

**ELECTRICALLY OPERATED DOUBLE DIAPHRAGM PUMPS FOR  
THE WORLD'S MOST CHALLENGING FLUID TRANSFER APPLICATIONS.**



**Up to 75% LESS ENERGY consumption  
than comparable AODD pumps**

★ Proud recipient of Most Innovative Product Design  
by India Design Mark - 2022-23

★ Most Innovative Energy Saving Product by CII



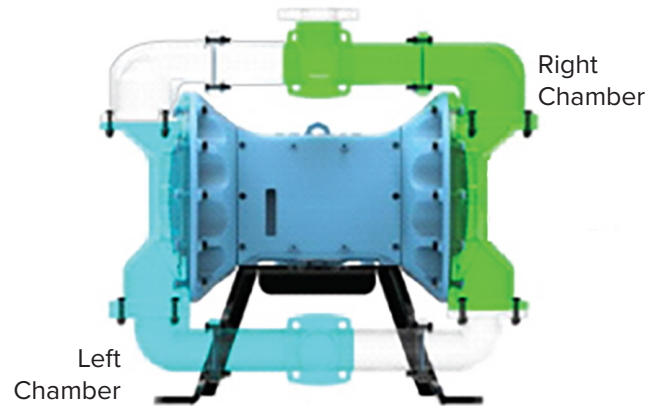
**WARREN  
RUPP, INC.**



Cognito EODD is a smart, IoT-enabled, electrically operated double diaphragm pump. It is engineered and designed for various industrial applications, considering energy efficiency, safety, reliability, easy to use, maintenance-friendly and long-lasting life.

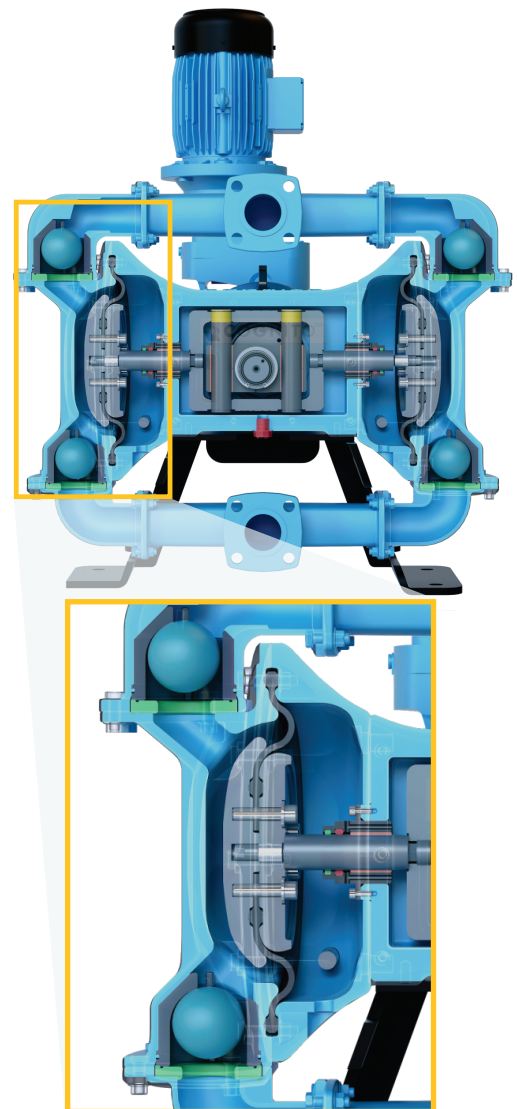
### Operating Principle

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, for example, the right side of the chamber, the left side of the chamber simultaneously reaches its valley. This causes the extrusion of the right diaphragm and the intrusion of the left diaphragm. As a result, positive pressure is built on the right side (green) and a vacuum on the left side (blue).



