The RTI Film Group

BHP INC. CALDER RTI Lipsner Smith TREISE Filmlab Systems International

4700 Chase • Lincolnwood • Illinois • 60712
TEL: 800-323-7520 • FAX: 800-7784-6733
E-mail: sales@rtico.com • Website: www.rtico.com

SPECIFICATION/LOC 16/35MM B&W NEGATIVE FILM PROCESSOR @ 100 FPM @ 6.0 MINUTES DEVELOPEMENT TIME

Offered January, 2008

THE RTI GROUP/TREISE ENGINEERING INC. is pleased to offer the following Used film processor to develop 16/35MM Black & White negative films, motion picture emulsions; 5231, 5234, 5235 & 5366, by way of sprocket drive film transport, with processing output speeds of 100 fpm @ 6.0 minutes development time and associated equipment. Design parameters are based on RTI/TEI drawings and this specification as described.

B. DIMENSIONS:

Dimensions of this processor:

LENGTH: 20'-6"

WIDTH: 2'-3"

HEIGHT: 7'-3"

C. WEIGHT:

Weight of this processor:

4780 -------lbs dry

7360 -------lbs wet

D. POWER REQUIREMENTS:

Processor: 208 VAC, 3 Ph, 4 wire 30 amps

Pump panel: 208 VAC, 3 Ph, 4 wire 30 amps

E. MATERIALS OF CONSTRUCTION:

Processor tanks are fabricated from 16-gauge T316SS sheet metal, heliarc welded and passivated. Processor tank bases are fabricated from 11-gauge sheet metal to provide a solid support for processing tanks. Tank fronts and backs will be skinned with sheet PVC.

F. LOAD STATION:

Load station will be fabricated from stainless steel and is skinned with T304SS sheet metal. Two (2) spindles with film flanges and mechanical holdback clutches are provided for supplying film into the processor. Two (2) electric film flange brakes will hold idle film flange from rotating when not in use.

Load station includes, stop/start switch, electric film brake, shut off switch at elevator upper limit, lower elevator alarm switch for notification of elevator rise. Load elevator provides two minutes of change time from sounding of lower elevator alarm bell to the upper limit shutoff.

G. MACHINE RACKS:

All tanks are equipped with removable racks constructed to permit removal of a complete rack assembly without the use of tools, or unthreading machine leader. Film racks and component parts are fabricated from T316SS, Film rollers are molded of industrial plastics and are ball bearing mounted to provide smooth operation. Bearings maybe of stainless steel, nylon or glass.

H. FILM TRANSPORT SYSTEM:

Film transport will be 16/35MM sprocket drive. Film rollers will be 16/35MM dropped center type with rollers as described in Para "G" Machine Racks. Rollers on developer racks will be soft touch tired type to support both 16 & 35mm films in proper proximity to turbulator bars.

Film sprocket bodies and flanges are fabricated from PVC with film drive wafers being T316SS. Film flange angles leading to 16MM transport area provide satisfactory transition when changing over from 35MM to 16MM film.

I. SQUEEGEES

Squeegees located at solution exits will be spring loaded wiper blades. Final squeegee is an air box type to remove excessive moisture before entering drying cabinet. A squeegee air supply is installed providing air to the box squeegee.

J. DEVELOPER TURBULATION:

Developer tank will be fitted with turbulator guide channels to position turbulators at the proper relationship to film. Turbulator headers will be drilled with .060 holes, four holes to the inch, with headers placed to impingement on the film at a frequency that meets or exceeds the film manufacturers requirements.

K. WASH WATER

Wash tanks after developer and fix solutions are spray type, with final wash being a dual-two stage counterflow type. This system provides satisfactory washing conditions for Black & White films. In addition, a hypo eliminator tank insures that archival washing standards can be met. A thermostatic controlled mix valve supplies tempered water to the wash water system. Wash water filter is mounted on the temperature control panel. A solenoid valve with by-pass valve is installed, controlled by the processor start/stop switch providing wash water conservation.

