



# Digital optical UV spectral probe NiCaVis® NI for nitrite, nitrate and carbon

UV probes with integrated ultrasonic cleaning for the reagent-free measurement of nitrate, nitrite and carbon parameters  
COD, DOC, TOC, BOD, SAC and UVT directly in the process

We would like to inform you about the application range on our website

## Technical Data

Model	NiCaVis® 701 IQ NI	NiCaVis® 705 IQ NI																																																																																										
<b>Measuring method</b>	Spectral Measurement in the UV Range (200–390 nm)																																																																																											
<b>Measuring gap</b> (optical layer thickness)	1 mm	5 mm																																																																																										
<b>Application</b> (optimized for)	Municipal wastewater:	Municipal wastewater:																																																																																										
<b>Measuring range and Resolution</b>	<p><b>Inlet:</b></p> <table border="1"> <tr><td>NO<sub>3</sub></td><td>0.0 ... 300.0 mg/l</td><td>0.1 mg/l</td></tr> <tr><td>NO<sub>3</sub>-N</td><td>0.00 ... 60.00 mg/l</td><td>0.01 mg/l</td></tr> <tr><td>NO<sub>2</sub></td><td>0.0 ... 120.0 mg/l</td><td>0.1 mg/l</td></tr> <tr><td>NO<sub>2</sub>-N</td><td>0.00 ... 30.00 mg/l</td><td>0.01 mg/l</td></tr> <tr><td>COD<sub>total</sub></td><td>0 ... 20,000 mg/l</td><td>1 mg/l</td></tr> <tr><td>COD<sub>dissolv</sub></td><td>0 ... 12,500 mg/l</td><td>1 mg/l</td></tr> <tr><td>TOC</td><td>0 ... 20,000 mg/l</td><td>1 mg/l</td></tr> <tr><td>DOC</td><td>0 ... 12,500 mg/l</td><td>1 mg/l</td></tr> <tr><td>BOD</td><td>0 ... 8,000 mg/l</td><td>1 mg/l</td></tr> <tr><td>SAC<sub>254 total</sub></td><td>0 ... 5,000 1/m</td><td>1 1/m</td></tr> <tr><td>UVT<sub>254 total</sub>*</td><td>0 ... 100.0 %</td><td>0.1 %</td></tr> </table> <p><b>Aeration:</b></p> <table border="1"> <tr><td>NO<sub>3</sub></td><td>0.0 ... 300.0 mg/l</td><td>0.1 mg/l</td></tr> <tr><td>NO<sub>3</sub>-N</td><td>0.00 ... 60.00 mg/l</td><td>0.01 mg/l</td></tr> <tr><td>NO<sub>2</sub></td><td>0.0 ... 120.0 mg/l</td><td>0.1 mg/l</td></tr> <tr><td>NO<sub>2</sub>-N</td><td>0.00 ... 30.00 mg/l</td><td>0.01 mg/l</td></tr> <tr><td>COD<sub>dissolv</sub></td><td>0 ... 12,500 mg/l</td><td>1 mg/l</td></tr> <tr><td>DOC</td><td>0 ... 12,500 mg/l</td><td>1 mg/l</td></tr> <tr><td>SAC<sub>254 total</sub></td><td>0 ... 5,000 1/m</td><td>1 1/m</td></tr> <tr><td>UVT<sub>254 total</sub>*</td><td>0 ... 100.0 %</td><td>0.1 %</td></tr> </table> <p><b>Effluent:</b></p> <table border="1"> <tr><td>NO<sub>3</sub></td><td>0.0 ... 750.0 mg/l</td><td>0.1 mg/l</td></tr> <tr><td>NO<sub>3</sub>-N</td><td>0.0 ... 150.0 mg/l</td><td>0.1 mg/l</td></tr> <tr><td>NO<sub>2</sub></td><td>0.0 ... 300.0 mg/l</td><td>0.1 mg/l</td></tr> <tr><td>NO<sub>2</sub>-N</td><td>0.00 ... 75.00 mg/l</td><td>0.01 mg/l</td></tr> <tr><td>COD<sub>total</sub></td><td>0 ... 4,000 mg/l</td><td>1 mg/l</td></tr> <tr><td>COD<sub>dissolv</sub></td><td>0 ... 4,000 mg/l</td><td>1 mg/l</td></tr> <tr><td>TOC</td><td>0 ... 2,500 mg/l</td><td>1 mg/l</td></tr> <tr><td>DOC</td><td>0 ... 2,500 mg/l</td><td>1 mg/l</td></tr> <tr><td>BOD</td><td>0 ... 2,500 mg/l</td><td>1 mg/l</td></tr> <tr><td>SAC<sub>254 total</sub></td><td>0 ... 3,000 1/m</td><td>1 1/m</td></tr> <tr><td>UVT<sub>254 total</sub>*</td><td>0 ... 100.0 %</td><td>0.1 %</td></tr> </table>		NO <sub>3</sub>	0.0 ... 300.0 mg/l	0.1 mg/l	NO <sub>3</sub> -N	0.00 ... 60.00 mg/l	0.01 mg/l	NO <sub>2</sub>	0.0 ... 120.0 mg/l	0.1 mg/l	NO <sub>2</sub> -N	0.00 ... 30.00 mg/l	0.01 mg/l	COD <sub>total</sub>	0 ... 20,000 mg/l	1 mg/l	COD <sub>dissolv</sub>	0 ... 12,500 mg/l	1 mg/l	TOC	0 ... 20,000 mg/l	1 mg/l	DOC	0 ... 12,500 mg/l	1 mg/l	BOD	0 ... 8,000 mg/l	1 mg/l	SAC <sub>254 total</sub>	0 ... 5,000 1/m	1 1/m	UVT <sub>254 total</sub> *	0 ... 100.0 %	0.1 %	NO <sub>3</sub>	0.0 ... 300.0 mg/l	0.1 mg/l	NO <sub>3</sub> -N	0.00 ... 60.00 mg/l	0.01 mg/l	NO <sub>2</sub>	0.0 ... 120.0 mg/l	0.1 mg/l	NO <sub>2</sub> -N	0.00 ... 30.00 mg/l	0.01 mg/l	COD <sub>dissolv</sub>	0 ... 12,500 mg/l	1 mg/l	DOC	0 ... 12,500 mg/l	1 mg/l	SAC <sub>254 total</sub>	0 ... 5,000 1/m	1 1/m	UVT <sub>254 total</sub> *	0 ... 100.0 %	0.1 %	NO <sub>3</sub>	0.0 ... 750.0 mg/l	0.1 mg/l	NO <sub>3</sub> -N	0.0 ... 150.0 mg/l	0.1 mg/l	NO <sub>2</sub>	0.0 ... 300.0 mg/l	0.1 mg/l	NO <sub>2</sub> -N	0.00 ... 75.00 mg/l	0.01 mg/l	COD <sub>total</sub>	0 ... 4,000 mg/l	1 mg/l	COD <sub>dissolv</sub>	0 ... 4,000 mg/l	1 mg/l	TOC	0 ... 2,500 mg/l	1 mg/l	DOC	0 ... 2,500 mg/l	1 mg/l	BOD	0 ... 2,500 mg/l	1 mg/l	SAC <sub>254 total</sub>	0 ... 3,000 1/m	1 1/m	UVT <sub>254 total</sub> *	0 ... 100.0 %	0.1 %
