

STAINLESS STEEL PUMP LIQUID WITH SOLIDS IN SUSPENSION Type PRF



User's manual

Utilisation

- Inox pump for alimentary thick liquids or with solids in suspension.
- Versatility of use
- Synthetic material impeller : non toxic and resistant to some acids
- Liquids and solids in suspension can be pumped without damage
- Instant self-priming to 5m depth
- Reverse flow mechanism
- Low motor rpm to avoid beating of the liquid

Compliance

89/392/CEE directives and its subsequent modifications.

Range of employment

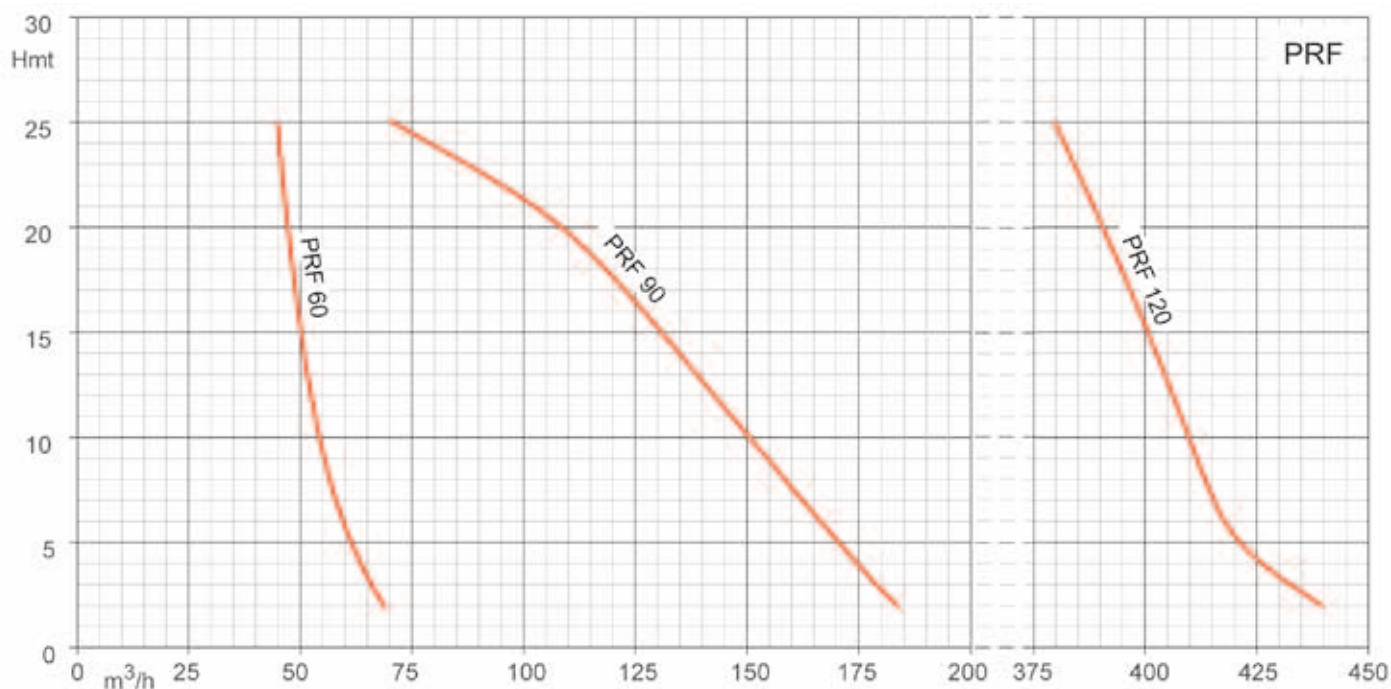
Maximum flow	26 m ³ /h
Maximum temperature	70°C
Maximum pressure	2,5 bar
Engines	from 0,4 to 6 HP 700/900/1400 tr/min, enclose type for external ventilation IP55 continuous duty

Construction

Body pump	Inox AISI 304
Impeller	Neoprene
Seal	Mechanical rotative type
Seal gaskets	NBR

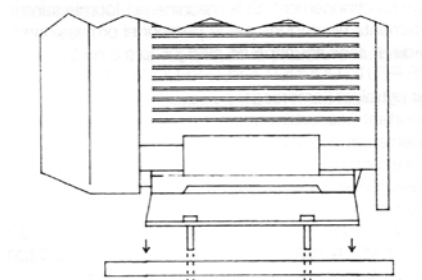
Technical data

TYPE	Voltage V	Power KW	Speed rpm	Water flow l/min						Ø Outlet
				2 Hmt	5 Hmt	10 Hmt	15 Hmt	20 Hmt	25 Hmt	
PRF 60	400 V 3Ph	0,75	1400	68	63	56	52	48	44	1"1/4
PRF 90		1,5	1400	185	170	150	130	110	70	1"1/2
PRF 120		4,5	1400	440	420	410	400	390	380	2"



Installation

In the case the pump is supplied without the carriage, take care to verify the correct locking of the bolts on the motor casing flange as showed on the picture.



