

?

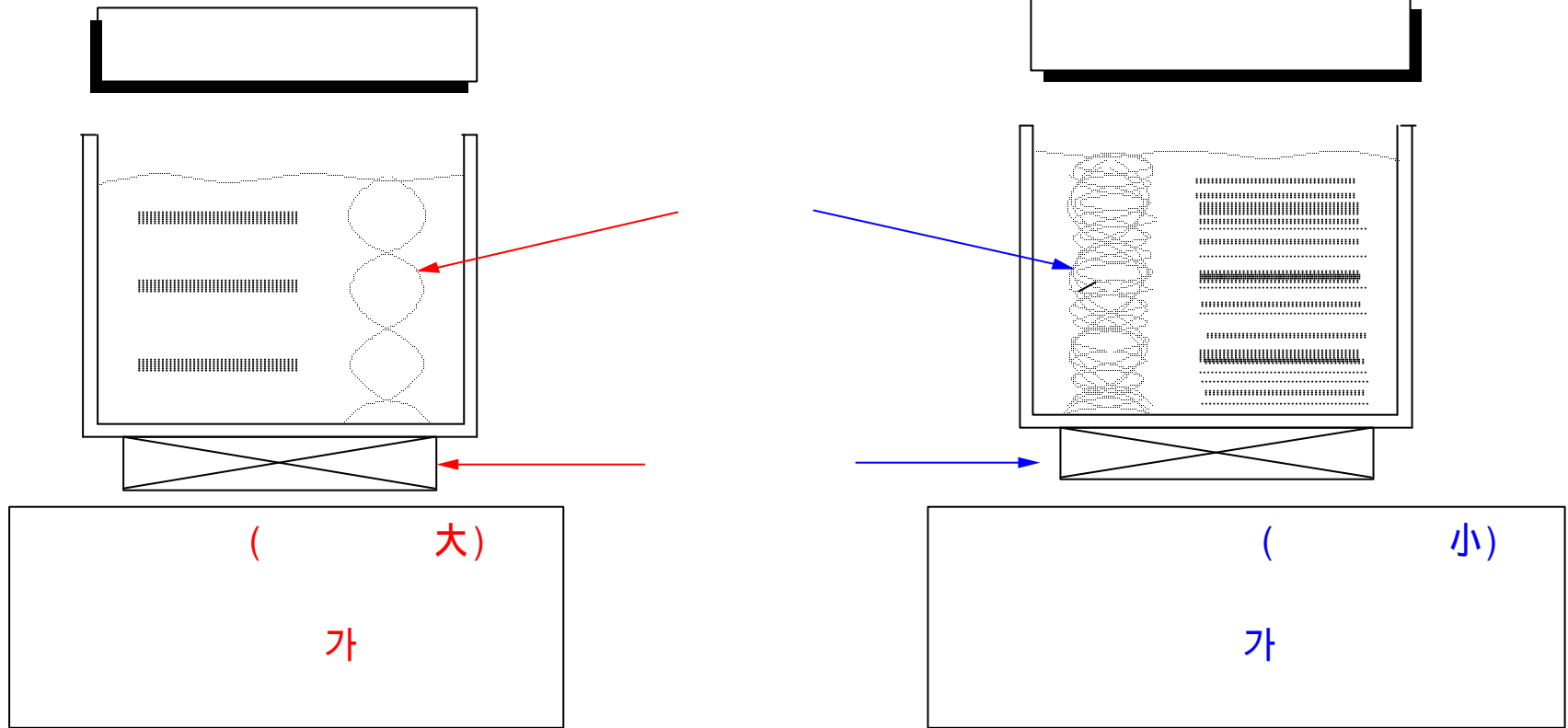
4.1

| | (KHz) | |
|--|-----------|------------------------------|
| | 20 ~ 90 | , |
| | 100 ~ 400 | damage가 (LCD, Wafer) |
| | 1MHz | Submicron (Wafer, LCD, PDP) |

| | 28KHz | 40KHz | (40 ~ 90KHz) | (1MHz) |
|-----|-------|-------|--------------|---------|
| | | | | 가 |
| 가 | 1500G | 2500G | 2500 ~ 5000G | 100000G |
| () | | | | |
| 가 | 3 μm | 2 μm | 1.5 μm | 0.1 μm |

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4.2



Overflow

?

4.3

가?