NO <sub>3</sub>	0.0 ... 300.0 mg/l	0.1 mg/l																																																																																										
NO <sub>3</sub> -N	0.00 ... 60.00 mg/l	0.01 mg/l																																																																																										
NO <sub>2</sub>	0.0 ... 120.0 mg/l	0.1 mg/l																																																																																										
NO <sub>2</sub> -N	0.00 ... 30.00 mg/l	0.01 mg/l																																																																																										
COD <sub>total</sub>	0 ... 20,000 mg/l	1 mg/l																																																																																										
COD <sub>dissolv</sub>	0 ... 12,500 mg/l	1 mg/l																																																																																										
TOC	0 ... 20,000 mg/l	1 mg/l																																																																																										
DOC	0 ... 12,500 mg/l	1 mg/l																																																																																										
BOD	0 ... 8,000 mg/l	1 mg/l																																																																																										
SAC <sub>254 total</sub>	0 ... 5,000 1/m	1 1/m																																																																																										
UVT <sub>254 total</sub> *	0 ... 100.0 %	0.1 %																																																																																										
NO <sub>3</sub>	0.0 ... 300.0 mg/l	0.1 mg/l																																																																																										
NO <sub>3</sub> -N	0.00 ... 60.00 mg/l	0.01 mg/l																																																																																										
NO <sub>2</sub>	0.0 ... 120.0 mg/l	0.1 mg/l																																																																																										
NO <sub>2</sub> -N	0.00 ... 30.00 mg/l	0.01 mg/l																																																																																										
COD <sub>dissolv</sub>	0 ... 12,500 mg/l	1 mg/l																																																																																										
DOC	0 ... 12,500 mg/l	1 mg/l																																																																																										
SAC <sub>254 total</sub>	0 ... 5,000 1/m	1 1/m																																																																																										
UVT <sub>254 total</sub> *	0 ... 100.0 %	0.1 %																																																																																										
NO <sub>3</sub>	0.0 ... 750.0 mg/l	0.1 mg/l																																																																																										
NO <sub>3</sub> -N	0.0 ... 150.0 mg/l	0.1 mg/l																																																																																										
NO <sub>2</sub>	0.0 ... 300.0 mg/l	0.1 mg/l																																																																																										
NO <sub>2</sub> -N	0.00 ... 75.00 mg/l	0.01 mg/l																																																																																										
COD <sub>total</sub>	0 ... 4,000 mg/l	1 mg/l																																																																																										
COD <sub>dissolv</sub>	0 ... 4,000 mg/l	1 mg/l																																																																																										
TOC	0 ... 2,500 mg/l	1 mg/l																																																																																										
DOC	0 ... 2,500 mg/l	1 mg/l																																																																																										
BOD	0 ... 2,500 mg/l	1 mg/l																																																																																										
SAC <sub>254 total</sub>	0 ... 3,000 1/m	1 1/m																																																																																										
UVT <sub>254 total</sub> *	0 ... 100.0 %	0.1 %																																																																																										

