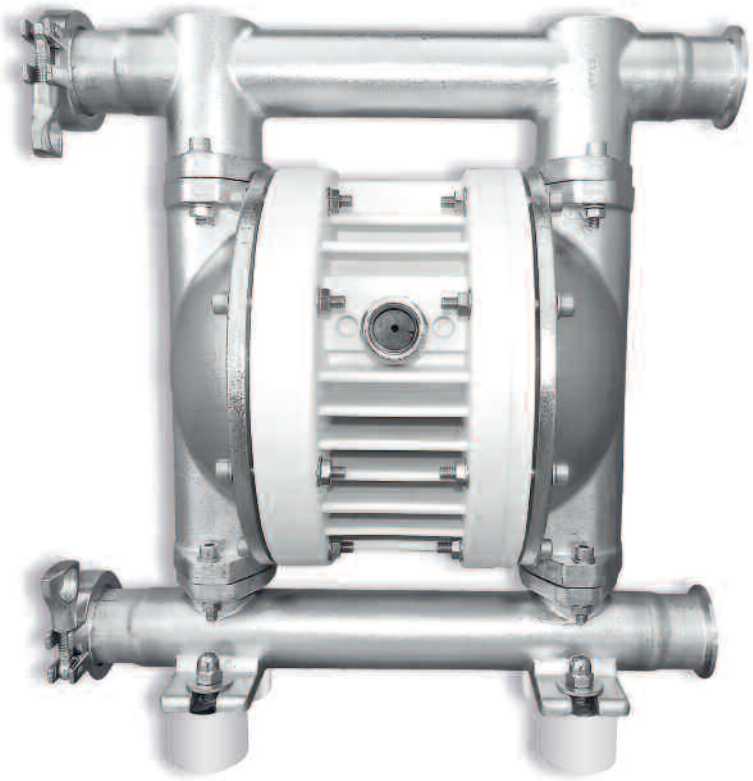
Ruby

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

Ruby Air Operated Diaphragm Pumps



FDA APPROVED

TÜV AUSTRIA EN ISO 9001:2008

CE EAC

5 YEARS LIMITED WARRANTY

www.alphadynamicpumps.co.uk

Ruby Air Operated Diaphragm pumps

RUBY Air operated diaphragm pneumatic pumps are manufactured fulfilling FDA requirements. All materials in contact with the liquid are realized according to FDA requirements. The whole range is in AISI 316 electro-polished according to the International Provision ASTM A380 and PTFE and EPDM diaphragms are of new technology with integrated piston (Compound).

New pump line with a brand new designing that offers reinforced pumping potentials. The updated designing provides the possibility to use also other materials at the hydraulic parts without decreasing the efficiency in pressure. Plus, it offers even bigger performance provided with economy

Ruby Pumps composition codes

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

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Ruby
STRONG QUALITY INDUSTRIAL PUMP

Main features

Available in AISI 316 STAINLESS STEEL electropolished

- High efficciency degree
- Economical air consumption, ecological designing
- Pressure / capacity high efficciency
- Oil free operation
- Very low level of icebarriers, up to zero in high wear outs
- New air valve designing, fully controled air passage, with the potential to use additional ice barrier protectives.
- Easy disassembling and re-assembling
- Easy trasportation
- New generation diaphragms with embodied inner / outer piston
- New generation PTFE diaphragms of embodied type for long-life operation (compound)
- Potential to be submersible
- Possibility to be used in dirty environments due to their closed designing
- Easy entrance orientation changing (manifold reverse)
- 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

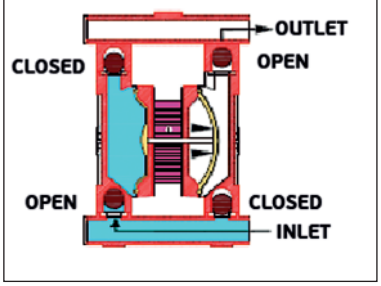


FIGURE 1 The air valve directs pressurized air to the back side of diaphragm A. The compressed air is applied directly to the liquid column separated by elastomeric diaphragms. The diaphragm acts as a separation membrane between the compressed air and liquid, balancing the load and removing mechanical 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

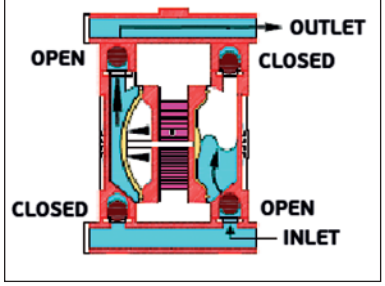


FIGURE 2 When the pressurized diaphragm, diaphragm A, reaches the limit of it's discharge stroke, the air valve redirects pressurized air to the back side of diaphragm B. The pressurized air forces diaphragm B away from the center block while pulling diaphragm A to the center block. Diaphragm B is now 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

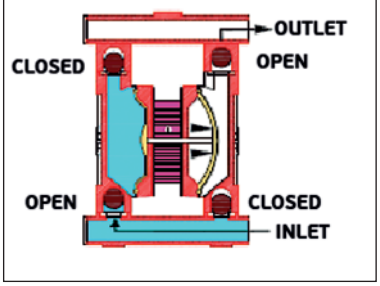
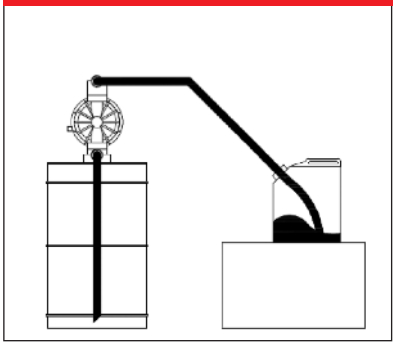


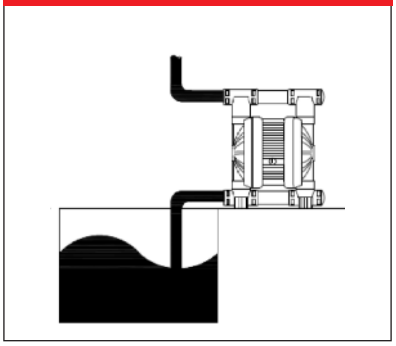
FIGURE 3 At completion of the stroke, the air valve again redirects air to the back side of diaphragm A, which starts diaphragm B on its exhaust stroke. As the pump reaches it's original starting point, each diaphragm has gone through one exhaust and one discharge stroke. This constitutes one complete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

