

MARKET INFORMATION  
OIL & GAS



# Trimod Besta

Solutions for the Oil and Gas Industry



source: Luginetsky Gas Compressor Station Strezhevoy, Western Siberia, Russia

Besta has over 40 years experience successfully supplying the most reliable and safe level switches to the Oil & Gas industry. Trimod Besta float level switches carry ATEX and IECEx approvals to serve in the most difficult applications on- and offshore.

Trimod Besta level switches have been examined and approved by the most important and internationally recognized organisations. Numerous approvals together with periodic audits grant continuous quality control throughout the production process.

## Trimod Besta, whenever reliability is crucial

### Type XA8 132R 04

A typical industrial switch for use in hazardous areas

|                        |  |
|------------------------|--|
| Type of protection     | EEx de IIC T6   PTB 04 ATEX 1062                                     |
| Nominal pressure       | ANSI cl. 300   |
| Operating temperature  | -29°C to max. 330°C  |
| Ambient temperature    | acc. to EN 50014   |
| Density of liquid      | min. 0.7 kg/dm <sup>3</sup>  |
| Operating differential | 12 mm, fixed   |
| Wetside material       | stainless steel (CrNiMo/316 equiv.)                                  |
| Flange material        |  |
| Seal part              | stainless steel (CrNiMo/316 equiv.)                                  |
| Composite flange       | carbon steel (H II), zinc galvanised, passivated                     |
| Housing material       | seawater resistant chilled cast aluminium and stainless steel (tube) |
| Flange                 | DN 3", PN cl. 300, ANSI B16.5  |
| Flange facing          | raised face  |
| Switch element         | microswitch SPDT with silver contacts                                |
| Switch rating          | 250 VAC, 5 A 30 VDC, 5 A   |
| Enclosure              | IP67   |

## Typical applications

- Oil and gas separators
- Gas drying (Flare knock-out drums)
- Separation layer detection
- Liquified gases
- Overfill protection
- Hydraulic oil tanks
- Waste water tanks
- Ballast tanks
- Storage/holding tanks
- Inert gas production



## Options

- Nominal pressure up to ANSI cl. 2500
- All stainless steel version
- Material wet side in Hastelloy C
- Material wet side acc. to NACE (max. 22 HRC)
- Enclosure IP68
- Microswitch with gold plated contacts
- Switch element: proximity switch
- Flange facing: male, tongue, groove and ring joint

## Type ZK8 22C 041

A typical industrial switch for use in hazardous areas

|                        |  |
|------------------------|--|
| Type of protection     | EEx ed IIC T6...T5   PTB 03 ATEX 1006            |
| Nominal pressure       | PN 40 acc. to DIN                                |
| Operating temperature  | -10°C to max. 145°C                              |
| Ambient temperature    | acc. to EN 50014                                 |
| Density of the liquid  | min. 0.7 kg/dm <sup>3</sup>                      |
| Operating differential | 12 mm, fixed                                     |
| Wetside material       | stainless steel (CrNiMo/316 equiv.)              |
| Flange material        |  |
| Seal part              | stainless steel (CrNiMo/316 equiv.)              |
| Composite flange       | carbon steel (H II), zinc galvanised, passivated |
| Housing material       | seawater resistant die cast aluminium            |
| Flange                 | DN 65, PN 40 acc. to DIN 2501                    |
| Flange facing          | raised face type C, DIN 2626                     |
| Switching element      | hermetically sealed microswitch SPDT             |
| Switch rating          | 250 VAC, 5 A 30 VDC, 5 A                         |
| Enclosure              | IP67   |



### Options

- Nominal pressure up to PN 315 (DIN)
- All stainless steel version
- Material wet side in Hastelloy C
- Material wet side acc. to NACE (max. 22 HRC)
- Flange facing: male, groove, groove for metal joint
- Hermetically sealed dual SPDT microswitch
- High temperature version: max. +380°C
- Low temperature version: max. -196°C

## Type FP 134RF 02

Level switch for pneumatic control application

Approved safety device for overfill protection

With declaration of conformity for use in hazardous areas

|                        |                                       |
|------------------------|---------------------------------------|
| Function               | ON/OFF (3/2 way valve)                |
| Nominal pressure       | ANSI cl. 600                          |
| Operating temperature  | 1 to 250°C                            |
| Ambient temperature    | 1 to 80°C                             |
| Density of liquid      | min. 0.7 kg/dm <sup>3</sup>           |
| Operating differential | 12 mm, fixed                          |
| Wetside material       | stainless steel (CrNiMo/316 equiv.)   |
| Flange material        | stainless steel (CrNiMo/316 equiv.)   |
| Housing material       | seawater resistant die cast aluminium |
| Flange                 | DN 3", PN cl. 600, ANSI B16.5         |
| Flange facing          | raised face                           |
| Max. control pressure  | 10 bar                                |



### Options

- Pneumatic controller with 0.2 to 1 bar output signal (option: 7 to 15 PSI)
- Nominal pressure up to ANSI cl. 2500
- All stainless steel version (Op. temp. max. 400°C)
- Material wet side in Hastelloy C
- Material wet side acc. to NACE (max. 22 HRC)
- Flange facing: male, groove, groove for metal joint
- With drain valve for condensate removal

The unique 3-modular Trimod Besta concept offers unlimited variety of switches for horizontal and vertical installations in hazardous and non hazardous areas.



