

Duotek Series

AIR OPERATED DOUBLE DIAPHRAGM PUMPS



innovation > technology > future

Duotek

Air operated double diaphragm pumps.

The draft of the SEKO's new double diaphragm pumps, it is mainly developed around the air distribution system, the diaphragm's high technology, the pumping chambers geometry and the valves system; this in order to extend the functionality, not only for transfer but also for dosing. The result is an innovative product with next-generation solutions.

MAIN FEATURES

- . construction's materials: PP/PVDF, AISI 316, ALUMINIUM
- . Self-priming up to 6m
- . Unlimited dry running
- . Anti-stall pneumatic circuit , easy to maintain
- . possibility to adjust: flow-rate, head and speed
- . various installations and configurations
- . ATEX certifications for Zone 1 and 2 in all versions
- . air-discharge's cover with connections for various uses

- a DELIVERY MANIFOLD
- b SUCTION MANIFOLD
- c ASTABLE AIR EXCHANGER
- d PUMPING CHAMBER
- e DIAPHRAGMS
- f BALL VALVE

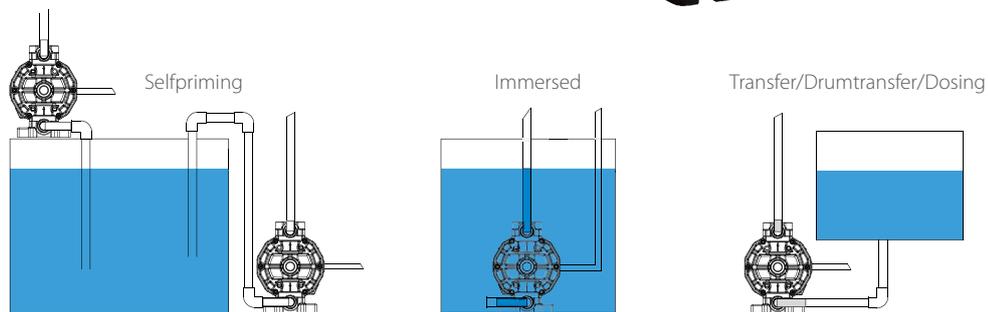
ASTABLE SISTEM INTERNAL PNEUMATIC EXCHANGER P18 - P50



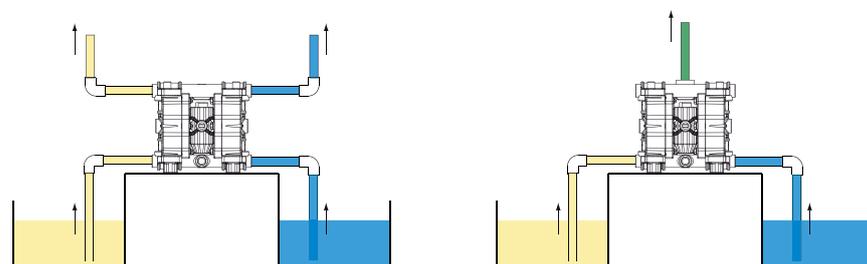
ASTABLE SISTEM EXTERNAL PNEUMATIC EXCHANGER P65 - P100 - P160 - P250 - P500 - P700



INSTALLATION



ON REQUEST: POSSIBILITY TO DOUBLE THE MANIFOLDS IN SUCTION AND IN DELIVERY



PUMPS COMPOSITION

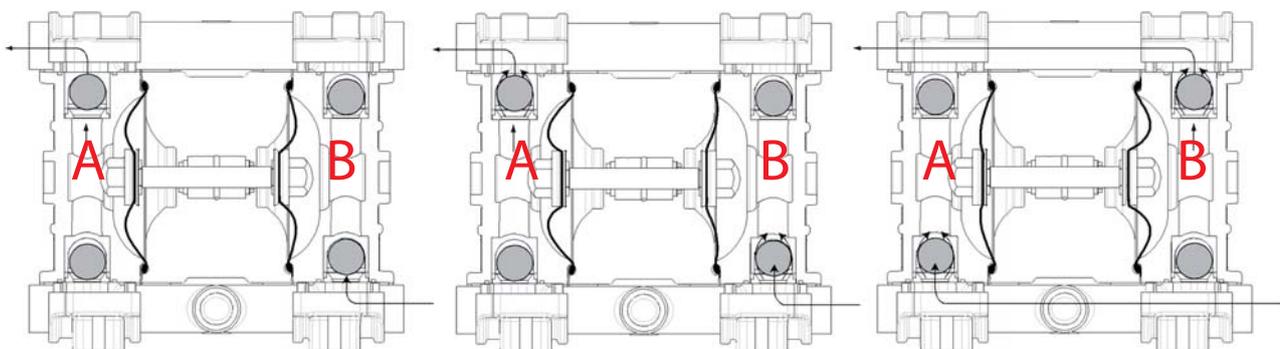
PUMP MODEL	PUMP BODY	AIR DIAPHRAGM	FLUID DIAPHRAGM	BALLS	BALL SEATS	O-RINGS	CONNECTIONS	ATEX
AF0018	P - POLYPROPYLENE	H - HYTREL	T - PTFE	T - PTFE	P - POLYPROPYLENE	D - EPDM	1 - BSP THREADED	X0 - ATEX ZONE 1
AF0050	A - ALUMINUM	M - SANTOPRENE		S - SS AISI 316	K - PVDF	V - FPM	2 - FLANGED	00 - ATEX ZONE 2
AF0065	S - SS AISI 316	D - EPDM		D - EPDM	S - SS AISI 316	T - PTFE	3 - CLAMP	
AF0100	O - POM	N - NBR		N - NBR	A - ALUMINUM	N - NBR	4 - TWIN CONNECTION	
AF0160	KC - PVDF+CF				Z - PE-UHMW		5 - NPT THREADED	
AF0250	PC - PP+CF							
AF0500								
AF0700								
AF1000								

OPERATING PRINCIPLE

The pneumatic distribution system sends compressed air behind one of the two diaphragms (A), which pushes the fluid towards the delivery circuit.

Simultaneously, the opposing diaphragm (B) is located, creating a vacuum in the chamber B, in the suction phase, moved from the shaft that connect the diaphragm to the other (A). In this way the product is sucked from the intake manifold, thanks to de-pressure created in the fluid chamber.

When the diaphragm (A), under pressure, reaches the limit of the stroke the distributor switches the two inputs, and the cycle starts again. At the same time, the balls open and close, alternating the chamber A and B, in the closed situation for suction and open delivery in the situation.



