

[www.tapflo.com](http://www.tapflo.com)

Air operated

# Diaphragm pumps

Product overview 2006



tapflo®

## Tapflo - your reliable pumpchoice

With experience from industrial fluid handling and pump manufacture since 1970, we know what you as a customer require from an industrial pump. Ever since we started our manufacture of air operated diaphragm pumps, we have always had our winning concept in mind: to create compact diaphragm pumps for reliable duty and with a minimal number of components enabling easy maintenance. We are always keenly aware of new requirements and ideas from our customers. The products are therefore always in continuous progress with improved detail solutions, new materials and further accessories.

## ISO 9001 certified

The Tapflo manufacture process is now certified according to ISO 9001:2001. All pumps are also CE-marked and fulfill the demands of the EC machinery directives.

## The history of Tapflo

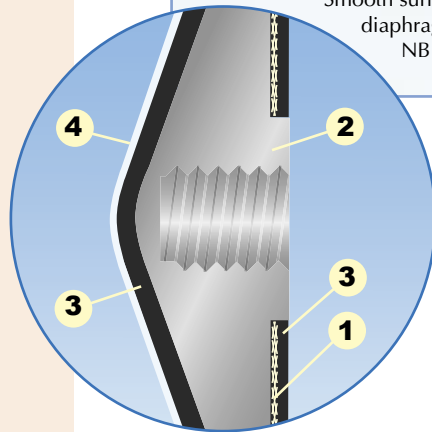
Tapflo was founded in Kungälv (north of Gothenburg), Sweden 1985 and has since then been working with design and manufacture of air operated diaphragm pumps. The product range has grown from a few models, to complete ranges of diaphragm pumps and centrifugal pumps in various materials and sizes. Tapflo has now established 12 sales offices in 12 countries and independent distributors in another 20 countries – spare parts and pumps are available worldwide.

## Key components...

### Diaphragms



Smooth surface sandwich compound diaphragm. Available in PTFE, EPDM, NBR, foodgrade EPDM and PTFE.



- ◀ Cutaway PTFE diaphragm
- 1) Reinforcement webbing
  - 2) Light metal core
  - 3) EPDM layer
  - 4) PTFE layer

### Air valve

No lube and pollution free air valve made from brass or AISI 316 stainless steel.



### Ball check valves

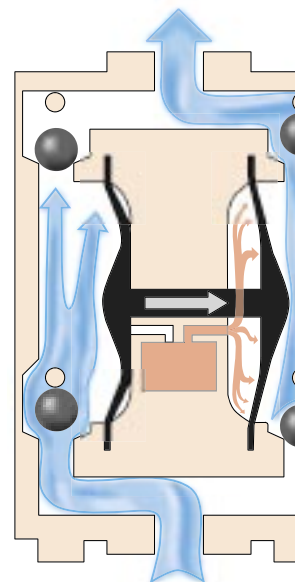
Reliable valve design ensures a safe fluid transfer through the pump. Available in various materials.



### 1. Flexible installation

The connections may be rotated 180°. Simply turn connections to fit your pipe system (PE & PTFE and Me series pumps)

First cycle...



## The ingenious Tapflo design

few components and a simple but ingenious design is peculiar for all Tapflo pumps. It is a compact pump, easy and quick to maintain, keeping your service costs and process down time to a minimum.



### 2. Solid and strong

The PE & PTFE series pumps are machined from solid blocks for superior mechanical strength.

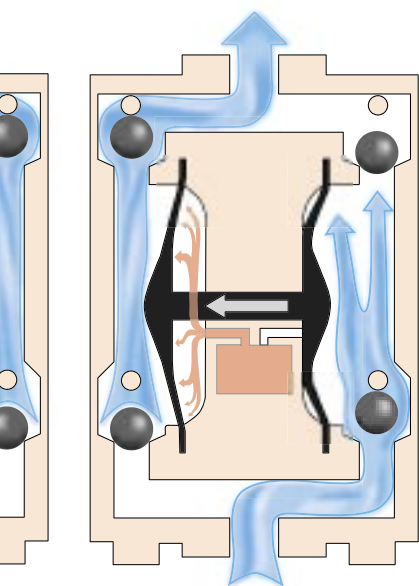
### 3. Chemical design

The compound diaphragm has a completely smooth liquid side surface and with no metal in contact with the liquid.

### 4. Low air consumption

The air distribution system is designed to eliminate "dead spaces". This results in high efficiency and low air consumption.

Second cycle...



■ Pumped liquid

■ Compressed air

### How Tapflo pumps work

The Tapflo diaphragm pump is driven by compressed air. The two diaphragms, connected by a diaphragm shaft, are pushed back and forth by alternately pressurising the air chambers behind the diaphragms using an automatically cycling air valve system.