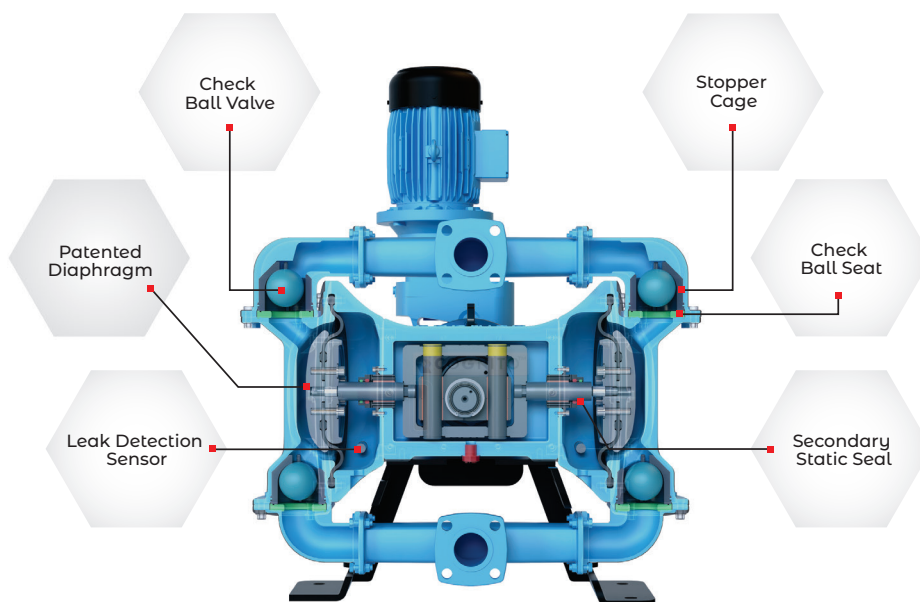
### Key Benefits

-  Smoothly handles highly abrasive, corrosive, shear sensitive and viscous fluids
-  Highly energy-efficient pump with significant reduction in energy consumption
-  Robust mechanism delivering hassle-free maintenance
-  Low MTTR (mean time to repair) and high MTBF (mean time between failures)
-  Remote performance monitoring of pump
-  Patented diaphragm designed for better performance and longer life
-  Reduced operating cost
-  Swift ROI/payback
-  Robust design
-  Handles solids
-  Ultra-efficient
-  IoT-enabled



## UNIQUE DESIGN FEATURES

- ✓ Oversized diaphragms and reduced stroke length – enhances diaphragm life
- ✓ Hardened stainless steel stopper cages / seats – extends manifold life when pumping abrasive fluids
- ✓ Duel secondary static seals protect pumping mechanism from process fluid
- ✓ Equipped with leak detection probes - protect the people, process and the pump



### Product Range

<b>Size</b>	25 MM (1"), 51 MM (2"), 76 MM (3"), 101 MM (4")
<b>Max flow</b>	Up to 800 LPM (211 GPM)
<b>Solid handling</b>	Up to 9 MM (.35")
<b>Available motor configurations</b>	Vertical and Inline
<b>Materials of construction</b>	
<b>Pump body</b>	Aluminum, Stainless Steel
<b>Elastomers (diaphragms, valve balls)</b>	Neoprene, Santoprene, PTFE, Nitrile
<b>Certifications</b>	CE, ATEX Compliant

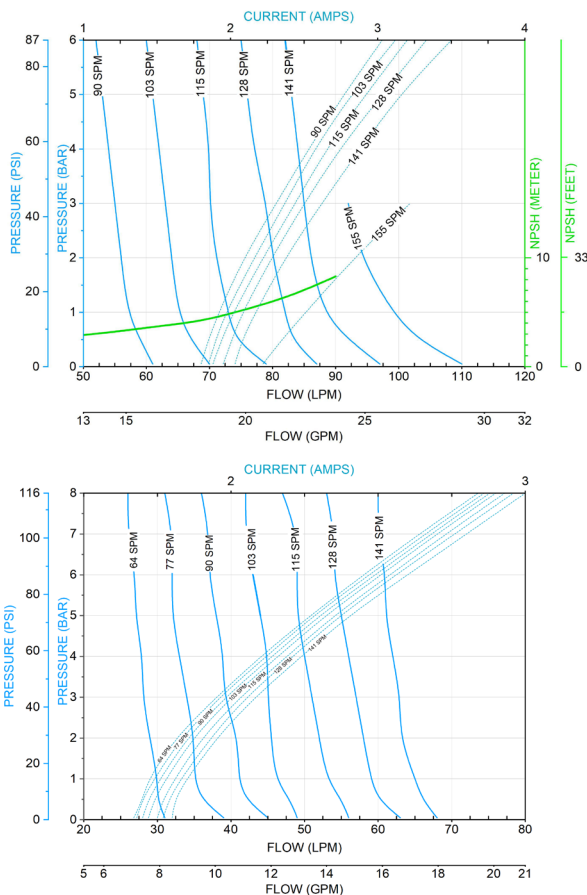
### Material Profile

CAUTION! Operating temperature limitations are as follows

	Operating Temperature	
	Maximum	Minimum
<b>SANTOPRENE®:</b> Injection-molded thermoplastic elastomer with no fabric layer. Long mechanical flex life. Excellent abrasion resistance.	275°F 135°C	-40°F -40°C
<b>NEOPRENE:</b> All purpose. Resistance to vegetable oils. Generally not affected by moderate chemicals, fats, greases and many oils and solvents. Generally attacked by strong oxidizing acids, ketones, esters and nitro hydrocarbons and chlorinated aromatic hydrocarbons.	200°F 93°C	-10°F -23°C
<b>VIRGIN PTFE:</b> (PFA/TFE) chemically inert, virtually impervious. Very few chemicals are known to chemically react with PTFE; molten alkali metals, turbulent liquid or gaseous fluorine, and a few fluorochemicals such as chlorine trifluoride or oxygen difluoride, which readily liberate free fluorine at elevated temperatures.	220°F 104°C	-35°F -37°C
<b>NITRILE:</b> General-purpose, oil-resistant. Shows good solvent, oil, water and hydraulic fluid resistance. Should not be used with highly polar solvents like acetone and MEK, ozone, chlorinated hydrocarbons, and nitro hydrocarbons.	190°F 88°C	-10°F -23°C

