

### Duotek

Air operated double diaphragm pumps



Your Choice, Our Commitment

# SEKO's Duotek pumps are reknown for their flexibility in pumping difficult liquids at low pressure and flow.

**SEKO's Duotek pumps** come in many sizes and choices of materials of construction. Almost every type of liquid from highly corrosive acids through high viscosity paints and adhesives, to food and drink products can be pumped. The range of applications is virtually limitless.

#### **Performance**

- Variable flow and head pressures, easy to adjust, without sophisticated controls
- Portable and compact for multi-location use, optionally with trolley
- Handles liquids with solids particles: ideal for abrasive and viscous media
- Special Air system: lube-free, non-stall, non-freeze
- Wide Range of sizes and materials suited to variety of conditions and chemical fluids
- Efficient performance: high flow rates through optimal casing designs
- Self-priming dry up to 6 meters: works in suction lift applications
- Efficient air distribution design: low air consumption
- Can customize to specific applications: multiple porting options available along with interface options
- Safe "dead head" function, against closed discharge, without pump damage

#### Reliability

- 100% wet tested after final assembly: deadheading, priming, and sealing
- All plastic air system: strong and corrosion resistant in harsh environments
- Dry-run without damaging the pump or system: seal-less design
- Service ability: easily maintained and guickly without any special tools

#### Security

- ATEX certifications in all versions: Conductive plastic pumps available
- Special air exhaust: Designed to operate at low noise levels
- Fully submersible: can be submerged completely according to fluid compatibility
- All Bolted Construction: provides maximum leak resistance and safety













#### Markets and Applications

Air operated double diaphragm pumps are some of the most versatile solutions on the market. They can be used in a variety of installations in numerous applications.

- AUTOMOTIVE
- AGRICULTURE
- MECHANICAL
- CHEMICAL
- CERAMIC
- FOOD
- BIODIESEL
- CERAMIC
- TEXTILE AND LEATHER
- PAINT AND VARNISH

- NAVAL AND PETROCHEMICAL
- PULP AND PAPER
- MINING
- PHARMACEUTICAL AND COSMETIC
- GALVANIC
- OIL & GAS
- WATER TREATMENT
- PRINTING INKS

#### Why choose Duotek

	0		4		Weller.		
Pump type	AODD	CENTRIFUGAL	LOBE	GEAR	SCREW	PERISTALTIC	PISTON
Variable Flow & Head Control	√	√	√	√	!	!	√
Deadhead Safely	√	√	!	!	!	!	!
Dry-Running	√	X	X	X	X	X	X
Dry Self-Priming	√	Х	X	√	X	√	!
No Mechanical Alignment	√	X	X	X	X	х	X
No Electrical Installation	√	X	X	X	X	X	X
Portability	√	√	!	!	!	√	!
Submersible	√	· !	X	X	X	X	!
Seal-less	√	· I	!	!	!	!	!
Cavitation Tolerance	√	X	· !	!	√	1	!
Low Shear & Degradation	√	X	√	√	!	!	!

### Materials PUMP CASING

#### Polypropylene



P Polypropylene: Wide chemical compatibility. General purpose.

#### Polypropylene+CF



C Conductive Polypropylene: Wide chemical compatibility. General purpose. Groundable.

#### PVDF+CF



**K** Conductive PVDF: Strong chemical resistance to acids. High temperature resistance. Groundable..

#### POMc



M Acetal: Wide range of solvent and hydrocarbons resistance. Good level of abrasion resistance.

#### POMc+CF



N Conductive Acetal: Wide range of solvent and hydrocarbons. Good level of abrasion resistance. Groundable.

#### Aluminium



A Aluminium: Wide range of solvent and hydrocarbons. Good level of abrasion resistance.

#### SS316



**S** Stainless Steel 316: High level of corrosion and abrasion resistance.

#### SS316 Electropolished



**S** Stainless Steel 316 Electropolished: High level of corrosion and abrasion resistance. Food Version.

#### **Materials**



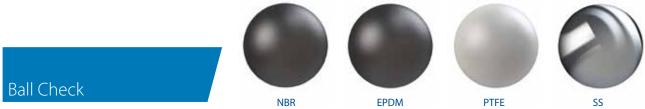
NBR Good for petroleum-based fluids, water, oils, hydrocarbons and MILD chemicals.

**EPDM** OK with caustic solutions, dilute acids, ketones and alcohols. Good abrasion resistance.

PTFE Widest chemical compatibility, extreme corrosion resistance, non-adhesive, high heat resistance.

**HYTREL** Good low temperature properties. Good abrasion resistance.

**SANTOPRENE** Solutions and dilute acids.



NBR Good for petroleum-based fluids, water, oils, hydrocarbons and MILD chemicals.

EPDM OK with caustic solutions, dilute acids, ketones and alcohols. Good abrasion resistance.

PTFE Widest chemical compatibility, extreme corrosion resistance, non-adhesive, high heat resistance.

SS High level of corrosion and abrasion resistance. Good for viscous fluids.



