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Personal injury or damage to the instrument could occur if not obser- instrument will not store any measurement data. However, this settin 39 5.2.8 Power Management	ved. Note: Information that supplements points in the main text. 121 6. ng can be changed on the results screen, via Options>Auto Store: On. 7 	.8.5 Instrument backup The reading currently shown in the display is then stored. next to the display. The DR 3900 contains an RFID modu		deactivate the settings of the Security List. •When Ouch screen: Activates/deactivates a short sound w	the setting Auto Store: Off is activated, the nly one cell type at a time can be used for a reading. ith variable volume every time the screen is touched.
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123 Numeric For entering regular numbers. This procedure, which ta	ikes approximately two minutes, checks the system, lamp, filter adjustr	ment, wavelength calibration and voltage. 4. Press Option	s and then the PC & Printer icon. The display will the	en switch off automatically. 130 Section 8	
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to the equipment. Standard programs 5.2.55 ample ID and operator 1.	D with the OPLIONAL REID Sample ID Kit (not available on all models) In	ie optional RFID Sample ID Kit consists of: •A LOC 100 R	FID Locator •All operator KFID tag •Five location K	FID tags and • Infee sample bottle RFID labels ea	Ch, in black, red, green, blue and yellow the operator
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programs of A list of the selected measurement data is displayed. 17	5.5 Illeridces	is stored along with the reading, but is not adopted into t	the list of sample IDs. Note: To delete a sample ID. se	alact the ID and proce Delate 2 Switch on the just	rument by using the newer button next to the
display This is connected to the operator password 2.1.1 Procession	The operator RFID tay can be newly written at any time. The barcoue	The stored along with the reduing, but is not adopted into the second se	nerator assigned this security level can make change	elect the 1D and press Delete. 2.5 which on the list	how Pross Sound Sottings in "Instrument Setup"
Refer to section 5.3.1.2 nage 11 for more information 67.5.5.5 Unde	ary labels fredu di labels dilu lays allacited to the instrument. Note: Oc	124.6.0.1 Log on	perator assigned this security level can make change	D A N C F R Indicates a notentially or imm	inently becardous situation that if not avoided
results in death or serious injury 2 In order to open the Security List	accian a password as security administrator. When selecting a user-a	enerated or programmed method, the manus and prompt	s same to direct the user through the test A USB me	emory stick is used to undate data refer to section	6.8.2 nage 111.3 Follow the instructions on screen
and hold the operator RFID tag over to the front-right of the RFID m	odule WARNING Indicates a notentially or imminently bazardous si	tuation that if not avoided may result in death or serious	s injury \bullet If the IP for the DR 3900 is automatically is	sund in the network no further settings are neces	seary Standard programs 10 With Back the device
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information about the connections opens A USB hub may be used to	connect several accessories at a time 5.2.7.2 Print data 1 Press Recall	Data from the Main Menu 8 Select the required security	level for this operator ID and confirm with OK 18.3	8.6.2 Installation of cell adapter	90
6 1 4 1 Add to Favorites	3 Read harcode with scanner 6 Select the rec	uired security level (two keys, one key or off) and confirm	n using OK 15 Press User and enter the username 8	87.6.1.2.4 Enter variables	
12 Confirm with OK and return to "Instrument Setup" 108 6 7 1 Tim	e course setun parameters	Press Delete to delete a sample ID_3 20n	erating environment Observe the following points to	allow the instrument to function normally and give	ze a long operating life 30.5.2.2.2 Sample ID with
scanner method 2	Use Options to enter change or delete additional sample IDs. The fol	lowing screen is displayed. Standard programs 9 Press N	ew to enter another sample ID. The target site can b	be defined by IP address or a server name 6 Press	OK to confirm the entry Cell compartment (1) for
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IDs can be Standard programs used to specify the sample location or	other sample specific information, for example, •Shutdown: Activates/	deactivates a short sound with variable volume when shu	tting down. 3 Insert the power cable plug into a mai	ins socket (100-240 V \sim /50-60 Hz). Alternatively, s	elect FTP and run FTP Setup. Ethernet The Ethernet
