Fluid Supply

Air Operated Diaphragm Pump

www.fluid-supply.com

Fluid Supply diaphragm pump is a positive displacement pump that uses a combination of the reciprocating action of a diaphragm together with suitable valves on either side of the diaphragm in order to pump liquid. There are two diaphragms connected with each other by a shaft working in a separate chamber along with two sets of inlet valve balls and outlet valve balls. The diaphragm will separates the pumping action (liquid chamber) and air supply action (air chamber) individually. The reciprocating action will be powered by the air valve function which is shifting the air into either side of the air chamber systematically.

Thus, the pumping action is generated when air pushes into separate chamber acting on the diaphragm one after another. The pair of inlet and outlet valves will complete the pumping action with designated path direction.

NOTE: The diaphragm's lifespan will be extended because of the air acting evenly onto the diaphragm instead of high mechanical stress on shaft connector area if it depends on the shaft to create the reciprocating action.

Working Principle

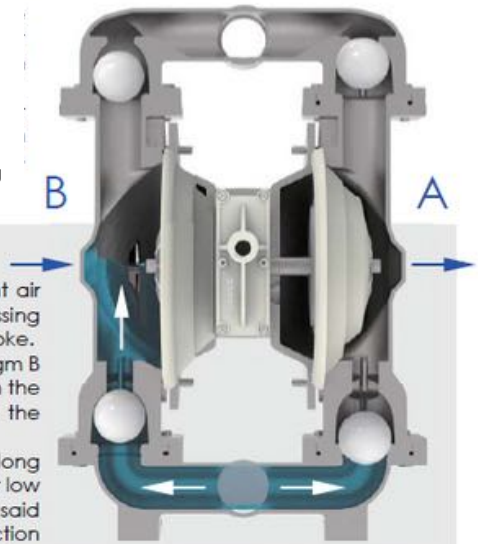


Figure 1:
The air system is directing the compressed air into the right air chamber, which pushes the diaphragm A into compressing action in the liquid chamber. This is called the discharge stroke. At the same time, the shaft connected will pull the diaphragm B to become the suction stroke, and the air supplied earlier in the air chamber will be discharged into the atmosphere from the discharge port of the pump.
When the liquid chamber at the diaphragm B open wider along with the valve blocking the outlet, this creates a vacuum or low pressure situation which allows the fluid being push into the said chamber by the higher atmospheric pressure via the suction port. The inlet and outlet valve works in opposite way of opening or closing in order to complete each and every stroking action simultaneously.

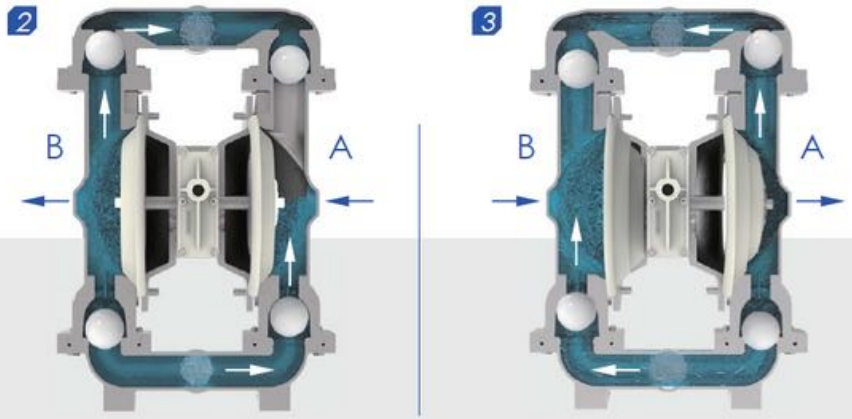
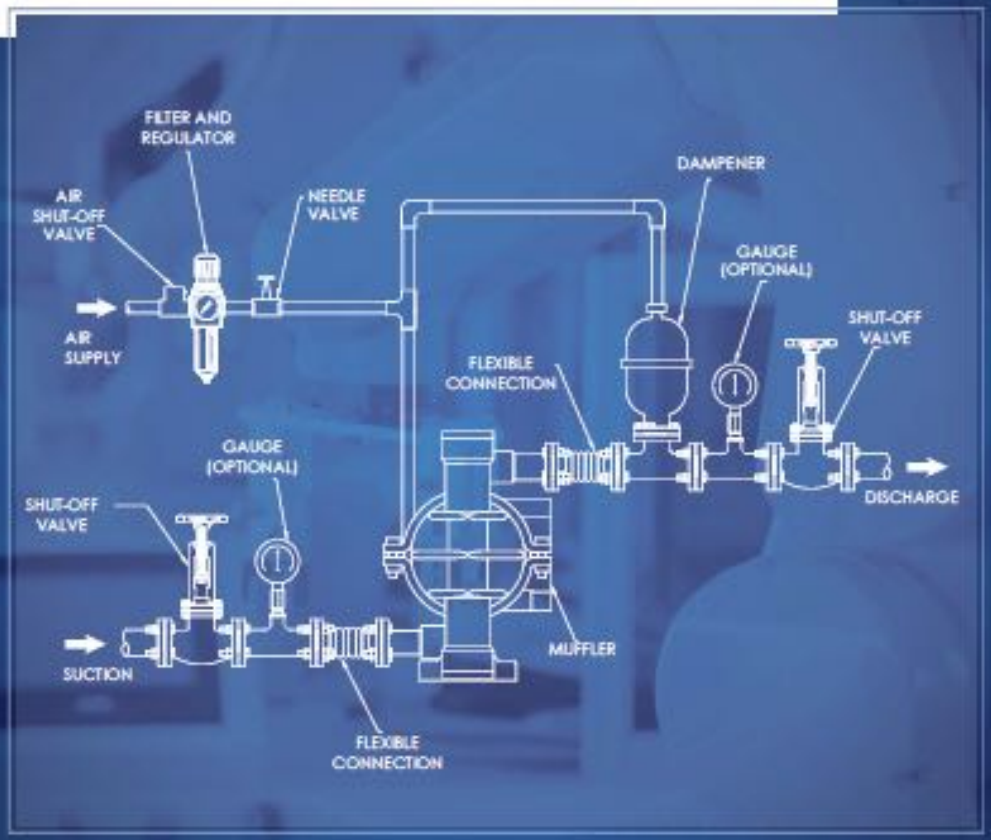


Figure 2 and Figure 3: When the pressurised diaphragm A reaches its maximum stroke limit, the air valve will be reacting by shifting the supply of compressed air into the opposite side, which is the air chamber of the diaphragm B. Thus, the same action will be repeated as per Figure 1 but in the opposite chamber.
When the diaphragm B is in the discharge stroke, the in let and outlet valve is being pushed away by the compressed liquid chamber. The opening and closing of these 2 valve balls will be making the discharge action possible whenever the diaphragm was pressurised by the air supply.
NOTE: The 4 valve balls will be supported by each valve seat individually to have a complete sealing capability whenever the valve ball is in the closing action.

Fluid Supply



INSTALLATION GUIDE

PLASTIC PUMP

GT500

GT200

GT400

GT400

GT500

GT200

GT15

GT06

GT06 PLASTIC PUMP

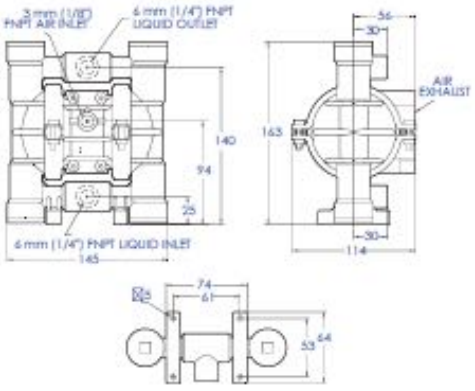
Wetted Part Material
- Polypropylene: 1.5 KG
- Polyvinylidene fluoride: 1.5 KG

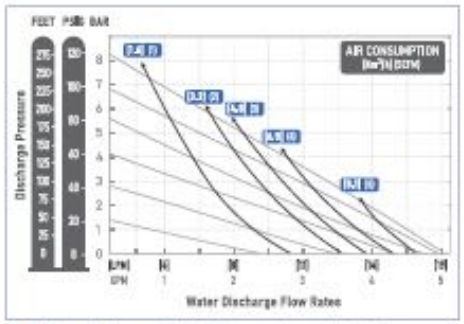
Diaphragm Material
- Teflon
- Santoprene

Max. Flow Rate
- Rubber diaphragm: 18.9 LPM
- TP diaphragm: 18.1 LPM
- Teflon PTFE:18.1 LPM

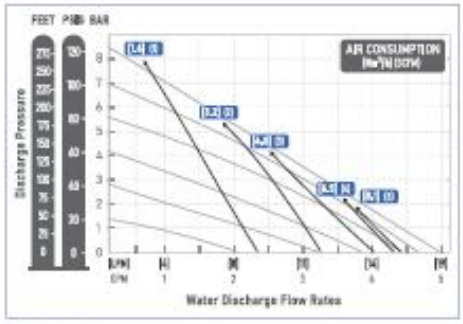
Max. Suction Lift
- Rubber: Dry 2.9 M / Wet 9.5 M
- Thermoplastic compound: Dry 3.1 M / Wet 8.9 M
- Teflon PTFE: Dry 2.5 M / Wet 8.9 M

Parameter
- Liquid inlet: 1/4"
- Liquid outlet: 1/4"
- Air inlet: 1/8"
- Max. inlet pressure: 8.62 BAR (125 PSI)
- Max. size solids: 0.4 mm (1/64")





▲ Rubber diaphragm (Medium is water - positive inlet pressure)



▲ Teflon diaphragm (Medium is water - positive inlet pressure)

GT15 PLASTIC PUMP

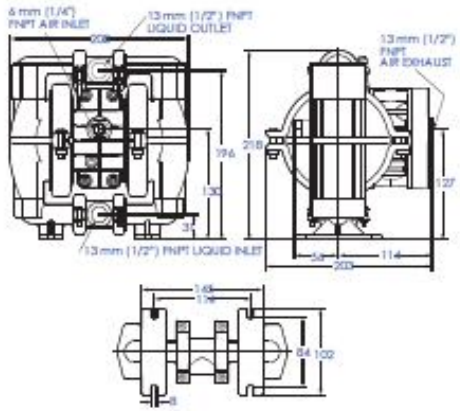
Wetted Part Material
- Polypropylen: 4.2 KG
- Polyvinylidene fluoride: 5.3 KG

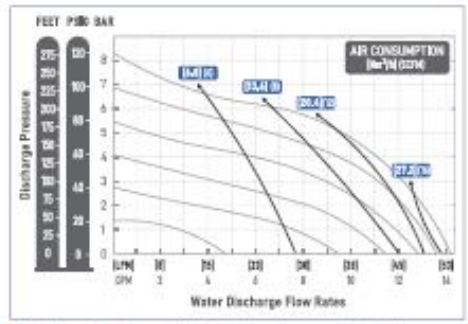
Diaphragm Material
- Teflon
- Santoprene
- EPDM
- NBR
- Viton

Max. Flow Rate
- Rubber diaphragm: 57.0 LPM
- TP diaphragm: 57 LPM
- Teflon PTFE: 53.6 LPM

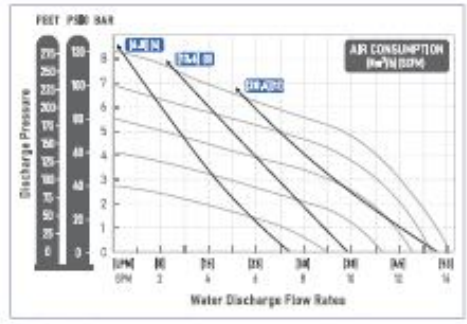
Max. Suction Lift
- Rubber: Dry 6.3 M / Wet 9.55 M
- Thermoplastic compound: Dry 6.3 M / Wet 9.8 M
- Teflon PTFE: Dry 5.5 M / Wet 9.85 M

