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spectratek™
A new view on paint curing

SPECUV 2400400 instruction manual

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Warning

1. Read, study and understand all warning and operating instructions furnished with this equipment prior to installment or use. If any part of this material is unclear, contact the factory for clarification.

2. Only qualified persons are to install, operate and maintain this equipment in accordance with applicable codes, safety practices and manufacturer's instructions.

3. Electric shock can be fatal, therefore:

A. Install and ground unit in compliance with national, regional and local codes.
B. Do not operate in damp or wet area.
C. Remove the contact from the wall socket before working on the equipment.

4. Refer to the operating manual supplied with this equipment for all safety information.

5. It is owner's responsibility to keep all warning decals legible and intact. Replacement decals are available from the factory.

6. Failure to heed these warning may result in personal or fatal injury and/or equipment and property damage.

Read and carry out all instructions included in this manual as well as the following specific procedures.

When one of the symbols shown here is displayed, be alert to the possibility of personal injury and carefully read the message that follows.

ELECTRICK SHOCK
Electric shock hazard exists during the operation of the step(s).

RISK OF FIRE AND BURNS
Fire hazard and possibility of being burned exists during the operation of the step(s).

EXPLOSIONS
Possibility of injury or death exists due to improper handling and maintenance of compressed gas cylinders or regulators.

Published standards on safety are available. They are listed in ADDITIONAL SAFETY INFORMATION at the end of this SAFETY SUMMARY.

FIRE HAZARDS

The National Electrical Code, Occupational Safety and Health Act regulations, local industrial codes and local inspection requirements also provide a basis for equipment installation, use, and service.

SHOCK HAZARDS

WARNING!

ELECTRIC SHOCK CAN KILL!
To reduce the risk of death or serious injury from shock, read, understand, and follow the following safety instructions. In addition, make certain that anyone else who uses this heating equipment understands and follows these safety instructions as well.

IMPORTANT! TO REDUCE THE RISK OF DEATH, INJURY, OR PROPERTY DAMAGE, DO NOT ATTEMPT OPERATION of this heating equipment prior to having read and understood the following safety summary.

· Do not, in any manner, come into physical contact with any part of the current circuit.

· Do not use in a damp area or come in contact with a moist or wet surface.

· Do not attempt to use if any part of clothing or body is wet.

· Do not allow the heating equipment to come in contact with water or moisture.

· Do not attempt to plug the heating machine into the power source if any part of body or clothing is moist, or if you are in physical contact with water or moisture.

· Do not alter power cord or power cord plug in any way.

· Do not attempt to plug the heating equipment into the power source if the ground prong on power cord plug is bent over, broken off, or missing.

· Do not modify any wiring, ground connections, switches, or fuses in this heating equipment.

· Keep all liquid containers far enough away from the heating equipment and work area so that if spilled, the liquid can not possibly come in contact with any part of the equipment or electrical circuit.

· Replace any cracked or damaged parts that are insulated or act as insulators such as power cord IMMEDIATELY.

BODY PROTECTION

WARNING!

FIRE CAN CAUSE DEATH, INJURY, AND PROPERTY DAMAGE!
To reduce risk of death, injury, or property damage from fire , read, understand, and follow the following safety instructions. In addition, make certain that anyone else that uses this heating equipment follows these safety instructions as well.

· Do not wear gloves or other clothing that contain oil, grease, or other flammable substances.

· Do not wear flammable hair preparations.

· Do not use in an area until it is checked and cleared of combustible and/or flammable materials. **Never point the heating equipment towards flammable material.**

· Do not use in an area where the air may contain flammable dust (such as grain dust), gas, or liquid vapors (such as gasoline).

· Have fire extinguishing equipment handy for immediate use! A portable chemical fire extinguisher, type ABC, is recommended.

· Make sure work area has a good, solid, safe floor, preferably concrete or masonry, not tiled, carpeted, or made of any other flammable material.

EXPLOSION HAZARDS

WARNING!

EXPLOSION CAN CAUSE DEATH, INJURY, AND PROPERTY DAMAGE!
To reduce risk of death, injury, or property damage from explosion, read, understand, and follow the following safety instructions. In addition, make certain that anyone else that uses this heating equipment follows these safety instructions as well.

· **Never point the heating equipment towards compressed gas, air cylinder or other pressure vessel**.

WARNING!

· **Do not handle hot light tubes with bare hands.**

· **Do not heat any body parts (hands, face, etc.).**

UV RADIATION HAZARDS

WARNING!

UV RADIATION CAN CAUSE DEATH, INJURY, AND PROPERTY DAMAGE!
To reduce risk of death, injury, or property damage from UV radiation, read, understand, and follow the following safety instructions. In addition, make certain that anyone else that uses this heating equipment follows these safety instructions as well.

· **Do not look directly at light**.

· **Always wear eye protection, gloves and protecting clothing**. **Failure to may result in severe burns or long-term injury to the eyes.**

· Safety googles with application of sun-screen with high sun-protection factor (>15) against UV-A and UV-B may provide some protection.

· Use of UV skin blocks is considered inadequate for protection against the high irradiance of man-made UV radiation sources.

· If a person works around UV radiation while on medications, the medication should be checked to see if it would make the person more photosensitive.

Markings and graphical symbols

N°	Indicate the serial number of the machine.
	Warning: Refer to the instructions before changing or servicing the machine.

UV cure coating

Heat transmission

There are three main methods of heat transmission. These are:

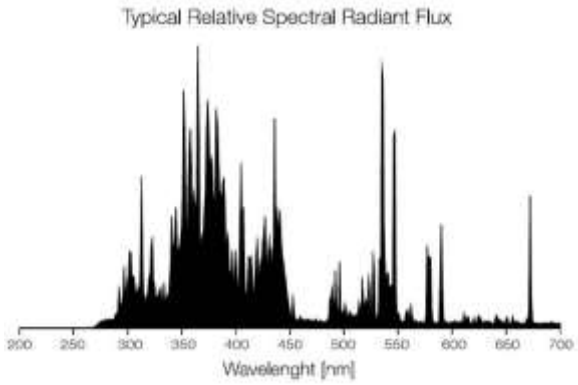
Conduction: The direct transfer of energy from solid objects with a higher temperature to objects with a lower temperature.

Convection: The use of a gas or liquid to transfer heat from one object to another. This can be forced with the aid of a fan or pump, or can be natural, due to the gas or liquid having different temperatures or densities.

Radiation: One material emits radiation which hits another material. When the radiation is absorbed it is converted into heat. The heat source and the receiver may be a gas, liquid or solid, however the degree of heat transfer is dependent on how transparent each is to radiation, ie: The more transparent to radiation the less efficient.

Ultraviolet (UV)

Ultraviolet (UV) light is electromagnetic radiation with a wavelength shorter than that of visible light, but longer than X-rays, in the range of 10nm to 400nm, and energies from 3 eV to 124 eV. It is named because the spectrum consists of electromagnetic waves with frequencies higher than those that humans identify as the color violet.



UV cure coating

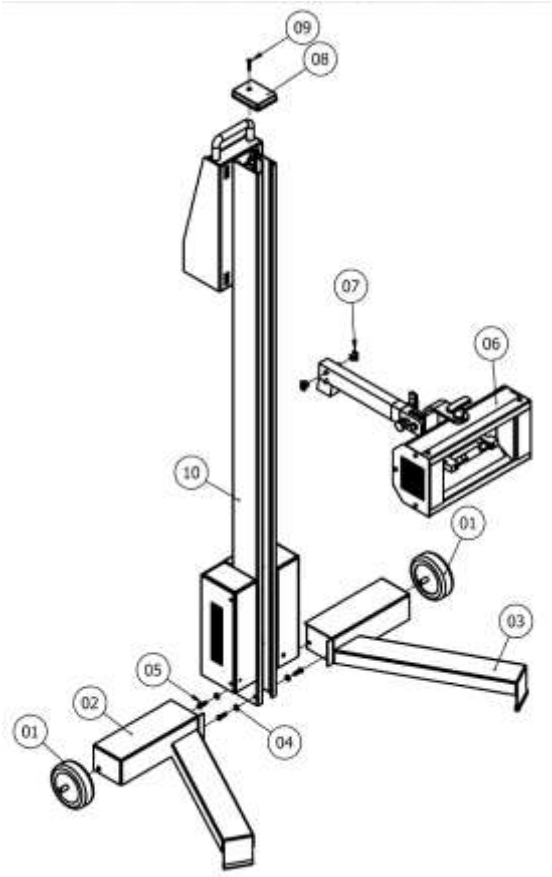
Ultraviolet (UV) processing to cure or dry a coating on wood, metal or plastic products is one of the fastest segments in the paint and coating industry. Ultraviolet cure coating is increasingly used in place of conventional high heat processing to produce coating with improved properties, cut the overall cost of coating operations and reduce the environmental impact of the coating.

The ultraviolet light spectrum generated by a UV lamp interacts with special coating chemistries to produce a high-quality, durable coating. In many applications, UV curing can achieve the coating faster, and therefore at a lower total cost than many other coating processes.

Unique benefits of the UV cure coating:
· Reduced and solvent-free;
· Fast curing time;
· Low-temperature processing;
· Scratch resistance and chemical resistance.

Multi-applications of the UV cure coating technology:
· Adhesives;
· Automotive finishes including repair and refinish;
· Auto and truck wheels;
· Concrete coatings;
· Glass;
· Composite;
· and more.

Assembly



Assembly of your SPEC 2400400 will require one person and the tools listed below. This simple step by step operation can be completed in approximately 15 minutes.

