

# **VAC316-3**

## Operating Manual

This manual is provided to persons purchasing an SPE machine and may not be reproduced in part or full without written permission of SPE International Ltd.

This manual provides the basic information required and is only to be used as a guideline.  
The SPE machines are manufactured and covered by SPE design registrations granted and pending.  
SPE International Ltd reserves the right to alter the equipment design and specification as required without notice.

The SPE product range is subject to amendment and improvement as a result of on going research



<p><b>VAC316-3</b> Operating Manual</p>
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## **316 VACUUM**

This manual covers to the best of our knowledge, the operation and maintenance of the SPE 316-3 vacuum. Before operation of the equipment the manual should be read and understood by the operator. The safety regulations must be followed at all times. Service of electrical components should be carried out by authorised personnel. Failure to follow these instructions could result in damage to the machine and/or serious personal injury or death.

### **WARNING**

Failure to follow these instructions may result in serious personal injury or death. SPE disclaims all responsibility for damage to persons or objects arising as a consequence of incorrect handling of the machine and failure to inspect the machine for damage or other faults that may influence the operation prior to starting work.



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## **STARTING WORK**

The 316 vacuum cleaner is designed to handle a wide range of cleaning and debris collection in industrial areas.

### **CAUTION**

This vacuum cleaner must not be used for the collection of health endangering, flammable or explosive materials. Nor must it be used or stored in wet conditions i.e. outside in the rain, swimming pools etc. The electrical supply should be isolated prior to carrying out any maintenance of the equipment.

### **ELECTRICAL CONNECTIONS**

Ensure the power supply is correct for the machine. The machine lead is fitted with a 32amp 5pin phase reversing plug.

Before use, check that the 3 phase power supply is phased to suit the machine. To do this, connect the machine to the power supply and start by pressing the green button on the panel. Check the rotation of the belt through the viewing window in the belt guard, which should be turning in an anti-clockwise direction. If not, the phases will need reversing in the plug. Stop the machine by pressing the red button on the panel and disconnect the plug from the power supply. To change the phases refer to page 3 for details.

There is also an auxiliary 32amp 5pin socket mounted on the machine to enable a suitable secondary machine to be operated from the same power supply.

### **HOSES AND ACCESSORIES**

The machine is supplied with hose, and various accessories can be supplied separately. Tools and hose fit together by using a twist and thrust movement. Joints are separated by a twist and pull movement.

Noise Emission: 81 dB (A) @ 1m



## GENERAL OPERATION

### FILTER CLEANING

1. The clear flow filters may be cleaned on the machine by switching the machine off, operating the filter shaker approximately 10 times and allowing the dust to settle.
2. The clear flow filters may be periodically removed for cleaning, if required, by blowing off the dust with compressed air or brushing/vacuum cleaning. This should be carried out as follows: -
  - (a) electrically isolate the machine prior to maintenance
  - (b) operate the shaker 10 times and allow dust to settle
  - (c) access to the clear flow filters is gained by removing the induction head which is held in position by two lower toggle clips.

### COLLECTION DRUM REMOVAL AND FITTING

To lower the drum, stand behind the cleaner and pull the catch upwards. This will allow the handle to rise and the drum, will descend to the ground. The drum can now be rolled away from the cleaner on its own castors.

To replace the drum push it back against the support pins and raise it by pulling the handle down until it engages under the catch.

### COLLECTION OPTIONS

#### WET PICK UP (can be used with swarf basket & stand)

The float valve assembly must be used when collecting liquids to prevent entry of liquids into the motor.

1. Do not leave the hose end immersed in the liquids being a collected. Ensure that air is entrained as well as liquid. (This helps prevent a whirlpool action of the liquid in the collection bin)
2. Frequently check that the float valve is clean and free to operate.

Part no: 546339900 wet option assy, 546338400 float assy

#### SWARF BASKET

Do not fill the swarf basket so full that it overflows or is too heavy to lift.

If the material being collected is very wet, or in liquid, a float valve assembly must be used.

