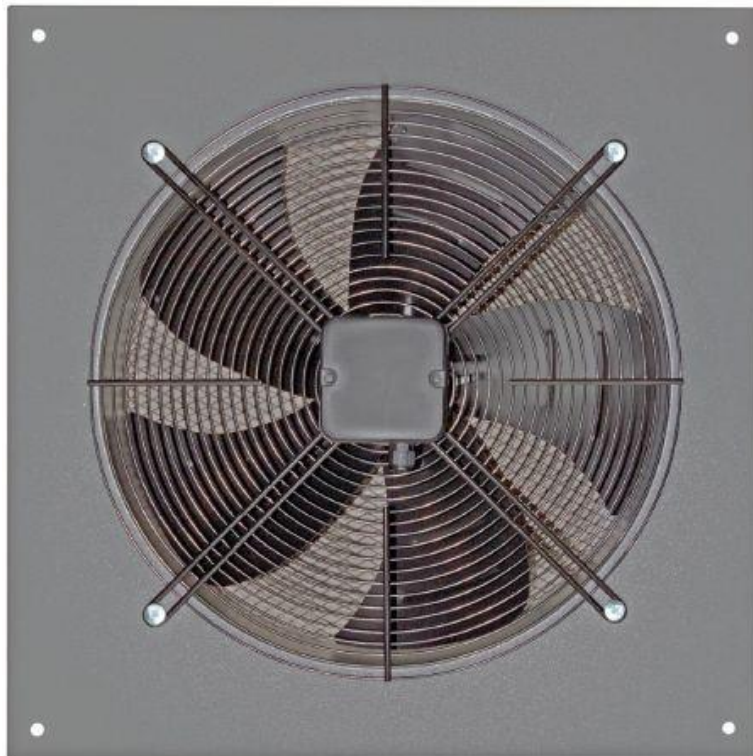


Use and Maintenance Manual



air-supply axial fans **WOK-N**

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811W37	WOK-250-N	04.06.2019/EN
811W38	WOK-300-N	04.06.2019/EN
811W39	WOK-350-N	04.06.2019/EN
811W40	WOK-400-N	04.06.2019/EN
811W41	WOK-450-N	04.06.2019/EN

1. Introductory Remarks

The purpose of the present Use and Maintenance Manual is to supply User with directions within the range of application, installation, start-up and the use of the **WOK-N axial fans**.

Installing, start up and operational use are exclusively admissible after getting acquainted with the contents of the Use and Maintenance Manual.

With regard to continuity of work carried on improvement of our products, we reserve for ourselves the revision possibility of the draft and technological changes improving their functional features and safety.

The construction of the **WOK-N axial fans** meets the requirements of the current state of technology as well as the safety and health assurances included in:

- **2006/42/EC Machinery Directive** of the European Parliament and of the Council of May 17th, 2006 on machinery – amending the 95/16/EC (recast) /*Journal of Laws EC L157 of 09.06.2006, page 24/*
- **2014/35/EC Directive** of the European Parliament and of the Council of February 26th, 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits. /*Journal of Laws EC L96 of 29.03.2014/*

The appliance meets following harmonized standard:

- | | |
|--------------------------------------|--|
| • EN ISO-12100:2012 | – “Safety of machinery – Basic concepts, general principles for design. Risk assessment and risk reduction”. |
| • EN 60204-1:2018-12 | – “Safety of machinery – Electrical equipment of machines. Part 1: General requirements”. |
| • EN 60034-1:2011 | – “Rotating electrical machines – Part 1: Rating data and parameters”. |
| • EN ISO 5802:2008/A1:2015-07 | – “Industrial Fans – Performance testing in situ of installing”. |
| • EN ISO 13857:2010 | – “Safety of machinery – Safe distances to prevent hazard zones being reached by upper and lower limbs”. |

2. Application

WOK-N axial fans have been developed for continuous work within the systems of ventilation of residential buildings, offices, workshops and buildings of public utility

They are installed directly in the openings in the walls or in windows. Low noise and low power consumption and high quality of the applied materials provide longevity of the device and their reliable function.

WOK-N fans can be applied for conveying the air of temperature -20°C up to +40°C and of dustiness not exceeding 0,3 g/m³.

