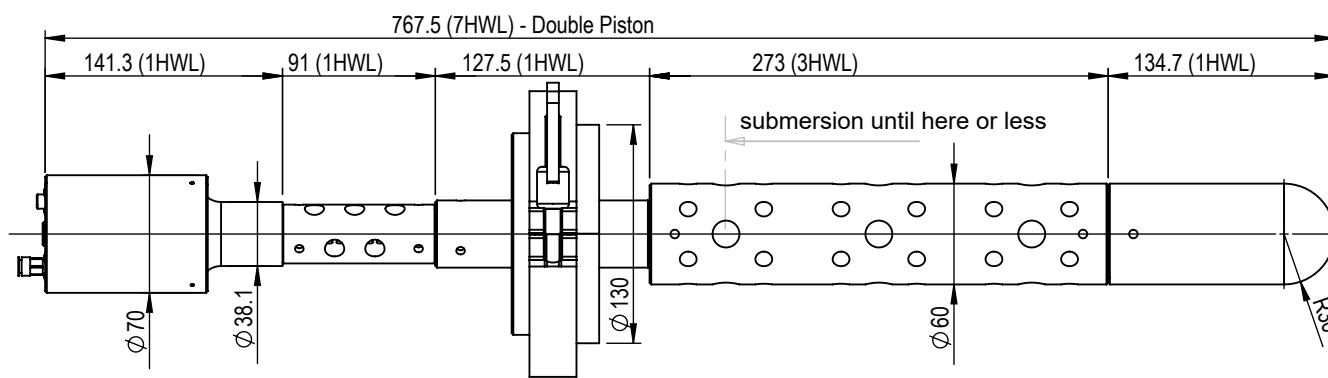
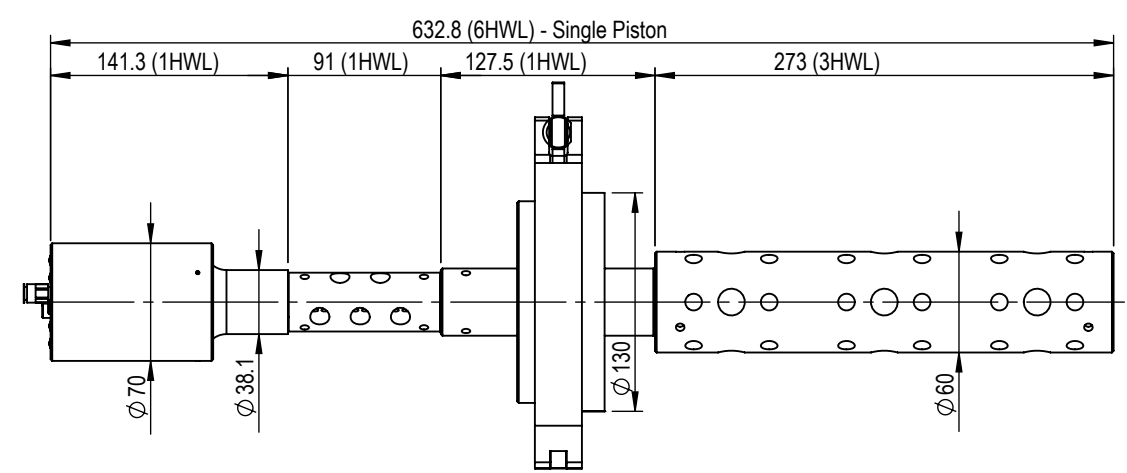
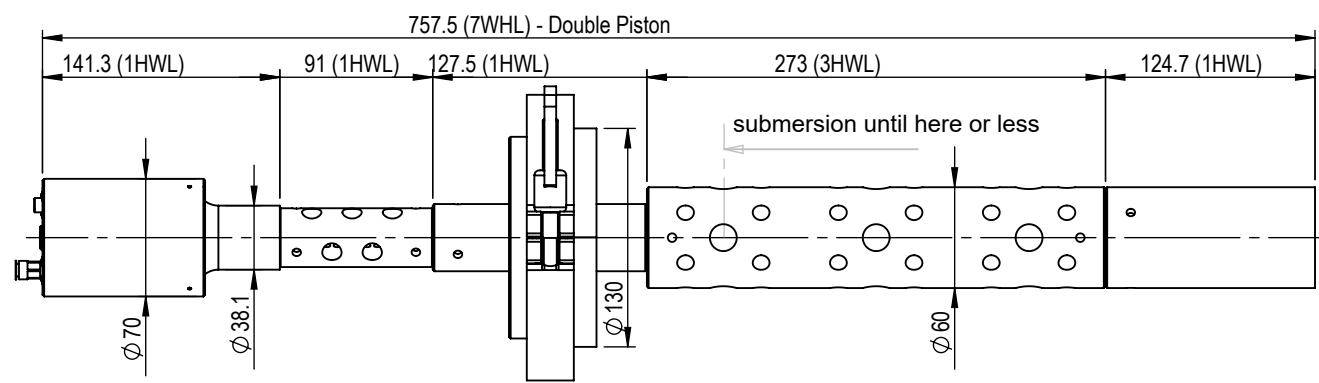
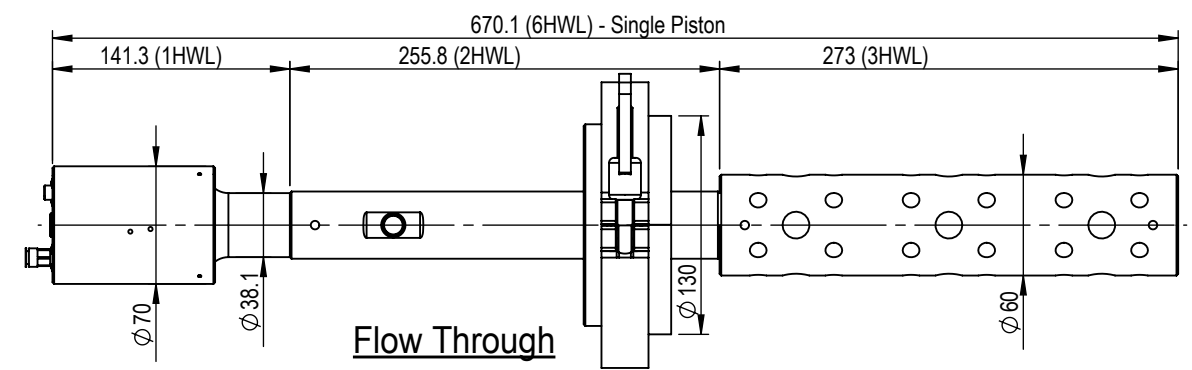
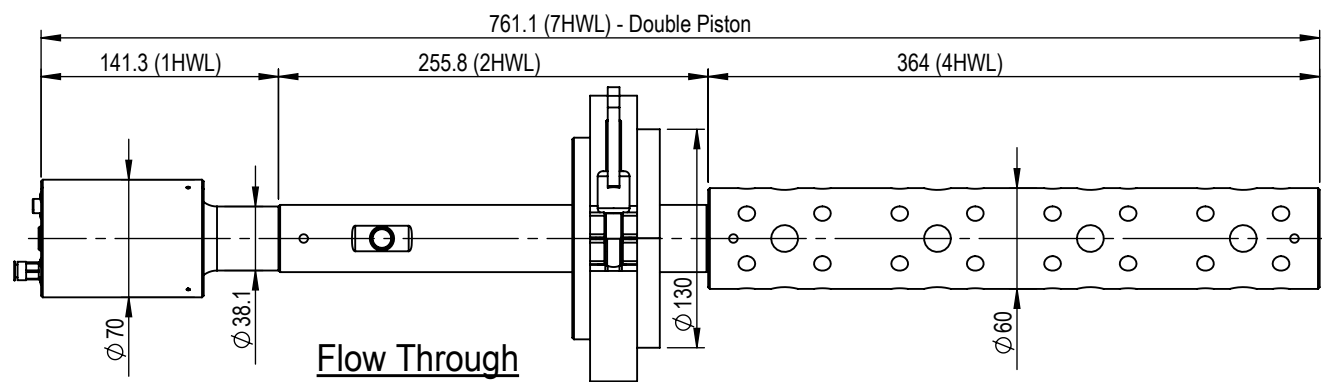
