SM
float switches

Controlling devices with potential-free microswitch, for automatic control, regulation and signalling of liquid levels

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SM… float switches

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**Jola Spezialschalter GmbH & Co. KG
sells only business-to-business (B2B).**

The units described in this documentation may only be installed, connected, started up, serviced and replaced by suitably qualified personnel!

Subject to deviations from the diagrams and technical data.

The details in this brochure are product specification descriptions and do not constitute assured properties in the legal sense.

SM… float switches for electrical systems
• for mounting from the side
• with microswitch

Technical data	SM.../3	SM.../1
Application	for applications up to max. 250 V	for light current applications
Switching voltage	between AC/DC 24 V and AC/DC 250 V	between AC/DC 1 V and AC/DC 42 V
Switching current	between AC 20 mA and AC 5 A or between DC 20 mA and DC 100 mA	between AC 0.1 mA and AC 100 (50) mA or between DC 0.1 mA and DC 10 mA
Switching capacity	max. 1,000 VA	max. 4 VA

Mode of operation

The rising or falling liquid level causes the float to move marginally up or down. When the float rises, it activates a microswitch in the form of a changeover switch.

These units are not suitable for use in turbulent liquids (e.g. in stirrer tanks).

The following types are available:

Types	Bellows material	Float material	Float dimensions	Page
SM/P/. SMG/P/.	PP	PP	Ø 29 x 133 mm Ø 63 x 140 mm	2-1-3 2-1-4
SMG/PVDF/. SM/PTFE/.	PVDF PTFE	PVDF PTFE	Ø 63 x 140 mm Ø 59 x 155 mm	2-1-5 2-1-6
SM/E/. SMG/E/.	stainless steel 316 Ti	stainless steel 316 Ti	Ø 28 x 120 mm Ø 63 x 140 mm	2-1-7 2-1-8

SM/P/. float switches made of PP

Installation of the float possible through hole accepting G1 thread

SM/P/.

These units are not suitable for use in turbulent liquids (e.g. in stirrer tanks).

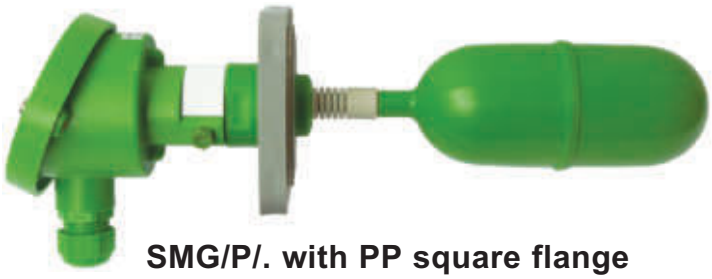
Technical data	SM/P/3	SM/P/1
Application	for applications up to 250 V	for light current applications
Switching voltage	between AC/DC 24 V and AC/DC 250 V	between AC/DC 1 V and AC/DC 42 V
Switching current	between AC 20 mA and AC 5 A or between DC 20 mA and DC 100 mA	between AC 0.1 mA and AC 100 (50) mA or between DC 0.1 mA and DC 10 mA
Switching capacity	max. 1,000 VA	max. 4 VA
Operating principle	microswitch, changeover contact	
Recommended application	——	via Jola KR .. protection relay (see pages 12-1-0 and follow.)
Float	PP, 29 mm Ø x 133 mm long	
Bellows	PP	
Screw-in nipple	PP, G1	
On request: flange	square blind flange with G1 threaded hole made of PP, PVDF or stainless steel 316 Ti (dimensions see page 2-1-12) or other flanges with any desired dimensions	
Protection class of float, bellows and nipple	IP 68	
Connection head	PP with M 20 x 1.5 cable entry, protection class IP 54; on request: connection head made of cast aluminium, protection class IP 54	
Mounting	from the side	
Temperature application range	0°C to + 90°C (inside the connection head: 0°C to + 60°C)	
Pressure resistance	for pressureless applications	
Test pressure	max. 2 bar at + 20°C (without flange or with flange made of stainless steel; with square flange made of PP or PVDF: 0 bar)	
Application	only for use in liquids with a specific gravity ≥ 0.82 g/cm³	

Further technical data on pages 2-1-9 and following

Mounting instructions see page 2-1-23

SMG/P/. float switches made of PP

SMG/P/.



SMG/P/. with PP square flange

These units are not suitable for use in turbulent liquids (e.g. in stirrer tanks).

Technical data	SMG/P/3	SMG/P/1
Application	for applications up to 250 V	for light current applications
Switching voltage	between AC/DC 24 V and AC/DC 250 V	between AC/DC 1 V and AC/DC 42 V
Switching current	between AC 20 mA and AC 5 A or between DC 20 mA and DC 100 mA	between AC 0.1 mA and AC 100 (50) mA or between DC 0.1 mA and DC 10 mA
Switching capacity	max. 1,000 VA	max. 4 VA
Operating principle	microswitch, changeover contact	
Recommended application	——	via Jola KR .. protection relay (see pages 12-1-0 and follow.)
Float	PP, 63 mm Ø x 140 mm long; on request: ball float 85 mm Ø (reference: SMH/P/.)	
Bellows	PP	
Screw-in nipple	PP, G1	
On request: flange	square blind flange with G1 threaded hole made of PP, PVDF or stainless steel 316 Ti (dimensions see page 2-1-12) or other flanges with any desired dimensions	
Protection class of float, bellows and nipple	IP 68	
Connection head	PP with M 20 x 1.5 cable entry, protection class IP 54; on request: connection head made of cast aluminium, protection class IP 54	
Mounting	from the side	
Temperature application range	0°C to + 90°C (inside the connection head: 0°C to + 60°C)	
Pressure resistance	for pressureless applications	
Test pressure	max. 2 bar to + 20°C (without flange or with flange made of stainless steel; with square flange made of PP or PVDF: 0 bar)	
Application	only for use in liquids with a specific gravity ≥ 0.7 g/cm³	

Further technical data on pages 2-1-9 and following

Mounting instructions see page 2-1-23

SMG/PVDF/. float switches made of PVDF

SMG/PVDF/.

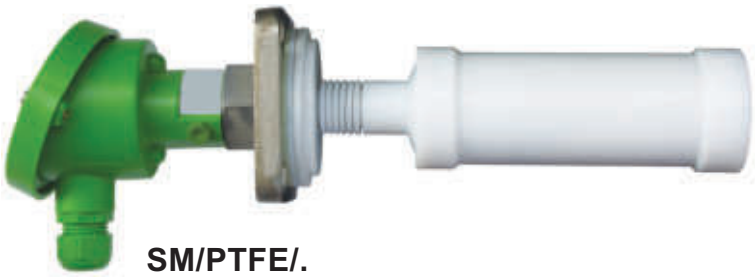
SMG/PVDF/.
with PVDF square flange

These units are not suitable for use in turbulent liquids (e.g. in stirrer tanks).