Parameter
- Liquid inlet: 1/2"
- Liquid outlet: 1/2"
- Air inlet: 1/4"
- Max. inlet pressure: 8.62 BAR (125 PSI)
- Max. size solids: 1.6 mm (1/16")





▲ Rubber diaphragm (Medium is water - positive inlet pressure)



▲ Teflon diaphragm (Medium is water - positive inlet pressure)

GT200 PLASTIC PUMP

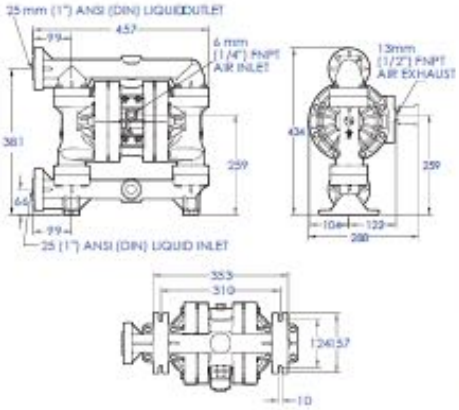
Wetted Part Material
- Polypropylene:10 KG (ATEX Option)
- Polyvinylidene fluoride:15 KG (ATEX Option)

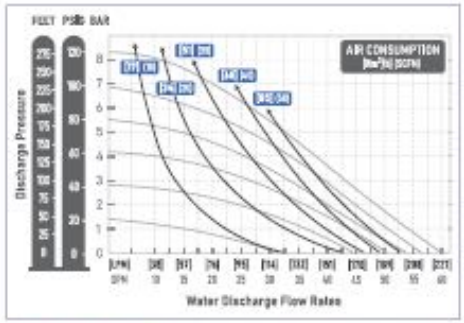
Max. Flow Rate
- Rubber diaphragm: 222 LPM
- TP diaphragm: 216 LPM
- Teflon PTFE: 195 LPM

Parameter
- Liquid inlet: 1"
- Liquid outlet: 1"
- Air inlet: 1/4"
- Max. inlet pressure: 8.62 BAR (125 PSI)
- Max. size solids: 4.76 mm (3/16")

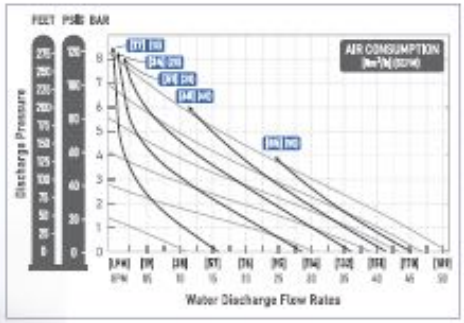
Diaphragm Material
- Teflon
- Santoprene
- EPDM
- NBR
- Viton

Max. Suction Lift
- Rubber: Dry 3.7 M / Wet 9.15 M
- Thermoplastic compound TP: Dry 3.5 M / Wet 9.8 M
- Teflon PTFE: Dry 3.5 M / Wet 8.65 M





▲ Rubber diaphragm (Medium is water - positive inlet pressure)



▲ Teflon diaphragm (Medium is water - positive inlet pressure)

GT400 PLASTIC PUMP

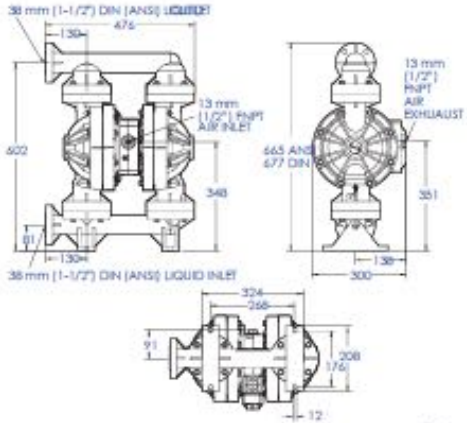
Wetted Part Material
- Polypropylene: 19 KG (ATEX Option)
- Polyvinylidene fluoride: 27.5 KG (ATEX Option)

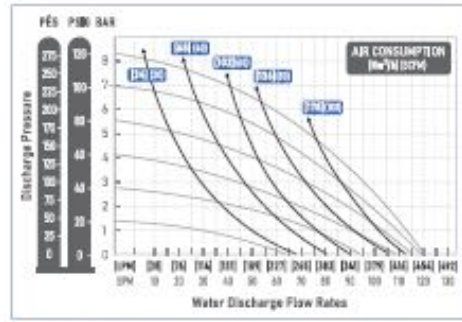
Max. Flow Rate
- Rubber diaphragm: 455 LPM
- TP diaphragm: 455 LPM
- Teflon PTFE: 425 LPM

Parameter
- Liquid inlet: 1.5"
- Liquid outlet: 1.5"
- Air inlet: 1/2"
- Max. inlet pressure: 8.62 BAR (125 PSI)
- Max. size solids: 6.4 mm (1/4")

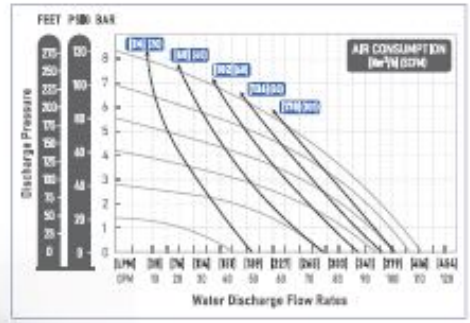
Diaphragm Material
- Teflon
- Santoprene
- EPDM
- NBR
- Viton

Max. Suction Lift
- Rubber: Dry 5.5 M / Wet 9.1 M
- Thermoplastic compound TP: Dry 4.8 M / Wet 9.3 M
- Teflon PTFE: Dry 5.75 M / Wet 9.3 M





▲ Rubber diaphragm (Medium is water - positive inlet pressure)



