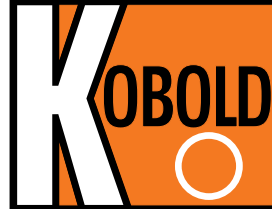




Float Switches for Liquids



measuring
•
monitoring
•
analysing



- Easy to install
- Suited for universal use
- Pressure: max. 15 bar
- Temperature: max. 160 °C
- Material:
PP, PTFE, PE, PVC,
Stainless steel
- From density 0.05 kg/dm³



KOBOLD offices exist in the following countries:

ARGENTINA, AUSTRIA, BELGIUM, BRAZIL, CANADA, CHINA,
FRANCE, GERMANY, GREAT BRITAIN, ITALY, MEXICO, NETHER-
LANDS, PERU, POLAND, SWITZERLAND, USA, VENEZUELA

KOBOLD Messring GmbH
Nordring 22-24
D-65719 Hofheim/Ts.
☎ +49(0)6192 299-0
Fax +49(0)6192 23398
E-Mail: info.de@kobold.com
Internet: www.kobold.com

Model:
NSM, NSP,
NAB, NEC,
NST, NSE



Application

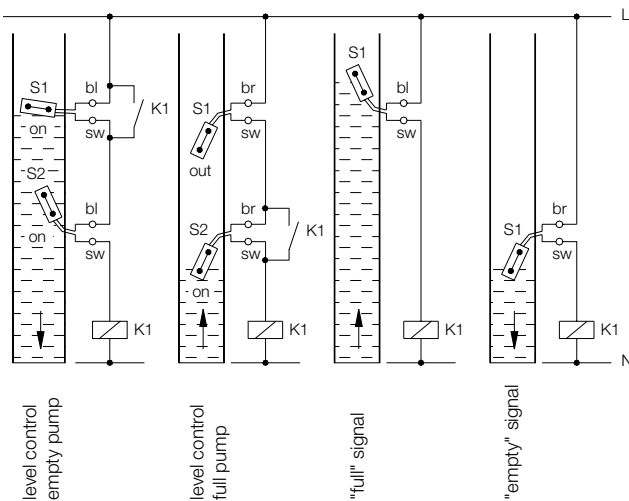
Liquid levels can be easily monitored with the following float switch types.

Level control schemes can be implemented with at least two floats, whereby one operates as minimum contactor, and the other as maximum contactor.

The switches are suited for applications where magnetic level switches are unsuitable due to the danger of the float jamming with dirt particles or deposits.

Depending on the shape of the float and the material used, extremely aggressive, hot, soiled or pasty media can also be monitored with float switches.

Application examples



Description

The float comprises a hollow cylinder or a ball with integrated mercury switch or microswitch.

The contact is supplied as a changeover contact; it can be connected as a N/O contact or N/C contact as an option.

The contact switches when the liquid passes above or below the horizontal float position.

The switch point is set by the side installation of the switch at the desired position or by clamping the cable. The switch point is set using weights when installed at the top.

Type summary

Model NSM

Reasonably-priced design
 Material: polypropylene
 Contact: microswitch
 Cable: Neoprene, silicone
 Max. temperature: 95 °C
 Max. pressure: 5 bar

Model NSP

Ball or cylinder shape
 Material: polyethylene
 Contact: mercury switch
 Cable: TPK, silicone, PTFE
 Max. temperature: 80 °C
 Max. pressure: 2 bar

Model NAB

Reasonably-priced design
 Material: polypropylene
 Contact: microswitch
 Cable: Neoprene
 Max. temperature: 85 °C
 Max. pressure: 5 bar

Model NEC

Multichamber, practically unsinkable
 Material: polypropylene, option Hypalon coating
 Contact: microswitch
 Cable: Hypalon coating
 Max. temperature: 95 °C
 Max. pressure: 5.5 bar

Model NST

For hot, aggressive media
 Material: PTFE
 Contact: mercury switch
 Cable: PTFE or silicone with PTFE bellows
 Max. temperature: 160 °C
 Max. pressure: 1 bar

Model NSE

For hot, aggressive media
 Material: stainless steel 1.4571
 Contact: mercury switch
 Cable: silicone with stainless steel corrugated conduit
 Max. temperature: 160 °C
 Max. pressure: 15 bar

Contact protection relays

We recommend the use of contact protection relays with our float switches.

- Especially for the protection of persons when coming into contact with liquids.
- For level control with relays with self-holding.

