

automatic
serial determination of up
to 100 samples
rapid-clean-precise



N-REALYZER

Elemental analysis for the determination of nitrogen

Technical data N-Realyzer

Data	N-Realyzer
Sample size	up to 1000 mg
Sample capacity	1 - 100 samples
Analysis time	3 - 5 min, depending on the sample type and sample size
Recovery rate	> 99,5 %
Detection limits with Helium	0,003 - 50 mg N absolut
Standard deviation	< 0,5 % (with standard sample preparation)
Operation	via computer with REAL-OS
Temperature range Combustion furnace	400 - 1.100 °C
Temperature range Reduction furnace	400 - 1.100 °C
Temperature range Desorption furnace	50 - 400 °C
Required gases and quality	Helium, quality grade 5.0 (99,999 %) Oxygen, quality grade 5,0 (99.999 %) Compressed air (acc. to ISO8573-1, min. class 3).
Gas installation	Pressure regulators for high purity gas; 1/4" cylindric thread (female)
Inlet pressure helium	3 - 6 bar
Inlet pressure oxygen	3 - 6 bar
Inlet pressure compr. air / nitrogen	7 - 8 bar
Ambient temperature	15 °C < t < 35 °C
Nominal voltage	100 - 240 VAC
Frequency	50/60 Hz
Dimensions Device closed W / D / H	600 x 550 x 722 mm
Dimensions Device opened* W / D / H	600 x 550 x 1200 mm
Weight	ca. 130 kg
Nominal wattage	1400 W
Current	max. 14 A (6 A bei 230 V, 14 A bei 100 V)
Wanted digital balance	Precision min. 0,1 mg

* Upper protective cover open

ORDER INFORMATION

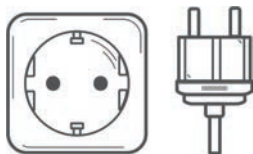
When ordering the apparatus, please note that you must order the correspondin REAL-OS control unit for the intended destination country in addition to the 14-4000 base unit. The base unit can be operated for all voltages from 100 - 240 volts. The respective control units are configured for the corresponding target markets with suitable connection cables.

N-Realyzer Base unit



Order No.	Type	Description
14-4000	REAL-N	N-Realyzer basic unit, complete with: <ul style="list-style-type: none"> - Autosampler for the automatic supply of up to 100 samples - Starter kit incl. all consumables for 1,000 samples (absorber, CO₂ adsorber, copper, ash insert, etc.) - Accessories and tools for sample handling - Connection lines for gas and compressed air installation

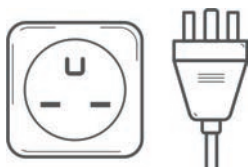
REAL-OS Control Unit 230 V (EUR/INT)



Plug type F
230 V

Order No.	Type	Description
14-4002	CUN-02	REAL-OS Control Unit for N-Realyzer, for target markets Europe and International with plug connection type Typ F, 230 V - complete with: <ul style="list-style-type: none"> - 14-4545 Mini PC with REAL-OS control software and power supply unit - 14-4549 Ethernet cable, 2 m (2 pieces) - 10-0057 Mains cable AKE 3x1,0 mm², 1,5 m <p>Note: Monitor, PC keyboard and mouse are not included in the scope of delivery and must be provided on site*</p>

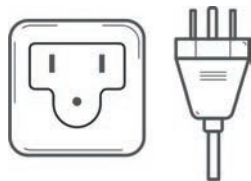
REAL-OS Control Unit 220 V (US/CAN/CSA)



Plug type B, NEMA 6-15
220 V

Order No.	Type	Description
14-4003	CUN-03	REAL-OS Control Unit for N-Realyzer, for target markets USA, Canada, South America with plug connection type NEMA 6-15, 230 V - complete with: <ul style="list-style-type: none"> - 14-4545 Mini PC with REAL-OS control software and power supply unit - 14-4549 Ethernet cable, 2 m (2 pieces) - 1004799 US device connection cable NEMA 6-15 with plug, 2.5 m - 14-4559 Travel plug N-Realyzer Control Unit <p>Note: Monitor, PC keyboard and mouse are not included in the scope of delivery and must be provided on site*</p>

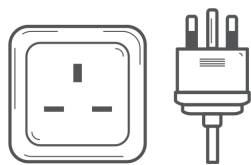
REAL-OS Control Unit 115 V (US/JPN/CSA)



Plug type B, NEMA 5-15
115 V
Attention, only permitted with
protective conductor!

