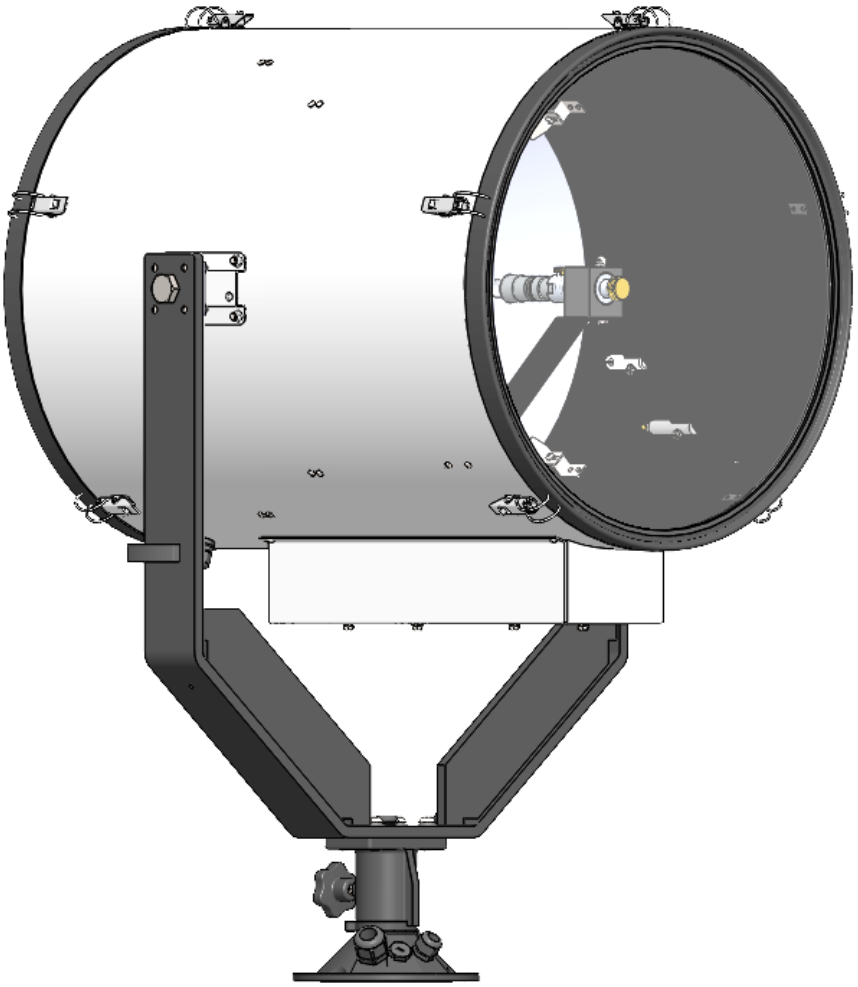


FX560 2Kw Xenon Searchlight

User / Installation Manual

Product Part Number:

A2963 – FX560 Deck 240v 2Kw Xenon Searchlight

A2964 – FX560 Deck Pedestal 240v 2Kw Xenon Searchlight

A2965 – FX560 Cabin 240v 2Kw Xenon Searchlight

A2966 – FX560 Cabin Pedestal 240v 2Kw Xenon Searchlight

Francis SEARCHLIGHTS

PLEASE NOTE!

www.francis.co.uk

Please read this manual before installation.

C23160 Issue 12 18.11.25

CONTENTS

General Information:

Francis Searchlights Ltd

Union Road, Bolton, BL2 2HJ

United Kingdom

T: 00 44 (0)1204 558 960

E: Sales@francis.co.uk

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:	240 VAC.			
Input current:	8.5 Amp Max			
PSU output voltage:	28v DC			
PSU current:	70 Amps			
Wattage:	2Kw			
Dimensions				
	Deck	Deck Pedestal	Cabin	Cabin Pedestal
Height (mm):	1046	2007	1483	2452
Width (mm):	746	746	688	688
Depth (mm):	761	761	761	761
Weight: Searchlight (Kgs)	52	64	58	62
Weight: Power Supply Unit (Kgs)	22			
Searchlight Performance				
Lamp power:	2000w			
Range @ 1 Lux:	10400m			
Lamp life (approx.)	2400h			
Divergence:	1.5 - 10°			
PBCP (Peak Beam Candle Power):	108,000,000 cd			
Colour temperature:	6000K			
Luminous flux:	75,000 lumens			
Searchlight movement				
Pan rotation:	450°			
Tilt elevation:	Deck & Deck Pedestal ±45° - Cabin & Cabin Pedestal +20° -40°			
Material, colour, IP rating				
Searchlight barrel head:	Aluminium BSEN485 5251			
Crutch:	Aluminium BS1474 6063 T6			
Paint finish powder coated & stove enamel paint:	Ash Grey BS4800 00A01, Umber Grey 7022			
IP rating:	IP56 Searchlight & PSU Box			
Operating temperature:	-50°C to +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.

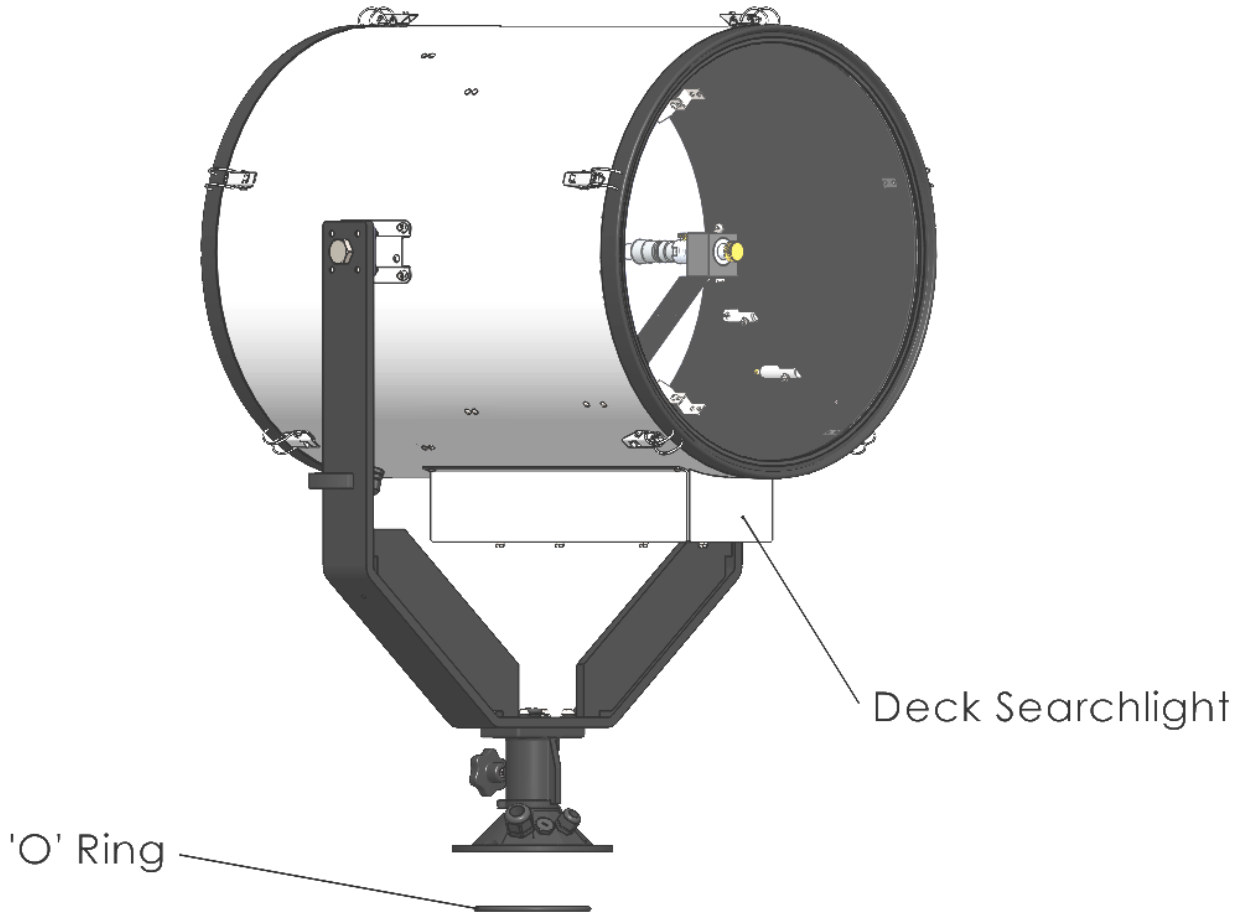
Safety Precautions

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

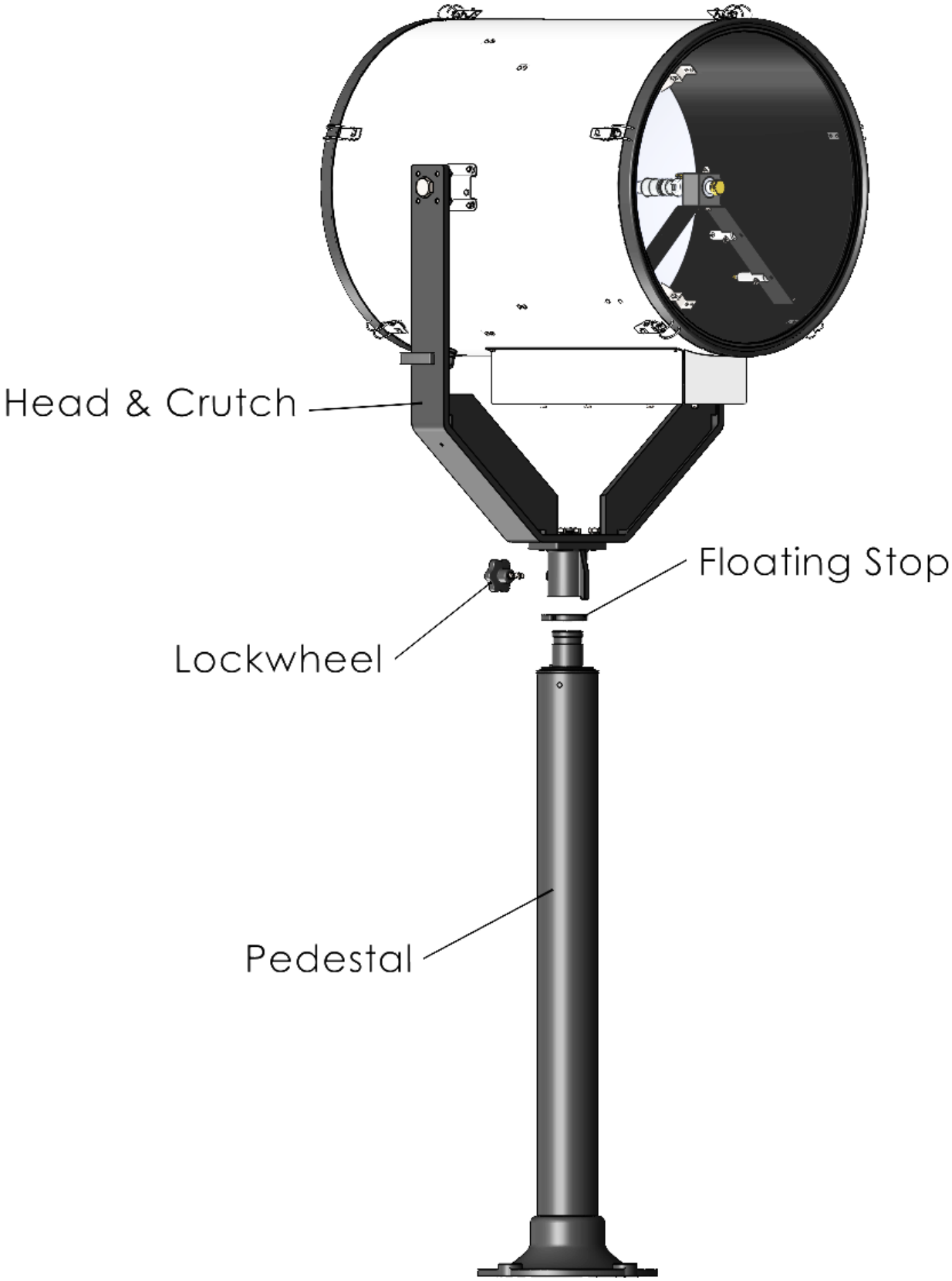
Mark out and drill the fixing holes through the deck. If anti-vibration mounts are to be fitted, the fixing holes for the mounts should also be marked out and drilled. Prior to manoeuvring the searchlight into its' fixing position, the AV mounts should be fitted to the base. When in the desired position, bolt the searchlight firmly down. On an uneven surface it may be necessary to use a suitable sealant such as silicone, to ensure a weatherproofed joint.