▲ Teflon diaphragm (Medium is water - positive inlet pressure)

GT500 PLASTIC PUMP

Wetted Part Material

- Polypropylene : 32 KG (ATEX Option)
- Polyvinylidene fluoride : 45 KG (ATEX Option)

Max. Flow Rate

- Rubber diaphragm : 425 LPM
- TP diaphragm : 415 LPM
- Teflon PTFE : 415 LPM

Parameter

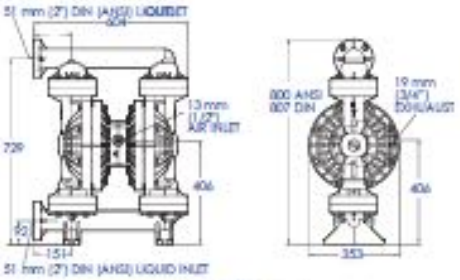
- Liquid inlet : 2"
- Liquid outlet : 2"
- Air inlet : 1/2"
- Max. inlet pressure : 8.62 BAR (125 PSI)
- Max. size solids : 6.4 mm (1/4")

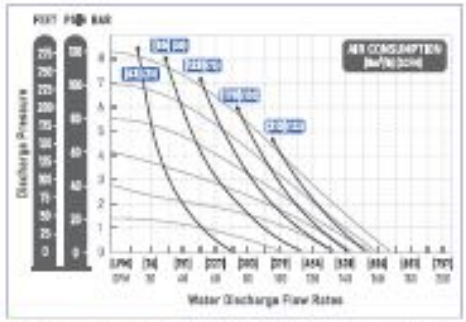
Diaphragm Material

- Teflon
- Santoprene
- EPDM
- NBR
- Viton

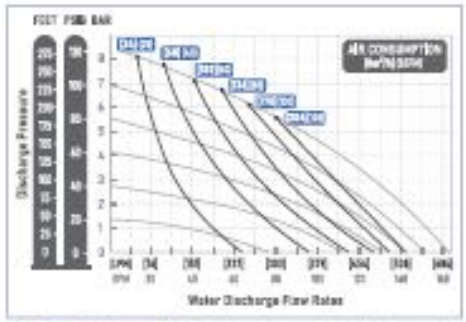
Max. Suction Lift

- Rubber : Dry 4.28 M / Wet 8.7 M
- Thermoplastic compound TP : Dry 3.28 M / Wet 8.66 M
- Teflon PTFE : Dry 3.93 M / Wet 9.1 M

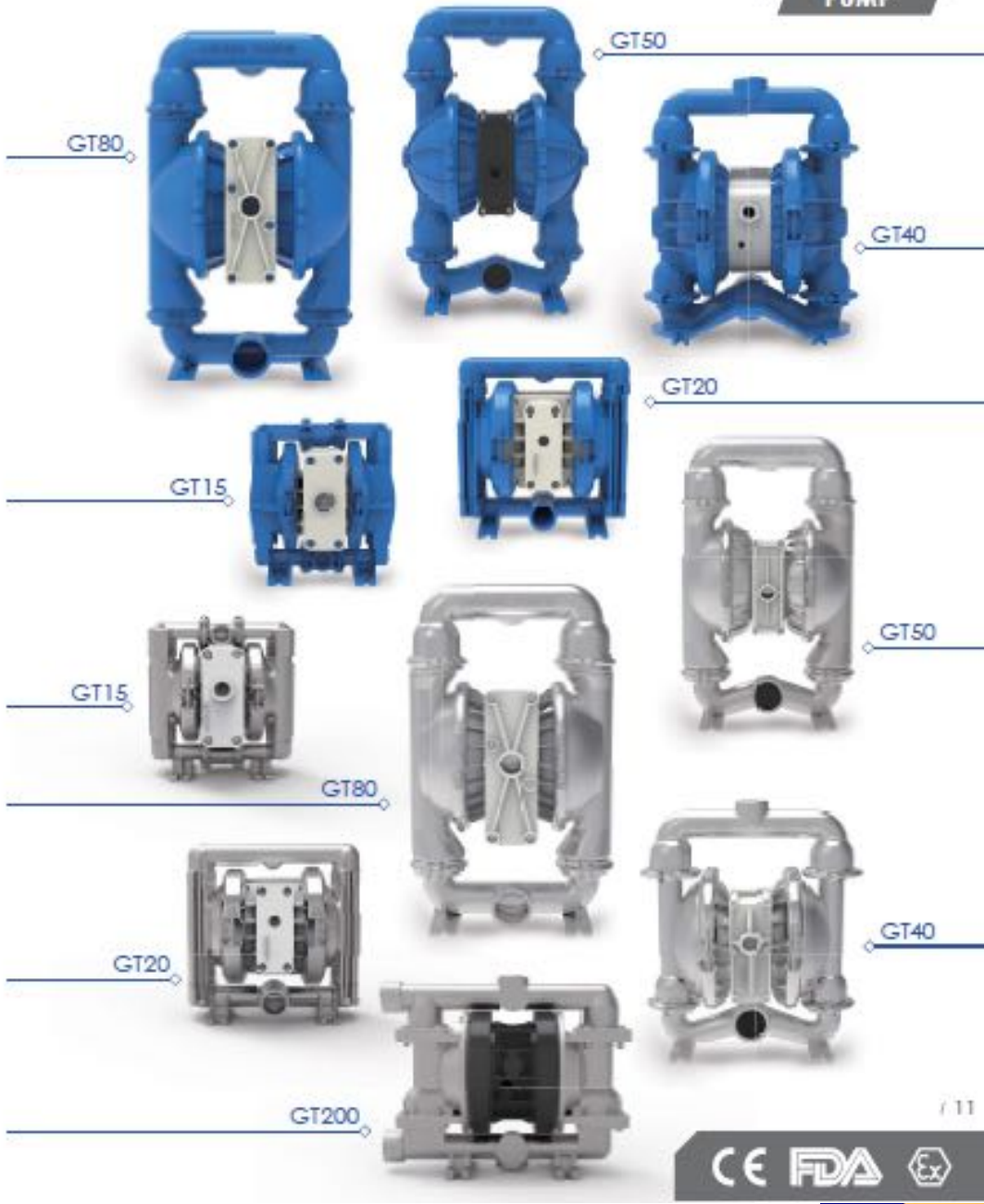




▲ Rubber diaphragm (Medium is water - positive inlet pressure)