## Specifications

Suction/discharge port size	25 MM (1") / Aluminum and Stainless Steel - NPT or BSP (internal)
Maximum flow rate	110 LPM (29 GPM)
Maximum operating pressure	6 Bar (87 PSI), *8 Bar (116 PSI)
Ambient temperature	-20°C to +55°C (-4°F to +131°F)
Operating (process fluid) temperature	-10°C to +120°C (14°F to +248°F)
Solids-handling	Up to 5 MM (.19")
Heads up to	60 meter (196 FT), 80* meter (262 FT)
Displacement/stroke	0.3 liter (.26 Gal.)
Maximum suction lift	8+ meter (26 FT) – wet 4.5 meter (14 FT) – dry
Motor and gearbox	1.5 HP (1.1 KW), 2 HP (1.5 KW)
Sound level	< 80 DB
<b>Material of construction</b>	
1) Pump wetted parts	Aluminum, Stainless Steel
2) Diaphragm and check ball valve	Nitrile, Santoprene, PTFE + Santoprene
* With reduced stroke	



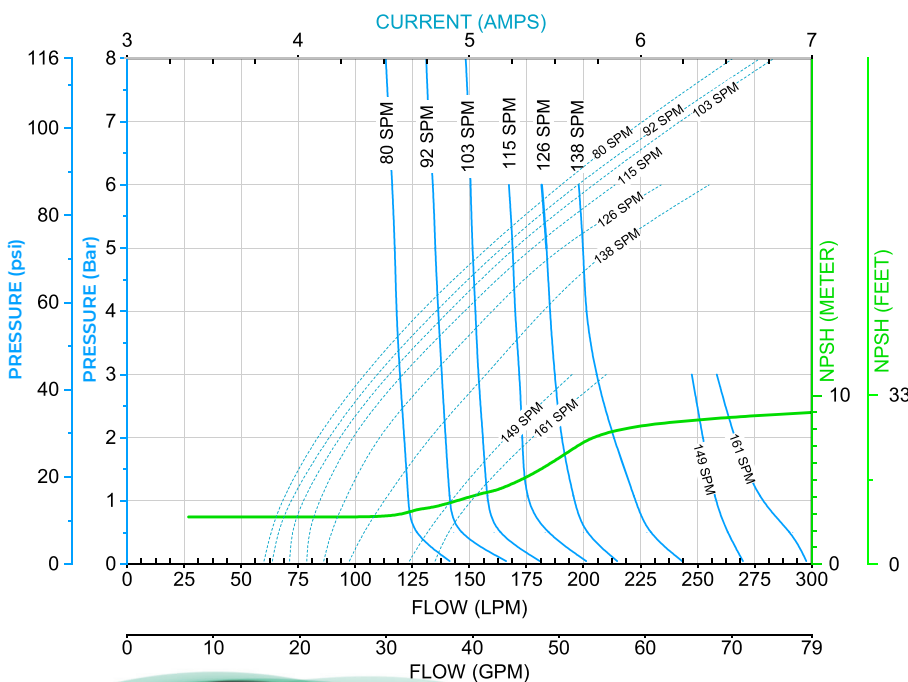
## Notes:

1. Use 2 HP/1.5 KW motor for above 2.5 AMPS
2. The Performance curve is based on following: Santoprene elastomer fitted pump, flooded suction, water at ambient condition 25°C (77°F), with Cognito Dampener
3. The performance result may deviate in excess of 5% based on elastomer
4. Performance vary based on viscosity
5. NPSH-R curve at 6 Bar maximum discharge condition





Specifications	
Suction/discharge port size	51 MM (2") / Aluminum - ANSI 150# Raised Face Flanges / Stainless Steel - NPT or BSP (internal)
Maximum flow rate	300 LPM (79 GPM)
Maximum operating pressure	6 Bar (STD stroke) (87 PSI) *8 Bar (< 103 SPM) (116 PSI)
Ambient temperature	-20°C to +55°C (-4°F to +131°F)
Operating (process fluid) temperature	-10°C to +120°C (14°F to +248°F)
Solids-handling	Up to 5 MM (0.19")
Heads up to	80 meter (262 FT)
Displacement/stroke	1.48 liter (.39 GAL)
Maximum suction lift	8+ meter (26 FT) wet 4.2+ meter (14 FT) dry*
Motor and gearbox	3 HP (2.2 KW), 5 HP (3.7 KW)
Sound level	< 80 DB
Material of construction	
1) Pump wetted parts	Aluminum, Stainless Steel
2) Diaphragm and check ball valve	Santoprene, PTFE + Santoprene
* With reduced stroke	
* Applicable for Santoprene and PTFE Diaphragm only	



### Notes:

1. Use 5 HP / 3.7 KW motor for above 4 AMPS
2. For SPM 161 and 149, contact IDEX Team
3. The performance curve is based on following: Santoprene elastomer fitted pump, flooded suction, water at ambient conditions 25°C (77°F), 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 at 6 Bar maximum discharge condition

