

LOGGING TOOL TESTING

An Informational Guide - Logging Tool Equipment Testing at IDDO

Ice Drilling Design & Operations (IDDO)
Space Science & Engineering Center (SSEC)
University of Wisconsin-Madison



IDDO CONTACT INFORMATION

IDDO Home Office

University of Wisconsin-Madison
AOSS/SSEC Building
1225 W. Dayton Street
12th Floor
Madison, WI 53706



TESTING LOCATION

Equipment that needs to be tested can either be brought with the investigator to Madison or can be shipped to the IDDO Warehouse in advance to the attention of Anna Claussen or the individual IDDO Engineer working with you for the testing.

IDDO Warehouse

1 Marsh Court

Suite 15

Madison, WI 53718

608-223-0852



CONTACT INFORMATION

If shipping your tool to Madison in advance of the testing, please contact Anna Claussen to determine the best shipping method:

Anna Claussen

608-890-0711

anna.claussen@ssec.wisc.edu

Please be sure to provide tracking information to ensure your device is properly received at the off-campus IDDO Warehouse, as the warehouse is not staffed at all times.

TESTING COORDINATION

- Please coordinate all testing with Anna Claussen or her designee
- Actual testing of the your device will be performed under the guidance and assistance of another IDDO engineer
- Testing will occur at the off-campus IDDO warehouse
- Prior to the testing, investigators should draft a test plan, outlining their desired objectives for the testing, any connectivity or power requirements and any safety concerns or other questions
- The IDDO engineer will review the plan and will discuss any questions or concerns with the investigator
- Both the IDDO engineer and the investigator will approve the test plan prior to initiating the testing

TESTING CAPABILITIES



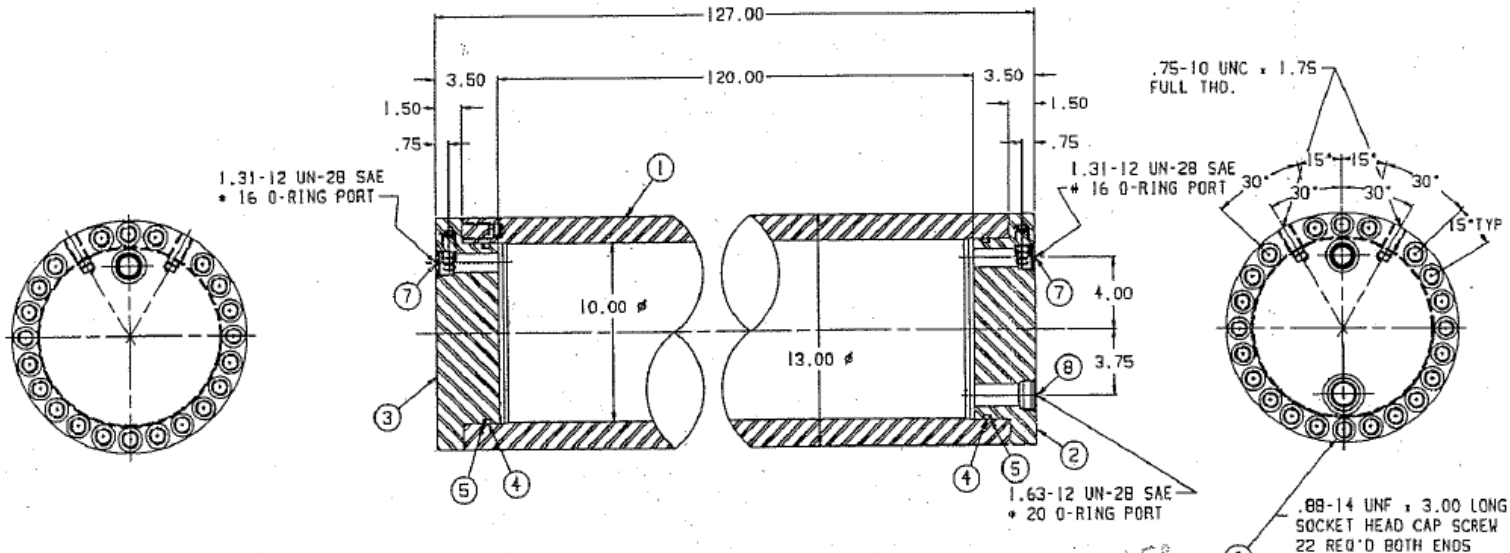
Pressure Vessel Specifications

- Internal Diameter: 10 inches
- Internal Length: 120 inches
- Cylinder tested to 5000 psi per JARP J-102 specification
- Vessel can only be operated and pressurized by an IDDO engineer and with an IDDO approved fluid.
- Hydrostatic testing is the only preferred method of pressure testing at IDDO.
- Gearhart-Owen pigtail terminated through bulkhead connector to the external terminal block.

