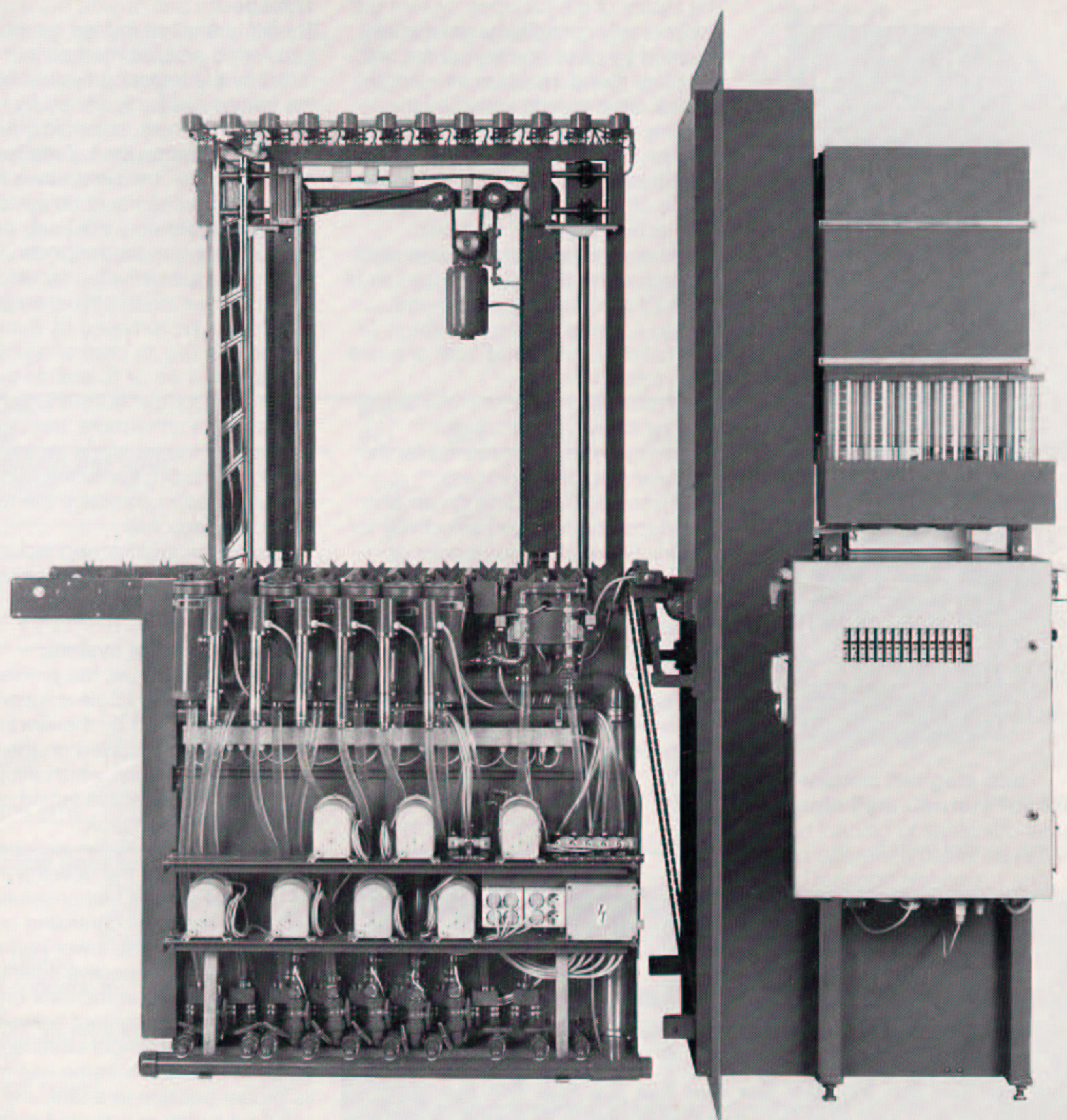


# FILM-PROCESSOR

autopan

FP 041



# Autopan Film Processor, Models 041 and 042.

Fully automatic hanger-type processors  
with a new kind of  
selective timing for each tank,  
for reversal and negative film  
in color and black/white.



Control head

Electronic control system

The cycles of the transport system are electronically controlled and normally adjusted by us to one minute for one complete round. However, the length of each cycle can be varied by the customer – by changing the drip-off (normally 10 seconds) and the rest time of the transport system.

On the other hand, the control head of the machine contains electronic counters, one each for each tank, that are each set to the required number of cycles of the transport system that have to pass before a film frame is automatically transferred from one tank to the following one.

As a result, each tank is timed selectively by its own cycle counter – according to the time required for the particular step of the process. In the same way, the timing can also be reduced or extended selectively for the First Developer – for regular or pushed processing.