Technical data	SMG/PVDF/3	SMG/PVDF/1
Application	for applications up to 250 V	for light current applications
Switching voltage	between AC/DC 24 V and AC/DC 250 V	between AC/DC 1 V and AC/DC 42 V
Switching current	between AC 20 mA and AC 5 A or between DC 20 mA and DC 100 mA	between AC 0.1 mA and AC 100 (50) mA or between DC 0.1 mA and DC 10 mA
Switching capacity	max. 1,000 VA	max. 4 VA
Operating principle	microswitch, changeover contact	
Recommended application	———	via Jola KR .. protection relay (see pages 12-1-0 and follow.)
Float	PVDF, 63 mm Ø x 140 mm long	
Bellows	PVDF	
Screw-in nipple	PVDF, G1	
On request: flange	square blind flange with G1 threaded hole made of PP, PVDF or stainless steel 316 Ti (dimensions see page 2-1-12) or other flanges with any desired dimensions	
Protection class of float, bellows and nipple	IP 68	
Connection head	PP with M 20 x 1.5 cable entry, protection class IP 54; on request: connection head made of cast aluminium, protection class IP 54	
Mounting	from the side	
Temperature application range	0°C to + 100°C (inside the connection head: 0°C to + 60°C); on request 0°C to + 135°C (inside the connection head: 0°C to + 100°C)	———
Pressure resistance	for pressureless applications	
Test pressure	max. 2 bar at + 20°C (without flange or with flange made of stainless steel; with square flange made of PP or PVDF: 0 bar)	
Application	only for use in liquids with a specific gravity ≥ 0.8 g/cm³	

Further technical data on pages 2-1-9 and following
Mounting instructions see page 2-1-23

SM/PTFE/. float switches made of PTFE



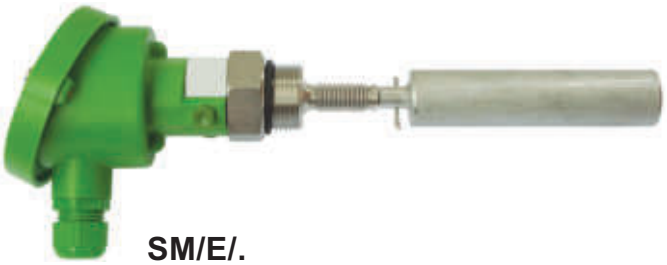
SM/PTFE/.
with square flange made of stainless steel with PTFE lining on the surface in contact with the liquid

These units are not suitable for use in turbulent liquids (e.g. in stirrer tanks).

Technical data	SM/PTFE/3	SM/PTFE/1
Application	for applications up to 250 V	for light current applications
Switching voltage	between AC/DC 24 V and AC/DC 250 V	between AC/DC 1 V and AC/DC 42 V
Switching current	between AC 20 mA and AC 5 A or between DC 20 mA and DC 100 mA	between AC 0.1 mA and AC 100 (50) mA or between DC 0.1 mA and DC 10 mA
Switching capacity	max. 1,000 VA	max. 4 VA
Operating principle	microswitch, changeover contact	
Recommended application	——	via Jola KR .. protection relay (see pages 12-1-0 and follow.)
Float	PTFE, 59 mm Ø x 155 mm long	
Bellows	PTFE	
Flange	square flange made of stainless steel 316 Ti, (dimensions see page 2-1-12) with PTFE lining on the surface in contact with the liquid or other flanges with any desired dimensions with PTFE lining on the surface in contact with the liquid	
Protection class of float and bellows	IP 68	
Connection head	PP with M 20 x 1.5 cable entry, protection class IP 54; on request: connection head made of cast aluminium, protection class IP 54	
Mounting	from the side	
Temperature application range	0°C to + 100°C (inside the connection head: 0°C to + 60°C);	
	on request 0°C to + 180°C (inside the connection head: 0°C to + 100°C)	——
Pressure resistance	for pressureless applications	
Test pressure	max. 2 bar at + 20°C	
Application	only for use in liquids with a specific gravity ≥ 1.0 g/cm³	

Further technical data on pages 2-1-9 and following
Mounting instructions see page 2-1-23

SM/E/. float switches made of stainless steel



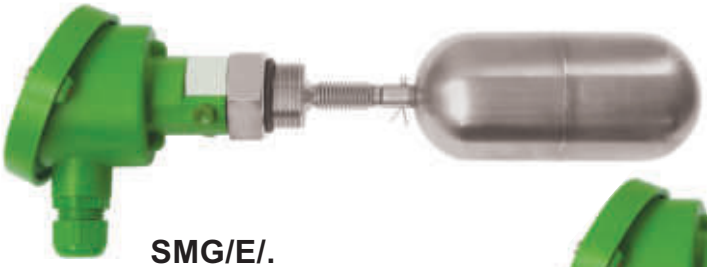
SM/E/.

These units are not suitable for use in turbulent liquids (e.g. in stirrer tanks).

Technical data	SM/E/3	SM/E/1
Application	for applications up to 250 V	for light current applications
Switching voltage	between AC/DC 24 V and AC/DC 250 V	between AC/DC 1 V and AC/DC 42 V
Switching current	between AC 20 mA and AC 5 A or between DC 20 mA and DC 100 mA	between AC 0.1 mA and AC 100 (50) mA or between DC 0.1 mA and DC 10 mA
Switching capacity	max. 1,000 VA	max. 4 VA
Operating principle	microswitch, changeover contact	
Recommended application	——	via Jola KR .. protection relay (see pages 12-1-0 and follow.)
Float	stainless steel 316 Ti, 28 mm Ø x 120 mm long	
Bellows	stainless steel 316 Ti	
Screw-in nipple	stainless steel 316 Ti, G1	
On request: flange	square blind flange with G1 threaded hole made of stainless steel 316 Ti (dimensions see page 2-1-12) or other flanges with any desired dimensions	
Protection class of float, bellows and nipple	IP 68	
Connection head	PP with M 20 x 1.5 cable entry, protection class IP 54; on request: connection head made of cast aluminium, protection class IP 54	
Mounting	from the side	
Temperature application range	0°C to + 100°C (inside the connection head: 0°C to + 60°C)	
Pressure resistance	for pressureless applications	
Test pressure	max. 2 bar at + 20°C	
Application	only for use in liquids with a specific gravity ≥ 1.0 g/cm³	

Further technical data on pages 2-1-9 and following
Mounting instructions see page 2-1-23

SMG/E/. float switches made of stainless steel



SMG/E/.

These units are not suitable for use in turbulent liquids (e.g. in stirrer tanks).

SMG/E/.
with square flange made of stainless steel and horizontal extension piece for the float

Technical data	SMG/E/3	SMG/E/1
Application	for applications up to 250 V	for light current applications
Switching voltage	between AC/DC 24 V and AC/DC 250 V	between AC/DC 1 V and AC/DC 42 V
Switching current	between AC 20 mA and AC 5 A or between DC 20 mA and DC 100 mA	between AC 0.1 mA and AC 100 (50) mA or between DC 0.1 mA and DC 10 mA
Switching capacity	max. 1,000 VA	max. 4 VA
Operating principle	microswitch, changeover contact	
Recommended application	——	via Jola KR .. protection relay (see pages 12-1-0 and follow.)
Float	stainless steel 316 Ti, 63 mm Ø x 140 mm long; on request: ball float 95 mm Ø (reference: SMH/E/.)	
On request: extension piece for float	horizontal or vertical, as desired	
Bellows	stainless steel 316 Ti	
Screw-in nipple	stainless steel 316 Ti, G1	
On request: flange	square blind flange with G1 threaded hole made of stainless steel 316 Ti (dimensions see page 2-1-12) or other flanges with any desired dimensions	
Protection class of float, bellows and nipple	IP 68	
Connection head	PP with M 20 x 1.5 cable entry, protection class IP 54; on request: connection head made of cast aluminium, protection class IP 54	
Mounting	from the side	
Temperature application range	0°C to + 100°C (inside the connection head: 0°C to + 60°C); on request 0°C to + 250°C (inside the connection head: 0°C to + 100°C)	——
Pressure resistance/ test pressure	for pressureless applications (test pressure: max. 2 bar at + 20°C) on request: pressure resistance up to 4 bar at + 20°C/ g ≥ 1.0 g/cm³ (test pressure max. 6 bar at + 20°C)	
Application	only for use in liquids with a specific gravity ≥ 0.7 g/cm³ (specification without the optional extension piece for the float)	

