



Design and applications

The devices of the NA and NA-V4A model series operate according to the principle of buoyancy. They are designed for vertical installation only.

Consisting of display, flange, float tube and float the NA serves as a level indicator for e.g. underfloor installation liquid container. The float tube is inserted from above into the container and is then welded. The float is permanently connected via a connecting rod to the magnet holder in the display part. When the level in the container rises, the float and the rod are forced upwards by the buoyancy force and the filling level can be read from the display.

The level indicator NA-V4A, consisting of a stainless steel sleeve, a float tube made of borosilicate glass and the connection heads, is mounted outside the tank and uses the principle of communicating vessels. It is connected to the container via a feed pipe and an overflow. When the filling level in the container rises, it also rises in the float tube.

Each device contains a measuring tube made of borosilicate glass and is custom-made with the desired connection geometry. Other connection geometries, designs and special constructions can be realized on request.

NA and NA-V4A are suitable for water, oil, alkalis or acids. An appropriate choice of materials allows to operate the level indicator in aggressive environments.

With the installation of electrical limit value switches that are adjustable over the entire measuring range, the devices can also be used for remote monitoring.

NA / NA-V4A



- measuring tube made of borosilicate glass
- device with stainless steel protection tube
- two different versions available
- reliable due to simple mode of operation
- media specific float
- optionally
 - explosion-proof design
 - limit value switches





NA / NA-V4A

Level indicator

Type series

NA	on top assembly
NA-V4A	parallel assembly
NA-V4A Rp	parallel assembly with pipe union connection
NA-V4A Gi	parallel assembly with female thread
NA-V4A Ga	parallel assembly with male thread
NA-V4A DN	parallel assembly with flange connection
NA-... MSKW...	with limit value switch (change over)
NA-... Ex	explosion-proof design

Technical data

Nominal pressure rating	PN 10 at 20 °C
Max. operating pressure	8 bar
Temperature resistance	80 °C, optionally 100 °C
Ambient temperature	90 °C
Connection	
NA	welded to liquid container
NA-V4A	Rp, Gi, Ga, DN
Corrosion protection	epoxy paint kiln-dried, traffic blue (RAL 5017), satin-finished
Corrosion class	C2

Materials

Design	NA
Gaskets	standard: NBR, EPDM optionally: FKM, FFKM
Display	
Protective tube	P235, 1.4301 (with MSKW)
Heads	S355
Pipe union	malleable cast iron, zinc plated
Measuring glass	Borosilicate glass
Substructure	
Float	1.4571
Connecting rod	1.4571
Flanges and Floatpipe	S355

other materials on request

Design	NA-V4A
Protective tube	1.4301
Heads	1.4571
Float	PP, optionally: PVDF, PTFE
for version with limit value switches	PP with magnetic core
Measuring glass	Borosilicate glass
Gaskets	standard: NBR, EPDM optionally: FKM, FFKM

