FX380 1Kw Xenon Manual Control Searchlight

User / Installation Manual

Product Part Number:

A2771 – FX380 Deck 240v 1Kw Xenon

A2770 – FX380 Deck 115v 1Kw Xenon

A2773 – FX380 Deck Pedestal 240v 1Kw Xenon

A2772 – FX380 Deck Pedestal 115v 1Kw Xenon

A2775 – FX380 Cabin 240v 1Kw Xenon

A2774 – FX380 Cabin 115v 1Kw Xenon

A2777 – FX380 Cabin Pedestal 240v 1Kw Xenon

A2776 – FX380 Cabin Pedestal 115v 1Kw Xenon

Francis SEARCHLIGHTS

PLEASE NOTE!

www.francis.co.uk

Please read this manual before installation.

C20332 Issue 16 17.11.25 EC2094

CONTENTS

General Information:

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W: www.francis.co.uk

1 – Introduction

It is imperative that this manual is read carefully and understood before installing your equipment. For your future reference please keep this manual in a safe place.

Thank you for specifying a product from the Francis Searchlights range. All Francis products are designed to give complete customer satisfaction and are manufactured to the highest engineering standards to ensure optimum performance and service life.

The Francis Xenon range combines features proven over many years in the most hazardous conditions in both marine and land installations.

To prolong the life and performance of your product, we recommend that you only specify Francis Searchlights spare parts. This will also ensure that any warranties on your equipment will not be invalidated. Information on spares ordering and parts is provided in this manual.

Should you ever need to contact Francis Searchlights Ltd. regarding your equipment, please always quote the Product Number and Serial Number of the product you have, this is located on the name plate, inside the front of the barrel to the right.

In order that the searchlight operates correctly it is imperative that competent personnel are responsible for the installation, operation, and servicing of this equipment. Failure to adhere to this advice may cause premature failure or incorrect operation of the searchlight, which may damage the equipment or cause personal injury.

2 – Safety Precautions

The following instructions must be adhered to, to ensure a safe working environment and the safety of the user.

Note: When unpacking or manoeuvring the searchlight into its fixing position, suitable lifting points must be used to prevent damage to the equipment or personal injury.

- Only suitably qualified personnel may install the products**.**
- Prevent rain, snow, condensation, and water droplets from contacting the lamp as this may cause bulb failure and possible shattering.
- Xenon bulbs run with a high internal pressure more than atmospheric. Whilst the construction is inherently strong, there is a slight risk of the bulb shattering.
- Never look directly into an illuminated searchlight as this may cause severe damage to eyesight. If it is necessary to inspect a lamp whilst in operation, always wear suitable protective goggles.
- Never attempt to clean a lamp whilst in use.
- Searchlights get hot. Never touch the unit when lit and always allow 15 to 20 minutes for cooling down after turning the searchlight off.
- Never place anything on or cover the searchlight when in use.
- Ensure the lamp has cooled sufficiently before removal.
- If undue force appears necessary to remove the lamp, the equipment should be inspected by a competent person or contact the manufacturer.
- When breaking a lamp for disposal, care must be taken to ensure the glass fragments are safely contained. This operation must be performed out of doors in free air. In all circumstances refer to the lamp manufacturer’s instructions packed with the lamp.
- Due to the vast range of lamps available it may appear possible that more powerful lamps can be used in the equipment than for which it was designed. Even when the unit will physically accept a higher wattage or voltage lamp, this substitution is not recommended and is dangerous. This action will also void any warranties on the equipment.

Always refer to the lamp manufacturer’s technical data when dealing with lamps.

3 – Technical Information

Electrical				
Input voltage:	115 VAC 240 VAC			
Input current:	10A Max 5 Amp Max			
PSU output voltage:	25v DC			
PSU current:	42 Amps			
Wattage:	1Kw			
Dimensions	**Deck**	**Deck Ped**	**Cabin**	**Cabin Ped**
Height:	824mm	1706	1262	2151
Width:	569mm	569	516	516
Depth:	648mm	648	648	648
Weight: Searchlight	31Kgs	42kgs	36.5Kgs	50.5Kgs
Weight: PSU Enclosure Assembly	14Kgs			
Searchlight Performance				
Lamp power:	1000w			
Range @ 1 Lux:	6700m			
Lamp life (approx.)	3000h			
Divergence:	1.5 - 10°			
PBCP (Peak Beam Candle Power):	45,000,000 cd			
Colour temperature:	6000K			
Luminous flux:	32,000 lumens			
Searchlight movement				
Pan rotation:	450°			
Tilt elevation: Deck / Deck Pedestal	±45°			
Tilt elevation: Cabin / Cabin Pedestal	+20° to -40°			
Material, colour, IP rating				
Searchlight barrel head:	Stainless Steel BS1449 304S31			
Crutch:	Aluminium BS1474 6082 T6			
Paint finish powder coated & stove enamel paint:	Ash Grey BS4800 00A01, Umbra Grey RAL 7022			
IP rating:	IP56 Searchlight & PSU Box			
Operating temperature:	-50°C			
Certification approval:				
Lloyds TA:	IEC 60945: 2002			
Russian Maritime Register of Shipping:	Parts XI & XVII, Part IV			
ISO9001 2015:	Quality Management System			

4 – Unpacking and Installation Instructions

The following instructions should be read and fully understood prior to installing the equipment to ensure that the correct procedures are followed, and all safety precautions are observed.

Note: If the equipment has been in storage for a considerable amount of time, it is advisable to conduct a routine maintenance check on all parts before installation.

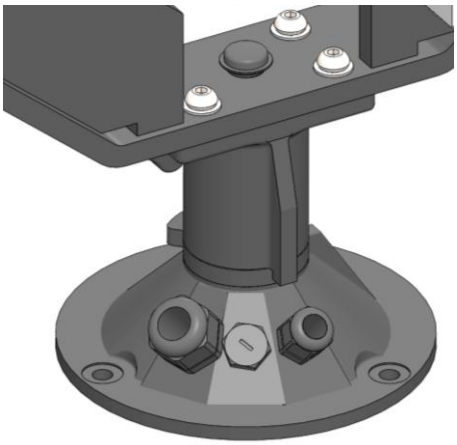
Safety Precautions

This equipment should not be connected to an electrical supply before being installed. Installation procedures should be adhered to, to ensure a safe working environment and reduce the risk of damage or personal injury.

Preparing the Mounting Position

Mark out and drill the fixing holes through the deck using the template provided. If anti vibration mounts are required to be fitted the fixing holes for the mounts should be marked out and drilled. Prior to manoeuvring the searchlight into its fixing position, the AV mounts should be fitted to the base.

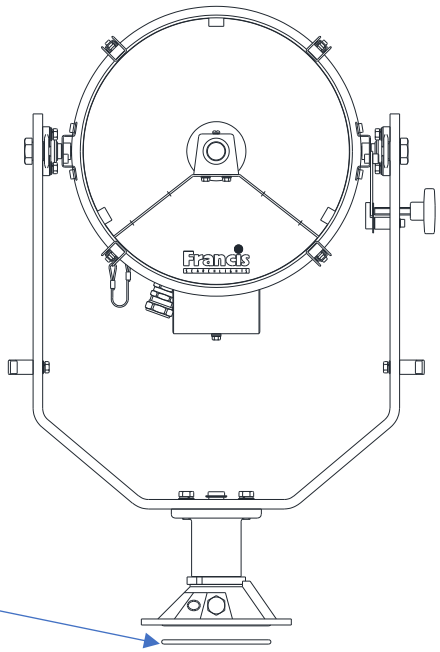
Deck Installation Instructions



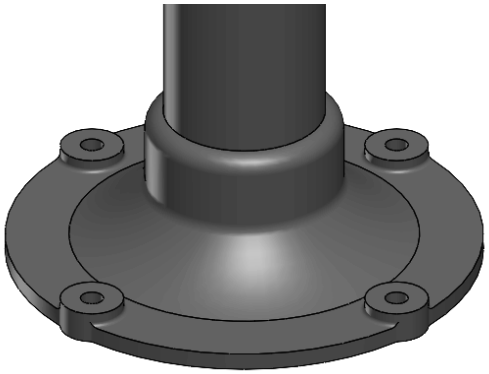
Deck Base Fixings (Use template supplied).

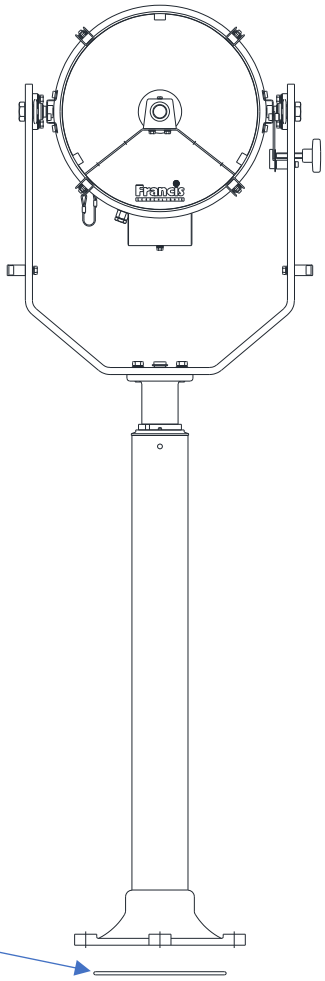
3 Holes Ø11.00 Equally Spaced on a Ø174.00 P.C.D.

Fit the ‘O’ Ring in position and bolt the searchlight down securely. On an uneven surface it is necessary to use a suitable sealant such as silicone to ensure a weatherproof joint.



Deck Pedestal Installation Instructions





Deck Pedestal Base Fixings (Use template supplied).

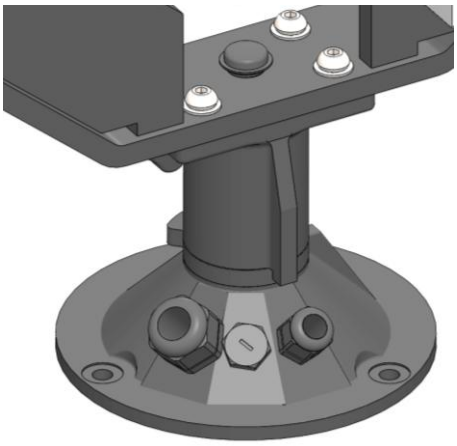
4 Holes Ø12.50 Equally Spaced on a Ø270.00 P.C.D.

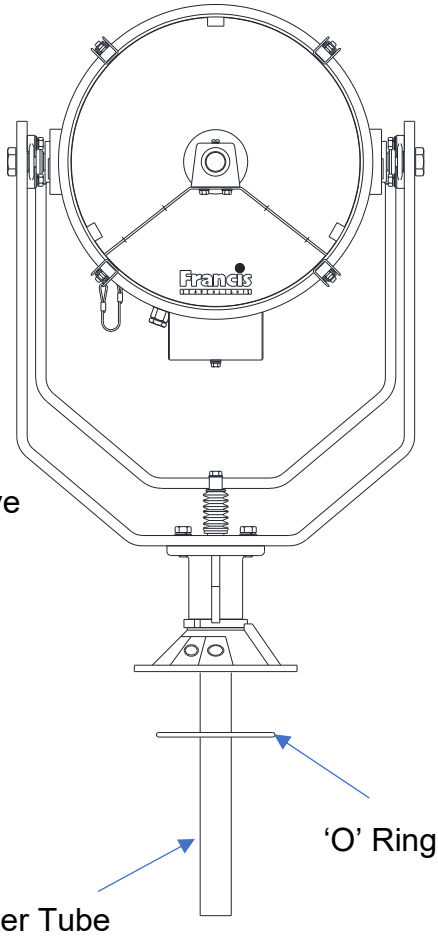
Fit the ‘O’ Ring in position and bolt the searchlight down securely.

On an uneven surface it is necessary to use a suitable sealant such as silicone to ensure a weatherproof joint.

‘O’ Ring

Cabin Installation Instructions





Cabin Base Fixings (Use template supplied).

3 Holes Ø11.00 Equally Spaced on a Ø174.00 P.C.D.

Central hole Ø40 for Underdeck mechanism to pass through.

Unscrew the 3 off M6 Grubscrews and two lock wheels then remove the Underdeck Control Assembly from the outer tube.

Pass the Outer Tube through the 'O' Ring and central Ø40

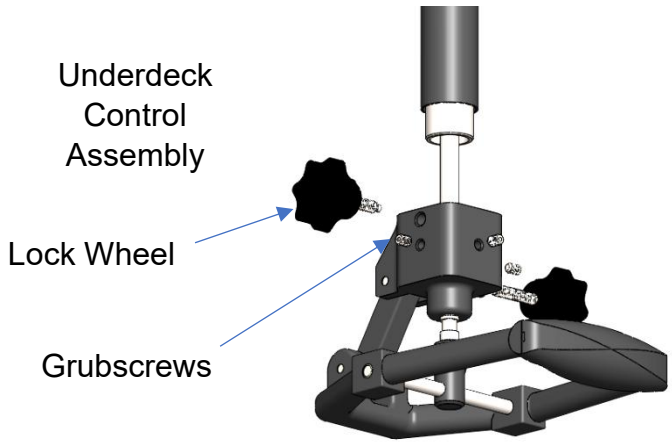
hole in floor / roof.

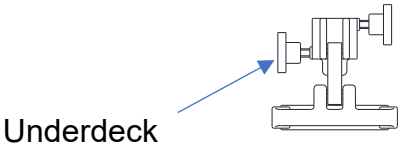
Re-fit the Underdeck Control Assembly.

Bolt the searchlight down securely.

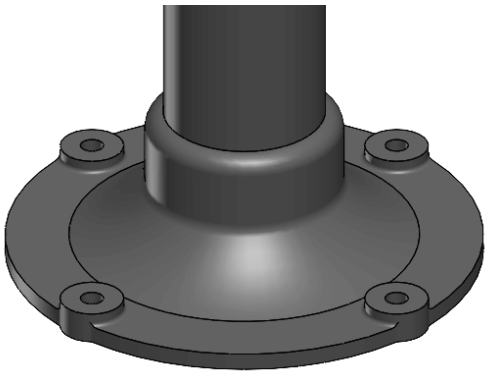
On an uneven surface it is necessary to use a suitable sealant

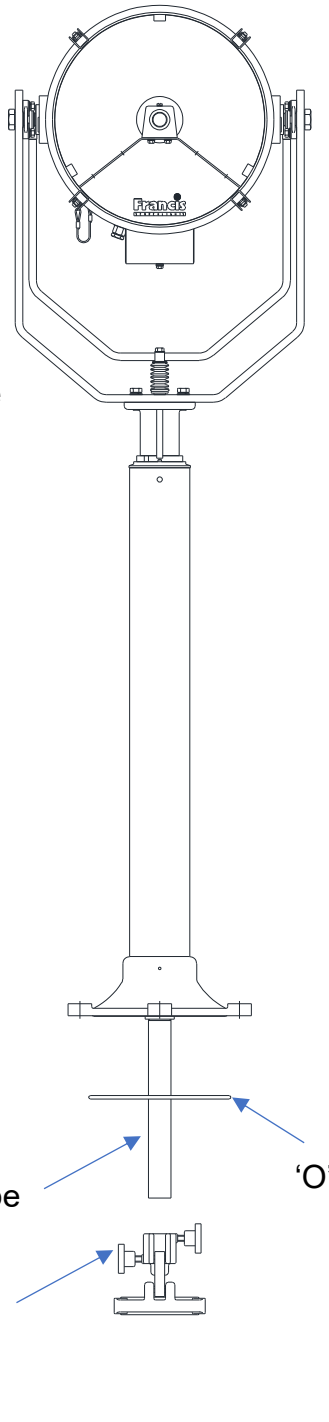
such as silicone to ensure a weatherproof joint.





Cabin Pedestal Installation Instructions





Cabin Pedestal Base Fixings (Use template supplied).

4 Holes Ø12.50 Equally Spaced on a Ø270.00 P.C.D.

Central hole Ø52 for Underdeck mechanism to pass through.

Unscrew the 3 off M6 Grubscrews and two lock wheels then remove the Underdeck Control Assembly from the outer tube.

Pass the Outer Tube through the 'O' Ring and central Ø52

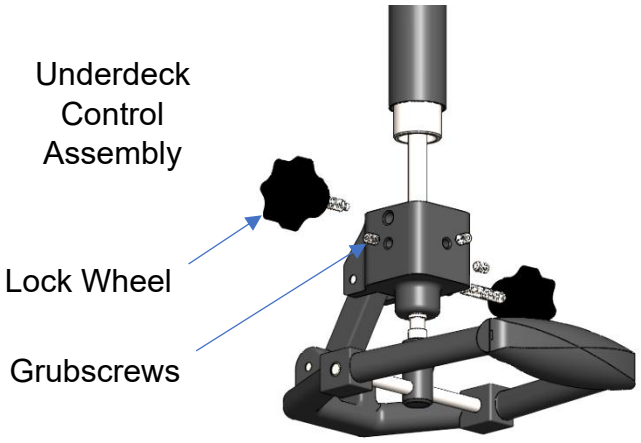
hole in floor / roof.

Re-fit the Underdeck Control Assembly.

Bolt the searchlight down securely.

On an uneven surface it is necessary to use a suitable sealant

such as silicone to ensure a weatherproof joint.



5 – Electrical Installation

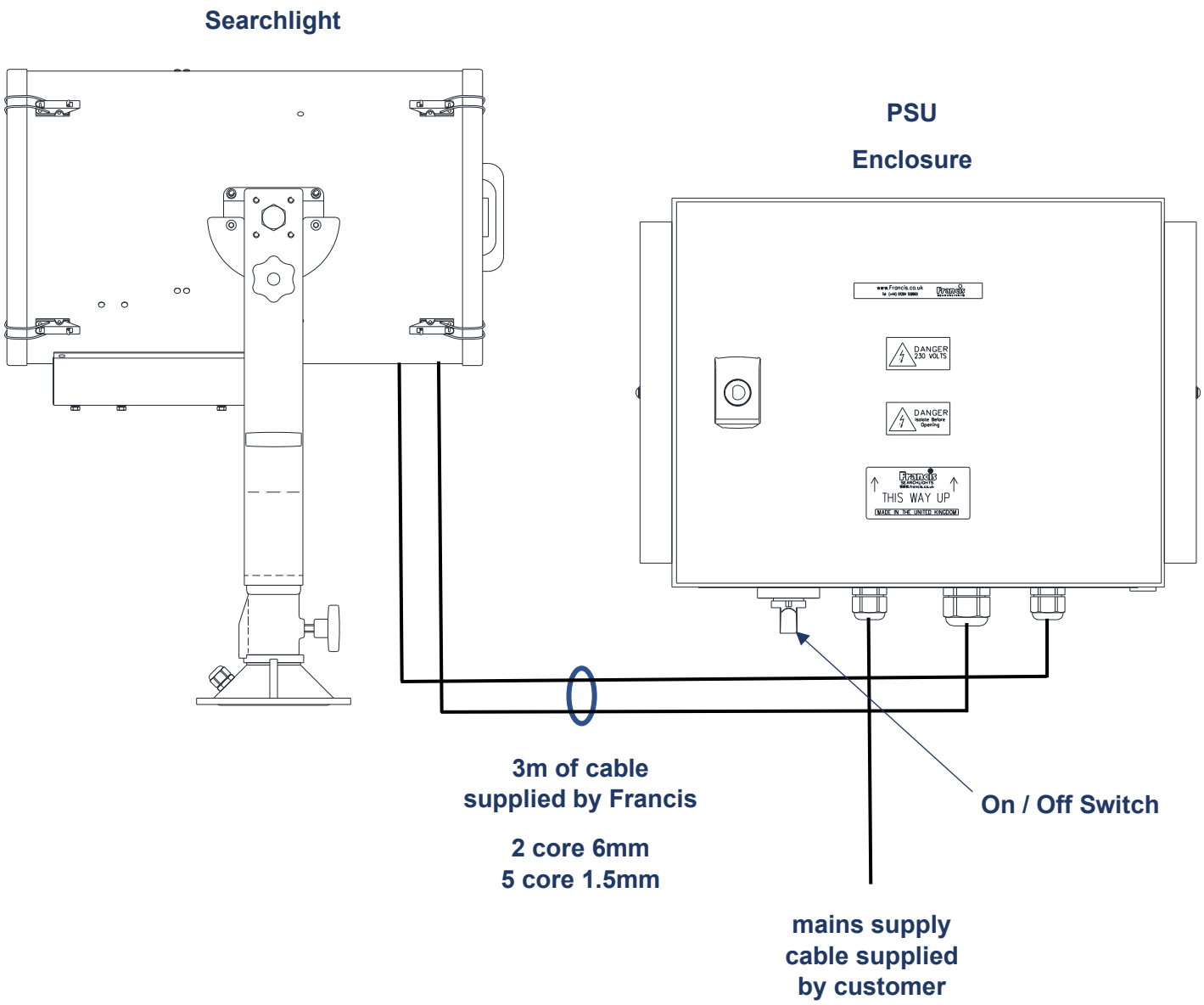
For safety purposes, only competent personnel should perform the electrical installation. All equipment should be installed to current Electrical Regulations and Standards.

Referring to wiring diagram C29064 240v or C30604 115v (at the back of the manual), a supply is fed to the PSU Enclosure, which then provides a common feed to the searchlight.

The searchlight has been pre-wired with 3 meters of cable from the searchlight to the PSU Enclosure.

Cables required to be connected by the customer.

- Supply cable to the PSU Enclosure.



To obtain the maximum light output from the searchlight, it is essential that the full operating voltage of the lamp fitted be applied to the lamp holder contacts.

Method of Electrical Connection

- Disconnect the supply before working on the electrical system.
- The searchlight must be connected to a fused electrical supply, using suitably sized cable.
- If the searchlight is located a considerable distance from the supply, provision must be made in the cable size to overcome the voltage drop.

The following table below indicates the maximum length of cable to be used for the supply cable, from the mains supply to the gearbox housing.

Searchlight	115v 1Kw	240v 1Kw
Cable Size (mm²)	Distance Max	Distance Max
1.5	17m	71m
2.5	28m	120m
4	46m	192m
6	68m	286m
10	121m	505m

The following table below indicates the maximum length of cable to be used for DC cable, from the PSU to the Searchlight.

Searchlight	1Kw
Cable Size (mm²)	Distance Max
2 core 6mm	7M
2 core 10mm	12M
2 core 16mm	19M
2 core 25mm	28M
2 core 35mm	39M

- Whenever possible cable terminations should be made below deck and with approved terminal devices.
- If a spare auxiliary fuse or circuit breaker is not available, one of the correct type/ratings should be fitted and connected to a positive supply. It is advisable to locate a bus bar or main connection and avoid any direct connection to the supply.
- For 115/240v AC products, the following colour coding system should be used for the customer supply cable:

Brown	-	Live
Blue	-	Negative
Green/Yellow	-	Earth

Note: This equipment must be earthed.

6 – Operating Instructions

This equipment is designed for use out of doors in free air. Never place anything on or cover the searchlight when in use as this may present a hazard.

The PSU should be housed below deck or in a position away from possible water ingress.

The searchlight can be positioned using the elevation and base lock wheels. When in the desired position the lock wheels must be securely fastened to prevent damage.

The beam of the searchlight can be adjusted to give a variety of beam types. By turning the focus lock wheel positioned on the rear bezel clockwise or anticlockwise, the lamp holder mechanism moves through spot to flood positions. When the desired beam is achieved simply release the lock wheel.

The heaters specified on this equipment are self-regulating and will shut off when they reach the dew point temperature.

This product should not be used for any purpose other than for which it was designed. Any modifications to the product should not be undertaken without consulting the manufacturer.

When fitting the lamp

- Always isolate the equipment from the supply when inserting a lamp.
- Eye protection must be worn when handling lamps that have been removed from their packaging materials. The protective jacket should not be removed from the lamp for safety reasons, as there is a remote possibility of the lamp shattering violently, especially if it is subjected to mechanical shock or vibration.
- Ensure the circuit is suitably fused.
- Ensure the lamp is of the correct power rating and type.
- Before inserting the lamp ensure that all contacts are clean. Contacts must be renewed at the slightest sign of corrosion. Sanding or filing down corroded areas is not recommended as this will only make the conducting surface between the pin and lamp holder smaller, thus causing the lamp to overheat.
- The inert gas used in Xenon lamps are under a pressure of several bar even when the bulb is cold. FOR SAFETY REASONS THE LAMP MAY ONLY BE INSERTED INTO THE LAMPHOUSE WITH THE PROTECTIVE JACKET FITTED.
- Ensure that the spring contacts firmly surround the pins on the cap of the lamp. Do not apply unnecessary force when tightening the screws.
- After inserting the lamp, ensure that there is sufficient axial play in the lamp holder. The lamp must be capable of unimpeded expansion when it warms up to operating temperature. Mechanical forces must not be applied to the fused quartz bulb.
- Electrical leads must be arranged in such a way that there is a sufficient air gap (approximately 40mm) between them and the lamp house, to prevent flashovers from the ignition voltage. All flexible leads must have strain-relieving clamps.
- Before putting the lamp into service for the first time, check the polarity of the electrical connections. INCORRECT POLARITY WILL CAUSE IMMEDIATE DESTRUCTION OF THE LAMP.

Notes:

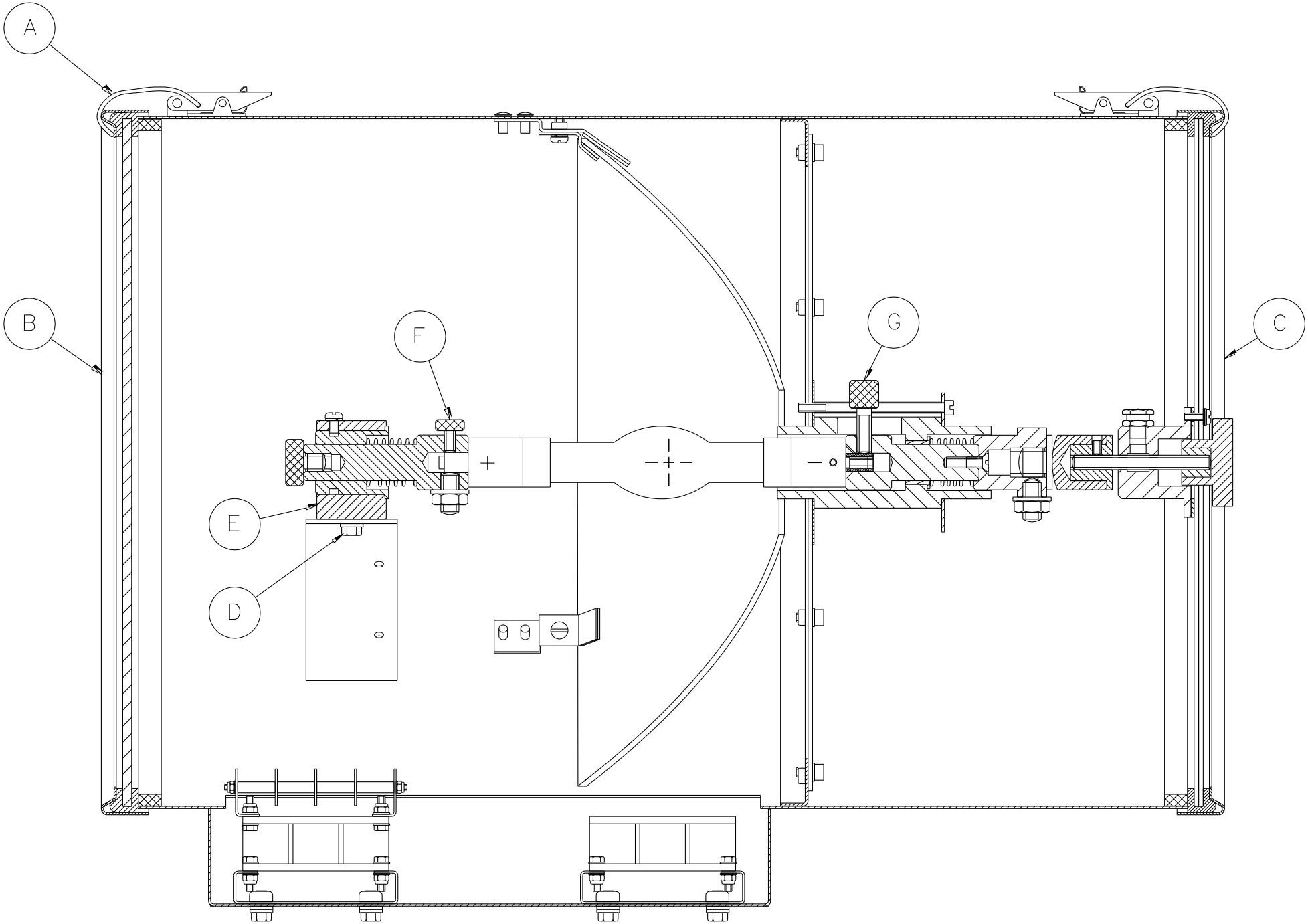
- Xenon lamps are designed for dc operation only. The dc current may only be varied within the limits of the current control range. Xenon lamps operate best at rated current; over the life of the lamp, the current may be increased to its maximum value to compensate for loss of light. The output of the lamp can be reduced by operating the lamp at minimum current, but this does not prolong the life of the lamp.
- For safety reasons, lamps should be replaced once they reach the end of their average lamp life, and not later than 1.25 times their average lamp life. After this time there is an increased risk of the lamp exploding.
- The anode (positive cap marked ‘+’) must be on top when the lamp is inserted in the vertical position. If the anode is incorrectly inserted the arc will be unstable, the bulb will blacken more quickly, and the lamp will prematurely fail.
- The HT lead from the high voltage terminal of the Ignitor, must be connected to the cathode (negative cap marked ‘- ‘). If the lamp is fitted with the wrong polarity, it will be irreparably damaged after a very short time.
- In all circumstances the lamp manufacturer’s data should be referred to when dealing with lamps.

To fit the Xenon lamp

Always isolate the equipment from the supply when fitting a lamp

Referring to the diagram overleaf:

1) Unfasten eight latches (A) on the front and rear of the searchlight.
2) Remove the front bezel (B) and rear bezel (C) assemblies.
3) Unscrew the two M6 hexagon screws (D) from the front lamp holder mounting block (E) and remove the front lamp holder assembly from the mounting bracket.
4) Loosen the knurled screw on the front (F) and rear (G) lamp holder assembles.
5) The lamp can now be inserted, make sure that the negative (cathode) end of the lamp is towards the rear of the searchlight & the cathode (negative) adaptor is securely fastened to end of lamp.
6) Tighten the knurled screw (G) on the rear lamp holder assembly to hold the lamp in position.
7) Fasten the front lamp holder mounting block back in position, it will be necessary to pull the front socket against its spring to fit over the lamp. When in place tighten the front knurled screw (F).
8) Fasten the front and rear lamp holder leads as wiring diagram, ensuring the connections are secure.
9) The front bezel and rear bezel can now be replaced.
10) Removal is the reverse of the above. When replacing the lamp retain cathode (Negative) adaptor C13544-37 for re-use. (See instruction 5 above).


A
B
C
D
E
F
G

Testing

Upon correct installation and connection to an electrical supply, the equipment can be tested to ensure its' correct performance. A competent person with some knowledge of electrical equipment must carry out this work.

Equipment required: multi-meter with leads & Ammeter.

Using the equation P=VI, the approximate power output of the equipment can be calculated in the following way:

- Using the multi-meter, take a voltage reading.
- Using the ammeter, take an amp reading from the live cable to the lamp.
- Multiply these figures together to give an approximate wattage (Power output).

For example:

- With the multi meter, test the DC voltage in the searchlight head. This should be approximately 25 volts.
- With the DC ammeter, test the current of the red DC cable at front of searchlight. It should read approximately 42 amps.
- Multiply these readings together, as shown above, to obtain the desired wattage required, usually about 945watts.

Voltage reading = 25v; Amps reading = 42 amps; inrush current 0.9

Therefore, Wattage = 25 x 42 x 0.9 = 945 watts

7 – Fault Finding

All fault finding must be conducted by a competent person or qualified electrical engineer.

Please refer to the following table for troubleshooting of Xenon lamps.

Fault	Cause	Remedy
■ Wrong Polarity.	■ Lamp incorrectly fitted. ■ Faulty wiring.	■ Anode (large electrode) must always be on top in vertical burning position. ■ Check polarity, transpose connections if necessary.
■ Cap overheated. ■ Cap temperature above 230°C.	■ Faulty contacts. ■ Cooling equipment defective.	■ Check terminals, tighten or renew. ■ Check cooling equipment and replace if necessary.
■ Arc unsteady.	■ Lamp operated outside current control range. ■ Magnetic stabilisation for horizontal operation defective.	■ Correct current setting. ■ Check magnetic stabilisation.
■ Bulb draws in air.	■ Crack in graded seal caused by overheated cap. ■ Maximum cap temperature 230°C.	■ Check terminals - tighten or renew.
■ Glass erosion on fused quartz bulb.	■ Lamp operated outside current control range. ■ Lamp service life exceeded.	■ Correct current setting. ■ Check meter.
■ Electrodes damaged. ■ Premature blackening.	■ Current ripple too high. ■ Auxiliary mirror incorrectly adjusted.	■ Have power supply inspected. ■ Adjust auxiliary mirror.
■ Asymmetrical blackening of lamp (in horizontal burning position).	■ Lamp operated too long in same position.	■ Turn lamp through 180° after half service life.

Failure of Lamp to Ignite

In the event of the xenon lamp failing to light the following steps should be taken:

1) Check that the mains supply is connected to the input of the PSU. On operating the switch, if the lamp does not light switch off mains supply and check all fuses.

2) If the lamp still does not ignite, check the searchlight head. On your command get an operator to activate the starting switch for approximately 5 seconds. During this time listen for any noise (cracking or hissing) coming from within the barrel. If this arcing is heard switch off the supply at the mains. Remove the rear bezel to expose the two supply leads to the xenon lamp. Using a dry cloth wipe these leads to remove any dust, moisture or condensation that may have formed around the inside of the barrel. Replace the rear bezel, ensuring the latches are secure, and perform the check again, listening for the cracking. If the lamp still fails to ignite, switch off at the mains and replace the xenon lamp in accordance with the safety procedures within this manual and the manufacturers' information.

Any further tests to be carried out with regards to lamp failure must be conducted by a competent electrical engineer and should not be carried out in an explosive atmosphere.

3) Before a xenon lamp will ignite, the electrically insulated gas between the electrodes must be ionised. This is done by the ignitor which produces a high frequency voltage (up to 32,000 volts or higher). The ignitor is activated by switching the lamp on and a crackling or hissing noise should be heard. The ignitor is housed within the rear of the searchlight barrel. This is a totally encapsulated unit and repair are not advised. If found to be faulty a new ignitor must be fitted.

8 - Maintenance and Servicing

To prolong the service life and performance of your searchlight, the following maintenance guidelines are recommended:

- Maintenance checks should be conducted before every voyage or at least every three months.
- Before checking, disconnect the equipment from the supply.
- Visually inspect the condition of the equipment.
- Any major or minor structural damage should be rectified immediately to reduce sympathetic wear.
- After inspection it may be necessary to clean the inside of the searchlight. The following procedure should be adhered to:
    - Remove the front bezel.
    - Clean the front glass inside and out using a proprietary glass cleaner.
    - Clean the reflector if required.
    - Check the reflector mounting gaskets. If signs of corrosion or damage are evident, replace as necessary.
    - Ensure that the lamp holder is free from corrosion or other damage.
    - Check earthing point for conductivity.
- It is advisable to check all seals and gaskets for signs of degradation. Renew if necessary.
- Upon completing all maintenance requirements, the searchlight should be tested for full working order (approximately 20 minutes).
- Every six months the external movement mechanisms i.e. lock wheels, elevation and pan mechanisms should be lightly lubricated.

If in any doubt as to the correct servicing procedures to adopt, please contact your distributor/agent or Francis who will be able to advise the best course of action for your product.

9 - Wiring Diagram & General Assembly

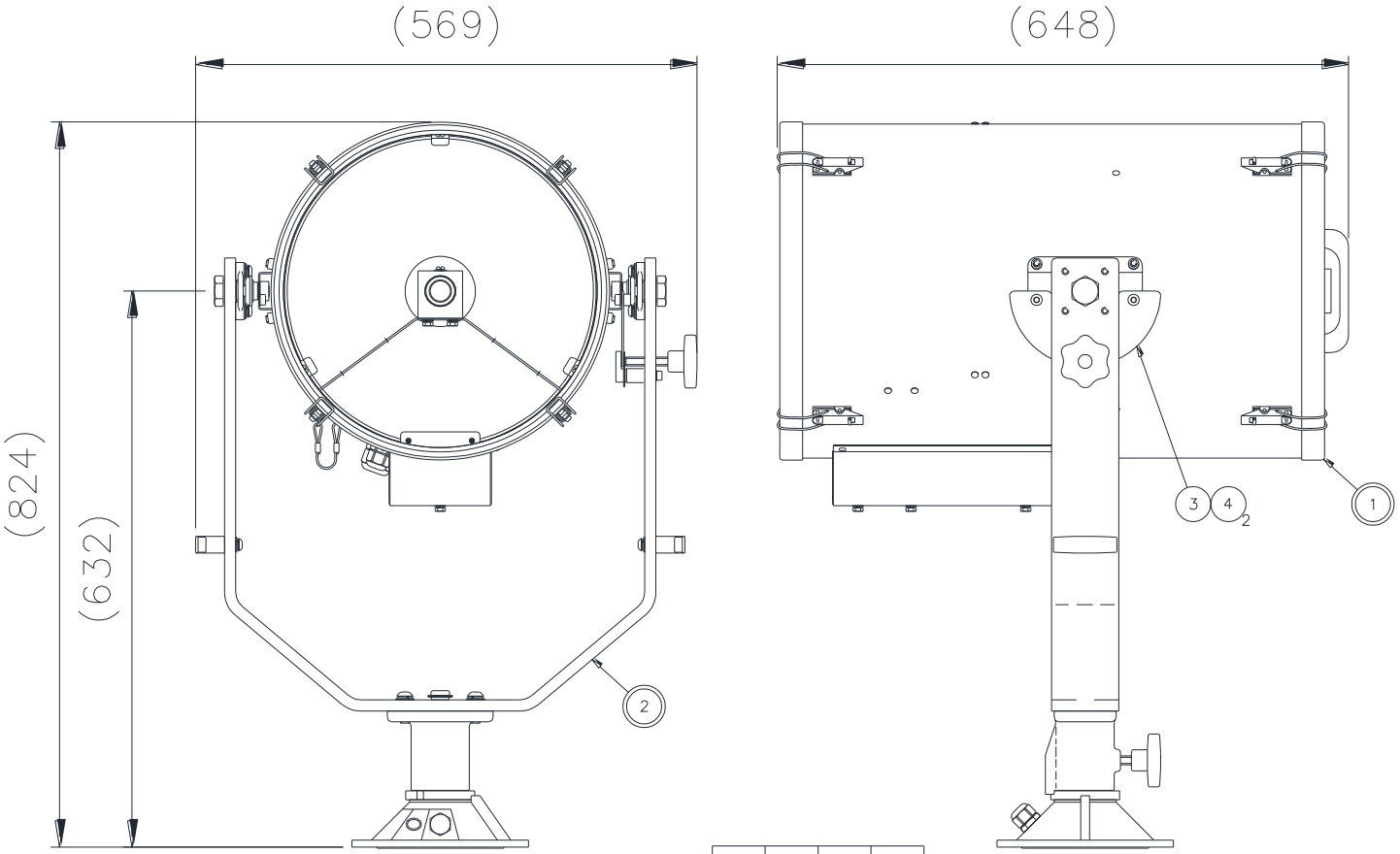
Model / Part No:	Drawing No:	Description
A2770 / A2771	X4719	FX380 Deck 1Kw GA
A2772 / A2773	X4720	FX380 Deck Pedestal 1Kw GA
A2774 / A2775	X4721	FX380 Cabin 1Kw GA
A2776 / A2777	X4722	FX380 Cabin Pedestal 1Kw GA
C29064	C29064	Wiring Diagram 240v
C30604	C30604	Wiring Diagram 115v
C29065 / C29066	C29065	Power Supply Enclosure Assembly
C16927	X4715	Barrel Assembly 240v
C16934	X4715	Barrel Assembly 115v

FIRST USED ON

DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION

0 10 20 30 40 50mm



ITEM	PART No.	DRG No.	DESCRIPTION	A2771 QTY	A2770 QTY	A2981 QTY	A2980 QTY
1	C16927	X4715	BARREL ASSY 240V 1KW	1			
1	C16934	X4715	BARREL ASSY 115V 1KW		1		
1	C20328	C20328	BARREL ASSY 240V 500W			1	
1	C20329	C20328	BARREL ASSY 115V 500W				1
2	C16939	X4728	DECK MOUNT	1	1	1	1
3	C11380	X2863	QUADRANT	1	1	1	1
4	C13020		M8 x 10 CAP HD SCREW	2	2	2	2

FX380D	1000W	500W
240V	A2771	A2981
115V	A2770	A2980

ISS No	MODIFICATION DETAILS	DATE & INIT'S
1	AS FIRST DRAWN	6.97 D.S.
2	500W VERSIONS ADDED. (EC0794)	1.99 TJC
3	BROUGHT IN-LINE WITH DETAIL. (EC0844)	10.00 D.S.
4	RE-DESIGNED TO USE RC CRUTCH (EC0874)	1.01 D.S.
5	BROUGHT IN-LINE WITH DETAIL. (EC0998)	3.02 M.T.
6	BARREL LATCHES ADDED. (EC1020)	2.03 D.S.

STANDARD PRACTICE
Deburr all cut/machined edges
Break corners R0.25(Max) U.O.S.

Francis SEARCHLIGHTS

FRANCIS SEARCHLIGHTS LIMITED . UNION ROAD . BOLTON . BL2 2HJ

 A2

CONT ON SHEET

DRAWN	D.S.	DATE	6.97	TOLERANCES	
CHECKED		SCALE	1:4	General: ±	
ALL DIMENSIONS IN MILLIMETRES				Angular: ±	

Sand Casting: To ISO 8062 CT10
Die Casting: To ISO 8062 CT8
Hole centres & posns: ±

MATERIAL

FINISH

DESCRIPTION: FX380D GA

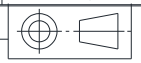
PART No./DRG No.: X4719

SHT 1

FIRST USED ON FX380DP

DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION



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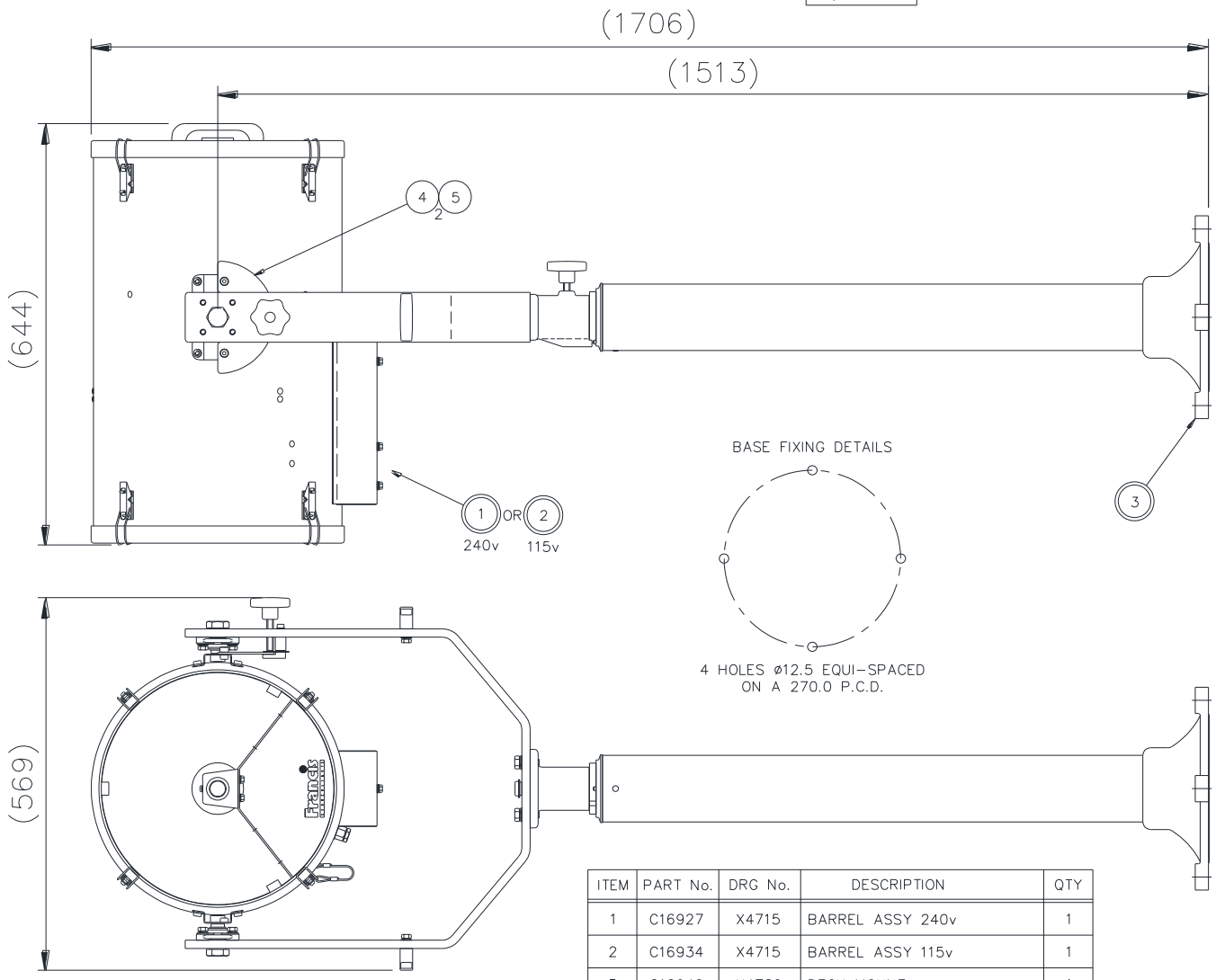


BASE FIXING DETAILS

4 HOLES ø12.5 EQUI-SPACED ON A 270.0 P.C.D.

ITEM	PART No.	DRG No.	DESCRIPTION	QTY
1	C16927	X4715	BARREL ASSY 240v	1
2	C16934	X4715	BARREL ASSY 115v	1
3	C16940	X4729	DECK MOUNT	1
4	C11380	X2863	QUADRANT	1
5	C11182		M8 x 16 SKT CAP HD SCREW	2

FX380DP	1000W	500W
240V	A2773	A2983
115V	A2772	A2982

ISS No	MODIFICATION DETAILS	DATE & INIT'S
1	AS FIRST DRAWN	6.97 D.S.
2	500w VERSIONS ADDED. (EC0724)	1.99 TJC
3	BROUGHT IN-LINE WITH DETAIL (EC0844)	10.00 D.S.
4	RE-DESIGNED TO USE RC CRUTCH (EC0874)	1.01 D.S.
5	BROUGHT IN-LINE WITH DETAIL (EC0998)	3.02 M.T
6	BARREL LATCHES (EC1020)	2.03 D.S.

STANDARD PRACTICE
Deburr all cut/machined edges
Break corners R0.25(Max) U.O.S.

Francis SEARCHLIGHTS

FRANCIS SEARCHLIGHTS LIMITED . UNION ROAD . BOLTON . BL2 2HJ

A2

CONT ON SHEET

DRAWN	D.S.	DATE	6.97	TOLERANCES	Sand Casting: To ISO 8062 CT10
CHECKED		SCALE	1:5	General: ±	Die Casting: To ISO 8062 CT8
ALL DIMENSIONS IN MILLIMETRES				Angular: ±	Hole centres & posns: ±

MATERIAL

FINISH

DESCRIPTION: FX380DP G.A.

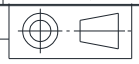
PART No./DRG No.: X4720

SHT 1

FIRST USED ON FX380C

DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION



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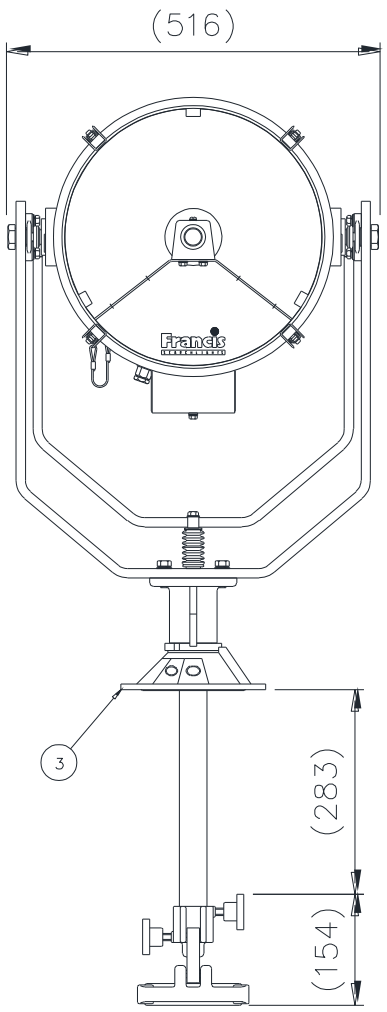
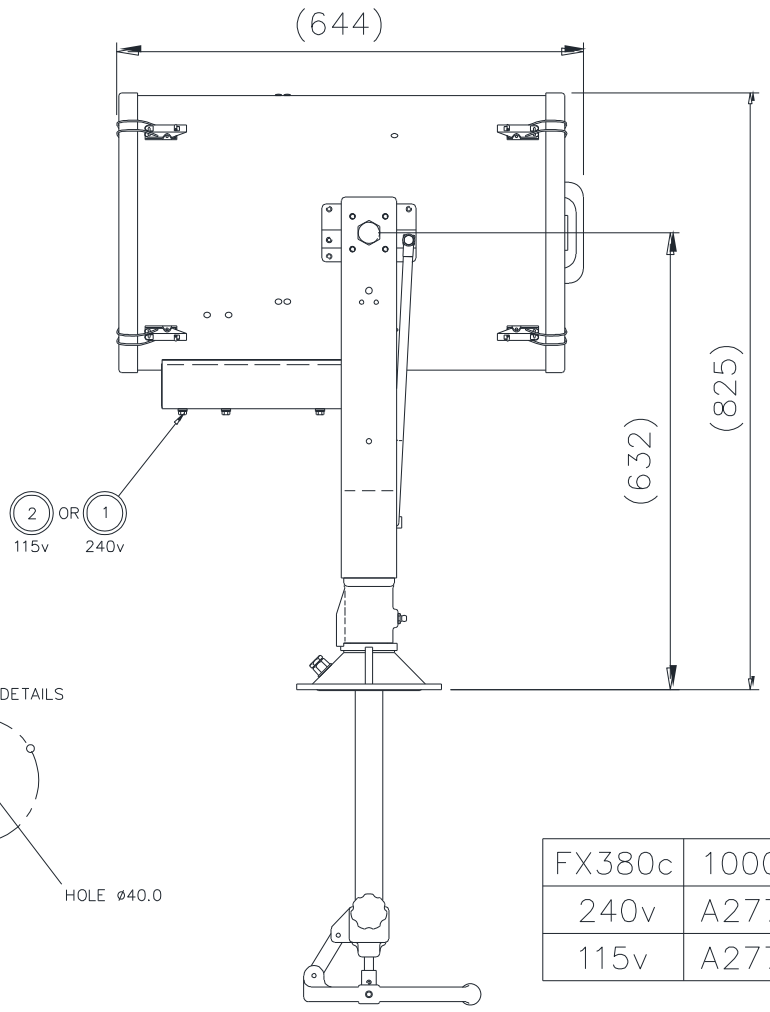
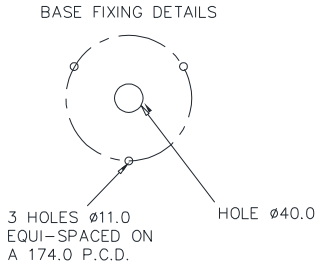






FX380c	1000w	500w
240v	A2775	A2985
115v	A2774	A2984

ITEM	PART No.	DRG No.	DESCRIPTION	QTY
1	C16927	X4715	BARREL ASSY 240v	1
2	C16934	X4715	BARREL ASSY 115v	1
3	C16938	X4726	TRAINER MOUNT	1

ISS No	MODIFICATION DETAILS	DATE & INIT'S
1	AS FIRST DRAWN	6.97 D.S.
2	500w VERSIONS ADDED. (EC0724)	1.99 TJC
3	BROUGHT IN-LINE WITH DETAIL (EC0844)	10.00 D.S.
4	RE-DESIGNED TO USE RC CRUTCH (EC0874)	1.01 D.S.
5	BROUGHT IN-LINE WITH DETAIL (EC0998)	3.02 M.T
6	BARREL LATCHES (EC1020)	2.03 D.S.

STANDARD PRACTICE
Deburr all cut/machined edges
Break corners R0.25(Max) U.O.S.

Francis SEARCHLIGHTS

FRANCIS SEARCHLIGHTS LIMITED . UNION ROAD . BOLTON . BL2 2HJ

 A2

CONT ON SHEET

DRAWN	D.S.	DATE	6.97	TOLERANCES	Sand Casting: To ISO 8062 CT10 Die Casting: To ISO 8062 CT8 Hole centres & posns: ±
CHECKED		SCALE	1:5	General: ± Angular: ±	
ALL DIMENSIONS IN MILLIMETRES					

MATERIAL

FINISH

DESCRIPTION: FX380C G.A.

PART No./DRG No.: X4721

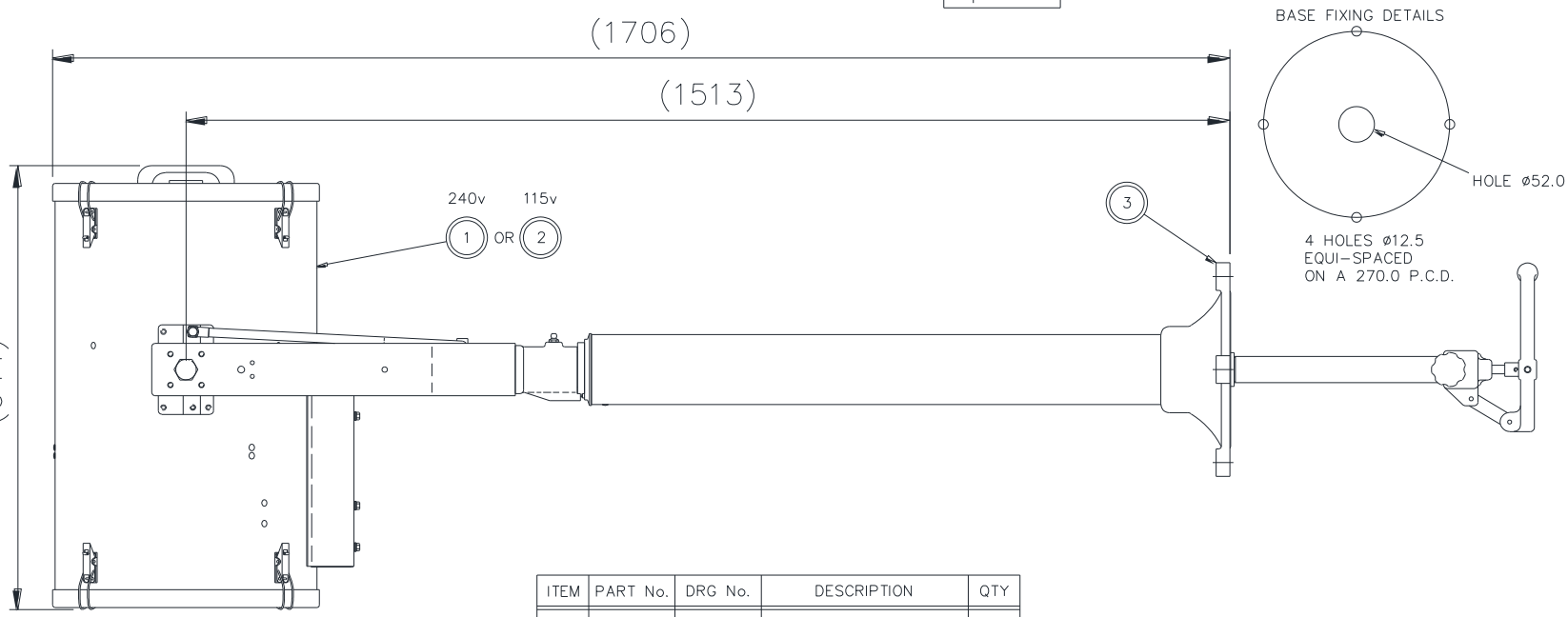
SHT: 1

FIRST USED ON FX380CP

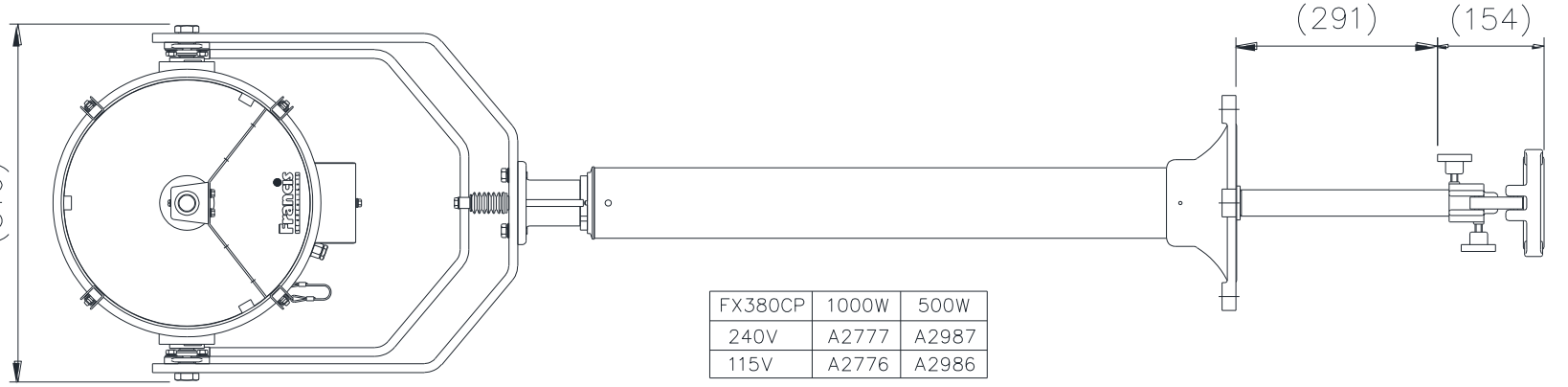
DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION

0 10 20 30 40 50mm



ITEM	PART No.	DRG No.	DESCRIPTION	QTY
1	C16927	X4715	BARREL ASSY 240v	1
2	C16934	X4715	BARREL ASSY 115v	1
3	C15555	X4727	TRAINER MOUNT	1



FX380CP	1000W	500W
240V	A2777	A2987
115V	A2776	A2986

ISS No	MODIFICATION DETAILS	DATE & INIT'S
1	AS FIRST DRAWN	6.97 D.S.
2	500w VERSIONS ADDED. (EC0724)	1.99 TJC
3	BROUGHT IN-LINE WITH DETAIL (EC0844)	10.00 D.S.
4	RE-DESIGNED TO USE RC CRUTCH (EC0874)	1.01 D.S.
5	BROUGHT IN-LINE WITH DETAIL (EC0998)	3.02 M.T
6	BARREL LATCHES (EC1020)	2.03 D.S.

STANDARD PRACTICE
Deburr all cut/machined edges
Break corners R0.25(Max) U.O.S.

Francis SEARCHLIGHTS

FRANCIS SEARCHLIGHTS LIMITED . UNION ROAD . BOLTON . BL2 2HJ

A2

CONT ON SHEET

DRAWN	D.S.	DATE	6.97
CHECKED		SCALE	1:5
ALL DIMENSIONS IN MILLIMETRES			

TOLERANCES
General: ±
Angular: ±

Sand Casting: To ISO 8062 CT10
Die Casting: To ISO 8062 CT8
Hole centres & posns: ±

MATERIAL

FINISH

DESCRIPTION

FX380CP G.A.

