Chapter One PRODUCT INFORMATION

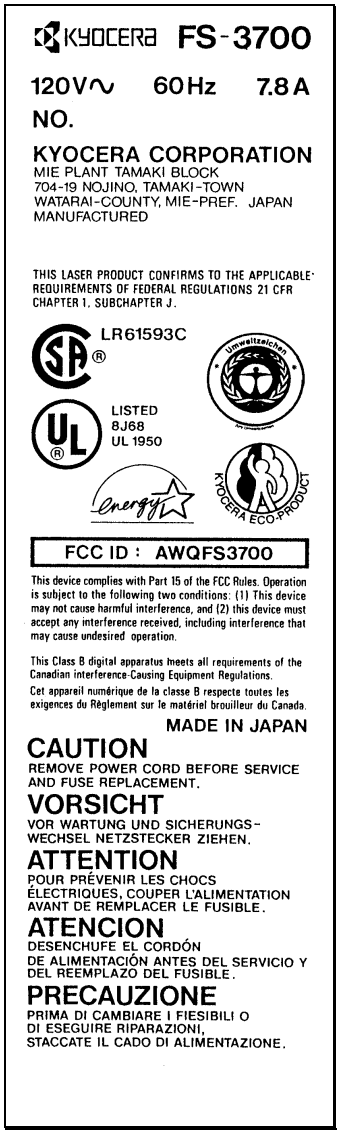
Chapter One C O N T E N T S

Printer identification labeling

The printer bears its model and serial numbers at its back. This label also contains other safety precautions.

Europe/Asia version

US/Canada version



Printer Specifications

ENGINE

Specification	FS-1700	FS-3700
Print method	Electrophotography laser scan	←
Print speed (A4 or letter, when printing multiple copies of the same page)	12 pages/minute	18 pages/minute
Resolution (dpi)	600 horizontal/600 vertical	←
Smoothing	KIR 2 (2400 horizontal/600 vertical)	←
First print (A4 or letter), depends on input data	15 seconds or less	12 seconds or less
Warm-up time at 23°C or 68°F	50 seconds or less	40 seconds or less
Maximum duty cycle	25,000 pages/month	50,000 pages/month
Laser diode	Visible laser	←
Main charger	Scorotron wire	←
Transferring	Biased roller	←
Separation	Charging	←
Drum cleaning	Blade	←
Drum discharging	LED array	←
Fuser	Heat and pressure	←
Paper	Plain paper (See *Appendix B*)	←
Capacity of paper feed tray	250 sheets	←
Capacity of output trays	250 sheets	←

CONTROLLER

Specification	FS-1700	FS-3700
CPU	68EC040/33 MHz	←
System ROM size	2 MB (512 kB × 4)	←
Resident font ROM size	2 MB (2 MB × 1)	←
Option fonts ROM	16Mbits (PK-4)	←

Specification	FS-1700	FS-3700
Main RAM	2MB (512 kB × 4)	←
Additional RAM (SIMM)	64MB maximum	←
Memory card	SRAM or flush, JEIDA 4.2/PCMCIA 2.1 See *Recommended flash cards* in this chapter.	←
Host interface	Parallel/serial/option	←
Page description language	Prescribe II	←
Standard emulation modes	HP LaserJet 4, IBM Proprinter X24E, Diablo 630, Epson LQ-850	←

WEIGHT AND DIMENSIONS

Specification	FS-1700	FS-3700
Width	37.3 cm (14.7”)	←
Height	31 cm (12.2”)	←
Depth	38.3 cm (15.1”)	←
Weight (Main unit)	14 kg (30 lb.)	←

POWER REQUIRMENTS

Specification		FS-1700	FS-3700
Voltage requirements	US/Canada	120V AC ±10%, 60Hz ±2%	←
	Europe/Asia	220-240V AC±10%, 50 or 60Hz ±2%	←
Watts	Maximum	667 W	898 W
	Printing	311 W	404 W
	Standby	105 W	120 W
	Sleeping	19 W	20 W