POLYPROPYLENE Wide chemical compatibility. General purpose.

**PVDF** Strong chemical resistance to acids. High temperature resistance.

**ALUMINUM** Wide range of solvent and hydrocarbons. Good level of abrasion resistance.

SS High level of corrosion and abrasion resistance.

PE with high molecular weight: High level of abrasion resistance



VITON High heat resistance. Good resistance to aggressive chemicals and hydrocarbons.

NBR Good for petroleum-based fluids, water, oils, hydrocarbons and MILD chemicals

**EPDM** OK with caustic solutions, dilute acids, ketones and alcohols. Good abrasion resistance.

PTFE Widest chemical compatibility, extreme corrosion resistance, non-adhesive, high heat resistance.

#### **Technical features**

Un-balanced pilot spool, precisely controls positioning of the main power spool to eliminate stalling and increase efficiency

Long-lasting diaphragm construction ensures a consistent performance and a longer operating life

Special exhaust chamber with double silencer to expand diffusion passages, reduce the icing and assure low noise level

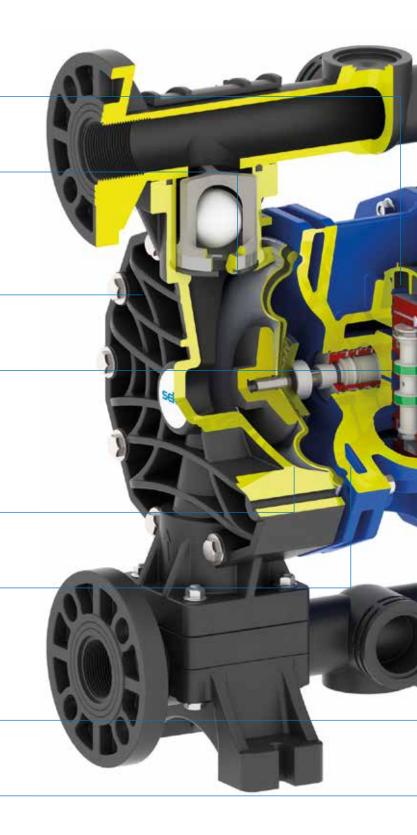
Acetalic shuttle ensures long valve life, autolubricated material

Special pinch clamping, design to minimize wear and increase life of the diaphragm, and provides a uniform seal to avoid leak

Pneumatic exchanger is easily externally accessible for a quick inspection

Solid polypropylene air chambers and plastic air valve for maximum chemical resistance in highly corrosive environments

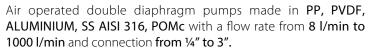
All bolted design for an effective sealing to extended leak-proof service



#### **Product range**

#### **DUOTEK**







#### **DUOTEK FOOD**



Air operated double diaphragm pumps made in SS AISI 316 electro-polished with a flow rate from 8 l/min to 1000 l/ min and Tri-Clamp Connection.



#### **DUOTEK ATEX**





Air operated double diaphragm pumps, ATEX certified for zone 1. Made in PP+CF, PVDF+CF, ALUMINIUM, SS AISI 316, POMc+CF with flow rate from 8 l/min to 1000 l/min and connection from ¼" to 3".



#### **DUOTEK ACCURATE**



Double diaphragm pumps with remote control made in PP, PVDF, ALUMINIUM, SS AISI 316, POMc with flow rate from 8 l/min to 700 l/min and connection from 1/4" to 2".



#### **DUOTEK DRUM**







CE 😓 FDA 🖫 EHI



Air operated double diaphragm pumps with special features to empty drums and tanks. made in PP, PVDF, ALUMINIUM, SS AISI 316, POMc with flow rate from 8 I/min to 160 I/min and connection from 1/4" to 1".











Air operated double diaphragm pumps with special features with double inlet/outlet. Made in PP, PVDF, ALUMINIUM, SS AISI 316, POMc with flow rate from 8 I/min to 700 I/min and connection from 1/4" to 2".



#### **DAMPER**





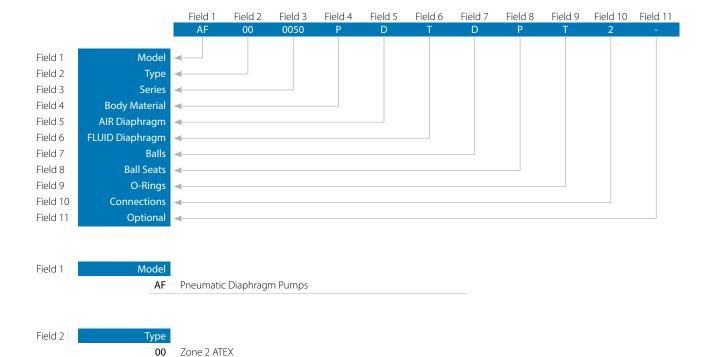
Pneumatic, automatic pulsation dampers made in PP, PVDF, ALUMINIUM, SS AISI 316, POMc, applicable to all sizes of pump. Available also in ATEX or FOOD version.