#### Suction (1)

One diaphragm creates a suction action when being pulled back from the housing.

#### Discharge (2)

The other diaphragm simultaneously transmits the air pressure to the liquid in the housing, pushing it towards the discharge port.

### Benefits with Tapflo...

- ▶ Run dry without damage
- ▶ Infinitely variable flow control
- ▶ Few components – low down-time and maintenance costs
- ▶ Self priming up to 5 m from dry suction pipe
- ▶ Solid, strong and long life design
- ▶ No lube and pollution free air distribution system
- ▶ No electricity needed – explosion proof versions available
- ▶ Can run dry against closed pipe or valve without damage

### Various liquids...

Tapflo pumps are compatible with a very wide range of chemicals:

- ▶ Corrosive and chemical aggressive
- ▶ High and low viscous
- ▶ Abrasive
- ▶ Solid laden
- ▶ Shear sensitive
- ▶ Flammable

### Industries...

Tapflo pumps are used in a variety of installations in most industries: Chemical, surface conditioning, water treatment, pulp & paper, food, pharmaceutical, paint, print and varnish industries to mention only a few.

# ▼ PE & PTFE series pumps



## PE & PTFE series pumps

Tapflo pumps made from polyethylene (PE) or PTFE are suitable for handling almost any kind of liquid whether it is viscous, chemically aggressive or with solids.

### Polyethylene pumps

Polyethylene (PE HD) has a superior wear resistance which is 6 – 7 times better than for polypropylene (PP). This fact makes the pump suitable for handling abrasive slurries etc. PE is resistant to most kind of aggressive chemicals such as concentrated acids and alkalis. Maximum liquid temperature is 70°C.

### PTFE pumps

PTFE (virgin polytetrafluorethylene) is a thermoplastic polymer with superior chemical resistance. The PTFE pump will handle even the most aggressive acids, for instance concentrated nitric acid. Maximum liquid temperature is up to 100°C.

Model	TR9	TR20	T50	T100	T200	T400	T800
In/outlet ports	1/4"	3/8"	1/2"	1"	1 1/2"	2"	3"
Max flow (l/min) (US gpm)	9 2.4	20 5.3	50 13.2	100 26	200 53	400 106	800 212
Max press. (bar) (psi)	8 116	8 116	8 116	8 116	8 116	8 116	8 116
Length (mm) (inch)	70 2.8	105 4.1	150 5.9	200 7.9	270 10.6	350 13.8	460 18.1
Width (mm) (inch)	94 3.7	112 4.4	160 6.3	214 8.4	310 12.2	380 15.0	589 23.2
Height (mm) (inch)	123 4.8	168 6.6	243 9.6	320 12.6	450 17.7	563 22.2	830 32.7
Weight PE (kg/lb)	1/2.2	1.5/3.3	5/11	10/22	24/53	44/97	140/-
Weight PTFE (kg/lb)	1.5/3.3	2.5/5.5	7/15	17/38	44/97	90/199	286/-

◀ Tapflo PE & PTFE series with its famous smooth and solid design for heavy duty industrial applications

### ▼ Special versions...



#### Drum pumps

You will easily move your Tapflo drum pump between drums and containers. 0-100 l/min.



#### Explosion proof pumps

Explosion proof models available according to the ATEX directive, group II, cat 2.



#### Twin pumps

Pumps with double in/outlet to achieve "two pumps in one" for blending, mixing or recirculation.



#### Filter press pump stations

High pressure version (max 16 bar) for filterpress feeding.

# ▼ Metal series pumps



**AT Ex**  
Explosion proof models available according to the ATEX directive, group II, cat 2.

The compact, smooth and simple design is common for this series.

## Aluminium and cast iron pumps

For transfer of pH-neutral fluids, both thin, thick, solid laden or abrasive. The aluminium and cast iron pumps are found in most fields; work shop and paint industries, purifying plants etc., to mention only a few.

## AISI 316 stainless steel pumps

Made in lost wax cast method, ensuring great accuracy and finish. The stainless steel pumps combine great mechanical strength with good chemical features. AISI 316 is resistant to aggressive liquids like nitric acid and sodium hydroxide. The centre unit, which is not in contact with liquid, is made from corrosive resistant polypropylene (PP) as standard (other materials upon request).