**Accuracy** (standard application muni. WWTP)  
NO<sub>3</sub>-N, NO<sub>2</sub>-N: ± 3 % of measured value ± 0.5 mg/l  
Carbon parameters: ± 5 % of measured value ± 2.5 mg/l  
SAC: ± 0.5 % of measured value ± 0.4 SAK  
UVT: < 10 % UVT ± 1 % UVT of measured value; > 10 % UVT ± 0.1 % UVT of measured value

<b>Flow rate</b>	≤ 3 m/s	<p>NiCaVis® 701 IQ NI, NiCaVis® 705 IQ NI</p>
<b>Pressure Resistance</b>	Maximum 1 bar (incl. sensor connection cable)	
<b>Electrical connections</b>	2-wire shield cable with quick fastener to sensor	
<b>Electromagnetic Compatibility</b>	EN 61326. Class B. FCC Class A Intended for indispensable operation	
<b>Certifications</b>	CE	
<b>Mechanical</b>	Housing: Titan Grade 2. PEEK, Window: Sapphire glass Protection class: IP 68	
<b>Weight</b> (without cable)	Approx. 8.82 lb (4 kg)	
<b>Warranty</b>	2 years for defects in quality	

\* The UVT-254 value is standardized to 10 mm gap width.

Model	Description	Order No.
NiCaVis® 701 IQ NI	Spectral UV sensor for the measurement of nitrite, nitrate, COD <sub>tot</sub> , COD <sub>diss.</sub> , TOC, BOD, DOC, SAC <sub>tot.</sub> , SAC <sub>diss.</sub> , UVT <sub>254</sub> in the inlet and in the aeration with integrated ultrasonic cleaning, multifunctional slide and shock-absorption-rings, without connecting cable (order SACIQ separately)	481054
NiCaVis® 705 IQ NI	Like NiCaVis® 701 IQ NI, but for the measurement in the drain/outlet	481055