DULCOFLEX - DFXa										
0530	73	(5)	8.00	(30)	100	1/2" x 3/8"	29.5	(9)	12.8	(5.8)
0730	102	(7)	8.00	(30)	100	1/2" x 3/8"	29.5	(9)	12.8	(5.8)
0365	44	(3)	17.17	(65)	100	1/2" x 3/8"	29.5	(9)	12.8	(5.8)
0565	73	(5)	17.17	(65)	100	1/2" x 3/8"	29.5	(9)	12.8	(5.8)

# DULCOFLEX CONTROL DFYA

- Dosage range 1.45gph to 108gph
- 75:1 turndown
- Pressures to 116psi
- Suction lift 26ft
- Max 80rpm
- Rupture detection
- Simple adjustment of capacity in GPH
- Menu guided hose change
- Reversible direction of rotation
- Removable HMI
- Dosing head orientation left or right



# DULCOFLEX CONTROL DFYA

- Suitable for dosing
  - Outgassing
  - Highly viscous (>40,000 centipoise)
  - Abrasive
  - Solid up to  $\frac{1}{4}$  of the inner diameter of hose
  - Shear-sensitive media
- Available hose materials:
  - NR
  - NBR
  - NBR-A(food grade)
  - EPDM
  - Hypalon



# TECHNICAL DATA

Type	Maximum back pressure psi	Delivery rate	Frequency rpm	Connection size	Suction lift ft   m WC	Shipping weight lb   kg
04410	58	108.32 gph $\pm 10\%$   410 l/h $\pm 10\%$	80	3/4"	26   8	66.1   30
06410	87	108.32 gph $\pm 10\%$   410 l/h $\pm 10\%$	80	3/4"	26   8	66.1   30
08410	116	108.32 gph $\pm 10\%$   410 l/h $\pm 10\%$	80	3/4"	26   8	66.1   30

All data calculated with water at 68 °F (20 °C).

Difference between types is amount of shims



Capacities from 6 ml/h to 108gph can now be covered with peristaltic dosing pumps

### DFXa

- 6 ml/h – 17.17gph
- 101psi

### DFYa

- 1.45gph – 108 gph
- 116psi

**Both pumps come with identical user interface and identical control options**



# DULCOFLEX DFB&C

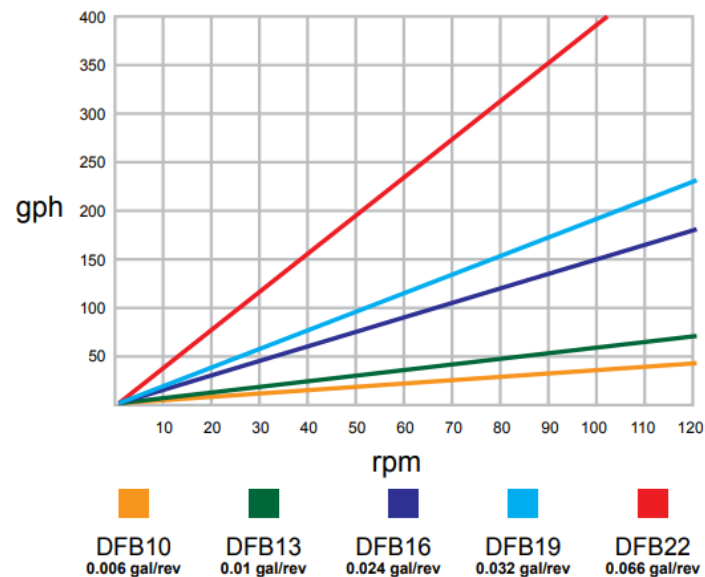
## DFB & DFC

- Roller Technology
- Flows to 337gph DFB
- Flows to 106gpm DFC
- Pressures to 116psi



