



PROCESS DESCRIPTION



12. WATER SYSTEM

12.1 Application

To remove ash and fines as well as impurities out of the system, the washer filtrate is clarified in a dissolved air flotation process, the Purgomat.

This enables to close the water circuits by avoiding a build up of high ash and fines concentrations.

12.2 Operation

1st Water Circuit

The filtrate from Vario No. 1 is collected with the filtrate from the double wire thickening press in the Vario No. 1 filtrate chest.

After adding a flocculant (usually a cationic short chain polymer) the water is pumped to Purgomat No. 1 with a speed controlled pump set to an operator's setpoint. If the clarification system is running separately it is usually set to approximately 40% of the nominal flow; if the full system is running it speeds up to 100% of the nominal flow. This switch over is done automatically. The level of the filtrate chest is controlled by recirculation of clarified water from the Purgomat No. 1.

After adding a second flocculant to create flocks of floatable size and adding water from the recirculation loop to generate air bubbles to float, the water is clarified in the Purgomat basin.



PROCESS DESCRIPTION



A speed controlled bridge runs on top of the basin with a speed controlled paddle to remove the floated sludge from the surface. Setpoint of speeds is selected by the operator in accordance to the amount of sludge on top of the clarifier. Sludge is then fed with a screw conveyor to the center and discharged to the sludge chest for further treatment. The clarified water flows by gravity to the clear water chest No. 1. The level control valve for the Purgomat is in this line. The recirculation is also taken out of that line, pressured by the Purgomat No. 1 aeration booster pump, mixed with air in the liquid jet Eductor No. 1 and saturated in the saturation tank No. 1. This tank is level controlled by bleeding excessive air to the drain.

The end of the line should be submerged to avoid noise.

Saturated water is expanded to Purgomat feed pressure with a slotted decompression valve controlled by the recirculation pressure and fed into the Purgomat feed line.

Clear Water No. 1 overflows continuously into the pulper water chest.

Three water nets are served with pumps from the clear water tank No. 1:

- Clear water No. 1 consumers at 75 PSI
- Consistency control pressure controlled to maintain accurate consistencies
- Level control for chests and tanks with the operator chosen system purge flow

2nd Water Circuit

The operation of the 2nd loop is basically the same then loop 1 with the following differences:

- Overflow of excess water goes from clear water No. 2 chest to the pulper water chest by gravity
- Fresh water make up is fed to the system according to operator's setpoint



