

User's Guide

Imacon Flextight Progression

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Imacon Flextight Progression User's Guide

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Hardware Reference—Flextight Progression

This part provides important information about using your Flextight Progression scanner. Topics include:

- **Important warnings and restrictions**
- System requirements
- Installation instructions
- Labeled diagrams of the front panel, rear panel, and internal structure of the Flextight Progression scanner
- Environmental requirements
- Electrical requirements
- Operating instructions
- Special considerations for scanning 35mm originals
- Calibration instructions
- Maintenance advice
- Instructions for preparing the scanner for transportation
- Disposal instructions
- Technical specifications
- Declarations of FCC and CE regulation conformity

Important Warnings and Restrictions

General

- Read all of the included documentation before attempting to install and use the scanner.
- Before shipping the scanner, always place the scanner into drum scanning mode and replace the protective packaging material. See “Preparing the Scanner for Transport” on page 37 for instructions.
- When you turn on the scanner, the drum will roll to the load position, if it is not there already. Do not touch the scanner while the drum is rotating.
- Do not place your fingers or any other object into the scanner while it is connected to a wall socket.
- Install the scanner in a location where children can not get to it. It contains small openings and moving parts that can cause injury.
- The scanner contains glass plates, which can shatter if abused, creating dangerous sharp edges. Take care not to break the plates.
- Make sure that you install the scanner in a place that meets all of the requirements given in “Environmental Requirements” on page 11 and “Electrical Requirements” on page 11.

When using the Drum

- Do not touch the originals or the original holder during the scan.
- Do not start scanning or previewing a transparency until an original holder with an original has been mounted.
- A flexible original holder is only to be mounted or removed when the drum is in the load position.
- Do not touch the scanner while the drum is rotating.

When using the Flatbed

- Do not attempt to scan any original thicker than 10mm. If you do, the glass plates may break as the flatbed is drawn into the scanner during the scan.
- Do not touch the drawer during the scan.
- Do not block the drawer when it is moving.
- Do not try to move the upper part of the drawer manually. Use only the flatbed button on the front panel.

- Before servicing or opening the scanner, the power supply must be disconnected from the mains (unplugged). It is not sufficient simply to press the on/off button.
- Do not fold or bend the electrostatic plate. It contains sensitive electronic components that may be destroyed if stressed.
- If you need to clean the electrostatic plate, use clean water only. It is possible to destroy its ability to hold your originals if you use harsh solvents or detergents.

System Requirements

IBM PC-Compatibles

- Minimum Pentium 166 MHz processor
- Windows 95/98, Windows NT or Windows 2000.
- Windows 98 or Windows 2000 is required for scanning to CMYK and color management (ICC profile) support.
- Minimum 64 MB system RAM
- Screen resolution of 800 x 600 pixels with true colors (24 bits)
- Mouse or other pointing device
- SCSI interface
- Adaptec EZ-SCSI version 4 or later
- Minimum available hard disk space of 200 MB

Macintosh

- Minimum Power PC processor
- Mac OS 7.5 or higher (8.6 or higher recommended)
- Minimum 64 MB available RAM.
- Screen resolution of 800 x 600 pixels with true colors (24 bits)
- SCSI interface
- Minimum available hard disk space of 200 MB

Front Panel and Drum Loader

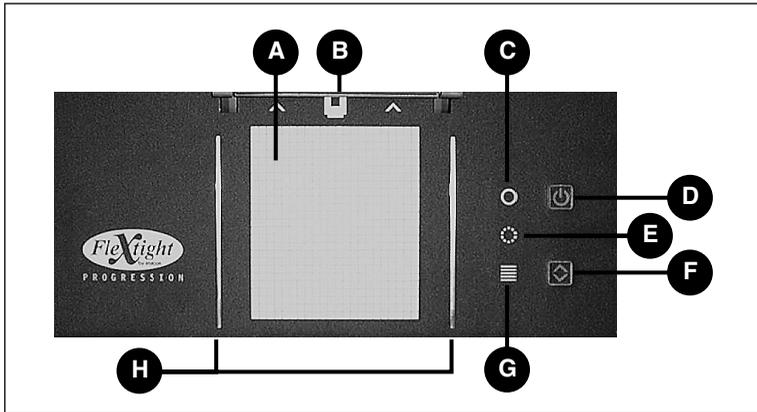


Figure 1: Front panel features

- A Light Table:** helps you to align your originals.
- B Original Holder Clasp:** the flexible original holders slide into a slot here and are held in place by a magnetic clasp.
- C Power Indicator (Green):** Remains lit when ready to scan. At power-up, the light blinks to indicate that firmware must be loaded (it will be loaded automatically when you run ColorFlex).
- D Power/Cancel/Reset Button:** This button has several functions:
- Provided the main power switch on the back panel is switched on (see “Back Panel & Connectors” on page 10), this button will turn the scanner on or off.
 - If the scanner is currently working (making a scan or moving the flatbed drawer), this button will cancel the action, but not turn off the scanner.
 - If the scanner is not responding, press and hold this button for three seconds to reset and turn off the scanner.
- E Zoom Indicator (Yellow):** lights while the scanner is repositioning the optics to scan in a new format.
- F Drawer Button:** press here to open and close the flatbed drawer. If the drawer is already in motion, this button cancels the action.
- G Busy Indicator (Red):** lights when scanning. If blinking when not scanning, then an error exists—please contact your Flextight dealer for assistance.
- H Flexible Holder Guides:** all flexible holders fit between two rails to keep them straight.