ENVIRONMENTAL REQUIREMENTS

Specification	FS-1700	FS-3700
Operating temperature and humidity	10°C to 32.5°C (50°F to 90.5°F), 20 to 80% RH	←
Maximum altitude	2,000 m (6,500 feet)	←
Noise emission	50 dB maximum/39 dB at standby	53 dB maximum/39 dB at standby

Recommended flash cards

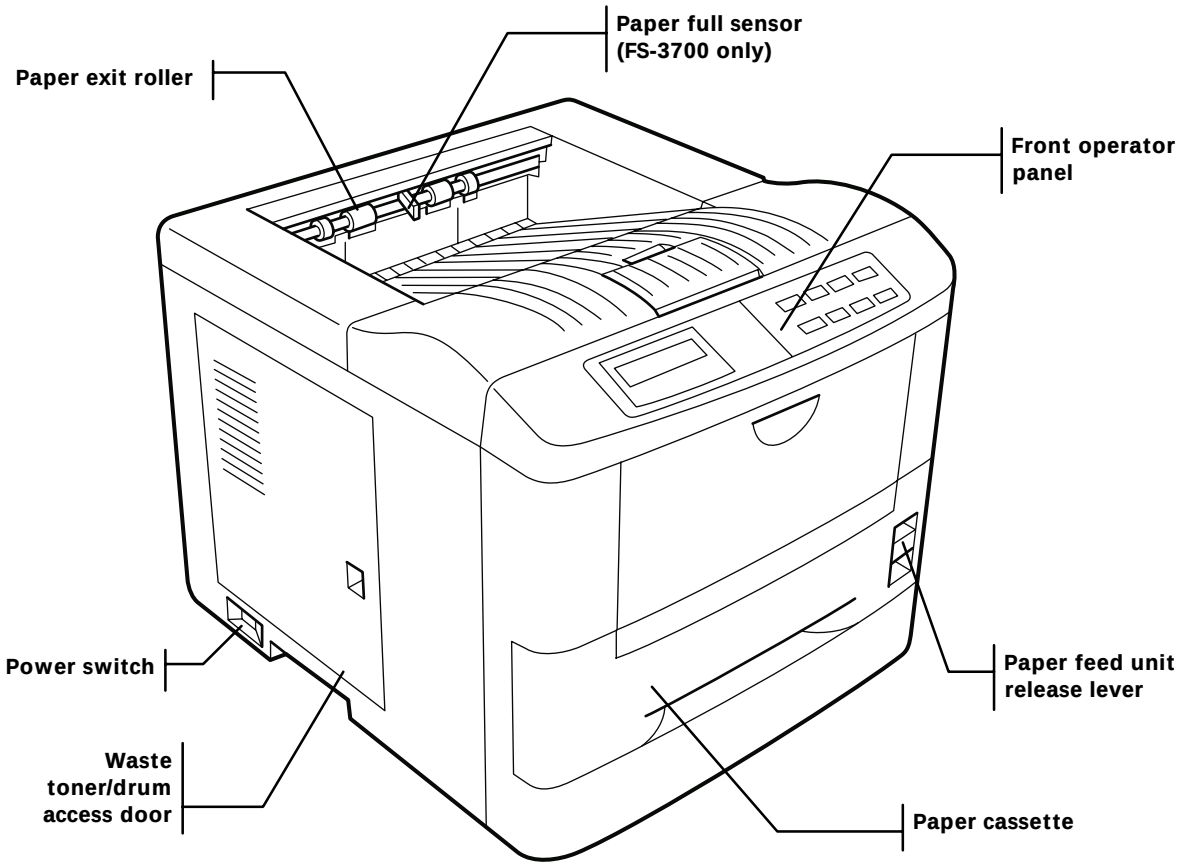
Both FS-1700 and FS-3700 model printers provide support for a JEIDA/PCMCIA category of memory card in both SRAM and flush types of up to 16 MB. Following is a list of makes and models of flush cards recommended for use with the printers.

Note that the flush card to be used should be operable on 5V DC.