X0

Zone 1 ATEX

### Duotek - Key Code



Field 3	Series	Flow rate [I/m]	Connection Fluid	ons [BSP] Air	° Suction lift max [m]	Delivery head max [m]	Solid passing [0mm]	Displac. / cycle [cc]	Viscosity max [cps]		
	0007	8	1/4"	4mm	3		2.5	18	6,000		
	0018	20	3/8"	C					3	30	12,000
	0030	35		6mm			3.5	65	15,000		
	0050	55	1/2″ *	1/4"				140	20,000		
	0065	70		3/8″				200	25,000		
	0100	110	3/4" *	3/0	80	6 80	80		200	23,000	
	0160	170	1" *	1/2"		7.5	700	35,000			
	0250	250	1″1/4 *				7.5	700	33,000		
	0400	380	DN40 - 1"1/2				8	1,200	40,000		
	0700	700	DN50 - 2"	3/4"				8.5	3,050	50,000	
	1000	1050	3″ **	3/4			10	7,000	55,000		
		* FLANGED: a	add the cost of th	ne related KIT			** THREA	NDED: on reque	st		
		0 14/1.1	T >4/5T	0.00				0.1			

Field 2: X0

Max AIR pressure: 8 bar

Field 4	Body Mate	rial		
		Р	Polypropylene + Glass Fiber	
		C	Polypropylene + Carbon Fiber	Field 2: X0
		K	PVDF + Carbon Fiber	
		Α	Aluminium	
		S	SS 316	
		М	POM + Carbon Fiber	

POM

 $<sup>^{\</sup>circ}\,$  With Dry pump. To WET pump: 9.38m

Field 5	AIR Diaphragm	
	Н	Hytrel
	M	Santoprene
	D	EPDM
	N	NBR
Field 6	FLUID Diaphragm	
		PTFE
	X	without Diaphragm PTFE
Field 7	Balls	
110.07	T	PTFE
		SS 316
	D	EPDM
	N	NBR
Field 8	Ball Seats	
	P	Polypropylene
	K	PVDF pure
		AISI 316 Aluminium
	M	POMc
	Z	PE
Field 9	O-Rings	
	D	EPDM
	V	FPM
		PTFE
	N	NBR
Field 9	Connections	
	1	BSP Threaded
	2	Flanged
	4	Twin connection
	5	NPTThreaded
	6	Reinforcement ring
	7	Extra connections
E		
Field 9	Optional	Maria
	 	None
	E	External pump control WITH solenoid
	D	External pump control WITHOUT solenoid

### Duotek

#### Air operated double diaphragm pumps

Air operated double diaphragm pumps have long been recognized as the most flexible pumps of the industry for handling difficult liquids at relatively low pressures and flows. The range of applications is virtually limitless. SEKO AODD pumps come in many sizes and choices of materials of construction. Almost every type of liquid from highly corrosive acids through high viscosity paints and adhesives, to food and drink products can be pumped.

Made in PP, PVDF, ALUMINIUM, SS AISI 316, POMc Flow rate from 8 I/min to 1000 I/min Connection from 1/4" to 3" ATEX certification for zone 2 EX II 3/3 GD c IIB T135°C



### Duotek AF7



Fluid connections	1/4" BSP
Air connection	4 mm
Max flow rate	8 l/min
Max air pressure	8 bar
Max delivery head	80 m
Max suction lift dry	3 m
Max suction lift wet	9.8 m
Max solid passing	2.5 mm
Noise leve	62 dB
Max viscosity	6000 cps



PVDF+CF

**POMc** 



#### Technical data

Fluid connections	3/8" BSP
Air connection	6 mm
Max flow rate	20 l/min
Max air pressure	8 bar
Max delivery head	80 m
Max suction lift dry	6 m
Max suction lift wet	9.8 m
Max solid passing	3 mm
Noise level	65 dB
Max viscosity	12000 cps



# Duotek AF30



Fluid connections	1/2" BSP
Air connection	6 mm
Max flow rate	35 l/min
Max air pressure	8 bar
Max delivery head	80 m
Max suction lift dry	5 m
Max suction lift wet	9.8 m
Max solid passing	3.5 mm
Noise level	65 dB
Max viscosity	15000 cps





#### Technical data

Fluid connections	1/2" BSP
Air connection	1/4" BSP
Max flow rate	55 l/min
Max air pressure	8 bar
Max delivery head	80 m
Max suction lift dry	6 m
Max suction lift wet	9.8 m
Max solid passing	3.5 mm
Noise level	68 dB
Max viscosity	20000 cps



# Duotek AF65



Fluid connections	1/2" BSP
Air connection	3/8" BSP
Max flow rate	70 l/min
Max air pressure	8 bar
Max delivery head	80 m
Max suction lift dry	6 m
Max suction lift wet	9.8 m
Max solid passing	3.5 mm
Noise level	72 dB
Max viscosity	25000 cps





