tapflo®

STEINLE FILTER PRESS PUMPS

2025 | 1



All about your flow®

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We began our journey in 1980 in Kungälv, a small town on the Swedish west coast, as a family company with an ambition to one day become a global player on the pump market.

Since the foundation, we have taken pride in delivering a wealth of knowledge and passion for pumps to the industry, whilst supplying a wide range of premium products for various industrial applications.

Over the years, the company has developed into a global Tapflo Group with branches and distributors present in nearly every region of the world.

One thing did not change - we are still a family company.

Our solutions are designed and manufactured in Europe and distributed globally to offer the best service and flow solutions to our customers for a variety of applications.

Our values, Commitment, Quality and Simplicity are reflected both in our product and business approach.

For fast and flexible service and high-quality products readily available worldwide, choose Tapflo.

Quality commitment

At Tapflo we are simply committed to quality. As a result, our production standards, as well as products quality, comply with various globally recognised certification and quality control standards. The Tapflo manufacturing process is certified according to ISO 9001:2015, confirming that our processes are appropriate, effective, customer-focused and continuously improved.

Tapflo values

Our culture is concluded in Our values

Commitment

We are different from our competitors because of our willingness to exceed the customers' expectations, move fast and be flexible. Our culture is based on the spirit of togetherness, enthusiasm and integrity. We come from all over the world but we share the same values and we respect each other. We are committed.

Quality

We understand that the quality in our work is never better than the weakest link, that's why we focus on every small detail. We share a common passion for continuously finding more efficient and effective ways to provide value to our customers. As a manufacturer we have control of the complete process both in terms of our products and the way we operate internally. That is why we manufacture the highest quality pumps in our segment.

Simplicity

We have a saying, "Simple is art" which means we try to find smooth and uncomplicated solutions in everything. By keeping it simple we can focus on the essential, like designing uncomplicated pumps with few components. For us it is a key to success; strive to simplify what is complex.

The STEINLE Filter Press Pumps

The STEINLE pump is a single or double acting piston diaphragm pump with a hose as the diaphragm. The liquid transferred to the filter press requires exceptionally high performance pumps. They have to supply large quantities of liquid into the empty press as well as small quantities at high pressure when the filter press is filled. This pressure must be maintained for a long period of time.

The pumps are available in FP & FH series with different pressure transmission:

- **FP - 1 : 2.4**
- **FH - 1 : 3.3**

Features & Benefits

Self-regulating for filter press applications
By using compressed air to operate the pump, the pump follows the filtration curve automatically. There is no need for speed reduction of electric motors.

High pressure transmission up to 1 : 3.3
By using different sizes of pneumatic pistons the pumps reach 24 bar in the filter press, even with low pressure of compessed air.

Low air consumption
Due to the piston and cylinder construction with very small dead volumes the compressed air is used very efficiently. Ther is almost no air consumption in the high pressure operation.

Lifetime
Low velocity of the slurries around the valve balls reduce wear in this area.

Dry running capability
Sealless design and no rotating parts the pump can run dry for a long time without being damaged.

External electronic air valve
The electronic control of the external air valve guarantees a safe operation without dead point of the air valve.

Long life time of diaphragms
By using tubular diaphragms which are pressure balanced the stress is reduced to minimum.

Solid construction for heavy duties
The pump has a flanged construction.
No clamps, robust design.

Wide range of applications



Automotive Industry



Chemical and Paper Industry

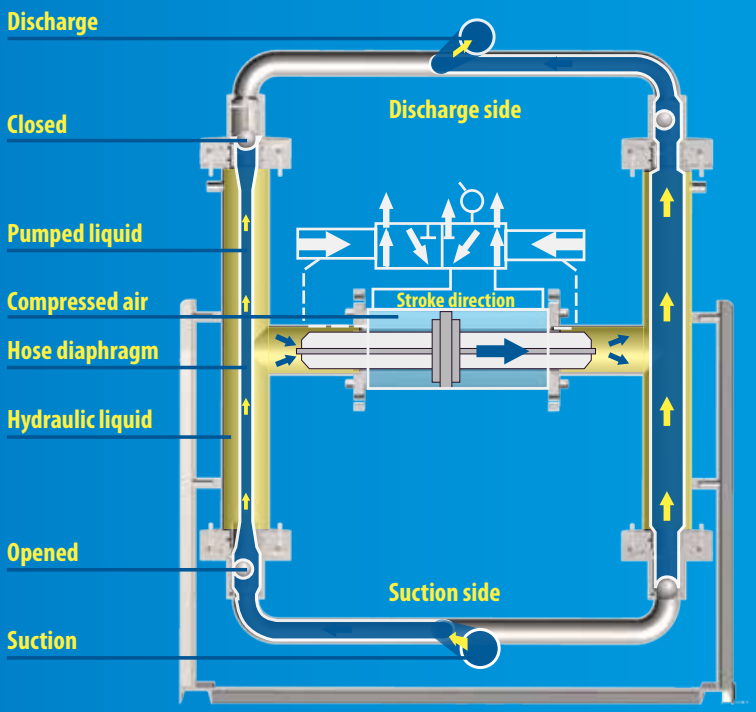


Filter Press Applications



Porcelain, Glass and Ceramics

Working principle



Compressed air is moving the pneumatic piston which is attached to the hydraulic piston.

The hydraulic piston is moving the hydraulic liquid which is acting on the diaphragm hose which also restores its original shape.

While the hose is compressed, the slurry inside is displaced and flows out.

Ball valves on the top and bottom of the hose ensure that the flow is in one direction only.

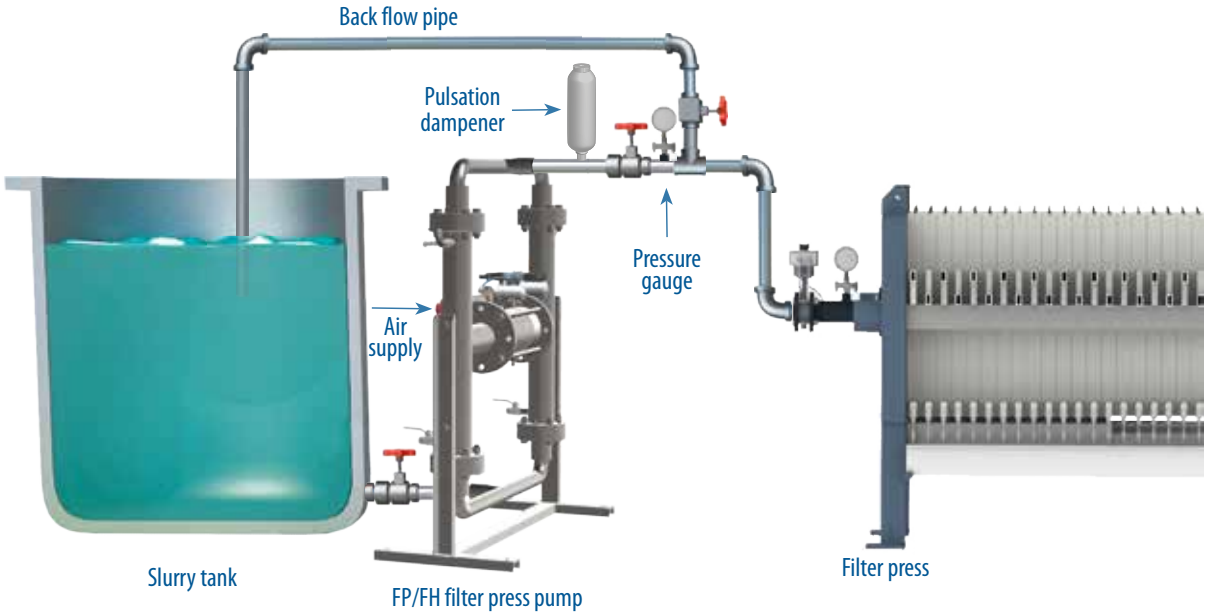


a) open b) compressed

The two extreme deformation conditions of the hose.

The installation

All STEINLE pumps are self-regulating. This means, that no additional equipment is required. When the filter press is full, the pump just stops. For the single acting pump size 25 a pulsation dampener in the discharge pipe is recommended.