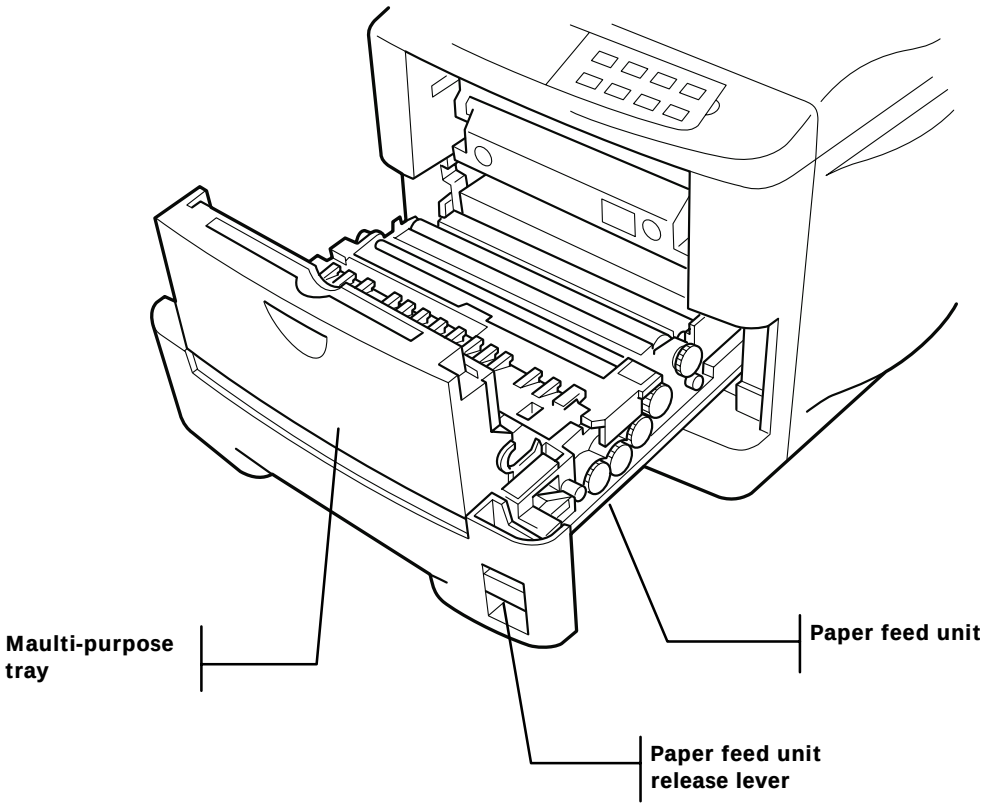
	Model	Capacity
AMD	AmC001CFLKA	1 MB
	AmC002CFLKA	2 MB
	AmC004CFLKA	4 MB
	AmC004DFLKA	4 MB
	AmC008DFLKA	8 MB
	AmC010CFLKA	10 MB
Fujitsu	MB98A81063	1 MB
	MB98A81183	2 MB
	MB98A81273	4 MB
	MB98A81373	8 MB
	MB98A81473	16 MB
Panasonic	BN-02MHF4C (CC)	2 MB
	BN-04MHF4C (CC)	4 MB
Intel	Series 2+/iMC004FLSP	4 MB
Centennial	FL01M-20-11114-03	1 MB
	FL02M-20-11114-03	2 MB

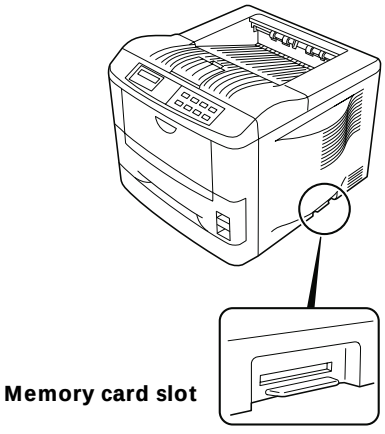
Front and rear views

Front view (FS-1700/3700)

