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English

Installation Instructions
Circulation set for FriwaMidi - DN 20 and FriwaMaxi - DN 25

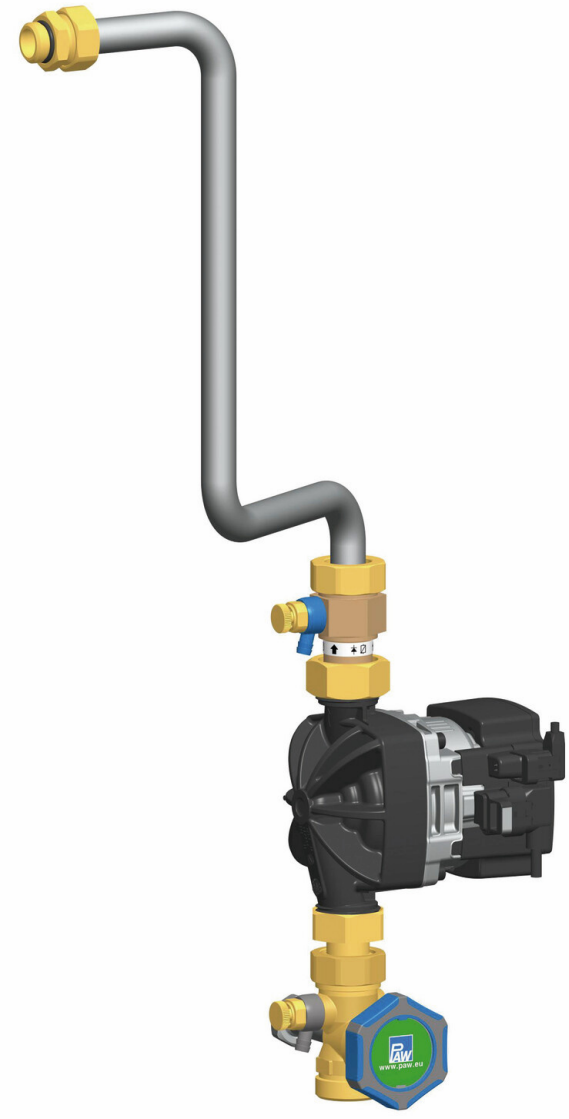


Table of Contents

1 General Information

Carefully read these instructions before installation and commissioning.

Save these instructions in the vicinity of the installation for future reference.

1.1 Scope of these instructions

These instructions describe the assembly and the installation of the circulation set for the domestic hot water module FriwaMidi and FriwaMaxi.

The chapters marked with [specialist] are intended for specialists only.

For other components of the installation, such as storage tanks, controllers or pumps, please observe the instructions of the corresponding manufacturer.

1.2 About this product

The circulation set allows you to connect a circulation line to the domestic hot water module FriwaMidi and FriwaMaxi.

1.3 Designated use

The circulation set must only be used for the internal installation in a FriwaMidi or FriwaMaxi module.

Improper usage of the product excludes any liability claims.

This product complies with the relevant directives and is therefore labelled with the CE mark.
The Declaration of Conformity is available upon request, please contact the manufacturer.

Only use PAW accessories with the circulation set.

2 Safety instructions

The installation and commissioning as well as the connection of electrical components require technical knowledge commensurate with a recognised vocational qualification as a fitter for plumbing, heating and air conditioning technology, or a profession requiring a comparable level of knowledge [specialist].

The following must be observed during installation and commissioning:

- relevant local and national regulations
- accident prevention regulations of the professional association
- instructions and safety instructions mentioned in these instructions

NOTICE

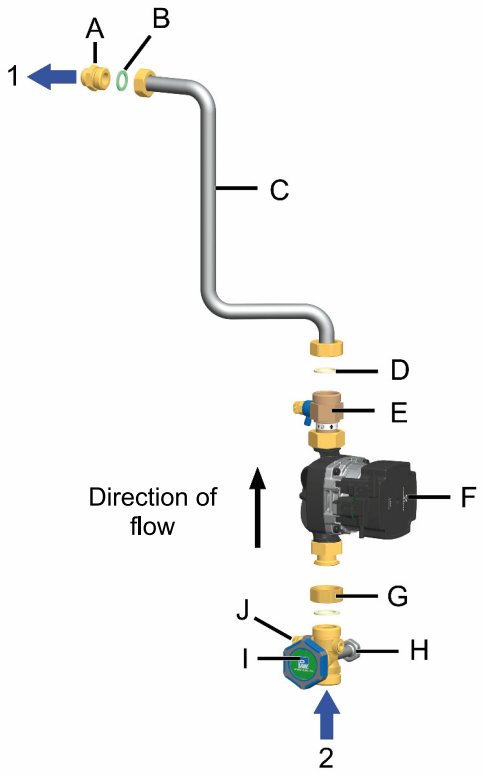
Material damage due to mineral oils!