Tools Required
- 5MM Allen key
- Phillips Screwdriver

Checklist

Item	Description	Qty
01	4" Wheel	2
02	Right base assembly	1
03	Left base assembly	1
04	External tooth washer 6mm	4
05	Button head cap screw M6x20	4
06	Head assembly	1
07	Plastic guide	2
08	Column top cover	1
09	Tapping screw 8x1 Phillips pan head	1
10	Column assembly	1

Step 1

Lay down the column assembly (10) on a flat and stable surface.

Use the external tooth washer (4) and the button head screw (5) to fasten the left and right base assembly (02 & 03) on the column. Tighten using a 5MM Allen key.

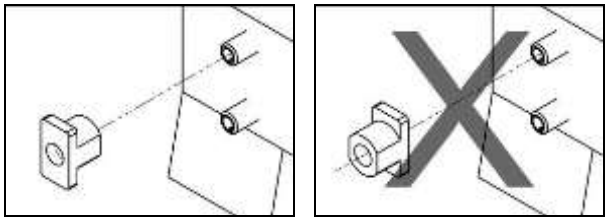
Step 2

Insert the 4" wheels (01) on the base assemblies. Put the assembly back on its base.

Step 3

Put the plastic guides (07) on the head assembly.

NOTE: The plastic guide must be correctly installed, as illustrated below:



Step 4

Put the head assembly on the column by inserting the plastic guides in the appropriate extrusions.

Position the support head on the desired timing belt level to keep it in place.

Step 5

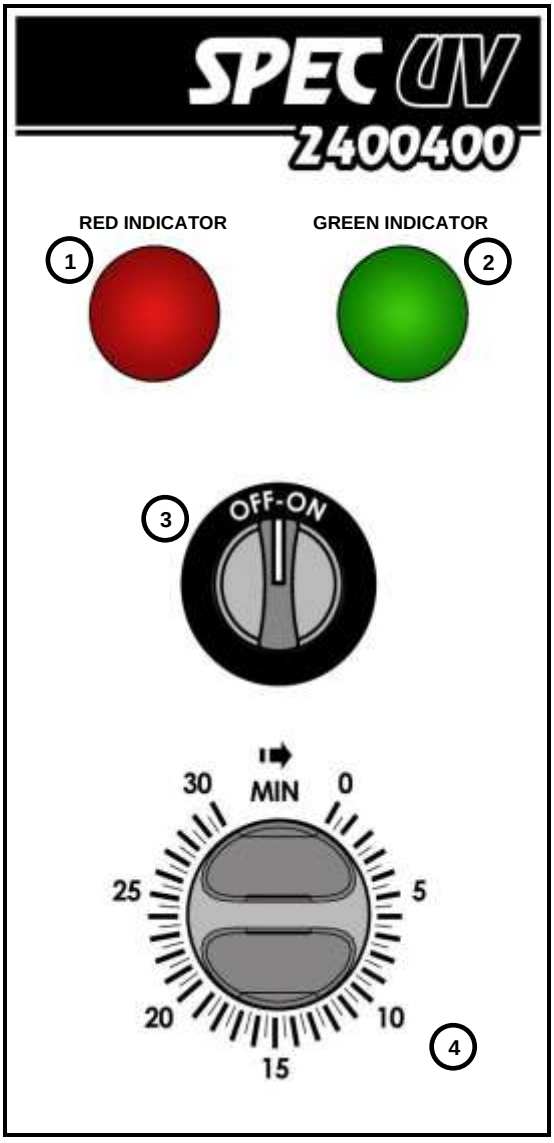
Using a Tapping screw 8x1 (09), fasten the column top cover (08), as illustrated.

Step 6

Finally confirm your SPEC 2400400 is the correct electrical specification for your electrical supply. (See nameplate on control panel).

It is advised that you consult the electrical specification sheet and a qualified person to ensure correct and safe connection to the main supply, before referring to the operating instructions and testing.

Operating Instructions



CAUTION: WEAR EYE PROTECTION, GLOVES AND PROTECTIVE CLOTHING BEFORE OPERATING.

Check the electrical specifications of your unit are compatible with your main supply.

Please read the instructions carefully before proceeding.

Step 1

Ensure that selector switch (3) is in the OFF position.

Step 2

Connect the power cord in the electrical supply.

Turn ON the selector switch (3). The red indicator (1) will illuminate.

Step 3

Position the unit so the lamp array unit is approximately 60cm away from the surface to be cured. Check that the lamp array unit is parallel and the centre is in the middle of the cure area. (Adjust using the lever on the upright and on the top and bottom of the lamp units).

CORRECT

INCORRECT

Step 4

Turn the timer on the desired curing time. The curing cycle will automatically start.

The red indicator (1) will turn off and the green indicator (2) will illuminate.

Step 5

When the cycle is complete, the green indicator (2) will turn OFF and the red indicator (1) will illuminate.