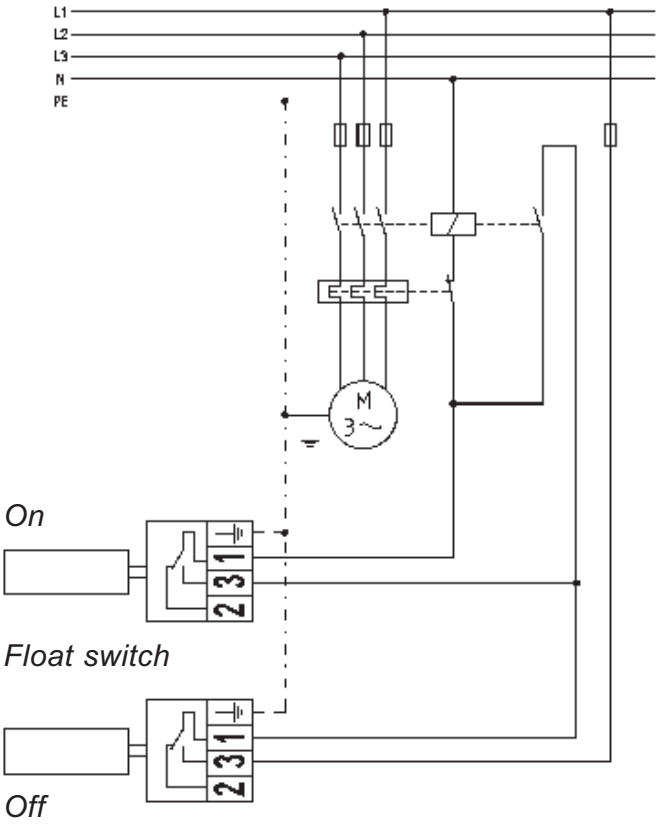
Further technical data on pages 2-1-9 and following
Mounting instructions see page 2-1-23

Connection diagrams

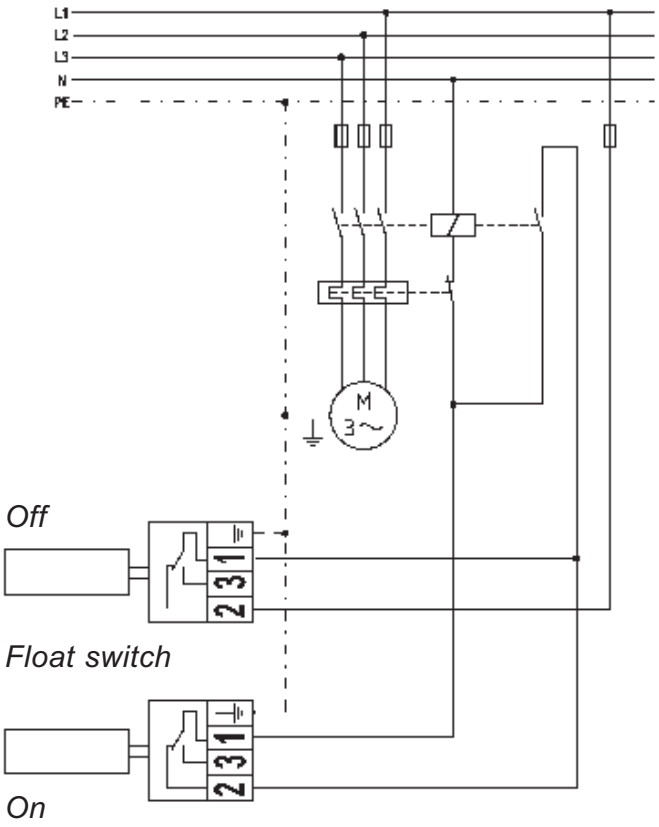
Function of the microswitch in the connection head of the float switch:

Switches over on passage through the horizontal. When the float rises, terminals 1 and 3 connect and open terminals 1 and 2.

Connection diagram 1:
automatic control of
a pump motor or electrovalve -
switching mode: **emptying**



Connection diagram 2:
automatic control of
a pump motor or electrovalve -
switching mode: **filling**



Contact position with empty container

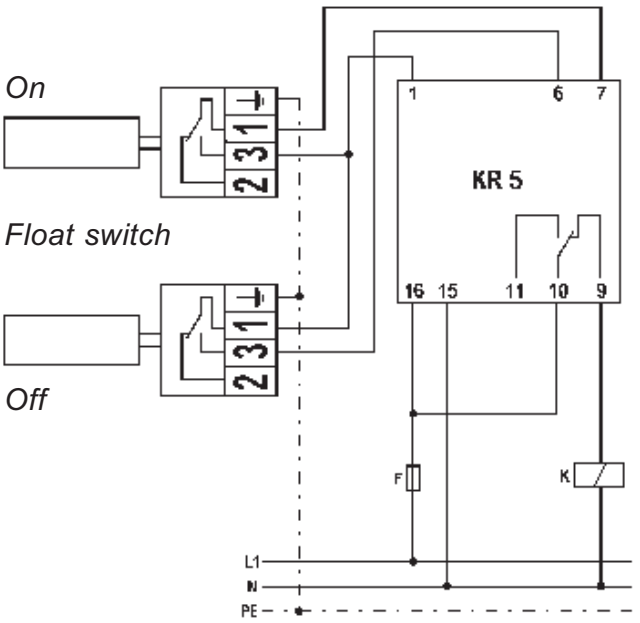
To protect the user and the contacts of our apparatus we recommend the use of our KR .. protection relays (see pages 12-1-0 and following).

- **For full alarm, empty alarm or run dry protection: 1 relay per float switch**
- **For on/off control (with self-hold): 1 relay for 2 float switches**

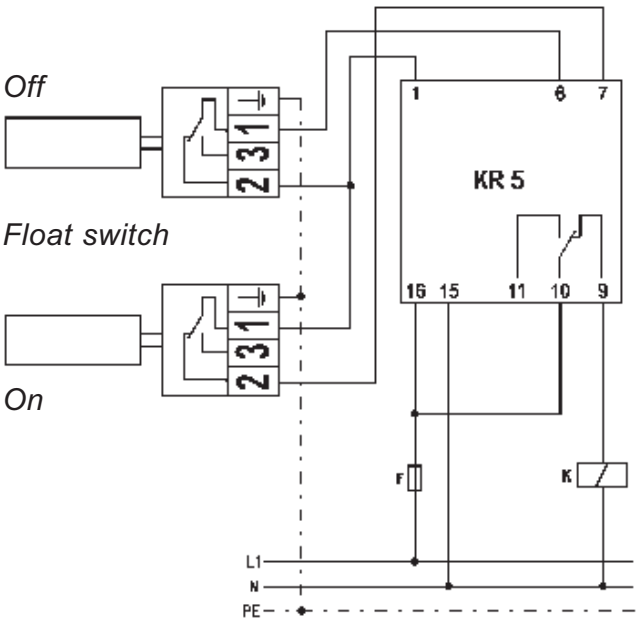
In combinaison with our KR .. protection relays our float switches SM .../1 are to be used.