Part no: 546340100 Swarf basket (inc stand)

#### PLASTIC BAG COLLECTION (Light materials collection only)

1. Remove the drum from the machine. Lift the spring plunger knob, on the inlet casting, upwards and insert the stub pipe. Ensure that the slot in the casting of the stub pipe in the 12 o'clock position and push in until it is inline with the spring plunger knob. Release the plunger knob to lock the stub pipe in position.
2. Fit the plastic bag into the collection bin and stretch the open end of the plastic bag over the top of the collection bin.
3. Push the plastic bag over the stub pipe so that the stub pipe penetrates the plastic bag. (It helps if a hole or cut is made in the bag first)
4. The collection bin with plastic bag may be fitted to the machine in the normal way.
5. When emptying, it may be easier, dependent on how full the bag is, to remove the stub pipe. Part no: 016724400 Plastic bag (500g), 536313800 Stub pipe



## MAINTENANCE

Always disconnect the machine from the power supply prior to carrying out any maintenance.

1. Check the mains lead, plug and auxiliary socket frequently for damage - do not pull the machine along by the mains lead.
2. Electrical safety checks should be carried out at least once a year or more frequently if used in an arduous environment.
3. Only use correct spare parts.
4. Empty the cleaner before it becomes too full, otherwise the pick-up effectiveness of the cleaner may be reduced.
5. Clean the filters frequently to maintain pick up effectiveness. This can be done by blowing-off with compressed air or brushing/vacuum cleaning but care must be taken not to damage the filter material.
6. The exhauster has pre-greased bearings which require little maintenance. The non drive end bearing is sealed and will need no maintenance. The drive end bearing should be inspected every six months for excessive play.
7. To fit or adjust the drive belt. Check the motor support, then lightly tension the belt using the motor support adjusters so that any sag is removed and ensuring that the ribs on the belt are a snug fit into the pulley grooves. Mark two lines on the belt carefully, rotating the drive slowly, until the distance between the two lines has increased by 1.0mm (ie 0.5% increase). Ensure the motor support adjusters are fully locked. Check the belt frequently in the first 24 hours of operation and re-adjust if necessary. If the belt will not run true, the pulley shafts are either twisted in relation to one another or not parallel to one another. Ensure that the driving and driven shafts are parallel and that the pulleys are aligned by using a straight edge and adjusting the motor position accordingly. Always ensure that the motor is secured in position when adjustments are completed.



## **INSTRUCTIONS TO FIT A HEPA FILTER TO VAC316-3 (OPTIONAL)**

1. Undo the clips securing the induction head, detach the hose and lift the head clear of the machine.
2. Undo the two bolts holding the top handle to the induction head and remove the bolts.
3. Fit a flat washer and M8 dome nut to each of the two lengths of M8 studding. Use these two studs to refit the top handle to the induction head, with the dome nut/washer to the top and the stud protruding inside the induction head.
4. Insert the Hepa filter inside the induction head and then fit the filter support by aligning the studding with the support fixing holes so as to protrude through.
5. Attach a flat washer and M8 nylon nut to the bottom of each studding and then tighten.
6. Re-fit the induction head to the machine, fasten the securing clips and reattach the hose.

## HEPA FILTER KIT (part no 546340000)

These 2 items not supplied as part of this option.  
 Already supplied with standard cleaner

