



HILTI VACUUM PORTFOLIO

Supporting information



 For instructions on how to assemble these systems, please refer to the Hilti North America Youtube page

 VC 125

 VC 150

 VC 300

CONTENTS

Statements of compliance	2-3
HEPA certification for VC 125, 150, and 300 series vacuums	4-6
HEPA certification for VC 20, 40 series vacuums	7-16
Supplemental instructions	17-21



June 23, 2017

Statement on features of Hilti VC 20, 40, 150, and 300 series vacuums:

Regarding OSHA 29 CFR Part 1926 §1153, please note that the Hilti VC 20-U, VC 40-U, VC 40-UE, VC 150-6 X, VC 150-6 XE, VC 150-10 X, VC 150-10 XE, and VC 300-17 X vacuums all meet the following requirements given in Table 1:

- **99% or greater filter efficiency**
- **self-cleaning filter mechanism**
- **provide the below cubic feet per minute (cfm) of suction**
 - **VC 20-U and 40-U: 129 cfm**
 - **VC 150 series: 150 cfm**
 - **VC 300 series: 300 cfm**
- **a HEPA filter is available**

When used in conjunction with the corresponding Hilti tools and dust removal systems meeting the listed Table 1 requirements, you will have a compliant system as specified in the regulation.

Please contact your local Hilti representative with any additional questions. For additional clarification, please refer to 29 CFR Part 1926 §1153.

Sincerely,

Hilti product team

Hilti, Inc.
5400 South 122nd East Avenue
Tulsa, OK 74146

1-800-879-8000
www.hilti.com



June 23, 2017

Statement on features of Hilti VC 125 series vacuums:

Regarding OSHA 29 CFR Part 1926 §1153, please note that the Hilti 125-6 and 125-9 vacuums all meet the following requirements given in Table 1:

- **99% or greater filter efficiency**
- **Manual filter mechanism**
- **provide 125 cfm**
- **a HEPA filter is available**

When used in conjunction with the corresponding Hilti tools and dust removal systems meeting the listed Table 1 requirements, you will have a compliant system as specified in the regulation.

Please contact your local Hilti representative with any additional questions. For additional clarification, please refer to 29 CFR Part 1926 §1153.

Sincerely,

Hilti product team

Hilti, Inc.
5400 South 122nd East Avenue
Tulsa, OK 74146

1-800-879-8000
www.hilti.com



ENV SERVICES, INC.
 4758 RESEARCH DRIVE
 SAN ANTONIO, TX 78240
 800-690-3368 / 210-690-3646 FAX

SERVICE WORK ORDER
WORK ORDER NO: 312-146996
CUST PO#:CREDIT CARD

Bill To: TX3592

HILTI INC.
 P.O. BOX 21148
 ATT: ACCOUNTS PAYABLE
 TULSA, OK 74121
 FRANK HIERONYMUS
 918-671-2349

Service Location: TX3592-002

HILTI INC.
 3701 ROYAL LANE
 SUITE 100
 IRVING, TX 75063 972-403-5887
 FRANK HIERONYMUS
 FRANK.HIERONYMUS@HILTI.COM

SERVICE SCHEDULE DATE: _____
SCHEDULE ADMIN: 204 **TECH:** 611
CUSTOMER NOTES / INSTRUCTIONS:

