

# **PRODUCT GUIDE**



**AIR POWERED DOUBLE DIAPHRAGM PUMPS**



## CORPORATE PROFILE

1. Company Name YTS Co., Ltd
2. President Hirokazu Yamada
3. Established January 21<sup>st</sup>, 1966
4. Capital JPY 50,000,000
5. Registration No 0400-01-049485
6. Number of employees 58
7. Web Site(s) Japan : <http://y-t-s.co.jp>  
Global : <http://yts-pump.com>
8. Patents 6 Design Patents. 4 Patents Pending. 12 Patents (now expired).
9. Address  
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598-10, Monoi Yotsukaicho City, Chiba, Japan 284-0012  
Domestic Sales Dept.  
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International Sales Dept.  
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10. Description of Business
  - a. Research and the development of industrial liquid handling and associated equipment.
  - b. Product Design through 3D Solid Works and Engineering of industrial liquid handling associated equipment.
  - c. Manufacturer and assembly of pneumatic, hydraulic, electric driven hand operated and other type of pumps spare parts accessories and associated equipment.
  - d. Sales, marketing, warehouse and distribution of industrial liquid handling equipment, spare parts accessories.
  - e. Sales of high pressure liquid transfer, spray and suction pumps and equipment and measuring instruments.
  - f. Manufacturer and sales of measuring and dosing equipment and measuring instruments.
  - g. Manufacturer and sales of fluid control devices.
  - h. Injection Molding of PP PPG POM PVDF Parts & Accessories(Engineering Plastics).
  - i. Machining cutting finishing of plastics and metal parts.
  - j. Manufacturer, import and sales of automobile service equipment.
  - k. Installation and full after sales service or maintenance of equipment.
  - l. General Business operations in support of above mentioned activities.

## Large Line-Up

YTS produces a wide variety of Air Powered Double Diaphragm Pumps available in many sizes and materials. Metallic pumps come in 3 basic materials; SUS, AL and Fe. SUS pumps are also available with Standard, Electro Polished and FDA Grade finishes.

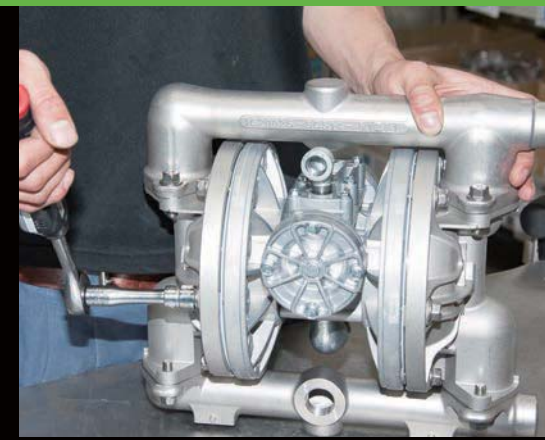
Plastic pumps are available in 5 basic materials; Pure PP, PPG, PVDF, PTFE and POM.

PP is also available in Conductive PP.

PTFE pumps are available in Standard Grade, High Purity Grade as well as Conductive PTFE for use in Explosive Environments.

Typically 7 different Diaphragm materials are available with the option of fitting various Backup Diaphragms to most pumps. Other specialist Diaphragms are also available for specialized applications.

The New Patent Pending Looped-C® Spool and the second generation Coil-Spring Air Valve offer much improved Pumping Performance, Air Consumption, Operational Reliability and Reduced Maintenance Requirements. Pumps fitted with the New Patent Pending EcoRing offer on average, 16% better Air Consumption figures without any negative effects to overall pumping performance.



# Presenting YTS Double Diaphragm Pumps



**High Flow Rates**  
Up to 730 L/min on this 2" Pump.

**Compact & Robust**  
With its Compact Size & Robust Construction, this High Performance Pump is Designed for use in any Application.

**Fully Bolted Construction**  
Pumps Bolted and Fully Torqued prior to shipment. Easy to Assemble and Disassemble.

**Machined Mating Surfaces**  
Reducing any Chance of Leaks.

**Outside Accessible Air Motor**  
Simple and Fast to Service.

**Extremely Reliable Operation**  
New Coil Spring Air Motor for High Performance Operation. Low Start Up Pressure and High Head Discharge.

**Non-Lubricated Air Motor**  
No Oil or Grease Required for normal operation.

**Efficient Air Consumption**  
Designed to operate Extremely Efficiently and also reduce air leakage or loss in all operating conditions.

**Non Stall Operation**  
Will operate from Very Low to Very High Air Pressure using State of the Art materials. This Non-Lubricated Air Motor has been engineered to offer Extremely Reliable switching operation.

**Common Footprint & Dimensions**  
Ports and Foot Dimensions match many other Brand Pumps making it easy to replace another pump without changing the pipe fittings.

**Patent Pending**  
Designed and Manufactured in Japan with various Patents Pending.

**D500AS-FL**  
2" Aluminium Pump  
730L/min Max Flow Rate  
8.0mm Max Solids Size

Air Powered Double Diaphragm Pumps  
Manufactured in Japan with Superior  
Quality and Finish.

Designed for High Performance  
Operation and Long Life Expectancy.

Fully Engineered with Design Fea-  
tures Not often Found in Other Brand  
Pumps.



# AODD Pump Abilities

## Dry Run

Diaphragm Pumps can Run Dry for extended periods with no damage to the pumps moving parts. Also when running dry the pump will not overheat.

- #1. Dry running pumps will speed up and will consume higher amounts of air.
- #2. Dry Running can negatively affect the life of PTFE Diaphragms.

## Transfer Solids

Due to their unique design, liquid slurries as well as large sized solids such as beads, stones etc. can be pumped with ease.

- #1 the allowable solid size is different for each pump and is determined by the ball valve dimensions.
- #2 Abrasive slurries can be pumped however care should be taken that the wetted materials of construction are abrasion resistant.

## Variable Flow Rates and Discharge Pressure

By adjusting either the air regulator or a liquid discharge valve, it's possible to operate the pump anywhere between 0.1 liters per minute to full capacity. Liquid discharge pressure can be adjusted from less than 1 bar up to 8.4 bars, on some larger pumps.

## Dead Head

A Diaphragm Pump can run against a semi closed or fully closed liquid discharge valve "Dead Head" without damage or wear to the pump. Therefore the Discharge Line may be closed fully at any time and even closed repeatedly. There will be no Power consumed, no Temperature increase and no damage to the pump, it will simply stop.

- #1. Discharge Pressure cannot exceed Air Pressure so there is no need for a Pressure Relief System.

## Self-priming

Diaphragm Pumps can operate dry and they also generate relatively high Vacuum Pressure, thus allowing the pump to Self-Prime.

- #1. There is no need to use special mechanisms, equipment or special startup procedures to prime the pump.
- #2. Pumps can operate both wet and dry and can self-prime repeatedly without damage.

## Safely Transfer Flammable and Hazardous materials.

Diaphragm pumps are powered by compressed air and do not have any kind of electrical connections. They cannot overheat and they are cooled naturally during operation by the supply of compressed air. When correctly earthed, they are considered safe to use when pumping flammable liquids or when used in Explosive Environments.

## Made in Japan

All YTS Pumps are designed engineered and manufactured in Japan. Every pump is torqued and tested prior to dispatch to ensure correct performance and optimal leak proof operation.

The new Looped C<sup>®</sup> Spool offers improved switching reliability and longer parts life expectancy. The Looped C<sup>®</sup> Spool has fully replaceable Seal Rings and a new lightweight Shaft. The Sleeve has been redesigned offering increased wear resistance and increased surface smoothness. Spool & Sleeve are both outside accessible and completely Non-lubricated.



## The Looped C<sup>®</sup> Spool



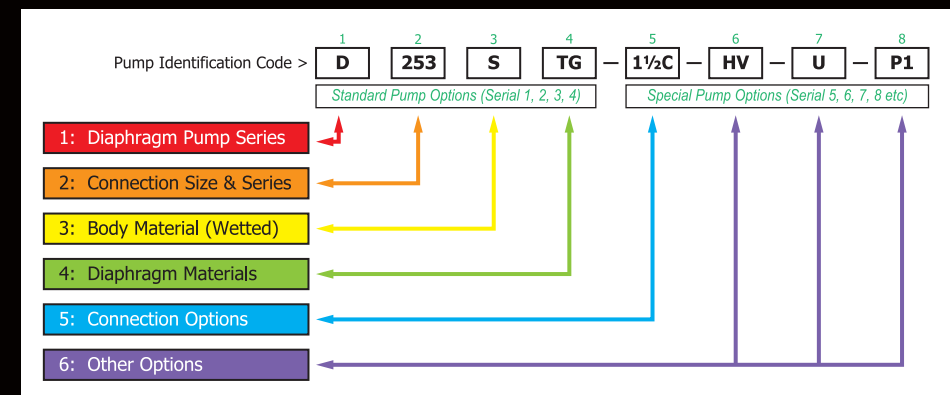
When installed can decrease Air Volume requirements by up to 25% Compared to an old equivalent model pump. (Average 16%). Also when using an EcoRing fitted pump, there is no decrease in liquid low rates.