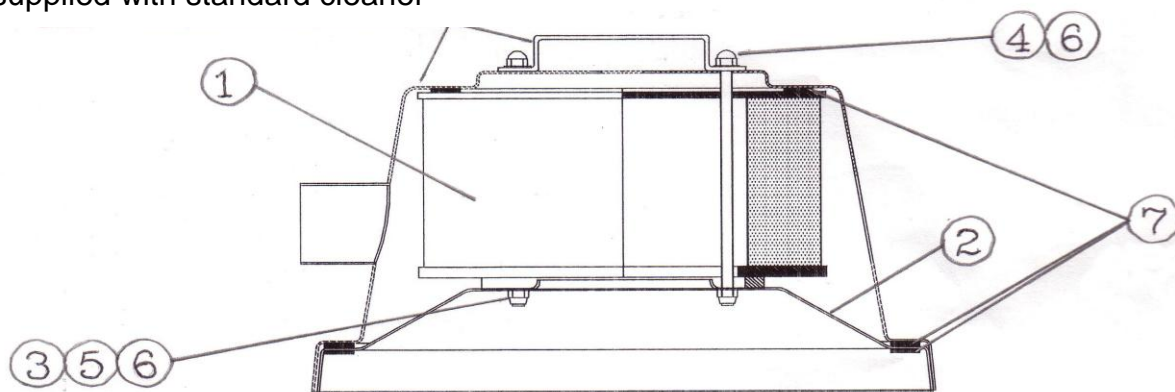


Fig No.	Part No.	Description	Qty
1	536305300	Hepa Filter	1
2	536331400	Filter Support	1
3	990993460	M8 Studding x 200mm	2
4	860801758	M8 Dome Nut	2
5	560800858	M8 Nyloc Nut	2
6	870800158	M8 Plain Washer	4
7	016718900	Seal	3.5mtr



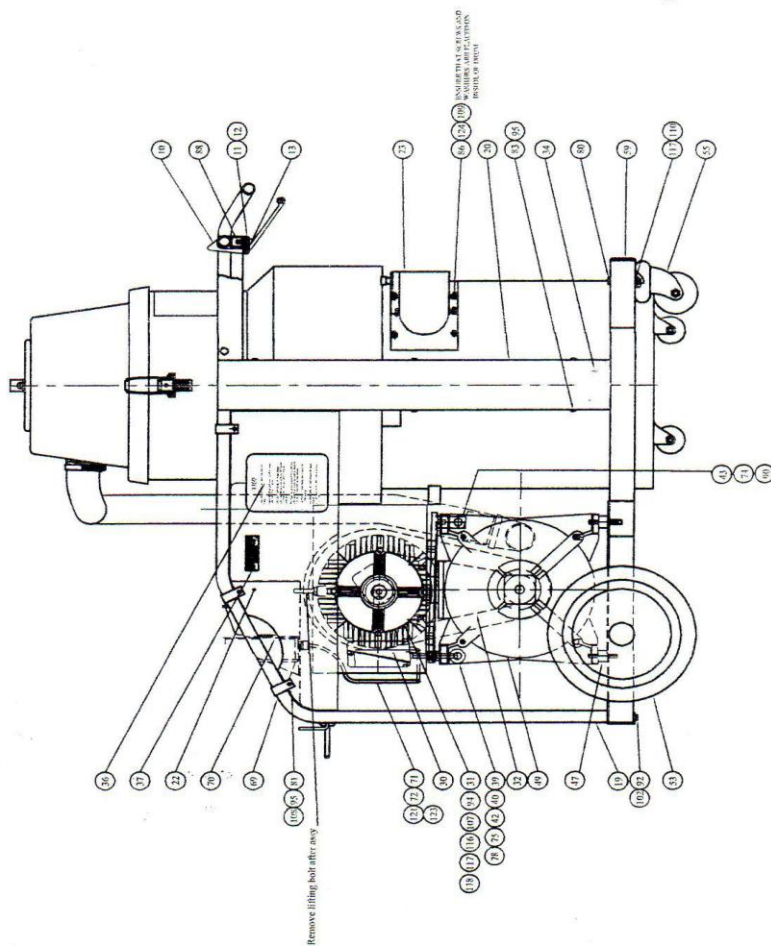
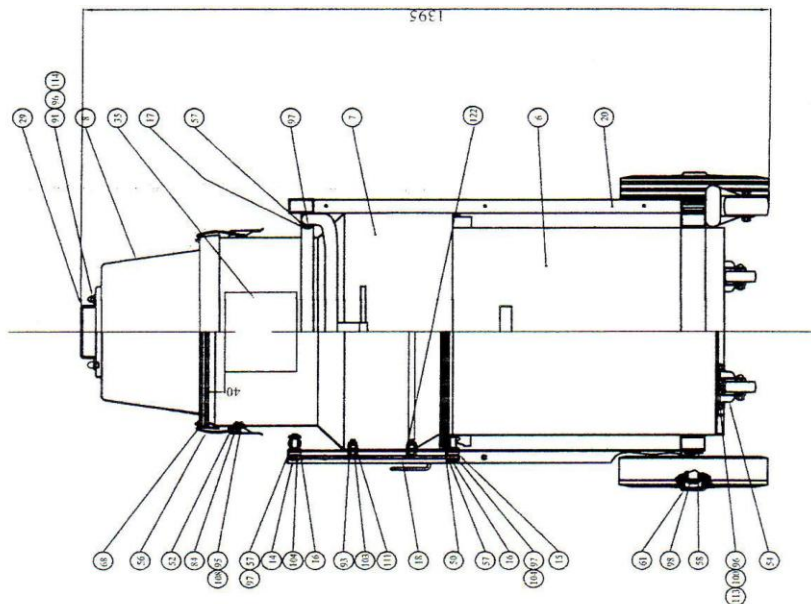
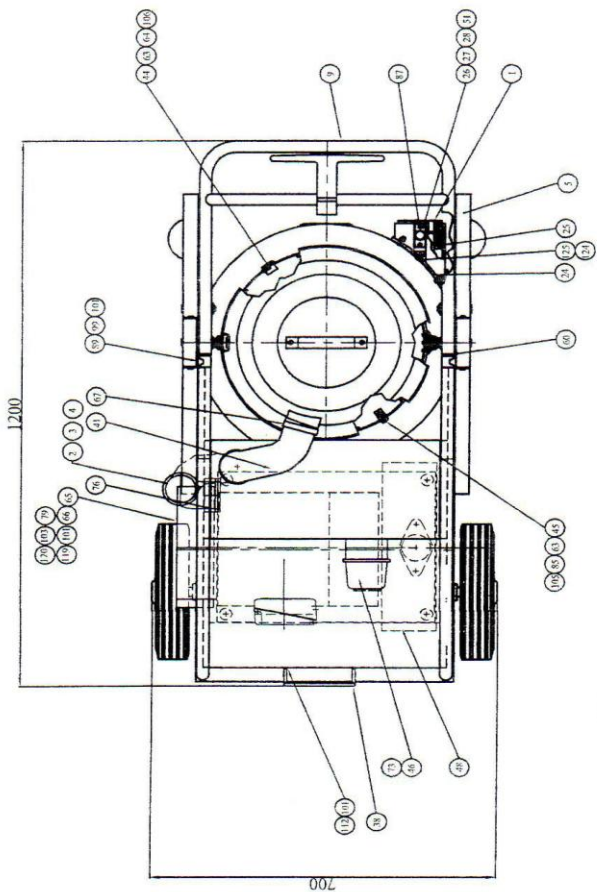


