RECOMMENED MAINTENANCE
NARROW WEB CORONA TREATER

Requirements

IMPORTANT!!! Please read this information BEFORE installing and operating the equipment.

Intended Users

This manual is to be made available to all persons who are required to install, configure or service equipment described herein, or any other associated operation.

The information given is intended to highlight safety issues, EMC considerations, and to enable the user to obtain maximum benefit from the equipment.

Applications

The equipment described is intended for industrial & commercial surface treatment of various poly and non poly substrates.

Personnel

Installation, operation and maintenance of the equipment should be carried out by competent personnel. A competent person is someone who is technically qualified and familiar with all safety information and established safety practices; with the installation process, operation and maintenance of this equipment; and with all the hazards involved.

Product warnings

DANGER
HIGH VOLTAGE
RISK OF ELECTRIC
SHOCK

CAUTION
REFER TO
DOCUMENTATION

DANGER
PINCH POINT
RISK OF CRUSHING

DANGER
MOVING MACHINERY
RISK OF CRUSHING

DANGER
ROTATING ROLLERS
RISK OF ENTANGLEMENT /
CRUSHING

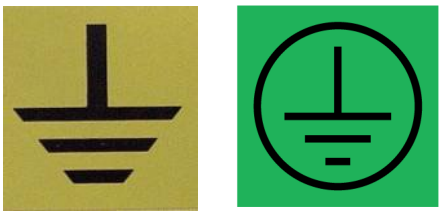
DANGER
HOT SURFACE
RISK OF BURNS

CAUTION
OZONE CONNECTION
PORT

Hazards

DANGER!!! Ignoring the following may result in injury or death.

- This equipment can endanger life by exposure to high voltages, heat and rotating machinery.
- This equipment generates an output at the radio-frequency level. Users who wear a pacemaker, or use other medical electronic devices which might be affected by radio-frequency waves, are advised to consult a physician before using this equipment.
- The equipment must be permanently earthed due to the high earth leakage current, and the treaters station must be connected to an appropriate safety earth. Earth connection points are shown with the following label.



- Ensure all incoming supplies are isolated before working on the equipment. Be aware that there may be more than one supply connection to the corona power supply.
- Allow at least 1 minute for the corona power supply's capacitors to discharge to safe voltage levels (less than 50V).
- For measurements use only a meter to IEC 61010 (CAT III or higher). Always begin using the highest range.CAT I and CAT II meters must not be used on this product.
- Guards, covers & doors must NOT be removed unless the corona power supply has been switched off and the incoming supply isolated.
- During the corona treatment process a high level of heat is produced at the electrodes which will be transferred to the base roller. Before attempting any maintenance wait at least 10 minutes after switching the machine off to allow electrodes and associated parts to cool down
- Ozone generated by the corona process must be removed from the treater station by a suitable extraction system manufactured from corosion resistant materials.
- Access Covers and doors that are regularly required to be opened for correct machine setup & cleaning are protected with a safety device which must be checked for correct operation / damage as shown as detailed in the maintenance part of this manual.

To ensure the trouble free operation of your corona treater some regular maintenance is required. This will extend component life and lead to less down time.

! Warning !

The voltages inside the corona treater can exceed 10,000 volts; the generator must therefore be switched off & isolated from the mains supply before any work is carried out on the corona treater or generator.

Ensure the web is removed from the corona treater station before carrying out any maintenance on the system.

Ceramic electrodes reach temperatures in excess of 150 ^{o}C during operation. Any work inside the treater station should only be carried out after the electrodes have had time to cool. The corona must be stopped and the extraction fan left running for approximately 10 minutes before the covers are removed.

CERAMIC ELECTRODES

The ceramic electrodes should be cleaned regularly to maintain system efficiency and to achieve maximum operational life. The following maintenance schedule is recommended.

MONTHLY	QUARTERLY
Remove covers and blow the head out with an airline to remove any debris/dirt. A stiff brush may be used to loosen any built up debris/dirt. Inspect for signs of arcing around the tube support blocks, tube mountings, insulating spacers & HT connections. Arcing should be removed using emery/sand paper. Check for moisture build up around the tube mountings & insulating spacers. Moisture should be removed using a light solvent. Ensure all components are dry before replacing covers. SEE DRAWING 001-2003 OVERLEAF FOR ELECTRODE DETAILS	Remove covers and electrode cradle. Disassemble electrode cradle and clean all components with a light solvent to remove any contamination & moisture. Remove any signs of arcing with emery/sand paper. Replace any damaged or burnt HT connections. Ensure all components are completely dry before reassembling back in to the corona treater. Reattach incoming HT connection. Reset air gap between electrodes and base roll to approximately 1.5mm. Ensure the gap is even along each electrode. Replace covers

COVERS & WINDOWS

Due to the high voltages and temperatures produced during the corona treatment process it is important to make sure all of the machine covers are correctly fitted so that the corona discharge is fully enclosed. A build up of contamination on the inside of the covers may also lead to contamination of the web if it was to come loose.

MONTHLY	6 MONTHLY
Check covers and windows are correctly fitted and all fixing screws are in place.	Remove covers and remove any build up debris using a stiff brush. Clean viewing windows and replace any that are damaged or missing.

