



Italia

CERTIFICATE

[1] **EU-TYPE EXAMINATION CERTIFICATE**

[2] **Equipment or Protective System intended for use
in potentially explosive atmospheres
Directive 2014/34/EU**

[3] EU-Type Examination Certificate number:

TÜV IT 16 ATEX 050 X

[4] Equipment or Protective System: Industrial Ex-proof vacuum cleaner

[5] Manufacturer: Dongguan Villo Environmental Protection Inc.

[6] Address: Changsheng Industrial Park, Jinghai East Road, Shatou Village,
Changan Town, Dongguan City, Guangdong Province 523863, P.R. China

[7] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] TÜV Italia, notified body no. 0948 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report no. R 16 EX 038


[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN 60079-0 : 2012/A11:2013 EN 60079-31 : 2014
EN ISO 80079-36 : 2016 EN ISO 80079-37 : 2016**

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

[12] The marking of the product shall include the following:


 II 1/3D Ex tc IIIC T140°C Dc IP65
 Ex h IIIC T140°C Da

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Issue date: 04th October 2016



SGQ N° 049A SSI N° 055G ISP N° 057E
 SGA N° 018D ITX N° 001L LAB N° 007E
 SCR N° 009F SGE N° 013M PRD N° 081B
 EMAS N° 013P PRS N° 077C

Membro degli Accordi di Mutuo Riconoscimento
 EA, IAF e ILAC
 Signatory of EA, IAF and ILAC Mutual
 Recognition Agreements



**TÜV Italia S.r.l.
Notified body N° 0948**

Paolo Marccone
Paolo Marccone

**Industry Service - Real Estate & Infrastructure
Managing Director**

TÜV Italia has been authorized by Italian government to operate as notified body for the certification of equipment or protective system intended for use in potentially explosive atmospheres. This document is not valid without official signature and logo. The internal reference code is 266824.



Italia

[13]

SCHEDULE

[14]

EU-TYPE EXAMINATION CERTIFICATE no. TÜV IT 16 ATEX 050 X

Certificate History

Revision:	Description:	Report no:	Issue Date:
-	First issue	..	04/10/2016

[15] **Description of equipment**

The VZSB-xx Series explosion proof vacuum cleaners are designed for dry suction.

They are suitable to be used in explosive dust atmosphere Zone 22. However, explosive dust atmosphere of zone 20 occurs in dust filtering chamber and dust container inside the machine during operation. The equipment is classified as an assembly (combination of "Electrical" and "Non-electrical equipment"), internal as Category 1(1D), external as Category 3 (3D). The non-electrical part of the equipment was tested and evaluated against the requirement of the EN ISO 80079-36 and EN ISO 80079-37, protection type "c".

Some parts of the "explosion proof vacuum cleaners" are assumed to be already in compliance with the ATEX 2014/34/EU directive, based on the issued documents and declarations by the original manufacturer. The individual testing and certification of all those parts are however not the responsibility of TÜV Italia.

TÜV Italia checked and evaluated the suitability and the assembly of the mechanical and electrical parts with respect to "explosion protection". (See list of certified equipment/components)

Each vacuum cleaner incorporates an ex-proof control box and an ex-proof electric blower. The ex-proof "Ex d" control box and electric blowers were additionally tested/evaluated. The results are only valid under this certification project. It was tested and evaluated against the requirements of the EN60079-31, protection type "tc". This box holds an additional marking according the EN60079-31.

Special conditions for safe use are applicable (see description at clause 17).

Rated characteristics

Model	VZSB-52	VZSB-34	VZSB-20
Rated Voltage	400V 3 phase	400V 3 phase	230V, single phase
Rated Power	5200W	3400W	2000W
Rated Frequency	50Hz	50Hz	50Hz
Ambient temperature	-20°C ~ 40°C	0°C ~ 40°C	-20°C ~ 40°C
Ingress Protection	IP 65		
Type of protection	Class I		
Installation	Removable with wheels		
Supply connection	Permanent connection to fixed wiring		
Operation mode	continuous operation		

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[14]

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List of certified equipments/components:

Control box, cable gland, electric blower 440 M EX 21.

The electric motors of the blower type 455 B EX 22, 422 MM EX 22 are successfully assessed and tested within the EU type examination against the requirement of 'tc'. They bear an additional 'tc' marking.

Warning label

WARNING – DO NOT OPEN WHEN ENERGIZED.

[16] **Report no. R 16 EX 038****Routine tests**

The manufacturer must perform the routine testing and all other relevant tests, to ensure that the manufactured equipment is in accordance with the documentation, which was submitted to the Notified Body in addition to the sample. He must perform the routine tests, which are required in the relevant European standards.

Additionally:

An earth continuity test must be performed on all metal - and conductive parts of each equipment to ensure all parts are equipotentially connected (by 200 mA DC current injection or equivalent).

A routine test must be implemented to ensure that the conductive pipes and other non-metallic materials used are with same or better conductive properties as the ones that were tested within this EU-Type Examination.

[17] **Special conditions for safe use**

1. The operator must follow all specific installation and maintenance requirements specified in the user manual to continuously meet the explosion protection requirements. All special conditions for safe use of the individual parts as listed in the list of certified equipment/components must be fulfilled too.
2. The equipment can only be used for powders with MIE ≥ 3 mJ.
3. Do not pick up glowing dust or other ignition hazards.
4. Do not use the equipment in applications with spark-generating machines.
5. Operation temperature of model VZSB-34 is 0°C ~ 40°C.

[18] **Essential Health and Safety Requirements**

Assured by compliance with the standards set out in the [9].

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[13]

SCHEDULE

[14]

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[19] **Drawings and Documents**

Listed documents (prot. 266824)

Title:	Description:	Rev.:	Pages	Date:
VILLO-WJ-FB-012	Product description	A/1	4	2016/7/12
VILLO-WJ-FB-014	Risk assessment report	A/1	11	2016/7/12
VILLO-WJ-FB-001	Rating label	A/1	3	2016/7/12
VILLO-WJ-FB-015	User manual (model VZSB-20)	/	17	2016/6/15
VILLO-WJ-FB-016	User manual (model VZSB-34)	/	17	2016/6/15
VILLO-WJ-FB-017	User manual (model VZSB-52)	/	17	2016/6/15
VILLO-WJ-FB-011	Dimension sheet	A/0	1	2016/5/20
VILLO-WJ-FB-002	Construction drawing	A/0	1	2016/5/20
VILLO-WJ-FB-007	Electrical circuit diagram (model VZSB-20)	A/0	1	2016/5/20
VILLO-WJ-FB-008	Electrical circuit diagram(model VZSB-34)	A/0	1	2016/5/20
VILLO-WJ-FB-009	Electrical circuit diagram (model VZSB-52)	A/0	1	2016/5/20
VILLO-WJ-FB-003	BOM (model VZSB-20)	A/0	1	2016/5/20
VILLO-WJ-FB-004	BOM (model VZSB-34)	A/0	1	2016/5/20
VILLO-WJ-FB-005	BOM (model VZSB-52)	A/0	1	2016/5/20
VILLO-WJ-FB-019	Additional label on the electrical blowers	A/0	1	2016/9/14
VILLO-WJ-FB-006	Assembly drawing of control switchgear box	/	3	/
VILLO-WJ-FB-010	Assembly drawing of filter	A/0	1	2016/5/20
VILLO-WJ-FB-018	Assembly drawing of Spark trap	A/0	1	2016/5/20

One copy of all documents is kept in TÜV Italia files.

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