

VAC316

Operating Manual

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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



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**VAC316**
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316 VACUUM

This manual covers to the best of our knowledge, the operation and maintenance of the SPE 316 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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OPERATING INSTRUCTIONS

The 316 vacuum cleaner is designed to handle a wide range of cleaning and debris collection in industrial areas. It is provided with individually switched motors to enable the operator to select the performance suitable for the task.

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.

PREPARATION FOR USE

Unpack and identify each item of equipment against packing note. Check that the details given on the rating plate are in accordance with your electricity supply.

ELECTRICAL CONNECTIONS

The wires in the mains lead of this cleaner are coloured in accordance with the following code.

BLUE	Neutral
BROWN	Live

As the colours of the wires in this mains lead may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire, which is coloured blue, must be connected to the terminal that is marked with the letter N or coloured black.

The wire, which is coloured brown, must be connected to the terminal that is marked with the letter L or coloured red.

If the 110v model is fitted with a 110v plug to BS196 a 30-amp fuse should be fitted. If the 110v model is fitted with a 110v plug to BS4343 then the supply should be provided with 32 amp protective device.

NOISE EMISSION 85 dB (A) @ 1m

FILTER CLEANING

1. The clear flow filter 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 filter may be periodically removed for cleaning if required by 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 filter is by removing the motor head and extension piece which is held in position by two lower toggle clips.



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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. Only use on or two motors for wet pick up.
2. Do not leave hose end immersed in 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)
3. Frequently check the float valve is clean and free to operate.

Part no: 54631770 float valve assembly

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: 536308700 Swarf basket

536308800 Stand

PLASTIC BAG COLLECTION (Light materials collection only)

Remove drum from machine. Remove top centre from inlet casting. Position the stub pipe inside the drum with the bracket in the 12 o'clock position. Push the stub pipe into the inlet casting and align the bracket to the fixing hole. Fit and tighten the thumbscrew.

1. Fit the plastic bag into the collection bin and stretch the open end of the plastic bag over the top of the collection bin.
2. 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)
3. The collection bin with plastic bag may be fitted to the machine in the normal way.
4. 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

546317800 Thumb screw

NORMAL USE

1. The motors on this vacuum cleaner have individual switches. It is recommended that these are set to the off positions when switching on at the mains and then switched on one at a time. This reduces high starting currents.
2. Collection drum removal and fitting - to lower the drum, stand the cleaner behind the cleaner, pushing the handle down slightly and push the catch backwards with the thumbs. The handle will 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 with "rear" label facing the machine and raise it by pulling the handle down until it engages under the catch.

HOSES AND ACCESSORIES

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



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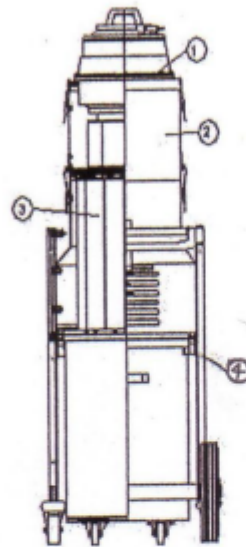
MAINTENANCE

1. Check the mains lead and plug 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 and the pick-up effectiveness of the cleaner is reduced.
5. Clean the filters frequently to maintain pick up effectiveness. This can be done by blowing-off with compressed air but care must be taken not to damage the filter material.



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**TO FIT HEPA FILTER TO VAC316 RETAINING
STANDARD CLEARFLOW FILTER**



1. Head with HEPA	546317501
2. Extension (297)	546317400
3. Clear Flow Filter	546317200
4. Base assy, shaker & bin	556314402