Mineral oil products cause lasting damage to seals made of EPDM, whereby the sealant properties are lost. We do not assume liability nor provide warranty for damage to property resulting from sealants damaged in this way.

► It is imperative to prevent the EPDM sealing elements from making contact with substances containing mineral oils.

► Use a silicone- or polyalkylene-based lubricant free of mineral oil such as Unisilikon L250L and Syntheso Glep 1 from Klüber or a silicone spray.

3 Product description



Connections

1 Cold domestic water inlet at the heat exchanger

2 Circulation line

Equipment

A Nipple adaptor

B Gasket ¾" (1x)

C Stainless steel pipe

D Gasket 1" (2x)

E Non-return valve with drain valve

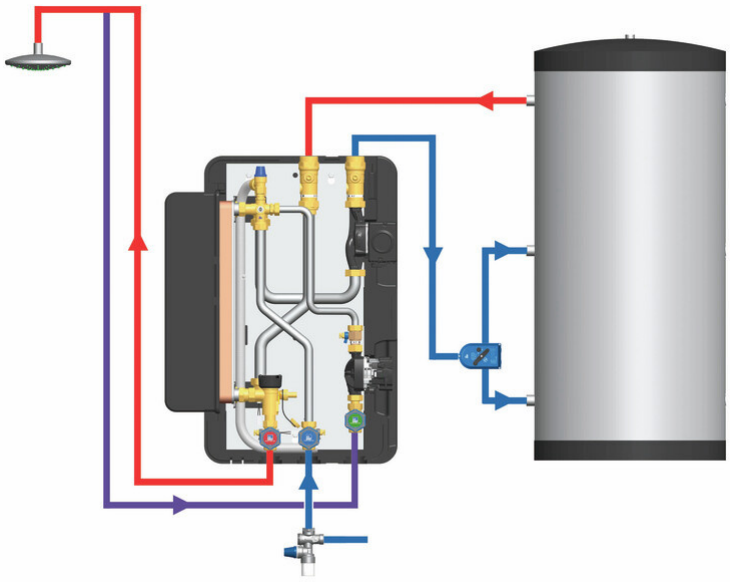
F Circulation pump

G Union nut

H Screw bolt

I Piston valve

J Drain valve



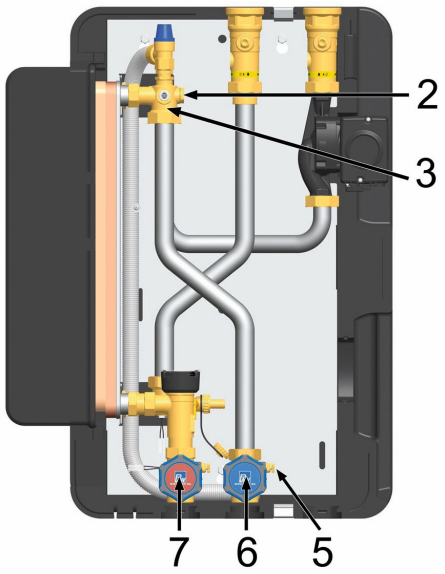
FriwaMidi with optional circulation set and with optional return distribution

(**FriwaMidi:** Item no. 640423, **FriwaMaxi:** Item no. 640424)

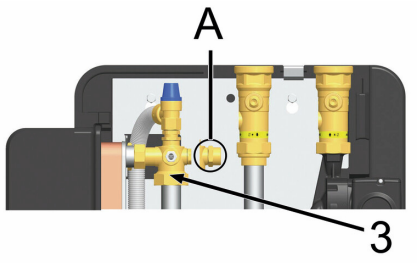
4 Mounting and installation [specialist]

WARNING	
	**Risk to life and limb due to electric shock!** ► Prior to commencing electrical work on the controller, pull the mains plug! ► Only after completing all installation work, plug the mains plug of the controller into a socket. An unintentional start of the motors is thus avoided.