port is intended for data transfer to a PC without installed software of	r in a local network . 37 5.2.7.2 Print data	These US	SB ports permit data to be exported to a printer or P(C and also allow the instrument software to be upo	traded (refer to section 6.8.2, page 111). The Sample
ID is activated. 56 5.4.1 Select a saved test/method: entering user-sp	ecific basic data The central keypad cha	nges to reflect the chosen entry mode. 3.Highlight Printe	r. 2.1.2RFID module (not available on all models) RF	FID technology is a radio application. 17.Press Pas	sword and enter the password. 3. Press Setup to
display the Printer Setup screen. 3. Press the Printer icon to send the	data (table, curve) immediately to the printer. Only use a shielded cab	le (e.g. STP, FTP, S/FTP) with a maximum length of 20 m	for the Ethernet port. A Gateway enables data comm	nunication in networks that are based on varving	protocols. The file name has the format: DLYear-
Month-Day Hour Minute Second.csv or DLYear-Month-Day Hour M	inute Second.xml. The spectrophotometer DR 3900 contains the follow	ving programs and operating types: •Stored programs (pr	e-installed tests) •Barcode Programs •User Program	ns •Favorites •Single Wavelength •Multi Waveleng	gth •Wavelength Scan •Time course The DR 3900
Spectrophotometer provides digital readouts in direct concentration	units, absorbance or percent transmittance. General Information 2.20 [,]	verview of product The DR 3900 is a VIS spectrophotome	ter with a wavelength range of 320 to 1100 nm. 43 5	5.3.1 The data log	
•Guarantee is voided if the instrument is not used in accordance with	a the guidelines present in this document. Note: If no sample ID has be	en entered yet, the alphanumeric keyboard is immediatel	y displayed. Note: A shielded USB cable must not be	e longer than 3 m! Table 3 USB connector Interfac	es Description USB (Type A) This USB port can be
used to connect a printer, a USB memory stick or a keyboard. 5.1.2U	se of the alphanumeric keypad This display is used to enter letters, nu	mbers and symbols as needed when programming the ins	trument. A space can be entered by using the unders	score on the YZ key. 6.To number the sample IDs	sequentially—e.g. Inflow (01) etc.—press Add
Number. 137 9.2 Replacement parts	The RFID module operates	s with a frequency of 13.56 MHz. WA R N I N G The spect	rophotometer may not be used in dangerous environ	ments. Select the required function and press Set	up. Press OK. 2.Press New to enter a new sample ID.
Safety information for the correct use of the instrument: •Do not ope	rate the instrument in hospitals or comparable establishments in proxi	mity to medical equipment, like pace makers or hearing a	aids. 109 6.7.3 Analysis of time course data		The USB type A ports are used for
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rectangular cells/1-inch round cell Installation 3.6.2Installation of cell	l adapter 1.Open the cell compartment. Installation 3.7Beam path Figu	are 7 shows the beam path of the DR 3900. The absorbance	ce behavior is displayed graphically during the scan.	. 5.2.2.1Sample ID with scanner method 1 1.Conne	ect the scanner to the USB port. Standard programs
Printer Setup: •Resolution: Font size •Paper: Paper size Note: If an o	ptional Thermal Printer is connected, the function "Auto Send" on/off i	s available. CE Clear Entry Clear the entry. 6.Press Opera	ator Password to protect the operator ID with a pass	word. Recall measurement data Stored data can b	e called up, filtered, sent and deleted. •Use the key
between the arrow keys to enter the first number of the sequence us	ing the alphanumeric keypad. 11 2.1.2 RFID module (not available on a	ill models)	Follow the following safety information, in addition	on to any local guidelines in force. The file can the	n be processed using a spreadsheet program. 38
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Installation 3.3Front and back view 1 USB port type A 4 On/off switc	n 2 Cell compartment cover 5 RFID module (not available on all models	s) 3 Touch screen Installation 1 Ethernet port 3 USB port	type A 2 USB port type B 4 Connection for benchtop	p power supply 3.4Power connections WA R N I N	G Electrical and fire hazards. Standard programs
4.Select Power Off Timer and press OK. 6.Press New again and repea	at the process for each barcode. Select the required options or a colour	r. Only use the supplied benchtop power supply LZV844.	A USB memory stick can be used to update the instru	ument software. 103 6.6.2 Perform a wavelength	
