



SYSTEM 4

DEVELOPING
TANKS

35mm tanks hold one 35mm or 126 film. Universal tanks hold one 35mm, 126, 127 or 120/220 film, but by adding a second reel it will hold two 35mm or 126 films. Multi-unit tanks hold several films as described later. All System 4 parts are interchangeable and can be bought separately.

Les cuves 35mm acceptent un film 35 ou 126. Les cuves Universal reçoivent un film 35, 126 ou 127 ou 120/220 mais par adjonction d'une seconde spire l'on peut traiter 2 films 35 ou 126 à la fois. Les Multi-Unit reçoivent un plus grand nombre de films comme décrit par ailleurs. Tous les éléments du "System 4" sont interchangeables et peuvent s'acquérir séparément au fur et à mesure du besoin. 35mm Tank für ein 35mm oder 126 Film. Universal Tank für ein 35mm, 126, 127 oder 120/220 Film. Durch Einsetzen einer zweiten Spirale können zwei 35mm oder 126er Filme entwickelt werden. Multi Tanks nehmen mehrere Filme auf. Beschreibung folgt weiter hinten. Alle Teile des System 4 sind voll auswechselbar und können einzeln bezogen werden.

In de kleinbeeldtank kan 1 kleinbeeld- of Instamatic film worden ontwikkeld. In de Universeel tank gaat 1 kleinbeeldfilm, 1 Instamatic film, 1 rolfilm spoel 127 of 120/220, echter kunnen door toevoeging van een extra spiraal 2 kleinbeeldfilms of 2 Instamatic films gelijktijdig worden behandeld. Zoals later beschreven zal worden, gaan in de Multi-Unit tanks meerdere films. Alle onderdelen van Systeem 4 tanks zijn onderling uitwisselbaar en derhalve afzonderlijk verkrijgbaar. Le sviluppatrici possono contenere 1 pellicola 35mm. o 126; le sviluppatrici Universal, invece, 1 pellicola 35mm., 126, 127 o 120/220; se si aggiunge una seconda spirale potrà contenere 2 pellicole 35mm. o 126. Le sviluppatrici Multi Unit possono contenere più pellicole come sotto descritto. Tutte le parti delle sviluppatrici System 4 sono intercambiabili e possono essere acquistate separatamente.

El tanque de 35mm. contiene una película de 35mm o de 126. El tanque Universal contiene una de 35mm, 126, 127 o 120/220, pero añadiéndole una

segunda espiral puede contener 2 películas del paso 126 y del 35mm. La línea Multi-Unit contiene varios rollos como ya describimos a continuación. Todo el sistema de tanques 4 tiene las piezas intercambiables y pueden comprarse separadamente a su conveniencia.

35mm tanke rummer en 35mm eller en 126 film. Universal tanke rummer en 35mm, 126, 127 eller 120/220 film, men ved at anvende yderligere en spiral rummer den to 35mm eller 126 film. Multi Unit tankene rummer flere film, som beskrevet senere. Alle System 4 enkeltdele er udskiftelige og kan købes særskilt.

Småbildsdosan rymmer en 35mm eller 126-film. Universaldosan rymmer en 35mm, 126-, 127- eller 120/220-film samt med hjälp av en extra spiral två 35mm eller 126-filmer. Multi-Unit-dosorna rymmer som framgår nedan ännu fler filmer. Alia delar i SYSTEM-4 är utbytbara och kan köpas separat.



 **PATERSON**

PATERSON SYSTEM 4

DEVELOPING TANKS

SPECIAL NOTE

System 4 Tank Reels are made from acetal resin material which has extremely high resistance to photographic solutions and will withstand temperatures of up to 100°C.

AH other black tank parts are made of polystyrene which has the utmost resistance to photographic solutions but may be adversely affected by heat or by organic solvents such as ether. These parts should not therefore be washed in water hotter than can comfortably be borne by the hand, or stood close to fires or radiators.

