INTERNATIONAL CAVITATION EROSION TEST
Test Rig Identification Card

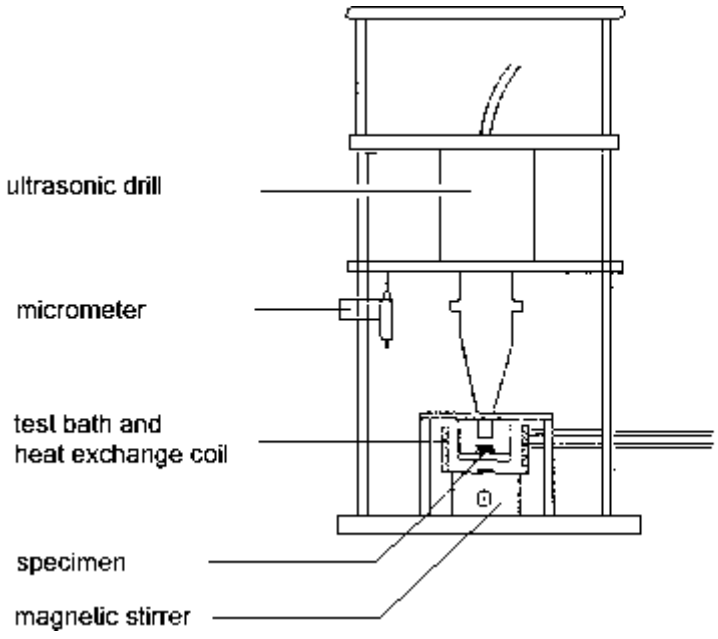
Facility: vibratory rig

Principle of vibration generation:

~~magnetostriction~~ /piezoelectricity/

Laboratory: Department of Materials Engineering, University of Cape Town
Rondebosch 7700, South Africa

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



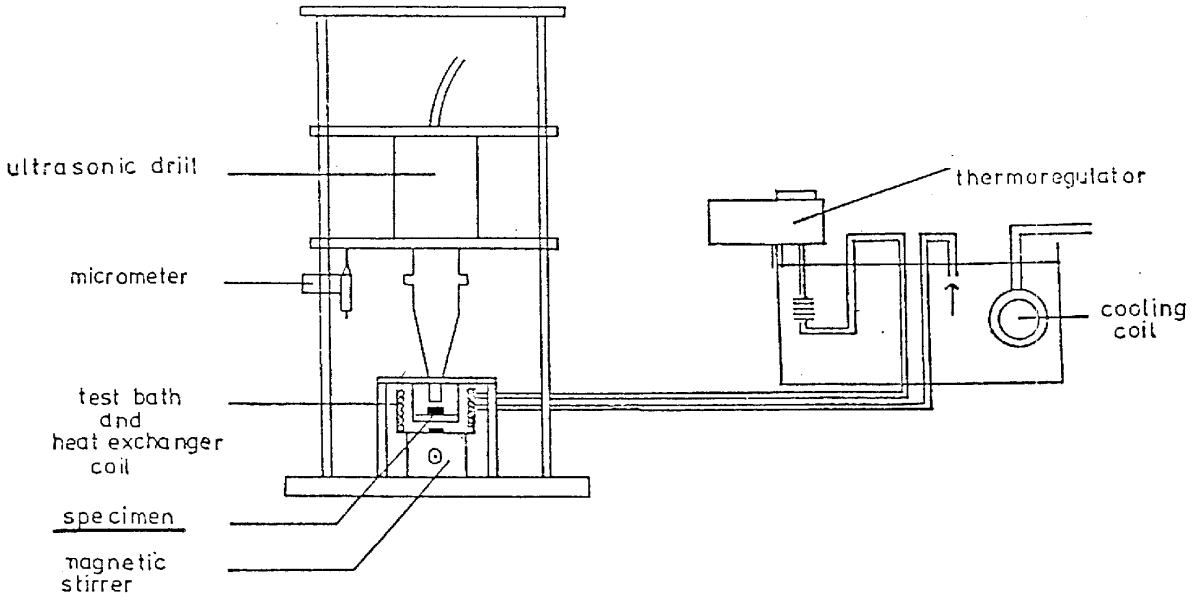
2. Basic operational data

input power:	500	W
oscillation frequency:	20 ±5%	kHz
oscillation amplitude(p-p):	60	µm
standard temperature:	25	˚C
open/~~pressurised~~ vessel		
sample submergence depth (open vessel):	25	mm
vessel diameter: ..... 125 mm height:	70	mm
sample area subjected to damage:	78.5	mm^2