Installation

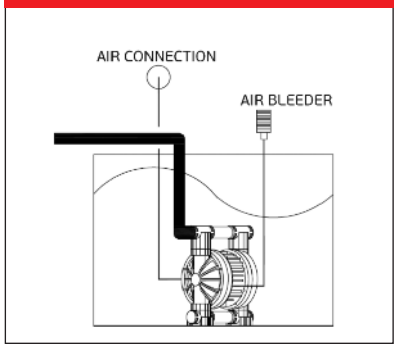
DRUM TRANSFER



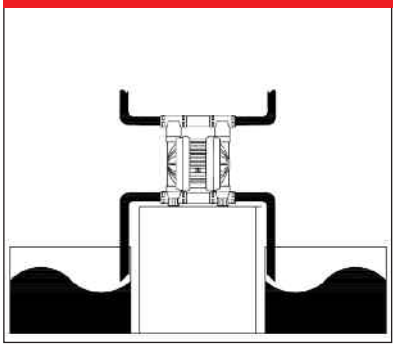
SELF PRIMING



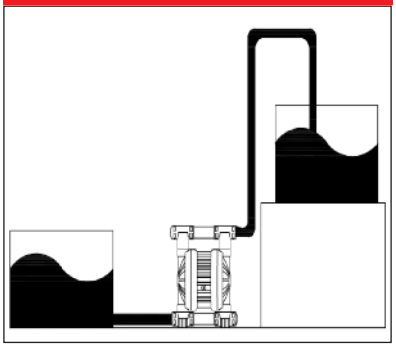
IMMERSED



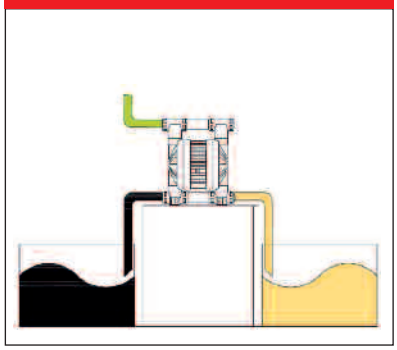
TWIN SUCTION & DELIVERY MANIFOLD



POSITIVE SUCTION HEAD



TWIN SUCTION MANIFOLD



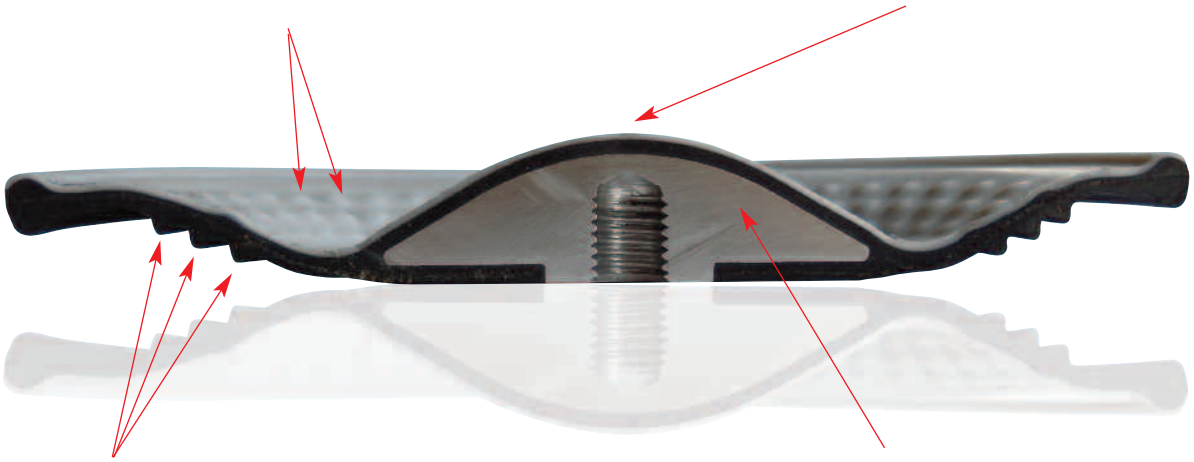
Advance Unified Diaphragms Featuring

- Easy installation and maintenance
- Excellent service life
- 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

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

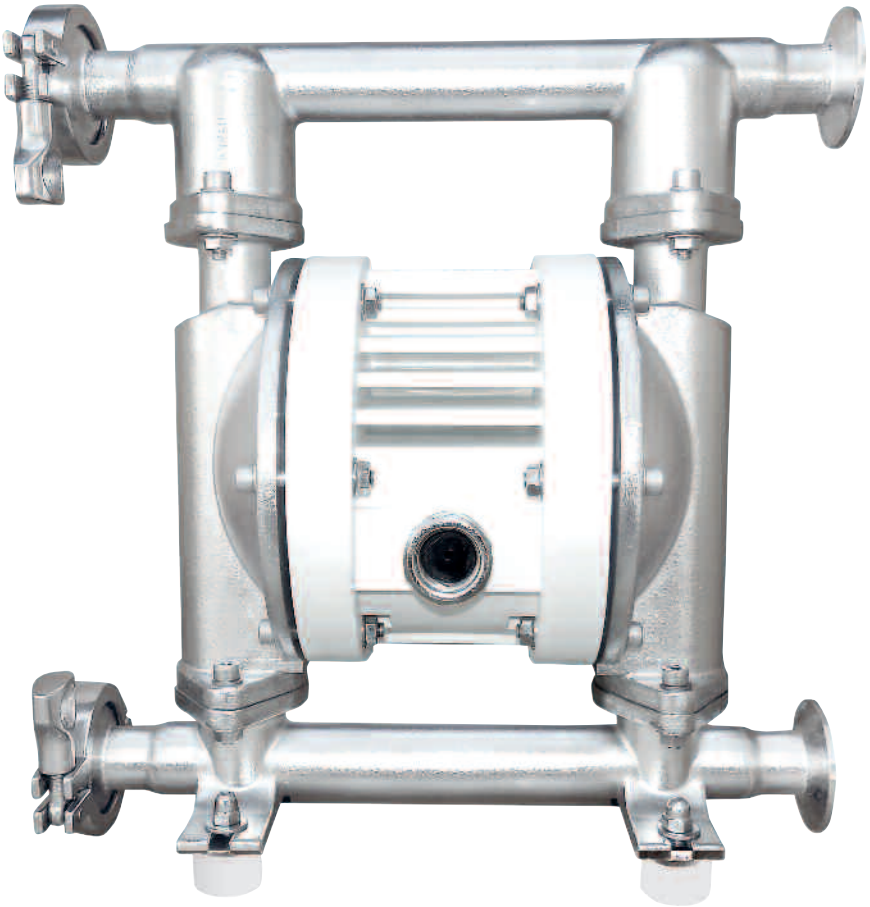


Backing ribs sustain and guide the diaphragm's flexibility for extended life and reduced cavitation on suction stroke