INSTRUCTIONS

ADJUSTING THE REEL

The reels are adjustable for 3 film widths: 35mm. and 126, 127, and 120/220. Remove the reel from the black centre column and adjust to the size of the film in use. To do this hold the reel with the film entry points uppermost and facing towards you. Twist the right-hand flange firmly clockwise until the resistance of the locking device is overcome. A slight 'click' will be felt indicating that the flanges are now disengaged and can be moved freely apart. The setting for each film width is controlled by a keyway on the centre core. When the flanges are at the correct separation, twist them firmly in the reverse direction to lock. If the flanges are pulled completely apart,

ensure the two notches on the core coincide when re-assembling.

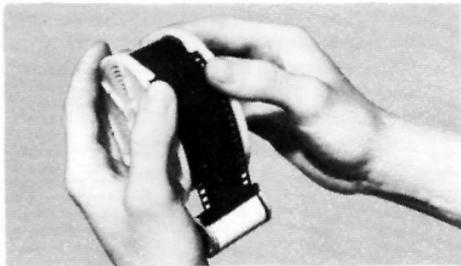
LOADING THE REEL

This must be done in the dark. For 35mm. films cut off the half-width leader of the film, cutting between the perforations, not through them. It may also help if you round off the two leading corners. With roll films it is best to unroll the film and separate it completely from the backing paper before loading. Hold the reel in the left hand with the entry points opposite one another and facing towards you. Insert the end of the film into the grooves and push it forward about half a turn of the reel. The edges of the film will now be engaged by the ball-bearing mechanism and the film cannot be withdrawn.

Now hold the reel as shown (Fig. 1) and simply oscillate the two halves of the reel backwards and forwards in OPPOSITE directions as far as they will go. A stop device is fitted which prevents them being turned too far. The film will be drawn directly into the reel by the ball bearing action and the entire length will travel in quite easily. Turn the reel smoothly and steadily. Note especially the position of the thumbs (Fig. 1) which overlap the edges of the reel and the film. Placing the thumbs in this position helps to guide the film smoothly into the reel.

If the film sticks for any reason do not use force, as this might tear the film. Simply remove the film from the reel (as described later) and begin again.

If you are unfamiliar with loading reels it is worthwhile practising with a spare film in the



G. 1

light with your eyes closed. When you can do this you will be able to load an exposed film in total darkness.

In the majority of modern 35mm. cameras the film is wound on the take-up spool of the camera in the reverse direction to its natural curl. This straightens the film, and may cause difficulty in loading the last few inches into the reel, as the straight film does not conform so easily to the inner coils of the reel. This difficulty is avoided if the exposed film is rewound into the cassette and left for a few hours before loading into the reel, so that it recovers its normal curl. During loading, the curl of the film should be carefully preserved by resting the coil of film on the hand or on the bench.

After loading, push the reel fully onto the black centre column followed by the spring collar which prevents the reel moving during inversion agitation. Now replace the reel in the tank. Make sure the sealing ring is in position on the tank rim, and screw down the lid. The tank is now light-tight, and all other operations can be carried out in full daylight.

DEVELOPMENT

The quantities of solution required for each size of film will be found engraved on the tank base. Pour the required quantity of solution through the central hole in the lid. DO NOT tilt the tank during filling. The tank is designed to permit solutions to be poured in with extreme rapidity whilst in an upright position, and the solution covers the film evenly from below upwards, avoiding streaks and uneven development.

AGITATION

The recommended method of agitation is by inversion. This method is the most effective one in preventing uneven development of the film and the following procedure is recommended.

- 1 After pouring in the developer insert the agitator and twist the reel backwards and forwards for a few seconds to dislodge any air-bells which might form on the surface of the film. Lightly tapping the bottom of the tank on the bench will also help to remove air-bells. Place the water-tight polythene cap in position on the lid and allow one minute

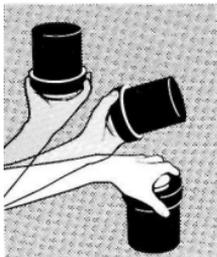


FIG. 2

for the film to become saturated with the solution.