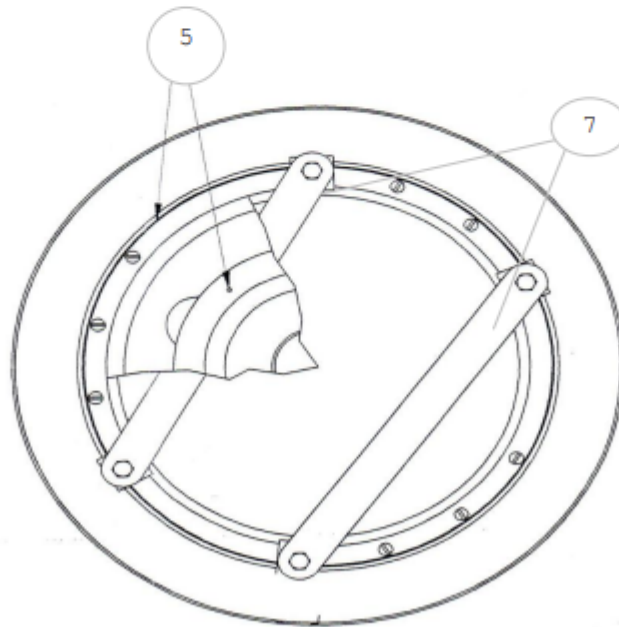
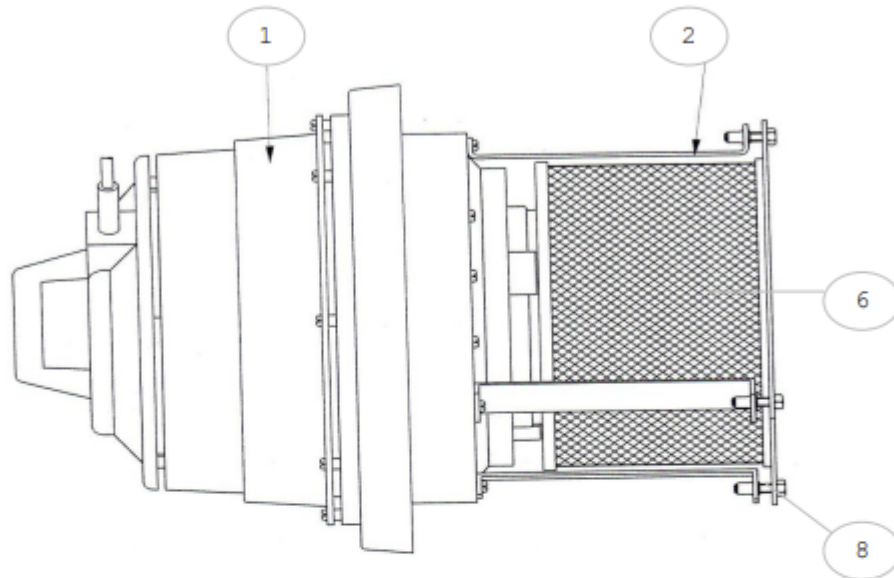
Filter Cleaning

- 1 The Clear Flow filter 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 filter may be periodically removed for cleaning if required by brushing/vacuum cleaning. This should be carried out as follows:-
 - a) Electrically isolate the machine prior to maintenance.
 - b) Operate shaker 10 times and allow dust to settle.
 - c) Access to the Clear Flow filter is by removing the motor head and extension piece, which is held in position by 2 toggle clips.
- 3 No maintenance can be carried out on the HEPA filter other than replacement
- 4 If replacing the HEPA filter ensure the supports are fitted as shown in the diagram above.

1. Undo clips securing motor head (item 1) and remove.
2. Undo clips recurring standard extension piece, remove and replace with new deeper extension piece (item 2)
3. Invert motor head and remove four central screws (item 5) and plastic spaces from motor base plate and discard.
4. Place HEPA filter element (item 6) over centre hole in motor base plate.
5. Remove four outer screws from base plate, as illustrated, place securing straps (item 7) across filter and fix to base plate with original screws. Ensure the feet of both straps face outwards Caution do not squash filter element by over tightening strap screws (item 8).



