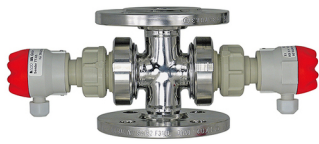
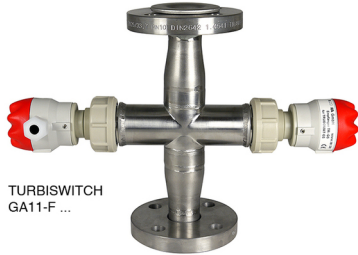


Turbidity measuring cells

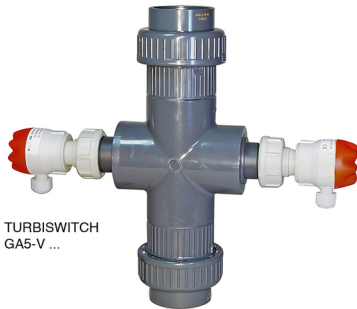
TURBISWITCH GA1 / GA5 / GA11



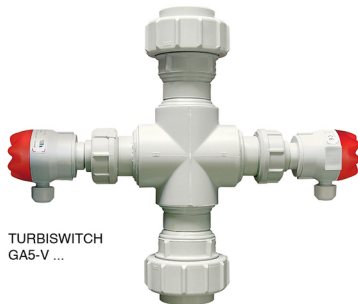
TURBISWITCH
GA1-F ...



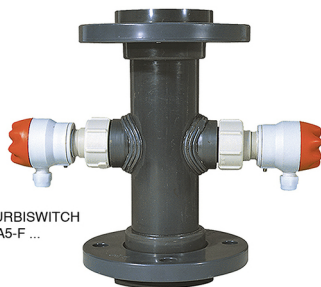
TURBISWITCH
GA11-F ...



TURBISWITCH
GA5-V ...



TURBISWITCH
GA5-V ...



TURBISWITCH
GA5-F ...

- Turbidity limit value detection
- From DN15 up to DN100
- For TURBISWITCH GS4 controller
- In-line or by-pass assembly
- PVC, PP or stainless steel versions

APPLICATIONS

For monitoring process of:

- Filtration / Ultrafiltration
- Reverse osmosis
- Cooling units
- Centrifuges / Separators
- Condensates
- Wasted water / Industrial water

DESCRIPTION

Turbidity is the result of existing particles in the liquid.

TURBISWITCH GA is designed for installation in pipeline; It measures optically the turbidity of the flowing liquid.

Transmitted light measurement is done between an emitter and a receiver, in front of each other. Attenuated light measurement is convert by the TURBISWITCH GS4, which compares the signal against the threshold set by the operator.

The limits of turbidity detection depend of the liquid's properties and nominal diameter of the measuring cell.

Measuring range is between 50 FAU min. (or above depending of liquid) and 10,000 FAU max.

Optical windows are of borosilicate glass with CLEANOSIL anti-fouling coating.

A turbidity control system includes:

- 1 Controller TURBISWITCH GS4 (data-sheet 410-02)
- 1 Measuring cell TURBISWITCH GA.. that includes fitted emitter (TT-HDR) and receiver (TR-HDR)

TECHNICAL FEATURES

TURBISWITCH GA1

| | |
|-----------------------|--------------------------|
| Material | AISI 316 L (1.4404) |
| Fittings | Flanges DIN 2633, PN10 |
| Operating temperature | -10 ... +100 °C |
| Pressure limit | 10 bar |
| Seals | EPDM (others on request) |

TURBISWITCH GA11

| | |
|--------------------|-----------------------------------------------------|
| Material | AISI 304 (1.4301) |
| Fittings | Loose flanges, DIN 2642, PN 10, AISI 316Ti (1.4541) |
| Liquid temperature | -10 ... +100 °C |
| Pressure limit | 10 bar |
| Seals | EPDM (others on request) |

NOTE:

Measuring cells design does not correspond to aseptic standards

Other versions on request

BAMO INTERNATIONAL

22, Rue de la Voie des Bans · Z.I. de la gare · 95100 ARGENTEUIL

Tel +33 (0)1 30 25 83 20 Web www.bamo.eu

Fax +33 (0)1 34 10 16 05 E-mail export@bamo.fr

Turbidity measuring cells

TURBISWITCH GA1 / GA5 / GA11

28-07-2022

D-422.01-EN-AE

TUR

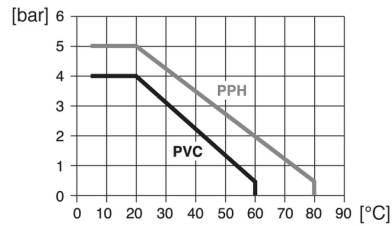
422-01 /1

FEATURES (continued)

TURBISWITCH GA5

| | |
|----------|---------------------------------------------------------------------------------------------------------|
| Material | Or PVC, or PPH |
| Fittings | Solvent welding (PVC) or fusion welding (PPH) Loose flanges DIN 2642 (with inserts and O-ring seals) |
| Seals | EPDM (others on request) |

Diagram: Operating pressure vs. Liquid temperature



Measuring cells GA1, GA5 and GA11 are supplied with one of each: emitter (TT-HDR) and receiver (TR-HDR).

