



## TECHNICAL DATA

- Connections:
  - Fluid 1/2"
  - Air 1/4"
- Max Flow-rates: 55 l/min
- Max air pressure: 8 Bar
- Max delivery head: 80 mt
- Max suction head:
  - Dry 6 mt
  - Wet 9.8 mt
- Max d. passing solids : 3.5 mm
- Noise level: 68 dB
- Displacement for cycle: 85 cc
- Pump casing materials:
  - PP
  - PVDF
  - ALUMINIUM
  - AISI 316
- Max viscosity: 20.000 cps

DUOTEK diaphragm pumps are characterized by exceptional performance, power and strength, making them ideal for pumping liquids with very high apparent viscosity up to 20.000 cps (at 20°C), even if containing suspended solids.

The stall-prevention pneumatic system assures a safe pump running and it does not need lubricated air. Self-priming dry capacity even with considerable suction head, fine tuning of speed without pressure loss and the possibility of dry operation without suffering damage mean that these pumps offer unrivalled versatility. In addition, the huge choice of construction materials allows selection of optimum chemical compatibility with the fluid and/or environment without neglecting the temperature range.

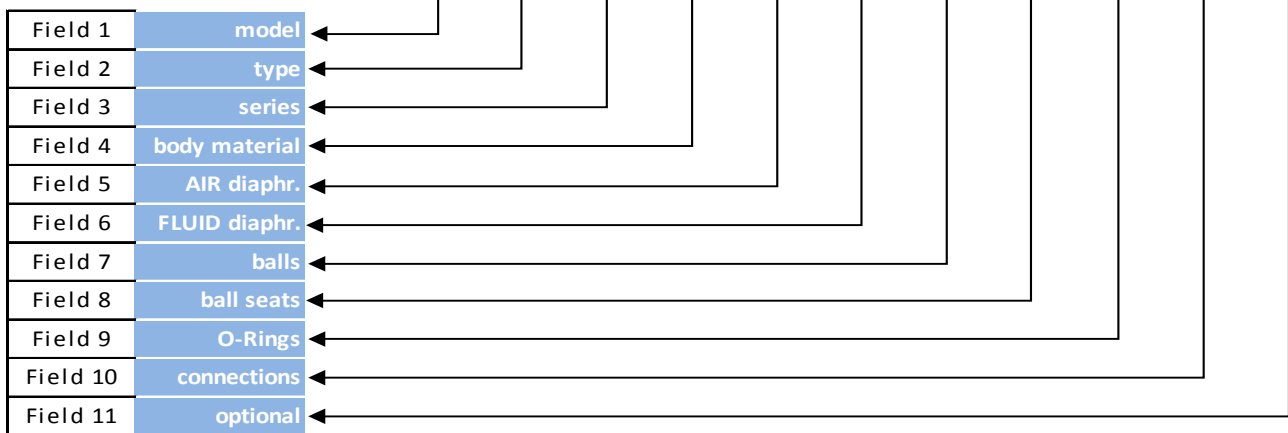
They are specifically designed for demanding applications with high humidity or in potentially explosive atmospheres (ATEX Certification):

- ATEX  Zone 2 in all versions: EX II 3/3 GD c IIB T135°C
- ATEX  Zone 1 in all versions: EX II 2/2 GD c IIB T135°C

A special version is **FDA Compliant**, made of AISI 316 electro-polished and equipped with tri-clamp connections, specifically used in the food industry.

# PUMP KEY CODE

Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10	Field 11
AF	00	0050	P	N	T	T	P	N	1	-



Field 1	model	
	AF	Pneumatic Diaphragm Pumps

Field 2	type	
	00	Zone 2 ATEX <b>EX II 3/3 GD c IIB T135°C</b>
	X0	Zone 1 ATEX <b>EX II 2/2 GD c IIB T135°C</b>
	0F	FDA Compliant - Zone 2 ATEX <b>EX II 3/3 GD c IIB T135°C</b>
	XF	FDA Compliant - Zone 1 ATEX <b>EX II 2/2 GD c IIB T135°C</b>

Field 3	series [l/m]	flow rate [l/1']	connection [BSP] fluid	air	for material	° suction lift max [m]	passing solid [Ø mm]	max viscosity [Cps]	displac./ cycle [cc]
	0050	55	1/2" *	6 mm	ALL	6	3,5	20.000	85

