



WINDOW WIPER
TECHNOLOGIES INC

P E R F O R M A N C E D E S I G N E D
W I P E R S Y S T E M S



THE COMPANY CHARTER

LEADERS IN THE FIELD

As the leading designers, manufacturers and suppliers of the highest quality ships bridge window wiping/wash systems for the Worlds Maritime Industries our aim is to continually look to and improve the way we work.

CUSTOMER SERVICE

We value our customers. The equipment and service we offer will continue to be at the forefront of the Marine Industry, together with delivery, specification, reliability and value for money.

DESIGN AND ENGINEERING

Our design and engineering philosophy is founded on the pursuit of supplying the products and services that meet the stringent requirements our customers demand.

QUALITY SYSTEMS

To ensure we achieve your standards, we make the effort to keep our quality systems above all the internationally accepted standards.



Clear View Screens 300/343,350/393
& 400/443 accepted for Lloyds class
vessels when glass conforms to BS
MA - 25.

NES 501 DEF Stan 61 - 12 pt 18 - 2 and 3

Design & Application Service4

Units custom designed to utilise any combination of wipers, heaters and windows.

2 Nm5

Small, compact unit for light duty applications.

20 Nm6

Medium duty unit.

30 Nm7

For when rapid and efficient clearing of windows is essential.

50 Nm8

Heavy duty - proven throughout the Marine Industry.

80 Nm Compact9

Outstanding performance for high speed vessels.

110 Nm10

For the largest windows on the largest vessels.

20, 30, 50, 80 and 110Nm Electrics . .11

Circuit diagrams and connections.

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Parallel wiping system.

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Circular rotating wiper system.

Visi-Plus Sunblinds15

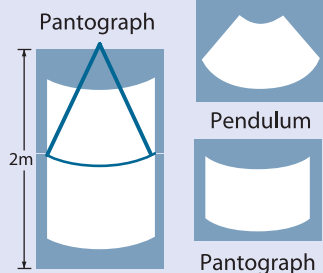
Major aid to visibility.

Wiper Arm Extractor Kit15

Multi-Function Wiper Switch15

The alternative to the rotary switch.

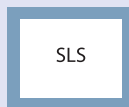
Free Design and Application Service



Straight Line



Clear View Screen



Straight Line



Pendulum Split Window Dual



Pendulum Wrap Over



Pendulum Dual Linkage



Pendulum Triple Linkage



Pantograph Dual Linkage



Pantograph Triple Linkage

Meeting the challenges of rapidly developing technology alongside the stringent demands of the modern Marine Industry, we have a reputation at home and abroad synonymous with quality and reliability.

With the need for good clear visibility an essential safety consideration, ship owners and builders worldwide rely on over seventy years experience in the design and manufacture of wiper systems to meet their specific and individual needs.

We provide a design and application facility second to none. Regardless of the type or size of vessel, our team of design engineers offer clients the best advice and assistance. Whether a craft is in its early stages on the drawing board, or refitting, they will help to achieve considerable savings in installation costs and obtain greatly improved window clearing efficiency.

With improved technology in ship design, the quality and reliability of components is critical for peak performance. Continual sourcing of materials of the highest quality for each purpose built wiper system we engineer, ensures that critical performance levels are always maintained and improved.

With this expertise and approach to meet your specific requirements, choosing us is clearly the best choice for the Marine Industry worldwide.

● Straight Line Wipers

● Pantograph Wipers

● Pendulum Wipers

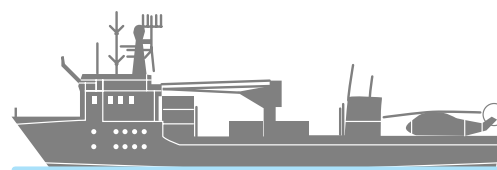
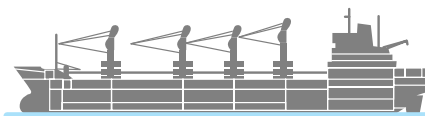
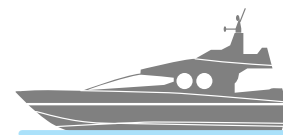
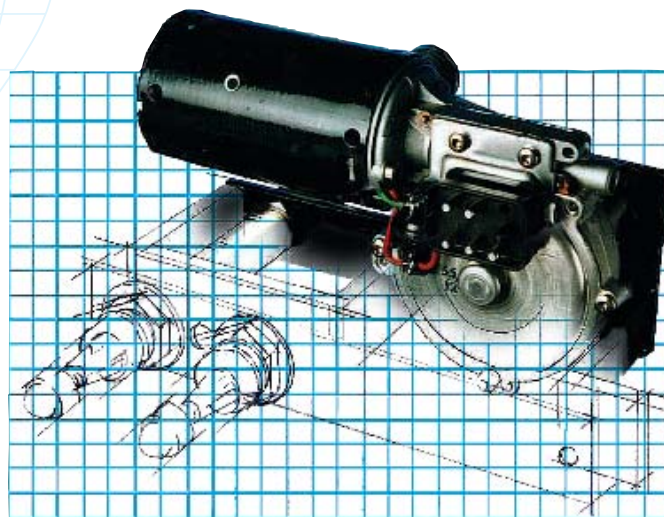
● Linkage Systems

● Clear View Screens

● Control Panels

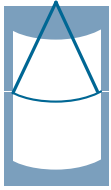
● Fresh Water Spray Jets

● Fresh Water Spray Pumps



Call us now.
It can never be too soon to see where you're going.

2Nm Light Duty Wiper Motor



Pantograph

Pendulum

Newly introduced the 2Nm is a compact light unit, aimed at the small boat market, where efficient clearing of windows is essential.

This unit is supplied as a fixed arc model which is adjustable after the motor is installed. A single speed motor, 12 and 24 volt DC, it has a self parking facility which can be operated by a toggle switch. Extremely robust, this motor is an ideal alternative to the imports. Construction is of 316 stainless steel.

Pantograph and pendulum arm with blades up to 20 ins. (510mm) are available.



Wiper Arms and Blades

■ Pantograph Arms

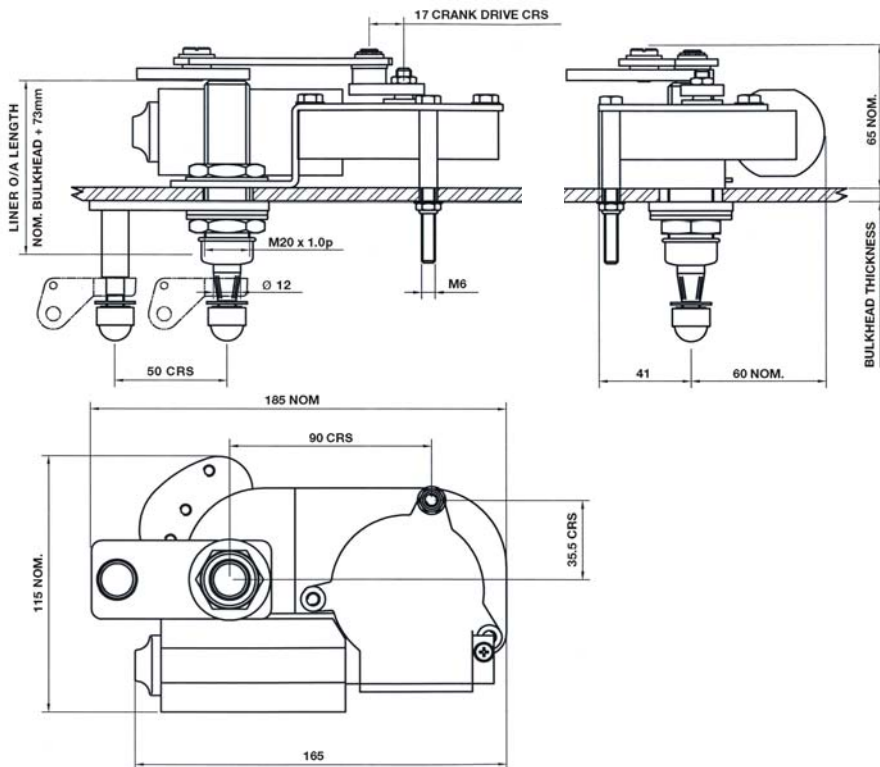
P5	Light Duty
Lengths	12" to 20" (310mm to 510mm) nom
Drive Head	12mm
Idler Head	10mm
Blade Clip	14mm

