AlphaDynamic PUMPS

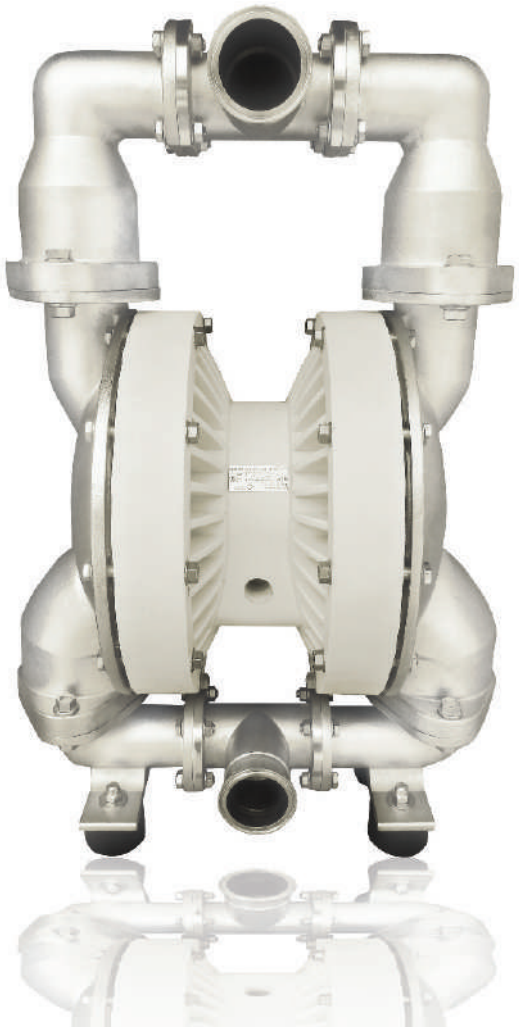
We Make The Difference

FDA APPROVED

TÜV NORD ISO 9001

5 YEARS LIMITED WARRANTY

II 2G Ex h IIB T4 Gb
II 2D Ex h IIIB T135°C Db
Baseefa15ATEX13DR/RN3



Ruby
STRONG QUALITY INDUSTRIAL PUMP

Ruby Air Operated Diaphragm Pumps

www.alphadynamic.eu

Ruby Air Operated Diaphragm pumps



RUBY Air operated diaphragm pneumatic pumps are manufactured under FDA requirements. All materials in contact with the liquid comply to FDA regulations.

The whole range is in AISI 316 electro polished according to the International Provision ASTM A380.

Additionally, PTFE and EPDM diaphragms are of new technology (Compound) with integrated piston.

New pump line with updated design that offers reinforced pumping potentials, meaning bigger performance without decreasing the efficiency in pressure. And all this, combined with real economy.

Ruby Pumps composition codes

Type	Pump body	Center block	Diaphragms	Valve Seats	Balls	O-ring	Other option
Ruby 015	**S:** AISI 316 electropolished	**W:** PP WHITE	**E:** EPDM Conductive	**T:** PTFE	**T:** PTFE	**T:** PTFE	**C:** Tri Clamp
Ruby 025		**AN:** Alu Nickel Plated	**T:** TFM+(EPDM Conductive)	**V:** PVDF	**S:** AISI 316		
Ruby 040		**A:** Aluminum	**Z:** TFM-A+(EPDM Conductive)	**S:** AISI 316			
Ruby 050							
Ruby 080							

FDA APPROVED

II 2G Ex h IIB T4 Gb
II 2D Ex h IIIB T135°C Db
Baseefa15ATEX13DR/RN3

5 YEARS LIMITED WARRANTY

Main features



Available in AISI 316 Stainless steel electropolished

Benefits

- New generation EPDM diaphragms with embodied inner-outer piston FDA Approved
- New generation PTFE diaphragms of embodied type for long-life operation (compound) FDA Approved
- Advanced quality Full capacity PTFE-A diaphragms FDA Approved
- New air valve designing, fully controled air passing
- No freezing
- High efficiency for pressure/capacity
- Optimal performance
- Economical air consumption, ecological designing
- Oil free operation
- Easy disassembling and re-assembling
- Automatic suction

How it works

The Ruby diaphragm pump is an air-operated, positive displacement, self-priming pump. These drawings show flow pattern through the pump upon it's initial stroke. It is assumed the pump has no fluid in it, prior to it's initial stroke