EC Conformity: The instrument meets the legal requirements of the current European Directives

REFERENCES FOR SPARE PARTS AND ACCESORIES

The TT-HDR transmitter and the TR-HDR receiver are compatible with all GA... measuring cells and are available as spare parts.

| Code | Reference | Description |
|---------|-------------------|-------------------------------------------------------------|
| 410 901 | TT-HDR | Emitter to use with a turbidity controller TURBISWITCH GS4 |
| 410 931 | TR-HDR | Receiver to use with a turbidity controller TURBISWITCH GS4 |
| 410 101 | TURBISWITCH GS4 G | TURBISWITCH GS4, power 100 ... 255 V AC, 50/60 Hz |
| 410 102 | TURBISWITCH GS4 D | TURBISWITCH GS4, power 10 ... 30 V DC or 12 ... 24 V AC |

| Code | Reference | Description |
|---------|-----------|-----------------------------------------------------------------------------------------------------------------------------|
| 444 907 | M 55x10 | Set of 2 optical windows (CLEANOSIL coating), Ø 55, 10 mm thick With EPDM O-ring seals; For measuring cells GA1 |
| 444 908 | M 30x15 | Set of 2 optical windows (CLEANOSIL coating), Ø 30, 15 mm thick With EPDM O-ring seals; For measuring cells GA11 and GA5 |
| 421 602 | Seal kit | 1 Set of 4 o-ring seals, in EPDM |

Other versions on request.



A TURBISWITCH GS4 is necessary to operate the measuring cell

BAMO INTERNATIONAL

22, Rue de la Voie des Bans · Z.I. de la gare · 95100 ARGENTEUIL
Tel +33 (0)1 30 25 83 20 Web www.bamo.eu
Fax +33 (0)1 34 10 16 05 E-mail export@bamo.fr