■ Pendulum Arms

F6	Light Duty
Lengths	10" to 20" (260mm to 510mm) nom
Drive Head	12mm
Blade Clip	14mm

■ Blades

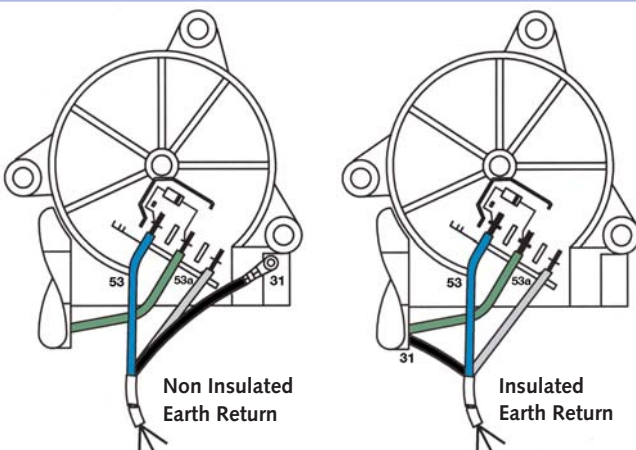
B140	Curved Blade
Lengths	12" to 20" (310mm to 510mm) nom
For use with arm types:	
Pendulum	F6
Pantograph	P5



Specifications

Unit type	2Nm
Voltage	24
Arc of Wipe	0VA
Liner Length	075

Standard Details	1 Speed; Self Parking. 12v and 24v
Angles of Arc	Variable - at stated angles
Pantograph Units	40°; 55°; 65°; 75°; 90°
Pendulum Units	40°; 55°; 65°; 75°; 90°; 105°
Spindle Centres	Between Drive Liner & Idler = 50mm
Drive Liner	M20 - Brass Liner / 12mm SS Spindle
Liner Overall Length	Bulkhead Thickness + 65mm
Idler Liner	SS Hex Spacer / 10mm SS Spindle
Bracket	No notation used for Bracket
Unit Weight	Allowing for the maximum arm and blade lengths; 1.4Kgs (3.0 lbs)
Optional	Insulated Earth Return



Switch Information

2Nm Motor Unit

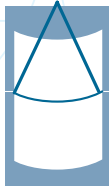
Voltage	Starting Current	Running Current
12v DC	2.5 amps	1.5 amp
24v DC	1.1 amps	0.6 amps

Wiring the Motor Unit to a 1 Pole / 2 Throw Switch

Motor	Switch
31 Black Wire	position 1 and negative ship's supply
53 Blue Wire (single speed)	position 2
53a Grey Wire	position 3 and positive ship's supply

Current readings are for guidance only.

20Nm Medium Duty Wiper Motor



Pantograph

Pendulum

The 20Nm is a compact unit, aimed at the small boat market, where efficient clearing of windows is essential.

This unit is supplied as a fixed arc or variable arc model, for 12 & 24 volt DC. The standard motor has two speeds and self parking facility which can be operated by a rotary switch, toggle switch or a multi speed/function control switch. Insulated earth return and EMC filter are standard.

Pantograph and pendulum arm with blades up to 24ins. (610mm) are available.



Wiper Arms and Blades

Pantograph Arms

P613	Medium Duty
Lengths	12" to 24" (310mm to 610mm) nom
Drive Head	12mm
Idler Head	10mm
Blade Clip	14mm

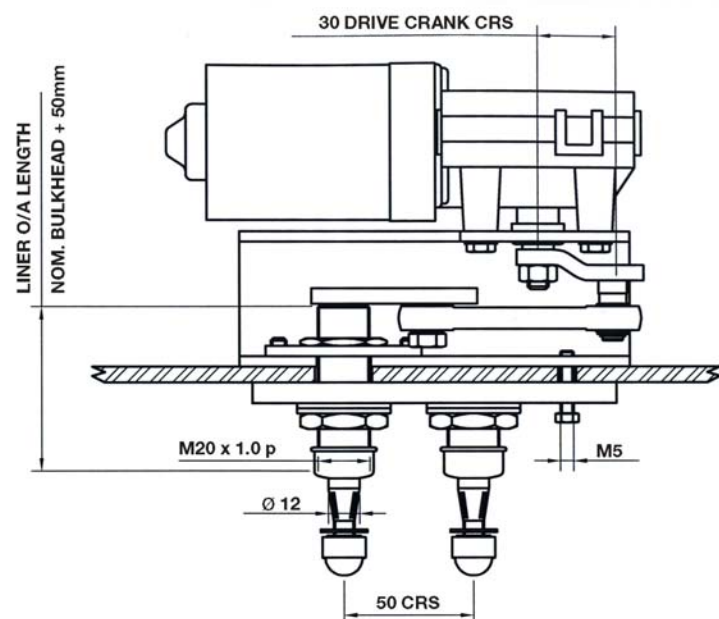
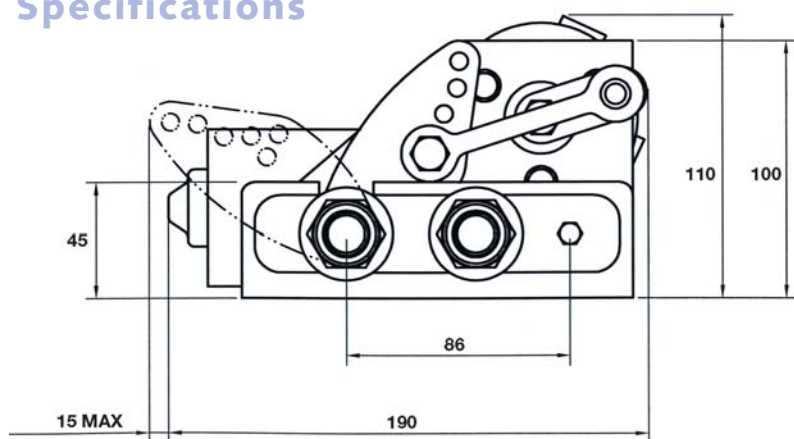
Pendulum Arms

F63	Medium Duty
Lengths	12" to 28" (310mm to 710mm) nom
Drive Head	12mm
Blade Clip	14mm

Blades

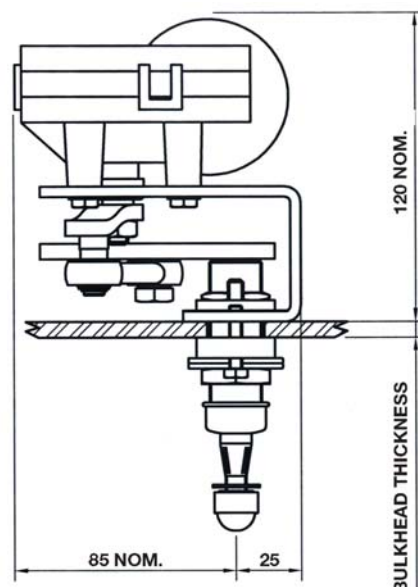
B140	Curved Blade
Lengths	12" to 24" (310mm to 610mm) nom
For use with arm types:	
Pendulum	F63
Pantograph	P613

Specifications

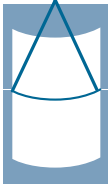


Unit type	20Nm	Arc of Wipe	OVA
Voltage	24	Liner Length	057

Standard Details	2 Speed; Self Parking; Insulated Earth Return; 12v and 24v
Angles of Arc	Variable - at stated angles
Pantograph Units	40°; 50°; 60°; 70°; 80°; 90°
Pendulum Units	40°; 50°; 60°; 70°; 80°; 90°
Spindle Centres	Between Drive Liner & Idler = 50mm
Drive Liner	M20 - Brass Liner / 12mm SS Spindle
Liner Overall Length	Bulkhead Thickness + 65mm
Idler Liner	M20 - Brass Liner / 20mm SS Spindle
Bracket	No notation used for Bracket
Unit Weight	Allowing for the maximum arm and blade lengths; 3.5Kgs (7.7 lbs)



