NUVOS 41N

NUVOS 45S

NUVOS 55S/70S

NUVOS 140

NUVOS® Inverter pumps
41N / 45S / 55S / 70S / 140N

Mounting and Operation Instructions

WATER IS OUR ELEMENT

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Table of Contents

1. Introduction

Congratulations on purchasing your NUVOS inverter pump.
The NUVOS series is specially designed for the operating water supply (e.g., rainwater, grey water, or pressure boosting, water transfer, cooling systems, heating systems, irrigation, cooling water) and is used in large single-family dwellings, apartment buildings, and in commercial and industrial applications.

Functionality and scope of application:

The centrifugal pump is speed-controlled via the integrated control unit in accordance with the set pressure level. Pressure monitoring is carried out by an integrated analogue pressure sensor, which is monitored by the pump control unit. Flow monitoring (dry running protection) is also carried out by the control unit, as is temperature monitoring. All operating parameters, such as run-on time, no-load and load current range, and response time for dry running, are specified by the pump control system.

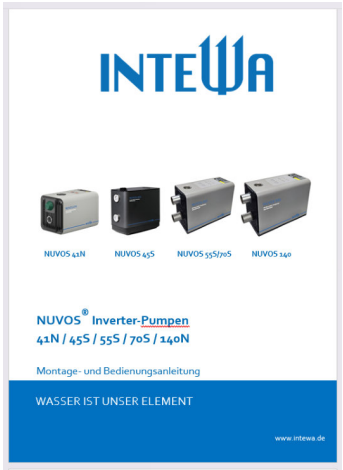
Overview of functions:

Variable frequency, constant pressure	The speed of the motor follows the water consumption and attempts to maintain the set working pressure.
Overvoltage protection	The pump switches off in the event of overvoltage.
Blockage protection	If the pump jams, it switches off to protect the motor.
Motor temperature protection	If the motor temperature exceeds 103°C, the pump switches off.
Temperature shutdown if the water temperature is too high	If the water temperature in the pump pot reaches 73°C, the pump automatically switches to standby. When the temperature drops, the pump switches back on automatically.
Leak detection	In the event of minor leaks or dripping consumers, the leakage indicator lights up to inform the user. This has no effect on operation.
Dry running protection	The pump detects when there is no more water flowing and switches off after a certain period of time.

2. Scope of delivery

One NUVOS pump with electrical socket

Mounting and Operation instructions



3. Safety instructions

Live components may only be installed by a licensed electrician. If electrical devices malfunction, the product may only be put back into operation after it has been repaired by a licensed electrician. There is a risk of electric shock!

The power outlet circuit used for the device must be protected by a circuit breaker (16 A in many countries). An RCD with a maximum response current of 30 mA must also be installed upstream if not already present.

Before installing the product, read these mounting and operation instruction carefully. The information provided must be followed exactly. Modifications to the product are not permitted, as this will void any warranty claims.

- The following points must also be observed during installation and operation:
- Inspect the product for any visible defects before installation. If there are any defects, the product must not be installed. Damaged products can be dangerous.
- A floor drain must be provided near the installation site to collect any accidental water leaks (e.g., due to pump failure, pipe breakage, etc.) and prevent water damage to the building.
- The masonry behind a water-carrying system must be protected from water (e.g., with waterproof paint).
- Ensure that existing emergency overflows are connected and sufficiently dimensioned.
- Plug the electrical socket if you are away for more than 24 hours.
- Shut off the mains water pipe/potable water pipe to the appliance if you are away for more than 24 hours.
- All products must be checked regularly to ensure they are in proper working order. The minimum inspection intervals are specified in the maintenance instructions.
- Electrical appliances can be dangerous for children. Therefore, keep children away from the product. Do not allow children to play with the product.
- Never install water-carrying products in locations where the temperature can fall below 0°C.
- Do not install electrical products in rooms at risk of flooding.
- The operator is responsible for complying with safety and installation regulations.

4. Technical data

Model	Power		Speed	Flow (m^3/h)		Head (m)		Suction	Noise	Supply Voltage
	HP	kW	RPM	Max.	Rated	Max.	Rated	m	dB	
NUVOS 41N	0.40	0.37	6000	4.1	2.0	32	20	--	< 54	220-240 VAC/50-60Hz
NUVOS 45S	0.40	0.37	6000	4.5	2.0	32	20	4	< 52	220-240 VAC/50-60Hz
NUVOS 55S	0.75	0.55	4000	5.5	2.0	45	32	6	< 54	220-240 VAC/50-60Hz
NUVOS 70S	1.00	0.75	4000	7.0	3.0	48	40	6	< 58	220-240 VAC/50-60Hz
NUVOS 140N	3.00	2.20	4800	14.0	8.0	62	45	--	< 64	220-240 VAC/50-60Hz

Continuous duty class: S1
Insulation: B
protection rating: IP S4
Power cord/length: 3G1.0 / 1.2 m

Use and working conditions:

Water quality: Clean water, free of solids and suspended matter, non-aggressive
PH value: 5-8
Water temperature: 0°C - 60°C
Ambient temperature: < 40°C
Ambient humidity: max. 85% (RH)
Max. consumer height: 15 m below H_{max}

pump curves:

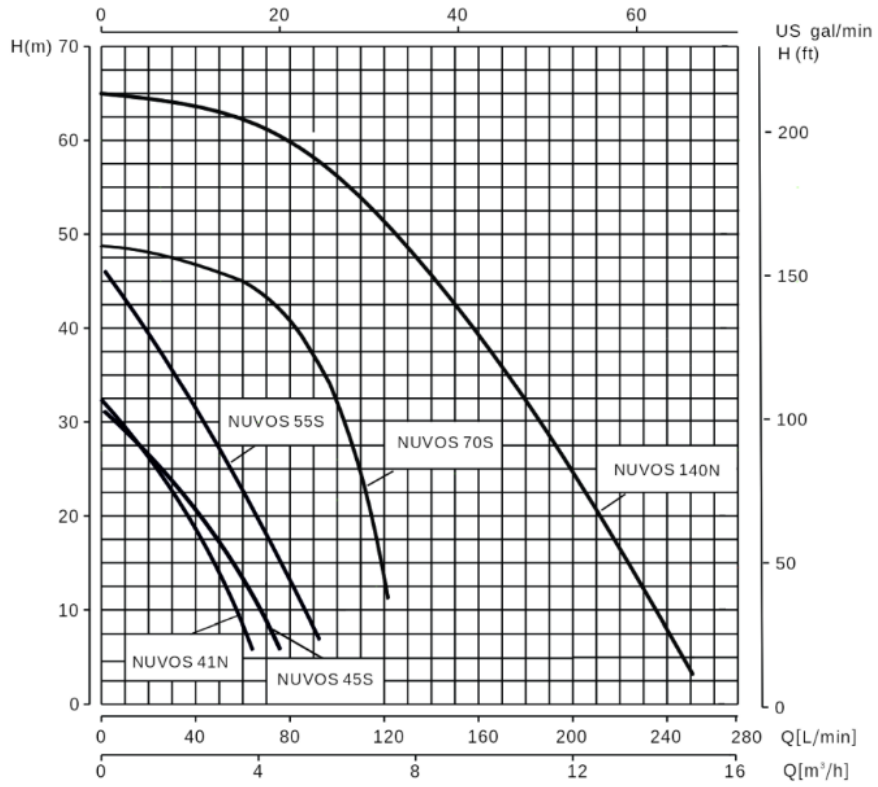


Fig. pump curves NUVOS series

Suction curve

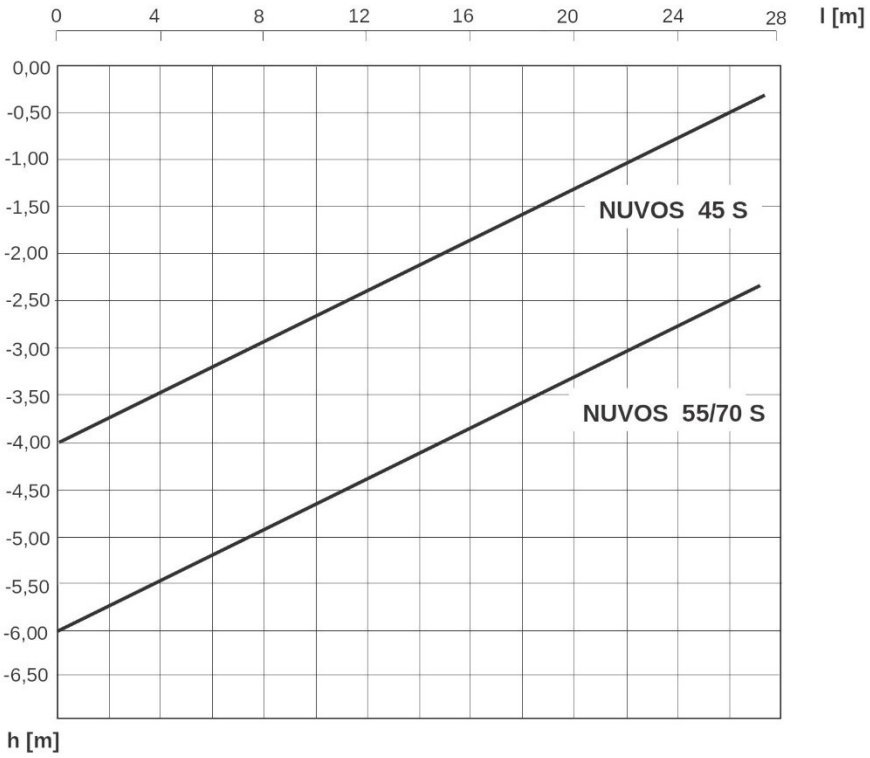


Fig.: Suction curve (self-priming pumps) with 1" suction pipe with length l

4.1 Connections, dimensions, and weights

Model	DN1 Inlet	DN2/ DN3 Outlet	Dimension (mm)							Carton Size (mm)	N.W. (kg)	G.W. (kg)
			a	b	h	h1	h2	n	n1			
NUVOS 41N	G1	-- / G1	308	175	201	71	142	87	104	365 x 225 x 230	5.0	5.6
NUVOS 45S	G1	G1 / --	270	155	241	89	192	7	5	325 x 185 x 290	5.6	6.2
NUVOS 55S	G1	G1 / G1	408	180	258	92	196	101	101	490 x 240 x 315	8.2	9.0
NUVOS 70S	G1	G1 / G1	408	180	258	92	196	101	101	490 x 240 x 315	8.7	9.5
NUVOS 140N	G2	G1 / G1	408	169	278	82	199	107	107	455 x 220 x 320	12	12.8

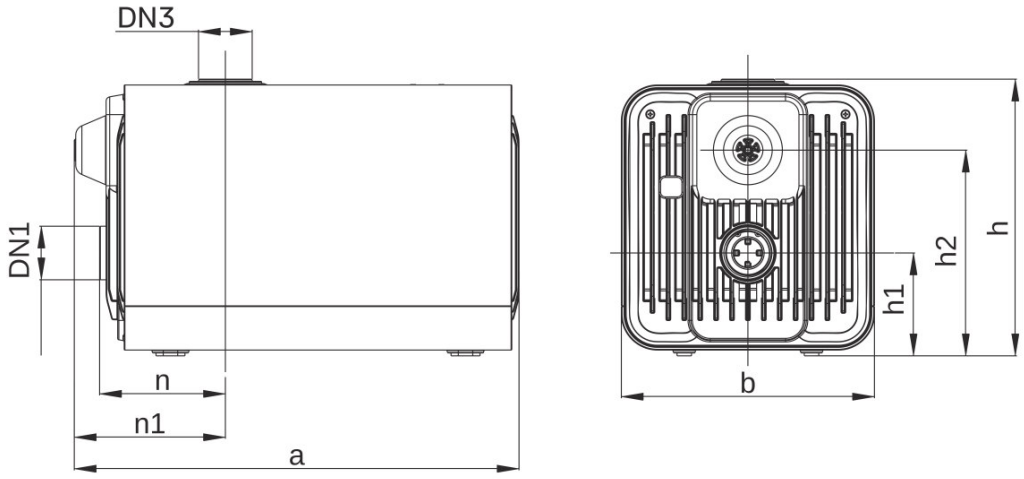


Fig.: NUVOS 41 N

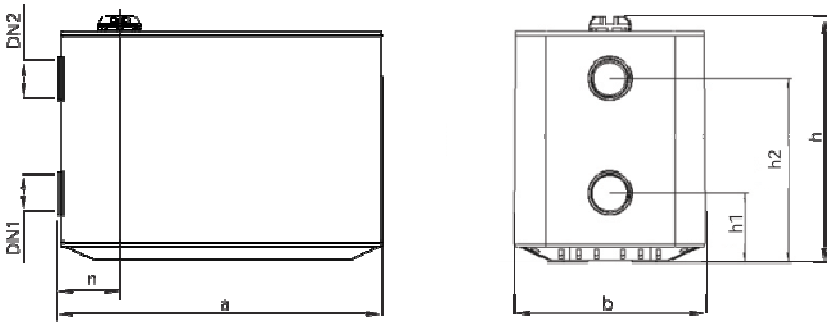


Fig.: NUVOS 45S

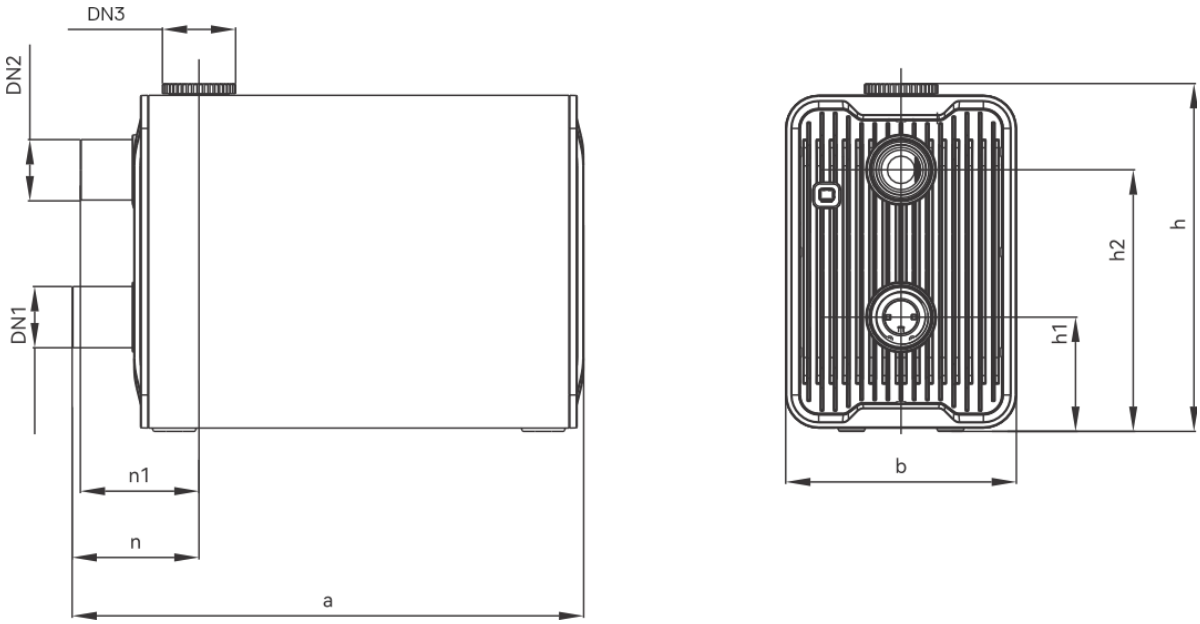
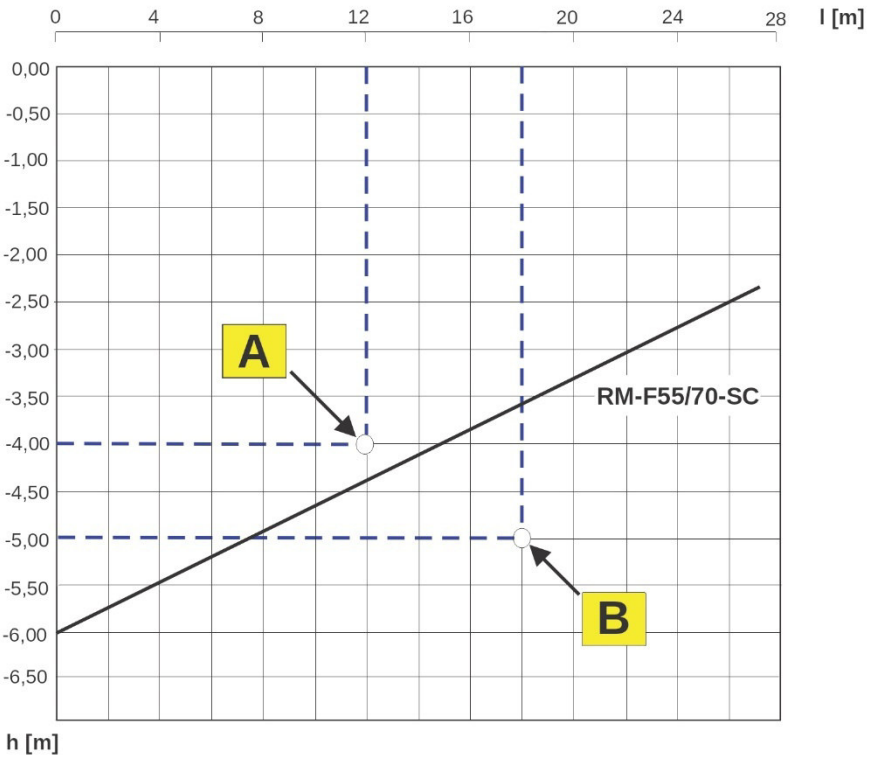


Fig.: NUVOS 55S / 70S / 140N

4.2 Information on suction

In practice, a centrifugal pump is only self-priming within a certain range due to a decrease in underpressure (pipe friction, suction height). Within this operating range, the pump can vent the suction pipe/line/hose independently (e.g., during initial commissioning). The suction curve shows the relationship between suction length and suction height. The determined value must be above the suction curve shown in the diagram. If the suction point is below the suction curve, a hybrid tank with a charging pump / booster pump must be used (see Appendix 1.1).