Turbidity measuring cells
TURBISWITCH GA1 / GA5 / GA11

28-07-2022

D-422.01-EN-AE

TUR

422-01 /2

CODE NUMBERS AND REFERENCES

| Code | Reference | Description |
|--------------------------------------------------------------------------------------------|----------------------|--------------------------------------------------------|
| TURBISWITCH GA1-.. (Body: AISI 316L; Fittings: flanges, DIN 2633) | | |
| 422 116 | TURBISWITCH GA1-F3 | TURBISWITCH GA1; AISI 316 L flanges, ND25, PN10 |
| 422 118 | TURBISWITCH GA1-F4 | TURBISWITCH GA1; AISI 316 L flanges, ND32, PN10 |
| 422 120 | TURBISWITCH GA1-F5 | TURBISWITCH GA1; AISI 316 L flanges, ND40, PN10 |
| 422 122 | TURBISWITCH GA1-F6 | TURBISWITCH GA1; AISI 316 L flanges, ND50, PN10 |
| 412 124 | TURBISWITCH GA1-F7 | TURBISWITCH GA1; AISI 316 L flanges, ND65, PN10 |
| 412 126 | TURBISWITCH GA1-F8 | TURBISWITCH GA1; AISI 316 L flanges, ND80, PN10 |
| 422 128 | TURBISWITCH GA1-F9 | TURBISWITCH GA1; AISI 316 L flanges, ND100, PN10 |
| TURBISWITCH GA11-.. (Body: AISI 304; Fittings: AISI 316 Ti loose flanges, DIN 2642) | | |
| 422 144 | TURBISWITCH GA11-F3D | TURBISWITCH GA11; AISI 316 Ti loose flanges ND25, PN10 |
| 422 145 | TURBISWITCH GA11-F4D | TURBISWITCH GA11; AISI 316 Ti loose flanges ND32, PN10 |
| TURBISWITCH GA5-VV.. (Body: PVC; Fittings: PVC unions) | | |
| 422 500 | TURBISWITCH GA5-VV11 | TURBISWITCH GA5; PVC unions ND15 |
| 422 502 | TURBISWITCH GA5-VV12 | TURBISWITCH GA5; PVC unions ND20 |
| 422 504 | TURBISWITCH GA5-VV13 | TURBISWITCH GA5; PVC unions ND25 |
| 422 506 | TURBISWITCH GA5-VV14 | TURBISWITCH GA5; PVC unions ND32 |
| 422 508 | TURBISWITCH GA5-VV15 | TURBISWITCH GA5; PVC unions ND40 |
| 422 510 | TURBISWITCH GA5-VV16 | TURBISWITCH GA5; PVC unions ND50 |
| 422 560 | TURBISWITCH GA5-VV17 | TURBISWITCH GA5; PVC unions ND65 |
| 422 565 | TURBISWITCH GA5-VV18 | TURBISWITCH GA5; PVC unions ND80 |
| TURBISWITCH GA5-VV.. (Body: PPH; Fittings: PPH unions) | | |
| 422 501 | TURBISWITCH GA5-VV21 | TURBISWITCH GA5; PPH unions ND15 |
| 422 503 | TURBISWITCH GA5-VV22 | TURBISWITCH GA5; PPH unions ND20 |
| 422 505 | TURBISWITCH GA5-VV23 | TURBISWITCH GA5; PPH unions ND25 |
| 422 507 | TURBISWITCH GA5-VV24 | TURBISWITCH GA5; PPH unions ND32 |
| 422 509 | TURBISWITCH GA5-VV25 | TURBISWITCH GA5; PPH unions ND40 |
| 422 511 | TURBISWITCH GA5-VV26 | TURBISWITCH GA5; PPH unions ND50 |
| TURBISWITCH GA5-FF.. (Body: PVC; Fittings: PVC loose flanges DIN 2642) | | |
| 422 541 | TURBISWITCH GA5-FF11 | TURBISWITCH GA5; PVC loose flanges ND15 |
| 422 543 | TURBISWITCH GA5-FF12 | TURBISWITCH GA5; PVC loose flanges ND20 |
| 422 545 | TURBISWITCH GA5-FF13 | TURBISWITCH GA5; PVC loose flanges ND25 |
| 422 547 | TURBISWITCH GA5-FF14 | TURBISWITCH GA5; PVC loose flanges ND32 |
| 422 549 | TURBISWITCH GA5-FF15 | TURBISWITCH GA5; PVC loose flanges ND40 |
| 422 561 | TURBISWITCH GA5-FF16 | TURBISWITCH GA5; PVC loose flanges ND50 |
| 422 540 | TURBISWITCH GA5-FF17 | TURBISWITCH GA5; PVC loose flanges ND65 |
| 422 542 | TURBISWITCH GA5-FF18 | TURBISWITCH GA5; PVC loose flanges ND80 |
| 422 544 | TURBISWITCH GA5-FF19 | TURBISWITCH GA5; PVC loose flanges ND100 |
| TURBISWITCH GA5-FF.. (Body: PPH; Fittings: PPH loose flanges, DIN 2642) | | |
| 422 551 | TURBISWITCH GA5-FF21 | TURBISWITCH GA5; PPH loose flanges ND15 |
| 422 553 | TURBISWITCH GA5-FF22 | TURBISWITCH GA5; PPH loose flanges ND20 |
| 422 555 | TURBISWITCH GA5-FF23 | TURBISWITCH GA5; PPH loose flanges ND25 |
| 422 556 | TURBISWITCH GA5-FF24 | TURBISWITCH GA5; PPH loose flanges ND32 |
| 422 557 | TURBISWITCH GA5-FF25 | TURBISWITCH GA5; PPH loose flanges ND40 |
| 422 558 | TURBISWITCH GA5-FF26 | TURBISWITCH GA5; PPH loose flanges ND50 |
| 422 559 | TURBISWITCH GA5-FF27 | TURBISWITCH GA5; PPH loose flanges ND65 |
| 422 552 | TURBISWITCH GA5-FF28 | TURBISWITCH GA5; PPH loose flanges ND80 |
| 422 554 | TURBISWITCH GA5-FF29 | TURBISWITCH GA5; PPH loose flanges ND100 |

Other versions on request

BAMO INTERNATIONAL

22, Rue de la Voie des Bans · Z.I. de la gare · 95100 ARGENTEUIL
 Tel +33 (0)1 30 25 83 20 Web www.bamo.eu
 Fax +33 (0)1 34 10 16 05 E-mail export@bamo.fr