가 가

(DEAD ZONE)

가

가

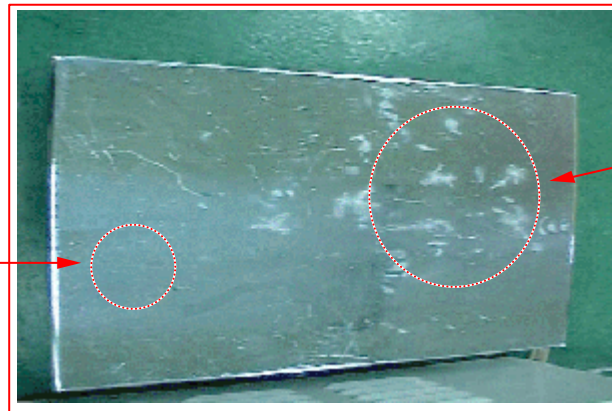
(erosion :)

(erosion :)

-
-

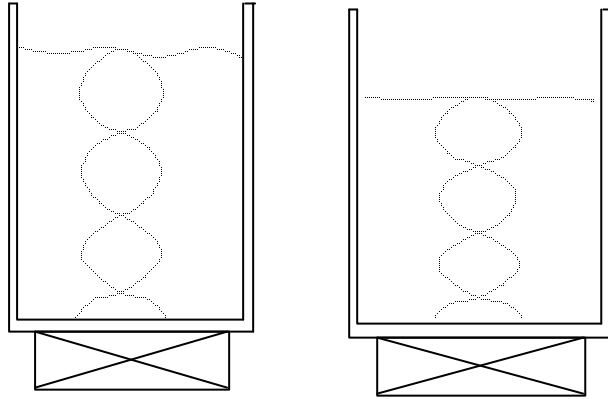
, Particle Short .

.....

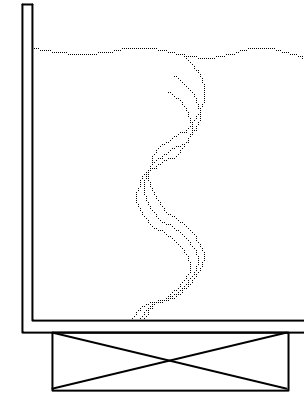


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4.4 Techniques



Auto Tuning



Sweep

1. Auto - tuning

-
-
-

2. Sweep

-

1 ~ 3Hz

가

- Impact

?

4.5

가?

2

40~90KHz

Horn

40KHz

Horn

28KHz

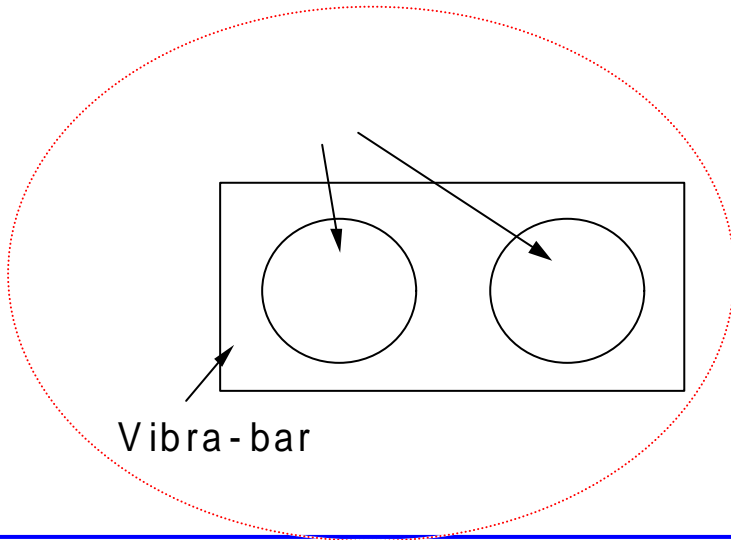
40KHz

가

가

가

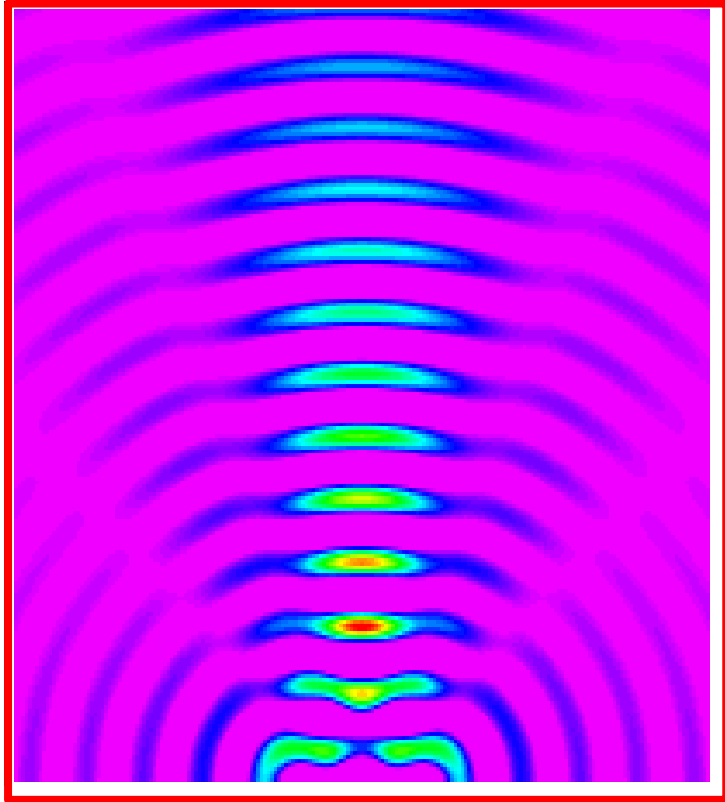
가



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4.6

?



Overflow

Cavitation 가

Tray

가