

Site Specifications for the INDUSTREX M37 Plus NDT Filmprocessor



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Basics

The film processor is designed so that only cold water supply, drain, and power connections are necessary. The plumbing is carried out according to DIN 1986/1988 and must comply with local plumbing codes. The cold water supply must be lockable with a stopper connected with a 3/4-in. outlet (washing machine connection) to the film processor.

Make sure that the stopper is always reachable since it is opened before work and closed after work. Using the pressure/flow regulator, which is integrated in the 3-fold solenoid valve of the film processor, the flow rate is limited to maximum 2.5 L/min at a water pressure of 2–8 bar. For cleaning the racks and the film processor tanks, as well as mixing the chemicals, installing a second water supply with a stopper and an approximately 2.5-meter long hose is recommended.

The drain tubes of the film processor can be drained separately or together, according to the local code requirements. *See Chapter "Plumbing Requirements"* for the hose connections from the film processor to the outlet (drain).

The fixer can be collected separately in a plastic container (storage tank) or directly connected to a silver recovery unit. The developer is to be collected in a plastic container. In order to avoid a backwash of the drained, used chemicals, the drain hoses should be free of bends and with a constant fall. The drain must be ventilated.

Use either a floor drain or a wall drain with a built-in plastic syphon. Do not use brass or copper in the drain lines. The minimum diameter of the drain lines should be 40 mm.

Electrical

For operation, a 13 A fused socket with earth contact is required. The film processor may require its own circuit. (*See Technical Data/Reference for the INDUSTREX M37 Plus Filmprocessor.*)

Replenishment

The replenisher storage tanks, each with a capacity of 30 L, can be located under the film processor, which must be accessible.

Automatic Cooling

The film processor electronics will automatically detect over temperature developer conditions and then activate a cold water cooling system. The temperature of the incoming cold water supply is measured and when it is out of a programmed range, a beeper brings an error to the operator, but does not affect the operation of the processor. The temperature should be between 7–15°C for the system to operate efficiently. If necessary, you can order an external chiller system as an optional accessory.

Processor Ventilation

The film processor is supplied with an exhaust port located below the feed table end of the processor. During installation, this port must be connected to an external ventilation system provided at the installation site, with sufficient power to ventilate the warm exhaust air away from the processing area.

If the film processor is installed in a through-the-wall location with a feed table positioned in a darkroom and the processor positioned in daylight, it is important that the darkroom be pressurized to ensure a positive airflow from the feed to the dryer to avoid condensation problems.

NOTE: Failure to correctly ventilate the film processor and dryer exhaust may cause corrosion inside

the film processor, increasing the likelihood of processor-related film artifacts.



External Ventilation

Environmental Requirements

Temperature

15–22°C (59–72°F)

Relative Humidity

15–76% RH (noncondensing over operating temperature range)

Altitude

Maximum altitude 2,424 m (8,000 ft) above sea level

Ambient Light

Room lighting should not exceed 450 lux (150 ft-candles) at the film processor. The room must be capable of going completely dark when loading film into the film processor.

Heat Output

2200 Btu/hour

Ventilation

- Volume—10 room air exchanges/hour with good airflow through the whole room
- 66°C (150°F) maximum
- Exhaust duct from the building with an Adjustable Air Gap, 0.76–2.54 mm (0.03–0.10 in.)
- 10.2 cm (4 in.) duct

Check local codes for venting requirements.

- If venting is not correct, fumes will corrode the equipment. Do not install the film processor or accessories if the venting is not correct.
- If the film processor is installed with an auto-feeder or if the feed table is located in the darkroom and the film processor is installed in a daylight location, the darkroom must have adequate pressure to ensure a positive airflow from the feed to the dryer to avoid condensation problems.
- The airflow is correct when the fumes are flowing out the film processor through the exhaust hose.
- If the ventilation is to be connected to the film processor, measure the negative static pressure in the exhaust duct. *See Chapter “Recommended Installations”.*

Plumbing Requirements

- All plumbing requirements must comply with local and national codes. Do not use iron pipes.
- All drain material must be made of chemically resistant, non-corrosive material. Use PVC or the equivalent.

