

## ELECTRICALLY OPERATED DOUBLE DIAPHRAGM PUMPS



Higher Energy Efficiency



Run Dry Capable



Swift ROI/ Payback



Self-Priming



Seal-Less Pump



Handles Solids



Containment Chamber Equipped with Leak Detection



Predictive Maintenance & Remote Monitoring

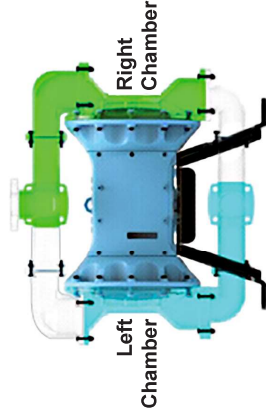


Low Maintenance Cost

Cognito EODD is a Smart, IoT-enabled Electrically Operated Double Diaphragm pump. It is engineered and designed for various industrial application considering energy efficiency, safety, reliability, easy to use, maintenance friendly & long-lasting life.

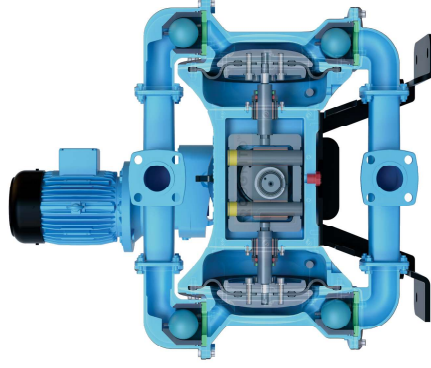
### Operating Principle

The pump is driven by an electric motor with a reduction gearbox. This in turn drives an eccentric shaft to operate the Diaphragms. When the eccentric shaft rotates and reaches peak on one side, example right side of the chamber, at the same time left side of the chamber reaches valley. This causes extrusion of right diaphragm and intrusion of left diaphragm. As a result positive pressure is built on right side (green) and vacuum on the left side (blue).



### Key Benefits

- Smoothly Handles Highly Abrasive, Corrosive, Shear Sensitive & Viscous Fluids
- Highly Energy Efficient Pump with Significant Reduction in Energy Consumption
- Robust Mechanism with Hassle-Free Maintenance
- Low MTTR and High MTBF
- Remote Performance Monitoring of Pump
- Patented Diaphragm Designed for Better Performance and Longer Life
- Reduced Operating Cost
- Swift ROI/Payback



### Applications

Slip Recirculation  
Mixing Tank Transfer  
Slip Casting House  
Glazing



Ceramic Tiles



Sanitaryware



Tableware & Insulators



Filter Press



Water & Wastewater Treatment



Pulp & Paper

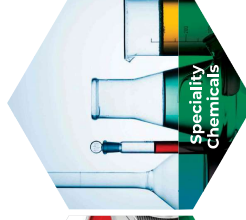
**Applications**  
Slurry Transfer  
Filter Press Feeding  
Sludge Transfer  
Effluent Transfer  
Loading & Unloading of Equilization Tank

### Applications

Raw Material Transfer  
Emulsation Transfer  
Solvent Transfer



Paint & Dye



Specialty Chemicals

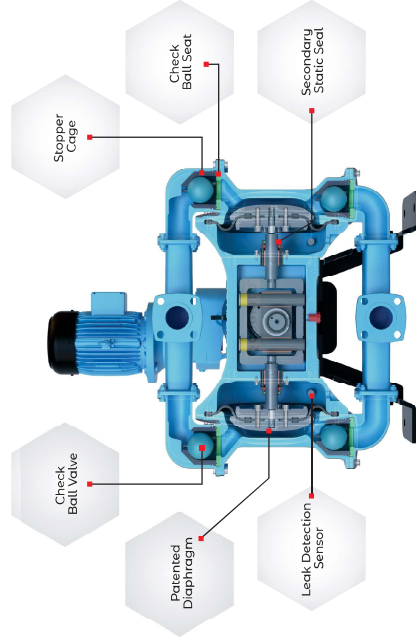


Inks

- Robust Design
- Handles Solids
- Ultra-Efficient
- IoT Enable

#### Unique Design Feature

- Oversized diaphragms and reduced stroke length - Enhances diaphragm life
- Replaceable hardened stainless steel stopper cages / seats - Extends manifold life when pumping abrasive fluids
- Protects pumping mechanism from contact with process fluids
- Equipped with Leak Detection - Protects process



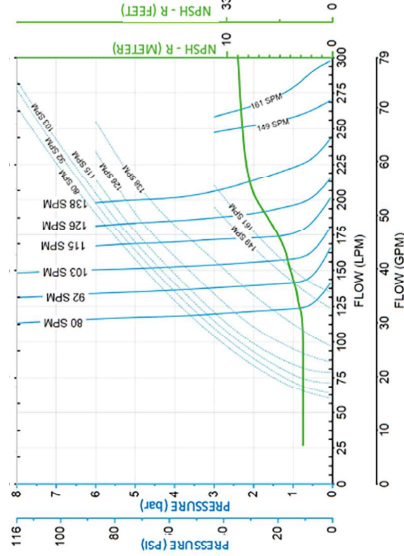
#### COGNITO EODD SPECIFICATIONS

Cognito EODD	4" (101 mm)	3" (76mm)	2" (50mm)
Operation	Electric		
Maximum Flow Rate GPM: (LPM)	211 (800)	135 (510)	79 (300)
Max Operating Pressure : PSI (BAR)	87 (6)	116 (8)	116 (8)
Materials of Construction	Aluminum or Stainless Steel		
Pump Body	Neoprene, Santoprene, or PTFE		
Diaphragm & Check Ball	Aluminum or Stainless Steel		
Maximum Suction Lift : FT (M)	26' (8) Wet	26' (8) Wet	26' (8) Wet
	18' (5.5) Dry	16' (5.1) Dry	14' (4.2) Dry
Solids Handling : IN (MM)	.35" (9mm)	.27" (7mm)	.19" (5mm)
Motor & Gear Box : HP	7.5hp, 10hp	5hp, 7.5hp	3hp, 5hp
Sound Level	<80 db		
Displacement Per Stroke : GAL (L)	1.25 (4.75)	.76 (2.9)	.39 (1.48)

#### Specifications - 2" EODD

Suction / Discharge Port Size : IN (MM)	2" (50)
Fluid Port Connection Type : Alum (SS)	150# ANSI (FNPT)
Maximum Flow Rate GPM: (LPM)	79 (300)
Max Operating Pressure : PSI (BAR)	116 (8)
Ambient Temperature F (C)	-4°F to +131°F (-20°C to +55°C)
Operating Temperature	14°F to 230°F (-10°C to +110°C)
Solids Handling : IN (MM)	0.19" (5)
Heads Up To : FT (M)	262 (80)
Displacement Per Stroke : GAL (L)	.39 (1.48)
Maximum Suction Life : FT (M)	26+ Wet / 14 Dry (8+ Wet / 4.2 Dry)*
Motor & Gear Box : HP	3hp & 5hp
Sound Level	<80 db

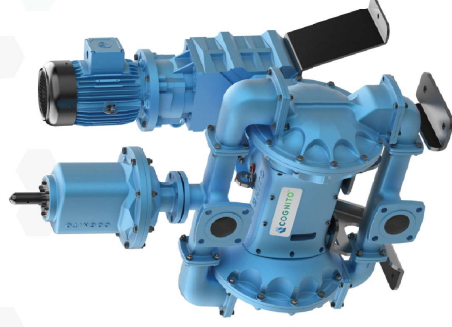
\*Applicable to Santoprene & PTFE Diaphragms only



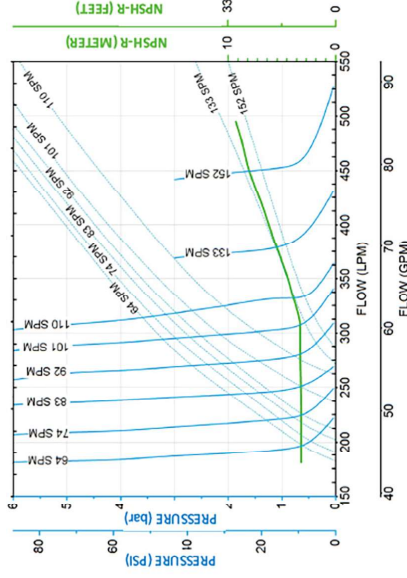
#### Notes :

1. Use 5 hp / 3.7 kW motor for above 4 AMP's
2. For SPM 161 & 149, contact Warren Rupp
3. The performance curve is based on following: SANTOPRENE elastomer fitted pump, flooded suction, water at ambient conditions 25°C, with COGNITO Damper
4. The performance result may deviate in excess of 5% based on elastomer.
5. Performance vary based on Viscosity
6. NPSH-R curve @6bar Max. discharge condition