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# Spare Parts Breakdown



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## PARTS LISTING

Figure no	Part no.	Description	Qty
1	546337900	Inlet Assembly	1
2	530592200	Oval Flange	1
3	018602500	2" M & F Elbow	1
4	018619300	2" Barrel Nipple	1
5	536331102	Frame	1
6	546305401	Bottom Drum	1
7	546305501	Filter Housing	1
8	536331302	Induction Head	1
9	536313601	Tubular Handle	1
10	536314302	Latch	1
11	536315701	Hinge Block L/H	1
12	536315601	Hinge Block R/H	1
13	536316900	Pivot Pin (Latch)	1
14	536314200	Link Pin	2
15	536314000	Locked Pick-up Pin	2
16	536301900	Spacer	4
17	536314100	Pivot Pin	2
18	536301300	Linkage	2
19	536331602	Side Rail	2
20	536418102	Side Cover	2
22	536374502	Tool Tray	1
23	536266203	Inlet Casting	1
24	536268401	Inlet Seal	1
25	536275201	Coupling Seal	1
26	536268601	Plunger	1
27	536275501	Plunger Spring	1
28	536273901	Plunger Retaining Plate	1
29	536337202	Head Handle	1
30	815750400	4kw Motor	1
31	536044102	Motor Pulley	1
32	018713500	Drive Belt	1
38	536374600	Cable Holder	1
39	543531900	Adjusting Screw Assy	2
40	536138802	Motor Platform	1
41	536342100	Induction Head Hose	2mtr
42	536138501	Body Pin	2
43	536138601	Platform Hinge Pin	2
44	536330400	Machined Bush	1
45	536314600	Shaker Tube Locator	1
46	818901700	Starter	1
	019030500	Anti Vib Mounts	4
48	536290201	Silencer	1
49	556149806	Exhauster	1