Deck Model Installation



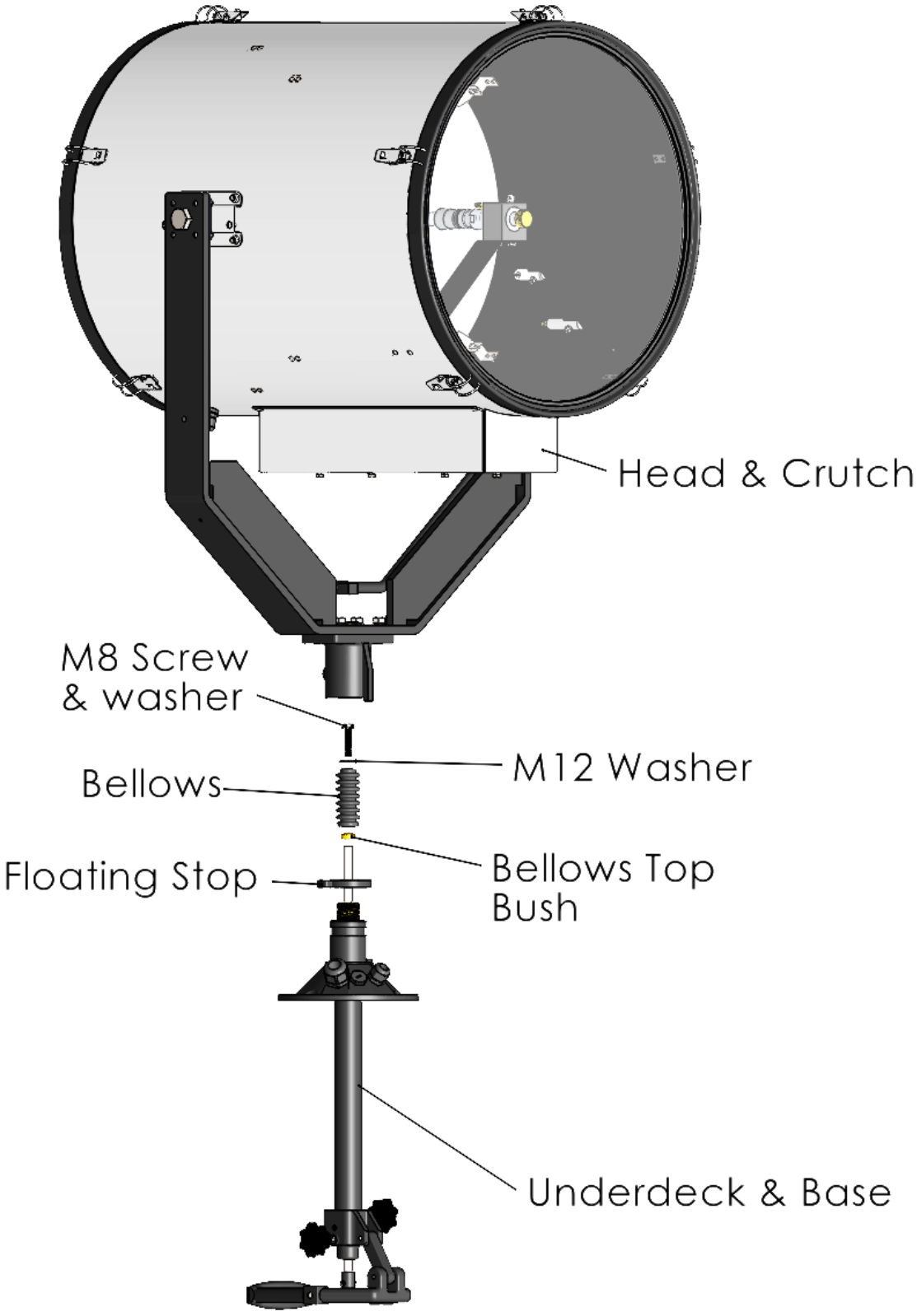
Drill the base fixing holes Ø11mm on a 174mm PCD.
Fit the 'O' ring seal to the base.
Mount in position using M10 fixings (not supplied)

Deck Pedestal Model Installation

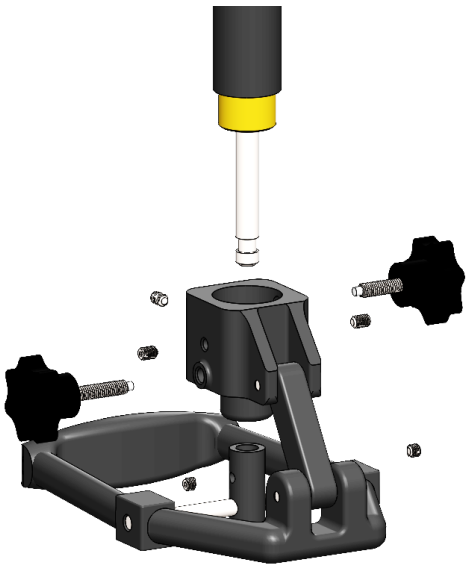


Drill the base fixing holes Ø12.5mm on a 270mm PCD.
Fit the floating stop on the spigot of the pedestal.
Carefully fit the searchlight head and crutch onto the pedestal.
Lock in position using the base lock wheel assembly.
Mount in position using M12 fixings (not supplied)

Cabin Model Installation

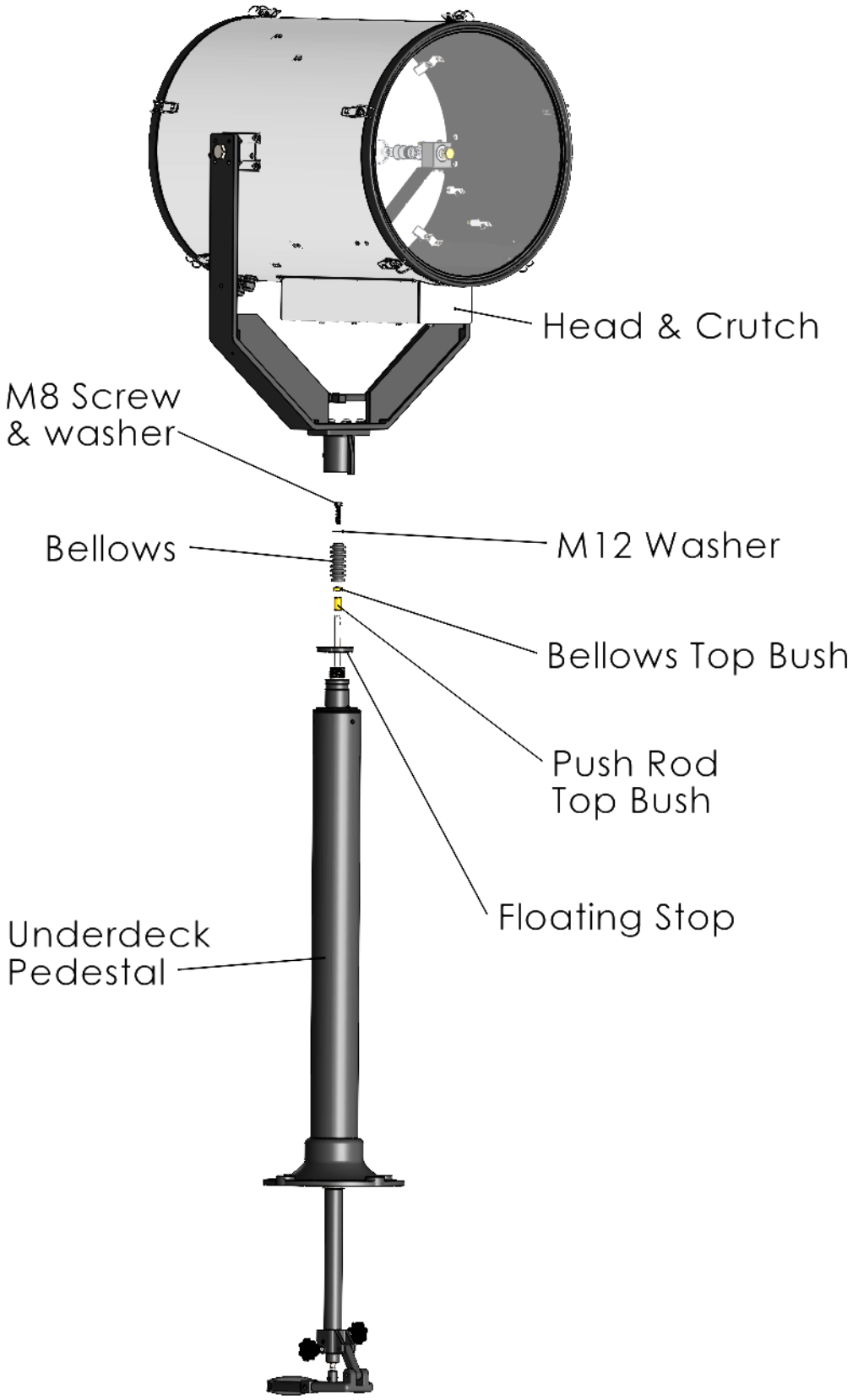


Drill the base fixing holes Ø11mm on a 174mm PCD with a central Ø52mm hole.
Fit the floating stop on the spigot of the base.
Remove the M8 screw and washer from the push rod.
Remove the M12 washer, bellows, and the bellows top bush.
Carefully insert the underdeck mechanism/push rod through the centre of the crutch base/crutch.
Refit the bellows top bush, bellows, M12 washer onto the push rod.
Attach the u-piece to the push rod using the M8 screw and washer removed earlier.
Pull the bottom of the bellows over the bush in the crutch.

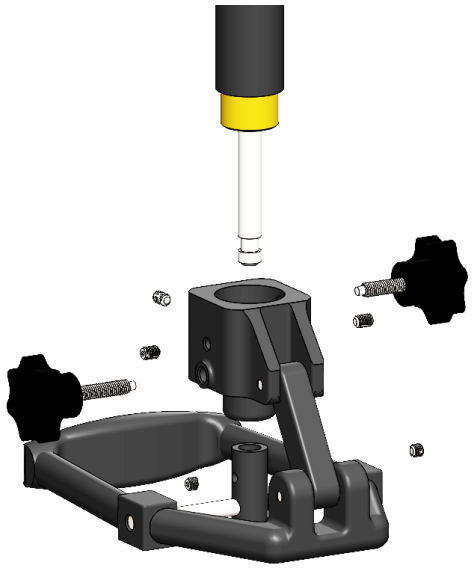


Remove the two lock wheels.
Unscrew the five M6 grubscrews on the underdeck control handle assembly.
Remove the underdeck control handle assembly off the outer tube.
Lower the searchlight through the Ø52mm central mounting hole.
Mount in position using M10 fixings (not supplied)
Re-attach the underdeck control mechanism using the M6 grub screws.
Re-fit the lock wheels.

Cabin Pedestal Model Installation



Drill the base fixing holes Ø12.5mm on a 270mm PCD with a central Ø52mm hole.
Fit the floating stop on the spigot of the pedestal.
Remove the M8 screw and washer from the push rod.
Remove the M12 washer, bellows, and the bellows top bush.
Carefully fit the searchlight head and crutch onto the pedestal.
Refit the bellows top bush, bellows, M12 washer onto the push rod.
Attach the u-piece to the push rod using the M8 screw and washer removed earlier.
Pull the bottom of the bellows over the bush in the crutch.



Remove the two lock wheels.
Unscrew the five M6 grubscrews on the underdeck control handle assembly.
Remove the underdeck control handle assembly off the outer tube.
Lower the searchlight through the Ø52mm central mounting hole.
Mount in position using M12 fixings (not supplied)
Re-attach the underdeck control mechanism using the M6 grub screws.
Re-fit the lock wheels.

