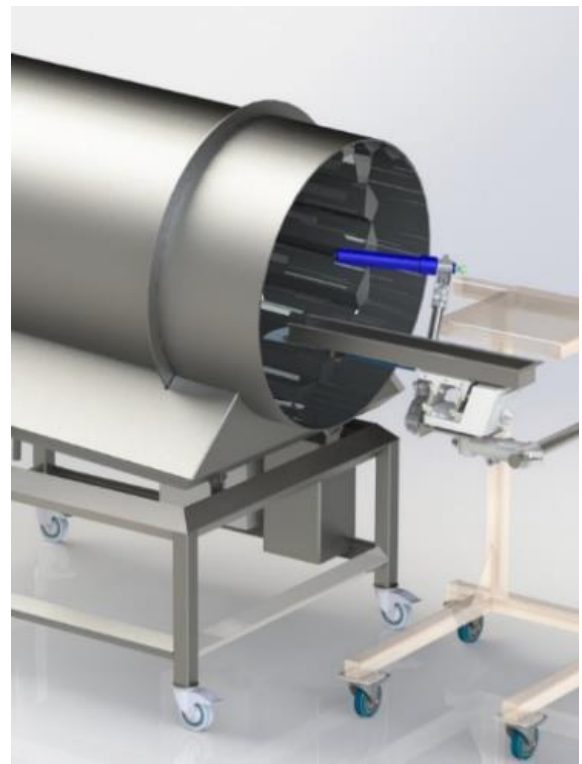
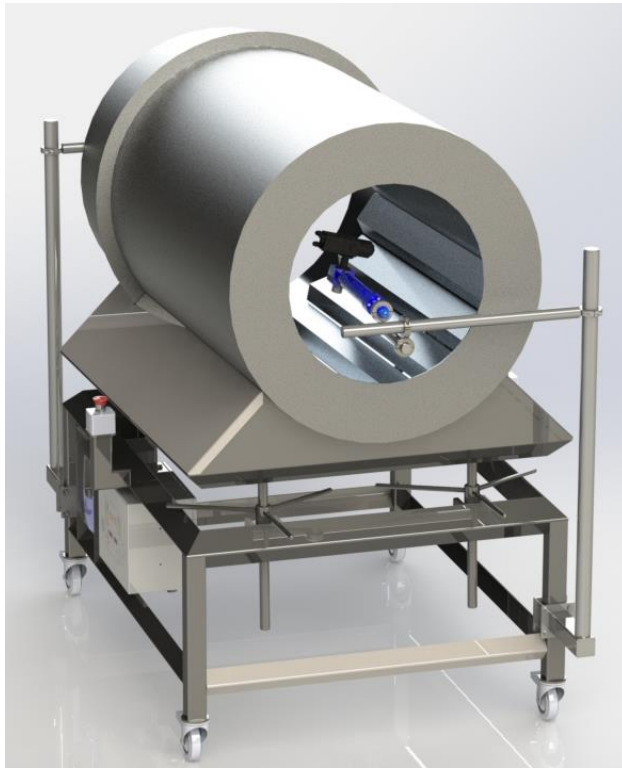




SAS 1DV/10- Electrostatic Oil & Powder Application INSTRUCTION MANUAL



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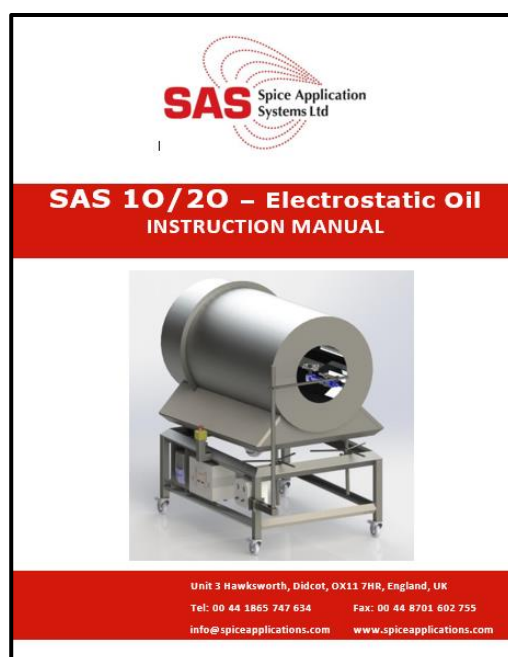
IMPORTANT NOTICE

This manual is only a basic overview of the SAS 1DV/10 Electrostatic Oil and Powder application system.