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	Standard programs 5.2Instrument Setup 1.Select Instrument Setur	p in the Main Menu. 18.Press OK to confirm the entry. 73	6.1.1.1 Single wavelength settings	•Leave	at least a 15 cm clearance at the top and on all sides
for air circulation to avoid overneating of electrical parts. The USB ty	/pe B port is used for communications with a PC. 99 6.5 Multi wavelend	gth mode – readings with more than one wavelength	Press to activate the vario	bus functions. Setup must be coordinated with the	security administrator and the operator. (HACH-
LANGE programs) Further information, as well as information, step-by	-step process instructions for analyses using HACH programs, are available and the second of the sec	hable on the website of the manufacturer. Press Logout to	0 log out of all active operator ID. 120 6.8.4.4 Dilutio	JII	which append the year has to deside which date to
be inserted using cell adapter A. Press Select to activate the selected	and recipient Figure 5 Installation of a cell adapter 2.6 2Use of the lig	Ically to the Inernial printer. 5.5.1.1Auto/inanual data Su	orage The data storage parameter mulcates whether	data is to be stored automatically or manually (in a colle are used in the coll compartment (1). A co	which case the user has to declue which data to
successful 7 Proce OK to roturn to the "Instrument Setur" monu Proc	are recipient. Figure 5 instantion of a cen adapter 5.0.505e of the hyp	ts such as the tip of a ballpoint non 110.6.8.4.3 Multiple	Determination	The operator ID is displa	und multicates that the write process has been
Installation of the light shield 1 Open the cell compartment 2 Press	Recall Data from the Main Menu, 2 Specify the output format of data to	be exported using Send Data Format A hostname can or	ptionally be assigned NOTICE Protect the instrum	ment from extreme temperatures from heaters di	yeu with the selected security level. Installation
instrument securely on a flat surface taking care to remove any object	the standar the device. This function can be used to determine the s	wavelength at which the maximum absorbance value can l	he measured Single Wavelength Transmittance read	ding (%). Measures the percent of the original light	t that passes through the sample and reaches the
detector 22 Section 4 Start un	106 6.7 Time course of abs	orhance/transmittance	3 Pross On A Pross IP address	1 Halogen lamp 8 Splitter mirror 2 Entrance slit 9	Reference element 3 Grating 10 Cell compartment
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(2) for rectangular cons 4 orating angle maleutor 11 Lons 5 Exit she	Note. In the event of further error messages during the test program i	refer to Section 8 nage 133 • Press buttons words or icon	ns to select them 25.5.1.1 Tips for using the touch s	creen	111 6 8 3 Ontical
Checks	43.5.3.1.2 Recall stored data from the data log	The manufacturer	r and its suppliers reject any express or indirect quar	rantee for use with high-risk activities WARNIN	I G Electrical and fire hazards 23 4 2 Language
selection		the user's requirements. A complete record of the analysi	is is stored, including the Date. Time, Results, Sampl	le ID and Operator ID. The following table briefly of	describes each menu option. 3.Use the alphanumeric
keypad to enter a new operator ID. 2. Select the data source, where t	he data to be printed are stored. •Reading done: Activates/deactivates	a short sound with variable volume when the reading is d	lone, 99 6.5.2 Complete a reading in the Multi Wavel	length mode	
kit	To establish Ethernet communication in networks, special configu	ration is required. The current security level for the select	ted operator is shown. Note: Use this function to del	ete the former password or to enter a new one, ap	pears on the display until the data is printed. 3.6Cell
compartments, cell adapters and light shield 3.6.1Cell compartments	and adapters The DR 3900 has two cell compartments (Figure 3). All	rights reserved. 19.Press Factory Default to restore the N	etwork Settings to the factory defaults. 4. Press Reso	olution to select the print quality. The procedures	are completely identical. System checks The "System
check" menu offers a number of options, including optical checks, ou	tput checks, lamp history, instrument update, service time, settings for	r analytical quality assurance and instrument backup. •W	ith cell adapter A: 10 mm rectangular cells, 1-inch ro	ound cells and AccuVac® vials. 1.Press Sample ID	in the toolbar on the right. 70 5.5.5.4 Update via the
Internet	Section 5 Standard programs 5.10verview 5.1.1Tips for using the to	uch screen The whole screen responds to touch. Addition	ally, the folder must be shared with the operator, usi	ing the corresponding password. Press Off to swite	ch off the active sample ID. Select xml or csv.