Order No.	Type	Description
14-4004	CUN-04	<p>REAL-OS Control Unit for N-Realyzer, for target markets USA, Japan, South America with plug connection type B, NEMA 5-15, 115 V - complete with:</p> <ul style="list-style-type: none"> - 14-4545 Mini PC with REAL-OS control software and power supply unit - 14-4549 Ethernet cable, 2 m (2 pieces) - 1007344 15A mains cable, with NEMA 5-15, 115V (with IEC plug) - 14-4559 Travel plug N-Realyzer Control Unit <p>Note: Monitor, PC keyboard and mouse are not included in the scope of delivery and must be provided on site*</p>

REAL-OS Control Unit 240 V (GB)



Plug type G
240 V

Order No.	Type	Description
14-4005	CUN-05	<p>REAL-OS Control Unit for N-Realyzer, for target markets Great Britain with plug connection Type G 1-13 A, 240 V - complete with:</p> <ul style="list-style-type: none"> - 14-4545 Mini PC with REAL-OS control software and power supply unit - 14-4549 Ethernet cable, 2 m (2 pieces) - 10-0050 Mains cable, 1.5 m with English plug plug <p>Note: Monitor, PC keyboard and mouse are not included in the scope of delivery and must be provided on site*</p>

*Minimum monitor requirements: Full HD resolution 1080 p (1920 x 1080), 24" screen diagonal, recommended: HDMI interface, Vesa mount compatible, 75 Hz

*Minimum keyboard and mouse requirements: 100% keyboard with Numpad, wireless

ACCESSORIES AND CONSUMABLES

The best analytical results can only be achieved with original accessories from C. Gerhardt. These have been specially developed and tested for use with the N-Realyzer in our in-house application laboratory.

Set of Consumables - DumaSet (with high-performance reactor)



Copper must be ordered separately

Order No.	Type	Description
14-0194	DumaSet	N-Realyzer - Compilation of important consumables, consisting of: 1 x 14-0244 DumaReact, combustion reactor, filled with HT and LT 2 x DumaTube, quartz tube for reactor 1 x DumaCollect, ash insert (unit with 10 pcs.) 10 x DumaFoil, Tin foil, conditioned, (10 boxes á 100 pcs.)

Reactor - DumaReact



Order No.	Type	Description
14-0244	DumaReact	Prepacked combustion reactor, filled with HT- and LT-catalyst, 1 pc.

Quartz tube - DumaTube



Copper must be ordered separately

Order No.	Type	Description
14-0203	DumaTube	Quartz tube for reactor, OD 26mm, L 450mm, 2mm wall thickness, 1 pc

Copper - DumaCop



Order No.	Type	Description
14-0007	DumaCop	Copper for reduction, 10 bottles á 225 g (two bottles are enough for one filling for quartz tube no. 14-0203)
14-0002	DumaCop	Copper for reduction, 20 bottles á 225 g (two bottles are enough for one filling for quartz tube no. 14-0203)

Funnel for Copper



Order No.	Type	Description
14-0004		Filling funnel, for easy filling of the DumaTube quartz tubes with copper

HT wool - DumaPad (for quartz tube and combustion reactor)



Order No.	Type	Description
14-0225	DumaPad	HT Wool pads combibox, content: 30 pcs. small + 30 pcs. large
14-0274	DumaPad	HT Wool pads small , content: 60 pcs.
14-0275	DumaPad	HT Wool pads large , content: 60 pcs.