IDDO PRESSURE VESSEL DRAWING

ALL INFORMATION CONTAINED ON THIS DRAWING IS CONSIDERED TO BE CONFIDENTIAL AND PROPRIETARY BY JARP IND., INC. NO USE OR REPRODUCTION THEREOF MAY BE MADE WITHOUT THE EXPRESS WRITTEN CONSENT OF JARP IND., INC.

ITEM	DESCRIPTION	PART NO.	QTY
1	BARREL		1
2	END CAP # 1		1
3	END CAP # 2		1
4	O-RING	703176A	2
5	BACK-UP RING	704176A	2
6	SOCKET HEAD CAP SCREW	714042A	14
7	SHIPPING PLUG	710171A	2
8	SHIPPING PLUG		1



LEE GREENBER
DESIGNED

Approved
Jim Hoffman

- NOTES:
1. TEST CYLINDER AT 5,000 P.S.I., PER JARP J-102 SPEC. AND
 2. TORQUE CAP SCREW ITEM NO. 3, PER JARP J-126 SPEC. (1.25-12 UNF)
 3. STAMP CYLINDER PER JARP J-103 SPEC.
 4. ORDER SEAL KIT NO.
 5. NO PAINT
 6. PROTECT PORTS FOR SHIPPING.

UNIVERSITY OF WISCONSIN			
DESIGN NO.	CHANGE	DATE	DESIGN BY
SIMILAR TO			
DESIGNATION: METRIC SYSTEM SPECIFIED			
1.25" x 13.00"		1.3151" x 13.00"	
REACH ALL SHIP COMPENS AND PAGES			
JARP INDUSTRIES INC.			
MAUSAU, WISCONSIN			
CYLINDER ASSEMBLY			
DESIGNED BY	DATE	CHECKED BY	DATE
PETITT	5-27-99		
OR #	SCALE	MURDER	
4412	QUARTER	1000248	

LOGGING WINCHES

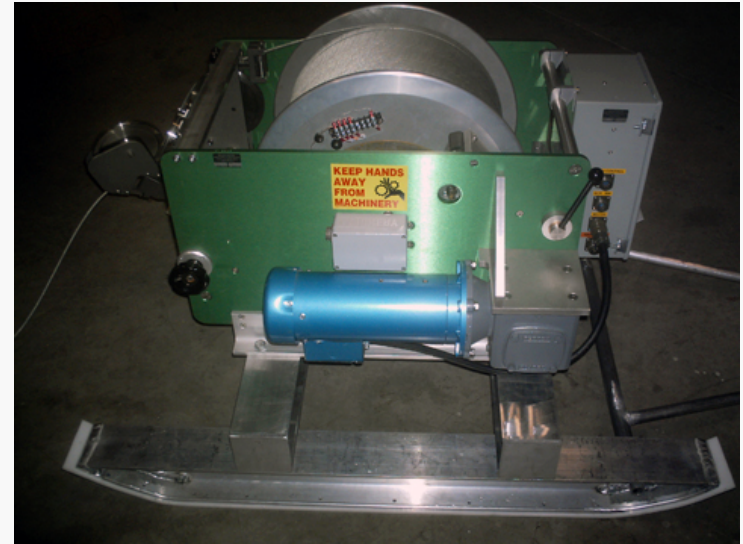
IDDO Deep Logging Winch



Capabilities

- Max Depth: 4000 meters
- Standard four-conductor logging cable
- The cable is headed with a standard 1-inch outer-diameter Gearhart-Owen variant
- Broadband slip-ring connector
- Can transmit both analog and high speed digital signals from DC to ~10 MHz.

Intermediate Depth Logging Winch



Capabilities

- Max Depth: 1500 meters
- Standard four-conductor logging cable
- The cable is headed with a standard 1-inch outer-diameter Gearhart-Owen variant
- Broadband slip-ring connector
- Can transmit both analog and high speed digital signals from DC to ~10 MHz.

LOGGING WINCHES

USGS Logging Winch



Capabilities

- Max Depth: 4000 meters
- Standard four-conductor logging cable
- The cable is headed with a standard 1-inch outer-diameter Gearhart-Owen variant
- Broadband slip-ring connector
- Can transmit both analog and high speed digital signals from DC to 250 MHz.