5 – Electrical Installation

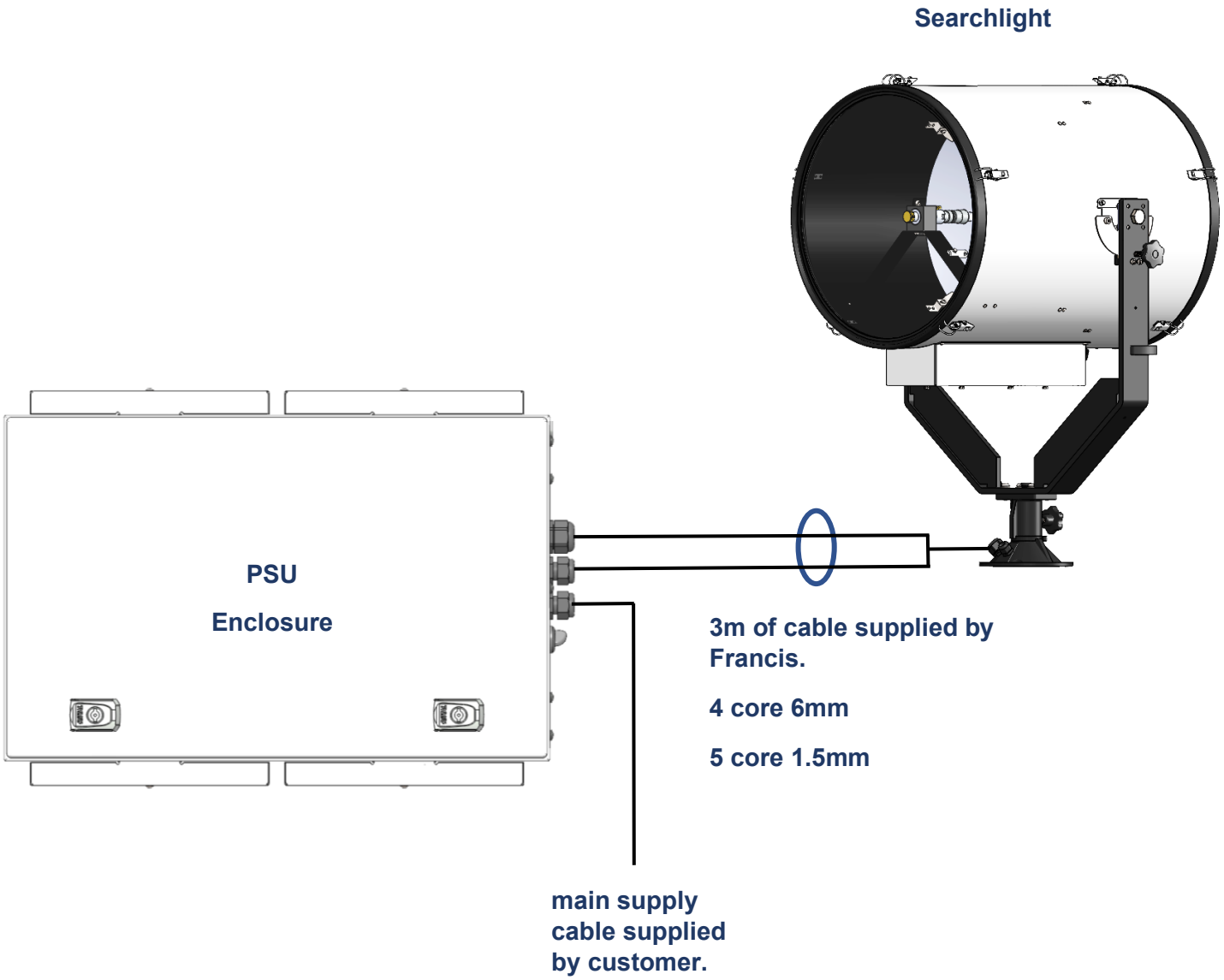
For safety purposes, only competent personnel should perform the electrical installation. All equipment should be installed to current Electrical Regulations and Standards.

Referring to wiring diagram C28404 (at the back of the manual), a supply is fed to the power supply 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 power supply enclosure.

Cables required to be connected by the customer with the PSU mounted within 10m of the searchlight, if the PSU cannot be installed within 10m of the searchlight, then the correct cable should be fitted to compensate for the voltage drop. (See DC table on next page).

- Supply cable to the power supply enclosure supplied by the customer.



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 junction box.

Searchlight	240v 2Kw
Cable Size (mm^2)	Distance Max
3 cores 1.5mm	41m
3 cores 2.5mm	70m
3 cores 4mm	112m
3 cores 6mm	168m
3 cores 10mm	297m

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

Searchlight	2Kw
Cable Size (mm^2)	Distance Max
4 cores 6mm	10M
4 cores 10mm	17M
4 cores 16mm	26M
4 cores 25mm	41M
4 cores 35mm	52M

- 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 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

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:

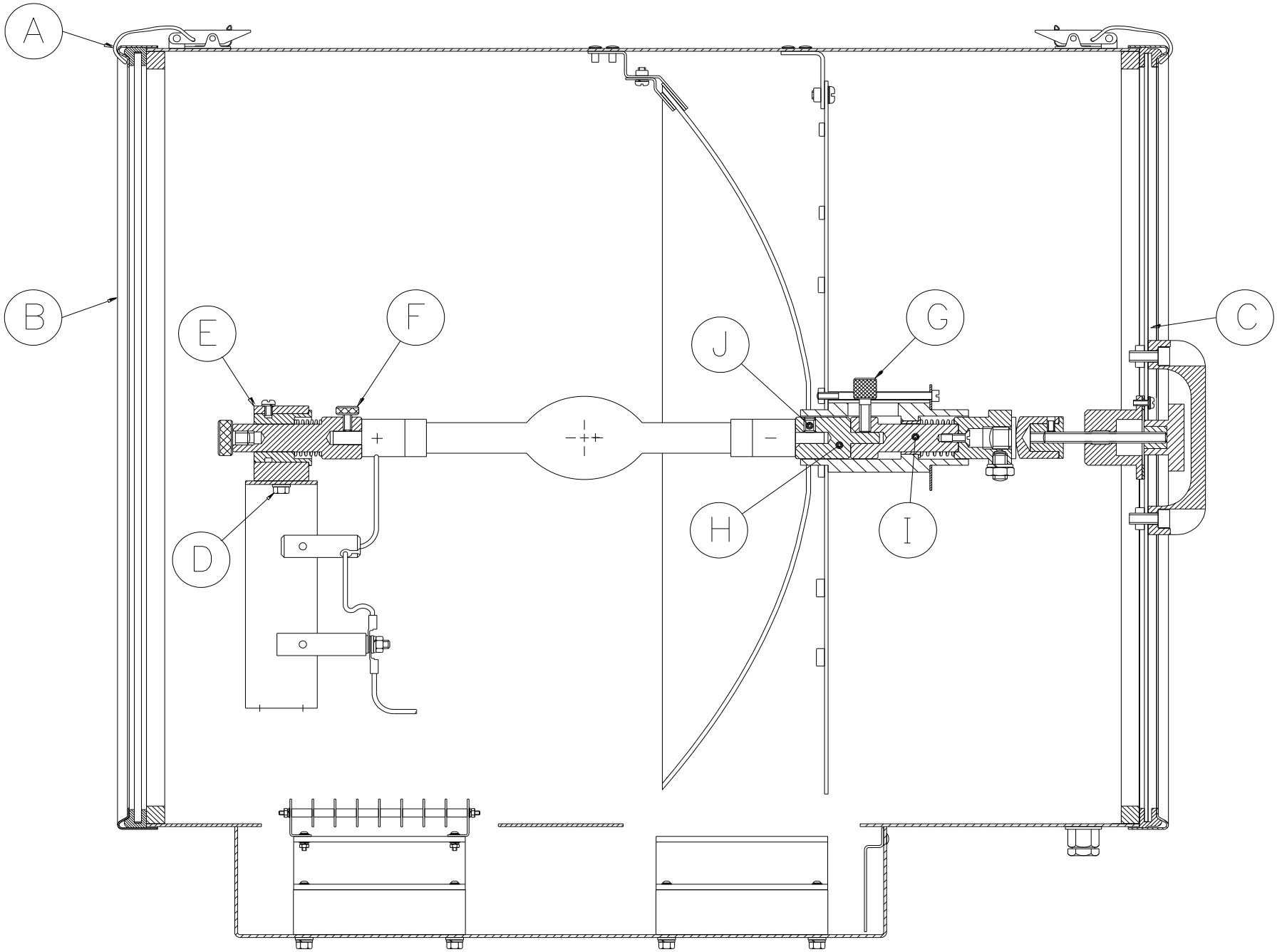
- Xenon lamps are designed for dc operation only. The dc current may only be varied within the limits of the current control range. Xenon lamps operate best at rated current; over the life of the lamp, the current may be increased to its maximum value to compensate for loss of light. The output of the 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 ten 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) Attach the negative (cathode) end of the lamp to the lamp holder socket (H) which is supplied separately, using the M8 x 10 grub screw (J).
6) The lamp can now be inserted with the lamp holder socket into the lamp holder rear (I) the negative (cathode) end of the lamp is towards the rear of the searchlight.
7) On the rear lamp holder tighten the knurled screw (G) onto the lamp holder socket (I) to hold the lamp in position.
8) 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).
9) Fasten the front and rear lamp holder leads as wiring diagram, ensuring the connections are secure.
10) The front bezel and rear bezel can now be replaced.
11) Removal is the reverse of the above.


A
B
C
D
E
F
G
H
I
J

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 28 volts.
- With the DC ammeter, test the current of the red DC cable at front of searchlight. It should read approximately 70 amps.
- Multiply these readings together, as shown above, to obtain the desired wattage required, usually about 1960watts.

Voltage reading = 28v; Amps reading = 70 amps.

Therefore, Wattage = 28 x 70 = 1960 watts

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/indoors. Never leave the PSU exposed to weather conditions.

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.

There is a on/off switch located on the power supply enclosure for switching the searching on.

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 dome clockwise/anti clockwise the lamp holder mechanism moves through spot to flood positions. When the desired beam is achieved simply release the lock wheel.

The PSU heater specified on this equipment is regulated by a thermal switch and will switch on when the temperature drops below 5 degrees and switch off when above 15 degrees.

The searchlight heater self regulates and will switch on when required if the mains supply is on.

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.

7 – Fault Finding

All Fault finding must be conducted by a competent person or qualified Electrical Engineer.

Please refer to the following table for the 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) On pressing the on/off switch the lamp still does not ignite check the searchlight head. On your command get an operator to activate the switch for approximately 10 seconds. During this time listen for any noise (cracking or hissing) coming from within the barrel. If this 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 securely fastened 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 igniter which produces a high frequency voltage (up to 32,000 volts or higher). The igniter is activated by switching the lamp on and a cracking or hissing noise should be heard. The igniter is housed within the rear of the searchlight barrel. This is a totally encapsulated unit and repair is not advised. If found to be faulty a new igniter 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 holders are free from corrosion.
- 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 i.e., lock wheels 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

Drawing No:	Description
A2963	FX560 Deck 240v 2Kw General Assembly
A2964	FX560 Deck Pedestal 240v 2Kw General Assembly
A2965	FX560 Cabin 240v 2Kw General Assembly
A2966	FX560 Cabin Pedestal 240v 2Kw General Assembly
C28404	Wiring Diagram
C28713	Power Supply Enclosure Assembly
C20800	Barrel Assembly

