

INTERNATIONAL CAVITATION EROSION TEST

Test Rig Identification Card

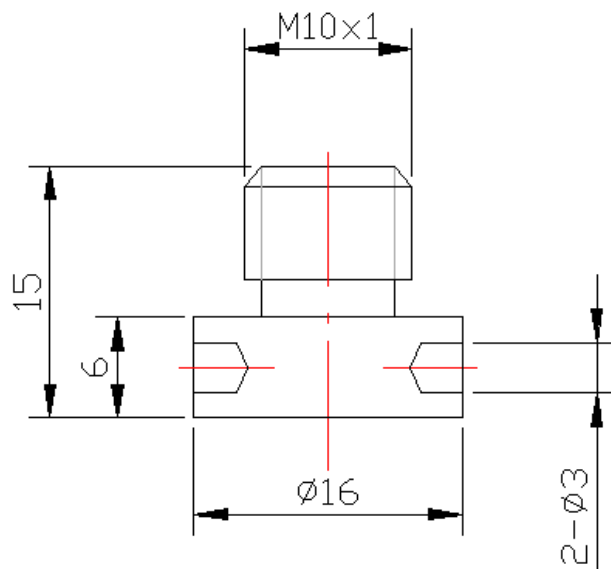
Facility: vibratory rig

Principle of vibration generation:

magnetostriction /~~piezoelectricity~~/

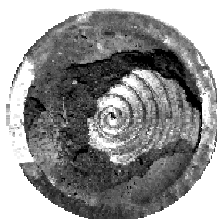
Laboratory: **Prof. M.MATSUMURA**, DEPARTMENT OF CHEMICAL ENGINEERING,
FACULTY OF ENGINEERING, HIROSHIMA UNIVERSITY, JAPAN

1. Sketch of the sample (counter-sample)
with dimensions and showing mounting method



2. Basic operational data

input power:	100	W
oscillation frequency:	19.9	kHz
oscillation amplitude(p-p):	24	µm
standard temperature:	40	°C
open/pressurised vessel		
sample submergence depth (open vessel):	3.0	mm
mean liquid pressure at the specimen surface		
(pressurised vessel:	1013	hPa
vessel diameter: 60 mm	height:	100 mm
sample area subjected to damage:	201	mm ²
other data:		
.....		
designer/manufacturer: <i>ASTM/CHO-ONPA KOGYO</i>		



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Laboratory Results Summarisation

Laboratory: **Prof. M.MATSUMURA**
DEPARTMENT OF CHEMICAL ENGINEERING
HIROSHIMA, Japan

Facility: **VIBRATORY RIG (stationary specimen)**

oscillation frequency: 19.9 kHz *sample submergence:* 3.0 mm
amplitude: 24.0 μm *impinged area:* 201.0 mm^2
working liquid: distilled water, temperature 40°C

<i>material</i>	<i>Test duration</i>	<i>Volume loss</i>	<i>Eroded area</i>	<i>Mean&Max Depth of Penetration</i>		<i>Incubation period</i>		<i>MDPR</i>	
	min	mm^3	mm^2	μm	μm	$\tau_{0.2}$ min	τ_{inc} min	<i>max</i> $\mu\text{m}/\text{min}$	<i>ultimate</i>
PA2	120	16.17	163.0	99.2	431.0	0.4	1.5	1.53	-
M63	360	19.56	163.0	120.0	353.0	11	25	0.049	-
E04	360	18.08	163.0	110.0	373.0	12	56	0.489	0.2
45	360	4.04	163.0	24.8	-	37	80	0.089	-
1H18N9T	360	0.30	163.0	1.8	-	120	800	0.039	-
45	1140	14.33	163.0	87.9	262.0	37	100	0.102	-
1H18N9T	2100	7.25	163.0	44.5	46.0	120	800	0.037	-