Notes:

Turn OFF the selector switch (3) at any time during the curing cycle automatically stops the operation. Turn the timer (4) to MIN for reset.

Before storing your curing system, ensure the unit is sufficiently cool and the selector switch (3) is in OFF position.

If you have any questions, please contact Chemicar

General Maintenance

SPEC 2400400 machines have been designed for trouble free operation and long useful life providing they are regularly cleaned and maintained.

1. **Electrical Connections** - must be checked regularly for damage, wear, and tightness. Mechanical stress due to thermal shock can loosen connections. Worn or damaged power cords and connectors should be replaced. All connections should be regularly tightened.

2. **Ventilation grills** - Clean dust, dirt, and grease on the ventilation grills located on the end sides of the head.

3. **General Cleaning** - Periodically clean dust, dirt, and grease from the machine. Every six months, or as necessary, open or remove the panels and air-blow any dust and dirt that may have accumulated inside. While cleaning the interior, inspect for any damage to the electrical connections of the power cord, the electrical parts, and the condition of cable insulation and couplings.

4. **Bulb light** - Remove contaminations (e.g. finger-prints) with 100% alcohol.

To ensure optimum performance over time, the UV filter must be removed to allow the reflectors to be cleaned with a solvent based degreaser.

WARNING!

ELECTRIC SHOCK CAN KILL!
To reduce the risk of electric shock, always unplug the machine from the power source.

Troubleshooting

The following troubleshooting information table is provided as a guide to help resolve some of the more common problems that may be encountered. It does not provide all possible solutions, only those actions that may be applied at operator level to address more common faults.

In the event of any malfunction and before troubleshooting the operator should routinely:

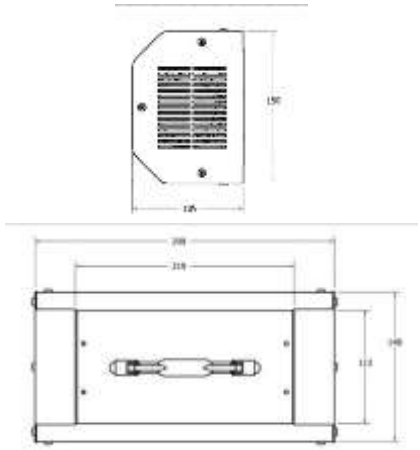
1. Disconnect the machine from the power source.

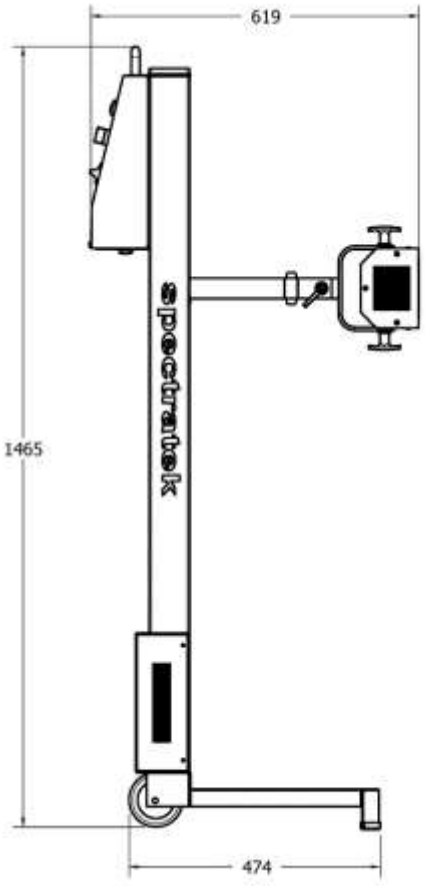
2. Check the condition of the cables and insulation for evidence of heat or burning.

SYMPTOM	POSSIBLE CAUSE	ACTION
On power up, nothing appears to happen. No light tubes come on.	No Power getting to heater.	Check wall breaker. Check plug wires.
	Power supply failure.	Replace power supply.
When SELECTOR SWITCH is positioned to ON, the light tube Do Not light.	The light tube has been broken.	Replace the light tube(s). (see instructions at the end of this section)
	Or the light tube is burnt out (ie. White in color).	Replace the light tube. (see instructions at the end of this section)
Time elapsed is different from time set on dial.	The dial may have come loose on its shaft.	Adjust and tighten the set screw on the dial.
	The potentiometer may have come loose from the mounting panel.	Calibrate and tighten the nut that holds the potentiometer in place.
Not all light tubes come on.	Light tube failure.	Replace faulty light tube.
	or Phase dropout.	Check main supply.
	or Breaker switch failure.	Replace faulty breaker switch.
	or Solid state relay failure.	Replace faulty solid state relay.