### Further advantages of this system:

- all solution and wash tanks are identical in size and volume – thus resulting in small space requirements and in economizing on stock holding of chemistry,

● the film carriers remain in their original position in the tanks and thus allow for a small tank volume in connection with a large production.

### Timing of the first development:

The electronic system permits a time variation that can be programmed for the first developer – thus providing for an automatic development of the usual standard time or of a reduced or an extended time – for pushed processing.

### Film loading:

For film loading, the machines can be equipped with a storage magazine system (on the front of the machine) that takes up max. 4 film transport frames which are automatically transferred – one by one – into the machine for processing.

### Transport:

The film transport frames are lifted, transferred and submerged into the tanks by the transport system to which the frames are firmly affixed by means of electromagnets (solenoids) that assure a safe transport. Even in case of a power failure, the film frames remain firmly fixed to the transport system since the machine would only release the frames when the magnets (solenoids) are activated by electrical power. (However, the film transport frames can be removed by hand at any point – e.g. in case of a power breakdown – so as to enable the process to be completed manually if necessary.) Furthermore, the cycle counters of the transport system indicate for each film frame the additional time required to complete the resp. step of the process.

The transport system also includes an automatic cut-off device as safety arrangement.

### Electronic control system:

As mentioned above, the precise and safe timing of the single solutions and washes is assured by the electronic counter system installed on the control head of the machine which allows for individual and selective timing of each solution and wash tank.

The release of liquid film agitation by nitrogen burst (for the developers) and by air burst (for the further solutions and the washes) is controlled by one magnet each on the lower part of each film frame and respective solenoid switches installed in the tank on top (with no physical contact between magnets and solenoid switches). As soon as the film frame has reached its proper position in a tank, the tank solenoid switch is activated by the frame magnet whereby the resp. infor-



mation is automatically signalled – within a split second – to the control head of the machine for immediate release of burst agitation in that particular tank.

Said control system applies the same to the release of water inflow into the wash tanks (for an extended time – to provide for fresh water before the next film arrives) and of solution replenishment (shortly after the film has left the particular solution tank in question). It thereby assures a much improved economy on the consumption of nitrogen gas, compressed air, wash water and electrical power. For these media will only be consumed where actually required – and not permanently in all tanks at all times.

With this electronic counter you are able to pre-select the duration of the first-developer time.

Also you are able to find the exact positions of the film-racks and the LED gives the visual indication.

The developing progress and the exact positions are easily visualised.

#### Temperature control and liquid circulation:

Each solution tank has been fitted with its own separate temperature control as well as with its own pump and tubing system for continuous liquid circulation and filtration.

#### Solution replenishment:

The machines are equipped with an automatic replenishment system with precise quantity control. Furthermore, an automatic pre-selection system can be installed to provide for adequate replenishment in accordance with the following 3 alternatives, i. e. for

- fully loaded film frames,
- half filled film frames,
- no replenishment.

The storage tanks for replenisher solutions are located on top of the drier.

#### Water consumption:

Approx. 4 US gallons (15 litres) per minute.

