

1. PURE CUT MODE/STANDART CUT MODE

MONOPOLAR OPERATING MODE

Section 5

5.1 PURE CUT MODE

This operating mode is the most popular for incising or excising tissue when the objective is to produce the least amount of tissue necrosis on either side of the incision wall or to obtain a vital sample for biopsy. The amount of remaining necrosis will depend also upon the speed or deliberate motion through the tissue. The current mode is referred to as PURE CUT due to the fact it is pure unmodulated carrier frequency - fully rectified and filtered. The illustration and waveform demonstrate this action.

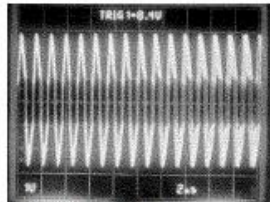


Figure 5.1-1

PURE CUT MODE
Unmodulated - 100% Duty Cycle
Operating Frequency 1MHz

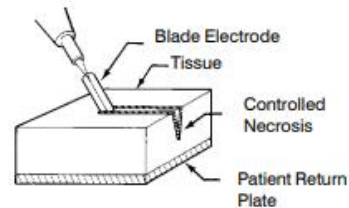


Figure 5.1-2

2. Blend mode /Dry mode

5.2 VARIABLE BLEND MODES

This operating mode is typically used when the subject tissue is fibrous or when an increased amount of lateral wall necrosis, shrinkage, or dehydration is desired. This is achieved by modulating the operating frequency or varying the duty cycle. The best example of this current is displayed in the output waveforms below, along with its effect on tissue as illustrated here. The physician can actually feel an increase in CUT vibration as the settings are selected from BLEND 1 to BLEND 2 and to BLEND 3. Duty cycles shown here are typical.

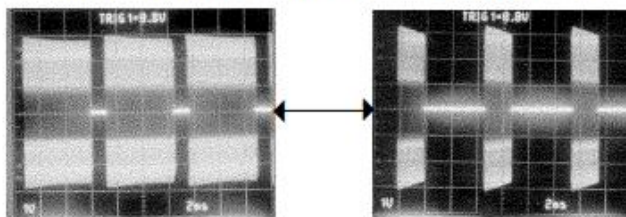


Figure 5.2-1

BLEND 1
Duty Cycle = 85%

BLEND 3
Duty Cycle = 25%

BLEND 2 - Not Shown
Duty Cycle = 50%

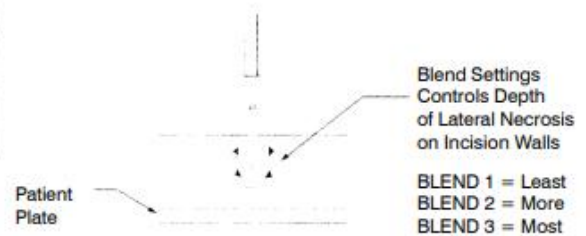


Figure 5.2-2

3. Coagulare Soft Mode

describe this simulated COAG current is *Hard Spray*. COAG current with a high *Crest Factor* is referred to as *Soft Spray*.

Higher quality *ESUs* employ separate transformers; one to offer Low Impedance CUTTING current modes, including three BLEND modes; and the other, to offer high *Crest Factor*, true inductively discharged damped wave *Ring Frequency* envelopes. The latter uses a low (μ) magnetic core. This minimizes tissue damage during COAG modes. The difference between Low *Crest Factor* /*Hard Spray* and High *Crest Factor* /*Soft Spray* is best illustrated as follows: