



# ***SCREEN WIPER SOLUTIONS***

**- Est. 1998 -**



## **TECHNICAL CATALOGUE**

**Buses & Trucks**

**Marine**

**Industrial**

**Rail**

**Automotive**



**Phone: +64 9 527 4991**

**Email: [sales@sws.co.nz](mailto:sales@sws.co.nz)**

**Mob: +64 274 873 583**

**[WWW.SWS.CO.NZ](http://www.sws.co.nz)**

Screen Wipers Ltd are confident you will find all the data needed for most applications, but should you require more, please contact us, we will welcome the opportunity to assist you further.

## HEPWORTH / DUDLEYS / WYNN

Rail .....	3
Marine Light Duty Motor .....	4
Marine Medium Duty Motors .....	6
Marine Heavy Duty Motors .....	7
Marine Pantograph Arms .....	10
Hepworth Small Parts .....	12
Naval Type Straight Line Wipers .....	13
Clear View Wipers .....	14
Bus & Coach Heavy Duty Kits .....	15
Bus & Coach Arms .....	18
Linkages .....	21

## SWS

Chinese Bus system .....	23
Japanese Bus .....	24

## SWF

Bus & Coach Arms .....	25
Bus & Coach Linkages .....	27

## TRICO / TRU-VISION

Arms, Blades .....	29
Spindles .....	32

## DOGA

Marine Medium Duty .....	33
Small Screen Wiper Systems .....	34
Marine Light Duty .....	35

## AFI

Marine light Duty .....	36
-------------------------	----

## VETUS

Marine light duty .....	37
-------------------------	----

## ROCA

Marine light duty .....	38
Small Mitsuba style .....	39

## UNITED TECHNOLOGIES / AM

WWJ .....	40
-----------	----

## ACCESSORIES

Pumps & Washer equipment .....	42
Control Switches .....	44
Control Panels .....	46

## MOTORS

Assorted .....	48
----------------	----

## BLADES

Bosch .....	51
SWF & refills .....	52
Silicone Wiper Blades .....	53

## SWS

Classic Car Arms & Blades.....	54
--------------------------------	----



Meeting the challenges of rapidly developing technology alongside the stringent demands of the modern rail industry, Hepworth Rail have a reputation synonymous with quality and reliability.

The wiper system is designed for each customer's specific requirements to give maximum swept area, utilising the best combination of components from the following ranges;

## ...range selection

- Linkage systems
- Suppressed systems
- Custom built systems

- Motors
- Arms
- Blades
- Wash equipment

*Alstom Transport  
London Underground  
Jubilee and Northern Line*



*CAF  
Hong Kong  
Lantau Airport*



*Adtranz  
Electrostar  
LTS and Comex*

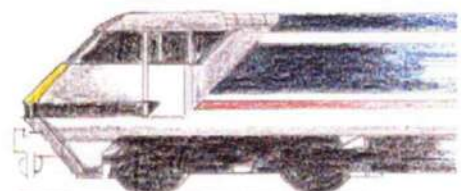
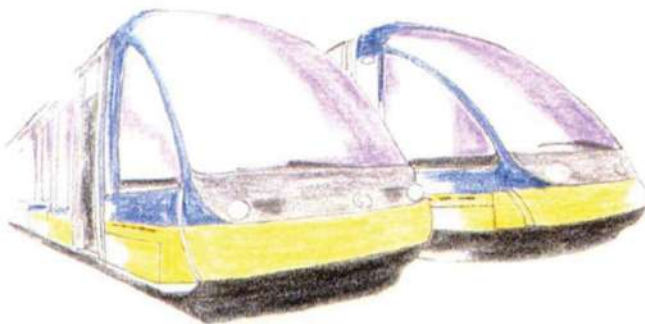
## ...design & application service

for rail vehicle builders and maintainers

Hepworthrail provide a design facility to builders of new rolling stock as well as refurbishment of existing vehicles, where replacement of existing pneumatic or existing electric systems is required, for the following types of vehicles

- High Speed Trains
- Locomotives
- Electric Multiple Units

- Diesel Multiple Units
- Metros
- Trams



# HEPWORTH 2Nm LIGHT DUTY WIPER MOTOR

Marine



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



Pantograph

This unit is supplied as a fixed arc unit 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. Construction is of 316 stainless steel.



Pendulum

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



## Wiper Arms and Blades

### Pantograph Arms

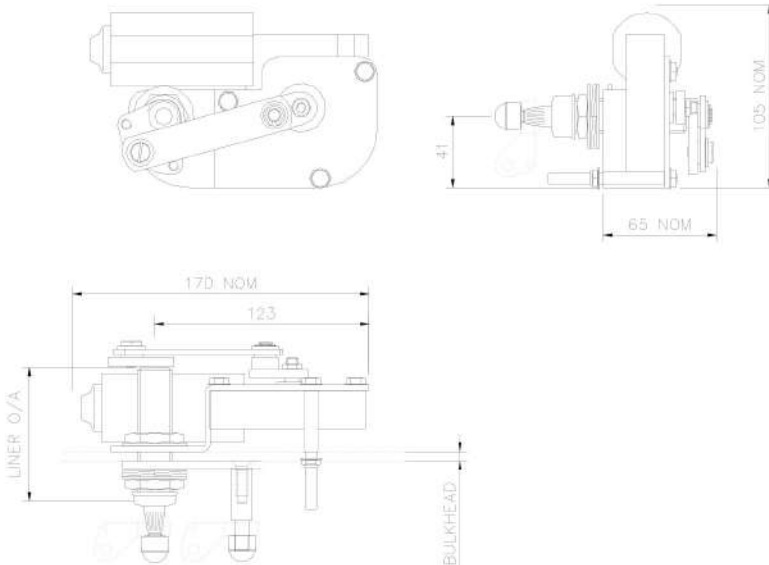
P5 Light Duty  
Lengths 12" to 20" (310mm to 510mm)  
Blade Clip 14mm

### Pendulum Arms

F6 Light Duty  
Lengths 12" to 20" (310mm to 510mm)  
Blade Clip 14mm

### Blades

B140 Curved Blade  
Lengths 12" to 20" (300mm to 500mm)  
Blade Clip 14mm



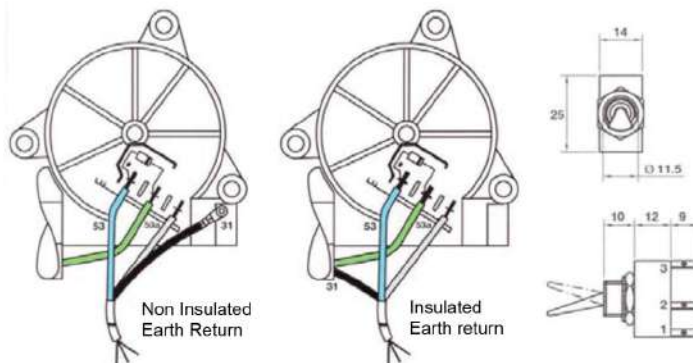
## Specifications

<b>Unit type</b>	2Nm
<b>Voltage</b>	12 & 24
<b>Standard Details</b>	1 Speed, Self Parking
<b>Angles of Arc</b>	Variable at stated angles
<b>Pantograph Units</b>	40, 55, 65, 75, 90
<b>Pendulum Units</b>	40, 55, 65, 75, 90, 105
<b>Spindle Centres</b>	Between drive & idler 50mm
<b>Drive Liner</b>	M20 SS Liner / 12mm Spindle
<b>Liner Length O/A</b>	Bulkhead thickness + 70mm, + 75mm for pantograph 75, 80, 100, 110, 125mm
<b>Idler Liner</b>	SS spacer / 10mm SS spindle
<b>Unit Weight</b>	At maximum arm & blade Lengths: 1.4Kgs (3.0lbs)
<b>Optional</b>	Insulated Earth Return
<b>Optional Motor Cover</b>	Fibreglass, See page 20

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

### Wiring the motor to a 1 pole / 2 Throw Switch

Motor	Switch
31 Black wire	Position 1 and negative ships supply
53 Blue wire (single speed)	Position 2
53a Grey wire	Position 3 and Positive ships supply





# HEPWORTH 20Nm MEDIUM DUTY WIPER MOTOR



Marine



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 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 function control switch. Insulated earth return and EMC filter are standard.



Pantograph and pendulum arms with blades up to 24 ins. (610mm)

Pantograph

Pendulum



## Wiper Arms and Blades

### Pantograph Arms

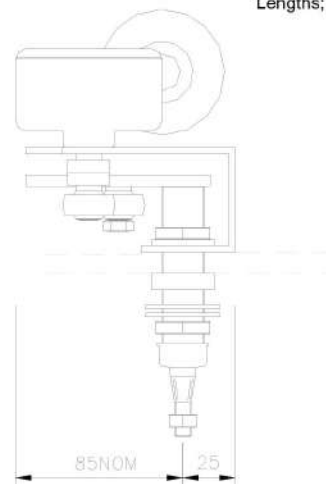
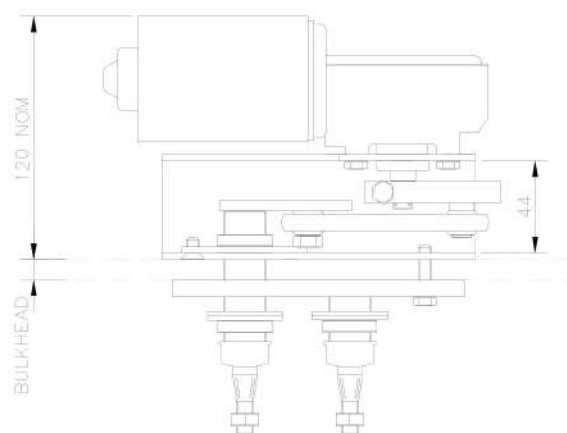
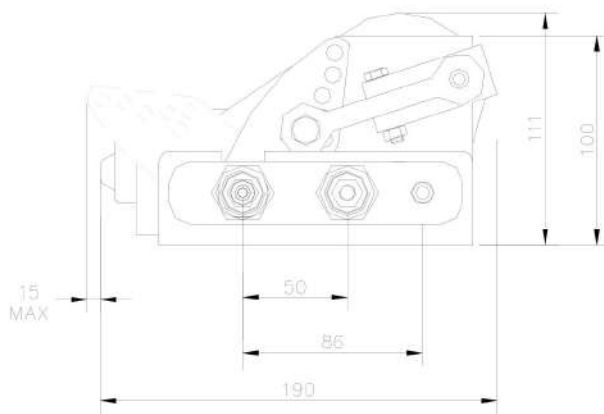
P613 Medium Duty  
Lengths 12" to 24" (310mm to 610mm)  
Blade Clip 14mm

### Pendulum Arms

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

### Blades

B140 Curved Blade  
Lengths 12" to 24" (300mm to 600mm)  
Blade Clip 14mm



## Specifications

<b>Unit type</b>	20Nm
<b>Voltage</b>	12 & 24
<b>Standard Details</b>	2 Speed, Self parking, Insulated Earth Return
<b>Angles of Arc</b>	Variable at stated angles
<b>Pantograph Units</b>	45, 50, 60, 70, 80, 90
<b>Pendulum Units</b>	45, 50, 60, 70, 80, 90
<b>Spindle Centres</b>	Between drive & idler 50mm
<b>Drive liner</b>	M20 SS Liner / 12mm Spindle
<b>Liner Length O/A</b>	Bulkhead thickness + 40mm, + 48mm for pantograph 70, 100mm
<b>Idler liner</b>	M20 SS Liner / 12mm Spindle
<b>Unit Weight</b>	At maximum arm & blade Lengths; 3.5Kgs (7.7lbs)

# HEPWORTH 30Nm MEDIUM DUTY WIPER MOTOR

Marine



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



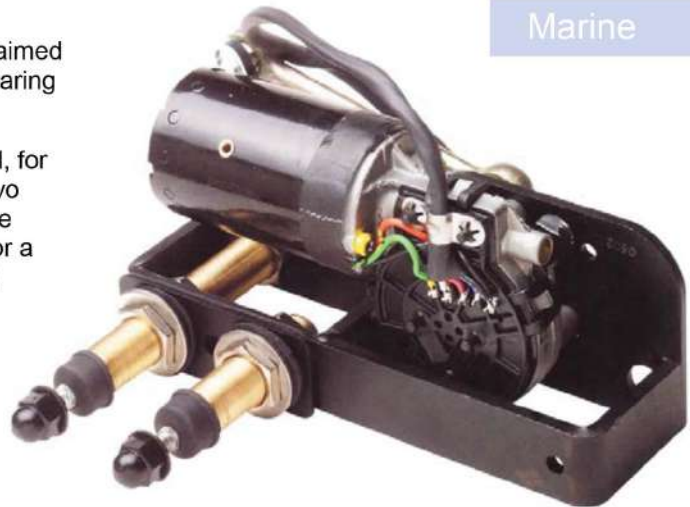
Pantograph

This unit is supplied as a 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 switch. Insulated earth return and EMC filter are standard.



Pendulum

Pantograph and pendulum arms up to 28 ins. (710mm) with blades up to 24 ins. (600mm)



## Wiper Arms and Blades

### Pantograph Arms

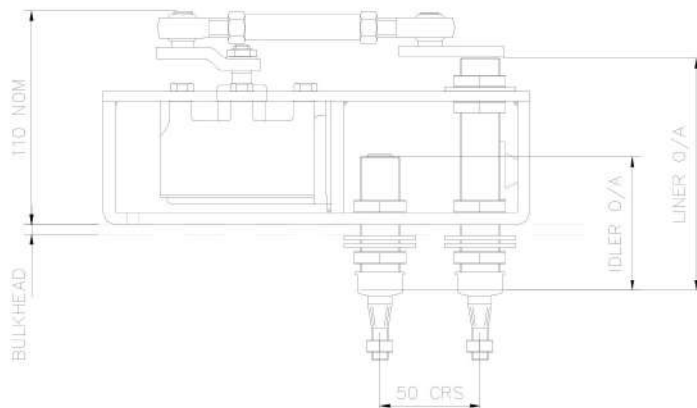
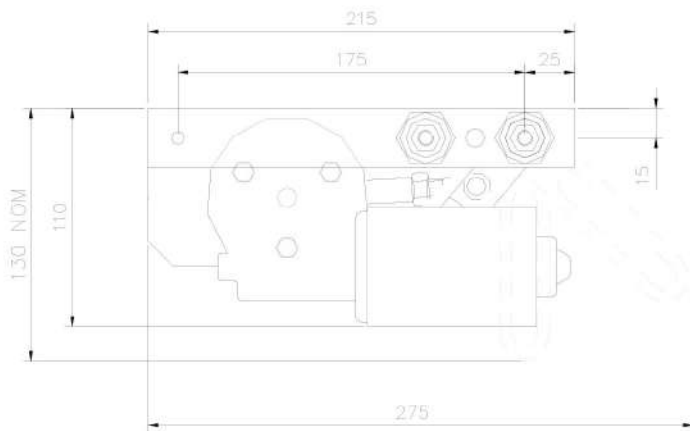
**P613 Medium Duty**  
Lengths 12" to 28" (310mm to 710mm)  
Blade Clip 14mm

### Pendulum Arms

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

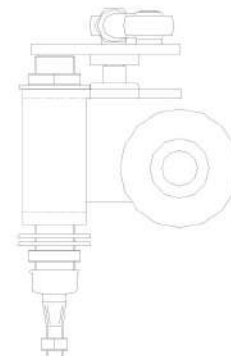
### Blades

**B140 Curved Blade**  
Lengths 12" to 24" (300mm to 600mm)  
Blade Clip 14mm



## Specifications

<b>Unit type</b>	30Nm
<b>Voltage</b>	12 & 24
<b>Standard Details</b>	2 Speed, Self parking, Insulated Earth Return
<b>Angles of Arc</b>	Variable at stated angles
<b>Pantograph Units</b>	35 to 90 degrees
<b>Pendulum Units</b>	35 to 120 degrees
<b>Spindle Centres</b>	Between drive & idler 50mm
<b>Drive liner</b>	M20 Liner / 12mm Spindle
<b>Liner Length O/A</b>	Bulkhead thickness + 100mm 110, 135, 160, 200mm Brass 110mm Stainless Steel Longer available on special order
<b>Idler liner</b>	M20 Liner / 12mm Spindle
<b>Unit Weight</b>	At maximum arm & blade Lengths 4Kgs (8.8lbs)
<b>Optional Motor Cover</b>	Fibreglass, See page 20





# HEPWORTH 50Nm HEAVY DUTY WIPER MOTOR



Marine



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 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.

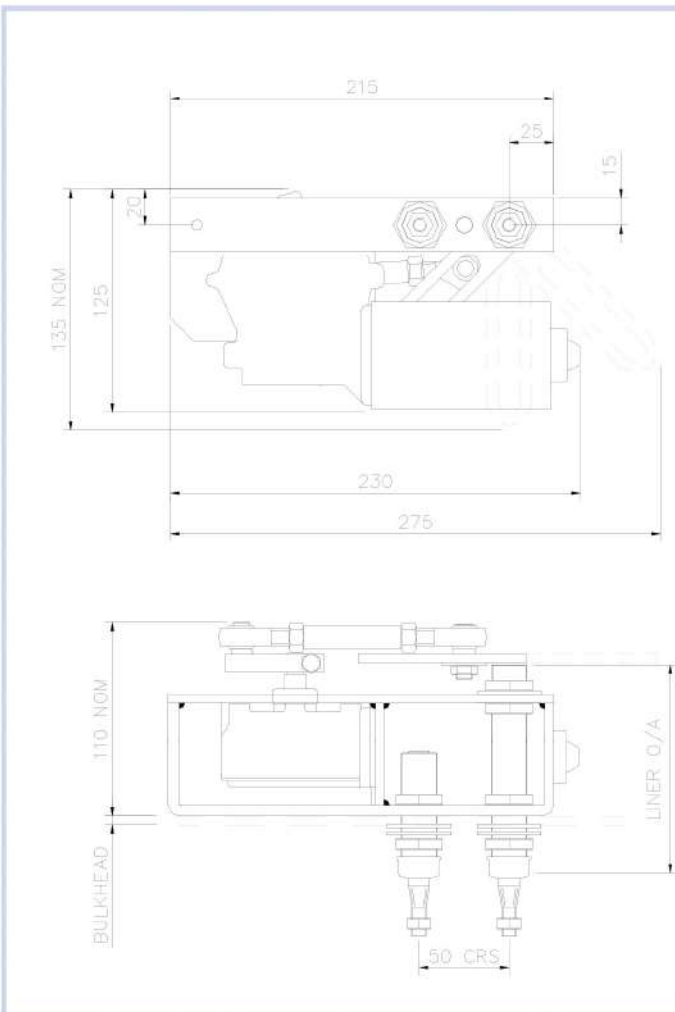
Insulated earth return & EMC filter are std

Pantograph and pendulum arms up to 39 ins. (1000mm) and blades up to 32 ins. (800mm)



## Wiper Arms and Blades

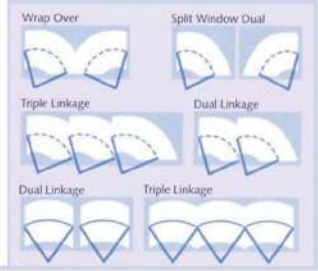
Pantograph Arms		Pendulum Arms		Blades	
P615	Medium Duty	F63	Medium Duty	B140	Curved Blade
Lengths	12" to 34" (310mm to 860mm)	Lengths	12" to 34" (310mm to 860mm)	Lengths	12" to 28" (300mm to 700mm)
Blade Clip	14mm	Blade Clip	14mm	Blade Clip	14mm
P620	Medium Duty	F63	Medium Duty	B140	Curved Blade
Lengths	12" to 34" (310mm to 860mm)	Lengths	12" to 34" (310mm to 860mm)	Lengths	32" (800mm)
Blade Clip	20mm	Blade Clip	20mm	Blade Clip	20mm



## Specifications

<b>Unit type</b>	50Nm
<b>Voltage</b>	12 & 24
<b>Standard Details</b>	2 Speed, Self parking, Insulated Earth Return
<b>Angles of Arc</b>	Variable at stated angles
<b>Pantograph Units</b>	35 to 90 degrees
<b>Pendulum Units</b>	35 to 120 degrees
<b>Spindle Centres</b>	Between drive & idler 50mm
<b>Drive liner</b>	M20 Liner / 12mm Spindle
<b>Liner Length O/A</b>	Bulkhead thickness + 100mm 110, 135, 160, 200mm Brass 110mm stainless Steel Longer available on special order
<b>Idler liner</b>	M20 Liner / 12mm Spindle
<b>Unit Weight</b>	At maximum arm & blade Lengths; 4Kgs (8.8lbs)

When very wide or multiple windows are to be swept, we offer a comprehensive range of solutions utilising the 50Nm drive unit operating either two or three arms and blades off one motor.



# HEPWORTH 80Nm HEAVY DUTY WIPER MOTOR



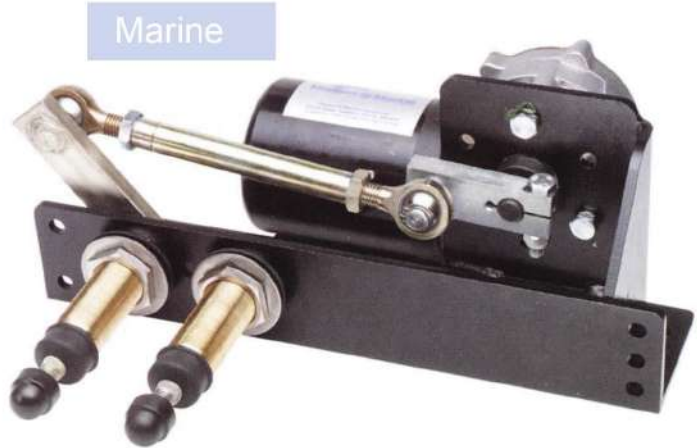
Pantograph



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 std 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 is standard.



Where a higher onboard voltage is used, we offer a number of solutions which will utilise this extremely reliable wiper. Pantograph and pendulum arms up to 60 ins. (1525mm) & blades up to 39 ins. (1000mm)

## Wiper Arms and Blades

### Pantograph Arms

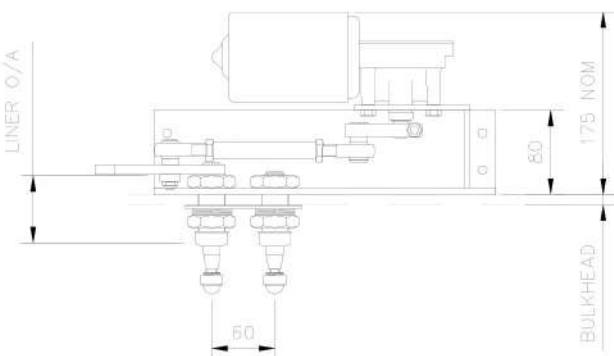
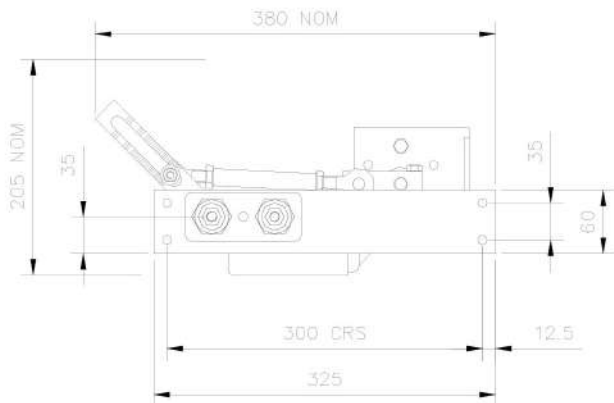
P84	Heavy Duty
Lengths	24" to 60" (610mm to 1525mm)
Blade Clip	14mm
P84	Heavy Duty
Lengths	24" to 60" (610mm to 1525mm)
Blade Clip	20mm

### Pendulum Arms

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

### Blades

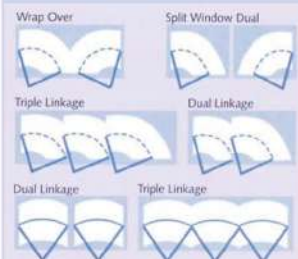
B140	Curved Blade
Lengths	12" to 28" (300mm to 700mm)
Blade Clip	14mm
B140	Curved Blade
Lengths	32" (800mm) 36" (900mm) 39" (1000mm)
Blade Clip	20mm



## Specifications

<b>Standard Details</b>	2 Speed, Self parking, Insulated Earth Return
<b>Angles of Arc</b>	Variable at stated angles ( in 5 degree increments only )
<b>Pantograph Units</b>	40 to 90 degrees
<b>Pendulum Units</b>	40 to 115 degrees
<b>Spindle Centres</b>	Between drive & idler 60mm
<b>Drive Liner</b>	M26 Liner / 16mm Spindle
<b>Liner Length O/A</b>	Bulkhead thickness + 40mm 55, 85, 110mm Longer and SS available on special order
<b>Idler Liner</b>	M26 Liner / 16mm Spindle
<b>Unit Weight</b>	At maximum arm & blade Lengths; 8Kgs (17.6lbs)

When very wide or multiple windows are to be swept, we offer a comprehensive range of solutions utilising the 80Nm drive unit operating either two or three arms and blades off one motor.





# HEPWORTH 110Nm HEAVY DUTY WIPER MOTOR



Marine



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 which can be operated by a rotary switch, toggle switch or multi speed / function control switch.

Pantograph



Pendulum

Pantograph and pendulum arms up to 72 ins. (1830mm) are available and blades up to 78 ins.(1980mm)



## Wiper Arms and Blades

### Pantograph Arms

P84 Heavy Duty  
Lengths 24" to 72" (610mm to 1830mm)  
Blade Clip 14mm

P84 Heavy Duty  
Lengths 24" to 72" (610mm to 1830mm)  
Blade Clip 20mm

### Pendulum Arms

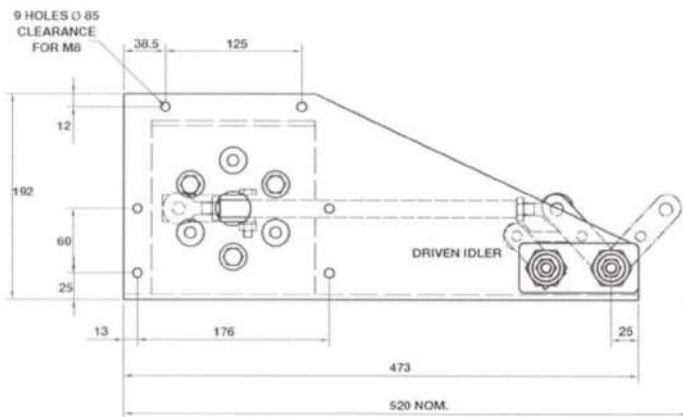
F80 Heavy Duty  
Lengths 24" to 72" (610mm to 1830mm)  
Blade Clip 14mm

F81 Heavy Duty  
Lengths 24" to 72" (610mm to 1830mm)  
Blade Clip 20mm

### Blades

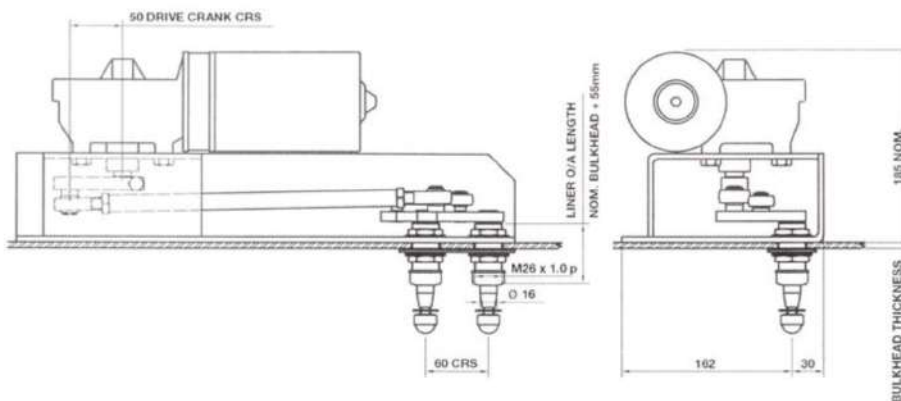
B140 Curved Blade  
Lengths 12" to 28" (300mm to 700mm)  
Blade Clip 14mm

B140 Curved Blade  
Lengths 32" (800mm) 36" (900mm)  
39" (1000mm) 52" (1320mm)  
56" (1420mm) 64" (1625mm)  
72" (1830mm) 78" (1980mm)  
Blade Clip 20mm

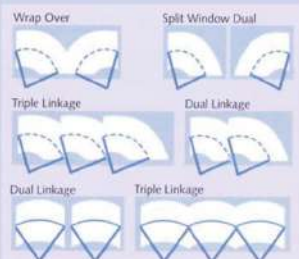


## Specifications

Standard Details	2 Speed, Self parking, Insulated Earth Return
Angles of Arc	Fixed at stated angles ( in 5 degree increments only )
Pantograph Units	45 to 90 degrees
Pendulum Units	45 to 115 degrees
Spindle Centres	Between drive & idler 60mm
Drive Liner	M26 Liner / 16mm Spindle
Liner Length O/A	Bulkhead thickness + 55mm Liners over 110mm are Available on special order
Unit Weight	At maximum arm & blade Lengths; 9.2Kgs (20.0lbs)



When very wide or multiple windows are to be swept, we offer a comprehensive range of solutions utilising the 110Nm drive unit operating either two or three arms and blades off one motor.



# HEPWORTH PANTOGRAPH ARMS

## Marine

See page 51 for Bosch blades



Use with  
65201700  
Pantograph Plate

Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
P5-	300, to 510	12 DIN	10 DIN	50	14



Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
P612- TJ	300 to 700	12 DIN	Thread	50	14
P613- TJ	300 to 710	12 DIN	10 DIN	50	14
P611- TJ	300 to 710	12 DIN	10 DIN	60	14



Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
P615- TJ	610 to 990	12 DIN	12 DIN	50	14
P655- TJ	610 to 990	12 DIN	12 DIN	60	14
P620- TJ	610 to 990	12 DIN	12 DIN	50	20
P635- TJ	610 to 990	12 DIN	12 DIN	60	20
P680- TJ	610 to 990	16 DIN	16 DIN	60	20

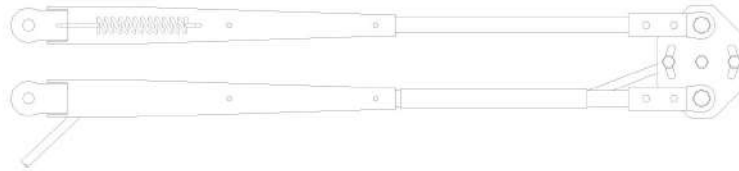


# HEPWORTH PANTOGRAPH ARMS

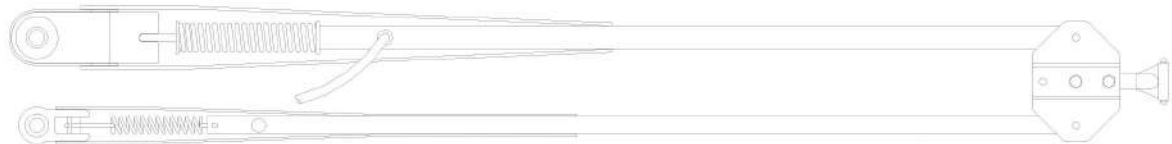


Marine

See page 51 for Bosch blades



Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
P614- TJ	340 to 560	12 DIN	12 DIN	50	14



Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
P84- TJ	610 to 1830	16 DIN	16 DIN	60	20



Arm	Length	Head	Blade Clip
F6-	300, to 485	12 DIN	14



Arm	Length	Head	Blade Clip
F63-	350, to 685	12 DIN	14

## Blade Clips



103.101  
SWF Wiper Blade Bracket



80044302  
Blade Clip 20mm



80044304  
Blade Clip 14mm



40703202  
Blade Clip 14mm



80040600  
Swivel T-Piece SUB ASSY -60CRS



80040500  
Swivel T-Piece SUB ASSY -50CRS



80103000  
Wiper Blade Bracket



80208000  
T-Piece 14mm -50CRS Clip



80209600  
Swivel T-Piece Side Mount  
-60CRS v14mm Clip



80209700  
Swivel T-Piece Side Mount  
-60CRS 14mm Clip

## Springs



80096300



80311100



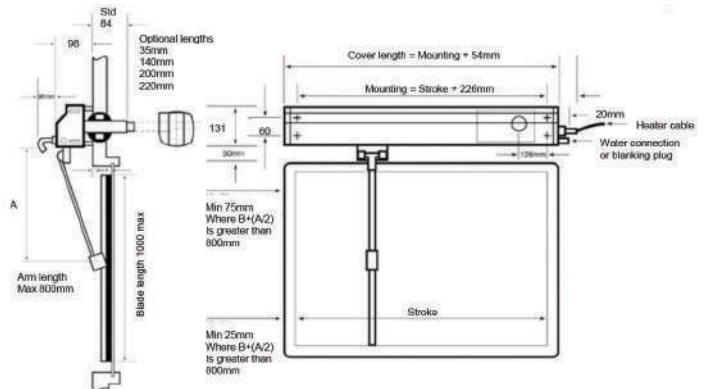
80012000



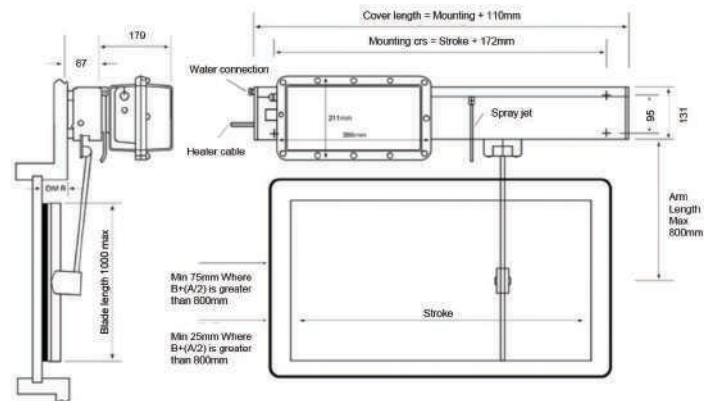
80002600



# WYNN STRAIGHT LINE WIPERS



Type C (Product available after order)



Type D (Product available after order)

The Type C is a Heavy Duty internally mounted motor Straight line wiper. The drive shaft is taken through the ships bulkhead and the motor attached with a single bolt clam easy installation.

