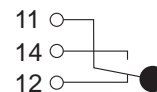
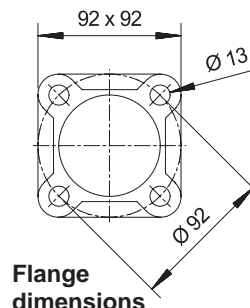
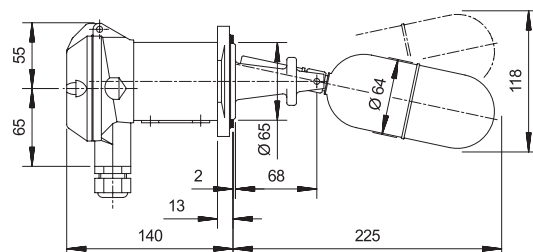


Side mounted switches for high or low alarm duties

Types	A 01 04* (SIL 1) A 01 041 (SIL 1)
Nominal pressure	PN 25 according to EN/DIN
Operating temperature	0 to 300°C
Ambient temperature	0 to 70°C
Density of the liquid	Min. 0.7 kg/dm ³
Operating differential	12 mm, fixed
Wetside material	Stainless steel (CrNiMo)
Housing material	Seawater resistant die cast aluminium
Flange	Square 92 x 92 mm, 92 mm PCD
Switch element	Microswitch SPDT with silver contacts
Switch rating	250 VAC, 5 A / 30 VDC, 5 A
Enclosure	IP65
Cable entry	M20 x 1.5
Flange material	1.4408
Float material	1.4571
Weight	approx. 1.8 kg
Rod extensions	only with type A 01 04
Approvals	ABS, BV, DNV, GL, LRS, RINA, RMRS

* Type A 01 04 can be equipped with rod extensions (See page 2)



Connection diagram

Options

- Dual SPDT microswitches (SIL 2)
- Microswitches with gold plated contacts
- Self checking proximity switches acc. to NAMUR
- Enclosure IP67 or IP68 for submersible applications
- 5A/380 VAC 0,3A/440 VDC (Type AE26)
- Flameproof switches
- Pneumatic versions: ON/OFF or proportional output
- High and low temperature versions
- Cable entry with 3/4" NPT internal thread
- Switch housing:
 - chromated
 - stainless steel (316 equiv.)
 - epoxy painted
- Flange modules:
 - EN/DIN: PN 16 to PN 320
 - ANSI: cl. 150 to cl. 2500
 - BS10: table E to T
 - JIS: PN 5K to PN 63K
- Float modules:
 - top mounting
 - interface control
 - with protective bellows
 - min. density 0.35 kg/dm³
- Versions acc. to NACE and in Hastelloy C

Marine approvals and registrations of Trimod Besta level switches



SIL
IEC 61508/61511
SIL 3 Capable

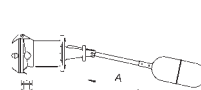
Rod extensions for type A 01 04

Where the float pivot needs to be protected from contaminated media or to provide an increased switching differential the float can be equipped with a rod extension.

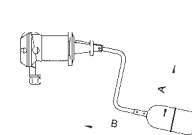
Depending on the tank design the level switch type A0104 can be equipped with rod extension Type G1 or G2 for side mounted switches. For top mounting type G3 is used. Since rod extensions add-on weight to the float, the minimum value for the density will change according to the following tables:

Options: Rod extensions

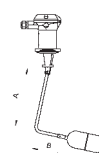
G1



G2



G3



A max.: 1000	A+B max.: 1000	A + B max.: 1000
	A/B.: ≤ 4	A/B.: ≤ 4
	A min.: 100	A min.: 50
	B min.: 100	B min.: 60



Minimum density for the float module 04G1

Rod length A (mm)	100	200	300	400	500	600	700	800	900	1000
Min. density (kg/dm³)	0.66	0.66	0.67	0.69	0.71	0.74	0.76	0.79	0.81	0.84



Minimum density for the float module 04G2 (kg/dm³)

A (mm) \ B (mm)	100	200	300	400	500	600	700	800
100	0.69	0.68	0.70	0.71	0.72	0.74	0.75	--
200	0.67	0.67	0.68	0.69	0.70	0.71	0.72	0.73
300	0.68	0.69	0.69	0.70	0.71	0.71	0.72	
400	0.70	0.70	0.71	0.71	0.72	0.73		
500	0.72	0.73	0.73	0.73	0.74			
600	0.74	0.75	0.75	0.75				
700	0.77	0.77	0.77					
800	0.79	0.80						
900	0.82							



Minimum density for the float module 04G3 (kg/dm³)

A (mm) \ B (mm)	50 to 500	600	700	800
50	0.71	--	--	--
100	0.69	--	--	--
200	0.68	0.68	0.68	0.68
300	0.69	0.69	0.69	
400	0.71	0.71		
500	0.73			
600	0.75			
700	0.77			
800	0.8			
900	0.82			
950	0.83			

Float chambers

Float chambers for the Standard Range (square flange) and the Industrial Range (EN/DIN, ANSI) are available for the external installation (bypass) of the Trimod Besta switches. This type of mounting allows functional checks and servicing without interruption of operation if shut-off and drain valves are available in the supply lines. The float chambers are available in different designs and materials.

Services and Q certifications

- Test report in accordance with EN 10204-2.2
- Inspection certificate in accordance with EN 10204-3.1
- Non destructive testing such as ultrasonic, X-ray, dye penetrant or magnetic particle examination
- Material testing including charpy, tensile and hardness
- EC Type-examination (Module B) acc. to directive 97/23/EC (PED)
- Coatings

We have the following available

- Procedure qualification record: AD 2000-HP2/1
- Approved welders in accordance with: AD 2000 HP3
- Approval for material transfer stamping in accordance with: SVTI 201/507



Chambers standard PN 25

A	B	C	D	Types	acc. to figure A to H
				Process connection	DN 25, 50 in acc. with EN/DIN DN 1", 2" in acc. with ANSI
				Materials	Carbon steel, high temperature steel, CrNi steel, CrNiMo steel
				Flange facing of process connection	in acc. with EN 1092-1 - type B1 (DIN 2526 - type C) and in acc. with ANSI B16.5
E	F	G	H	Options	<ul style="list-style-type: none">▪ Special dimensions▪ Vent and drain connection▪ Long studs for mounting a test actuator▪ Float chambers for low temperature applications▪ Float chambers with max. hardness of HRC 22 in accordance with NACE

Certificates

- Material certificates acc. to EN 10204-2.2 & EN10204-3.1
- Test record: hydraulic pressure test and functional tests
- Test records of material tests: x-ray, ultrasonic, Charpy, hardness etc.

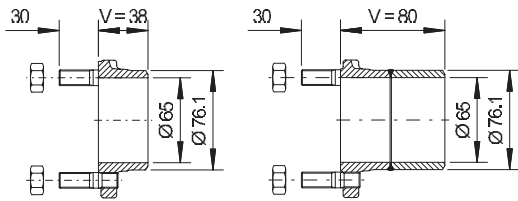
Quality Assurance

- Besta Ltd. is certified acc. to ISO 9001.



Counterflange

not for use with the test actuator

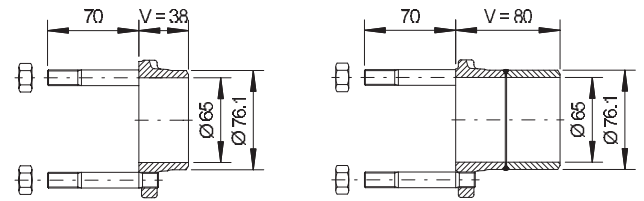


Type 2829.1 & 2831.3

Type 2829.1V80 & 2831.3V80

Counterflange

for use with the test actuator (type 2382 & 2383)



Type 2829.2 & 2831.4

Type 2829.2V80 & 2831.4V80

Type	Flange length	Flange material	Stud material	Stud length
2829.1	V = 38 mm	P250GH	5.8	30 mm
2831.3	V = 38 mm	1.4404	A2	30 mm
2829.1V80*	V = 80 mm	P250GH	5.8	30 mm
2831.3V80*	V = 80 mm	1.4404	A2	30 mm

Type	Flange length	Flange material	Stud material	Stud length
2829.2	V = 38 mm	P250GH	5.8	70 mm
2831.4	V = 38 mm	1.4404	A2	70 mm
2829.2V80*	V = 80 mm	P250GH	5.8	70 mm
2831.4V80*	V = 80 mm	1.4404	A2	70 mm

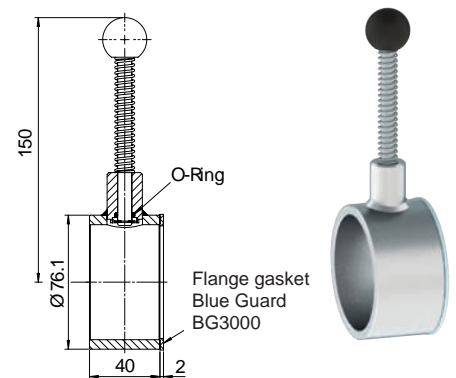
***Important:** Not for use in applications on top of the tank.

Test actuator

The test actuators 2382 and 2383 can be used, if the tank is already equipped with a counterflange, type 2829.2, 2831.4, 2829.2V80 or 2831.4V80.

Type	Material Test actuator	Material O-Ring	Temperature range	Operating pressure
2382	1.4305/1.4404	FPM	0 to 150 °C	-1 to 25 bar
2383	1.4305/1.4404	EPDM	-30 to 150 °C	-1 to 25 bar

Test actuators are supplied with flat gaskets.



Counterflange with test actuator

Important: Positioning of counterflanges with G 3/8" thread for test actuator. If the level switch is used for high alarm the thread has to look upwards. For a low level alarm, the thread has to look downwards.

Counterflange V=50 mm with test actuator

Type	Flange material	Stud material	Material Test actuator	O-Ring
2865	P250GH	5.8	1.4305/1.4404	FPM
2866	P250GH	5.8	1.4305/1.4404	EPDM
2868	1.4404	A2	1.4305/1.4404	FPM
2869	1.4404	A2	1.4305/1.4404	EPDM

Important: Not for use in applications on top of the tank.