RIGHT STROKE

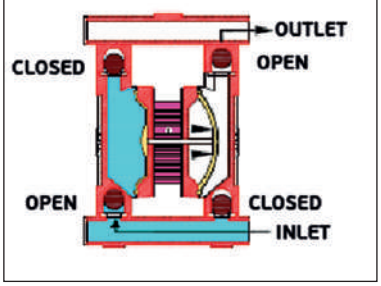


FIGURE 1 The air valve directs pressurized air to the back side of diaphragm A. The compressed air is applied directly to the liquid column separated by elastomeric diaphragms. The diaphragm acts as a separation membrane between the compressed air and liquid, balancing the load and removing mechanical stress from the diaphragm. The compressed air moves the diaphragm away from the center block of the pump. The opposite diaphragm is pulled in by the shaft connected to the pressurized diaphragm. Diaphragm B is on it's suction stroke; air behind the diaphragm has been forced out to the atmosphere through the exhaust port of the pump. The movement of diaphragm B toward the center block of the pump creates a vaccuum within chamber B. Atmospheric pressure forces fluid into the inlet manifold forcing the inlet valve ball off its seat. Liquid is free to move past the inlet valve ball and fill the liquid chamber (see shaded area).

MID STROKE

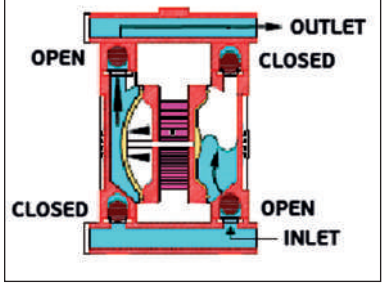


FIGURE 2 When the pressurized diaphragm, diaphragm A, reaches the limit of it's discharge stroke, the air valve redirects pressurized air to the back side of diaphragm B. The pressurized air forces diaphragm B away from the center block while pulling diaphragm A to the center block. Diaphragm B is now on its discharge stroke. Diaphragm B forces the inlet valve ball onto its seat due to the hydraulic forces developed in the liquid chamber and manifold of the pump. These same hydraulic forces lift the discharge valve ball off it's seat, while the opposite discharge valve ball is forced onto it's seat, forcing fluid to flow through the pump discharge. The movement of diaphragm A toward the center block of the pump creates a vaccuum within liquid chamber A. Atmospheric pressure forces fluid into the inlet manifold of the pump. The inlet valve ball is forced off it's seat allowing the fluid being pumped to fill the liquid chamber.

LEFT STROKE

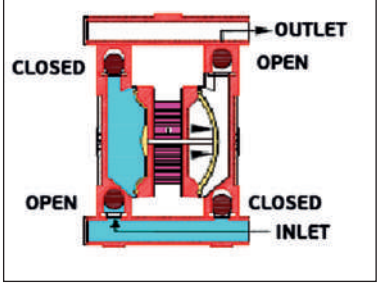


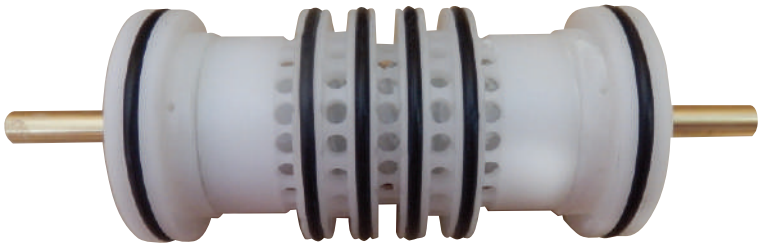
FIGURE 3 At completion of the stroke, the air valve again redirects air to the back side of diaphragm A, which starts diaphragm B on its exhaust stroke. As the pump reaches it's original starting point, each diaphragm has gone through one exhaust and one discharge stroke. This constitutes one complete pumping cycle. The pump may take several cycles to completely prime depending on the conditions of the application.

Ruby Innovative oil free air valve

The heart of the Ruby pump is our innovative, new design air valve. In respect for New Era demands, to create and offer High Quality product, with high interest for the environment and it's protection, the

Air Valve of the Ruby Diaphragm Pumps has been created to offer:

- Oil free operation
- Low need for maintenance
- Not affected by minor contamination of compressed air
- Significant energy saving
- Non freezing operation
- External environment operation
- No dead centre
- Long life
- Reliability



