



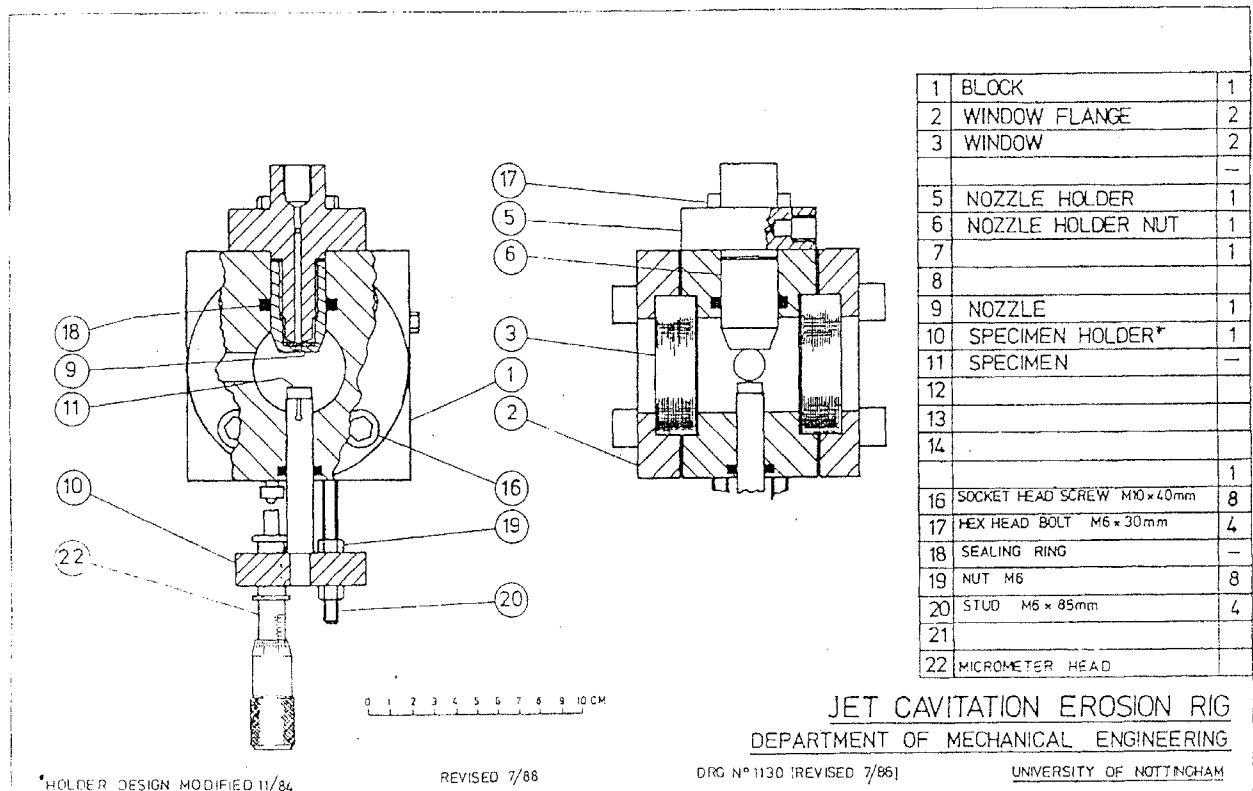
INTERNATIONAL CAVITATION EROSION TEST

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 : 19.0 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

<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> μm/min	<i>ultimate</i>
PA2	120	23.245	165.1	140.79		1.5	6	1.38	1.20
M63	180	3.523	165.1	21.3		17	51.3	0.165	0.165
E04	617	6.711	165.1	40.65		62	100	0.088	0.075
45	3590	9.138	165.1	55.35		95	265	0.145	0.143
1H18N9T	1322	5.884	165.1	35.64		83	156.7	0.031	0.031
PA2	120	23.245	165.1	140.79		1.5	6	1.38	1.20
M63	120	1.898	165.1	11.50		17	51.3	0.165	0.165
E04	600	6.520	165.1	39.49		62	100	0.088	0.075
45	600	8.25	165.1	49.9		95	265	0.145	0.143
1H18N9T	600	2.30	165.1	13.93		83	156.7	0.031	0.031
1H18N9T	1200	5.365	165.1	32.49		83	156.7	0.031	0.031

Comment

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