PART No./DRG No. X4722

SHT 1

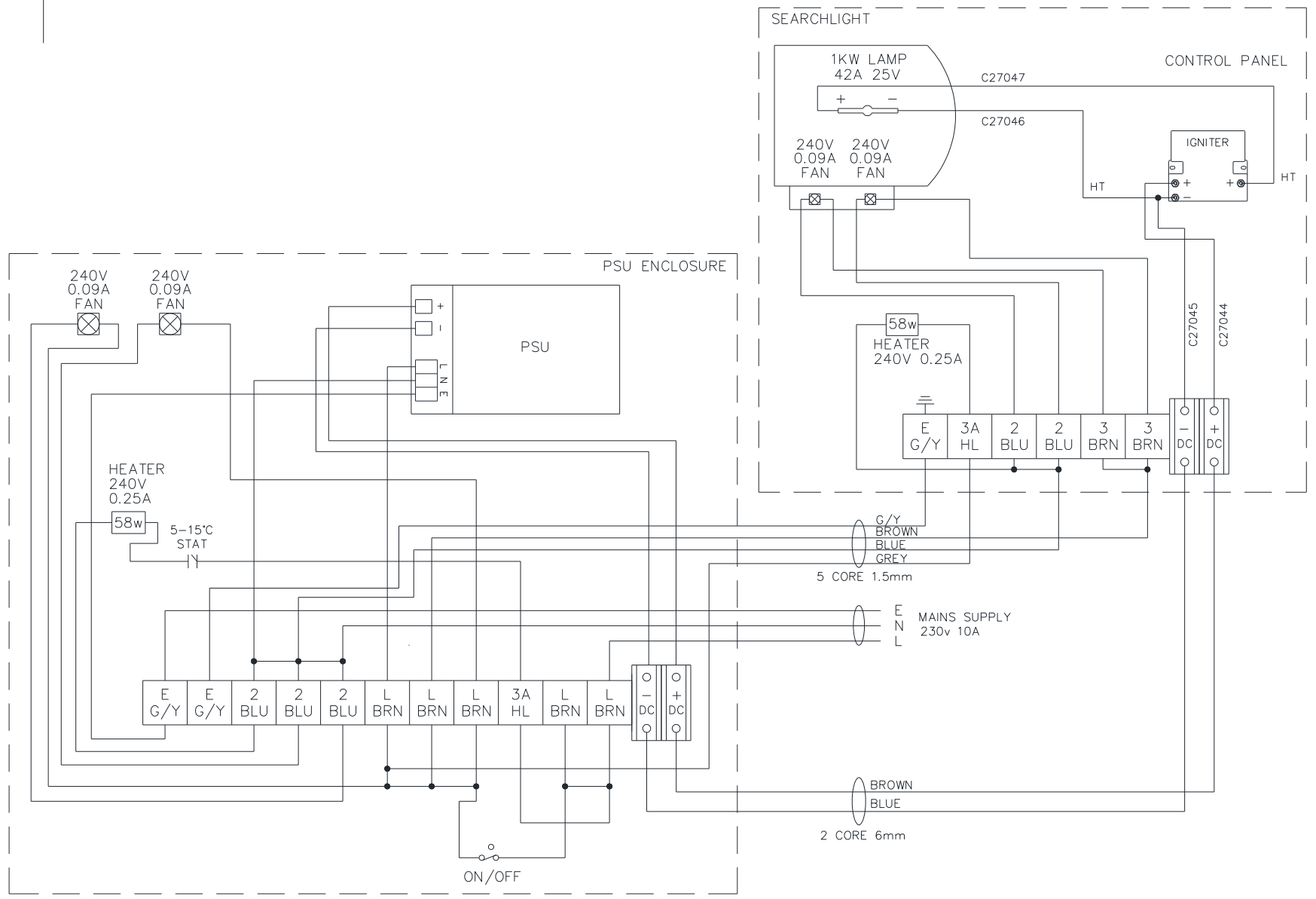
FIRST USED ON

DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION

0 10 20 30 40 50mm

ISS No	MODIFICATION DETAILS	DATE & INIT'S
1	AS FIRST DRAWN	5.21 D.S.
2	COLOURED TERMINALS	3.25 D.S.



STANDARD PRACTICE
Deburr all cut/machined edges
Break corners R0.25(Max) U.O.S.

Francis SEARCHLIGHTS

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CONT ON SHEET

DRAWN	D.S.	DATE	5.21	TOLERANCES	Sand Casting: To ISO 8062 CT10 Die Casting: To ISO 8062 CT8 Hole centres & posns: ±	MATERIAL	FINISH	DESCRIPTION	PART No./DRG No.
CHECKED		SCALE		General: ± Angular: ±				WIRING DIAGRAM	C29064
ALL DIMENSIONS IN MILLIMETRES									SHT 1

FIRST USED ON

DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION

0 10 20 30 40 50mm

ISS No	MODIFICATION DETAILS	DATE & INIT'S
1	AS FIRST DRAWN	10.25 D.S.

SEARCHLIGHT

LAMP 1KW 42A 25v

HT + – HT

115V 0.15A FAN

115V 0.15A FAN

C28342

CONTROL PANEL

IGNITER

C28740

C28739

C28340

C28338

PSU ENCLOSURE

115V 0.15A FAN

115V 0.15A FAN

PSU

+ – L N E

58w HEATER 115V 0.50A

E G/Y | 3A HL | 2 BLU | 2 BLU | 3 BRN | 3 BRN | – DC | + DC

HEATER 115V 0.50A

58w

5–15°C STAT

G/Y GREY BLUE BROWN

5 CORE 1.5mm

E N L MAINS SUPPLY 115v 13A

E G/Y | E G/Y | 2 BLU | 2 BLU | 2 BLU | L3 BRN | L3 BRN | L3 BRN | 3A HL | L1 BRN | L1 BRN | – DC | + DC

BROWN

BLUE

2 CORE 6mm

ON/OFF

STANDARD PRACTICE

Deburr all cut/machined edges

Break corners R0.25(Max) U.O.S.

Francis SEARCHLIGHTS

FRANCIS SEARCHLIGHTS LIMITED . UNION ROAD . BOLTON . BL2 2HJ

A2

CONT ON SHEET

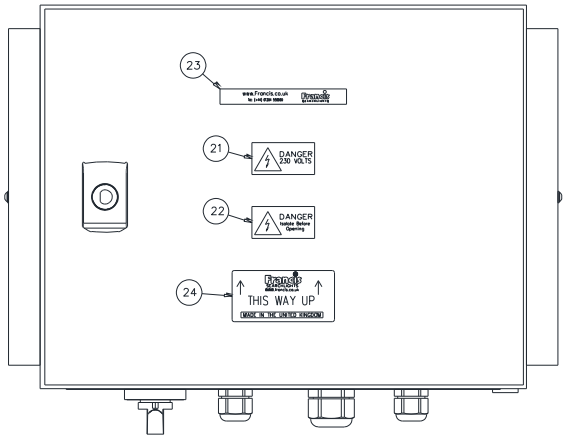
DRAWN	D.S.	DATE	10.25	TOLERANCES	Sand Casting: To ISO 8062 CT10	MATERIAL	FINISH	DESCRIPTION	PART No./DRG No.	SHT
CHECKED		SCALE		General: ±	Die Casting: To ISO 8062 CT8			FX380D 115V 1KW WIRING DIAGRAM	C30604	1
ALL DIMENSIONS IN MILLIMETRES				Angular: ±	Hole centres & posns: ±					

FIRST USED ON FX380D 1KW A2771

DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION

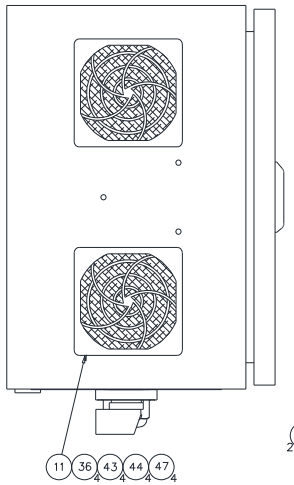
0 10 20 30 40 50mm

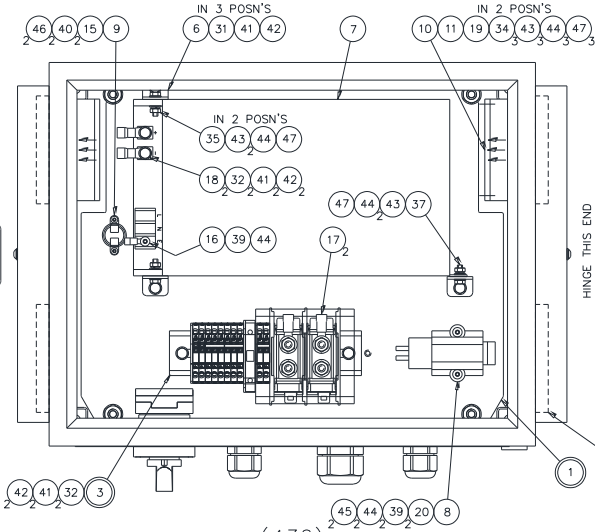


USE ITEMS BELOW FOR WIRING

25 26 27 28 29 30

VIEW WITH SPLASH COVER REMOVED

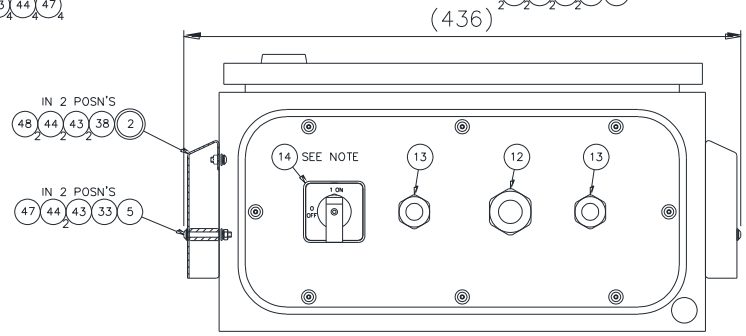


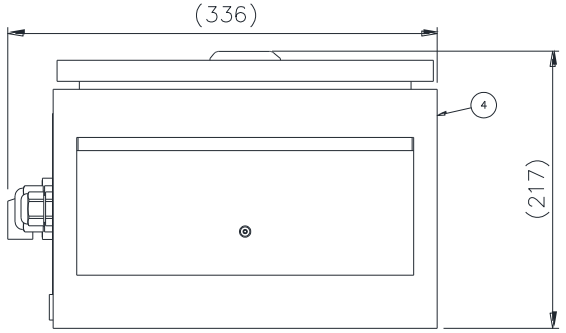


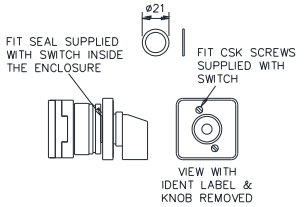
ITEM	PART No.	DRG No.	DESCRIPTION	240V QTY	115V QTY
1	C28305	C28305	CHASSIS PLATE SUB ASSY	1	1
2	C25012	C25012	FAN SPLASH COVER SUB ASSY	2	2
3	C30445	C30445	PSU DIN RAIL ASSY	1	1
4	C29167	C29167	PSU ENCLOSURE DRILLING	1	1
5	C24687	C24687	SPLASH COVER PILLAR	2	2
6	C28304	C28304	PSU BRACKET	3	3
7	C28264		PSU 240V	1	
7	C30610		PSU 115V		1
8	C23277		HEATER	1	1
9	C24889		THERMAL SWITCH	1	1
10	C16930		FAN 240V	2	
10	C16931		FAN 115V		2
11	C25013		FAN COVER	4	4
12	C15450		M25 CABLE GLAND	1	1
13	C10158		M20 CABLE GLAND	2	2
14	C29166		SWITCH	1	1
15	C15828		RED SHROUDED CRIMP	2	2
16	C09299		M4 RED EYELET	1	1
17	C22701		M6 YELLOW EYELET	2	2
18	C02185		M5 YELLOW EYELET	2	2
19	C29149		3 WAY LEVER CONNECTOR	2	2
20	C27962		SPACER	2	2
21	C21464		230V WARNING LABEL	1	
21	C22078		115V WARNING LABEL		1
22	C22036		ISOLATE SUPPLY LABEL	1	1
23	C04900		FRANCIS EXTERIOR LABEL	1	1