CONNECTOR INFORMATION

Intermediate Depth Logging Winch (IDLW)

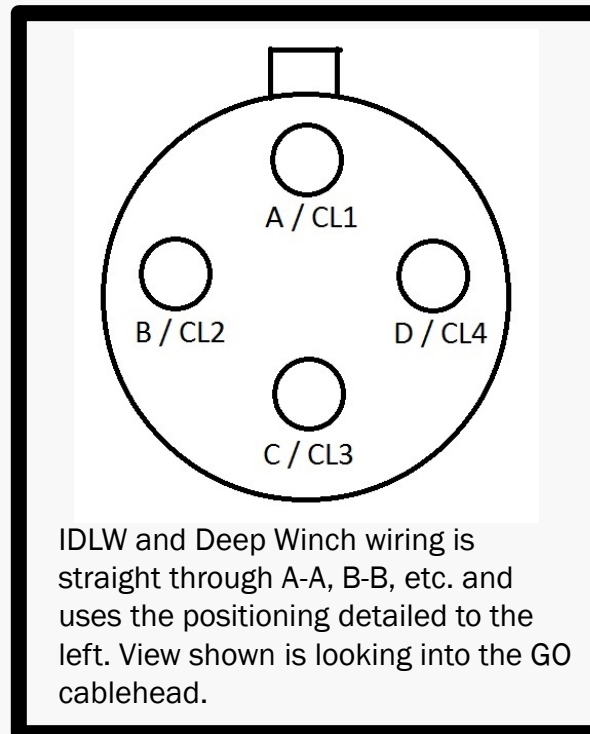
- Amphenol pinout is:
 - A = CL 1
 - B = CL 2
 - C = CL 3
 - D = CL 4
 - E = Armor
 - F = (open)
 - G = Enc A
 - H = (open)
 - J = Enc B
 - K = (open)
 - L = Enc Gnd
 - M - U = (open)
- Surface tool connection: Amphenol PT06A-14-18P
- User connection: Amphenol PT02A-14-18S or PT01A-14-18S or other equivalent

IDDO Deep Logging Winch

- Pins A-D are the internal conductors.
- Surface tool connection: Amphenol PT02E-8-4PW
- User connection: Amphenol PT06E-8-4SW or PT06A-8-4SW

USGS Logging Winch

- Pins A-D are the internal conductors
- Pin H is the armor
- Surface tool connection: Amphenol MS3102A-18-8P
- User connection: Amphenol MS3106A-18-8S



Note: For all three winches, on user side of Amphenol connections, the shell designation letter can be varied.

A = general duty

E/F = sealed w/strain relief

R = lightweight sealed

SYNCING THE PAYOUT/TENSION DATA

Intermediate Depth Logging Winch (IDLW)

- Payout data is available as encoder pulses utilizing the surface tool connection.
- Calibration for meters is 500 pulse/rev, 0.0006672 meter/pulse, quadrature x1.
- Tension is only available via display.

IDDO Deep Logging Winch

- Payout and tension readings are available through either an Ethernet RJ45 connector (user needs male) or RS-232 9 pin D-sub connector (user needs female) [TX: Pin3, RX: Pin2, Com: Pin5].
- Format is LCI-90i MTNW1 protocol.
- Payout data is also available as encoder pulses via an Amphenol MS3102E14S-6P connection (user needs an Amphenol MS3106E14S-6S).
[Pin A: 0V, Pin B: +V, Pin D: B signal, Pin E: A signal]
- Calibration for meters is 72 pulse/rev, 720.007 pulse/meter, quadrature x4.

USGS Logging Winch

- Payout data is available as encoder pulses via an Amphenol MS3102R14S-6P connection (user needs an Amphenol MS3106E14S-6S).
[Pin A: 0V, Pin B: +V, Pin C: Z signal, Pin D: B signal, Pin E: A signal]
- Calibration for meters is 120 pulse/rev, 0.00254 meter/pulse, quadrature x1.
- Tension is only available via display.

SAFETY INFORMATION

- The IDDO Warehouse is an active equipment development, maintenance and storage facility. All posted signage as well as instructions from IDDO staff shall be observed at all times.
- Personal Protective Equipment (PPE) is available for your use, if desired or necessary (e.g. ear plugs, safety glasses, etc.)
- Investigators shall understand that performing pressure testing and connectivity testing on their device can **potentially be destructive** and that pressurized fluid **could enter their device**
- **IDDO is not responsible for any damages that occur to the device being tested**
- Pressure testing performed at IDDO shall serve only as a reference, and no logging tool equipment certification will be provided
- Any questions or concerns should be addressed, prior to the testing, with either Anna Claussen or the IDDO engineer with whom the test will be conducted

TRAVEL INFORMATION

Investigators are responsible for making all travel arrangements and for payment of all arrangements.

- **Air travel** - Dane County Regional Airport (MSN)
- Rental Car
- **Lodging**
 - The closest hotel to the IDDO Warehouse is the Sleep Inn, however there are limited dining options in the area.
 - Madison has numerous other hotel options – those that are in the Central/Downtown region are particularly convenient to food and entertainment options.