Duotek - zone 2 ⚠ II 3/3 GD c IIB T135°C
 Duotek Atex - zone 1 ⚠ II 2/2 GD c IIB T135°C

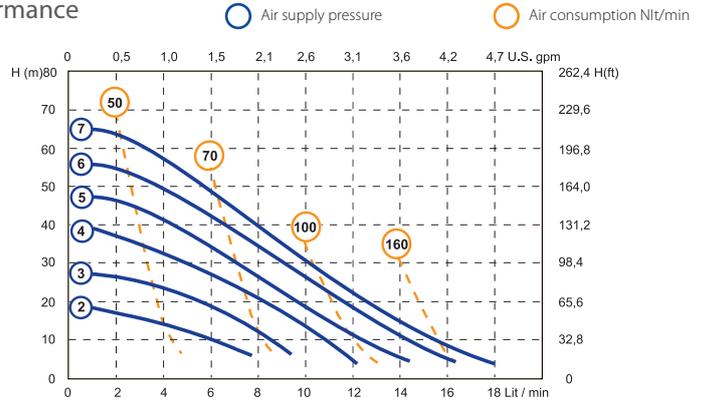


PP

Technical data

Connections	3/8" BSP	Air connection	6 mm
Max flow rate	18 l/min	Max self priming capacity	6 m
Max head	70 m	Diameter of passing solids	2,5 mm
Max pressure	7 bar		

Performance



* 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.

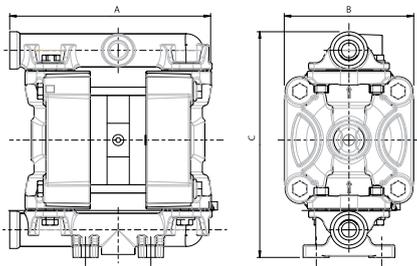


PVDF+CF

POMc

AISI 316

Dimensions



	PP	PVDF	POMc	AISI 316
A (mm)	145	145	145	145
B (mm)	95	95	95	95
C (mm)	160	160	160	160
Weight (kg)	2	2,5	2	3
MAX Temperature	65°	95°	95°	95°

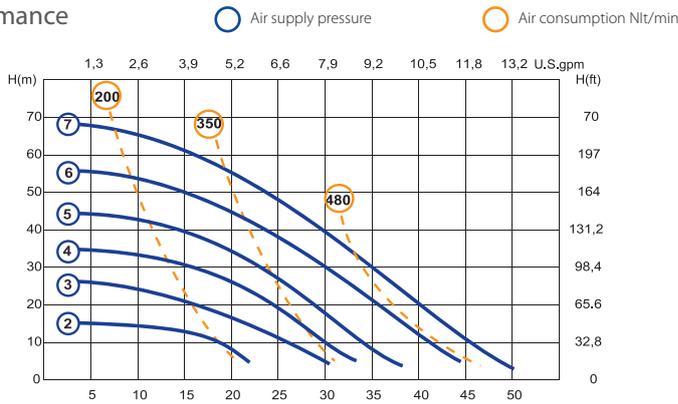
AF0050

Duotek - zone 2 ⚠ II 3/3 GD c IIB T135°C
 Duotek Atex - zone 1 ⚠ II 2/2 GD c IIB T135°C

Technical data

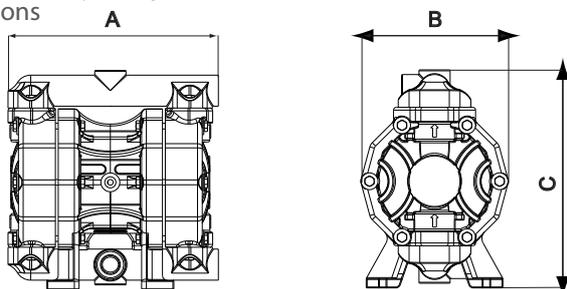
Connections	1/2" BSP	Air connection	1/4" BSP
Max flow rate	50 l/min	Max self priming capacity	6 m
Max head	70 m	Diameter of passing solids	3 mm
Max pressure	7 bar		

Performance



* 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



PP



PVDF+CF

Alu

AISI 316

	PP	PVDF	Alu	AISI 316
A (mm)	222	222	225	225
B (mm)	156	156	156	156
C (mm)	233	233	230	230
Weight (kg)	4	4,5	5	6
MAX Temperature	65°	95°	95°	95°

ISO-ANSI flanged connections on request

AF0065

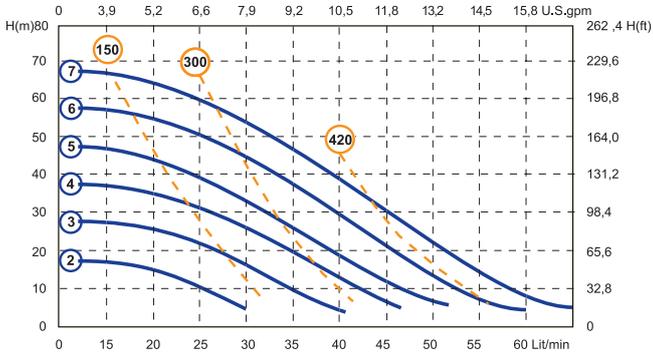
Duotek - zone 2  II 3/3 GD c IIB T135°C
Duotek Atex - zone 1  II 2/2 GD c IIB T135°C

Technical data

Connections	1/2" BSP	Air connection	1/2" BSP
Max flow rate	65 l/min	Max self priming capacity	6 m
Max head	70 m	Diameter of passing solids	3,5 mm
Max pressure	7 bar		

Performance

 Air supply pressure  Air consumption Nlt/min



* 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.



PP



PVDF+CF

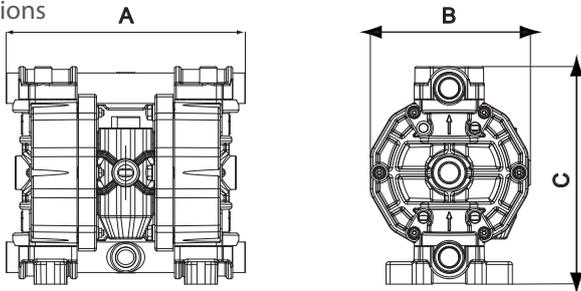


Alu



AISI 316

Dimensions



	PP	PVDF	Alu	AISI 316
A (mm)	265	265	265	250
B (mm)	175	175	175	175
C (mm)	245	245	245	250
Weight (kg)	6,5	7	7	9
MAX Temperature	65°	95°	95°	95°