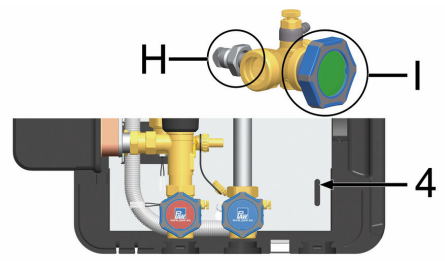
1. Disconnect the power supply of the domestic hot water module.
2. Remove the insulating front shell of the domestic hot water module.
3. Connect piston valves [6] and [7] in the secondary circuit.
4. Open drain valve [5] to drain the line.
   Then close the drain valve again.
5. Remove the plug [2] at the flange bracket [3].



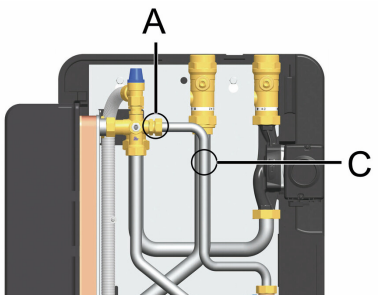
6. Screw the nipple adaptor [A] to the flange bracket [3].



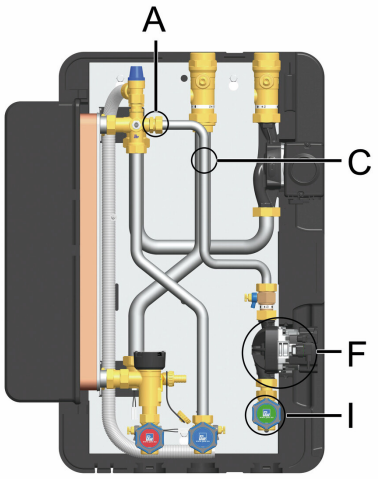
7. Insert the piston valve [I] with the screw bolt [H] into the long hole [4] and rotate the piston valve by 90° to the left. Screw in the piston valve and tighten only to such an extent that it can be moved up and down in the slotted hole.



8. Connect the circulation line [C] with the nipple adaptor [A]. For this, use the ¾" gasket.
   Tighten the nut by hand.



9. Connect the pump [F] with the circulation line [C] and with the piston valve [I].
   Use the 1" gaskets for this purpose.
10. Align all components correctly before you tighten all screw connections. Tensions at the connecting points are thus avoided.
11. Close the piston valve [I].

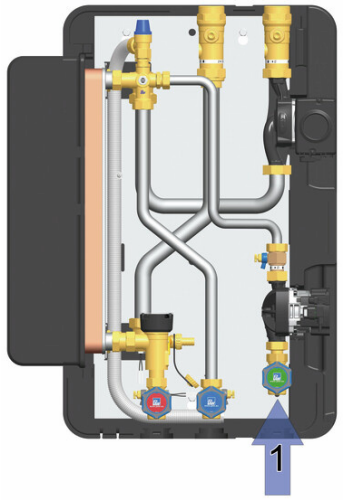


12. Pipe the circulation set with the system according to the adjoining illustration.

    1 Secondary side:

    Circulation line

    Connection: 1" ext. thread, flat sealing



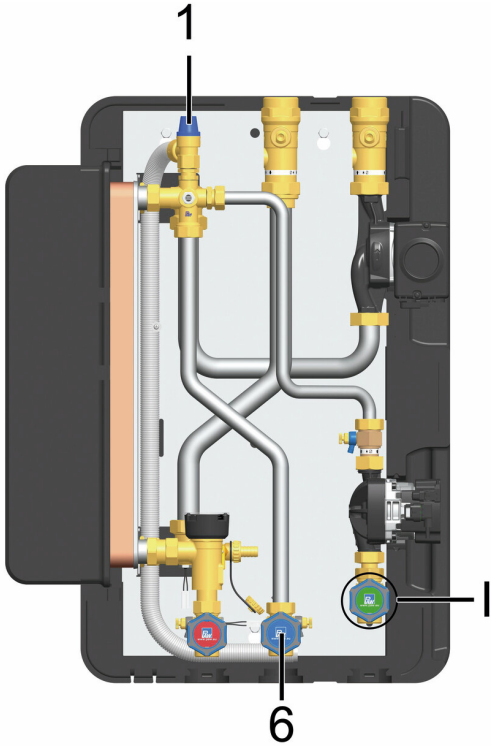
5 Commissioning [specialist]

5.1 Venting the secondary circuit

1. Slowly open the piston valve [6].

   In doing so, take note of leaking points in the circulation line. If necessary, retighten the screw connections.