Water Supply

Temperature

- 7–15°C
- If the temperature of the water supply is higher than 15°C, an external chiller system is required.
- A tempered water supply is recommended for cleaning the film processor and for mixing chemicals manually.

Filtered

A minimum 10-micron water filter is recommended in the input water line

Flow Volume (rate)

2.5 L/min, used on demand only

Pressure

2–8 bars

Location

Accessible to both the film processor and the replenishment tanks

Hoses

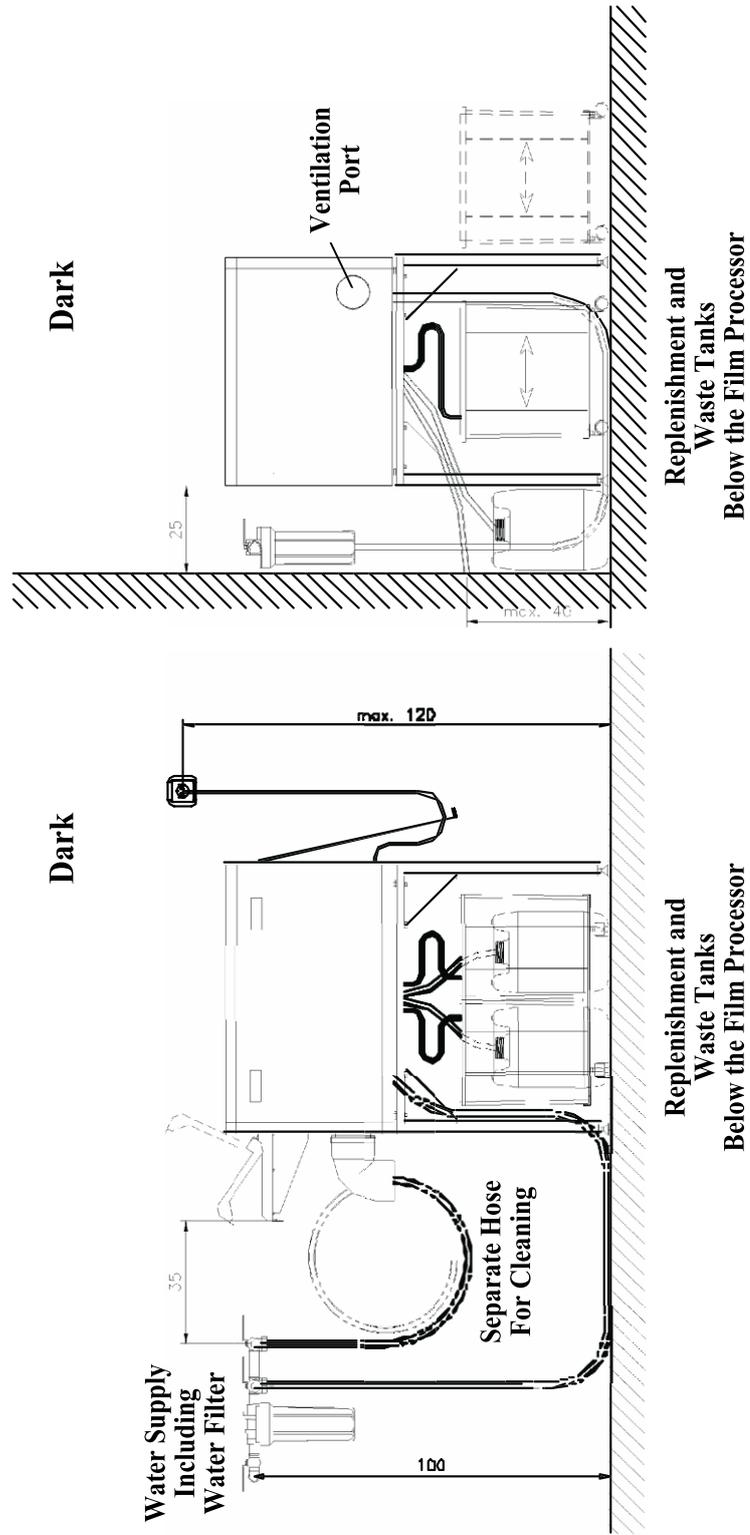
A high pressure water hose with a 3/4 in. hose connection, used from the supply tap to the film processor water inlet solenoid, using a DVGW system or a pipe device