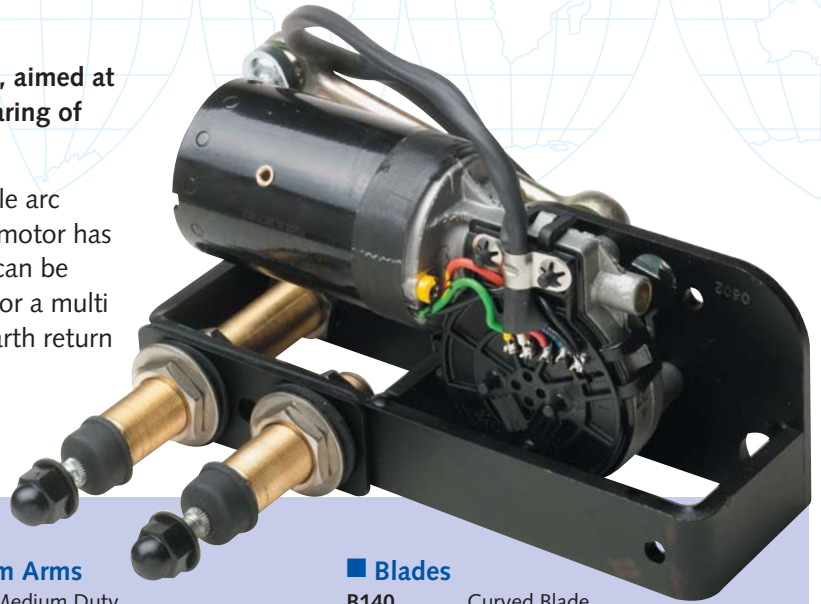
30Nm Medium Duty Wiper Motor



The 30Nm is a compact medium duty unit, aimed at the small boat market, where efficient clearing of windows is essential.

This unit is supplied as a fixed arc or variable arc model, for 12 & 24 volt DC. The standard motor has two speeds and self parking facility which can be operated by a rotary switch, toggle switch or a multi speed/function control switch. Insulated earth return and EMC filter are standard.

Pantograph and pendulum arm with blades up to 28ins. (710mm) are available.



Wiper Arms and Blades

Pantograph Arms

P613	Medium Duty
Lengths	12" to 28" (310mm to 710mm) nom
Drive Head	12mm
Idler Head	10mm
Blade Clip	14mm

Pendulum Arms

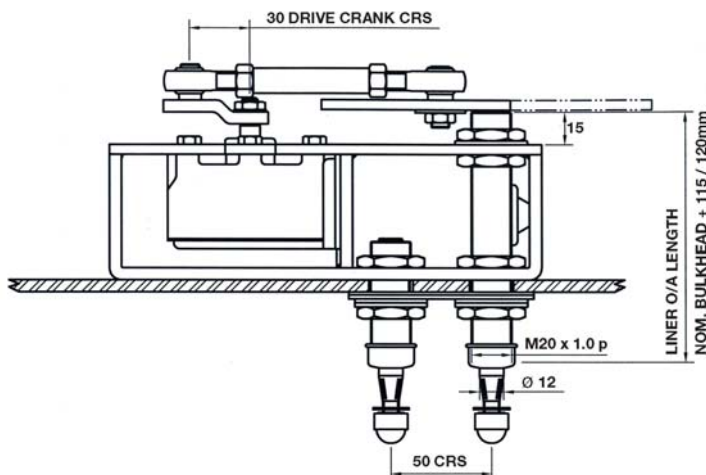
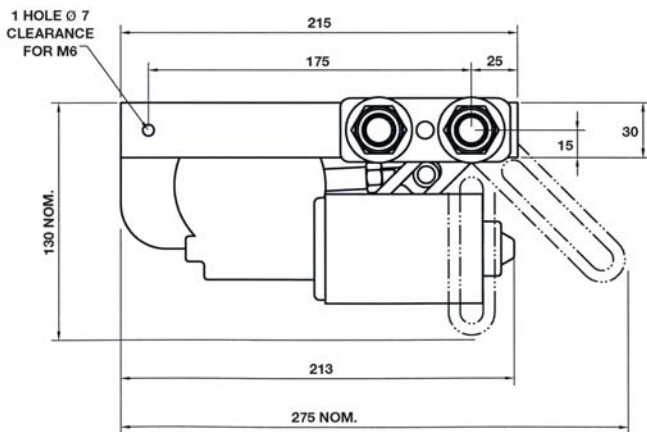
F63	Medium Duty
Lengths	12" to 28" (310mm to 710mm) nom
Drive Head	12mm
Blade Clip	14mm

Blades

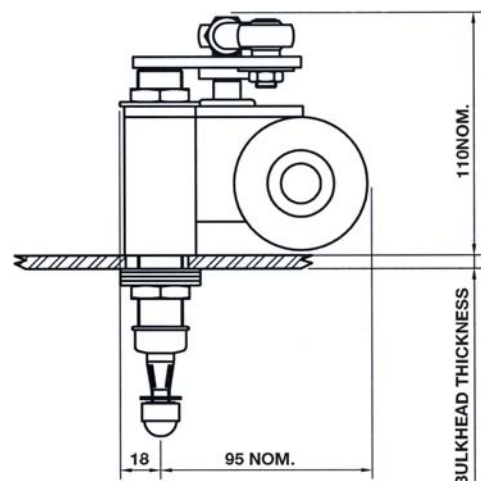
B140	Curved Blade
Lengths	12" to 24" (310mm to 610mm) nom
For use with arm types:	
Pendulum	F63
Pantograph	P613

Specifications

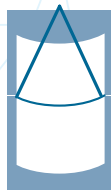
Unit type	30Nm	Liner Length	125
Voltage	24	Idler	12
Arc of Wipe	090	Bracket	C



Standard Details	2 Speed; Self Parking; Insulated Earth Return; 12v and 24v
Angles of Arc	Fixed - Compact and Handed Units
Pantograph Units	25° to 90° (in 5° increments only)
Pendulum Units	25° to 115° (in 5° increments only)
Angles of Arc	Variable - Compact and Handed Units
Pantograph Units	35°; 40°; 45°; 50°; 55°; 60°; 70°; 80°; 90°
Pendulum Units	35°; 40°; 45°; 50°; 55°; 60°; 70°; 80°; 90°; 100°; 110°; 120°
Spindle Centres	Between Drive Liner & Idler = 50mm Pantograph Units only
Drive Liner	M20 - Brass Liner / 12mm SS Spindle Pantograph & Pendulum Units
Liner Overall Length	Bulkhead Thickness + 115/120mm (Compact Units) Liners over 125mm are available at extra cost
Idler Liner	M20 - Brass Liner / 12mm SS Spindle Pantograph Units only
Bracket	C - Compact Bracket
Unit Weight	Allowing for the maximum arm and blade lengths; 4Kgs (8.8lbs)



50Nm Heavy Duty Wiper Motor



Pantograph



Pendulum

For its size the 50Nm is a very powerful unit, adaptable for high speed vessels, workboats and leisure craft, where compact design and outstanding performance are paramount.

This unit is supplied as a fixed arc or variable arc model, for 12 & 24 volt DC. The standard motor has two speeds and self parking facility which can be operated by a rotary switch, toggle switch or a multi speed/function control switch. Insulated earth return and EMC filter are standard.

Pantograph and pendulum arms and blades up to 34ins. (1000mm) are available.