Dimensioning examples:



Example A:
Suction pipe length = 12 m
Intake height = 4.0 m (height difference between lowest intake position and pump)

➔ OK because the intersection point is above the characteristic curve

Example B:
Suction pipe length = 18 m
Suction height = 5.0 m (height difference between lowest suction position and pump)

➔ Not OK, as the intersection point is below the characteristic curve

➔ Suction via a hybrid tank with a charging pump / booster pump in the central storage tank (see example in Appendix 1.1)

4.3 EU Declaration of Conformity

1 **EU Konformitätserklärung**
EU- Declaration of Conformity

de/en

2 **Diese EU-Konformitätserklärung wurde in alleiniger Verantwortung von INTEWA GMBH ausgestellt.**
This declaration of conformity is issued under the sole responsibility of INTEWA GmbH.

3 **Dokument-Nr.:** **30/06/2025**
Document-No.:

4 **Hersteller:** INTEWA GmbH
Manufacturer:

5 Anschrift: Auf der Hüls 182
Address: D – 52068 Aachen

6 **Produktbezeichnung:**
Product designation:

7 Pumpenstation
pump station

8 Typenbezeichnung: NUVOS xxN, NUVOS xxS
Type:

9 **Der oben beschriebene Gegenstand der Erklärung erfüllt die einschlägigen Harmonisierungsrechtsvorschriften der Union:**
The object of the declaration described above is in conformity with the relevant Union harmonization legislation:

10 **2006/42/EU:** **Maschinenrichtlinie**
2006/42/EU: *Directive Machinery*

11 **2014/30/EU:** **EMV Richtlinie**
2014/30/EU: *Directive relating to electromagnetic compatibility*

12 **2011/65/EU:** **RoHS-Richtlinie II**
2011/65/EU: *RoHs Directive II*

2015/863/EU **RoHS-Richtlinie III**
2015/863/EU *RoHS-Richtlinie III*

13 **Angewandte harmonisierte Europäische Norm:**
Applied harmonised European Standard:

EN60335-1:2012/A11:2014:2014/A13:2010/A15:2011, ENISO 12100:2010

EN 61000-6-3:2007/A1:2011, EN 61000-6-1: 2007, EN 61000-6-4: 2007/A1:2011
EN 61000-6-2: 2005, EN55014-1:2006/A2:2011

EN50581:2012

Weitere normative Dokumente
Other normative documents

EN 60335-2-41:2003/A2:2010

14 **Ort, Datum:** **Aachen, 30.06.2025**
Place, Date:

15 **Rechtsverbindliche Unterschrift:**
Legal signature:

16 Geschäftsführer Oliver Ringelstein
Manager

30/06/2025

5. Pump overview

5.1 Pump overview NUVOS 45S

① Suction connection
② Pressure connection
③ Check valve / Filling nozzle
④ Display and keypad

Fig.: Pump connections and display

5.1.1 Display and button functions on the NUVOS 45S

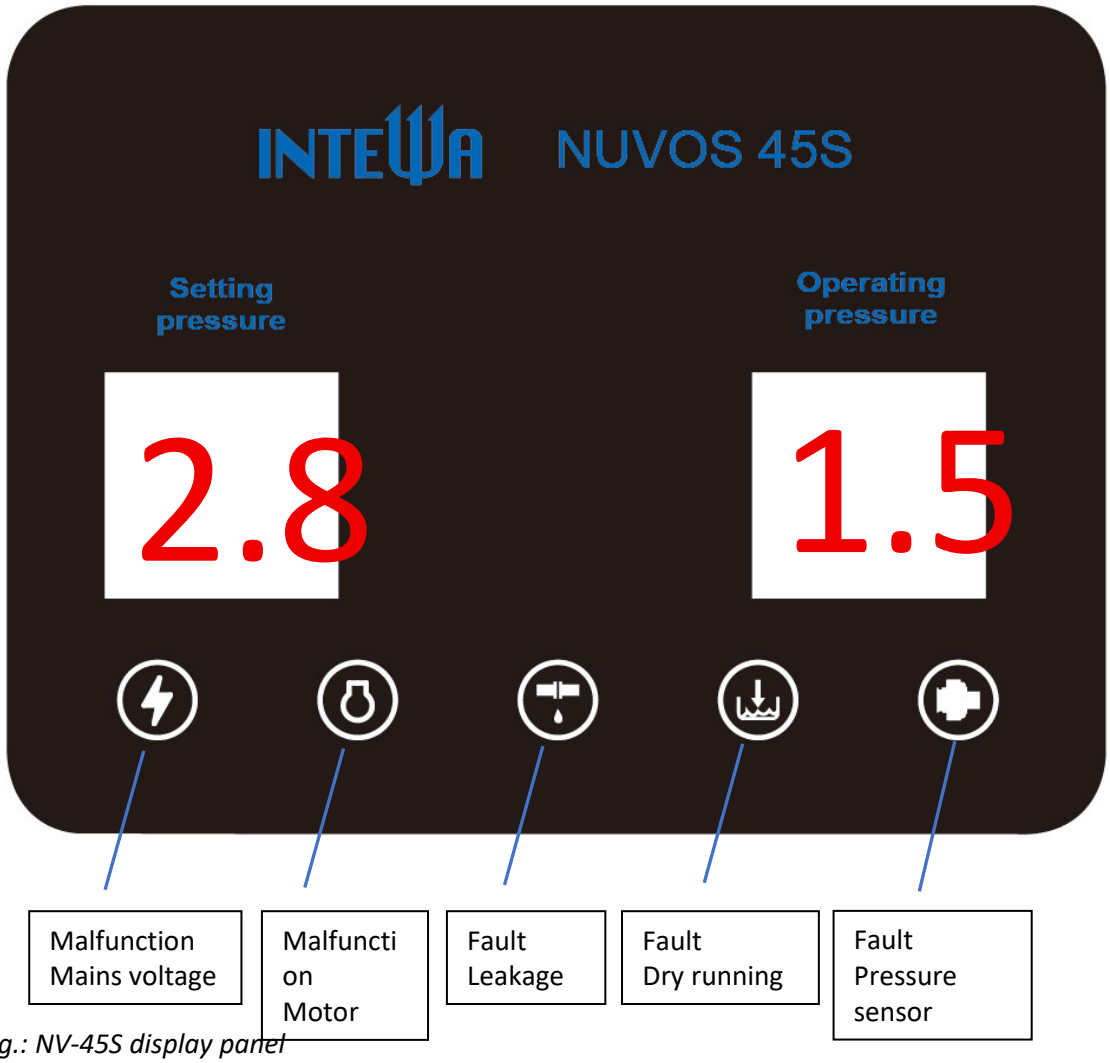
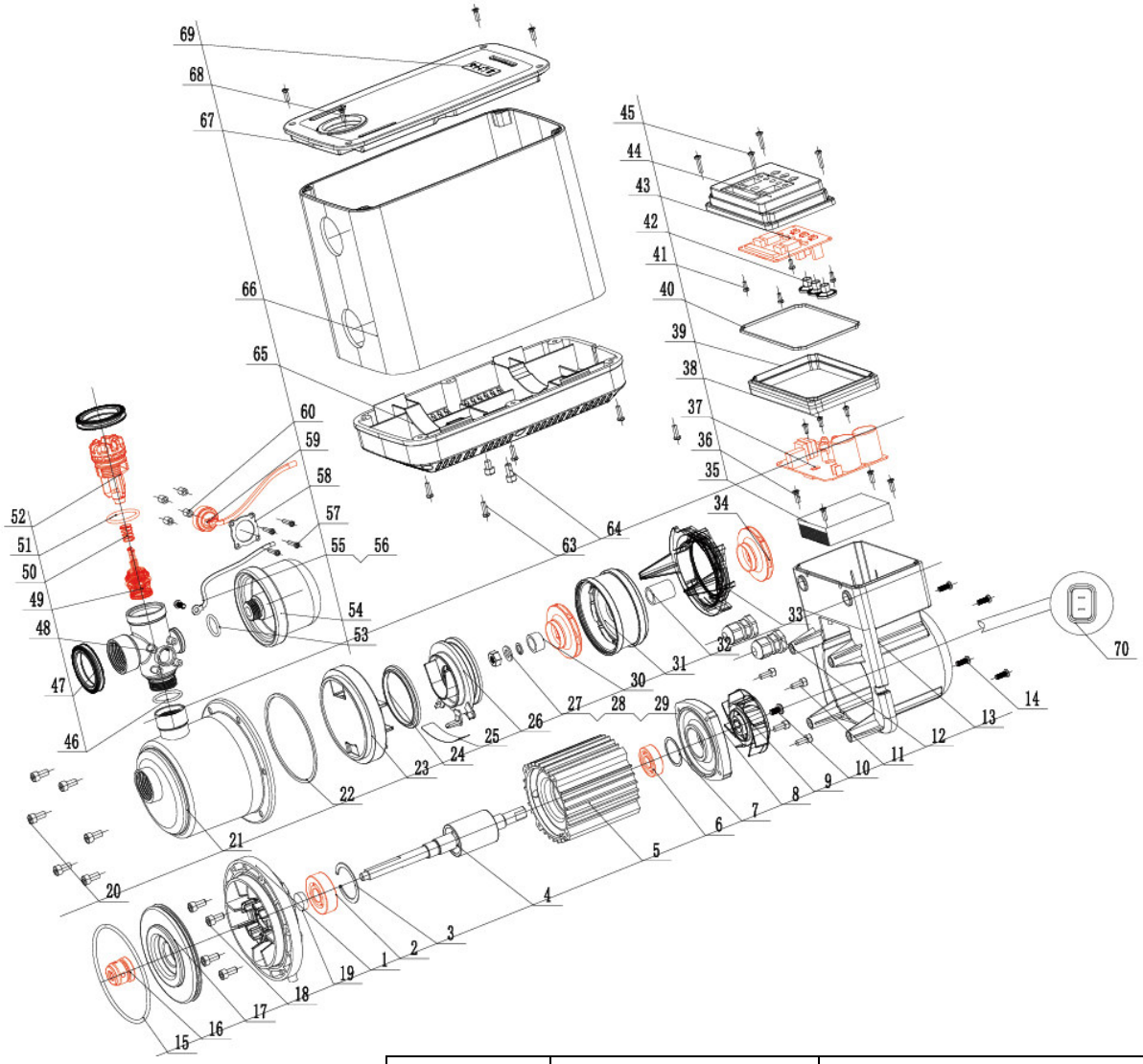