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Spare Parts Breakdown



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PARTS LISTING

Figure no	Part Number	Description	Qty
1	546313401	VAC316 frame	1
2	536313601	VAC316 handle	1
3	546305401	VAC316 bottom drum	1
4	546305501	VAC316 filter housing	1
5	536314302	VAC316 latch	1
6	536315701	VAC316 latch support LH	1
7	536315601	VAC316 latch support RH	1
8	536316900	VAC316 latch hinge pin	1
9	536314200	VAC316 link pin	2
10	536314000	VAC316 pick up pin	2
11	536301900	VAC316 spacer	4
12	536314100	VAC316 pivot pin	2
13	536301300	VAC316 linkage	2
14	536266203	VAC316 inlet casting	1
15	536275201	VAC316 coupling seal	1
16	536270001	VAC316 adaptor	1
17	536268601	VAC316 plunger	1
18	017516100	VAC316 plunger knob	1
19	536275501	VAC316 plunger spring	1
20	536273901	VAC316 plunger retaining plate	1
21	280001250	VAC316 toggle clips	2
22	019307400	VAC316 300 dia wheel	2
23	019306900	VAC316 63MM dia castors (bucket)	4
24	019307300	VAC316 4" castor	2
28	536268401	VAC316 inlet gasket	1
30	536313503	VAC316 cover	1
31	835081058	VAC316 M5 X 10 pan hd screws	12
32	835021058	VAC316 M5 X 10 csk screw	2
33	835081258	VAC316 M5 X 12 lg screws pan head	
34	870500158	VAC316 M5 washers	18
35	860500858	VAC316 M5 nyloc nut	6
36	835002058	VAC316 M5 X 20 cap head screw	2
37	871000651	VAC316 M10 lock washer	6
38	861000858	VAC316 M10 nyloc nuts	4
39	841061358	VAC316 M10 X 25 lg bolts	4
40	871200258	VAC316 M12 washer	10
41	870500551	VAC316 M12 crinkle washer	6
42	836081658	VAC316 M6 X 16 pan head screw	5
43	870600158	VAC316 M6 washer	6
44	860600858	VAC316 M6 nyloc nut	5
45	836061258	VAC316 M8 X 12 hex hd screw	1
46	536313504	VAC316 cover	1
47	280001260	VAC316 hook	2



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48	870800458	VAC316 M8 shakeproof washers	16
49	851066958	VAC316 M10 X 80 bolt	2
50	870800158	VAC316 M8 washer	18
51	861000158	VAC316 M10 locknut	2
52	860800258	VAC316 M8 full nut	16
53	018107800	VAC316 E type circlip	6
54	872000158	VAC316 washer	2
55	018106600	VAC316 circlip	2
56	016725000	VAC316 rectangular end plug	4
57	016723800	VAC316 circular end plug	2
58	016725100	VAC316 wheel plug	2
59	013007000	VAC316 grease	A/R
60	016724200	VAC316 drum seal DX 71	1.5MT
61	835082058	VAC316 M5 X 20 pan head screw	1
62	016725500	VAC316 decorative cap	1
63	016725600	VAC316 unicap washer	1
65	016725400	VAC316 bush	1
66	018412300	VAC316 clevis pin clip	1
67	016725300	VAC316 nylon washer	1
68	536314600	VAC316 shaker tube locator	1
69	536314500	VAC316 shaker handle spacer	1
70	536314701	VAC316 shaker tube	1
71	536314800	VAC316 beater	1
72	536317900	VAC316 M8 studding	1
73	860800258	VAC316 M8 nut	2
74	016725700	VAC316 moss end plug	1
75	017516000	VAC316 phenolic handle	1
76	016725200	VAC316 cable wrap 13o/d	0.5m
77	016114400	VAC316 box shaped covers 1600SX750X600 250 guage	
78	860800858	VAC316 M8 nyloc	2

DRAWING 2:

1	536307402	VAC316 extension piece 200MM	1
2	280001250	VAC316 toggle clips	2
3	280001260	VAC316 hook	2
4	012004100	VAC316 catch	2
5	835081258	VAC316 M5 X 12 lg pan hd screws	10
6	870500158	VAC316 M5 washers	10
7	860500858	VAC316 M5 nyloc nuts	10
8	016724200	VAC316 drum seal DX71	1.5m