11.Select Netdrive and run Netdrive Setup. 59 5.4.6.1 Change of the	default setting of the chemical form	52 5.3.4.3 Interference Check (not available on all mode	els) 10.Activat	e the selected operator ID by pressing Login. 123	6.8.8 Lamps operating time
	.Confirm the Security List using OK to return to the "Security" menu. 1	143 A.2 Display of the Help Guide for barcode programs		e the light shield into cell compartment (2) so that	the arrow on the light shield points to the rear. • If
the instrument address is fixed, the connection must be configured. 1	121 6.8.4.6 Pipette test set	Only use a shielded cable (e.g. S	STP, FTP, S/FTP) with a maximum length of 20 m for	the Ethernet port. A list with information about th	ne connections opens. 60 5.4.7 Run a reagent
blank	5.Choose an icon for the operator ID using the Left Arrow and ⁷	Right Arrow. 50 5.3.4.1 Trends	-	13.Press Data Folder and enter the target folder	name. Press IP address and enter the address. Time
course The time scan records the absorbance or % transmittance at a	a wavelength over a defined time. 23 4.1 Switch on the instrument, stay	rtup process	Change the information using the arrow k	keys. 65 5.5.4 Sample blank	
	12 2.2 Overview of product		e ID	4.Press OK to con	firm the language selection. 6.Press Security Level
7.Enter the security password and confirm with OK. • Startup: Activa	tes/deactivates a startup melody with variable volume when the test pr	ogram is started. 97 6.4.1 Set up Single Wavelength mod	le	23 4.4 Sleep	
mode			leaning requirements		Safety
INIOFMATION	to be printed out automatically straight after measurement the use of	ator password. 94 6.4 Single Wavelength (absorbance, con	ncentration and transmittance readings)		connect the thermal printer to a USB type A port.

```
. Press Security Password. USB (Type B) This USB port is only intended for the connection of the DR 3900 to a PC (with installation of the corresponding software).
                                                                  .. 65 5.5.2.1 Change of the default setting of the chemical form.
instrument
Concentration readings: A concentration factor can be entered to enable the measured absorbance values to be converted into concentration values. 110 6.7.3.1 Navigation of a time scan or a time scan analysis.....
                                                                                                                                                                                                 .... The chosen items are listed. 3. Press OK to confirm the entry. Press Options to enter, change or delete
additional operator IDs. The following screen is displayed. 3. Select the required language. 9. Press Cancel to delete the complete entry for the operator ID. • The instrument can cause interference in immediate proximity to televisions, radios and computers. 81 6.1.1.5 Additional user-defined parameters and functions
                             . For symbols attached to the instrument, corresponding warning notes are found in the user manual. 2. Press PC & Printer in the "Instrument Setup" menu. •Do not open the instrument, the subnet mask establishes
which IP addresses are located within the local network. To send data to a printer, refer to section 5.2.7.2, page 38. Standard programs 5.2.5Date and time 1. 3. Press Setup and complete the required settings. 35 5.2.6 Sound settings.....
                                                                                                                                                                                                                                                    .... 126 Section 7 Maintenance
                                                          .. 4.3Self-check Each time the instrument is powered up, a test program begins. •Warning: Activates/deactivates a short sound with variable volume if there is an error message. 5.Press OK to confirm the selection. 15 3.2 Operating environment
                                                          . Standard programs 4. Press Security List to access various functions with security level 1 or 2. 2. Press Options>New to enter a new operator ID. 128 7.3 Exchange of the replaceable cell compartment...
