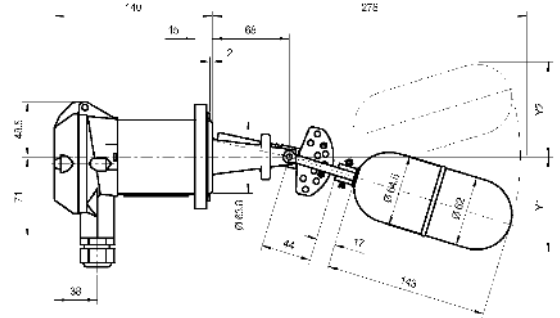


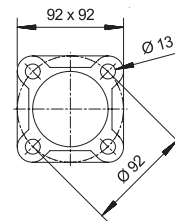
For manually adjustable operating differentials.
Ideal for 2-point control, e.g. pump control.

| | |
|-----------------------|-------------------------------------|
| Type A 01 090 (SIL 1) | Operating differential 37 to 218 mm |
| Type A 01 091 (SIL 1) | Operating differential 56 to 317 mm |
| Type A 01 092 (SIL 1) | Operating differential 83 to 442 mm |
| Type A 01 093 (SIL 1) | Operating differential 97 to 557 mm |
| Type A 01 095 (SIL 1) | Operating differential 34 to 190 mm |

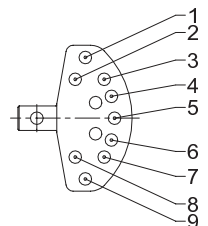
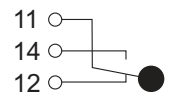
| | |
|------------------------|--|
| Nominal pressure | PN 25 acc. to DIN |
| Operating temperature | 0 to 300°C |
| Ambient temperature | 0 to 70°C |
| Density of the liquid | min. 0.75 kg/dm ³ |
| Operating differential | 12 mm, fixed |
| Wetside material | stainless steel (CrNiMo) |
| Housing material | seawater resistant die cast aluminium |
| Flange | square 92 x 92 mm, PCD 92 mm |
| Switch element | Microswitch SPDT with silver contacts |
| Switch rating | 250 VAC, 5 A / 30 VDC, 5 A |
| Enclosure | IP65 |
| Overall length | 246 to 561 mm, depending on type |
| Weight | approx. 2,0 kg |
| Approvals | ABS, BV, DNV, GL, LRS, CCS, RINA, RMRS |



Flange dimensions



Connection diagram



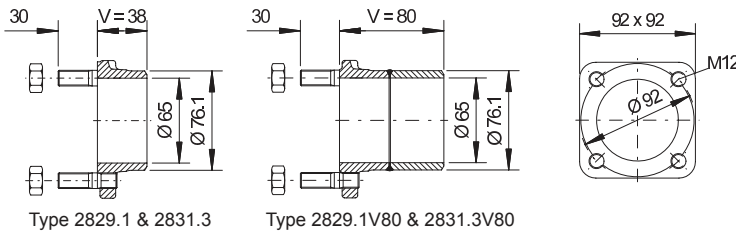
Adjustment of switching differential

The switching differential can be set by inserting pegs in holes 1 to 9 of the adjustment block (see sketch). The resulting differentials, the position of the switching points and the overall swept arc of the float can be seen in the table below. The values are in mm and are referenced to water at 20°C and density of 1.0 kg/dm³.