ISO-ANSI flanged connections on request



PP

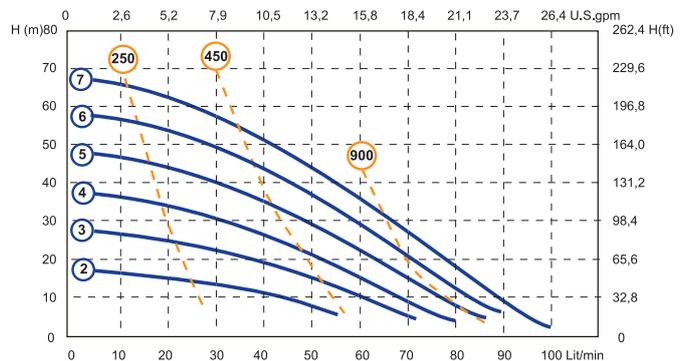
Duotek - zone 2  II 3/3 GD c IIB T135°C
Duotek Atex - zone 1  II 2/2 GD c IIB T135°C

Technical data

Connections	3/4" BSP	Air connection	1/2" BSP
Max flow rate	100 l/min	Max self priming capacity	6 m
Max head	70 m	Diameter of passing solids	3,5 mm
Max pressure	7 bar		

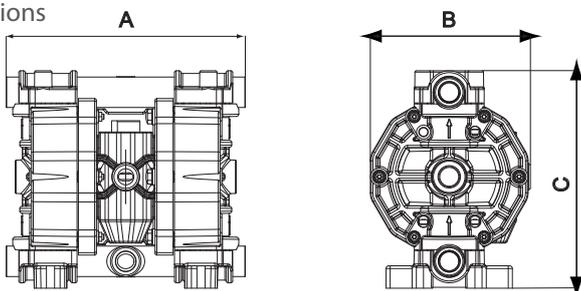
Performance

 Air supply pressure  Air consumption Nlt/min



* 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



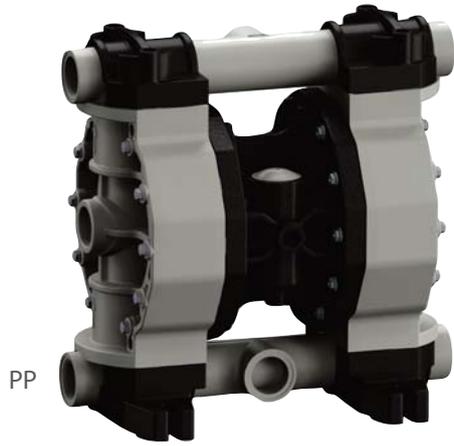
AF0100

	PP	PVDF	Alu	AISI 316
A (mm)	265	265	265	250
B (mm)	175	175	175	175
C (mm)	245	245	245	250
Weight (kg)	6,5	7	7	9
MAX Temperature	65°	95°	95°	95°

ISO-ANSI flanged connections on request

AF0160

Duotek - zone 2 ⚠ II 3/3 GD c IIB T135°C
 Duotek Atex - zone 1 ⚠ II 2/2 GD c IIB T135°C



PP



PVDF+CF



Alu

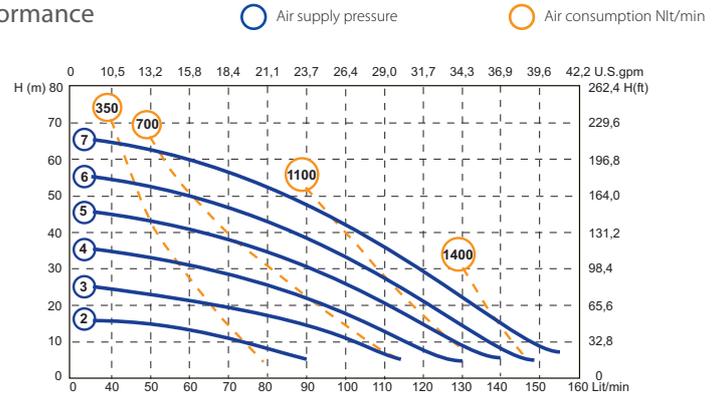


AISI 316

Technical data

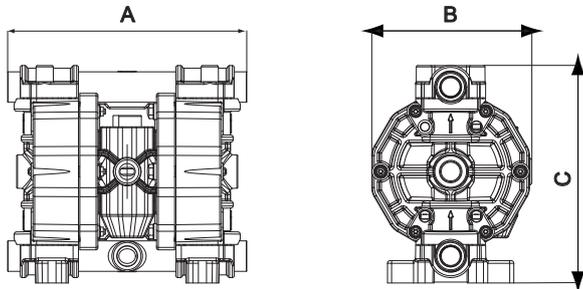
Connections	1" BSP	Air connection	1/2" BSP
Max flow rate	160 l/min	Max self priming capacity	6 m
Max head	70 m	Diameter of passing solids	7,5 mm
Max pressure	7 bar		

Performance



* 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



	PP	PVDF	Alu	AISI 316
A (mm)	370	370	370	360
B (mm)	220	220	220	220
C (mm)	364	364	364	365
Weight (kg)	15	16	16	20
MAX Temperature	65°	95°	95°	95°

ISO-ANSI flanged connections on request

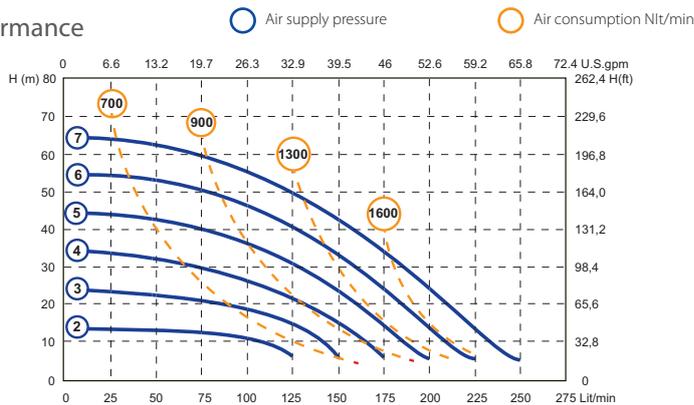
AF0250

Duotek - zone 2 ⚠ II 3/3 GD c IIB T135°C
 Duotek Atex - zone 1 ⚠ II 2/2 GD c IIB T135°C

Technical data

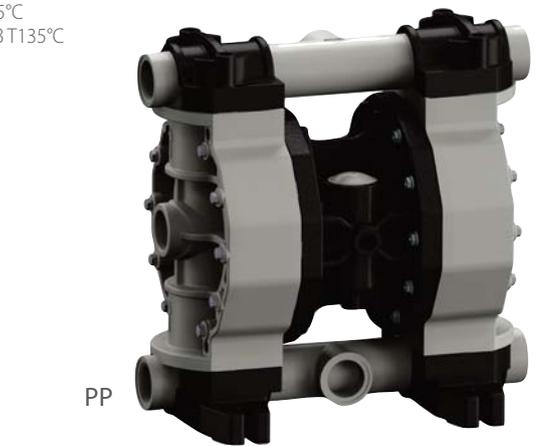
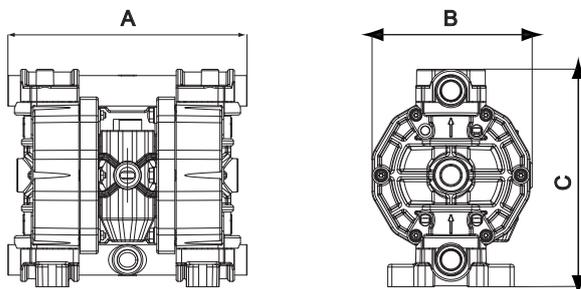
Connections	1 1/4" BSP	Air connection	1/2" BSP
Max flow rate	250 l/min	Max self priming capacity	6 m
Max head	70 m	Diameter of passing solids	7,5 mm
Max pressure	7 bar		