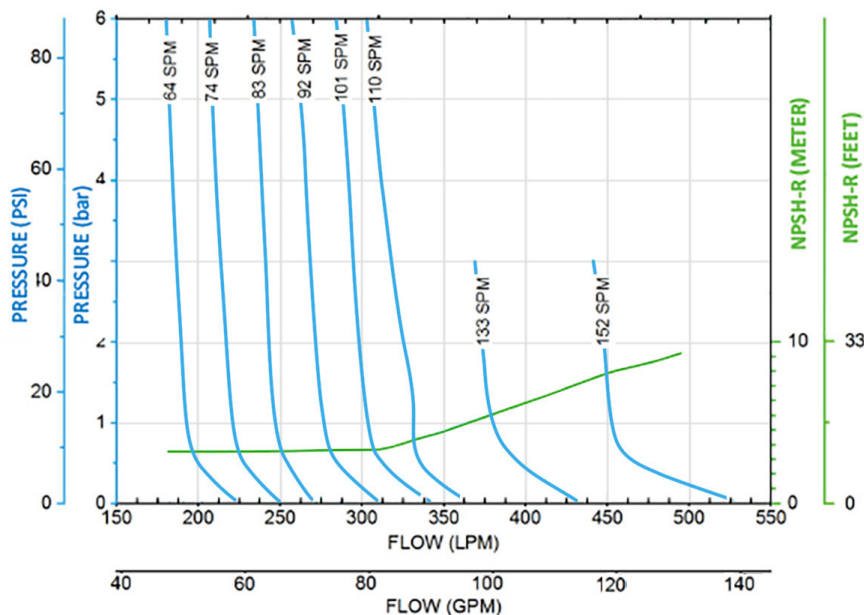
## Specifications

Suction/discharge port size	76 MM (3") / Aluminum - ANSI 150# Raised Face Flanges / Stainless Steel - NPT or BSP (internal)
Maximum flow rate	510 LPM (135 GPM)
Maximum operating pressure	6 Bar (STD stroke) (87 PSI) *8 Bar (116 PSI)
Ambient temperature	-20°C to +55°C (-4°F TO +131°F)
Operating (process fluid) temperature	-10°C to +120°C (14°F TO +248°F)
Solids-handling	Up to 7 MM (.27")
Heads up to	80 meter (262 FT)
Displacement/stroke	2.9 liter (.76 GAL)
Maximum suction lift	8+ meter (26 FT) and 5.1 meter (16 FT) dry*
Motor and gearbox	5 HP (3.7 KW), 7.5 HP (5.5 KW)
Sound level	< 80 DB
<b>Material of construction</b>	
1) Pump wetted parts	Aluminum, Stainless Steel
2) Diaphragm and check ball valve	Neoprene, Santoprene, PTFE + Santoprene
* With reduced stroke	
* Applicable for Santoprene and PTFE Diaphragm only	



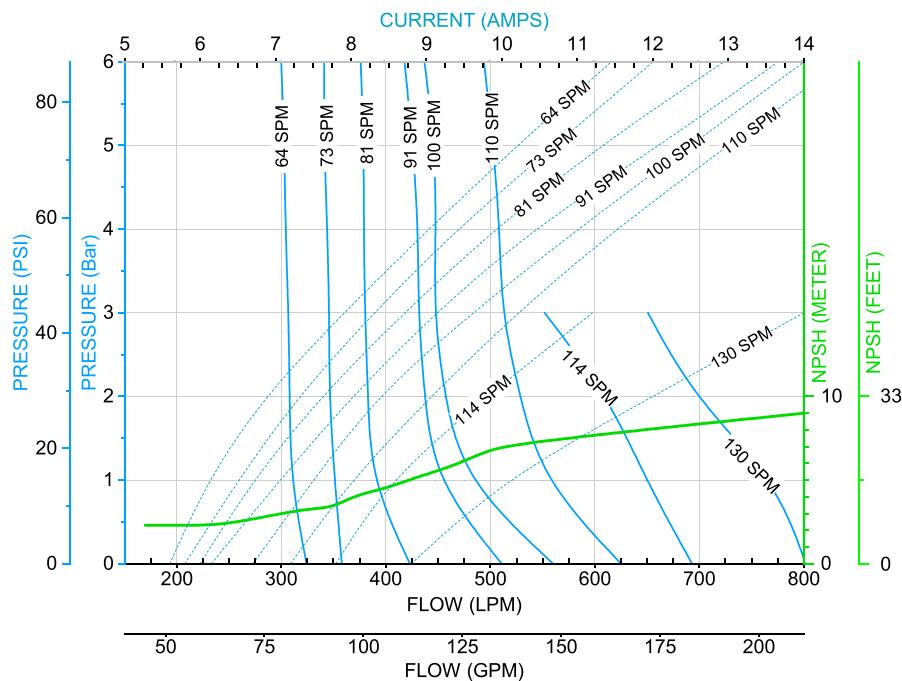
## Notes:

1. Use 7.5 HP / 5.5 KW motor for above 7 AMPS
2. For SPM 152 and 133, contact IDEX Team
3. The performance curve is based on following: Santoprene elastomer fitted pump, flooded suction, water at ambient conditions 25°C (77°F), 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 at 6 Bar Maximum discharge condition



