

NK300T

Electronic refill unit

APPLICATION

The refill unit continually monitors the pressure in a connected system, e.g. a heating circuit, and maintains it automatically.

Refill units of this type enable permanent connection of closed heating systems to the drinking water network. Together with the backflow preventer the unit corresponds to EN 1717.

Control unit, quantity counter and pressure regulation are integrated in one device. An alarm message is given as well as message contact on the switching of an error message system or central building control system.

SPECIAL FEATURES

- Fully automatic, electronically monitored filling
- Simple handling with three-button keypad and display
- Monitoring and registration of the feed amounts
- Electronic pressure monitor and switching off in case of leaks
- Internal and external alarm in case of malfunction
- User-friendly, time-optimised system initial filling
- Can be combined with backflow preventer CA, backflow preventer BA, softening unit VE

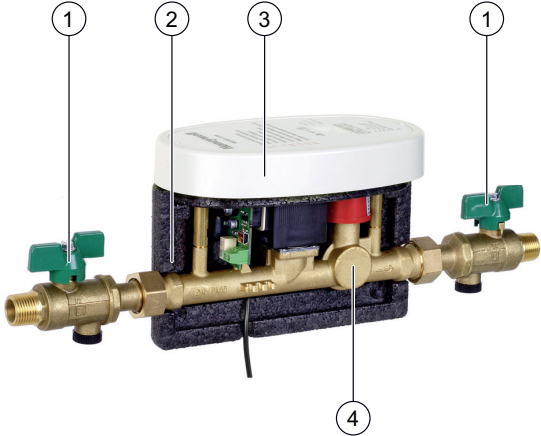


TECHNICAL DATA

Media	
Medium:	Drinking water
Inlet medium temperature:	5 - 30 °C
Outlet medium temperature:	5 - 65 °C
Connections/Sizes	
Connection sizes:	1/2" external threads (2x)
Adapters included:	1x adapter for 3/4" internal thread
Pressure values	
Inlet pressure:	0.1 - 6 bar
Outlet pressure:	1 - 4 bar
Preset outlet pressure:	1.5 bar
Parameter	
Ambient temperature:	5 - 65 °C
Ambient temperature (powerpack and cable):	0 - 40 °C
Max. ambient relative humidity:	80 % r.h.

Specifications	
Totalizer range:	0.1 litres up to 99 m ³ (display double-digit + unit)
Flow rate:	max. approx. 800 l/h
Installation position:	Installation in horizontal pipelines with control unit placed upwards
Technical Data (electric)	
Voltage:	12 V DC via wide-area power pack included in delivery
Power consumption:	<3 W non-operation reception, max 12 W (valve open)
Alarm contact:	Potential-free closer, 24 V/ 2 A max.
Service interface:	Mini-USB port, form "B"
Protection class:	IP54 according to EN 60529 (ensured only with correctly connected cable, correct installation of the insulation shell elements and horizontal installation position)
Connections:	Hollow plug 5.5 mm

CONSTRUCTION

Overview	Components	Materials
	1 Shut-off valve, up- and downstream	-
	2 Insulation shells	EPP
	3 Housing	Dezincification-resistant brass
	4 Pressure switch	-
	Not depicted components	
	Wide-area power pack	-
	Seals	EPDM
	Adapter for internal threads 3/4"	-

METHOD OF OPERATION

A sensor continually monitors the pressure in the connected system.

Should it drop under a adjustable limit value, a valve opens, so that the system is automatically supplied via a connected media supply until a specified value is reached.

Moreover, the refill unit is provided with a mode for the first filling of systems.

The rise in pressure is also monitored during the filling process. If this is not forthcoming for instance because of a leak in the system, filling is automatically interrupted.

A further sensor registers the volume supplied to the system via the refill unit ("totalizer function"). The current value is saved hourly, meanwhile is secured against power failure.

Any changes since the last save process can lead to a somewhat lower display value after a voltage reset.

Monitoring the value offers the extra option of registering "creeping" losses in the system. The totalizer value can be reset to zero manually.

Operation of the device is performed through 3 buttons, a 7-segment display and 3 status LEDs.

Upcoming malfunctions are signalled optically and acoustically. An option exists to report upcoming malfunctions further via a relay contact.

TRANSPORTATION AND STORAGE

Keep parts in their original packaging and unpack them shortly before use.

