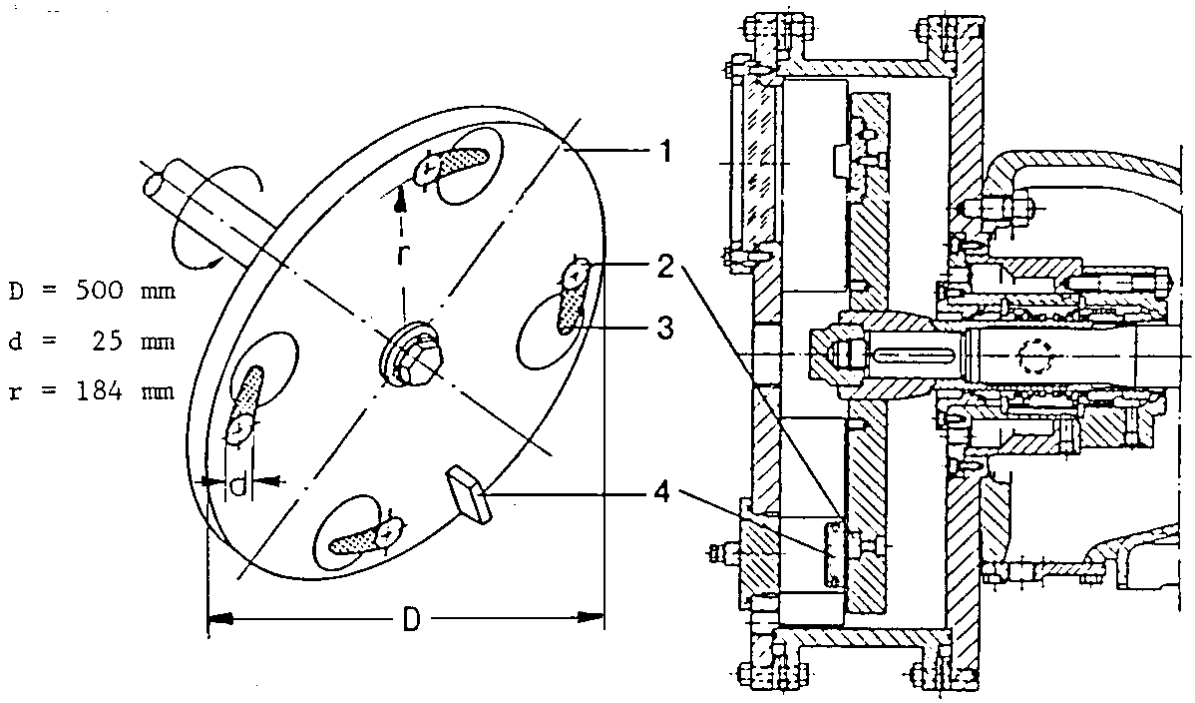
INTERNATIONAL CAVITATION EROSION TEST
Test Rig Identification Card

Facility: rotating disk

Laboratory: **KSB Aktiengesellschaft**, Frankenthal, Germany

1. Sketch of the disk with cavitators and specimens as well as basic dimensions (disk diameter; mounting radius and size of cavitators and specimens)



Cavitating disk device for pump specific cavitation tests:
1 – rotating disk, 2 – cavitation generating holes, 3 – cavitating wakes, 4 – still specimens
(see attachment)

2. Basic design and operational parameters

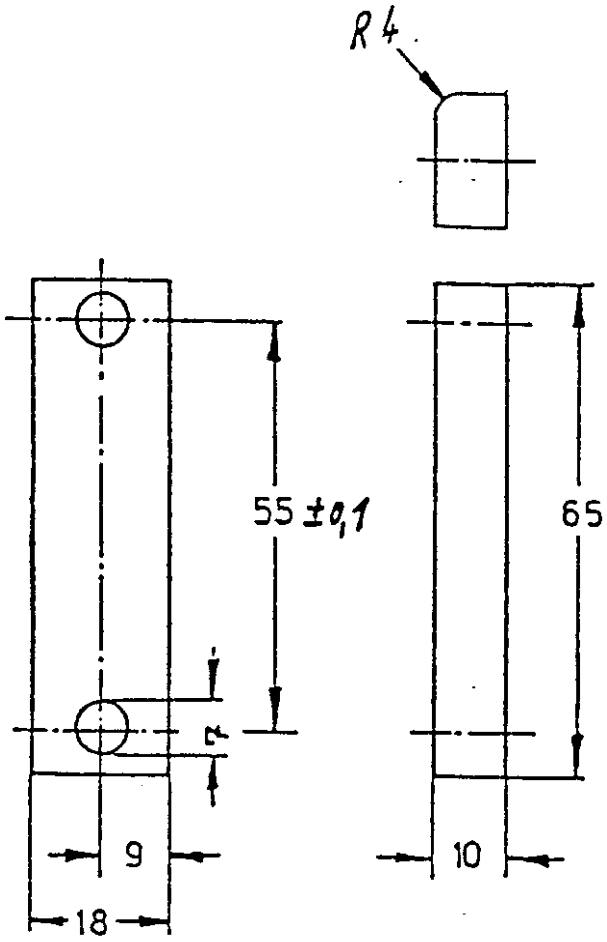
main motor power:	28	kW
rotation speed:	1500	rpm
peripheral speed of a cavitator/~~specimen~~	29.4	m/s
standard temperature:	40	°C
specimen area subjected to damage:	195	mm^2
gap between the disk and stagnator vanes	4.2	mm

other data .....