Model		T25	T70	T120	T220	T420
In/outlet ports		1/2"	3/4"	1"	1 1/2"	2"
Max flow	(l/min)	25	70	120	220	420
	(US gpm)	6.6	18	32	58	111
Max pressure	(bar)	8	8	8	8	8
	(psi)	116	116	116	116	116
Length	(mm)	105	150	200	270	350
	(inch)	4.1	5.9	7.9	10.6	13.8
Width	(mm)	116	168	195	265	342
	(inch)	4.6	6.6	7.7	10.4	13.5
Height	(mm)	160	229	302	412	537
	(inch)	6.3	9.0	11.9	16.2	21.1
Weight alu	(kg/lb)	2/4.4	5/11	8/18	19/42	34/75
Weight c. iron	(kg/lb)	7/15	10/22	17/37	44/97	80/176
Weight s. s.	(kg/lb)	-	7/15	16/35	38/84	68/150

◀ Aluminium and cast iron pumps.

▼ Tapflo pump range from stainless steel AISI 316 - superior mechanical strength and chemical resistance.

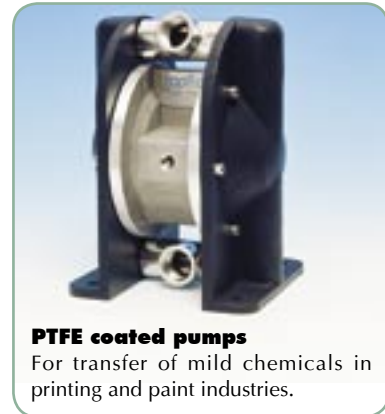


▼ Special versions...



### Drum pumps

You will easily move your Tapflo drum pump between drums and containers. 0-120 l/min.



### PTFE coated pumps

For transfer of mild chemicals in printing and paint industries.



### Twin pumps

Double in/outlet to achieve "two pumps in one".

# ▼ Sanitary series pumps



◀ Hygienic design, made from electropolished stainless steel to meet the requirements in hygienic installations.



### ▲ Heating jacket

is used when the pumped product has to maintain a specific temperature throughout the process. A heating or cooling medium is circulated in the heating jacket.

## Sanitary series

The Tapflo sanitary series, made from electro polished AISI 316L is particularly designed to meet the requirements of the food, beverage, pharmaceutical and cosmetic industries. Lubrication free air distribution system, maintenance free ball check valve system and total visual inspection of the wetted parts are some of the major features for this pump series.

### Made to be clean

Our design allows for total visual inspection of the wetted parts. There are no hidden areas where bacteria can grow. The manifold clamps and the housing screws are simply removed for complete disassembly and cleaning. The pump is also designed for cleaning and sterilization in place – C.I.P. and S.I.P. After such operations, the pump is easily turned in its support for drainage.



### ▲ Variety of connections

The pump may be equipped with almost any type of connection used in the hygienic field – TC clamp, DIN, SMS, RJT, ANSI etc.

Model		T30	T80	T125	T225	T425
In/outlet ports		1"	1"	1 1/2"	2 1/2"	3"
Max flow (l/min) (US gpm)		30	80	125	225	425
		8	21	33	59	112
Max pressure (bar) (psi)		8	8	8	8	8
		116	116	116	116	116
Length	(mm)	160	290	290	360	440
	(inch)	6.3	11.4	11.4	14.2	17.3
Width	(mm)	230	295	320	420	485
	(inch)	9.1	11.6	12.6	16.5	19.1
Height	(mm)	302	396	445	639	840
	(inch)	11.9	15.6	17.5	25.2	33.1
Weight	(kg)	4	8	11	21	35
	(lb)	9	18	24	46	77



### ▲ Pump on trolley



### Active pulsation dampeners

The active pulsation dampener is the most efficient way to remove pressure variations on the discharge of the pump. Available for all Tapflo pump sizes and material versions.



### Pneumatic batch control unit

The pneumatic batch unit allows you to set and pump a certain number of pump strokes - all this without any electricity. The system is easily applied on all Tapflo pumps.



### Diaphragm alarm system

This system will immediately alarm and shut of the pump at an eventual diaphragm break. It ensures that no liquid will leak to the environment or to the air system.



### Level control system

This ingenious system is operated with pneumatic components only. The level control system may be installed in sumps, tanks or tubs to start and stop the pump at certain liquid levels.

### The Pneumix...

The Pneumix works both as product transport pump as well as mixer. The Pneumix utilises the container the product arrives in to mix and dispense and simply fits securely in the vessels fill



### Powder pumps

The Tapflo powder transfer pump can do the same job as many complex and large powder systems. The compact design also makes the unit portable.



### CT centrifugal pumps

CT is a compact centrifugal pump, manufactured from stainless steel AISI 316L. With electro polished surfaces, high finish and mechanical strength, the CT range meet the demands from a variety of today's industries.



### Pharmaceutical USP VI pumps

We introduce our unique USP approved hygienic PE pump, now upgraded to USP VI. It serves the biotech- and pharmaceutical industries in numerous applications.

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Tapflo is represented in more than 30 countries worldwide. Visit our website for updated information.



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