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

Ruby 015 Pump

Construction materials: **AISI 316 electropolished**



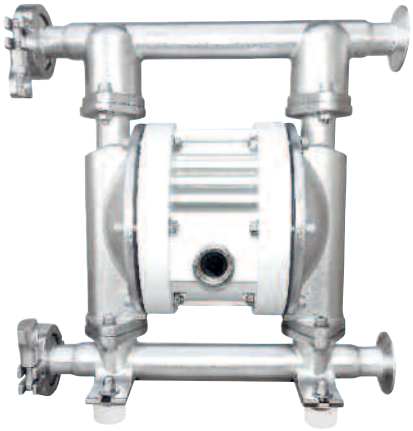
Technical data

ATEX certification	II 2 GD c IIB T4
Construction materials	AISI 316 electropolished
Diaphragms	PTFE with Conductive EPDM (compound) PTFE-A Full Capacity with conductive EPDM (compound) EPDM Conductive
Intake/delivery connections	G ½" - DN 25 tri clamp on request
Air connection	½"
*Max. self-priming capacity	4 m
*Max. flow rate	72 l/min
Max. head	70 m
Max. air supply pressure	7 bar
Diameter	3,0 mm
Max. operating temp.	95°C
Weight	9,0 kg

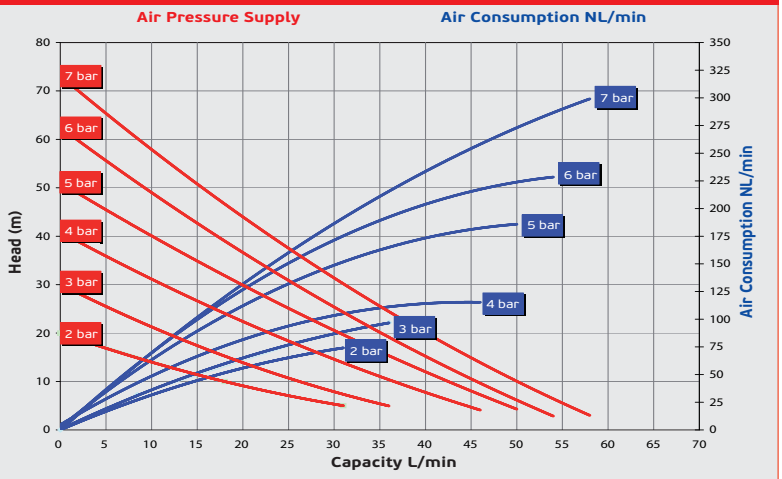
* The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material.

Ruby 015 Pump

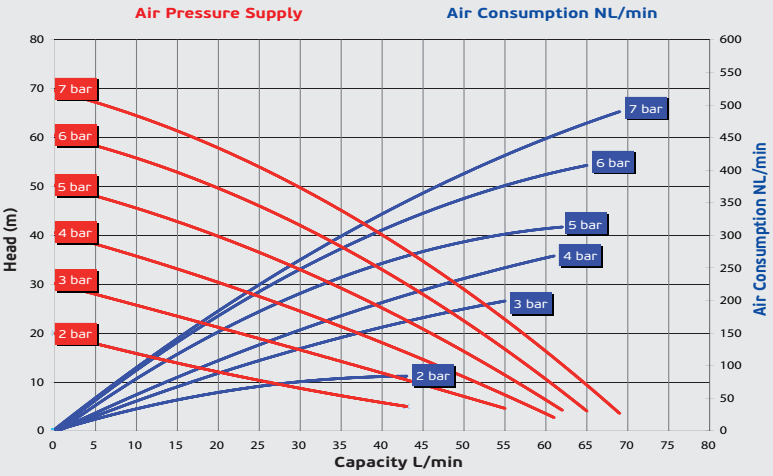
Construction materials: **AISI 316 electropolished**



CURVES RUBY 015 PTFE FITTED



CURVES RUBY 015 PTFE FULL CAPACITY FITTED



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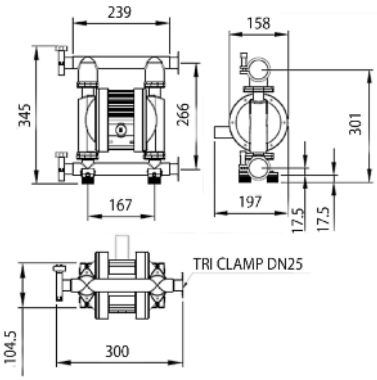
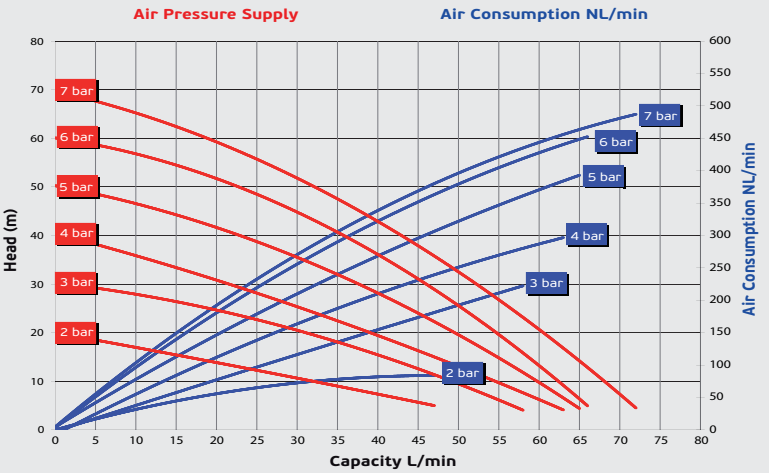
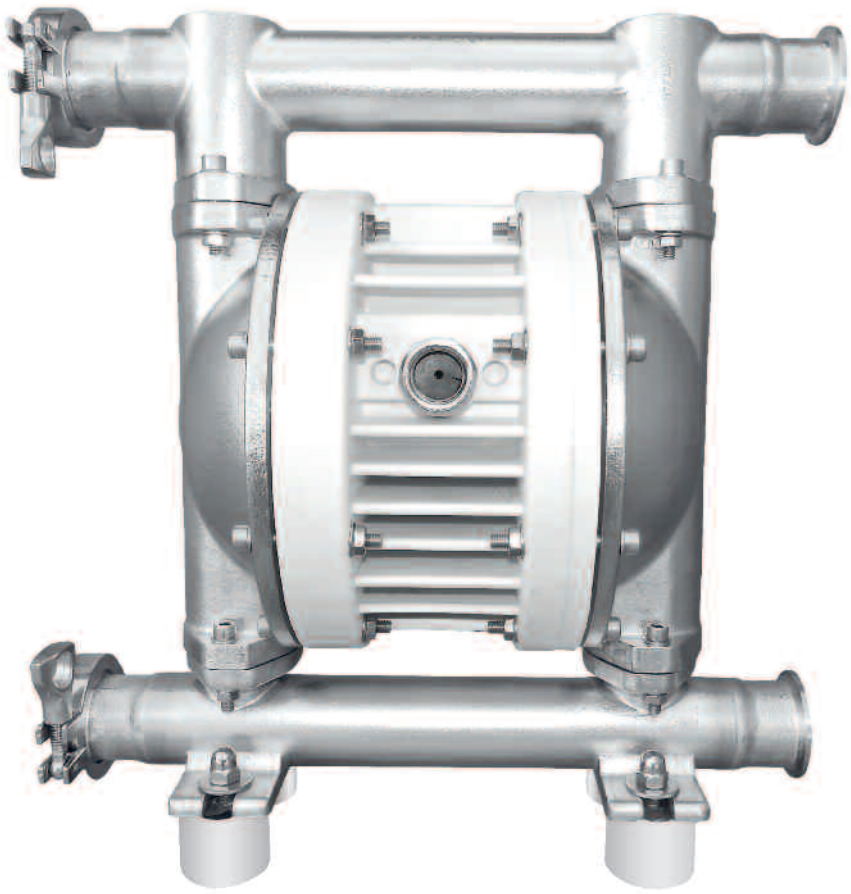