Drain

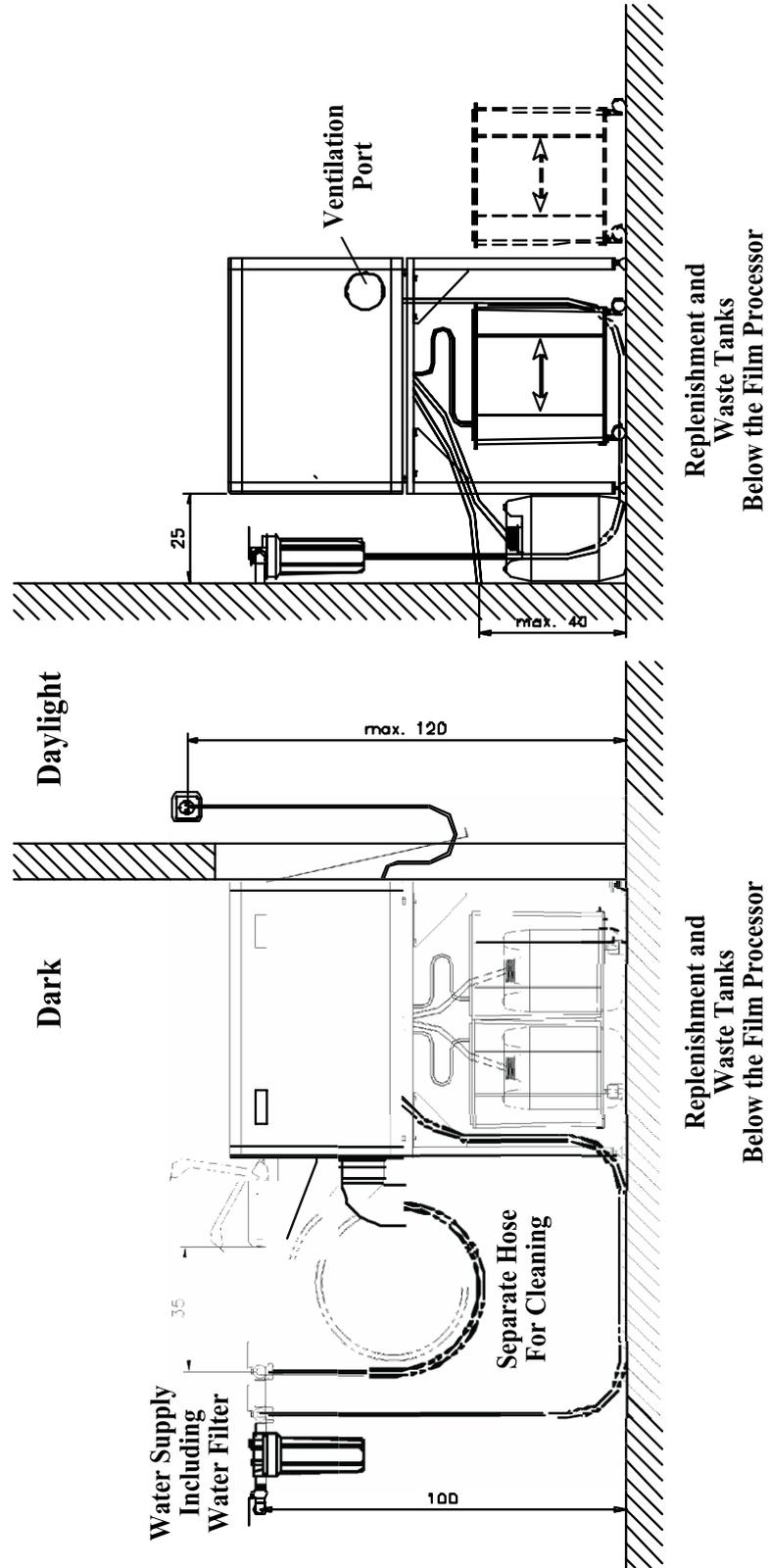
- Size: 32 mm (5.4 in.) hose connection
- Minimum diameter: 7.6 cm (3 in.) with no obstructions
- Distance from the film processor: 1.5 m (60 in.)
- Height from the floor: Top of the drain or drain containers must be lower than the bottom of the film processor.

