

# EQUIPMENT SPECIFICATION

## 15T Mooring Winches



Revision	Date	Comment	Prepared by
0	July 2007	Issued for Information	SJJ
1	September 2008	Re-issued. Business Address updated	SJJ

ITEM 1. 2 OFF Mooring Winches, Type MW-15

Classification:	15T Mooring Winch.	
Drive Unit:	GFT 80 W3 4000, i= 110.9 c/w A6VE160HD1E/63W-VAB027B Planetary winch drive gear c/w variable piston motor, disc brake & end support bearing (Note: winch cannot be free wheel)	
Drive Brake:	Automatic, Hydraulic (Fail Safe) integral on winch drive. Not intended for holding under mooring loads.	
Spooling:	Setup for under spooling or over spooling. (Note: level wind not fitted)	
Winch Brake:	Manually operated T-handle, bullet nose, greased stainless steel locking dog.	
Clutches:	Not Applicable - Direct drive.	
Directional Controls:	1TH6P-19-1X/M01 Joystick for directional and speed control, mounted on winch frame.	
Level Wind	Not Applicable. Maintain fleet angle <1.5° to maintain lay of rope on drum.	
Tension Control:	Not Applicable.	
Wire Capacity:	350m x Ø32 mm SWR. Recommend Ø28mm 6x36 IWRC EIPS	
Drum Dimensions:	Ø610mm drum x Ø1300mm x 800mm inside.	
Overall Dimensions:	Length 1.80m / Width 1.51m / Height 1.41m.	
Approx. Weight:	Drive with oil Winch Frame & Drum Wire Rope to Capacity TOTAL	450kg 1400kg 1750kg <b>3600kg</b>

ITEM 2. 2 OFF Power Units, Type MWPP-15

- Frame mounted complete with soft covers.
- Star-Delta Soft Starter
- 250 ltrs MS tank, internally sand blasted c/w inspection cover, breather cap, level gauge & return line filter c/w visual clogging indicator
- 200L-4P-B3, 30KW\*415V\*50Hz electric motor of IP55 protection
- Foot bracket and drive coupling
- A10VO45DFR/31L-PSC62K01 Variable piston pump
- AZF-1X/1RR20MR gear pump
- DBDH6G-1X/50 relief valve
- VC4x fan cooled oil coolers
- AB31-11/63-250 pressure gauge
- 1M4-12-1X/J250XSQM-J70-70-HQQ-LAV01 Load sensing directional valve, hydraulically operated
- RS 417 Shuttle valve

ITEM 3. 1 OFF Power 3 Way Distribution Board

- Phase Protected DB (protects electric motors from wrong rotation).
- 225A CB
- Complete with 4 x 20m Extension Cables c/w Male/Female IP67 Plug Tops

WINCH PERFORMANCE – MW-15 & MWPP-15

Layer	Dia (mm)	Wire Rope on Layer (m)	Wire Rope on Drum (m)	Torque of Winch at Req'd Line Pull (Nm)	Hydraulic Motor Torque (Nm)	Estimate Pressure at 15T (bar)	Max. System Pressure (bar)	Motor Speed at Max. Pull (RPM)	Design Max Line Pull at Max Pressure (Tons)	Max Loaded Line Speed (m/min)	Maximum Unloaded Drum Speed (rpm)	Max Unloaded Line Speed (m/min)
1	632	49.7	49.7	47400	427.4	176.9	183.0	375.8	15.1	6.7	6	12.0
2	687	54.0	103.7	51557	464.9	192.4		375.8	13.8	7.3		12.9
3	743	58.4	162.0	55714	502.4	207.9		375.8	12.8	7.9		14.0
4	798	62.7	224.8	59871	539.9	223.4		375.8	11.9	8.5		15.0
5	854	67.1	291.8	64028	577.3	238.9		375.8	11.1	9.1		16.1
6	909	71.4	363.3	68185	614.8	254.4		375.8	10.5	9.7		17.2
7	965	75.8	439.1	72342	652.3	264.3		375.8	9.9	10.3		18.2
8	1020	80.1	519.2	76498	689.8	279.5		375.8	9.3	10.9		19.2



Power Pack (as new – September 2006)



Winch (as new – September 2006)

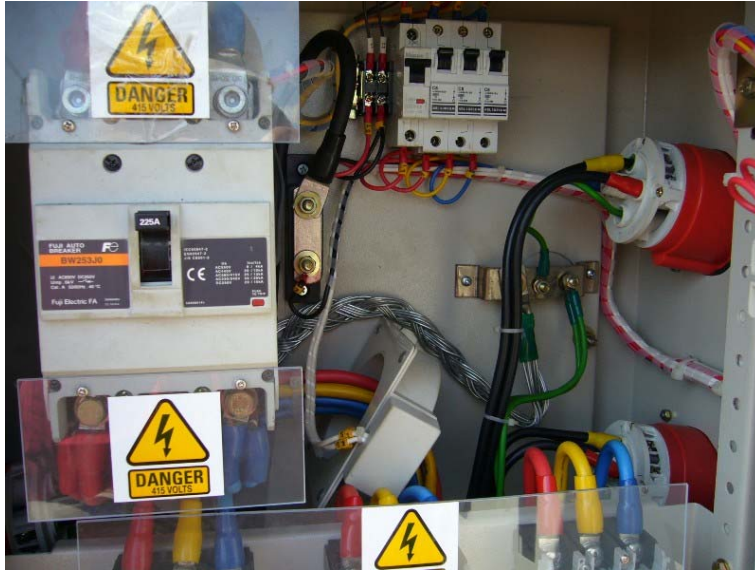


Winch (as new – September 2006)