2. Open safety valve [1] in order to vent the circulation line.
3. If no more air escapes, close safety valve [1].
4. Open piston valve [I].
5. Open a withdrawal point for domestic hot water (for example a tap) with a flow rate of at least 10 l/min and let the water run for about 2 minutes. Close all withdrawal points of the secondary circuit afterwards.



5.2 Controller connection FC3.10

NOTICE

Damage to property!

When the DHW module is delivered, the circulation is not activated (see controller instructions, chapter *Circulation*). It is mandatory to select and preset the operation mode. The revolution speed of the circulation pump is defined via the PWM signal (factory setting: 40%).

WARNING

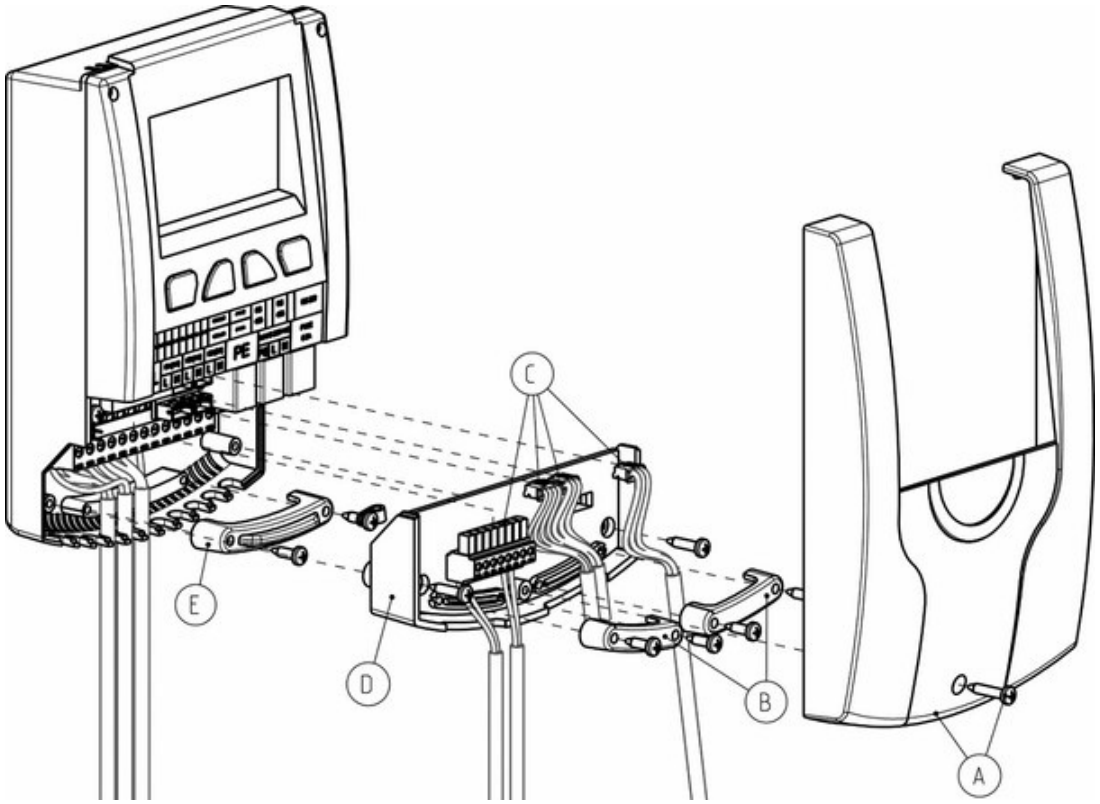
Risk to life and limb due to electric shock!

- ▶ Prior to commencing electrical work on the controller, pull the mains plug!
- ▶ Only after completing all work, plug the mains plug into a socket. This avoids an unintentional start of the motors.