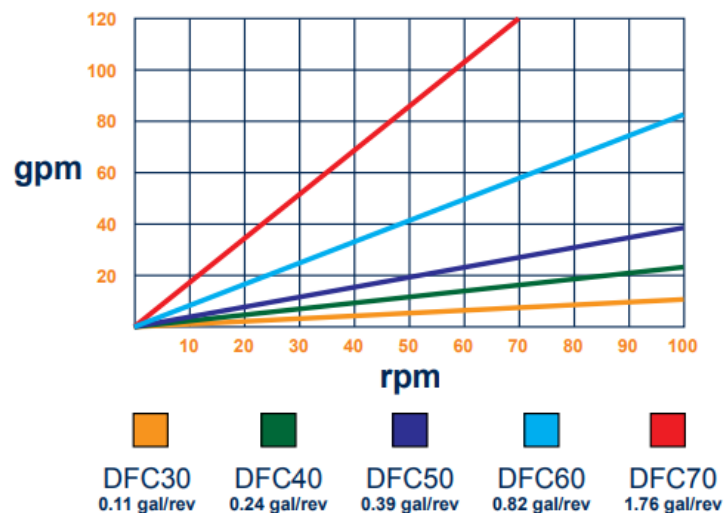
Capacity Data					
	DFB10	DFB13	DFB16	DFB19*	DFB22
DFBu Series					
Compression	Roller	Roller	Roller	Roller	Roller
Connection	3/8"	3/8"	3/4"	1"	1"
Capacity gal/rev	0.006	0.01	0.024	0.032	0.066
Max. Flow gph	31	51	122	163	337
Max. Pressure Reinforced Hoses	116 psi	116 psi	116 psi	N/A	116 psi
Tubing	Norprene	Norprene	Norprene	Norprene	Norprene
Max. Pressure Tubing	30 psi	30 psi	30 psi	30 psi	30 psi

### DFB Series Flow Rates



Capacity Data					
	DFC30	DFC40	DFC50	DFC60	DFC70
DFCu Series					
Compression	Roller	Roller	Roller	Roller	Roller
Connection	1 1/4"	1 1/2"	1 1/2"	2"	2 1/2"
Capacity gal/rev	0.11	0.24	0.39	0.82	1.76
Max. Flow gpm	7.4	14.4	23.2	41.2	106.4
Max. Pressure Reinforced Hoses	116 psi	116 psi	116 psi	116 psi	116 psi
Tubing	N/A	Norprene	N/A	N/A	N/A
Max. Pressure Tubing	N/A	30 psi	N/A	N/A	N/A

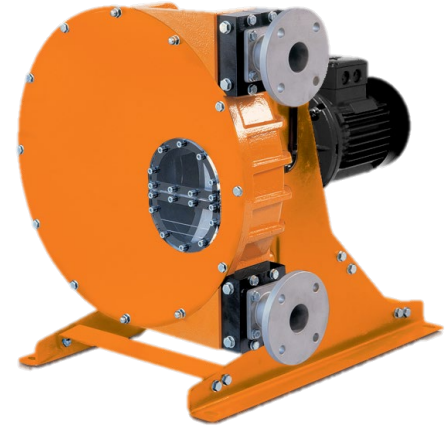
### DFC Series Flow Rates



# DULCOFLEX DFD

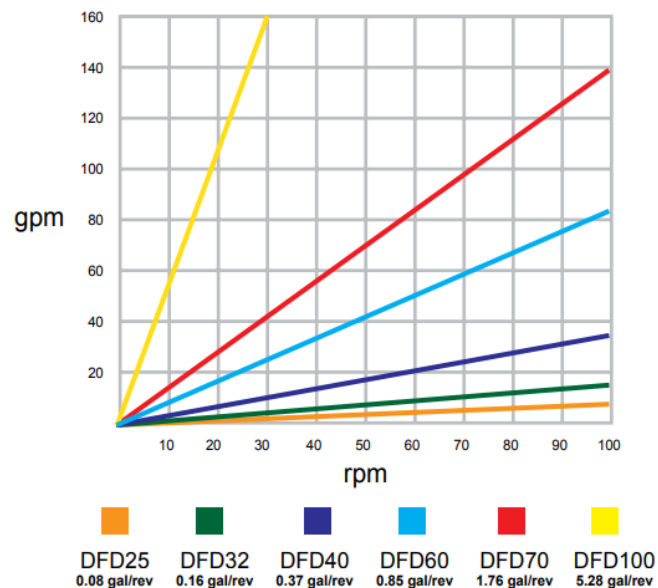
## DFD

- Shoe technology
- Flow to 3,804gph
- Pressures to 232psi



Capacity Data						
	DFD25	DFD32	DFD40	DFD60	DFD70	DFD100
DFDu Series						
Compression	Shoe	Shoe	Shoe	Shoe	Shoe	Shoe
Connection	1"	1 1/2"	1 1/2"	2 1/2"	2 1/2"	4"
Capacity gal/rev	0.08	0.16	0.37	0.85	1.76	5.28
Max Flow gpm	5.2	9.6	20.4	42.4	88	160
Max. Pressure Reinforced Hose	232 psi	232 psi	232 psi	232 psi	232 psi	232 psi

**DFD Series Flow Rates**



# Trainings



## Peristaltic Pump Overview

**Dates:**  
Dec 12, 2024

**Location:**  
Online Webinar

Register



## Peristaltic Pump Applications

**Dates:**  
January

**Location:**  
Online Webinar

Coming Soon



## Peristaltic Pump Selection

**Dates:**  
February

**Location:**  
Online Webinar

Coming Soon