ITEM	PART No.	DRG No.	DESCRIPTION	240V QTY	115V QTY
24	C24369		THIS WAY UP LABEL	1	1
25	C14161		6mm S/C SILICONE CABLE RED	A/R	A/R
26	C14162		6mm S/C SILICONE CABLE BLACK	A/R	A/R
27	C26799		1.5mm S/C SILICONE CABLE BROWN	A/R	A/R
28	C15838		1.5mm S/C SILICONE CABLE BLUE	A/R	A/R
29	C15112		1.5mm S/C SILICONE CABLE G/Y	A/R	A/R
30	C04481		RED SLEEVING	A/R	A/R
31	C16335		M5 x 12 HEX HD SCREW	3	3
32	C13351		M5 x 10 HEX HD SCREW	4	4
33	C14468		M4 x 35 SKT BUTTON HD SCREW	2	2
34	C10120		M4 x 20 CSK HD SCREW	6	6
35	C15990		M4 x 16 HEX HD SCREW	2	2
36	C06981		M4 x 16 CSK HD SCREW	7	7
37	C14710		M4 x 12 HEX HD SCREW	1	1
38	C14533		M4 x 10 SKT BUTTON HD SCREW	4	4
39	C23813		M4 x 8 SKT BUTTON HD SCREW	3	3
40	C14502		M3 x 6 SKT BUTTON HD SCREW	2	2
41	C08392		M5 PLAIN WASHER	7	7
42	C09231		M5 S/C SPRING WASHER	7	7
43	C04376		M4 PLAIN WASHER	27	27
44	C08793		M4 S/C SPRING WASHER	25	25
45	C20637		M4 x 12 O/D WASHER	2	2
46	C10747		M3 S/C SPRING WASHER	2	2
47	C06266		M4 FULL NUT	18	18
48	C12039		RTV	A/R	A/R

C29065 1KW DECK PSU ENCLOSURE ASSY 240V
C29066 1KW DECK PSU ENCLOSURE ASSY 115V







ENCLOSURE BASE FIXINGS
340 x 260 M8 FIXINGS
WEIGHT 11KGS

ISS No	MODIFICATION DETAILS	DATE & INIT'S
1	AS FIRST DRAWN	5.21 D.S.
2	COLOURED TERMINALS	3.25 D.S.
3	C30610 115V PSU ADDED (EC2103)	10.25 D.S.
4	C29149 QTY 2 ADDED (EC2094)	10.25 H.E.C

STANDARD PRACTICE
Deburr all cut/machined edges
Break corners R0.25(Max) U.O.S.

Francis SEARCHLIGHTS

FRANCIS SEARCHLIGHTS LIMITED . UNION ROAD . BOLTON . BL2 2HJ

A1 CONT ON SHEET

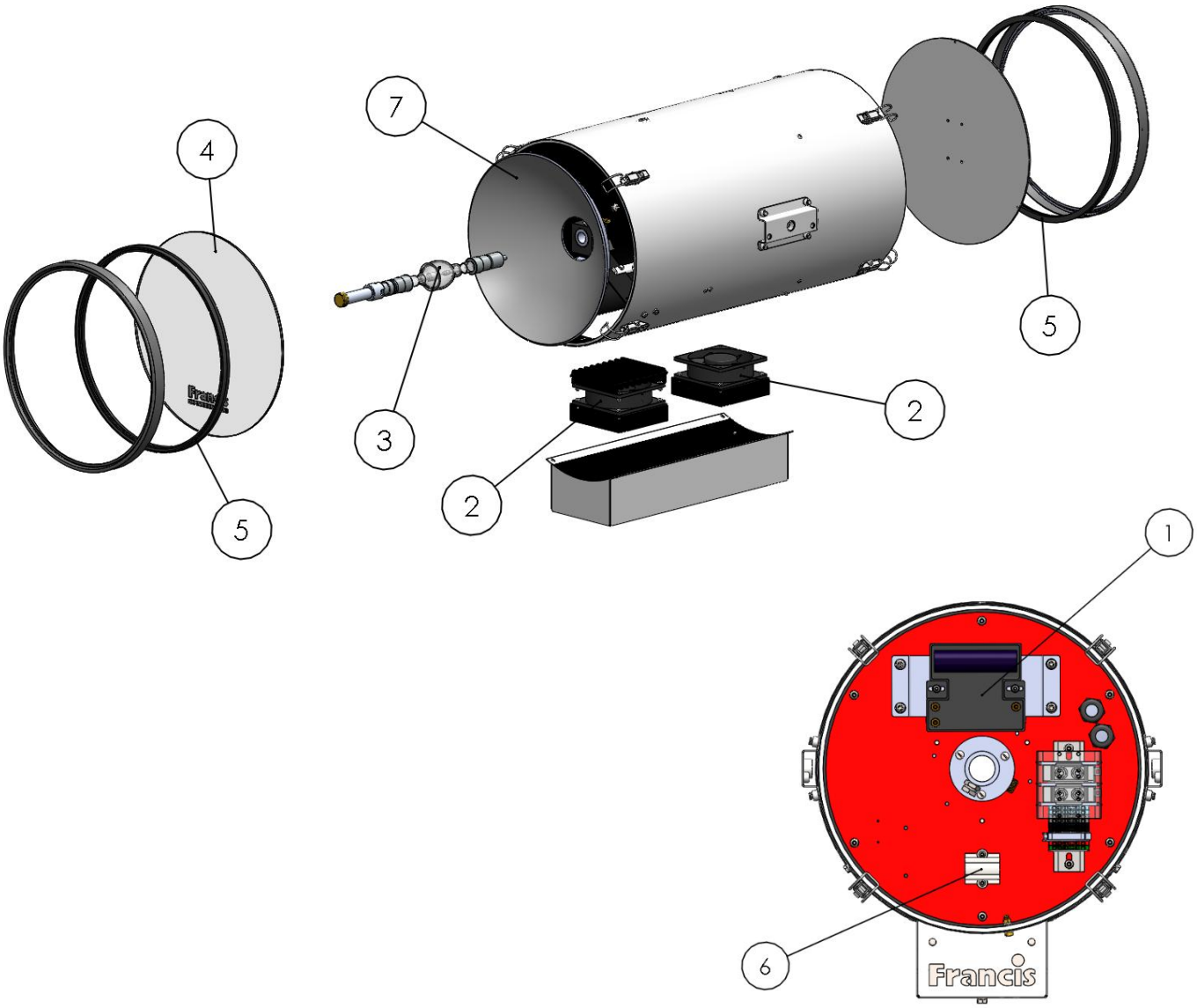
DRAWN	D.S.	DATE	10.5.21	TOLERANCES
CHECKED		SCALE	1:2	General: ± Angular: ±
ALL DIMENSIONS IN MILLIMETRES				

Sand Casting: To ISO 8062 CT10
Die Casting: To ISO 8062 CT8
Hole centres & posns: ±

MATERIAL | FINISH | DESCRIPTION: 1KW DECK PSU ENCLOSURE ASSY

PART No./DRG No. C29065 | SHT 1

C16927 Barrel Assembly 240v
C16934 Barrel Assembly 115v



Item Number	Part Number	Description	Quantity
1	C26623-00	Igniter 240v	1
1	C28330-00	Igniter 115v	1
2	C16930-01	Fan 240v	2
2	C16931-01	Fan 115v	2
3	D21229	1Kw Xenon Lamp	1
4	C08919-00	Front Glass	1
5	C22011-00	Front & Rear Bezel Gasket	2
6	C23277-01	Heater	1
7	C06020-00	Reflector	1

10 - Spare Parts List

The following spare parts can be ordered directly from the manufacturer:

Part Number	Description
Searchlight Spares	
C26623-00	Igniter 240v
C28330-00	Igniter 115v
C16930-01	Fan 240v
C16931-01	Fan 115v
D21229	1Kw Xenon Lamp
C08919-00	Front Glass
C22011-00	Front & Rear Bezel Gasket
C23277-00	Heater
C06020-00	Reflector
C24118-00	Fuse
C13544-37	Cathode (Negative) Adaptor
C21502-01	Pan Lock Wheel Assembly (Deck & Deck Pedestal)
C21503-01	Tilt Lock Wheel Assembly (Deck & Deck Pedestal)
C11026-01	Pan Lock Wheel Assembly (Cabin & Cabin Pedestal)
C16958-01	Tilt Lock Wheel Assembly (Cabin & Cabin Pedestal)
C11148-00	‘O’ Ring Seal (Deck & Cabin))
C10170-00	‘O’ Ring Seal (Deck Pedestal & Cabin Pedestal)
C20281-00	Bellows (Cabin & Cabin Pedestal)
C08926-00	Push Rod Seal (Cabin & Cabin Pedestal)
C21967-00	Bellows Bottom Bush Seal (Cabin & Cabin Pedestal)
Power Supply Enclosure Spares	
C28264-00	Power Supply Unit 240v
C30610-00	Power Supply Unit 115v
C23277-00	Heater
C24889-00	Thermal Switch
C16930-00	Fan 240v
C16931-00	Fan 115v
C29166-00	On/Off Switch
C24118-00	Fuse

To prolong the life and performance of your product, we recommend that you only specify Francis Searchlights spare parts. This will ensure that any warranties on your equipment will not be invalidated.

When ordering spare parts please contact the Sales Department at Francis Searchlights Limited sales@francis.co.uk . Please always quote searchlight model and serial number, which you can find within the front of the barrel head to the right, on the name plate. This will enable a fast response to your spares’ requirements.