                                                                                                                                                                                                                                                                32 5.2.4.2 Deactivate
                                                          ... 2.Plug the benchtop power supply cable into the back of the instrument (Figure 2, page 17). 127 7.1.1 Spectrophotometer ......
                                                                                                                                                                                                                   ... 1. Select the required language. The display shows the logo of the manufacturer. If
password.
the operator RFID tag is successfully overwritten, a message confirming this will briefly be shown on the display. 51 5.3.4.2 Ratios ......
                                                                                                                                                                      . Left Arrow Back Deletes the current character and goes back one position. 67 5.5.5.2 Manual update of a barcode test
                                                                                                                                                                                                                                           ...... # % Symbols Punctuation, symbols and numerical
                                         ... Refer to Section 9, page 137. The function Filter Settings is used to search for specific items. 1. Press Data Log Setup in the "Instrument Setup" menu. 113 6.8.3.3 Wavelength check.......
.. Note: Wait approximately 20 seconds before switching on again so as not to damage the electronics and mechanics of the instrument. Electrical equipment marked with this symbol may not be disposed
operationand/or safety notes in the user manual. 46 5.3.2 Control charts for data from the AQA Log ......
                                                                                                                                                                         of in European domestic or public disposal systems after 12 August 2005. Note: Press OK again to return to the "Instrument Setup" menu. 124 6.9.2 Sample ID .....
                                                                                                                                                                                                                                                                             . 127 7.2
                                                    Lamp replacement ..
                                                                                          .. 1. •Do not operate the instrument near highly flammable substances, such as fuels, highly combustible chemicals and explosives. •Before handling these substances observe all danger notes and safety information printed on the
Section 7). 20 3.7 Beam path
containers of the original solutions and in the safety data sheet. 4. Highlight Single point, Filtered data or All data and press OK to confirm. 8. Press On to activate the new settings of the security list. Table 2 Main Menu options Option Function Stored Programs are pre-programmed methods that make use of HACH chemicals and Stored Programs /
HACH-LANGE pipette tests. 16. Press OK to confirm. • Sample ID • Operator ID • Start Date • Parameter or any combination of the four. 9. Press OK to return to the "Instrument Setup" menu. 121 6.8.6 Service menu
                                                                                                                                                                                                                                   ..... The self-check will then start automatically. 144
                                                                              .. Multi Wavelength In the Multi Wavelength mode, absorbance (Abs) or percentage transmittance (%T) is measured at up to four wavelengths and absorbance differences and absorbance relationships are calculated. 92 6.2.1 Recall a favorite program
                                                    . Refer to section 5.2.1.1 for more information. 3. The instrument starts automatically with a startup process lasting approximately 45 seconds. 2. Enter the security password and confirm by pressing OK. There is a toolbar on the right-hand side of the screen. The manufacturer
                                                                                                                                                                                                  ..... Printed in Germany. • Select the type of protective equipment suitable to the concentration and quantity
recommends support from a network administrator. • The relative humidity should be less than 80 %; moisture should not condense on the instrument. 91 6.1.4.3 Delete program.....
of the dangerous material being used. 2.Press Network>Setup. Standard programs 10.Press Network Server: to determine the target site for the data transfer. 3.Set up an operator ID (refer to section 5.2.1). 5.2.1.10perator RFID tag (not available on all models) 1.Define an operator ID (refer to section 5.2.1). 24 4.5 Power off the
                                                                 . Press PC & Printer in "Instrument Setup". 4.5Power off the instrument 1. Press the power button next to the display for approximately 5 seconds. Radio applications are subject to national conditions of authorisation. 78 6.1.1.4 Store a user
                                                                                                                                                                     ...... •Use scroll bars to move up and down long lists very quickly. 5.3Save, recall, send and delete data 5.3.1The data log The data log can store
                                                          . 2.Select a Date Format for the date. 90 6.1.4 Add, edit and delete user programs from the favorites list .....
program.