.....

designer/manufacturer: KSB design

Attachment



still specimens

INTERNATIONAL CAVITATION EROSION TEST

Laboratory Results Summarisation

Laboratory: **KSB Aktiengesellschaft**
FRANKENTHAL, Germany

Facility: ROTATING DISK

rotational speed : 1537 r.p.m
cavitator velocity: 29.6 m/s
mean pressure : 464 hPa

specimen area subjected to damage: 200.0 mm

working liquid: tap water, pH = 7.2, oxygen content: 5.0÷5.2 ppm
temperature: 25 ^{0}C

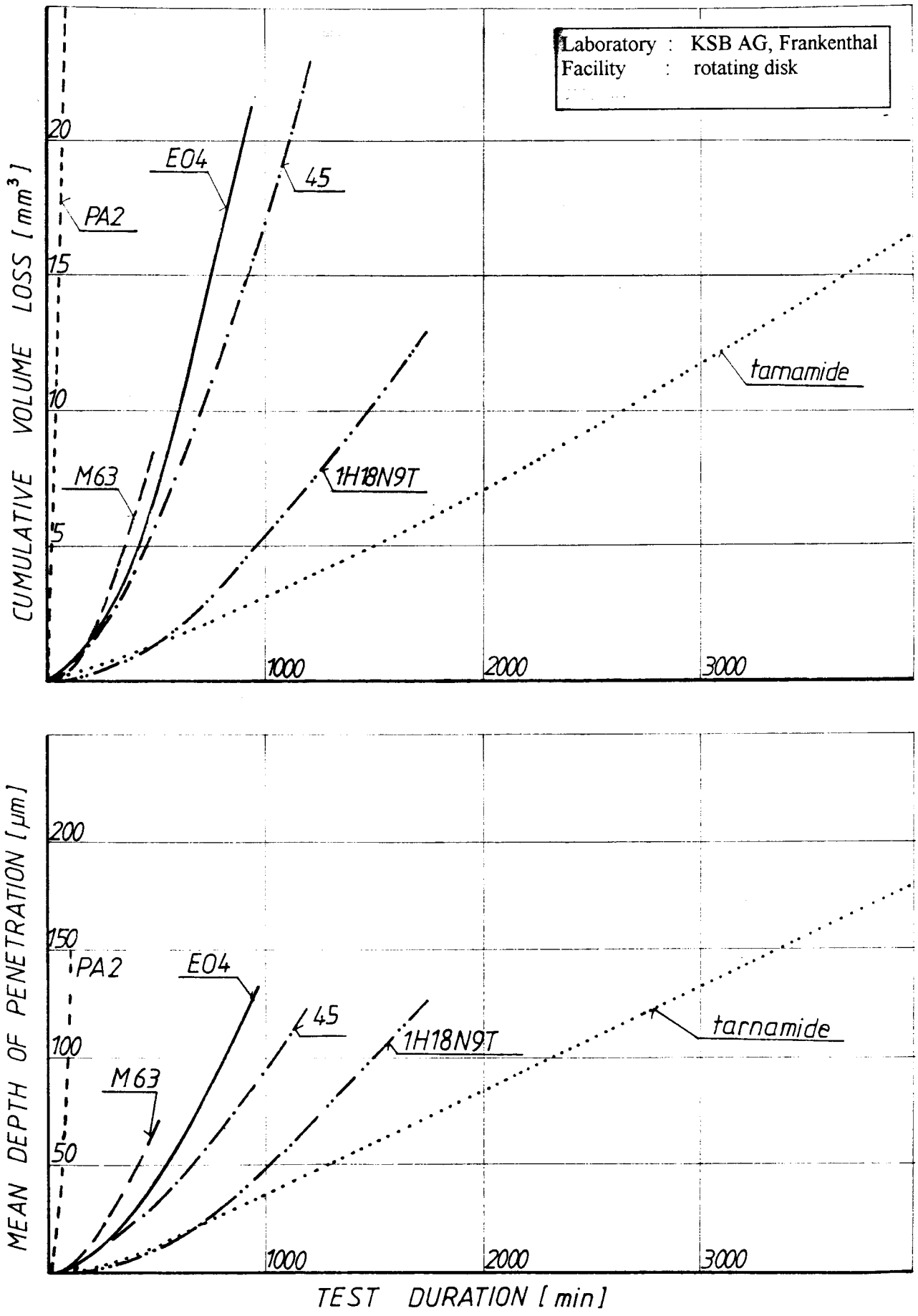
sulphate: 41 mg/dm , turbidity: 647 mg/dm

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	120	31.8	203.7	156	1305	30	1.85	1.24	
M63	480	8.9	130.1	68	323	> 180	> 0.225	-	
E04	960	22.0	167.8	131	643	> 325	> 0.194	-	
45	1200	23.4	187.4	125	275	> 510	> 0.185	-	
1H18N9T	1740	13.3	105.3	126	430	> 600	> 0.116	-	
tarnamide	6000	24.4	88.7	275	710	500	0.056	0.043	

Comment

Maximum depth of erosion measurements by means of an MMR4 form tester of Perthen-Mahr manufacture.

Eroded area assessment basing on the photographs submitted by the Contributor.


Laboratory : KSB AG, Frankenthal
Facility : rotating disk
CUMULATIVE VOLUME LOSS [mm³]
20
15
10
5
PA2
E04
45
M63
1H18N9T
tarnamide
1000
2000
3000
MEAN DEPTH OF PENETRATION [µm]
200
150
100
50
PA2
E04
45
M63
1H18N9T
tarnamide
1000
2000
3000
TEST DURATION [min]

RD 050