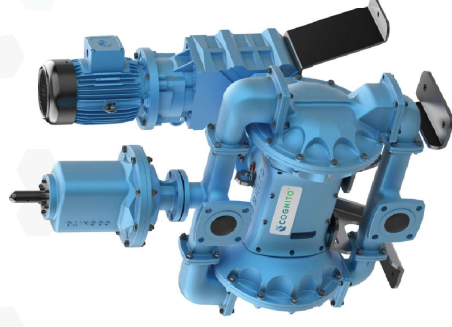


Specifications - 3" EODD			
Suction / Discharge Port Size : IN (MM)	3" (76)		
Fluid Port Connection Type : Alum (SS)	150# ANSI (FNPT)		
Maximum Flow Rate GPM: (LPM)	135 (510)		
Max Operating Pressure : PSI (BAR)	116 (8)		
Ambient Temperature F (C)	-4°F to +131°F (-20°C to +55°C)		
Operating Temperature	14°F to 230°F (-10°C to +110°C)		
Solids Handling : IN (MM)	0.27" (7)		
Heads Up To : FT (M)	262 (80)		
Displacement Per Stroke : GAL (L)	.76 (2.9)		
Maximum Suction Life : FT (M)	26+ Wet / 14 Dry (8+ Wet / 4.2 Dry)*		
Motor & Gear Box : HP	5hp & 7.5hp		
Sound Level	<80 db		
*Applicable to Santoprene & PTFE Diaphragms only			

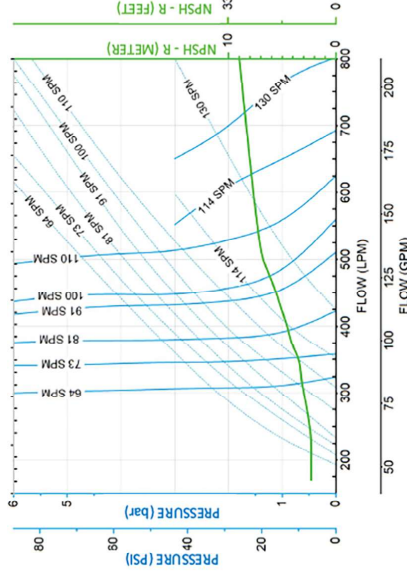


Notes :

1. Use 7.5 hp / 5.5 kW motor for above 7 AMPs
2. For SPM 152 & 133, contact Warren Rupp
3. The performance curve is based on following: SANTOPRENE elastomer fitted pump, flooded suction, water at ambient conditions 25°C, with COGNITO Dampener
4. The performance result may deviate in excess of 5% based on elastomer.
5. Performance vary based on Viscosity
6. NPSH-R curve @6bar Max. discharge condition



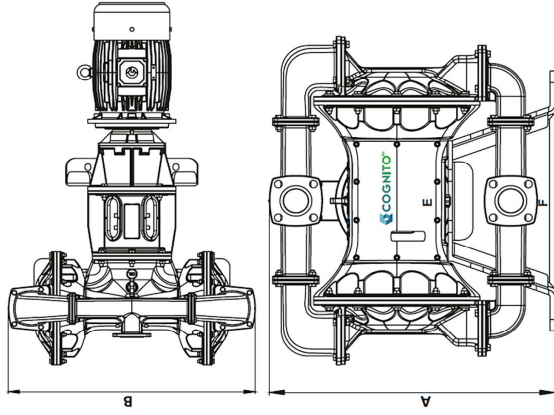
Specifications - 4" EODD			
Suction / Discharge Port Size : IN (MM)	4" (102)		
Fluid Port Connection Type : Alum (SS)	150# ANSI (BSP)		
Maximum Flow Rate GPM: (LPM)	211 (800)		
Max Operating Pressure : PSI (BAR)	87 (6)		
Ambient Temperature F (C)	-4°F to +131°F (-20°C to +55°C)		
Operating Temperature	14°F to 230°F (-10°C to +110°C)		
Solids Handling : IN (MM)	0.35" (9)		
Heads Up To : FT (M)	197 (60)		
Displacement Per Stroke : GAL (L)	1.25 (4.75)		
Maximum Suction Life : FT (M)	26+ Wet / 18 Dry (8+ Wet / 5.5 Dry)*		
Motor & Gear Box : HP	7.5hp & 10hp		
Sound Level	<80 db		
*Applicable to Santoprene & PTFE Diaphragms only			