| Type | A 01 090 | | | | | A 01 091 | | | | | A 01 092 | | | | | A 01 093 | | | | | A 01 095 | | | | |
|------|----------|------|---------|---------|---------|----------|------|---------|---------|---------|----------|------|---------|---------|---------|----------|------|---------|---------|---------|----------|-----|---------|---------|---------|
| L | 278 mm | | | | | 361 mm | | | | | 461 mm | | | | | 561 mm | | | | | 246 mm | | | | |
| Pos. | X1 | X2 | Diff. S | Y1 (Z2) | Y2 (Z1) | X1 | X2 | Diff. S | Y1 (Z2) | Y2 (Z1) | X1 | X2 | Diff. S | Y1 (Z2) | Y2 (Z1) | X1 | X2 | Diff. S | Y1 (Z2) | Y2 (Z1) | X1 | X2 | Diff. S | Y1 (Z2) | Y2 (Z1) |
| 1-4 | +108 | +60 | 48 | 175 | (10) | +157 | +85 | 72 | 238 | (20) | +230 | +125 | 105 | 315 | (50) | +292 | +160 | 132 | 395 | (75) | +100 | +55 | 45 | 147 | (10) |
| 1-5 | +108 | +15 | 93 | 175 | 35 | +157 | +25 | 132 | 238 | 37 | +230 | +39 | 191 | 315 | 39 | +292 | +48 | 244 | 395 | 42 | +100 | +18 | 82 | 147 | 35 |
| 1-6 | +108 | -25 | 133 | 175 | 85 | +157 | -37 | 194 | 238 | 105 | +230 | -51 | 281 | 315 | 135 | +292 | -65 | 357 | 395 | 165 | +100 | -18 | 118 | 147 | 74 |
| 1-7 | +108 | -52 | 160 | 175 | 125 | +157 | -90 | 247 | 238 | 165 | +230 | -124 | 354 | 315 | 215 | +292 | -160 | 452 | 395 | 265 | +100 | -46 | 146 | 147 | 115 |
| 1-8 | +108 | -80 | 188 | 175 | 153 | +157 | -128 | 285 | 238 | 206 | +230 | -171 | 401 | 315 | 275 | +292 | -215 | 507 | 395 | 345 | +100 | -70 | 170 | 147 | 128 |
| 1-9 | +108 | -110 | 218 | 175 | 175 | +157 | -160 | 317 | 238 | 238 | +230 | -212 | 442 | 315 | 315 | +292 | -265 | 557 | 395 | 395 | +100 | -90 | 190 | 147 | 147 |
| 2-5 | +98 | +15 | 83 | 153 | 35 | +122 | +25 | 97 | 206 | 37 | +181 | +39 | 142 | 275 | 39 | +230 | +48 | 182 | 345 | 42 | +79 | +18 | 61 | 128 | 35 |
| 2-6 | +98 | -25 | 123 | 153 | 85 | +122 | -37 | 159 | 206 | 105 | +181 | -51 | 232 | 275 | 135 | +230 | -65 | 295 | 345 | 165 | +79 | -18 | 97 | 128 | 74 |
| 2-7 | +98 | -52 | 150 | 153 | 125 | +122 | -90 | 212 | 206 | 165 | +181 | -124 | 305 | 275 | 215 | +230 | -160 | 390 | 345 | 265 | +79 | -46 | 125 | 128 | 115 |
| 2-8 | +98 | -80 | 178 | 153 | 153 | +122 | -128 | 250 | 206 | 206 | +181 | -171 | 352 | 275 | 275 | +230 | -215 | 445 | 345 | 345 | +79 | -70 | 149 | 128 | 128 |
| 2-9 | +98 | -110 | 208 | 153 | 175 | +122 | -160 | 282 | 206 | 238 | +181 | -212 | 393 | 275 | 315 | +230 | -265 | 495 | 345 | 395 | +79 | -90 | 169 | 128 | 147 |
| 3-5 | +58 | +15 | 43 | 125 | 35 | +81 | +25 | 56 | 165 | 37 | +122 | +39 | 83 | 215 | 39 | +145 | +48 | 97 | 265 | 42 | +52 | +18 | 34 | 115 | 35 |
| 3-6 | +58 | -25 | 83 | 125 | 85 | +81 | -37 | 118 | 165 | 105 | +122 | -51 | 173 | 215 | 135 | +145 | -65 | 210 | 265 | 165 | +52 | -18 | 70 | 115 | 74 |
| 3-7 | +58 | -52 | 110 | 125 | 125 | +81 | -90 | 171 | 165 | 165 | +122 | -124 | 246 | 215 | 215 | +145 | -160 | 305 | 265 | 265 | +52 | -46 | 98 | 115 | 115 |
| 3-8 | +58 | -80 | 138 | 125 | 153 | +81 | -128 | 209 | 165 | 206 | +122 | -171 | 293 | 215 | 275 | +145 | -215 | 360 | 265 | 345 | +52 | -70 | 122 | 115 | 128 |
| 3-9 | +58 | -110 | 168 | 125 | 175 | +81 | -160 | 241 | 165 | 238 | +122 | -212 | 334 | 215 | 315 | +145 | -265 | 410 | 265 | 395 | +52 | -90 | 142 | 115 | 147 |
| 4-6 | +25 | -25 | 50 | 85 | 85 | +31 | -37 | 68 | 105 | 105 | +48 | -51 | 99 | 135 | 135 | +63 | -65 | 128 | 165 | 165 | +23 | -18 | 41 | 74 | 74 |
| 4-7 | +25 | -52 | 77 | 85 | 125 | +31 | -90 | 121 | 105 | 165 | +48 | -124 | 172 | 135 | 215 | +63 | -160 | 223 | 165 | 265 | +23 | -46 | 69 | 74 | 115 |
| 4-8 | +25 | -80 | 105 | 85 | 153 | +31 | -128 | 159 | 105 | 206 | +48 | -171 | 219 | 135 | 275 | +63 | -215 | 278 | 165 | 345 | +23 | -70 | 93 | 74 | 128 |
| 4-9 | +25 | -110 | 135 | 85 | 175 | +31 | -160 | 191 | 105 | 238 | +48 | -212 | 260 | 135 | 315 | +63 | -265 | 328 | 165 | 395 | +23 | -90 | 113 | 74 | 147 |
| 5-7 | -15 | -52 | 37 | 35 | 125 | -33 | -90 | 57 | 37 | 165 | -40 | -124 | 84 | 39 | 215 | -50 | -160 | 110 | 42 | 265 | -12 | -46 | 34 | 35 | 115 |
| 5-8 | -15 | -80 | 65 | 35 | 153 | -33 | -128 | 95 | 37 | 206 | -40 | -171 | 131 | 39 | 275 | -50 | -215 | 165 | 42 | 345 | -12 | -70 | 58 | 35 | 128 |
| 5-9 | -15 | -110 | 95 | 35 | 175 | -33 | -160 | 127 | 37 | 238 | -40 | -212 | 172 | 39 | 315 | -50 | -265 | 215 | 42 | 395 | -12 | -90 | 78 | 35 | 147 |
| 6-9 | -55 | -110 | 55 | (10) | 175 | -80 | -160 | 80 | (20) | 238 | -105 | -212 | 107 | (50) | 315 | -135 | -265 | 130 | (75) | 395 | -45 | -90 | 45 | (10) | 147 |