3. Reservations of Producer

- A. Manufacturer is not liable for any consequences following from the operational use that is in contradiction to the purpose of application.
- B. Do not install any additional elements not belonging to the normal device structure or accessory set.
- C. Any structural changes or device modifications carried out on one's own are not permitted.
- D. Protect the appliance's housing from mechanical damage.
- E. Before the installing, check the load carrying capacity of the wall / building structure in places where the roof fan shall be installed. Unsure mounting could cause damage of the device, risk to personnel / people in the vicinity.

- F. Fans are not appropriate for conveying the air polluted with a mixture of flammable substances in a form of gas, vapour, mist and dust, that could create the explosive atmosphere.
- G. Don't use the fan for conveying the air containing viscous compounds that would deposit within the appliance, especially at the impeller.
- H. In the course of operational use, the maximum impeller rotations should not exceed their nominal rotations.
- I. Manufacturer is not responsible for any wounds or body lacerations, experienced during the improper operational use of the appliance.

4. Technical Data

Table No.1

Type of the fan	Supply voltage	Rotations	Motor rate	Maximum ambient temperature	Weight	Noise level		Ingress protection
	[V]	[r.p.m.]	[W]	[°C]		[dB(A)]		IP
WOK-200-N	230	2000	68	+60	2,65	53	39	20
WOK-250-N	230	2480	100	+60	4,10	56	42	20
WOK-300-N	230	2400	124	+60	6,70	58	44	20
WOK-350-N	230	1350	110	+60	8,40	58	44	20
WOK-400-N	230	1365	230	+60	10,45	62	48	20
WOK-450-N	230	1350	250	+60	12,60	62	48	20

Fan pressure [Pa]

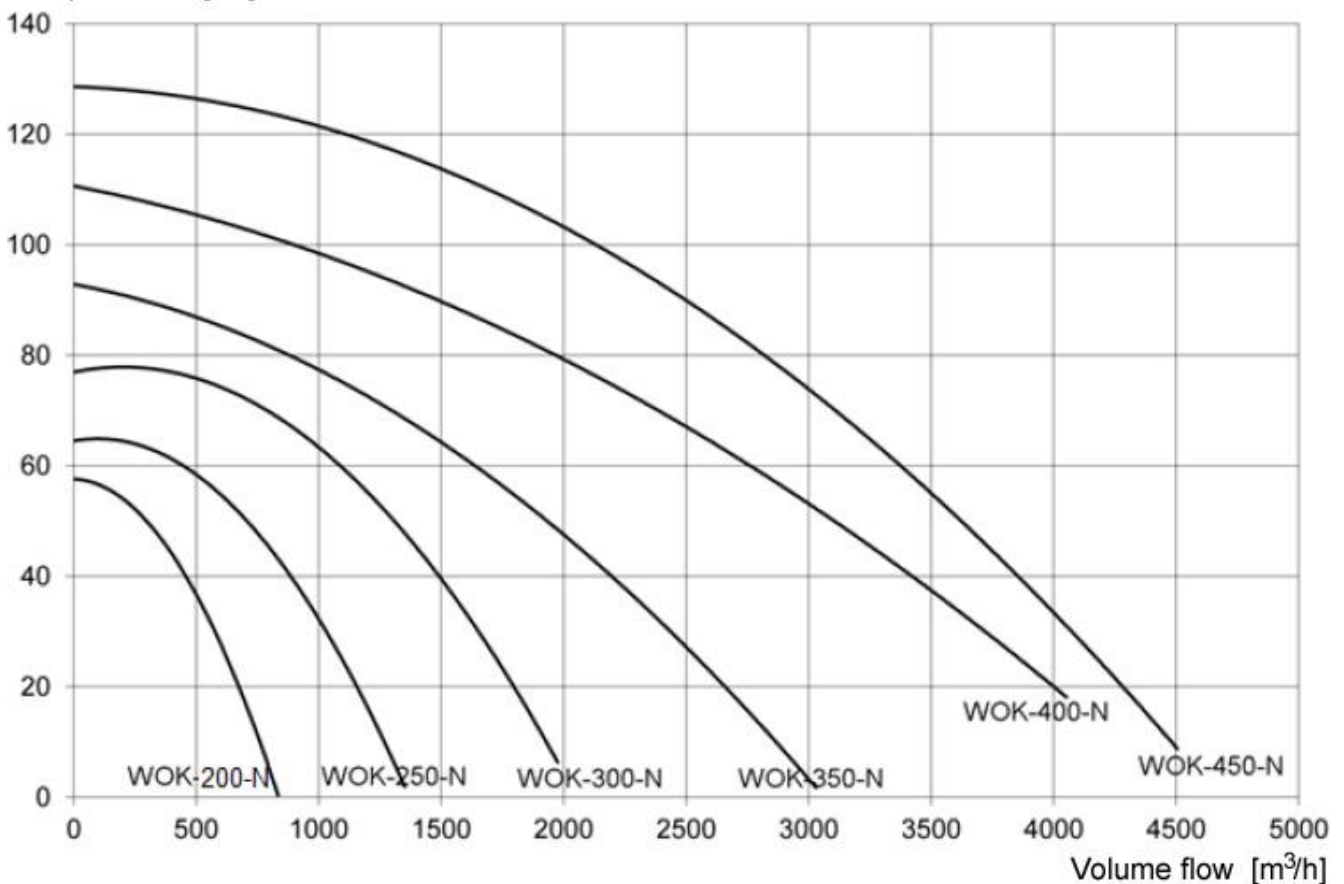
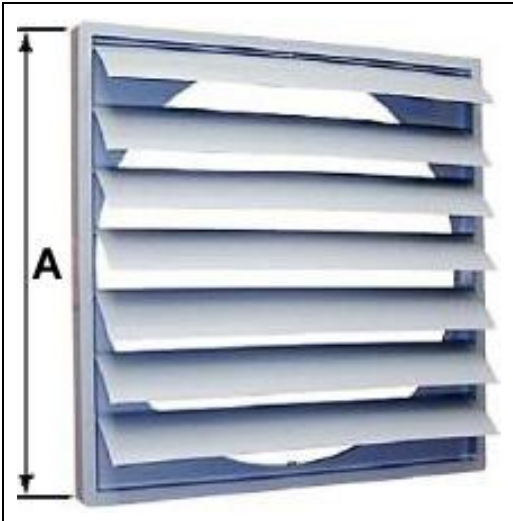


