MECON
FLOW-CONTROL-SYSTEMS

Level indicator
Menkar KK 80–KK 81

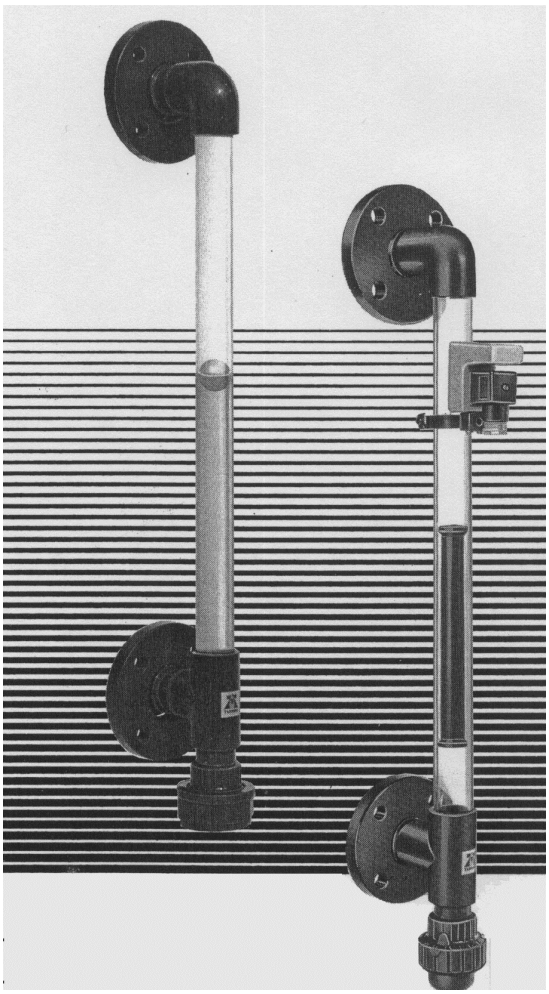

Fig.1 Level indicator MENKAR KK 80–KK 81

Application

Continuous measuring, display and monitoring of levels of fluid (density of medium from 1 kg/l) in open and closed vessels.
The MENKAR KK plastic designs are employed especially in water treatment plants, in vessels containing caustic materials from purification plants and for completely desalinated water and boiler feed water.
The units can be equipped with magnet activated solenoid operated touch sensitive switches for control processes (acustic or optical signals, motor and valve controls or similar devices).

Operating note

The operator of these measuring units is responsible for the suitability, proper use and corrosion resistance of the used materials with regard to the measuring material. In particular. it must be ensured that the materials selected for the parts of the measuring unit coming into contact with the medium are suitable for the process media to be used.
The unit may only be used within the pressure and voltage limits specified in the operating instructions. Before replacing the measuring tubes, check that the unit is free from hazardous media and pressures.

Design and operation

The MENKAR level indicators operate according to the system of communicating tubes and the float principle.
The medium leaves the vessel and enters the standpipe through the lower couplings. The measuring float incorporated in the standpipe indicates the actual fluid level in the vessel.

The float also functions as an indicating float. A float with an integrated magnet system is required (MENKAR KK 81 and KK 81) for the activation of the contacts.

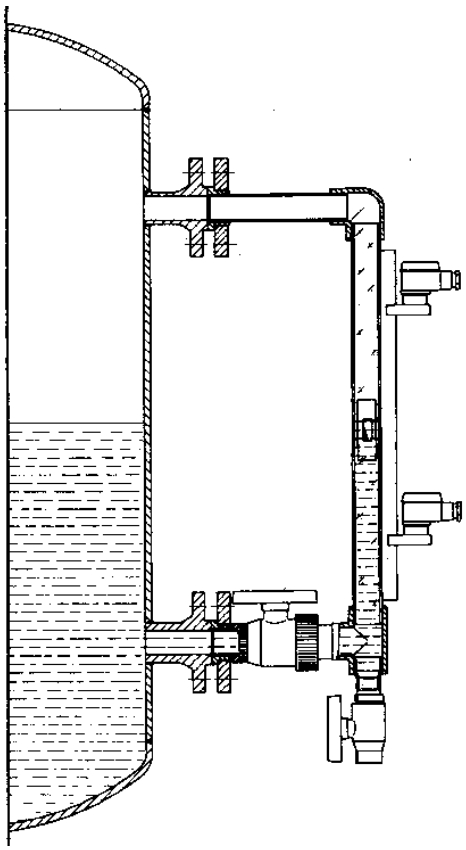

Fig. 2 Design and operation MENKAR KK 80–KK 81

Technical data

Coupling clearance	min. 300 mm max. 2000 mm
Connections	Swivel flange DN25 (PN10/16)

Pressure/temperature limits

in accordance with DIN 8062		
Media	Ts [°C]	PS [bar]
For use with water and non aggressive fluids	20	16
	40	10
	60	2,5
For use with aggressive fluids	20	10
	40	4
	60	1

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Special features

- Low price plastic design
- Simple assembly
- Maintenance free
- Good readability: even at greater distances
- User defined number and arrangement of contacts, only restricted by dimensions of contact housing.