Scheduled and unscheduled use

This pump must be employed for the treatment of non-aggressive liquids among the others:

ALIMENTARY FIELD - Wine, grapes without grape-stalk, fruit juices, tomato sauce, oil, beer, butter and melted cheese, cream, milk, condensed milk, eggs, honey, yogurt, jam, liquid sugar, glucose..

PHARMACEUTIC FIELD - Wax, liquid soaps, creams, syrups, shampoos.

CHEMICAL FIELD - Starch, water base glue, emulsions, glycerine, glycols, latex, animal and vegetable greases.

ALL THOSE LIQUIDS WHICH ARE PREJUDICIAL TO THE HEALTH OR GENERALLY AGGRESSIVE MUST BE AVOIDED, i.e.:

Acids, solvents, naphtalene, Chloric Acid, all Hydrochloric Acid concentrations, Hydrofluoric Acid, Muriatic Acid, Suphuric Acid, Hydrobromic Acid, melted Antimony and Aluminium, Ammonia, Sulphurchloride, and so on. Anyhow, THIS PUMP CANNOT BE UTILIZED FOR THE TREATMENT OF THE FLAMMABLE FLUIDS AND IT CANNOT WORK INTO PLACES AT RISK OF EXPLOSION. Moreover, the pump cannot treat fluids at temperatures higher than 70 °C, nor at pressure higher than 5 bar

Operating instructions

BEFORE STARTING UP THE PUMP MAKE SURE THAT

The suction and delivery couplings position is such that the liquid leakage outcoming from the open inlet ends do harm nobody. Should the pump be equipped with a carriage this one must be located on level position to assure the stability of the machine taking into consideration also the light working vibrations. Should the machine be supplied without switch/cable/pin it is necessary to have the electric connections made by professionally qualified personnel. The pump sucks by empty pipeline and without foot valve up to 5 meters independently from the direction of rotation. IT CAN ROTATE DRYLY FOR A VERY SHORT TIME (the time necessary to cause the priming) as the impeller would be damaged irreparably. Therefore it is necessary that the sucking pipeline is well dipped into the liquid and after having started the pump up, there is a leakage of liquid from the pressing pipe. Into the monophase G it can happen that the pump doesn't start notwithstanding the closing of the electric connection. This is due to small static torque of the single-phase motors which badly support falls in tension or temporary start resistences. In this case it is enough to temporarily reverse the pump direction of rotation (actioning the proper reversing switch) to come immediately back to the wished direction of rotation. In relation to the treated fluid THE PUMP CASING AND THE ELECTRIC MOTOR SURFACES CAN REACH TEMPERATURES UP TO 70 °C

The aerial noise made by the working machine in relation to the head level is equal to :

POMPE	HEAD (M)	ACOUSTIC PRESSURE (DBA)
G60	free inlet	<70
G60	15	<70
G90	free inlet	70
G90	15	70

Most frequent anomalie

The problems that can easier be found are the following :

PROBLÈME	SOLUTION
Leakage from the mechanical seal part	See «maintenance»
The pump performances don't follow the technical catalogue features	Check the impeller, verify the correct dimensions of the pipelines with respect to the technical data of the catalogue
The electric moto doesn't work	Apply to qualified personnel

Maintenance

The maintenance operations can be necessary if the working defects are due to :

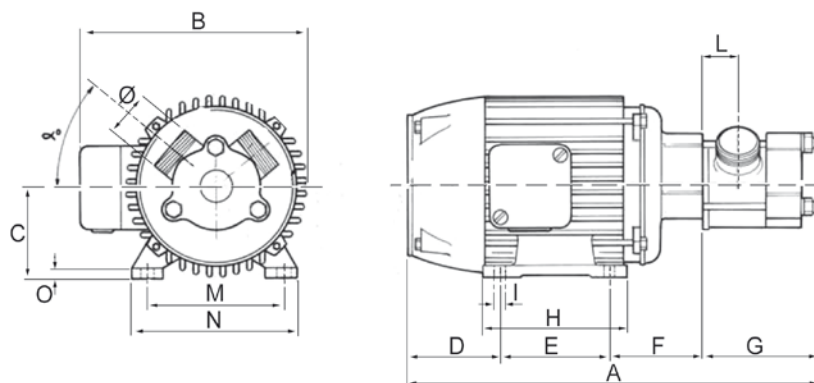
leakages from the mechanical seal parts;

bad working due to the impeller breakage;