Wiper Arms and Blades

Pantograph Arms

P615	Medium Duty
Lengths	12" to 34" (310mm to 860mm) nom
Drive Head	12mm
Idler Head	12mm
Blade Clip	14mm
P620	Medium Duty
Lengths	12" to 34" (310mm to 860mm) nom
Drive Head	12mm
Idler Head	12mm
Blade Clip	20mm

Pendulum Arms

F63	Medium Duty
Lengths	12" to 34" (310mm to 860mm) nom
Drive Head	12mm
Blade Clip	14mm
F63	Medium Duty
Lengths	12" to 34" (310mm to 860mm) nom
Drive Head	12mm
Blade Clip	20mm

Blades

B140	Curved Blade
Lengths	12" to 32" (310mm to 810mm) nom

For use with arm types:

Pendulum	F63
Pantograph	P615

B140	Curved Blade
Lengths	32" (810mm), nom

For use with arm types:

Pendulum	F63
Pantograph	P615

Specifications

Unit type	50Nm	Liner Length	125
Voltage	24	Idler	12
Arc of Wipe	090	Bracket	C

Standard Details

2 Speed; Self Parking; Insulated Earth Return; 12v and 24v

Angles of Arc

Fixed - Compact and Handed Units

Pantograph Units

25° to 90° (in 5° increments only)

Pendulum Units

25° to 115° (in 5° increments only)

Angles of Arc

Variable - Compact and Handed Units

Pantograph Units

35°; 40°; 45°; 50°; 55°; 60°; 70°; 80°; 90°

Pendulum Units

35°; 40°; 45°; 50°; 55°; 60°; 70°; 80°; 90°; 100°; 110°; 120°

Spindle Centres

Between Drive Liner & Idler = 50mm
Pantograph Units only

Drive Liner

M20 - Brass Liner / 12mm SS Spindle
Pantograph & Pendulum Units

Liner Overall Length

Bulkhead Thickness + 115/120mm (Compact Units) or 45mm (Handed Units)
Liners over 125mm are available at extra cost

Idler Liner

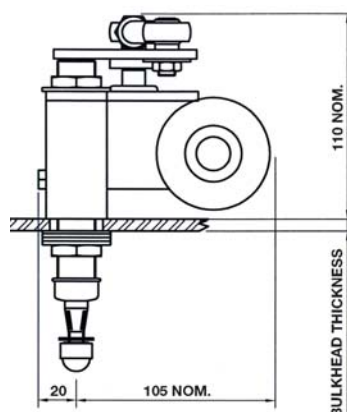
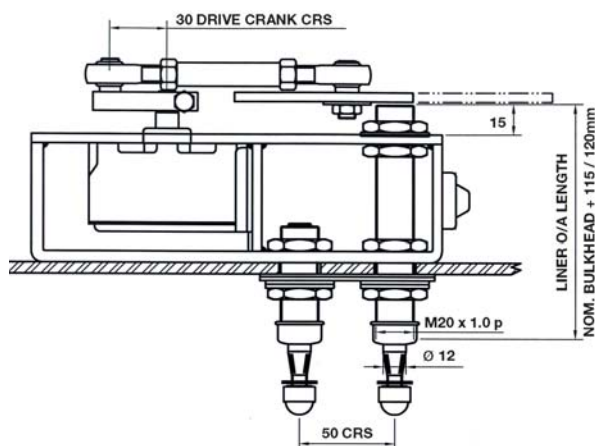
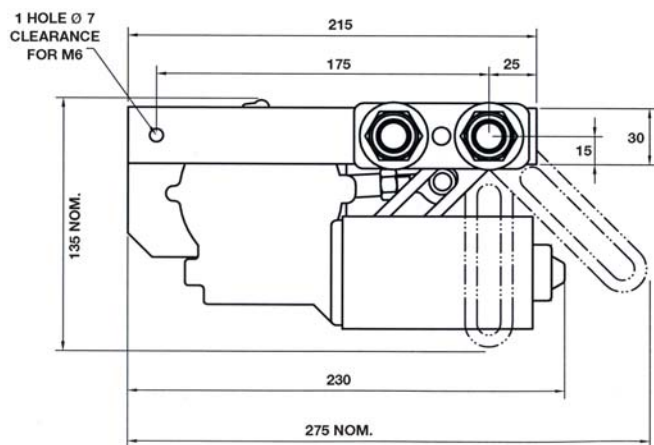
M20 - Brass Liner / 12mm SS Spindle
Pantograph Units only

Bracket

L - Left Hand Bracket; R - Right Hand Bracket;
C - Compact Bracket

Unit Weight

Allowing for the maximum arm and blade lengths; 4Kgs (8.8 lbs)



50Nm Linkage configurations

Wrap Over



Split Window Dual



Triple Linkage



Dual Linkage



Dual Linkage

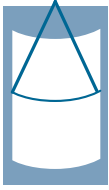


Triple Linkage



When very wide or multiple windows are to be swept we offer a comprehensive range of swept area solutions utilising the 50Nm drive unit operating either two or three arms and blades off one motor. This offers customers the benefit of simpler installations as well as cost saving.

80Nm Heavy Duty Compact Wiper Motor



Pantograph



Pendulum

With the ever increasing need for speed and the 24 hour day operation of today's shipping the 80Nm model gives outstanding performance. To ensure a good swept window albeit travelling at 60 knots, the wiper arm design needed to ensure a good blade contact has necessitated the development of the extra heavy duty model.

Supplied as fixed and variable arc models and available for 24 volt DC, the standard motor has two speeds and self parking facility which can be operated by a rotary switch, toggle switch or a multi speed/function control switch. Insulated earth return is standard. Where a higher on board voltage is used, we offer a number of solutions which will utilise this extremely reliable wiper and still offer a competitive package. Pantograph and pendulum arms up to 60 inches (1525mm) are available and blades up to 39 inches (1000mm).



Wiper Arms and Blades

■ Pantograph Arms

P84	Heavy Duty
Lengths	24" to 60" (610mm to 1525mm) nom
Drive Head	16mm
Idler Head	16mm
Blade Clip	14mm & 20mm

■ Pendulum Arms

F80	Heavy Duty
Lengths	24" to 60" (610mm to 1525mm) nom
Drive Head	16mm
Blade Clip	14mm
F81	Heavy Duty
Lengths	24" to 60" (610mm to 1525mm) nom
Drive Head	16mm
Blade Clip	20mm

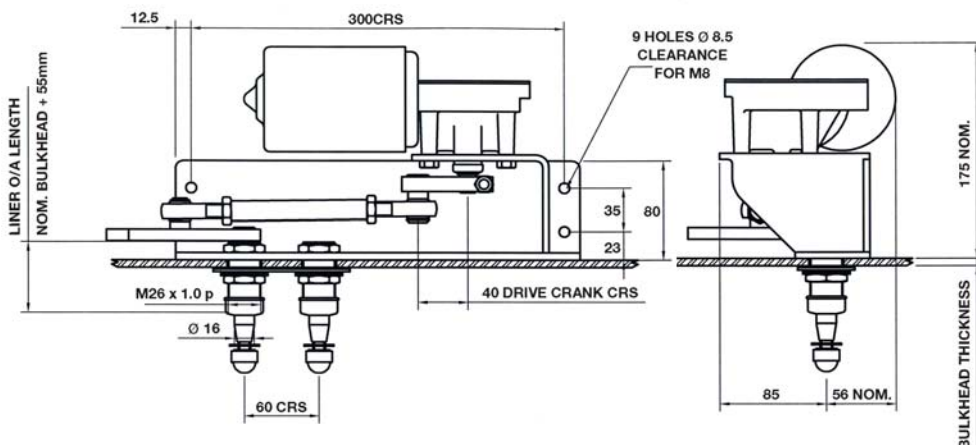
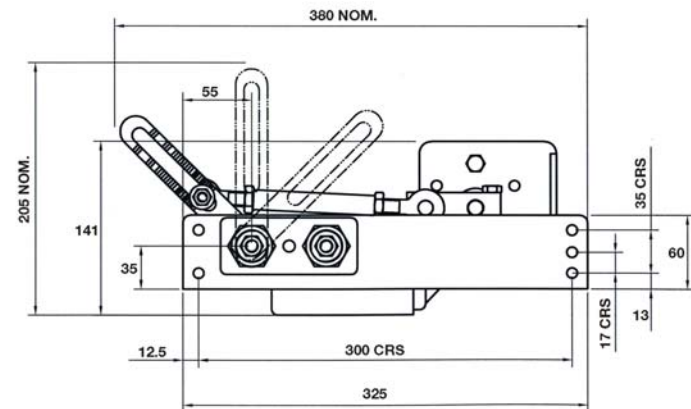
■ Blades

B140	Curved Blade
Lengths	12" to 28" (3105mm to 710mm) nom
For use with arm types:	
Pendulum	F80
Pantograph	P84
B140	Curved Blade
Lengths	32" (810mm), 36" (915mm) & 39" (1000mm)
For use with arm types:	
Pendulum	F81
Pantograph	P84