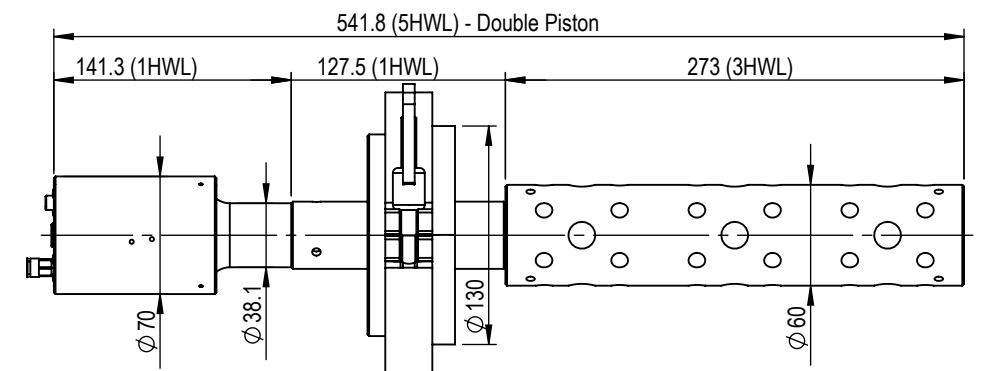
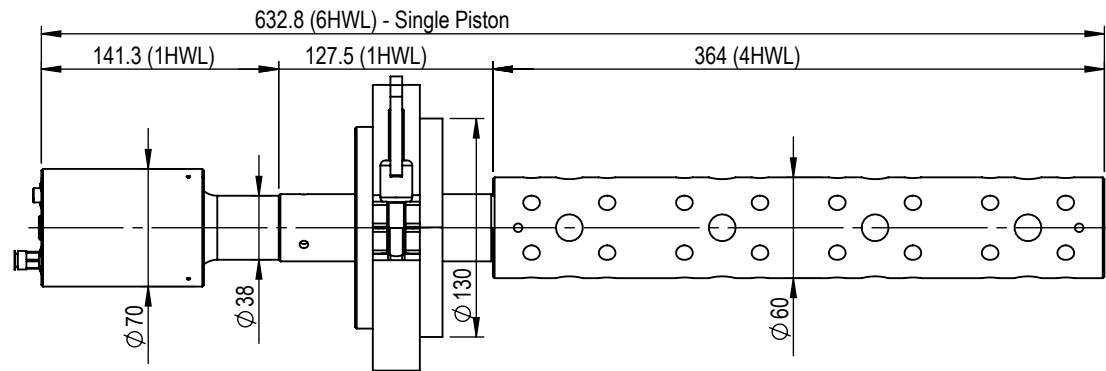
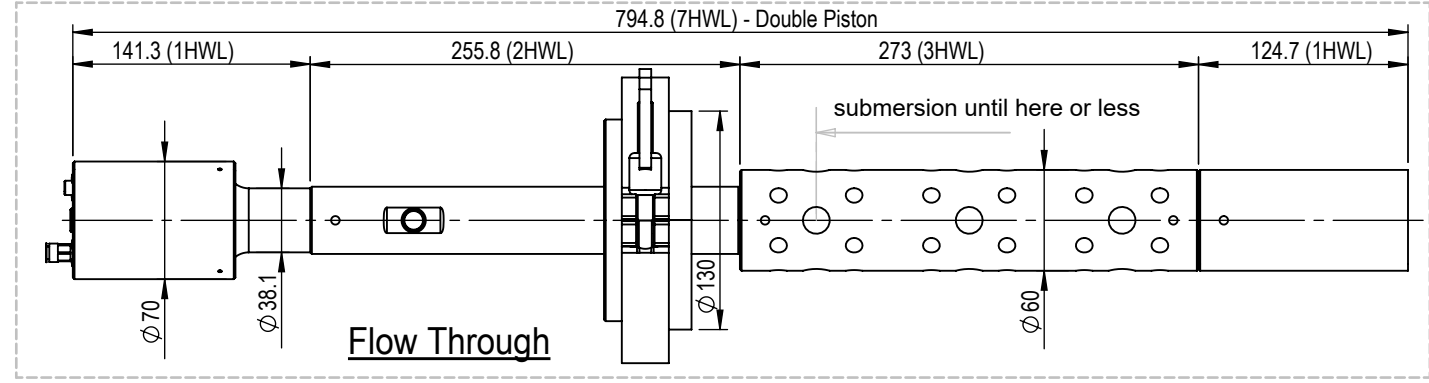
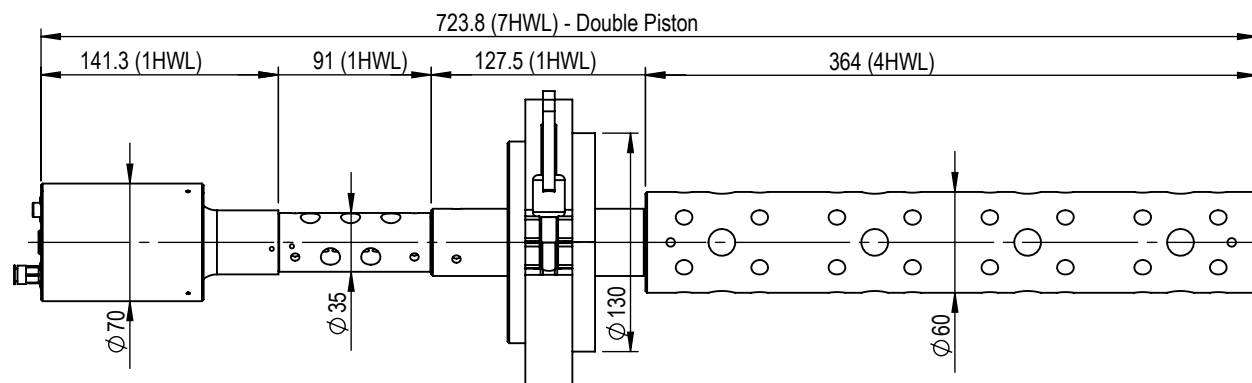