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50	016724200	Drum Seal	1.5mtr
51	017516100	Plunger Knob	1
52	280001250	Toggle Clip	2
53	019307400	300 Dia Wheel	2
54	019306900	63mm Dia Castors (Bucket)	4
55	019307500	4" Castor	2
56	280001260	Hook	2
57	018107800	Circlip (E Type)	6
58	018106600	Circlip	2
59	016725000	Rectangular End Plug	4
60	016723800	Circular End Plug	2
61	016725100	Wheel Plug	2
63	016725500	Decorative Cap	1
64	018412300	Clevis Pin Clip	1
65	546061902	Belt guard- Back	1
66	546061803	Belt guard - Front	1
67	018400700	Hose Clip	2
68	016718900	Induction Head Seal	1
69	016726700	Tool Tray Clip	6
70	016726600	Rubber Guard	2
73	818900110	Overload	1
74	019100800	Grub Screw 1/4" BSW x 3/4"	2
75	019103058	Grub Screw 1/4" BSW x 3/8"	2
76	016727100	Panel Edging	0.7mtr
78	018107400	Circlip	4
79	533571400	Spacing Pillar	1
80	851066958	M10 x 80 Bolt	2
81	835084058	Screw M5 x 40	6
82	928103025	Screw Pan HD M3 x 12	4
83	835081058	Screw Pan HD M5 x 10	12
84	835081258	Screw Pan HD M5 x 12	12
85	835082058	Screw Pan HD M5 x 20	1
86	928104534	Screw Button HD M6 x 20	5
87	835021058	Screw CSK M5 x 10	2
88	835002058	Screw Cap HD M5 x 20	2
89	536062558	Screw Hex HD M6 x 25	2
90	841060858	Screw Hex HD M5 x 16	2
91	838061258	Bolt Hex HD M8 x 12	2
92	840863758	Bolt Hex HD M8 x 75	2
93	841061358	Bolt Hex HD M10 x 25	4
94	841062058	Screw M10 x 40	4
95	870500158	Plain Washer M5	24
96	870800158	Plain Washer M8	16
97	871200258	Plain Washer M12	10
98	872000258	Steel Washer M20	2
99	016727200	Dished Washer	2
100	870800458	Shakeproof Washer M8	16
101	870600458	Spring Washer M6	7



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102	990994118	Spring Washer M8	2
103	871000651	Spring Washer M10	13
104	870500551	Crinkle Washer M12	8
105	016725600	Unicap Washer	1
106	016725300	Nylon Washer	1
107	871000358	Lock Washer M10	10
108	860500858	Nylon Nut M5	12
109	860600858	Nylon Nut M6	5
110	861000158	Lock Nut M10	2
111	861000858	Nylon Nut M10	2
112	860600258	Nut M6	4
113	860800258	Nut M8	16
114	860801758	Domed Nut M8	2
116	861000258	Nut M10	4
117	871000158	Washer M10	10
118	815900100	Ring Terminal 2BA	3
119	013704958	Nut ¼" BSW	2
120	013707858	Nut ⅜" BSW	4
122	536408800	Machined Nut	1
124	928105567	Seloc Washer M6	6
125	928104532	Screw ButtonHD M6x12	1

Not Illustrated

Part no.	Description	Qty
7522	6mm Armoured Cable	5mtr
SP230PH	32a 5pin Phase Rev T/Plug	1
SP130	32a 5pin Surface Socket	1
SPCG/LNM25	Cable Gland	3
SP608-828	Gland Lock Nut	3