#### Technical data

Fluid connections	3/4" BSP
Air connection	3/8" BSP
Max flow rate	110 l/min
Max air pressure	8 bar
Max delivery head	80 m
Max suction lift dry	6 m
Max suction lift wet	9.8 m
Max solid passing	3.5 mm
Noise level	72 dB
Max viscosity	25000 cps



### Duotek AF160



Fluid connections	1" BSP
Air connection	1/2" BSP
Max flow rate	170 l/min
Max air pressure	8 bar
Max delivery head	80 m
Max suction lift dry	6 m
Max suction lift wet	9.8 m
Max solid passing	7.5 mm
Noise level	75 dB
Max viscosity	35000 cps





#### Technical data

Fluid connections	1" 1/4 BSP
Air connection	1/2" BSP
Max flow rate	250 l/min
Max air pressure	8 bar
Max delivery head	80 m
Max suction lift dry	6 m
Max suction lift wet	9.8 m
Max solid passing	7.5 mm
Noise level	75 dB
Max viscosity	35000 cps



### Duotek AF400



Fluid connections	1" 1/2 BSP <b>DN 40</b>
Air connection	3/4" BSP
Max flow rate	380 l/min
Max air pressure	8 bar
Max delivery head	80 m
Max suction lift dry	5 m
Max suction lift wet	9.8 m
Max solid passing	8 mm
Noise level	78 dB
Max viscosity	40000 cps





#### Technical data

Fluid connections	2" BSP <b>DN 50</b>
Air connection	3/4" BSP
Max flow rate	700 l/min
Max air pressure	8 bar
Max delivery head	80 m
Max suction lift dry	5 m
Max suction lift wet	9.8 m
Max solid passing	8.5 mm
Noise level	78 dB
Max viscosity	50000 cps



# Duotek AF1000



Fluid connections	3" BSP <b>DN 80</b>
Air connection	3/4" BSP
Max flow rate	1050 l/min
Max air pressure	8 bar
Max delivery head	80 m
Max suction lift dry	5 m
Max suction lift wet	9.8 m
Max solid passing	10 mm
Noise level	78 dB
Max viscosity	55000 cps

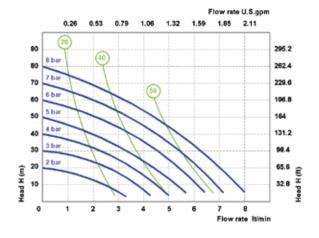


#### Performance curves

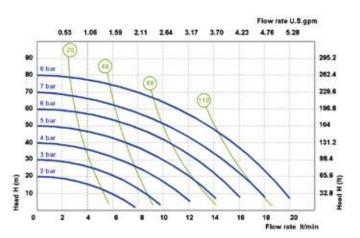
The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material.

Air supply pressure Air consumption NIt/min

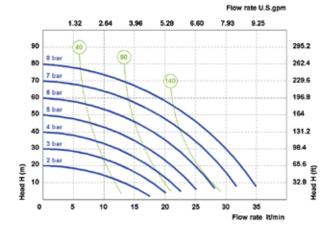
#### **Duotek AF7**



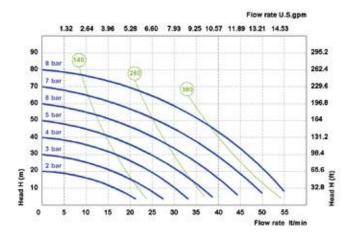
#### **Duotek AF18**



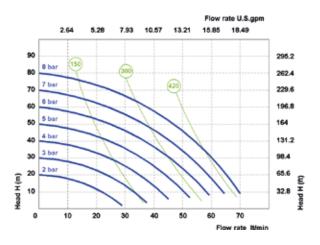
#### **Duotek AF30**



#### **Duotek AF50**



#### **Duotek AF65**

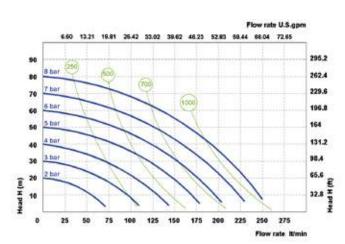


#### **Duotek AF100**

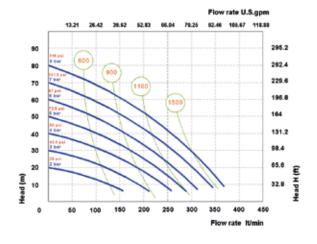


# Flow rate U.S.gpm 10.57 13.21 15.85 18.49 21.13 23.78 28.42 29.06 31.70 34.34 36.98 39.62 42.27 44.91 295.2 262.4 70 7 bar 60 6 bar 40 4 bar 30 3 bar 40 4 bar 20 2 bar 10 40 50 60 70 80 90 100 110 120 130 140 150 160 170 Flow rate Ibimin