Experimental Results

Extractors - Sonoreactors

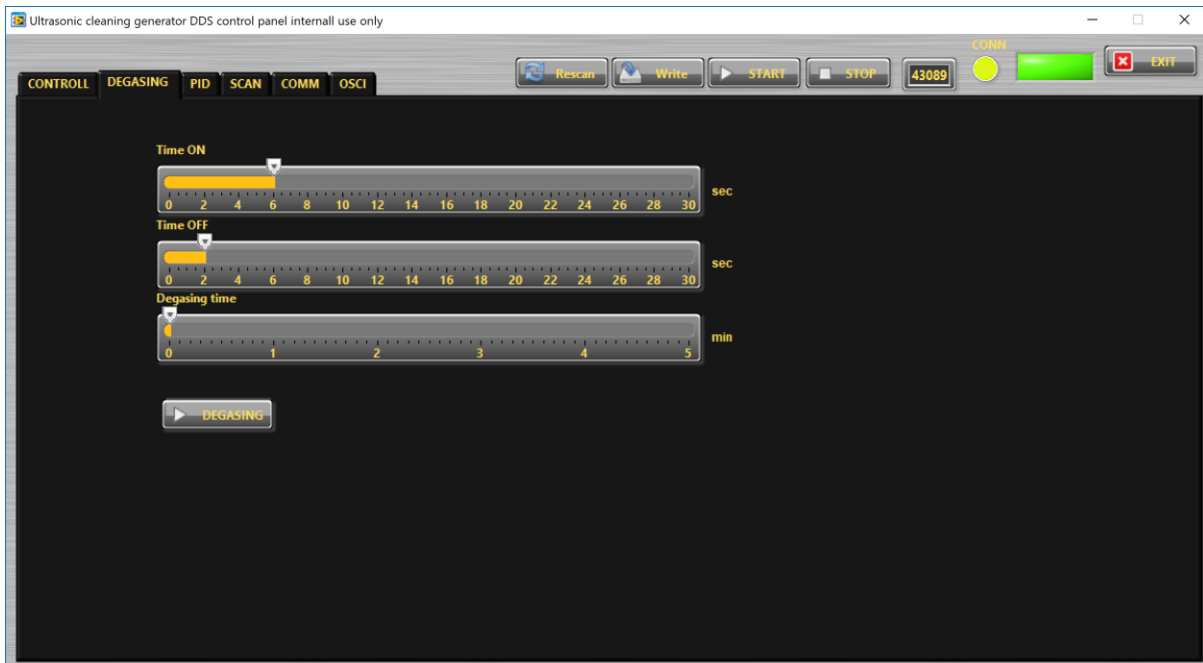
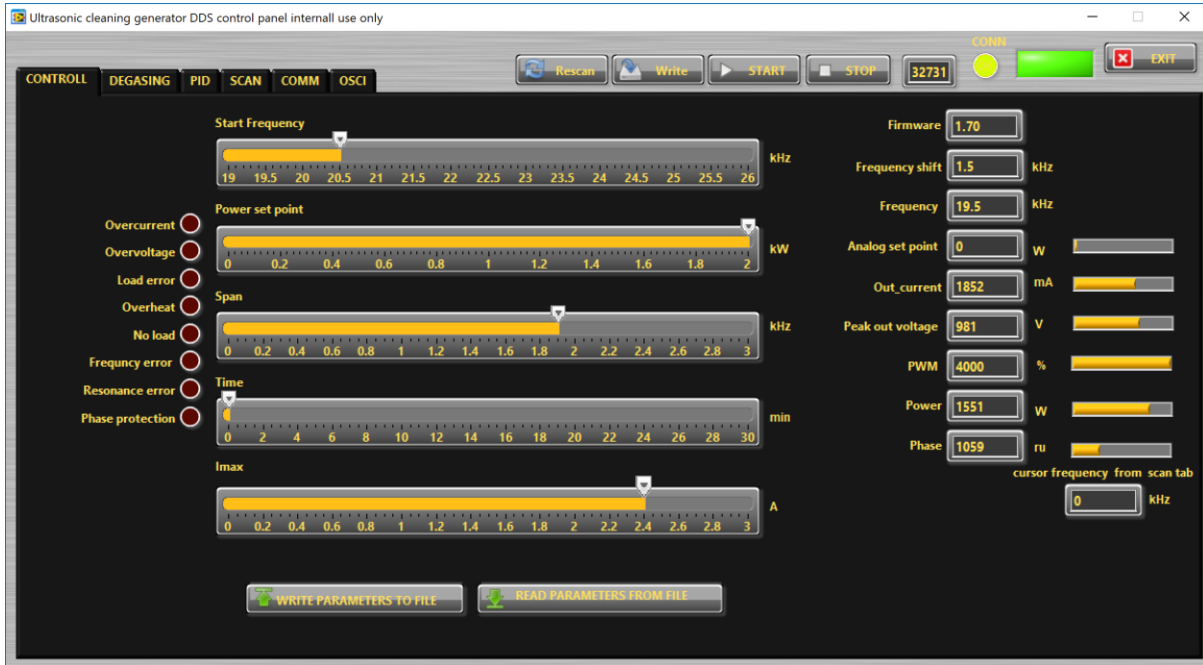
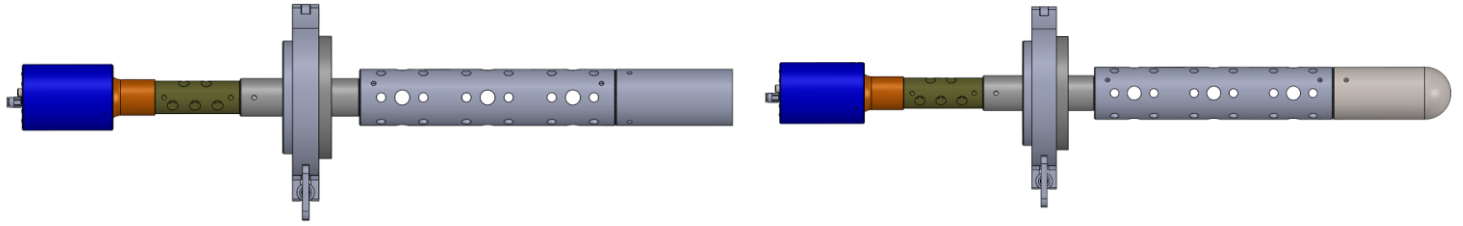
M.PROKIC / H.PUGA