Performance



* 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



PP



PVDF+CF



Alu



AISI 316

	PP	PVDF	Alu	AISI 316
A (mm)	370	370	370	360
B (mm)	220	220	220	220
C (mm)	364	364	364	365
Weight (kg)	15	16	16	20
MAX Temperature	65°	95°	95°	95°

ISO-ANSI flanged connections on request

AF0400

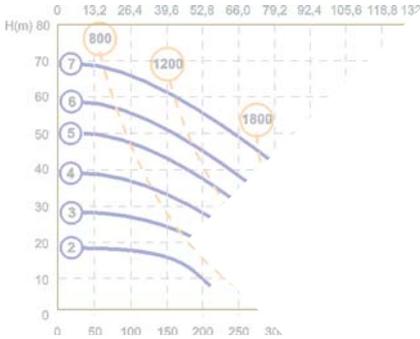
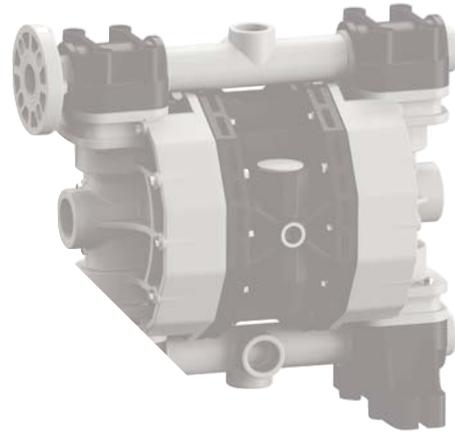
Duotek - zone 2 II 3/3 GD c IIB T135°C
 Duotek Atex - zone 1 II 2/2 GD c IIB T135°C

Technical data

Connections DN40 (1 1/2" BSP)* Air connection
 Max flow rate 400 l/min Max self priming capacity
 Max head 70 m Diameter of passing solid¹
 Max pressure 7 bar

Performance

○ Air supply pressure



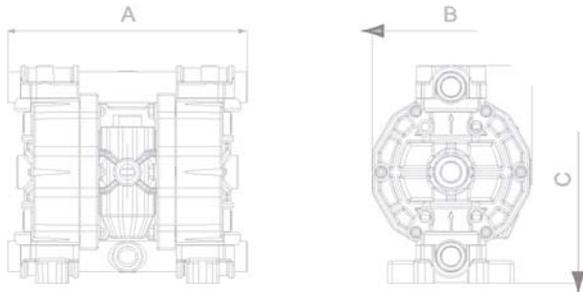
* The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction n.

READY IN JUNE 2014



AISI 316

Dimensions



	PP	PVDF	Alu	AISI 316
A (mm)	265	265	265	250
B (mm)	175	175	175	175
C (mm)	245	245	245	250
Weight (kg)	6,5	7	7	9
MAX Temperature	65°	95°	95°	95°

ISO-ANSI flanged connections on request

Duotek - zone 2 II 3/3 GD c IIB T135°C
 Duotek Atex - zone 1 II 2/2 GD c IIB T135°C

AF0500

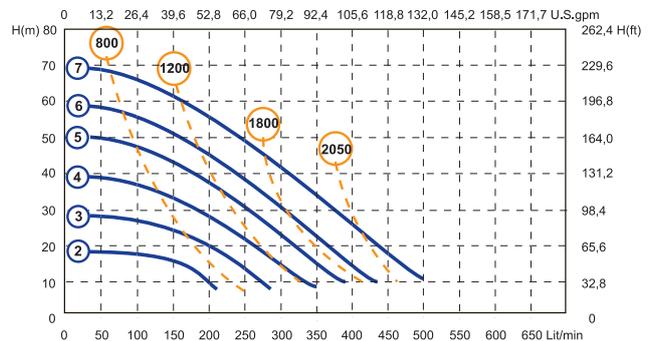
Technical data

Connections DN40 (1 1/2" BSP)* Air connection 3/4" BSP
 Max flow rate 500 l/min Max self priming capacity 6 m
 Max head 70 m Diameter of passing solids 8,5 mm
 Max pressure 7 bar

Performance

○ Air supply pressure

○ Air consumption Nlt/min



* 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.

	PP	PVDF	Alu	AISI 316
A (mm)	595	595	595	582
B (mm)	340	340	340	345
C (mm)	565	565	245	570
Weight (kg)	30	30	35	58
MAX Temperature	65°	95°	95°	95°

(*) Threaded connections on request



PP



PVDF+CF

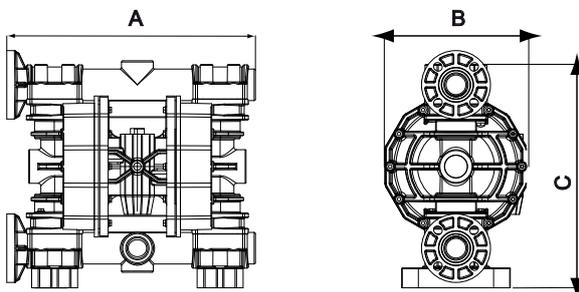


Alu



AISI 316

Dimensions



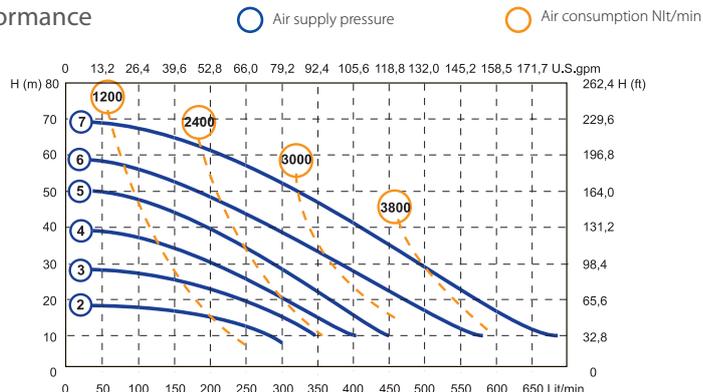
AF0700

 Duotek - zone 2  II 3/3 GD c IIB T135°C
 Duotek Atex - zone 1  II 2/2 GD c IIB T135°C