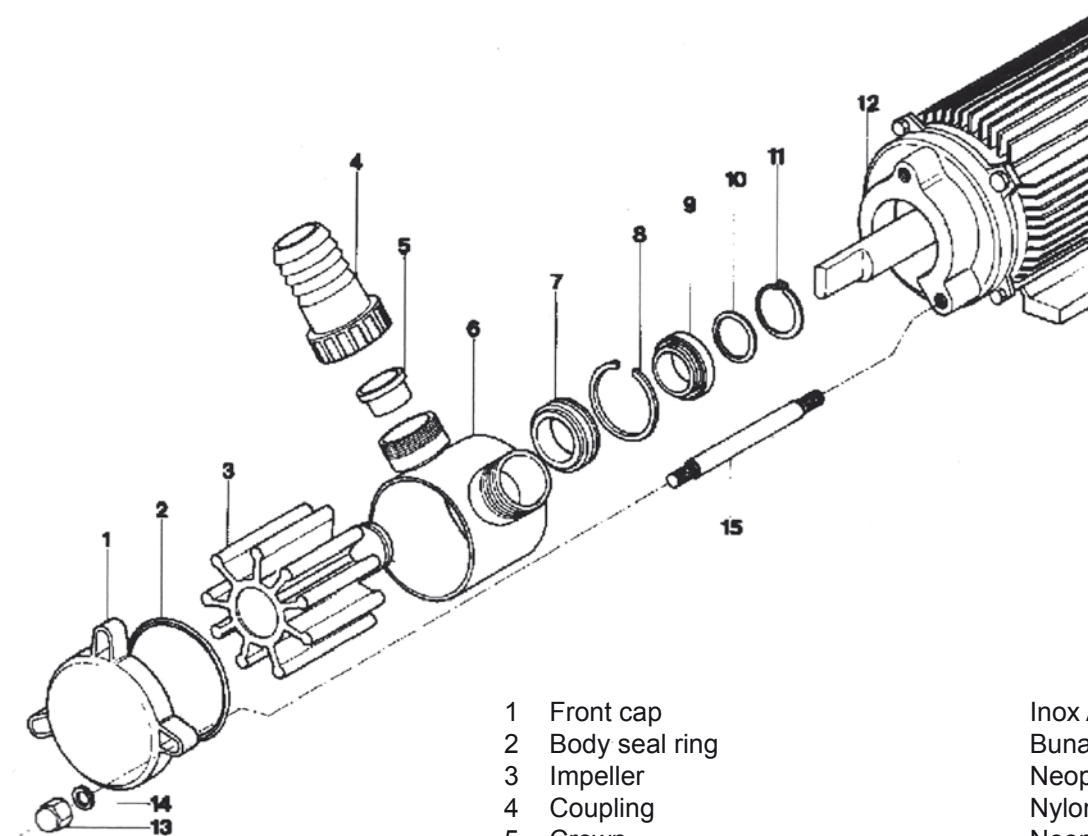
Before such interventions, in case the pump must be completely disassembled, it is necessary to act as follows :

- TURN OFF THE POWER;
- MAKE SURE THAT THE PUMP CASING AND THE COUPLINGS DON'T CONTAIN ANY RESIDUE OF THE PUMPED FLUID;
- disassemble the pump casing after having unscrewed the locking nuts and taken the locking flange away;
- ABSOLUTELY NOT ALLOWED TO RESTART THE PUMP AS LONG AS THE REASSEMBLING PHASE AND THE PUMP CASING LOCKING ARE COMPLETED
- take the impeller out together with the pertinent seal-holder cover levering by a screwdriver between the motor and the same cover;
- take the seeger and the spacer rings away;
- extract the rotating part from the mechanical seal;
- take the elastic ring away from the cover and replace the stationary part of the mechanical seal;
- replace the impeller and go on with the inverted succession of the assembling operations;
- reassembling the rotating part of the mechanical seal, it is necessary to oil the outer part of the impeller hub in order to make easy the sliding into its seat;
- before reassembling the pump on the motor or on its support (when the pump is unfastened it is necessary to grease the feed shaft and verify that the small key inside the impeller inserts perfectly into the shaft spline;
- the impeller walls must be lubricated before reassembling the pump casing

Dimensions (mm)



TYPE	A	B	C	D	E	F	G	H	I	L	M	N	O	α	Ø
PRF 60	345	208	80	86	100	85	74	125	10	27	127	154	10	41	1"1/4
PRF 90	407	256	90	100	125	92	80	150	10	34	150	170	11	33	1"1/2
PRF 120	592	337	127	147	143	145	157	185	22	54	218	256	18	40	2"



1	Front cap	Inox Aisi 314
2	Body seal ring	Buna
3	Impeller	Neoprene
4	Coupling	Nylon
5	Crown	Neoprene
6	Body pump	Inox Aisi 304
7	Seal	Acier
8	Elastic ring	Acier
9	Rotating part of mechanical seal	Grafite/inox/buna
10	Compensation ring	Inox
11	Seeger ring	Acier
12	Electric motor	
13	Cap lock nut	Laiton nickelé
14	Washer	Inox
15	Tie rod	Inox