

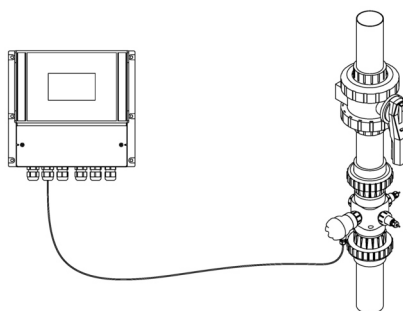
# In-line turbidity system TURBICUBE



TURBICUBE 20 or 1000, PVC version



TURBICUBE 20 or 1000, PPH version



Remote signal to monitor BAMOPHAR  
(option)

- **Continuous turbidity measurement according to ISO 7027:**  
90° scattered light measurement and 180° attenuated light measurement
- **Smooth cell surfaces - no settling of particles**
- **Measurement ranges:**  
0.01 ... 20 FNU  
0.1 ... 500 FNU & 100 ... 1000 FAU
- **Output signal: 4-20 mA**
- **Process connections:**  
Flanges or unions

## APPLICATIONS

- Well water monitoring
- Monitoring of filtering or reverse osmosis units.
- Control of the sewage plant outlet
- Cooling water monitoring
- Filter clogging monitoring

## DESCRIPTION

TURBICUBE measures the turbidity of the liquid using attenuated light beam (at 180°) and a scattered light beam (at 90°) with a 860 nm wavelength light, according to european standard ISO 7027  
The measurement system integrates an assembly with 2 emitters and 1 receiver with a micro-processor in the main housing.  
The 4-20 mA output signal corresponds to the selected scale in use.

### TURBICUBE 20:

5 scale ranges to select by DIP switches from 0.01 ... 1 up to 0.01 ... 20 FNU

### TURBICUBE 1000:

5 ranges to select by DIP from 0.1 ... 500 FNU and 100 ... 1000 FAU

### MOUNTING

Only for vertical fully loaded pipe, with ascending flow.  
Slow down sections: 600 mm before device and 400 mm after device.

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**TURBICUBE**

10-06-2020

D-444.01-EN-AI

**TUR**

**444-01 /1**

## TECHNICAL FEATURES

Power supply	24 V DC stabilized (10 ... 30 V DC)
Consumption	0.5 ... 1 W
Output signal	4-20 mA
Ambient temperature	+5 ... +45 °C
Liquid temperature	PVC: +5 ... +60 °C PPH: +5 ... +80 °C
Pressure limits	Max. 6 bar at 20 °C (PVC and PPH) and 1 bar at 60 °C (PVC and PPH)

### MATERIALS

Measuring cell	PVC or PP
Connection head	PBT housing (glass fiber reinforced); IP 65 according to EN 60529
Sealings	EPDM (others on request)
Optical windows	Borosilicate glass, Cleanosil coating

### MEASURING SCALES

TURBICUBE 20					
ND 20 to ND 100	0.01 ... 1 FNU	0.01 ... 2 FNU	0.01 ... 5 FNU	0.01 ... 10 FNU	0.01 ... 20 FNU

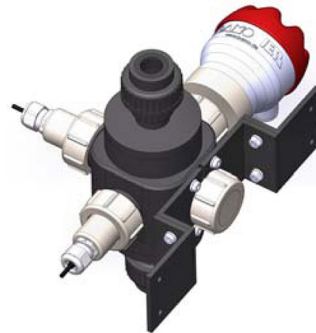
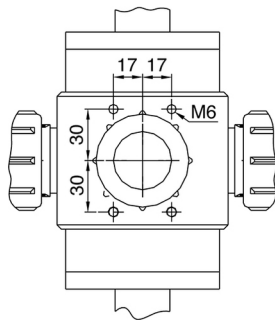
TURBICUBE 1000					
ND 20 ... ND 65	0.1 ... 50 FNU	0.1 ... 100 FNU	0.1 ... 200 FNU	0.1 ... 500 FNU	100 ... 1000 FAU
ND 80 & ND 100	0.1 ... 50 FNU	0.1 ... 100 FNU	0.1 ... 200 FNU	0.1 ... 300 FNU	100 ... 1000 FAU

Accuracy	±5 % of reading, ±1 % of full scale in use
Resolution	0.001 ... 0.2 FNU depending of scale in use
Colour/ Fouling compensation	With TURBICUBE 20 up to ND 65
Configuration	DIP switches, calibration potentiometer
Displayed information	Status: Green LED; Fault: Red LED
Process connections	PVC unions, solvent welding - ND 20 ... ND 100 PPH unions, for welding - ND 20 ... ND 100 Loose flanges ISO 7005, EN 1092, DIN 2501; PVC or PPH - ND 20 ... ND 100

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

## FASTENING

On the measuring cell there are 4x M6 thread tap holes, which can be used for additional support. A bracket (PVC) is also available to fit the TURBICUBE on a wall (option).