Technical data

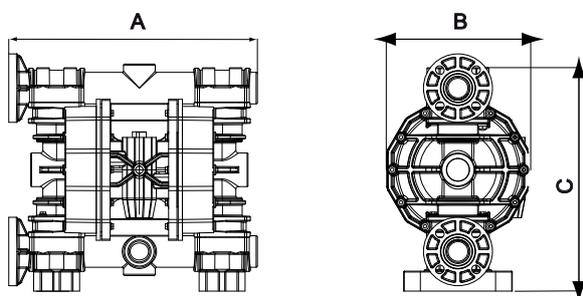
Connections	DN50 (2" BSP)*	Air connection	3/4" BSP
Max flow rate	680 l/min	Max self priming capacity	6 m
Max head	70 m	Diameter of passing solids	8,5 mm
Max pressure	7 bar		

Performance



* 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



	PP	PVDF	Alu	AISI 316
A (mm)	595	595	595	582
B (mm)	340	340	340	345
C (mm)	572	572	572	570
Weight (kg)	31	36	36	60
MAX Temperature	65°	95°	95°	95°

(*) Threaded connections on request



PVDF+CF

Alu

AISI 316



PP



Alu



AISI 316

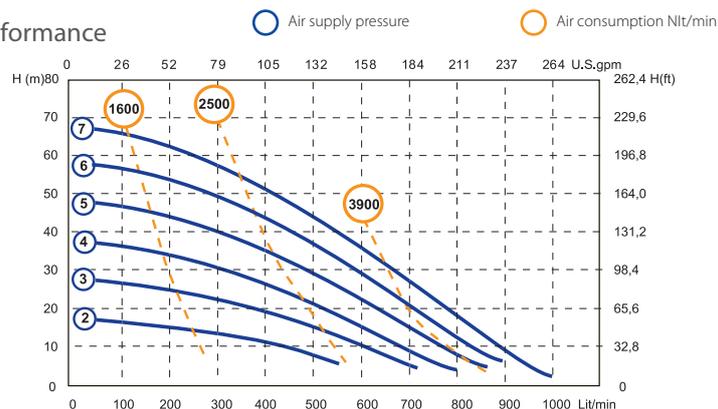
 Duotek - zone 2  II 3/3 GD c IIB T135°C
 Duotek Atex - zone 1  II 2/2 GD c IIB T135°C

AF1000

Technical data

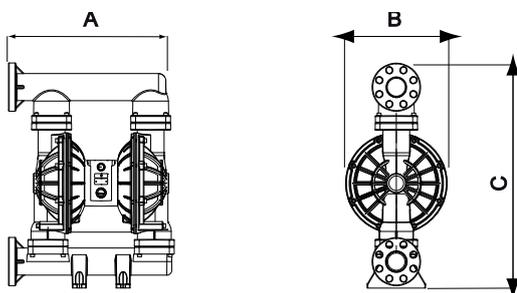
Connections	DN80 (3" BSP)*	Air connection	3/4" BSP
Max flow rate	1000 l/min	Max self priming capacity	6 m
Max head	70 m	Diameter of passing solids	10 mm
Max pressure	7 bar		

Performance



* 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



	PP	Alu	AISI 316
A (mm)	595	595	582
B (mm)	340	340	345
C (mm)	572	572	570
Weight (kg)	31	36	60
MAX Temperature	65°	95°	95°

Duotek Food & Sani Duotek

Double diaphragm pumps for food, pharmaceutical and cosmetics industry.



The air-operated double diaphragm pumps series FOOD Duotek, thanks to their structural characteristics, can be used to pump products used in food and cosmetics industry.

The air-operated double diaphragm pumps series Duotek FOOD, are made with FDA certified construction materials.

The parts in contact with the fluid, in fact, are exclusively electro-polished AISI 316 and PTFE, both certified for food use.

These pumps are able to handling fluids with very high viscosity and temperature up to 95° C.

MAIN FEATURES

- . Construction's materials: Electro-polished AISI 316, medium roughness is 2,7µm.
- . Self-priming up to 6m
- . Unlimited dry running
- . Anti-stall pneumatic circuit , easy to maintain
- . Possibility to adjust: flow-rate, head and speed
- . Various installations and configurations
- . ATEX certifications for Zone 1 and 2 in all versions
- . Air-discharge's cover with connections for various uses
- . Suction and delivery connection with CLAMP

FDA
compliant

DUOTEK FOOD

Material: Stainless steel AISI 316 Electropolished.
Average roughness of 2.7 µm

SANI DUOTEK

Material: Stainless steel AISI 316 mechanically polished.
Roughness of 0,4 µm





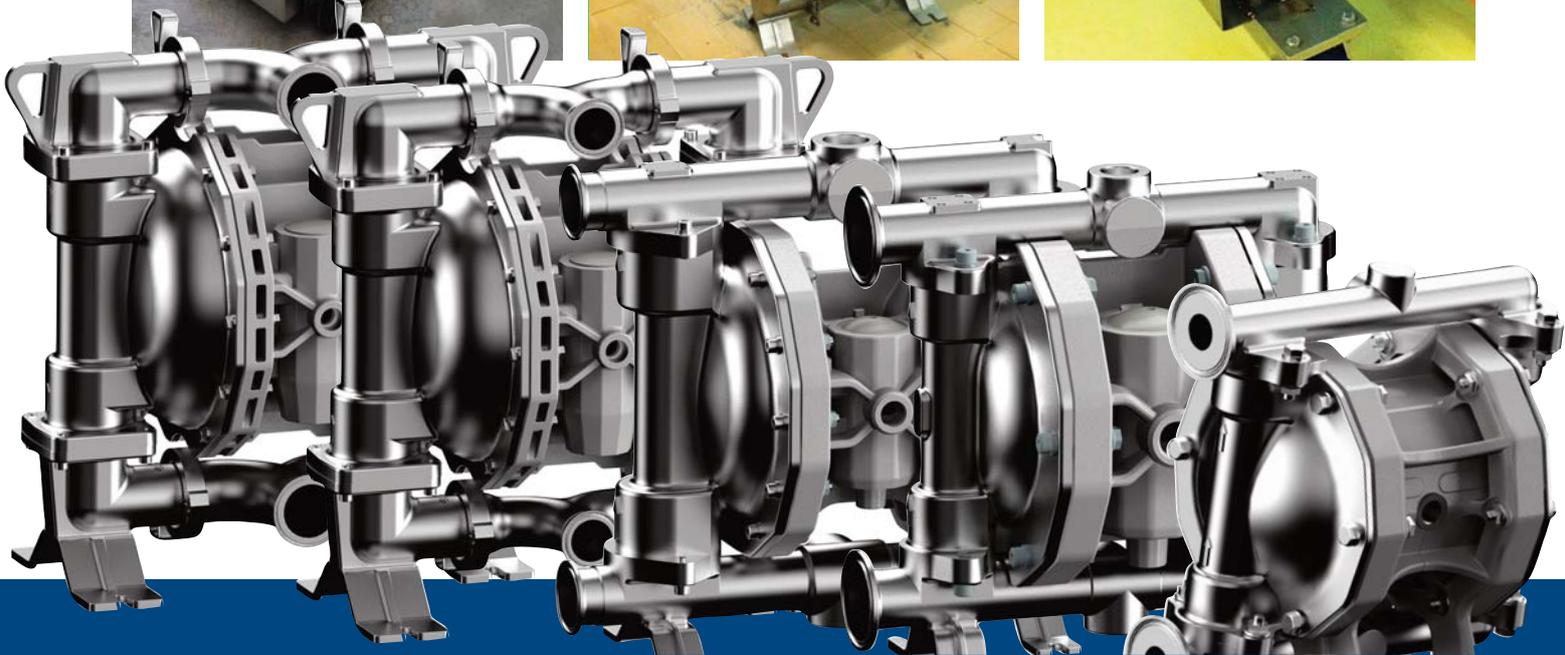
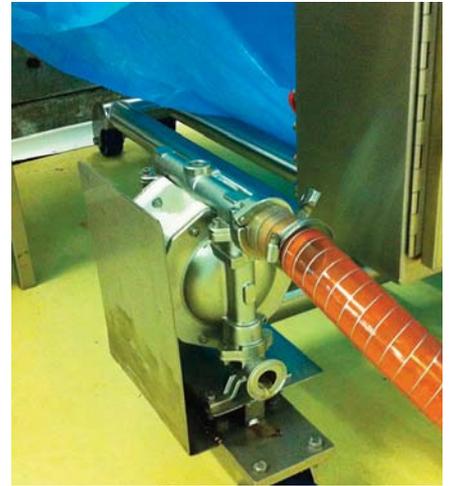
FDA