N.B. Push the cap down SLOWLY, This prevents undue air pressure inside the tank which might cause leakage past the sealing ring during inversion.

- 2 After one minute, invert the tank and at once return it to the upright position (see Fig. 2).
- 3 Invert once each minute during the development time.

FIXING

After development for the required time remove the cap and pour out the developer. Pour in the fixer and periodically agitate during the period of fixation. After fixation the film is no longer sensitive to light, and the tank lid can be removed.

WASHING

Remove the lid and wash the film by placing the tank under a tap so that the water flows down through the centre column. More efficient washing is obtained by the use of the special

PATERSON FORCE FILM WASHER which ensures a positive flow of water under pressure from the bottom of the tank upwards. It may be used with or without the tank lid in position. A dual Force Film Washer is also available for simultaneous washing with two tanks.

REMOVING THE FILM FROM THE REEL

To remove the film from the reel, arch the free end by bending the two edges together slightly. Pull gently on the free end, allowing the reel to rotate on the other hand, and the whole length of film will run easily out of the reel as it rotates. The film should then be clipped or pinned up to dry.

COLOUR PROCESSING

Paterson Tanks are specially suitable for processing colour films including reversal films which require re-exposure to light during processing. It is not necessary to remove the film from the reel for this exposure, as it can be accomplished through the flanges of the reel. As the reels are made of translucent material the time recommended for transparent reels should be doubled, i.e. 1 minute per side instead of 30 seconds.

CARE AND STORAGE

Wash the tank thoroughly after use. Run water through the lid from both sides to remove any residual chemicals from the light trapping system. Ensure that the tank and reel are thoroughly dry after use before putting away. Store the spring collar separately in the tank. If

left on the column during storage its spring action may become less effective.

PATERSON MULTI-UNIT TANKS

These tanks have extra long bodies which accommodate more than one reel and allow simultaneous processing of a number of films. Since the reels are adjustable, combinations of various film sizes may be processed together provided the development times of the films are similar. Three Multi-Unit Tanks are available as follows:

Multi-unit 1

holds up to 3 35mm or 126 films
or 2 127 films
or 2 120 or 220 films

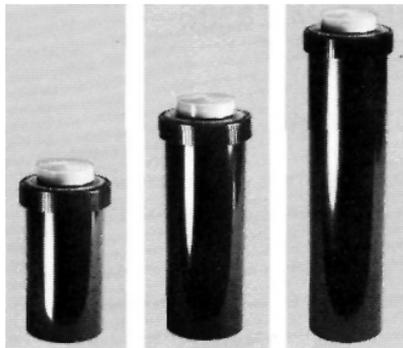
Multi-unit 2

holds up to 5 35mm or 126 films
or 4 127 films
or 3 120 or 220 films

Multi-unit 3

holds up to 8 35mm or 126 films
or 6 127 films
or 5 120 or 220 films

Multi-Unit Tanks are sold without reels because the number and type of reels will vary with the requirements of the individual user. The reels and all other parts of Paterson System 4 Tanks are interchangeable and available separately. Thus any System 4 Tank can be converted into another model by simply purchasing the spare parts required. For example, you can use the lid and reel of a single model tank and convert it into a Multi-Unit Tank by adding the appropriate body and extra reels



MULTI-UNIT 1

2

3

The loaded reels are pushed onto the black centre column. Ensure that all the reels are pushed fully home on the column. When the last reel is in place push the spring collar down on top.

The amounts of solution required for each film are engraved on the base of the tank body. The total volume of solution required for any number of films (or for any combination of films of different sizes) is easily calculated by adding together the amounts required for each individual film. For example, three 35mm. films will require 10ozs. each, a total of 30ozs. If one 35mm. film, one 127 film and one 120 film are processed together, the total volume required is 10ozs.+13ozs.+17½ozs=40½ozs. When using less than the full number of reels it is only necessary to use sufficient solution to cover the number of films being processed.

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