Two-point control with a KR 5 protection relay

Switching mode: **emptying**



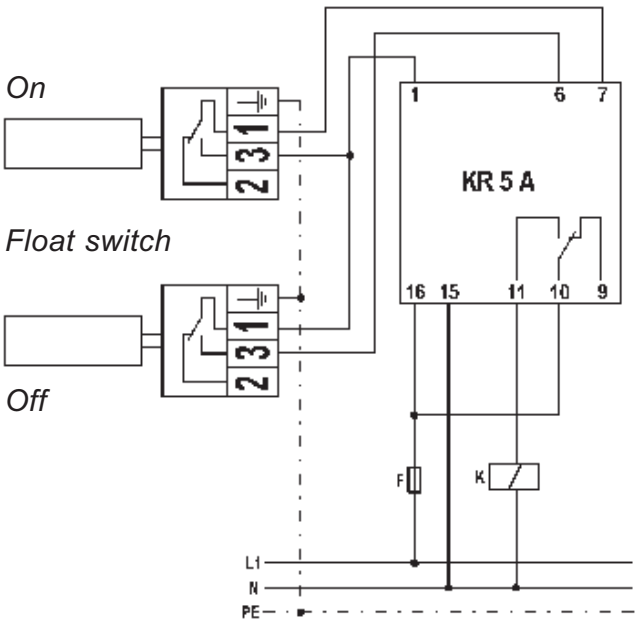
Switching mode: **filling**



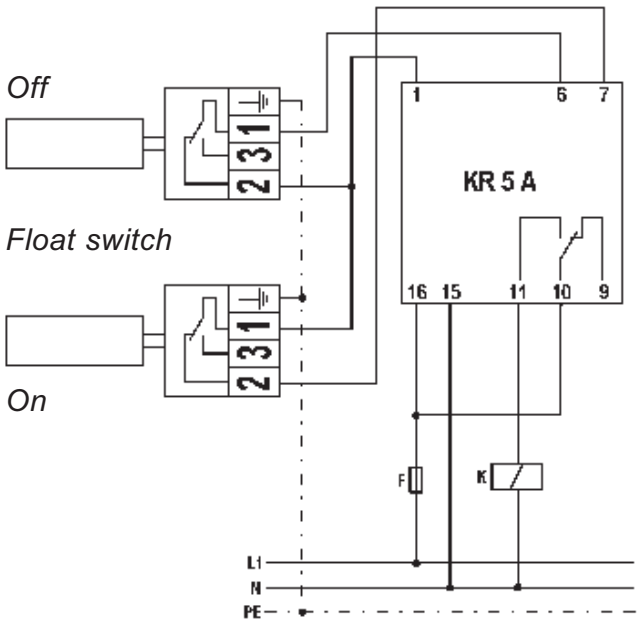
Contact position with empty container - KR 5 without voltage

Two-point control with a KR 5 A protection relay

Switching mode: **emptying**



Switching mode: **filling**



Contact position with empty container - KR 5 A without voltage

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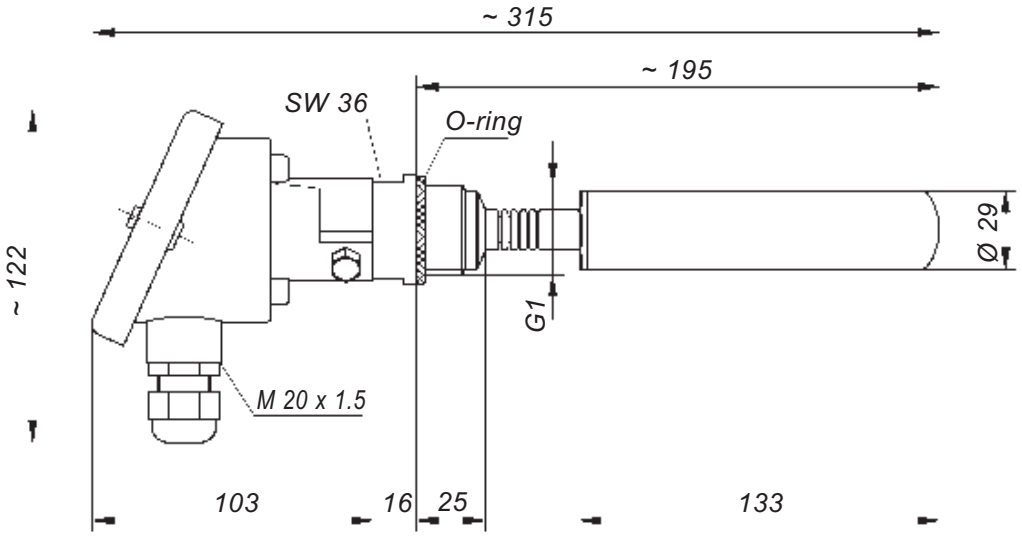
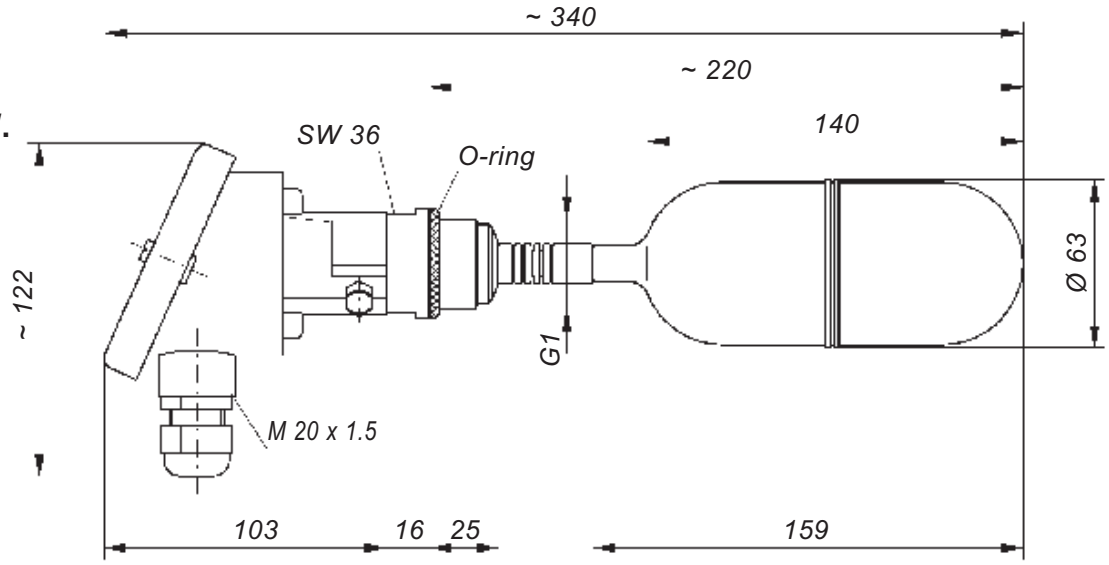
The above details do not apply to the float switch SMG/E -D- (see pages 2-1-13 and 2-1-14).