Notes :

1. Use 10 hp / 7.5 kW motor for above 10 AMPs
2. For SPM 130 & 114, contact Warren Rupp
3. The performance curve is based on following: SANTOPRENE elastomer fitted pump, flooded suction, water at ambient conditions 25°C, with COGNITO Dampener
4. The performance result may deviate in excess of 5% based on elastomer.
5. Performance vary based on Viscosity
6. NPSH-R curve @6bar Max. discharge condition

### Inline Arrangement

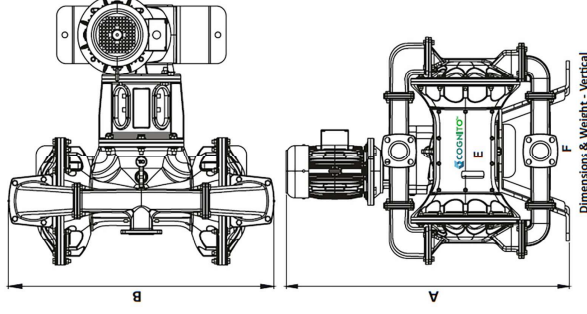


Dimensions & Weight - Inline

Dimension & Weight - Inline	4" (101 mm)	3" (76mm)	2" (50mm)
Aluminum			
Height: IN (mm)	A 32.68" (830)	27.56" (700)	23.62" (600)
Width: IN (mm)	B 39.76" (1010)	33.07" (840)	28.93" (735)
Ref Length: IN (mm)	C 59.84" (1520)	50.98" (1295)	41.73 (1060)
Approx. Shipping Weight: LBS. (kg)	W 1,071 (486)	597 (271)	315 (143)
Bare Pump			
Approx. Shipping Weight: LBS. (kg)	W 1437 (652)	875 (397)	526 (239)
Pump + Motor + Gear Box			
Stainless Steel			
Height: IN (mm)	A 32.68" (830)	27.56" (700)	22.44" (570)
Width: IN (mm)	B 39.76" (1010)	33.07" (840)	28.93" (735)
Ref Length: IN (mm)	C 59.84" (1520)	50.98" (1295)	41.73 (1060)
Approx. Shipping Weight: LBS. (kg)	W 1203 (546)	685 (311)	372 (169)
Bare Pump			
Approx. Shipping Weight: LBS. (kg)	W 1569 (712)	963 (437)	564 (265)
Pump + Motor + Gear Box			

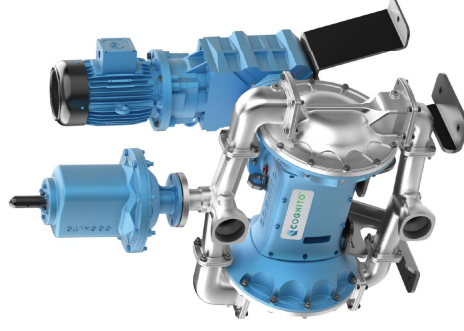


### Vertical Arrangement



Dimensions & Weight - Vertical

Dimension & Weight - Vertical	4" (101 mm)	3" (76mm)	2" (50mm)
Aluminum			
Height: IN (mm)	A 49.21" (1250)	41.33" (1050)	38.19" (970)
Width: IN (mm)	B 39.37" (1000)	33.7" (840)	28.93" (735)
Ref Length: IN (mm)	C 44.09" (1120)	32.48" (825)	30.51" (775)
Approx. Shipping Weight: LBS. (kg)	W 1027 (466)	553 (251)	271 (123)
Bare Pump			
Approx. Shipping Weight: LBS. (kg)	W 1393 (632)	831 (377)	482 (219)
Pump + Motor + Gear Box			
Stainless Steel			
Height: IN (mm)	A 47.24" (1200)	41.33" (1050)	38.19" (970)
Width: IN (mm)	B 39.76" (1010)	33.07" (840)	28.93" (735)
Ref Length: IN (mm)	C 39.96" (1015)	32.48" (825)	30.51" (775)
Approx. Shipping Weight: LBS. (kg)	W 1159 (526)	641 (291)	328 (149)
Bare Pump			
Approx. Shipping Weight: LBS. (kg)	W 1525 (692)	919 (417)	540 (245)
Pump + Motor + Gear Box			



### Working Principle

A pulsation damper uses a flexible diaphragm to separate a liquid chamber from a compressed air chamber. A rod connected to the centre of the diaphragm activates the air inlet and exhaust which automatically admits or exhausts air to the air chamber. This maintains the diaphragm in mid-range stroke to eliminate flow pulsation & pressure spikes.