▲ Teflon diaphragm (Medium is water - positive inlet pressure)



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GT15 METAL PUMP

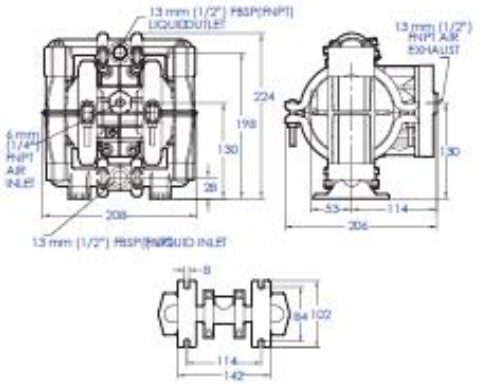
Wetted Part Material
- Aluminum alloy: 6.1 KG (ATEX Option)
- SS316: 9.1 KG (ATEX Option)

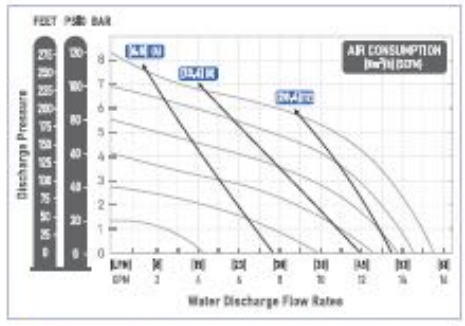
Diaphragm Material
- Teflon
- Santoprene
- EPDM
- NBR
- Viton

Max. Flow Rate
- Rubber diaphragm: 58.9LPM
- TP diaphragm: 58.5LPM
- Teflon PTFE PTFE: 54.5LPM

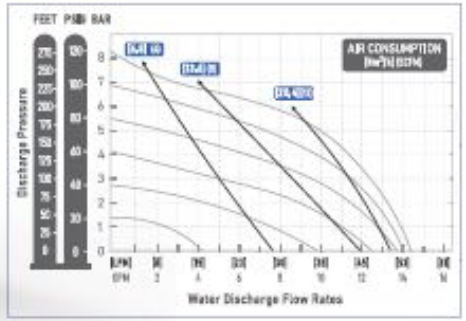
Max. Suction Lift
- Rubber: Dry 6.1 M / Wet 9.55 M
- Thermoplastic compound: Dry 6.1 M / Wet 9.6 M
- Teflon PTFE: Dry 6 M / Wet 9.51 M

Parameter
- Liquid inlet: 1/2"
- Liquid outlet: 1/2"
- Air inlet: 1/4"
- Max. inlet pressure: 8.62 BAR (125 PSI)
- Max. size solids: 1.59 mm (1/16")





▲ Rubber diaphragm (Medium is water - positive inlet pressure)



▲ Teflon diaphragm (Medium is water - positive inlet pressure)

GT20 METAL PUMP

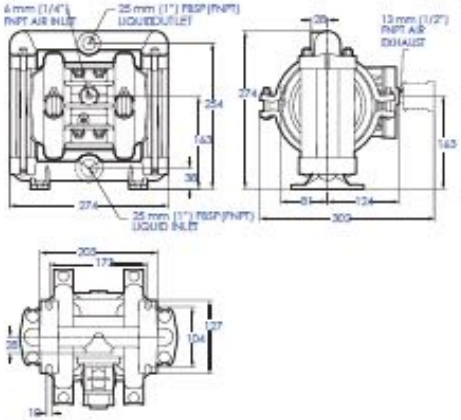
Wetted Part Material
- Aluminum alloy: 9 KG (ATEX Option)
- SS316: 17 KG (ATEX Option)

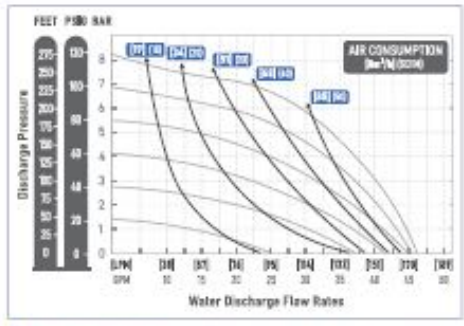
Diaphragm Material
- Teflon
- Santoprene
- EPDM
- NBR
- Viton
- Neoprene

Max. Flow Rate
- Rubber diaphragm: 172 LPM
- TP diaphragm: 171 LPM
- Teflon PTFE: 168 LPM

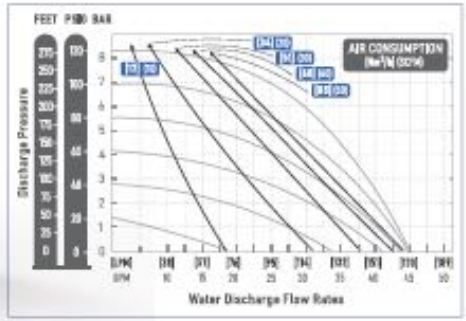
Max. Suction Lift
- Rubber: Dry 5.2 MM / Wet 9.0 M
- Thermoplastic compound: Dry 7.5 MM / Wet 9.0 M
- Teflon PTFE: Dry 5.5 M / Wet 9.1 M

Parameter
- Liquid inlet: 1"
- Liquid outlet: 1"
- Air inlet: 1/4"
- Max. inlet pressure: 8.62 BAR (125 PSI)
- Max. size solids: 3.2 mm (1/8")





▲ Rubber diaphragm (Medium is water - positive inlet pressure)



▲ Teflon diaphragm (Medium is water - positive inlet pressure)