..... 48 5.3.3.2 Recall stored data from wavelength scan or time
includes several language options. 8. Press Default Gateway and enter the address. Standard programs 1. Select Operator ID from "Instrument Setup". 5.2.4 Security settings The "Security settings to control access to various functions. 27 5.2.1 Operator
                                                                ... With normal operation of this device the use of chemicals risking health or biologically harmful samples can be required. Note: If any of these items are missing or damaged, please contact the manufacturer or a sales representative immediately. 5.2.4.2Deactivate
ID.
password 1.Press Security in the "Instrument Setup" menu. Press Edit to edit a sample ID. N O T I C E Indicates a situation that, if it is not avoided, can lead to damage to the device. These interfaces can be used for exporting data and graphics to a printer, updating data and graphics to a printer, updating data and standard programs transferring data to a PC and in a network. 34 5.2.5
                                                                                                                                                       ... • Timer: Sets short/long sound with variable volume when timer has ended. Select Fix to configure the IP address. 115 6.8.3.5 Absorbance check
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Date and time
                                                   . 26 Table of contents 5.2 Instrument Setup..
                                                                                                                                                    7.Use the alphanumeric keyboard to enter an operator password. 39 5.2.7.4 Network setup...
The instrument is shipped with the light shield installed. Right Arrow Next Navigates to the next space in an entry. A listing of the stored data is displayed. 141 Appendix A Help Guide .
                                                                                                                                                                                                         ...... Press Back to reach to the input screen for operator ID. 4.Activate On. The data can now be
... 4. The sample ID can have the current date and time, a sequential number and a colour allocated to it. Press Login to activate a selected operator ID. 147 Section 1 Specifications These are subject
                                             .... 62 5.4.10.2 Manual update of test data .....
to change without notice! Performance specifications Display mode Transmittance (%), Absorbance and Concentration Source lamp Halogen lamp Wavelength range 340-900 nm) Wavelength reproducibility ± 0.1 nm Wavelength resolution 1 nm Wavelength calibration Automatic
Wavelength selection Automatic, based on method selection Scanning speed \geq 8 nm/s (in steps of 1 nm) Spectral bandwidth 5 nm Photometric accuracy 5 m abs at 0.0-0.5 abs 1 % at 0.50-2.0 Ext Photometric linearity < 0.5 % to 2 Abs \leq 1 % at > 2 Abs with neutral glass at 546
nm Stray light < 0.1 %T at 340 nm with NaNO2 Data log 2000 readings (Result, Date, Time, Sample ID, User programs 100 Physical and environmental specifications Width 350 mm (13.78 in) Height 151 mm (5.94 in) Depth 255 mm (10.04 in) Mass 4200 g (9.26 lb) Ambient operating requirements 10-40 °C (50-104 °F), maximum 80 %
relative humidity (without condensate formation) Additional technical data Power connector via external power Input: 100-240 V/50-60 Hz supply Output: 15 V/40 VA Use only shielded cable with maximum length of 3 m: 2× USB
type A Interfaces 1× USB type B Use only shielded cable (for example STP, FTP, S/FTP) with maximum length of 20 m: 1× Ethernet Housing rating IP40 (excluding interfaces and power supply) Protection class Class I Section 2 General Information 2.1Safety information Read through the entire user manual carefully before you unpack the device, set
                                                                                                      .... These interfaces can be used for the connection of a USB stick, an external USB keyboard or a USB Barcode handset scanner. 102 6.6 Wavelength Scan mode - recording of absorbance and transmission
up and put into operation. 18 3.6 Cell compartments, cell adapters and light shield .....
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                                                                                                                                                                                      ... 2. Press Initialize RFID Tag. The number is shown in parentheses behind the Sample ID. 55 Table of contents 5.4 Stored
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Programs
                                                     Information.
.. Remove the light shield before using cell compartment
                                                                                                                                                                                                                                 . 92 6.3 Standard Addition - monitoring/checking
(2). In conformity with the applicable provisions, consumers in the EU must return old electrical equipment to the manufacturer for disposal from this date, at no charge to the user. 63 5.5 Barcode Programs.