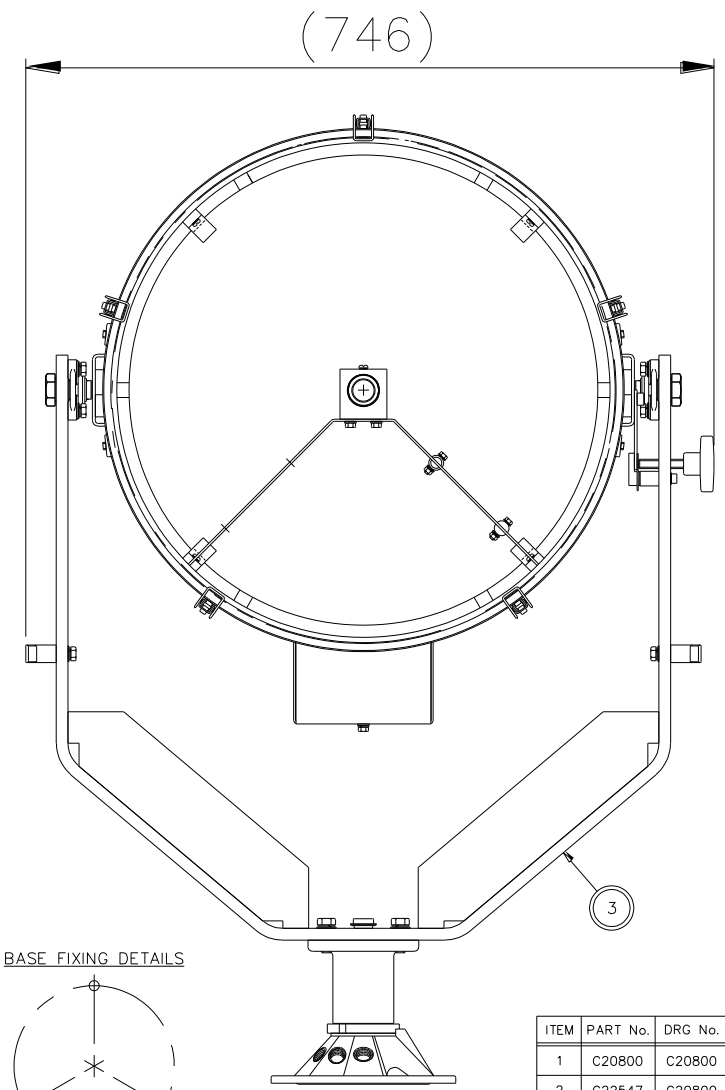
FIRST USED ON FX560D 2KW

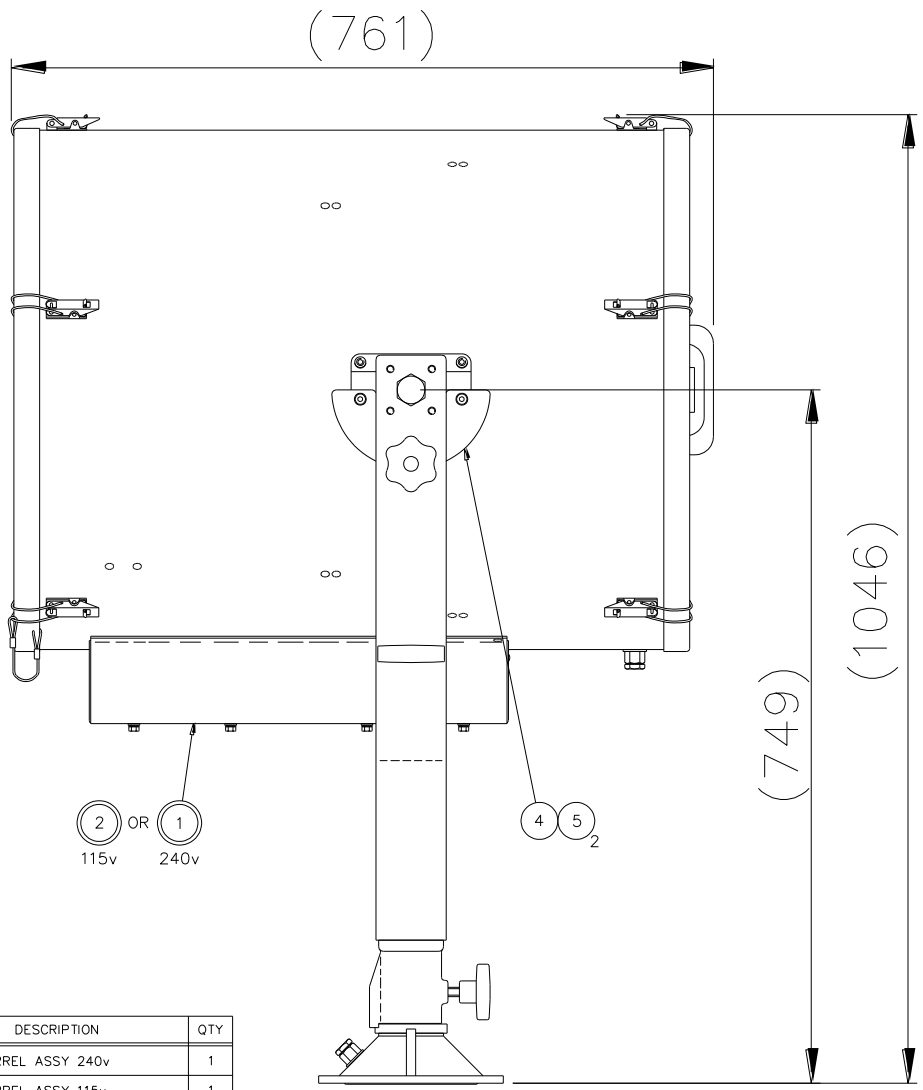
DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION

0 10 20 30 40 50mm

ISS No	MODIFICATION DETAILS	DATE & INIT'S
1	AS FIRST DRAWN	9.99 D.S.
2	BROUGHT IN LINE WITH DETAIL (EC1035)	3.03 D.S.
3	SIDEPLATE MOVED (EC1251)	1.09 D.S.





BASE FIXING DETAILS

3 HOLES Ø11.0 EQUI-SPACED ON A 174.0 P.C.D.

ITEM	PART No.	DRG No.	DESCRIPTION	QTY
1	C20800	C20800	BARREL ASSY 240v	1
2	C22547	C20800	BARREL ASSY 115v	1
3	C20843	C20843	DECK MOUNT	1
4	C11380	X2863	QUADRANT	1
5	C13020		M8 x 10 SKT CAP HD SCREW	2

A2963 FX560D 2KW 240v G.A.
A2256 FX560D 2KW 115v G.A.

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	9.99	TOLERANCES	Sand Casting: To ISO 8062 CT10	MATERIAL	FINISH	DESCRIPTION	PART No./DRG No.
CHECKED		SCALE	1:4	General: ±	Die Casting: To ISO 8062 CT8			FX560D 2KW G.A.	A2963
ALL DIMENSIONS IN MILLIMETRES				Angular: ±	Hole centres & posns: ±				SHT 1

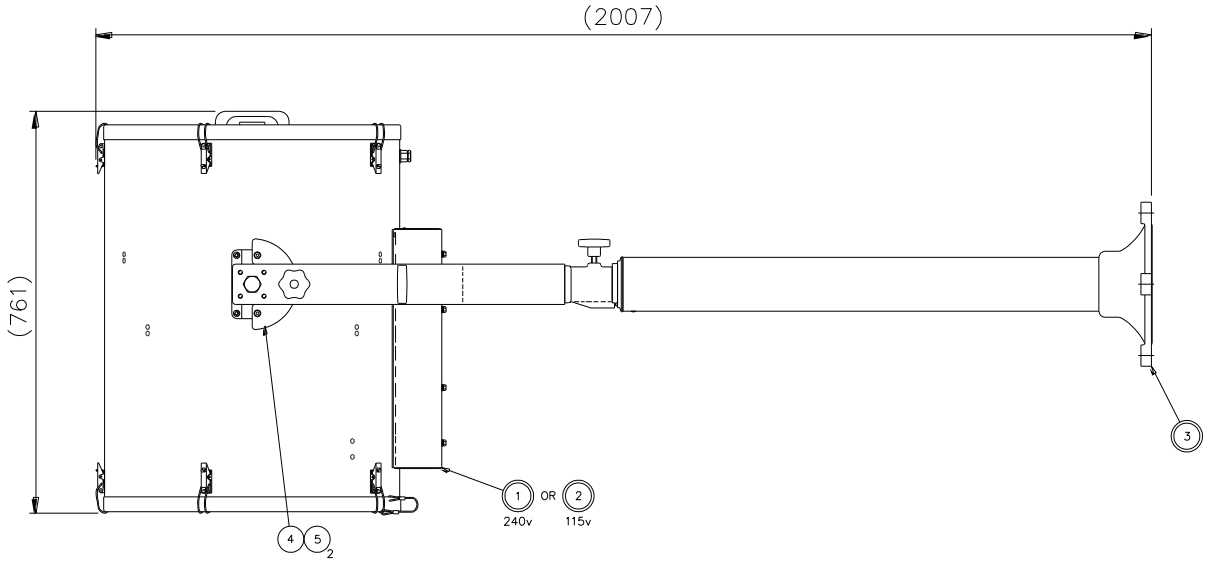
FIRST USED ON FX560DP 2KW

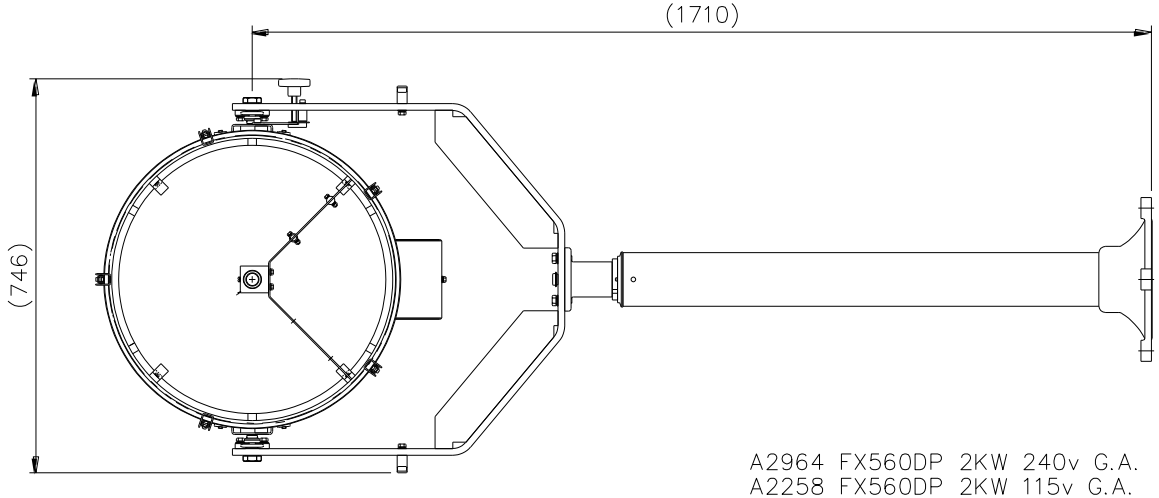
DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION

0 10 20 30 40 50mm

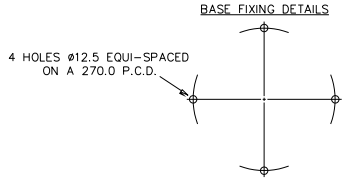
ITEM	PART No.	DRG No.	DESCRIPTION	QTY
1	C20800	C20800	BARREL ASSY 240v	1
2	C22547	C20800	BARREL ASSY 115v	1
3	C20848	C20848	DECK PEDESTAL MOUNT	1
4	C11380	X2863	QUADRANT	1
5	C13020		M8 x 10 CAP HD SCREW	2





A2964 FX560DP 2KW 240v G.A.
A2258 FX560DP 2KW 115v G.A.

BASE FIXING DETAILS



ISS No	MODIFICATION DETAILS	DATE & INIT'S
1	AS FIRST DRAWN	9.99 D.S.
2	BROUGHT IN-LINE WITH DETAIL (EC1035)	3.03 D.S.
3	SIDEPLATE MOVED (EC1251)	1.09 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

A1 CONT ON SHEET

DRAWN	D.S.	DATE	9.99	TOLERANCES	Sand Casting: To ISO 8062 CT10	MATERIAL	FINISH
CHECKED		SCALE	1:5	General: ±	Die Casting: To ISO 8062 CT8		
ALL DIMENSIONS IN MILLIMETRES				Angular: ±	Hole centres & posns: ±		

DESCRIPTION: FX560DP 2KW G.A.

PART No./DRG No.: A2964

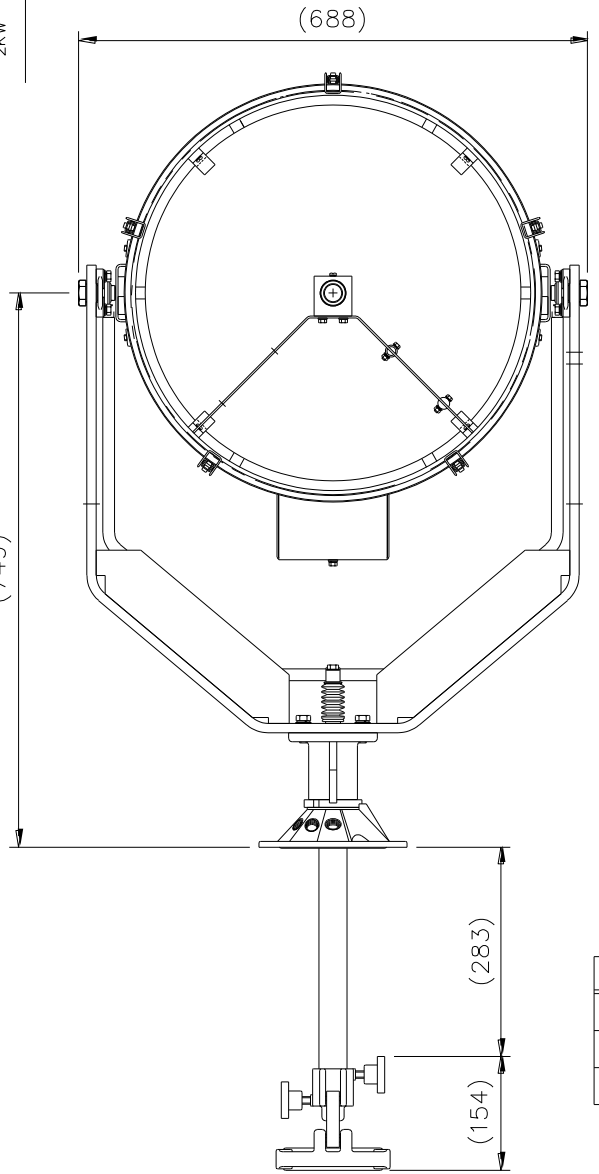
SHT 1

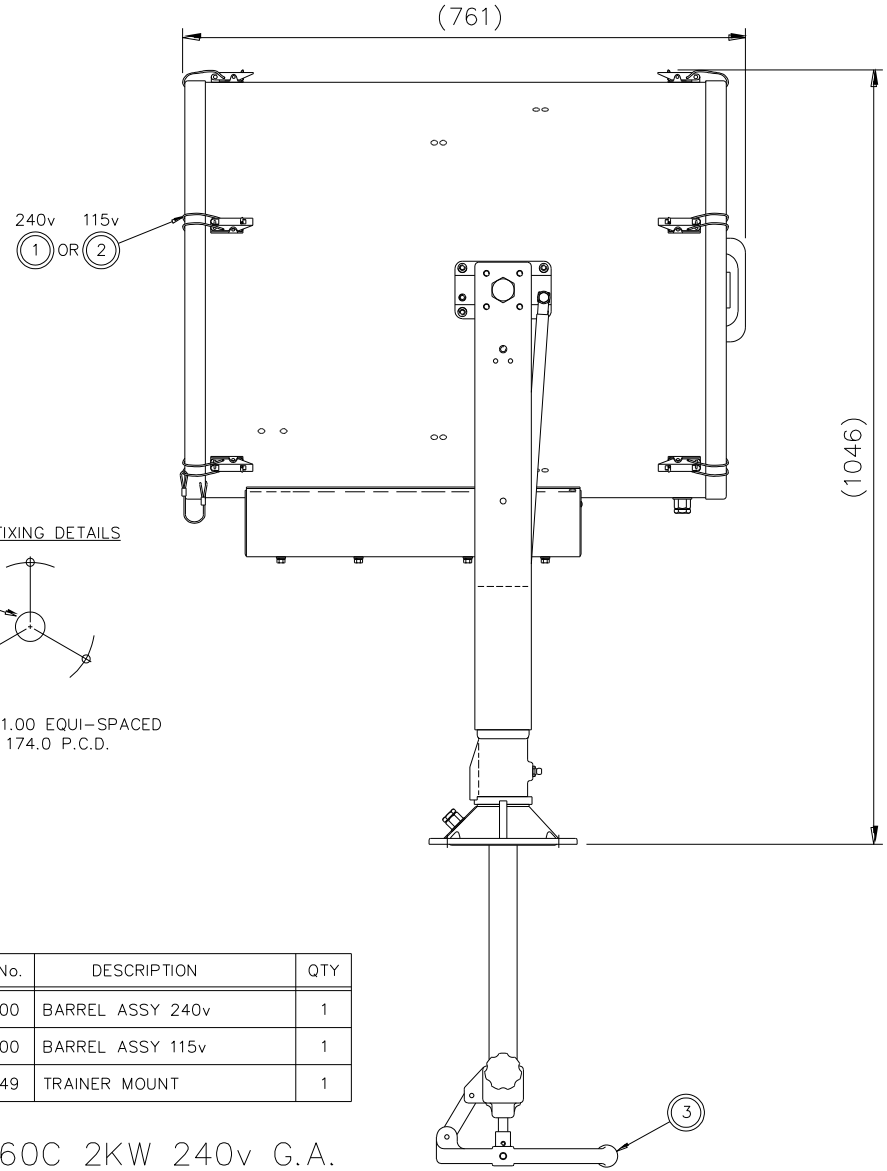
FIRST USED ON FX560C 2KW

DO NOT SCALE DRAWING

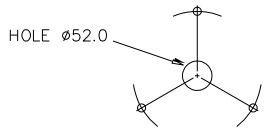
THIRD ANGLE PROJECTION

0 10 20 30 40 50mm





BASE FIXING DETAILS



3 HOLES ø11.00 EQUI-SPACED ON A 174.0 P.C.D.

ITEM	PART No.	DRG No.	DESCRIPTION	QTY
1	C20800	C20800	BARREL ASSY 240v	1
2	C22547	C20800	BARREL ASSY 115v	1
3	C20849	C20849	TRAINER MOUNT	1

A2965 FX560C 2KW 240v G.A.
A2257 FX560C 2KW 115v G.A.

ISS No	MODIFICATION DETAILS	DATE & INIT'S
1	AS FIRST DRAWN	9.99 D.S.
2	BROUGHT IN LINE WITH DETAIL (EC1035)	3.03 D.S.
3	SIDEPLATE MOVED (EC1251)	1.09 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	9.99	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: FX560C 2KW G.A. | PART No./DRG No.: A2965 | SHT: 1

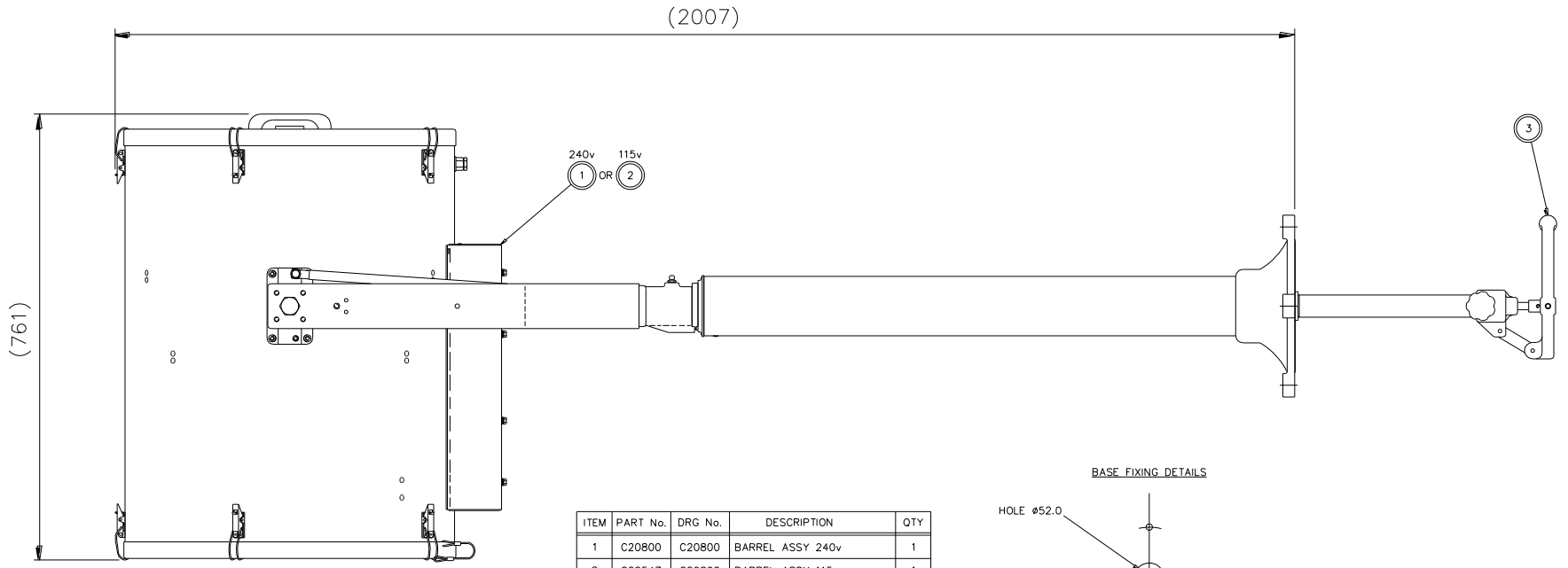
FIRST USED ON FX560CP 2KW

DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION

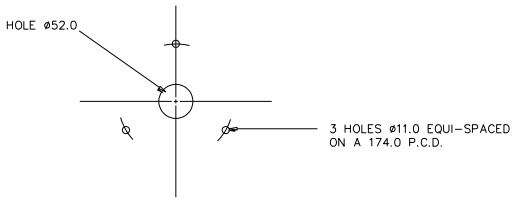
0 10 20 30 40 50mm

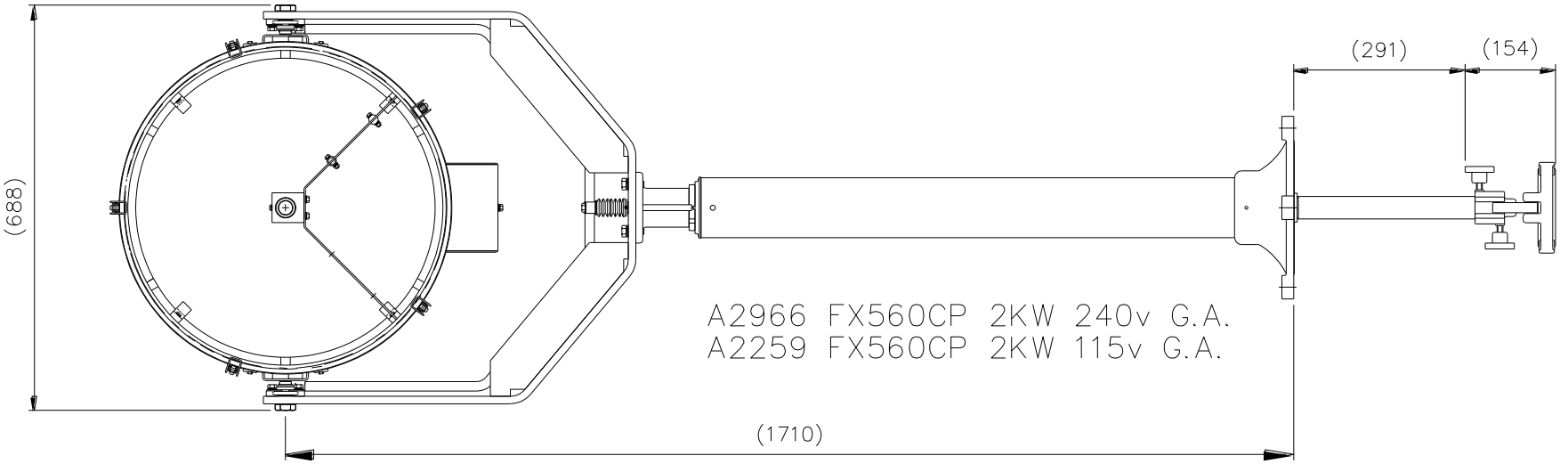
ISS No	MODIFICATION DETAILS	DATE & INIT'S
1	AS FIRST DRAWN	9.99 D.S.
2	BROUGHT IN LINE WITH DETAIL (EC1035)	3.03 D.S.
3	SIDEPLATE MOVED (EC1251)	1.09 D.S.



ITEM	PART No.	DRG No.	DESCRIPTION	QTY
1	C20800	C20800	BARREL ASSY 240v	1
2	C22547	C20800	BARREL ASSY 115v	1
3	C20850	C20850	TRAINER MOUNT	1

BASE FIXING DETAILS





A2966 FX560CP 2KW 240v G.A.
A2259 FX560CP 2KW 115v G.A.

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

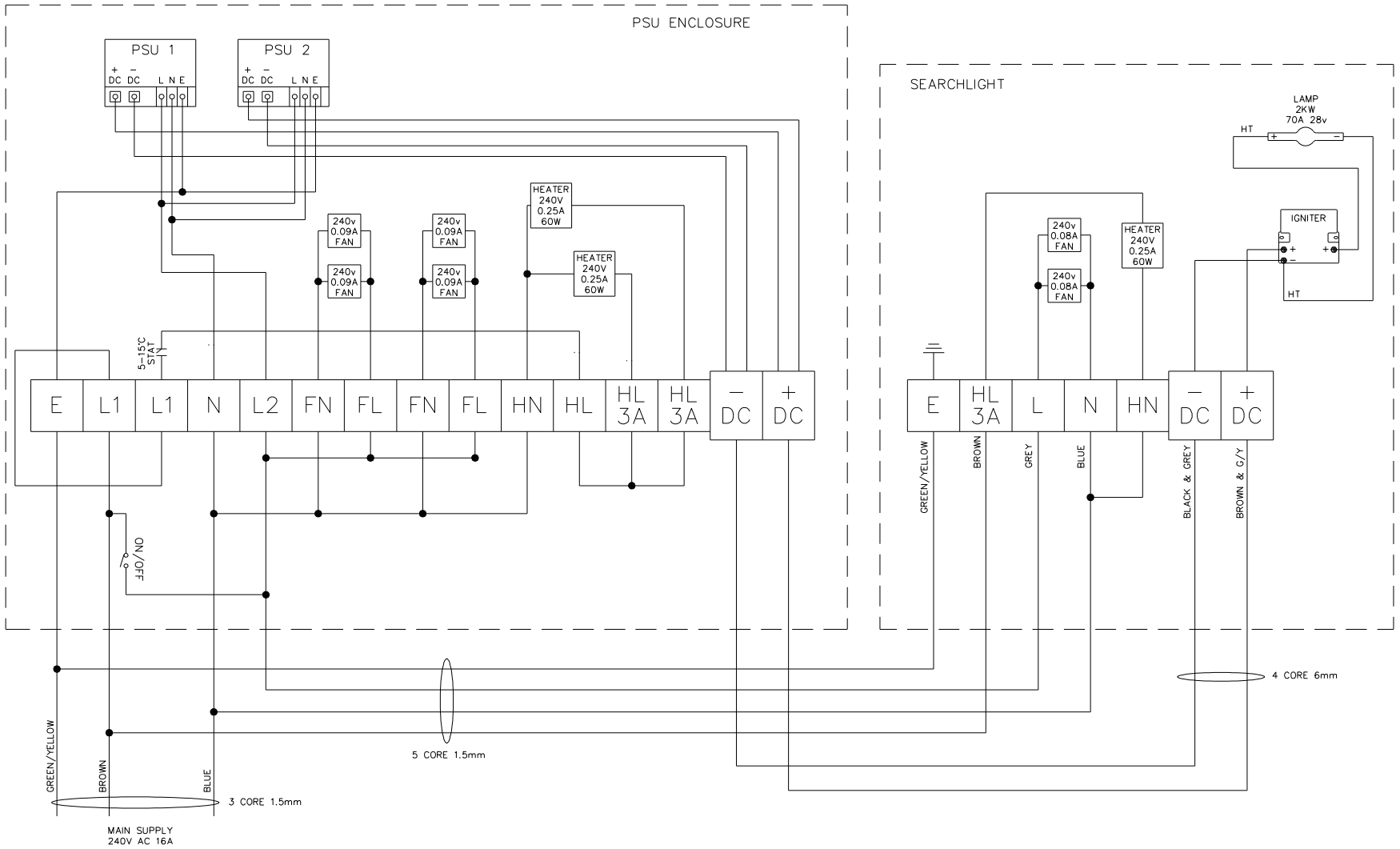
DRAWN	D.S.	DATE	29.9.99	TOLERANCES	Sand Casting: To ISO 8062 CT10	MATERIAL	FINISH	DESCRIPTION	PART No./DRG No.	SHT
CHECKED		SCALE	1:4	General: ±	Die Casting: To ISO 8062 CT8			FX560CP 2KW G.A.	A2966	1
ALL DIMENSIONS IN MILLIMETRES				Angular: ±	Hole centres & posns: ±					

FIRST USED ON FX560DP 2KW

DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION

ISS No	MODIFICATION DETAILS	DATE & INIT'S
1	AS FIRST DRAWN	11.19 D.S.
2	SWITCH ADDED	10.23 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

A1 CONT ON SHEET

DRAWN	D.S.	DATE	12.11.19	TOLERANCES
CHECKED		SCALE		General: ± Angular: ±

ALL DIMENSIONS IN MILLIMETRES

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

MATERIAL | FINISH | DESCRIPTION

2KW XENON WIRING DIAGRAM 240V

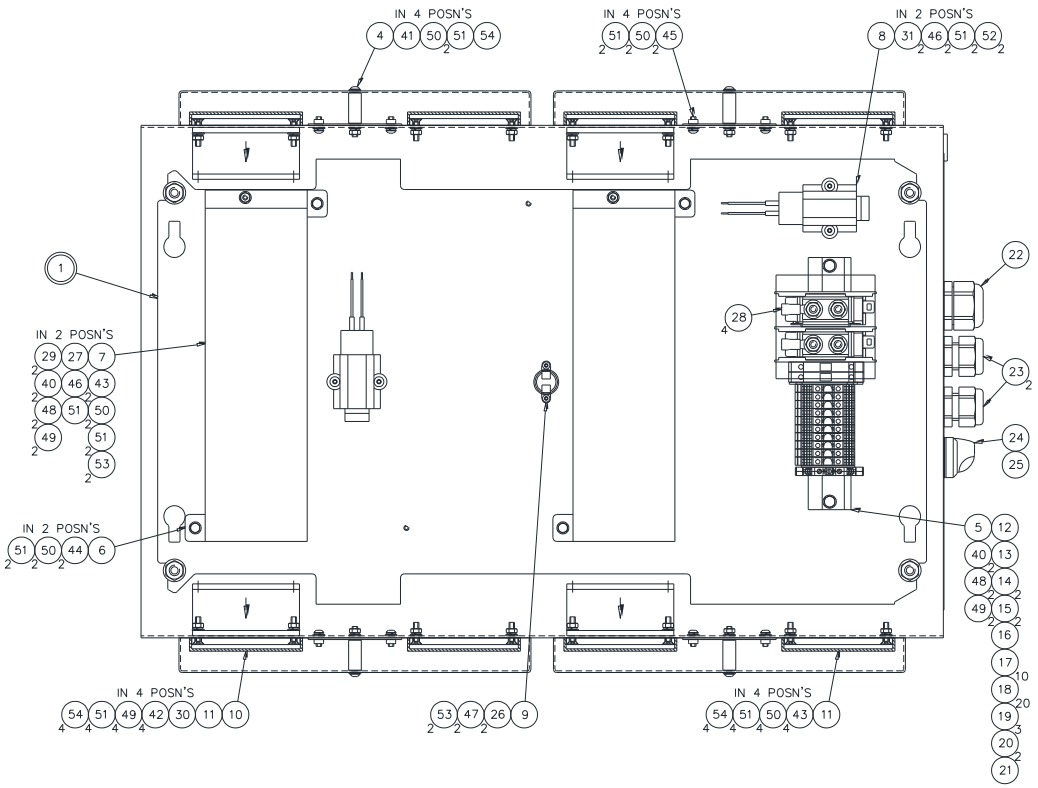
PART No./DRG No. C28404 SHT 1

FIRST USED ON FX380 2KW A2781

DO NOT SCALE DRAWING

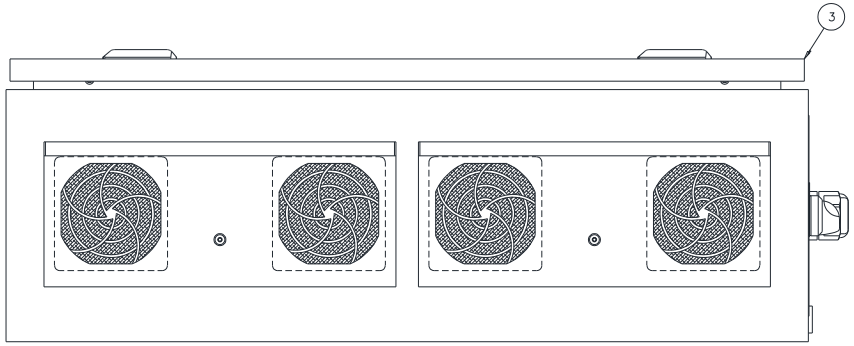
THIRD ANGLE PROJECTION

ITEM	PART No.	DRG No.	DESCRIPTION	240V QTY	115V QTY
1	C28261	C28261	CHASSIS PLATE SUB ASSY	1	1
2	C25012	C25012	FAN SPLASH COVER SUB ASSY	4	4
3	C28712	C28712	ENCLOSURE DRILLING	1	1
4	C24687	C24687	SPLASH COVER PILLAR	4	4
5	C30116	C30116	PSU DIN RAIL	1	1
6	C28263	C28263	PSU PLATE	2	2
7	C28264		1K XENON PSU 240V	2	
7	C30610		1K XENON PSU 115V		2
8	C23277		HEATER	2	2
9	C24889		THERMAL SWITCH	1	1
10	C16930		FAN 240V	4	
10	C16931		FAN 115V		4
11	C25013		FAN COVER	8	8
12	C14379		EARTH TERMINAL	1	1
13	C27209		TERMINAL FUSE END COVER	1	1
14	C24118		3A FUSE	2	2
15	C27208		TERMINAL FUSE	2	2
16	C14139		TERMINAL END COVER	1	1
17	C15099		TERMINAL	10	10
18	C15411		TERMINAL MARKER	20	20
19	C11175		H/C TERMINAL SPACER	3	3
20	C10861		H/C TERMINAL	2	2
21	C10469		H/C TERMINAL COVER	1	1
22	C15450		M25 CABLE GLAND	1	1
23	C12415		M20 CABLE GLAND	2	2
24	C23002		SELECTOR SWITCH	1	1
25	C14146		LEGEND PLATE	1	1
26	C15828		RED SHROUDED CRIMP	2	2
27	C09299		M4 RED EYELET	2	2
28	C22701		M6 YELLOW EYELET	4	4
29	C02185		M5 YELLOW EYELET	4	4
30	C29149		3 WAY LEVER CONNECTOR	4	4
31	C27962		M4 x 10 PILLAR	4	4
32	C21464		240V WARNING LABEL	1	
32	C22078		115V WARNING LABEL		1
33	C22036		ISOLATE SUPPLY LABEL	1	1
34	C04900		FRANCIS EXTERIOR LABEL	1	1
35	C14161		6mm S/C SILICONE CABLE RED	A/R	A/R
36	C14162		6mm S/C SILICONE CABLE BLACK	A/R	A/R
37	C26799		1.5mm S/C SILICONE CABLE BROWN	A/R	A/R
38	C15838		1.5mm S/C SILICONE CABLE BLUE	A/R	A/R
39	C15112		1.5mm S/C SILICONE CABLE G/Y	A/R	A/R
40	C13351		M5 x 10 HEX HD SCREW	6	6
41	C14468		M4 x 35 BUTTON HD SCREW	4	4
42	C10120		M4 x 20 SKT CSK HD SCREW	16	16
43	C06981		M4 x 16 SKT CSK HD SCREW	20	20
44	C26955		M4 x 10 HEX HD SCREW	4	4
45	C14533		M4 x 10 BUTTON HD SCREW	8	8
46	C23813		M4 x 8 BUTTON HD SCREW	6	6
47	C14502		M3 x 6 BUTTON HD SCREW	2	2
48	C08392		M5 PLAIN WASHER	6	6
49	C09231		M5 S/C SPRING WASHER	6	6
50	C04376		M4 PLAIN WASHER	56	56
51	C08793		M4 S/C SPRING WASHER	58	58
52	C20637		M4 x 12 O/D WASHER	4	4
53	C10747		M3 S/C SPRING WASHER	2	2
54	C06266		M4 FULL NUT	40	40
55	C12039		CLEAR RTV	A/R	A/R



C28713 2KW DECK PSU ENCLOSURE ASSY 240V
C28714 2KW DECK PSU ENCLOSURE ASSY 115V

USE ITEMS BELOW FOR WIRING
SEE WIRING DIAGRAM FOR DETAILS
35 36 37 38 39



ENCLOSURE BASE FIXINGS
560 x 340 M8 FIXINGS

WEIGHT 20KGS

ISS No	MODIFICATION DETAILS	DATE & INIT'S
1	AS FIRST DRAWN	7.20 LW
2	SWITCH ADDED	10.23 D.S.
3	C28714 115V DECK PSU ASSY ADDED AND OTHER PARTS ADDED TO MATCH C29149 QTY 4 ADDED (EC2094)	11.25 H.E.C

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

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

A1 CONT ON SHEET 2

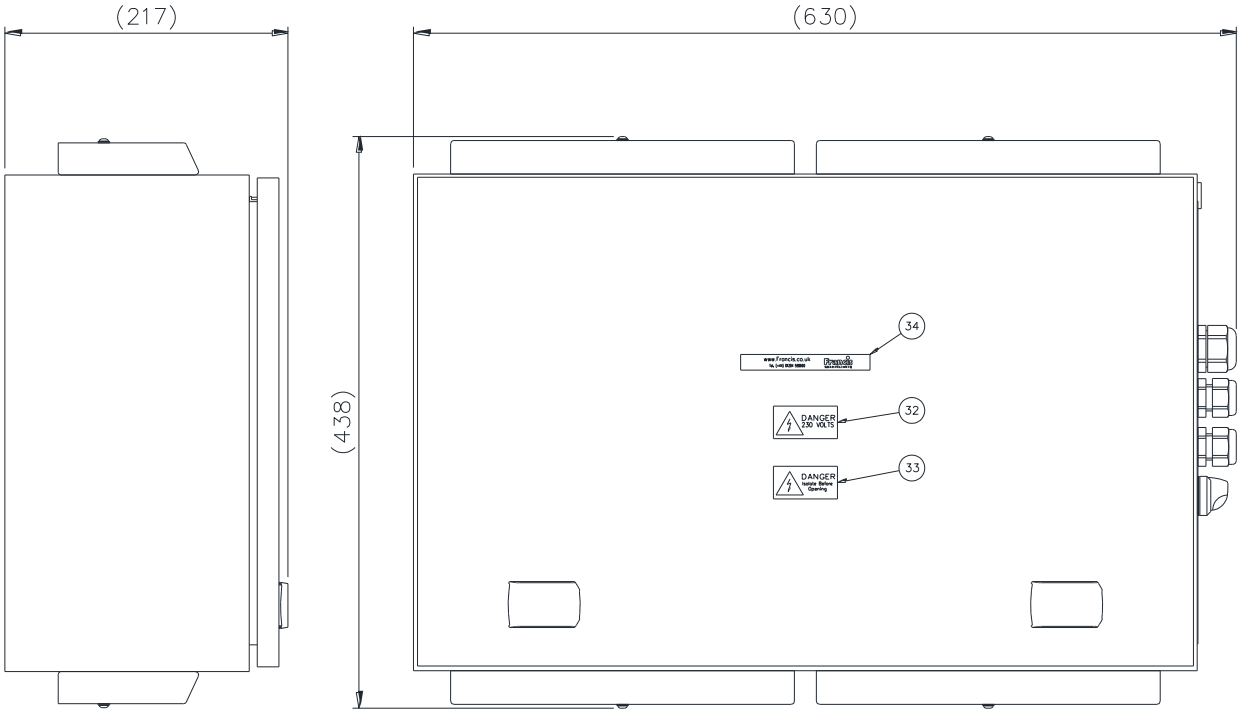
DRAWN	LW	DATE		TOLERANCES	Sand Casting: To ISO 8062 CT10	MATERIAL	FINISH	DESCRIPTION	PART No./DRG No.	SHT
CHECKED		SCALE		General: ±	Die Casting: To ISO 8062 CT8			2KW XENON POWER SUPPLY ASSEMBLY	C28713	1
ALL DIMENSIONS IN MILLIMETRES				Angular: ±	Hole centres & posns: ±					