## The Air EcoRing



## Pump Model Nomenclature



# D030 Series

Diaphragm Pumps with 1/4" Connections



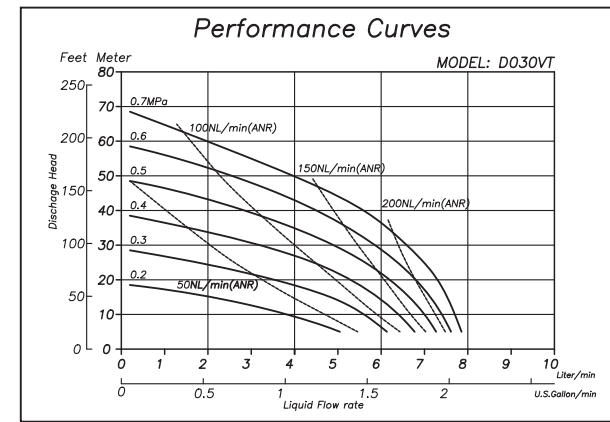
## D030V

1/4" Air Powered Double Diaphragm Pumps  
Max flow rate: 8 L/min.

## New special low flow 1/4" pump model available in PVDF.

Ryton (PPS) Plastic Air Motor. New Looped C<sup>®</sup> Air Spool for increased performance, operation reliability & improved parts life expectancy. Non-Lubricated design technology. Compact size. Small footprint. Internal Silencer. Fully bolted body, torqued, leak & operation tested prior to shipment.

D030 Pump Series	
<b>Max Flow Rate:</b>	8 L/min.
<b>Max Solids Size:</b>	0 mm.
<b>Max Air Inlet Pressure:</b>	0.2 ~ 0.7 Mpa
<b>Description:</b>	Ryton <sup>®</sup> Plastic Air Motor (PPS), Looped C <sup>®</sup> Spring Air Spool, Flat Check Valves, Side Port Liquid Connections. Internal Silencer. Fully Bolted Body.
<b>Liquid Connections:</b>	1/4" (6mm) Threaded Connections. (Side Ports)
<b>Wetted Body Materials:</b>	PVDF.
<b>Diaphragm / Check Valve Materials:</b>	PTFE.
<b>Certification:</b>	CE. <span style="float: right;">ATEX.</span>
<b>Common Options &amp; Accessories:</b>	Filter Regulator. Bolt Caps. NPT Liquid Connections. Air Side Service Kit.



# D050 Series

Diaphragm Pumps with 1/4" Connections



Newly redesigned 1/4" pump series available in a full range of materials including Pure Polypropylene.

Ryton (PPS) Plastic Air Motor. New Looped C® Air Spool for increased performance, operation reliability & improved parts life expectancy. Non-Lubricated design technology. Compact size. Small footprint. Internal Silencer. Fully bolted body, torqued, leak & operation tested prior to shipment.

D050 Pump Series			
<b>Max Flow Rate:</b>	11.5 L/min.		
<b>Max Solids Size:</b>	Flat Valve = 0 mm.		
<b>Max Air Inlet Pressure:</b>	0.2 ~ 0.7 Mpa		
<b>Description:</b>	Ryton® Plastic Air Motor (PPS), Looped C® Spring Air Spool, Flat Check Valves, Side or Multi Port Liquid Connections. Internal Silencer. Fully Bolted Body.		
<b>Liquid Connections:</b>	1/4" (6mm) Threaded Connections. (Side Ports or optional Multi Ports)		
<b>Wetted Body Materials:</b>	Pure PP, PPG, PVDF, SUS, Aluminium, POM.		
<b>Diaphragm / Check Valve Materials:</b>	PTFE.		
<b>Certification:</b>	CE.	ATEX. (Some Models)	FDA. (Some Models)
<b>Common Options &amp; Accessories:</b>	E Series Pump. Drum Pump. Multiport Connections. Ball check valves on metallic pumps. FKM, EDPM, CR, NBR Diaphragms. High Performance Spool. Filter Regulator. Bolt Caps. NPT Liquid Connections. 2 In 2 Out connections. Air Side Service kit.		



D050A

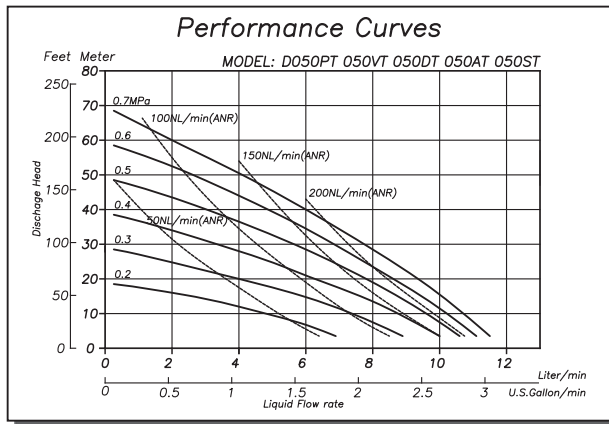


D050P



Optional MultiPort Model.

1/4" Air Powered Double Diaphragm Pumps  
 Max Flow Rate: 11.5 L/min  
 Material Options: Pure PP, PPG, PVDF, SUS, Aluminium, POM.



# D100 Series

## Diaphragm Pumps with 3/8" Connections

### Old style 3/8" pump series available in PPG & New Pure Polypropylene.

Metallic Air Motor. Spring-Less Air Spool suited to frequent start stop, Dead Head & high back pressure type applications. Non-Lubricated design technology. Compact size. External Silencer. Fully bolted body, torqued, leak & operation tested prior to shipment.



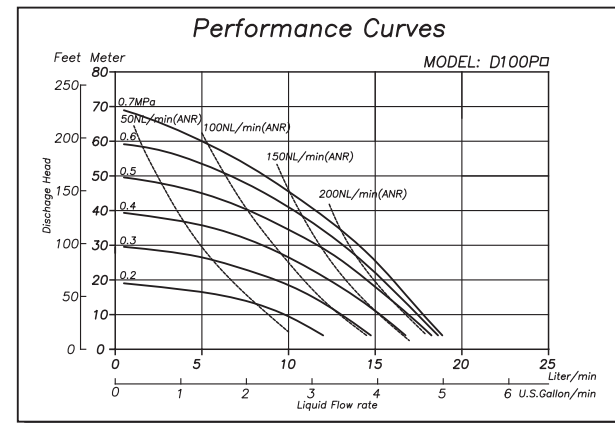
**D100P-PP**

3/8" Air Powered Double Diaphragm Pumps  
 Max Flow Rate: 18 L/min  
 Material Options: Pure PP, PPG.



**D100P**

D100 Pump Series	
<b>Max Flow Rate:</b>	18 L/min.
<b>Max Solids Size:</b>	1.0 mm.
<b>Max Air Inlet Pressure:</b>	0.2 ~ 0.7 Mpa
<b>Description:</b>	Aluminium Air Motor, Spring-less Air Spool, Ball Check Valves, Side or Multi Port Liquid Connections. Internal Silencer. Fully Bolted Body.
<b>Liquid Connections:</b>	3/8" (10mm) Threaded Connections. (Centre Port & Multi Ports on PP pump)
<b>Wetted Body Materials:</b>	Pure PP, PPG.
<b>Diaphragm / Check Valve Materials:</b>	PTFE, CR, EPDM, NBR, TPEE, TPO.
<b>Certification:</b>	CE.
<b>Common Options &amp; Accessories:</b>	Filter Regulator. 1/2" Centre Ports. PTFE Check Valves. PTFE Coated Air Section. Rubber Feet Kit. Liquid Pulsation Dampener. Drum Pump. NPT Liquid Connections. Air Side Service kit.





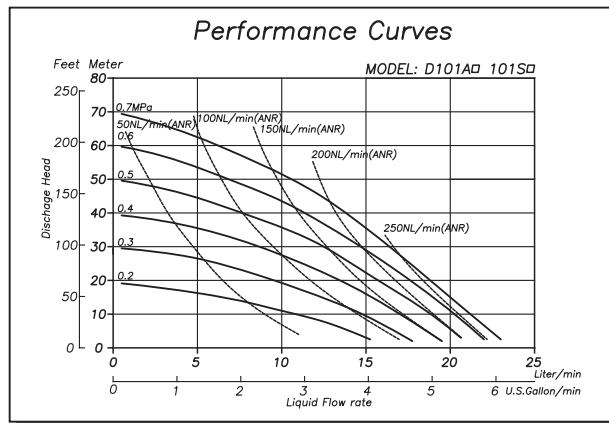
# D101 Series

Diaphragm Pumps with 3/8" Connections

## Old style 3/8" pump series available in Aluminium & Stainless steel.

Metallic Air Motor. Spring-Less Air Spool suited to frequent start stop, Dead Head & high back pressure type applications. Non-Lubricated design technology. Compact size. External Silencer. Fully bolted body, torqued, leak & operation tested prior to shipment.

D101 Pump Series		
<b>Max Flow Rate:</b>	23 L/min.	
<b>Max Solids Size:</b>	1.0 mm.	
<b>Max Air Inlet Pressure:</b>	0.2 ~ 0.7 Mpa	
<b>Description:</b>	Aluminium Air Motor, Spring-less Air Spool, Ball Check Valves, Side or Multi Port Liquid Connections. Internal Silencer. Fully Bolted Body.	
<b>Liquid Connections:</b>	3/8" (10mm) Threaded Connections. (Multi Ports)	
<b>Wetted Body Materials:</b>	SUS, Aluminium.	
<b>Diaphragm / Check Valve Materials:</b>	PTFE, CR, EPDM, NBR, TPEE, TPO.	
<b>Certification:</b>	CE.	ATEX. FDA. (Some Models)
<b>Common Options &amp; Accessories:</b>	Filter Regulator. 1/2" Centre Ports. PTFE Check valves. SUS Check Valves, Guides & Seats. PTFE Coated Air Section. Rubber feet kit. Liquid Pulsation Dampener. Drum Pump, FDA Pump. Air Side Service kit.	