#### Drying:

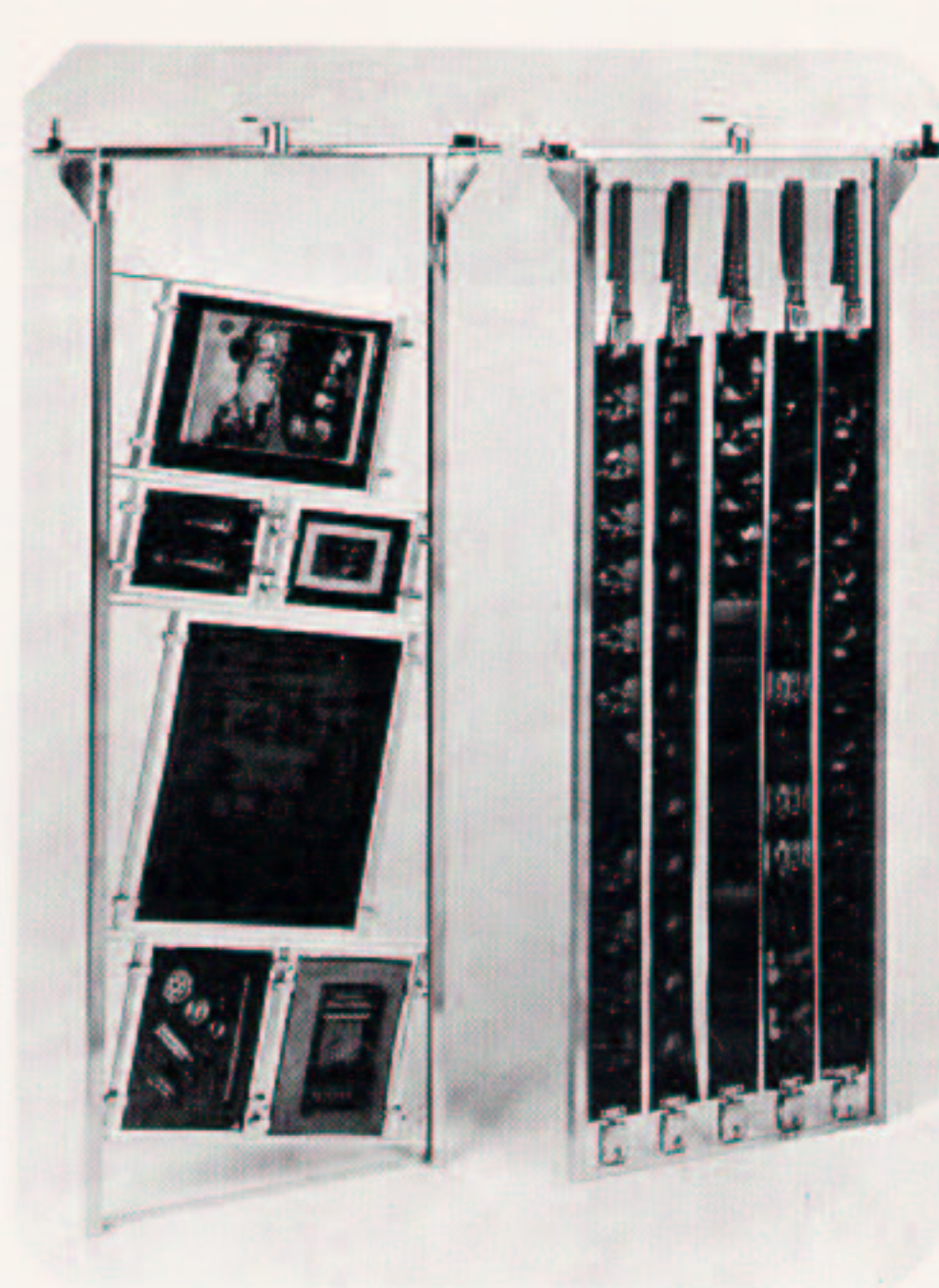
As part of the machine, a hot air drying cabinet with blower assures a short drying time for the film.

#### Processing quality:

The precise nitrogen and air burst systems, in connection with an accurate control of replenishment and liquid temperatures, produce an excellent processing quality of high brilliance and color saturation and great uniformity.

#### Operation and maintenance:

The operation and maintenance of the machines are particularly simple. All components are easily accessible.



Film Hanger

#### Roll Film Hangers 120

These hangers are fitted with 5 clips each at the bottom and the top that keep the films stretched under tension by means of rubber bands.

#### Roll Film Hangers 220

This hanger allows for 5 films to be loaded by means of 5 double-clips at the bottom and 5 reversing rollers on top of the hanger – all stretched under tension of the roller-holding rubber bands.

#### 35 mm-Film Hangers for 20 expos. films

These hangers are fitted with 7 clips each at the bottom and the top that keep the films stretched under tension by means of rubber bands.

#### 35 mm-Film Hangers for 36 expos. films

This hanger allows for 7 films 135/36 to be loaded by means of 7 double-clips at the bottom and 7 reversing rollers on top of the hanger – all stretched under tension of the roller-holding rubber bands.

#### Transport Hangers and Single Film Carriers for sheet film

The loading of sheet film requires two different types of carrier, viz.:

- a) *Transport Hangers* – and
- b) *Single Film Carriers* to be inserted in said *Transport Hangers*.

This combined system allows for different sheet film formats to be inter-mixed in one *Transport Hanger*. In order to assure the stain-free drying of the film – with no marks of liquid drops left on the film, the *Single Film Carriers* are fixed in the *Transport Hangers* at an angle to ease the complete run-off of the last liquid.

Process Model	E-6		C-41			
	041	042	041	042		
<b>Production per hour:</b>						
Sheet films	4X 5"	126	252	168	336	
	5X 7"	72	144	96	192	
	8X 10"	27	54	36	72	
	11X 14"	18	36	24	48	
	16X 20"	9	18	12	24	
	9X 12 cms	126	252	168	336	
	13X 18 cms	72	144	96	192	
	18X 24 cms	36	72	48	96	
	24X 30 cms	18	36	24	48	
	30X 40 cms	18	36	24	48	
	40X 50 cms	9	18	12	24	
Roll films	120 (full length)	50	100	60	120	
	220 (folded once)	50	50	60	60	
35 mms films	135-20 (full length)	70	140	84	168	
	135-36 (folded once)	70	70	84	84	
<b>Technical details:</b>						
Sizes	length	cms	250	315	250	287
	width	cms	92	92	92	92
	height	cms	248	248	248	248
Tank volume		litres	30	50	30	50
Water connection		"	1/2	1/2	1/2	1/2
Waste		mms	50	50	50	50
Nitrogen and compressed air		mms	12	12	12	12
Voltage		Volts*	380	380	380	380
Electrical power		kW	6	6	6.5	6.5
Weight		kgs	1100	1400	970	1260

\*) other voltages on request

Subject to modification of design



### Inline-Replenishing-System (IRS)

Simply insert the chemicals in their original packings. No more mess and laborious task of mixing chemicals and the saved time can be used for more important purposes.