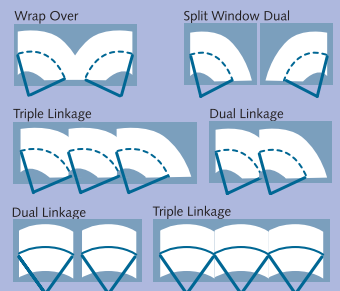
Specifications

Unit type	80Nm	Liner Length	057
Voltage	24	Idler	16
Arc of Wipe	090	Bracket	C

Standard Details	2 Speed; Self Parking; Insulated Earth Return; 12v and 24v
Angles of Arc	Fixed - Compact and Handed Units
Pantograph Units	25° to 90° (in 5° increments only)
Pendulum Units	25° to 115° (in 5° increments only)
Angles of Arc	Variable - Compact and Handed Units
Pantograph Units	40° to 90° (in 5° increments only)
Pendulum Units	40° to 90° (in 5° increments only)
Spindle Centres	Between Drive Liner & Idler = 60mm Pantograph Units only
Drive Liner	M26 - Brass Liner / 16mm SS Spindle Pantograph & Pendulum Units
Liner Overall Length	Bulkhead Thickness + 55mm
Idler Liner	M20 - Brass Liner / 16mm SS Spindle Pantograph Units only
Bracket	L - Left Hand Bracket; R - Right Hand Bracket; C - Compact Bracket
Unit Weight	Allowing for the maximum arm and blade lengths; 8Kgs (17.6 lbs)

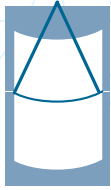


80Nm Linkage configurations



When very wide or multiple windows are to be swept we offer a comprehensive range of swept area solutions utilising the 80Nm drive unit operating either two or three arms and blades off one motor. This offers customers the benefit of simpler installations as well as cost saving.

110Nm Heavy Duty Wiper Motor



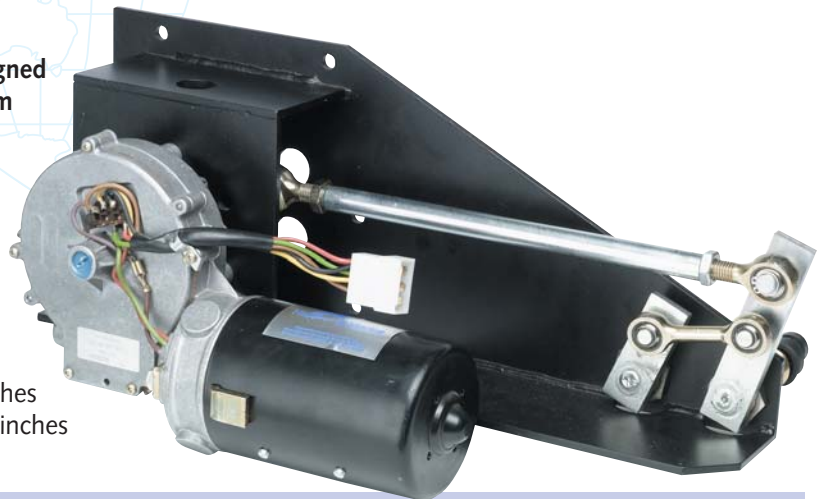
Pantograph

Pendulum

The power of this system is awesome. Designed for the very largest ship windows, the 110Nm gives near silent continual performance.

Supplied as a fixed arc model and available for 24 volt DC, this high powered motor has two speeds and self parking facility which can be operated by a rotary switch, toggle switch or a multi speed/function control switch.

Pantograph and pendulum arms up to 72 inches (1829mm) are available and blades up to 78 inches (1981mm).



Wiper Arms and Blades

■ Pantograph Arms

P84	Heavy Duty
Lengths	24" to 72" (610mm to 1830mm) nom
Drive Head	16mm
Idler Head	16mm
Blade Clip	14mm & 20mm

■ Pendulum Arms

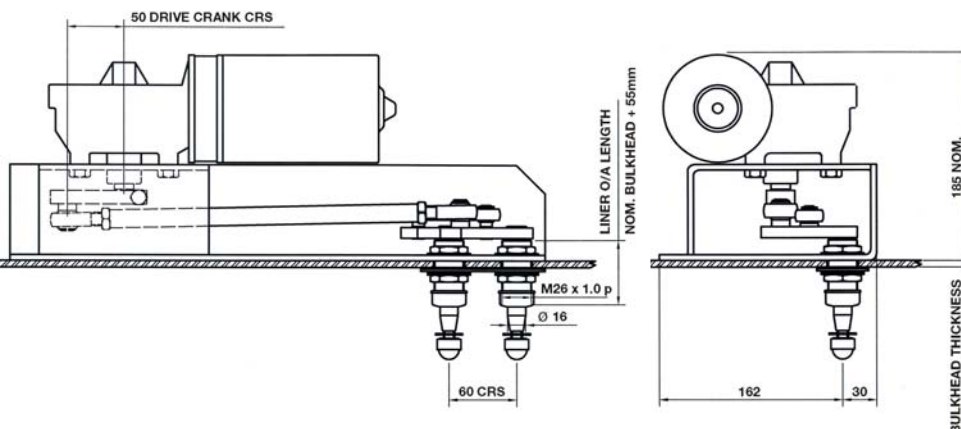
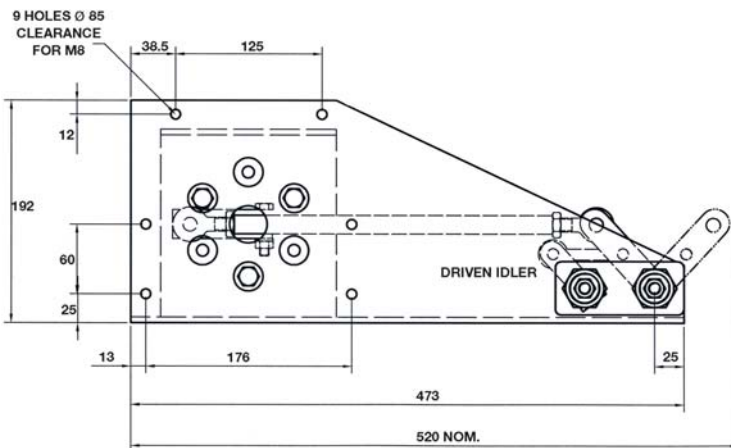
F80	Heavy Duty
Lengths	24" to 72" (610mm to 1830mm) nom
Drive Head	16mm
Blade Clip	14mm
F81	Heavy Duty
Lengths	24" to 72" (610mm to 1830mm) nom
Drive Head	16mm
Blade Clip	20mm

■ Blades

B140	Curved Blade		
Lengths	12" to 28" (310mm to 710mm) nom		
For use with arm types:			
Pendulum	F80	Pantograph	P84
B140	Curved Blade		
Lengths	32" (810mm), 36" (915mm), 39" (1000mm), 52" (1320mm), 56" (1420mm), 64" (1625mm), 72" (1830mm), 78" (1980mm)		
For use with arm types:			
Pendulum	F81	Pantograph	P84

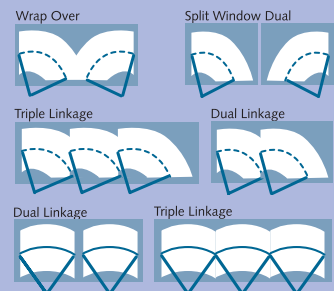
Specifications

Unit type	110Nm	Liner Length	057
Voltage	24	Idler	16
Arc of Wipe	090	Bracket	R



Standard Details	2 Speed; Self Parking; Insulated Earth Return; 24v
Angles of Arc	Fixed - Compact and Handed Units
Pantograph Units	45° to 90° (in 5° increments only)
Pendulum Units	45° to 115° (in 5° increments only)
Spindle Centres	Between Drive Liner & Idler = 60mm Pantograph Units only
Drive Liner	M26 - Brass Liner / 16mm SS Spindle Pantograph & Pendulum Units
Liner Overall Length	Bulkhead Thickness + 55mm
Idler Liner	M26 - Brass Liner / 16mm SS Spindle Pantograph Units only
Bracket	L - Left Hand Bracket; R - Right Hand Bracket;
Unit Weight	Allowing for the maximum arm and blade lengths; 9.2Kgs (20.0 lbs)

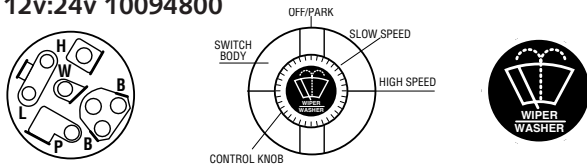
110Nm Linkage configurations



When very wide or multiple windows are to be swept we offer a comprehensive range of swept area solutions utilising the 110Nm drive unit operating either two or three arms and blades off one motor. This offers customers the benefit of simpler installations as well as cost saving.