Flatbed Drawer

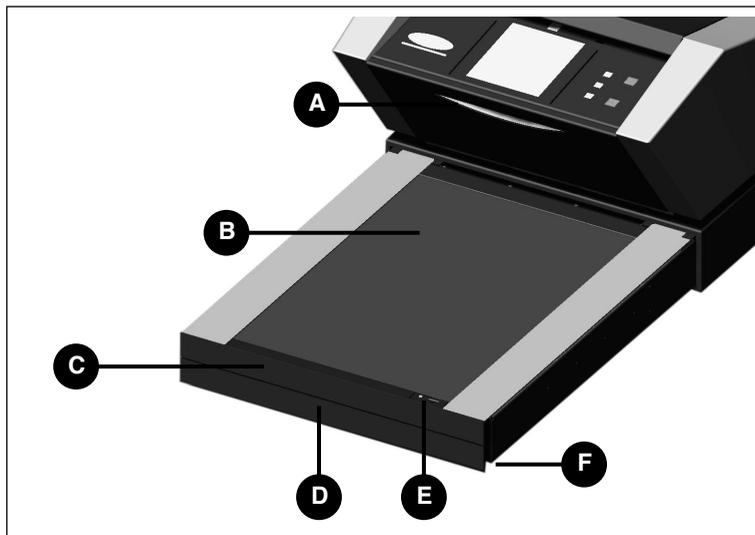


Figure 2: Flatbed drawer features

- A Flatbed Working Light:** provides light for use when positioning your originals on the flatbed.
- B Electrostatic Plate:** holds thin reflective originals in place. Remove this plate to scan thick reflectives or a large number of transparencies.
- C Electrostatic Plate Door:** swing this door down to place or remove the electrostatic plate.
- D Drawer Support Handle:** To use the flatbed, grab this handle and pull the drawer support all the way out. Then press the drawer button to open the flatbed (see “Front Panel and Drum Loader” on page 8).
- E Electrostatic Field Button and Light:** The button switches the electrostatic field on and off. The light turns on to indicate when you have activated the electrostatic field.
- F Lift Point:** A gap behind the front plate on both sides of the drawer enables you to insert your index fingers to swing down the electrostatic plate door or lift the top glass plate.

Back Panel & Connectors

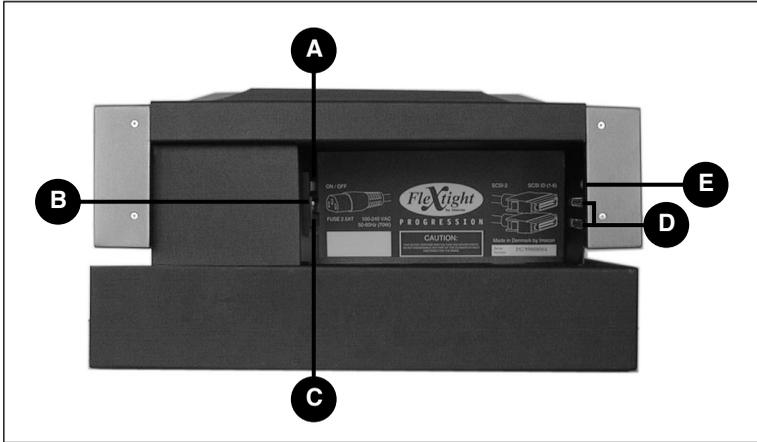


Figure 3: Rear panel connectors

- A Power Switch:** Use this switch to turn the scanner on or off.
- B Power Cable Socket:** plug the power cable into this socket.
- C Fuse Drawer:** pull out this drawer to change the fuse, if necessary. There is space inside the fuse drawer for a spare fuse. A spare fuse is included in this space when the scanner is delivered. We recommend that you purchase and install a new spare after you use the existing spare. It is a T2.5A fuse.
- D SCSI-2 Connectors:** plug a SCSI cable into one of these sockets and connect the other end to your computer. As with most SCSI devices, the scanner includes two identical SCSI connectors. Fit the last unit in the SCSI chain with a terminator on its free connector.
- E SCSI Address Selector:** to assign an address, use a screwdriver to aim the arrow at an address number. Use only 1, 2, 3, 4, 5, or 6. Do not use 7, 8, 9, or 0.

Setting up the Scanner

Environmental Requirements

- The surface on which the scanner is placed must be flat, stable and free from vibrations. If the scanner is shaken or moved while scanning, your results may be affected.
- The scanner must be placed in an area that provides plenty of room for the flatbed drawer to extend without hitting anything or blocking a passageway, such as a door.
- Keep the scanner away from sources of heat, such as direct sunlight or a radiator. Warm temperatures will degrade the quality of your scans—for best results, work in a cool environment.
- The scanner must be operated away from sources of strong electromagnetic interference. Although the scanner complies with all regulations governing electromagnetic immunity and Imacon has taken every reasonable step to make the unit immune to electromagnetic interference, it is still a precision electronic device so strong radio waves can interfere with your scans.
- If the scanner has been in a colder environment (e.g. outside or in storage) just before you set it up in a warmer room, then wait about two hours before using it—otherwise, condensation may form, which will prevent the scanner from operating correctly.
- Avoid using the scanner in areas where there is a high level of dust (such as in a workshop).
- Always keep the flatbed and support drawer closed when you are not using the scanner.

Electrical Requirements

The scanner requires a mains voltage of between 100 and 240 V AC at a frequency of 50 to 60 Hz. This is within the normal wall-socket power standards of most countries. Do not attempt to use Flextight with any power source that supplies electricity using specifications out of this range.

The scanner and all devices attached to the scanner (computer, monitor, SCSI devices, etc.) must be grounded (i.e. use a three-point electrical connection).

Installation Procedure

IMPORTANT: Before you start to set up your scanner, make sure that your scanner, your computer and all devices connected to the SCSI chain are switched off. You can damage your equipment if you make or break SCSI connections to or from units that are turned on.

1. Unpack your scanner and place it on a table near your computer. Make sure that the location you choose meets all of the requirements outlined above for drawer clearance, temperature, stability, and electromagnetic interference.
2. Keep the packaging material that came with your scanner—especially the bubble plastic and cardboard support for the flatbed (do not pop the bubbles in the bubble plastic). You must replace this packaging material if you later need to transport the scanner (see “Preparing the Scanner for Transport” on page 37).
3. Locate the connectors in the recessed area located at the back of the scanner. You will see two SCSI connectors and a standard power socket (see “Back Panel & Connectors” on page 10).
4. **IMPORTANT:** On the back of the scanner is a small dial, which is used for setting the SCSI address for the scanner. Make sure that each device in your SCSI chain has been assigned a different SCSI address. If necessary, use small screwdriver adjust the wheel so that it points to a new address. Use only 1, 2, 3, 4, 5, or 6. Do not use 7, 8, 9, or 0.