Advance Unified Diaphragms Featuring

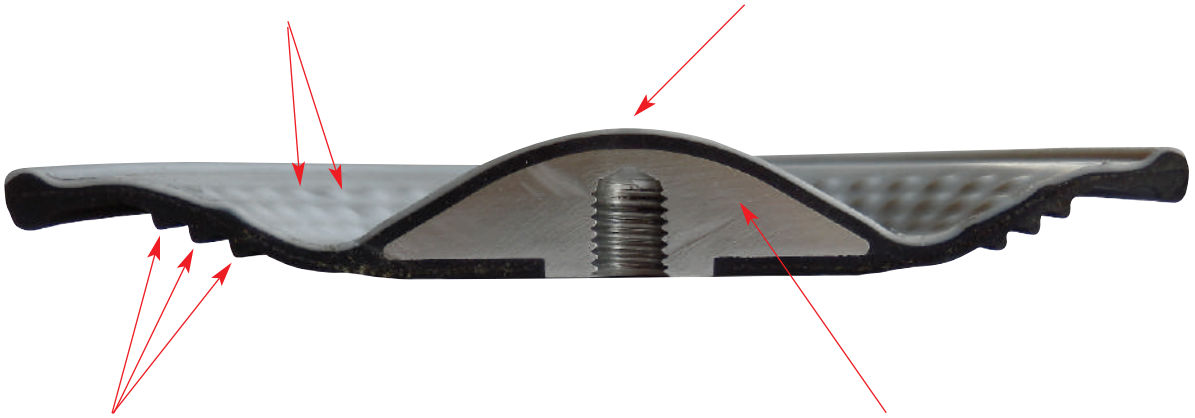
- Easy installation and maintenance
- Extended life time
- Inventory cost reduction
- Improved performance
- Greater displacement per cycle
- No center hole, elimination of potential leak paths
- There is no need for the main axis to be insured
- They can be screwed and unscrewed without the use of tools
- Easy to clean



Advance Unified Diaphragm Offers:

The prominences decrease
the stretching of the PTFE during
the regression and prevent it from cracking.

Exclusive conical shape
provides excellent service life,
suction lift and lower start-up pressure



Backing ribs sustain and guide
the diaphragm's flexibility for extended life
and reduced cavitation on suction stroke

Oversized integrated plate supports
nearly 50% of the diaphragm through
the entire dynamic motion.

ATEX Certificate

II 2G Ex h IIB T4 Gb
II 2D Ex h IIIB T135˚C Db
Baseefa15ATEX13DR/RN3

AlphaDynamic PUMPS has stored the documentation certifying ATEX compliance according to Directive 2014/34/EC for it's ranges of Ruby air operated diaphragm pumps with the SGS Baseefa Limited certification body.

They are manufactured in a CONDUCT class **II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB 135°C Db**.

The equipment user is responsible for classifying it's area

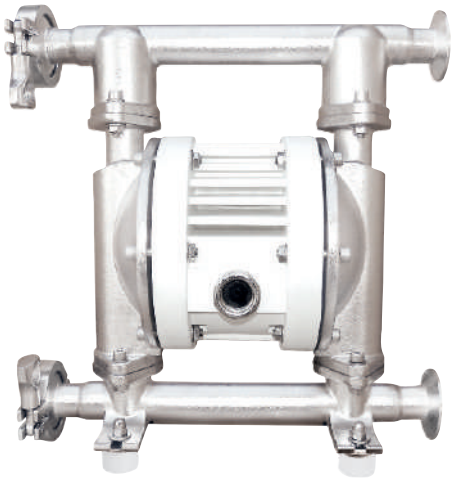
On the other hand, the manufacturer shall identify and affix the certification class of the manufactured equipment.

Ruby 015 Pump

Construction materials: **AISI 316 electropolished**

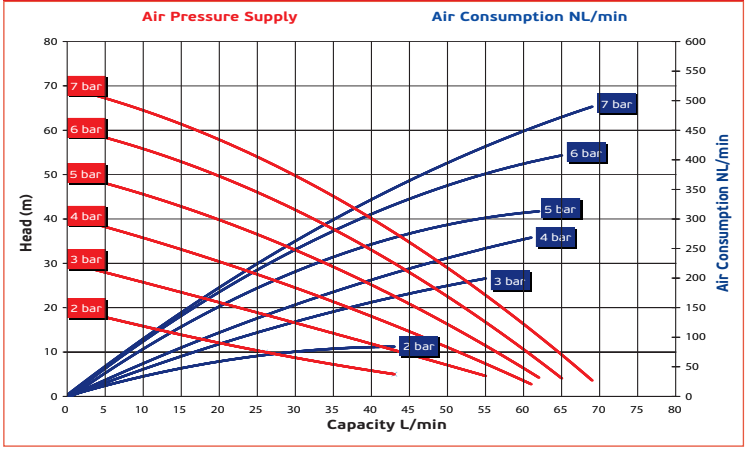
Technical data

Atex Certification	STANDARD: II 3G Ex h IIB T4 Gc – II 3D Ex h IIIB T135°C Dc CONDUCT: II 2G Ex h IIB T4 Gb – II 2D Ex h IIIB T135°C Db
Pump Body	Stainless Steel 316 Electropolished
Diaphragms	Compound PTFE A + Back up EPDM Conductive Compound PTFE + Back up EPDM Conductive EPDM Conductive
Suction Discharge Connection	DN 25 Tri-Clamp
Air Connection	1/2 " BSP F
*Max Self-Priming Capacity	4 m
* Max Flow Rate	72 L/min
Max Head	70 m
Max Air Supply Pressure	7 Bar
Max Solid Size (Diameter)	3.0 mm
Max. Operating Temperature	95°C
Weight	9.0 Kg