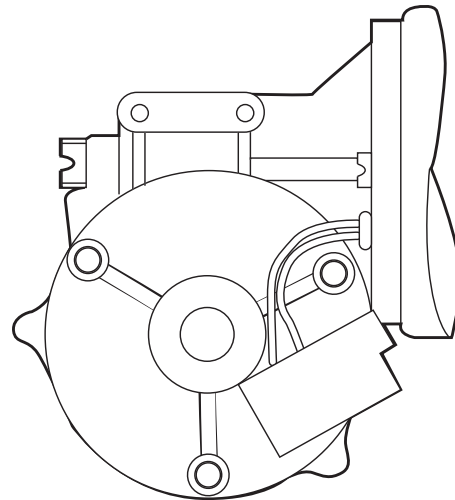
20, 30, 50, 80 & 110Nm Electrical Details

Non-intermittent Rotary Switch 12v:24v 10094800



Wiring the Motor Unit to a Rotary Switch

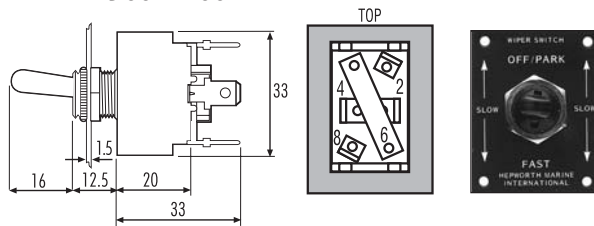
Motor	Switch
31b (self park reversal feed)	position P
53 (low speed)	position L
53a (self park)	position B and positive DC ship's supply
53b (high speed)	position H
31 (earth connection)	the negative ship's supply
Washer Pump	position W



Toggle Switch & Plate.

Dimensions: w20 h38

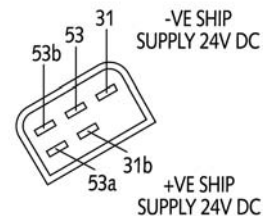
12v:24v 90041400



Wiring the Motor Unit to a Toggle Switch

Motor	Switch
31b (self park reversal feed)	position 8
53 (low speed)	position 4
53a (self park)	position 6 and positive DC ship's supply
53b (high speed)	position 2
31 (earth connection)	the negative ship's supply

INSULATED EARTH RETURN



20Nm Motor Unit

Voltage	Starting Current	Running Current
12v DC	5 amps	3 amp
24v DC	3 amps	2 amps

30Nm Motor Unit

Voltage	Starting Current	Running Current
12v DC	5 amps	3 amp
24v DC	3 amps	2 amps

50Nm Motor Unit

Voltage	Starting Current	Running Current
12v DC	5 amps	3 amp
24v DC	3 amps	2 amps

80Nm Motor Unit

Voltage	Starting Current	Running Current
12v DC	9 amps	5 amp
24v DC	5 amps	2 amps

110Nm Motor Unit

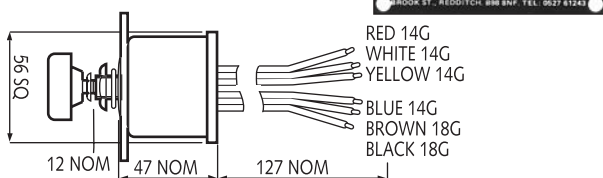
Voltage	Starting Current	Running Current
24v	5 amps	2 amps

Multi Speed Control Switch and Plate.

Dimensions: w83 h66

12v - 90041000

24v - 90041100



Wiring the Motor Unit to a Multi Speed Control Switch

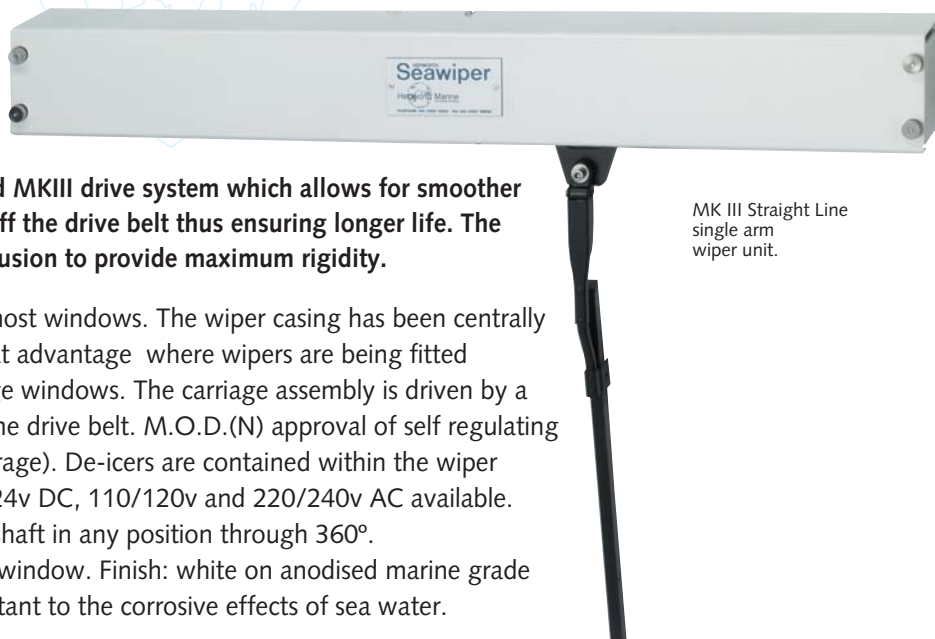
Motor	Switch
31b (self park reversal feed)	to the BLUE wire
53 (low speed)	to the YELLOW wire
53a (self park)	both RED wires and positive DC ship's supply
53b (high speed)	to the WHITE wire
31 (earth connection)	to the BLACK wire
Washer Pump	to BROWN wire

Current readings are for guidance only.

MKIII Heavy & Standard Duty Straight Line Wipers



Straight Line



MK III Straight Line single arm wiper unit.

The Seawiper now incorporates the improved MKIII drive system which allows for smoother running at higher speed and relieves strain off the drive belt thus ensuring longer life. The main frame is a heavy gauge aluminium extrusion to provide maximum rigidity.

Stroke lengths have been calculated to suit most windows. The wiper casing has been centrally located around the mechanism. This is a great advantage where wipers are being fitted adjacent to each other across a bank of bridge windows. The carriage assembly is driven by a unique attachment that does NOT weaken the drive belt. M.O.D.(N) approval of self regulating De-icers. De-Icer output 49W/ft @ 0°F (average). De-icers are contained within the wiper casing to provide maximum heat. Voltages 24v DC, 110/120v and 220/240v AC available. Wiper motor and gearbox fit onto the drive shaft in any position through 360°. Wipers can be mounted above or below the window. Finish: white on anodised marine grade aluminium. All materials used are highly resistant to the corrosive effects of sea water.

Straight Line Arms and Blades

■ Straightline Arms

SLA	Medium Duty
Lengths	10" to 28" (260mm to 710mm) max
Drive Head	12mm
Blade Clip	14mm

RSLA	Heavy Duty
Lengths	12" to 28" (310mm to 710mm) max
Drive Head	12mm
Blade Clip	14mm

■ Blades

FB	Flat Blade
Lengths	10" to 28" (260mm to 710mm) max
For use with arm types:	
Straightline	SLA & RSLA
B140	Curved Blade
Lengths	12" to 28" (310mm to 710mm) max
For use with arm types:	
Straightline	SLA & RSLA



FBM Marine Ltd. Patria high speed ferry fitted with straight line wipers.

Standard Duty Straightline Wiper

To meet the needs of customers who only require medium duty straight line wipers, we now offer our normal heavy duty without:- Control Unit, Water Spray Jets or De-Icing Heater.

This provides for a standard duty wiper at a very economical price whilst retaining all the advantages of a heavy duty system.