Designs

Type selection

MENKAR KK 80:	indicating only, without scale
MENKAR KK 80/A:	with display scale (%-division)
MENKAR KK 81:	Indicating with adjustable touch sensitive switch(es)

Type MENKAR KK 80

Design 1

Standpipe:	PVC, transparent (with evacuation screw)
Measuring/display float:	plastic ball (polypropylene)

Design 2	as in design 1, but with lower standpipe with incorporated bleed valve
Design 3:	as in design 2, but with additional lower connection couplings with gate valve
Design 4:	as in design 3, but with additional upper connection couplings with gate valve

Type MENKAR KK 80/A

As in MENKAR KK 80 (design 1–4), but with additional indicating scale made of Astralon (%-division)

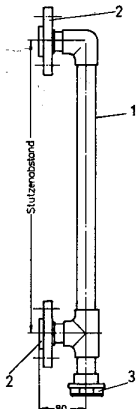
Type MENKAR KK 81

As in MENKAR KK 80 (design 1–4), but with additional touch sensitive switch(es Type K 18

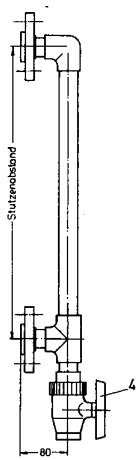
Measuring/indicating float KK 81:

PVC (rod shaped) with integrated magnet system for touch sensitive operation

Design 1- 4 (MENKAR KK 80)

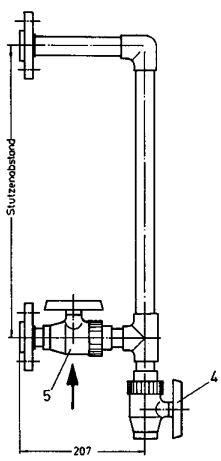


Design 1

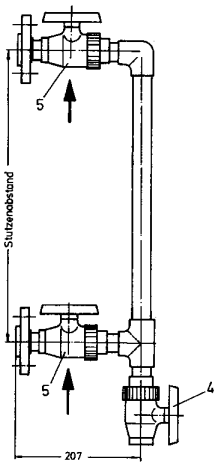


Design 2

1 standpipe PVC transparent
2 loose flansch
3 evacuation screw
4 bleed valve
5 gate valve

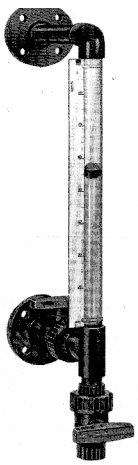


Design 3



Design 4

MENKAR KK 80/A
example Design 3



Measuring/ display float

Ball float for
MENKAR KK80 and
MENKAR KK80/A

float with integrated
magnet system for
MENKAR KK81

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Touch sensitive switch Type K 18

The bistable magnetic contact system K 18 is employed to indicate the position of the magnet float in the standpipe. It incorporates a gas reed contact which is activated via the magnetic field of the float. The K 18 is sensitive to excessively high current load (max. 500mA) due to the low spring tension of the contact reeds. High self induction voltage can be generated when inductive switchgears, for example relays, are switched off. Therefore precautions are recommended to guarantee a long service life (see separate data sheet magnetic contact system K 18).

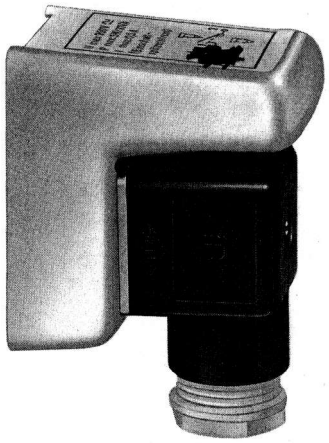

Fig. 3 Touch sensitive switch K 18

The K 18 can be supplied in 2 versions:

- **Type K 18/A**
  opens on overranging of the limit
-**Type K 18/B**
  closes on overranging of the limit

Warning!

The maximum switching capacity and the maximum admissible peak inrush current may not be exceeded, as this induces a welding effect on the contact reeds causing them to adhere to each other.
During the initial commissioning process, move the float completely past the contact to permit polarisation.

Techn. data Touch sensitive switch Type K 18

Contact material	Rhodium with inactive protective gas
Max. switching capacity	10W, 12 VA
Max. switching current	220V direct or alternating voltage
Contact resistance	0,1Ω
Contact insulation resistance	10^{11}Ω
Contact close time	2ms
Contact open time	0.07ms
Switching frequency	2000/sec
Contact duration of bounce	0.5ms
Temperature range	–40°C to +50°C
Housing material	Plastic
Terminal connection	Standard terminal DIN 43650
Protection class	IP65
Max. peak inrush current	0.5A
Max. starting current	
220V =	22mA
110V =	45mA
24V	0.5A
10V ~	0.5A

Ordering data

MENKAR KK 80 - KK 81
level indicator in plastic

order no.

7ME5861-□□A□□-0AA0

Design	
• KK 80 with evacuation srew	**1A**
• KK 80 with incorporated bleed valve	**2A**
• KK 80 with incorporated bleed valve and additional lower connection couplings with gate valve	**3A**
• KK 80 with incorporated bleed valve and additional both connection couplings with gate valve	**4A**
• KK 80/A with evacuation srew	**1B**
• KK 80/A with incorporated bleed valve	**2B**
• KK 80/A with incorporated bleed valve and additional lower connection couplings with gate valve	**3B**
• KK 80/A with incorporated bleed valve and additional both connection couplings with gate valve	**4B**
• KK 81 with evacuation srew	**1C**
• KK 81 with incorporated bleed valve	**2C**
• KK 81 with incorporated bleed valve and additional lower connection couplings with gate valve	**3C**
• KK 81 with incorporated bleed valve and additional both connection couplings with gate valve	**4C**

Connection	
• DN25 DIN2501 PN10	**1**
• 1" ANSI B16.5 150 RF	**2**
• special connection	**9**

cantact function	
• without contact	**0**
• Contact K18/A (closes when limit is fallen below)	**1**
• Contact K18/B (closes when limit is exceeded)	**2**
• contact K17/A and K17/B	**3**

Further designs	**order no.**
Please add "**-Z**" to Order No. and specify Order code(s)	
center distance in mm	□□□□
Measured medium	Y01