\* **FLANGED**: add the cost of the related KIT      \*\* **THREADED**: on request  
 ° With **DRY** pump. To **WET** pump: **9,38 m**

Field 4	body material	
	P	Polypropylene + glass fiber
	C	Polypropylene + carbon fiber <i>field 2 = X0</i>
	K	PVDF + carbon fiber
	A	Aluminium
	S	SS 316 <b>SS 316 polished if field 2 = 0F / XF</b>

Field 5	AIR diaphr.	
	H	HytreI
	M	Santoprene

Field 6	FLUID diaphr.	
	T	PTFE
	X	without Diaphragm PTFE

# PUMP KEY CODE

Field 1	Field 2	Field 3	Field 4	Field 5	Field 6	Field 7	Field 8	Field 9	Field 10	Field 11
AF	00	0050	P	N	T	T	P	N	1	-

Field 7	balls
T	PTFE
S	SS 316
D	EPDM
N	NBR

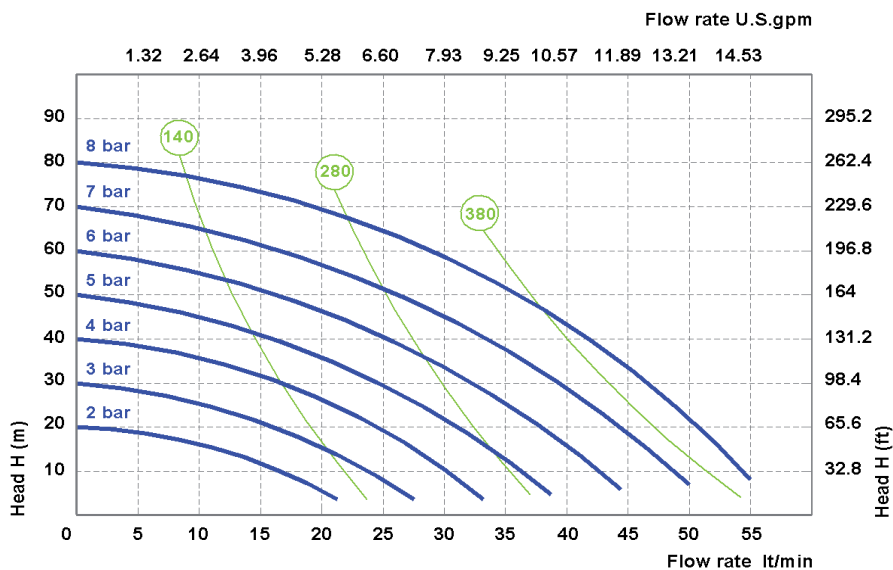
Field 8	ball seats
P	Polypropylene
K	PVDF + carbon fiber
S	AISI 316
A	Aluminium
Z	PE-UHMW