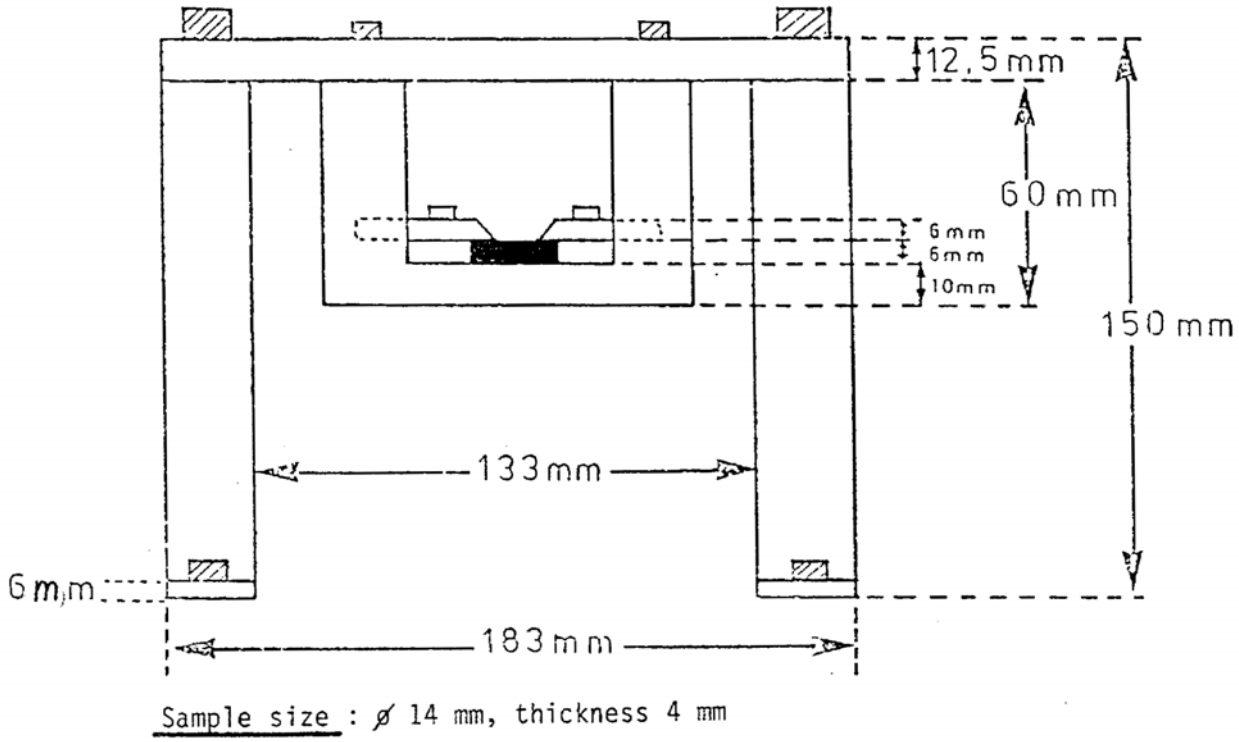
other data: .....

.....

designer/manufacturer: *KLN Ultraschallgenerator System 587*

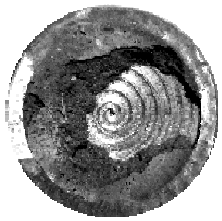


The Vibratory Cavitation Erosion Test Apparatus



Sample size : ø 14 mm, thickness 4 mm

The Specimen Mounting Rig (Elevation)



INTERNATIONAL CAVITATION EROSION TEST

Laboratory Results Summarisation

Laboratory: **UNIVERSITY OF CAPE TOWN**
DEPARTMENT OF MATERIALS ENGINEERING
RONDEBOSCH, South Africa

Facility: VIBRATORY RIG (stationary specimen)

oscillation frequency: 20.0 kHz *tip/sample distance:* 1.5 mm
amplitude: 60 µm *impinged area:* :< 154 mm^2

working liquid: distilled water, pH 5.8 O 6.3, 30˚C

material	*Test duration*	*Volume loss*	*Eroded area*	*Mean&Max Depth of Penetration*		*Incubation period*		*MDPR*	
						$\tau_{0.2}$	τ_{inc}	*max*	*ultimate*
	min	mm^3	mm^2	µm	µm	min	min	µm/min	
PA2	**360**	**89.31**	**91.60**	**975**	**2098**	**0.3**	**8**	**5.50**	**-**
M63	**360**	**14.44**	**77.65**	**186**	**640**	**13**	**38**	**0.64**	**0.64**
E04	**360**	**10.82**	**70.25**	**154**	**435**	**32**	**85**	**0.56**	**0.56**
45	**360**	**3.94**	**69.32**	**47**	**118**	**24**	**85**	**0.17**	**0.17**
1H18N9T	**360**	**3.94**	**71.56**	**55**	**173**	**13**	**72**	**0.19**	**0.19**
tarnamide	360	2.23	71.87	31	-	6	0	0.21	-
tarnamide	**1320**	**6.32**	**71.87**	**88**	**43**	**6**	**0**	**0.21**	**-**

Comment
Maximum depth of erosion has been measured from a cross-section through the center of a specimen.