Special tool for N-Realyzer



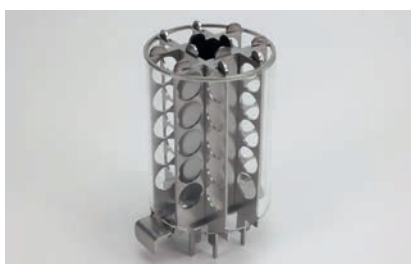
Order No.	Type	Description
14-0064		Tool for taking out reactor tubes, 1 pc.

Ash insert - DumaCollect



Order No.	Type	Description
14-0015	DumaCollect	Ash insert, ceramics, with bottom, for single use L 100 mm, package with 10 pcs.

Removing tool



Order No.	Type	Description
14-4511		Removing tool for ash insert

Extractor



Order No.	Type	Description
14-0068		Extractor for ash insert, 1 pc. For removing and inserting hot ash inserts

Tin foil - DumaFoil



Order No.	Type	Description
14-0017	DumaFoil	DumaFoil, tin foil 3.5 x 3.5cm, 100 pcs.
14-0417*	DumaFoil	DumaFoil XL, tin foil 4.3 x 4.3 cm, specially designed for weighing in larger samples, 100 pcs.

*Not included in the scope of delivery N-Realyzer

Holder for tin foils



Order No.	Type	Description
14-0900		Tin foil holder complete for tin foil 14-0017 and 14-0417 The tin foil holder prevents the tin foils from falling over when weighing in the sample material.

Encapsulating device



Order No.	Type	Description
14-0025*		Encapsulating device for samples, 3-part, for samples up to 1000 mg

*Not included in the scope of delivery N-Realyzer

Standard - DumaEDTA



Order No.	Type	Description
14-0032	DumaEDTA	EDTA Calibration Standard, 10g

Absorbent - DumaSorb



Order No.	Type	Description
14-0022	DumaSorb	Absorbent for liquid samples, content 25 g
14-0295	Super-absorber	Absorbent, special, for low salt- and low fat liquid samples of up to max. 400 mg, content 50 g

Adsorber - DumaCO₂



Order No.	Type	Description
14-4085	DumaCO ₂	REAL-N Spiral adsorber for CO ₂ , completely filled with adsorbent, gas-tight seal incl. GL 14 screw caps, 1 piece
1003687		REAL-N Screw cap GL 14, closed

Accessories for water adsorption trap

Order No.	Type	Description
14-0219		Adsorbent for water adsorption trap 14-0061, Content 100 g, 1 bottle
14-0217		Glass part L = 150 mm for water absorption trap 14-0061
14-0243		Covering wool for water absorption trap, 5g
14-4565		Filling funnel for filling the water adsorption trap, with GL14 thread
14-0081		Silicone sealing for water absorption trap, 2 pcs



14-0219



14-0217



14-0243



14-4565



14-0081

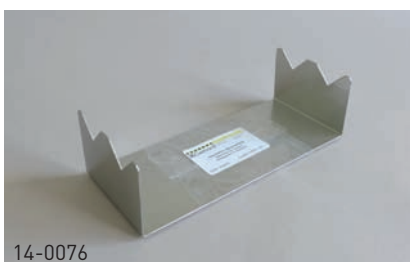
Rack versions

Order No.	Type	Description
14-0672		Reactor rack - for the safe storage of up to 4 reactors (DumaReact)
14-0076*		Metal stand for supporting reactor tubes

*Not included in the scope of delivery N-Realyzer



14-0672



14-0076

Sampling devices for solid & liquid samples

Order No.	Type	Description
14-0073		Spatula for solid samples, 1 pc.
14-0095		Syringe, 1 ml for liquid samples, 1 pc.



Rod for filling



Order No.	Type	Description
14-0065		Rod for reactor tube filling, 1 pc.

Tweezer



Order No.	Type	Description
14-0072		Tweezer with curved tip, 1 pc.