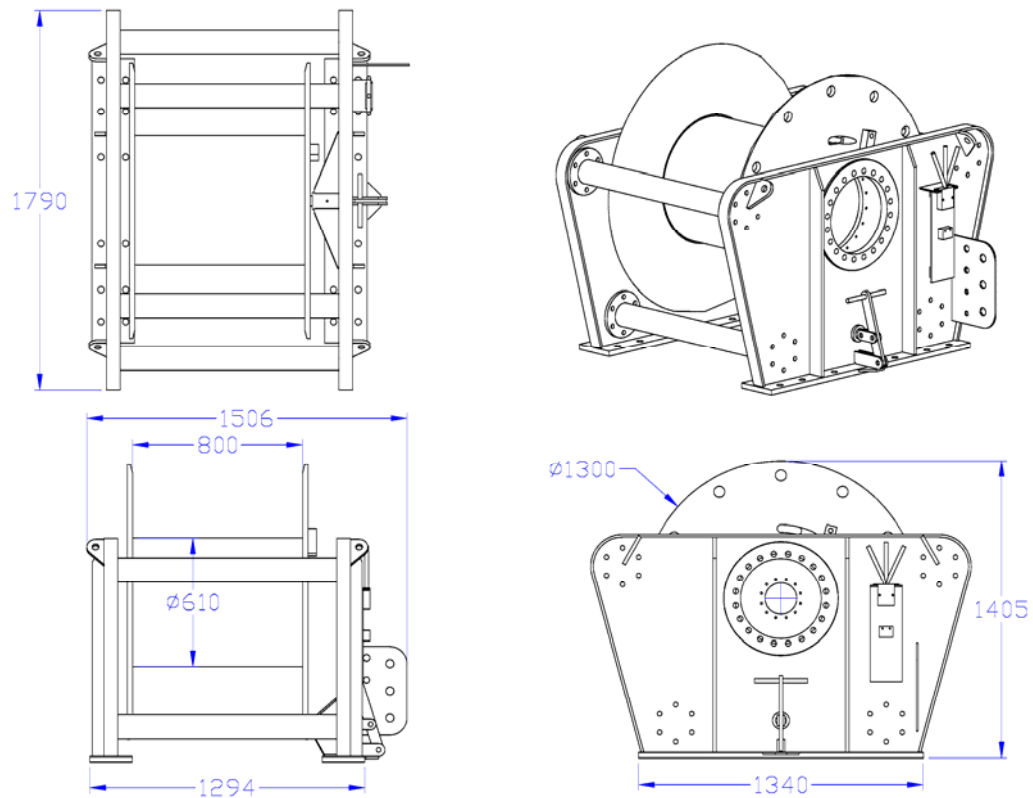


DB Internal

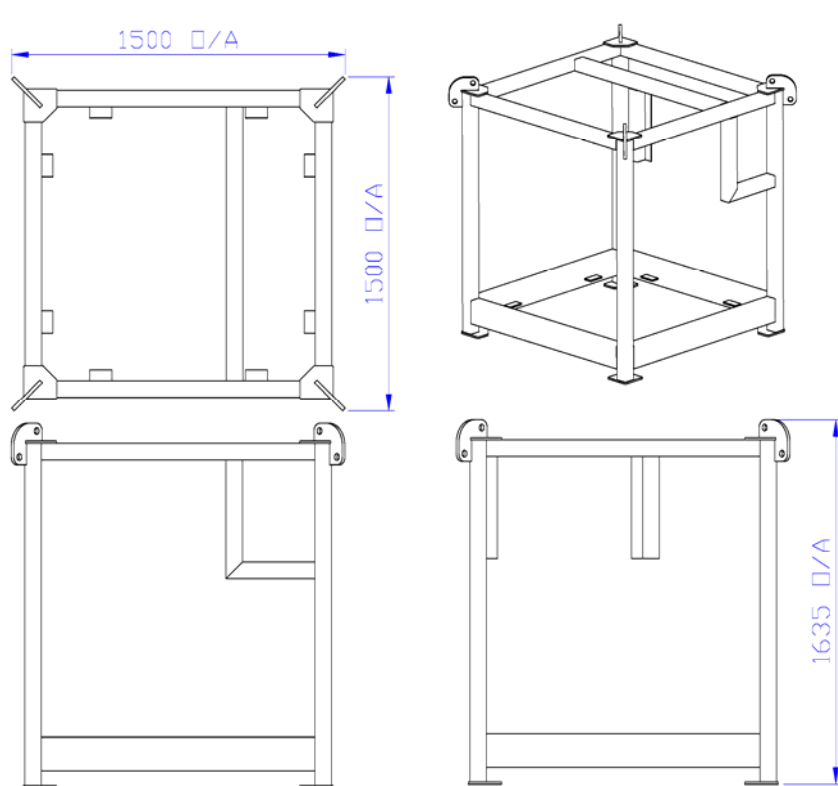


DB (Cover on) and Genset (not in scope of supply)