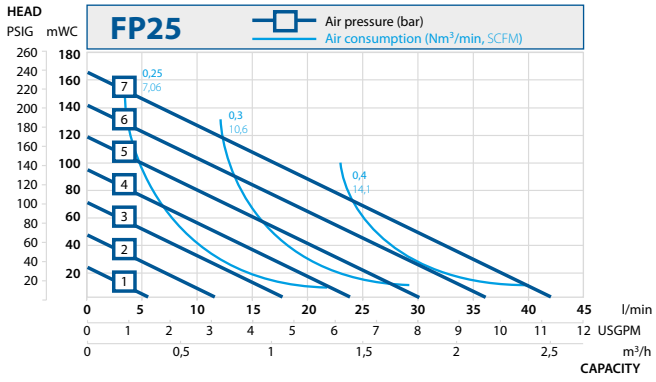


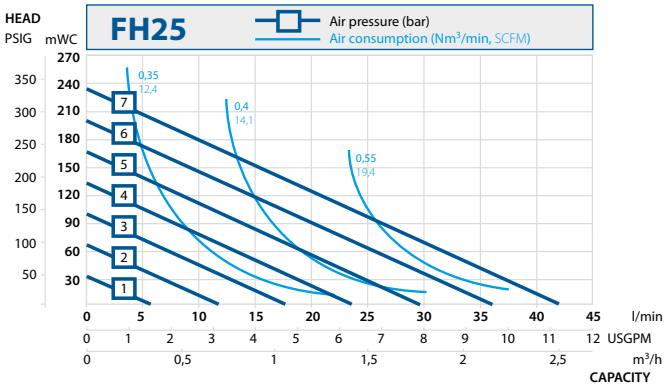
Performance curves

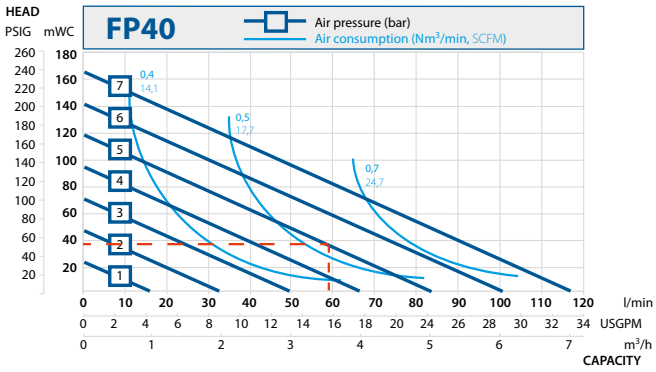
The performance curves are based on water at 20 °C. Other circumstances might change the performance.

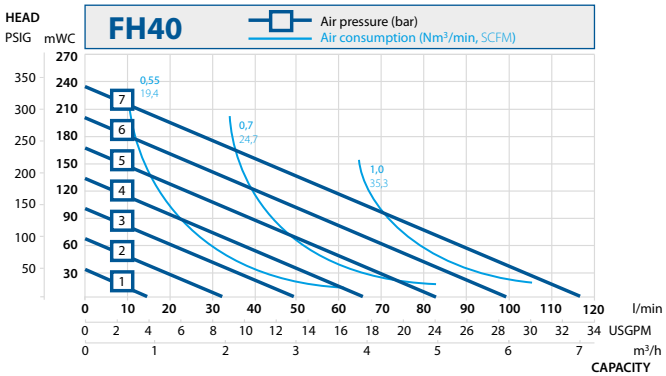
Example FP 40

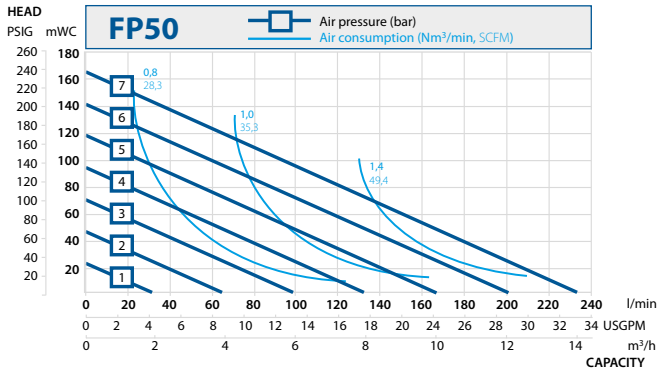
With an existing pressure of 5 bar in compressed air supply, the pump delivers 3,5 m^3/h at approximately 4 bar. Air consumption will be 0,65 m^3/min in this case. The amounts given apply to water at 20 °C, without suction lift. With higher viscosity liquids and a suction lift, a reduction in the flow rate may occur.