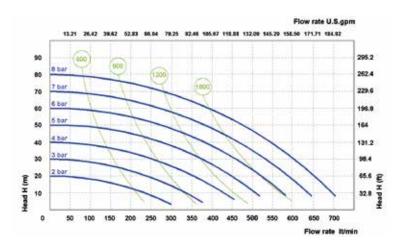
#### **Duotek AF250**



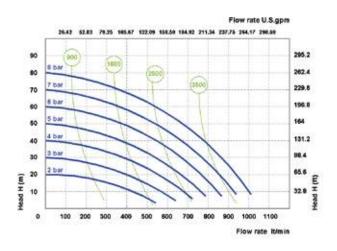
#### **Duotek AF400**



#### **Duotek AF700**



#### Duotek AF1000



### Duotek Food

#### Air operated double diaphragm pumps

Made in SS316 electro-polished Flow rate from 8 l/min to 1000 l/min Tri-Clamp Connection ATEX certification

Atex zone 2 - EX II 3/3 GD c IIB T 135°C Atex zone 1 - EX II 2/2 GD c IIB T 135°C





### Duotek Food AF18



Fluid connections	Tri-Clamp 1/2"
Air connection	6 mm
Max flow rate	20 l/min
Max air pressure	8 bar
Max viscosity	12000 cps



# $\begin{array}{c} \text{Duotek Food} \\ AF30 \end{array}$



#### Technical data

Fluid connections	Tri-Clamp 1"
Air connection	6 mm
Max flow rate	35 l/min
Max air pressure	8 bar
Max viscosity	15000 cps



**SS316 ELECTRO-POLISHED** 

## Duotek Food AF50



Tri-Clamp 1"
1/4" BSP
55 l/min
8 bar
20000 cps



**SS316 ELECTRO-POLISHED** 

# Duotek Food AF100



#### Technical data

Fluid connections	Tri-Clamp 1"
Air connection	3/8" BSP
Max flow rate	110 l/min
Max air pressure	8 bar
Max viscosity	25000 cps



# Duotek Food AF160



Fluid connections	Tri-Clamp 1"1/2
Air connection	1/2" BSP
Max flow rate	170 l/min
Max air pressure	8 bar
Max viscosity	35000 cps



## Duotek Food AF400



#### Technical data

Fluid connections	Tri-Clamp 2"
Air connection	3/4" BSP
Max flow rate	380 l/min
Max air pressure	8 bar
Max viscosity	40000 cps



# Duotek Food AF700



Fluid connections	Tri-Clamp 2"1/2
Air connection	3/4" BSP
Max flow rate	700 l/min
Max air pressure	8 bar
Max viscosity	50000 cps



### Duotek Food AF1000



#### Technical data

Fluid connections	3" BSP
Air connection	3/4" BSP
Max flow rate	1050 l/min
Max air pressure	8 bar
Max viscosity	55000 cps



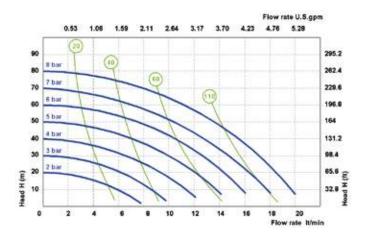
**SS316 ELECTRO-POLISHED** 

#### Performance curves

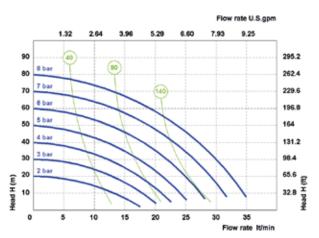
The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material.