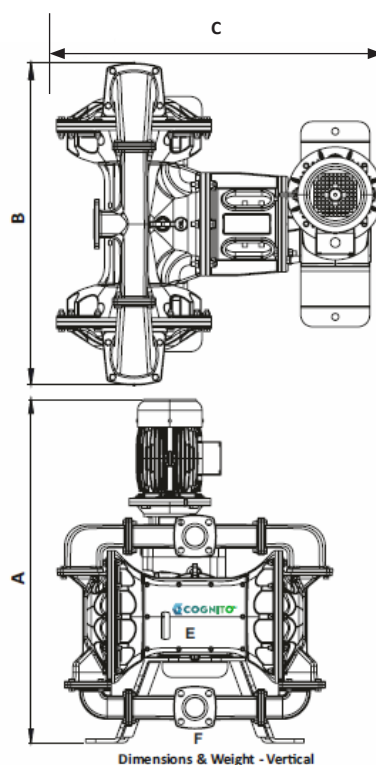
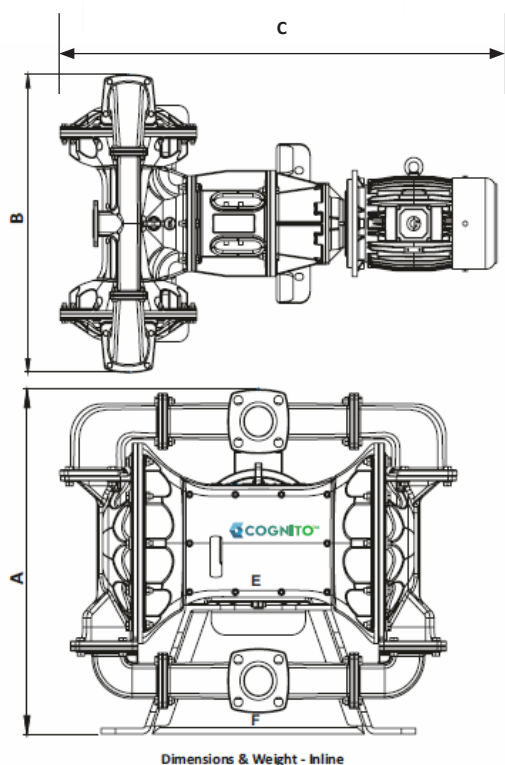
## Specifications

Suction/discharge port size	101 MM (4") / Aluminum - ANSI 150# Raised Face Flanges / Stainless Steel - NPT or BSP (internal)
Maximum flow rate	800 LPM (211 GPM)
Maximum operating pressure	6 Bar (STD stroke) (87 PSI)
Ambient temperature	-20°C to +55°C (-4°F TO +131°F)
Operating temperature	-10°C to +120°C (14°F TO +248°F)
Solids-handling	Up to 9 MM (.35")
Heads up to	60 meter (196 FT)
Displacement/stroke	4.75 liter (1.25 GAL)
Maximum suction lift	8+ meter (26 FT) and 5.1 meter (16 FT) dry*
Motor and gearbox	7.5 HP (5.5 KW), 10 HP (7.4 KW)
Sound level	< 80 DB
<b>Material of construction</b>	
1) Pump wetted parts	Aluminum, Stainless Steel
2) Diaphragm and check ball valve	Neoprene, Santoprene, PTFE + Santoprene
* Applicable for Santoprene and PTFE Diaphragm only	



## Notes:

1. Use 10 HP / 7.5 KW motor for above 10 AMPS
2. For SPM 130 and 114, contact IDEX Team
3. The performance curve is based on following: Santoprene elastomer fitted pump, flooded suction, water at ambient conditions 25°C (77°F), 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 at 6 Bar maximum discharge condition

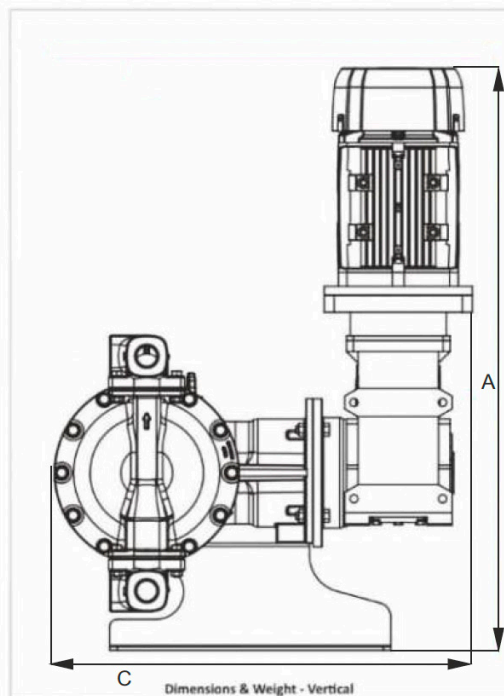
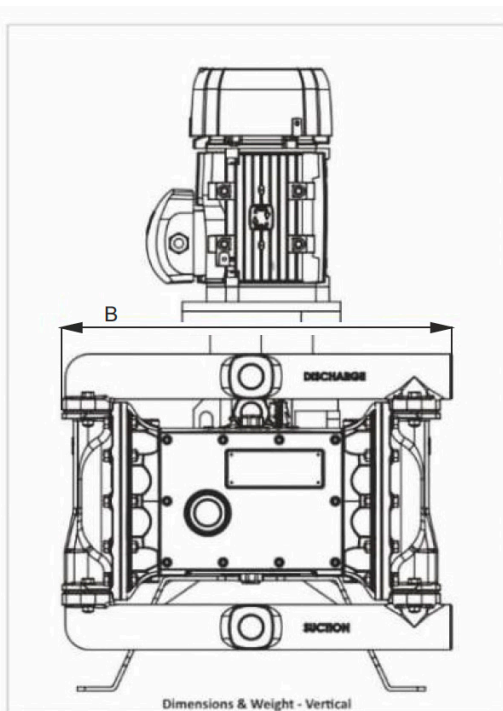