Fig. No.1 – Flow charts – Axial fans – WOK-N

Swinging shutters at the fan outlet can be applied as additional equipment.

Table No.2 – Swinging shutters

	Type	Part No	A [mm]
	ŻALUZJA-200	445Z04	245
	ŻALUZJA-250	445Z05	299
	ŻALUZJA-300	445Z06	347
	ŻALUZJA-350	445Z07	397
	ŻALUZJA-400	445Z08	460
	ŻALUZJA-450	445Z09	501

The swinging shutters ought to be installed to the external wall of the fan, in such a way, that in standstill state their flaps are hanging downwards and the shutters are normally closed. When the fan is started the flaps open (swing out) in the appropriate direction.

5. Structure and Function

The fan consists of a cylindrical profile housing. At the outlet side is fastened a shielding structure of concentric wire rings. To the shielding structure is installed a motor with an impeller. The fan inlet is protected with expanded metal grill. The guarded inlet and outlet meet the safety requirements and it is easy to install the fan inside- and outside the room.

The fan can work in vertical and horizontal position. WOK-N fans feature high flow efficiency at low noise.

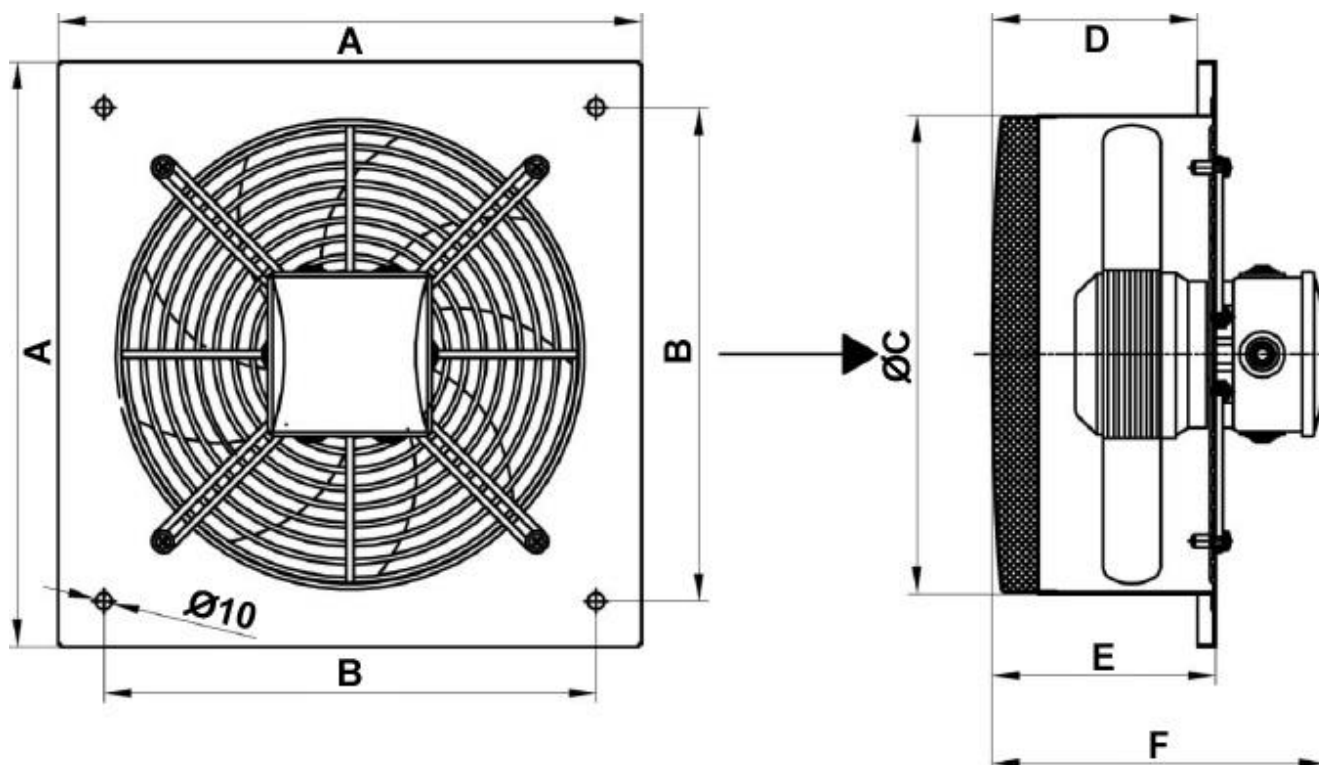


Fig. No.2 – Flow charts – Axial fans – WOK-N

Table No.3 – Dimensions – Axial fans – WOK-N

Type	Dimensions [mm]					
	A	B	ØC	D	E	F
WOK-200-N	280	230	201	87	97	157
WOK-250-N	320	270	260	113	123	185
WOK-300-N	400	350	315	140	150	212
WOK-350-N	480	430	365	145	155	220
WOK-400-N	530	480	415	162	172	232
WOK-450-N	605	555	460	162	172	232

6. Assembly and Start-up

The fan is delivered in an assembled state. Prior to installing, check if the delivered fan is not damaged or got polluted during the transport. WOK-N fans are meant for installing in openings in the walls, in the ceilings or in windows. They can be installed on a separate supporting structure (of adequate load carrying capacity) entirely outside the building.

Before installing in the wall-, ceiling opening / window, check their load carrying capacity.

In case of wall- / ceiling installing – the fan is fastened (from the side of the plate) through four fixing expansion plugs and screws Ø8 or four bolts M8. Connection to the power supply system ought to be performed by User on one's own, by selecting the appropriate sort and cross-section of the supply cables, (according to the local conditions).

