

## Asahi AWF 110

LIQUID POLYMERS

### Exemplary equipment technology for flexo plates

#### General characteristics

Many years ago, Asahi started systematic research work in the field of photo-sensitive liquid polymers. Today the work is still continuing and in the area of flexo printing excellent results on paper and corrugated board alike are being achieved around the world with Asahi's APR liquid photopolymers. This proves that plates made from APR materials are suitable for many applications in flexo printing. APR flexo plates can be made to a very high quality, economically with polymer reclaim and within one hour by a process that is most compatible with the environment.

The range of APR plate processing systems, with each system offering proven technology and new developments, ensures this.

Each of the equipment systems - ASF 1216 and AWF 110 - consists of three units with the following functions:

- ▶ Lamination
  - Exposure
  - Finishing
- ▶ Liquid polymer recovery
  - Wash-out
  - Drying
- ▶ Liquid polymer supply

## FUNCTION



### AWF 110 E

Laminating/exposing unit

[ 1 ] The liquid photopolymer is laminated over the negative film, and exposed.

[ 4 ] After wash-out the plate is post-exposed submerged in water.

### AWF 110 W

Processor

[ 2 ] The exposed plate is squeegeed, recovering the unexposed liquid photopolymer.

[ 3 ] Then the plate is washed out in a water/soap solution.

[ 5 ] After postexposure under water the plate is dried.

### AWF 110 T

Photopolymer-supply tank

[ 6 ] The recovered liquid photopolymer is mixed with fresh liquid photopolymer and used for further platemaking.

### AWF 110 E

Laminating/ exposing unit

Lamination/exposure processes

▶ All functions and process sequences of the unit can be input and checked via a programmable controller and visualized on a coloured display.

▶ APR plates can be laminated to individual thicknesses of 1.7-8.0 mm, with increments of 0.01 mm.

▶ Lamination of flexo plates with thickness tolerances of  $\pm 30 \mu\text{m} < 3.94 \text{ mm}$ ;  $\pm 40 \mu\text{m} > 3.94 \text{ mm}$  is ensured.

▶ The upper lid of the AWF 110 E unit opens to the rear, with the aid of a motor drive.

▶ A light-metering device provides the basis for consistency of exposure results.

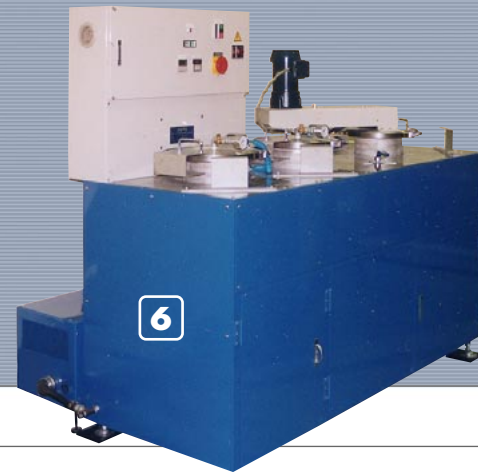
▶ A capping system, available as an optional extra, allows laminating two photopolymer resins of different Shore hardness, one layer on top of the other.

Postexposure section (Finishing)

▶ The APR plate receives its UVA/UVC light post treatment submerged in water.

▶ Two digital timers provide the exposure cycle control.

▶ The UVC tubes automatically switch off if the drawer is opened before the end of the exposure process.



## AWF 110 W

### Processor

The AWF 110 W processing system consists of three sections operating independently of each other. Plate transfer from one module to the next is a manual operation. To ensure trouble-free operation, the plate is fastened to a holding bar which is hooked into the working section in question.

### Liquid photopolymer recovery

The recovery process is automatic. The unpolymerized photopolymer is removed from plate surface and protective film with a rubber squeegee – hot air supporting the process. The APR photopolymer thus recovered is collected and remixed with the APR liquid photopolymer for further processing in the AWF 110 T unit.

### Washer

- ▶ The plate is washed out in vertical position.
- ▶ The aqueous wash-out solution is sprayed on the plate surface through nozzles, ridding it of liquid photopolymer residue.
- ▶ The rinsing sequence makes the plate ready for the finishing process.