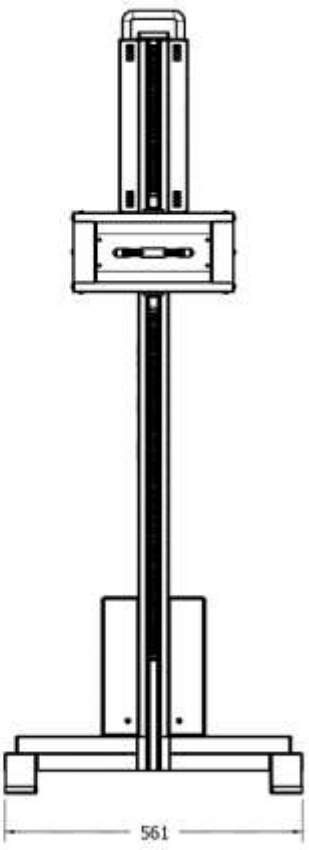
Technical data

Power input……..	230V
Frequency……	50Hz
High intensity UV bulb light….....	Metal halide lamp Ceramic base R7s
Lamp wattage……....	400W
Useful life (bulb light)……....	Approx 1000 hrs
Filter glass size……....	300x 140x 5mm
Reflector….....	Aluminium
Rating…….....	IP30
Ignition system……	Superimposed voltage
Protection class……....	I encapsulated
UV Lamp array.....……	299x 150x 109mm
Lamp dimensions……....	1465x 619x 561mm





Side View



Front View

UV Lamp Exploded View

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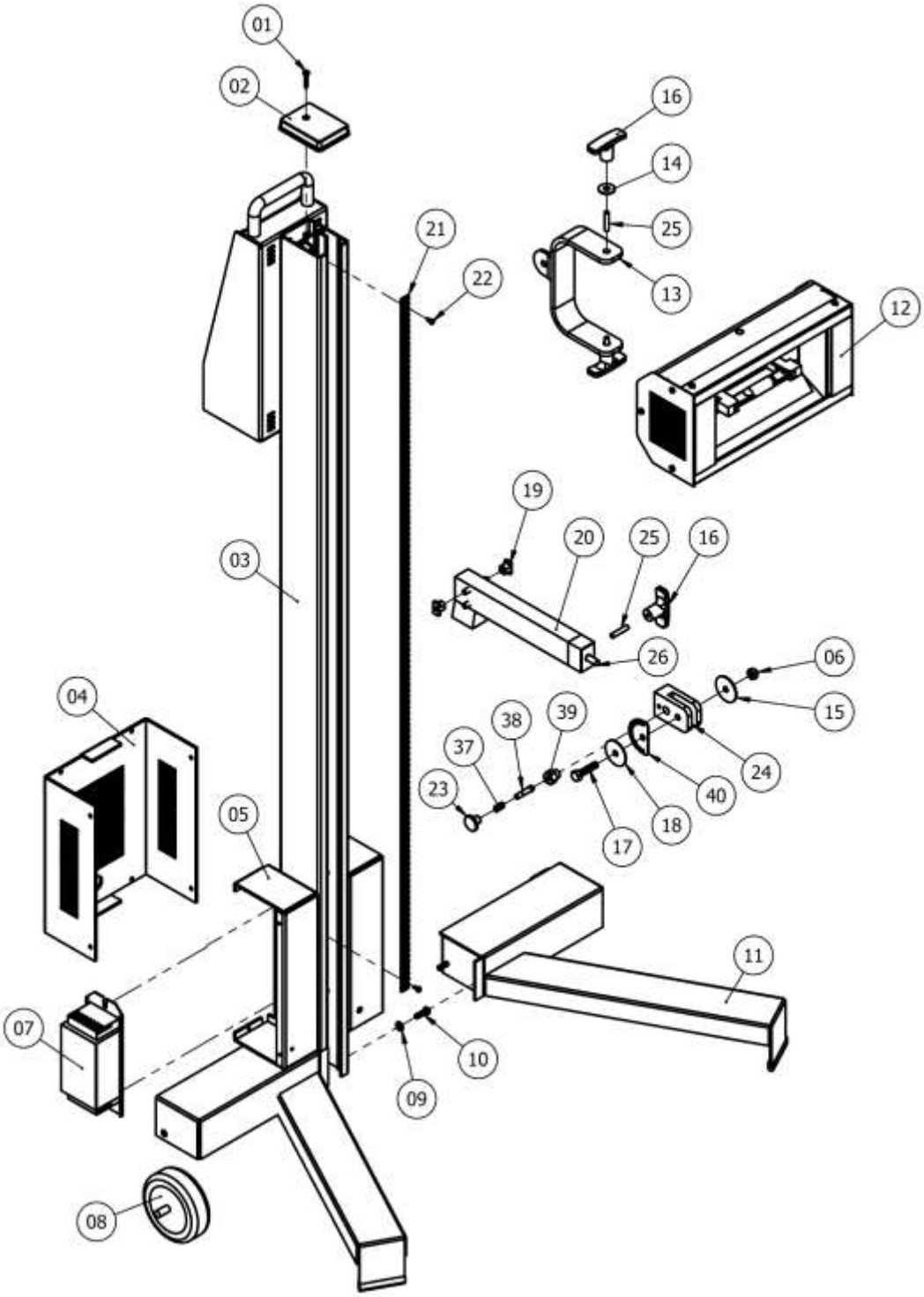