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## CODE NUMBERS AND REFERENCES

ND	Range	Fittings	PVC version		PP version	
			Code	Reference	Code	Reference
20	0.1 ... 1000	Threaded Unions	444 112	TURBICUBE VV 1000 1 2 M	444 322	TURBICUBE VV 1000 2 2 M
25			444 113	TURBICUBE VV 1000 1 3 M	444 323	TURBICUBE VV 1000 2 3 M
32			444 114	TURBICUBE VV 1000 1 4 M	444 324	TURBICUBE VV 1000 2 4 M
40			444 115	TURBICUBE VV 1000 1 5 M	444 325	TURBICUBE VV 1000 2 5 M
50			444 116	TURBICUBE VV 1000 1 6 M	444 326	TURBICUBE VV 1000 2 6 M
65			444 117	TURBICUBE VV 1000 1 7 M	444 327	TURBICUBE VV 1000 2 7 M
80			444 118	TURBICUBE VV 1000 1 8 M	444 328	TURBICUBE VV 1000 2 8 M
100			444 119	TURBICUBE VV 1000 1 9 M	444 329	TURBICUBE VV 1000 2 9 M
20	0.01 ... 20	Threaded Unions	444 212	TURBICUBE VV 20 1 2 M	444 222	TURBICUBE VV 20 2 2 M
25			444 213	TURBICUBE VV 20 1 3 M	444 223	TURBICUBE VV 20 2 3 M
32			444 214	TURBICUBE VV 20 1 4 M	444 224	TURBICUBE VV 20 2 4 M
40			444 215	TURBICUBE VV 20 1 5 M	444 225	TURBICUBE VV 20 2 5 M
50			444 216	TURBICUBE VV 20 1 6 M	444 226	TURBICUBE VV 20 2 6 M
65			444 217	TURBICUBE VV 20 1 7 M	444 227	TURBICUBE VV 20 2 7 M
80			444 218	TURBICUBE VV 20 1 8 M	444 228	TURBICUBE VV 20 2 8 M
100			444 219	TURBICUBE VV 20 1 9 M	444 229	TURBICUBE VV 20 2 9 M
20	0.1 ... 1000	Flanges	444 122	TURBICUBE FF 1000 1 2 M	444 332	TURBICUBE FF 1000 2 2 M
25			444 123	TURBICUBE FF 1000 1 3 M	444 333	TURBICUBE FF 1000 2 3 M
32			444 124	TURBICUBE FF 1000 1 4 M	444 334	TURBICUBE FF 1000 2 4 M
40			444 125	TURBICUBE FF 1000 1 5 M	444 335	TURBICUBE FF 1000 2 5 M
50			444 126	TURBICUBE FF 1000 1 6 M	444 336	TURBICUBE FF 1000 2 6 M
65			444 127	TURBICUBE FF 1000 1 7 M	444 337	TURBICUBE FF 1000 2 7 M
80			444 128	TURBICUBE FF 1000 1 8 M	444 338	TURBICUBE FF 1000 2 8 M
100			444 129	TURBICUBE FF 1000 1 9 M	444 339	TURBICUBE FF 1000 2 9 M
20	0.01 ... 20	Flanges	444 222	TURBICUBE FF 20 1 2 M	444 432	TURBICUBE FF 20 2 2 M
25			444 223	TURBICUBE FF 20 1 3 M	444 433	TURBICUBE FF 20 2 3 M
32			444 224	TURBICUBE FF 20 1 4 M	444 434	TURBICUBE FF 20 2 4 M
40			444 225	TURBICUBE FF 20 1 5 M	444 435	TURBICUBE FF 20 2 5 M
50			444 226	TURBICUBE FF 20 1 6 M	444 436	TURBICUBE FF 20 2 6 M
65			444 227	TURBICUBE FF 20 1 7 M	444 437	TURBICUBE FF 20 2 7 M
80			444 228	TURBICUBE FF 20 1 8 M	444 438	TURBICUBE FF 20 2 8 M
100			444 229	TURBICUBE FF 20 1 9 M	444 439	TURBICUBE FF 20 2 9 M