The following parameters apply during transportation and storage:

Parameter	Value
Environment:	clean, dry and dust free
Min. ambient temperature:	+5 °C
Max. ambient temperature:	+40 °C
Min. ambient relative humidity:	25 % *
Max. ambient relative humidity:	95 % *

*non condensing

INSTALLATION GUIDELINES

Setup requirements

- Usage in closed media systems in interiors (e.g. heating circuits)
- For monitoring and maintaining the system pressure within the defined limits
- Usage only in connection with components and external devices recommended and authorised by Honeywell
- When filling and connecting up the media system with a drinking water supply, a suitable system separator is to be set upstream according to EN 1717
- Suitable filter against particles $\geq 600 \mu\text{m}$ set upstream
- The installation may not take place in areas or ducts where poisonous gases or vapours may be present or where flooding can occur
- The installation location must be ventilated well
- The installation location should be protected against frost and be easily accessible
 - Simplified maintenance and cleaning

Installation Example

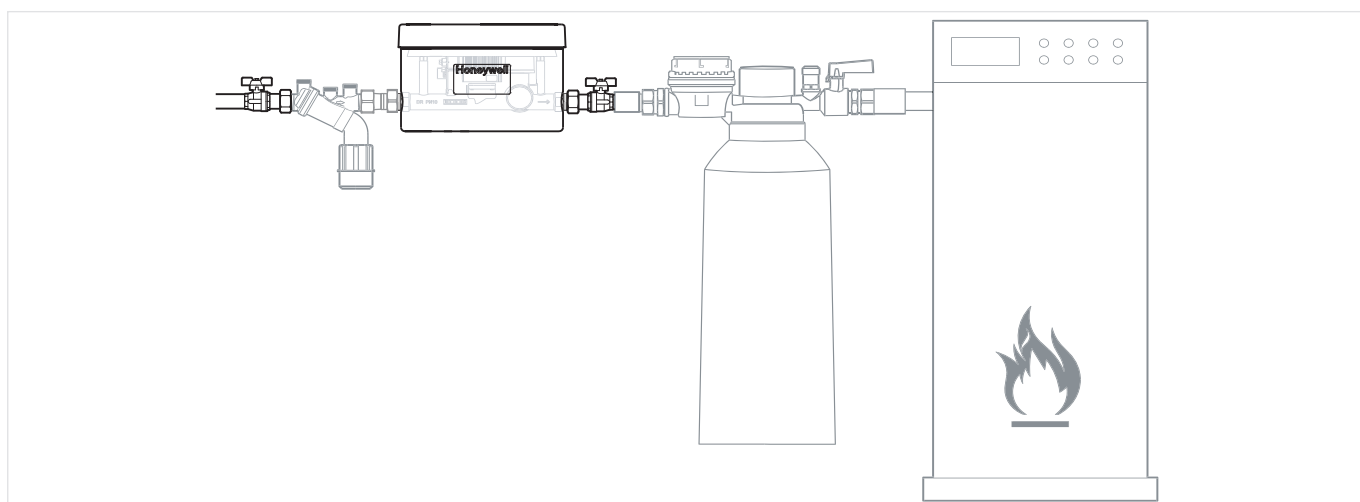
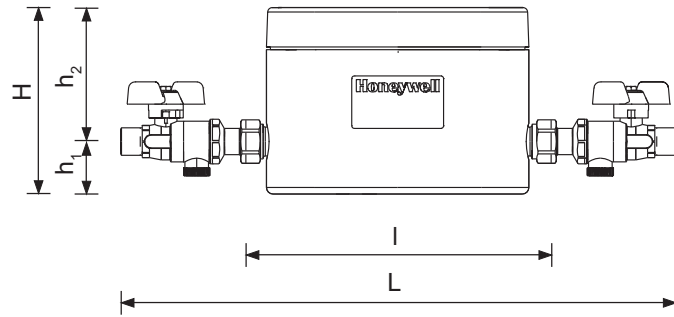


Fig. 1 Standard installation example for the electronic refill unit

DIMENSIONS

Overview



Parameter		Values
Connection size:	R	1/2"
Dimensions:	H	143
	h ₁	40
	h ₂	103
	I	225
	L	421
	T	115
Weight:	kg	1.8

Note: All dimensions in mm unless stated otherwise.

ORDERING INFORMATION

The following tables contain all the information you need to make an order of an item of your choice. When ordering, please always state the type, the ordering or the part number.




Options

The valve is available in the following sizes: 1/2"

- standard
- not available

		NK300T-1/2A	NK300T-1/2ABA	NK300T-1/2ACA
Backflow preventer:	Standard version	•	-	-
	BA	-	•	-
	CA	-	-	•

Accessories

	Description	Dimension	Part No.
	VE300S Cutting Unit Standard version with threaded connection 1/2"		
			VE300S-1/2A
	P300-LES Complete demineralisation cartridge Cartridge with ionic exchange resin		
		Size: 3.5 l	P300-LES
	P300-L/S Softening cartridge Softening cartridge with ionic exchange resin		
		Size: 0.75 l	P300-S
		Size: 3.5 l	P300-L
	AD300 Adapter To fit the softening unit to a 3/4" male connection.		
			AD300-1/2

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