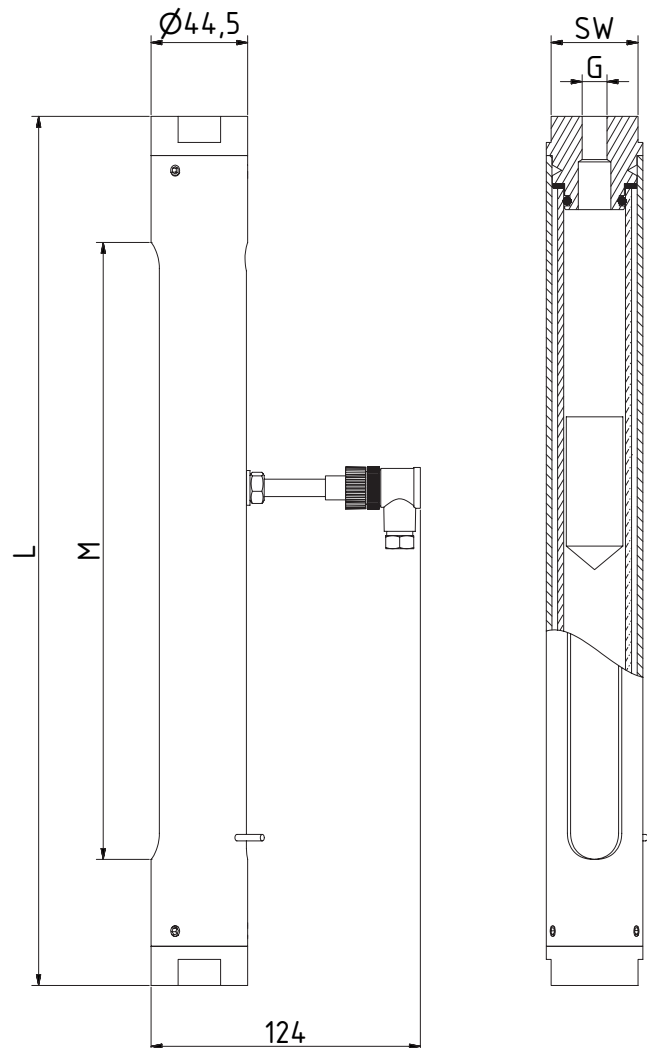
other materials on request

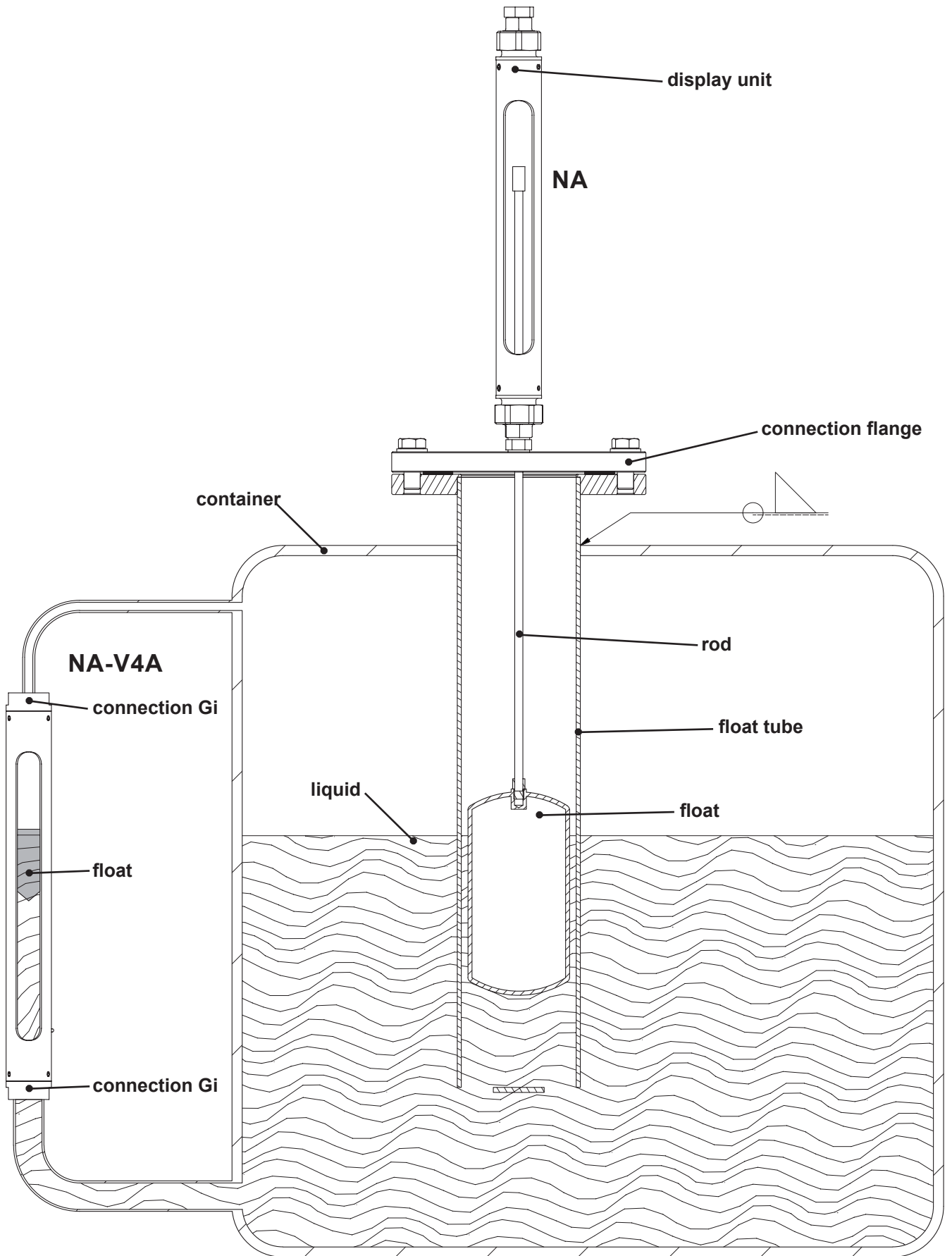
Dimensions

NA			
On request			
NA-V4A Gi			
L [mm]	measuring range M [mm]	G	SW [mm]
400	284	Top: G $\frac{1}{4}$ "	40
500	384		
600	484		
700	584	Bottom: G1"	
800	684		
900	784		
1000	884		

other lengths resp. connections on request

NA-V4A







Limit value switches MSK1/MSK12/MSKW

In order to realize a local display with a monitoring function the flowmeter can be equipped with limit value switches. The limit value switch consists of a connector housing and a bistable reed switch.

A magnet integrated in the float switches this reed switch. The limit value switch is guided in a guide slot on the back of the protective tube and can be adjusted throughout the entire measuring range. In case of inductive or capacitive load applications, e.g. caused by contactors or solenoid valves, uncontrolled current and voltage peaks may occur. In dependence on their geometry such peaks also occur in lines if they exceed a certain length. It is therefore recommended to use an additionally available arc suppression relay "MSR".

This increases the switching capacity and avoids the appearance of inductive and capacitive peaks. It thereby ensures a long lifetime of the contact.

Technical data of the limit value switches

Design	MSK1	MSK12
Switching voltage	50 V AC/75 V DC	50 V AC/75 V DC
Switching current	0,5 A	0,5 A
Switching capacity	10 W/VA	10 W/VA
Dielectric strength	230 V AC/400 V DC	230 V AC/400 V DC
Temperature range ¹⁾	-20 ... +90 °C	-20 ... +90 °C