Naval Type M.O.D. (N) SLS or SLT

NES 501 DEF Stan 61 - 12pt 18 - 2 and 3

Special M.O.D. (N) Heavy Duty Naval Type Straight Line Bridge Window Wipers are available for front line ships.

SLS Single arm/blade unit

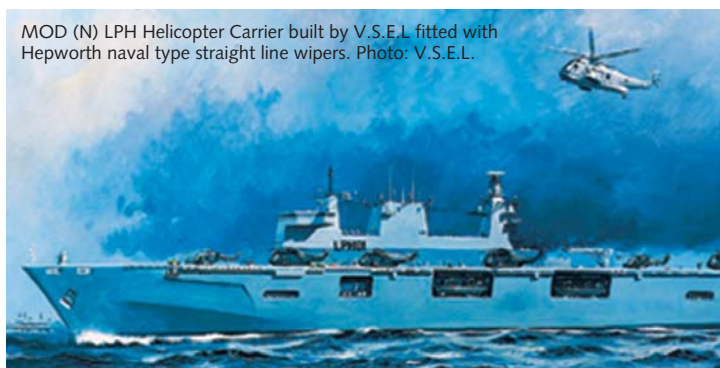
SLT Twin arm/blade unit

Details on request.

Naval Type wiper control unit.



MOD (N) LPH Helicopter Carrier built by V.S.E.L fitted with Hepworth naval type straight line wipers. Photo: V.S.E.L.



One of the Type 23 frigates fitted with Hepworth straight line wipers. Photo: Yarrow Shipbuilders.

Specifications

Heavy Duty Unit Details: SLS and SLT

EMC filter; fitted with de-icer and fresh water spray jets

Standard Duty Unit Details: SLD and SLT

As Heavy Duty but no de-icer or fresh water spray jets

Bulkhead Thickness:

The SLD, SLS and SLT units fit bulkheads of minimum 5mm thick to maximum 15mm thick. For thicker bulkheads, special connectors are available at extra cost. Details on request.

Unit Weight:

Allowing for the maximum arm and blade lengths:

SLD unit: 8.0 Kgs (17.6 lbs)

SLS unit: 9.0 Kgs (19 lbs)

SLT unit 11.4 Kgs (25 lbs)

Electrical Details

Voltage	Starting Current	Running Current
24v DC	4 amps	2 amp
110v DC	2 amps	0.5 amps
220v DC	2 amps	0.5 amps

Current readings are for guidance only.

inches	12	15	17	19	22	25	30	33	36	42	45	52	60	66	72	84
SLS & SLD single blade	300	375	430	490	560	640	755	835	920	1070	-	-	-	-	-	-
SLDT & SLT twin blade	-	-	-	-	-	-	-	-	-	-	1150	1350	1525	1675	1850	2135
O/A cover length	505	555	655	705	755	855	955	1055	1105	1255	1355	1505	1755	1905	2055	2355
Wash pipe endings	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2

Note: Straightline cover lengths must not exceed the window width, as the distance between the windows may not be enough to allow for longer units.

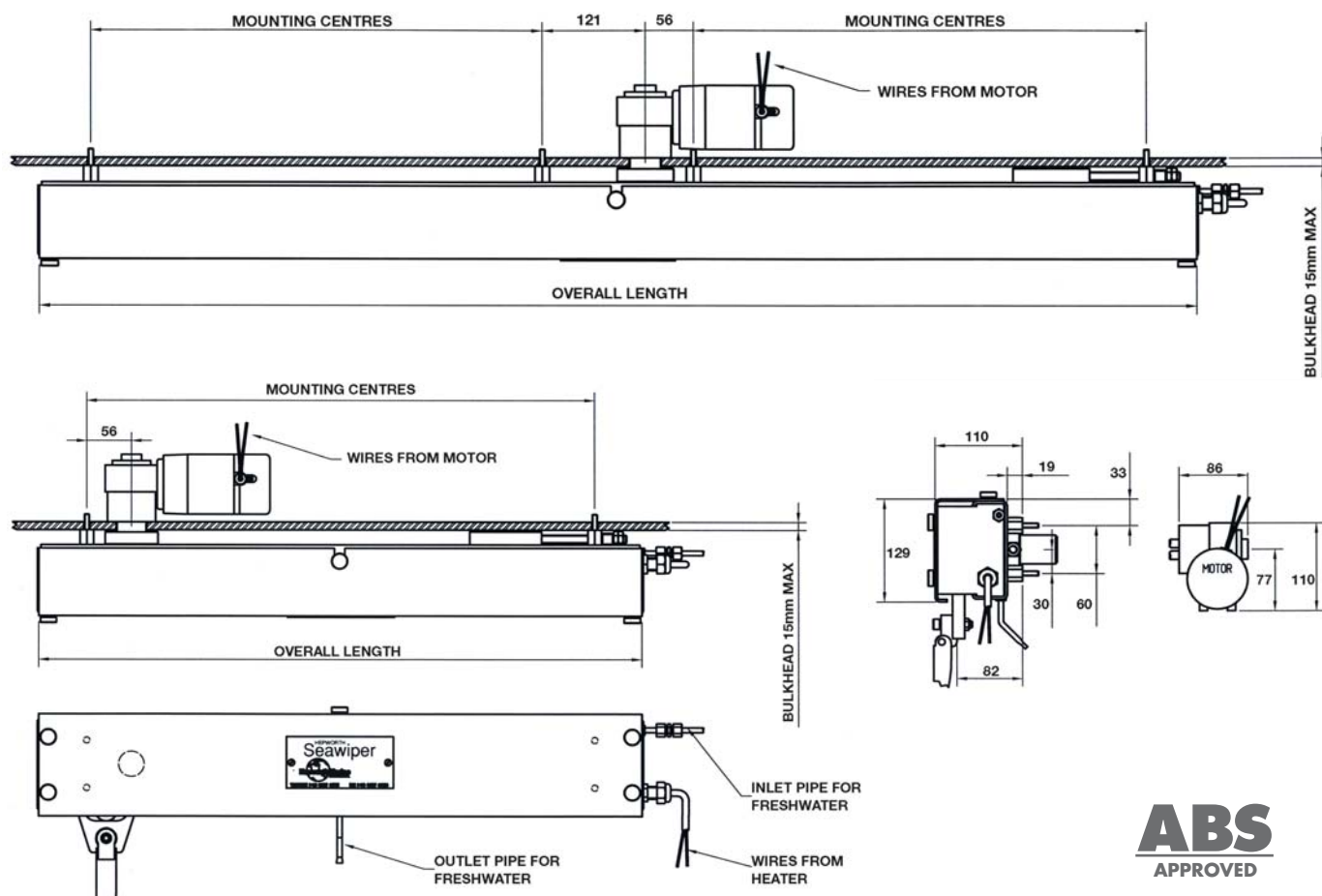
SLT 45"- 84" Twin Installation

Nominal Stroke	Fixing Crs	O/A Length
45"	1150	526
52"	1300	603
60"	1525	717
66"	1675	768
72"	1830	879
84"	2135	1027

Unit type	SLD	SLS	SLT
Stroke Length	12	12	45
Voltage	24	110	220

SLS 12"- 42" Single Installation

Nominal Stroke	Fixing Crs	O/A Length
12"	300	386
15"	375	436
17"	430	536
19"	490	586
22"	560	636
25"	640	736
30"	755	836
33"	835	936
36"	920	986
42"	1070	1134