Dimensional drawings

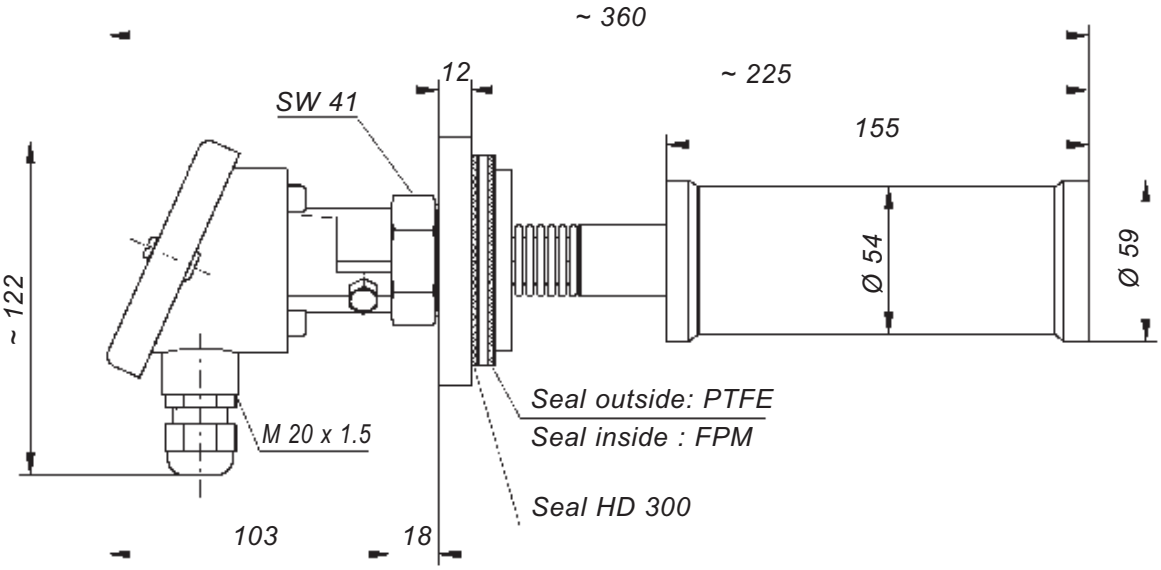
SM/P/.



SMG/P/.
and
SMG/PVDF/.

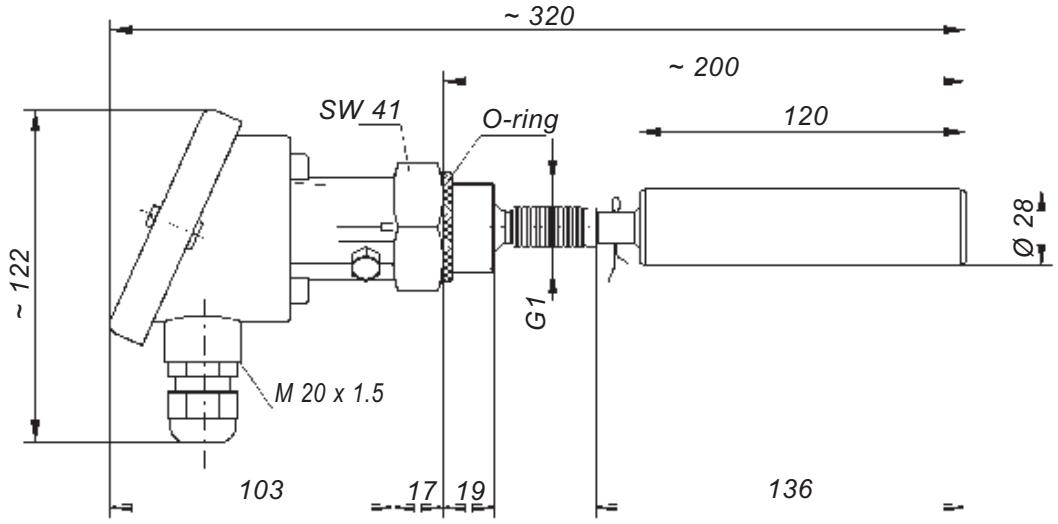


SM/PTFE/.

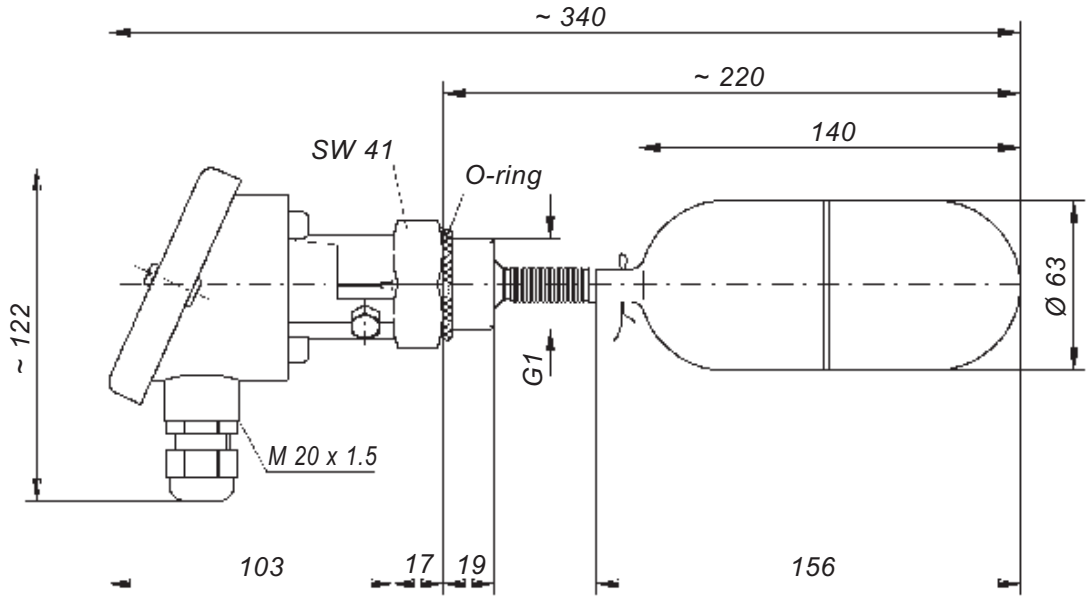


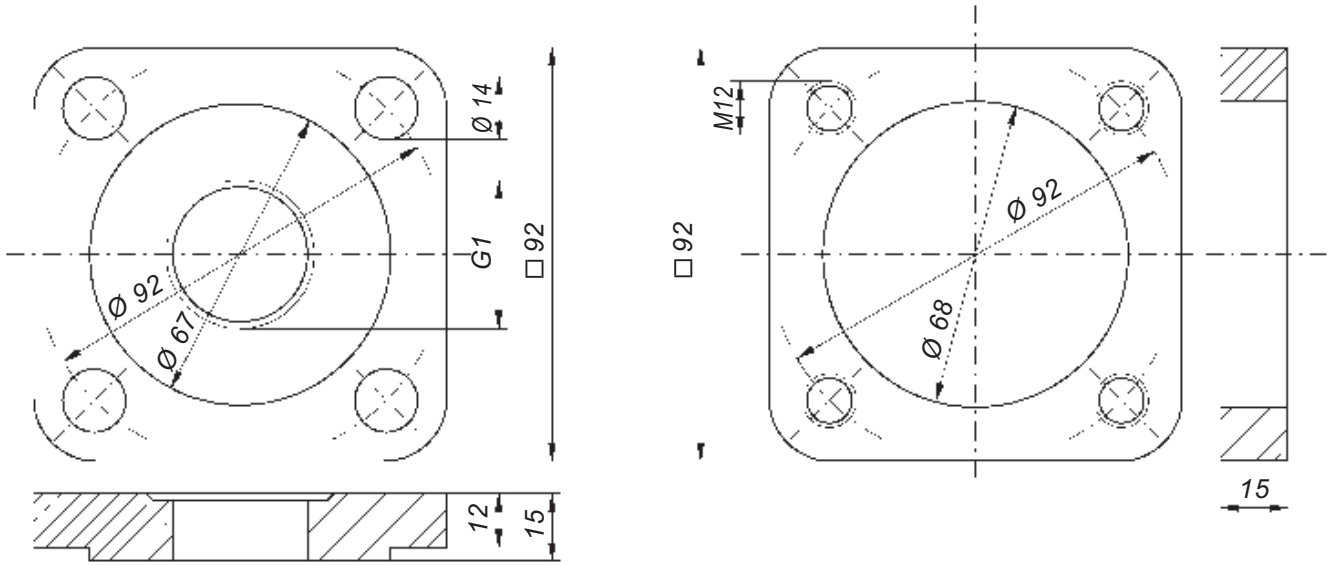
Dimensional drawings

SM/E/.



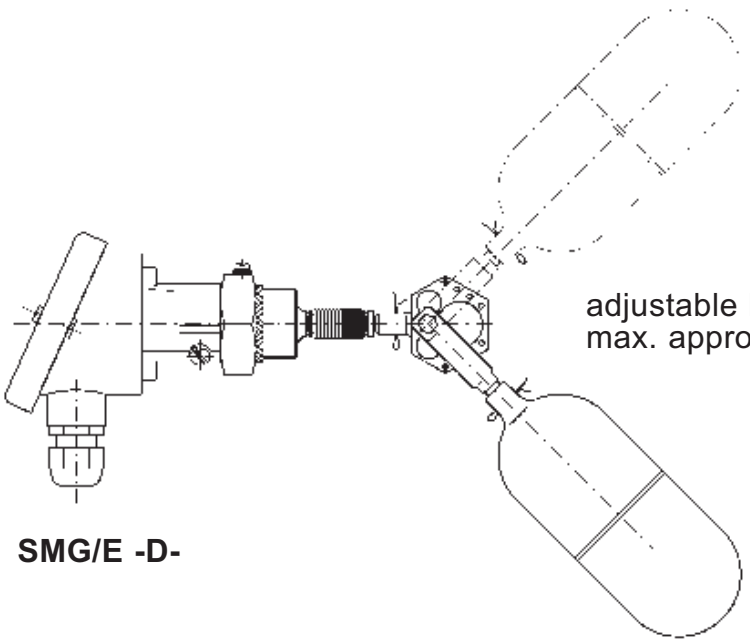
SMG/E/.





Square blind flange with G1 threaded hole for <u>all SM models</u> and corresponding counter flange

SMG/E -D- float switch for electrical systems
- for mounting <u>from the side</u>
- with microswitch with switching differential



SMG/E -D-

SMG/E -D-

SMG/E -D-
with square flange made of stainless steel

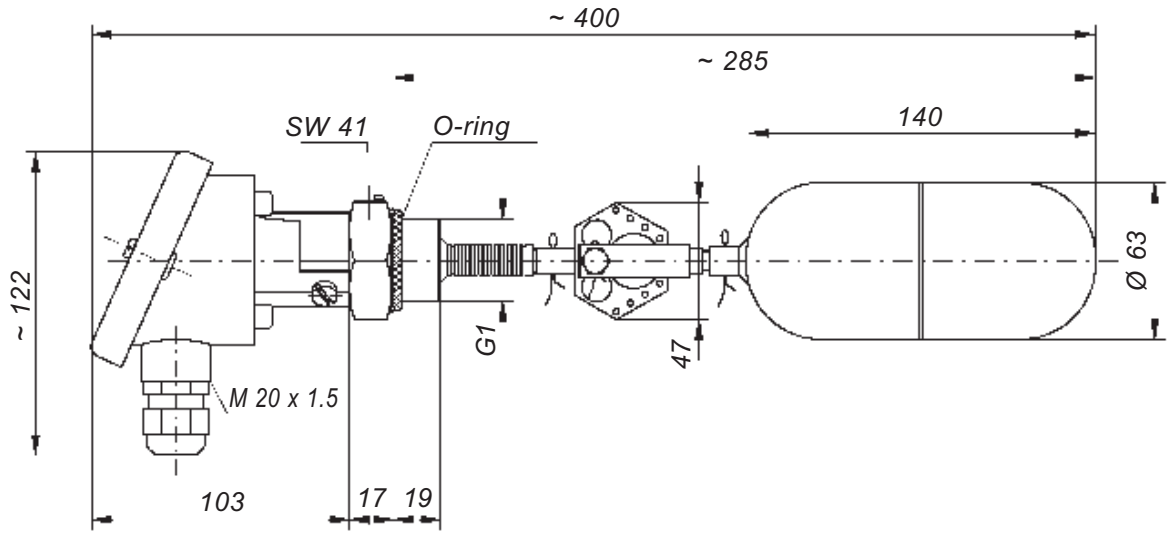
SMG/E -D- float switch made of stainless steel

This unit is not suitable for use by collateral flows and in turbulent liquids (e.g. in stirrer tanks).

Technical data	SMG/E -D-
Application	for applications up to 250 V
Switching voltage	between AC/DC 24 V and AC/DC 250 V
Switching current	between AC 20 mA and AC 5 (1) A
Switching capacity	max. 500 VA
Operating principle	microswitch, changeover contact with switching differential
Float	stainless steel 316 Ti, 63 mm Ø x 140 mm long; on request: ball float 95 mm Ø (reference: SMH/E -D-)
Bellows	stainless steel 316 Ti
Screw-in nipple	stainless steel 316 Ti, G1
On request: flange	square blind flange with G1 threaded hole made of stainless steel 316 Ti (dimensions see page 2-1-12) or other flanges with any desired dimensions
Protection class of float, bellows and nipple	IP 68
Connection head	PP with M 20 x 1.5 cable entry, protection class IP 54; on request: connection head made of cast aluminium, protection class IP 54
Mounting	from the side
Temperature application range	0°C to + 80°C (inside the connection head: 0°C to + 60°C)
Pressure resistance	for pressureless applications
Test pressure	max. 2 bar at + 20°C
Application	only for use in liquids with a specific gravity ≥ 0.95 g/cm³

Mounting instructions see page 2-1-23

SMG/E -D-



SM… float switches for electrical systems
• for mounting from the top
• with microswitch

Technical Data	SM.../3	SM.../1
Application	applications up to max. 250 V	for light current applications
Switching voltage	between AC/DC 24 V and AC/DC 250 V	between AC/DC 1 V and AC/DC 42 V
Switching current	between AC 20 mA and AC 5 A or between DC 20 mA and DC 100 mA	between AC 0.1 mA and AC 100 (50) mA or between DC 0.1 mA and DC 10 mA
Switching capacity	max. 1,000 VA	max. 4 VA

Mode of operation

The rising or falling liquid level causes the float to move marginally up or down. When the float rises, it activates a microswitch in the form of a changeover switch.

These units are not suitable for use in turbulent liquids (e.g. in stirrer tanks).

The following types are available:

Types	All parts in contact with the liquid inside the tank	Page
SMG/VE/. SMV/E/.	stainless steel 316 Ti	2-1-16 2-1-17

SMG/VE/. float switches made of stainless steel

SMG/VE/.

SMG/VE/.
with square flange
made of stainless steel

These units are not suitable for use in turbulent liquids (e.g. in stirrer tanks).