End caps for reactor



Order No.	Type	Description
14-0273*		End caps for reactor small/large, content: - 10 x end caps small - 10 x end caps big

*Not included in the scope of delivery N-Realyzer

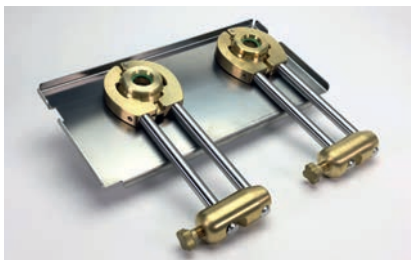
Leakage detector



Order No.	Type	Description
14-0008*	LD239	Leak detector for detecting leaks in the apparatus, complete with USB charging cable

*Not included in the scope of delivery N-Realyzer

Reactor connection, complete



Order No.	Type	Description
14-4518		Reactor connection, completely assembled with: Teflon tube 14-4436, glass connector 14-4435 and o-ring seal 14-4437

Spare parts for reactor connection

Order No.	Type	Description
14-4436		Teflon tube for reactor connection, inner Ø 4 mm, complete with nuts and ferrules
14-4435		Glass connector for reactor connection
14-4437		O-ring seal green FFPM, green 18 x 4 mm, pack of 4 pcs.



Sealings for quartz tubes

Order No.	Type	Description
14-0020		Sealings for quartz tube top, black, Ø 26 mm, 4 pcs.
14-4437		Sealings for quartz tube bottom, green, Ø 18 mm, 4 pcs.



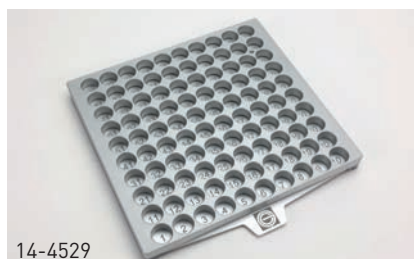
Condensate collection glass



Order No.	Type	Description
14-4331		Condensate collection glass, square 50 ml

Sample transfer unit

Order No.	Type	Description
14-4529		REAL-N Sample transfer unit for collecting and safely transferring up to 100 samples into N-Realyzer analysis system, incl. cover 14-4580
14-4580		Cover for sample transfer unit



Adapter for gas pipes

Order No.	Type	Description
14-0126		Adapter 1/4", for PU gas pipe 4 mm
14-0125		Adapter 1/4", for gas pipe 2 mm
14-0128*		Adapter 3/8", for PU gas pipe 4 mm
14-0127*		Adapter 3/8", for gas pipe 2 mm
14-0069*		Sealing cone for 4 x 0.75 mm for PU tube, 6 pcs.
14-0070		Nut M6 x 0.75 mm, for 2 mm stainless steel pipe, 10 pcs.
14-0071		Sealing cone for 2 mm stainless steel pipe, 10 pcs

*Not included in the scope of delivery N-Realyzer



SUPPORT AND SERVICE

In addition to its high quality instruments, C. Gerhardt offers comprehensive services to maintain the functionality and efficiency of your equipment.

INSTALLATION / EQUIPMENT QUALIFICATION

Selection	Type	Description
99-0204	ABI-DT	Installation and Instruction N-Realyzer - Installation and connection of the unit - functional check - operating instructions
99-0212	GQF-DT	Equipment Qualification (IQ/OQ) N-Realyzer - Installation of the unit and instruction - Installation Q ualification I Q and O perational Q ualification O Q, Guidance for P erformance Q ualification P Q - Training of laboratory personnel with certificate - Individual training certificates, if requested

SERVICING AND MAINTENANCE CONCEPTS

For detailed information on servicing and maintenance concepts, please contact your local authorised C. Gerhardt representative.

WORKSHOPS / SEMINARS / APPLICATIONS TRAINING

For detailed information on trainings and workshops, please contact your local authorised C. Gerhardt representative.

TABLE OF CONFIGURATION

Please arrange the required system

N-REALYZER

Quantity	Order No.	Type	Description

CONSUMABLES / ACCESSORIES

Quantity	Order No.	Type	Description

SUPPORT AND SERVICE

Quantity	Order No.	Type	Description

Send offer to:

Customer No.	
Company	
Name	
Address	
Tel.	
E-mail	
Web	



C. Gerhardt GmbH & Co. KG
 Cäsariusstraße 97 · 53639 Königswinter, Germany
 Tel.: +49 (0) 2223 2999-0 · www.gerhardt.de

Presented by: