



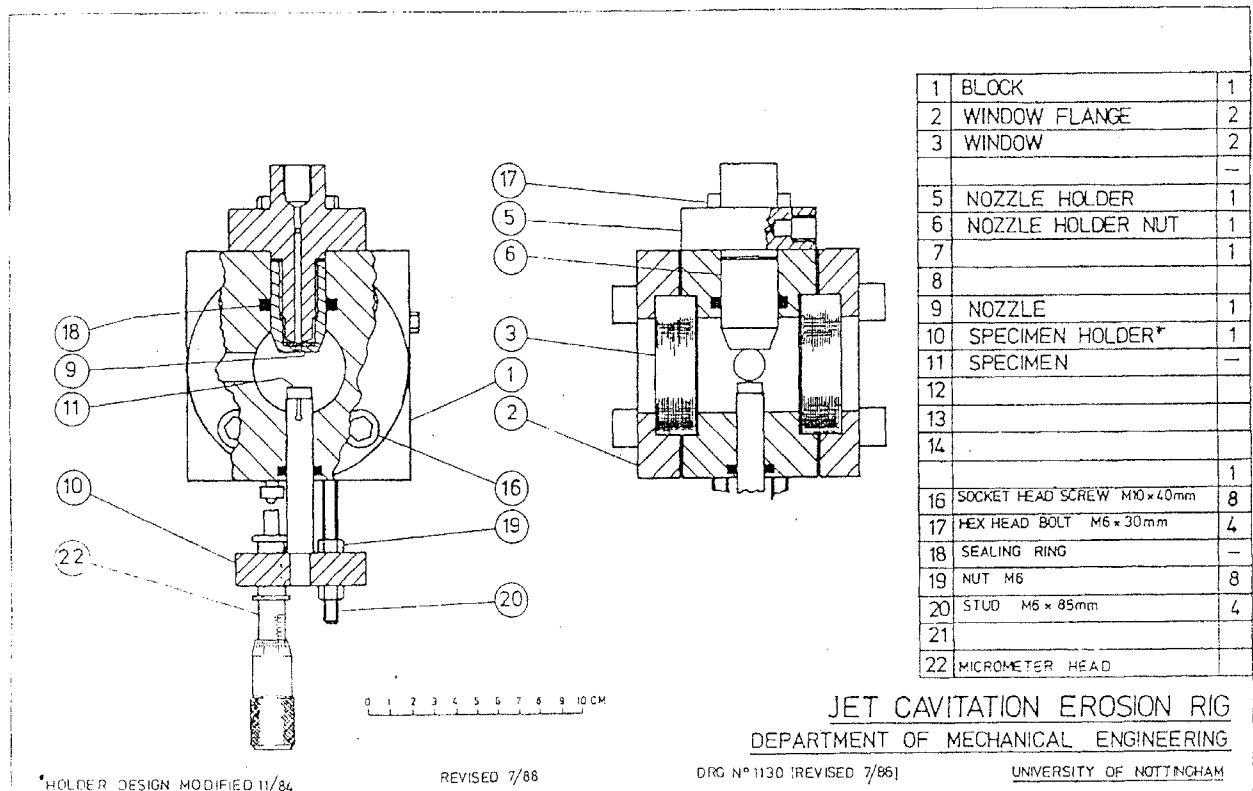
INTERNATIONAL CAVITATION EROSION TEST

Test Rig Identification Card

Facility: **Cavitating Jet**

Laboratory: **Universität Hannover, Institut für Werkstoffkunde**
Appelstraße 11A, 3000 Hannover 1, Germany

1. Sketch of the facility with specimen and basic dimensions



2. Basic operational data

nozzle diameter 0.4+0.015 mm
 nozzle length 1.0 mm
 test chamber size (diameter/width) dia 50 mm / length 50 mm
 specimen diameter 14.5 mm
 stand-off distance of the specimen 18.0 mm
 pump power 10.8 kW
 maximum pressure upstream the nozzle (pump pressure) 210 bar
 maximum and minimum pressure in the chamber:
 adjustable, adjustment range 8 ÷ 20 MPa
 designer: Dr Andrzej Lichtarowicz, University of Nottingham



INTERNATIONAL CAVITATION EROSION TEST

Laboratory Results Summarisation

Laboratory: **HANNOVER UNIVERSITY**
INSTITUTE OF MATERIALS SCIENCE
HANNOVER, Germany

Facility: **CAVITATING JET**

upstream pressure : 17.0 MPa stand-off distance: 18.0 mm
pressure in the chamber: 0.1 MPa specimen area subjected
nozzle diameter : 0.4 mm to damage: 165.1 mm²

working liquid: tap water, pH 8.0÷8.2, temperature: 24.5±0.5 °C,
oxygen: 4.5÷4.9 ppm

material	Test	Volume	Eroded	Mean&Max Depth		Incubation period		MDPR	
	duration	loss	area	of Penetration		$\tau_{0.2}$	τ_{inc}	max	ultimate
	min	mm ³	mm ²	μm	μm	min	min	μm/min	
PA2	180	22.317	165.1	132.17		2.5	6.6	1.24	0.64
M63	368	3.25	165.1	19.7		180	230	0.155	–
E04	617	10.73	165.1	64.9		36	160	0.053	–
45	3590	4.588	165.1	27.79		125	300	0.083	–
1H18N9T	1322	2.51	165.1	15.2		96.7	340	0.030	–
E04	600	4.10	165.1	24.8		36	160	0.053	–
45	600	3.585	165.1	21.7		125	300	0.083	–
1H18N9T	600	1.275	165.1	7.9		96.7	340	0.030	–
E04	1200		165.1	50.4		36	160	0.053	–

Comment

Eroded area has been assumed to cover whole the impinged surface.