Switching function	normally closed	normally open
Connection		

Design	MSKW	
Switching voltage	50 V AC/75 V DC	
Switching current	0,5 A	
Switching capacity	5 W/VA	
Dielectric strength	110 V AC/200 V DC	
Temperature range ¹⁾	-20 ... +90 °C	
Switching function	change over	
Connection		

¹⁾ The thermal endurance of the flow meter is crucial.

Low Voltage Directive

Above 50 V AC/75 V DC, electrical components are subjected to the EU Low Voltage Directive (LVD). The user is required to verify their use accordingly.

Proper use

The user is responsible for assessing the suitability of the flow meters for his case of application, for use as prescribed and for material compatibility regarding the liquid product used in his process. The manufacturer shall not be liable for any damage arising from incorrect or improper use of the devices. Pressure surges can cause glass breakage and should therefore generally be avoided. The limit values given in the data sheet should be observed.

In all other respects we advise following the installation recommendations specified in Code VDI/VDE 3513, Sheet 3.

The equipment from **Kirchner und Tochter** has been tested in compliance with applicable CE-regulations of the European Community. The respective declaration of conformity is available on request.

Subject to change without notice. The current valid version of our documents can be found at: www.kt-flow.de

The **Kirchner und Tochter** QM-System is certified in accordance with DIN-EN-ISO 9001:2008. The quality is systematically adapted to the continuously increasing demands.