Dimension & Weight Details - Inline		101 MM (4")	76 MM (3")	51 MM (2")
<b>Aluminum</b>				
Height (MM)	A	830 (32.68)	700 (27.56)	600 (23.62)
Width (MM)	B	1010 (39.76)	840 (33.07)	735 (28.93)
Length (MM)	C	1520 (59.84)	1295 (50.98)	1060 (41.73)
Approx. Weight (kg) - Bare Pump	W	409 (901.6)	220 (485)	105 (231.49)
Approx. Weight (kg) - Pump + Motor + Gearbox*	W	575 (1267.66)	346 (762.79)	201 (443.13)
<b>Stainless Steel</b>				
Height (MM)	A	830 (32.68)	700 (27.56)	570 (22.44)
Width (MM)	B	1010 (39.76)	840 (33.07)	735 (28.93)
Length (MM)	C	1520 (59.84)	1295 (50.98)	1060 (41.73)
Approx. Weight (kg) - Bare Pump	W	469 (1033.97)	260 (573.20)	131 (288.80)
Approx. Weight (kg) - Pump + Motor + Gearbox*	W	635 (1399.94)	386 (850.98)	227 (500.45)

Dimension & Weight Details - Vertical		101 MM (4")	76 MM (3")	51 MM (2")
<b>Aluminum</b>				
Height (MM)	A	1250 (49.21)	1050 (41.33)	970 (38.19)
Width (MM)	B	1000 (39.37)	840 (33.70)	735 (28.93)
Length (MM)	C	1120 (44.09)	825 (32.48)	775 (30.51)
Approx. Weight (kg) - Bare Pump	W	409 (901.6)	220 (485)	105 (231.49)
Approx. Weight (kg) - Pump + Motor + Gearbox*	W	575 (1267.66)	346 (762.79)	201 (443.13)
<b>Stainless Steel</b>				
Height (MM)	A	1200 (47.24)	1050 (41.33)	970 (38.19)
Width (MM)	B	1010 (39.76)	840 (33.07)	735 (28.93)
Length (MM)	C	1015 (39.96)	825 (32.48)	775 (30.51)
Approx. Weight (kg) - Bare Pump	W	469 (1033.97)	260 (573.20)	131 (288.80)
Approx. Weight (kg) - Pump + Motor + Gearbox*	W	635 (1399.94)	386 (850.98)	227 (500.45)

\*Weight may vary based on the motor and gearbox make.





Dimension & Weight Details - Vertical		25 MM (1")
<b>Aluminum</b>		
Height (MM)	A	720 (28.34)
Width (MM)	B	495 (19.49)
Length (MM)	C	560 (22.05)
Approx. Weight (kg) - Bare Pump	W	60 (132.28)
Approx. Weight (kg) - Pump + Motor + Gearbox*	W	85 (187.39)
<b>Stainless Steel</b>		
Height (MM)	A	720 (28.35)
Width (MM)	B	495 (19.49)
Length (MM)	C	560 (22.05)
Approx. Weight (kg) - Bare Pump	W	75 (165.35)
Approx. Weight (kg) - Pump + Motor + Gearbox*	W	100 (220.46)

\*Weight may vary based on the motor and gearbox make.

A pulsation dampener uses a flexible diaphragm to separate a liquid chamber from a compressed air chamber. A rod connected to the center 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 and pressure spikes.

Cognito Dampeners are suitable for EODD pump models and are available in Aluminium and stainless-steel wetted housings.

## Technical Specification

Dampener Size	Compatible Pump Size	Air Inlet Size	Max Pressure	Fluid Port
1"	1"	1/8" NPT	116 PSI (8 bar)	1" NPT / BSP Female Threaded 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 (-4°F) to +55°C (131°F)	
Operating (process fluid) Temperature			-10°C (14°F) to +120°C (248°F)	

Note: Contact Warren Rupp for Polypropylene Dampener

## Material of Construction

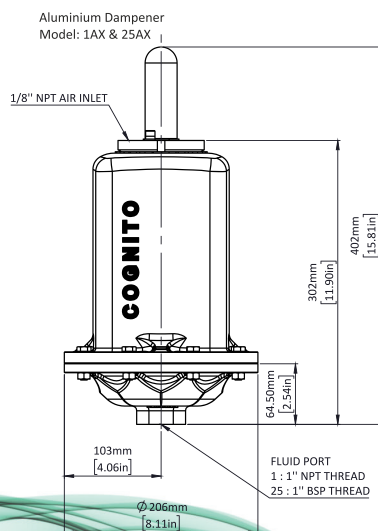
Size	Model Number	Wetted Parts	
		Body	Diaphragm
1"	1AS/25AS	Aluminium	Santoprene
	1AP/25AP	Aluminium	Santoprene Backup / PTFE
	1SS/25SS	Stainless Steel	Santoprene
	1SP/25SP	Stainless Steel	Santoprene Backup / PTFE
2"	2AS	Aluminium	Santoprene
	2AP	Aluminium	Santoprene Backup / PTFE
	2SS	Stainless Steel	Santoprene
	2SP	Stainless Steel	Santoprene Backup / PTFE
3"	3AS	Aluminium	Santoprene
	3AP	Aluminium	Santoprene Backup / PTFE
	3SS	Stainless Steel	Santoprene
	3SP	Stainless Steel	Santoprene Backup / PTFE