Cognito Dampeners are suitable for EODD pump models and are available in Aluminum and Stainless-Steel wetted housings

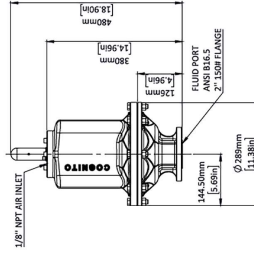
### Working Principle

Dampener Size	Compatible Pump Size	Air Inlet Size	Max Pressure	Fluid Port
2"	1"	1/8" NPT	116 PSI (8 bar)	2" 150# ANSI
	1.5"	1/8" NPT	116 PSI (8 bar)	2" 150# ANSI
	2"	1/8" NPT	116 PSI (8 bar)	2" 150# ANSI
3"	3"	1/8" NPT	116 PSI (8 bar)	3" 150# ANSI
	4"	1/8" NPT	116 PSI (8 bar)	3" 150# ANSI
Working Ambient Temperature		-20°C to +55°C		
Operating Temperature		-10°C to +90°C		

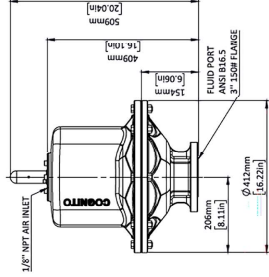
Note: Contact Warren Rupp for Polypropylene Dampener

### Dimensional Drawing

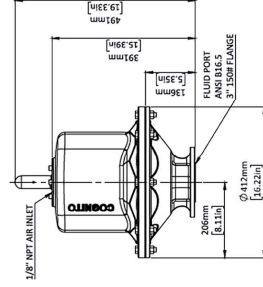
2" Aluminum Dampener



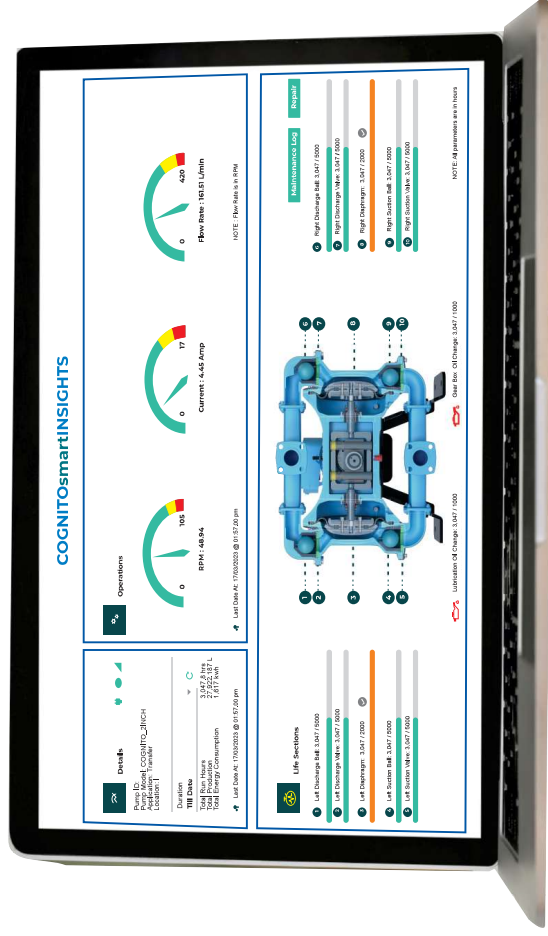
3" Aluminum Dampener



3" Stainless Steel Dampener



**COGNITOSmartINSIGHTS**, a web-based portal, can be accessed from anywhere and provides real-time updates for all your installed COGNITO pumps helping you remotely monitor critical applications.



**COGNITOSmartINSIGHTS**, helps you connect, monitor, and analyse your equipment remotely and enables you to make better and faster decisions to optimize your equipment performance and improve overall process efficiency. Its advanced smart technology create an instant alert for any abnormality to enhance process.