

In-line turbidity system **TURBICUBE**



TURBICUBE 20 or 1000 in PVC

- **Continuous turbidity measurement according to ISO 7027:**
90° scattered light and
180° Attenuated light
- **Smooth cell surfaces - no settling of particles**
- **Measurement ranges:**
0.01 ... 20 FNU
0.1 ... 1000 FNU/ FAU
- **Output signal: 4-20 mA**
- **Process connections:**
Unions or flanges

APPLICATIONS

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

DESCRIPTION

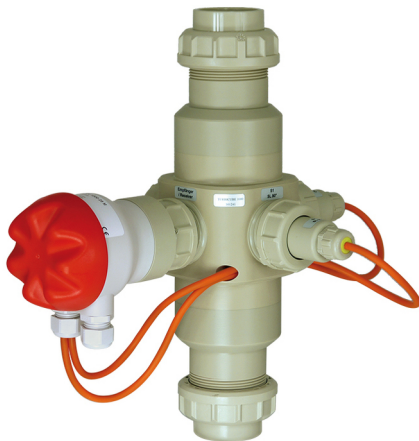
TURBICUBE measures the turbidity of the fluid using attenuated light beam (at 180°) and a scattered light beam (at 90°) with a 860 nm wavelength light, according to european standard ISO 7027
The measurement system integrates an assembly with 2 emitters and 1 receiver with a micro-processor in the main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

TURBICUBE 20:

5 scales to select through DIP switches from 0.01 ... 1 up to 0.01 ... 20 FNU

TURBICUBE 1000

5 scales to select through DIP switches from 0.1 ... 50 FNU up to 100 ... 1000 FAU



TURBICUBE 20 or 1000, PPH version

TECHNICAL FEATURES

Power supply 24 V DC nominal (10 ... 30 V DC)
 Consumption 0.5 W
 Output signal 4-20 mA

Ambient temperature +5 ... +45 °C
 Fluid 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
 Electrical 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 $\pm 5\%$ of reading, $\pm 1\%$ of full scale in use
 Resolution 0.001 ... 0.2 FNU depending of scale in use
 Colour/ Fouling compensation Only for 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

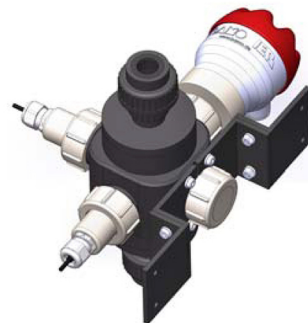
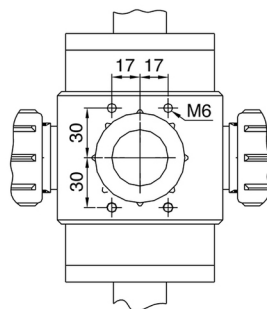
EC Conformity: The instrument meets the legal requirements of the current European Directives

ALLOWABLE INSTALLATION

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

MOUNTING

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).