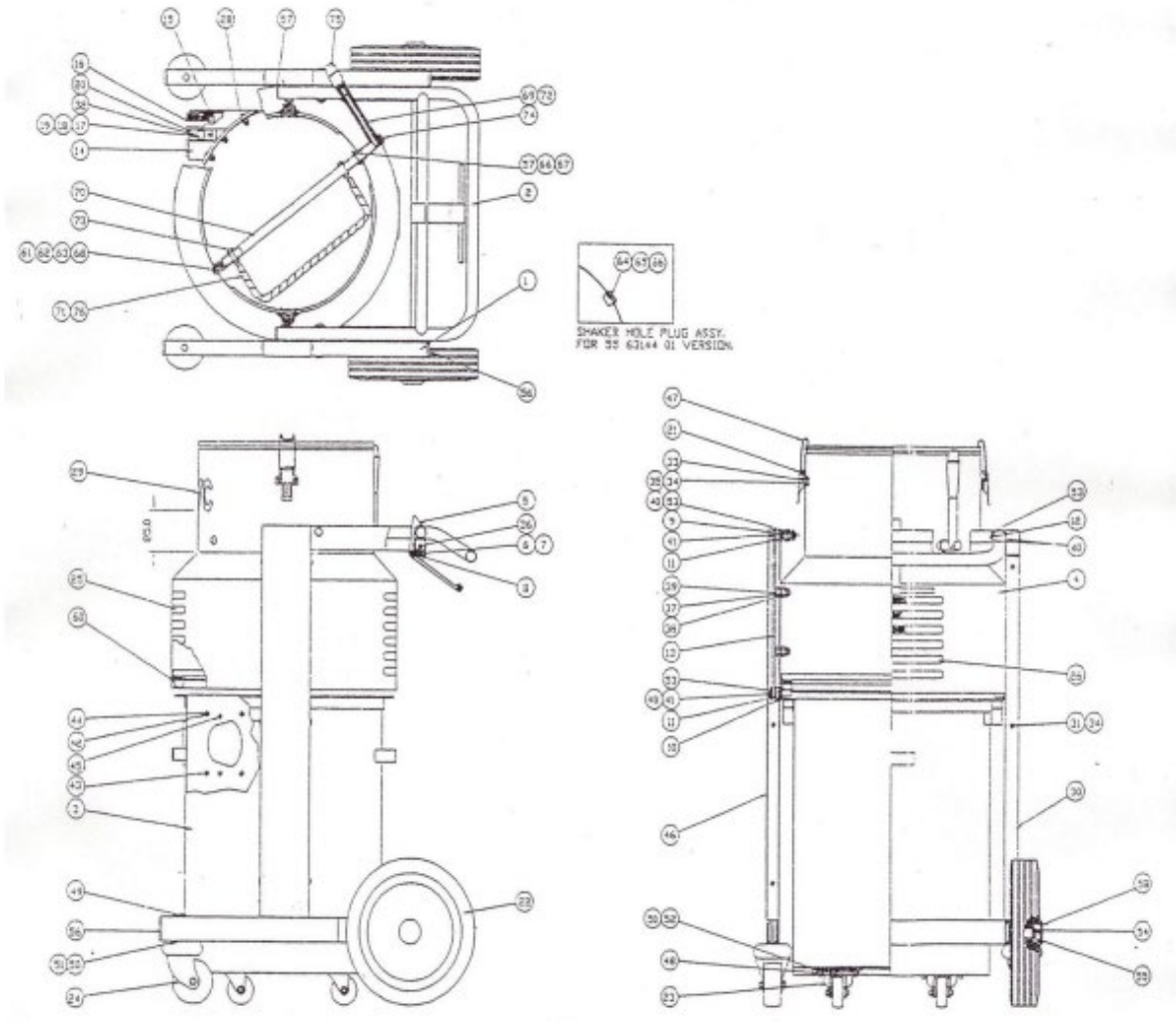
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Figure no	Part Number	Description	Qty
<u>DRAWING 3:</u>			
1	536306000	VAC316 spigot plate	1
2	536315400	VAC316 filter sleeve	16
3	546312400	VAC316 spring	16
4	018400700	VAC316 jubilee clip	16
NOT ILLUSTRATED:			
	536255901	VAC316 hose/machine coupling	1
<u>DRAWING 4:</u>			
1	280010060	VAC316 Screw 5 x 20	24
2	280004600	VAC316 Top cover	1
3	280029920	VAC316 Handle	1
4	280001390	VAC316 Cable clamp	1
5	280001380	VAC316 Grommet	1
6	280040620	VAC316 Cable 2 x 1.5 mm	1
7	280010050	VAC316 Screw 5 x 14	2
9	280010050	VAC316 Screw 5 x 35	8
10	280004900	VAC316 Terminal block	1
11	280010500	VAC316 Screw 5 x 35	8
12	280004860	VAC316 Cover	1
13	280004840	Illuminated switch splash proof	3
14	280010260	VAC316 Screw 5 x 30	1
15	280010980	VAC316 Screw 5 x 15	1
17	280004640	VAC316 Motor clamp plate	1
18	280039690	VAC316 Gasket	3
19	280003100	VAC316 Motor ring plastic	3
20	280038010	VAC316 Motor ring	3
21A	280038911	VAC316 1000w motor 220-240v	3
21B	280025131	VAC316 1000w motor 110v	3
22	280039010	VAC316 Motor ring	3
23	280034540	VAC316 Acoustic foam	3
24	280034560	VAC316 Guard seal	3
25	280004580	VAC316 Non return valve	3
26	280004880	VAC316 Motor base	1
60	280038580	VAC316 Condenser	1
NOT ILLUSTRATED:			
	6624	VAC316 seal kit	1