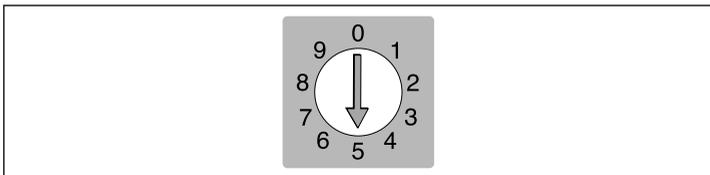


Figure 4: SCSI address selector

5. Connect a SCSI cable to one of the SCSI connectors on your scanner. Connect the other end of the cable to your computer or to the last SCSI device in your chain.
6. Make sure your SCSI chain is terminated correctly. This means that the empty connector on the last device in your SCSI chain must be

- fitted with a terminator. If your chain is not terminated, your computer system may not work properly.
7. Plug the power cable into the standard power socket on the back of the scanner.
 8. **IMPORTANT:** Make sure that the wall socket you are planning to use meets the electrical requirements outlined in “Electrical Requirements” on page 11.
 9. Plug the other end of the power cord into a compatible wall socket.
 10. Press the rear power switch to apply power to the scanner (it is located at the back of the scanner as shown in Figure 3). This places the scanner in standby mode.
 11. Press the power button on the front panel (shown in Figure 1) to turn on the scanner. The green light starts flashing. This means that no firmware has been downloaded yet. It will be downloaded automatically later when you first run the ColorFlex software.
 12. Your system is assembled. Turn on your computer and install the ColorFlex image scanning software.

Removing and Replacing the Electrostatic Plate

Remove the electrostatic plate in the flatbed drawer only when you want to use the batch-transparency or thick-original scanning features.

WARNING: Do not fold or bend the electrostatic plate. It contains sensitive electronic components that may be destroyed if stressed.

Removing the Electrostatic Plate

1. Pull out the flatbed support as far as it will go by pulling on the drawer support handle shown in Figure 2.
2. Press the drawer button (shown in Figure 1). The flatbed drawer opens automatically.
IMPORTANT: if a problem occurs when the drawer is opening (such as an obstruction), you can stop the drawer by pressing the drawer button again.

3. Swing down the electrostatic plate door (shown in Figure 2) by placing your index fingers into the left- and right-side gaps behind the door and pulling forward.
4. Lift the electrostatic plate up and away from the scanner. Place it someplace safe. Be careful not to bend or fold the plate.
5. Close the electrostatic plate door again.

Replacing the Electrostatic Plate

1. If the flatbed drawer is closed, press the drawer button (shown in Figure 1). The flatbed drawer opens automatically.
IMPORTANT: if a problem occurs when the drawer is opening (such as an obstruction), you can stop the drawer by pressing the drawer button again.
2. Open the electrostatic plate door (shown in Figure 2) by placing your index fingers into the gap behind the door and pulling forward.
3. Lay the electrostatic plate down over the glass plate. Be careful not to bend or fold the plate.
4. Make sure the contact pins (labeled **A** in Figure 5) slip into the sockets in the electrostatic plate.

5. Close the electrostatic plate door.



Figure 5: Replacing the electrostatic plate. The contact pins (A) must enter the holes in the electrostatic plate.

Operating Instructions

Using the Drum

The best way to scan transparencies is to use a flexible original holder and the drum at the top of the scanner. This enables Flextight to scan the original without glass plates coming between the sensor and the original. However, you can only scan between one and four (depending on format) transparent originals at a time this way).

1. Select the magnetic original holder that matches your original. The original must completely fill the hole with no edges showing.
2. Place the original holder between the guide rails with the slotted tab facing into the scanner (see Figure 1 and Figure 6).
3. Slide the holder gently into the slot at the top of the light table. It will slip about 1/2 cm (1/4 inch) into the slot. Do not press too hard. It slips in very easily and is held in place by a magnet. To remove the holder, simply slide it back out.
4. As shown in Figure 6, lift the top layer of the original holder and place your original with the emulsion side down. The original must completely fill the hole with no edges showing and with a minimum overlap of 2mm along each edge. Also, no edges of the original may extend past the outer edges of the holder. Use the light table to help position the image.

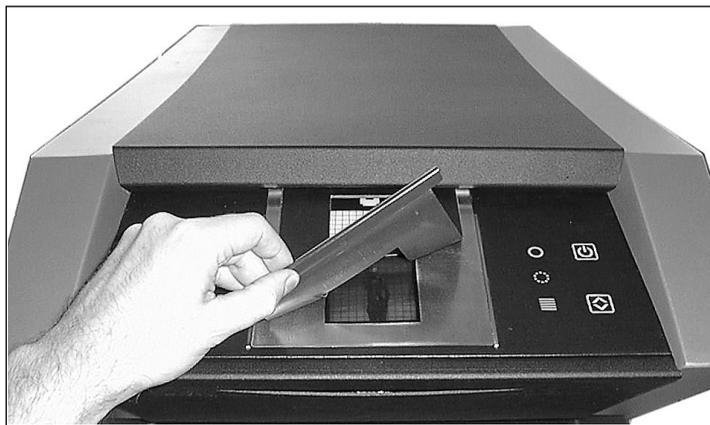


Figure 6: Mounting a transparency in a flexible original holder for drum scanning

5. Lay the top layer of the holder down flat over the original. The top layer is magnetic, which will hold the original fast.
6. Go to your computer and run the scanning software. Follow the directions given in the ColorFlex software manual to set the original format, take a preview, make settings, and take the final scan.

Scanning Thin Reflectives with the Flatbed

The best way to scan reflectives is to use the electrostatic plate. This holds the original firmly and does not require glass plates, which could otherwise interfere between the original and the light sensor. However, you can only use the electrostatic plate for thin (up to 0.5 mm) originals.

1. Pull out the flatbed support as far as it will go by pulling on the drawer support handle shown in Figure 2.
2. Press the drawer button (shown in Figure 1). The flatbed drawer opens automatically.
IMPORTANT: if a problem occurs when the drawer is opening (such as an obstruction), you can stop the drawer by pressing the drawer button again.
3. If necessary, replace the electrostatic plate as described in “Replacing the Electrostatic Plate” on page 14.

4. Position your original (or originals) on the electrostatic plate, using the printed markings as a guide. Note that by placing your originals along the center of the plate, you will be able to use the highest possible resolution setting, which is dependent on the width of your original (see Figure 7).