ROLLS

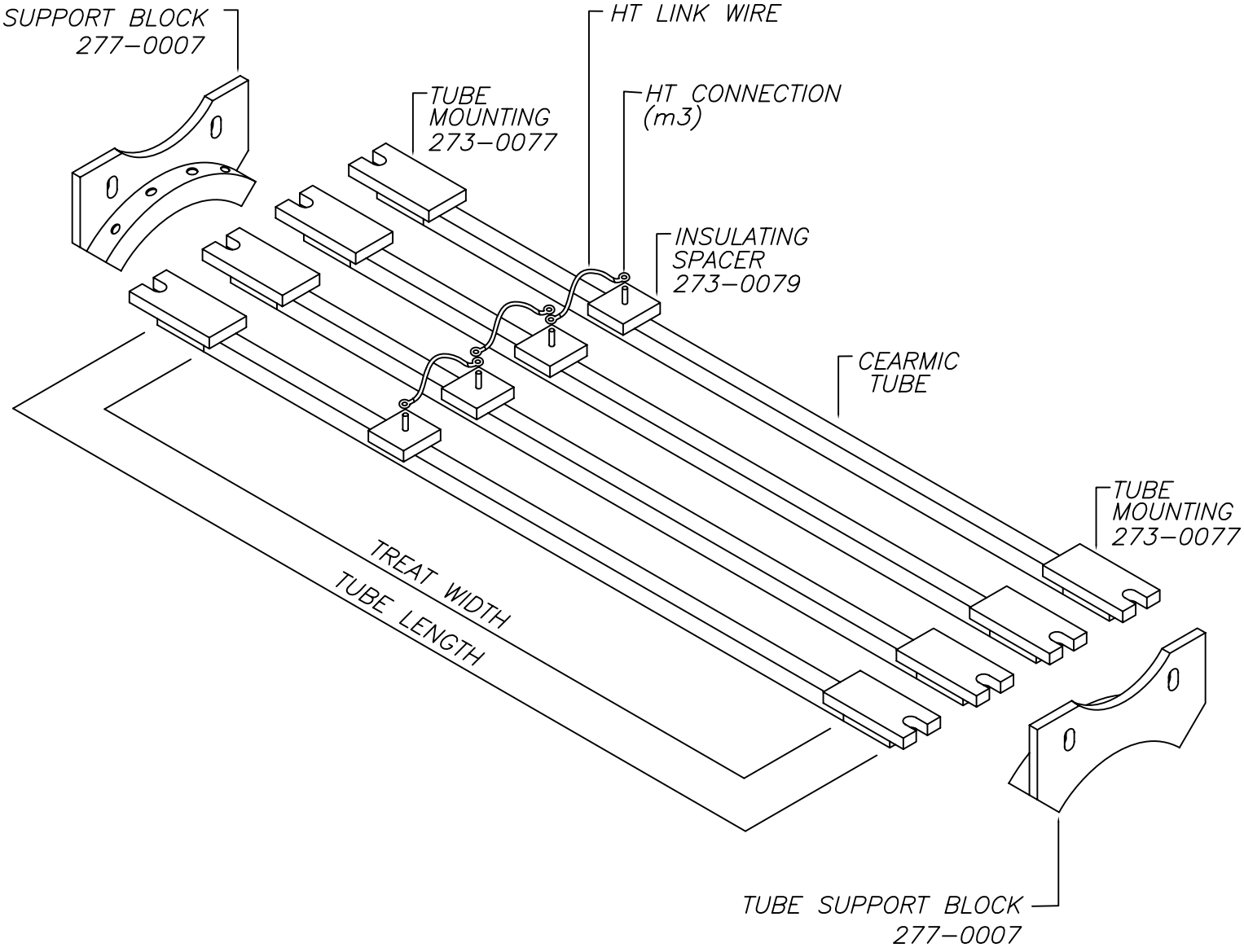
Very little maintenance is required of the rollers and bearings. After a period of time the roll surface will begin to oxidise especially on the parts of the roll outside the normal web path. As the corona produces a high level of ozone this is inevitable and should not affect the corona treatment process.

6 MONTHLY	YEARLY
Check rolls are rotating freely. If the rolls do not rotate freely check the air gap between the electrodes and roller to ensure the electrodes are not inhibiting the rolls rotation. Bearings should be checked and replaced if ceased.	Check rolls are rotating concentrically. If the rolls are moving laterally in any axis the bearings may need replacing. Remove any loose build up of oxidisation with a wire brush. If oxidisation begins to affect treatment the roll surface may need skimming or the roll replacing.

OZONE EXTRACTION SYSTEM

The ozone extraction system not only removes the ozone produced during the corona treatment process but also cools the electrodes during operation. It is important to keep the extraction system running efficiently to avoid over heating of the electrodes which will lead to premature failure and to eliminate the risk of ozone leaking back into the work area.

YEARLY
Check for blockages in the extraction ducting and fan impellor. Stray material can be easily sucked into the extraction system and fan, reducing the air flow. Check for leaks and damaged ductwork, especially in the ducting from the fan to atmosphere as this is under positive pressure. Ozone is heavier that air and will fall back to the ground from damaged or leaking duct work above head height.



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