

PFA Tank Pumps



Application

The PFA pumps are immersible, single-stage rotary pumps equipped with a single-sided centrifugal rotor. The pumps are designed to pump water, polluted liquid, faeces, and liquid manure, the density of which should not exceed 1100 kg/m³, the viscosity of which should not exceed 13 mm²/s, and precipitated fibre the length of which should not exceed 20 mm. The aggressiveness of the liquids pumped should not exceed the corrosion resistance level of the materials used to construct the unit.

The PFA pumps can be used:

- in sewage treatment plants, as supporting units,
- in horticulture,
- on farms,
- to empty home cesspits,
- in rainwater development,
- to drain flooded buildings/facilities,
- to empty pools and tanks.

Technical Specifications

Capacity	up to 39 m ³ /h
Delivery head	up to 9,2 m
Immersion depth	up to 1,3 m
Liquid maximum temperature	up to 40 °C
Pumped liquid density	up to 1100 kg/m ³
Mass	26,2 kg
Motor power	0,55 ÷ 1,5 kW
Rotational speed	1420 obr/min

Technical specifications including particular types of pumps

Pump type		PFA.2	PFA.3	PFA.4	PFA.5
Capacity:					
- nominal	m ³ /h	10	16	22	25
- operational range		3 ÷ 21	6 ÷ 27	9 ÷ 33	12 ÷ 39
Delivery head :					
- nominal	m	4,6	4,9	5,4	6,5
- operational range		5,9 ÷ 1,4	6,7 ÷ 1,8	8,0 ÷ 2,0	9,2 ÷ 1,9

Motor power	kW	0,55		0,75		1,10		1,50	
Rotational speed	min ⁻¹	1450		1450		1450		1450	
Power supply voltage	V	400	230	400	230	400	230	400	230
Operational range for the M611 overload switch	A	1,0÷1,6	2,5÷4,0	1,6÷2,5	4,0÷6,3	2,5÷4,0	6,3÷10,0	4,0÷6,3	10,0÷16,0
M611 switch cap	A	In (nominal motor current)							
Current feedback of electrical fuse	A	3x10	1x25	3x16	1x25	3x25	1x50	3x25	1x50
Maximum waste diameter	mm	15		18		20		22	
Rotor diameter	mm	140		150		160		170	
Pumping duct diameter	mm	50		50		50		50	
Unit mass	kg	39	42	41	44	46	50	50	53

The product code is structured as follows:

P	F	A	1	0	1	1	1	0	1	2	7	0	0	5	1
a	a	a	b	c	c	d	e	e ₁	e ₁	e ₂	h	i	i	i	k

- a a a - Pump type
- b - pump type-size
- c c - type dimensions
- d - Material execution
- e e₁ e₁ e₂ - Constructional execution
- h - Completeness of supply
- i i i - Unit selection (coded as per internal documents of the manufacturer)
- k - Finishing

Materials of construction

There is only one material option for the PFA pumps.

Części pompy	Wykonanie materiałowe d=1
Casing	gray cast iron
Rotor	gray cast iron
Closure system	gray cast iron
Connector motor body	gray cast iron
Shaft	stainless steel
Slide bearing	e = 1 steel / rubber
	e = 2 steel / bronze
Casing pipe	R35 steel
Hanger	carbon steel
Z50 hosepipe	rubber
AP clamp	galvanised carbon steel
Smooth joint	carbon steel
Quick-release coupling	h = 7 brass
	h = 8 aluminium

Production Specifications

Production specifications are marked: e e₁ e₂ meanings are as follows:

"e" - temperature of the pumped medium

"e₁e₁" - rotor type

"e₂" - additional equipment

"e" = 1	Adapted for liquid at a temperature of 0 < t < 40°C
"e" = 2	Adapted for liquid at a temperature of 0 < t < 90°C
"e ₁ e ₁ " = 01	Single-sided centrifugal rotor
"e ₂ " = 0	Optional equipment
"e ₂ " = 1	Complete with electric equipment for pumps utilised in farms (M611 switch in G7 casing – IP65 class protection, plug, socket – IP57, and 10 meter wire)