Turbidity measuring cells
TURBISWITCH GA1 / GA5 / GA11

28-07-2022

D-422.01-EN-AE

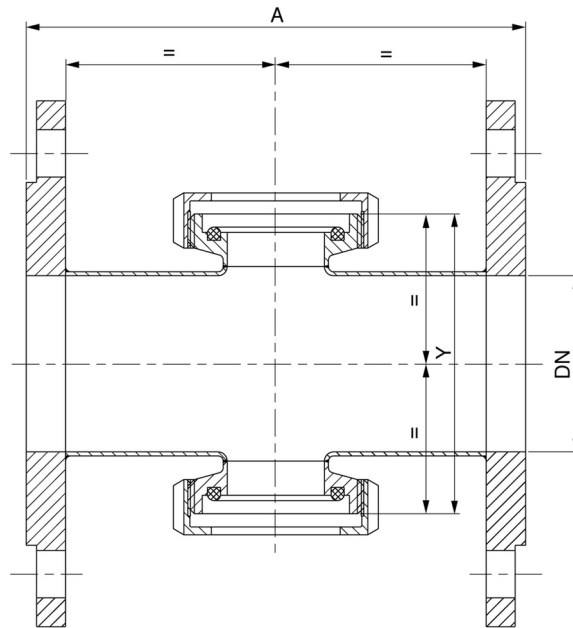
TUR

422-01 /3

DIMENSIONS

TURBISWITCH GA1-F...

DIN 2633



| ND | A = | Y = |
|-----|-----|-----|
| 25 | 188 | 92 |
| 32 | 140 | 92 |
| 40 | 140 | 92 |
| 50 | 140 | 102 |
| 65 | 158 | 122 |
| 80 | 160 | 138 |
| 100 | 194 | 158 |

Other design (materials, fittings, etc.) on request

BAMO INTERNATIONAL

22, Rue de la Voie des Bans · Z.I. de la gare · 95100 ARGENTEUIL

Tel +33 (0)1 30 25 83 20 Web www.bamo.eu

Fax +33 (0)1 34 10 16 05 E-mail export@bamo.fr

Turbidity measuring cells
TURBISWITCH GA1 / GA5 / GA11

28-07-2022

D-422.01-EN-AE

TUR

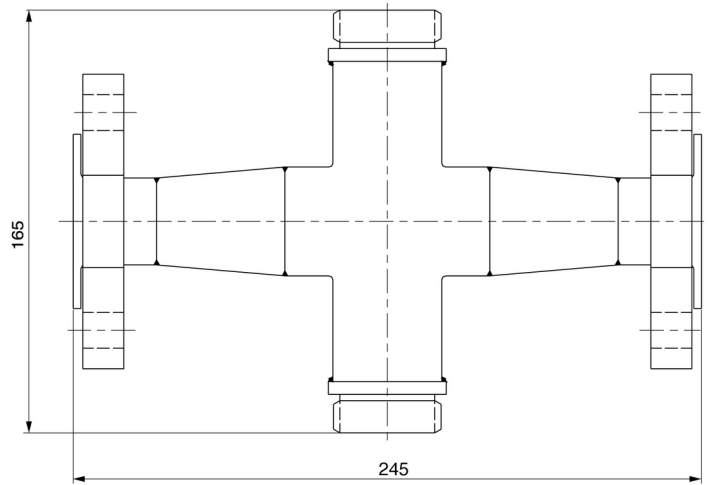
422-01 /4

DIMENSIONS

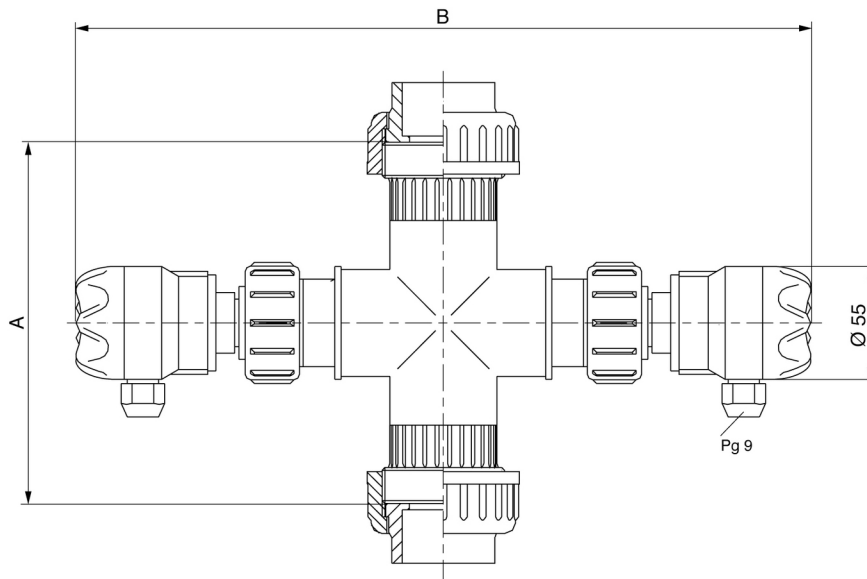
TURBISWITCH GA11-F...

