OPERATING & INSTALLATION INSTRUCTION

DW06

Drum Winch

Table of Contents

INTRODUCTION

Thank you for purchasing a Muir Drum Winch. Muir goes to great lengths to develop drum winch systems that not only meet all your performance and safety requirements, but at the same time are designed with a style and finish that enhances the aesthetics of your vessel. The Muir commitment to quality, the use of superior materials and processes is to ensure you will be pleased with your investment. Rest assured that through the correct installation, operation and maintenance your new Muir Windlass will give you years of reliable performance.

IMPORTANT INFORMATION

To avoid damage to the drum winch or vessel when bringing the anchor up hard, it is a preferred practice to mark the chain / rope at approximately 5-meter intervals from the anchor, to alert the operator to the anchor position.

Under no circumstances should the drum winch be operated if it is stalled or overloaded, check for the cause and rectify prior to resuming operation.

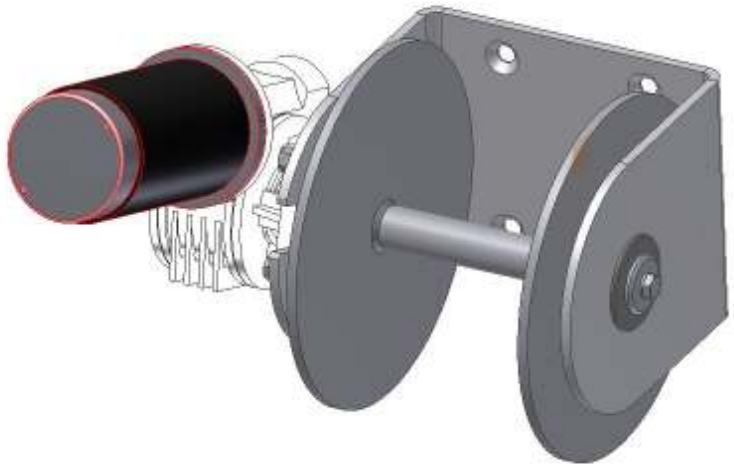
If anchor retrieval is impaired by high wind, heavy seas or the anchor is snagged, ease the load by either motoring or maneuvering slowly forward into the wind, until the anchor can be lifted vertically.

SAFE OPERATION

- Ensure that hands, feet, hair and clothing are kept clear of the drum winch and other loose gear when in operation.
- Keep hands well clear of drum winch, chain and rope.
- The drum winch should never be used for lifting people aloft. Do not use drum winch as a bollard for mooring, towing or being towed.
- When the drum winch is not used or the anchor stowed, always ensure a chain lock, devils claw or snubber line is fitted to retain the anchor. The use of these accessories will prevent excessive loads on the geardrive and accidental release of the anchor.

INSTALLATION INSTRUCTIONS

Locate the drum winch in a suitable position so there is no interference from other ropes or objects. Ensure that the rope has a clear lead to the winch – use a roller if required to direct the rode to the drum. Ensure that there is sufficient room to run the electrical cables to the winch.



Use the drum winch as the layout template to mark the hole centres. Remove the winch and drill the holes.

Apply an appropriate sealant to the base plate and mounting block (if required), taking care to align mounting holes when assembling. For Aluminium or Steel hull vessels, it is important to insulate the drum winch with a non-conductive gasket to avoid corrosion. This also applies below deck with the mounting bolts, nuts and washers. Where the deck construction is light or of foam sandwich construction, a plywood stiffener of at least 16mm (5/8") should be fitted to the underside of the deck to spread the load. Install and tighten mounting bolts.

Gearbox Orientation: The gearbox can be orientated at any angle using the supplied holes. If the installion requires the gearbox to be at 45 Degrees to the winch, the use of 3 mounting holes will be acceptable.

Electrical Installation: To complete the Electrical installation, please review electrical section.

Rope & Chain Installation: To assure the correct operation of the winch, the rope and chain should be installed onto the drum using the electric motor.

TIPS FOR EXTENDING THE LIFE OF YOUR WINCH

Do not allow winch motor to overheat. Remember the winch is for intermittent use only. During long or heavy pulls the motor will get hot. At maximum design loads avoid running for periods exceeding 5 min.

OPERATING DW06 SERIES WINCHES

It is adviseable to “mark” the anchor end of the chain / rope at 2 and 5 metre (6.5’ & 16.5’) intervals which will enable the operator to judge when the anchor is almost up.