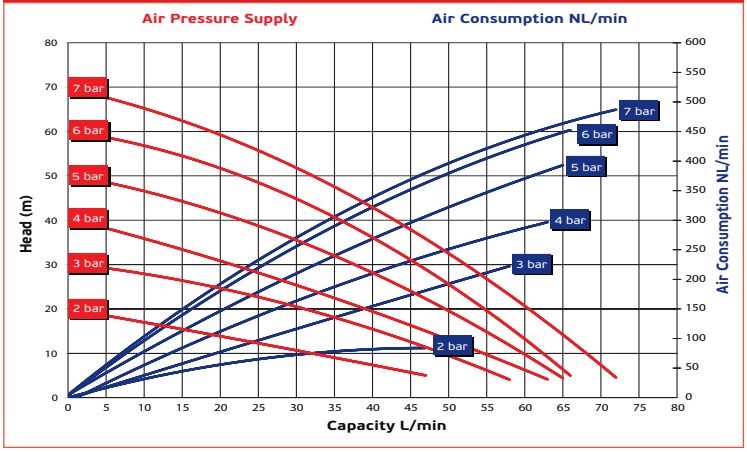


* The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material.

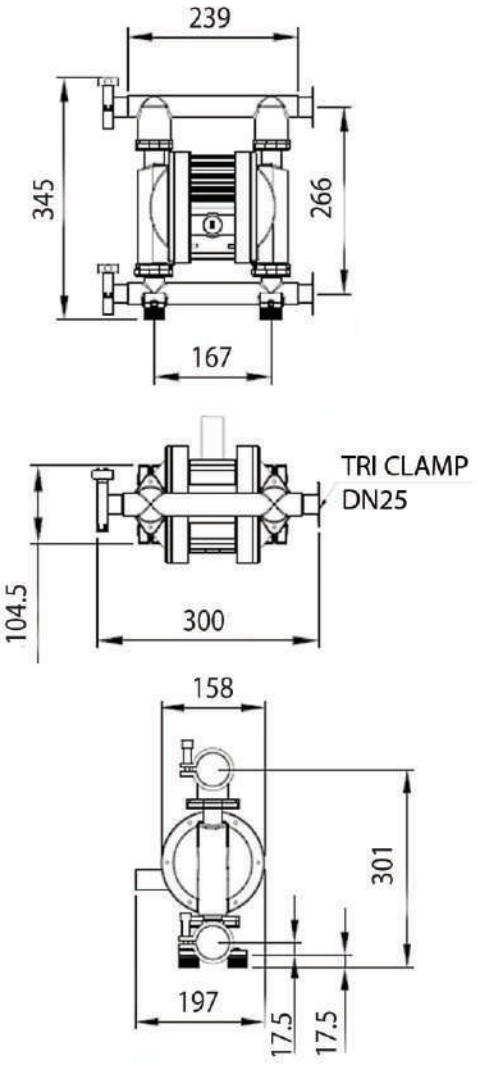
RUBY 015 - FULL CAPACITY PTFE - A FITTED



RUBY 015 - RUBBER FITTED

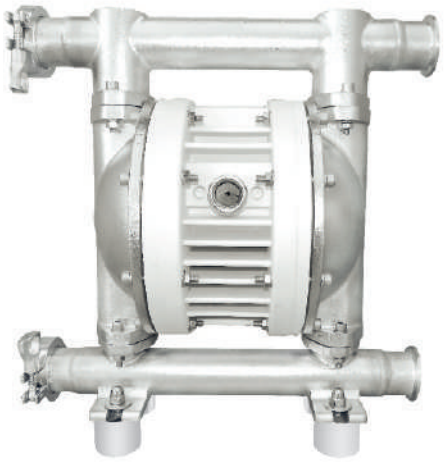


Dimensions



Ruby 025 Pump

Construction materials: **AISI 316 electropolished**

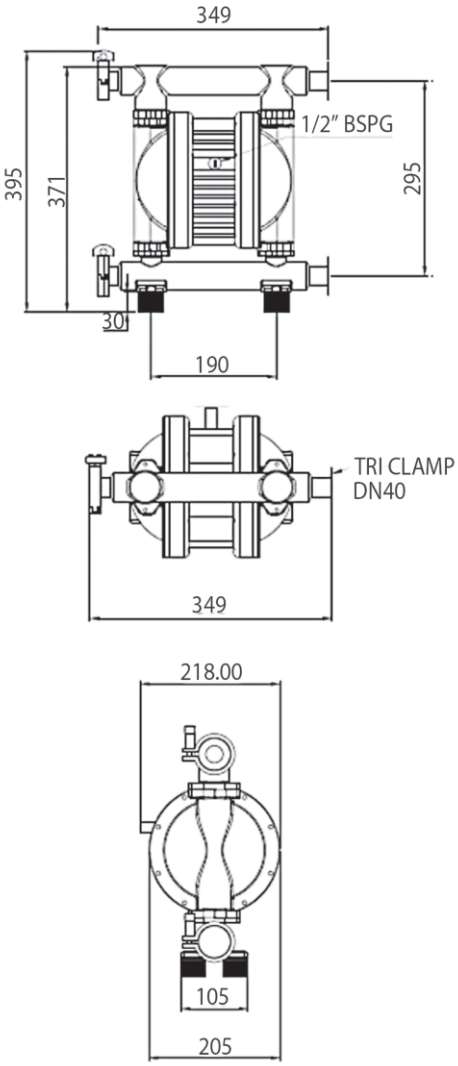


Technical data

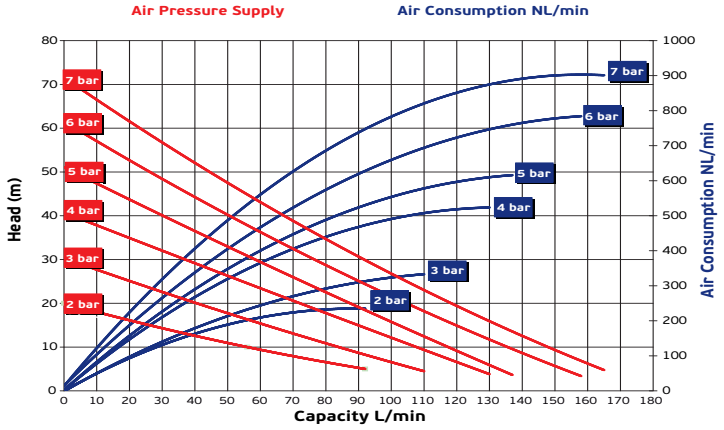
Atex Certification	STANDARD: II 3G Ex h IIB T4 Gc – II 3D Ex h IIIB T135°C Dc CONDUCT: II 2G Ex h IIB T4 Gb – II 2D Ex h IIIB T135°C Db
Pump Body	Stainless Steel 316 Electropolished
Diaphragms	Compound PTFE A + Back up EPDM Conductive Compound PTFE + Back up EPDM Conductive EPDM Conductive
Suction / Discharge Connection	DN 40 Tri-Clamp
Air Connection	1/2 " BSP F
*Max Self-Priming Capacity	4 m
* Max Flow Rate	175 L/min
Max Head	70 m
Max Air Supply Pressure	7 Bar
Max Solid Size (Diameter)	3.5 mm
Max. Operating Temperature	95°C - 130°C with metallic center block
Weight	14 Kg

* The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material.