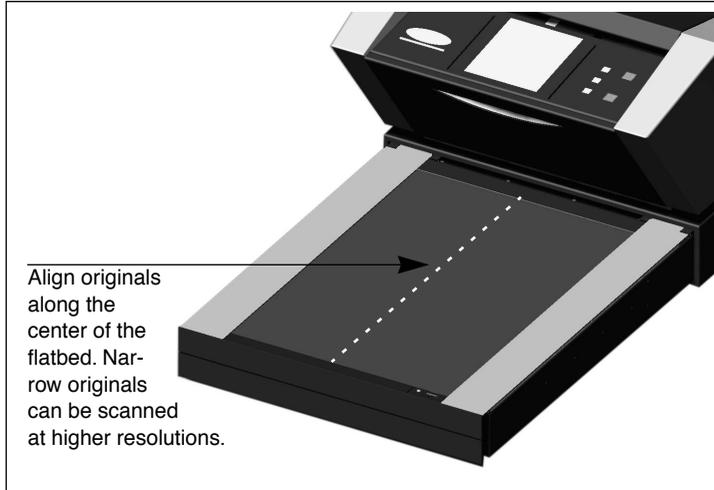


Figure 7: *Aligning originals on the flatbed*

5. Press the electrostatic field button (shown in Figure 2). Your originals will be “sucked” into place.
6. Go to your computer and run the scanning software. Follow the directions given in the ColorFlex software manual to set the original format, take a preview, make settings, and take the final scan.
7. When you have finished scanning, remove your original and press the drawer button again. The top layer of the flatbed drawer is automatically drawn back into the scanner, leaving the drawer support extended. Gently press the drawer support into the scanner.

Scanning Batches and Thick Reflectives with the Flatbed

If you need to scan a large number of transparencies quickly, you can position them between the glass plates in the flatbed drawer and use the batch scan feature of the ColorFlex software.

You can also use the glass plates to scan reflective originals up to 10 mm (0.39") in thickness. The bottom plate is attached to springs that apply pressure upwards. The top plate presses downwards, thereby holding your original in position.

WARNING: Do not attempt to scan any original thicker than 10mm. If you do, the glass plates may break as the flatbed is drawn into the scanner during the scan.

1. Pull out the flatbed support as far as it will go by pulling on the drawer support handle shown in Figure 2.
2. Press the drawer button (shown in Figure 1). The flatbed drawer opens automatically.
IMPORTANT: if a problem occurs when the drawer is opening (such as an obstruction), you can stop the drawer by pressing the drawer button again.
3. If necessary, remove the electrostatic plate as described in "Removing the Electrostatic Plate" on page 13.
4. Lift the top glass plate by inserting your index fingers into the gaps behind the electrostatic plate door (shown in Figure 2) and lifting. Lift the top glass plate all the way up until it stops. It will remain held open.
5. Position your originals on the bottom glass plate. Note that by placing your originals along the center of the plate, you will be able to use the highest possible resolution setting, which is dependent on the width of your original (see Figure 7).
6. Gently pull the top glass plate back down. There will be some initial resistance, but it will move very easily after you pull it down about half way. Do not allow the plate to fall, but slowly lie it down over your originals.

7. Go to your computer and run the scanning software. Follow the directions given in the ColorFlex software manual to set the original format, take a preview, make settings, and take the final scan.
8. When you are finished scanning using the glass plates, remove your originals and replace the electrostatic plate as described in “Replacing the Electrostatic Plate” on page 14.
9. Press the drawer button again. The top layer of the flatbed drawer is automatically drawn back into the scanner, leaving the drawer support extended. Gently press the drawer support into the scanner.

True Optical Resolutions

The chart below shows the true optical resolutions (in dpi) available with each of the original holders. When you scan at one of the resolution settings listed, one pixel in the scanner's image sensor maps directly to one pixel in the final image. If you use a resolution setting other than those listed in Table 1, then interpolation (resizing) must be applied.

| Original Width | Resolution (DPI) | | | | | |
|----------------|------------------|------|------|------|-----|------|
| | Max | 1/2 | 1/3 | 1/4 | 1/6 | 1/12 |
| 24 mm | 5760 | 2880 | 1920 | 1440 | 960 | 480 |
| 36 mm | 3200 | 1600 | 1067 | 800 | 533 | 267 |
| 60 mm | 3200 | 1600 | 1067 | 800 | 533 | 267 |
| 4" (107 mm) | 1800 | 900 | 600 | 450 | 300 | 150 |
| 120 mm | 1440 | 720 | 480 | 360 | 240 | 120 |

Table 1: True optical resolutions when using the drum

| Original Width | Resolution (DPI) | | | | | |
|---------------------|------------------|------|------|-----|-----|------|
| | Max | 1/2 | 1/3 | 1/4 | 1/6 | 1/12 |
| 60 mm (trans. only) | 3251 | 1626 | 1084 | 813 | 542 | 271 |
| 4" (110 mm) | 1858 | 929 | 619 | 465 | 310 | 155 |
| 220 mm (A4) | 928 | 464 | 309 | 232 | 155 | 77 |
| 314 mm (A3) | 650 | 325 | 217 | 163 | 108 | 54 |

Table 2: True optical resolutions when using the flatbed

To avoid activating the resizer then select a zoom setting that gives one of the results listed in Table 1 or Table 2. When resizing is used, the scans take longer and image quality is reduced slightly. The impact this has on the image quality will vary according to the amount of interpolation required and the contents of your original.

Example: For an output resolution of 300dpi, take the true resolution shown in Table 1, divide by 300dpi and multiply by 100%. Enter the result in the **Zoom** field in the main **ColorFlex** window.

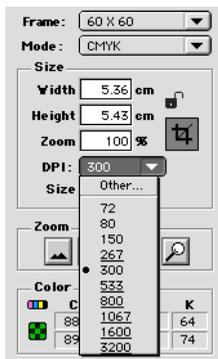
| Original Width | Zoom Setting | | | | | |
|----------------|--|----------|----------|----------|----------|-----------|
| | Max Resolution | 1/2 Res. | 1/3 Res. | 1/4 Res. | 1/6 Res. | 1/12 Res. |
| 24 mm | $\frac{5760}{300} \times 100\%$ = 1920% | 960% | 640% | 480% | 320% | 160% |
| 36 mm | 1067% | 533% | 356% | 267% | 178% | 89% |
| 60 mm | 1067% | 533% | 356% | 267% | 178% | 89% |
| 4" (107 mm) | 600% | 300% | 200% | 150% | 100% | 50% |
| 120 mm | 480% | 240% | 160% | 120% | 80% | 40% |

Table 3: Example zoom settings for true optical resolution when scanning with the drum

| Original Width | Zoom Setting | | | | | |
|---------------------|--|----------|----------|----------|----------|-----------|
| | Max Resolution | 1/2 Res. | 1/3 Res. | 1/4 Res. | 1/6 Res. | 1/12 Res. |
| 60 mm (trans. only) | $\frac{3251}{300} \times 100\%$ = 1084% | 542% | 361% | 271% | 181% | 90% |
| 4" (110 mm) | 620% | 310% | 207% | 155% | 103% | 52% |
| 220 mm (A4) | 310% | 155% | 103% | 78% | 52% | 26% |
| 314 mm (A3) | 217% | 108% | 72% | 54% | 36% | 18% |

Table 4: Example zoom settings for true optical resolution when scanning with the flatbed

Note that when the **Zoom** field is set to an appropriate value for the selected original size (as shown in the table above), then the **DPI** pop-up menu shows an underline beneath each setting that will result in a scan taken with a true resolution (no interpolation).