Fig.: NV-45S display panel

KEY	FUNCTION
⏻	Start / Stop ⏻ The pump switches between standby and stop when the button is pressed. The pump starts automatically in standby (pump mode) when the pressure falls below the set intake pressure.
+ or −	Display and set working pressure Press the setting button + or − once to display the set working pressure value. Pressing + or − again increases or decreases the working pressure value. The setting is saved automatically.

5.1.2 Exploded view NUVOS 45S



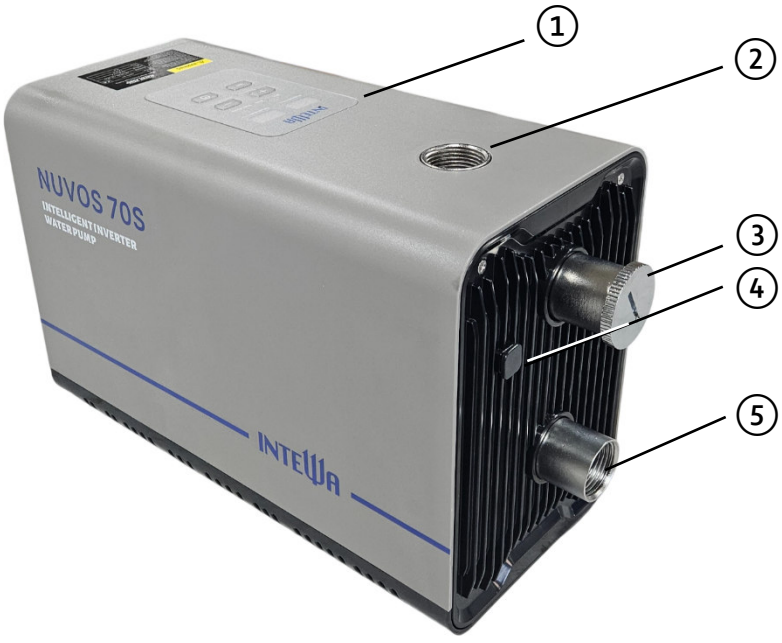
Pos	Designation	Designation
2	NV-45 BR 6302	Ball bearing 6302
6	NV-45 BR 6201	Ball bearing 6201
16	NV-45 GLD	Plain bearing seal
23	NV-45 LA	REFLEX air separator
26	NV-45 LR1	Diffuser, guide wheel 1
31	NV-45 LR2	Diffuser, guide wheel 2
34	NV-45 IMP	Impeller
37	NV-45 PC	Pump controller
43	NV-45 PD	Pump display
49-52	NV-45 RSV	Check valve
59	NV-45 DS	Pressure sensor

Fig./Tab.: Exploded view and spare parts list for NUVOS-45S

5.2 Pump overview NUVOS 41N, 55S, 70S, 140N

① Suction connection with check valve
② Filling nozzle for expansion tank
③ Pressure connection
④ Display and keypad panel

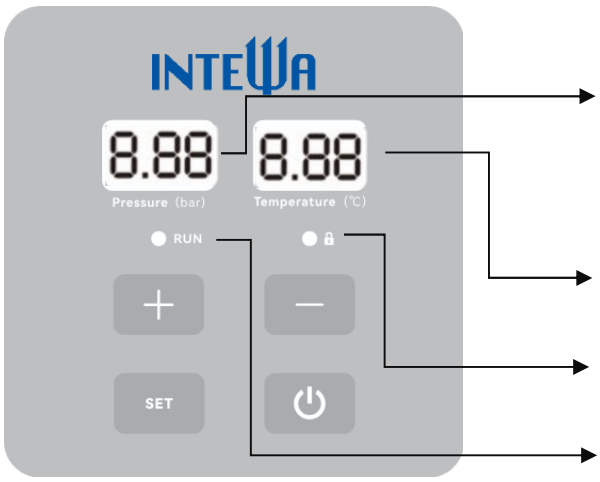
Fig.: NUVOS 41N connections and display



① Display and keypad
② Pressure connection
③ Pressure connection alternative (closed with plug)
④ Socket for signal cable in the DUPLEX application
⑤ Suction connection with check valve

Fig.: NUVOS 55S/70S/120N connections and display

5.2.1 Display and button functions for NUVOS 41N, 55S, 70S, 140N



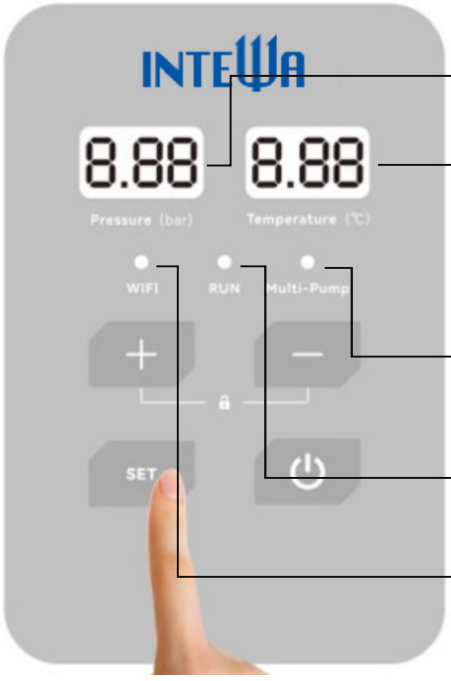
- Operating pressure
- Set pressure
- Operating mode (frequency)
- Parameters (B01+B17)
- Alarm
- Set values

Temperature

ON: Buttons locked
OFF: Buttons unlocked

ON: Pump running
OFF: Pump is OFF
Flashing: Pump is running to reach the set pressure

Fig.: NUVOS 41N display



- Operating pressure
- Set pressure
- Operating mode (frequency)
- Parameters (b01+b17)
- Alarm
- Set values