GT200 METAL PUMP

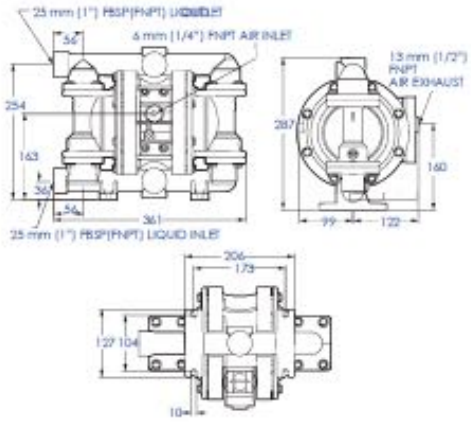
Wetted Part Material
- SS316: 22.5 KG (ATEX Option)

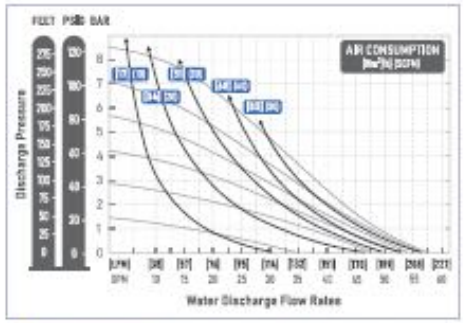
Diaphragm Material
- Teflon
- EPDM
- Viton
- Santoprene
- HBR
- Neoprene

Max. Flow Rate
- Rubber diaphragm: 212 LPM
- TP diaphragm: 212 LPM
- Teflon PTFE: 185 LPM

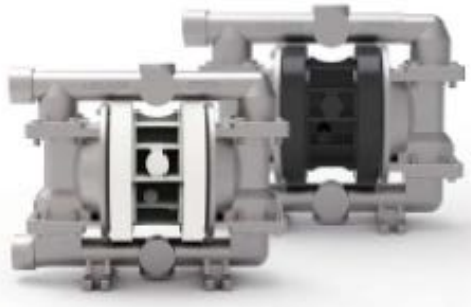
Max. Suction Lift
- Rubber: Dry 5.4 M / Wet 9.3 M
- Thermoplastic compound TP: Dry 5.4 M / Wet 9.3 M
- Teflon PTFE: Dry 4.5 M / Wet 9 M

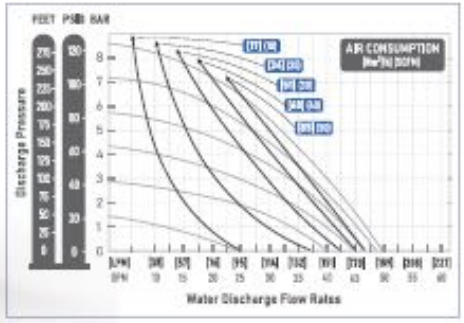
Parameter
- Liquid inlet: 1" (Threaded or Flange)
- Liquid outlet: 1" (Threaded or Flange)
- Air inlet: 1/4"
- Max. inlet pressure: 8.62 BAR (125 PSI)
- Max. size solids: 6.4 mm (1/4")





▲ Rubber diaphragm (Medium is water - positive inlet pressure)





▲ Teflon diaphragm (Medium is water - positive inlet pressure)

GT40 METAL PUMP

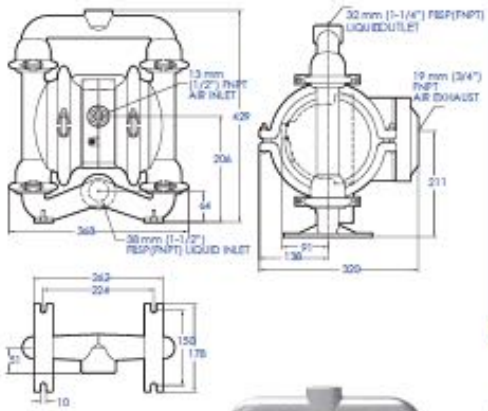
Wetted Part Material
- Aluminum alloy: 13 KG (ATEX Option)
- SS316: 20 KG (ATEX Option)
- Cast Iron: 22 KG (ATEX Option)

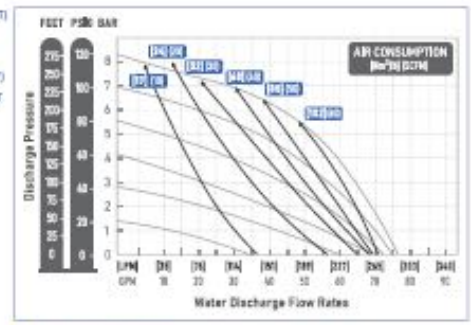
Diaphragm Material
- Teflon
- EPDM
- Viton
- Santoprene
- HBR
- Neoprene

Max. Flow Rate
- Rubber diaphragm: 288 LPM
- TP diaphragm: 307 LPM
- Teflon PTFE: 330 LPM

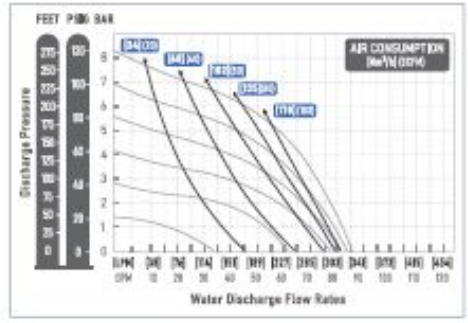
Max. Suction Lift
- Rubber: Dry 5.9 M / Wet 8 M
- Thermoplastic compound TP: Dry 5.2 M / Wet 8.8 M
- Teflon PTFE: Dry 6.4 M / Wet 9.3 M

Parameter
- Liquid inlet: 1¼"
- Liquid outlet: 1½"
- Air inlet: 3/4"
- Max. inlet pressure: 8.62 BAR (125 PSI)
- Max. size solids: 4.8 mm (3/16")





▲ Rubber diaphragm (Medium is water - positive inlet pressure)