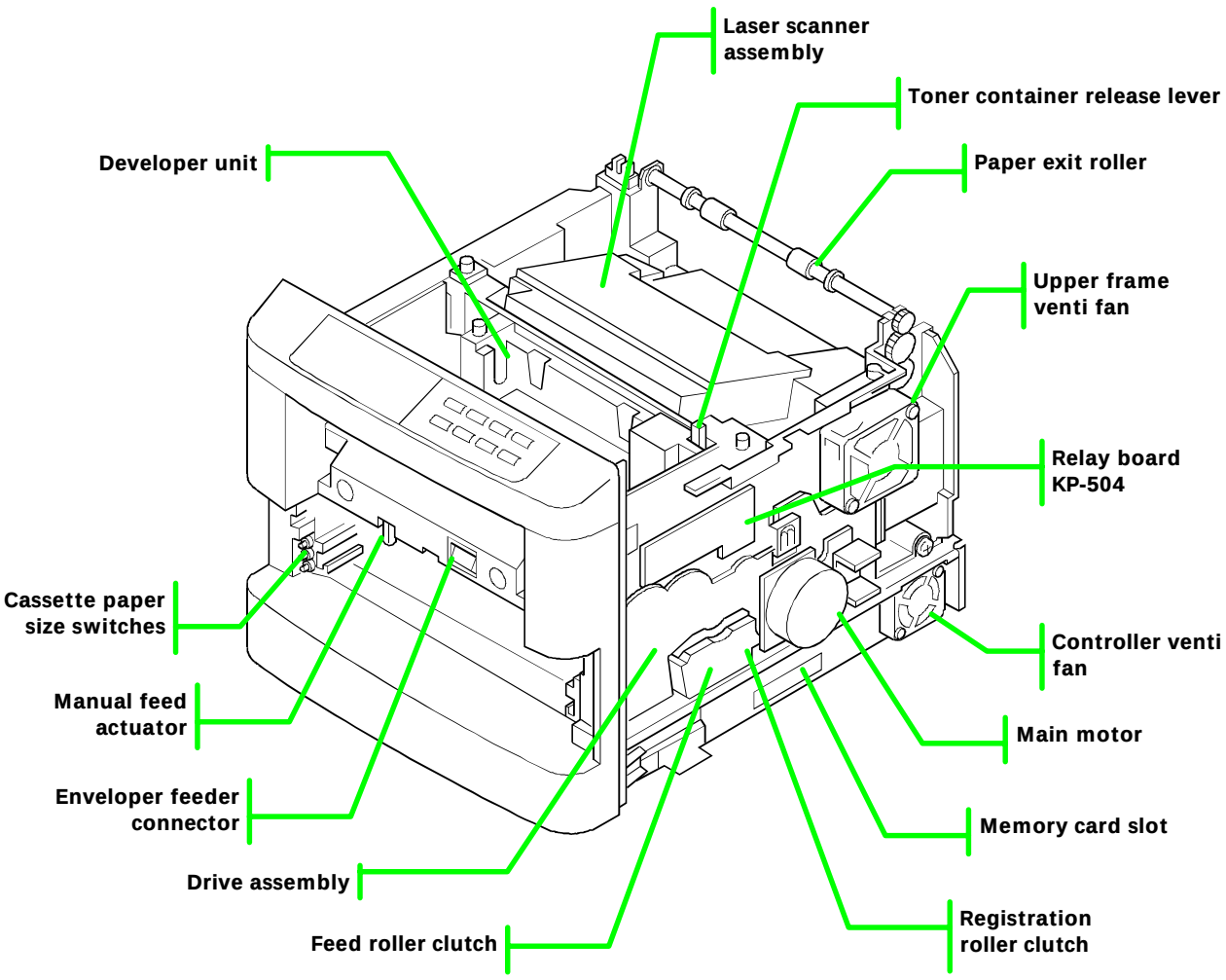


Paper feed unit

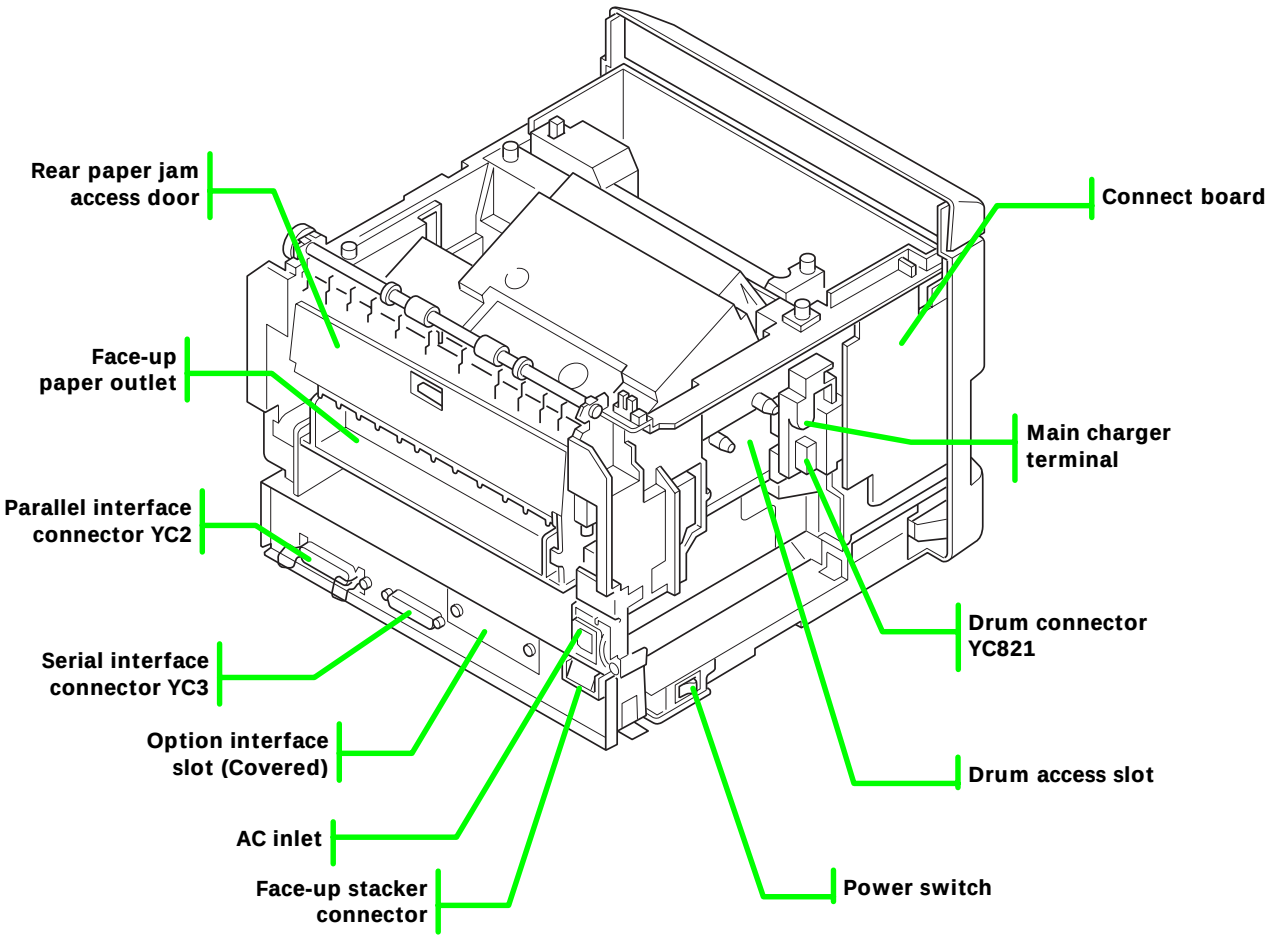




Internal assemblies ❶



Internal assemblies ❷



Safety information

Laser safety

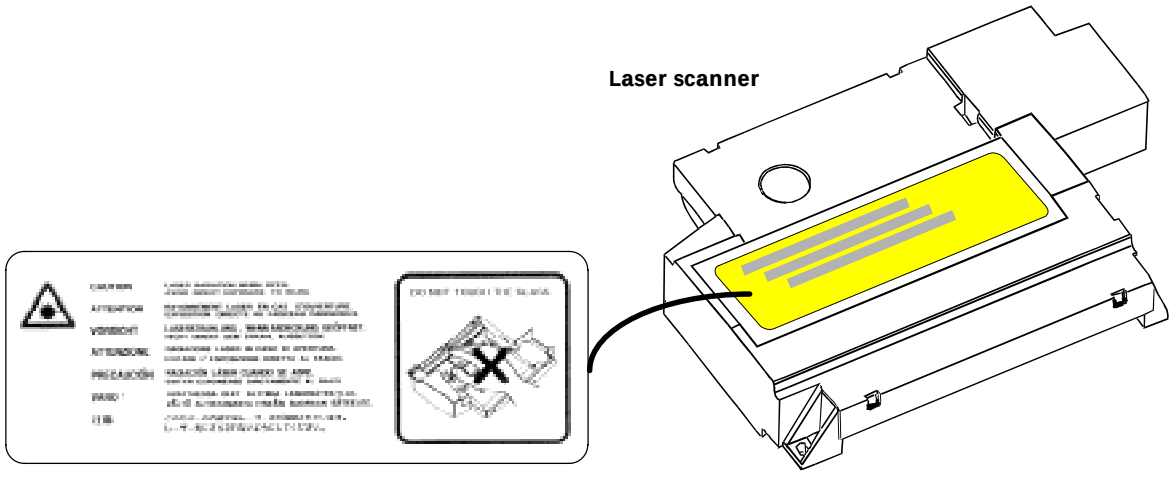
This printer is certified as a Class 1 laser product under the U.S. Department of Health and Human Services (DHHS) Radiation Performance Standard according to Radiation Control for Health and Safety Act of 1968. This means that the printer does not produce hazardous laser radiation. Since radiation emitted inside the printer is completely confined within protective housings and external covers, the laser beam cannot escape from the printer during any phase of user operation.

Laser notice

The printer is certified in the U.S. to conform to the requirements of DHHS 21 CFR Subchapter for Class I (1) laser products, and elsewhere is certified as a Class I laser product conforming to the requirements of IEC 825.

Class I laser products are not considered to be hazardous. The printer contains internally a Class IIIb (3b) laser that is nominally a 5 milliwatt laser operating in the wavelength region of 680 nanometers. The laser system and printer are designed so there is never any human access to laser radiation above a Class I level during normal operation, user maintenance, or prescribed service condition.