Type MSR 10: 1 changeover contact
 Type MSR 20: 2 changeover contacts
 Type MSR 11: 1 changeover contact, self-holding

Model NSM...: polypropylene



Application: reasonably-priced float switch for liquids such as greases, solvents, weak acids and alkalis

Installation: from the top in open vessels

Material: float polypropylene
cable gland polyamide

Cable: standard: 2 m neoprene
option: silicone

Max. pressure: 5 bar

Max. temperature: 60 °C neoprene
95 °C silicone cable

Medium density: > 0.6 kg/L

Contact: microswitch,
function changeover contact

Switch capacity: max. 250 V_{AC}, max. 2 A

Class of protection: IP 68

Hysteresis: min. 140 mm
max. 1000 mm

Model NSP...: polyethylene



Application: for liquids of all types; for example: soiled water, oil, weak acids or alkalis

Installation: External, using a R 1" cable gland. The float can be introduced into open vessels from the top. The switch point is set using weights.

Float material: Polyethylene

Cable: standard 4 m TPK cable (3 x 0.75²)
special version: silicone, PTFE cable

Max. pressure: Model NSPO: 1 bar
model NSPK: 2 bar

Max. temperature: +5 ... +60 °C (TPK cable)
+5 ... +80 °C (silicone/PTFE cable)

Medium density: Model NSPO: > 0.9 kg/dm³
model NSPK: > 0.8 kg/dm³

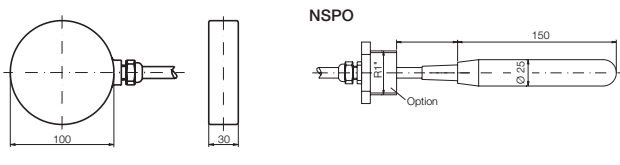
Contact: Mercury contact, connected as N/C contact or N/O contact
microswitch

Switch capacity: max. 250 V_{AC} / 150 V_{DC}, max. 4 A

Class of protection: IP 68

Hysteresis: approximately 15 mm from the horizontal in both directions

Dimensions



Cable dimensions	
Type	X
TPK	70 mm
SIL	80 mm
FEP	110 mm

Order Details (Example: NSM-02NEO)

Description	Order no.
Standard: 2 m Neoprene cable	NSM-02 NEO
Option: Silicone cable	NSM-YY SIL

Please specify cable length in writing.

Order Details (Example: NSPO-04TPK)

Description	Order no.	
Standard: 4 m TPK cable	NSPO-04 TPK	NSPK-04 TPK
Option: silicone cable	NSPO-YY SIL	NSPK-YY SIL
Option: PTFE cable, min. 2 m	NSPO-YY TKA	NSPK-YY TKA
Accessory: loading weights	NSP weights	
Accessories: PVC cable gland G 1*	NSP connection 1 PVC	
Accessories: PVC cable gland G 2	NSP connection 2 PVC	
Accessories: brass cable gland G 1	NSP connection 1 MS	



Description

The KOBOLD level switch model NAB is ideally suited for the level monitoring of liquids and for direct pump control by means of a mechanical switch with very high switch capacity 20 (8) A at 250 V_{AC}.

The NAB comprises a stable plastic housing made of polypropylene (PP) with neoprene cable of optional 3 or 10 m of length.

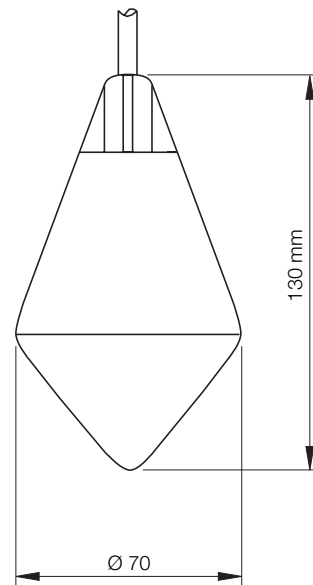
Application

- Level control of liquids
- Empty monitoring
- Feed monitoring
- Direct pump control
- Low-cost version for OEM applications

Technical Details

Float material:	Polypropylene (PP)
Cable material:	Neoprene
Length of cable:	3 and 10 m
Max. temperature:	85 °C
Max. pressure:	5 bar
Class of protection:	IP 68
Medium density:	0.5 ... 1.15 kg/dm ³
Contact:	Microswitch, changeover contact
Switch capacity:	20 A at resistive load 8 A at inductive load
Power supply:	250 V _{AC} ; 50 / 60 Hz
Weight:	approx. 1200 g for 10 m cable
Actuating angle:	110°

Dimensions



Order Details

Model	Description
NAB-W03	Changeover contact, 3 m cable
NAB-W10	Changeover contact, 10 m cable

Description

The KOBOLD level switches of model NEC have been developed for level monitoring of liquids and for direct pump control for all industrial applications.

The instruments are supplied with an electromechanical switch with very large switch capacity.

The NEC comprises a stable plastic housing made of polypropylene with a total of five cavities sealed back-to-back. The instruments are thus practically unsinkable even when physically damaged.