Temperature

ON: DUPLEX function is active
OFF: DUPLEX function not active

ON: Pump running
OFF: Pump is OFF
Flashing: Pump is running to reach the set pressure

ON: WIFI connected (currently unavailable)
OFF: WiFi inactive

Fig.: Display NUVOS 55S/70S/140N

KEY	FUNCTION
+ or −	**Display and set working pressure** Press the setting button + or − once to display the set working pressure value. Pressing + or − again increases or decreases the working pressure value by 0.1 bar. The pressure value flashes. Press the SET button to save the setting. This also happens automatically after 20 seconds without input.
+ + −	**Key lock** Press and hold the " + " and " − " buttons to lock/unlock the " + ", " − " and " SET " buttons. The factory setting is "unlocked."
⏻	**Standby/Stop** The pump switches between standby (ON) and OFF when ⏻ is pressed. The pump starts automatically in standby (pump mode) when the pressure falls below the set intake pressure.
⏻ (3 sec.)	**Display mode ON/OFF** To enter display mode, press and hold the " ⏻ " button for 3 seconds. The pump will switch to display mode, in which the operating frequency is shown as Lxx (xx represents the operating frequency) in the left-hand number display. Pressing the ⏻ button for 3 seconds will exit display mode and return to the working pressure display. **Frequency setting** The frequency is set using the " + " or " − " buttons to increase or decrease the frequency by 1 Hz with each press (accompanied by a short beep). The " SET " button is used to save the setting or exit immediately. Automatically after 20 seconds without input.
SET	**Parameter menu** Press the SET button to open the parameter menu.

5.2.2 Parameter settings for NUVOS 41N, 55S, 70S, 140N

Information: The standard factory settings [FS] of the pumps are optimal values that are suitable for most application conditions. It is generally not necessary to change the settings. If this is necessary, it should be done under the guidance of qualified personnel, as any damage that occurs otherwise is not covered by the warranty.

Setting the parameters:

Parameters are set using the " + " or " − " buttons.

Select the parameter to be set and save the setting value with the " SET " (.)button.

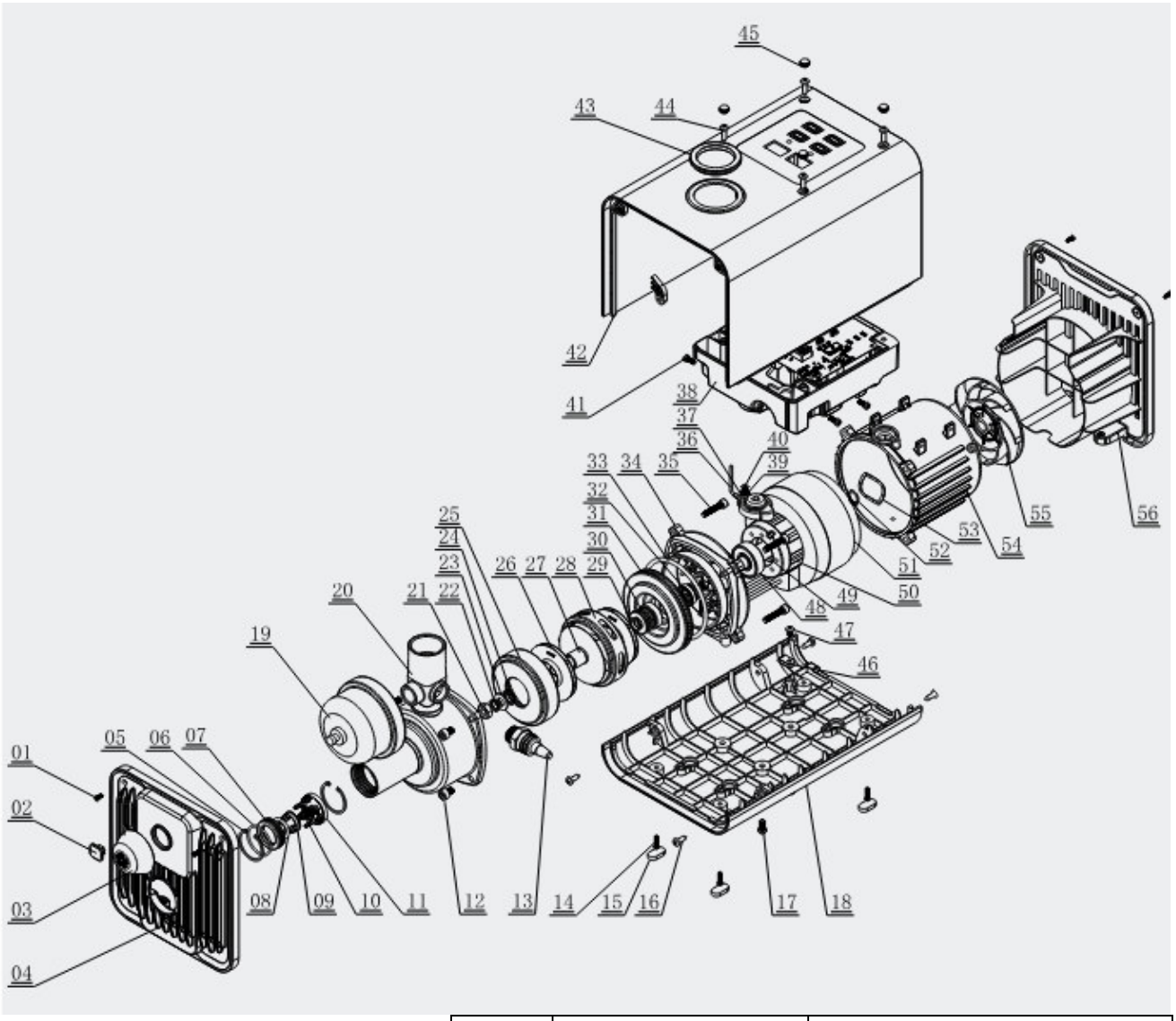
Information Factory setting [FS]: The value flashes on the screen during setup.

	Setting parameters B01 to B17: Navigation: SET Press and display "B01" > Set with + or − to change parameters Press SET to select the parameter and make the setting > Change the value with + or − . Press SET to save.
bO1 [FS: 80]	[Range: 10-90%] Intake pressure parameter: The pump starts automatically when the pressure drops to the set percentage of the working pressure. Navigation: Press " SET " > "B01" > " SET " > enter value [10~90%] > " SET " to save.
bO2 [FS: 00]	[00: clockwise rotation; 01: counterclockwise rotation] Parameter Direction of rotation: The correct direction of rotation is clockwise when viewed from the side of the fan cover. The motor **must** be stopped for adjustment. Navigation: Press " SET " > "B02" > " SET " > set digit [00 or 01] > " SET " to save.
b03 [FS: 0.5]	[Range: 0 – intake pressure] Dry running protection parameter (pipe leak protection): If the working pressure falls below the preset value, the pump switches off. Navigation: Press " SET > + " or " − " > [B03] > " SET " > Enter value [0-SP] > " SET " to save.
b04 FS: 180]	[Range: 10-180 seconds], Parameter Run-on time: Time required for the pump to stop when running dry. Navigation: Press " SET > + " or " − " > [B04] > " SET " > Enter value [10-180] > " SET " to save.

b05 [FS: 00]	[00: Enable 01: Disable] Activate or deactivate the automatic protection function when the pump is running The pressure is subject to irregular fluctuations. Navigation: Press " SET > + " or " − " > [B05] > " SET " > Enter value [00-01] > " SET " to save.
b06 [FS: 00]	[00: Display of working pressure (bar) 01: Real-time frequency (Hz) 02: Real-time power (kW)] Parameter display type: Set the parameters for real-time display. Navigation: Press " SET > + " or " − " > [B06] > " SET " > Enter value [00-02] > " SET " to save.
b07 [FS: 30]	[Range: 10-50] Flow detection parameter: Reduce the value if the pump does not run or runs for a long time when the tap is closed. Increase the value if the pump stops during water consumption. Navigation: Press SET > + or − > [B07] > SET > Enter value [10-30] > SET to save.
b08 [FS: 0]	[Range: 0-2] Parameter for dual pump application: Set to 0 for single pump operation. Settings 1 and 2 for dual pump operation (setting 0 is not permitted in parallel operation!) Navigation: Press " SET > + " or " − " > [B08] > " SET " > enter value [0-2] > " SET " to save.
B09-B13	Not active
b14 [FS: 01]	[00: Enable 01: Disable Enable or disable the freeze protection function. This function prevents damage to the pump in low-temperature or freezing environments. Navigation: Press " SET > + " or " − " > [B14] > " SET " > Enter value ["00" or "01"] > " SET " to save.
b15 [FS: 5°C]	[Range: -10°C ~ +10°C] To set the start temperature for frost protection. The pump switches on automatically when the water temperature in the pump housing drops to this value to prevent the water from freezing and damaging the pump housing. Only works if B14 is activated ("00"). Navigation: Press " SET > + " or " − " > [B15] > [SET] > Enter value [-10°C ~ +10°C] > [SET] to save.