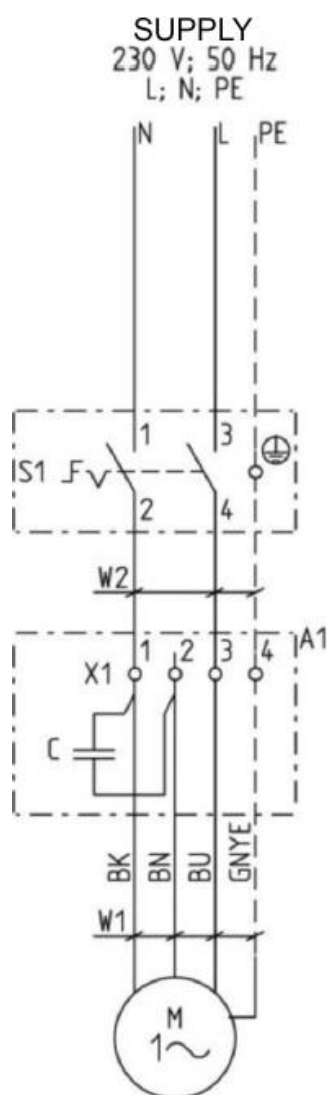
Additionally, important are protections against the short-circuit- and overload effects.

WARNING Connection to the power supply system ought to be carried out exclusively by an authorized person with electrical qualifications, according to the valid regulations. Before connection, make sure if the parameters of the existing power supply system is according the parameters on the nominal data plate.

Prior to the start-up of the fan, examine the motor connection to the PE protective cable and the correctness of electrical connections.

Additionally, the safety switch (isolating switch) is delivered upon separate order and should be installed in a place near the fan.

To obtain the adjustment of rotation speed of the fan, a speed governor can be applied (delivered by manufacturer upon separate order). The fan is started via a motor protective switch, installed in a place as convenient for User. Motor protective switch is delivered on separate order.



Type	Motor rate	Supply voltage	Frequency	Capacitor C
	[W]	[V]	[Hz]	
WOK-200-N	68	230	50	2 μ F / 500V
WOK-250-N	100	230	50	3 μ F / 500V
WOK-300-N	124	230	50	4 μ F / 500V
WOK-350-N	135	230	50	4 μ F / 500V
WOK-400-N	190	230	50	6 μ F / 500V
WOK-450-N	250	230	50	7 μ F / 500V

Fig. No.3 – Connection Diagram – Axial fans WOK-N

7. Operational Use

Construction of the device assures a reliable function without continuous technical supervision.

Incorrect use of the device:

- a/ conveying the media of temperature exceeding the admissible temperatures, as stated in Clause No.2.
- b/ conveying the aggressive and viscous media,
- c/ forwarding the media of high dustiness.

Consequences of the incorrect use:

- damage of the bearings,
- damages caused by corrosion,
- loss in balance of the rotating elements,
- vibrations,
- deformations,
- damages caused by friction.

In case when symptoms of incorrect function (increased noise level, vibrations, reduced volume flow efficiency) of the device are noticed, disconnect the fan from the power supply system and undertake technical revision in order to spot the causes of malfunction.

Typical malfunctions and their reasons are described in Section 8.

8. Troubleshooting Guide

Table No.4

	Problem	Possible reason	Corrective action
1.	Sudden drop of the intake flow efficiency.	Obstacle objects, pollutants reducing the air flow got stuck at the inlet grill.	Clean the inlet grill (after disconnection from the power supply system).
2.	Sudden vibrations of the fan occur.	Obstacle objects reducing the air flow got stuck in the impeller.	Disconnect the fan from the power system, and remove the obstacle.
		Impeller is defective.	Replace the impeller and the motor for new.

9. Maintenance

To obtain the optimal operational performance and to follow the safety rules it is necessary to submit the fans to technical revisions (in regular intervals). In the course of technical revision check the function of the fan and examine the technical state of its elements.

WARNING Any technical revisions ought to be performed by an authorized team with qualifications or by a specialized servicing team.

Prior to servicing on the fan:

- Disconnect the fan from the power supply system.
- Wait until the fan impeller stops rotating.
- Remove the eventual impurities (originating from the forwarding medium) inside the fan.

Restart of the fan: is exclusively possible after the executed safety revisions, as described in Section 6 “Assembly and start-up” of the present Use and Maintenance Manual.

Exemptions from this point: any test activities that must be carried out at the running fan, i.e. measuring of vibrations – **strictly following the Occupational Health and Safety Regulations.**

In the course of the maintenance it is important to follow safety regulations – otherwise the appliance could cause hazard to User / personnel in vicinity.