21 TO 24 OF MARCH

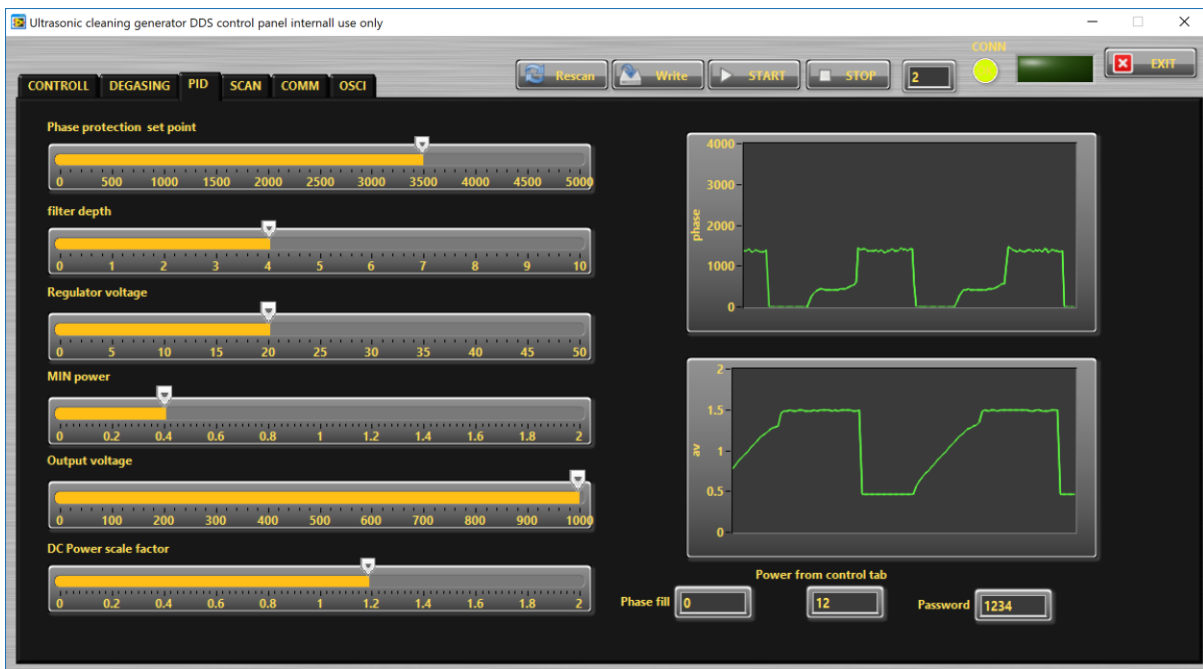


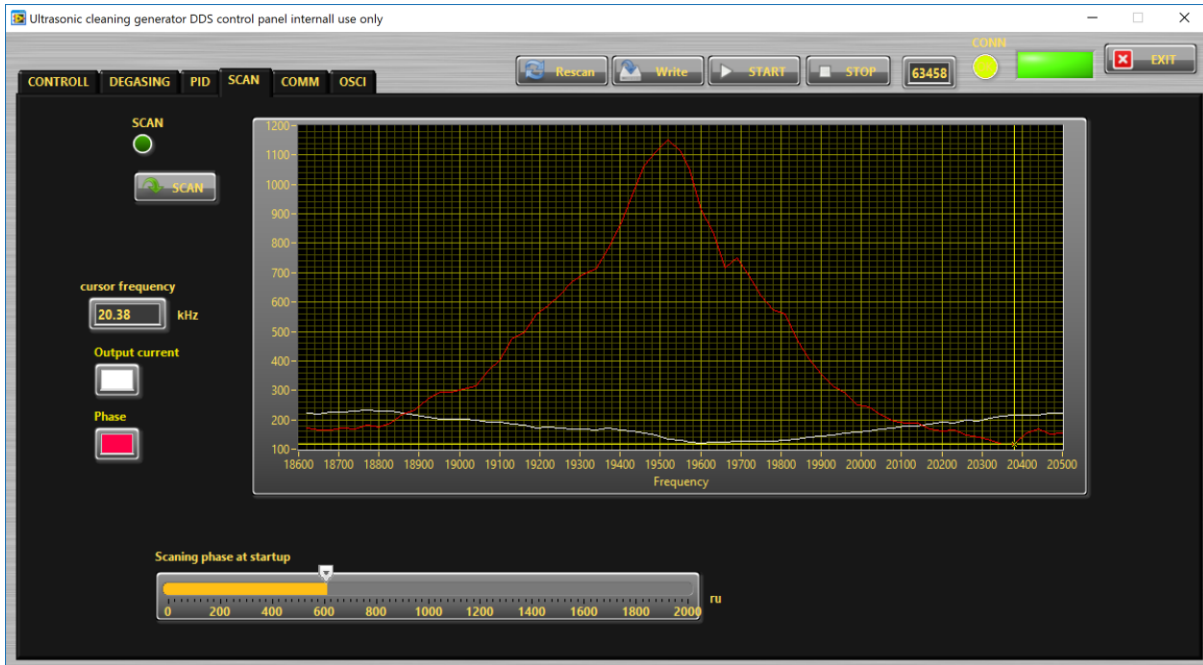
PROJECT DIRECTOR M.Prokic	DATE 21.03.2018	DEBUR AND BREAK SHARP EDGES	DO NOT SCALE DRAWING	REVISION					
drew M.Puga	DATE MODIFY		MPI-ULTRASONICS MARAIS 36 2400 Le Locle Switzerland e-mail : mpi@mpi-ultrasonics.com phone +41 (0) 32 9314045						
MATERIAL:									
General tolerance SN 258440			Well Operation Configurations 20kHz - 1500W						
dimension nominale (mm)	>3 ...6	>6 ...30	>30 ...120	>120 ...400	>400 ...1000	>1000 ...2000	SCALE: 1:1	SHEET 1 OF 1	A3
Ecart (mm)	± 0.05	± 0.1	± 0.15	± 0.2	± 0.3	± 0.5			

47HWL-total length-4HWL in liquid-60 mm sonicator. Double piston, 1.5 kW, 20 kHz. Continuous air-cooling necessary. Good for long testing continuously.

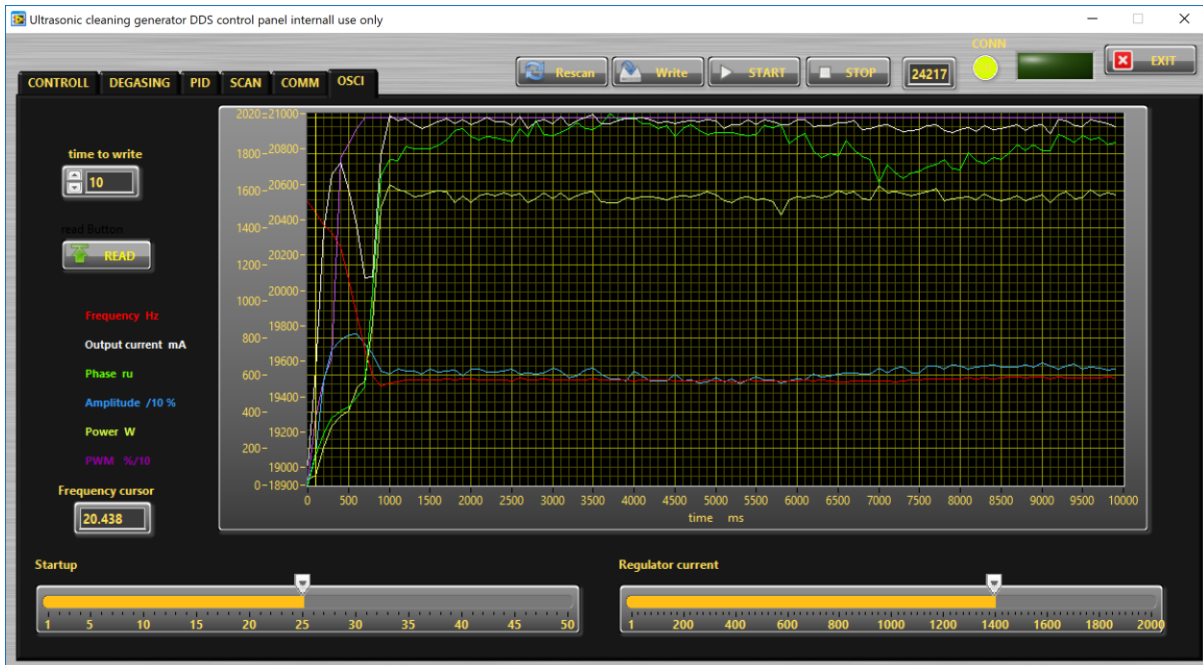


In case of problems, reduce Imax

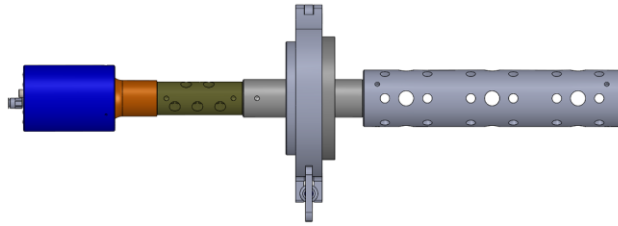




The screenshot shows the 'COMM' control panel. At the top, there are tabs for 'CONTROL', 'DEGASING', 'PID', 'SCAN', 'COMM', and 'OSCI'. The 'COMM' tab is active. On the right, there are buttons for 'Rescan', 'Write', 'START', 'STOP', a frequency display showing '6177', a green 'CONN' indicator, and an 'EXIT' button. The main area is divided into three sections: 'Modbus network status' with a 'Timeout Error' field and 'RES'/'COM6' buttons; 'Network settings' with 'Baud rate' (115200) and 'MODBUS address' (6) fields; and 'Generator settings' with 'NEW MODBUS ADDRESS' (6) and 'NEW Baud rate' (115200) fields, each with an 'ASSIGN NEW MOBBUS ADDRESS' and 'ASSIGN NEW MOBBUS SPEED' button. At the bottom, there is a 'SCANNING FOR GENERATORS' button and a large display showing a long sequence of zeros.