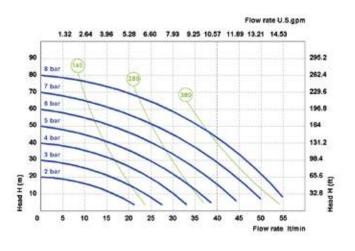
#### **Duotek Food AF18**



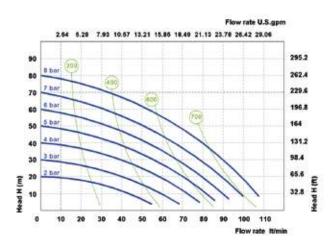
#### **Duotek Food AF30**



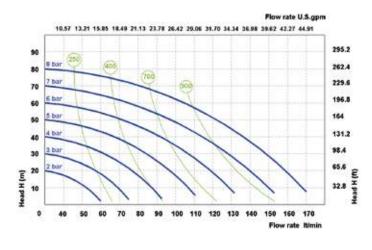
#### **Duotek Food AF50**



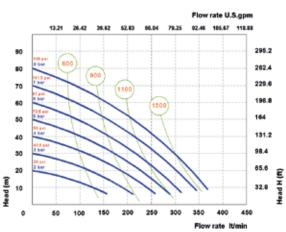
#### **Duotek Food AF100**



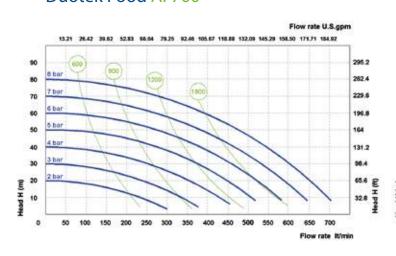
#### **Duotek Food AF160**



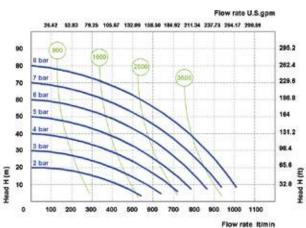
#### **Duotek Food AF400**



#### **Duotek Food AF700**



#### **Duotek Food AF1000**



### Special pumps

### Air operated double diaphragm pumps with special features

DUOTEK ATEX certification zone1 ATEX
ACCURATE DUOTEK remote control
DRUM DUOTEK to empty drums and tanks
TWIN DUOTEK with double inlet/outlet



### Special Pumps Duotek Atex Ex

#### Technical data

Appropriate submissions have been made to Bureau Veritas to confirm that SEKO AODD pumps and pulsation dampers conform to the ATEX Directive 94/9/CE and are constructed with materials for zone 1 certification.

#### Main applications

- Petrol-Chemical Industry
- Painting industry
- Flexographic industry
- Automotive industry
- Food industry





#### European ATEX Directive 94/9/CE

- 6 II 2/2 GD c IIB T 135°C
- Safety symbols DIN 40012 Annex A
- II Equipment Group surface
- 2/2 Equipment category 2 Level of protection High level Zone 1
- GD Type of explosive atmospheres (group II) G = Gas vapours D = Dust
- c Equipment protection constructional safety (EN 13463-5).
- IIB Group of gas IIB Ethylene. Exclusion of the following products Hydrogen, acetylene, carbon disulphide.

#### T 135° (T4)

Temperature class (group II): Maximum surface temperature [°C] 135

#### Special Pumps

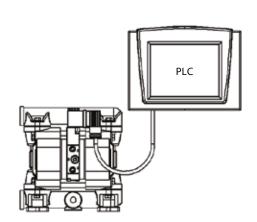
### Accurate Duotek

#### Technical data

ACCURATE DUOTEK Pumps give you the necessary external pump control for exacting applications such as batching. Featuring a direct electrical interface that utilizes electrical impulses to stroke the pump instead of differential pressure, the ACCURATE DUOTEK provides an easily controlled variable stroke rate.

Note PLC and computer system not included.



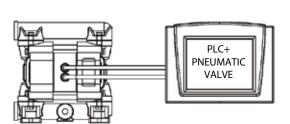


### Main applications

- Chemical industry
- Flexographic industry
- Painting industry
- Wastewater technology
- Printing industry

#### **Pumps**

AF7; AF18; AF30; AF50; AF65; AF100; AF160; AF250













### Special Pumps Drum Duotek

#### Technical data

DRUM DUOTEK are designed for emptying drums and containers, and provide an economical and wear resistant alternative to other pumping systems. In order to handle a wide range of fluids, DP pumps are available in all materials. The pump can be quickly and easily mounted on the drum with its feet. The drum will be completely emptied with a suction pipe.

#### Main applications

- Chemical industry
- Waste disposal technology
- Automotive industry
- Food industry

#### **Pumps**

AF18; AF30; AF50; AF65; AF100; AF160



### Special Pumps Twin Duotek

#### Technical data

TWIN DUOTEK are mainly used in the textile and paper processing industry. These dual action pumps are able to transfer two different media independently and simultaneously. This is accomplished by using separate connections on the suction and discharge ports, keeping two pumped media isolated from each other, preventing unwanted mixing.

#### Main applications

- Chemical industry
- Flexographic industry
- Painting industry
- Wastewater technology
- Printing industry



#### Pumps

AF18; AF30; AF50; AF65; AF100; AF160; AF250; AF400

### Damper

#### Pneumatic, automatic pulsation dampers

Made in PP, PVDF, ALUMINIUM, SS AISI 316, POMc Applicable to all size of pumps Available also in ATEX or FOOD version



The active pulsation damper is the most efficient way to remove pressure variations on the discharge of the pump. SEKO pulsation damper work actively with compressed air and a diaphragm, automatically setting the correct pressure to minimize the pulsations. Pulsation dampers require minimum maintenance and are, subject to the requirements of the application, available in the same housing and diaphragm materials as the pump.

#### **Applications**

- Metering/Injection/Dosing
- Equalizes discharge pressure spikes, increasing accuracy
- Filter Press/In-line Filters
- Increases filter efficiency and life by providing a smooth flow
- Spraying
- Smooth, consistent spray pattern
- Filling
- Eliminates inconsistent filling and splashing.
- Transfer
- Eliminates harmful water hammer, preventing pipe and valve damage

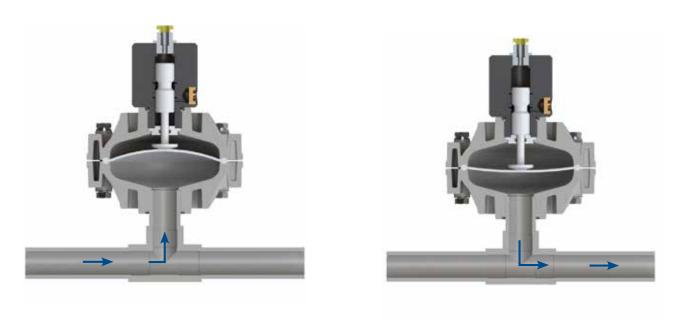


Significant Pulsation Reduction with an average 70% - 80% pulsation reduction in high back pressure applications.