The construction of the fan provides its longlife operational use, without the constant, routine everyday maintenance service. It is important to carry out the technical revisions periodically.

Within the range of maintenance:

- clean the fan from dust, carbon black and other impurities,
- examine and fasten (screw up) the mechanical joints and electrical connections,
- check the mounting of the motor and fan – pay attention that the clearance between the the housing and impeller ought to be the same within the whole perimeter.

WARNING Any activities related to technical revisions ought to be performed by an authorized person and after the appliance is disconnected from the power supply system.

10. Occupational Health and Safety

Start-up and the operational use of the fan are admissible after getting acquainted with with the contents of the present Use and Maintenance Manual.

The fan shall not cause any mechanical hazard under the condition it is correctly and firmly installed.

Connection to the power supply system ought to be performed by an authorized person with valid electrical qualifications, according to the being in force regulations.



Any activities related to the electricity should be carried out after the appliance is disconnected from the power supply system.

Maintenance has to be executed according to the Section No.9 of the present Use and Maintenance Manual.

11. Transport and Storage

The fans are wrapped in foil and in cardboard packages. On the package surface is written their weight.

During the loading and transport, the package must not be thrown or knocked down. Do not put any load on top of the package.

Packages should not be placed one on top of another (no stacking). During the transport protect them from weather conditions / atmospheric factors and damage.

Incorrect handling with the fans during the loading, transport and reloading can cause:

- deformation of the fan housing and impeller jamming (clenching)
- impeller deformation

The place of storage ought to be dry, of humidity not exceeding 70% and without dustiness.

The fan must be stored in dry rooms and of efficient ventilation.

12. Terms of warranty

The period of warranty for the purchased device is indicated in the “Card of Warranty”. The warranty does not comprise:

- mechanical damages and malfunctions caused by User,
- device failures caused during use which was in contradiction with the purpose of operational use and with the present Use and Maintenance Manual,
- any damages being caused during improper transport, storage or incorrect maintenance.

Infringement of the Section 3 “Reservations of Producer” of the present Use and Maintenance Manual and especially modifications undertaken by User on one’s own or use in contradiction with the purpose of application – shall result in the loss of warranty validity.

13. Sample of the Declaration of Conformity

Declaration of conformity EC No.

Manufacturer (eventually the authorized representative / importer):

name: **KLIMAWENT S.A.**

address: **81-571 Gdynia, Chwaszczyńska 194**

A person, authorized for issuing the technical documentation: Teodor Świrbutowicz, KLIMAWENT S.A.

hereby declares that the appliance:

name: **air-supply axial fans**

type/model: **WOK-N**

serial number: year of production:

meets the requirements of the subsequent European Directives:

- **2006/42/EC Machinery Directive** of the European Parliament and of the Council of May 17th, 2006 on machinery – amending the 95/16/EC (recast) /*Journal of Laws EC L157 of 09.06.2006, page 24*/
- **2014/35/EC Directive** of the European Parliament and of the Council of February 26th, 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits. /*Journal of Laws EC L96 of 29.03.2014*/

The appliance meets following harmonized standard:

- **EN ISO-12100:2012** – “Safety of machinery – Basic concepts, general principles for design. Risk assessment and risk reduction”.
- **EN 60204-1:2018-12** – “Safety of machinery – Electrical equipment of machines. Part 1: General requirements”.
- **EN 60034-1:2011** – “Rotating electrical machines – Part 1: Rating data and parameters”.
- **EN ISO 5802:2008/A1:2015-07** – “Industrial Fans – Performance testing in situ of installing”.
- **EN ISO 13857:2010** – “Safety of machinery – Safe distances to prevent hazard zones being reached by upper and lower limbs”.

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place, date

KLIMAWENT S.A.

Supported Employment Enterprise

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signature of authorised person

District Court Gdańsk-Północ
in Gdańsk, VII Wydział Gospodarczy
of the National Register of Court
KRS 0000308902 company stock
13.779.200 zł paid in total

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name, surname, function
of the signatory

NIP: 958 159 21 35

REGON: 220631262

Bank Account: **Santander Bank Polska S.A.**

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