The Type D is a Heavy Duty externally mounted motor Straight line wiper. The motor is mounted outboard and is only necessary to bring the cables through the bulkhead. The motor housing is fully sealed to I standards.

they offer the most advanced design of linear action window wiping for marine and other specialist applications.

By correctly matching the stroke and blade lengths, up to 80% of the window can be wiped. Fast wiping speed can provide maximum view from the ships bridge.

High powered AC induction motors provide an efficient reliable operation, quiet running and no maintenance.

Incorporating the highest quality Stainless steel and other non corrosive materials throughout.

Control features can include 2 speed Operation, parking, intermittent, heater, master control and wash/air purge.

## Specifications

### Type C

	Single	Twin
Stroke	Min 305mm, Max 2260mm	Min 565mm, Max 4495mm
Blade	Max 1000mm	Max 500mm
Arm	Max 800mm	Max 800mm

### Type D

	Single	Twin
Stroke	Min 305mm, Max 2260mm	Min 565mm, Max 4495mm
Blade	Max 1000mm	Max 800mm
Arm	Max 800mm	Max 800mm

### Type C & D

Wipe Speed	1.4 m per second / 0.7 m per second
AC Motor	Induction type : 100, 115, 230 volt
DC Motor	Permanent magnet type : 24 volt
3 - PH Motor	Fast speed / slow speed / intermittent
1 - PH and DC	Fast Speed / intermittent
De-icing heater	200 watts per metre
Park sensor	Magnetic read switch
Spray nozzles	1 up to 990mm stroke, 2 if > 1015mm stroke : 6mm overall dia tube
Mounting	Above, Below, or Vertical on the window
Type approvals	DNV, ABS

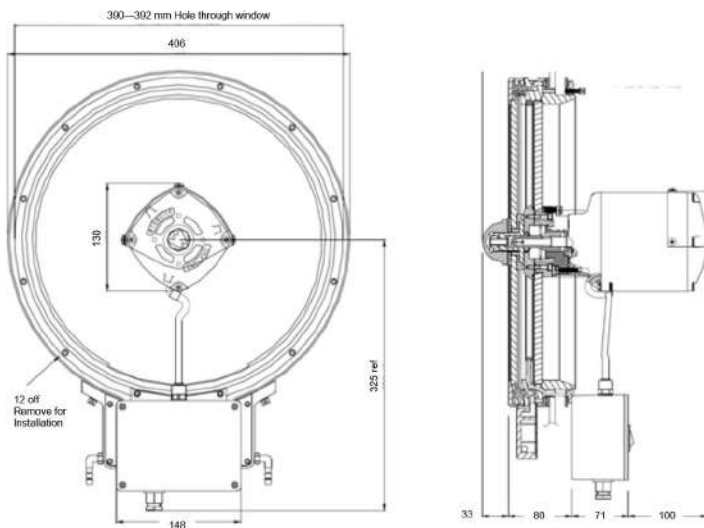
# WYNN CLEAR VIEW WIPERS

Perfect for all types of commercial vessels and for specialised shore - based applications. Clear view screens can be mounted in panels of toughened plate glass, laminated glass or metal ( panel thickness to be specified when ordering ). This thickness appears on the certificate of conformity and is to be specified when ordering certain spares.

Designed to ISO 3904 standards, Clear View Screens provide a perfect view in any weather condition. Based on the proven high speed rotation principle, the centrifugal force created by the spinning disc throws off all rain snow or ice giving instant clear vision.

Fan cooled, constant speed induction motors for single phase or three phase operation or permanent magnet motors for DC operation are available.

Optional metal sheathed, ceramic filled heaters are used of the same voltage as the screen motor. For rapid ice and misting clearance, power consumption is approximately 250W.



PART NO.	DESCRIPTION
<b>C350-000</b>	<p>TYPE 'C350' HEAVY DUTY CLEAR VIEW SCREEN            CLEARLIGHT DIAMETER 350mm            115V OR 230VAC VOLTAGES            MOUNTING THICKNESS 10, 12, 16, OR 19mm            c/w 250 WATT DE-ICING HEATER &amp; 2M CABLE            On/Off CONTROLLER LOCAL MOUNTING  <b>WEATHER TIGHT</b>  <b>OR GAS TIGHT &amp; CERTIFIED BY WYNN</b></p>

CONTROL UNIT OPTIONS	
1000-115-111CVS	1 Way Control Unit: 115VAC C.V.S.
1000-220-111CVS	1 Way Control Unit: 220VAC C.V.S.

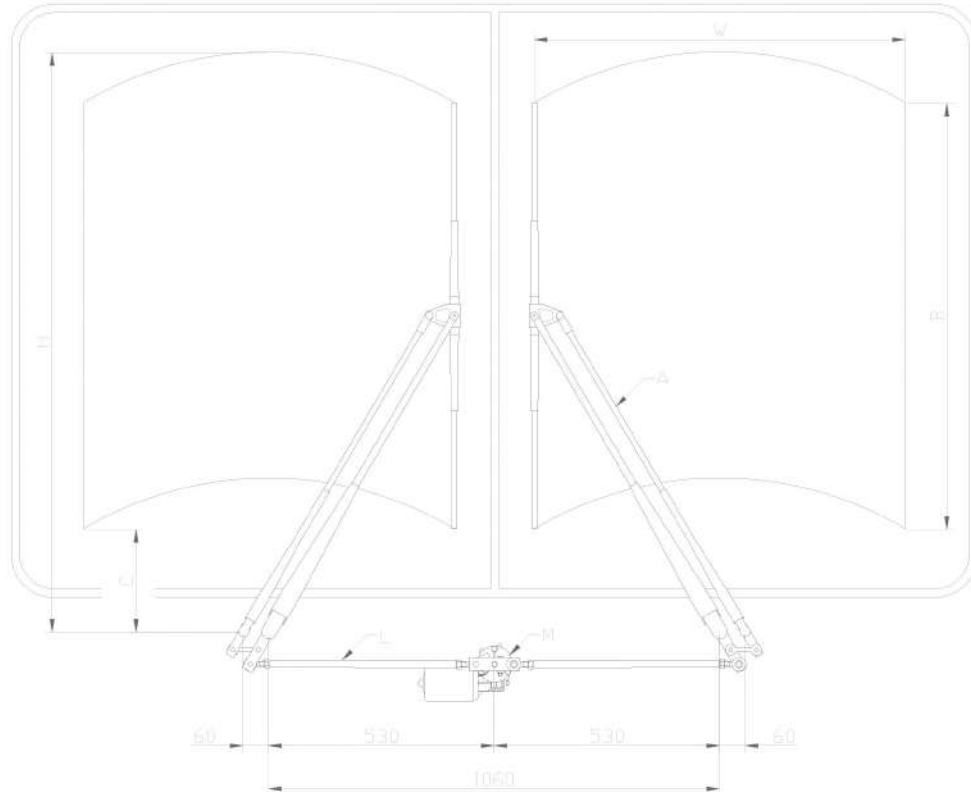
ACCESSORIES	
C350-055-A-01	C350 CVS Tool box with spanner & fuse 1.6 amp (230v)
C350-055-A-02	C350 CVS Tool box with spanner & fuse 3.15 amp (115v)
C350-055-A-03	C350 CVS Tool box with spanner & fuse 5.0 amp (100v)



# HEPWORTH / DUDLEYS LARGE DUAL SCREEN WIPER KITS



## SWSA510 Heavy Duty Pantograph Wiper Kit



<b>M</b>		24 Volt, 2 Speed Self Park Motor, Torque 80 Nm
<b>A</b>		Pantograph Arm with Travelling Washer Jet , 60 crs
<b>B</b>		Curved Screen Blade, 20mm clip
<b>L</b>		Crank, Link, and Spindle Kit, 16mm drive-12mm idler

<b>53</b> Degree Sweep	A	28" 710			30" 760			32" 810			34" 860		
	W	640			685			730			775		
	B	24" 610	26" 660	28" 700	24" 610	26" 660	28" 700	32" 810	36" 905	39" 1000	32" 810	36" 905	39" 1000
	H	1015	1040	1060	1065	1090	1110	1215	1260	1310	1265	1310	1360
	C	330	305	285	375	350	330	320	275	225	365	320	270

<b>61</b> Degree Sweep	A	28" 710			30" 760			32" 810			34" 860		
	W	720			770			820			875		
	B	24" 610	26" 660	28" 700	24" 610	26" 660	28" 700	32" 810	36" 905	39" 1000	32" 810	36" 905	39" 1000
	H	1015	1040	1060	1065	1090	1110	1215	1260	1310	1265	1310	1360
	C	310	285	265	350	325	305	295	250	200	340	295	245

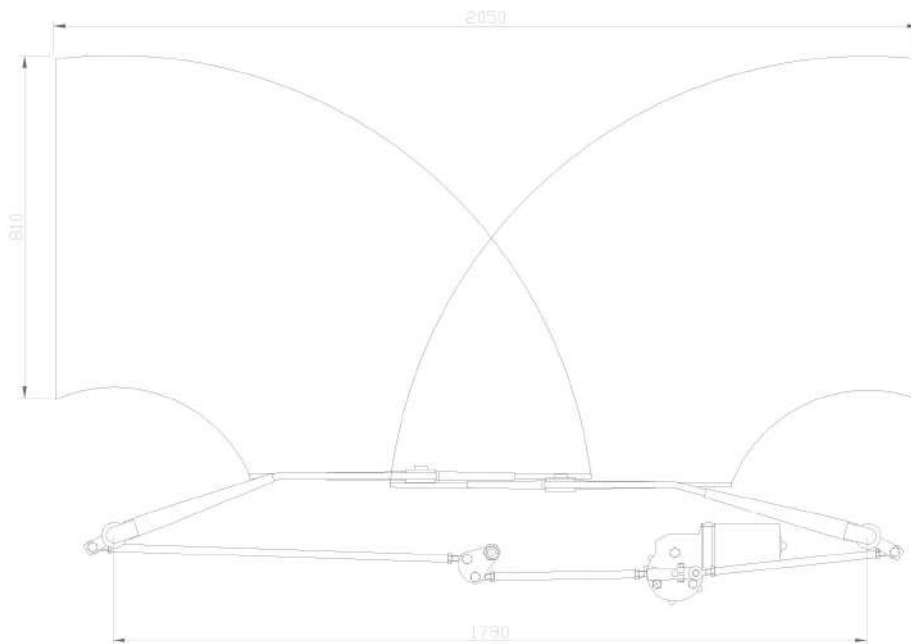
# HEPWORTH / DUDLEYS LARGE SCREEN WIPER KITS

68 Degree Sweep	A	28" 710			30" 760			32" 810			34" 860		
	W	800			855			915			970		
	B	24" 610	26" 660	28" 700	24" 610	26" 660	28" 700	32" 810	36" 905	39" 1000	32" 810	36" 905	39" 1000
	H	1015	1040	1060	1065	1090	1110	1215	1260	1310	1265	1310	1360
	C	285	260	240	325	300	280	270	225	170	310	265	215

75 Degree Sweep	A	28" 710			30" 760			32" 810			34" 860		
	W	880			940			1005			1070		
	B	24" 610	26" 660	28" 700	24" 610	26" 660	28" 700	32" 810	36" 905	39" 1000	32" 810	36" 905	39" 1000
	H	1015	1040	1060	1065	1090	1110	1215	1260	1310	1265	1310	1360
	C	255	230	210	295	270	250	235	190	140	275	230	180

A = Arm length centre to centre    B = Blade length    W = Width of sweep on screen  
H = Height of sweep from spindle    C = Clearance between blade and spindle

## Large Wrapover Wiper Kit Optare Excel



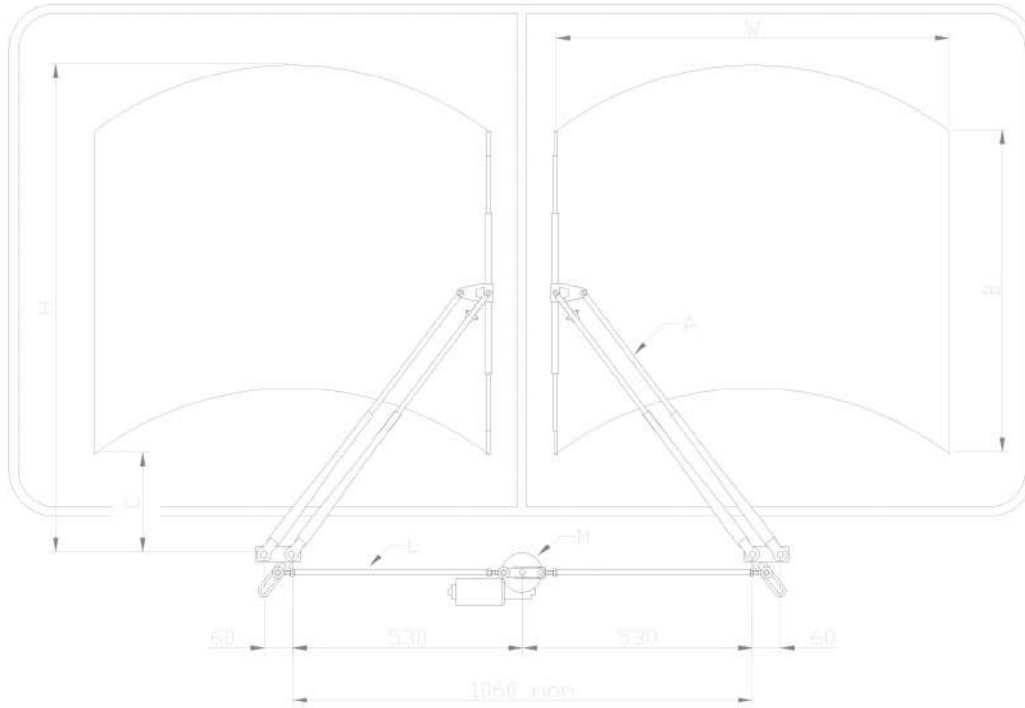
<b>M</b>		24 Volt, 2 Speed Self Park Motor, Torque 110 Nm
<b>A</b>		Radial Arm with Travelling Washer Jet, 740mm
<b>B</b>		Curved Screen Blade, 20mm clip, 810mm
<b>L</b>		Crank, Decelerator, Link, and Spindle Kit, 16mm drive



# HEPWORTH / DUDLEYS LARGE DUAL SCREEN WIPER KITS



## SWSA515 Variable Arc Pantograph Wiper Kit



<b>M</b>		24 Volt, 2 Speed Self Park Motor, Torque 50 Nm
<b>A</b>		Pantograph Arm with Travelling Washer Jet, 60 crs
<b>B</b>		Curved Screen Blade, 14mm clip
<b>L</b>		Crank, Link, and Spindle Kit, 12mm drive-12mm idler

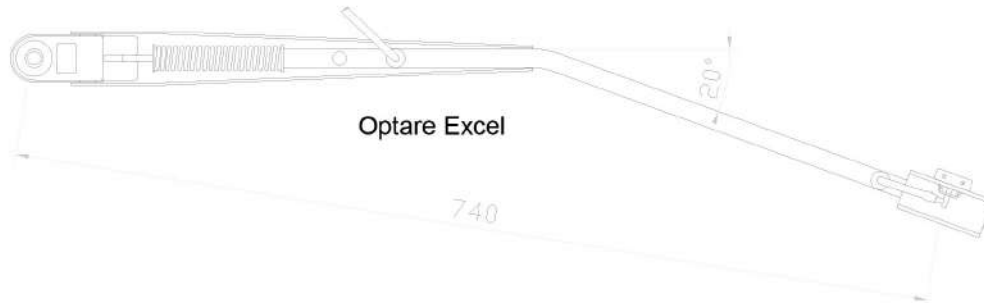
50 to 90 Degree Sweep - 125 degrees With radial arm	A	24" 610			26" 660			28" 710		
	W	515- 865			560- 935			600- 1005		
	B	24" 610	26" 660	28" 700	24" 610	26" 660	28" 700	24" 610	26" 660	28" 700
	H	915	940	960	965	990	1010	1015	1040	1060
	C	245- 125	220- 100	200- 80	290- 160	270- 135	250- 115	335- 195	310- 170	290- 150