Technical data	SMG/VE/3	SMG/VE/1
Application	for applications up to 250 V	for light current applications
Switching voltage	between AC/DC 24 V and AC/DC 250 V	between AC/DC 1 V and AC/DC 42 V
Switching current	between AC 20 mA and AC 5 A or between DC 20 mA and DC 100 mA	between AC 0.1 mA and AC 100 (50) mA or between DC 0.1 mA and DC 10 mA
Switching capacity	max. 1,000 VA	max. 4 VA
Operating principle	microswitch, changeover contact	
Recommended application	——	via Jola KR .. protection relay (see pages 12-1-0 and follow.)
Float	stainless steel 316 Ti, 63 mm Ø x 140 mm long	
Bellows	stainless steel 316 Ti	
Screw-in nipple	stainless steel 316 Ti, G1	
On request: flange	square blind flange with G1 threaded hole made of stainless steel 316 Ti (dimensions see page 2-1-12) or other flanges with any desired dimensions	
Protection class of float, bellows and nipple	IP 68	
Connection head	PP with M 20 x 1.5 cable entry, protection class IP 54; on request: connection head made of cast aluminium, protection class IP 54	
Mounting	from the top	
Temperature application range	0°C to + 100°C (inside the connection head: 0°C to + 60°C)	
	on request 0°C to + 250°C (inside the connection head: 0°C to + 100°C)	——
Pressure resistance/ test pressure	for pressureless applications (test pressure: max. 2 bar at + 20°C) on request: pressure resistance up to 4 bar at + 20°C/ g ≥ 1.0 g/cm³ (test pressure max. 6 bar at + 20°C)	
Application	only for use in liquids with a specific gravity ≥ 0.82 g/cm³	

Further technical data on pages 2-1-9 and following
Mounting instructions see page 2-1-23

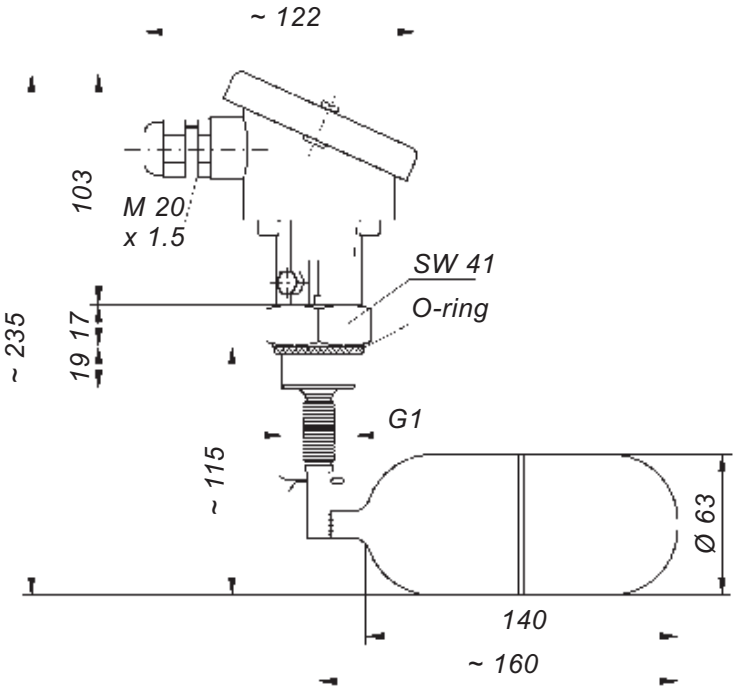
SMV/E/. float switches made of stainless steel

These units are not suitable for use in turbulent liquids (e.g. in stirrer tanks).

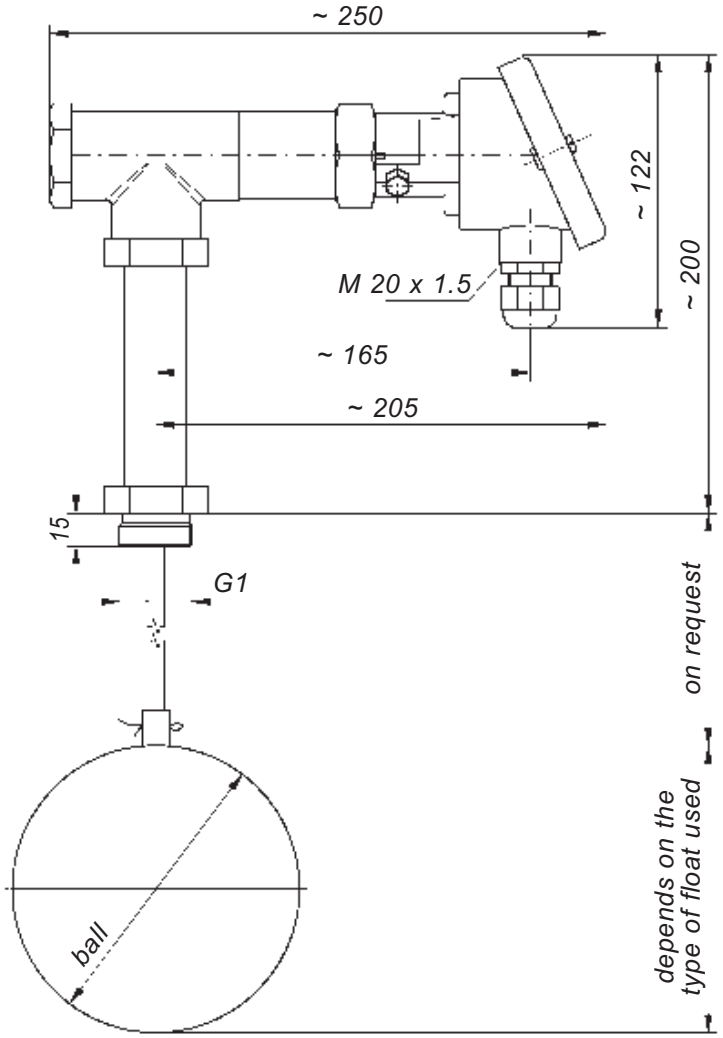
Technical data	SMV/E/3	SMV/E/1
Application	for applications up to 250 V	for light current applications
Switching voltage	between AC/DC 24 V and AC/DC 250 V	between AC/DC 1 V and AC/DC 42 V
Switching current	between AC 20 mA and AC 5 A or between DC 20 mA and DC 100 mA	between AC 0.1 mA and AC 100 (50) mA or between DC 0.1 mA and DC 10 mA
Switching capacity	max. 1,000 VA	max. 4 VA
Operating principle	microswitch, changeover contact	
Recommended application	——	via Jola KR .. protection relay (see pages 12-1-0 and follow.)
All parts in contact with the liquid inside the tank	stainless steel 316 Ti	
Float dimensions	ball float 130 mm Ø; on request: ball float 148 mm Ø, 180 mm Ø or 200 mm Ø and special floats with other dimensions	
Length of the float rod less float (measured from sealing surface of screw-in nipple)	as desired, 200 mm if not otherwise specified; guide tube for the float rod for rod length over 500 mm included (for rod lengths under 500 mm on request)	
Screw-in nipple	stainless steel 316 Ti, G1	
On request: flange	blind flange with any desired dimensions with G1 threaded hole	
On request: function test button	to test the mechanical and electrical function of the float switch	
Protection class of all parts in contact with the liquid inside the tank	IP 68	
Connection head	PP with M 20 x 1.5 cable entry, protection class IP 54; on request: connection head made of cast aluminium, protection class IP 54	
Mounting	from the top	
Temperature application range	0°C to + 100°C (inside the connection head: 0°C to + 60°C); on request 0°C to + 250°C (inside the connection head: 0°C to + 100°C)	——
Pressure resistance/ test pressure	for pressureless applications (test pressure: max. 2 bar at + 20°C); on request: pressure resistance up to 4 bar at + 20°C / g ≥ 1.0 g/cm³ (test pressure: max. 6 bar at + 20°C)	
Application	for various liquids, depending on the length of the float rod and the type of float used – please contact us for information on different options	

Mounting instructions see page page 2-1-23

SMG/VE/.


~ 122
103
M 20
x 1.5
SW 41
O-ring
~ 235
19 17
G1
~ 115
Ø 63
140
~ 160

SMV/E/.