FIRST USED ON FX380 2KW A27781

DO NOT SCALE DRAWING

THIRD ANGLE PROJECTION

ITEM	PART No.	DRG No.	DESCRIPTION	240V QTY	115V QTY
1	C28261	C28261	CHASSIS PLATE SUB ASSY	1	1
2	C25012	C25012	FAN SPLASH COVER SUB ASSY	4	4
3	C28712	C28712	ENCLOSURE DRILLING	1	1
4	C24687	C24687	SPLASH COVER PILLAR	4	4
5	C30116	C30116	PSU DIN RAIL	1	1
6	C28263	C28263	PSU PLATE	2	2
7	C28264		1K XENON PSU 240V	2	
7	C30610		1K XENON PSU 115V		2
8	C23277		HEATER	2	2
9	C24889		THERMAL SWITCH	1	1
10	C16930		FAN 240V	4	
10	C16931		FAN 115V		4
11	C25013		FAN COVER	8	8
12	C14379		EARTH TERMINAL	1	1
13	C27209		TERMINAL FUSE END COVER	1	1
14	C24118		3A FUSE	2	2
15	C27208		TERMINAL FUSE	2	2
16	C14139		TERMINAL END COVER	1	1
17	C15099		TERMINAL	10	10
18	C15411		TERMINAL MARKER	20	20
19	C11175		H/C TERMINAL SPACER	3	3
20	C10861		H/C TERMINAL	2	2
21	C10469		H/C TERMINAL COVER	1	1
22	C15450		M25 CABLE GLAND	1	1
23	C12415		M20 CABLE GLAND	2	2
24	C23002		SELECTOR SWITCH	1	1
25	C14146		LEGEND PLATE	1	1
26	C15828		RED SHROUDED CRIMP	2	2
27	C09299		M4 RED EYELET	2	2
28	C22701		M6 YELLOW EYELET	4	4
29	C02185		M5 YELLOW EYELET	4	4
30	C29149		3 WAY LEVER CONNECTOR	4	4
31	C27962		M4 x 10 PILLAR	4	4
32	C21464		240V WARNING LABEL	1	
32	C22078		115V WARNING LABEL		1
33	C22036		ISOLATE SUPPLY LABEL	1	1
34	C04900		FRANCIS EXTERIOR LABEL	1	1
35	C14161		6mm S/C SILICONE CABLE RED	A/R	A/R
36	C14162		6mm S/C SILICONE CABLE BLACK	A/R	A/R
37	C26799		1.5mm S/C SILICONE CABLE BROWN	A/R	A/R
38	C15838		1.5mm S/C SILICONE CABLE BLUE	A/R	A/R
39	C15112		1.5mm S/C SILICONE CABLE G/Y	A/R	A/R
40	C13351		M5 x 10 HEX HD SCREW	6	6
41	C14468		M4 x 35 BUTTON HD SCREW	4	4
42	C10120		M4 x 20 SKT CSK HD SCREW	16	16
43	C06981		M4 x 16 SKT CSK HD SCREW	20	20
44	C26955		M4 x 10 HEX HD SCREW	4	4
45	C14533		M4 x 10 BUTTON HD SCREW	8	8
46	C23813		M4 x 8 BUTTON HD SCREW	6	6
47	C14502		M3 x 6 BUTTON HD SCREW	2	2
48	C08392		M5 PLAIN WASHER	6	6
49	C09231		M5 S/C SPRING WASHER	6	6
50	C04376		M4 PLAIN WASHER	56	56
51	C08793		M4 S/C SPRING WASHER	58	58
52	C20637		M4 x 12 O/D WASHER	4	4
53	C10747		M3 S/C SPRING WASHER	2	2
54	C06266		M4 FULL NUT	40	40
55	C12039		CLEAR RTV	A/R	A/R



C28713 2KW DECK PSU ENCLOSURE ASSY 240V
C28714 2KW DECK PSU ENCLOSURE ASSY 115V

ENCLOSURE BASE FIXINGS
560 x 340 M8 FIXINGS

WEIGHT 20KGS

ISS No	MODIFICATION DETAILS	DATE & INIT'S
1	AS FIRST DRAWN	7.20 LW
2	SWITCH ADDED	10.23 D.S.
3	C28714 115V DECK PSU ASSY ADDED AND OTHER PARTS ADDED TO MATCH C29149 QTY 4 ADDED (EC2094)	11.25 H.E.C