A = Arm length centre to centre    B = Blade length    W = Width of sweep on screen  
H = Height of sweep from spindle    C = Clearance between blade and spindle

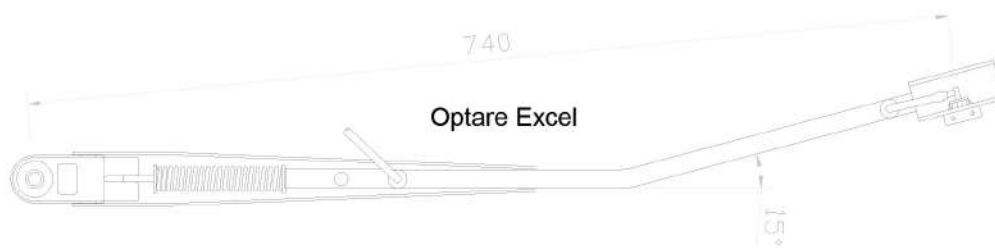
# HEPWORTH RADIAL ARMS

## Bus and Coach

See page 51 for Bosch blades



Arm LH	Length	Head	Blade Bolt	Blade Clip
803184	740	16 DIN	6	20



Arm RH	Length	Head	Blade Bolt	Blade Clip
803183	740	16 DIN	6	20

## Bus and Coach



Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Bolt	Blade Clip
P154	660, 710, 760	12 DIN	10 pedestal	50	4.8	14

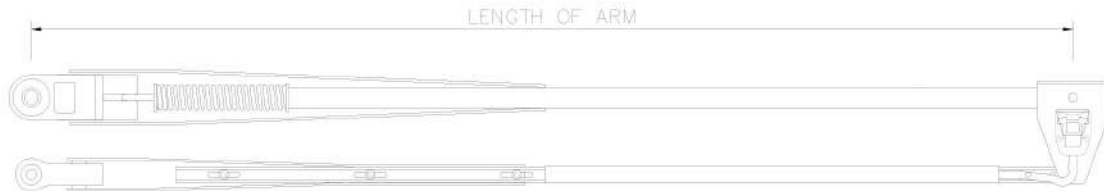


# HEPWORTH / DUDLEYS PANTOGRAPH ARMS

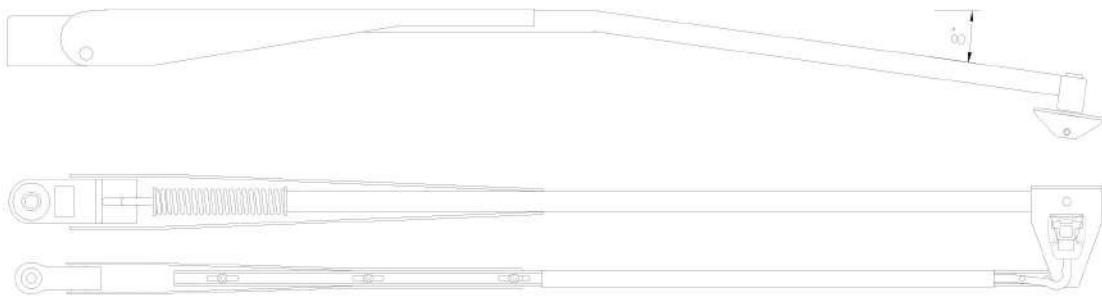


## Bus and Coach

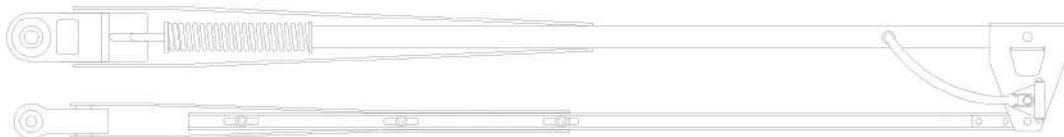
See page 51 for Bosch blades



Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
P85- TJ	810, 860	16 DIN	12 DIN	60	20



Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
803401 ( P85, 8 deg )	860	16 DIN	12 DIN	60	20

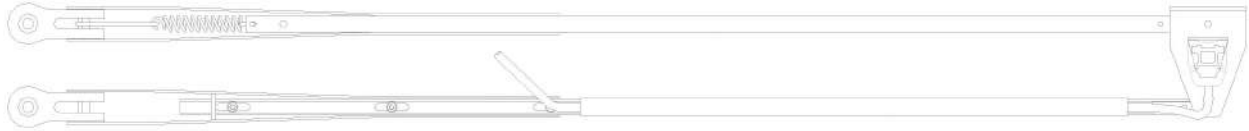


Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
P90- TJ	710, 760	16 DIN	12 DIN	60	14
P95- TJ	710, 760	16 DIN	16 DIN	60	14

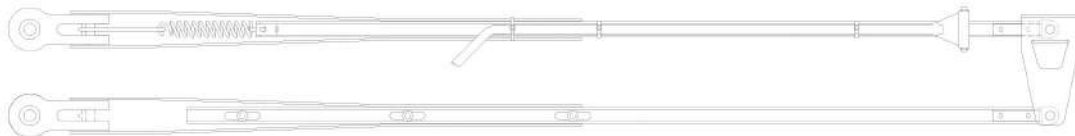
# HEPWORTH / DUDLEYS PANTOGRAPH ARMS

Bus and Coach

See page 51 for Bosch blades

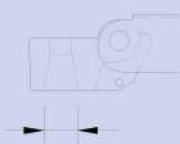


Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
P175- TJ	850, 1000	12 DIN	12 DIN	60	20



Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
P153- TJ	610, 660, 710	12 DIN	12 DIN	60	14
P162- TJ	610, 660, 710	12 DIN	12 DIN	50	14

DIN Taper



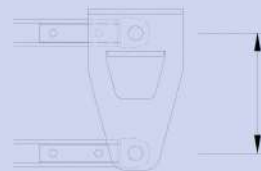
Main & Idler Heads

Thread

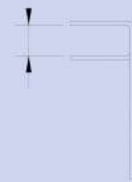


7/16-24NS

Idler Head



Bridge Centre



Blade Clip

Note: When ordering, include the length in inches in the Part number. e.g. P85-34TJ

Lengths are in 2" ( 50mm ) increments

TJ, Denotes Travelling Jet, ( Arms normally supplied without travelling jets, can be fitted with them )

The various wiper arms shown belong to the most up to date applications. Should your requirements differ in any way, we will come up with an alternative arm according to your specification as soon as possible

# HEPWORTH / DUDLEYS LINKAGE SYSTEMS



## Single Crank 30 & 50Nm



60124201 30 cr, 3/8" rose, 10-8 taper  
60620701 30 cr, 3/8" rose, 12-10 taper



60261600 40 cr, 12 rose, 13 shaft  
60496301 40 cr, 3/8" rose, 13 shaft  
60619801 30 cr, 3/8" rose, 9 shaft

## Rose bearing



10055401 12 RH  
10055501 12 LH  
10055200 3/8" RH  
10055300 3/8" LH



60503500 Double ended, 60 cr



6004400 3/8" Flat 2-M5 holes @ 26

## Spindle Weather Cap

60034600 M20  
60054600 M26



1009510

## Nut Cap



10060300 M8 nut (13mm)

## Single Crank 80Nm



60911004 57.5 cr, 12 pin, 13 shaft

## Bearing Pin



60532700 double 3/8" bearing  
60532300 single 3/8" bearing

## Pivot Cap



80002200 P612, P613, P153, P162

## Pantograph Plate (Marine)



65201700 8 shaft, 50 cr



60044401 7/16" 24 NS pivot, 50 cr



60847202 12 DIN spindle, 50 cr

## Tie Bar / Link Rod

LH Thread RH Thread



60009324 3/8" 500 L  
60121355 12 115 L  
60121300 12 380 L  
60121302 12 460 L  
60121314 12 500 L  
60121372 12 700 L

## Head Cap



80002100 P153, P162



80005100 P84, P85, P90, P95

## Motor Covers



10063900 30 / 50 Nm Fibreglass



65200500 2 Nm Fibreglass

## Galley & Head (Idler arm)



80101500 10 DIN  
80206003 7/16" 24 NS



# HEPWORTH / DUDLEYS LINKAGE SYSTEMS

## Spindle Assembly (Bus)



60981800 12 DIN, 90 liner, 66 cr  
Same side 10mm pin  
60 crs

## Spindle Assembly (Bus)



60598802 16 DIN drive, 90 liner, 89 cr  
12 DIN idler, 90 liner, 50 cr  
same side 12 rose

60598702 16 DIN drive, 90 liner, 89 cr  
12 DIN idler, 90 liner, 50 cr  
off side 12 rose  
60 crs

## B / Pedal Crank



60264900 40-80, 12 rose, 13 shaft  
60981600 45-90, 12 rose, 13 shaft  
60256110 50-100, 12 rose, 13 shaft  
60420100 55-110, 12 rose, 13 shaft  
60446500 60-120, 12 rose, 13 shaft

60794100 40-80, 3/8" rose, 13 shaft  
60649100 40-80, 3/8" rose, 9 shaft  
60934801 45-90, 12 rose, 16 shaft

## Spindle & Decelerator (Bus)

Optare Excel



60934600 16 DIN, 140 liner, 54 cr

60934700 16 DIN, 140 liner, 67 cr



60935000 Decelerator

## Idler (Bus)



60122611 12 DIN, 40 liner, (no plate)  
60650300 12 DIN, 90 liner, 60 cr  
60650301 12 DIN, 125 liner, 60 cr

## Idler (Marine)



60119512 12 DIN, 80 liner  
60119513 12 DIN, 110 liner  
60119506 12 DIN, 150 liner  
60119812 12 DIN, 80 SS liner

## Spindle Vari Arc (Bus)



60650200 12 DIN, 90 liner, 3/8" rose  
60650201 12 DIN, 125 liner, 3/8" rose

## Spindle Vari Arc (Marine)

Adjustable in  
5 degree increments



68005001 16 DIN, 57 liner, 12 rose  
68005002 16 DIN, 85 liner, 12 rose  
68005013 16 DIN, 90 liner, 12 rose  
68005003 16 DIN, 110 liner, 12 rose  
68005018 16 DIN, 120 liner, 12 rose  
68005004 16 DIN, 135 liner, 12 rose

68003401 16 DIN, 57 liner, 60 cr  
68003402 16 DIN, 85 liner, 60 cr  
68003413 16 DIN, 90 liner, 60 cr  
68003403 16 DIN, 110 liner, 60 cr  
68003416 16 DIN, 120 liner, 60 cr  
68003404 16 DIN, 135 liner, 60 cr

## Spindle Vari Arc (Marine)



65008701 12 DIN, 57 liner, 3/8" rose  
65008703 12 DIN, 110 liner, 3/8" rose  
65008704 12 DIN, 135 liner, 3/8" rose  
65008705 12 DIN, 160 liner, 3/8" rose  
65009009 12 DIN, 200 liner, 3/8" rose  
65008403 12 DIN, 110 SS liner, 3/8"

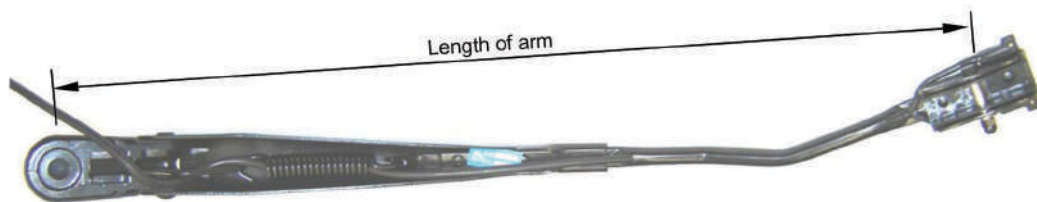
# CHINESE SYSTEMS LARGE SCREEN WIPER PARTS



## Feipeng, Designline



Arm LH	Length	Head	Blade Bolt	Blade Clip
FPDYG-01	675	16 — 11.8	8	20, 26



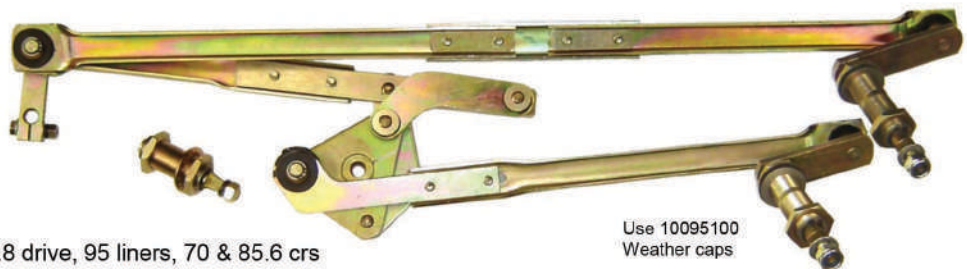
Arm RH	Length	Head	Blade Bolt	Blade Clip
FPDYG-02	675	16 — 11.8	8	20, 26



Blade	Length	Bolt Diameter	Blade Clip
B140-32FEI	800	8	20

### Linkage Assembly Wrapover

SD2733A motor to suit  
See page 49



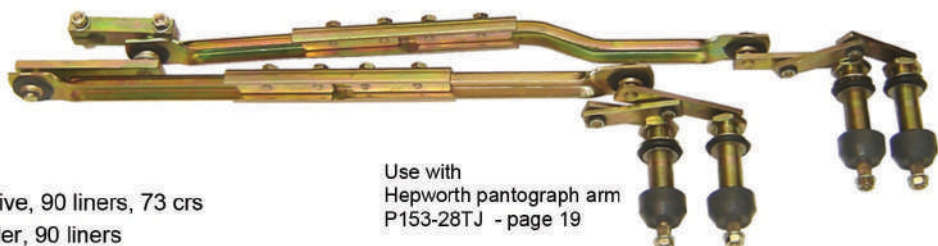
16 -11.8 drive, 95 liners, 70 & 85.6 crs

Use 10095100  
Weather caps

FPLDG-0001 57.5 crank , 13 shaft coarse spline

### Linkage Assembly Pantograph

SD2733A motor to suit  
See page 49



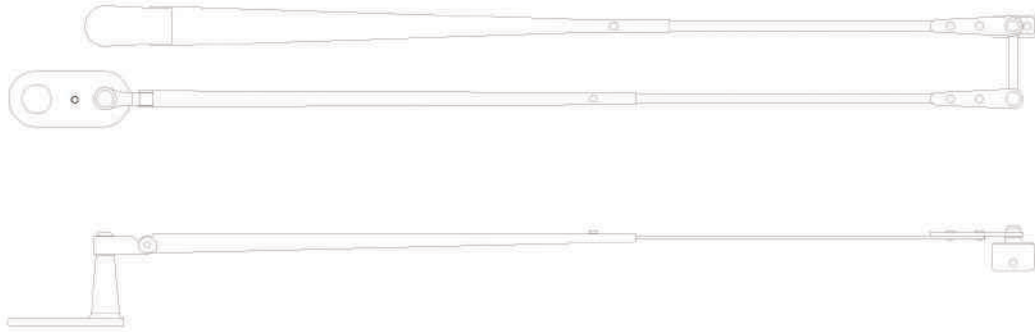
12DIN drive, 90 liners, 73 crs  
12DIN idler, 90 liners

Use with  
Hepworth pantograph arm  
P153-28TJ - page 19

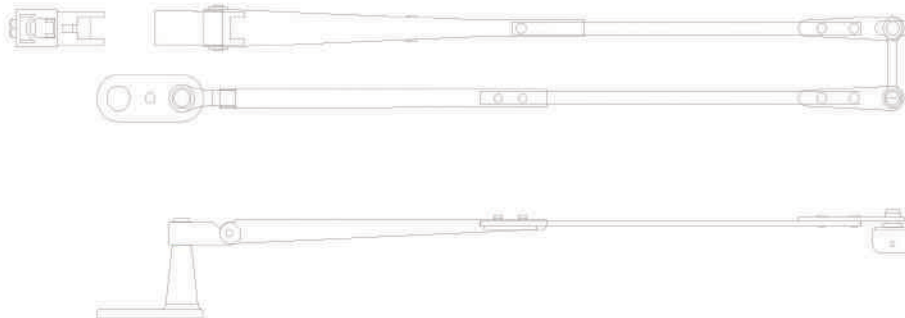
FPLDG-0003 48.5 x 97 crank , 13 shaft coarse spline

# JAPANESE BUS PANTOGRAPH ARMS

Bus and Coach



Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Clip
A908-	700, 750	10-12 taper	Pivot block	50	14



Tru-Vision Pantograph arm

Arm	Length	Main Head	Idler Head	Bridge cr	Blade bolt	Blade Clip
TC881	750, 800, 850	11.8-16 taper	11.8-16 taper	60	8	20, 25