## FILTER ASSEMBLY

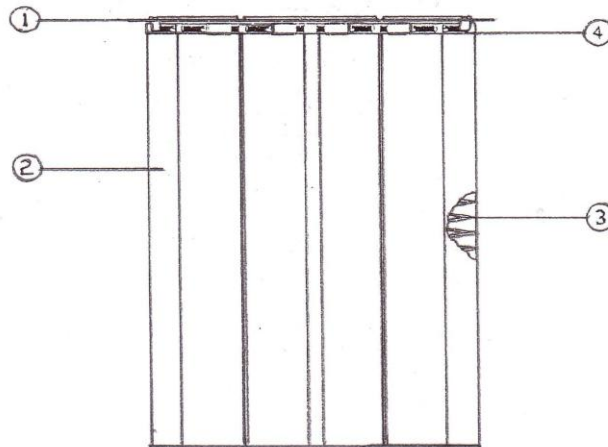


Figure no.	Part no.	Description	Qty
1	536306000	Spigot Plate	1
2	536215400	Filter Sleeve	16
3	546315400	Filter Spring	16
4	018400700	Jubilee Clip	16
Option	5363154TEF	Filter Sleeve (Teflon)	16

## SPECIFICATION SHEET


**Features:**

- Practical drop bins for easy disposal of debris
- Wheels fitted with a brake
- External filter shaker
- 16 Cartridge filters
- Larger rear wheels for easier movement
- Wet conversion kit available.

Type	316
Part Number	VAC316 -3 415v
Power	4kw
Max Vacuum	2900mm H2O
Max Airflow	5280 l/min
Filtering Surface	16600 cm <sup>2</sup>
Capacity	60L
Inlet	76mm
Dimensions	124x70cm
Height	139cm
Weight	160kg



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## WARRANTY

The standard warranty period of this equipment is **12 months** from the despatch date in accordance with the company Conditions of Sale (copy attached).

<i>Warranty start date:</i>	<b>As despatch date</b>
<i>Model:</i>	<b>VAC316</b>
<i>Serial no:</i>	
<i>Customer name:</i>	
<i>Customer Address:</i>	

<i>Manufacturer:</i>	<b>SPE International Ltd</b>
	<b>Honeyholes Lane</b>
	<b>Dunholme</b>
	<b>Lincoln</b>
	<b>LN2 3SU</b>
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<i>Telephone:</i>	<b>+44 (0) 1673 860709</b>
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<i>Email:</i>	<b>sales@spe-int.com</b>
<i>Web site:</i>	<b>www.spe-int.com</b>





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## DECLARATION OF CONFORMITY

WE  
**SPE INTERNATIONAL LTD**

OF  
Honeyholes Lane  
Dunholme  
Lincoln  
LN2 3SU

**DECLARE** that under our sole responsibility for the supply/manufacture of the product

(Description/name)           **VAC316 Vacuum**

(Model/type)                 **VAC316-3**

To which this declaration relates is in conformity with the following standards and other normative documents following the provisions of Directive 2006/42/EC.

A handwritten signature in black ink, appearing to read 'B. Jacklin'.

.....  
Brian Jacklin – Technical Manager  
SPE INTERNATIONAL LTD



## CONDITIONS OF SALE

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The quotation overleaf and any order placed following such quotation are subject to the following conditions of sale in which SPE International Limited is referred to as the "Company".