Portrait Versus Landscape for 35mm

The flexible 35mm film holder contains space for both a portrait and a landscape positioning (see Figure 8). You can only use one of these at a time. There are two options because, due to the orientation of the light source and CCD inside the scanner, each of these two orientations has slightly different properties.

- More light is allowed to pass in a landscape image because it is wide in the same direction as the light source. This means that the scanner can capture higher densities, which results in greater shadow detail. However, the resolution when scanning in this orientation is limited to 3200 dpi. If shadow details are more important than resolution, then use the landscape (36x24) orientation (the top frame).
- In the portrait orientation, less light is able to pass through the original, but the scanner is able to zoom to a higher resolution. Resolutions of up to 5760 dpi are possible. If resolution (i.e. enlargement) is more important than shadow details, then the portrait (24x36) orientation (the bottom frame).

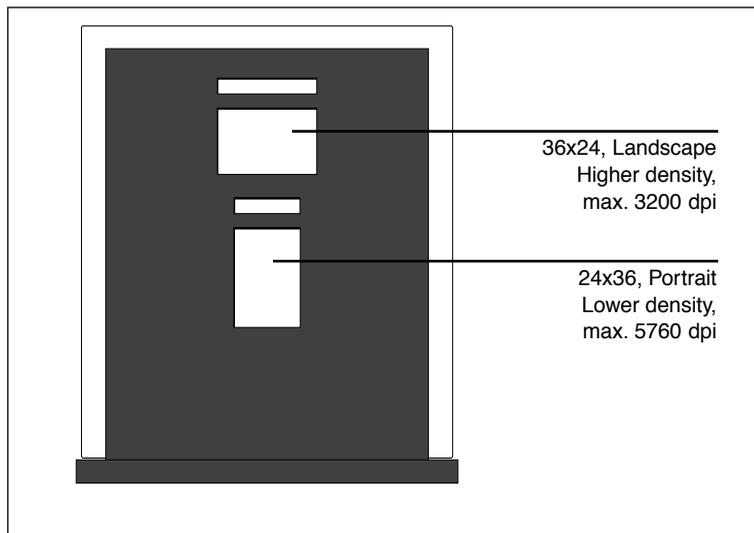


Figure 8: 35mm original holder

Calibrating the Scanner

The scanner requires four types of calibration:

- *Focus calibration* adjusts the positioning of the scanner's optics for each zoom level. If your scans are coming out unfocused or at slightly the wrong size, then you may need to make a new focus calibration to adjust the zoom mechanism. The focus calibration is stored in the scanner's flash PROM, so it is preserved when you move the scanner to a new computer. See "Focus Calibration" on page 25 for instructions.
- *Electrostatic white calibration* is only required for reflective scans that use the electrostatic plate. During calibration, the scanner scans a white target to establish the white point along the full width of the scanner's CCD. The results of the white calibration scan are saved on your computer's hard disk, so you must make a new white calibration if you move the scanner to a new computer. See "White Calibration for Reflectives" on page 27 for instructions.
- *Under-glass white calibration* is only required for reflective scans in which the original is located under the glass plate (e.g., thick originals). White calibration is done automatically for transparencies made using either the drum or flatbed. The purpose of this calibration is the same as for the electrostatic white calibration and the procedure is similar. You must make two white calibrations because the optical properties when using the glass plates are significantly different than when using the electrostatic plate. See "White Calibration for Reflectives" on page 27 for instructions.
- *CCD calibration* ensures that all of the pixels in the CCD react equally to low-level light. CCD calibration is done at the factory and stored in the scanner's flash PROM, so you probably will never need to recalibrate. See "CCD Calibration" on page 28 for instructions.

All four procedures are simple and are initiated from the software.

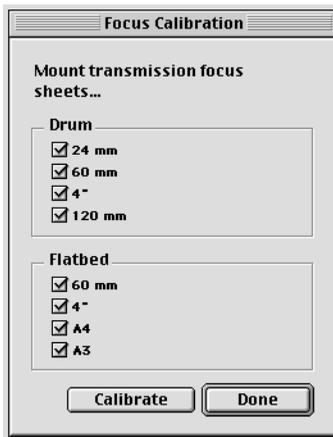
Focus Calibration

The Flextight Progression scanner uses an adjustable zoom and focus mechanism to optimize its scanning resolution for each of the original formats it can handle. If you suspect your scans are not as sharp as they should be, then you may need to calibrate your scanner.

Note that you must not calibrate the scanner every day. It is intended that the scanner be calibrated not more than once every three months. In most cases, this procedure will never be necessary.

Use the procedure below to focus calibrate your scanner:

1. Locate the drum and flatbed focus calibration targets that came with your scanner. The drum target is a 6X6 cm square of clear plastic with many black lines on it. The flatbed target is a letter-size piece of clear plastic, also with black lines on it.
2. Load the drum calibration target into the top square of the 6X6 flexible original holder. The stripes must point in towards the scanner (vertically). Take care to place the target as straight as possible. Use the scanner's light-table grid and the corners marked on the target to help align it. See "Using the Drum" on page 16 for more information about how to mount originals using a flexible original holder.
3. Position the flatbed target between the glass plates of the flatbed as described in "Scanning Batches and Thick Reflectives with the Flatbed" on page 19. Position the target in the center of the plate with the stripes pointing in towards the scanner. Place it as straight as possible.
4. Select **Calibration** from the **Maintenance** menu. The **Focus Calibration** window appears.