- Do Not Run Dampener Without Air Supply
- Recommended Air Inlet Pressure: 14 PSI (1 bar) Higher from the Discharge Pressure
- This Dampener is Automatic Air Controlling Type

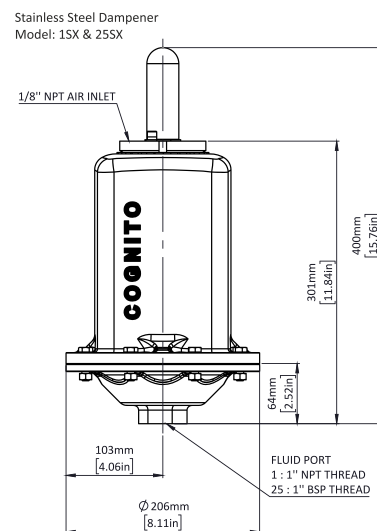
## Dimensional Drawing

### 1" Dampener weight:

Aluminum: 9 kg  
Stainless Steel: 11 kg

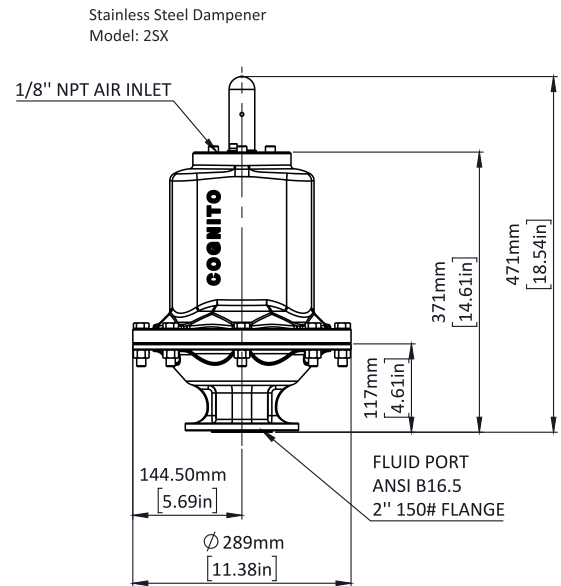
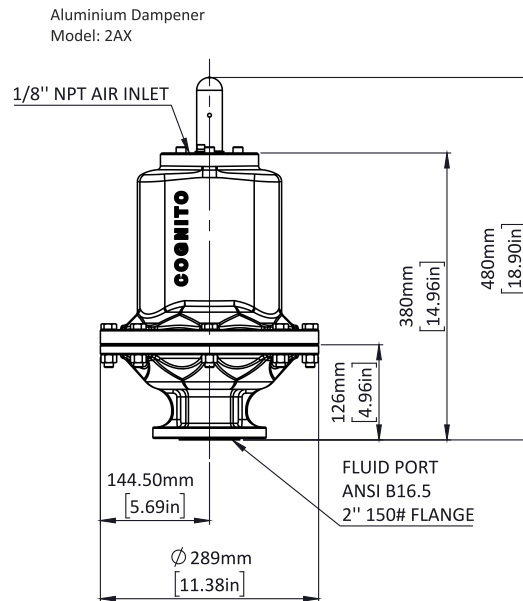


All Dimensions +/- 3mm [0.13 in]  
Where X is Diaphragm Material



## 2" Dampener weight:

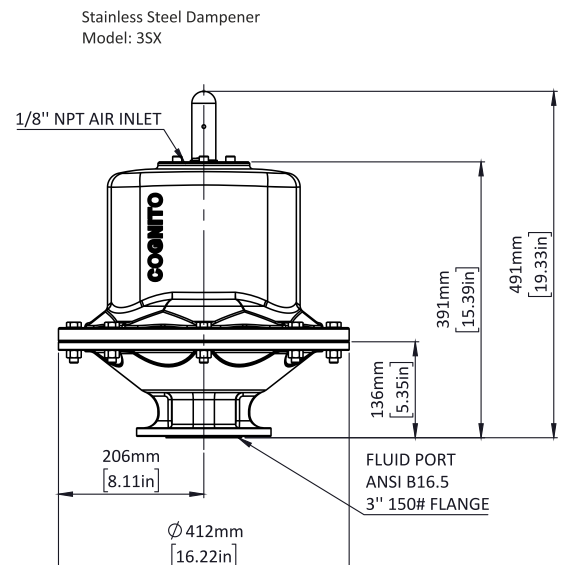
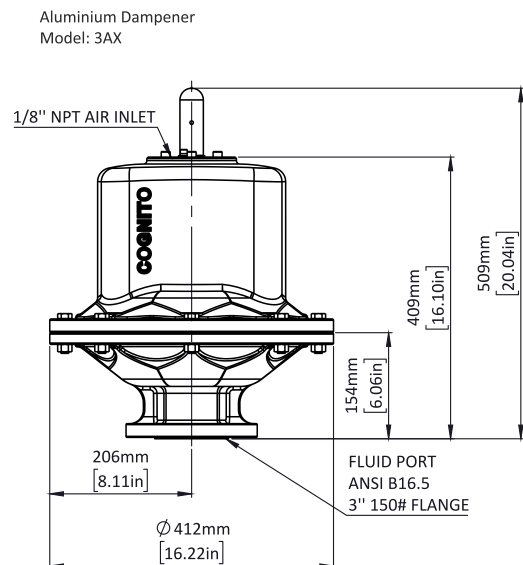
Aluminum: 16 kg  
Stainless Steel: 19 kg