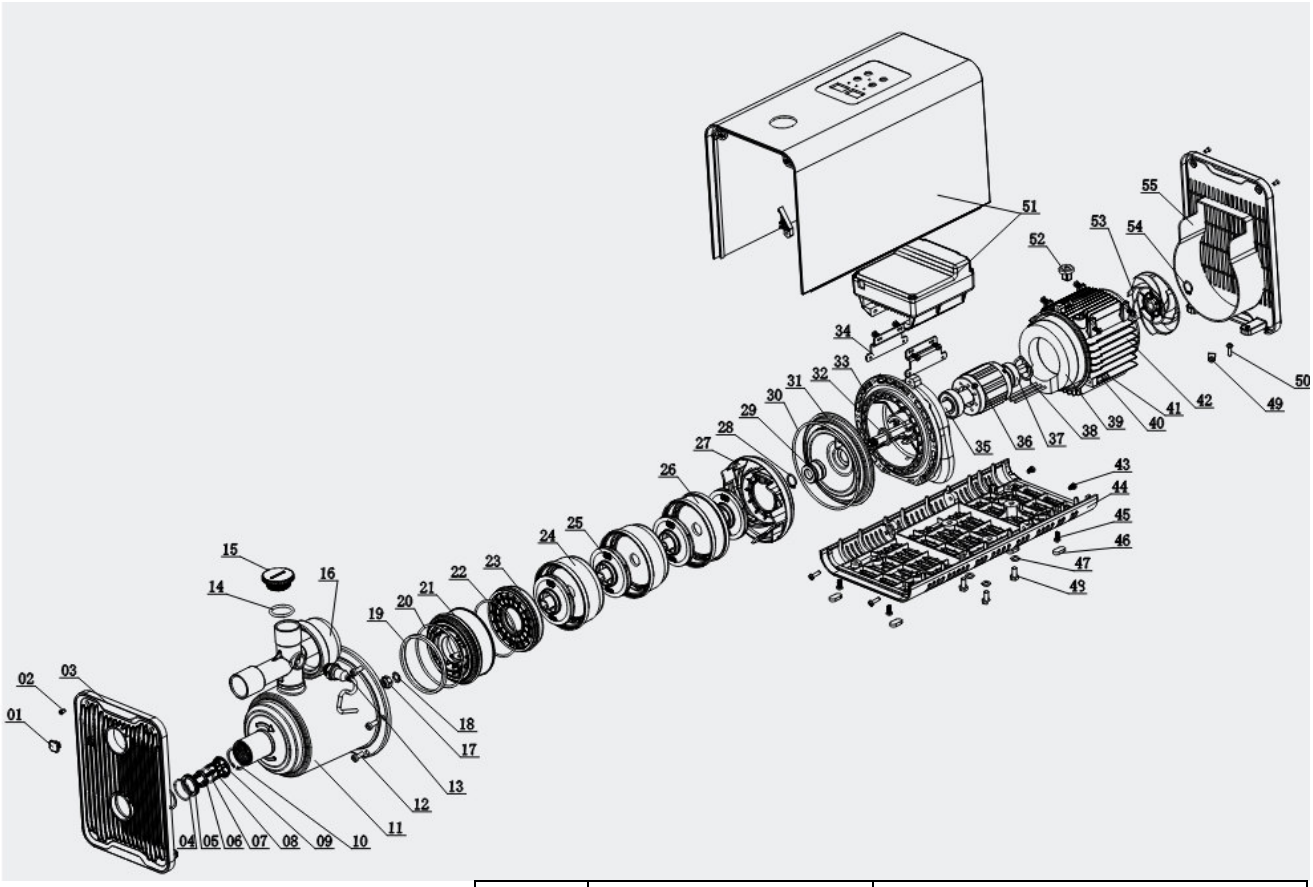
b16 [FS: +30°C]	[Range: +20°C ~ +40°C] Parameter for switching off frost protection: If the pump is started due to the activation of the frost protection, it is automatically stopped when the water temperature reaches the set value. Only works if B14 is activated ("00"). Navigation: Press SET > + or − > [B16] > < SET > Enter value [20°C ~ 40°C] > SET to save.
b17 [FS: 75°C]	[Range: 40°C ~ 130°C] Parameter max. water temperature (overheating protection): If the water temperature rises above this value, the pump switches off to prevent damage. The pump starts automatically when the temperature drops by 2°C. Navigation: Press SET > + or − > [B17] > SET > Enter value [50°C ~ 110°C] > SET to save.

5.2.3 Exploded view NUVOS 41N/55S/70S/140N



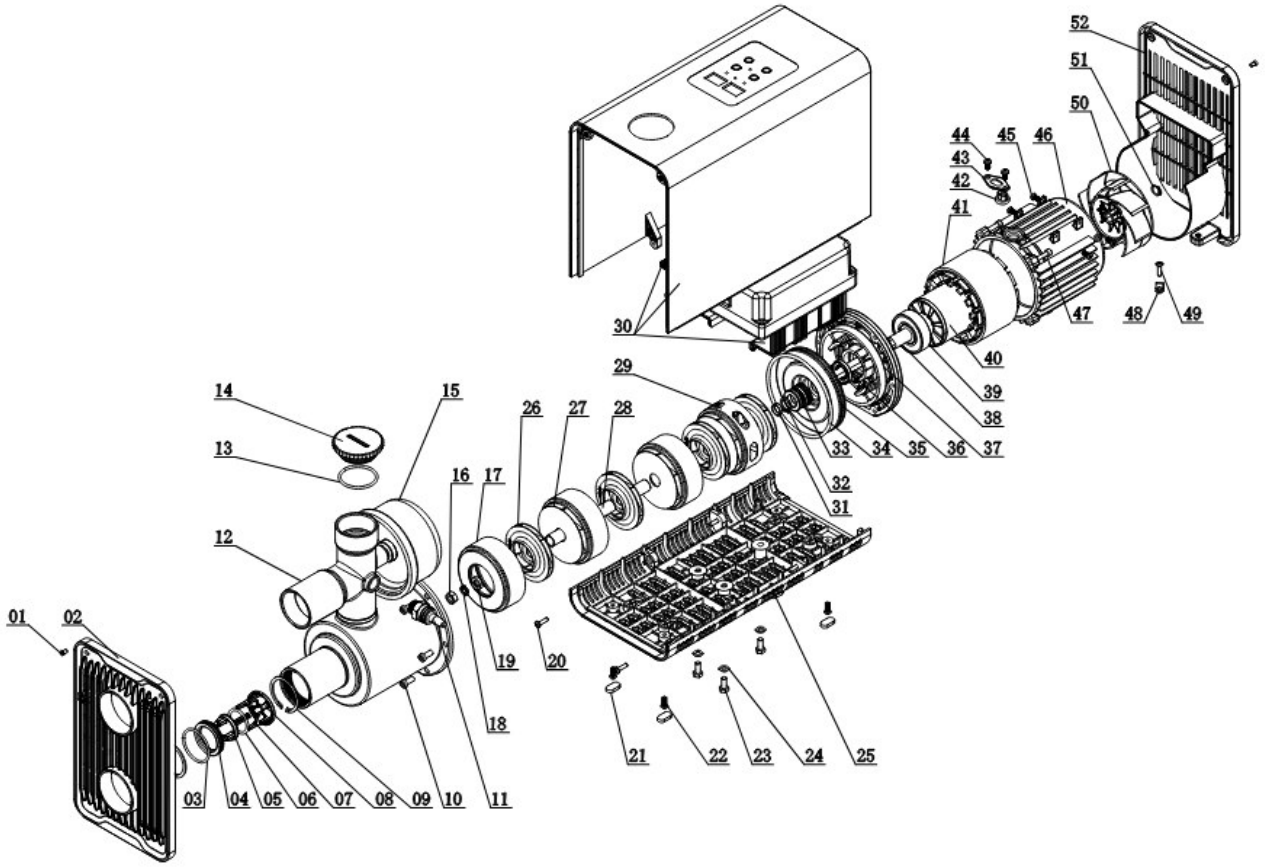
Pos.	Code	Designation
04-09	NV 41/55/70-NRV	Check valve incl. gaskets
13	NV 41/55/70/140-PS	Pressure sensor
16	NV 41/55/70/140-ADG	Pressure tank
19-21	NV 41/55/70-LA	Air separator with gasket
22	NV 41/55/70-LEIT-A	Guide wheel cover with O-ring
24	NV 41/55/70-LEIT	Guide wheel
25	NV 41/55/70-LAUF	Impeller
26	NV 41/55/70-S-GUIDE	Start guide wheel
27	NV 41/55/70-A-LEIT	Output guide wheel
29-30	NV 41/55/70-GLD	Plain bearing seal
37	NV 41/55/70-KL	Ball bearing
51	NV 41/55/70-CON01	Pump controller