compliant

- a DELIVERY MANIFOLD
- b SUCTION MANIFOLD
- c ASTABLE AIR EXCHANGER
- d PUMPING CHAMBER
- e DIAPHRAGMS
- f BALL VALVE

PUMPS COMPOSITION

PUMP MODEL	PUMP BODY	AIR DIAPHRAGM	FLUID DIAPHRAGM	BALLS	BALL SEATS	O-RINGS	CONNECTIONS	ATEX	FDA
AF0018	S - AISI 316	H - HYTREL	T - PTFE	T - PTFE	S - AISI 316 SS	T - PTFE	1 - BSP THREADED	X - ATEX ZONE 1	F
AF0050	PF: ELECTROPOLISHED			S - AISI 316 SS			2 - FLANGED	0 - ATEX ZONE 2	F
AF0100	SP: MECHANICALLY POLISHED						3 - CLAMP		
AF0160									
AF0500									
AF0700									
AF1000									

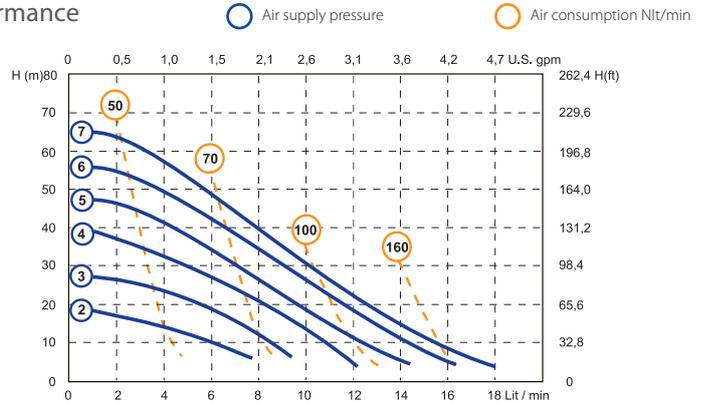




Technical data

Connections	CLAMP da 3/4"	Air connection	6 mm
Max flow rate	18 l/min	Max self priming capacity	6 m
Max head	70 m	Diameter of passing solids	2,5 mm
Max pressure	7 bar		

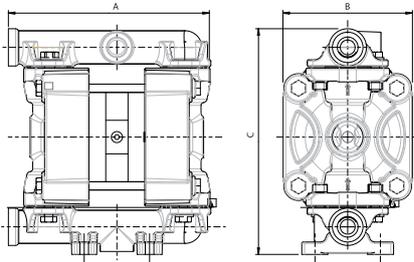
Performance



* 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.

AISI 316 electropolished or mechanically polished

Dimensions



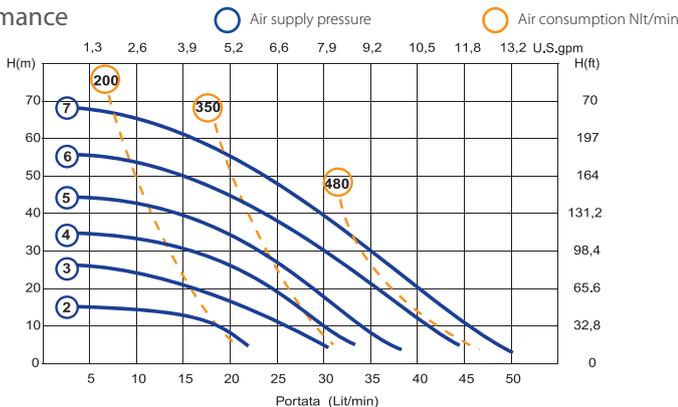
AISI 316	
A (mm)	145
B (mm)	95
C (mm)	160
Weight (kg)	2,5
MAX Temperature	95°

AF0050

Technical data

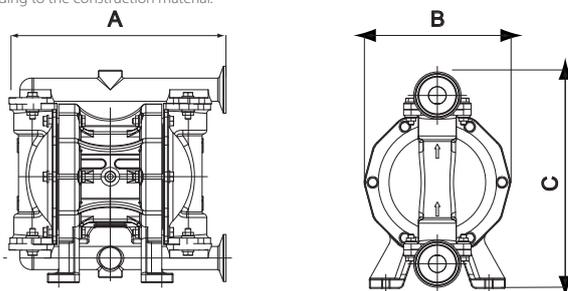
Connections	CLAMP da 1"	Air connection	1/4" BSP
Max flow rate	50 l/min	Max self priming capacity	6 m
Max head	70 m	Diameter of passing solids	3 mm
Max pressure	7 bar		