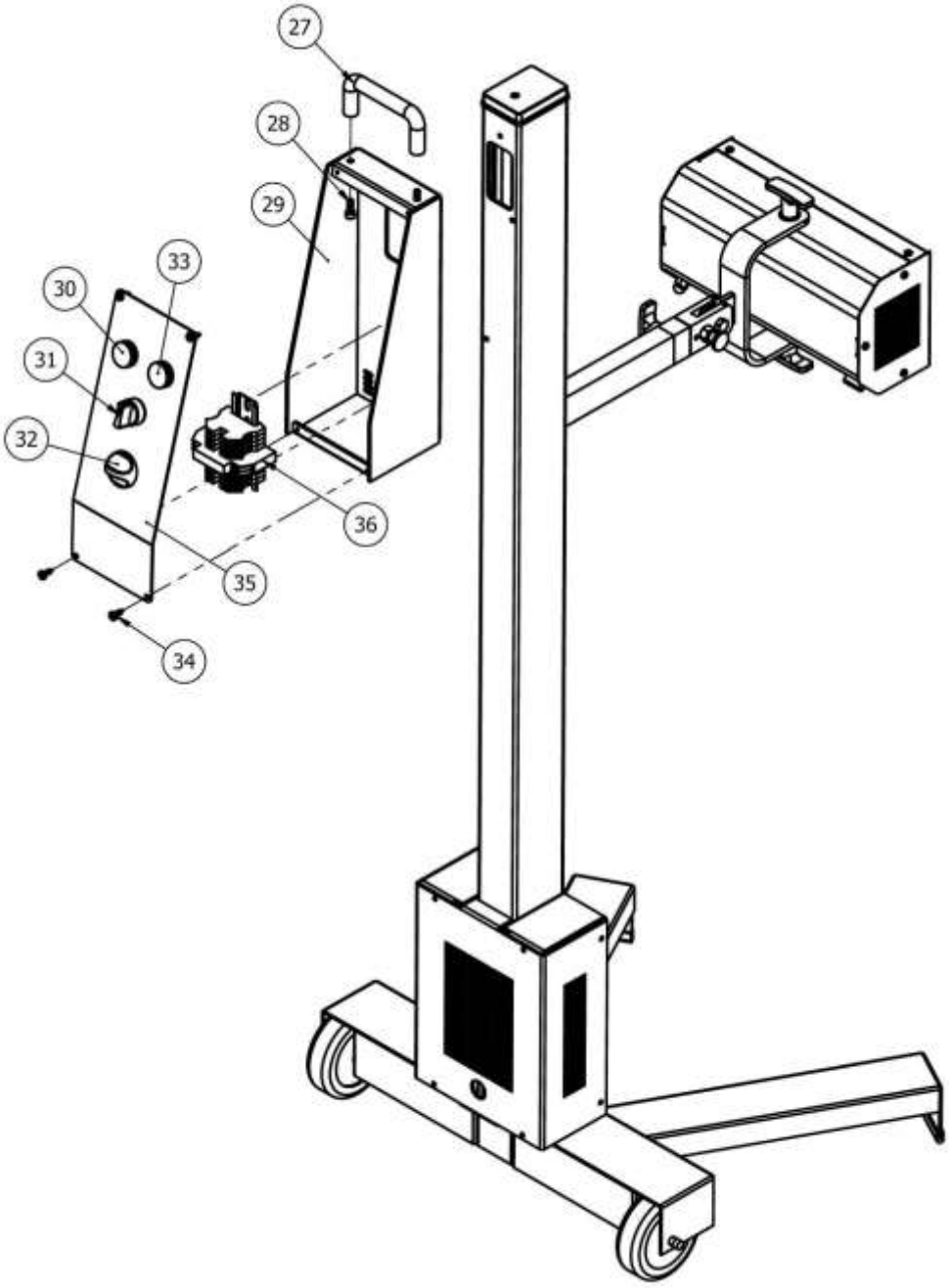
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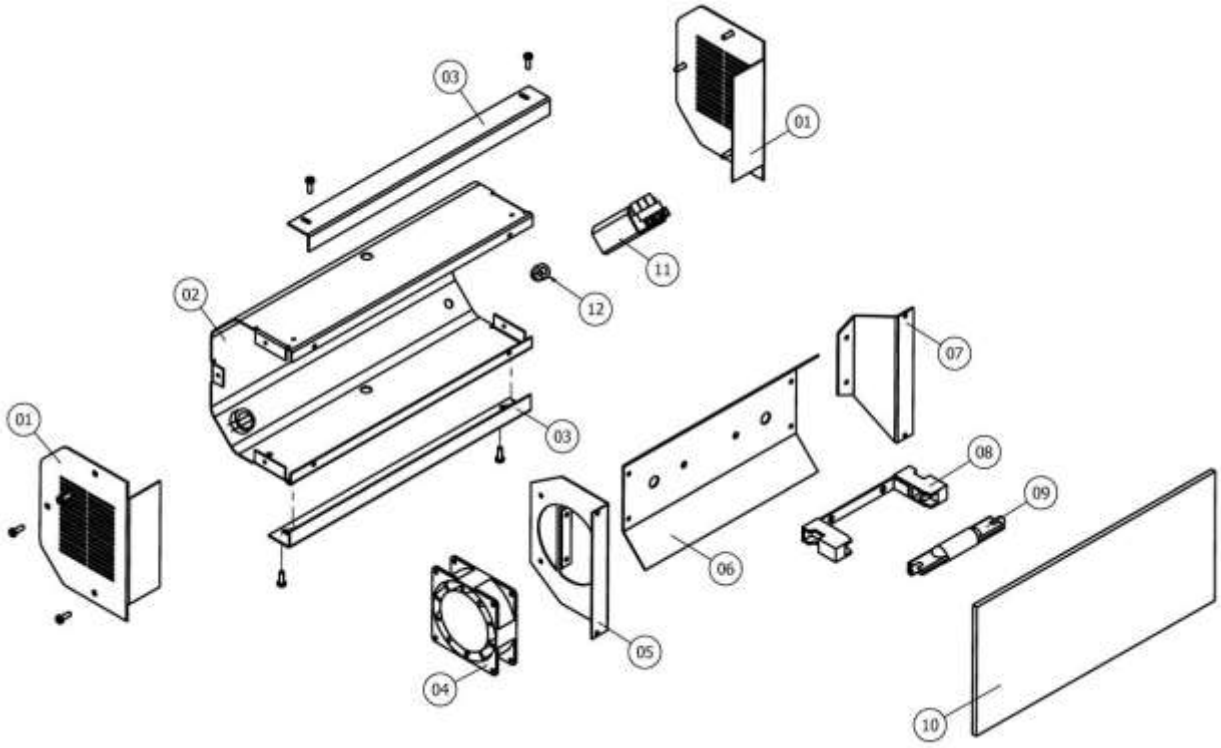
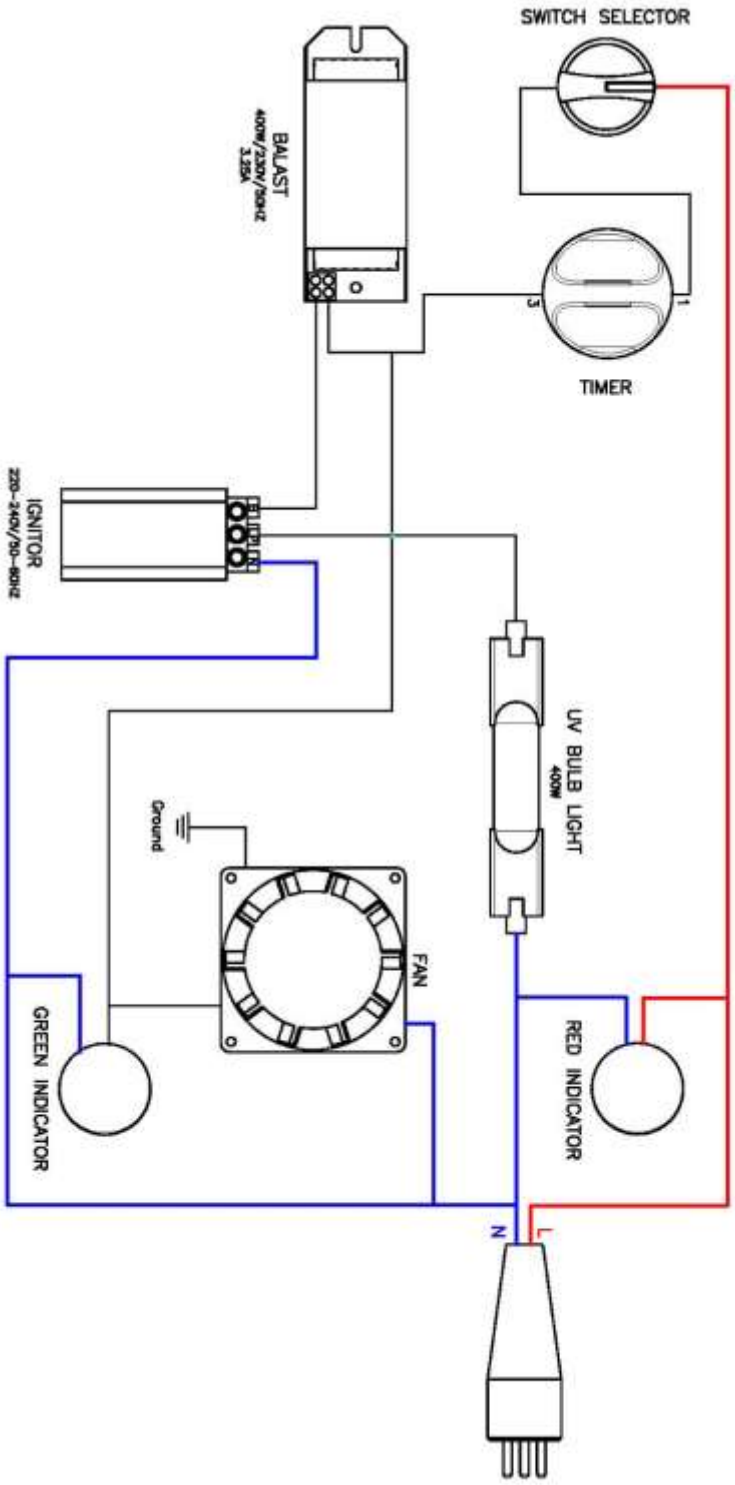
ITEM	NO. REFERENCE	DESCRIPTION	QTY
1	08.149.08.16	TAPPING SCREW 8 X 1 PHILLIPS PAN HEAD	1
2	09.125.05.60	COLUMN TOP COVER	1
3	12.100.08.30	COLUMN	1
4	12.100.08.08	BALLAST BOX COVER	1
5	12.100.08.07	BALLAST BOX LEFT & RIGHT	2
	12.100.08.13		
6	08.141.08.02	HEX NUT M8	1
7	17.114.00.44	BALLAST	1
8	21.167.00.15	RUBBER WHEEL 4"	2
9	08.142.01.09	LOCK WASHER ¼ ZINC	2
10	08.141.06.09	BUTTON HEAD CAP SCREW M6 X 20	2
11	12.100.01.88	LEFT BASE	1
	12.100.01.89	RIGHT BASE	1
12	12.100.08.79	HEAD ASSEMBLY	1
13	12.100.08.61	HEAD SUPPORT ASSEMBLY	1
14	09.125.04.73	PLASTIC FLAT WASHER 5/16 X 7/8	2