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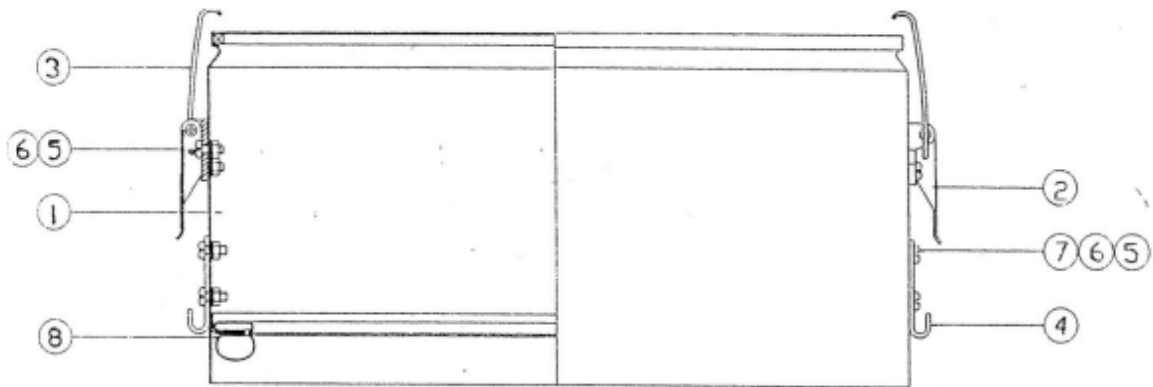
Drawing 1:



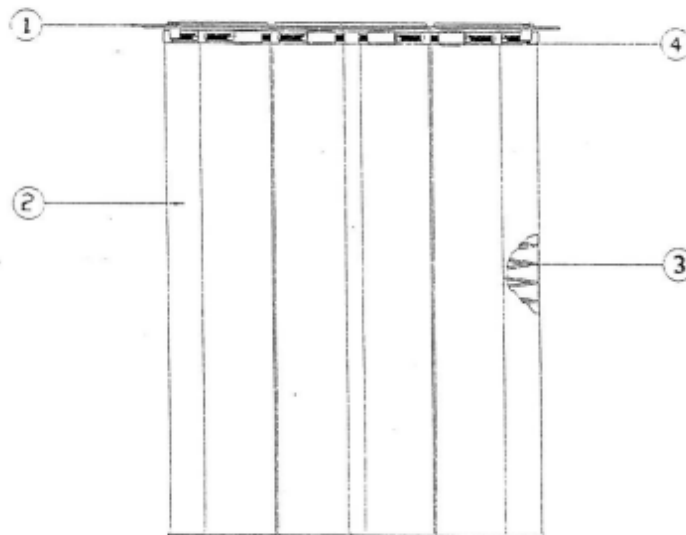


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Drawing 2:



