Stainless steel
plate and frame filter press

OPERATION MANUAL

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1. Introduction

BAS stainless steel plate and frame filter press is a product which can adopt different filter media and can realize coarse filtration, precision filtration and ultrafiltration. With ultrafilter medium it can attain the goal of clarification and desterilization. The whole machine is made of stainless steel (1Cr18Ni9Ti) and the seal gaskets adopt silicon rubber, therefore the machine features acid and alkali corrosion resistance, non-toxicness and high temperature resistance, good sealing performance and long service life. It has a novel construction, nice appearance, flexible movement, convenient operation and wear well.

This machine is widely suitable for precision filtration or aseptic filtration of the liquids such as formulation of big and medium hospitals, infusion liquid, oral liquid, spirit, rice wine, beverage and the liquids of the departments as of chemical, metallurgical, electronics and environmental protection sectors and also can be used for purifying filtration of gases.

2. Model Designation

BAS□/□-N

- Filter plate material ： Stainless steel
- Outer plate size ： mm
- Filter area ： m^2
- Manual closing
- Closed flow
- Plate and frame filter press

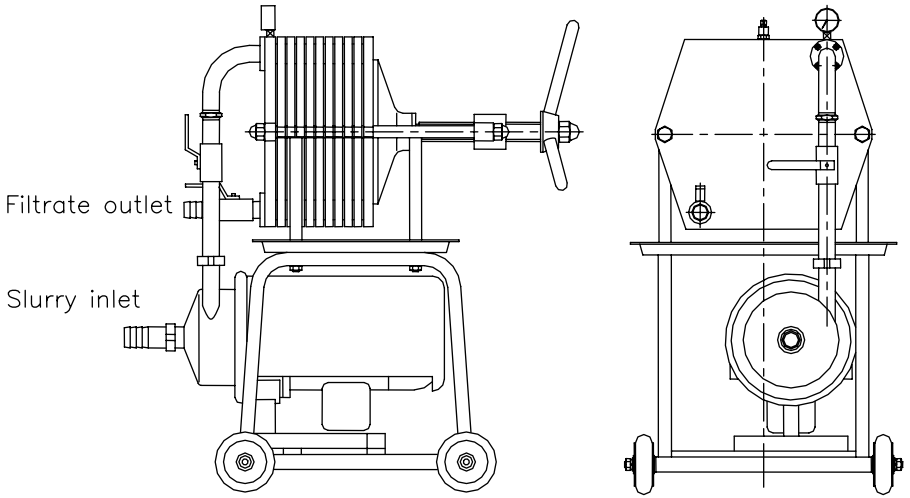
3. Technical Parameters and Specification

- Pressure for filtration ≤0.3 MPa
- Temperature for filtration -5℃~150℃

Specification

Model	Filter area m^2	Plate size mm	Number of plates / frame	Water flux t/h	Motor power kW	Caliber mm	L×W×H mm
BAS0.3/200-N	*0.3*	*∅200*	*5/6*	*0.5*	*0.75*	*∅15*	*710×360×720*
BAS0.4/200-N	*0.4*		*8/9*	*0.7*			*800×360×720*
BAS0.6/300-N	*0.6*	*∅300*	*4/5*	*1*	*0.75*	*∅20*	*720×460×810*
BAS1/300-N	*1*		*8/9*	*1.5*			*850×460×810*
BAS1.6/400-N	*1.6*	*∅400*	*6/7*	*2*	*1.1*	*∅25*	*890×590×920*
BAS2/400-N	*2*		*8/9*	*3*			*950×590×920*
BAS3/400-N	*3*		*12/13*	*4.5*	*1.5*		*1070×590×920*
BAS4/400-N	*4*		*16/17*	*6*			*1190×590×920*