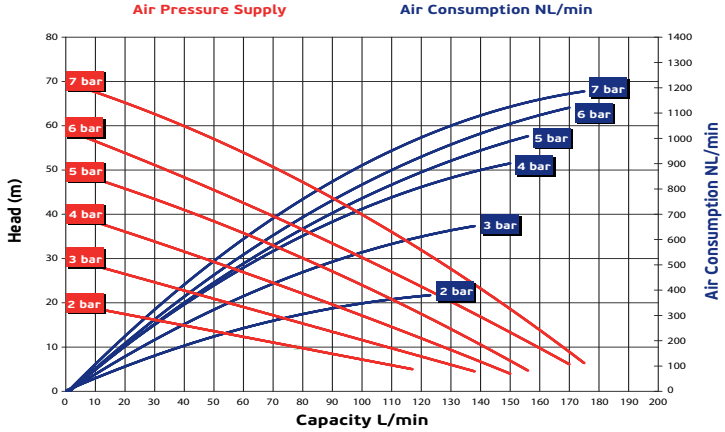
Dimensions



RUBY 025 - FULL CAPACITY PTFE - A FITTED



RUBY 025 - RUBBER FITTED

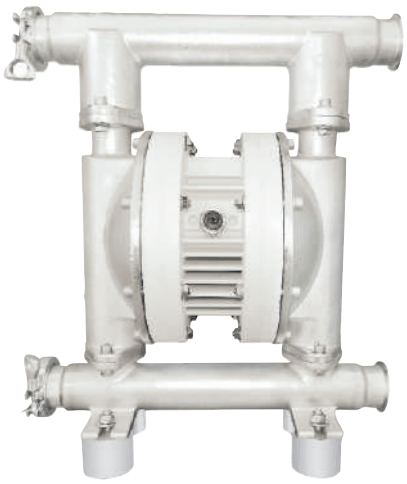


Ruby 040 Pump

Construction materials: **AISI 316 electropolished**

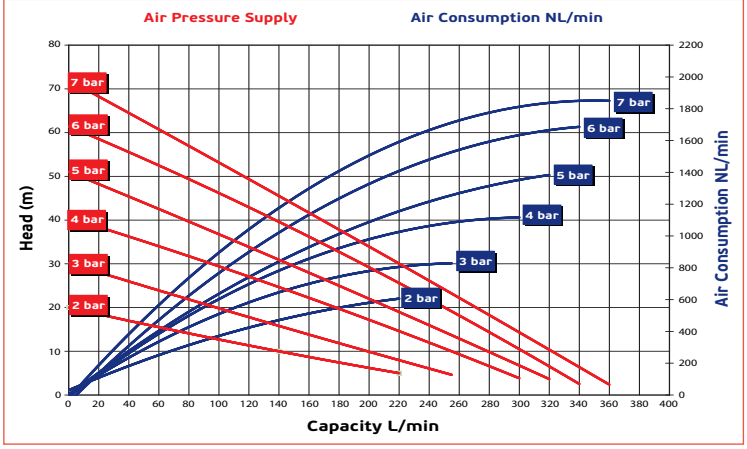
Technical data

Atex Certification	STANDARD: II 3G Ex h IIB T4 Gc – II 3D Ex h IIIB T135°C Dc CONDUCT: II 2G Ex h IIB T4 Gb – II 2D Ex h IIIB T135°C Db
Pump Body	Stainless Steel 316 Electropolished
Diaphragms	Compound PTFE A + Back up EPDM Conductive Compound PTFE + Back up EPDM Conductive EPDM Conductive
Suction / Discharge Connection	DN 50 Tri-Clamp
Air Connection	1/2 " BSP F
*Max Self-Priming Capacity	5 m
* Max Flow Rate	360 L/min
Max Head	70 m
Max Air Supply Pressure	7 Bar
Max Solid Size (Diameter)	5.0mm
Max. Operating Temperature	95°C - 130°C with metallic center block
Weight	30 Kg

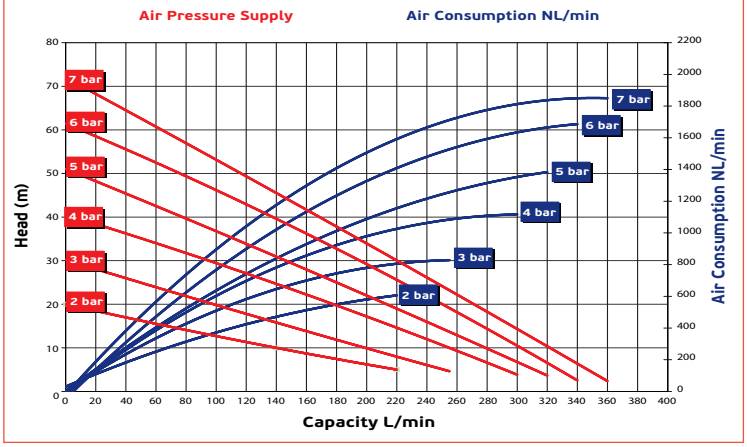


* The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material.