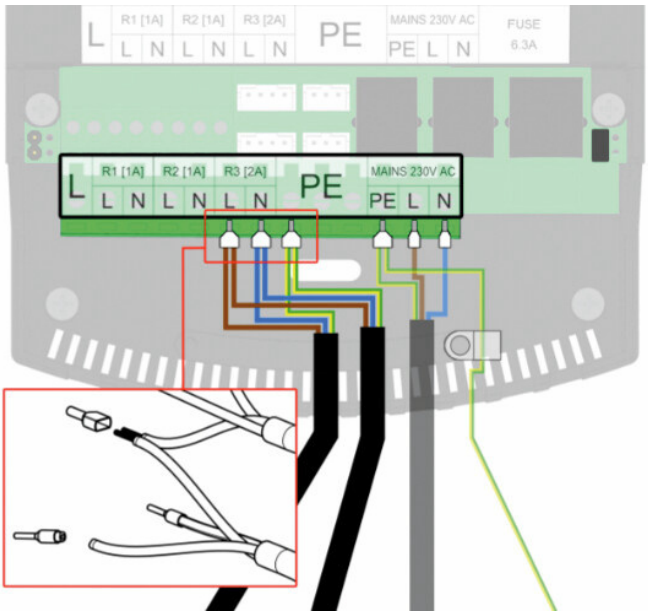
For the operation of the circulation pump, three possible operation modes are stored in the controller (see also controller instructions, chapter *Circulation*).

The following figures show how to wire the circulation pump with the control.

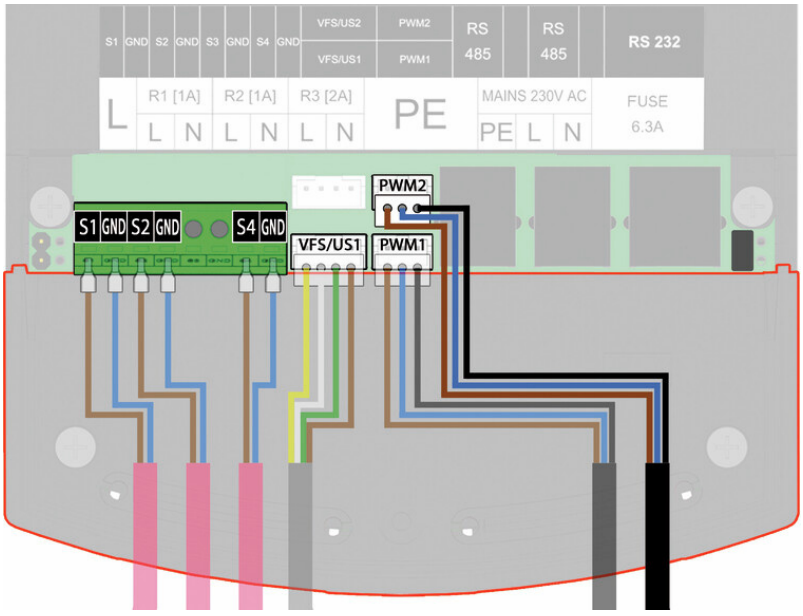
1. Disconnect the power supply of the system.
2. Run the PWM2 cable to the controller. Make sure that the cable doesn't get in contact with hot components.
3. Remove the white front panel of the controller (A).



4. Then, remove the strain reliefs (B).
5. After that, remove the sensor cables of the VFS/US sensors, of the PWM signal and the temperature sensors from the controller circuit board plug connector (C). Alternatively, you can pull out the entire PCB connector with cables.
6. In the next step, unscrew the two screws to remove the intermediate level (D).
7. Remove the strain relief on the 230 V level (E).
8. Both pumps (primary pump and circulation pump) must be connected to the relay 3 by means of the enclosed duo wire end ferrules (brown - L, blue - N, green-yellow - PE).



9. Finally mount the intermediate level and connect the sensor cables to the controller. Connect the PWM1 (primary pump) and the PWM2 cable (circulation pump) with the controller. Please observe the following connection scheme:



10. Mount the front panel of the controller.
11. Connect the circulation pump with the enclosed cable "Psec".
12. Set up the power supply and put the controller into operation according to the controller instructions.