Typical Standard Range switch



For adjustable operating differential



For corrosive or high purity media



High temperature and severe environmental conditions

## Accessories - Float chambers for high pressure applications

Besta offers a wide range of customized float chambers in various materials and designs:

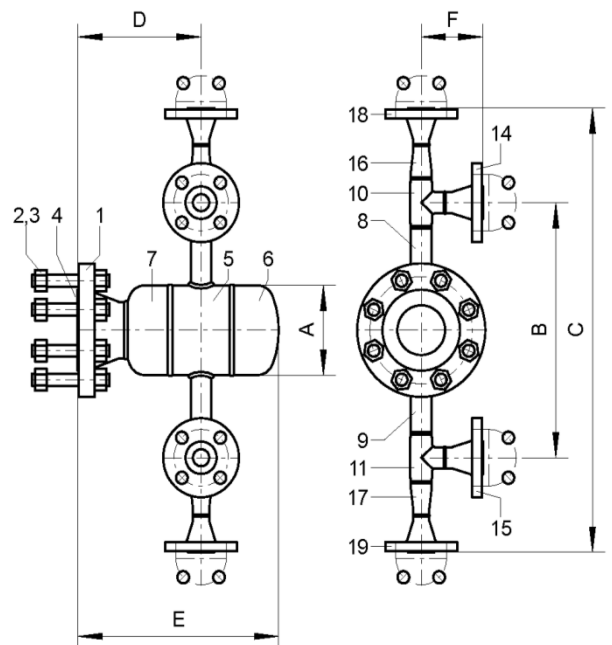
- Pressure range: up to ANSI cl. 2500 and DIN PN 315
- Temperature range: -200°C to 400°C
- Material: carbon steel, low and high temperature carbon steel, stainless steel 304 and 316 equiv.
- Max. hardness of HRC 22 acc. to NACE
- Manufacturing approvals
- Welding certificates
- PED conformity



### Documentation and services

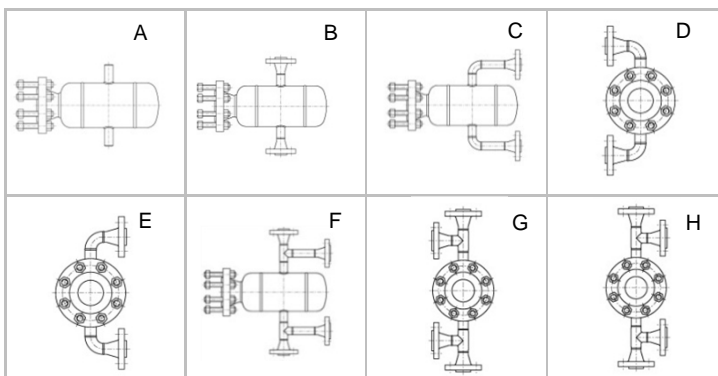
- Test reports acc. to EN 10204-2.2
- Inspection certificates acc. to EN 10204-3.1
- Pressure test protocols
- Detailed documentation: parts information with technical specifications and material data, including lot and charge information
- Non-destructive testing: ultrasonic, x-ray and dye penetration testing
- Mechanical testing: tension, notch and hardness tests
- Base- and protective coatings

### Overall drawing Type: I120-1R1RH-Z584



|   |            |                            |                     |
|---|------------|----------------------------|---------------------|
| A   | ∅ 141.3 mm | Standard                   | ANSI                |
| B   | 400 mm     | Nominal pressure PN        | cl. 300             |
| C   | 697 mm     | Max. operating pressure    | 51 bar at 38°C      |
| D   | 202 mm     | Max. operating temperature | 400°C at 34,5 bar   |
| E   | 329 mm     | Test pressure              | 75 bar at 20°C      |
| F   | 101 mm     | Surface protection         | Etokat activeprimer |
| Chamber material: A 105, A 106 Gr. B, A 234 Gr. WPB |            |                            |                     |
| Bolts & nuts: A 193 Gr. B7, A 194 Gr. 2H            |            |                            |                     |
| Gasket: AFM 34-ME                                   |            |                            |                     |

### Basic configurations for float chambers ANSI cl. 150 to 600 / DIN PN 40 and 63



# BESTA

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