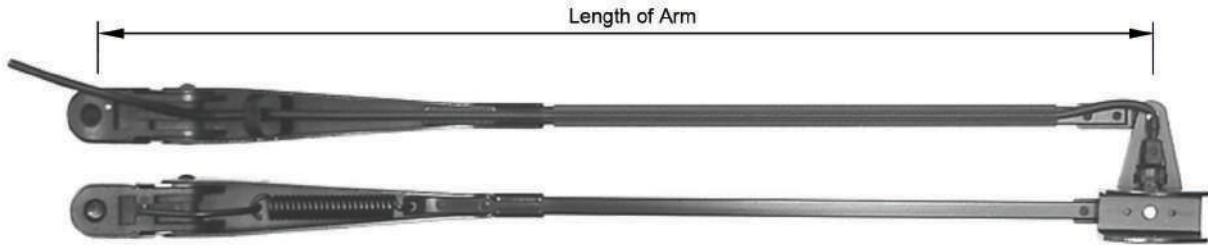


# SWF PANTOGRAPH ARMS



## Bus and Coach

See page 52 for SWF blades



Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Bolt	Blade Clip
106.080	710	16 DIN	16 DIN	60	8	25
107.515	795	16 DIN	16 DIN	60	8	25
106.671	870	16 DIN	16 DIN	60	8	25
108.294	970	16 DIN	16 DIN	60	8	25



Arm	Length	Main Head	Idler Head	Bridge Centres	Blade Bolt	Blade Clip
103.980	700	12 DIN	12 DIN	60	6	16
104.580	750	12 DIN	12 DIN	60	6	16



Arm Drive	Length	Main Head	Pivot Bush
104.171	680	12 DIN	8



Arm Idler	Length	Idler Head	Pivot Bush
104.173	680	12 DIN	8

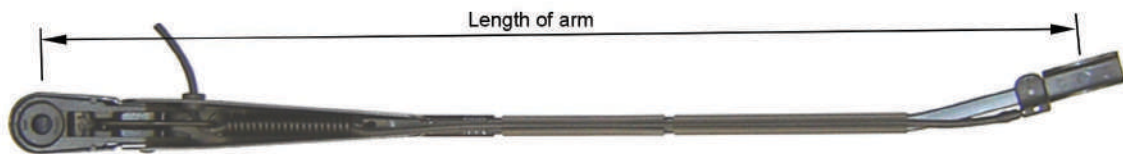
# SWF RADIAL ARMS

Bus and Coach

See page 52 for SWF blades



Arm LH	Length	Head	Blade Bolt	Blade Clip
104.711	700	16 DIN	6	16



Arm RH	Length	Head	Blade Bolt	Blade Clip
104.710	700	16 DIN	6	16



Arm LH	Length	Head	Blade Bolt	Blade Clip
106.294	675	16 DIN	8	25



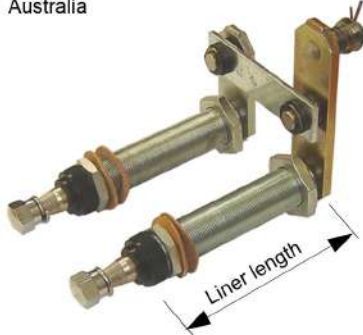
Arm RH	Length	Head	Blade Bolt	Blade Clip
106.293	675	16 DIN	8	25

# SWF LINKAGE SYSTEMS



## Spindle Assembly

Coach Design  
Australia



107.137 12 DIN drive, 90 liner, 72.5 cr  
12 DIN idler, 90 liner, 40 cr  
off side 10mm pin  
60crs

## Spindle

Designline  
City Bus

Fairfax  
City Bus



Use 10095100  
Weather cap

105.585 16 DIN, 80 liner, 85.6 cr  
same side 12mm pin  
105.586 16 DIN, 80 liner, 70 cr  
same side 12mm pin  
106.539 16 DIN, 70 liner, 83 cr  
same side 12mm pin  
106.540 16 DIN, 70 liner, 70 cr  
same side 12mm pin

## Spindle Assembly

Coachwork  
Heavy Duty



Use 10095100  
Weather caps

107.313 16 DIN drive, 90 liner, 71.3 cr  
16 DIN idler, 90 liner, 45 cr  
same side 16mm ball  
60crs

## Spindle Drive

Coachwork  
Light Duty



102.666 12 DIN, 130 liner, 72.5 cr  
off side 10mm pin

## Spindle Decelerator one piece

Designline  
City Bus



104.596 M26, 60 liner,  
12mm pin

## B / Pedal Crank

Coachwork  
Heavy Duty



106.711 48.5-97, 16mm ball, 13 shaft

## Spindle Idler

Coachwork  
Light Duty



102.665 12 DIN, 100 liner

## Spindle Decelerator Two piece

Fairfax  
City Bus

Also fits Designline  
Chinese system



105.391 Decelerator, 12mm pin

## Spindle Weather Cap

Coachwork  
Heavy Duty

Designline  
City Bus

Fairfax  
City bus

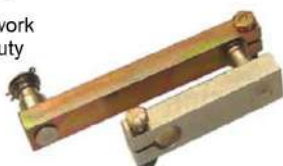


10095100 M26, 16 DIN

## B / Pedal Crank

Coach Design  
Australia

Coachwork  
Light Duty



104.773 48.5-97, 10mm pin, 13 shaft  
102.700 40-80, 10mm pin, 9 shaft

## Crank

Designline  
City Bus

Fairfax  
City Bus



104.293 57.5 cr, 12mm pin, 13 shaft

## Link Rod Cup Bush



LRC16 16 Dia ball closed end  
LRC16-O 16 Dia ball open end



# SWF LINKAGE SYSTEMS

## Tie Bar / Link Rod



103.646 Suit 10mm pin, 575mm to 590mm cr-cr,  
25mm offset dogleg

Coach Design  
Australia

## Tie Bar / Link Rod



107.317 Suit 16 Dia ball, 583mm cr-cr, closed / closed  
107.318 Suit 16 Dia ball, 583mm cr-cr, open / closed

Coachwork  
Heavy Duty

## Tie Bar / Link Rod



102.819 Suit 10mm pin, 497mm to 513mm cr-cr  
102.820 Suit 10mm pin, 615mm to 632mm cr-cr

Coachwork  
Light Duty

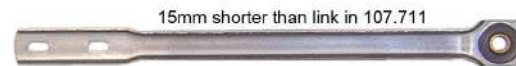
## Tie Bar / Link Rod



107.708 Suit 12mm pin, 895 to 915mm cr-cr

Fairfax  
City Bus

## Tie Bar / Link Rod



15mm shorter than link in 107.711

190.942 Suit 12mm pin, 400mm cr-end

Fairfax  
City Bus

## Tie Bar / Link Rod



30mm longer than link in 105.583

107.711 Suit 12mm pin, 500—510mm cr-cr

Fairfax  
City Bus

## Link Rod Spindle Assembly



105.583 includes 104.596 Decelerator, and 105.586 spindle  
connects to 104.293 crank

Designline  
City Bus

## Link Rod Spindle Assembly



105.584 includes 105.585 spindle  
connects to 104.293 crank

Designline  
City Bus

# TRICO AND TRU-VISION RADIAL ARMS



## Adjustable Arms

**A17035** Adjustable to 510mm: Suits straight shaft 8.0mm  
Knurled driver P/N: 02465 (supplied with arm)

**A17036** Adjustable to 510mm: Suits straight shaft 6.35mm  
Knurled driver P/N: A199 (supplied with arm)

**A17076** Adjustable to 510mm: Suits 8mm DIN taper

**A18380** Adjustable to 510mm: Suits 16mm  
Taper knurled driver P/N: 86324J with  
Clamp down nut.

**Note:** Adjustable for left or right crank

Length of arm

**TCA620** Lengths 36, 41, 43, 48, 51, 56, 61cm.  
Knurled driver Part No. 101569  
Washer jet Part No. 75400

Suffix P/N  
With length  
eg: 6200036

**Note:** Adjustable for left or right crank

Travelling Washer Jet P/N 75400

Length of arm

**63000 SERIES** Lengths from 56cm to 75cm  
12 DIN or 16 DIN units available.  
Available with straight arm. (without crank)

Travelling Washer Jet P/N 75400

## Flat Screen Wiper Blades

**607 SERIES**

Standard Lengths Available:  
41,51, & 61cm

**604 SERIES**

Standard Lengths Available:  
41,51, & 61cm

**609 SERIES**  
36,41,46,51cm  
Lengths Available

# TRU-VISION WIPER BLADES

Product Number	Length
TC602-50	500mm
TC602-55	550mm
TC602-60	600mm
TC602-65	650mm
TC602-70	700mm
TC700	700mm
TC700-A	700mm
TC800	800mm
TC900	900mm
TC1000	1000mm



Product Number	Length
TCCS-36	360mm
TCCS-41	410mm
TCCS-46	460mm
TCCS-51	510mm
TCCS-56	560mm
TCCS-61	610mm



Product Number	Length
TCFS-36	360mm
TCFS-41	410mm
TCFS-46	460mm
TCFS-51	510mm
TCFS-56	560mm
TCFS-61	610mm



# TRICO PANTOGRAPH ARMS



## DIN Tapered Head



**Note:** Suffix P/N with required length. Eg: 6800066

Part Number	Length (cm)	Main Head	Idler Head	Bridge Centers	Blade Clip
68000	66 to 85cm	12 DIN	12 DIN	60mm	22mm
68001					14mm
68100		16 DIN	16 DIN		22mm
68101					14mm



Part Number	Length (cm)	Main Head	Idler Head	Bridge Centers	Blade Clip
TPA682	71cm	12 DIN	10 DIN	60mm	14mm
TPA952			Collet & Clamp		

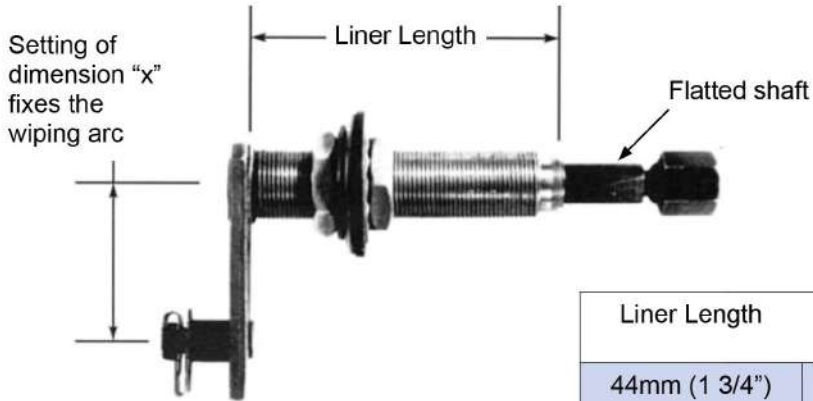
## Knurled driver Head



Part Number	Length (cm)	Main Head	Idler Head	Bridge Centers	Blade Clip
66000	51,56, 61,66,71	Knurled Driver	Collet & Clamp	44	10mm
67000	51,56, 61,66,71		Collet & Clamp	44	14mm

# TRICO SPINDLES

## Trico Spindles For "Indirect Motor Drive"



Supplied complete with retaining Nut and circlip on drop arm pin. Pantograph pivots are assembled With mounting plate, rubber Gasket and swivel

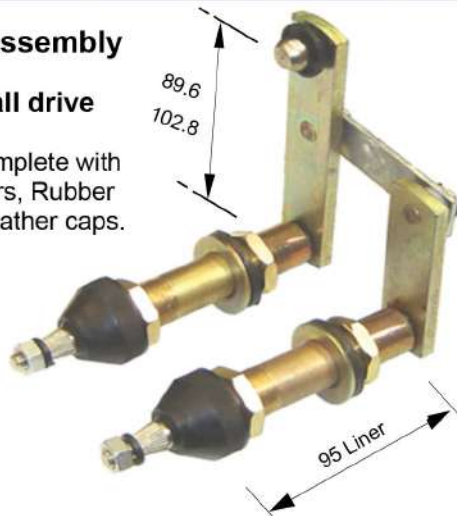
**NOTE:** Part Numbers must be suffixed with "x" dimension, as illustrated above. Eg. 0312551

Liner Length	Radial Arm (less swivel plate)	Pantograph Arm (with swivel plate)
44mm (1 3/4")	03125 x dim: 46, 51	03131 x dim: 65
75mm (3")	03126 x dim: 42, 61, 63, 65	03132 x dim: 61
100mm (4")	03127 x dim: 46, 51, 61	03133 x dim: 65

### Spindle Assembly

#### 14.4mm ball drive

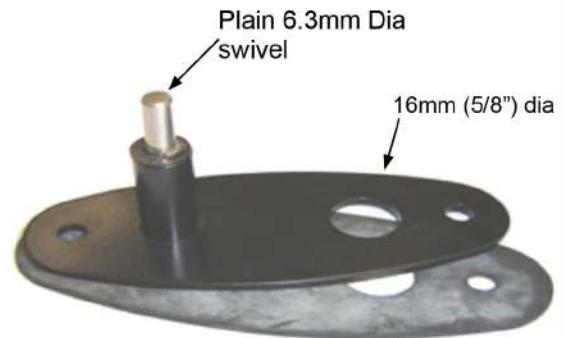
Supplied complete with nuts, washers, Rubber Gaskets, weather caps.



75353-60-89.6 12 DIN drive, 95 liner, 89.6 cr, 14.4 ball  
75353-60-102.8 12 DIN drive, 95 liner, 102.8 cr, 14.4 ball

### Swivel plate Indirect drive

#### Suit 44mm Arm Centres



03189

### Knurled Driver

Adapts flatted shaft  
To 17.5—14.5 taper



101569

### Knurled Driver

Adapts 6mm straight  
shaft to 13.7mm spline



A199 6mm

### Knurled Driver

Adapts 8mm straight  
shaft to 13.7mm spline



02465 8mm

# DOGA MARINE SCREEN WIPER SYSTEMS

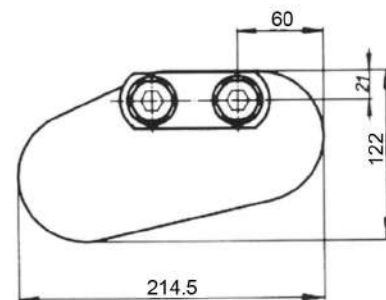


Model 111

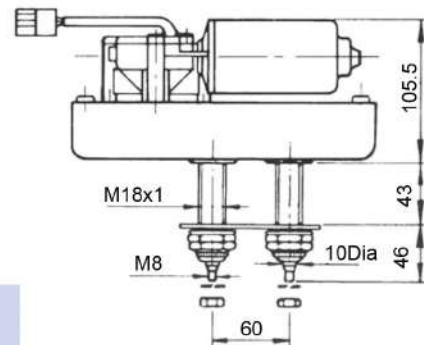
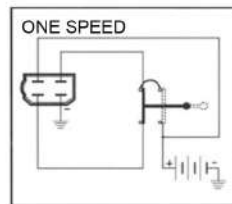


With two reciprocating driving shafts. Starting torque, with wiper motor cold: 25 Nm. This type of motor is supplied with automatic park.

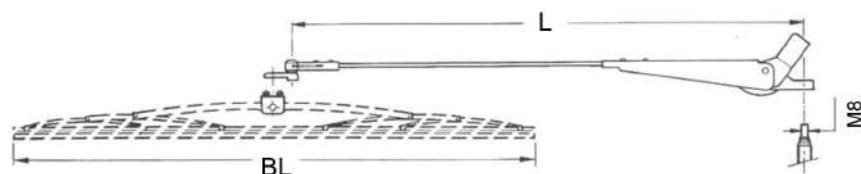
All these motors can also be supplied on application with 60, 72, & 80 degree wipe angles



Part Number	Volts	
111.9509.20.16	12	50
111.9509.30.16	24	50
111.8377.30.IOE	24	50



**Pantograph Arms**  
To suit 111 motor



	L mm
128.1001.GA.06	500
128.1002.GA.06	600
128.1005.GA.06	700

	BL mm
136.1650.BA.06	500
136.1660.GA.06	600
136.1770.GA.06	700

All these arms are provided with tubes and screen washer nozzles.



# DOGA

## SMALL SCREEN WIPER SYSTEMS

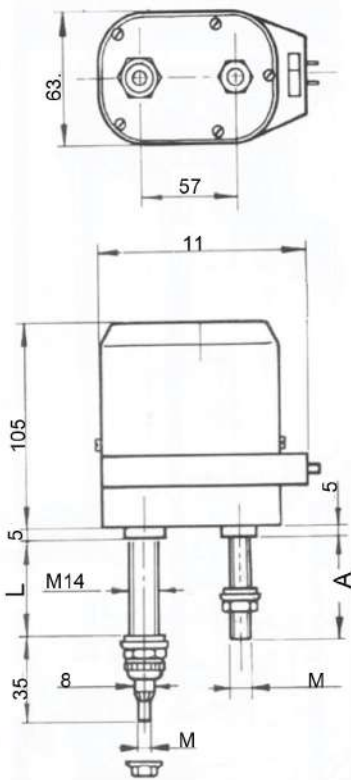
### Model 113



With reciprocating shaft end  
According to A8 x M6 DIN 72783.  
Two points fixing,

Starting torque, with wiper motor cold:  
7 Nm. Normal running torque: 1.4 Nm.  
Oscillations per minute: 43.

All these motors can be supplied on  
request with 60mm shaft and different  
wiping angles



#### Remote Switch & Automatic park

Part Number	Volts	Degrees	L ( mm )	A ( mm )
113.5573.20.D0	12	110	60	70
113.5573.30.D0	24	110	60	70
113.5523.30.D0	24	110	19	30
113.5473.20.D0	12	90	60	70
113.5473.30.D0	24	90	60	70
113.5423.20.D0	12	90	19	30
113.5423.30.D0	24	90	19	30
113.5323.20.D0	12	80	19	30
113.5223.20.D0	12	60	19	30
113.5223.30.D0	24	60	19	30

#### Built in switch manual park

Part Number	Volts	Degrees	L ( mm )	A ( mm )
113.5420.20.00	12	90	19	30
113.5420.30.00	24	90	19	30

Image	BL mm
	138.3936.B0.04 360
	139.3950.B0.04 500

Image	BL mm
	136.1640.B0.04 400
	136.1645.B0.04 450
	136.1650.B0.04 500

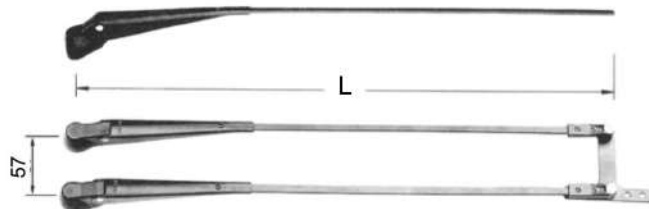


Image	L mm
	120.7201.D0.R4 400
	120.7203.GA.R4 500

Image	L mm
	121.0224.GA.04 400
	121.0225.GA.D4 450
	121.0226.GA.04 500

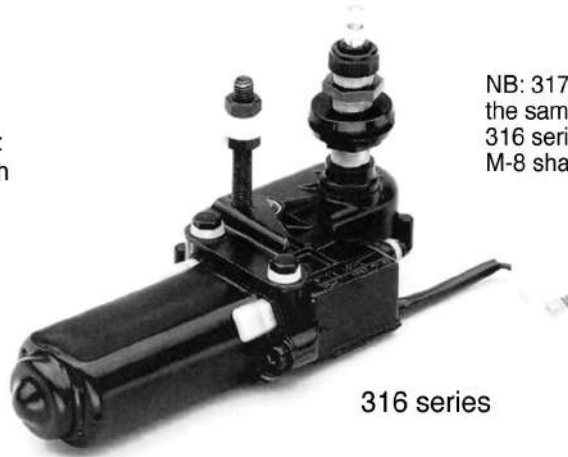
# DOGA MARINE SCREEN WIPER SYSTEMS



## Model 316

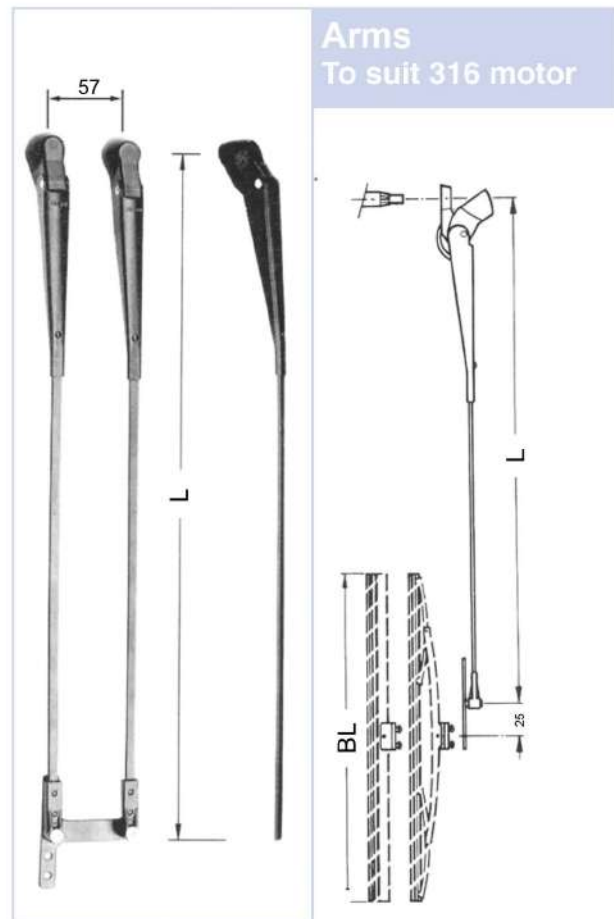
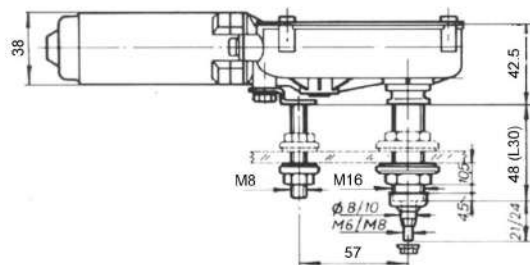
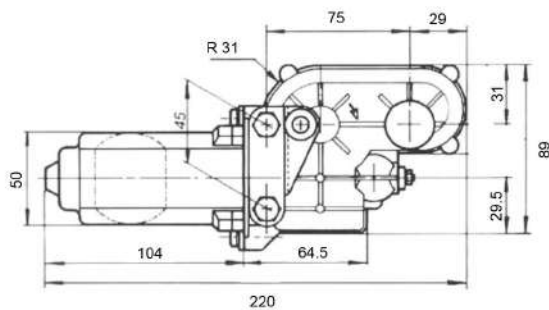
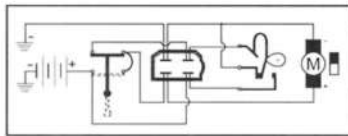
With one reciprocating driving shaft, two fixing points and a switch on the cover. Starting torque, with the wiper motor cold: 10 Nm. This type of motor is provided with automatic park.

NB: 317 series is the same as the 316 series, but with M-8 shaft



316 series

Part Number	Volts	
316.4462.B16E	12	90
316.4464.3B16E	24	90
316.1864.20.16	12	110
316.4864.3016	24	110



Arms  
To suit 316 motor

	L mm
120.7204.BA.R6	350
120.7202.BA.R6	450
120.7203.BA.R6	500

	L mm
121.0224.GA.06	400
121.0910.GA.D6	500
121.0227.GA.06	550

	BL mm
134.1635.BA.06	350
134.1640.BA.06	400
134.1645.BA.06	450
134.1650.BA.06	500

# AFI GM WIPER SYSTEMS



Designed by marine companies and manufactured specifically for marine usage.

Fully sealed waterproof housing.

UV stabilised, high temperature, high impact thermoplastic alloy construction.

Anti-rotation drive shaft with std knurled shaft and solid brass arm drive nut.

Modern styling, no additional covers needed.

Especially good for open cabins with exposed motors.

## Features

### GM1 Motor

- Adjustable wipe angle capability
- Self parking one side
- Suitable for marine applications
- factory set for a 110 degree wipe angle that can be adjusted in minutes to 50, 65, or 80
- 168 L x 86 W x 51 H
- Weight 1.75 lbs (800g)
- Up to 16" x 16" arm / blade combination.



### GM2 Motor

- Adjustable wipe angle capability
- Self parking left or right
- Suitable for marine applications
- factory set for a 110 degree wipe angle that can be adjusted in minutes to 45, 60, or 80
- 197 L x 98 W x 60 H
- Weight 2.7 lbs (1.2 kg)
- Up to 24" x 24" arm / blade combination.

Motors		
Part No.	Voltage	L1-max
GM1-2 1/2	12	37mm
GM1-1 1/2	12	12mm
GM2-2 1/2	12	37mm
GM2-1 1/2	12	12mm



Blades		
Part no.	Length	Color
07290	12"	Black
07292	16"	Black
07293	18"	Black
07294	20"	Black
07295	22"	Black
07296	24"	Black

Arms		
Part no.	Length	Type
07261	355—510mm	Pendulum
07268	305—430mm	Pantograph
07263	460—610mm	Pendulum
07270	430—560mm	Pantograph



# VETUS WIPER SYSTEMS



Top quality marine wipers, which meet all the demands of a boat windscreen wiper.

A powerful motor and a separate housing with worm wheel transmission.

Extremely quiet in operation. Highly suitable for all kinds of boats.

Attractive plastic cover available for exposed mountings.

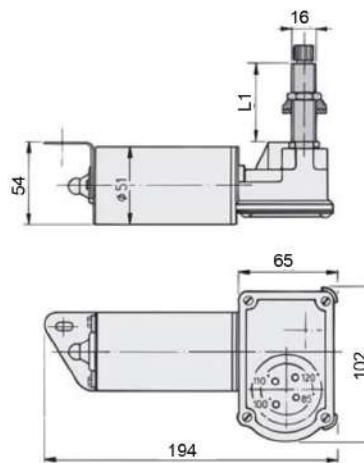
Vetus wiper arms are made entirely of Stainless steel (AISI 316).

## Features

- Adjustable wipe angle capability
- 2 Speed
- Auto park
- Suitable for marine applications

All Vetus wipers are factory set for a 110 degree wipe angle that can be adjusted to 40, 50, 60,70,80,90, and 100 degrees.

Motors		
Part No.	Voltage	L1
RW08A	12	25mm
RW09A	24	25mm
RW01A	12	51mm
RW02A	24	51mm
RWCA	Plastic Motor Cover	



Installation of the plastic cover reduces L1 by 3mm.



Shown without bottom plate

The pantograph wiper arm is supplied with a connection kit and idle spindle as standard, reducing L1 by 3mm.

Both wiper blades can be fitted to the twin wiper arm in 2 different positions, so that the wiped surface can be adjusted.



Blades		
Part no.	Length	Color
WBB30	305mm	Black
WBB41	410mm	Black
WBB51	510mm	Black

Arms		
Part no.	Length	Type
SSAS	280—366mm	Pendulum
SSAL	395—481mm	Pendulum
SSAX	473—559mm	Pendulum
SSAD	308—393mm	Pantograph
SSADX	386—471mm	Pantograph

# ROCA WIPER SYSTEMS



The new designed Roca Waterproof system is marine quality, consequently ideal for any type of service.

Variable sweep adjustment can be easily made after the windshield wiper is mounted, for best fit to your windshield.

Insulated ground which makes it also suitable on metal boats.

Fully sealed waterproof housing made of UV-stabilised thermo plastic in a compact size.

Easy adjustment for self park on left or right side

## Features

- Adjustable wipe angle capability
- 2 Speed
- Auto park, left or right side
- Suitable for marine applications

All Roca wipers are factory set for a 45 degree wipe angle that can be adjusted in minutes up to 110 degrees.

## Specifications

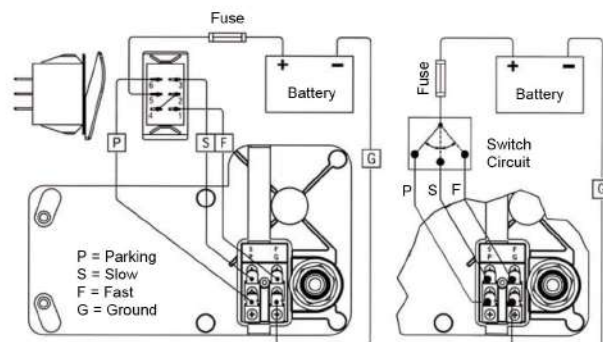
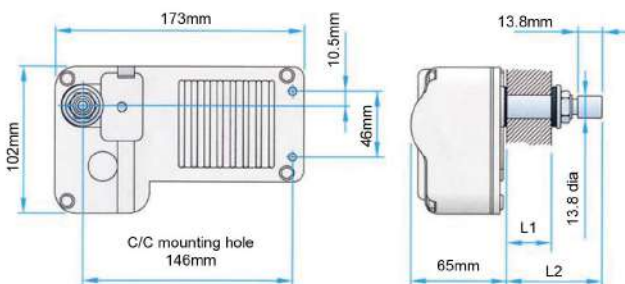
- Voltage - 12, 24
- Weight - approx. 1.6 kg
- Torque - 10Nm
- Two Speeds - slow 35 rpm  
- fast 55 rpm

Arms		
Part no.	Length	Type
538617	310—440mm	Pendulum
539818	340—470mm	Pantograph
538624	480—610mm	Pendulum
539824	480—610mm	Pantograph



Motors		
Part No.	Voltage	L1-max
530011	12	16mm
533011	24	16mm
533021	12	42mm
533022	24	42mm

Blades		
Part no.	Length	Color
521114	14"	Black
520916	16"	Black
520520	20"	Black
520522	22"	Black



# ROCA + MITSUBA STYLE SMALL SYSTEMS



Roca



## Marine Motor, Arm, and Blade Kit

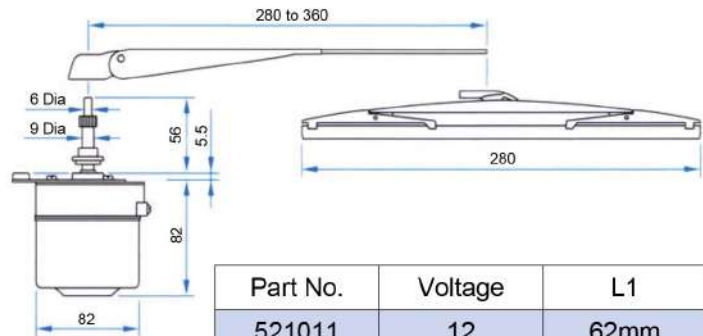
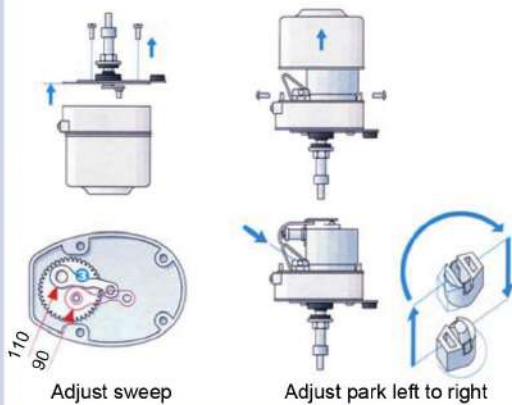
Motor with white powder coated aluminium cover, Stainless Steel shaft, and mounting plate.

Adjustable sweep angle 90 or 110 degrees.

Adjustable left or right self parking.

3 terminal, no switch.

Black coated stainless steel arm easily adjustable from 280mm to 360mm, polymer wiper blade 280mm.



Part No.	Voltage	L1
521011	12	62mm
521012	24	62mm

Mitsuba Style

With automatic stopper, 2 terminal, and manual switch.

With reciprocating shaft end 6mm diameter, thread 8.8mm diameter.

Easily shortened shaft to suit thin mounting surfaces.

Sweep angle 110 degrees.

Marine quality version with Stainless Steel shaft available, 3 terminal, no switch.

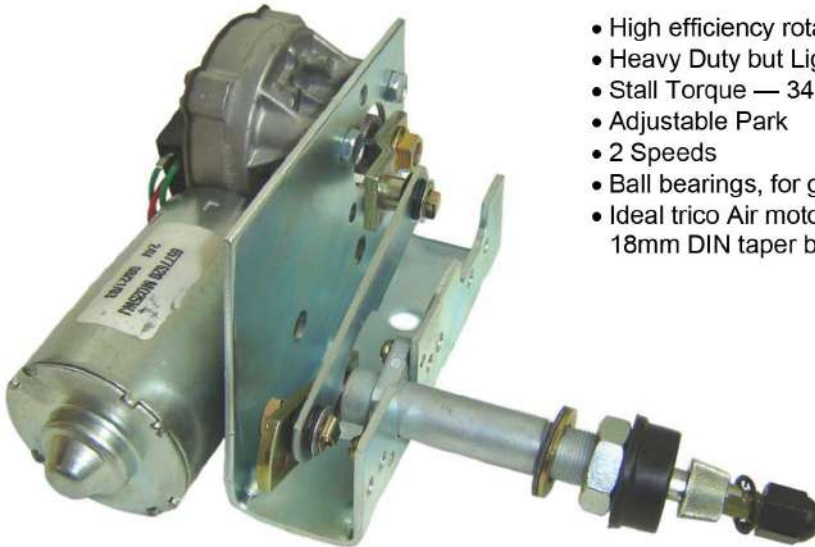


See page 50 for arm and blades to suit

Motors			
Part No.	Voltage	L1	Switch
CL3016	12	65mm	No
CL3010	12	50mm	Yes
CL3013	24	50mm	Yes
CL3012	12	105mm	Yes
CL3015	24	105mm	Yes



## Model WWJ



### Features

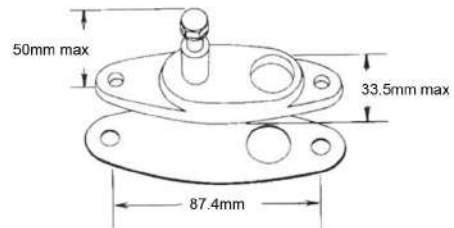
- High efficiency rotating output shaft
- Heavy Duty but Light weight; 1.37 kg
- Stall Torque — 34 Nm
- Adjustable Park
- 2 Speeds
- Ball bearings, for greater efficiency & smooth operation
- Ideal trico Air motor replacement. Same flatted shaft & 18mm DIN taper block

### Specifications

- Stall Torque — 34 Nm
- Voltage — 12, 24
- Stall Current — 20 amps  
no load — 1.5 amps
- Low speed — approx 36 rpm
- High speed — approx 60 rpm

## Pantograph Adaptor kits

Kit Number	Center Distance	Used with Pivot Shaft
KT48519	31.8mm	.668 Heavy duty Black



## Black Arms and Blades

Pantograph Arm	Length
5218340	356mm
5218440	406mm
5218540	457mm
5218640	508mm
5218740	559mm
5218840	610mm
5191740	711mm

Radial Arm	Length
5217440	356mm
5217540	406mm
5217640	457mm
5217740	508mm
5217840	559mm
5217940	610mm
5218040	660mm

Blade	Length
5216940	357mm
5217040	406mm
5217140	457mm
5217240	508mm
5191640	559mm

For Bosch Blades up to 700mm  
See page 20

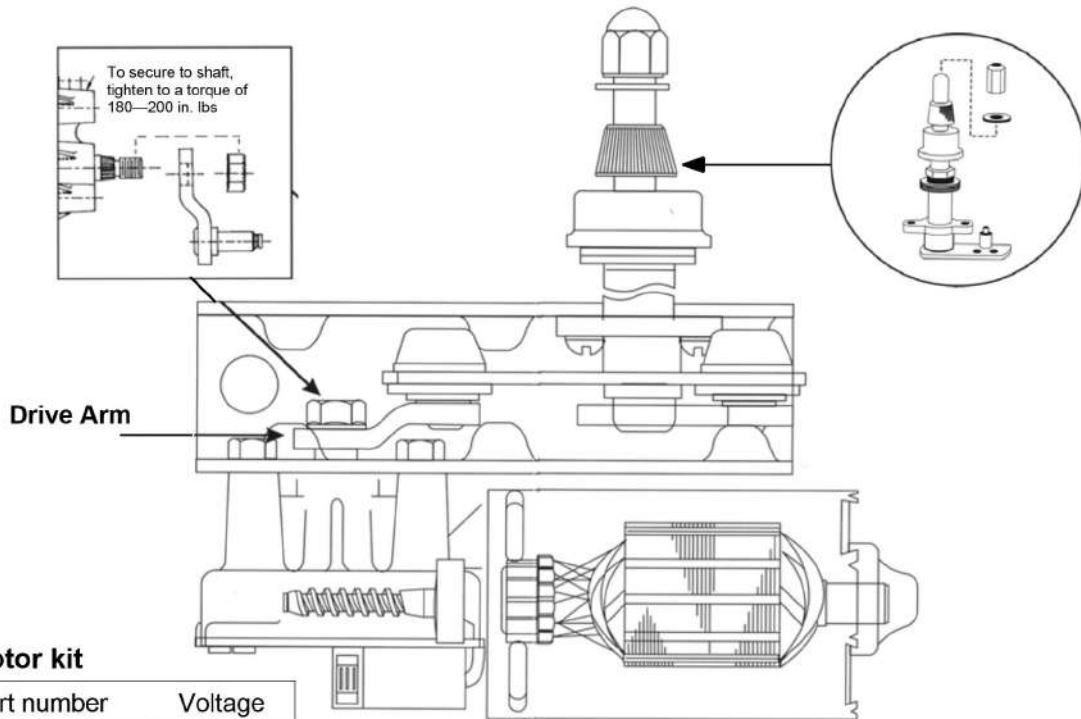
Kit Number	Description
5219140	Wet Kit includes: hose, nozzle & clips for wet arm application



# UNITED TECHNOLOGIES WWJ WIPER SYSTEMS



Model WWJ



### 1. Motor kit

Part number	Voltage
6577520	12
6577620	24

Includes all parts required to make Complete assembly except No.s 2 & 3 (inc: motor, bracket, connecting link, Nuts & bolts)

### 2. Drive Arm

Part number	Wipe angle
6211140	68
	85
	108
6211240	93
	127

### Adjustable Drive Arm

Part number	Wipe angle
LE6000	10 to 80

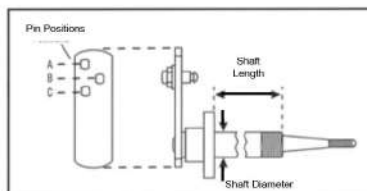
### 3. Pivot Shaft

Part number	Length	Description
6271540	25mm	Heavy Duty, .628" Shaft
6271140	32mm	
6271240	51mm	
6271440	76mm	

Although this heavy duty system is of unitised design, the major components must be ordered individually to permit the most suitable choice of operation voltages, wipe angles, and pivot shaft lengths.

When ordering a wiper kit for a unitised installation, three numbers are necessary.

1. Motor Kit Number    2. Drive Arm Number    3. Pivot Shaft Number



### Double Link Drive Arms

6211340 replaces 6211140	<table border="1"> <tr><td>68</td></tr> <tr><td>85</td></tr> <tr><td>108</td></tr> </table>	68	85	108
68				
85				
108				
6211440 replaces 6211240	<table border="1"> <tr><td>93</td></tr> <tr><td>127</td></tr> </table>	93	127	
93				
127				

### Dual Arm Link Assemblies



Part number	Length
LK721014	86mm
LK7210355	483mm
LK721026A	504mm
LK7210357	699mm
LK7210358	572mm



# PUMPS AND WINDOW WASHER EQUIPMENT

**Washer Bottle Doga**  
Large Capacity 5 litre Reservoir



15057500 1 pump 24 volt  
15057700 2 pump 24 volt  
15057400 1 pump 12 volt  
15057600 2 pump 12 volt

**Washer Bottle SWF**  
Large Capacity 3.2 Litre Reservoir



103.765 Bottle, 1 pump 24v  
105.070 Bottle kit, 1 pump 24v  
with 2 x 15030600 jets,  
2 x 10050263900 connectors,  
+ hose

**Washer Bottle Feipeng**  
Large Capacity 3.5 litre Reservoir



FPWYG-L Bottle, 1 pump 24v

**Washer kit**  
1.45 litre Reservoir, 12v  
PVC tubing, wiring, T piece



W501

**Washer kit**  
1 litre Reservoir 12v  
PVC tubing, wiring, T piece  
mounting bracket, jets



19WWK

**Washer kit**  
3 litre Reservoir, 12v



531161

**Washer Bag kit**  
12v with mounting bracket, tube,  
T piece, wash jets, wiring, switch



EWP16

**Washer kit**  
1.7 litre Reservoir, 12v  
PVC tubing, wiring, T piece



W5000

**Pump Bulkhead Mount**



CL209M 12v light Duty  
CL209N 24v light Duty

**Pump Bulkhead Mount**



15011800 24v

**Pump Bulkhead Mount**



246075015001 12v gear driven  
246075010001 24v gear driven

**Pump Bottle Mount**



15029800 12v  
15029900 24v

**Pump Bottle Mount**

Fits bottles  
W5000  
W5010



CL508M12V 12v  
CL508N24V 24v

**Pump Bottle mount**



201.0002.20.00 12v  
201.0002.30.00 24v

Fits bottles  
15057500  
15057700  
15057400  
15057600



# PUMPS AND WINDOW WASHER EQUIPMENT



**Solenoid Valve**  
For use with ships own  
pressurised supply

0.8-10 Bar



346-4514-015-12 12 volt  
346-4514-015-24 24 volt

**Solenoid Valve**  
For use with ships own  
pressurised supply

0-10 Bar



433839 12 volt  
134237 24 volt  
1/8" BSP inlet, 1/8" BSP outlet

**Twin Spray Head**



104.805: head fit

**Twin Spray Head**



80201001: channel fit

**Twin Spray Head**



80200100: bracket fit

**Solenoid 3/16 Tail Barbs**



2090808 1/8" BSP      2090404 1/4" BSP

**Twin Spray Head**



75400 with 1m tubing, Trico Arms

**Washer Jet Tube**



80200400 / metre 3mm ID  
80200500 / metre 4mm ID

**Triple Spray Head**



120.5007.39.CO: 10 x 4 bar fit

**Bulkhead connectors**

60250401 10mm  
60250402 30mm  
60250403 42mm  
60250405 82mm



**Non - Return Valve**



15001400 in line

**Tube connector**



12937 Straight

**Tube connector**



15000500 Tee

**Bulkhead connector**



10050263900 90 degree

**Twin Spray nozzle**



121.5005.39.CO

**Twin Spray nozzle**



WP7 plastic with nut

**Twin Spray nozzle**



WP12 Chrome on brass

**Twin Spray nozzle**



531157 9x3 bar fit & 1m tube

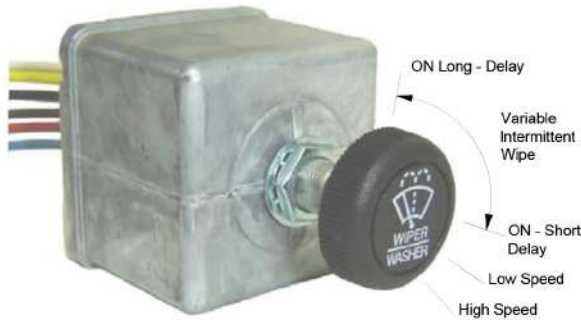
# CONTROL SWITCHES AND ACCESSORIES

For use with motors with Dynamic parking eg Bosch, SWF, Doga

## Heavy Duty Wiper Switches Variable Intermittent Wipe

Conform to SAE standards J112a for  
Windshield Wipers and J234 for  
Windshield Washers

Single Motor Control



75600-04 12 volt  
75602-04 24 volt  
10166600 24 volt Heavy Duty suit 50 & 80Nm  
90087010 24 volt Heavy Duty with face plate

For 12 volt and 24 volt D.C. electrical systems as noted.  
Negative ground only

4 positions: OFF/PARK, INTERMITTENT, LOW, HIGH.

Push knob to actuate washer pump circuit one to three  
wipes provided after knob is released.

Black plastic knob with metal insert and set screw,  
white imprint.

Die cast case 2 7/32" (56.35mm) square,  
1 13/16" (46.04mm) long.

Mounting stem 7/16" – 28 thread, 0.45" (11.43mm) long.



10095400  
Face plate

## Heavy Duty Wiper Switches Two Speed

Single Motor Control



75228-03 12 / 24 volt  
Six blade terminals

3 positions: OFF, PARK,  
LOW, HIGH.

Sealed construction  
including an "O" ring on  
the shaft

Die cast case  
1 5/8" (41.28mm) dia  
7/8" (22.22mm) long.

"Push to Wash" feature to  
actuate washer pump

## Heavy Duty Wiper Switches Two Speed

Single Motor Control



75228-04 12 / 24 volt without Wash feature  
Five blade terminals

3 positions: OFF, PARK,  
LOW, HIGH.

Sealed construction  
including an "O" ring on  
the shaft

Die cast case  
1 5/8" (41.28mm) dia  
7/8" (22.22mm) long.

## Multi-Function Wiper Switch

Single motor control

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



CT41DBHITA and CT42DBHITA 12 - 24 volt D.C.

Dual voltage for DC 12v and 24v systems

Three intermittent settings

2 speed functioning

Perfect self parking "dynamic brake"

Wash / Wipe program

Dimmer input

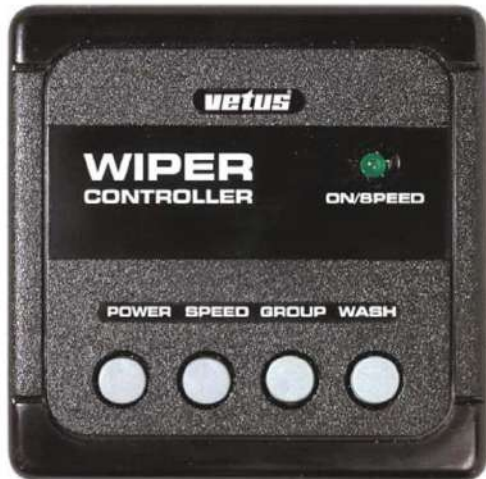


# CONTROL SWITCHES AND ACCESSORIES



For use with motors without Dynamic parking eg Roca, AFI, Vetus, United Tech

## Control Panel



If two or three wiper motors are installed, this control panel enables some, or all of the wipers to operate synchronously at normal speed.

At high speed each wiper will retain it's own wiping pattern. An interval wipe feature, with three different settings and a wash / wipe function are also built in.

The panel is suitable for 12 and 24 volt installations and for wiper motors with a power consumption up to 10A maximum each.

Dimensions: 94 x 94 x 15mm high, with a built in depth of 30mm.

RW PANEL

## Heavy Duty Wiper Switches Two Speed

Single Motor Control



"Push to Wash" feature to actuate washer pump

75221-09 12 / 24 volt  
Five blade terminals

3 positions: OFF, PARK, LOW, HIGH.

Sealed construction including an "O" ring on the shaft.

Plated steel case  
1 3/8" (34.93mm) diameter,  
1 3/8" (22.22mm) long.

Internal six amp circuit breaker.

## Heavy Duty Marine Switch

For 6 – 36 volt, D.C. electrical systems

Brass case, mounting stem, terminals and mounting hardware

Mounting stem 3/8" –32 thread, 1 1/4" (31.75mm) long

Mount in panels to 3/4" (19.05mm) thick.



M-628

## Wiper Switch Two Speed

Single Motor Control



HDMSW 12 / 24 volt  
Four blade terminals

3 positions: OFF, PARK, LOW, HIGH.

Plastic case  
30 x 30 x 23mm long

## Wiper Switch Carling Rocker One or Two speed

Single Motor Control



SW-NF/DP momentary on/off  
SW-ON/OFF/DP on/off  
SW-N/F/N/ DP on/off/on

ACT-WP actuator - wiper  
ACT-WH actuator - washer

Use with change over relay for Bosch type motors to park



## Synchronised Control Panel variable intermittent



- Solve your windscreen problems in a very easy way
- Coordinate the wiper movements synchronising brushes, having the same harmonious effect you get in cars.
- Drive all together ( General ON/OFF ) or one ( Single ON/OFF for each wiper ) Automatic washing program.
- Versions from 3—5 wipers in a single electronic unit,
- 12 or 24 volt.
- Fit for any kind of motors. Motors are driven by a relay box connected to the electronic unit by a simple multipole cable.
- A robust polyester front mounted on a 3mm aluminium
- protects the unit from water sprinkle and dust.



CT13	3 wiper controller	CT23	3 wiper controller 2 Spd
CT14	4 wiper controller	CT24	4 wiper controller 2 Spd
CT15	5 wiper controller	CT25	5 wiper controller 2 Spd

Each element of the control panel undergoes extensive testing and measurement to comply with EMC regulations, guaranteeing that they do not cause electrical interference to neighbouring equipment.

## Network Control System 3000 Series Controller



- Individual or group control of the wipers
- Fast & slow speed operation
- Intermittent mode with 3 delay timings
- Heater control switch
- Wash wipe / air purge facility gives synchronisation of wipe, water delivery and line purging
- Synchronised group wiping in the intermittent mode
- Network uses 2-wire control technology
- 24 volt
- Different electrical supplies and voltages can be controlled in the same system
- Modules can be located adjacent to the wipers to minimise wiring runs
- Network can be run in an open or closed ring circuit

WC-3000-3	3 wiper controller
WC-3000-4	4 wiper controller
WC-3000-5	5 wiper controller



Module shown on hepworth motor

The series 3000 Network Control System is modular which gives you the flexibility to manage a fully functional window wiper system with integral wash and air purge. The system also controls wiper and window heaters

## Network Control System 6000 Series Controller

Simple control of large systems

More than one keypad can be integrated into any operational system

Wipers controlled locally or from master control

Different types of wipers with variations in voltage controlled by one system

Synchronization of low voltage wipers,  
(pantograph / pendulum) in low and high speeds

Reduced installation costs

### 6500 Series Control Panels

The system can be controlled with a rotary switch, Carling rocker switch, touch screen, the std 6500 keypad or a customised keypad.

Available with a maximum of two slave controllers per master and remote switches per controller.

### 6100 Series 115v AC and 230v AC 1 Phase Motor Modules

- Ships power supply 115v AC or 230v AC single phase
- Straight Line Wipers Type C / D and Clear View Screens Type C350
- Motor types GA65, GA65-L, GA64, GA64-L

The standard module is configured as a single motor module with two additional outputs e.g. wash/purge, wash/heat. The extended motor module has four additional outputs (extra PCB). The additional outputs (extra PCB) can be of different voltage to the standard PCB. It is also possible to choose a module as an auxiliary controller. For example as a separate air/purge module or window heater module with either 3 or 5 outputs. (the heater output is 8 amps; if the current is higher an external contactor is required)

### 6200 Series 24v DC Motor Modules

- Ships power supply 24v DC
- Pantograph, Pendulum, or Straight Line Wipers
- Motor types 30Nm, 50Nm, 80Nm, 110Nm, 1800 and 1801 (pend & panto, two speed), PM3 and PM5 (slw single speed)

The standard module has two outputs;

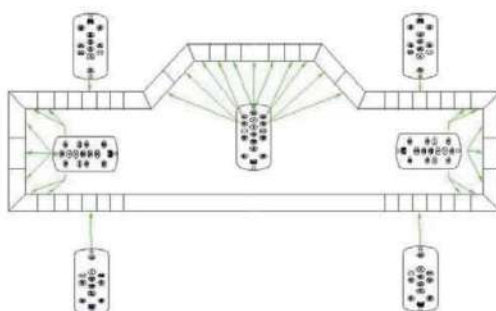
1 Motor Control output

2 One extra hardware (dipswitches) output configurable for wash/purge/wiper heater/window heater. (the heater output is 4 amps; if the current is higher an external contactor is required)

### 6300 Series 115v AC and 230v AC 3 Phase Motor Modules

- Ships power supply 115v AC or 230v AC three phase
- Straight Line Wipers Type C / D and Clear View Screens Type C350
- Motor types GA61, GA61-IP-23, GA63, GA62D, GA68
- Pantograph / Pendulum Wipers 70Nm and 100Nm

The standard module has one output, motor control, only. The extended module has two extra outputs (extraPCB). (the heater output is 8 amps; if the current is higher an external contactor is required)



### Flexibility

Large bridges can be divided into zones, each of which may be configured into groups. Different electrical supplies and voltages can be controlled in the same system, and additional wipers and equipment can be added at a later date with no complicated design change.

The series 6000 Control System consists of modules that may be distributed around the bridge in close proximity to each wiper. A single power cable to the module can provide a wiper, wash and air purge, or wiper, wash and heat functionality. For large systems requiring multiple functions, a separate wash/purge/screen heat module is available.

The system is controlled from a conveniently positioned control keypad, available as Single Speed or Two Speed, Master group control, 1 to 5 groups All groups Single wipe, 3 intermittent wipers, wash, case heat, and window heat



# ASSORTED MOTORS

## Bosch 30Nm



65008900  
24 volt, 2 speed + park, IER  
M8-10 taper shaft,

65008800  
12 volt, 2 speed + park, IER  
9.3 shaft,

699397236020 Kenworth long nose  
12 volt, 2 speed + park,  
M8-10 taper shaft, 3 x M6 mount

## Bosch 50Nm



100865/1  
24 volt, 2 speed + park  
9.3 shaft

65008600  
24 volt, 2 speed + park, IER  
9.3 shaft

65008500  
12 volt, 2 speed + park, IER  
M8, 10-12 taper shaft, 3 x M6 mnt

## Bosch 80Nm

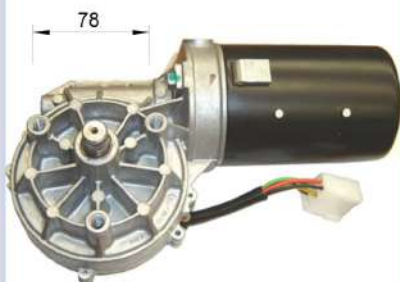


101149/1  
24 volt, 2 speed + park  
13.26 shaft

100712/2  
24 volt, 2 speed + park, IER  
13.26 shaft

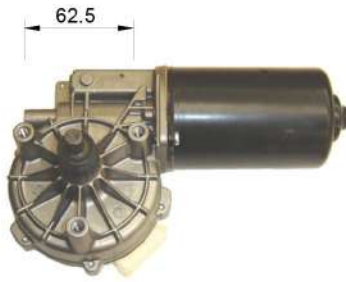
100714/2  
12 volt, 2 speed + park, IER  
13.26 shaft, 3 x M8 mount

## Bosch 110Nm



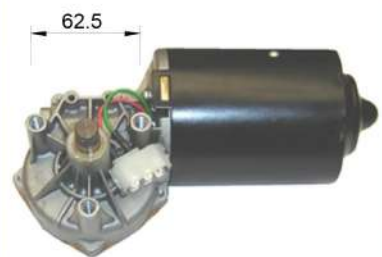
100726/1  
100726/2 IER  
24 volt, 2 speed + park,  
15.8 shaft, 3 x M10 mount

## SWF 50Nm



403.873  
24 volt, 2 speed + park  
9.3 shaft, 3 x M6 mount

## SWF 65Nm (258 series)



403.195  
12/24v, 2 speed + park 30/45 rpm  
13.26 shaft, 3 x M8 mount

## Doga 25Nm



111.3717.20.00  
12 volt, 2 speed + park  
111.3717.30.00  
24 volt, 2 speed + park  
9.3 shaft, 3 x M6 mount

## Doga 50Nm



319.3723.30.00  
Stainless, 24 volt, 2 speed + park  
9.3 shaft, 3 x M6mount

## Doga 130Nm (259 series)



259.3705.2B.04  
12 volt, 2 speed + park 30/45 rpm  
259.3705.3B.04  
24 volt, 2 speed + park  
13.26 shaft, 3 x M8 mount



# ASSORTED MOTORS



## Bosch 2Nm



101250-6  
12 volt, 1 speed + park, IER

101250-7  
24 volt, 1 speed + park, IER  
M6 -8 taper shaft

## Parvalux

With drive for Hepworth / Wynn  
Straightline systems



AC 100, 115, 230 volt  
DC 24 volt

Indent only call for details

## Prestlite

Suit International S Line



3262249-R91  
12 volt,  
With bracket and crank

## United Technologies / AM



6577520  
12 volt, 2 speed + park

6577620  
24 volt, 2 speed + park  
Taper shaft, With bracket

## Asmo / Denso

For Japanese Coaches with  
linking cable between motors.  
Self park through RH motor



859100-6142 Hino RH, 5 pin  
859100-6132 Hino LH, 5 pin  
M8-12 taper shaft, 3 x M8 mount

## Feipeng 125W

Designline coarse spline

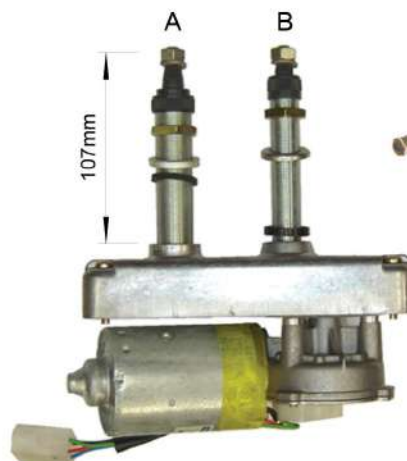


SD2733A  
24 volt, 2 speed + park  
13.26 shaft 3 x M8 mount

## VALEO (SWF)

Voltage	24v
Overall spindle length	107mm
Liner diameter (A)	20mm
Spindle diameter (A)	12mm
Liner diameter (B)	16mm
Spindle diameter (B)	10mm
Thread (A&B)	M8
Spindle cr—cr	60mm
Sweep Angle	75 degrees
Box width	95mm
Box height	190mm

107.862 Park to Left (RHS)  
107.854 Park to Right (LHS)



Use with SWF  
103.980 Arm 700mm  
130.600 Blade 600mm  
130.701 Blade 700mm

# ASSORTED MOTORS

## Tru-Vision 12v



WEM 1530-B-TM  
45-90 degree wiper angle  
50-80mm shaft

## Tru-Vision 24v



WEM 2530-B-TM  
60-90 degree wiper angle  
60-75mm shaft

## Tru-Vision 24v



WEM 2930-24-60  
60 degree wiper angle  
90mm shaft

## Tru-Vision 24v



WEM 2032-TM-11  
50 degree wiper angle  
80mm shaft

## Tru-Vision 24v



TC325  
65nm  
11.8mm spline

## Tru-Vision 24v



TV5200

## Tru-Vision 24v



ZD2230B  
60 degree wiper angle  
68mm shaft

## Denso 24v



849100  
Available in 12v & 24v with tapered shaft

## Roca W12, 12v & 24v



533011 - 12v, 25mm  
533021 - 12v, 51mm  
533012 - 24v, 25mm  
533022 - 24v, 64mm

## Curved Screen Wiper Blades

Bosch Heavy duty, curved screen wiper blades are built to withstand heavy commercial and marine usage and are available in a range of sizes up to 1000mm.

Renowned Bosch Quality translates into superb wiper performance throughout an extended service life. Bosch windshield wipers rely on innovative technology for maximum visibility and optimal safety.

Note: When ordering, suffix Part number with length required in inches. e.g. B140-39



80012800  
Blade Block

Blade	Length	Bolt Diameter	Blade Block
B140-14, 16, 18, 20, 22	340, 400, 450, 500, 550	4.8	14



Blade	Length	Bolt Diameter	Blade Clip
B140-24, 26, 28	600, 650, 700	4.8	14

25 & 26mm Spacer with  
8mm clip bolt adaptor



Blade	Length	Bolt Diameter	Blade Clip
B140-32, 36, 39	800, 900, 1000	6	20, 21, 25, 26

## Flat Screen Wiper Blades



Blade	Length	Blade Clip
1688-001-	450, 500, 550, 600, 650, 700	Saddle for Wynn straight-line arm



# BLADES SWF

## Curved Screen Wiper Blades

SWF Heavy duty, curved screen wiper blades are built to withstand heavy commercial usage and are available in a range of sizes up to 1000mm.

16mm Blade block  
9mm x 4mm & 12mm x 4mm Hook adaptors



Blade	Length	Bolt Diameter	Blade Block
132.600	600	6	16
132.701	700	6	16

Spacer with 8mm clip bolt adaptor



Blade	Length	Bolt Diameter	Blade Clip
132.801	800	6	15,16,26



Blade	Length	Bolt Diameter	Blade Clip
106.277	1000	8	20,26

Refill	Brand	Back	Length	Refills
				Claw Width
TRP1000	Trico / Tru Vision	Plastic	1000mm	8mm & 9.5mm
TTR40	Tridon	Plastic	1016mm	8mm & 12mm
TMK28	Tridon	Plastic	710mm	7.5mm
MRS28	Tridon	Metal snap off	710mm	7.5mm
69BMN610	Bosch	Metal snap off	610mm	6mm
80262200	Bosch	Rubber only	1000mm	9.5mm
80262202	Bosch	Rubber only	800mm	9.5mm
115.756	SWF	Rubber only	800mm	7.5mm

# SILICONE WIPER BLADES



## Features:

- High performance silicone compound
- Up to 2x more durable than regular rubber blades
- Optimum performance in hot AND cold environments
- Available in lengths between 12-28 inches
- Includes the latest in beading technology
- Suitable for all makes and models of cars
- Easy to install
- 12 Month guarantee



Product Number	Length
SWT880-12	12in
SWT880-14	14in
SWT880-16	16in
SWT880-17	17in
SWT880-18	18in
SWT880-19	19in
SWT880-20	20in
SWT880-21	21in
SWT880-22	22in
SWT880-24	24in
SWT880-26	26in
SWT880-28	28in

# CLASSIC CAR SMALL ARMS / BLADES

## Flat Blade

6mm Bayonet fit 10" Stainless Steel



SS10FBN

## Flat Blade

5mm Spoon fit 10" Stainless Steel



SS10FSP

## Curved Blade

6mm Bayonet fit 10" & 11" Stainless Steel



SSWB10  
SSWB11

## Curved Blade

5mm Spoon fit 10" & 12" Stainless Steel



TE10310  
TE10312

## Curved Blade

7mm Bayonet fit 10" & 12" Stainless Steel



SSWB10-7  
SSWB12-7

## Curved Blade

5mm Bayonet fit 10", 12" & 14" Stainless Steel



TE266-10  
TE266-12 TE266-14

## Mini Arm

6 x 2mm Bayonet end, 11" Stainless Steel  
Fits Std 13.6mm straight spline, Right or Left crank



SSWA11L  
SSWA11R Left crank shown

## Flat Blade

Hook fit



21-303 255mm  
21-305 350mm

## Universal Adjustable arm

7mm Bayonet fit, left or right crank, Adjustable to 380mm  
Fits Std 16mm straight spline



Simply cut off unwanted end

TC202

## Adjustable Arm

Slotted end for Hook blade,  
Fits 6mm straight shaft  
Adjustable 240—380mm



21-304

## Universal Adjustable arm

5mm Spoon & Bayonet fit, left or right crank, Adjustable to 360mm  
Fits Std 13.6mm straight spline  
Comes with adaptor for 6mm straight shaft



Simply cut off unwanted end

A199 Knurled Driver

TC203

## Knurled Driver

Adapts 6 or 8mm straight  
shaft to 13.6mm spline



A199 6mm  
02465 8mm

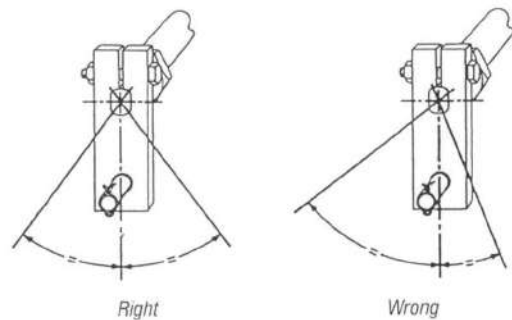


As we have no influence on the installation of complete windscreen wiper systems, we are unable to accept liability for installation errors.

The composition and installation of freely selected wiper systems lie within the sole responsibility of the customer. We are therefore unable to accept liability.

Most wiper systems have a park setting, which permits them to operate in the parked position if connected to the vessels electrical system, even if the wiper is switched off. **For this reason, at this point in time, neither may the wiper arm be mounted, nor may any person have hands, fingers etc anywhere near the wiper system.** Even small wiper systems can neither be braked nor stopped by hand.

**Never reach into the area of the rod linkage when the system is running!**

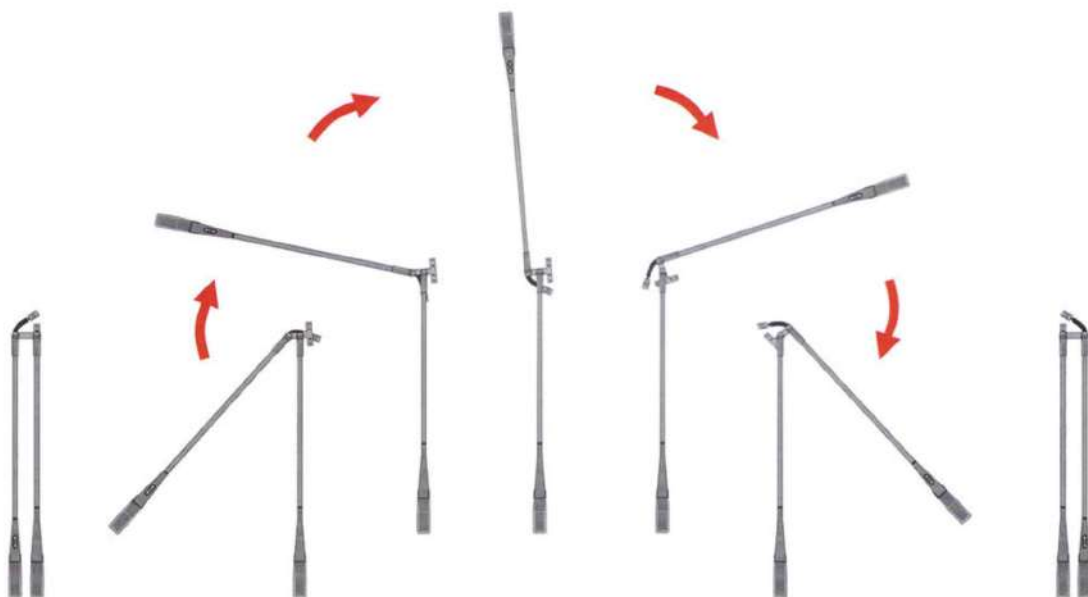


When putting into service (ie. when connecting the wiper motor to the vessels electrical system, even if the wiper switch is in the 0 position), never leave any loose items such as screwdrivers in the area of the wiper system, as flying objects could lead to injury.

When planning a system, make sure there are no obstructing elements (such as water tanks, ventilation pipes, blowers, etc.) located where you wish to install the motor, linkages, spindles.

The wiper spindles must be fixed to the bulkhead, ensuring sufficient rigidity at the mounting point. If necessary, the cab wall may require appropriate reinforcement.

Mount wiper arms in the hinged-up position.



NOTE: Pantograph arms can be either RIGHT HAND or LEFT HAND. To change an arm set to the opposite hand, rotate the slave arm over the top of the main arm as illustrated.

**Screen Wiper Solutions Ltd**

Unit 9, 90 Elizabeth Knox Pl, St Johns, Auckland 1072

Email: [sales@sws.co.nz](mailto:sales@sws.co.nz) Ph / Fax: 09 527-4991