For Full and in depth information upon Installation, Cleaning, Service, Spare parts, Technical Specifications, etc. please refer to the respective SAS manuals :-



SAS 1DV Manual



SAS 10 Manual

To obtain the best performance and reliability from this equipment it is strongly recommended to read the instruction manual thoroughly before attempting to use the equipment.

WARNINGS OVERVIEW

All controls within the Control Box have been adjusted for optimum performance and safety during manufacturing.

The Electrostatic Generating heads and control box is sealed for IP 65.

Re-adjustments, alterations or substitutions of any component may result in a hazardous operating condition a failure and possible damage to the equipment as well as overriding the built-in safety features.

Any unauthorised modification will invalidate the warranty and could endanger the work force.

Under no circumstances are any alterations allowed to the electrostatic equipment without specific written instructions and consent from Spice Application Systems Ltd.

SAFETY GUIDELINES

-  The person in charge of the manufacturing work area should ensure that personnel are properly trained in the use of this equipment. The safety rules which follow should be fully understood and applied at all times.
-  Never point the spray unit at any person or animal.
-  Spraying certain products can be dangerous, depending on what is being sprayed so full protection for operators in the form of instructions supplied with that product must be adhered to at all times.
-  The normal safety rules and precautions for atomisation must be observed.
-  For more information, consult the local safety rules. In addition, the following precautions must be observed.

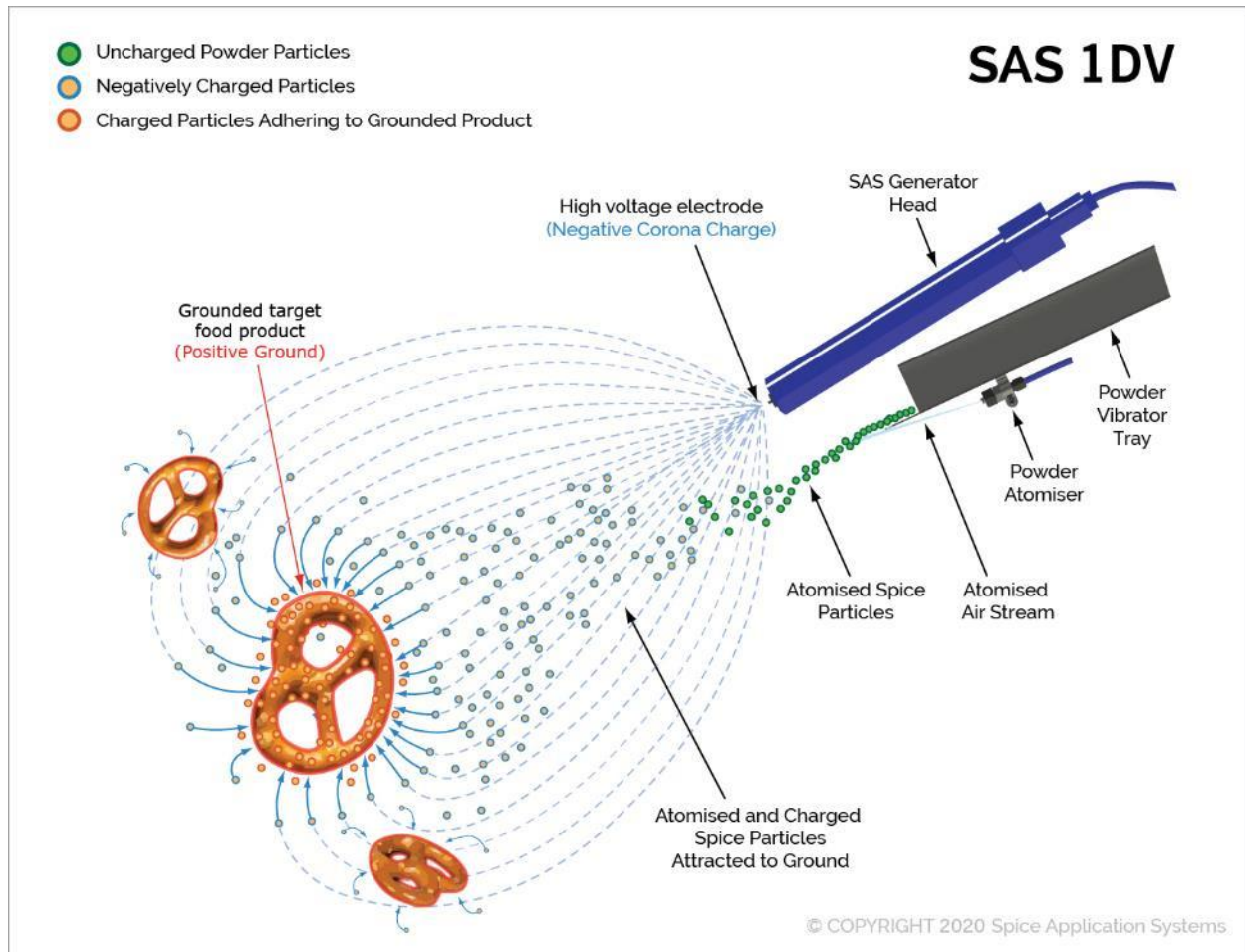
WARNING! Failure to observe the safety precautions contained within this manual could result in operational difficulties of the equipment and potential to create unsafe conditions.