**D101S**

**D101A**

3/8" Air Powered Double Diaphragm Pumps  
 Max Flow Rate: 23 L/min  
 Material Options: SUS, Aluminium.

# D102 Series

Diaphragm Pumps with 3/8" Connections

## Old style 3/8" pump series available in PPG.

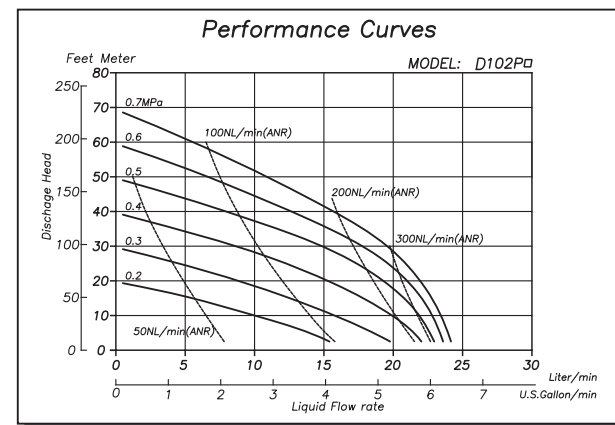
Ryton (PPS) Air Motor for increased chemical compatibility. C-Spool Air motor as standard. Non-Lubricated design technology. Compact size. Internal Silencer. Fully bolted body, torqued, leak & operation tested prior to shipment.



### D102P

3/8" Air Powered Double Diaphragm Pumps  
 Max Flow Rate: 24 L/min  
 Material Options: PPG.

D102 Pump Series	
<b>Max Flow Rate:</b>	24 L/min.
<b>Max Solids Size:</b>	1.0 mm.
<b>Max Air Inlet Pressure:</b>	0.2 ~ 0.7 Mpa
<b>Description:</b>	Ryton Plastic Air Motor (PPS), C-Spool Air Spool, Ball Check Valves, Side Port Liquid Connections. Internal Silencer. Fully Bolted Body.
<b>Liquid Connections:</b>	3/8" (10mm) Threaded Connections. (Side ports)
<b>Wetted Body Materials:</b>	PPG.
<b>Diaphragm / Check Valve Materials:</b>	PTFE, TPO, TPEE, NBR, CR, EPDM.
<b>Certification:</b>	CE.
<b>Common Options &amp; Accessories:</b>	Filter Regulator. PTFE Check valves. Liquid Pulsation Dampener. NPT Liquid Connections. Air Side Service Kit.



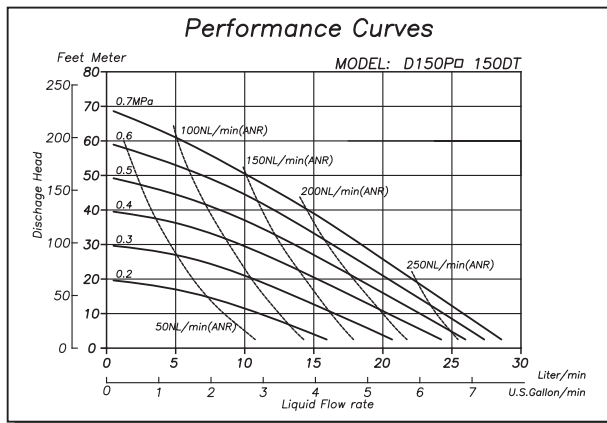
# D150 Series

Diaphragm Pumps with 1/2" Connections

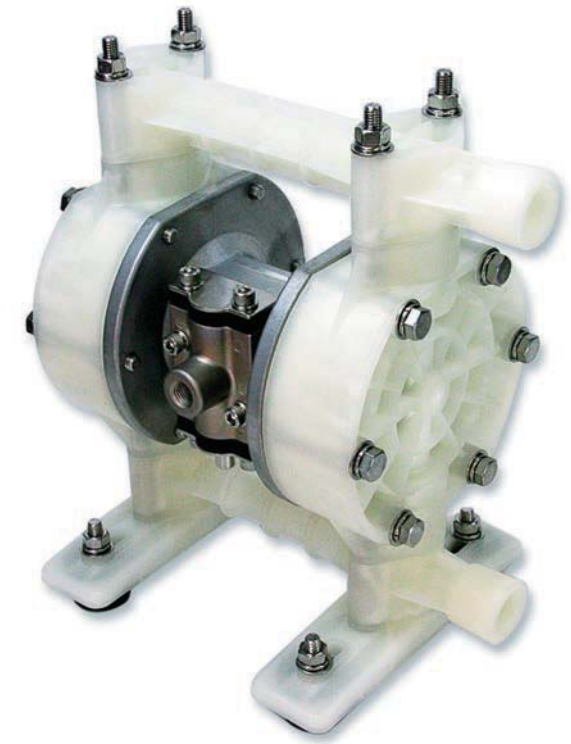
## Old style 1/2" pump series available in PPG & POM.

Metallic Air Motor. Spring-Less Air Spool suited to frequent start stop, Dead Head & high back pressure type applications. Non-Lubricated design technology. External Silencer. Fully bolted body, torqued, leak & operation tested prior to shipment.

D150 Pump Series		
<b>Max Flow Rate:</b>	28 L/min.	
<b>Max Solids Size:</b>	Flat Valve = 0 mm.	Ball Valve = 1.0 mm.
<b>Max Air Inlet Pressure:</b>	0.2 ~ 0.7 Mpa	
<b>Description:</b>	Aluminium Air Motor, Spring-Less Air Spool, Flat or Ball Check Valves, Side Port Liquid Connections. External Silencer. Fully Bolted Body.	
<b>Liquid Connections:</b>	1/2" (15mm) Threaded Connections. (Side ports)	
<b>Wetted Body Materials:</b>	PPG, POM.	
<b>Diaphragm / Check Valve Materials:</b>	PTFE, TPO, TPEE, NBR, CR, EPDM.	
<b>Certification:</b>	CE.	ATEX. (Some models)
<b>Common Options &amp; Accessories:</b>	Filter Regulator. PTFE coated Air Section. NPT Liquid Connections. Air Side Service Kit.	



**D150D**



**D150P**

1/2" Air Powered Double Diaphragm Pumps  
 Max Flow Rate: 28 L/min  
 Material Options: PPG, POM,  
 Flat & Ball Check Valve Versions Available.

# D151 Series

## Diaphragm Pumps with 1/2" Connections



**D151A**

1/2" Air Powered Double Diaphragm Pumps  
 Max Flow Rate: 54 L/min  
 Material Options: PPG, PVDF, SUS, Aluminium, POM  
 Flat & Ball Check Valve Versions Available.

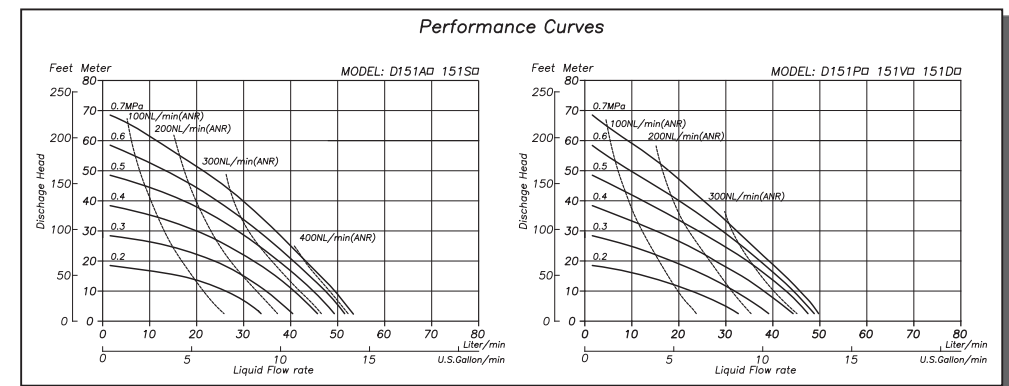


**D151V**

### Old style 1/2" pump series available in a full range of materials.

Ryton (PPS) Plastic Air Motor for increased chemical compatibility. C-Spool Air motor as standard. Non-Lubricated design technology. Internal Silencer. Fully bolted body, torqued, leak & operation tested prior to shipment.

D151 Pump Series	
<b>Max Flow Rate:</b>	54 L/min.
<b>Max Solids Size:</b>	Flat Valve = 0 mm. <span style="float: right;">Ball Valve = 1.0 mm.</span>
<b>Max Air Inlet Pressure:</b>	0.2 ~ 0.7 Mpa
<b>Description:</b>	Ryton Plastic Air Motor (PPS), C-Spring Air Spool, Flat or Ball Check Valves, Side Port Liquid Connections. Internal Silencer. Fully Bolted Body.
<b>Liquid Connections:</b>	1/2" (15mm) Threaded Connections. (Side ports)
<b>Wetted Body Materials:</b>	PPG, PVDF, SUS, Aluminium, POM.
<b>Diaphragm / Check Valve Materials:</b>	PTFE, TPO, TPEE, NBR, CR, EPDM.
<b>Certification:</b>	CE. <span style="float: right;">ATEX. (Some models)</span>
<b>Common Options &amp; Accessories:</b>	Filter Regulator. MP, Z, I, O, Liquid Connections. PTFE Check Valves. Liquid Pulsation Dampener. FDA Pumps. NPT Liquid Connections. Air Side Service Kit.