Fig./Tab.: Exploded view and spare parts list for NUVOS 41N



Item	Code	Description
04	NV 41/55/70-NRV	Check valve incl. gaskets
13	NV 41/55/70/140-PS	Pressure sensor
16	NV 41/55/70/140-ADG	Pressure tank
19-21	NV 41/55/70-LA	Air separator with gasket
22	NV 41/55/70-LEIT-A	Guide wheel cover with O-ring
24	NV 41/55/70-LEIT	Guide wheel
25	NV 41/55/70-LAUF	Impeller
26	NV 41/55/70-S-GUIDE	Start guide wheel
27	NV 41/55/70-A-LEIT	Output guide wheel
29-30	NV 41/55/70-GLD	Plain bearing seal
37	NV 41/55/70-KL	Ball bearing
51	NV 41/55/70-CON01	Pump controller

Fig./Tab.: Exploded view and spare parts list for NUVOS 55S/70S

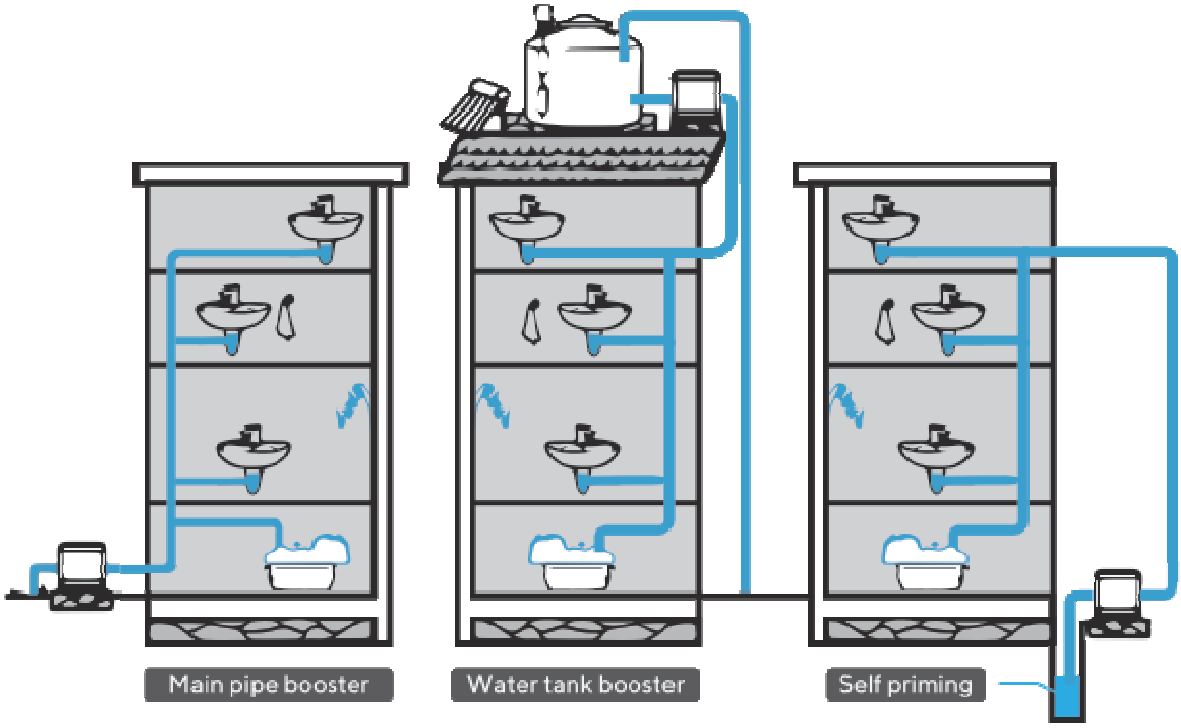


Item	Code	Description
04-09	NV 140-NRV	Check valve incl. gaskets
13	NV 41/55/70/140-PS	Pressure sensor
16	NV 41/55/70/140-ADG	Pressure tank
19-21	NV 140-LA	Air separator with gasket
22-23	NV 140-LEIT-A	Guide wheel cover with O-ring
24	NV 140-LEIT	Guide wheel
25	NV 140-LAUF	Running wheel
26	NV 140-S-GUIDE	Start guide wheel
27	NV 140-A-LEIT	Output guide wheel
29-30	NV 140-GLD	Plain bearing seal
37	NV 140-KL	Ball bearing
51	NV 140-CON02	Pump controller

Fig./Tab.: Exploded view and spare parts list for NUVOS 140N

6. Installation instructions

Installation options



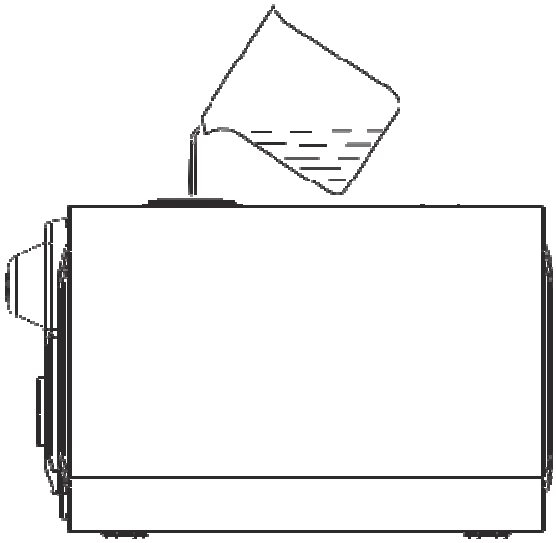
Main pipe booster	Water tank booster	Self priming
NUVOS all models	NUVOS all models	NUVOS 45S NUVOS 55S NUVOS 70S

6.1 Filling the pump pot with water

For newly installed pumps, ensure that the pump pot is completely filled with water before the pump is put into operation.

Therefore, fill the pump pot with one liter of water by following the instructions below before starting up the new pump.

- Open the vent screw or the pressure outlet/outlet of the pump and fill the pump pot until it is completely full.
- Switch on the power to start the water pump. Do not tighten the vent screw at this point to speed up the release of air. In general, the water pump will be able to operate normally after 3 minutes. Then tighten the vent screw.
- If the water pump does not pump water, there may not be enough water in the pump housing. In this case, repeat the procedure described above.

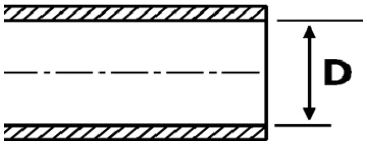


6.2 Design of the suction line

A rigid pipe or a vacuum-resistant hose that does not contract under vacuum but is still flexible must be used as the suction line. This allows, for example, a floating suction system to be implemented in a rainwater storage tank. The Intewa SDS suction hose meets this requirement.
To avoid potential leaks at connection points, it is recommended that the suction line be laid in one piece up to the *NUVOS*.

Warnings:

The inner diameter of the suction hose must be at least D=26 mm in order to achieve the full volume flow.

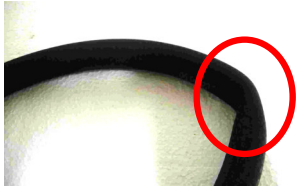


No water filter may be used in the suction line, as their gaskets are not designed for negative pressure. The negative pressure required for suction cannot then be built up and air enters the suction line.

Corrugated PVC hoses are unsuitable for use as rainwater suction lines. Experience has shown that these become brittle and permeable to gas after a short time.

Flexible hoses must not be used in the suction area, as the soft inner rubber hose contracts under negative pressure.

The suction hose line must not kink.