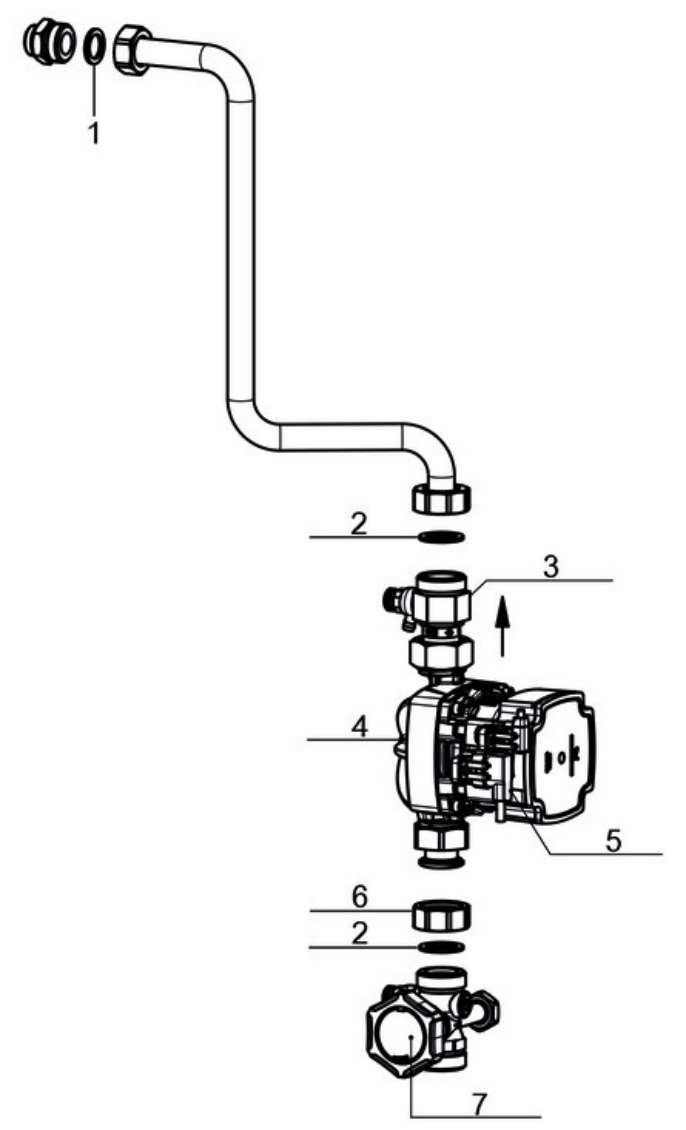
6 Scope of delivery

NOTICE

Serial number

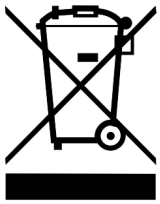
Complaints and requests/orders of spare parts will only be processed with information on the serial number!

The serial number is placed on the pump.



Position	Spare part	Item number
1	Gasket ¼", for thread connection ¾", 10 pieces	N00030
2	Gasket ½", for thread connection 1", 10 pieces	N00024
3	Non return valve DN 20, 1" ext. thread x 1" union nut	N00283
4	Pump Grundfos UPM4 15-70 CIL3, with gaskets	N00087
5	Pump connection cable, SuperSeal, 1.0 m	N00209
6	Union nut G 1", wrench size 37, octagonal	N00302
7	Piston valve DN 20, 2x 1" ext thread, 1x brass plug, with draining	N00211
no pos.	Pump connection cable, SuperSeal Mini on JST-PHR3, 1.0 m	N00090

7 Disposal

NOTICE	
	Electrical and electronic devices must not be disposed of in the household waste. For your return, there are free collection points for electrical appliances and, if necessary, additional points of acceptance for the reuse of the devices in your area. The addresses can be obtained from your city or communal administration. If the old electrical or electronic device contains personal data, you are responsible for deleting it before returning the device. Batteries and rechargeable batteries must be removed prior to the disposal of the product. Depending on the product equipment (partly with optional accessories), single components can also contain batteries and rechargeable batteries. Please observe the disposal symbols on the components.

Disposal of transport and packaging materials

The packaging materials are made of recyclable materials and can be disposed of with recyclable materials.

Item no. 996404123-mub-en
Translation of the original instructions

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