# D152 Series

Diaphragm Pumps with 1/2" Connections

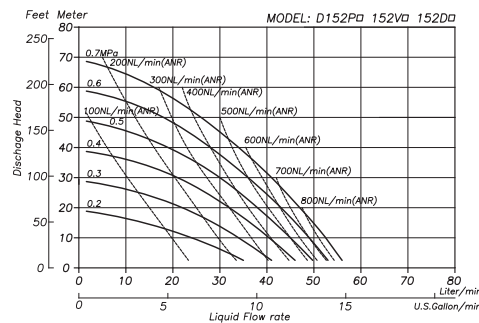
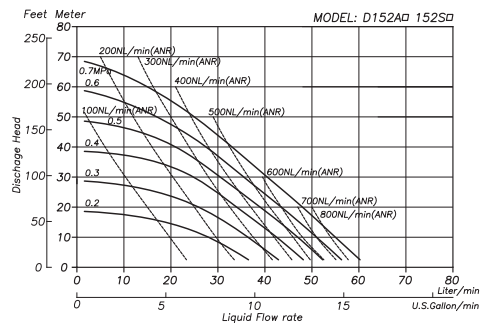


**New 1/2" high performance pump series available in a full range of materials including Pure Polypropylene & Conductive Polypropylene.**

PPG air motor for increased chemical resistance. New Looped C® Air Spool for increased performance, operation reliability & improved parts life expectancy. Non-Lubricated design technology. Very high flow rates, large solids size & improved air consumption. Internal Silencer. Fully bolted body, torqued, leak & operation tested prior to shipment. Multi-port connections with Drop-in dimensions and Multi-position footprint.

D152 Pump Series		
<b>Max Flow Rate:</b>	60 L/min.	
<b>Max Solids Size:</b>	Flat Valve = 0 mm.	Ball Valve = 2.0 mm.
<b>Max Air Inlet Pressure:</b>	0.2 ~ 0.7 Mpa	
<b>Description:</b>	Polypropylene Plastic Air Motor (PPG), Looped C® Spring Air Spool, Flat or Ball Check Valves, Multi Port Liquid Connections (as standard). Internal Silencer. Fully Bolted Body. Multi Footprint options.	
<b>Liquid Connections:</b>	1/2" (15mm) Threaded Connections PT (Multiport)	
<b>Wetted Body Materials:</b>	Pure PP, PVDF, SUS, Aluminium, POM, Conductive PP.	
<b>Diaphragm / Check Valve Materials:</b>	PTFE, TPO, FKM, TPEE, CR, EDPM, NBR.	
<b>Certification:</b>	CE.	ATEX. (Some Models) FDA. (Some Models)
<b>Common Options &amp; Accessories:</b>	Filter Regulator. SUS Check Valves, Guides & Seats. PTFE Check Valves. PC Air Motor. Liquid Pulsation Dampener. Rubber Feet Kit. FDA pumps. TPO Backup Diaphragms. NPT Liquid Connections. Drum pump. E Series Pump. Bolt Caps. Air Side Service Kit.	

Performance Curves



D152A



D152P-PP

1/2" Air Powered Double Diaphragm Pumps  
 Max Flow Rate: 60 L/min  
 Material Options: Pure PP, PVDF, SUS, Aluminium, POM, Conductive PP  
 Flat & Ball Check Valve Versions Available.

# D202 Series

## Diaphragm Pumps with 3/4" Connections



**D202P-FL**

3/4" Air Powered Double Diaphragm Pumps  
 Max Flow Rate: 120 L/min  
 Material Options: PPG, PVDF, SUS, Aluminium  
 Flange & Threaded Versions Available.



**D202S**

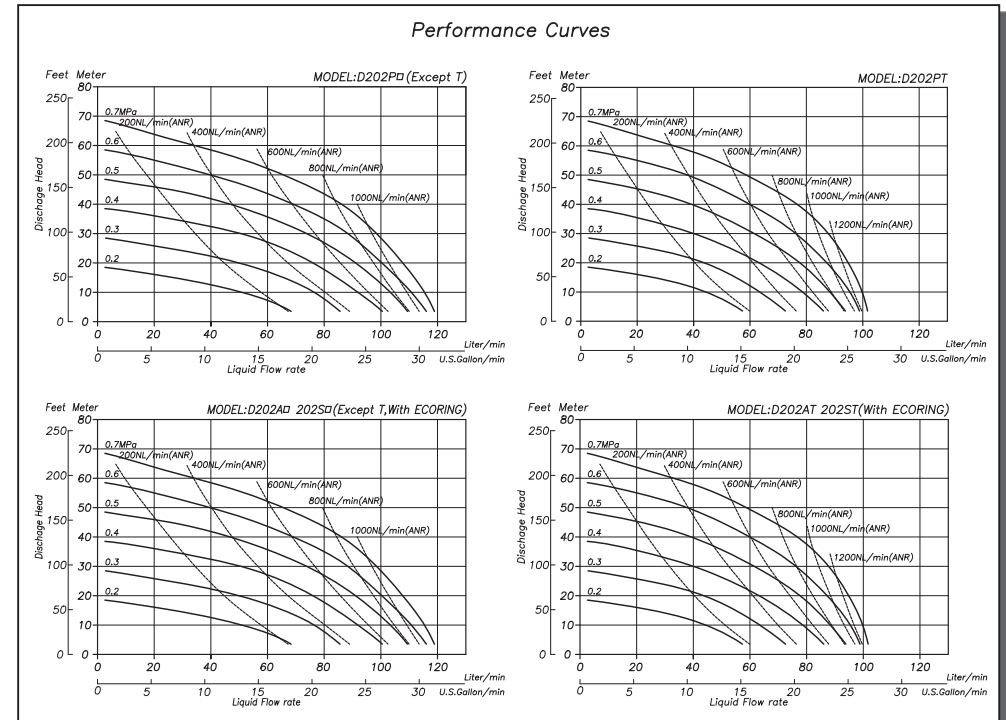
*New Improved Eco Ring Model !*



**New redesigned 3/4" pump series available in a full range of materials.**

Choice of either PPG Plastic or an optional Aluminium air motor. New Looped C® Air Spool for increased performance, operation reliability & improved parts life expectancy. New 3/4" high performance Metallic pumps with high flow rates, large solids size & lowered air consumption utilizing the new Eco-Ring & High Flow Ball Guides. Non-Lubricated design technology. External Silencer, Fully bolted body, torqued, leak & operation tested prior to shipment. Drop-in dimensions and footprint.

D202 Pump Series		
<b>Max Flow Rate:</b>	120 L/min.	
<b>Max Solids Size:</b>	Plastic = 2.0 mm.	Metal = 6.5 mm.
<b>Max Air Inlet Pressure:</b>	0.2 ~ 0.7 Mpa	
<b>Description:</b>	Polypropylene Plastic Air Motor (PPG), Looped C® Spring Air Spool, Ball Check Valves, Side Port Liquid Connections. External Silencer. Fully Bolted Body. EcoRing & High Flow Ball Valves on Metallic pumps.	
<b>Liquid Connections:</b>	Plastic = 3/4" (20mm) Flange or Threaded Connections. (Side Port) Metal = 3/4" (20mm) Threaded Connections PT. (Centre Port)	
<b>Wetted Body Materials:</b>	PPG, PVDF, SUS, Aluminium.	
<b>Diaphragm / Check Valve Materials:</b>	PTFE, TPO, FKM, EPDM, TPEE, CR, NBR.	
<b>Certification:</b>	CE.	ATEX. (Some Models) FDA. (Some Models)
<b>Common Options &amp; Accessories:</b>	MT Metallic Air Motor. Filter Regulator. PTFE Check Valves. U. J. PC Air Motor. Santoprene Backup Diaphragms. ONE-UP® Diaphragms. Abrasion Pads. Electro Polished SUS. E-Series. Drum Pump. NPT/ANSI liquid Connections. Air Side Service Kit.	



# D252 Series

Diaphragm Pumps with 1" Connections

Newly redesigned 1" Plastic Pump Series available in PPG & PVDF.

PPG Air Motor. New Looped C® Air Spool for increased performance, operation reliability & improved parts life expectancy. Non-Lubricated design technology. Lowered air consumption utilizing the new Eco-Ring. External Silencer. Fully bolted body, torqued, leak & operation tested prior to shipment. Drop-in dimensions and new Multi-position footprint.

New Improved Eco Ring Model!