Counterflange

not for use with the test actuator

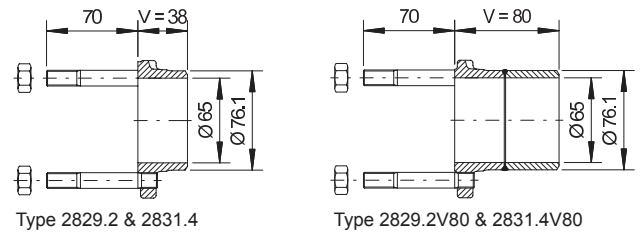


Type 2829.1 & 2831.3

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 | C22.8 | 5.8 | 30 mm |
| 2831.3 | V = 38 mm | 1.4404 | A2 | 30 mm |
| 2829.1V80* | V = 80 mm | C22.8 | 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 | C22.8 | 5.8 | 70 mm |
| 2831.4 | V = 38 mm | 1.4404 | A2 | 70 mm |
| 2829.2V80* | V = 80 mm | C22.8 | 5.8 | 70 mm |
| 2831.4V80* | V = 80 mm | 1.4404 | A2 | 70 mm |

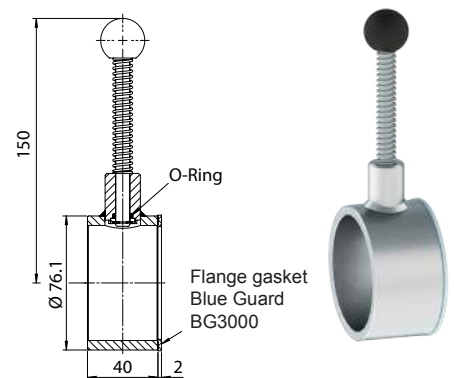
***Important:** Not for use in applications on top of the tank.

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.



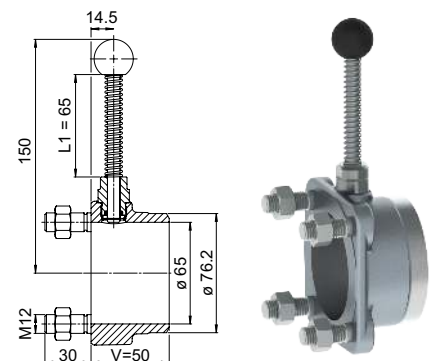
Counterflange with test actuator

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 | C22.8 | 5.8 | 1.4305/1.4404 | FPM |
| 2866 | C22.8 | 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.



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 switches ON/OFF with 3/2 way valve
- High and low temperature versions
- Cable entry with 3/4" NPT internal thread
- Switch housing:
 - chromated
 - stainless steel (316 equiv.)
 - epoxy painted
- Flange modules: - acc. to ANSI, DIN, BS10 and JIS

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.