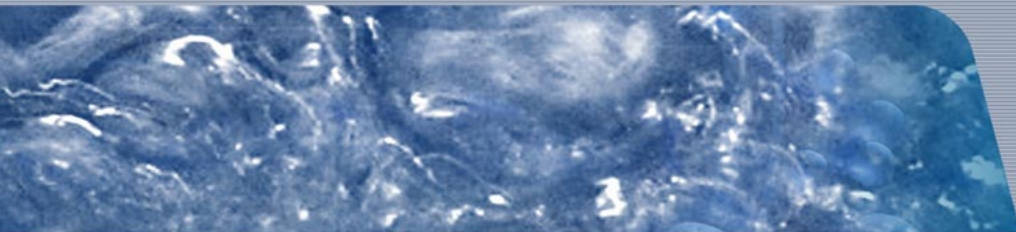
### Dryer

- ▶ The plate is dried in vertical position.
- ▶ A 55° C hot air flow created by 6 fans makes the drying fast and efficient.

## AWF 110 T

### Photopolymer-supply tank

- ▶ To ensure continuous working there are three supply tanks combined in one equipment unit.
- ▶ Two base photopolymer tanks with a volume of 90 l each and a capping-photopolymer tank with a volume of 18 l incorporated in one unit provide sufficient capacity for continuous working.
- ▶ All photopolymer tanks are equipped with level sensors and dedicated heater.
- ▶ The base photopolymer tanks are equipped with an agitator. Recycled and fresh APR photopolymer are therefore mixed homogeneously and without any problem.
- ▶ An air-controlled pressure system ensures a uniform flow of photopolymer between photopolymer supply tanks and laminating bucket of the AWF 110 E.



## TECHNICAL DATA

### AWF 110 E

Laminating/exposing unit

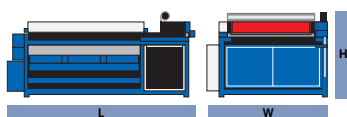


Plate size:	762 x 1270 mm
Unit dimensions:	3100 (L) x 2330 (W) x 1340 (H) mm 2150 (H) lid open
Weight:	3500 kg net
Fluorescent tubes:	exposure unit: 14 upper lamps, type 80W/R UVA, 18 lower lamps, type 80W/10R; post exposure unit: 14 tubes, type 80W/R UVA 26 tubes, type TUV 30W UVC
Electrical supply:	200V AC- 50A -50Hz-3/N/PE
Pipe connections:	3/8 inch for water feed, 1 inch for water drain
Water supply:	up to 10 l / min.
Compressed air:	5-7 kg/cm <sup>2</sup> (air supplied by a compressor located in the wash-out unit)
Postexposure water	
Bath capacity:	50 l
Down transformer: (not supplied)	3 x 400 V/ 3 x 200 V + N + PE 37 KVA (for the complete set units)

### AWF 110 W

Processor

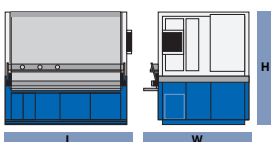
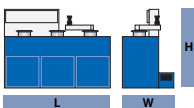


Plate size:	762 x 1270 mm
Unit dimensions:	2010 (L) x 1660 (W) x 1860 (H) mm
Weight:	1400 kg net
Electrical supply:	200V AC- 50A -50Hz-3/N/PE
Pipe connections:	1/2 inch for water feed, 1 1/2 inch for water drain
Compressed air:	5-7 kg/cm <sup>2</sup> (compressor located in the unit)
Water tank:	300 l content; 400 l on overflow level
Water supply:	2 kg/cm <sup>2</sup> pressure (pressure regulator recommended) more than 20 l/min
Wash-out pressure:	> 2-2.5 kg/cm <sup>2</sup>

### AWF 110 T

Photopolymer supply tank



Unit dimensions:	1750 (L) x 850 (W) x 1350 (H) mm
Weight:	500 kg net
Electrical supply:	200V AC- 10A -50Hz-3/N/PE
Pipe connections:	1/4 inch for air supply (pipe supplied) 38/48mm inch for photopolymer feed (pipe supplied)
Compressed air:	1 kg/cm <sup>2</sup> (from compressor located in AWF 110 W)
Photopolymer tank capacity:	2 x 90 l for base photopolymer 1 x 20 l for capping photopolymer

This brochure provides information about our products and their applications according to the present state of our technology. It does not guarantee any specific properties or suitabilities of the products for concrete applications. Existing commercial property rights and regulations must be observed. Subject to modification.

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