### Accessories:

Code	Description	Description
444 910	TURBICLICK 5.7	Torque wrench for tight mounting of optical windows.
444 903	O-rings for TURBICUBE	Set of EPDM O-rings for TURBICUBE (10 pieces)
444 900	ETR optical windows for TURBICUBE (PVC model)	4 windows, with fittings (PVC) and O-rings
444 901	ETR optical windows for TURBICUBE (PP model)	4 windows, with fittings (PP) and O-rings
444 905	Control kit for TURBICUBE 20	Control kit for TURBICUBE 20 with dry standard rod
444 906	Control kit for TURBICUBE 1000	Control kit for TURBICUBE 1000 with dry standard rod

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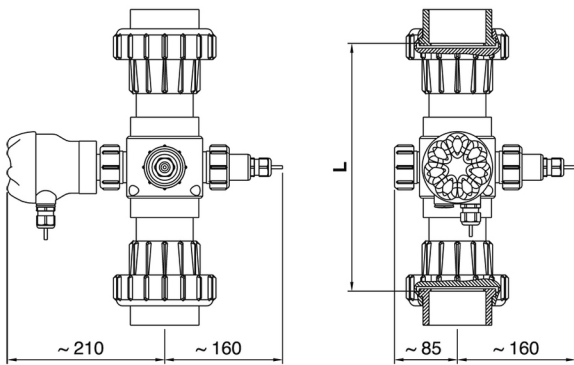
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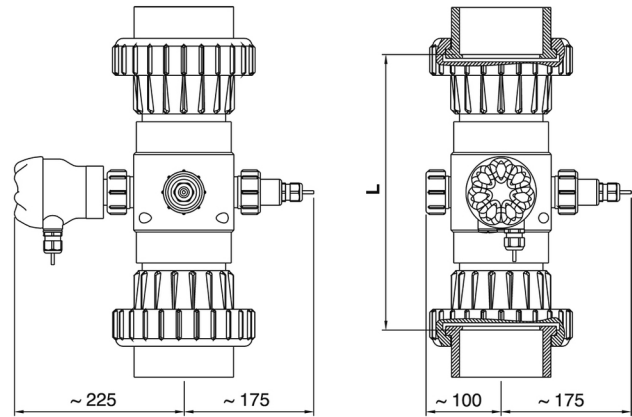
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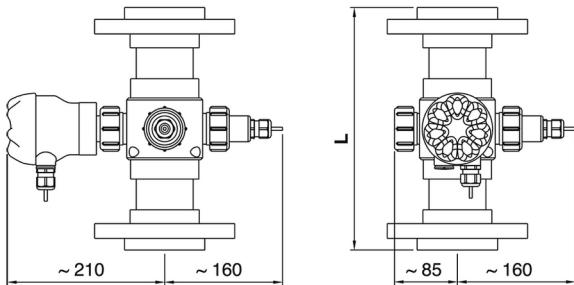
## DIMENSIONS



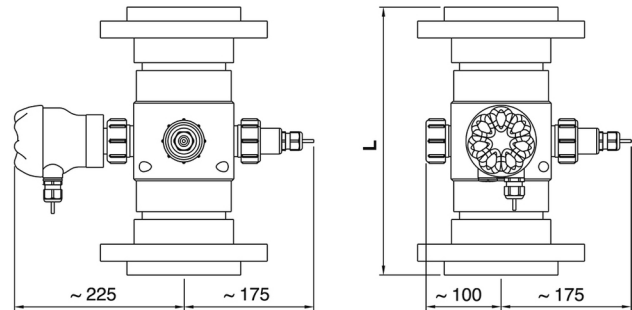
**TURBICUBE VV... DN 20 – DN 65**



**TURBICUBE VV... DN 80, DN 100**



**TURBICUBE FF... DN 20 – DN 65**



**TURBICUBE FF... DN 80, DN 100**

Dimensions (tolerance:  $\pm 2\text{mm}$ )

ND	Ø D	L → PVC; Unions	L → PVC; Flanges	L → PP; Unions	L → PP; Flanges
20	25	240	240	300	300
25	32	240	240	300	300
32	40	240	240	300	300
40	50	240	240	300	300
50	63	262	262	342	300
65	75	314	314	342	300
80	90	347	347	394	400
100	110	347	347	394	400

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