▲ Teflon diaphragm (Medium is water - positive inlet pressure)

GT50 METAL PUMP

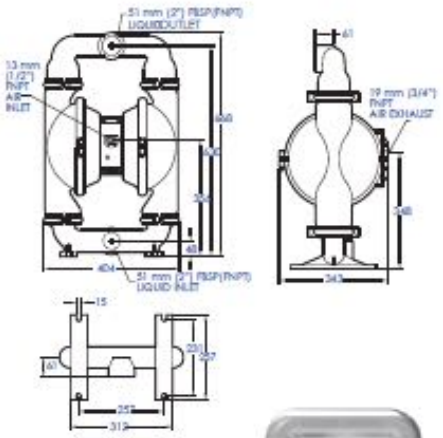
Wetted Part Material
- Aluminum alloy: 33 KG (ATEX Option)
- SS316: 51.5 KG (ATEX Option)
- Cast Iron: 47 KG (ATEX Option)

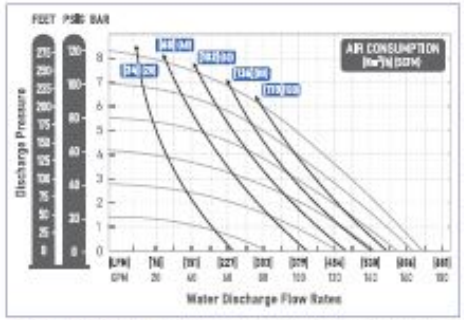
Max. Flow Rate
- Rubber diaphragm: 623 LPM
- TP diaphragm: 630 LPM
- Teflon PTFE: 618 LPM

Parameter
- Liquid inlet: 2"
- Liquid outlet: 2"
- Air inlet: 1/2"
- Max. inlet pressure: 8.62 BAR (125 PSI)
- Max. size solids: 4.4 mm (1/4")

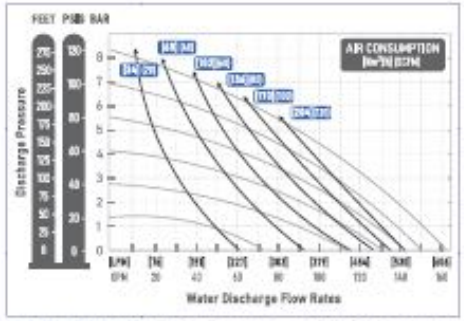
Diaphragm Material
- Teflon
- Santoprene
- EPDM
- NBR
- Viton
- Neoprene

Max. Suction Lift
- Rubber: Dry 6.95 M / Wet 8.6 M
- Thermoplastic compound: Dry 6.7 M / Wet 8.6 M
- TeflonPTFE: Dry 6.7 M / Wet 9 M





▲ Rubber diaphragm (Medium is water - positive inlet pressure)



▲ Teflon diaphragm (Medium is water - positive inlet pressure)

GT80 METAL PUMP

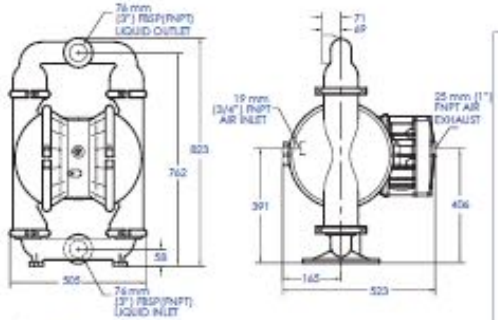
Wetted Part Material
- Aluminum alloy: 55 KG (ATEX Option)
- SS316: 105 KG (ATEX Option)
- Cast Iron: 93 KG (ATEX Option)

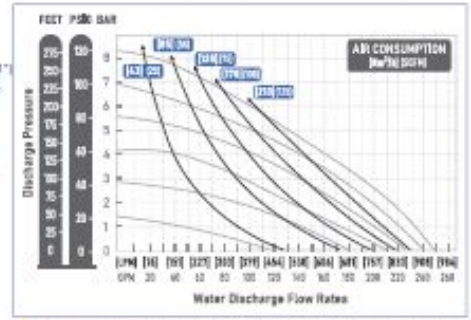
Max. Flow Rate
- Rubber diaphragm: 927 LPM
- TP diaphragm: 901 LPM
- Teflon PTFE: 916 LPM

Parameter
- Liquid inlet: 3"
- Liquid outlet: 3"
- Air inlet: 3/4"
- Max. inlet pressure: 8.62 BAR (125 PSI)
- Max. size solids: 9.5 mm (3/8")

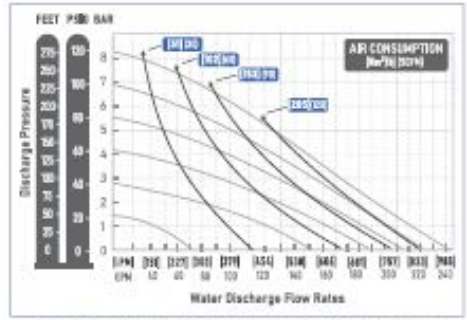
Diaphragm Material
- Teflon
- Santoprene
- EPDM
- NBR
- Viton
- Neoprene

Max. Suction Lift
- Rubber: Dry 6.6 M / Wet 8.6 M
- Thermoplastic compound: Dry 6.3 M / Wet 8.6 M
- Teflon PTFE: Dry 6.2 M / Wet 8.6 M





▲ Rubber diaphragm (Medium is water - positive inlet pressure)



▲ Teflon diaphragm (Medium is water - positive inlet pressure)