ALL personnel who are associated with the coating operation should read and fully understand this manual. It is especially important that the operators and maintenance team of the electrostatic equipment and their supervisory personnel understand the requirements for safe and proper usage of the electrostatic process.

ELECTROSTATIC INTRODUCTION

What is Electrostatics

Electrostatics is an environmentally responsible way to apply coating materials, significantly increasing the quality of the finished product, while substantially decreasing powder/oil costs through more effective use of materials.



How does it work?

The aim is to eliminate wasteful over spray and put as much coating material on the target as possible. This is achieved by negatively charging atomized powder/oil particles so that they are attracted to the grounded work piece, opposites attract.

A charging electrode is located at the tip of the electrostatic generator head or atomizer. The powder/oil is atomized as it moves past the electrode, its particles become ionized - negatively charged. An electrostatic field is created between the charging electrode and the grounded work piece, the spray is concentrated within it.

The product to be coated (chips, tablets, etc.) is Grounded from contact within the rotating drum/wire belt flat chamber. When the coating material is released, it is attracted to the Grounded product. Due to the electrostatic attraction, coating material that would normally be lost ends up on the back and sides of the target product to produce a "wrap-around" effect.

ELECTROSTATIC INTRODUCTION

When to use electrostatics!

When you want to achieve maximum transfer efficiency and minimize coating waste and dusting/misting emissions, while achieving maximum application wrap around effect, high production and high flow rates.

The advantages!

Up to 98% coating of all products, with greatly improved coating over traditional methods, less powder usage, cut down of dusting, cleaner working area and cleaner drum, all resulting in less line contamination.

Increased transfer efficiency and reduced over spray, which results in significant cost savings and reduced dusting/misting emissions. We build our system with safety in mind, with flexible, lightweight low voltage cable going to the generating spray head.

Typical Electrostatic Applications

- Pharmaceuticals: coating tablets granule formation
- Horticulture: powder onto seeds
- Agriculture: powder/liquids on potato or cattle feed
- Meat: fresh poultry and processed meats-powder & liquid flavouring
- Fish: oils & powder
- Breakfast Cereals: vitamins & flavouring in powder/liquid form
- Snacks, crisps, nuts, extruded and pasta pellets: powder & liquid spices
- Confectionery: powder onto mints, chewing gum, etc.
- Pet food: powder & liquid enhancers onto kibbles, biscuits & chew bars
- Dairy: starch onto cheese
- Bakery: oil & powder coating onto cakes, burger buns, etc.

PRODUCT INTRODUCTION

Electrostatic Oil and Powder Application: SAS 1DV/10

This model is designed to apply both Liquid and dry spices by creating an electrostatic charge on the oil and powder as it leaves our patented vibratory tray design and is then atomised by the applicators, which is angled and pointing onto the products to be coated.