Laser product labels are located on top of the laser scanner:



Warning - Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

CDRH regulations

The Center of Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration implemented regulations for laser products on August 2, 1976. These regulations apply to laser products manufactured after August 1, 1976. Compliance is mandatory for products marketed in the United States. A label indicating compliance with the CDRH regulations must be attached to laser products marketed in the United States.

Ozone concentration

Laser printers generate ozone gas (O_3) which may concentrate in the place of installation and cause an unpleasant smell. To minimize the concentration of ozone gas, we recommend that the laser printer not be installed in a confined area lacking ventilation.

FCC notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Change or modifications not expressly approved by the manufacturer for compliance could void the user's authority to operate the equipment.

Interference cable to the computer shall be used with shielded circular cable.

Any modification without prior permission may cause harmful interface. If any modification/change is introduced to this equipment without prior permission, Kyocera, as the manufacturer, cannot guarantee compliance with FCC rules.

To use equipment which does not comply with FCC rules is prohibited. The printer may be optionally installed with the following units:

CONFORMING TO CLASS A LIMITS:

- HS-3E Bulk Paper Stacker
- PF-7 Bulk Paper Feeder

CONFORMING TO CLASS B LIMITS:

- EF-1 Envelope Feeder
- DU-20 Duplexer
- HS-20 Paper Handler/Stacker
- PF-20 Paper Feeder
- PF-20mini Paper Feeder
- SO-6 Sorter/Stacker
- ST-20 Bulk Paper Stacker
- IB-3 AppleTalk Interface Board
- PK-series KPDL Upgrade Kit

Important note on the interface connectors

Be sure to turn off printer power before connecting or disconnecting an interface cable to the printer. For protection against static discharge which may be applied to the printer's internal electronics through the interface connector(s), keep any interface connector which is not in use capped using the protective cap supplied.