1. **Validity of quotation**  
No order received from a customer by the Company shall constitute a contract until accepted in writing by the Company.
2. **Prices**  
Prices quoted by the Company are firm for 30 days only or until previously withdrawn. Unless otherwise stated all prices are exclusive of any applicable Value Added Tax for which the customer shall be additionally liable to the Company.
3. **Delivery**  
Delivery periods and dates are given in good faith but are not the subject of any warranty or condition and time shall not be of the essence of the contract in these respects. No liability will attach to the Company if delivery periods or dates are not met for any reason whatsoever.
4. **Payment**  
Save as may otherwise be agreed in writing the customer shall pay the price in full on or before the estimated delivery date whereupon the Company shall raise a receipted invoice. Each invoice includes an Overdue Account Levy of 5% of the total invoice value inclusive of VAT. Subject to payment in full being made on or before the due date a sum equal to the Overdue Account Levy shall be credited to the customers account with the Company. Until such time as payment in full has been made the Company shall be under no obligation to allow or effect of any goods to the customer.
5. **Warranty**  
The Company warrants that all goods supplied by it will correspond to their specifications and will be free from defects in materials or workmanship for a period of 12 months from the date of delivery. The Company's obligation in the event of a breach of this warranty is limited to the repair or replacement of any defective goods which shall be returned at the cost and expense of the customer to the Company. This warranty is given in lieu of all the other warranty or conditions expressed or implied (whether by statute or otherwise) and is subject to the following conditions:-
  - 5.1 Claims must be notified in writing to the Company within seven days from the date of delivery or (where the defect is not apparent on reasonable inspection) as soon as practicable after discovery of the defect.
  - 5.2 The Company shall be under no liability in respect of any defect in the goods arising from any drawing, design or specification supplied by the customer.
  - 5.3 The Company shall be under no liability if the defect or failure in the reasonable opinion of the Company arises from wilful damage or misuse, negligence by the customer or any third party. Failure to follow the Company instructions, usage of non-recommended parts and materials, alteration or repair of the goods without the prior approval of the Company or non-recommended maintenance.
  - 5.4 The Company shall be under no liability if the price for the goods has not been paid by the due date for payment.
  - 5.5 The above warranty does not extend to:-
    - 5.5.1 Parts, materials or equipment not manufactured by the company in respect of which the customer shall be entitled only to the benefit of any such warranty or guarantee as is given by the manufacturer to the Company.
    - 5.5.2 Any component part of the goods or associated parts coming into contact with abrasive elements or dust within surface Preparation equipment.
    - 5.5.3 Fair wear and tear of moving parts within the goods.
  - 5.6 Except in the case of death or personal injury caused by the Company negligence, the Company shall not be liable for any consequential loss or damage (whether for loss of profit or otherwise) or other claims for consequential compensation.
6. **Carriage**  
Packing, carriage and insurance charges in respect of delivery of the goods to the customer will be charged to the customer at cost to the company.
7. **Damage in Transit**  
The company does not accept any liability for loss or damage to the goods while in transit to the customer.
8. **Risk**  
The risk in the goods shall pass to the customer on delivery to the customer or (if earlier) when possession of the goods is taken by a carrier for delivery to the customer.
9. **Force Majeure**  
The Company shall not be liable to the customer or be deemed to be in breach of any contract with the customer by reason of any delay in performing or any failure to perform any obligation of the Company obligation in relation to the goods if the delay or failure was due to force majeure or to any other cause beyond the Company's reasonable control.
10. **Reservation of Title**  
The goods sold under these conditions shall remain the absolute property of the Company and legal title in the goods shall remain vested in the Company until payment in full of all amounts invoiced or due to the Company in respect of the goods. If the customer shall enter into liquidation have a winding up order made against it or have a Liquidator, receiver, administrator or administrator receiver shall be appointed over its assets, income or any part there of before the property in the goods has passed in accordance with this condition the Company shall be entitled immediately after giving notice of its intention to repossess any goods to enter upon the premises of the customer with such transport as may be necessary and to repossess any goods to which it has title under this condition. No liquidator, receiver, administrator or administrative receiver of the customer shall have authority to sell goods to which the Company has title without the prior written consent of the Company.
11. **Insolvency of Customer**  
If the customer being a body corporate, shall pass a resolution or suffer an order of the Court to be made for winding – up, or if a Receiver, Administrator or Administrative Receiver shall be appointed or, being an individual or partnership, shall suspend payment, propose or enter into any composition or arrangement with his or their creditors, or have a bankruptcy order made against him or them, then the Company shall have the right, without prejudice to any other contract with the customer, not to proceed further with the contract and shall be entitled to charge for work already carried out ( whether completed or not) and for goods and materials already purchased for the customer such charge to be an immediate debt due from the customer.
12. **Patent Rights, etc**  
The acceptance of a quotation includes the recognition by the customer of the Company under any patents, trademarks, registered designs or other intellectual property rights relating to the goods and the customer undertakes that patent numbers, trademarks or other trade markings on goods supplied shall not be obliterated, altered or defaced.
13. **Applicable Law**  
These conditions shall be governed by and construed in accordance with English law and parties acknowledge and accept the exclusive jurisdiction of the English Courts.