Fig 1

SAS Assembly Number – SAS 1DV/10-**XXX-Y**

	<u>Description</u>	<u>Assembly Number Ref.</u>
XXX	Powder Tray – 500mm long (Short)	500
	Powder Tray – 760mm long (Standard)	760
	Powder Tray – 1,000mm long (Long)	1000
Y	Powder Atomiser – Plastic tip c/w Plastic body	P
	Powder Atomiser – Plastic tip c/w St/St body	S

Example Assembly Number : **SAS 1DV/10-760-P**

Electrostatic Oil & Dry Application system (760mm/Plastic body)

PRODUCT INTRODUCTION

The SAS DRY VIBRATOR 1DV spray unit uses the principal of atomising the spice as it falls off the vibrator by spraying air and electrical charge onto the powder, it is able to obtain the ultimate wrap-around effect, onto grounded product.

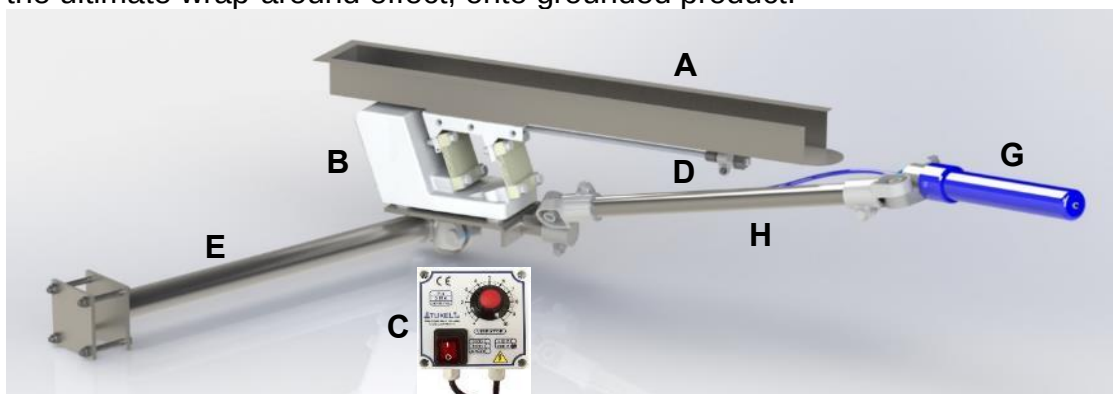


Fig 2

The SAS OIL APPLICATION 1O spray unit uses the principal of atomising the oil as it is atomised by spraying air and electrical charge onto the oil, it is able to obtain the ultimate wrap-around effect, onto grounded product.