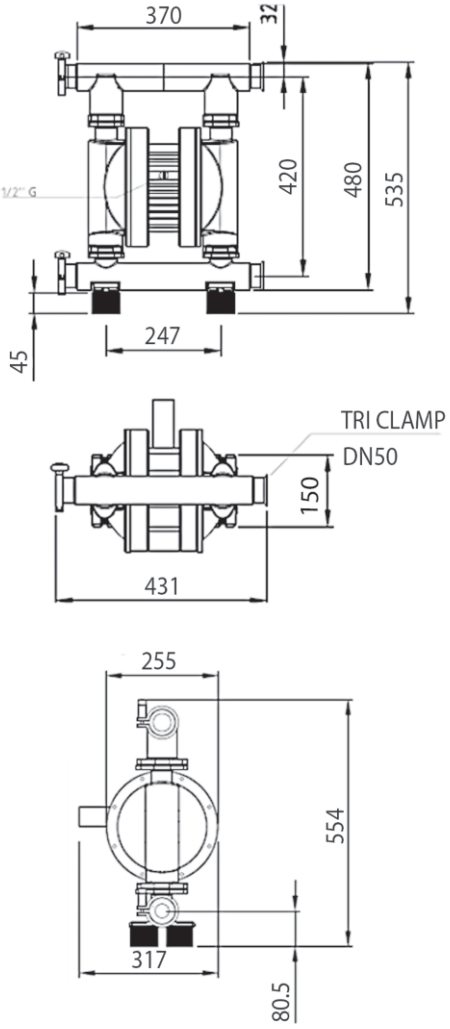
RUBY 040 - FULL CAPACITY PTFE - A FITTED



RUBY 040 - RUBBER FITTED



Dimensions



Ruby 050 Pump

Construction materials: **AISI 316 electropolished**

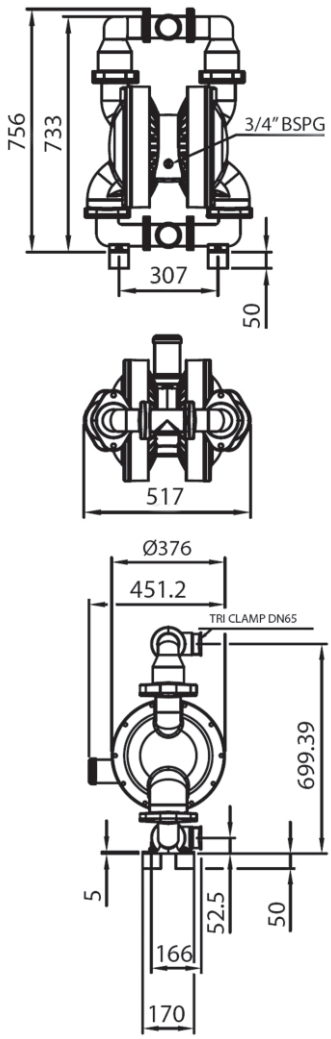


Technical data

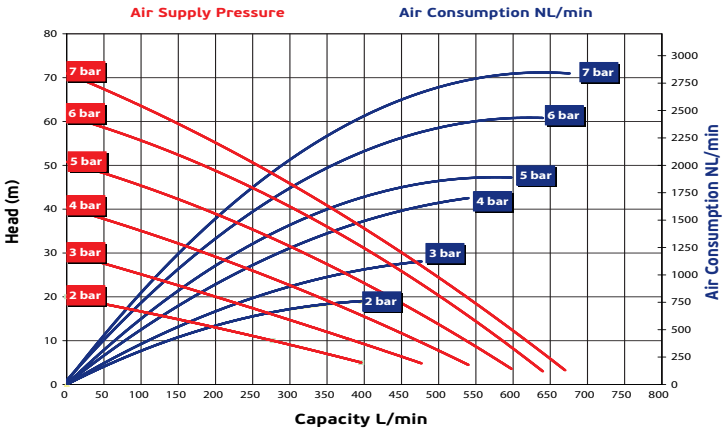
Atex Certification	STANDARD: II 3G Ex h IIB T4 Gc – II 3D Ex h IIIB T135°C Dc CONDUCT: II 2G Ex h IIB T4 Gb – II 2D Ex h IIIB T135°C Db
Pump Body	Stainless Steel 316 Electropolished
Diaphragms	Compound PTFE A + Back up EPDM Conductive Compound PTFE + Back up EPDM Conductive EPDM Conductive
Suction / Discharge Connection	DN 65 Tri-Clamp
Air Connection	3/4" BSP F
*Max Self-Priming Capacity	5 m
* Max Flow Rate	676 L/min
Max Head	70 m
Max Air Supply Pressure	7 Bar
Max Solid Size (Diameter)	8 mm
Max. Operating Temperature	95°C
Weight	70 Kg

* The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material.