DIN 2642

(Same dimensions for both ND 25 and ND 32 models)



TURBISWITCH GA5-VV...



| TURBISWITCH GA5-VV 1.. (material: PVC) | | | TURBISWITCH GA5-VV 2.. (Material: PPH) | |
|----------------------------------------|-----------|-----------|----------------------------------------|-----------|
| ND | A (±2 mm) | B (±2 mm) | A (±2 mm) | B (±2 mm) |
| 15 | 152 | 358 | 214 | 359 |
| 20 | 158 | 358 | 218 | 359 |
| 25 | 164 | 358 | 222 | 359 |
| 32 | 176 | 358 | 230 | 359 |
| 40 | 210 | 358 | 248 | 367 |
| 50 | 258 | 404 | 281 | 348 |
| 65 | 202 | 360 | 273 | 360 |
| 80 | 208 | 375 | 261 | 375 |
| 100 | 228 | 371 | 247 | 371 |

BAMO

INTERNATIONAL

22, Rue de la Voie des Bans · Z.I. de la gare · 95100 ARGENTEUIL

Tel +33 (0)1 30 25 83 20 Web www.bamo.eu

Fax +33 (0)1 34 10 16 05 E-mail export@bamo.fr

Turbidity measuring cells
TURBISWITCH GA1 / GA5 / GA11

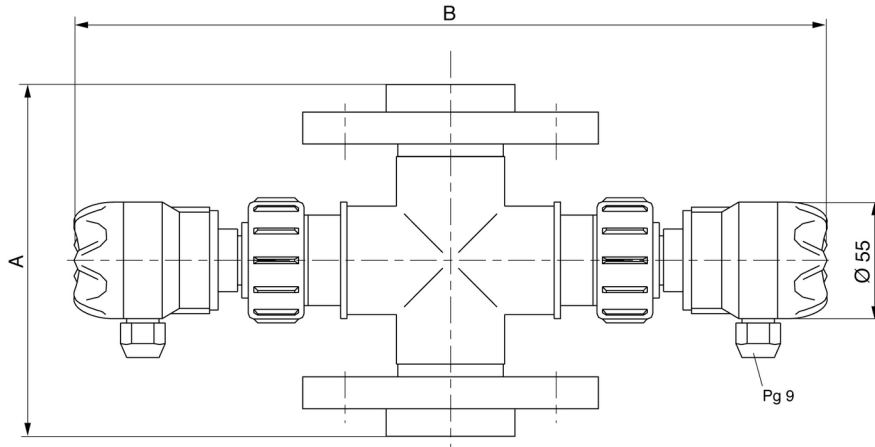
28-07-2022

D-422.01-EN-AE

TUR

422-01 /5

DIMENSIONS (continued)



| ND | TURBISWITCH GA5-FF 1.. (Material: PVC) | | TURBISWITCH GA5-FF 2.. (Material: PPH) | |
|-----|----------------------------------------|-----------|----------------------------------------|-----------|
| | A (±2 mm) | B (±2 mm) | A (±2 mm) | B (±2 mm) |
| 15 | 143 | 358 | 214 | 359 |
| 20 | 149 | 358 | 218 | 359 |
| 25 | 155 | 358 | 222 | 359 |
| 32 | 167 | 358 | 230 | 359 |
| 40 | 197 | 358 | 254 | 367 |
| 50 | 237 | 404 | 290 | 348 |
| 65 | 290 | 360 | 290 | 360 |
| 80 | 310 | 375 | 310 | 375 |
| 100 | 350 | 371 | 350 | 371 |
| 125 | 350 | 401 | 350 | 401 |
| 150 | 350 | 421 | 350 | 421 |
| 200 | 350 | 461 | 350 | 461 |

BAMO INTERNATIONAL

22, Rue de la Voie des Bans · Z.I. de la gare · 95100 ARGENTEUIL

Tel +33 (0)1 30 25 83 20 Web www.bamo.eu

Fax +33 (0)1 34 10 16 05 E-mail export@bamo.fr

Turbidity measuring cells
TURBISWITCH GA1 / GA5 / GA11

28-07-2022

D-422.01-EN-AE

TUR

422-01 /6