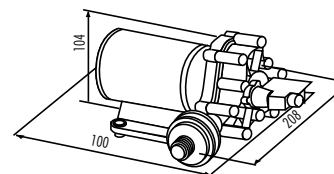
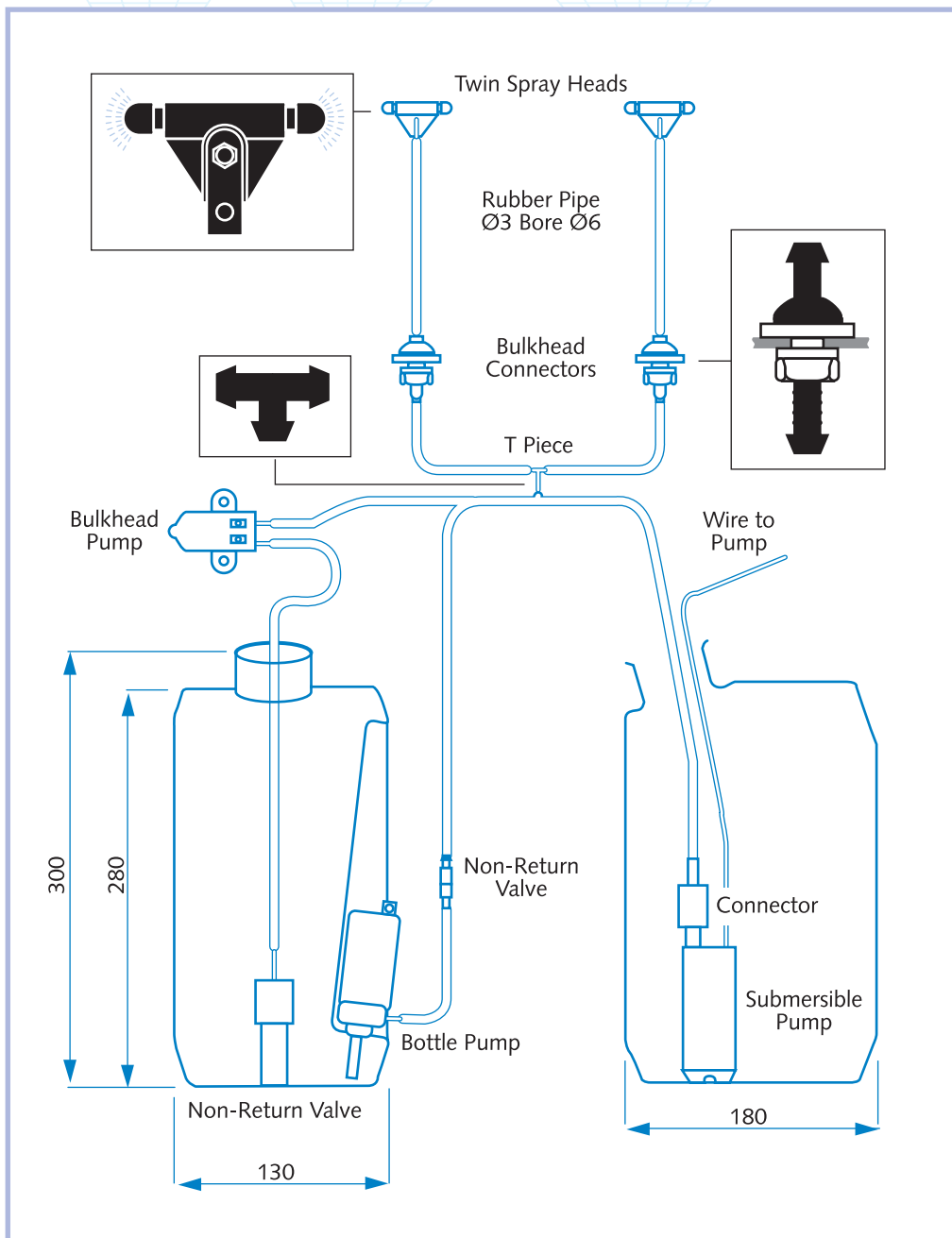


ABS
APPROVED

Externally mounted motors are also available

Pumps & Window Washer Equipment

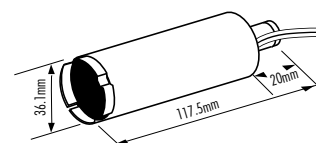
A complete range of electric water pumps are available for single or multiple outlets. For use with ships own supplies, a range of electric or pneumatic solenoids are also offered. For the harsh environment, the heated water jet can be supplied.



15011600 Heavy Duty Pump

Voltage	Amps	Fuse
24v DC	2.1A*	5 amps

Max. Output: 10 litre/min. 2.2 gal./min.
Weight: 1.93 kilograms 4lb. 4oz
Material: Glass filled polypropylene; fire retardant polyester; nitrile and EDpm rubber; zinc plated steel; sintered alloy. *at 20FT (6M) Head.



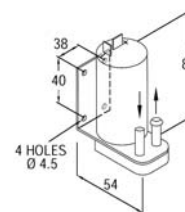
15011400 Submersible Pump

Voltage	Amps	Fuse
12v DC	2.3A	5 amps

15011500 Submersible Pump

Voltage	Amps	Fuse
24v DC	1.2A	3 amps

Max. Output: 12 ltr./min. 2.6 gal./min.
Weight: 150 grams 5.25 oz.
Material: ABS; Stainless steel; Neoprene rubber.



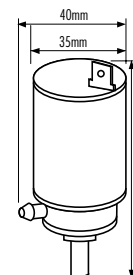
15012300 In-Line Pump

Voltage	Amps	Fuse
24v DC	2.3A	5 amps

15031000 In-Line Pump

Voltage	Amps	Fuse
12v DC	1.2A	3 amps

Max. Output: 1000cc/min. 13.2 gal./hour.
Material: Glass re-inforced nylon; Brass BS 265.



15079800 Bottle Pump

Voltage	Amps	Fuse
12v DC	2.3A	5 amps

15029900 Bottle Pumps

Voltage	Amps	Fuse
24v DC	1.2A	3 amps

Max. Output: 1000cc/min. 13.2 gal./hour.
Material: Glass re-inforced nylon; Brass BS 265.

Accessories

- 602504 Nylon Bulkhead Connector (state bulkhead thickness)
- 900747 Stainless Steel Bulkhead Connector (state bulkhead thickness)
- 15000500 Nylon T-Piece
- 80200400 Rubber Tube Ø3 Bore
- 15012001 Connector for Submersible Pump
- 15001400 Non Return Valve

Also available:

- 90017000 Non Heated Water Jet



Electrically Heated Water Jet

- 90017501 24v
- 90017502 110v
- 90017503 220v



Water Bottle

Available in 5 litre (illustrated), 10, 15 and 90 litre capacities.

- 15010000 Bottle Only.
- 150100/1 C/W 24v Pump
- 150100/3 C/W 12v Pump

Additional Products Available

Clear View Screens

A range of well proven and superior clear view screens of the highest quality.

With or without de-icing heater these screens can be supplied with or without window glass if required.

Gas tight also available.



Clear View Screen

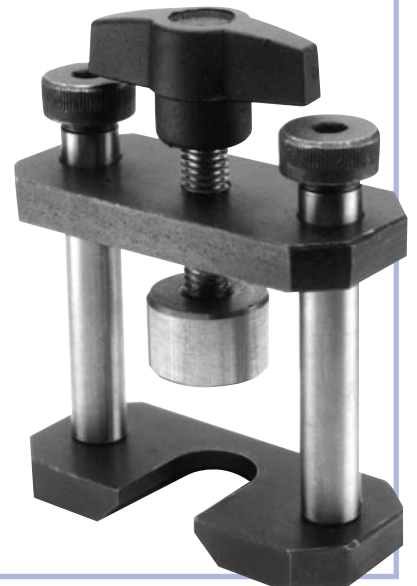


Clear View Screens 300/343,350/393 & 400/443
accepted for
Lloyd's class vessels when glass conforms to BS MA - 25.

Wiper Arm Extractor Kit

We now have available a neat gadget - officially referred to as a Wiper Arm Extractor.

This remarkably simple device allows you to remove all the wiper arms within our range with absolutely minimal effort and no damage to the wiper assembly or arm.



Visi-Plus Sunblinds

Visi-Plus Sunblinds have been specially developed to improve visibility and safety for all ships and rivercraft.

Visi-Blinds are available using grey / grey transparent film which reflects heat, ultraviolet light and the sun's glare.

Installation is extremely simple; the brackets supplied are fixed directly above each window and the complete blind is then locked into position.



Multi-Function Wiper Switch

A Standard Rocker Size Switch, the Multi-Function Wiper Switch has all the functions of our Standard Rotary Switch.

24 volt DC.



This brochure is offered as a guide to the range of products we supply. Descriptions, illustrations, photographs and specifications are intended only as a guide. The manufacturer reserves the right to alter design or specification without prior notice, and add or delete products as necessary. E. & O. E.

Many products are simple to install (detailed installation instructions are available on our website www.b-hepworth.com), but certain items must be installed, or the installation inspected by, a competent, qualified engineer or technician.

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