3HWL-loaded. Strong air flow cooling necessary



Ultrasonic cleaning generator DDS control panel internal use only

Rescan Write START STOP 52602 CONN EXIT

CONTROLL DEGASING PID SCAN COMM OSCI

Start Frequency: 19 to 26 kHz (Slider at 20.5)

Power set point: 0 to 2 kW (Slider at 1.8)

Span: 0 to 2 kHz (Slider at 1.6)

Time: 0 to 30 min (Slider at 2.4)

Imax: 0 to 3 A (Slider at 2.4)

Overcurrent:
 Overvoltage:
 Load error:
 Overheat:
 No load:
 Frequency error:
 Resonance error:
 Phase protection:

Firmware: 1.70
 Frequency shift: 1.4 kHz
 Frequency: 19.38 kHz
 Analog set point: 0 W
 Out_current: 2059 mA
 Peak out voltage: 1050 V
 PWM: 3999 %
 Power: 1661 W
 Phase: 1625 ru

cursor frequency from scan tab: 0 kHz

WRITE PARAMETERS TO FILE READ PARAMETERS FROM FILE

Ultrasonic cleaning generator DDS control panel internal use only

Rescan Write START STOP 61581 CONN EXIT

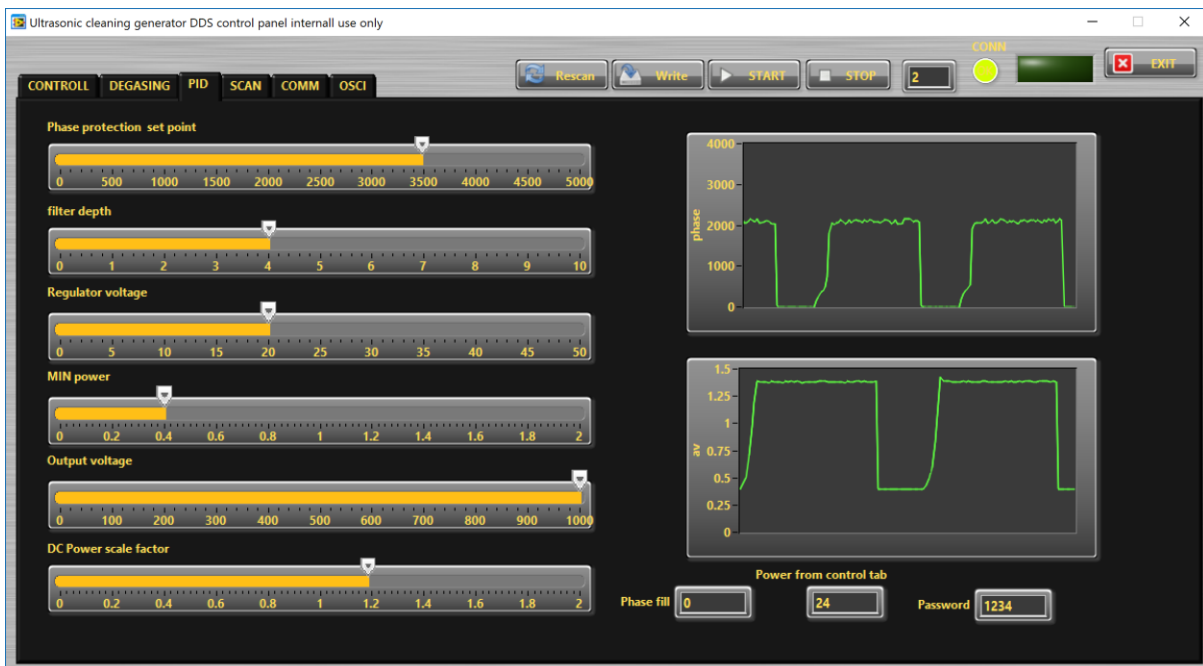
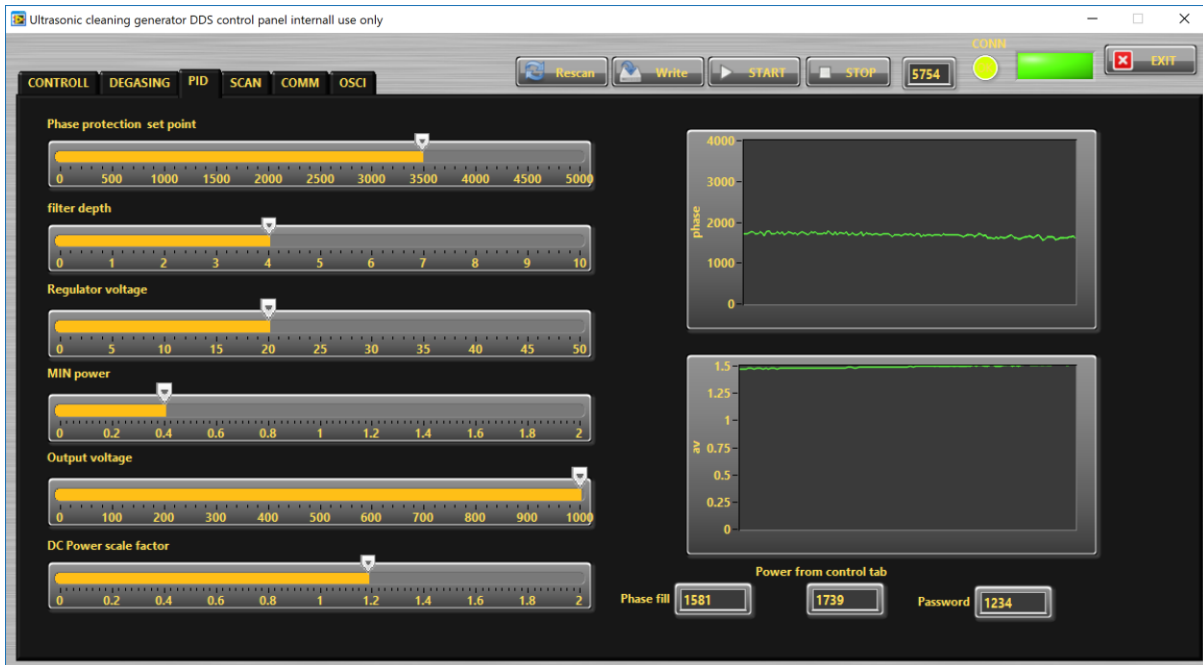
CONTROLL DEGASING PID SCAN COMM OSCI