~ 250
~ 122
~ 200
M 20 x 1.5
~ 165
~ 205
15
G1
ball
on request
depends on the
type of float used

SM... float switches for pneumatic systems
• for mounting <u>from the side</u> <u>or</u> • for mounting <u>from the top</u> • with pneumatic $^{3}/_{2}$-way valve

Technical Data	SM./Pn
Valve	pneumatic $^{3}/_{2}$-way valve
Pressure range	1.5 to max. 6 bar
Operation	**"UP" operation:** float in "max. position": air is able to flow; float in "min. position": air passage is blocked on request: **"DOWN" operation:** float in "max. position": air passage is blocked; float in "min. position": air is able to flow

Mode of operation

The rising or falling liquid level causes the float to move marginally up or down. When the float rises, it activates a pneumatic $^{3}/_{2}$-way valve.

These units are not suitable for use in turbulent liquids (e.g. in stirrer tanks).

The following types are available:

Types	Mounting	Page
SMG/Pn	for mounting from the side	2-1-21
SMV/Pn	for mounting from the top	2-1-22

SMG/Pn float switch made of stainless steel

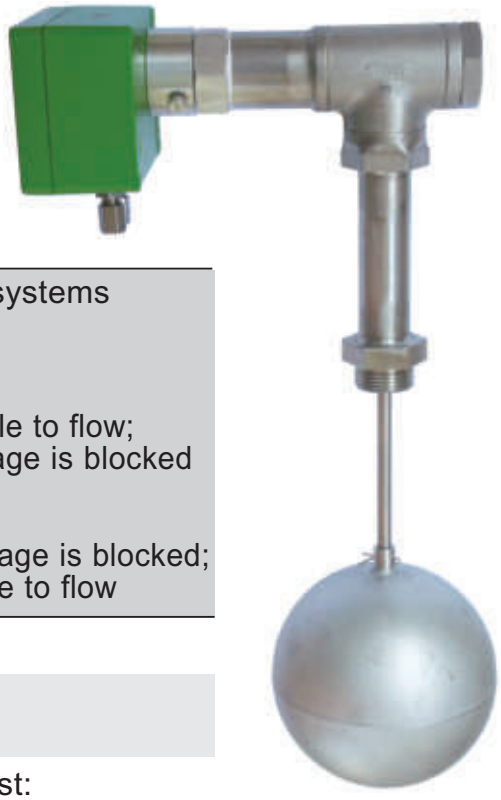
SMG/Pn with square flange made of stainless steel

These units are not suitable for use in turbulent liquids (e.g. in stirrer tanks).

Technical data	SMG/Pn
Application	for applications in pneumatic systems
Pressure range	1.5 to max. 6 bar
Operation	**“UP” operation:** float in “max. position”: air is able to flow; float in “min. position”: air passage is blocked on request: **“DOWN” operation:** float in “max. position”: air passage is blocked; float in “min. position”: air is able to flow
Operating principle	pneumatic $^{3}/_{2}$-way valve
Float	stainless steel 316 Ti, 63 mm Ø x 140 mm long; on request: ball float 95 mm Ø (reference: SMH/Pn)
On request: extension piece for float	horizontal or vertical, as desired
Bellows	stainless steel 316 Ti
Screw-in nipple	stainless steel 316 Ti, G1
On request: flange	square blind flange with G1 threaded hole made of stainless steel 316 Ti (dimensions see page 2-1-12) or other flanges with any desired dimensions
Protection class of float, bellows and nipple	IP 68
Terminal box	cast aluminium with protective coating, approx. 125 x 80 x 58 mm, with 2 connections for air hoses DN 4
Mounting	from the side
Temperature application range	0°C to + 60°C
Pressure resistance/ test pressure	for pressureless applications (test pressure: max. 2 bar at + 20°C); on request: pressure resistance up to 4 bar at + 20°C / g ≥ 1.0 g/cm³ (test pressure: max. 6 bar at + 20°C)
Application	for various liquids, depending on the pressure at the valve - please contact us for information on different options

Mounting instructions see page 2-1-23

SMV/Pn float switch made of stainless steel



These units are not suitable for use in turbulent liquids (e.g. in stirrer tanks).

Technical data	SMV/Pn
Application	for applications in pneumatic systems
Pressure range	1.5 to max. 6 bar
Operation	**“UP” operation:** float in “max. position”: air is able to flow; float in “min. position”: air passage is blocked on request: **“DOWN” operation:** float in “max. position”: air passage is blocked; float in “min. position”: air is able to flow
Operating principle	pneumatic $^{3}/_{2}$-way valve
All parts in contact with the liquid inside the tank	stainless steel 316 Ti
Float dimensions	ball float 130 mm Ø; on request: ball float 148 mm Ø, 180 mm Ø or 200 mm Ø and special floats with other dimensions
Length of the float rod less float (measured from sealing surface of screw-in nipple)	as desired; 200 mm if not otherwise specified; guide tube for the float rod for rod length over 500 mm included (for rod lengths under 500 mm on request)
Screw-in nipple	stainless steel 316 Ti, G1
On request: flange	blind flange with any desired dimensions with G1 threaded hole
Protection class of all parts in contact with the liquid inside the tank	IP 68
Terminal box	cast aluminium with protective coating, approx. 125 x 80 x 58 mm, with 2 connections for air hoses DN 4
Mounting	from the top
Temperature application range	0°C to + 60°C
Pressure resistance/ test pressure	for pressureless applications (test pressure: max. 2 bar at + 20°C); on request: pressure resistance up to 4 bar at + 20°C / g ≥ 1.0 g/cm³ (test pressure: max. 6 bar at + 20°C)
Application	for various liquids, depending on the length of the float rod, the type of float used and the pressure at the valve - please contact us for information on different options

Mounting instructions see page 2-1-23

Mounting instructions:

SM/P/. and SM/E/. float switches:

These float switches must be mounted **horizontally**.
- screw the float switch with its seal into the G1 tank socket or flange borehole,
- seal in place,
- loose the two cheese head screws on the side – but do not remove –,
- set the connection head in such a way that the label “TOP” is at the top and the cable entry at the bottom,
- retighten the two cheese head screws.

SMG/P/., SMH/P/. and SMG/PVDF/. float switches:

These float switches must be mounted **horizontally**.
- unscrew the float,
- screw the float switch with its seal into the G1 tank socket or flange borehole,
- seal in place,
- loose the two cheese head screws on the side – but do not remove –,
- set the connection head in such a way that the label “TOP” is at the top and the cable entry at the bottom,
- retighten the two cheese head screws,
- screw back in place the float.

SMG/E/., SMH/E/., SMG/Pn and SMH/Pn float switches:

These float switches must be mounted **horizontally**.
- remove the pin,
- unscrew the float,
- screw the float switch with its seal into the G1 tank socket or flange borehole,
- seal in place,
- loose the two cheese head screws on the side – but do not remove –,
- set the connection head in such a way that the label “TOP” is at the top and the cable entry at the bottom,
- retighten the two cheese head screws,
- screw back in place the float,
- secure the float using the pin.

SM/PTFE/. float switches:

These float switches must be mounted **horizontally**.
- seal and mount the float switch in the corresponding counter flange,
- loose the two cheese head screws on the side – but do not remove –,
- set the connection head in such a way that the label “TOP” is at the top and the cable entry at the bottom,
- retighten the two cheese head screws.

SMG/E -D- float switch:

This float switch must be mounted **horizontally**.
- remove the pin,
- unscrew the float together with its stirrup,
- screw the float switch with its seal into the G1 tank socket or flange borehole and seal in place so that the connection head is set in such a way that the label “TOP” is at the top and
  the cable entry at the bottom,
- screw back in place the float together with its stirrup,
- secure using the pin.

SMG/VE/., SMV/E/. and SMV/Pn float switches:

These float switches must be mounted **vertically**.
- remove the pin,
- unscrew the float,
- screw the float switch with its seal into the G1 tank socket or flange borehole,
- seal in place,
- screw back in place the float,
- secure the float using the pin.