All Dimensions +/- 3mm [0.13 in]  
Where X is Diaphragm Material

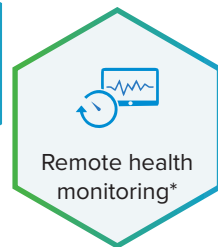
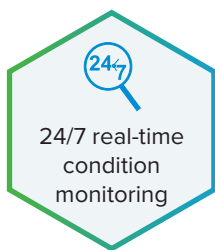
## 3" Dampener weight:

Aluminum: 21 kg  
Stainless Steel: 25 kg



All Dimensions +/- 3mm [0.13 in]  
Where X is Diaphragm Material

**COGNITOSmartINSIGHTS** is a web-based portal that 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 to connect, monitor and analyze your equipment remotely, enabling you to make better and faster decisions to optimize your equipment performance and improve overall process efficiency. Its advanced smart technology creates instant alerts for any abnormalities to enhance the process.

\*Only available in specific regions. Please contact your local sales rep to learn more.



### Applications

- ✓ Slip transfer
- ✓ Slurry transfer
- ✓ Filter press
- ✓ Glaze transfer
- ✓ Ball mill unloading



**Ceramic and Tiles**



**Foundry and Refractory**



**Tableware and Insulators**



**Paint, Dye and Inks**



**Chemicals**



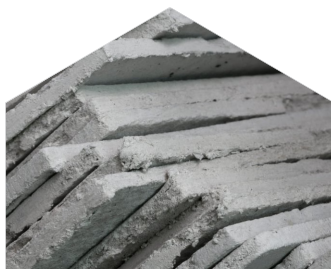
**Li-ion Battery**

### Applications

- ✓ Slurry transfer
- ✓ Emulsion transfer
- ✓ Resin transfer
- ✓ Solvent transfer
- ✓ Final paint (water based) transfer to final filler (packing)

### Applications

- ✓ Filter press
- ✓ Sludge transfer
- ✓ Starch & dye transfer
- ✓ AFR (alternate fuel & raw material) transfer-cement industry
- ✓ PCC and GCC (precipitated calcium carbonate & ground calcium carbonate) transfer-paper industry



**Building Products**



**Water and Wastewater Treatment**



**Pulp and Paper (Packaging)**

### Applications

- ✓ Latex transfer
- ✓ Glue transfer
- ✓ Solvent & chemical transfer
- ✓ Lacquer transfer



**Pharma**



**Latex**




**Packaging**

Cognito, a Warren Rupp brand, specializes in thoughtfully engineered electrically operated double diaphragm pumps and accessories. Our products are designed to transfer the most challenging fluids efficiently, safely, and dependably. Our goal is to deliver unparalleled reliability, ease of use, and simplified maintenance for long-lasting customer satisfaction. For further information on Cognito and its products, visit [www.cognitopump.com](http://www.cognitopump.com).

 /cognitopump

 @CognitoEODD

 [cognitopump.com/contact](http://cognitopump.com/contact)

## About Warren Rupp

For over 50 years, Warren Rupp, Inc. has been a leading manufacturer of pumps. The company was founded on the principle of building 'new and different pumps' as the 'Originators in Pumping' by Warren E. Rupp and Charles E. Young, Jr. in Mansfield, Ohio, in 1965.

Today, Warren Rupp's engineered solutions for various industrial markets are sold worldwide through a network of independent, factory-authorized distributors. Our products and services are marketed in over 60 countries and in nearly every major trading area. We continue to enable customers to make better-informed pump choices for their applications. There is no other pump type on the market today that is universally applicable and so responsive to pumping problem fluids like our pumps. For further information on Warren Rupp and its business units, visit [warrenruppinc.com](http://warrenruppinc.com).







### APPLICATIONS ENGINEERING, CUSTOMER SERVICE, AND AFTER SALES SUPPORT

From product selection, to troubleshooting, our team of experts is ready to help.



### PRODUCT ENDURANCE LAB

Ensures product performance and drives product enhancements.



### DEDICATED TEAM TO SUPPORT YOU

Providing product expertise, personalized service, and after sales support.



### GENUINE KITS AND PARTS

Provide guaranteed quality and ease of maintenance.

## About IDEX Corporation

IDEX designs and builds engineered products and mission-critical components that make everyday life better. Founded in 1988 with three small, entrepreneurial manufacturing companies, IDEX now includes more than 50 diverse businesses around the world, and manufacturing operations in more than 20 countries. For further information on IDEX Corporation and its business units, visit [www.idexcorp.com](http://www.idexcorp.com).



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