WO OPEN DATE 06-Jun-17
WORKGROUP: _____

SERVICE REQUESTED:TEST AND CERTIFICATION

BILLING TYPE: _____

DETAIL OF SERVICES

Item #	Asset #	Description of Services	Location
1		ONSITE CERTIFICATION TESTING OF 7 NEW VACUUMS FOR COMPLIANCE WITH HEPA ** PLEASE NOTE THAT THE DAY RATE APPLIES TO THE TESTING LISTED IN THE LINE ITEMS BELOW**	
2		ONSITE CERTIFICATION TEST AND CERTIFICATION - NEW VACUUM ITEM NUMBER: 2167143 DESCIPTION: VC 300-17X FLOW RATE: 300 CU FT/MIN	
3		ONSITE CERTIFICATION TEST AND CERTIFICATION - NEW VACUUM ITEM NUMBER: 2167144 DESCIPTION: VC 150-6XE FLOW RATE: 150 CU FT/MIN	
4		ONSITE CERTIFICATION TEST AND CERTIFICATION - NEW VACUUM ITEM NUMBER: 2167145 DESCIPTION: VC 150-10XE FLOW RATE: 150 CU FT/MIN	
5		ONSITE CERTIFICATION TEST AND CERTIFICATION - NEW VACUUM ITEM NUMBER: 2167146 DESCIPTION: VC 150-6XE FLOW RATE: 150 CU FT/MIN	
6		ONSITE CERTIFICATION	

CUSTOMER SIGNATURE : _____

TECH SIGNATURE: 

DATE : _____

DATE : 16 Jun 2017



ENV SERVICES, INC.
4758 RESEARCH DRIVE
SAN ANTONIO, TX 78240
800-690-3368 / 210-690-3646 FAX

SERVICE WORK ORDER

WORK ORDER NO: 312-146996

CUST PO#:CREDIT CARD

Bill To: TX3592

HILTI INC.
P.O. BOX 21148
ATT: ACCOUNTS PAYABLE
TULSA, OK 74121
FRANK HIERONYMUS
918-671-2349

Service Location: TX3592-002

HILTI INC.
3701 ROYAL LANE
SUITE 100
IRVING, TX 75063 972-403-5887
FRANK HIERONYMUS
FRANK.HIERONYMUS@HILTI.COM

DETAIL OF SERVICES

Item #	Asset #	Description of Services	Location
		TEST AND CERTIFICATION - NEW VACUUM ITEM NUMBER: 2167147 DESCIPTION: VC 150-10XE FLOW RATE: 150 CU FT/MIN	
7		ONSITE CERTIFICATION TEST AND CERTIFICATION - NEW VACUUM ITEM NUMBER: 2167148 DESCIPTION: VC 125-6 FLOW RATE: 125 CU FT/MIN	
8		ONSITE CERTIFICATION TEST AND CERTIFICATION - NEW VACUUM ITEM NUMBER: 2167149 DESCIPTION: VC 125-9 FLOW RATE: 125 CU FT/MIN	

CUSTOMER SIGNATURE : _____

TECH SIGNATURE: 

DATE : _____

DATE : 16 Jan 2017



dba ENV Services Testing and Certification, Inc.
 2880 Bergey Road, Suite K
 Hatfield, PA 19440
 (800) 345-6094

Test Report Number
 TX3592-002
 Inventory Number
 WO#312-146996

SERVICE REPORT

Customer: HILTI INC. Address: 3701 ROYAL LANE SUITE 100 IRVING, TEXAS 75063 Contact: FRANK HIERONYMUS Telephone: 972/403-5887	ENV Services Technician: JERRY MAXWELL Test Date: 16-Jun-17 Test Frequency: ONE TIME ONLY Equipment Manufacturer: CUSTOM Model Number: VARIOUS SEE WO. Serial Number: SEE WO. Type: VACUUM UNITS Location: WAREHOUSE
--	---

Testing and Certification: The purpose of field testing this equipment is to assess whether it is functioning as designed in compliance with manufacturer's specifications, NIH specifications, NSF Standard #49, or other specifications which may apply. We perform all test procedures in accordance with these standards and as detailed in ENV Services Protocols, applicable copies of which are available on request. Our testing and certification apply only to the equipment and do not signify approval of the use of any hazardous agents or operational procedures.

SERVICE SUMMARY

	PASS	FAIL	N/A
OVERALL CERTIFICATION	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS AND RECOMMENDATIONS

hepa leak test completed on item numbers 2167143, 2167144, 2167145, 2167146, 2167147, 2167148, and 2167149. All passed.

Customer Signature _____
FRANK HIERONYMUS
PLEASE PRINT NAME

Serviced by: Jerry Maxwell
 Date: 16-Jun-17

HEPA VACUUM TEST REPORT

Prepared for:

HILTI Inc.
7250 North Dallas Parkway
Plano, TX 75024

Models: VC20U, VC40U, VC40U /outlet

Attention:

Frank Hieronymus
918-712-2349

Date(s) Tested:

7/13/15

Field Service Technician(s):

Ken Waterhouse



4758 Research Drive
San Antonio, TX 78240
(210) 690-3368
Fax (210) 690-3646

HEPA LEAK TESTING OF HILTI HEPA VACUUM UNITS BENCH TESTING FOR AEROSOL PENETRATION

Setup

Each Vacuum is setup with an internal prefilter bag placed in the base of the bucket and a HEPA filter placed below the motor

Airflow enters the intake and is then passed through the prefilter bag and then is siphoned up through the HEPA filter and then discharged

through louvers on the right and left side of the vacuum housing

Procedure:

Following guidelines within Reference Standard; IES-RP-CC-0034.1

HEPA and ULPA Filter Leak Tests.

A large bag was placed over the outlet side of the Vacuum unit

The Intake airflow was measured with a Velocity meter set for CFM Calculation (135 CFM)

A calculated concentration was followed using an aerosol challenge for >10 micrograms per liter of PAO Aerosol

The Aerosol Photometer was set at a sensitivity of 50 micrograms, and the test proceeded by insertion of aerosol in the intake and sampling the outflow of the air filling the collection bag.

No leakage greater than .005% was detected



Test Setup showing Aerosol Generator on right HILTI VC20U Vacuum in middle with catch bag attached, and Aerosol Photometer on the left

Ken Watrous
Technical Manager 13 JUL 15

Conclusions:

All Models passed the aerosol penetration leak test of no leakage greater than .005% penetration detected.

See Certificates

Test Equipment Used:

Tec Services Inc. Aerosol Photometer
Model # PH.-5
Serial # 2027
Calibration Date: 29JUN2015

ATI Model 6B Aerosol Generator
6 Nozzle
S# 26536

Velocity Meter
TSI
Model # 9535
S# T95351514002



Certificate No.: ENV/0615-497-5501
 Procedure No.: WI0299000

Control No.: 01263
 Page 1 of 2

UNIT UNDER TEST

Manufacturer: TSI
Model No.: 9535
Serial No.: T95351514002
Cust. Ref. No.: 01263
Description: AIR VELOCITY METER
Date Rec'd: 6/3/2015
Condition Rec'd: GOOD

SUBMITTED BY

Customer: ENV SERVICES, INC (REGION I)
 2880 BERGEY RD
 HATFIELD, PA 19440

P.O. #: ENV/610

Precal: OUT OF SPEC **Final:** IN SPEC

**CALIBRATION CERTIFICATE**

All calibrations are performed by qualified personnel using instrumentation, procedures and methods which guarantee specifications claimed are reliable. When specified, all calibrations are performed in accordance with current ISO/IEC 17025, ANSI/NCSL Z-540-1, MIL-STD-45662A, and ENV/Pro-Lab Quality Manual - Rev 5. Standards used are traceable to The National Institute of Standards and Technology (NIST). Expanded uncertainties are calculated using methods described in the Guide to the Expression of Uncertainty of Measurement (GUM) utilizing a coverage factor of K=2 (95% confidence) and kept on file at Pro-Lab. At a minimum, standards are selected with an uncertainty of 25% or better, where possible. This certificate and/or data shall not be reproduced except in full, without the written permission of Pro-Lab Management.

Standards Used

Asset #	Description	Certificate Number	Date Due
1064	DUAL CAPACITANCE MANOMETER	ENV/0515-480-5015	5/31/2016
1208	PRESSURE TRANSDUCER	ENV/0515-480-5013	5/31/2016
00985	REFERENCE THERMOMETER	ENV/0314-481-5572A	6/30/2015
986	RTD PROBE	ENV/0314-481-2316	6/30/2015

Temperature: 23.0 C
 Humidity: 54.6 % RH
 Approved By: Michael Blahut

Date Tested: 11-Jun-2015
 Date Due: 30-Jun-2016
 Calibrated By: David Andreas
 Calibration Technician
 E-Signed 11-Jun-2015 8:37 AM

E-Signed 11-Jun-2015 11:05 AM



Certificate No.: ENV/0615-497-5501
 Procedure No.: WI0299000

Control No.: 01263
 Page 2 of 2

UNIT UNDER TEST

Manufacturer: TSI
Model No.: 9535
Serial No.: T95351514002
Cust. Ref. No.: 01263
Description: AIR VELOCITY METER
Date Rec'd: 6/3/2015
Condition Rec'd: GOOD

SUBMITTED BY

Customer: ENV SERVICES, INC (REGION I)
 2880 BERGEY RD
 HATFIELD, PA 19440

P.O. #: ENV/610

Precal: OUT OF SPEC **Final:** IN SPEC



CALIBRATION DATA

Note: Calibration results may drift from documented values prior to calibration due date attributable to various factors. Results obtained apply to the UUT only and are reflective of conditions at the time of this test.

Velocity

Description	Standard	As Found	Final	Min.	Max.
FPM	30	31	31	27	33
FPM	70	73	73	67	73
FPM	100	103	103	97	103
FPM	150	154	154	145	155
FPM	325	335	335	315	335
FPM	650	652	652	630	670
FPM	1000	1001	1001	970	1030
FPM	1500	1484	1484	1455	1545
FPM	2500	2452	2452	2425	2575
FPM	4500	4543	4543	4425	4575
FPM	5900	5904	5904	5723	6077

TEMPERATURE

Description	Standard	As Found	Final	Min.	Max.
Deg F	73.5	74.6	73.5	73.0	74.0 A



Certificate No.: ENV/0615-478-14854
 Procedure No.: MFR

Control No.: 01289
 Page 1 of 2

UNIT UNDER TEST

Manufacturer: TEC SERVICES
 Model No.: PH-5
 Serial No.: 2027
 Cust. Ref. No.: 01289
 Description: PHOTOMETER
 Date Rec'd: 6/19/2015
 Condition Rec'd: GOOD

SUBMITTED BY

Customer: ENV SERVICES, INC (REGION I)
 2880 BERGEY RD
 HATFIELD, PA 19440
 P.O. #: ENV/600
 Precal: IN SPEC Final: IN SPEC



Calibration Laboratory
 CERT#1591.01

CALIBRATION CERTIFICATE

All calibrations are performed by qualified personnel using instrumentation, procedures and methods which guarantee specifications claimed are reliable. When specified, all calibrations are performed in accordance with current ISO/IEC 17025, ANSI/NCSL Z-540-1, MIL-STD-45662A, and ENV/Pro-Lab Quality Manual - Rev 5. Standards used are traceable to The National Institute of Standards and Technology (NIST). Expanded uncertainties are calculated using methods described in the Guide to the Expression of Uncertainty of Measurement (GUM) utilizing a coverage factor of K=2 (95% confidence) and kept on file at Pro-Lab. At a minimum, standards are selected with an uncertainty of 25% or better, where possible. This certificate and/or data shall not be reproduced except in full, without the written permission of Pro-Lab Management.

Standards Used

Asset #	Description	Certificate Number	Date Due
0152	MULTIMETER	52-VEN-2477095	4/30/2016
00173	MASS FLO METER	ENV/0914-497-191	6/30/2015

Temperature: 22.0 C
 Humidity: 35.0% RH
 Approved By: Michael Blahut

Date Tested: 29-Jun-2015
 Date Due: 30-Jun-2016
 Calibrated By: William Leas, Jr.
 Calibration Technician
 E-Signed 29-Jun-2015 2:08 PM

E-Signed 30-Jun-2015 1:12 PM



Certificate No.: ENV/0615-478-14854
 Procedure No.: MFR

Control No.: 01289
 Page 2 of 2

UNIT UNDER TEST

Manufacturer: TEC SERVICES
 Model No.: PH-5
 Serial No.: 2027
 Cust. Ref. No.: 01289
 Description: PHOTOMETER
 Date Rec'd: 6/19/2015
 Condition Rec'd: GOOD

SUBMITTED BY

Customer: ENV SERVICES, INC (REGION I)
 2880 BERGEY RD
 HATFIELD, PA 19440
 P.O. #: ENV/600
 Precal: IN SPEC Final: IN SPEC



CALIBRATION DATA

Specifications obtained from: TEC SERVICES MODEL PH-5 PHOTOMETER USER MANUAL.

Note: Calibration results may drift from documented values prior to calibration due date attributable to various factors. Results obtained apply to the UUT only and are reflective of conditions at the time of this test.

DC VOLTAGES

Description	Standard	As Found	Final	Min.	Max.
V (V1)	5.15	5.14	5.14	5.10	5.20
V (V2)	12.00	12.00	12.00	11.00	13.00
V (V3)	-12.00	-12.00	-12.00	-12.50	-11.50
V (V4)	24.00	24.00	24.00	23.50	24.50

SAMPLE FLOW

Description	Standard	As Found	Final	Min.	Max.
CFM	1.00	1.00	1.00	0.90	1.10

FUNCTIONAL TEST

Description	Standard	As Found	Final	Min.	Max.
SCANNING PROBE		PASS	PASS		
UPSTREAM RESPONSE + CLEAR TO ZERO		PASS	PASS		
DOWN STREAM RESPONSE + CLEAR TO ZERO		PASS	PASS		



Certificate of Compliance

HILTI VC20U HEPA Vacuum Unit

Hilti, Inc.
7250 North Dallas Parkway
Plano, TX 75024

On this Date: 7/13/2015

Testing conducted in accordance with IES RP-CC-002 & Following guidelines within Reference Standard; IES-RP-CC-0034.1

Administered By : *Ken Waterhouse*

Conducted by: ENV Services, Inc.
4758 Research Dr.
San Antonio, TX 78240



Certificate of Compliance

HILTI VC40U HEPA Vacuum Unit

Hilti, Inc.
7250 North Dallas Parkway
Plano, TX 75024

On this Date: 7/13/2015

Testing conducted in accordance with IES RP-CC-002 & Following guidelines within
Reference Standard; IES-RP-CC-0034.1

Administered By : *Ken Waterhouse*

Conducted by: ENV Services, Inc.
4758 Research Dr.
San Antonio, TX 78240



Certificate of Compliance

HILTI VC40U/Outlet HEPA Vacuum Unit

Hilti, Inc.
7250 North Dallas Parkway
Plano, TX 75024

On this Date: 7/13/2015

Testing conducted in accordance with IES RP-CC-002 & Following guidelines within
Reference Standard; IES-RP-CC-0034.1

Administered By : *Ken Waterhouse*

Conducted by: ENV Services, Inc.
4758 Research Dr.
San Antonio, TX 78240

VACUUM CLEANER

VC 125 / 150 / 300 OSHA

Hilti developed a vacuum cleaner system with a filter cleaning mechanism and a >99% filter efficiency, compliant with many of the OSHA 1926.1153, Table 1 specified controls.