Performance



* 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



AISI 316 electropolished or mechanically polished

AISI 316	
A (mm)	225
B (mm)	156
C (mm)	230
Weight (kg)	6
MAX Temperature	95°

AF0100

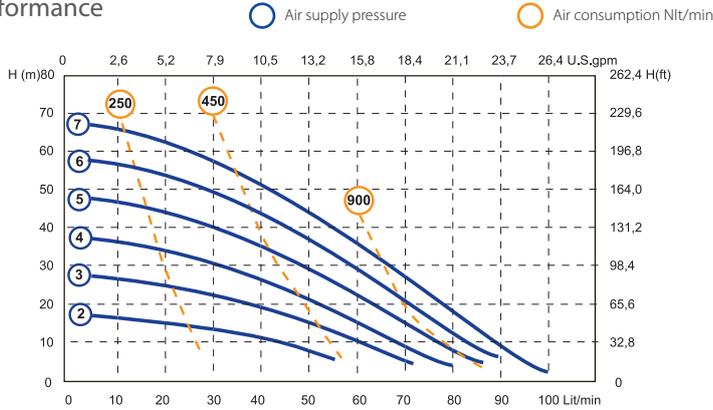
PF/SP - zone 2 ⚠ II 3/3 GD c IIB T135°C
 PF/SP ATEX - zone 1 ⚠ II 2/2 GD c IIB T135°C



Technical data

Connections	CLAMP da 1"	Air connection	3/8" BSP
Max flow rate	100 l/min	Max self priming capacity	6 m
Max head	70 m	Diameter of passing solids	3,5 mm
Max pressure	7 bar		

Performance

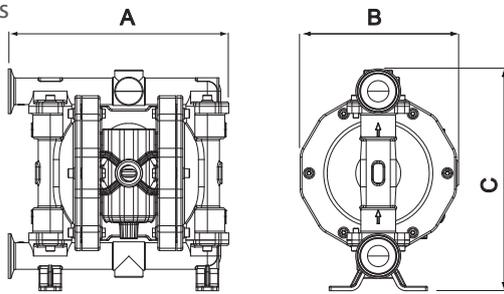


* The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material.



AISI 316 electropolished or mechanically polished

Dimensions



	AISI 316
A (mm)	250
B (mm)	175
C (mm)	250
Weight (kg)	9
MAX Temperature	95°



PF/SP - zone 2 ⚠ II 3/3 GD c IIB T135°C
 PF/SP ATEX - zone 1 ⚠ II 2/2 GD c IIB T135°C

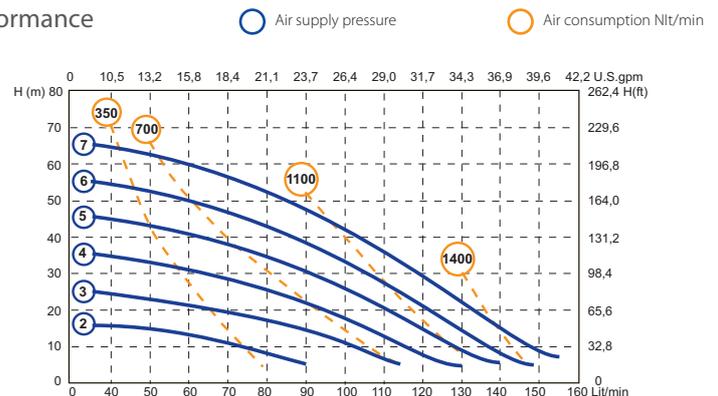
AF0160



Technical data

Connections	CLAMP da 1 1/2"	Air connection	1/2" BSP
Max flow rate	160 l/min	Max self priming capacity	6 m
Max head	70 m	Diameter of passing solids	7,5 mm
Max pressure	7 bar		

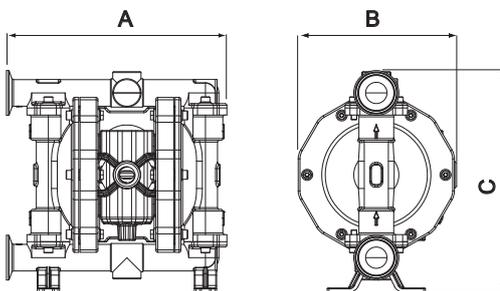
Performance



* 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.

AISI 316 electropolished or mechanically polished

Dimensions



	AISI 316
A (mm)	360
B (mm)	220
C (mm)	365
Weight (kg)	20
MAX Temperature	95°

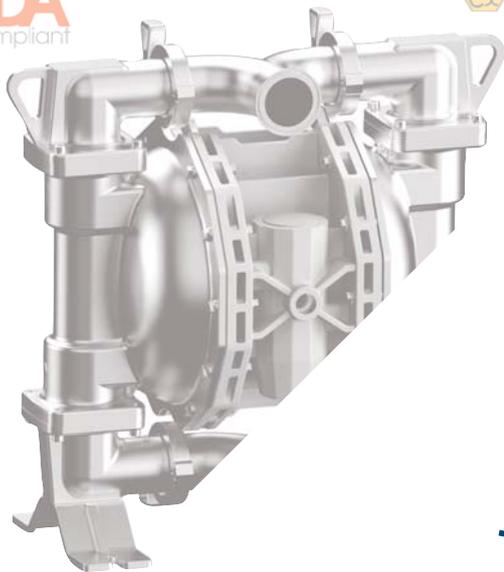
AF0400

FDA
compliant

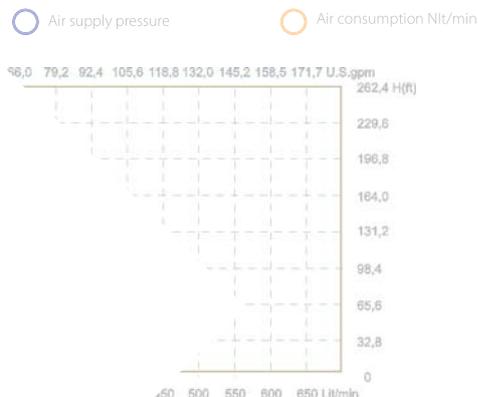
PF/SP - zone 2 II 3/3 GD c IIB T135°C
PF/SP Atex - zone 1 II 2/2 GD c IIB T135°C

Technical data

CLAMP da 2 1/2" Air connection 3/4" BSP
680 l/min Max self priming capacity 6 m
70 m Diameter of passing solids 8,5 mm
7 bar

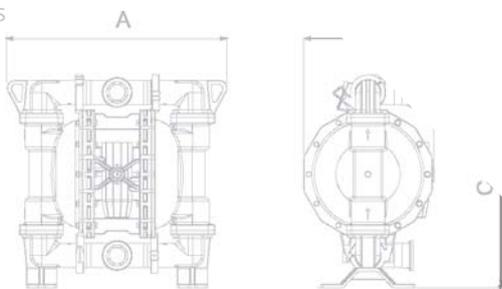


READY IN JUNE 2014



AISI 316 electropolished or mec.