Recommended Installations

Free-Standing in the Darkroom

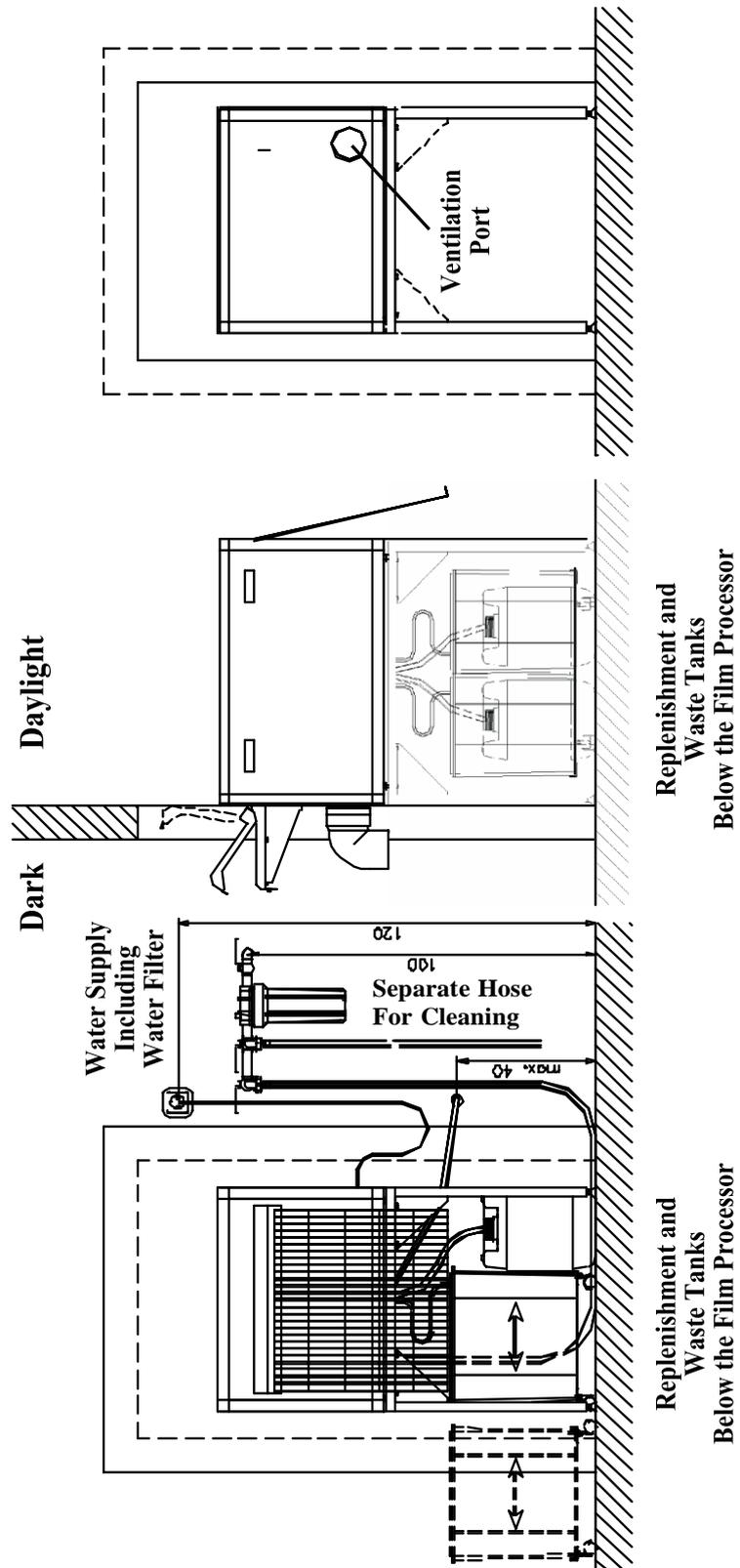


Film Processor Fed in the Darkroom, Film Exits in Daylight

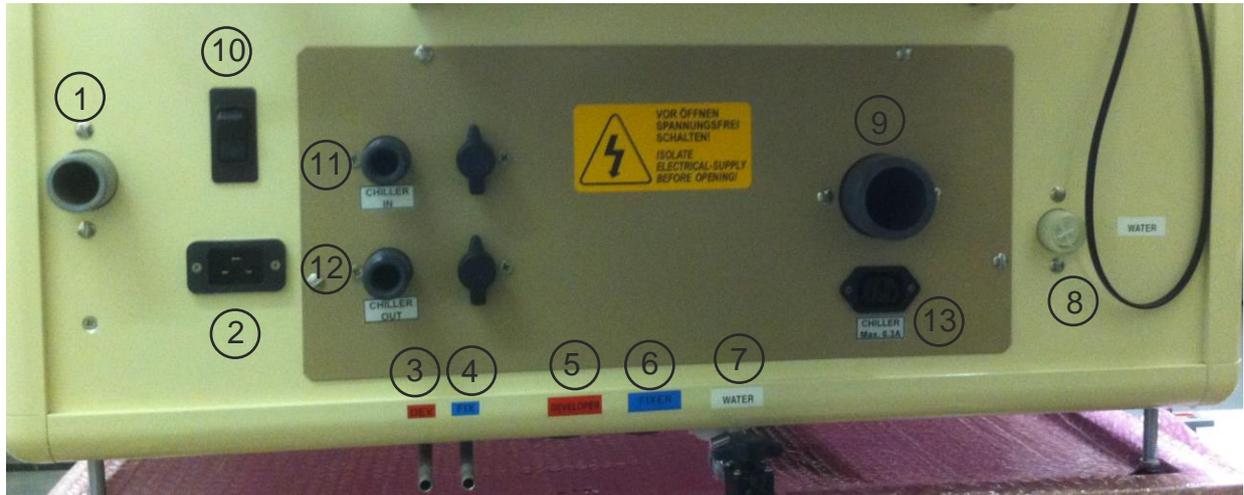


INDUSTREX M37 Plus NDT Filmprocessor

Film Processor Loaded in the Darkroom, Film Exits in Daylight



Connections



1	Wash water overflow
2	Power socket 230 VAC, 50/60 Hz
3	To the developer replenishment tank
4	To the fixer replenishment tank
5	Overflow drain developer waste tank
6	Overflow drain fixer waste tank
7	Wash drain to the local drain. Check for any local environmental regulations before using.
8	Water connector 3/4 in.
9	Ventilation port
10	Main power switch
11	Chiller IN connector 3/4 in.
12	Chiller OUT connector 3/4 in.
13	Power socket for external Chiller (switched) 230 VAC, 50/60 Hz max. 6.3A

Replenishment Tanks

Two 30-liter, replenishment tanks for the developer and the fixer are supplied with the film processor.