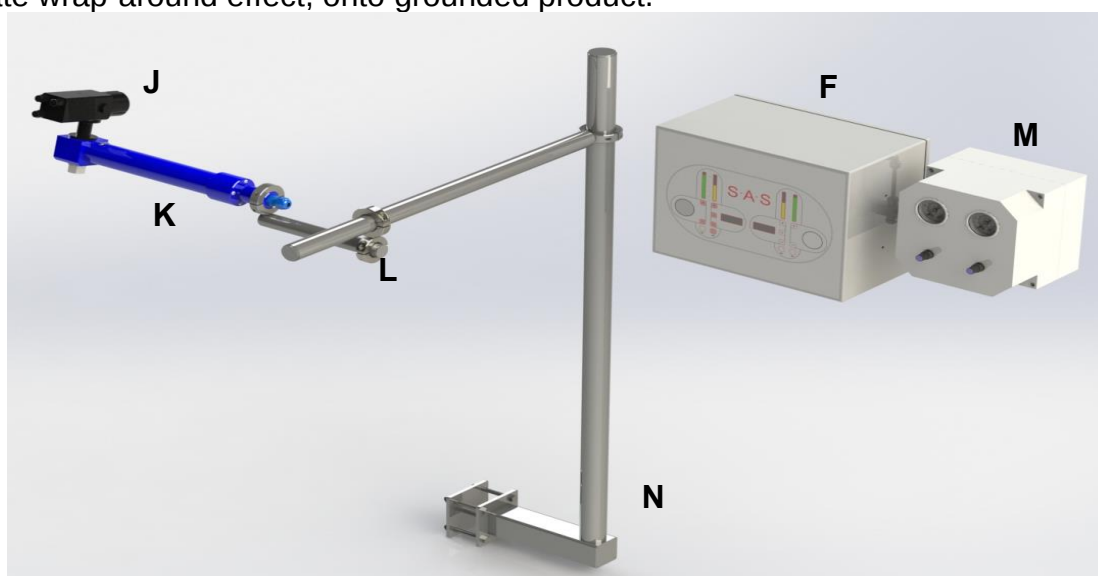


Fig 3

Pos.	Description	Assembly Number	Manual Reference
A	Powder Vibrator Tray Assy	DV 200-09X	See 1DV Manual
B	Vibrator Motor Assy	DV 200-09X	See 1DV Manual
C	Vibrator Controller Assy	DV 200-097	See 1DV Manual
D	Powder Atomiser Assy	DV 200-11XX	See 1DV Manual
E	Support for Vibrator Motor/Tray Assy	DV 200-173	See 1DV Manual
F	Electrostatic Controller Assy	CU 200-124	See 1DV & 1O Manual
G	Electrostatic Generator Head – Powder	GH 200-161	See 1DV Manual
H	Supports for Generator Head Assy	GH 200-159	See 1DV Manual
J	Electrostatic Oil Atomiser Head	OH 200-132R	See 1O Manual
K	Electrostatic Generator Head - Oil	OH 200-161	See 1O Manual
L	Support for Generator Head	GH 200-322	See 1O Manual
M	Pneumatic Control Box	PB 200-133	See 1O Manual
N	Frame Mounting Assembly	GH 200-320	See 1O Manual

INSTALLATION

1. The Electrostatic control unit must be located outside the flavouring drum in a Non-Hazardous area at a location which allows the operators to observe the material atomisation in front of the tumbling product.
2. To obtain the maximum electrostatic efficiency, the product to be coated must be able to fully tumble and roll in front of the atomiser spray pattern. If it does not do so, this may result in a poor quality finish to the product.
3. The appropriate distance between the atomiser and the product to be coated should be between 20 to 25cm (8" to 10")
4. All pneumatic hoses connected to the atomiser must be non-conductive. It is recommended to use Polyethylene and not Nylon hose.
5. Never use damaged hoses, cables or connections.
6. All compressed air connections must be fitted with a local isolator and pressure regulator, plus fitted with a suitable Filter to ensure a Clean and Dry air supply to the SAS equipment.
7. **All Equipment and metal parts (drum, pumps, containers, conveyors, etc.) in the application area including any other conductive articles within 3mtrs (10ft) - must be positively grounded.**