D252 Pump Series	
<b>Max Flow Rate:</b>	170 L/min.
<b>Max Solids Size:</b>	4.8 mm.
<b>Max Air Inlet Pressure:</b>	0.2 ~ 0.7 Mpa
<b>Description:</b>	Polypropylene Plastic Air Motor (PPG), Looped C® Spring Air Spool, Ball Check Valves, Side Port Liquid Connections. External Silencer. Fully Bolted Body. Multi Footprint Design. Eco Ring Model.
<b>Liquid Connections:</b>	1" (25mm) Flange or Threaded Connections. (Side Ports)
<b>Wetted Body Materials:</b>	PPG, PVDF, Conductive PP.
<b>Diaphragm / Check Valve Materials:</b>	PTFE, EPDM, TPEE, FKM, TPO, NBR, CR.
<b>Certification:</b>	CE. <span style="margin-left: 100px;">ATEX. (Some Models)</span>
<b>Common Options &amp; Accessories:</b>	Filter Regulator. PTFE Check Valves. U, J. Santoprene Backup Diaphragms. ONE-UP® Diaphragms. PC Air Motor. Liquid Pulsation Dampener. E-Series Pumps. NPT/ ANSI Liquid Connections. Bolt Caps. Air Side Service Kit.



**D252V**

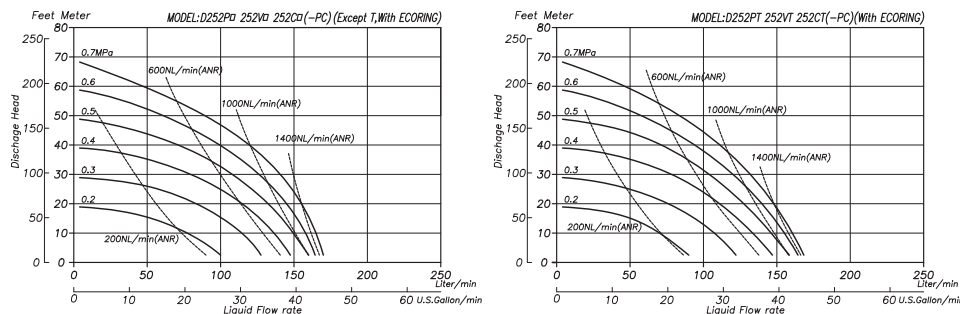
Optional Threaded Connections



**D252P-FL**

1" Air Powered Double Diaphragm Pumps  
 Max Flow Rate: 170 L/min  
 Material Options: PPG, PVDF, Conductive PP  
 Flange & Threaded Versions Available.

Performance Curves



# D253 Series

## Diaphragm Pumps with 1" Connections

**New Improved Eco Ring Model!**



**D253A**

1" Air Powered Double Diaphragm Pumps  
 Max Flow Rate: 220 L/min  
 Material Options: SUS, Aluminium, Cast Iron.

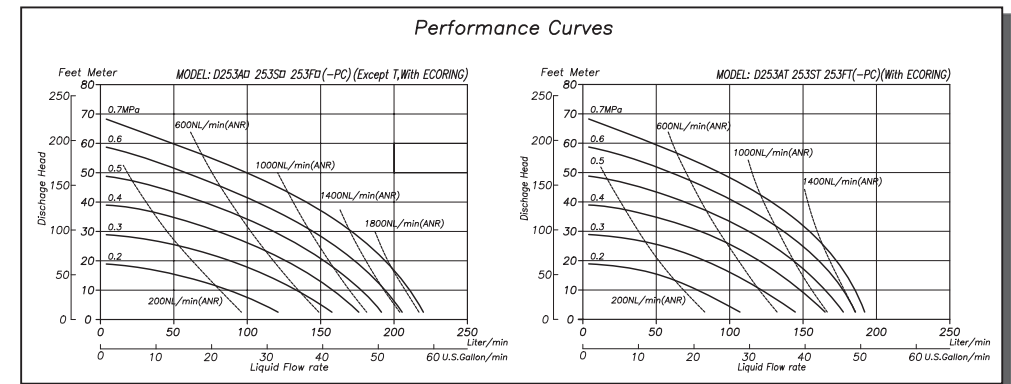


**D253S**

**New 1" high performance Metallic pump series available in Aluminium, Stainless steel, and Cast iron.**

Choice of either PPG plastic or an optional Aluminium Air Motor. New Looped C<sup>®</sup> Air Spool for increased performance, operation reliability & improved parts life expectancy. Non-Lubricated design technology. Very high flow rates, large solids size & lowered air consumption utilizing the new Eco-Ring & High Flow Ball Guides. External Silencer. Multi-port connections. Drop-in dimensions with an adjustable 9 position Multi-footprint. Fully bolted body, torqued, leak & operation tested prior to shipment.

D253 Pump Series		
<b>Max Flow Rate:</b>	220 L/min.	
<b>Max Solids Size:</b>	6.5 mm.	
<b>Max Air Inlet Pressure:</b>	0.2 ~ 0.7 Mpa	
<b>Description:</b>	Polypropylene Plastic Air Motor (PPG), Looped C <sup>®</sup> Spring Air Spool, High Flow Ball Check Valves, Multi Port Liquid Connections. External Silencer. Fully Bolted Body. New Multi Footprint Design. Eco Ring <sup>®</sup> Model.	
<b>Liquid Connections:</b>	1" (25mm) Threaded Connections. (Multiport)	
<b>Wetted Body Materials:</b>	SUS, Aluminium, Cast Iron.	
<b>Diaphragm / Check Valve Materials:</b>	PTFE, EPDM, TPEE, FKM, TPO, CR, NBR.	
<b>Certification:</b>	CE.	ATEX. (Some Models) FDA. (Some Models)
<b>Common Options &amp; Accessories:</b>	MT Metallic Air Motor. Filter Regulator. 1¼" & 1½" Centre Ports. SP-25 drop-in model. SP-32 drop-in model. Rubber Feet Kit. SUS Check Valves & Seats. PTFE Check Valves. High Spec SUS Guides. Santoprene Backup Diaphragms. ONE-UP <sup>®</sup> Diaphragms. Abrasion Pads. PC Air Motor. Electro Polished SUS. Liquid Pulsation Dampener. E. Drum, FDA, High Pressure, Powder pump Models. NPT Liquid Connections. Air Side Service Kit.	





# D400 Plastic Series

## Diaphragm Pumps with 1 1/2" Connections

### New 1 1/2" high performance Plastic pump series available in PPG & PVDF.

Metallic Air Motor. New Coil-Spring Mechanical Air Spool designed for high performance operation, improved reliability & longer parts life expectancy. Non-Lubricated design technology. Able to achieve high flow rates & can easily handle High Heads, very Long Discharge Lines and Dead Head type processes. Improved air consumption. External Silencers (2). New Heavy Duty SUS Foot Assembly. Drop-in dimensions and common footprint. Fully bolted body, torqued, leak & operation tested prior to shipment.

Mechanical Coil Spring Spool

D400 Plastic Pump Series	
<b>Max Flow Rate:</b>	380 L/min.
<b>Max Solids Size:</b>	7.0 mm.
<b>Max Air Inlet Pressure:</b>	0.15 ~ 0.7 Mpa
<b>Description:</b>	Aluminium Air Motor Section, Mechanical Coil-Spring Air Motor, Ball Check Valves, External Silencers (2). Fully Bolted Body. Heavy Duty SUS Legs. Multi Footprint.
<b>Liquid Connections:</b>	1 1/2" (40mm) Flange Connections. (Centre ports)
<b>Wetted Body Materials:</b>	PPG, PVDF.
<b>Diaphragm / Check Valve Materials:</b>	PTFE, CR, EPDM, NBR, TPEE, FKM, TPO.
<b>Certification:</b>	CE. <span style="margin-left: 100px;">ATEX. (Some Models)</span>
<b>Common Options &amp; Accessories:</b>	Filter Regulator. PTFE Coated Air Motor. Santoprene Backup Diaphragms. ONE-UP® Diaphragms. High Performance Muffler. Destroke. Carry Handles. Air motor Service Kit.



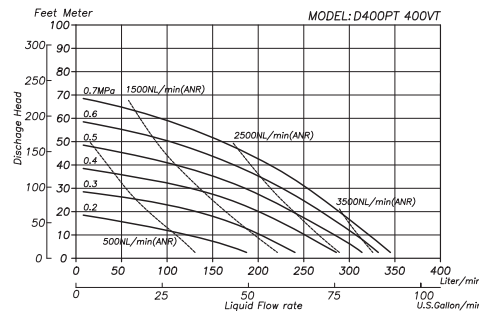
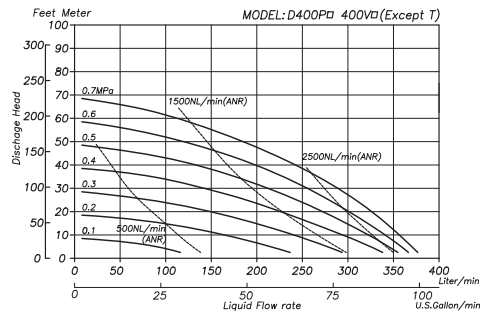
**D400V-FL**



**D400P-FL**

1 1/2" Air Powered Double Diaphragm Pumps  
 Max Flow Rate: 380 L/min  
 Material Options: PPG, PVDF.

### Performance Curves



# D500 Plastic Series

## Diaphragm Pumps with 2" Connections

Mechanical Coil Spring Spool



**D500P-FL**

2" Air Powered Double Diaphragm Pumps  
 Max Flow Rate: 620 L/min  
 Material Options: PPG, PVDF.