Winch - Overall Dimensions (mm)



Hydraulic Pump Frame - Overall Dimensions (mm)



# PT. AUSINDO INDONESIA

Kabil Offshore Base Warehouse #04 Kabil Batam Island - Indonesia

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Email : ausindls@indosat.net.id

## Certification

Client : JENGCO SDN BHD  
Location : Tanjung Uncang Batam Island - Indonesia  
Date : June 10, 2007  
Equipment : WINCH HYDRAULIC POWER PACK

Cert No. : 001

### EQUIPMENT TESTED:

Mooring Winch: WN15 (Serial No.: W001)  
Power Pack: MW PP15 (Serial No.: 001)

### PULL TEST RESULT:

*With the winch setup in normal operating arrangement, with load cell placed between winch rope and a secure anchorage, the winch was energized. The following pull test results were recorded.*

#### Power Pack:

- Hydraulic Pressure:..... 2800 psi
- Current: ..... 21A

#### Mooring Winch:

- Number of Wraps on Drum: ..... 5 (Ø28mm EIPS IWRC)
- Force Applied: ..... 11.6Ton.

### BRAKE TEST RESULT:

*With the winch setup with no power pack and locking pin engaged, an external force was applied to the winch wire. With load cell placed between external force and winch rope, the following results were recorded*

#### Mooring Winch:

- External Force Applied:..... 21.7Ton

### NO-LOAD ROTATION CHECK:

*With no load on winch, the maximum rotation speed of the drum was recorded as follows:*

#### Mooring Winch:

- No Load Rotation Speed:..... 6 rpm

#### Line Speed Conversion:

- Max line speed (at 6th wrap): ..... 17.2m/min (0.29m/sec)
- Min line speed (at bottom wrap): ..... 12.0m/min (0.20m/sec)

### Method of Testing :

The proof load test of the Winch was performed as per client instruction.

Tested by : Dino Molinari  
Next due : 9-06-2008  
Load Test with Load Cell : 50 Ton  
Load Cell Certificate No. : BM 5153  
Manufacture : DYNAFORD  
Model : 21969  
Load Cell Serial No. : HG 8089  
Load Cell Calibration date : 14-03-07  
Load Cell Calibration Due date : 13-03-08

AUSINDO  
PT. AUSINDO INDONESIA  
  
Authorized signature





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## Certification

**Client** : JENGCO SDN BHD  
**Location** : Tanjung Uncang Batam Island - Indonesia  
**Date** : June 10, 2007  
**Equipment** : WINCH HYDRAULIC POWER PACK

**Cert No. : 002**

### EQUIPMENT TESTED:

Mooring Winch: WN15 (Serial No.: W002)  
Power Pack: MW PP15 (Serial No.: 002)

### PULL TEST RESULT:

*With the winch setup in normal operating arrangement, with load cell placed between winch rope and a secure anchorage, the winch was energized. The following pull test results were recorded.*

#### Power Pack:

- Hydraulic Pressure:..... 2800 psi
- Current: ..... 21A

#### Mooring Winch:

- Number of Wraps on Drum: ..... 5 (Ø28mm EIPS IWRC)
- Force Applied: ..... 11.6Ton.

### BRAKE TEST RESULT:

*With the winch setup with no power pack and locking pin engaged, an external force was applied to the winch wire. With load cell placed between external force and winch rope, the following results were recorded:*

#### Mooring Winch:

- External Force Applied:..... 19.5Ton

### NO-LOAD ROTATION CHECK:

*With no load on winch, the maximum rotation speed of the drum was recorded as follows:*

#### Mooring Winch:

- No Load Rotation Speed:..... 6 rpm

#### Line Speed Conversion:

- Max line speed (at 6th wrap): ..... 17.2m/min (0.29m/sec)
- Min line speed (at bottom wrap): ..... 12.0m/min (0.20m/sec)

### Method of Testing :

The proof load test of the Winch was performed as per client instruction.

Tested by : Dino Molinari

Next due : 9-06-2008

Load Test with Load Cell : 50 Ton

Load Cell Certificate No. : BM 5153

Manufacture : DYNAFORD

Model : 21969

Load Cell Serial No. : HG 8089

Load Cell Calibration date : 14-03-07

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