CODE NUMBERS AND REFERENCES

Code	Reference	Description	
444 100	Bracket for TURBICUBE	PVC wall bracket (includes screws) for TURBICUBE	
444 112	TURBICUBE VV 1000 1 2 M	PVC Measuring cell - Range 0.1 ... 1000 FNU - Fittings: solvent welding unions	DN 20
444 113	TURBICUBE VV 1000 1 3 M	-	DN 25
444 114	TURBICUBE VV 1000 1 4 M	-	DN 32
444 115	TURBICUBE VV 1000 1 5 M	-	DN 40
444 116	TURBICUBE VV 1000 1 6 M	-	DN 50
444 117	TURBICUBE VV 1000 1 7 M	-	DN 65
444 118	TURBICUBE VV 1000 1 8 M	-	DN 80
444 119	TURBICUBE VV 1000 1 9 M	-	DN 100
444 212	TURBICUBE VV 20 1 2 M	PVC Measuring cell - Range 0.01 ... 20 FNU - Fittings: solvent welding unions	DN 20
444 213	TURBICUBE VV 20 1 3 M	-	DN 25
444 214	TURBICUBE VV 20 1 4 M	-	DN 32
444 215	TURBICUBE VV 20 1 5 M	-	DN 40
444 216	TURBICUBE VV 20 1 6 M	-	DN 50
444 217	TURBICUBE VV 20 1 7 M	-	DN 65
444 218	TURBICUBE VV 20 1 8 M	-	DN 80
444 219	TURBICUBE VV 20 1 9 M	-	DN 100
444 122	TURBICUBE FF 1000 1 2 M	PVC Measuring cell - Range 0.1 ... 1000 FNU - Fittings: Loose flanges	DN 20
444 123	TURBICUBE FF 1000 1 3 M	-	DN 25
444 124	TURBICUBE FF 1000 1 4 M	-	DN 32
444 125	TURBICUBE FF 1000 1 5 M	-	DN 40
444 126	TURBICUBE FF 1000 1 6 M	-	DN 50
444 127	TURBICUBE FF 1000 1 7 M	-	DN 65
444 128	TURBICUBE FF 1000 1 8 M	-	DN 80
444 129	TURBICUBE FF 1000 1 9 M	-	DN 100
444 222	TURBICUBE FF 20 1 2 M	PVC Measuring cell - Range 0.01 ... 20 FNU - Fittings: Loose flanges	DN 20
444 223	TURBICUBE FF 20 1 3 M	-	DN 25
444 224	TURBICUBE FF 20 1 4 M	-	DN 32
444 225	TURBICUBE FF 20 1 5 M	-	DN 40
444 226	TURBICUBE FF 20 1 6 M	-	DN 50
444 227	TURBICUBE FF 20 1 7 M	-	DN 65
444 228	TURBICUBE FF 20 1 8 M	-	DN 80
444 229	TURBICUBE FF 20 1 9 M	-	DN 100
444 322	TURBICUBE VV 1000 2 2 M	PPH Measuring cell - Range 0.1 ... 1000 FNU - Fittings: welding unions	DN 20
444 323	TURBICUBE VV 1000 2 3 M	-	DN 25
444 324	TURBICUBE VV 1000 2 4 M	-	DN 32
444 325	TURBICUBE VV 1000 2 5 M	-	DN 40
444 326	TURBICUBE VV 1000 2 6 M	-	DN 50
444 327	TURBICUBE VV 1000 2 7 M	-	DN 65
444 328	TURBICUBE VV 1000 2 8 M	-	DN 80
444 329	TURBICUBE VV 1000 2 9 M	-	DN 100
444 422	TURBICUBE VV 20 2 2 M	PPH Measuring cell - Range 0.01 ... 20 FNU - Fittings: welding unions	DN 20
444 423	TURBICUBE VV 20 2 3 M	-	DN 25
444 424	TURBICUBE VV 20 2 4 M	-	DN 32
444 425	TURBICUBE VV 20 2 5 M	-	DN 40
444 426	TURBICUBE VV 20 2 6 M	-	DN 50
444 427	TURBICUBE VV 20 2 7 M	-	DN 65
444 428	TURBICUBE VV 20 2 8 M	-	DN 80
444 429	TURBICUBE VV 20 2 9 M	-	DN 100



CODE NUMBER AND REFERENCES (End of list)

Code	Reference	Description	
444 332	TURBICUBE FF 1000 2 2 M	PPH Measuring cell - Range 0.1 ... 1000 FNU - Fittings: Loose flanges	DN 20
444 333	TURBICUBE FF 1000 2 3 M	-	DN 25
444 334	TURBICUBE FF 1000 2 4 M	-	DN 32
444 335	TURBICUBE FF 1000 2 5 M	-	DN 40
444 336	TURBICUBE FF 1000 2 6 M	-	DN 50
444 337	TURBICUBE FF 1000 2 7 M	-	DN 65
444 338	TURBICUBE FF 1000 2 8 M	-	DN 80
444 339	TURBICUBE FF 1000 2 9 M	-	DN 100
444 433	TURBICUBE FF 20 2 2 M	PPH Measuring cell - Range 0.01 ... 20 FNU - Fittings: Loose flanges	DN 20
444 433	TURBICUBE FF 20 2 3 M	-	DN 25
444 434	TURBICUBE FF 20 2 4 M	-	DN 32
444 435	TURBICUBE FF 20 2 5 M	-	DN 40
444 436	TURBICUBE FF 20 2 6 M	-	DN 50
444 437	TURBICUBE FF 20 2 7 M	-	DN 65
444 438	TURBICUBE FF 20 2 8 M	-	DN 80
444 439	TURBICUBE FF 20 2 9 M	-	DN 100

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 4 EPDM O-rings for TURBICUBE windows
444 905	Test kit for TURBICUBE 20	
444 906	Test kit for TURBICUBE 1000	



Torque wrench



Option: BAMOPHAR 436



DIMENSIONS

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

DN	$\varnothing d$	L → PVC / Unions	L → PVC / Flanges	L → PPH / Unions	L → PPH / Flanges
ND 20	$\varnothing 25$	240	240	300	300
ND 25	$\varnothing 32$	240	240	300	300
ND 32	$\varnothing 40$	240	240	300	300
ND 40	$\varnothing 50$	240	240	300	300
ND 50	$\varnothing 63$	262	262	342	300
ND 65	$\varnothing 75$	314	314	342	300
ND 80	$\varnothing 90$	347	347	394	400
ND 100	$\varnothing 110$	347	347	394	400

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