**D500V-FL**

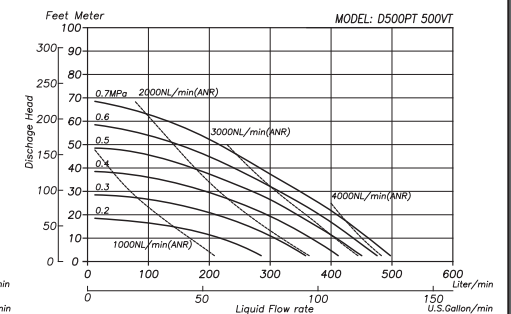
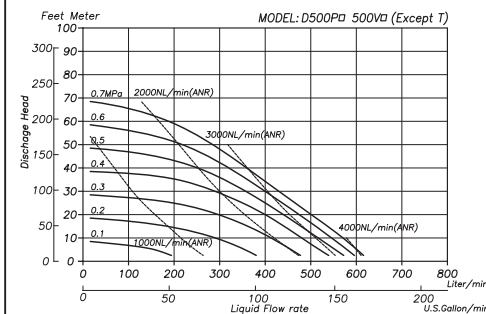
## New 2" high performance Plastic pump series available in PPG and PVDF.

Metallic Air Motor. New Coil-Spring Mechanical Air Spool designed for high performance operation, improved reliability & longer parts life expectancy. Non-Lubricated design technology. Able to achieve very high flow rates & can easily handle High Heads, very Long Discharge Lines and Dead Head type processes. Improved air consumption. External Silencers (2). New Heavy Duty SUS Foot Assembly. Drop-in dimensions and common footprint. Fully bolted body, torqued, leak & operation tested prior to shipment.

### D500 Plastic Pump Series

<b>Max Flow Rate:</b>	620 L/min.	
<b>Max Solids Size:</b>	8.0 mm.	
<b>Max Air Inlet Pressure:</b>	0.15 ~ 0.7 Mpa	
<b>Description:</b>	Aluminium Air Motor Section, Mechanical Coil-Spring Air Motor, Ball Check Valves, External Silencers (2). Fully Bolted Body. Heavy Duty SUS Legs. Multi Footprint.	
<b>Liquid Connections:</b>	2" (50mm) Flange Connections. (Centre Ports)	
<b>Wetted Body Materials:</b>	PPG, PVDF.	
<b>Diaphragm / Check Valve Materials:</b>	PTFE, CR, EPDM, NBR, TPEE, FKM, TPO.	
<b>Certification:</b>	CE.	ATEX. (Some Models)
<b>Common Options &amp; Accessories:</b>	Filter Regulator. PTFE Coated Air Motor. Santoprene Backup Diaphragms. HB Conductive PTFE Diaphragms. ONE-UP® Diaphragms. Liquid Pulsation Dampener. High Performance Muffler. Destroke. Carry Handles. Air Motor Service Kit.	

### Performance Curves



# D500 Metallic Series

## Diaphragm Pumps with 2" Connections

**New 2" high performance Metallic pump series available in Aluminium, Stainless steel and Cast iron.**

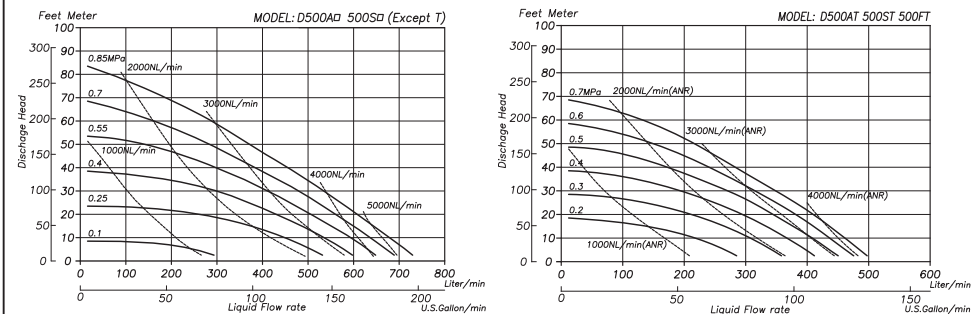
Metallic air motor. New Coil-Spring Mechanical Air Spool designed for high performance operation, improved reliability & longer parts life expectancy. Non-Lubricated design technology. Able to achieve very high flow rates & can easily handle High Heads, very Long Discharge Lines and Dead Head type processes. Improved air consumption. External Silencers (2). Compact heavy duty construction with Drop-in dimensions and common footprint. Fully bolted body, torqued, leak & operation tested prior to shipment.

Mechanical Coil Spring Spool

### D500 Metallic Pump Series

<b>Max Flow Rate:</b>	730 L/min.		
<b>Max Solids Size:</b>	8.0 mm.		
<b>Max Air Inlet Pressure:</b>	0.1 ~ 0.85 Mpa		
<b>Description:</b>	Aluminium Air Motor Section, Mechanical Coil-Spring Air Motor, Ball Check Valves, External Silencers (2). Fully Bolted Body. Compact heavy duty with Multi Footprint.		
<b>Liquid Connections:</b>	2" (50mm) Threaded or Flange Connections. (Centre Ports)		
<b>Wetted Body Materials:</b>	SUS, Aluminium, Cast Iron.		
<b>Diaphragm / Check Valve Materials:</b>	PTFE, CR, EPDM, NBR. TPEE, FKM, TPO.		
<b>Certification:</b>	CE.	ATEX. (Some Models)	FDA. (Some Models)
<b>Common Options &amp; Accessories:</b>	Filter Regulator. SP-40 Drop-in pump with 1 1/2" connections. SP-50 drop-in pump. Santoprene Backup Diaphragms. Conductive PTFE Diaphragms. ONE-UP® Diaphragms. Abrasion Pads. SUS Parabolic Guides. SUS Check valves & Seats. PTFE Coated Air Motor. Liquid Pulsation Dampener. Electro Polished SUS. Powder pump. High pressure pump. FDA pump. Air Motor Service Kit.		

Performance Curves



**D500S-FL**



**D500A-FL**

2" Air Powered Double Diaphragm Pumps  
 Max Flow Rate: 730 L/min  
 Material Options: SUS, Aluminium, Cast Iron.

# D800 Plastic Series

## Diaphragm Pumps with 3" Connections

Mechanical Coil Spring Spool



### D800P-FL

3" Air Powered Double Diaphragm Pumps  
 Max Flow Rate: 760 L/min  
 Material Options: PPG.

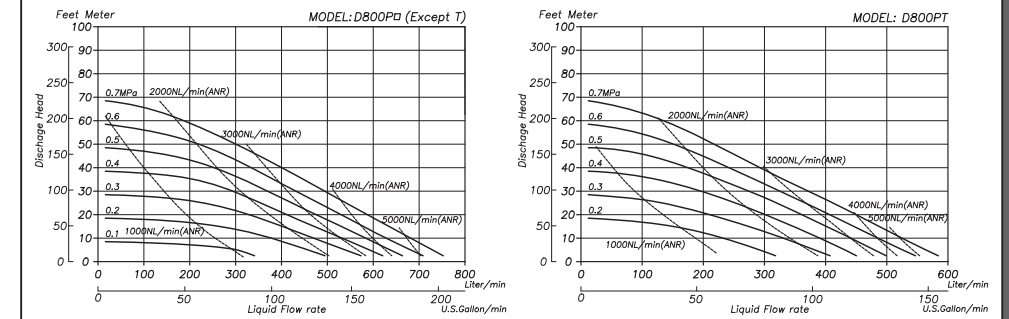
## New 3" high performance Plastic pump series available in PPG.

Metallic air motor. New Coil-Spring Mechanical Air Spool designed for high performance operation, improved reliability & longer parts life expectancy. Non-Lubricated design technology. Able to achieve high flow rates & can easily handle High Heads, very Long Discharge Lines and Dead Head type processes. Improved air consumption. External Silencers (2). New Heavy Duty SUS Foot Assembly. Drop-in dimensions and common footprint. Fully bolted body, torqued, leak & operation tested prior to shipment.

### D800 Plastic Pump Series

<b>Max Flow Rate:</b>	760 L/min.
<b>Max Solids Size:</b>	10.0 mm.
<b>Max Air Inlet Pressure:</b>	0.15 ~ 0.7 Mpa
<b>Description:</b>	Aluminium Air Motor Section, Mechanical Coil-Spring Air Motor, Ball Check Valves, External Silencers (2). Fully Bolted Body. Heavy Duty SUS Legs. Multi Footprint.
<b>Liquid Connections:</b>	3" (80mm) Flange Connections. (Centre Ports)
<b>Wetted Body Materials:</b>	PPG.
<b>Diaphragm / Check Valve Materials:</b>	PTFE, CR, EPDM, NBR. TPEE, FKM, TPO.
<b>Certification:</b>	CE.
<b>Common Options &amp; Accessories:</b>	Filter Regulator. PTFE Coated Air Motor. Santoprene Backup Diaphragms. HB Conductive PTFE Diaphragms. ONE-UP® Diaphragms. Liquid Pulsation Dampener. High Performance Muffler. Destroke. Carry Handles. Air Motor Service kit.

### Performance Curves



# D800 Metallic Series

## Diaphragm Pumps with 3" Connections

**New 3" high performance Metallic pump series available in Aluminium, Stainless steel and Cast iron.**

Metallic air motor. New Coil-Spring Mechanical Air Spool designed for high performance operation, improved reliability & longer parts life expectancy. Non-Lubricated design technology. Able to achieve high flow rates & can easily handle High Heads, very Long Discharge Lines and Dead Head type processes. Improved air consumption. External Silencers (2). Compact heavy duty construction with Drop-in dimensions and common footprint. Fully bolted body, torqued, leak & operation tested prior to shipment.