#### How it works

The pulsating flow of the discharge forces the diaphragm upwards where it is cushioned by the air in the chamber. The flexing of the diaphragm absorbs the pulsation giving a smooth flow.





# Damper DAF20

#### Technical data

Fluid connections	3/4"
Air connection	6 mm
Max air pressure	8 bar





# Damper DAF25

Fluid connections	1"
Air connection	8 mm
Max air pressure	8 bar



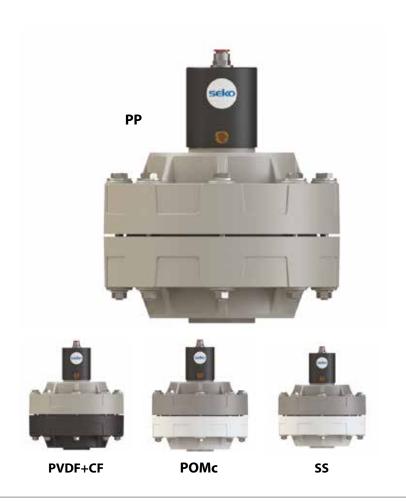


## Damper DAF40

#### Technical data

Fluid connections	1″1/2
Air connection	10 mm
Max air pressure	8 bar





## Damper DAF50

Fluid connections	2"
Air connection	12 mm
Max air pressure	8 bar





### Accessories



**AIR REGULATION KIT** 

Adjust and set air pressure and air flow rate with a filter regulator, pressure gauge and air valve unit.



**SWITCH VALVES** 

Remotely start and stop with a solenoid or pneumatic valve for the air pump.



**STROKE COUNTER** 

Counts the number of strokes. connected to a control. It allows various types of monitoring.



Allows pumps to be transportable



ANTI VIBRATION FEET KIT

Reduces physical vibration from AODD pump operation.



#### **FLANGE CONNECTION KIT**

Adapt a pump from BSP type connection to flanges with this



**DIAPHRAGM FAILURE DETECTION FLUI-GUARD** 

The Electronic Leak Detector provides a signal via warning lights, an audible alarm, and the pump can be shut down.