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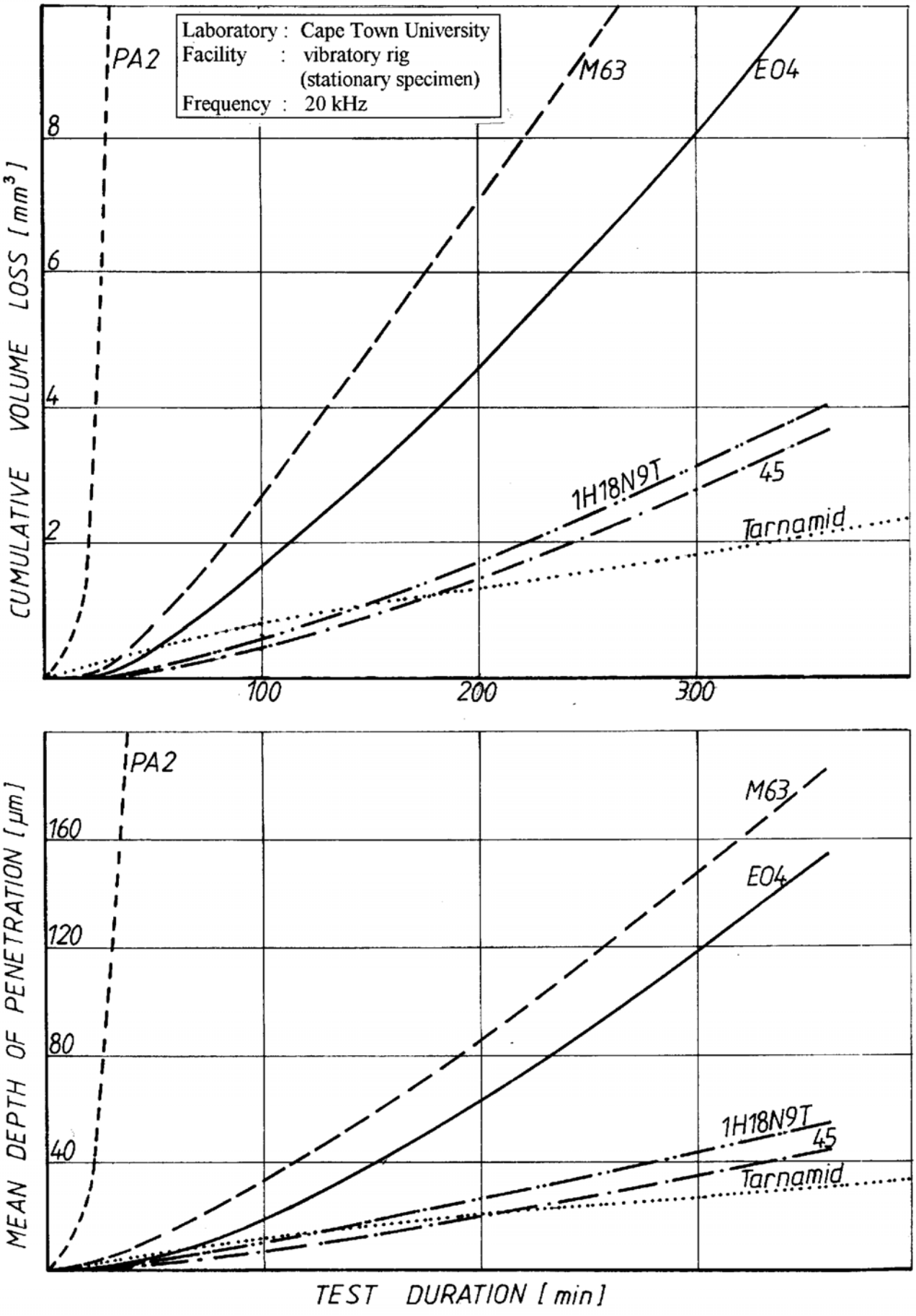
Laboratory : Cape Town University
Facility : vibratory rig
(stationary specimen)
Frequency : 20 kHz
PA2
M63
E04
1H18N9T
45
Tarnamid
CUMULATIVE VOLUME LOSS [mm³]
8
6
4
2
100
200
300
MEAN DEPTH OF PENETRATION [µm]
160
120
80
40
TEST DURATION [min]