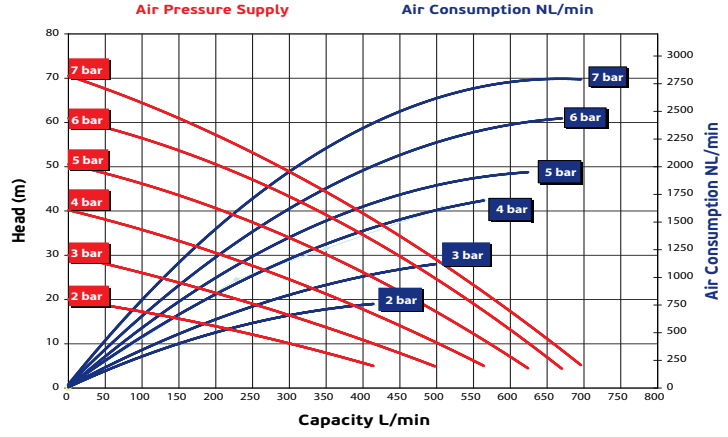
Dimensions



RUBY 050 - FULL CAPACITY PTFE FITTED



RUBY 050 - RUBBER FITTED



Ruby 080 Pump

Construction materials: **AISI 316 electropolished**

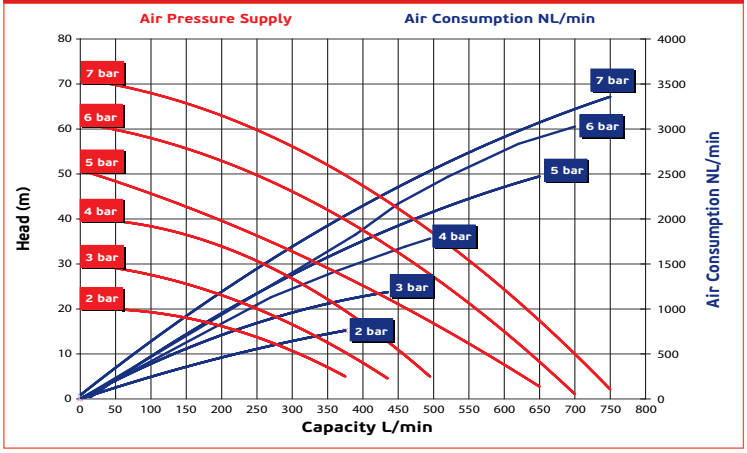
Technical data

Atex Certification	STANDARD: II 3G Ex h IIB T4 Gc – II 3D Ex h IIIB T135°C Dc CONDUCT: II 2G Ex h IIB T4 Gb – II 2D Ex h IIIB T135°C Db
Pump Body	Stainless Steel 316 Electropolished
Diaphragms	Compound PTFE A + Back up EPDM Conductive Compound PTFE + Back up EPDM Conductive EPDM Conductive
Suction / Discharge Connection	DN 80 Tri-Clamp
Air Connection	3/4" BSP F
*Max Self-Priming Capacity	5 m
* Max Flow Rate	820 L/min
Max Head	70 m
Max Air Supply Pressure	7 Bar
Max Solid Size (Diameter)	8 mm
Max. Operating Temperature	95°C
Weight	75 Kg

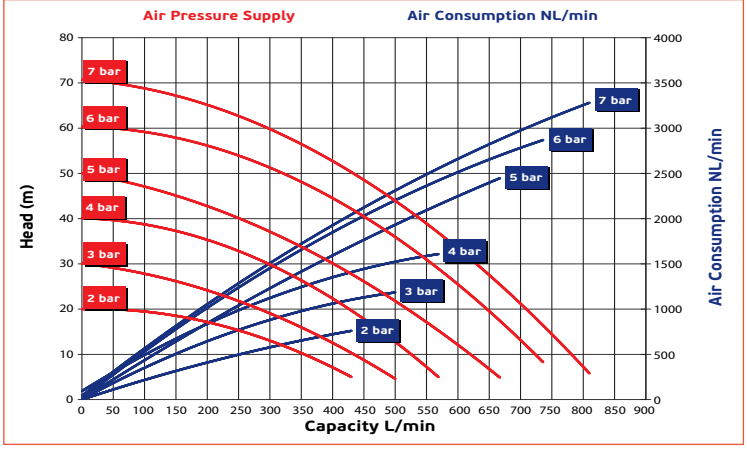
* The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material.



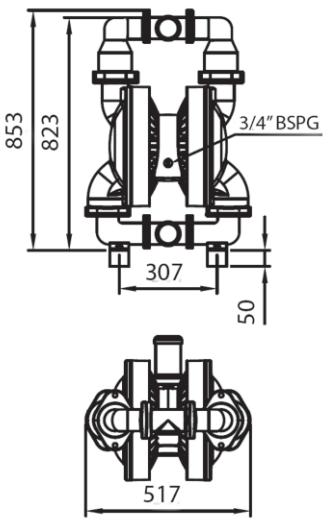
RUBY 080 - FULL CAPACITY PTFE FITTED

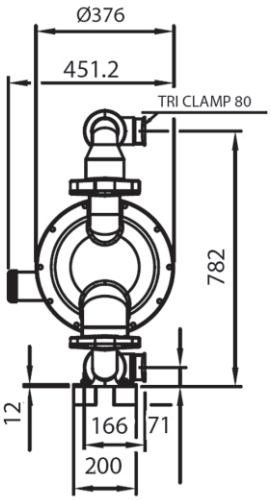


RUBY 080 - RUBBER FITTED



Dimensions





2020.07.3000

AlphaDynamic PUMPS

We Make The Difference

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Ruby

STRONG **QUALITY** INDUSTRIAL **PUMP**