Warning - This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of FCC Rules. Only peripherals (computer input/output devices, terminals, etc.) certified to comply with the Class B limits may be attached to this equipment. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.

Canadian Department of Communications compliance statement

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Avis de conformité aux normes du ministère des Communications du Canada

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

ISO 7779

Maschinenlärminformationsverordnung 3. GSGV, 18.01.1991: Der höchste Schalldruckpegel beträgt 70 dB(A) oder weniger gemäß ISO 7779.

Environmental requirements

Environmental conditions

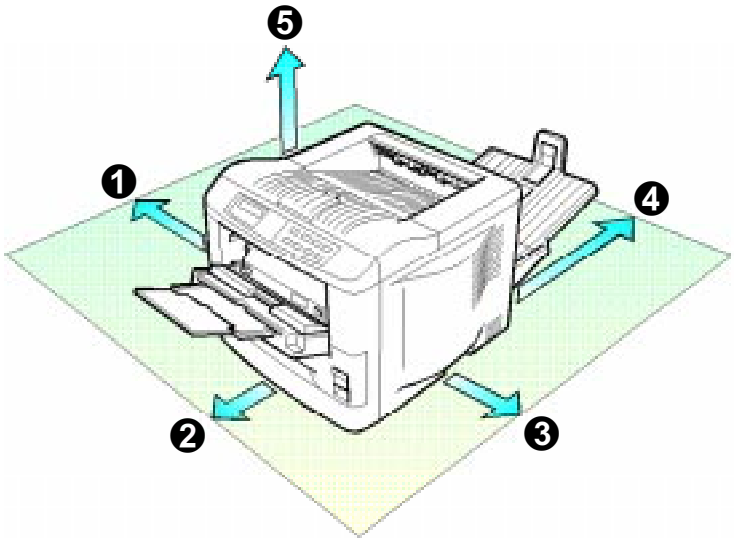
The **ENVIRONMENTAL REQUIREMENTS** section on page 1-6 should be observed to ensure the optimum operation of the printer. The use of the printer in a location which does not satisfy the requirements may result in troubles and risk shortening its service life.

The printer will work best if it is installed in a location that is:

- ❒ Level and well supported (Place the printer on a sturdy table or desk.)
- ❒ Not exposed to sunlight or other bright light (not next to an uncurtained window). Do not place the printer on an unstable cart, stand, or table.
- ❒ Near an AC wall outlet, preferably one that can be used for the printer alone (See section **POWER REQUIRMENTS** on page 1-5). (The outlet should have a ground slot, or an adaptor should be used. If you use an extension cord, the total length of the power cord plus extension cord should be 17 feet or 5 meters or less.
- ❒ Well ventilated, not too hot or cold, and not too damp or dry (See section **ENVIRONMENTAL REQUIREMENTS** on page 1-6). If you install the printer where the temperature or humidity is outside the requirements in section Environmental requirements in chapter 1, the best print quality may not be expected and there will be an increased chance of paper jams.
- ❒ Provide a sufficient clearances around the printer to ensure ventilation and ease of access. See section **Clearance** on page 1-17.)

Clearance

Allow the necesary minimum clearance on all sides of the printer (below). A total space of 92 by 138 cm (36 by 54”) is needed.



Clearance	Dimensions
Left ❶	30 cm (12”)
Front ❷	60 cm (24”)
Right ❸	25 cm (10”)
Back ❹	40 cm (16”) or 20 cm (8”) if the face-up tray is not installed.
Above ❺	30 cm (12”)

Places to avoid

Avoid installing the printer in locations exposed to:

- Direct drafts of hot or cold air.
- Direct drafts of outside air. (Avoid locations next to outside doors.)
- Sudden temperature or humidity changes.
- Any source of high heat, such as a radiator or stove.
- Excessive dust. Dust and smoke may cause contamination on the laser scanner window, causing print quality problem.
- Vibration.
- Ammonia fumes or other harmful fumes. (In case of humigating the room or saturate it with insecticide, remove the printer first.)
- Avoid greenhouse-like rooms. (Because of sunlight and humidity.)
- Avoid enclosed spaces that block ventilation.
- Avoid sites more than 6500 feet or 2000 meters above sea level.