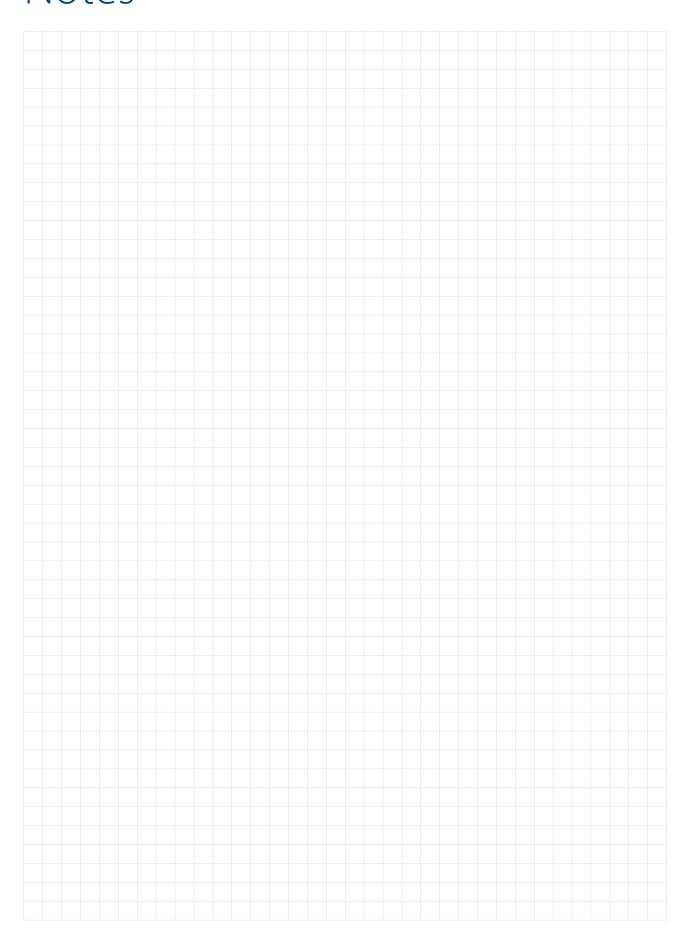




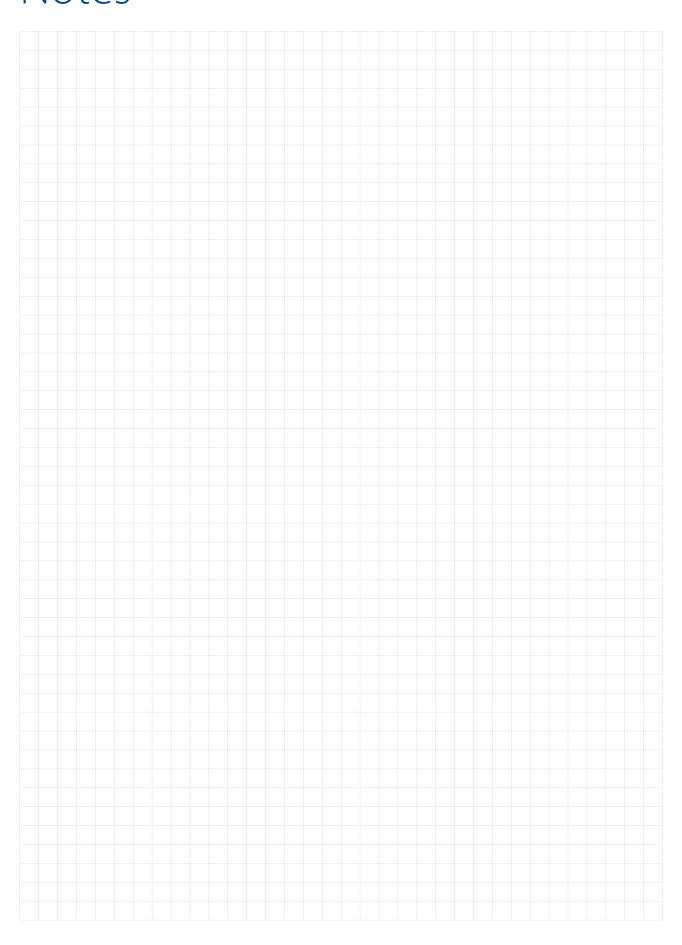
#### PNEUMATIC OR ELECTRONIC BATCH CONTROL

Pneumatic and electronic batcher can control any SEKO AODD pump allowing you to set the cycles amount.

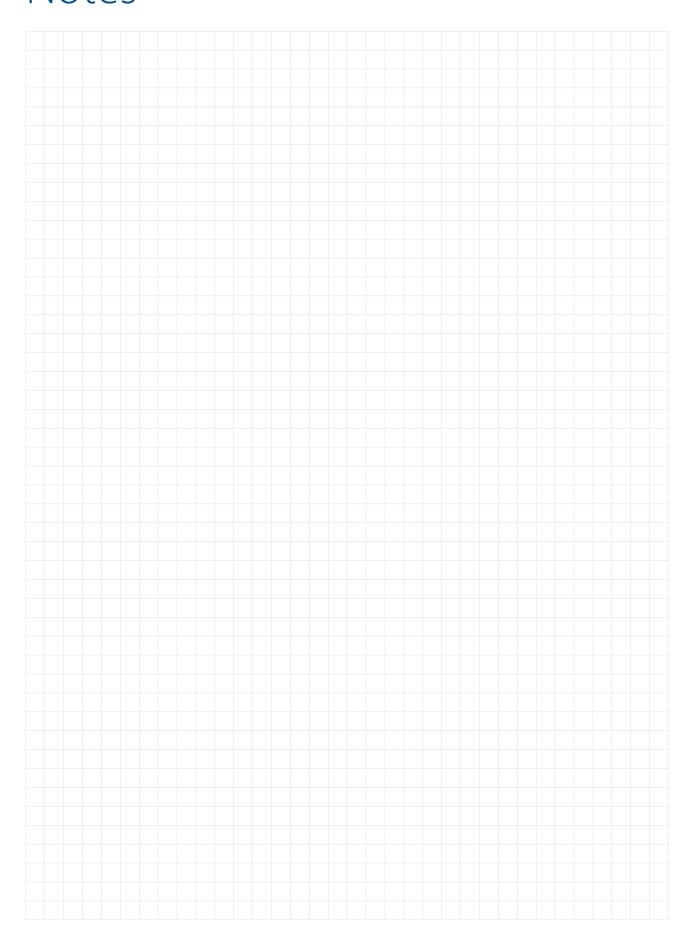
### Notes



### Notes



### Notes



#### Your Choice, Our Commitment

In the modern Globalised world, being a privately owned Company has significant benefits especially for our Customers, our Partners. For over 40 years, SEKO has developed a Global organisation able to take the longer view, manage the pressure of the now, and to plan for the long term, delivering true Partnership for our Customers, with transparency and mutual respect for each other.

Whether it's for our reknown flexibility, our attention to detail, the high-quality products, or just the way we do business, we understand that it's Your Choice to do business with us. It is Our Commitment to fulfill your needs wherever you, our Customers are.



For more information about our portfolio, worldwide locations, approvals, certifications, and local representatives, please visit www.seko.com



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