Time ON: 0 to 30 sec (Slider at 6)

Time OFF: 0 to 30 sec (Slider at 2)

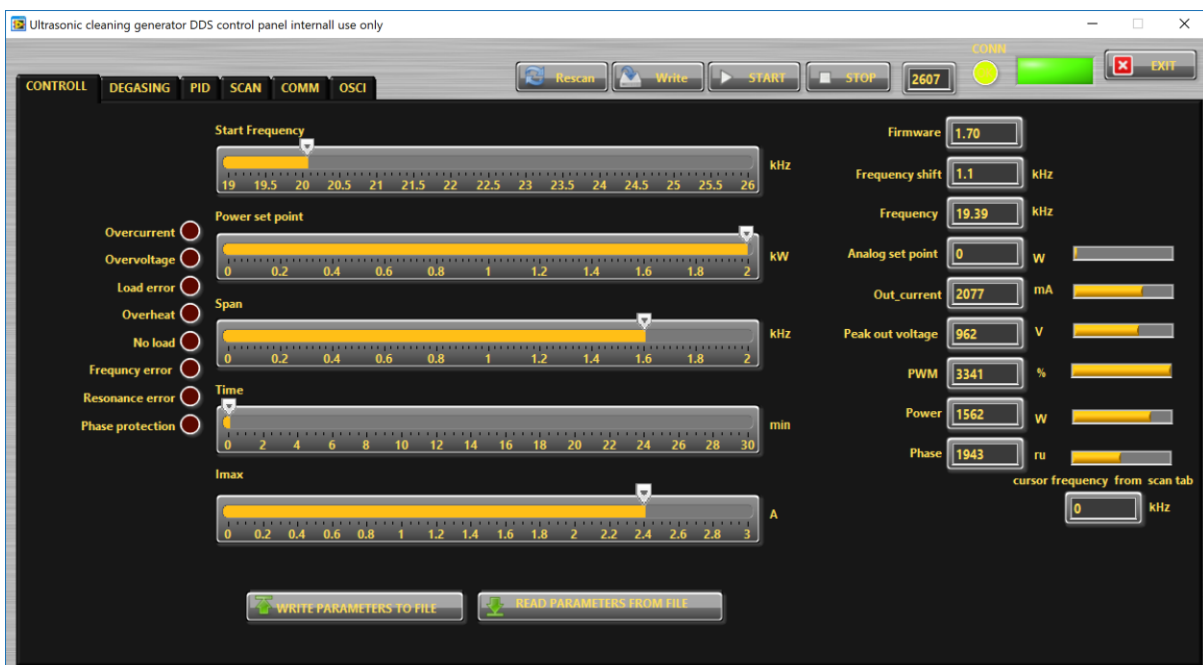
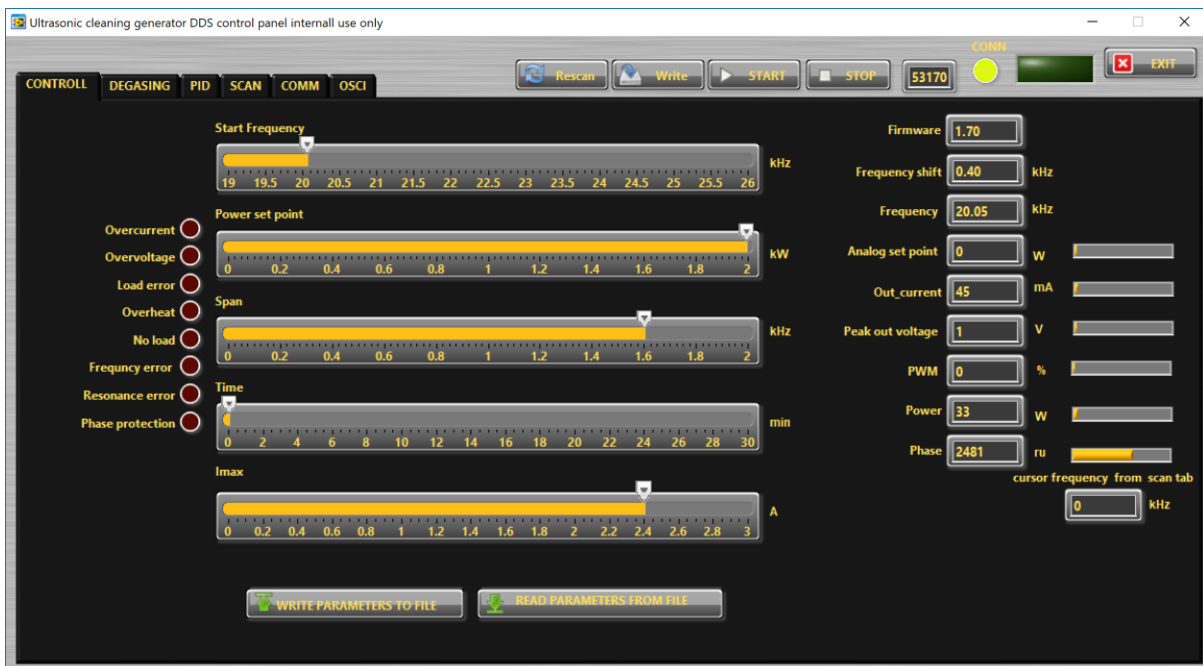
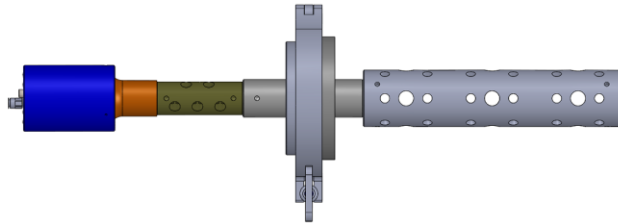
Degassing time: 0 to 5 min (Slider at 1)