Note on power

- Use only the power source voltage conforming to the printer's rated power voltage (See the **POWER REQUIRMENTS** on page 1-5). Do not use other power sources.
- Disconnect the printer from the power source before attempting removal or replacement of an electrical component or a printed-circuit board.
- The printer should not be connected to a power source until the instruction is given to do so when performing tests described in this manual.
- In connecting the printer power, exercise an extreme care in handling the power supply or any other electric parts which may give an electric shock.
- Before performing maintenance or repair, power from both the power source and the associated peripheral devices (computer, sorter, etc.) should be disconnected, unless otherwise specified.
- To avoid possible electrical shock, extreme caution must be exercised in handling the power cord and any other electrical part.

Warning! /Wornung!

As the disconnect device is not incorporated in the printer's AC primary circuit, an easily accessible socket outlet must be provided near the equipment.

If the printer is used with the optional Sorter (SO-6) or Stacker (ST-20), in order to avoid short-circuiting, it should be ensured that these devices are plugged securely into their respective power outlets.

Da kein Trennschalter in den Wechselstrom-Primärkreis des Druckers eingebaut ist, muß eine leicht zugängliche Steckdose in der Nähe des Gerätes vorhanden sein.

Wenn der Drucker mit dem gesonderten Sorter (SO-6) oder Stapler (ST-20) verwendet wird, muß darauf geachtet werden, daß diese Geräte einwandfrei an separate Steckdosen angeschlossen sind, um Kurzschluß zu vermeiden.

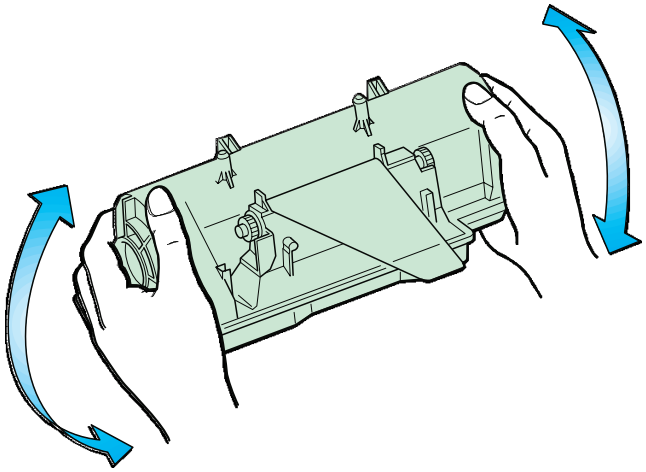
About the toner

The printer should use Kyocera TK-20 Toner Kit. To ensure the high print quality and long service life, the following handling precautions should apply.

Caution - As the Ecosys printers are designed to ensure the optimum print quality when used with the Kyocera's proprietary toner, Kyocera do not recommend to use any refilled toner containers that may be available commercially. This is because Kyocera have no means for control over how such refilled toner could affect the print quality and the reliability of the printer.

Toner container handling

To loosen and mix the toner inside, with the label side down, thoroughly shake the toner container (in the direction of the arrow) ten times or more.



Do not attempt to disassemble or refill the toner container.

Toner storage

The toner contained in the container is susceptible to temperature and humidity. To ensure the high print quality, store the toner container in a place that satisfy the following environmental conditions:

Temperature	-20°C to 40°C (-4°F to 104°F)
Humidity	15 to 90% RH

Note. If the toner container is removed from the printer's developer unit, put it in a protective bag and keep it in a dark place.

Caution - If the printer is shipped for return, etc., do not ship it with the toner container installed. Otherwise, toner may leak and contamination may result in the printer.