7. Self-help in the event of a malfunction

7.1 Self-help in the event of a malfunction with NUVOS 45S

7.1.1 Errors without display alarm/error code with NUVOS 45S

No	Symptom/problem	Cause	Remedy
1	The pump does not start	The line pressure is higher than the pump's intake pressure.	Increase the working pressure value.
		The pipe or tap is blocked	Check the pipes and taps
2	The pump does not start	Fault in the pressure sensor.	Replace the pressure sensor.
		Leak in the pipe or the tap is not completely closed	Check the pipes and fittings
		Working pressure value is too high	Reduce the working pressure value
3	The pump is running but not delivering water	Pipe is blocked or the check valve cannot open.	Check the pipe and the check valve.
		Air in the suction pipe/line/hose	Restart the pump Vent the suction pipe/line/hose Repair the leak in the suction pipe/line/hose
4	Dry running Warning	The diameter of the outlet is too large	Change the outlet diameter or add a throttle valve/piston
		Water shortage	Wait for the water supply

7.1.2 Error with display alarm indicator/error code on NUVOS 45S

No	Symptom/problem	Cause	Remedy
1		Malfunction Mains voltage	Check mains voltage.
2		Motor malfunction	Send pump in for repair
3		Leakage message	Check line and consumer for leaks
4		Dry running notification	Find and rectify the cause of the dry running.
5		Pressure sensor malfunction	Replace pressure sensor

Error code	Cause	Remedy
E1	Phase loss	Ensure that all motor cable connections are secure and correctly connected.
E2	Controller overcurrent	1. Check whether the motor is short-circuited or whether it is switched on with a fault. 2. Replace the controller board if necessary.

E3	Motor malfunction	1. Switch off the pump, wait until the LED goes out, and switch it back on again. 2. If the error indicator remains lit, the motor or controller is damaged.
E4	Communication error between display board and controller	Replace display and controller
E6	Pressure sensor error	Check whether the pressure sensor interface has a poor connection, check the interface, and plug it back in. If the error persists, the pressure sensor must be replaced.
E7-E10	Not available	
E11	Mains voltage outside the operating range	Please check the mains voltage
E12	Blocked rotor	Please try to turn the fan blades to see if the pump is mechanically blocked. Send the pump in for service.
E13	Leak	Check whether there is a leak in the pipe or in the check valve.
E14	Water shortage / Dry running	Check whether there is a genuine water shortage.
E15	Overheating error of the drive board	Wait until the temperature has dropped and operation resumes automatically, then place the pump in a well-ventilated location.
E16	IPM temperature sensor error	Check whether the sensor cable is loose.
E18	Overheating protection at water temperature	The pump stops; check whether the water temperature is too high.
E19	Water temperature frost protection	The pump is running at low speed; check whether the water temperature is too low. If necessary, change the installation location.
E20	Water temperature sensor malfunction	Check whether the water temperature sensor is correctly connected.

7.2 Self-help in the event of a malfunction with NUVOS 41N, 55S, 70S, 140N

7.2.1 Error without error code in NUVOS 41N, 55S, 70S, 140N

Symptom/problem	Cause	Remedy
The pump does not start	The line pressure is higher than the pump's intake pressure.	Increase the working pressure or reduce the line pressure by opening a consumer.
	B01 parameter value too low	Increase the B01 parameter value
The pump does not stop	Pressure sensor defective	Replace the pressure sensor.
	Leak in the pipe or leaky, dripping consumer	Check the pipes and fittings
	Working pressure value is too high	Reduce the working pressure value
	Reverse direction of rotation of the motor	Set the direction of rotation of the motor using B02.
	Dry running protection not activated	Set parameters B3 / B5 to activate dry running protection
	Water consumption by the consumer too low/dripping (<1 l/min)	Check consumer
	Suction pipe/line/hose is leaking or cartridge fine filter is installed in the suction line	Check suction pipe/line/hose or remove the cartridge fine filter
The pump is running but not delivering water	Reverse direction of rotation of the motor	Adjust the direction of rotation of the motor using B02.
	Line blocked or check valve cannot open	Check the pipe and the free movement of the check valve.
	Air in the suction pipe/line/hose	Wait for the pump to remove the air
Water shortage Warning (P01)	Severe fluctuations in water pressure lead to the controller misjudging the water shortage	Change the value of B05 to 01
	Excessive flow leads to low pressure in the pump housing	Reduce the parameter of B03 or add a throttle valve/piston.
	The diameter of the outlet is too large (insufficient pressure drop)	Change the outlet diameter or add a throttle valve/piston
	Water shortage	Wait for the pump to expel the air
Pump pressure only reaches half of the maximum pump pressure	Air separator or guide wheels defective	Replace air separator or guide wheels

7.2.2 Error with error code in the display at NUVOS 41N, 55S, 70S, 140N

Error code	Cause	Remedy
E01	[Undervoltage] Input voltage lower than 130V（± 10%)	Once the voltage rises to 180V, the pump will automatically be put back into operation. 2. Install a voltage stabilizer.
E02	[Overvoltage] Input voltage higher than 280V	As soon as the voltage drops to 260V, the pump will automatically be put back into operation. 2. Install a voltage stabilizer.
E03	[Pressure sensor error]	1. Turn off the device. Check the signal cable to the pressure sensor for a good connection. 2. Check the connection terminal in the controller and ensure that good connectivity. 3. Install a new signal cable if necessary. 4. Replace the pressure sensor if necessary.
E04	[IPM controller temperature too high]	1. When the IPM controller temperature drops below 80°C, the pump will return to normal operation. 2. Install the pump in a cool, ventilated location.
E05	[Overload protection for pumps]	Check the operating mode of the pump.
E06	[IPM controller error on temperature sensor]	1. Move the controller to a well-cooled location 2. Check the sensor
E07	[IP conflict in the pump unit]	Check parameter B08 and replace the repeat value.
E08	[Missing phase/overcurrent] 1. Rotor or impeller blocked due to defect, rust, or contamination in the pump pot. 2. Poor connection between motor and control unit 3. Water in the motor / motor defective.	Replace the impeller or perform cleaning on the hydraulics 2. Check or replace the cable between the motor and controller 3. Replace the motor
E09	[IPM current monitoring] Current too high	1. Check and fix the reason for the motor overload. 2. External environmental interference
E10	[Startup error]	Repeat start-up process
E11	Error connecting the pump unit	1. Check the connection to correct the error. 2. Replace the connection cable.
E13	Communication error	1. Replace the pressure sensor 2. Change the controller.
ERR	[Pressure transducer malfunction]	1. Check and replace the wiring. 2. Replace the transmitter.

P01	[Water shortage warning] 1. The operating pressure of the pump fluctuates irregularly. 2. Pressure lower than setting b03. 3. The outlet is too large to maintain pressure. 4. Water shortage.	1. Set the parameter of b05 to 01. 2. Reduce the setting value for b03 or limit the outlet flow. 3. Replace pipes with small diameters or add throttle valves. 4. Wait for the water supply to be restored.

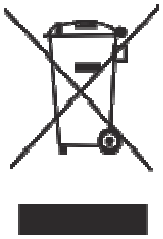
8. Maintenance

A visual and functional inspection must be carried out every 3 months.

Information:
The internal pressure vessel does not require maintenance, even if it loses its air preload over time. (When repairing the pump, if the housing is opened, it can be preloaded with 2 bar. Very rigid and short pipes can cause control fluctuations and pump run-through. In this case, we recommend an external expansion vessel (e.g., INTEWA ADG-05).
The pressure vessel on the NoVOS41V can be preloaded to 2.0 bar at the side pressure valve. To do this, the system pressure must first be released.

9. Repair and disposal

Caution!
If the device or power cord is damaged, it must be repaired by the manufacturer, its customer service department, or a qualified person.



The crossed-out wheelie bin symbol is an information about the European WEEE Directive (Waste Electrical and Electronic Equipment), which stipulates the separate collection and recycling of waste electrical and electronic equipment. The aim is to recover valuable raw materials and prevent environmental pollution.
What does this mean for you as a consumer?

- Products with this symbol must not simply be disposed of with the rest of the waste.
- Disposal and recycling are carried out via local collection points for waste electrical equipment, e.g., recycling centers or collection points in stores.

10. Warranty

INTEWA GmbH provides a statutory warranty of 24 months for this device, calculated from the date of purchase. Please retain your proof of purchase as evidence of this date.

Within the warranty period, INTEWA GmbH will, at its discretion, provide warranty service in the form of factory repair or replacement delivery.

Damage resulting from improper use, wear and tear, or interference by third parties is excluded from the warranty. The warranty does not cover defects that only insignificantly impair the value or usability of the device.

11. Contact / Device number

For customers in Germany:
If you have any questions, would like to order spare parts, or require service, please contact INTEWA GmbH directly, quoting the device number and purchase invoice.

INTEWA GmbH
Auf der Hüls 182
52068 Aachen

Tel.: 0049-241-96605-0
Fax: 0049-241-96605-10
Email: info@intewa.de
Website: www.intewa.de

For customers in other countries:
If you have any questions, need to order spare parts, or require service, please contact your local dealer or the responsible general importer, who handles all service in the respective country, providing the device number and purchase invoice.

The device number with the serial number (SN) is located on the outside of the pump housing on the fan side.