Dimensions



	AISI 316
A (mm)	582
B (mm)	345
C (mm)	570
Weight (kg)	60
MAX Temperature	95°

AF0500

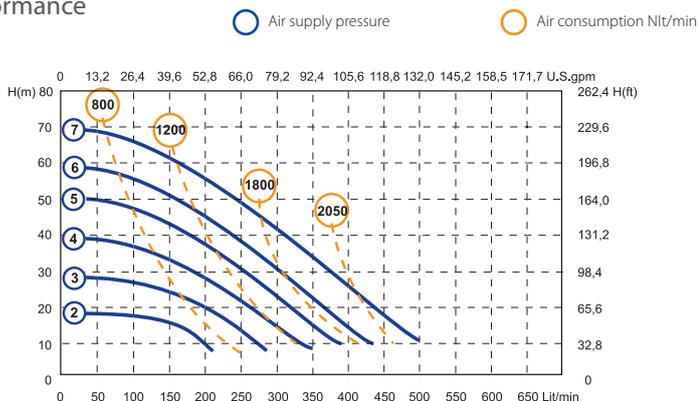
PF/SP - zone 2 II 3/3 GD c IIB T135°C
PF/SP Atex - zone 1 II 2/2 GD c IIB T135°C

FDA
compliant

Technical data

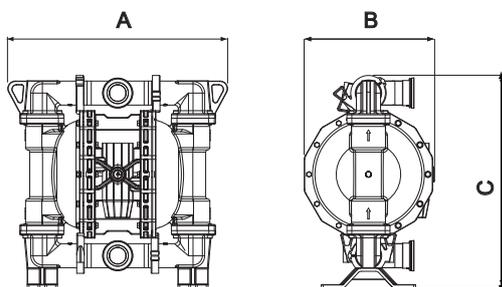
Connections CLAMP da 2" Air connection 3/4" BSP
Max flow rate 500 l/min Max self priming capacity 6 m
Max head 70 m Diameter of passing solids 8,5 mm
Max pressure 7 bar

Performance



* 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



AISI 316 electropolished or mechanically polished

	AISI 316
A (mm)	582
B (mm)	345
C (mm)	570
Weight (kg)	58
MAX Temperature	95°

AF0700



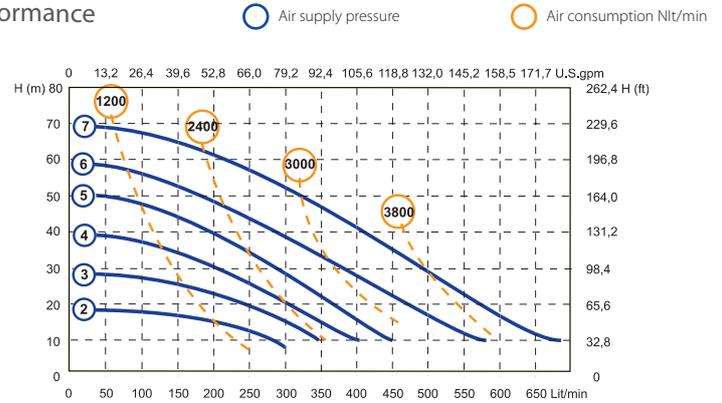
PF/SP - zone 2 II 3/3 GD c IIB T135°C
 PF/SP ATEX - zone 1 II 2/2 GD c IIB T135°C



Technical data

Connections	CLAMP da 2 1/2"	Air connection	3/4" BSP
Max flow rate	680 l/min	Max self priming capacity	6 m
Max head	70 m	Diameter of passing solids	8,5 mm
Max pressure	7 bar		

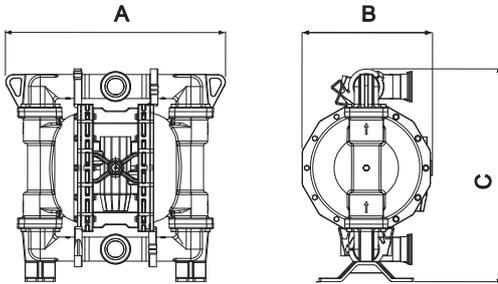
Performance



* 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.

AISI 316 electropolished or mechanically polished

Dimensions



AISI 316	
A (mm)	582
B (mm)	345
C (mm)	570
Weight (kg)	60
MAX Temperature	95°

AF1000

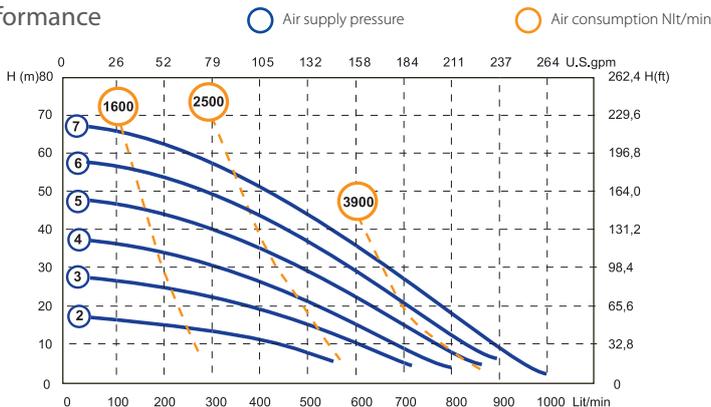
PF/SP - zone 2 II 3/3 GD c IIB T135°C
 PF/SP ATEX - zone 1 II 2/2 GD c IIB T135°C



Technical data

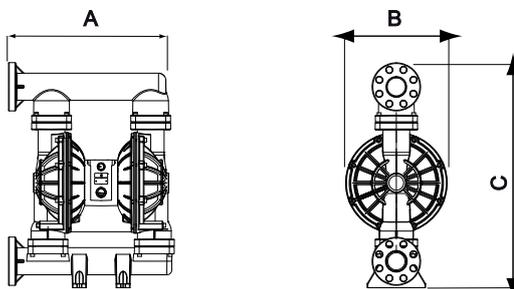
Connections	3" BSP	Air connection	3/4" BSP
Max flow rate	1000 l/min	Max self priming capacity	6 m
Max head	70 m	Diameter of passing solids	10 mm
Max pressure	7 bar		

Performance



* 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



AISI 316 electropolished or mechanically polished

AISI 316	
A (mm)	582
B (mm)	345
C (mm)	570
Weight (kg)	60
MAX Temperature	95°

(*) Clamp connections on request

Accessories



AIR REGULATION KIT

ELECTRICAL AND PNEUMATIC CONTROL VALVES



PRESSURE SWITCH CYCLE COUNTER

FLANGE CONNECTION KIT



ELECTRICAL AND PNEUMATIC "START & STOP"

ANTI VIBRATION FEET KIT



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