CURVES RUBY 015 EPDM FITTED



Ruby 025 Pump

Construction materials: **AISI 316 electropolished**



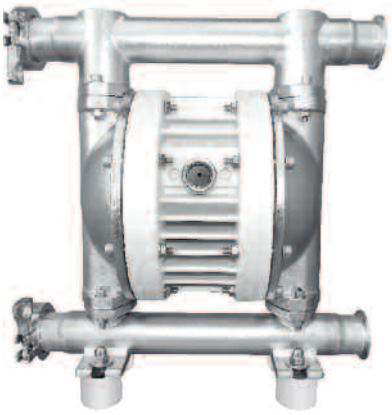
Technical data

ATEX certification	II 2 GD c IIB T4
Construction materials	AISI 316 electropolished
Diaphragms	PTFE with Conductive EPDM (compound) PTFE-A Full Capacity with conductive EPDM (compound) EPDM Conductive
Intake/delivery connections	G 1" - DN 40 tri clamp on request
Air connection	½"
*Max. self-priming capacity	4 m
*Max. flow rate	175 l/min
Max. head	70 m
Max. air supply pressure	7 bar
Diameter	3,5 mm
Max. operating temp.	95°C
Weight	14,0 kg

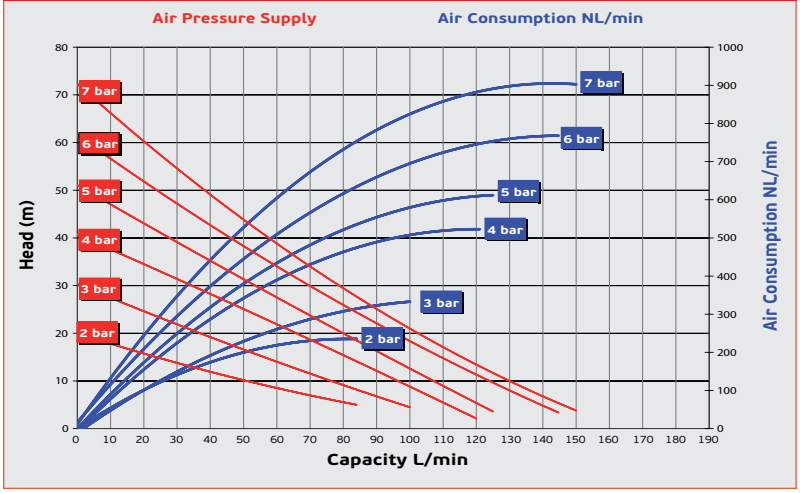
* The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material.

Ruby 025 Pump

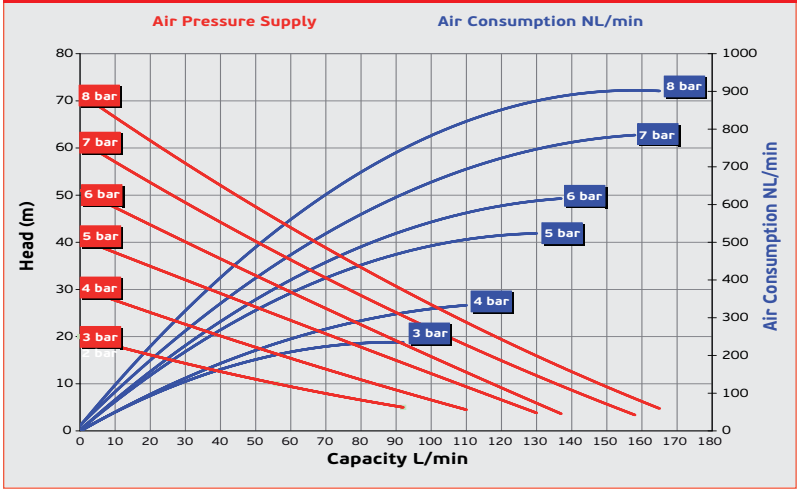
Construction materials: **AISI 316 electropolished**