- **Deployment:**

To lower the anchor, operate the down switch as you reverse the boat. This allows the anchor and chain to layout properly on the sea bed. Lower the anchor until the rope is slack and/or you are in the right position. Once in position, it is recommended to tie off the rope to a cleat or bollard, or use a snubber, to avoid unnecessary strain on the gearbox.

- **Retrieval:**

To retrieve/raise the anchor, it is also recommended that the vessel is motored into the wind / towards the anchor rode to minimize excessive load on the windlass, whilst operating the up switch. Check that the rope is being dispersed evenly on the drum. **Do not use your hands or feet to adjust the rope as it may become caught and entangled in the winch drum.** Also take care not to run over the anchor rope and entangle it in your prop or rudder.
Go gently with the last five (5) metres of retrieving the anchor. Do not wait for the anchor to fly up over the roller and bang tight, putting excessive load onto the bow roller, winch and fore deck.

Always use a snubber line or bollard to take the load once the anchor is stowed.

If the anchor jams tight in the bow roller, take the load off the gearbox by engaging the down switch or reversing the drum winch, and this should allow you to lower the anchor.

Reversing Motor: The motor must be stopped before changing direction.

RULES FOR OPERATION AND SAFETY (DW 06)

The DW06 winches are powerful machines. Treat them with respect, use with caution and always follow the safety guidelines.

WARNING!

The wire rope may break before the winch stalls.

- **Do not** overload.
- **Do not** attempt pro-longed pulls at heavy loads.
- **Do not** maintain power to the winch if the motor stalls.

Overloads can damage the winch and/or the rope and create unsafe operating conditions.
The generator/ main engine should be running during winch operation to minimize battery drain and maximize winch power and speed. If considerable winching is performed with engine off, the battery may become too weak to restart the engine.

1. Keep winching area clear. Ensure that hands, feet, hair and clothing are kept clear of the windlass and other loose gear when in operation.
2. Inspect the wire rope and equipment frequently. A frayed or damaged rope should be replaced immediately.
3. Periodically check the winch installation to ensure that all bolts are tight.
4. Never use your winch for lifting or moving people.
5. This winch is not designed or intended for overhead hoisting operations.
6. Avoid continuous pulls from extreme angles as this will cause the rope to pile up on one end of the drum. This can jam the rope in the winch causing damage to the rope or the winch.
7. It is not recommended to guide the rope onto the drum with your hand. It is recommended that a roller or fairlead is used for this purpose.
8. Always operate winch with an unobstructed view of the winching operation if possible.
9. **Do not** use the winch to hold load in place.
10. Use only factory approved switches, remote controls and accessories. Use of non- factory approved components may cause injury or property damage and will void your warranty.
11. **Do not** machine or weld any part of the winch. Such alterations may weaken the structural integrity of the winch and will void your warranty.
12. Never allow shock loads to be applied to winch.

HANDY HINTS

- Ensure sufficient room to run electric cables to the drum winch. Follow the instructions above including underdeck stiffening, alignment, mounting blocks and sealing procedures.
- Position drum winch carefully checking desired rope path before mounting to your deck or bulkhead.
- To help the rope to lead onto the drum a minimum of 1 meter is recommended between the last roller and the drum winch. If the winch is being used inside a chain locker it is recommended to have a roller as wide as the winch drum feeding the rope to the drum.
- When operating in shallow water, avoid over loading Drum with rope and chain.

MAINTENANCE AND REPAIR

- Periodically check tightness of mounting bolts and electrical connections. Remove bolts and electrical connections. Remove any dirt or corrosion that may have accumulated on the electrical connections.
- Repair should be done by Authorized Muir Repair Centres Only. Do not attempt to disassemble the gearbox, Disassembly will void warranty.
- We recommend that the winches are stripped yearly and all moving parts cleaned and greased with Marine Grease, Teflon or Lithium based grease (e.g. Duckhams'Keenol'; 'Castrol LMX'.). **Do not use a soap based grease.**
- In the case of Work and Charter Vesels we suggest it is carried out more frequently.
- The geardrive is filled and sealed at the factory with long life synthetic oil and does not require replacement.
- Muir recommends to run the winch motor periodically if it is not being used for a long period to keep all the moving parts lubricated.