5. Choose the resolutions for which you want to calibrate. By default, all resolutions are marked and will therefore be calibrated. To prevent one or more resolutions from being calibrated, click on the appropriate box to remove the mark. We recommend that you calibrate for all resolutions for both the drum and flatbed. However, if you are only having focus problems with a particular type of scan or at particular resolutions, you can save some time by choosing only those types of scans that are giving you trouble.
6. Click on the **Calibrate** button. The scanner will focus for each of the selected resolutions and calibrate for each of them (one at a time).
7. When the calibration is finished, each of the completed calibrations will show a scanner icon. Click on **Done** to close the **Focus Calibration** window.

White Calibration for Reflectives

The Flextight scanner uses a white reference to make sure that all elements in the scanner's CCD react consistently to bright light. You must make two white calibrations: one using a white target mounted on the electrostatic plate and one with the target mounted between the glass plates.

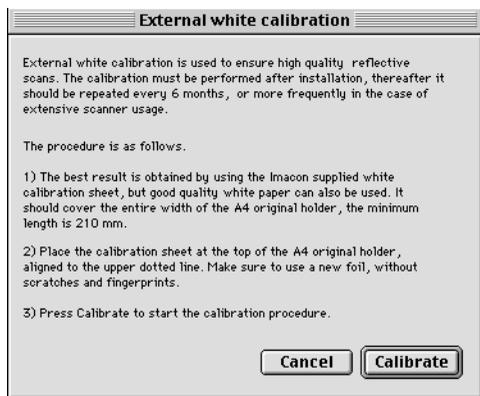
The first time you make a reflective scan using the electrostatic or glass plates, a window will appear reminding you to make a white calibration. Thereafter, the calibration will be stored on your computer's hard disk. We recommend that you make both types of white calibrations at the same time (above and below the glass plate), because if you make only one type, the reminder will not appear again if you make a scan later using the other type of flatbed mounting.

As the scanner ages, the properties of the light tubes may change slightly. Therefore, you must redo the white calibration every six months or so and immediately after changing the light tubes. Note also that because the white calibration information is stored on your computer's hard disk, you must make a white calibration each time you move the scanner to a new computer.

Use the procedure below to make a white calibration.

1. Find the white calibration sheet that came with your scanner. It is a plain white piece of paper (510 x 329 mm (20" x 13")).

2. Position the white calibration sheet on the electrostatic tray as described in “Scanning Thin Reflectives with the Flatbed” on page 17.
3. Select **White Calibration** from the **Maintenance** window. The **External White Calibration** window appears.



4. Click on **Calibrate**. The scanner will take several scans of the white target. The process will take about eight minutes.
5. Remove the electrostatic plate and mount the white calibration target between the glass plates as described in “Scanning Batches and Thick Reflectives with the Flatbed” on page 19. Repeat this procedure from step 3.

CCD Calibration

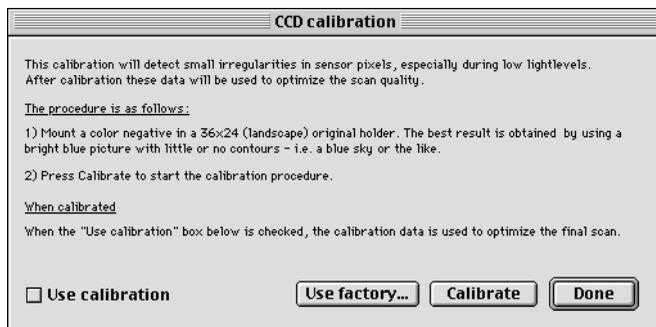
To make sure all of the pixels in the CCD react equally to low levels of light, your scanner’s CCD must be calibrated. If it is not, you may see some faint single-pixel striping in very dark areas of positives or in light areas of images that were scanned from negatives. The problem, which is present in all CCD scanners, is most noticeable when you scan 35 mm negatives.

The CCD calibration information is stored in a flash PROM inside the scanner, not on your hard disk. This means that the CCD calibration (unlike the white calibrations) is preserved when you move the scanner to a new computer.

Support for CCD calibration was added in ColorFlex 1.9. If your scanner came with version 1.9 or higher, then CCD calibration has been done at the factory; we highly recommend that you *do not* repeat it again yourself (recalibration is neither necessary or advisable). However, if you are upgrading your software for use with a scanner that was delivered with an older version of ColorFlex, then you might want to calibrate the CCD yourself if you are having trouble with striping as described above.

Use the procedure below to calibrate your CCD sensor using ColorFlex.

1. Find or make a color negative original showing a clear blue sky, or something similar. The original must not have too many sharp contours in it.
2. Mount the original in the 36 x 24 (landscape) original holder and set the original format in the **Frame** pop-up menu as usual.
3. Choose **CCD calibration** from the **Maintenance** menu. The **CCD calibration** window appears.



4. Read the information provided in the **CCD calibration** window, then click on **Calibrate**. The scanner will scan the image. When it is done, mark the **Use calibration** checkbox, then click on **Done**. (Note that if your scanner was calibrated at the factory, then a warning will appear if you try to make a new CCD calibration. It is possible to dismiss the warning and continue, but we do not recommend that you recalibrate.)

If it seems like the new CCD calibration only made your scans come out worse, it is probably because your calibration image contained too many contours.

You have two options for removing the effects of a faulty new calibration:

- If your scanner was calibrated at the factory, you can return to the original CCD calibration by opening the **CCD calibration** window again and clicking on the **Use factory** button.
- If your scanner was not delivered with a factory CCD calibration. You can remove the new calibration by opening **CCD calibration** window again and removing the mark from the **Use calibration** checkbox.

If you were having striping problems and the CCD calibration simply didn't help, then the source of the problem may lie elsewhere, see your other Imacon manuals for advice and troubleshooting information.

Cleaning the External Surface of the Scanner

If the external surface of the scanner becomes dirty, then clean it with a damp cloth. Be careful not to get any moisture inside the scanner or on any of the connectors. Do not use alcohol or other solvents.

Cleaning the Electrostatic Plate

Use a clean cloth dampened with water (only) to clean the electrostatic plate.

WARNING: Do not use any detergents or solvents on the electrostatic plate, as these can destroy the plate's ability to hold your originals.