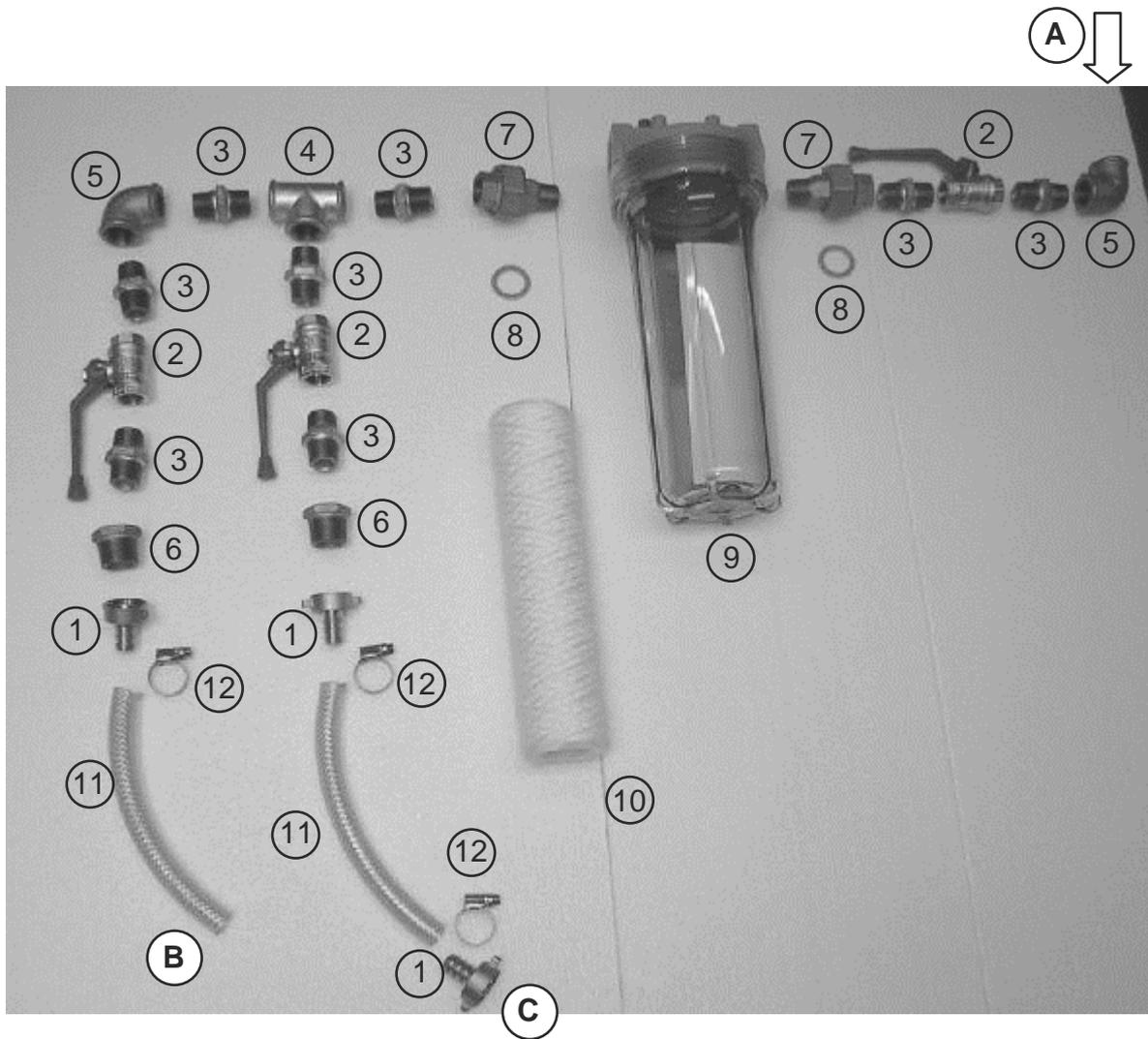
Waste Tanks

Two suitable waste collection containers for the developer and the fixer required. They are not supplied with the film processor.



Water Supply Kit Assembly (Optional)

Order No. 90 60 008



A	Water in
B	For cleaning
C	To the film processor

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Item	Part Number	Description	Quantity
1	90 45 000	Hose connector, 3/4 in.	3
2	90 45 001	In-line tap	3
3	90 45 002	3/4 in. straight fitting	8
4	90 45 003	T-fitting 3/4 in.	1
5	90 45 004	3/4 in. elbow, 90°	2
6	90 45 005	Male-female fitting	2
7	90 45 007	Filter inlet/outlet fitting	2
8	90 45 009	Flat washer	2
9	90 45 027	Filter housing	1
10	90 45 035	Filter cartridge	1
11	90 70 420	Hose 1/2 in.	4 m
12	90 81 826	Hose clamp	3

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