RUBY 025 - PTFE FITTED



RUBY 025 - FULL CAPACITY PTFE - A FITTED



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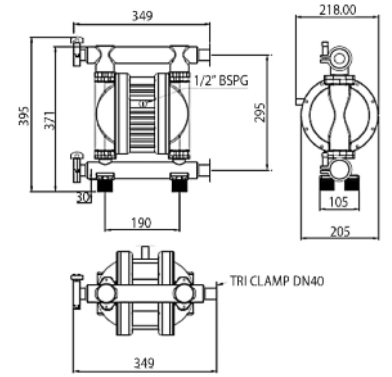
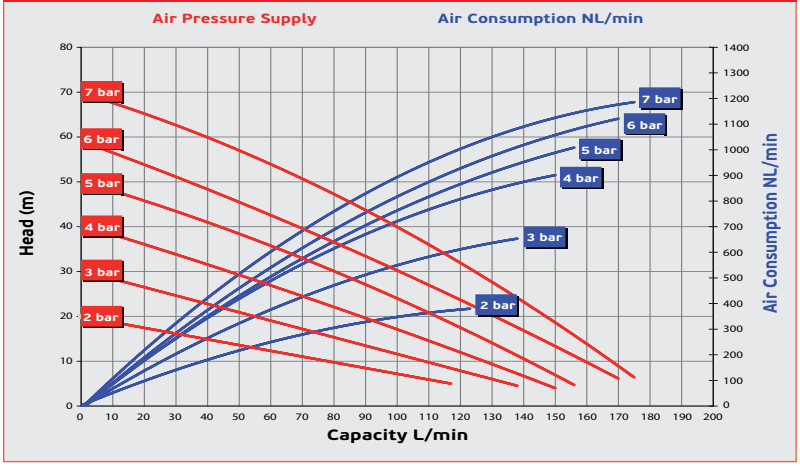
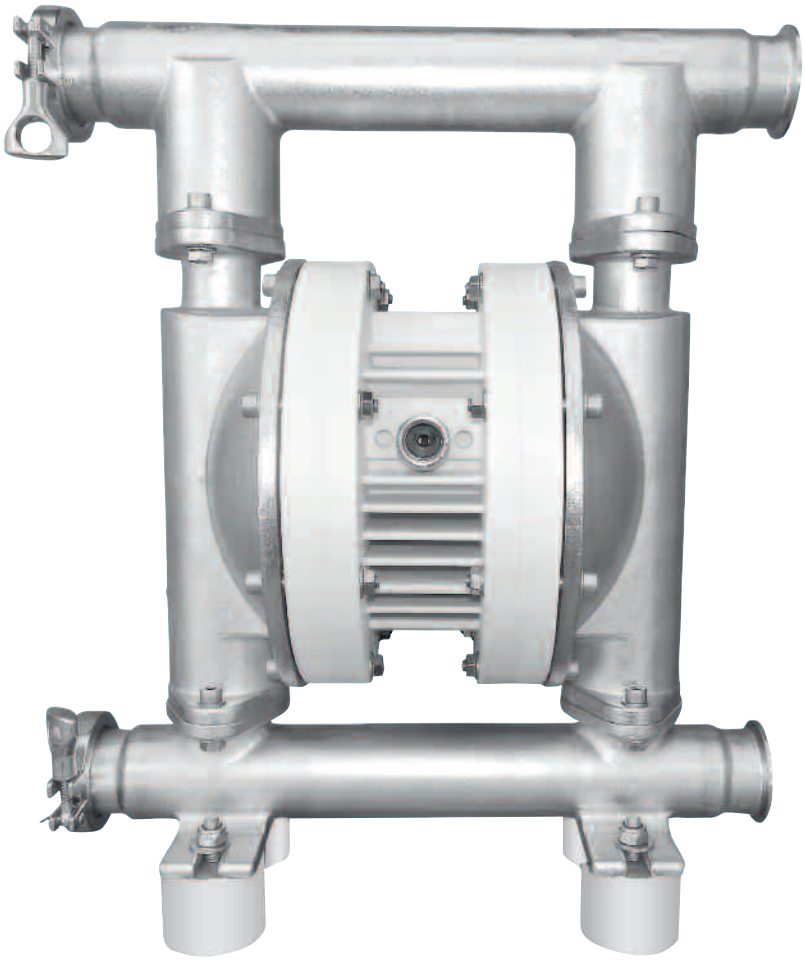


RUBY 025 - EPDM FITTED



Ruby 040 Pump

Construction materials: **AISI 316 electropolished**



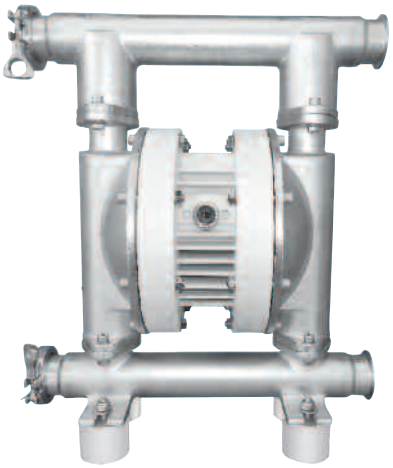
Technical data

Atex Certification	II 2 GD c IIB T4
Construction materials	AISI 316 Electopolished
Diaphragms	PTFE with Conductive EPDM (compound) PTFE-A Full Capacity with conductive EPDM (compound) EPDM Conductive
Intake/delivery connections	G 1 1/2 " - DN 50 tri clamp on request
Air connection	1/2 "
* Max self-priming capacity	5 m
* Max. flow rate	360 l/min
Max. solid size (diameter)	5mm
Max head	70 m
Max air supply	7 Bar
Max operating Temperature	95°C
Weight	30 kg

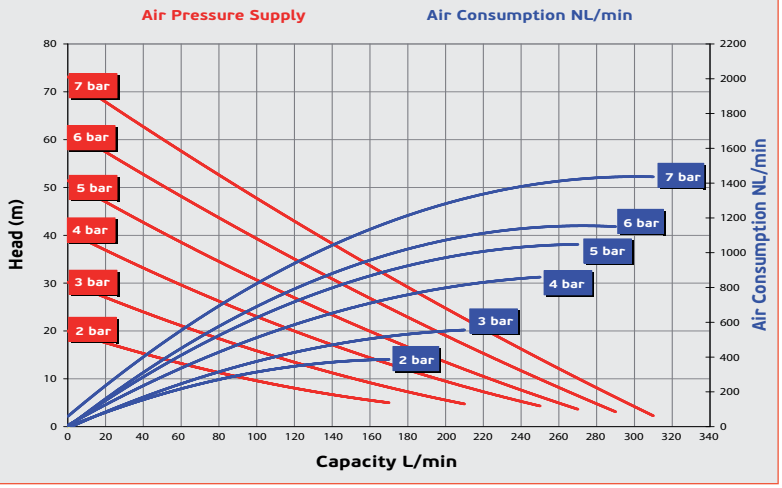
* The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material.