Mechanical Coil Spring Spool

D800 Metallic Pump Series		
<b>Max Flow Rate:</b>	800 L/min.	
<b>Max Solids Size:</b>	10.0 mm.	
<b>Max Air Inlet Pressure:</b>	0.1 ~ 0.85 Mpa	
<b>Description:</b>	Aluminium Air Motor Section, Mechanical Coil-Spring Air Motor, Ball Check Valves, External Silencers (2). Fully Bolted Body. Compact, heavy duty with Multi Footprint.	
<b>Liquid Connections:</b>	3" (80mm) Threaded or Flange Connections. (Centre Ports)	
<b>Wetted Body Materials:</b>	SUS, Aluminium, Cast Iron.	
<b>Diaphragm / Check Valve Materials:</b>	PTFE, CR, EPDM, NBR, TPEE, FKM, TPO.	
<b>Certification:</b>	CE.	ATEX. (Some Models) FDA. (Some Models)
<b>Common Options &amp; Accessories:</b>	Filter Regulator. SP-80 Drop in pump. Santoprene Backup Diaphragms. Conductive PTFE Diaphragms. ONE-UP® Diaphragms. Abrasion Pads. SUS Parabolic Guides. SUS Check Valves & Seats. PTFE Coated Air Motor. Electro Polished SUS. Powder pump. High Pressure Pump. FDA pump. Air Motor Service Kit.	

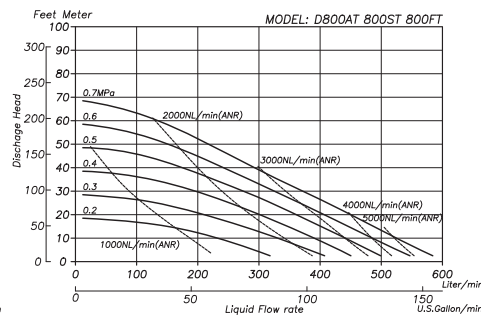
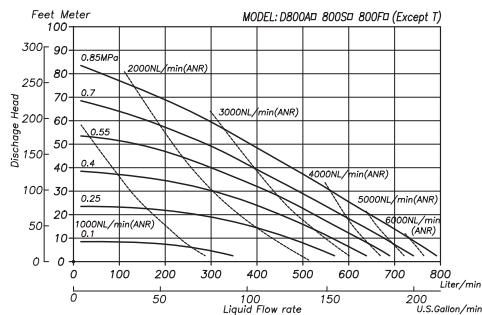


**D800F-FL**



**D800A-FL**

### Performance Curves



3" Air Powered Double Diaphragm Pumps  
 Max Flow Rate: 800 L/min  
 Material Options: SUS, Aluminium, Cast Iron.

# DFS Series

## Standard PTFE Double Diaphragm Pumps

6mm (1/4"), 15mm (1/2"), 20mm (3/4"), 25mm (1") Port Connections



**DFS152TT-FL**



**DFS050TT**



**DFS253TT-FL**

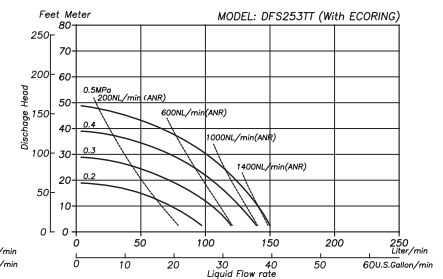
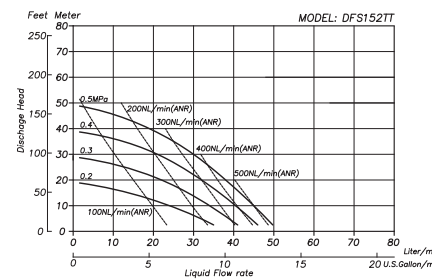
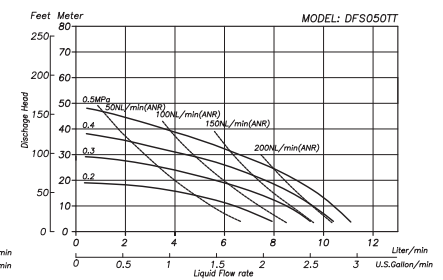
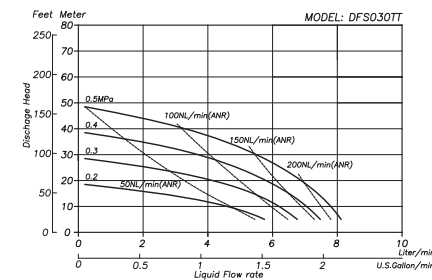
## Standard Grade PTFE pumps available in 5 sizes with a wide range of options and accessories.

Specifically designed to transfer highly corrosive chemicals and for use in some Clean Room type chemical transfer processes such as in the manufacture of microelectronic components, solar panels and for some Semiconductor related applications. Totally Non-lubricated technology. Fully Bolted and torqued pumps with inbuilt design features to resist material creep and reduced chance of leaks forming over time.

### Standard Grade PTFE Pump Models

Model Code:	DFS030TT	DFS050TT	DFS152TT DFS152TT-FL	DFS152TT-SP20 DFS152TT-SP20-FL	DFS253TT DFS253TT-FL
<b>Max Flow Rate:</b>	8.2 L/min.	11.0 L/min.	50 L/min.	50 L/min.	150 L/min.
<b>Connection Size:</b>	¼" (6mm)	¼" (6mm)	½" (15mm)	¾" (20mm)	1" (25mm)
<b>Connection Type:</b>	Threaded	Threaded	Thread or Flange	Thread or Flange	Thread or Flange
<b>Check Valves:</b>	Flat Valve	Flat Valve	Ball Valve	Ball Valve	Ball Valve
<b>Max Slurry Solids Size:</b>	0 mm.	0 mm.	2 mm.	2 mm.	3 mm.
<b>Air Pressure Range:</b>	0.2 ~ 0.5 MPa				
<b>Description:</b>	PTFE Diaphragm Pumps available in 5 sizes with high flow rates designed to transfer highly corrosive chemicals or for use in various types of clean industries. Grease or oil lubrication not required.				
<b>Wetted Body Materials:</b>	PTFE				
<b>Diaphragm / Valve Materials:</b>	PTFE on all Models				
<b>Certification:</b>	CE.				
<b>Specialized Options &amp; Accessories:</b>	Filter Regulator. Flaretek® connections. Leak Sensor. High performance muffler. NPT/ANSI connections. Automatic Spool reset switch. High performance Spring retainers. Stroke counter. PTFE Coated Tie-rods. PTFE coated SUS reinforcement Plate. Pulsation Dampener. <b>H Series</b> High temperature model for Liquid temperatures up to 150°C. <b>E-Series</b> Electric Solenoid Controlled Pumps with Proximity Sensor. Optional Clean room assembly.				

### Performance Curves



# DFH Series

## High Purity PTFE Diaphragm Pumps

6mm (1/4" ), 10mm (3/8" ), 20mm (3/4" ), 25mm (1" ),  
40mm (1" ) Port Connections



High Purity PTFE Pump Models						
Model Code:	DFH030TTD	DFH050TTD	DFH100TTD DFH100TTD-FL	DFH200TTD DFH200TTD-FL	DFH250TTD-FL	DFH400TTD-FL
<b>Max Flow Rate:</b>	8.2 L/min.	11.0 L/min.	27 L/min.	54 L/min.	65 L/min.	95 L/min.
<b>Connection Size:</b>	1/4" (6mm)	1/4" (6mm)	3/8" (10mm)	3/4" (20mm)	1" (25mm)	1" (25mm)
<b>Connection Type:</b>	Threaded	Threaded	Thread or Flange	Thread or Flange	Flange	Flange
<b>Check Valves:</b>	Flat	Flat	Ball or Flat	Ball or Flat	Ball or Flat	Ball or Flat
<b>Max Slurry Solids Size:</b>	0 mm.	0 mm.	1 mm.	3mm (Ball valve)	3mm (Ball valve)	3mm (Ball valve)
<b>Air Pressure Range:</b>	0.2 ~ 0.5 MPa				0.2 ~ 0.7 MPa	
<b>Description:</b>	High Purity Virgin PTFE Diaphragm Pumps manufactured specifically for use in the Micro-Electronics and Semiconductor Industries. Available in 6 sizes. Class 1000 Clean Room Assembled Tested & Packed. Available with Threaded & Flange Liquid Connections & Ball & Flat Check Valves on some models.					
<b>Wetted Body Material:</b>	High Purity PTFE					
<b>Diaphragm / Valve Materials:</b>	PTFE on all Models					
<b>Certification:</b>	CE.					
<b>Specialized Options &amp; Accessories:</b>	DFH Series pumps are available with a comprehensive list of specialized options and accessories.					