Cleaning the Glass Plates

Both of the glass plates in the flatbed drawer will require regular cleaning. To do so:

1. Get some standard glass cleaner and a clean cloth.
2. Position the scanner so that when you open the drawer, you can reach under it (for example, at the edge of a desk). Make sure that the scanner will not fall off the edge.
3. Pull out the flatbed support as far as it will go by pulling on the drawer support handle shown in Figure 2.
4. Press the drawer button (shown in Figure 1). The flatbed drawer opens automatically.
IMPORTANT: if a problem occurs when the drawer is opening (such as an obstruction), you can stop the drawer by pressing the drawer button again.
5. If necessary, remove the electrostatic plate as described in “Removing the Electrostatic Plate” on page 13.
6. Clean the top surface of the top glass plate using the cloth and glass cleaner.
7. Lift the top glass plate by inserting your index fingers into the gaps behind the electrostatic plate door (shown in Figure 2) and lifting. Lift the top glass plate all the way up until it stops. It will remain held open.
8. Clean the bottom surface of the top glass plate and both surfaces of the bottom glass plate using the cloth and glass cleaner.
9. Gently pull the top glass plate back down. There will be some initial resistance, but it will move very easily after you pull it down about half way. Do not drop the plate, but slowly let it lie down.
10. If you will not be scanning using the glass plates right away, replace the electrostatic plate as described in “Replacing the Electrostatic Plate” on page 14.

11. Press the drawer button again to close the flatbed drawer. The top layer of the flatbed drawer is automatically drawn back into the scanner, leaving the bottom layer extended. Gently press the bottom layer of the flatbed drawer into the scanner.

Changing the Light Tubes

The Flextight Progression contains four light tubes. After many hours of use, one or more of these light tubes may require replacement.

- If your reflective scans are coming out black, then change the reflective tube as described in See “The Flatbed Reflective Tube” on page 34.
- If your drum scans are coming out black, then change the top transparency tube as described in See “The Drum Tube” on page 36.
- If your batch transparency scans are coming out black when you use the flatbed, then change the flatbed transparency tube as described in See “The Flatbed Transparency Tube” on page 36.
- If your light table stops working, then change the light table tube as described in See “The Light Table Tube” on page 33.

The scanner contains the following types of light tubes:

- Drum light: Osram FM 6w / 860
- Light table light: Osram FM 8w / 860
- Flatbed transmission light: Osram FM 11w / 860
- Flatbed reflective light: Osram FM 11w / 860

Contact your Imacon dealer for replacements and be sure to specify which type of tube you wish to order.

The Light Table Tube

1. Unplug the scanner from your wall socket.
2. Swing down the lower-front panel by grabbing the opening for the flatbed working light (shown in Figure 2) and pulling forward.
3. The light table tube is located directly behind the panel indicated in Figure 9. It is held in place by two sockets—one at each end of the tube. Grab this tube by each end and gently pull it out of its sockets.

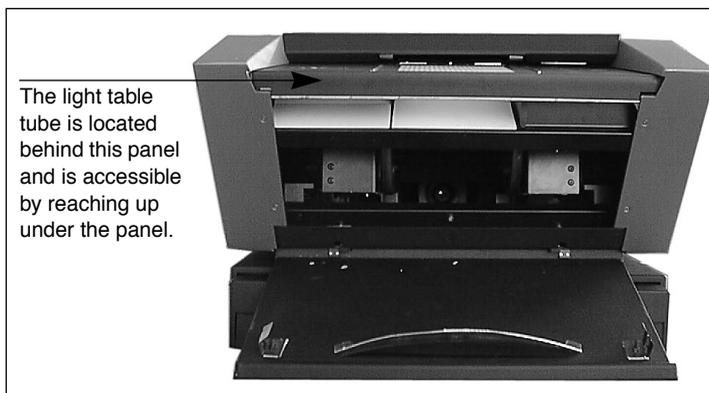


Figure 9: Location of the light table tube

4. Mount a new tube into the sockets inside the scanner. Press the new tube into the sockets by applying pressure at each end of the tube, never at the middle.
5. Close the lower-front panel.

The Flatbed Reflective Tube

1. Unplug the scanner from your wall socket.
2. Swing down the lower-front panel by grabbing the opening for the flatbed working light (shown in Figure 2) and pulling forward.
3. Get a 2.0mm allen key and remove the four allen screws that secure the front sides of the side panels, as shown in Figure 10.



Figure 10: Front screws for securing the side plates.

4. At the back of the scanner, remove the four allen screws that secure the back sides of the side panels. This will free the side panels from the scanner. Set the screws and panels aside.



Figure 11: Back screws for securing the side plates.

5. Remove the three allen screws indicated in Figure 12. This will release the reflector panel. Remove the reflector panel. Be careful not to scratch or leave fingerprints on the reflector.

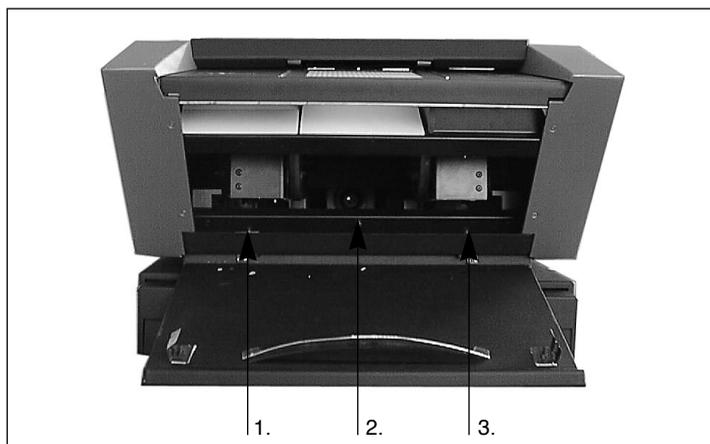


Figure 12: Front screws for securing the reflector panel.

6. You should now be able to see a long thin light tube, which is located behind the reflector panel. It is held in place by two sockets—one at each end of the tube. Grab this tube by each end and pull it forward out of its sockets.
7. Mount a new tube into the sockets inside the scanner. Press the new tube into the sockets by applying pressure at each end of the tube, never at the middle.
8. Inspect the reflector for fingerprints and/or dust. Clean it if necessary.
9. Replace the reflector panel and its three securing screws.
10. Replace the side panels and their eight securing screws.
11. Close the lower-front panel.