Ruby 040 Pump

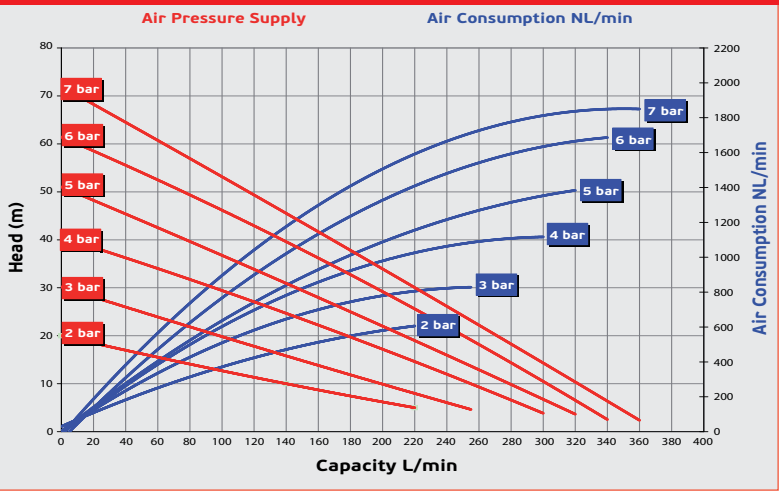
Construction materials: **AISI 316 electropolished**



RUBY 040 - PTFE FITTED



RUBY 040 - FULL CAPACITY PTFE - A FITTED



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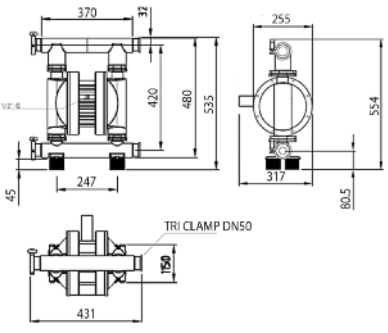
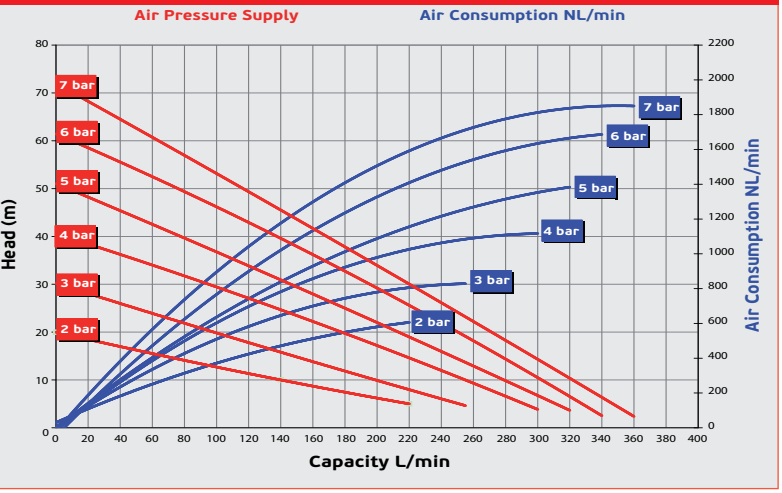
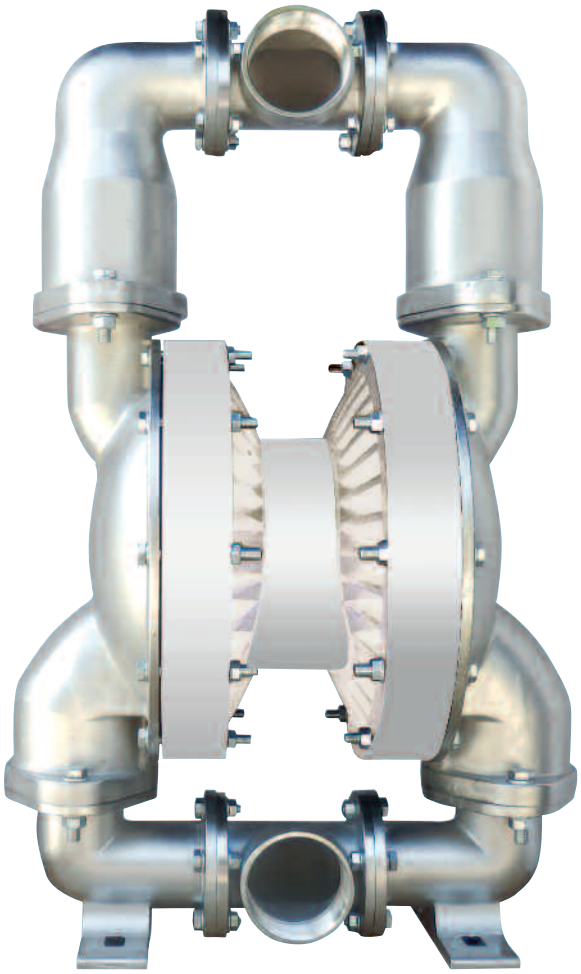


RUBY 040 - EPDM FITTED



Ruby 050 Pump

Construction materials: **AISI 316 electropolished**



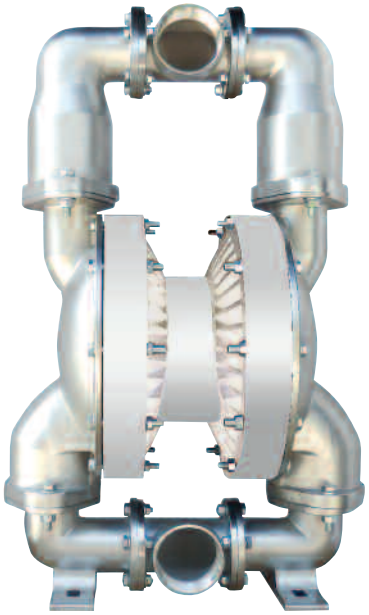
Technical data

ATEX certification	II 2 GD c IIB T4 135°C
Construction materials	AISI 316 Electropolished
Diaphragms	Conductive NBR , Conductive EPDM , PTFE with conductive EPDM (Compound)
Intake/delivery connections (standard)	2" BSP G - DN 50 tri clamp on request
Air connection	3/4"
*Max. self-priming capacity	5 m
*Max. flow rate	696 l/min
Max. head	70 m
Max. air supply pressure	7 bar
Diameter	8 mm
Max. operating temp.	95°C
Weight Aluminium	50 kg
Weight AISI 316	70 Kg