PROCESS DESCRIPTION

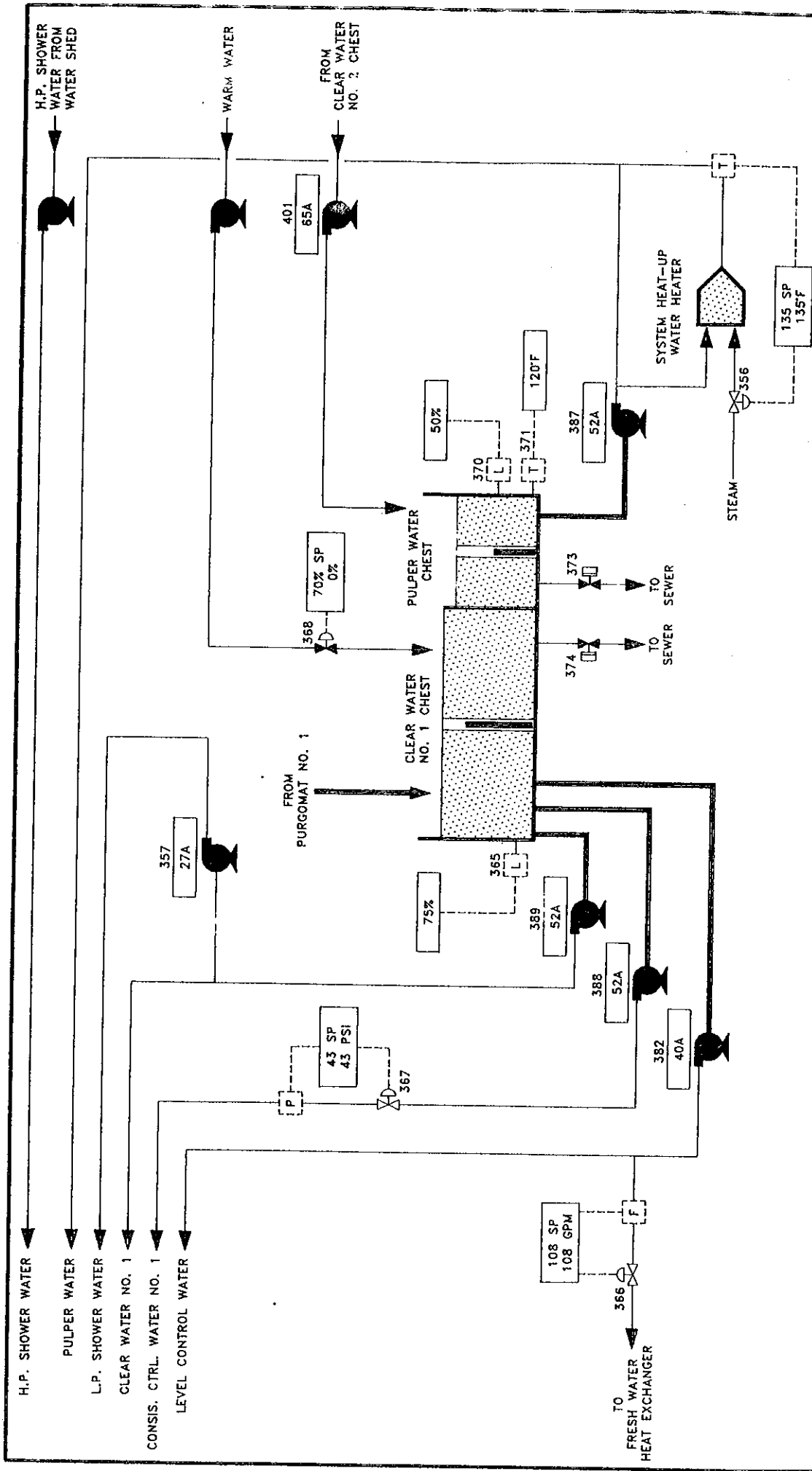


- Only two pumps feed a clear water No. 2 net and a consistency control No. 2 net which is pressure controlled

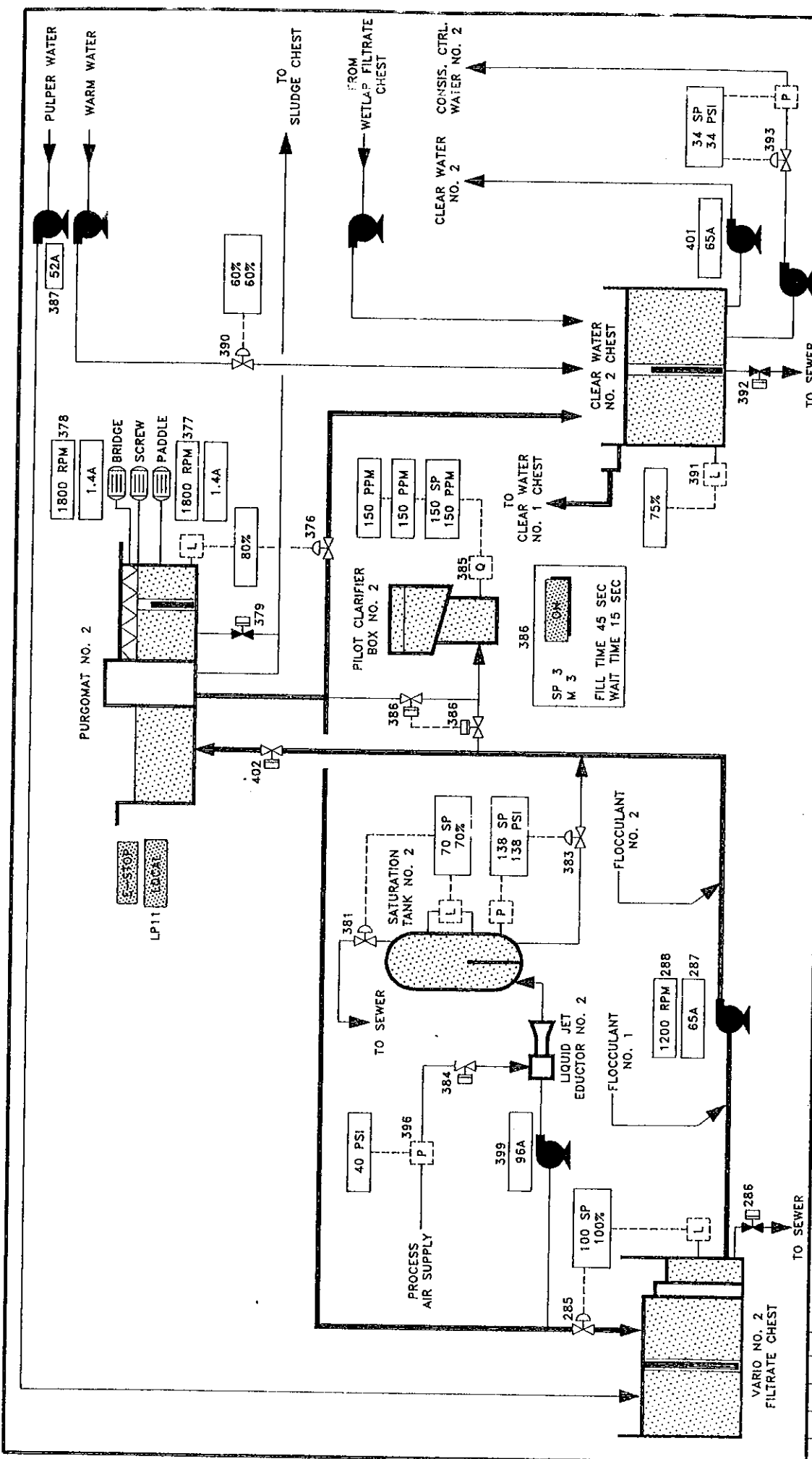
12.3 Starting Sequence Of The Group

1st water circuit is started with Vario No. 1, cleaning, preflotation and fine screening. *See Section 7.3.*

2nd water circuit is started with Vario No. 2 and post flotation. *See Section 10.3.*



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BURROWS
BURROWS PAPER CORPORATION
LITTLE FALLS, NEW YORK

2nd WATER CIRCUIT
DCS SCREEN LAYOUT

REV. ENG. NO. VP13-917-0180
CLUBD. ENG. NO. 500-517

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