Field 9	O-Rings
D	EPDM
V	FPM
T	PTFE
N	NBR

Field 10	connections
1	BSP Threaded
2	Flanged
3	TRI-Clamp
5	NPT Threaded

Field 11	optional
-	NONE

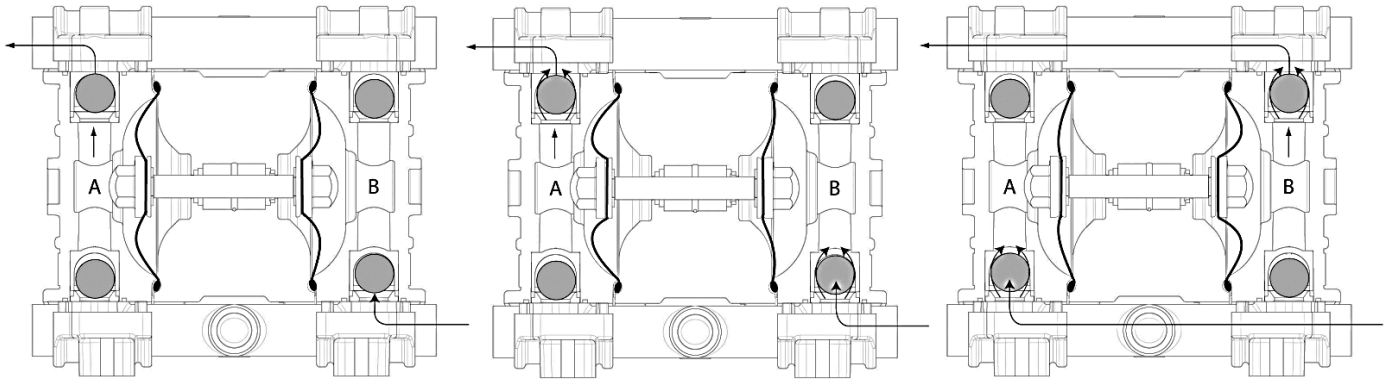
## HYDRAULIC CHARACTERISTICS



\* 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.

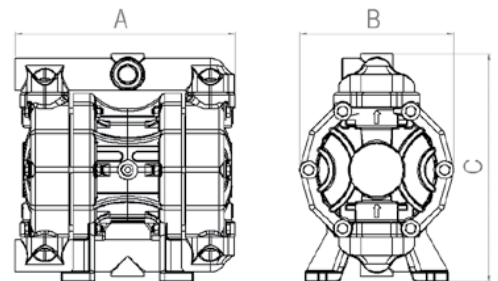
## OPERATING PRINCIPLE

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.



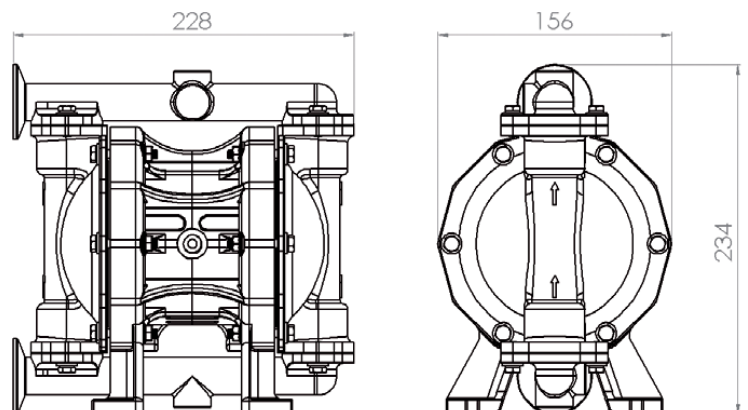
## DIMENSIONS ( ALL materials )

	PP	PVDF	ALU	AISI
<b>A (mm)</b>	222	222	225	225
<b>B (mm)</b>	156	156	156	156
<b>C (mm)</b>	233	233	230	230
<b>Weight kg</b>	4	4,5	5	6
<b>MAX Temperature</b>	65°C	95°C	95°C	95°C



## FDA COMPLIANT (AISI 316 electro-polished ONLY)

Casing:	<b>S</b>	AISI 316 electro-polished
Diaphragm:	<b>H</b>	HYTREL - air side
	<b>T</b>	PTFE - fluid side
Balls :	<b>T</b>	PTFE
	<b>S</b>	AISI 316
Seats:	<b>S</b>	AISI 316
OR:	<b>T</b>	PTFE
Connections:	<b>1</b>	BSP
	<b>3</b>	Tri-Clamp 1"

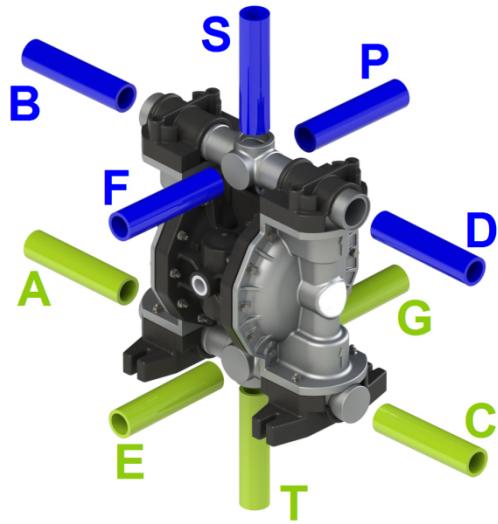


## AVAILABLE CONNECTIONS

**Standard** = A B

**IN** = A-E-T-C-G

**OUT** =B-S-D-F-P



**(ATEX)**

**Standard** = A B

**IN** = A-E-T-C-G

**OUT** =B-S-D-F-P