Contamination and the use of chemical mixers are completely eliminated. Once adjusted, it administrates the chemicals accordingly.

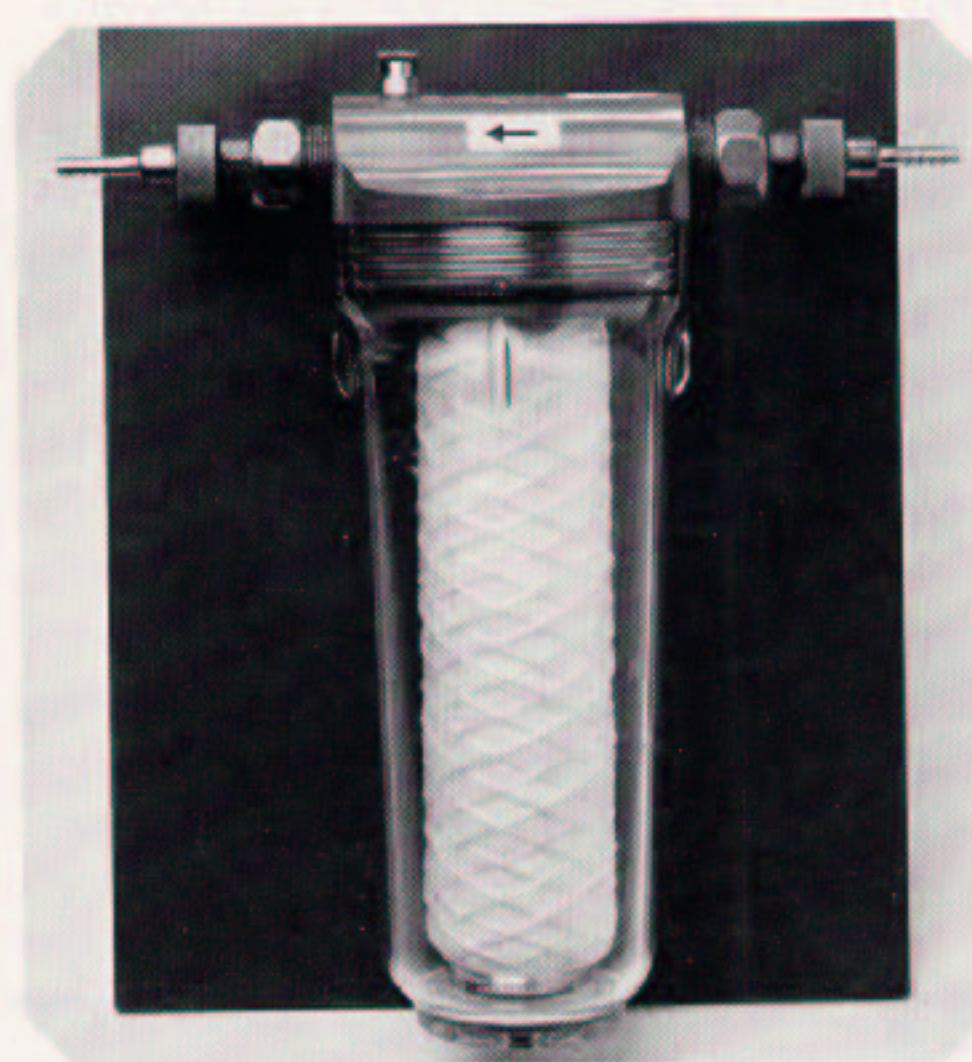
Sizes:  
length 160 cm  
width 40 cm  
height 220 cm



### Computer for Replenishment:

This computer enables you to replenish all bathes absolutely exactly according to developed film size. So, you will have an optimum of chemistry constancy.

You just have to input the film sizes and the amount of films which you want to develop to the computer. These input dates will then be stored and the required replenishing rates will be fetched from memory automatically at the necessary point of time.



### Nitrogen Humidifier

This anchorage free-passage of nitrogen through fine perforations of gas distributor and also maintenance liquid volumes at a higher level due to moisture content.

Consistent contrast is obtained due to the regular agitation by not having blocked or cristallized perforations in the distributor.



### Silent air-compressor

Completely free of oil and other particals in the air, this "Jun-Air" compressor supplies pressurized air for processing-machines and other purposes. This compressor can be installed at any part of your color-lab with the minimum amount of maintenance.

**autopan** 

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