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SAS 1DV Manual



SAS 10 Manual

INSTALLATION

SCHEMATIC LAYOUT - 1DV/10

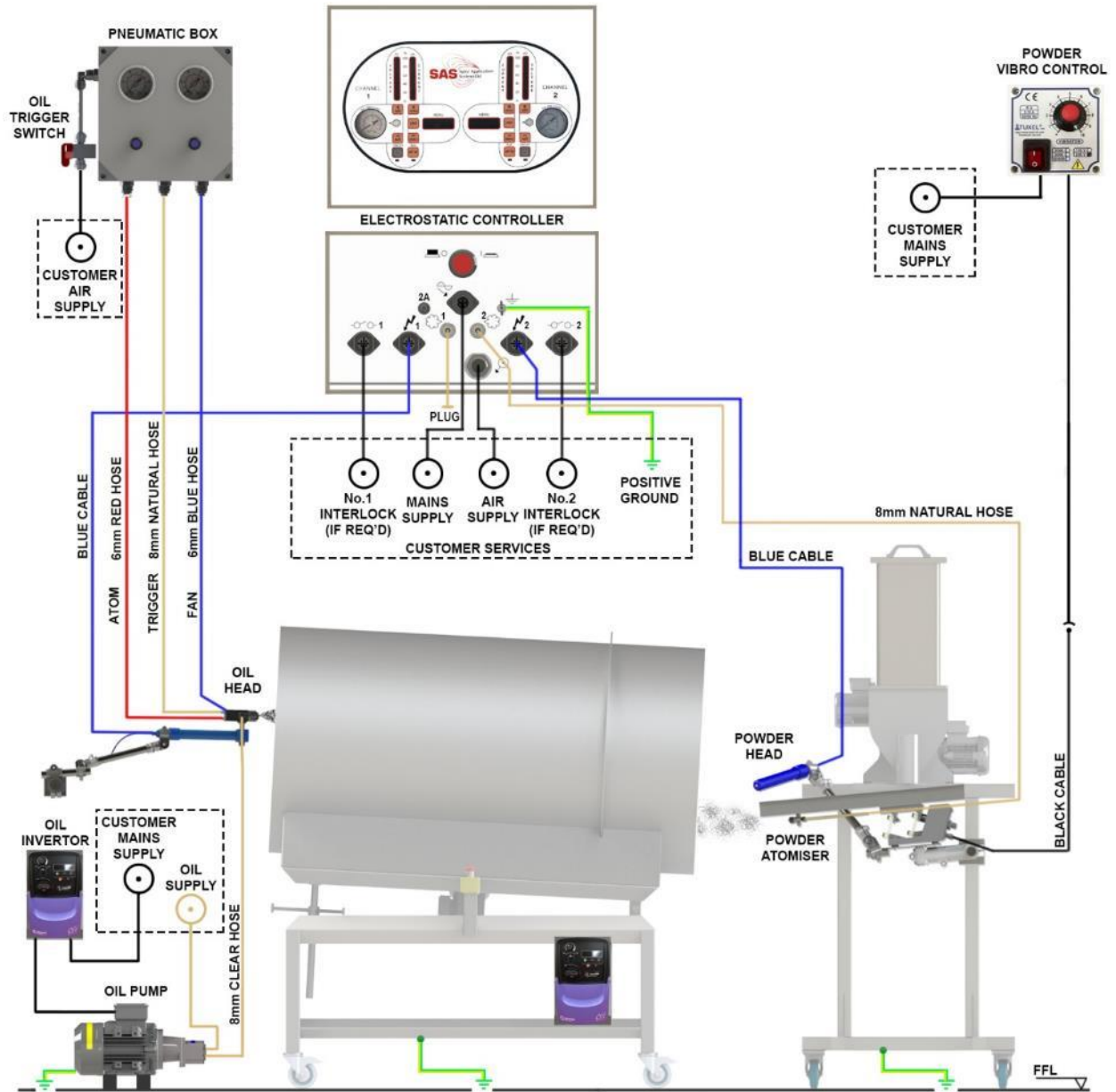


Fig 4

WARRANTY

Dear Customer,

Thank you for buying a SAS products and systems. Every care has been taken, from design to manufacture, to ensure that this product gives you complete satisfaction.

Spice Application Systems Ltd guarantees that all equipment manufactured by them will be free from defective workmanship or materials for a period of 12 months or 3000 working hours, from the date of delivery of the equipment, whichever comes first.

We will rectify any manufacturing or material defects by means of suitable repair or supplying a replacement part.

Always providing that:

- Any such defect(s) is reported in writing, within the 12-month period.
- All equipment is installed, operated and maintained in accordance with specific recommendations of Spice Application Systems Ltd and good industry practice.
- Spice Application Systems Ltd supplies all spare parts and consumable items.
- Consumable spares are inspected frequently and replaced as necessary. The life of these varies with the application and they are not guaranteed for any specific period.
- Maintenance spares are inspected and replaced if necessary every 12 months or 3000 operated hours, whichever is sooner.
- Any consequential loss, however caused is expressly excluded from this guarantee

Spice Application Systems Ltd will not be liable for any repairs or replacements (including labour costs) without our written approval.

Spice Application Systems Ltd gives no performance guarantees, unless specifically indicated in our proposal. The effects erosion, corrosion and general wear and tear are specifically excluded.

Spice Application Systems Ltd reserves the right to amend or change specifications, as part of their continuous development policy.

We make no other guarantee or representation whatsoever, expressed or implied.

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