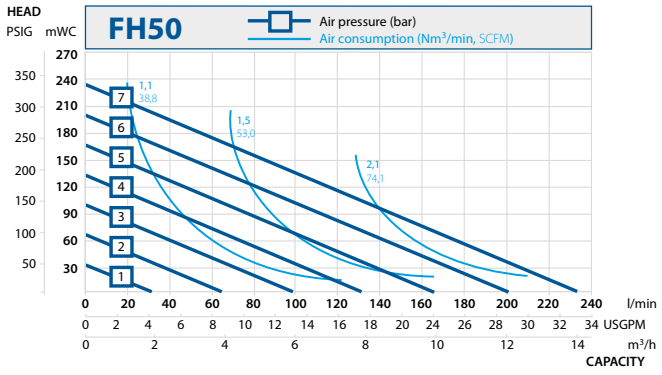


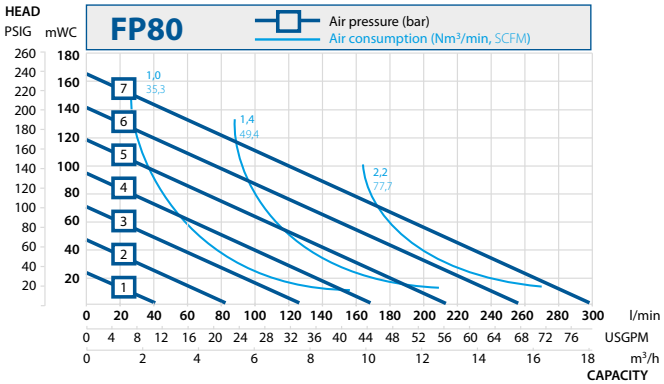


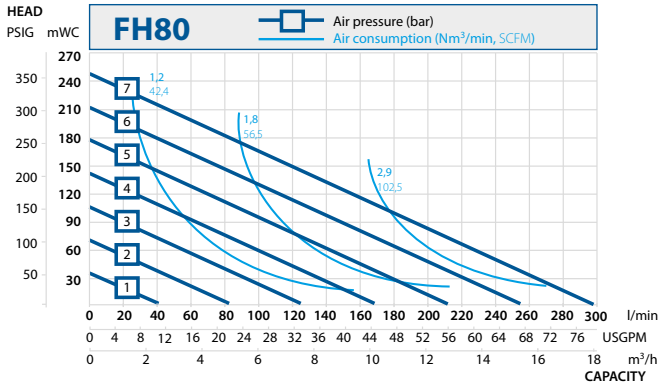






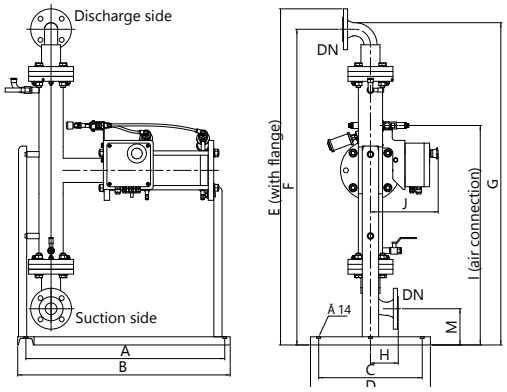




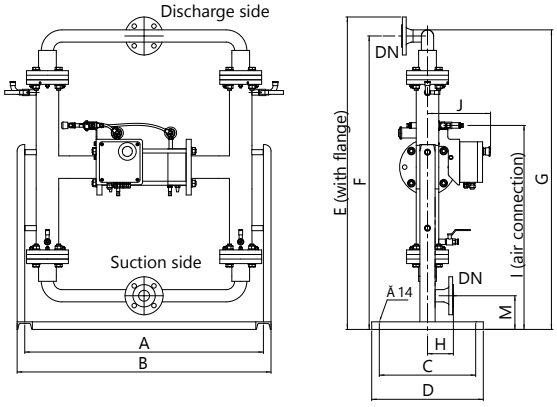


Dimensions

Pump FP/FH 25



Pumps FP/FH 40, 50, 80



Dim.	FP/FH 25	FP/FH 40	FP/FH 50	FP/FH 80
A	780 / 30.70	941/ 37.05	1445 / 56.89	1445 / 56.89
B	730 / 28.74	1001 / 39.41	1525 / 60.04	1525 / 60.04
C	380 / 14.96	380 / 14.96	480 / 18.90	480 / 18.90
D	440 / 17.32	440 / 17.32	540 / 21.26	540 / 21.26
E	1234 / 48.58	1234 / 48.58	1787 / 70.35	1804 / 71.02
F	1159 / 45.63	1159 / 45.63	1704 / 67.09	1704 / 67.09
G	1183 / 46.57	1183 / 46.57	1735 / 68.31	1749 / 68.86
H	102 / 4.02	102 / 4.02	112 / 4.41	144 / 5.67
I	806 / 31.73	806 / 31.73	860 / 33.86	860 / 33.86
J	249 / 9.80	249 / 9.80	273 / 10.75	273 / 10.75
M	133 / 5.24	133 / 5.24	196 / 7.72	196 / 7.72
DN	40 / 1.57	40 / 1.57	50 / 1.97	80 / 3.15

Dimensions in mm (where other is not indicated)
Dimensions in inch (where other is not indicated)

Technical data

Data	Pump size			
	FP/FH 25	FP/FH 40	FP/FH 50	FP/FH 80
General characteristics				
Max capacity [m³/h] / [US gpm]	2.5 / 11	7 / 31	14 / 62	18 / 79
Max discharge pressure [bar] / [psi]	16 / 232 (FP) ; 24 / 348 (FH)			
Pressure transmission	1 : 2.4 (FP) ; 1 : 3.3 (FH)			
Max air pressure [bar] / [psi]	8 / 116			
Displacement* [l] / [cu in]	0.7 / 42.7		2 / 122	
Max suction lift dry [m] / [Ft]	2 / 6.6			
Max suction lift wet [m] / [Ft]	5 / 16.4			
Medium operating temperature [°C] / [°F]	-20 - 80/ -4 – 176			
Allowable ambient temp range [°C] / [°F]	0°C - 40 / 32 - 104			
Power consumption	12 W required			
Control voltage	24 V DC or 220/240 V AC 50 Hz or 110/130 V AC 50/60Hz			
Protection class	IP 65			
Max size of solids ø in [mm] / [in]	10 / 0.39		15 / 0.59	
Weight [kg] / [lb]	62 / 28	90 / 41	162 / 74	188 / 85
Material of components				
Housing material	Mild Steel, SS 316, Polypropylene (up to 16 bar)			
Valve balls	Steel cored CR, NBR, Polyurethane, EPDM, PTFE, SS 316, PP, PE1000			
Sealing (wetted)	NBR			
Sealing (pneumatic)	PUR/NBR			
Diaphragms	Superflex, PUR			
Hydraulic liquid	Biological degradeble			

* = each chamber

Pump code

I.	II.	III.	IV.		V.	VI.	VII.
FP	40	C	G	-	U	U	F

I. Pump standard

FP = Standard pump

FH = High-pressure pump

II. Pump size

25, 40, 50 or 80

III. Housing material

C = Mild Steel

S = Stainless Steel SS 316

P = Polypropylene (PP) (up to max 16 bar)

IV. Connection type

G = BSP female thread (G 1.1/2" std. on Fx25 and Fx40 metal pumps)

F = Flange acc. to EN 1092-1 Type 11 Face B1 (std. on Fx50, Fx80 and all PP pumps)

A = Flange acc. to ANSI 16.5B Class 150

J = Flange acc. to JIS

V. Diaphragm material

S = Superflex (standard)

U = Polyurethane (PU)

VI. Valve ball material

C = Neoprene (CR) with steel core

E = EPDM

L = Polypropylene (PP)

N = NBR (Buna N)

P = PE1000

T = PTFE

U = Polyurethane (PU)

S = AISI 316L Stainless steel

VII. Design series

F = Current standard

Accessories

In addition to the pumps, wide range of useful accessories are available:



Pulsation dampener

Cost worthy pulsation dampeners with 9 liters volume and an operating pressure of 16 bar are suitable for all pump sizes.



Air treatment system

The installation of an air treatment system in the air supply is always recommended. They consist of a water separator, filter, oil dosing unit and pressure regulator with pressure gauge.



Diaphragm control

This electronic unit checks the hydraulic liquid conductivity which changes when it is contaminated with the transfered slurry. A signal is generated when diaphragm is raptured or untight. This unit can be installed even when the pump is in operation.



Filling control of the filter press

By controlling the stroke frequency of the pump the level of filling in the filter press can be determinated. This can be done by an existing control unit or by a separate time control box.

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