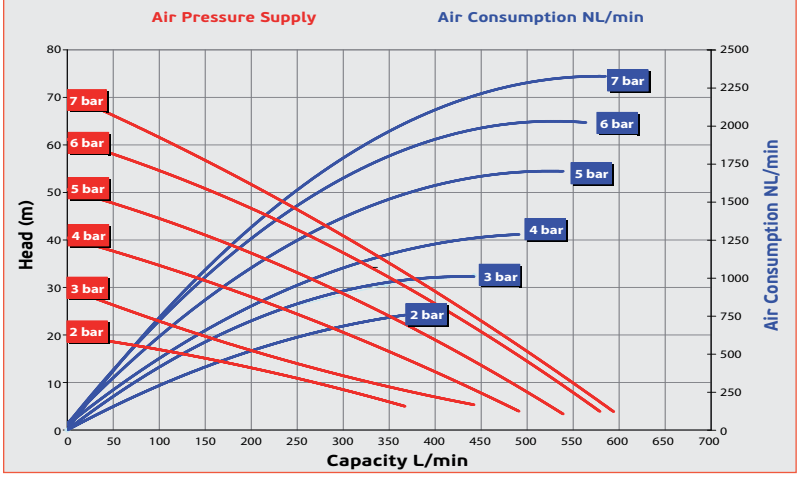
* The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material.

Ruby 050 Pump

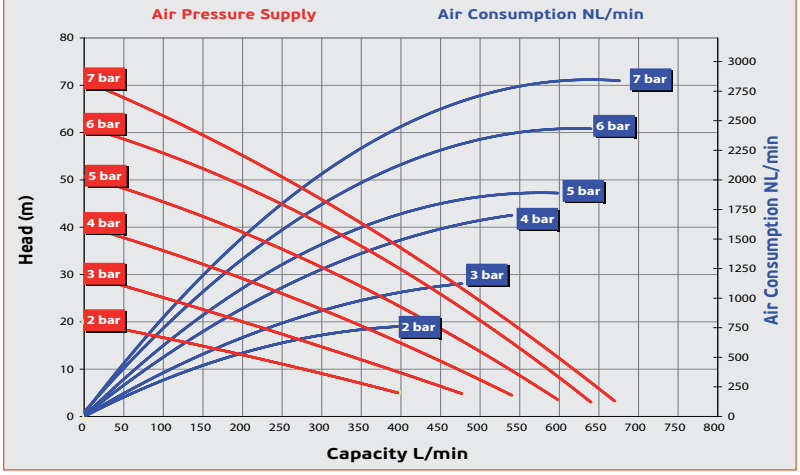
Construction materials: **AISI 316 electropolished**



RUBY 050 - PTFE FITTED



RUBY 050 - FULL CAPACITY PTFE FITTED



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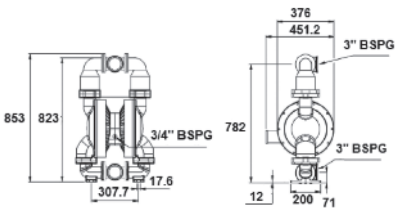
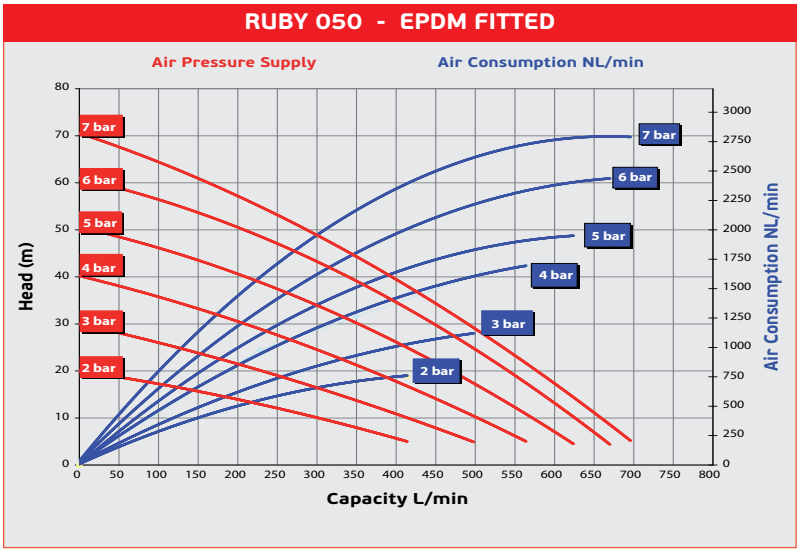
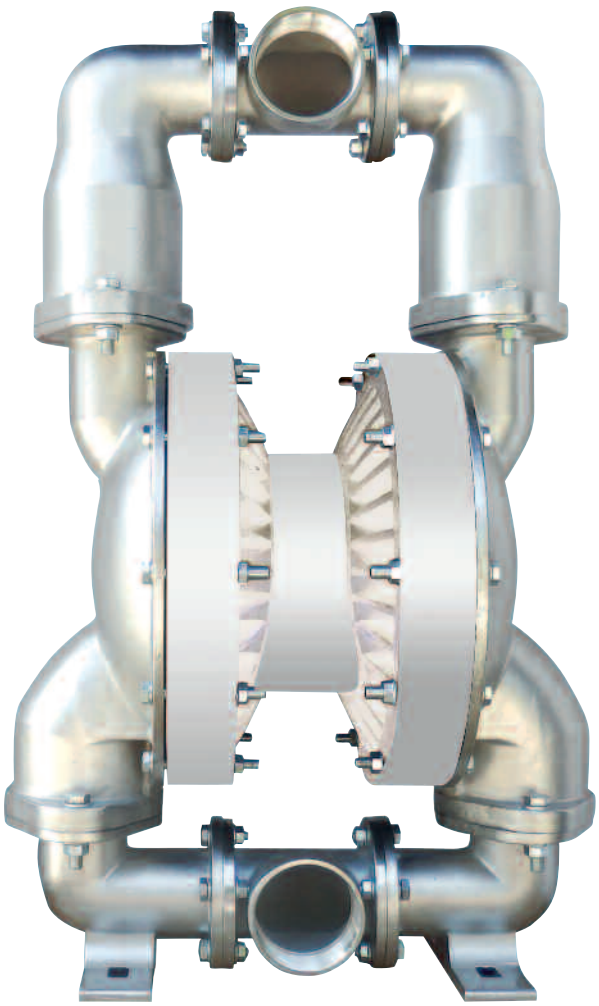