DFH050TTD

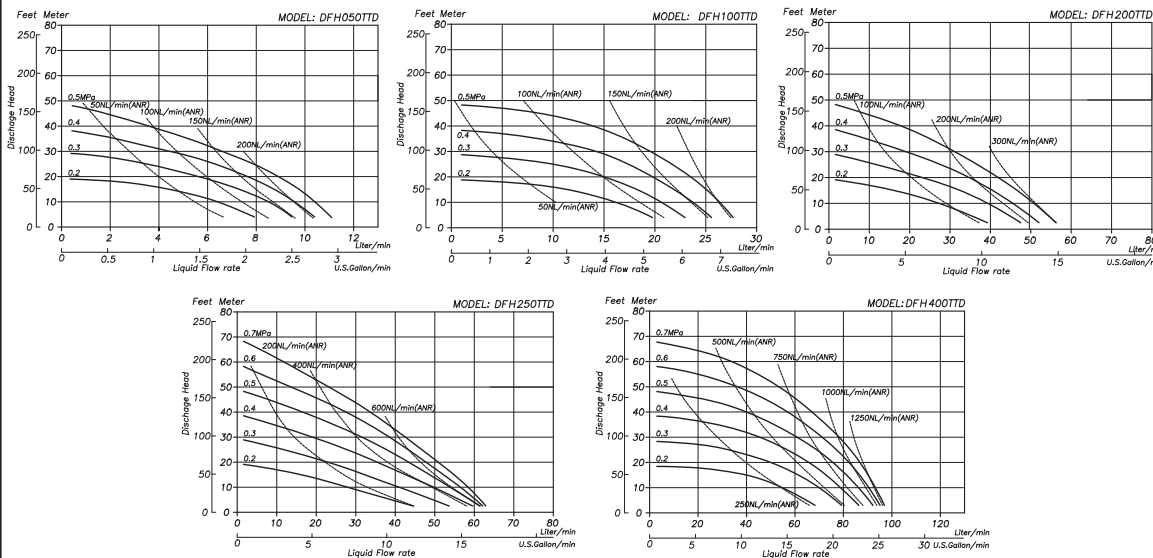


DFH100TTD-FL



DFH400TTD-FL

### Performance Curves



High purity virgin PTFE pumps available in 6 sizes with a wide range of specialized options and accessories.

Specifically designed to transfer highly corrosive chemicals, including slurries in Clean Room type chemical transfer processes for the manufacture of electronic components, solar panels and also for the manufacture of Semiconductors. Newly improved pump design with Reduced Air Consumption & Incorporating the New Looped C<sup>®</sup> Air Motor for increased reliability and extended Parts Life. Drop-In body dimensions and footprint. Fully bolted and torqued pumps with inbuilt design features to resist material creep and reduced chance of leaks forming over time. Totally Non-lubricated technology. Designed to insure Low Particle Counts and Reduced Chance of Metallic Ion Contamination within a process. Class 100 clean room manufactured, packed and double bagged.

# Special pumps

## Drum pumps

**Drum pumps available in a wide range of sizes and materials suitable for pumping directly from 200 litre Barrels.**

For the safe clean and efficient transfer of almost any kind of liquid including; corrosive chemicals, oils, lubricants, waste liquids, solvents and fuels even in explosive environments.



### **D050S□-D**

1/4" Air powered Diaphragm Drum pumps  
Max flow rate: 11.5 L/min  
Material options: Pure PP, Aluminium, SUS, PVDF, POM.



### **D253S□-D**

1" Air Powered Double Diaphragm Drum Pumps  
Max flow rate: 220 L/min  
Material options: SUS, Aluminium, Cast Iron.

## FDA pumps

**FDA Pumps for Food, Beverage, and Pharmaceutical & Cosmetic applications where 3A, USDA or EHEDG standards are not required.**

Manufactured from FDA compliant materials. 316 stainless steel housings Electro polished inside and out. Oversized sanitary Tri clamp type fittings.



### **D253ST-FDA**

1" Air Powered Double Diaphragm Pump  
FDA model with polished SUS & sanitary fittings.  
Max flow rate: 220 L/min



# E Series Electrically Controlled Pumps

**E Series Pumps are used in critical process type applications and can be fully integrated into control systems and process machinery.**

Can be used for metering, batching, or cycle speed control and can also be connected to warning devices to monitor pump stroke rate or pump stoppages etc. E Series Pumps have extremely high start stop reliability and accurate liquid flow rates. They ensure increased life expectancy of the pumps moving parts, lower air consumption and generally lower maintenance requirements overall.



**D400P-FL-E**

1½" Air Powered Double Diaphragm Pump  
Electric Type pump with integrate electric proximity sensors.

# Conductive Polypropylene pumps

**Electrically Conductive Polypropylene Pumps used for the safe transfer of flammable chemicals or for use in explosive environments.**

Carbon filled PP is used to manufacture all major body components including both the Liquid and Air Side. Available with ½" & 1" Connections. High Chemical Resistance. Fully Bolted Design with inbuilt design features to resist material creep and reducing the chance of leaks forming over time.



**D252C**

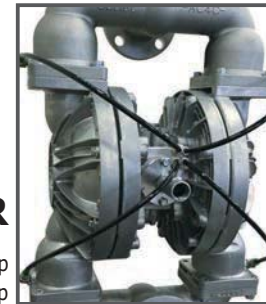
1" Air Powered Double Diaphragm Pump  
Carbon filled conductive Polypropylene.



# Powder pumps

**Powder transfer pumps specifically designed to transfer very fine bulk & dry powder effectively throughout a process and help create a dust free environment.**

Are a cost effective replacement for Augers and Conveyors and eliminate unsafe and labour intensive means of moving bulk powders. Powder must be completely dry and typically free flowing.



## **D500S□-PDR**

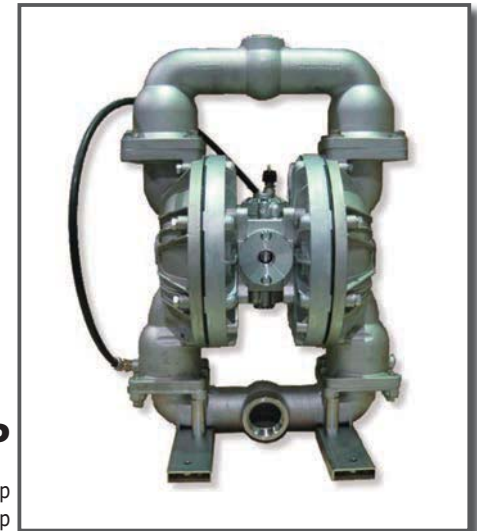
2" Air Powered Double Diaphragm Pump  
Dry Powder Transfer Pump



# High pressure pumps

**High pressure pumps for applications where high liquid discharge pressures are required to overcome system requirements.**

Pressure output is roughly doubled however the flow rate is roughly halved. Often utilized in filter press type applications and can easily handle High Heads, very Long Discharge Lines and Dead Head type processes.



## **D500S□-HP**

2" Air Powered Double Diaphragm Pump  
High Pressure Pump

# Accessories

## Liquid Pulsation Dampeners

A comprehensive range of high Performance Liquid Pulsation Dampeners in various sizes and Materials. Reduce Liquid Pulsation by up to 95%.



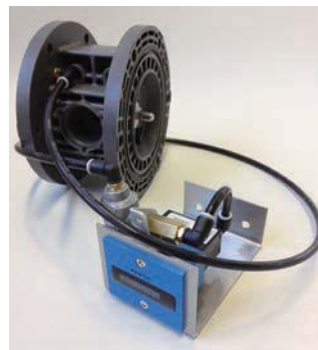
## Air Filter Regulators

Built in moisture and particulate removal of up to 5 micron. Analogue type pressure gauge with locking function. Manual drain system. Provides optimal pump control and helps improve compressed air efficiency.



## Stroke Counter

Pneumatic actuated mechanical stroke counter. Non electrical. Fitted to the pump via an air hose. Used for measuring stroke life of pump or diaphragms. Can be used to measure and calculate liquid volume over time.



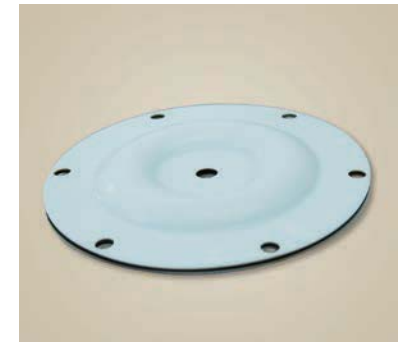
## Tools

A full Range of Spare Parts and Service Kits are available for all models as well as a large range of specialty tools.



## Specialty Diaphragms

Optional Back up and a full range of Specialty diaphragms are available in various materials and configurations.



## Spare Parts & Pump Service Kits

A full Range of Spare Parts and Pump Service Kits are available for all new and old model pumps.





**Notes:**

Products & specifications contained within this catalogue may be changed without notice. Pumps listed are available in various and materials. For each application please take extreme care with pump choice and always consider factors such as chemical compatibility, solids size, abrasion resistance, temperature of the liquid, temperature of the surrounding atmosphere, airline or liquid line pressure etc. Always refer to MSDS and chemical compatibility charts or for more information about chemical compatibility. For more information on choosing the correct pump, please consult with your distributor or contact YTS directly. Note that products contained may be subject to international trade restrictions or embargoes and may require an export permit from the Japan Ministry of Economy and Industry (METI) prior to dispatch. For more information regarding international export control regulations please contact your distributor or YTS directly. For information regarding re-export please contact your local authorities directly. For information regarding CE & ATEX refer to the CE and ATEX certification available separately. Countries where YTS patents were applied : Japan, China, Korea, USA, Italy, Denmark, France, Germany, Netherlands, Sweden, and England.

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