Set-up

1. Put a filter into the filter compartment. Decide which filter depending on your applications. See filter section for further information.
2. Put filter bag into the tank. Decide which filter bag depending on your applications. See filter bag section for further information.
3. Put hose into head and attach it to the adaptor of the tool. See tool manual for further information on correct adaptor.
4. Plug vacuum cleaner in socket.
5. Start vacuum cleaner by turning control switch on. Verify proper operation of vacuum cleaner.
 - head on correct and sealed
 - no kinks/breaks/plugs in hose
 - check for normal suction at hose end
 - nothing blocking exhaust port
 - For VC 20/40/150/300, verify the automatic filter cleaning mechanism is turned on, and operating (audible thumping every ~15 seconds).
6. Start running the tool only when vacuum cleaner is on.
7. Turn vacuum cleaner off after tool is turned off.

Cleaning and maintenance

1. For VC 125, push manual filter cleaning button every 3 to 5 minutes depending on application, and whenever there is a noticeable change in suction or dust collection..
2. Filter and filter bag needs to be cleaned and exchanged regularly. See filter and filter bag section for further information.

UNIVERSAL FILTER-BAGS / PLASTIC BAGS

Plastic Bag



Universal Bag



Applications

- For dry and wet applications
- Will not increase lifetime of filter, no pre-filtering

- For dry applications
- Virtually dustless recycling / emptying
- Pre-filter, will increase lifetime of filter

How to put bag in vacuum

1. Remove head from tank
2. Put bag into the tank
3. Check that holes are within the vacuum cleaner when installed and that the plastic bag doesn't overlap clamp area
4. Put head back on tank and close clamps properly

1. Remove head from tank
2. Put bag into the tank
3. Connect flange of filter bag to the adapter
4. Put head back on tank and close clamps

Disposal guidelines

- Recycle bag when it is full
- Tie off or seal paper/fleece bags. Twist plastic bags. Roll bucket to nearest sealed receptacle and transfer bag to garbage.
- To be recycled normally (dispose of bag according to local regulations)

- Close cap when bag is full or needs to be recycled
- Dispose of bag according to local regulations.

DO'S AND DON'TS WITH UNIVERSAL FILTER-BAGS / PLASTIC BAGS

Plastic Bag



Universal Bag



Do's

- Dispose of bag when it is full

- Use filter bags for all dry applications
 - Increases lifetime of your tool
 - Increase lifetime of your filter
- Dispose of bag when it is full
- Mandatory for all wood applications
- Connect flange of filter bag properly into adapter

Don'ts

- Fill plastic bag to completely full, it can rip apart
- Overlap the clamp area with the plastic bag

- Shake full filter-bag
 - Dust can exit
 - Bag can rip apart
- Use bag for wet applications

DO'S AND DON'TS WITH FILTERS

Do's

- Clean filter with automatic filter cleaning (close hose for a 3-5 cycles)
- Power cleaning: Remove hose, close inlet for 3-5 automatic filter cleaning cycles
- Use performance filters (PTFE) in order to have a longer lifetime of your tool, longer lifetime of the filter and less blockage of the filter
- Filter sealing needs to be properly installed
- During filter change, clean up filter frame and sealing area
- Check filter condition before starting an application

Don'ts

- Mix dry and wet applications. Filter used for wet applications needs to be exchanged or dried before using it for dry applications
- Manually cleaning the filter, it will be damaged -> a damaged or missing filter can lead to a broken turbine since dust can enter (reduces lifetime of vacuum cleaner)
 - Banging against the wall
 - Cleaning with high-pressured air
 - Use water jet / air pressure jet to clean the filter
 - Use sharp things e.g. wrench etc. to clean the filter
- Use vacuum cleaner without a filter

FILTER CLEANING AND EXCHANGE

Filter needs to be cleaned when:

- Feeling of less suction power
 - Clean filter with automatic filter cleaning
- Dust is coming out of the vacuum cleaner. Indication that filter is broken or blocked
- Visual check shows that filter needs to be cleaned

Filter needs to be exchanged when:

- Dust is coming out of the vacuum cleaner. Indication that filter is broken or blocked
- Even after cleaning the filter, suction power is insufficient
- Visual check shows that filter needs to be exchanged due to a high volume of dust near or inside the filter