Fluid Supply

2023

Hygienic Pump HS

FDA Pump

Model	HS GT20	HS GT40	HS GT50	HS GT80	FDA GT15	FDA GT20	FDA GT40	FDA GT50	FDA GT80
Material	316L	316L	316L	316L	316	316	316	316	316
Max. Flow Rate	Rubber diaphragm: 142LPM TP diaphragm: 152LPM Teflon PTFE diaphragm: 149LPM	Rubber diaphragm: 364LPM TP diaphragm: 367LPM Teflon PTFE diaphragm: 340LPM	Rubber diaphragm: 577LPM TP diaphragm: 586LPM Teflon PTFE diaphragm: 555LPM	Rubber diaphragm: 890LPM TP diaphragm: 840LPM Teflon PTFE diaphragm: 796LPM	Rubber diaphragm: 57.7LPM TP diaphragm: 57.5LPM Teflon PTFE diaphragm: 53.5LPM	Rubber diaphragm: 169LPM TP diaphragm: 171LPM Teflon PTFE diaphragm: 166LPM	Rubber diaphragm: 287LPM TP diaphragm: 306LPM Teflon PTFE diaphragm: 294LPM	Rubber diaphragm: 698LPM TP diaphragm: 719LPM Teflon PTFE: 721LPM	Rubber diaphragm: 926LPM TP diaphragm: 901LPM Teflon PTFE: 915LPM
Suction Lift	Rubber Dry: 5.2M Wet: 9M Thermoplastic composite Dry: 7.6M Wet: 9M Teflon PTFE: Dry: 4.7M Wet: 9.1M	Rubber: Dry: 5.9M Wet: 8M Thermoplastic composite Dry: 5.2M Wet: 8.8M Teflon PTFE: Dry: 6.4M Wet: 9.3M	Rubber: Dry: 6.95M Wet: 8.6M Thermoplastic composite: Dry: 6.7M Wet: 8.6M Teflon PTFE: Dry: 6.7M Wet: 9M	Rubber: Dry: 6.6M Wet: 8.6M Thermoplastic composite: Dry: 6.3M Wet: 8.6M Teflon PTFE: Dry: 6.2M Wet: 8.6M	Rubber: Dry: 5.9M Wet: 9.55M Thermoplastic composite: Dry: 5.2M Wet: 9.6M Teflon PTFE: Dry: 4.9M Wet: 9.51M	Rubber: Dry: 5.2M Wet: 9.0M Thermoplastic composite: Dry: 7.5M Wet: 9.0M Teflon PTFE: Dry: 5.5M Wet: 9.1M	Rubber: Dry: 5.9M Wet: 8M Thermoplastic composite: Dry: 5.2M Wet: 8.8M Teflon PTFE: Dry: 6.4M Wet: 9.3M	Rubber: Dry: 6.95M Wet: 8.6M Thermoplastic composite: Dry: 6.7M Wet: 8.6M Teflon PTFE: Dry: 6.7M Wet: 9M	Rubber: Dry: 6.6M Wet: 8.6M Thermoplastic composite: Dry: 6.3M Wet: 8.6M Teflon PTFE: Dry: 6.2M Wet: 8.6M
Parameter	Liquid Inlet: 25mm(1")TRI-CLAMP Liquid discharge: 25mm(1")TRI-CLAMP Air Inlet: 13mm(1/2") Max. discharge pressure: 8.62BAR (125PSI) Max. size solids: 6.4mm(1/4") Finishing: Surface Finish: Ra 0.8 µm	Liquid Inlet: 38mm(1-1/2")TRI-CLAMP Liquid discharge: 38mm(1-1/2")TRI-CLAMP Air Inlet: 19mm(3/4") Max. discharge pressure: 8.62BAR (125PSI) Max. size solids: MushroomValve: 6.4mm Ball Valve: 12.7mm Finishing: Surface Finish: Ra 0.8 µm	Liquid Inlet: 51mm(2")TRI-CLAMP Liquid discharge: 51mm(2")TRI-CLAMP Air Inlet: 19mm(3/4") Max. discharge pressure: 8.62BAR (125PSI) Max. size solids: MushroomValve: 6.4mm Ball Valve: 12.7mm Finishing: Surface Finish: Ra 0.8 µm	Liquid Inlet: 76mm(3")TRI-CLAMP Liquid discharge: 76mm(3")TRI-CLAMP Air Inlet: 19mm(3/4") Max. discharge pressure: 8.62BAR (125PSI) Max. size solids: MushroomValve: 9.5mm Ball Valve: 19mm Flap Valve(compressible solids) 60.3 mm (2-3/8) Finishing: Surface Finish: Ra 0.8 µm	Liquid Inlet: 25mm(1")TRI-CLAMP Liquid discharge: 25mm(1")TRI-CLAMP Air Inlet: 6mm(1/4") Max. discharge pressure: 8.62BAR (125PSI) Max. size solids: 1.59mm(1/16") Finishing: Surface Finish: Ra 5.1 µm	Liquid Inlet: 38mm(1-1/2")TRI-CLAMP Liquid discharge: 38mm(1-1/2")TRI-CLAMP Air Inlet: 6mm(1/4") Max. discharge pressure: 8.62BAR (125PSI) Max. size solids: 3.2mm Finishing: Surface Finish: Ra 5.1 µm	Liquid Inlet: 51mm(2")TRI-CLAMP Liquid discharge: 51mm(2")TRI-CLAMP Air Inlet: 13mm(1/2") Max. discharge pressure: 8.62BAR (125PSI) Max. size solids: 4.8mm(3/16") Finishing: Surface Finish: Ra 5.1 µm	Liquid Inlet: 64mm(2-1/2")TRI-CLAMP Liquid discharge: 64mm(2-1/2")TRI-CLAMP Air Inlet: 19.05mm(3/4") Max. discharge pressure: 8.62BAR (125PSI) Max. size solids: 6.4mm(1/4") Finishing: Surface Finish: Ra 5.1 µm	Liquid Inlet: 76mm(3")TRI-CLAMP Liquid discharge: 76mm(3")TRI-CLAMP Air Inlet: 19mm(3/4") Max. discharge pressure: 8.62BAR (125PSI) Max. size solids: 9.5mm(3/8") Finishing: Surface Finish: Ra 5.1 µm

Fluid Supply

WE OFFER PARTS THAT FIT MOST BRANDED DIAPHRAGM PUMPS