RUBY 050 - EPDM FITTED



Ruby 080 Pump

Construction materials: **AISI 316 electropolished**



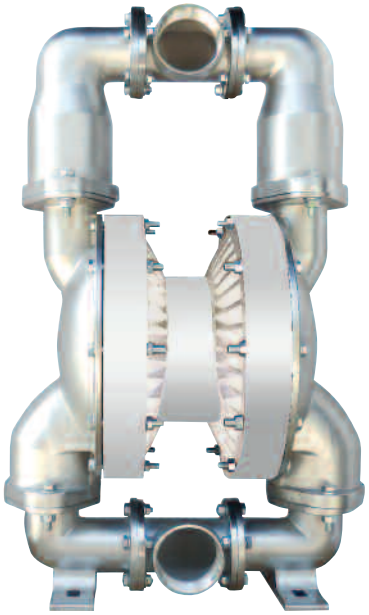
Technical data

ATEX certification	II 2 GD c IIB T4 135°C
Construction materials	AISI 316 Electropolished
Diaphragms	Conductive NBR , Conductive EPDM , PTFE with conductive EPDM (Compound)
Intake/delivery connections (standard)	3" BSP G - DN 80 tri clamp on request
Air connection	3/4"
*Max. self-priming capacity	5 m
*Max. flow rate	810 l/min
Max. head	70 m
Max. air supply pressure	7 bar
Diameter	8 mm
Max. operating temp.	95°C
Weight	70 Kg

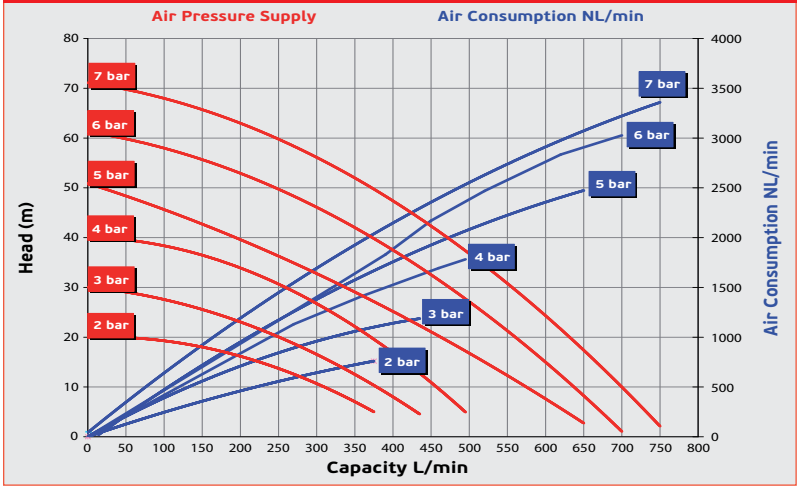
* The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material.

Ruby 080 Pump

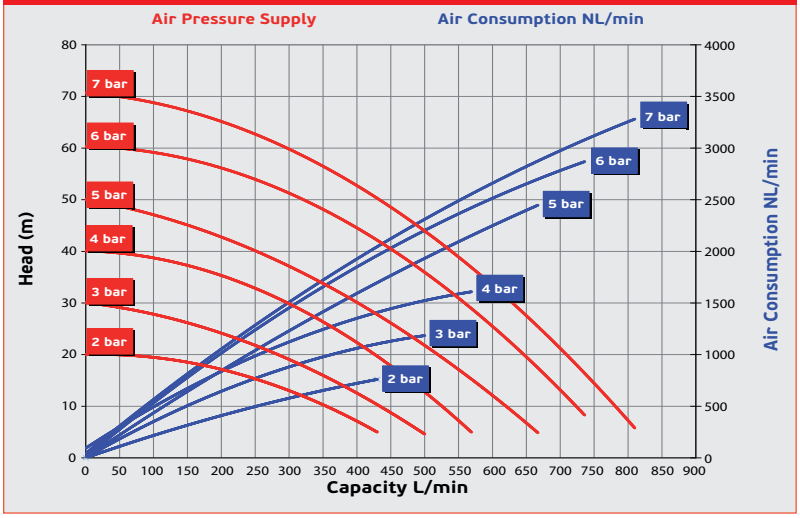
Construction materials: **AISI 316 electropolished**



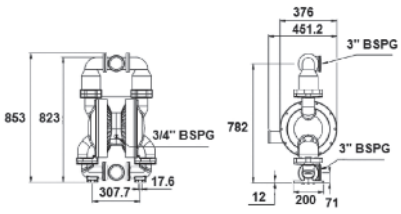
RUBY 080 - PTFE FITTED



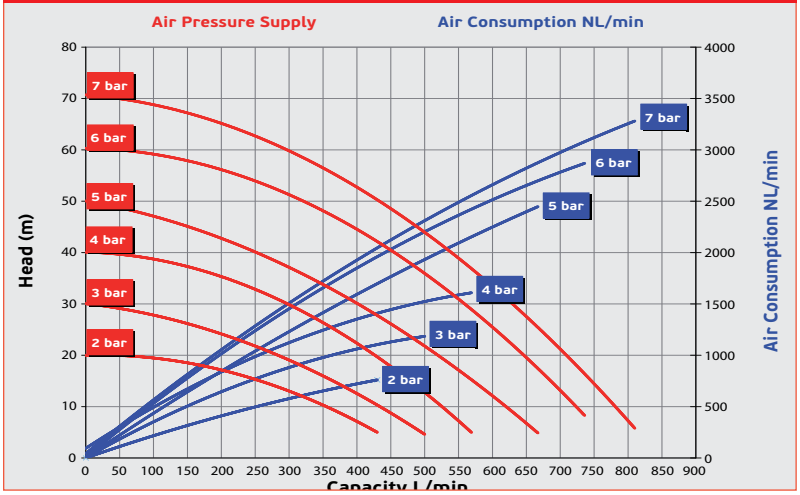
RUBY 080 - FULL CAPACITY PTFE FITTED



Dimensions



RUBY 080 - EPDM FITTED



Ruby

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

FDA APPROVED

TÜV AUSTRIA EN ISO 9001:2008

CE

EAC

5 YEARS LIMITED WARRANTY

ALPHADYNAMIC PUMPS
Industrial Pumps & Flowmeters

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