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

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

A1 CONT ON SHEET

DRAWN	LW	DATE	7.20
CHECKED		SCALE	1:2

ALL DIMENSIONS IN MILLIMETRES

TOLERANCES
General: ±
Angular: ±

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

MATERIAL

FINISH

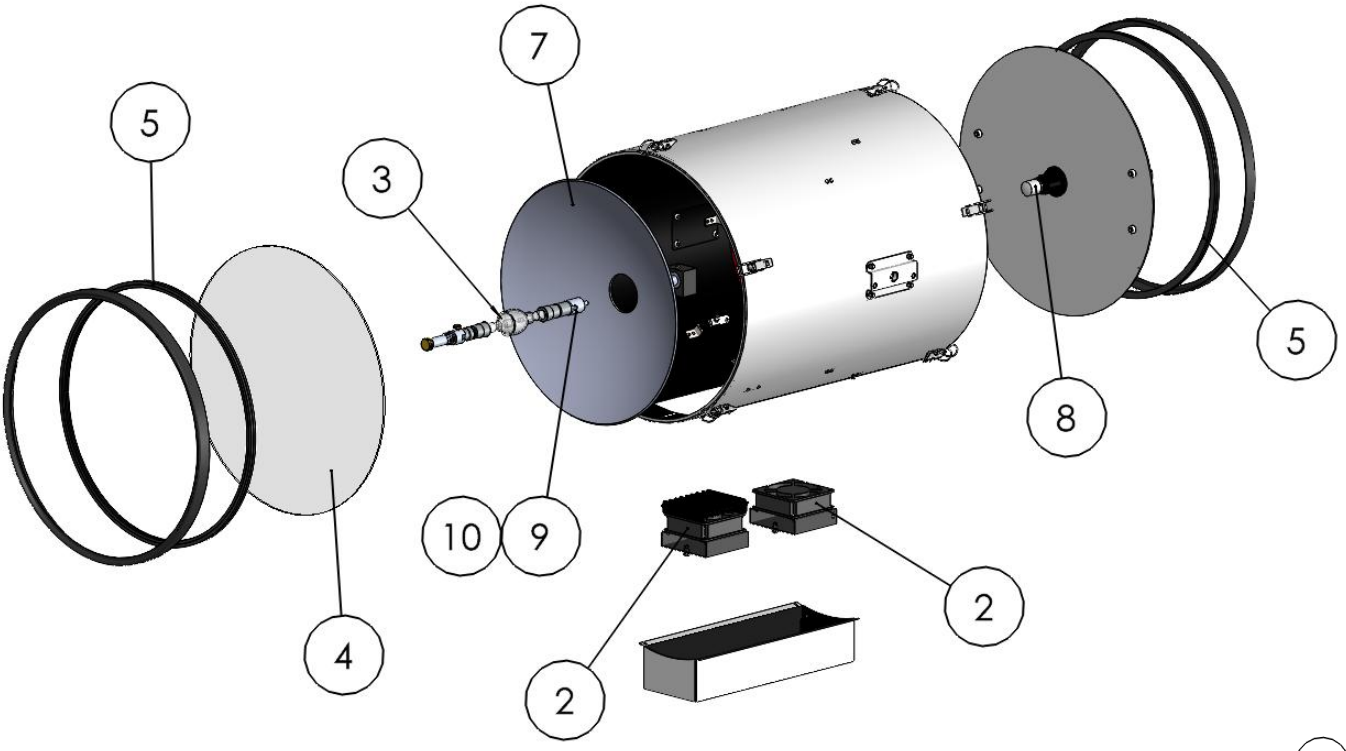
DESCRIPTION

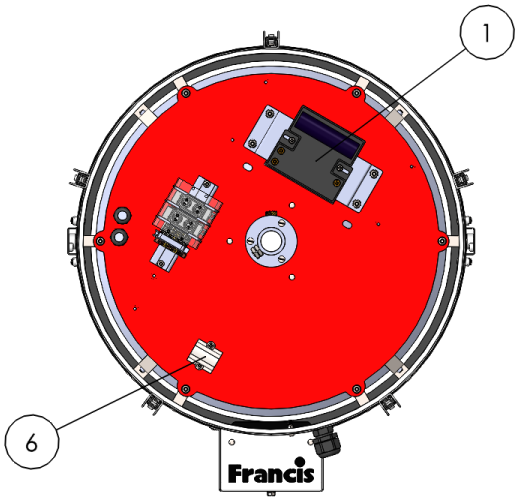
2KW XENON POWER SUPPLY ASSEMBLY

PART No./DRG No. C28713

SHT 2

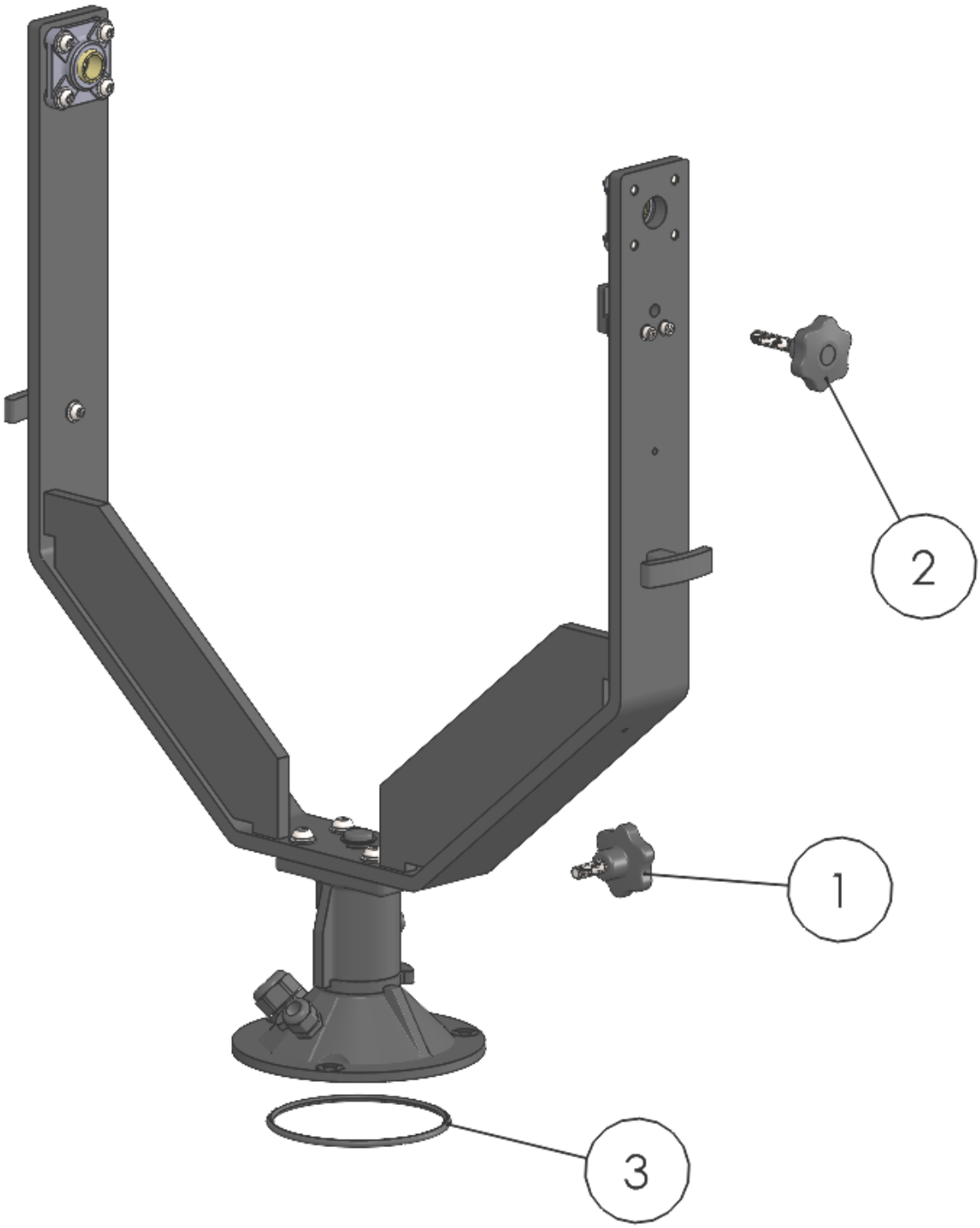
C20800 Barrel Assembly





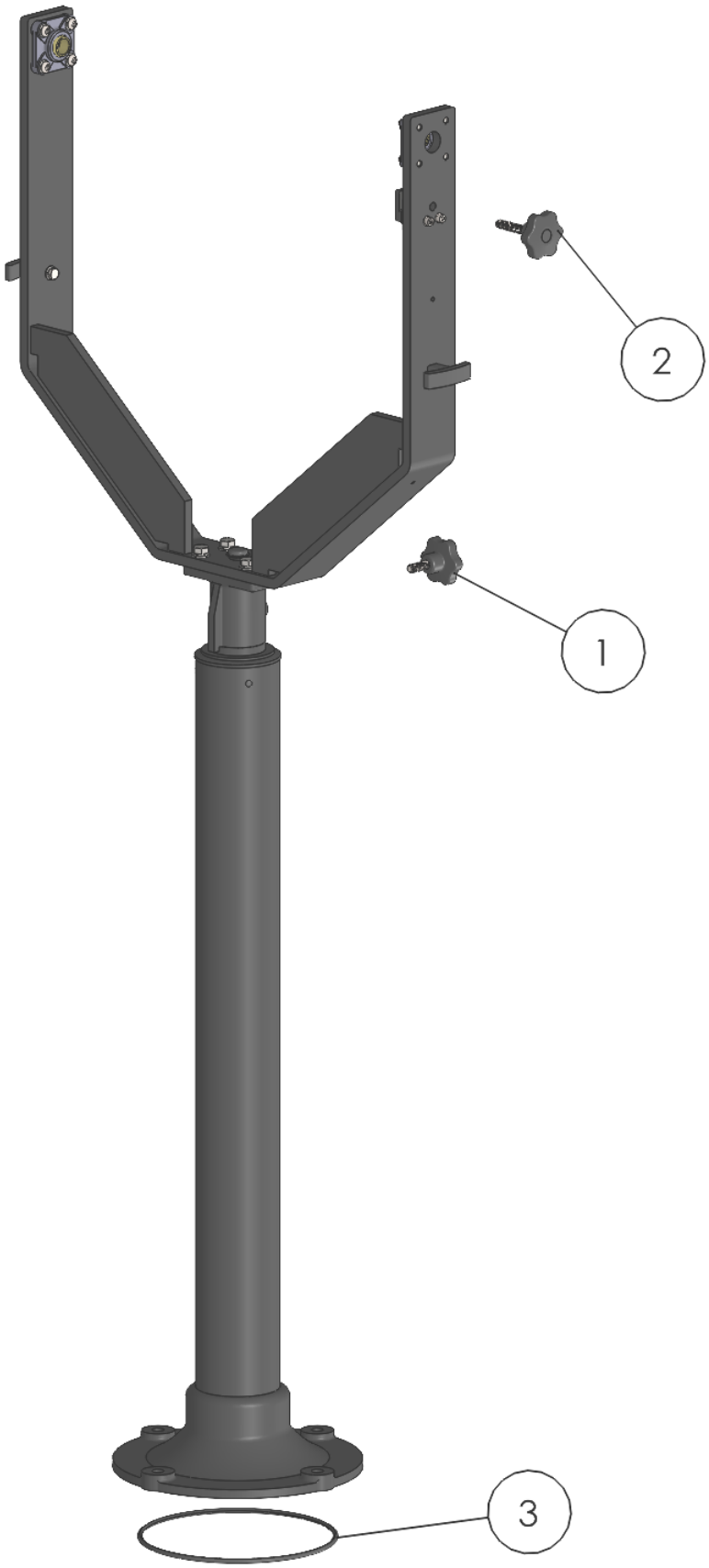
Item Number	Part Number	Description	Quantity
1	C28009-00	Igniter	1
2	C20224-01	Fan 240v	2
3	C27698-01	2Kw Xenon Lamp Assembly	1
4	C20881-00	Front Glass	1
5	C20569-00	Front & Rear Bezel Gasket	2
6	C23277-01	Heater	1
7	C06779-00	Reflector	1
8	C20839-01	Rear Focus Wheel Assembly	1
9	C27653-01	Rear Lamp Holder Socket	1
10	C20205-00	M8 x 10 Grub Screw	1

C20843-01 Deck Mount



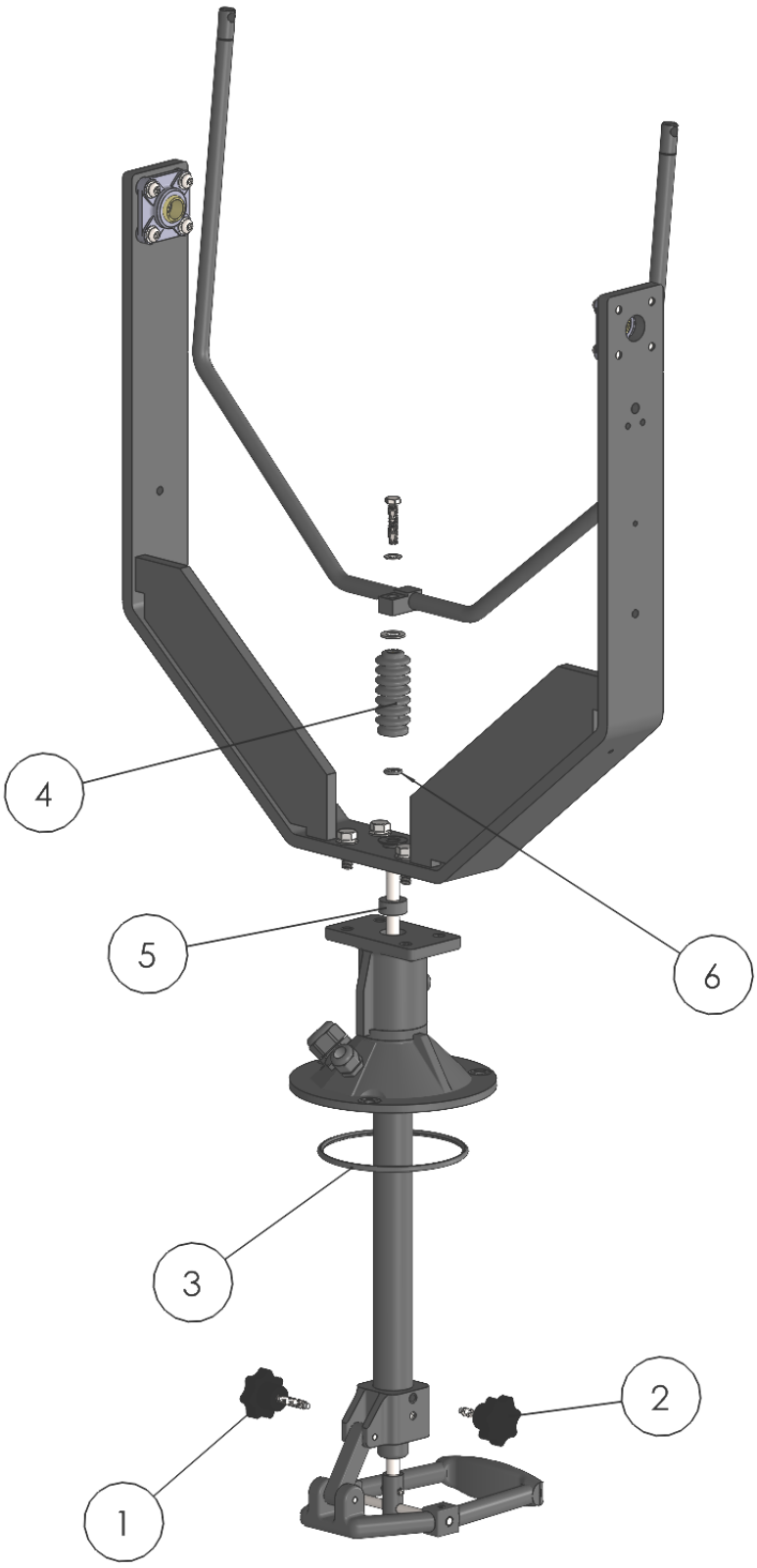
tem Number	Part Number	Description	Quantity
1	C21502-01	Base Lock Wheel Assembly	1
2	C21503-01	Side Lock Wheel Assembly	1
3	C11148-00	Base ‘O’ Ring	1

C20848-01 Deck Pedestal Mount



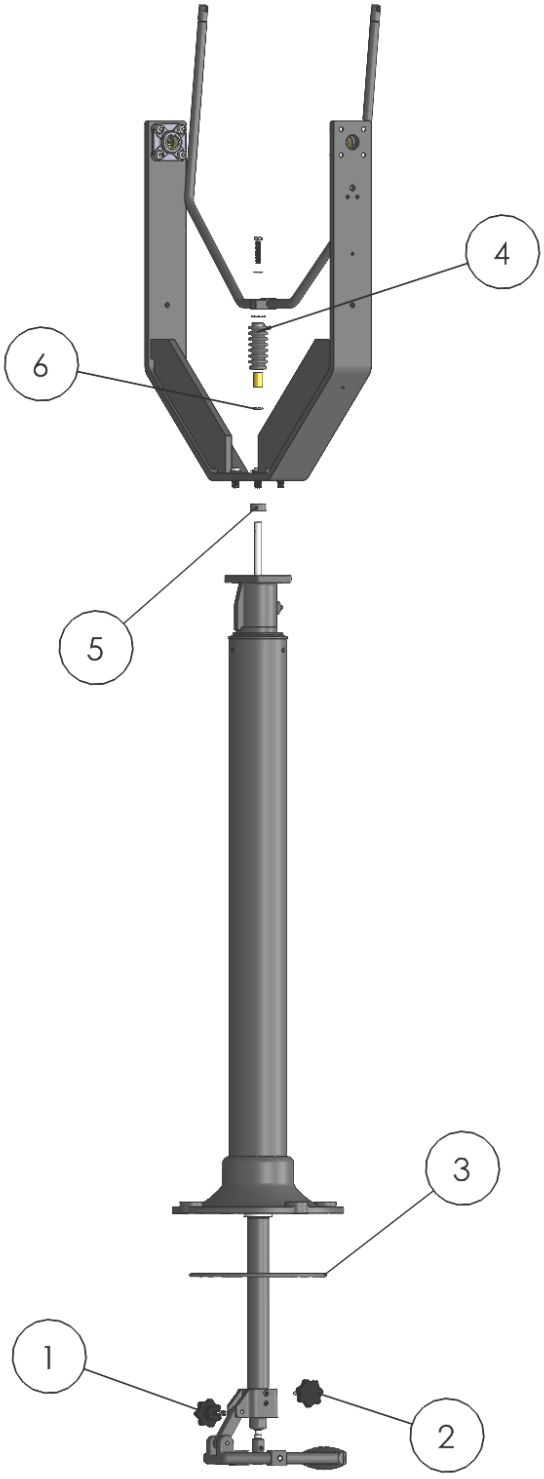
Item Number	Part Number	Description	Quantity
1	C21502-01	Base Lock Wheel Assembly	1
2	C21503-01	Side Lock Wheel Assembly	1
3	C10170-00	Base ‘O’ Ring	1

C20849-01 Cabin Trainer Mount



Item Number	Part Number	Description	Quantity
1	C16958-01	Tilt Lock Wheel Assembly	1
2	C11026-01	Pan Lock Wheel Assembly	1
3	C11148-00	Base ‘O’ Ring	1
4	C20281-00	Bellows	1
5	C08926-00	Push Rod Seal	1
6	C21967-00	Bellows Bottom Bush ‘O’ Ring	1

C20850-01 Cabin Pedestal Trainer Mount



Item Number	Part Number	Description	Quantity
1	C16958-01	Tilt Lock Wheel Assembly	1
2	C11026-01	Pan Lock Wheel Assembly	1
3	C10170-00	Base ‘O’ Ring	1
4	C20281-00	Bellows	1
5	C08926-00	Push Rod Seal	1
6	C21967-00	Bellows Bottom Bush ‘O’ Ring	1

10 - Spare Parts List

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

Part Number	Description
Searchlight Spares	
C28009-00	Igniter
C20224-00	Fan 240v
C27698-01	2Kw Xenon Lamp Assembly
C20881-00	Front Glass
C20569-00	Front & Rear Bezel Gasket
C23277-00	Heater
C06779-00	Reflector
C20839-01	Rear Focus Wheel Assembly
C27653-00	Rear Lamp Holder Socket
C20205-00	M8 x 10 Grub Screw
C21502-01	Base Lock Wheel Assembly (Deck & Deck Pedestal Models)
C21503-01	Side Lock Wheel Assembly (Deck & Deck Pedestal Models)
C16958-01	Tilt Lock Wheel Assembly (Cabin & Cabin Pedestal Models)
C11026-01	Pan Lock Wheel Assembly (Cabin & Cabin Pedestal Models)
C11148-00	Base ‘O’ Ring Seal (Deck & Cabin Models)
C10170-00	Pedestal Base ‘O’ Ring Seal (Deck Pedestal & Cabin Pedestal Models)
C20281-00	Bellows (Cabin & Cabin Pedestal Models)
C08926-00	Push Rod Seal (Cabin & Cabin Pedestal Models)
C21967-00	Bellows Bottom Bush ‘O’ Ring (Cabin & Cabin Pedestal Models)
Power Supply Enclosure Spares	
C28264-00	Xenon Power Supply Unit
C23277-00	Heater
C24889-00	Thermal Switch
C16930-00	Fan 240v
C24118-00	Fuse
C23002-00	On/Off Switch

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 within the front of the barrel head to the right, on the name plate. This will enable a fast response to your spares’ requirements.