The level switches are available in following basic designs:

- NEC-930: polypropylene float, with electromechanical contact, 5 m Hypalon cable
- NEC-HY930: float hypalon coated for aggressive media, with electromechanical contact, 5 m Hypalon cable
- NEC-930 N10: polypropylene float, with electro-mechanical contact, 10 m Hypalon cable

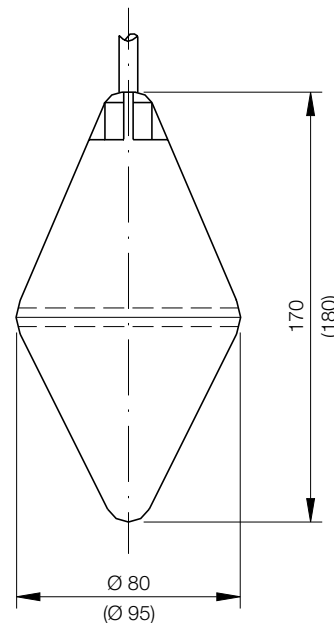


Technical Details

Float:	Double cone
Float material (standard type):	PP (Polypropylene)
Float material (HY type):	PP with Hypalon-coating
Cable:	3 x 1 mm ² , Hypalon
Contact changeover contact:	Electromechanical contact 250 V _{AC} , 16(6) A
Actuating angle:	± 15° from the horizontal plane
Medium density (s.g.):	NEC: 0.7 - 1.05 kg/dm ³ NEC-HY: 0.7 - 1.4 kg/dm ³
Max. pressure:	5.5 bar
Max. temperature:	65 °C (standard) 95 °C (HY type)
Class of protection:	IP 68

All level switches of model NEC are supplied complete with ballast weight.

Dimensions



Order Details (Example: NEC-930)

Contact	Description	Float material / cable
NEC-	Level switches	930 = PP / 5 m Hypalon cable 930N10 = PP / 10 m Hypalon cable HY930 = PP hypalon coated / 5 m Hypalon cable

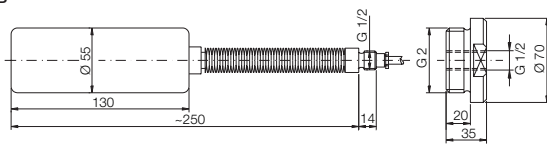
Model NST...: PTFE



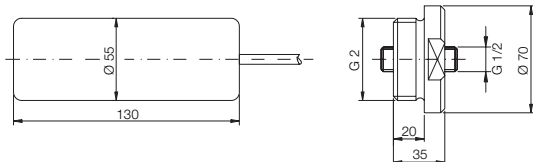
- Application: for hot, extremely aggressive or dirty liquids
- Installation: From inside with G 1/2 connection (model NSTB only) or from outside with G 2 connection
- Float material: PTFE
- Bellows: PTFE (model NSTB only)
- Cable: model NSTB: 2 m silicone (Special version: PTFE cable)
model NST: 2 m PTFE (FEP cable)
- Max. pressure: 1 bar
- Max. temperature: model NSTB: 160 °C
model NST: 160 °C
- Medium density: > 0.85 kg/dm³
- Contact: mercury contact, connected as changeover contact
- Switch capacity: max. 250 V_{AC}, 150 V_{DC}, max. 2 A
- Class of protection: IP 68

Dimensions

NSTB



NST



Order Details (Example: NST-02 TKA)

Description	Order no.
2 m PTFE cable	NST-02 TKA
2 m PTFE cable, PTFE bellows	NSTB-02 TKA
2 m silicone cable, PTFE bellows	NSTB-02 SIL

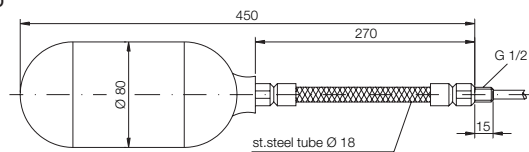
Model NSE...: Stainless steel



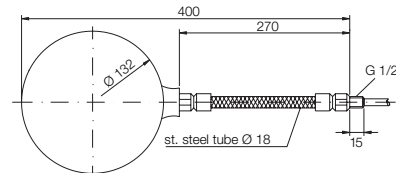
- Application: for very aggressive, pasty, weak swelling or hot liquids
- Installation: from inside with G 1/2 connection or from outside with flange
- Float material: stainless steel 1.4571
- Screwed fitting: stainless steel 1.4571
- Cable: 2 m silicone cable, 270 mm of which with stainless steel armour, 1.4541
- Max. pressure: NSEK: 15 bar
NSEO: 6 bar
- Max. temperature: 160 °C
- Medium density: > 0.8 kg/dm³
- Contact: mercury contact, connected as N/O or N/C contact
- Switch capacity: max. 250 V_{AC}, 150 V_{DC}, 800 VA
- Switching current: 4 A, 2 A at cos. 0.7
- Class of protection: IP 68

Dimensions

NSED



NSEK



Order Details (Example: NSED-02 SIL)

Description	Order no.
Cylindrical float, 2 m silicone cable	NSED-02 SIL
Ball float, 2 m silicone cable	NSEK-02 SIL