The Drum Tube

1. Unplug the scanner from your wall socket.
2. Open the top panel by grabbing it right above the light table (shown in Figure 1) and lifting upwards. It will rotate around the top rear corner of the scanner.
3. Pull the entire top panel up and away from the top rear corner and set it aside.
4. Swing down the lower-front panel by grabbing the opening for the flatbed working light (shown in Figure 2) and pulling forward.
5. Look down through the top of the scanner. You will see the drum rollers and a long thin light tube. Place your hands through the area normally covered by the lower-front panel and grab each side of the light tube.
6. Pull the light tube out of its sockets, then feed it out through the drum wheels and away from the scanner.
7. Mount a new tube into the sockets inside the scanner. Press the new tube into the sockets by applying pressure at each end of the tube, never at the middle.
8. Swing up the lower-front panel to close it.
9. Lay the top cover down over the scanner. Pull it forward and press it into place just above the light table.

The Flatbed Transparency Tube

1. Position the scanner so that when you open the drawer, you can reach under it (for example, at the edge of a desk). Make sure that the scanner will not fall off the edge.
2. Pull out the flatbed support as far as it will go by pulling on the drawer support handle shown in Figure 2.
3. Press the drawer button (shown in Figure 1). The flatbed drawer begins to slide out. Press the drawer button again when the drawer

- is about halfway out. This will stop the drawer in the halfway position.
4. Push the flatbed support halfway back into the scanner so that it is lined up with the flatbed drawer.
 5. Unplug the scanner from your wall socket.
 6. Look up into the flatbed drawer from the bottom of the scanner. You should be able to see a long thin light tube located just inside the scanner.
 7. Grab each side of the light tube and pull it out of its sockets.
 8. Mount a new tube into the sockets inside the scanner. Press the new tube into the sockets by applying pressure at each end of the tube, never at the middle.
 9. Plug in and turn on the scanner.
 10. Pull out the drawer support as far as it will go again.
 11. Press the drawer button again. The top layer of the flatbed drawer is automatically drawn back into the scanner, leaving the bottom layer extended. If you are not going to use the flatbed right away, gently press the bottom layer of the flatbed drawer into the scanner. Otherwise, press the drawer button to open the flatbed again.

Preparing the Scanner for Transport

The glass plates in the flatbed are extremely fragile. To prevent them from breaking in transit, you must always replace the original packaging material before transporting or shipping scanner.

Also, the optics are better protected when they are in the drum-scanning position. You must also make sure that the internal lens is returned to drum-scanning mode before transporting the scanner.

To prepare the scanner for transportation:

1. If the scanner is already turned on, then turn it off and then back on again. This will cause the optics to be repositioned into the drum-scanning position if they are not there already. This position is

- more secure for shipping. Your scanner should now be turned on, but it does not necessarily need to be connected to a computer.
2. If necessary, remove the electrostatic plate as described in “Removing the Electrostatic Plate” on page 13.
 3. Locate the sheet of bubble plastic that came sandwiched between the two glass plates when you first unpacked the scanner. Mount the plastic between the glass plates as described in “Scanning Batches and Thick Reflectives with the Flatbed” on page 19.
 4. Replace the electrostatic plate as described in “Replacing the Electrostatic Plate” on page 14.
 5. Press the drawer button (shown in Figure 1). The flatbed drawer is drawn back into the scanner.
 6. Locate the cardboard drawer-securing plate that came with the scanner. It is shown in Figure 13.
 7. As shown in Figure 13, insert the tab of the cardboard drawer-securing plate into the handle and press the top part between the flatbed and the scanner. The space between the flatbed and the scanner is very narrow and makes a tight fit with the cardboard. You may need to press down slightly on the flatbed in order to fit the cardboard in.
 8. Press the drawer support all the way into the scanner so that it is flush with the flatbed.

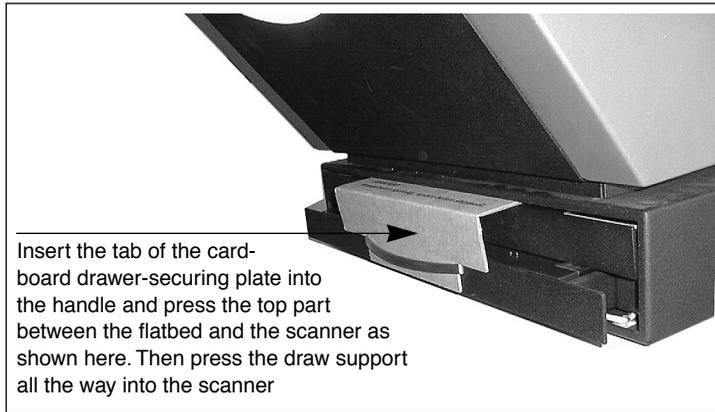


Figure 13: Positioning the cardboard draw-securing plate.

9. Turn off the scanner and pack it in its original box if possible.

Disposal

If you need to dispose of the scanner, it must be delivered to the local waste plant.

Technical Specifications

Power Consumption

Max. 70W during operation

Power Requirements

100-240V AC, 1.3A, 50-60Hz

Earth connection necessary

Interface to Computer

SCSI-2 (ANSI X3.131)

Front Panel

Power on/off/cancel button

Drawer out/cancel button

Status indicator LED's

Noise Generation

≤ 60 dB @ 1m when focusing

≤ 60 dB @ 1m when scanning

Drum Force

< 1kg (2.2lbs)

Operating Environment

Temperature: 10°C-35°C (50°F-95°F)

Humidity: 20%-80%RH (no condensation).

Storage Environment

Temperature: 0°C-50°C (32°F-122°F)

Relative humidity: 20%-80%RH (no condensation)

Drum scanner Formats

Transparencies: from 35mm to 4x5 inches, ≤1mm thick

Flatbed Formats

- Electrostatic holder for one or more reflectives with total area up to 314 x 460 mm (A3), ≤1mm thick
- Glass plates for multiple transparencies with total area up to 314 x 460 mm (A3), ≤10 mm thick
- Glass plates for one or more reflectives with total area up to 314 x 460 mm (A3), ≤10 mm thick

Lamp types

Drum: Osram FM 6w/860

Light table: Osram FM 8w/860

Flatbed reflective: Osram FM 11w/860

Flatbed transmission: Osram FM 11w/860

Fuse

T2.5A

Dimensions

Height: 360 mm(14")

Width: 500 mm(20")

Depth, flatbed closed: 790 mm(31")

Depth, flatbed open: 1205 mm(48")

Weight

43.3 kg (20 lbs.)

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