LUBRICATION

- The gearbox and drum bearings are permanently lubricated with a high performance gear lube. If relubricating is necessary (after repair or disassembly) only use Shell Alvenia EP2 or equivalent.
- All black nylon components are self lubricating and should not be lubricated as grease can reduce there efficiency and purformance life.

CORROSION PREVENTION

- Although much effort has been undertaken to manufacture the windlass to make it as durable as possible, the winch will be operating in an extremely corrosion enviroment. Therefore it is highly recommend that Denso Tape (grease tape) be used on external surface of the winch motor, gearbox and adaptor. Additonally, corrosion protection should be used in any area where water may be present, to protect against moisture. Product such as TECHTYL under body anti corrosion film are ideal for this application.
- Any damage to external paint should be repaired immediately, to prevent corrosion.
- Yearly it is recommended that the winch is disassembled, all salt crust removed, the parts thoroughly cleaned, greased and the winch reassembled. It is good practice to wash salt water off all running parts with fresh water after every use to avoid corrosion. The use of a close fitting cover when the winch is not in use is highly recommended. Ensure the main drive shaft remains greased at all times. Before installation always store the unit vertically or in a similar orientation as to the installed position.

ELECTRICAL INFORMATION

See Wiring Diagrams for wiring instructions.

Circuit breaker (must be fitted to ensure warranty)

If the drum winch is overloaded or stalled the circuit breaker automatically cuts off power to the winch and protects the wiring and motor. The circuit breaker should not be used as an isolating switch, for safety reasons.

Deck Switches (if fitted) are best located to either port or starboard or directly behind the drum winch in a position where it can be easily reached with your foot or knee, preferably where you can view the anchor and chain coming aboard.

Isolating Switch should be fitted in an accessible position for safety, ideally close to the battery or switches. The isolating switch is not a circuit breaker.

Batteries are best located as close to the drum winch as possible. Larger cables will reduce the voltage drop to the motor and the heat generated when operating the winch. Small diameter cables drop voltage considerably. Use the following table as a guide to your required wire size:

DW06

Distance from battery to motor (m)	Cable Size (mm^2)	AWG	Cable Core Diameter (mm)
< 8 (26')	54	1/0	8.25 (21/64")
9 – 12 (29' – 39')	85	3/0	10.4 (25/64")
13 – 18 (42' – 60')	125	4.7/0	12.7 (1/2")

Rotation: Drum winches may be wired for single or dual direction, using a toggle switch, or single or dual deck switches for raising or lowering. Alternatively remote control solenoid packages with Hand Pendant are available.

Solenoid DW 06

WINCH MODEL	MOTOR SIZE	MOTOR TYPE
DW 06	400W	2 POLE

Solenoid Installation

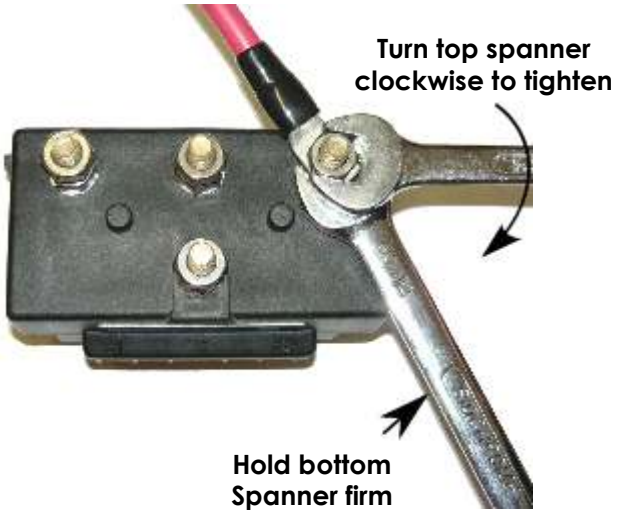
We recommend that the solenoid is installed in an upright position, where it has no exposure to sea water and in close proximity to the electric motor of the winch.

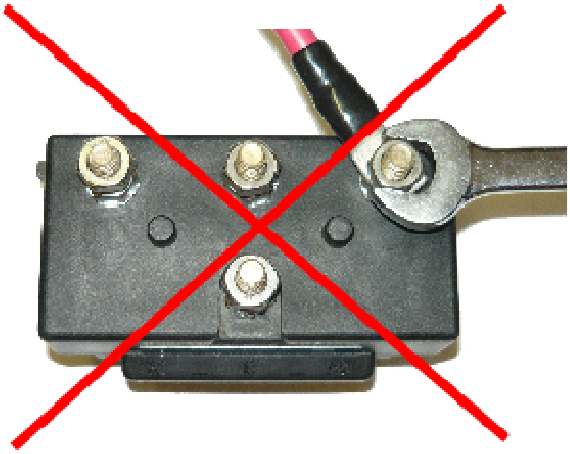
Do not install in the anchor locker unless in a waterproof box.
For wiring information, please refer to the wiring diagram/schematic.

WARNING

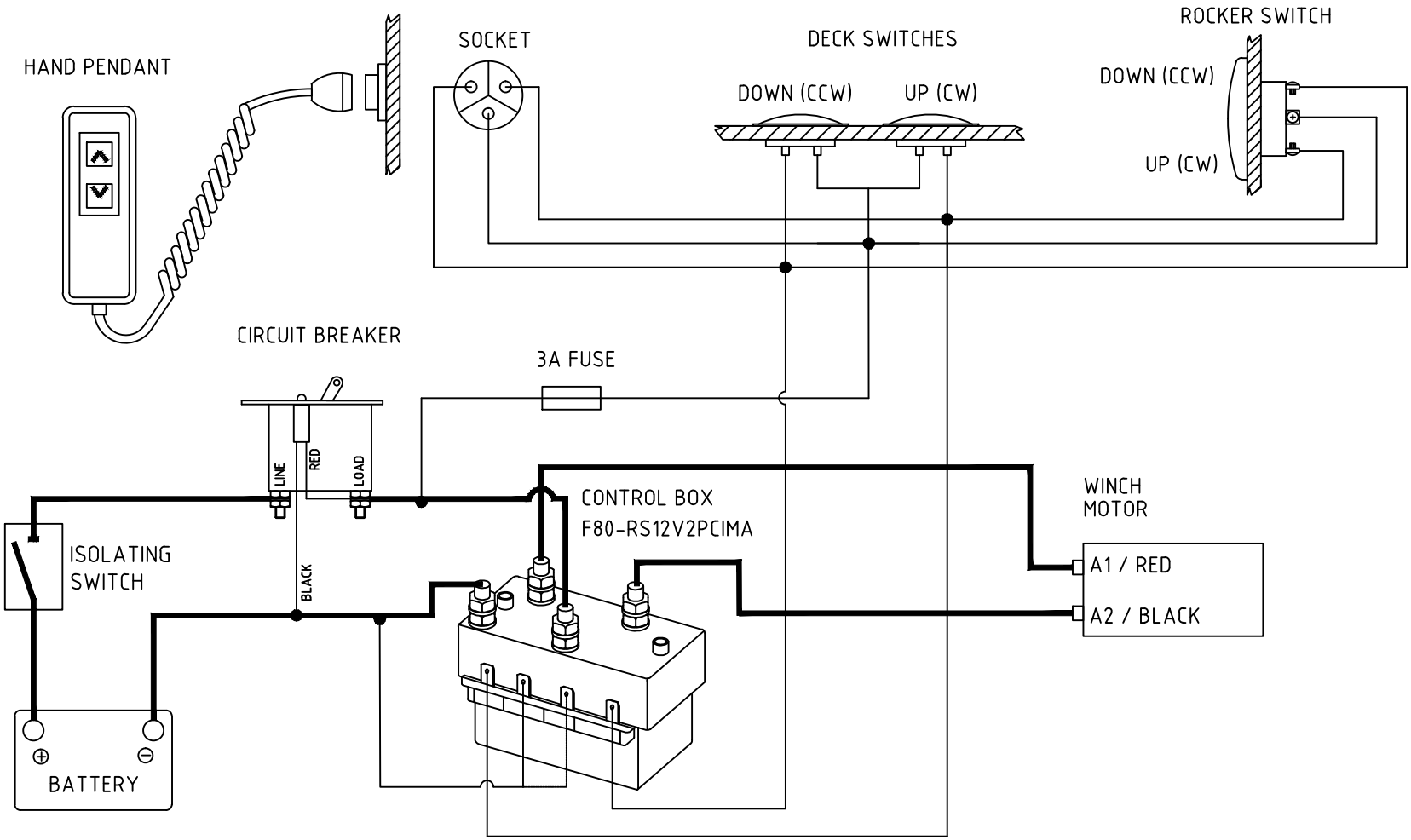
Do not over tighten terminal nuts.
It may cause internal damage.
Ensure bottom nut is held with a spanner when tightening top nut.

Please apply this method to all reversing solenoids, circuit breakers and motor terminals.





Correct method using 2 spanners. Incorrect method using 1 spanner.



REFER TO MANUAL FOR WIRING INDICATED BY HEAVY LINES

LIGHTER LINES INDICATE LIGHT WIRING.

DASHED LINES INDICATE OPTIONAL WIRING.

MOTOR 12/24V	200/400W	600W

REV No.	DESC.	BY.	DATE.
02	NC# 1526	BW	20/08/18

TOLERANCES (mm)
X. ±
X.X ±
X.XX ±
UNLESS OTHERWISE SPECIFIED

MATERIAL

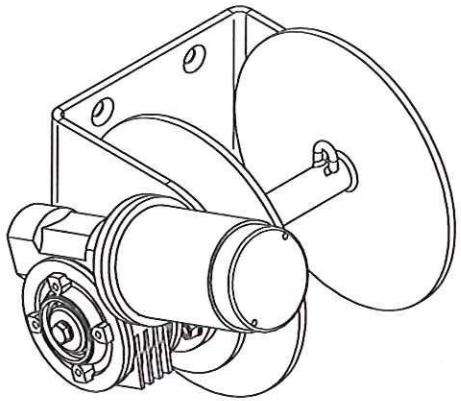
FINISH

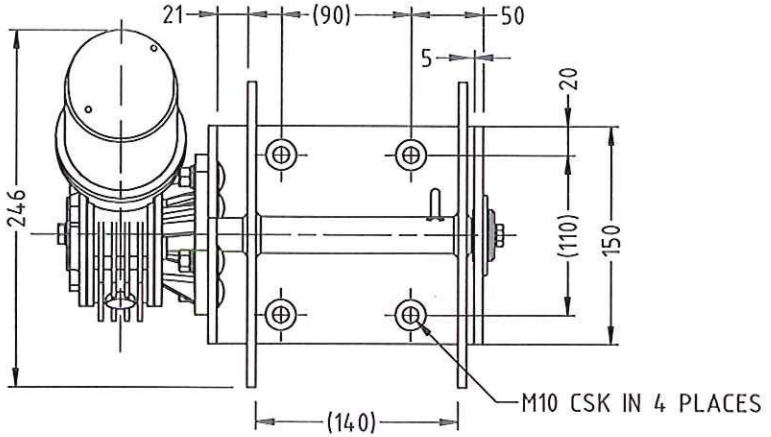
MUIR WINDLASSES AUSTRALIA

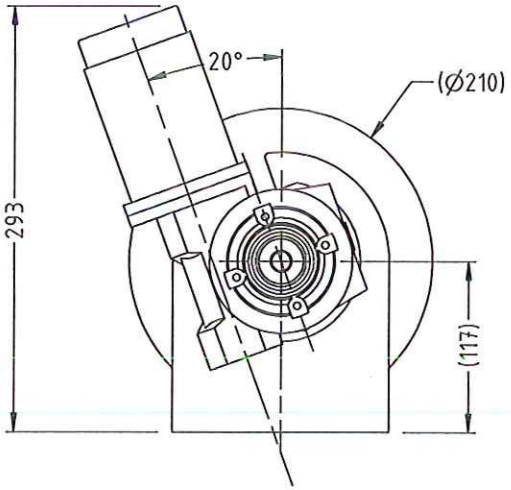
TITLE
TWO TERMINAL MOTOR (REVERSING)
WIRING DIAGRAM (POSITIVE ACTING SOLENOID)

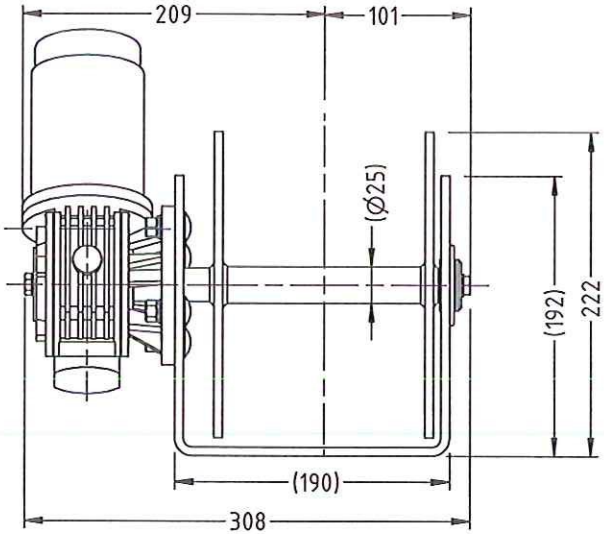
PART No. WIRE-600 CIMA SOLENOID

DRN	DATE	DRG No.	
MW	8/12/14	WIRE-600	
SCALE NTS	APP1	APP2	SIZE A4









DESIGN SPECIFICATIONS	
Motor Rating	12V/400W
Max. Pull (kg)	270
Ave. Pull (kg)	113
Top Layer Pull (kg)	48
Ave. Line Speed (m/min)	15
Max. Line Speed (m/min)	36

REV No.	DESC.	BY	DATE
0	INITIAL RELEASE	PS	20/03/2017

MUIR WINDLASSES AUSTRALIA

TOLERANCES (mm)
X.
X.X
X.XX
UNLESS OTHERWISE SPECIFIED

MATERIAL

FINISH

TITLE
DW06 VFF44/400W-CUSTOM
GENERAL ARRANGEMENT

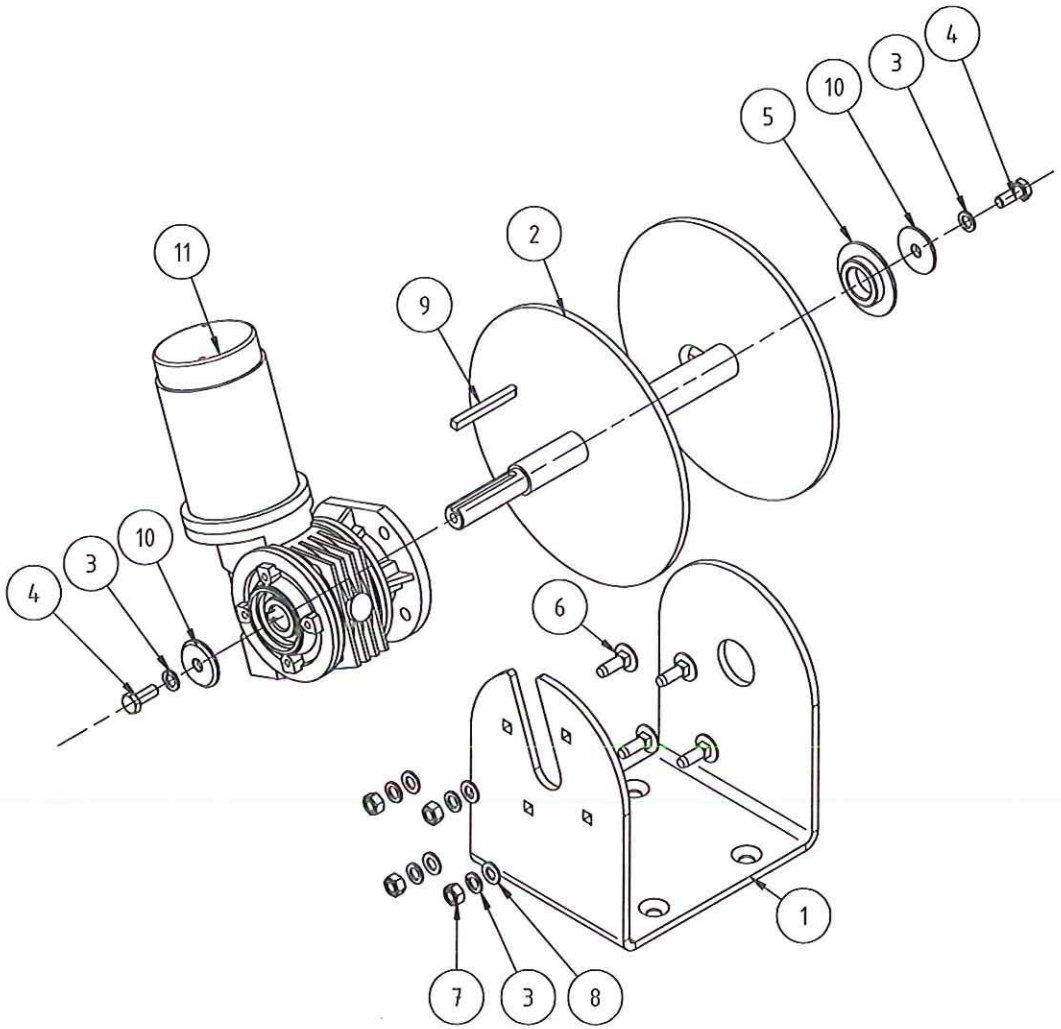
PART No F331030

SHEET 1 OF 2

DRN	DATE	DRG No
PS	11/04/2017	F331030

SCALE	APP1	APP2	SIZE
1:3			A4

G:\Acad\Quotes\Q3067\DW06-VF44-CUSTOM\F331030.idw



ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	P221138	BASE PLATE SS316
2	1	K061194	SHAFT/DRUM ASSEMBLY
3	6	S761012	SPRING WASHER SS316 M8
4	2	S361025	SCREW HEX HD - M8 x 20mm SS316
5	1	P021067	BUSH MOLY-HAT BUSH
6	4	S141001	BOLT CUP HD SS316 M8x25
7	4	S201010	NUT HEX SS316 M8
8	4	S751020	WASHER FLAT SS316 M8
9	1	P121011	KEY BRASS 6 X 6 X 60mm
10	2	P211010	END WASHER
11	1	G041040	MVF44P R60 / 12V 400W MOTOR

MUIR WINDLASSES AUSTRALIA

TOLERANCES (mm)
X.
X.X
X.XX
UNLESS OTHERWISE SPECIFIED

TITLE
DW06 VFF44/400W-CUSTOM
GENERAL ARRANGEMENT

PART No
F331030

SHEET 2 OF 2

MATERIAL

FINISH

DRN	DATE	DRG No
PS	11/04/2017	F331030

SCALE	APP1	APP2	SIZE
NTS			A4

REV No.	DESC.	BY	DATE
0	INITIAL RELEASE	PS	20/03/2017

G:\Acad\Quotes\Q3067\DW06-VF44-CUSTOM\F331030.idw

NOTES

Warranty
Limited for period of Three years (First Owner)

We warrant each new product manufactured by us to be free from defects in material and workmanship for a period of 3 years (first Owner).
This warranty shall become effective only upon receipt of a completed warranty registration, which shall identify the product so registered by serial number. This warranty shall remain in effect for a period of three (3) years from the date of purchase. For vessels in charter or hire the warranty is one (1) year due to various operators and overloading which may occur.

Conditions
While this warranty applies to defects in material and workmanship, it does not apply to:
- Normal worn parts or to damage caused by neglect, lack of maintenance, accident or improper service/installation or service by persons other than an authorised Muir representative.
- Muir shall not be responsible for failures due to products being used in applications that they are not intended for, or exceed the products performance specifications.
- For warranty claim, defective product must be returned to Muir for inspection.
- Muir will not be responsible for freight charges, removal or installation labour on warranty claims.
- Damage due to unsatisfactory storage or use of equipment prior to installation in the approved/intended manner.

Exclusions
Warranty is limited to twelve months for:
- Electric motors / controls / equipment
- Hydraulic pumps / controls /valves
- Weather seals
- Use on charter/hire/commercial boats

All incidental and/or consequential damages are excluded from this warranty. Warranties of merchantability and fitness are excluded from this warranty. Implied warranties are limited to the life of this warranty. Some countries do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above may not apply to you.
We reserve the right to improve the design or materials used on any product without assuming any obligation to modify any product previously manufactured or used.

Liability
Muir Engineering liability under this warranty shall be to the exclusion of all other warranties or liabilities (to the extent permitted bylaw). In particular (but without limitation):
Muir Engineering shall not be liable for:
Any indirect or consequential loss including (without limitation) any loss of anticipated profits, damage to reputation or goodwill, loss of expected future business, damages, costs or expenses payable to any third party or any other indirect losses. Any damage to yachts or equipment. Death or personal Injury (unless caused by Muir Engineering negligence).

Warranty Registration

Please visit " https://www.muir.com.au/warrantyregistration " to complete your online Warranty Registration.

NOTES

NOTES

Head Office:
100 Browns Road,
Kingston Tasmania,
Australia 7050
Tel Int: +61 (0) 3 6229 0600
Email: sales@muir.com.au
www.muir.com.au

WINDLASS
SERIAL NUMBER