"e2" = 2	Complete with electrical equipment for general use pumps
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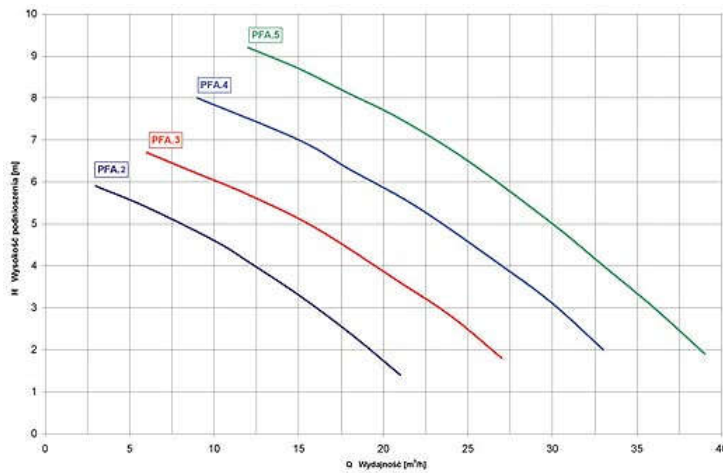
Supply completeness

4 -	At the endpoint of the pump's short pipe is a connector + AP clamp.
6 -	At the endpoint of the pump's short pipe is a connector + AP clamp + rubber hosepipe (1.2m long) with a pipe connector at its endpoint.
7 -	At the endpoint of the pump's short pipe is a connector + AP clamp + rubber hosepipe (1.2m long) with a quick release coupling at its endpoint (the quick release coupling is made of brass).
8 -	At the endpoint of the pump's short pipe is a connector + AP clamp + rubber hosepipe (1.2m long) with a quick release coupling at its endpoint (the quick release coupling is made of aluminium).
	In order to suit the individual customer's needs, the length of rubber hosepipes can be customised.

Product cosmetics

1. Standard

Operation area



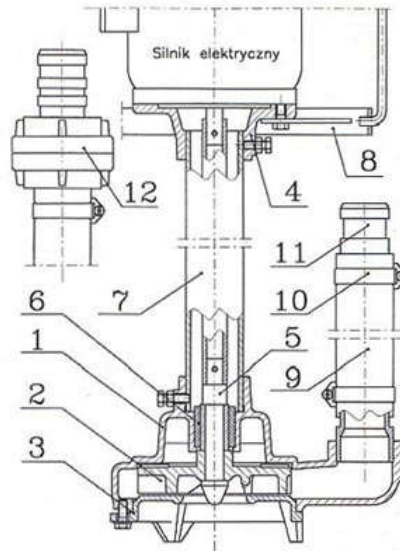
Features:

- innovative construction solutions
- long-term operational reliability and easy access to replacement parts guaranteed
- permanent technical supervision and guarantee, and post-guarantee service
- low cost of purchase and use
- meets individual demands and can be adapted to the customer's needs
- relatively long lifespan under difficult operating conditions

Construction

The PFA unit is a single-stage rotary centrifugal pump driven by a single-sided drive shaft, which is driven by an induction motor. The drive shaft is slide-mounted on a bearing installed in the main body of a pump. The drive shaft is covered with a casing pipe, which is an element linking the main body of the pump with the body of the motor connector. The main body of the pump is closed by an entry closure, which may also function as a base for the pump at the bottom of a tank. A holder with a hanger, which is screwed into the motor container's flange, is used to mount the pump unit in the container's opening; it also secures the motor against mechanical damage that might occur during transport or storage of the pump unit.

Pump Cross-Section



1 - Casing	7 - Casing pipe
2 - Rotor	8 - Hanger
3 - Closure system	9 - Z50 hosepipe
4 - Motor connector body	10 - AP clamp
5 - Drive shaft	11 - Smooth joint
6 - Slide bearing	12 - Quick-release coupling