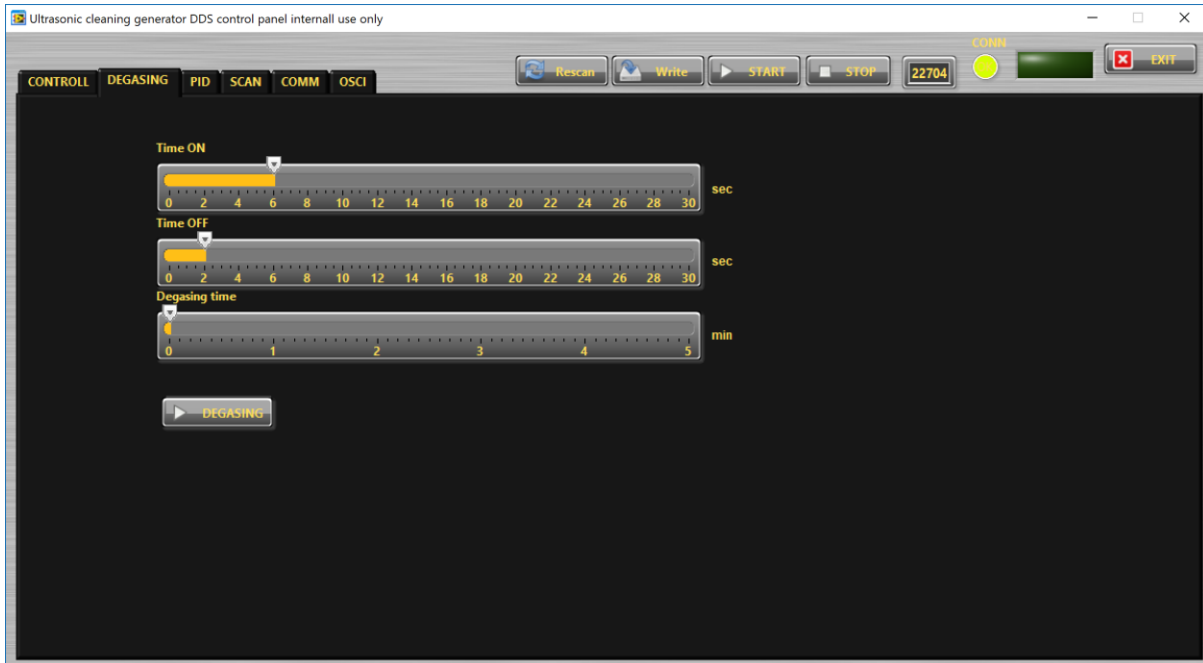
DEGASING

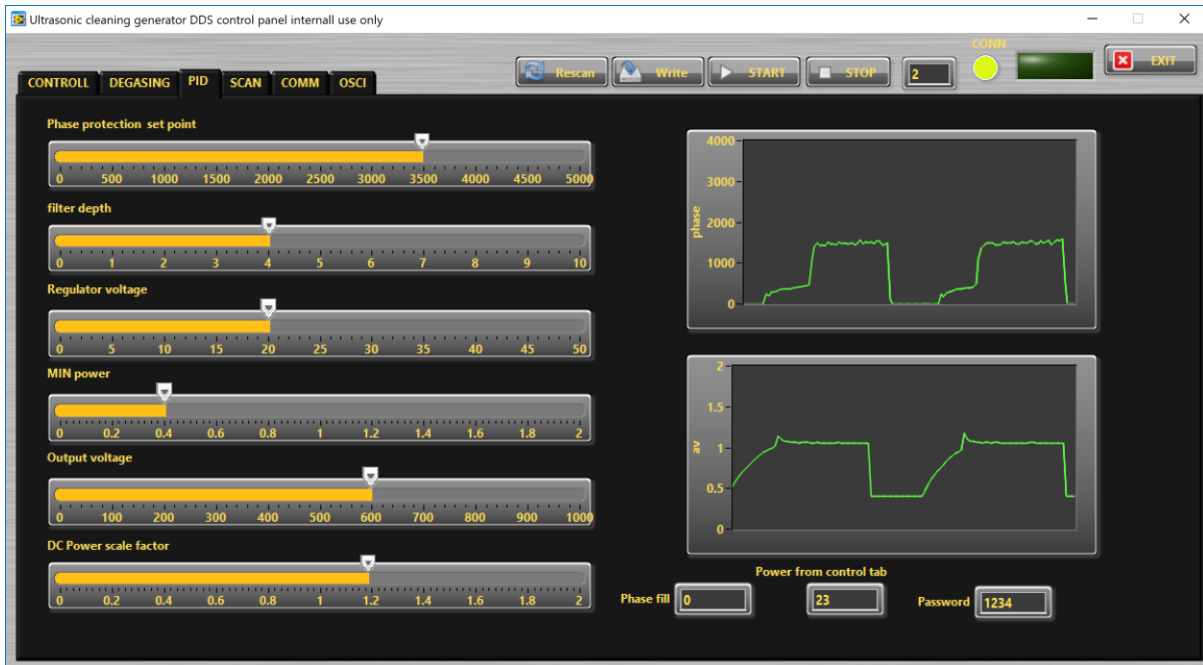


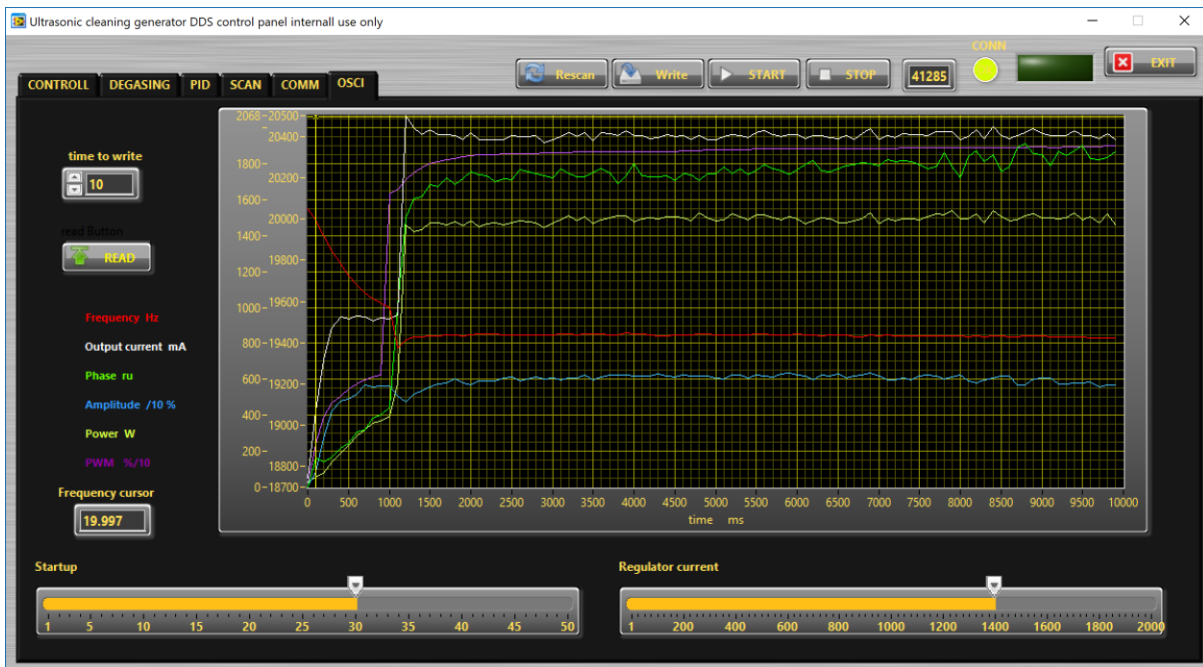


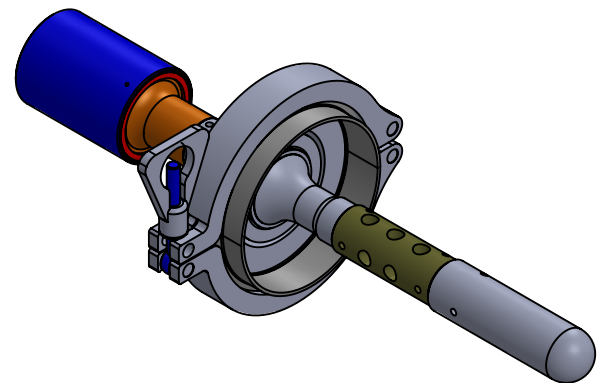
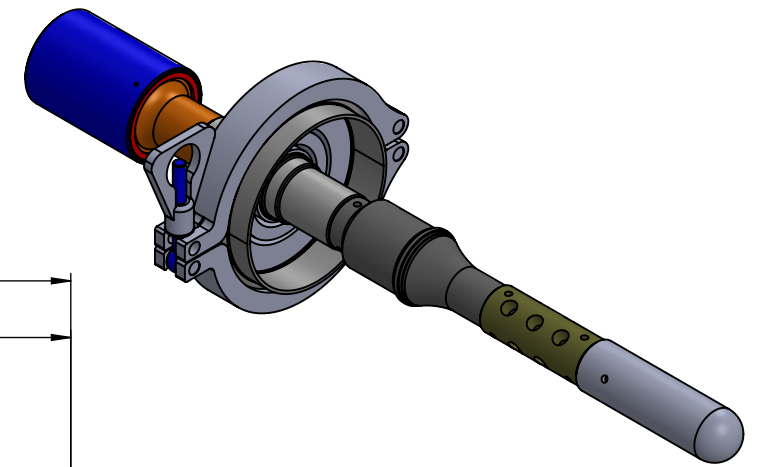
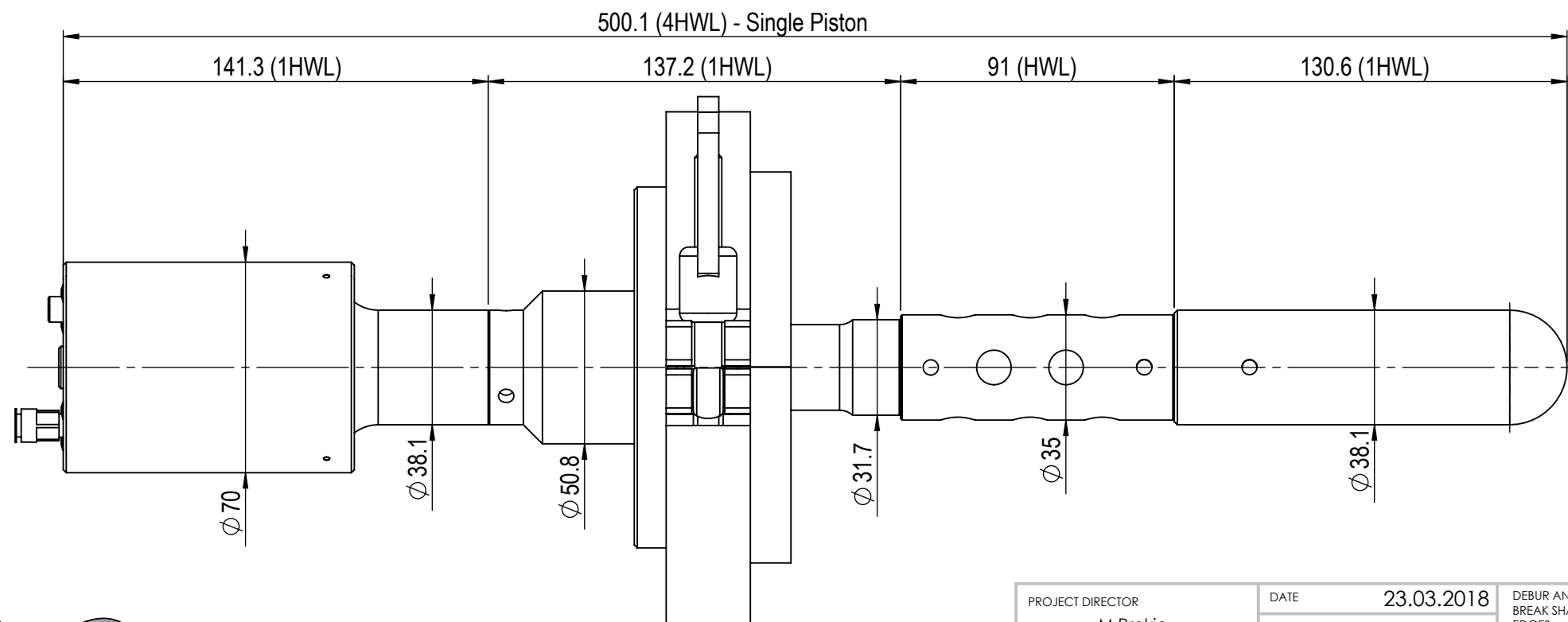
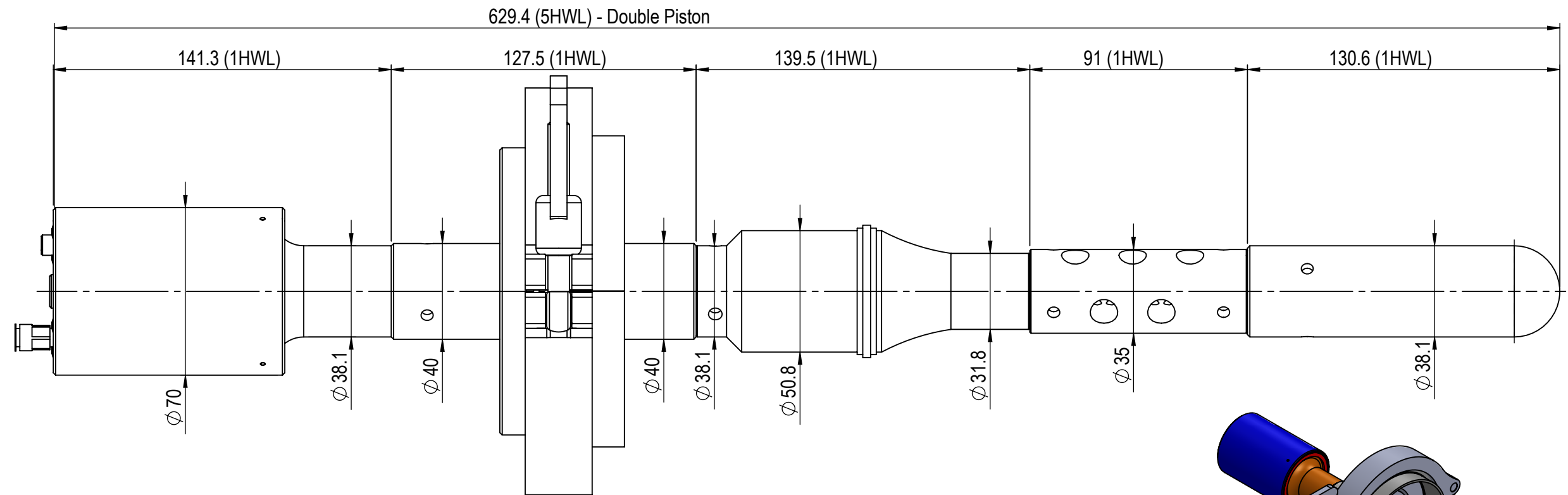
6HWL-3HWL-loaded. Good air cooling important. Single piston operating. Very interesting ultrasonic effects. Flange is heating, but not critical, since flange is good only for radial oscillations, and here we have single-piston axial translation. Voltage on the transducer should be reduced to 600V (5 mm piezoceramics).











PROJECT DIRECTOR M.Prokic	DATE 23.03.2018	DEBUR AND BREAK SHARP EDGES	DO NOT SCALE DRAWING	REVISION					
drew M.Puga	DATE MODIFY		MPI-ULTRASONICS MARAIS 36 2400 Le Locle Switzerland e-mail : mpi@mpi-ultrasonics.com phone +41 (0) 32 9314045						
MATERIAL:									
General tolerance SN 258440									
dimension nominale (mm)	>3 ...6	>6 ...30	>30 ...120	>120 ...400	>400 ...1000	>1000 ...2000	OPTIONS - Small Sonoreactors		
Ecart (mm)	± 0.05	± 0.1	± 0.15	± 0.2	± 0.3	± 0.5			SCALE: 1:1

5HWL-total length, 3HWL in liquid. 38 mm sonicator, double piston, 1 kW, 20 kHz. Good, continuous air-cooling necessary. Good for relatively short laboratory testing until 30 minutes, continuously.