4.Construction and Installation



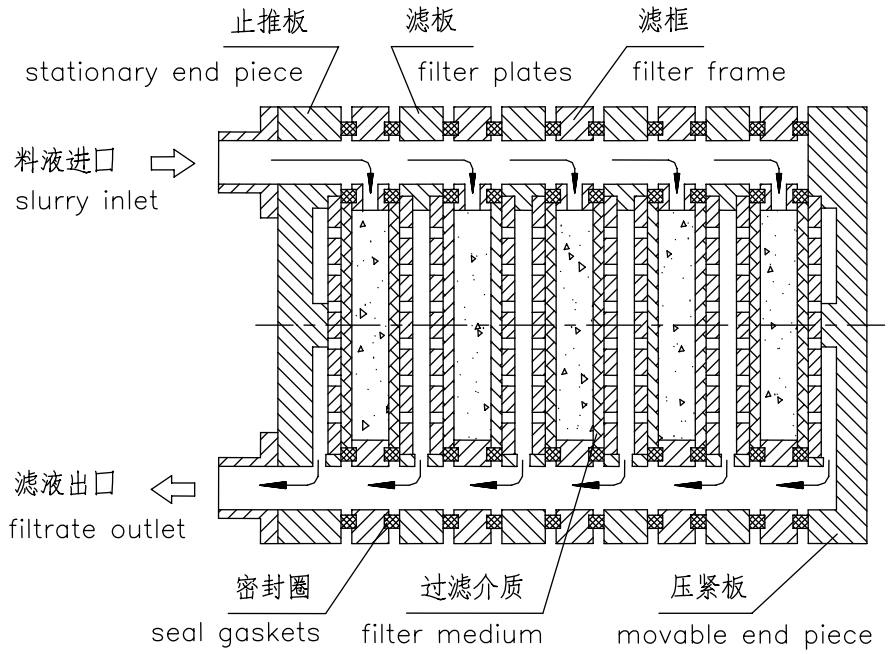
Construction

The filter consists of such components as handwheel, screw stem, machine base, horizontal beams, holddown disk, movable heavy end piece, filter plates, filter frames, filter medium (paperboard, etc.), stationary heavy end piece, pressure meter, valve, feed pump, liquid receiver, etc. The two horizontal beams connect the machine base and stationary heavy end piece into an integral frame. Wheels are installed at bottom of the machine frame for convenience of movement; on the machine base the screw stem is connected to the holddown disk, and filter plates and filter frames are installed alternately between the movable heavy end piece and stationary heavy end piece; the filter medium is installed onto each filter plate, and between filter plates filter chambers are formed. Turn the handwheel to make the holddown disk connected to it move forward or withdraw so as to realize the closing and opening of filter plates. connected at pump inlet is a hose adaptor, which can be connected to slurry piping, and a ball valve and hose adaptor are installed at filtrate outlet.

Place the filter in an appropriate position, connect inlet and outlet using pipes so that the filtrate flows into a receiver or pond which is lower than the filter, thus avoiding reduction in filtering pushing force due to flow of filtrate toward a higher position, which affects filtering speed and filtering effect.

5.Filtering Process

When filtration starts, the slurry enters the feed channel through the feed pump input and enters filter frames, the liquid penetrates filter medium and enters filter plates, and is discharged from the filtrate port of stationary heavy end piece after collected through the filtrate channel from the filtrate outlet on the filter plates.



Filtering Process

6、Use method

1.Before using this filter press, check if the rotating direction of feed pump is correct, if inlet and outlet pipes, the arranging sequence of filter plates and frames and filter medium are well installed, and if sealing gaskets are flatly placed.

2.Turn the handwheel so that the screw stem pushes movable heavy end piece forward to compress the filter plates and frames. If there are hygienic requirements, then flush repeatedly using 3%-5% sodium carbonate solution before use, then flush using clean water, then conduct disinfection, measure PH value, if this value reaches

the allowable range, then this step finishes.

3. Start the feed pump, open exhaust valve to discharge air, open the feed valve slowly, control the flow rate so as to gradually and slowly increase the filtering pressure, thus preventing too fast pressure rise and premature blocking or damage of filter medium. At the very beginning, the filtrate may be a little bit turbid, there is a phenomenon of slurry ejection between filter plates and frames, we should check if the screw stem has already compressed filter plates and frames, if feed pressure exceeds the specified value, if the sealing gaskets are broken or filter cloths have folds, etc.
4. After filtration finishes, first close the feed valve, then stop the pump so as to prevent return flow due to abrupt pump stop from damaging the filter medium. Open air inlet valve, purge the liquid within filter plates and frames using compressed air or steam, then loosen the movable heavy end piece, in this way, we can carry out actions of discharge, flushing and replacing filter medium.
5. Repeat above steps for cyclic operation.
6. When filter medium adopts microporous filtering membrane, the feed slurry must be prefiltered so as to prevent premature blocking of filtering membrane.
7. Applicable filter medium for this filter: various types of filter cloth, gauze, linen cloth, cotton cloth, silk cloth, nylon cloth, filter paper and filter paperboard, microporous filtering membrane, ultrafiltering membrane.

7. Common troubles

Trouble	Cause	Remedial
No liquid discharge of the pump after startup	1.Wrong rotating direction of impeller 2.Leak at the seal 3.No priming liquid in the pump 4.Suction height is to high	1.Reverse the direction 2.Replace the seal 3.Fill priming liquid full 4.Reduce suction height
Suspension ejected from between filter plate and frame	1.Insufficient jacking force 2.Too high feed pressure	1.Compress filter frame 2.Reduce feed pressure to rated value
Filtrate is not clean	1.Solid size is smaller than medium pore size 2.Broken filter medium	1.Change to use proper medium 2.Replace the broken filter medium
Too short filtering cycle	1.Too big initial flow, too fast pressure increase 2.Blocked filter medium	1.Control filtering flow 2.Regenerate or replace the filter medium
Big pump noise	1.Friction existing between pump shaft and seal ring 2.Friction existing between impeller and pump body	1.Apply suitable amount of lubricating oil on pump shaft 2.Tighten the nuts