L. DRY BOX:

Dry box will be a conventional, counter flow air-drying cabinet with approx. 8.0 minutes of drying time. Eight (8) shafts of drying will be provided. Drying temperature will be via Twelve (12) 750W, 240 VAC heaters, controlled by a solid state electronic temperature controller that maintains temperature within the drying cabinet at +/- 2 degrees F. Heater duct will be baffled to direct air over heaters reducing any air bypass or cold air to enter drying cabinet. Incoming air will be provided with an air grille to deflect air downward to minimize air blowing directly onto film in the take-up elevator.

M. TAKE-UP TABLE:

Take-up will be provided by two (2) 1/8 hp permanent magnet D.C. torque motors. Motors will be controlled by a solid state S.C.R. electronic controller with current limit control, allowing for adjustment of motor stall characteristics. A selector switch for upper and lower take-up motors will be located on the end of the take-up table. Also mounted on the end of the take-up table will be an analog d.c. voltmeter used to read the main drive motor armature voltage for speed indication, plus, stop/start station, dryer temperature control and main power circuit breaker.

Special roller brackets are to be installed for proper tracking of 16MM film to the take-up flanges. 35MM film flanges are installed on both of the take-up motor output shafts.

POWER TRANSMISSION:

Power transmission will be provided by a D.C. permanent magnet drive motor, controlled by a variable speed S.C.R. solid-state electronic controller. Speed indication is described in take-up table section of this contract. Power to all racks is provided by #35 chain.

O. SOLUTION TEMPERATURE CONTROL AND RECIRCULATION SYSTEMS:

A separate support frame to mount and house all recirculation and temperature control components is constructed of stainless steel structural materials, welded into a rigid two piece unit. Mounted are all pumps, filters, water valves, i.e.; necessary to temperature control all developer processing solutions. Dimensions of this unit are;

O.A.L.- 5'-8"

Width - 2'-2"

Height - 5'-0"

Each solution is recirculated and filtered, components to be supplied are as follows:

Solution	Pump	Filter
Developer	DP6TMD	Three (3) duplex
Dev/Turb	TE7RMD	Two (2) pumps are provided
Fix	DP6TMD	Three (3) duplex

Pumps are mounted above filters and have valves to allow for filter changes without loss of processing solutions.

Solutions are to be controlled utilizing hot & chill water supplied to TEI 4 port water valves, with the hot and chill water being returned to their respective sources, providing excellent energy conservation. 4 port valves are pneumatic controlled, proportional, valves connected to a solid-state electronic temperature control device. Temperature control devices provide digital readout in 1/10 degree and control solution temperatures within +/- .02 degree's F.

Developer temperature is controlled and maintained using a microprocessor based device, which provides a digital set point and a digital readout. It is interfaced to a electronic/pneumatic modulator which regulates the air supply to the 4 port valve. Water output from the 4 port valves is routed to a dual pass heat exchanger to heat or cool the developer solution.

Fix solution temperature control system is similar to the developer system in design and provides temperature control to the fix by means of a solid state

Proportional controller interfaced to all components required for closed loop temperature control.

Repenisher meters for each solution are mounted on the temperature control panel with solution temperature control devices. These controls are located for easy visual access by operating personnel. Replenisher pumps supply replenisher solutions from existing LOC replenisher tanks to their respective flowmeters

This processor is approximately 13 years old and is in good condition. They were in operation until May of 2007 when it was decommissioned. The processor will be refurbished by our Treise production technicians prior to delivery.

The following items are also available:

- Darkroom partitions
- Mixing, storage and replenishment tanks
- Stainless Tank Racks
- Rotating Darkroom Door

This unit is subject to prior sale.

Price does not include installation, shipping, crating, taxes or duties.

Delivery: 3-6 Months depending of refurbishing

All equipment can be inspected at our Lincolnwood (Chicago) Manufacturing Plant prior to sale.