15	09.125.04.70	PHENOLIC WASHER	1
16	09.125.01.34	KNOB BLACK T	3
17	08.141.08.35	HEX BOLT M8 X 1.25 X 35 LONG	1
18	09.125.04.97	BLACK PLASTIC WASHER	1
19	09.125.04.50	PLASTIC GUIDE	2
20	12.100.08.60	SLIDING HEAD SUPPORT ASSEMBLY	1
21	09.125.05.58	TIMMING BELT	1
22	08.146.07.06	TAPPING SCREW 1/8 X 3/8 LONG	2
23	09.125.01.36	BUTTON 7/8 X 1/4NC	1
24	12.100.08.52	EXTENSION SUPPORT HEAD	1
25	08.141.06.33	STUD M6 X 30	3
26	12.100.08.78	PIN FOR ROTATIVE SYSTEM	1
27	09.125.01.41	HANDLE	1
28	08.141.06.17	ALLEN SOCKET HEAD CAP SCREW M6 X 16	2
29	12.100.08.05	CONTROL BOX	1
30	17.200.00.02	RED INDICATOR LIGHT	1
31	17.114.00.46	SELECTOR SWITCH	1
32	17.114.00.02	TIMER	1
33	17.200.00.00	GREEN INDICATOR LIGHT	1
34	08.149.08.06	ROUND HEAD SCREW PHILLIPS 4.8 X 16MM ZINC	4
35	12.100.08.09	BACK PANEL SPEC2400400	1
36	12.500.08.10	TERMINAL JUNCTION PACK ASSEMBLY	1
37	22.131.00.36	SPRING	1
38	12.100.08.39	PLUNGER	1
39	13.174.00.03B	PLUNGER NUT	1
40	12.100.08.31	LOCK SYSTEM DISC	1

Lamp Array Exploded View



ITEM	NO. REFERENCE	DESCRIPTION	QTY
01	12.100.08.02	END SIDE	2
02	12.100.08.03	LEFT HEAD	1
03	12.100.08.04	FILTER GLASS SUPPORTS	2
04	17.115.00.02	FAN	1
05	12.100.08.00	RIGHT REFLECTOR SUPPORT	1
06	12.100.08.10	REFLECTOR	1
07	12.100.08.01	LEFT REFLECTOR SUPPORT	1
08	17.114.00.40	BULB LIGHT SUPPORT	1
09	17.200.00.60	UV BULB LIGHT	1
10	16.178.00.12	FILTER GLASS	1
11	17.114.00.42	IGNITOR	1
12	08.141.08.04	DOM NUT M8	1

Electrical Diagram

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