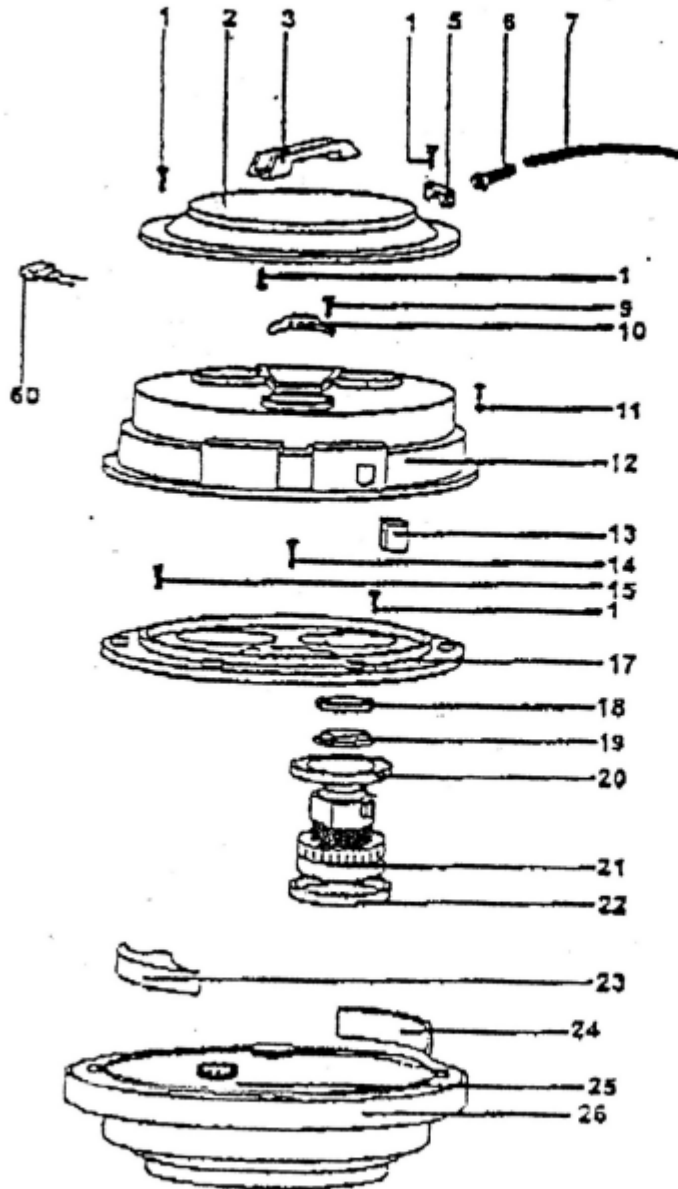
Drawing 3:





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Drawing 4:





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SPECIFICATION SHEET



- Features:
- Practical drop bins for easy disposal of debris
 - Wheels fitted with a brake
 - External filter shaker
 - Polyester star filter 16,500 square centimetre area
 - 1.3hp 1000w by-pass motors
 - Fitted with accessory basket
 - 16 Cartridge filters
 - Larger rear wheels for easier movement
 - Wet conversion kit available.
 - Polyester star filter 7,000 square centimetre area

Type	316
Part Number	110v VAC316 -1 240v VAC316 -2 - -
Motors	3
Power	3000w
Vacuum	2159mm H2O
Airflow	8640 l/m
Filtering Surface	16600 cm ²
Capacity	60L
Inlet	50mm
Dimensions	71x65cm
Height	153cm
Weight	66kg



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RECORD OF NOISE ASSESSMENT

Manufacturer:	SPE
Type:	Vacuum
Model No.	Vac 316-1
Operation :	Remote Intake

NOISE LEVELS

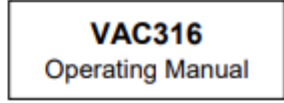
Sound Power Level (L_{WA})

L _{WA} at Octave Band Centre Frequency (Hz)								Sound Power Level L _{WA}
63	125	250	500	1000	2000	4000	8000	
50.1	61.0	79.9	80.3	84.3	92.2	91.2	82.0	95.6

Operator's Ear

L _{Aeq,T} at Octave Band Centre Frequency (Hz)								Overall Level (L _{Aeq,T})	L _{Peak} dB(C)
63	125	250	500	1000	2000	4000	8000		
36.3	47.7	71.8	69.4	74.1	83.7	82.1	75.9	87.8	102.6





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

<i>Manufacturer:</i>	SPE International Ltd
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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**

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****VAC316**
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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 thereof 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.