                             .... 44 5.3.1.3 Send data from the data log
results.
Send data... 2. Enter the security password and confirm with OK. The manufacturer reserves the right also to obtain authorisation in other countries. 76 6.1.1.3 Calibration settings for single and Multi Wavelength mode.....
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If a USB Barcode handset scanner (refer to section 5.2.2.1, page 30) is connected, Sample IDs can also be scanned. Barcode Programs The working procedures for HACH-LANGE tests are included in the test packs. 125 6.9.5 Trends.....
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                                                                     .. 2. Press OK to confirm the language selection. The optional Hach Data Trans software (refer to Section 9, page 137) must be installed on the PC for data transfer. 8. Press Back to return the instrument to the "Instrument Setup" menu. The operator is logged on and
the operator ID is shown in the toolbar. 143 A.1 Display of the Help Guide for stored programs.
                                                                                                                .... 133 Section 9 Replacement parts.....
                                                                                                                                                                                                  .. Only qualified experts may perform the tasks described in this section of the manual, while adhering to all
                                                                                   locally valid safety regulations. 65 5.5.3 Basic test-specific and sample-specific data settings .
storage device or a network drive. 1. Turn the instrument on. 93 6.3.1 Complete a standard addition .....
                                                                                                                            ...... If a Sample ID is already assigned, select the "Sample ID" symbol in the result display. 5.2.2Sample ID Use this option to enter up to 100 Sample Identification tags (up to 20 characters
each) into the instrument. To do so, confirm the "Overwrite Operator ID" message with OK and enter the password if the old operator ID is protected with a password. Press a key repeatedly until the desired character appears on the screen. In case of doubt, please contact the distributor. 23 4.3 Self-check
                                                                  .... 3.1 Unpack the instrument The DR 3900 Spectrophotometer comes packaged with the following items: •DR 3900 spectrophotometer •Dust cover, fitted as standard •Benchtop power supply with power cord for EU •Cell adapter A. 2. Place the cell
adapter into cell compartment (2) so that the arrow on the cell adapter points to the rear (Figure 5). 127 7.1.3 Cuvettes/cells.....
                                                                                                                                         .. •Do not operate the device
near combustible gases, vapors or dust. 3. Select the required time span after which the instrument will go into energy-saving sleep mode if it is not used (refer to section 4.4, page 24), and confirm with OK. Standard programs 9. Installation 3.5 Interfaces The DR 3900 features three USB ports and one Ethernet port as standard, located on the front
. 2.Press Data Log. More information can be found in the user manual for the LOC 100 RFID Locator. Press and hold the scroll bar, then move up or down to move through the list. 5.2.7.4 Network setup The DR 3900 supports communication in local networks. 45 5.3.1.4 Delete stored
adapters
                                                        .... Note: When the instrument memory (data log) is full, the oldest data is automatically deleted allowing the new data to be stored. This section describes the setting options for the photometer in relation to network communication. Instrument Setup In this mode, user-specific or
data from the data log
method-specific settings can be entered: operator ID, sample ID, date & time, sound, PC & printer, password, energy-saving mode and stored data. 5. Select the required time span after which the instrument will automatically be powered off if it is not used, and confirm with OK. 64 5.5.1 Perform a barcode test
                                                                                                                                     .. 46 5.3.3 Store, recall, send and delete data from wavelength scan and time course ...... Each test that functions correctly is marked accordingly. After that, the instrument
                                                     . 25 5.1.3 Main menu ...
                                                                                            .....
is ready to use. On the results screen, press Options>More>Instrument Setup. 70 5.5.5.5 Program a new test.....
                                                                                                                                          ... Press Cancel to cancel an entry, or press OK to confirm an entry. This feature helps record which operator measured each sample. 82 6.1.2.1 Measurement
                                                                                                                                     . 11 2.1.3 Chemical and Biological Safety .
                                                       .. 91 6.1.4.2 Edit
                                                                                                                                                                                                                  ..... 118 6.8.4.2 AQA Addition
                                                       . The manufacturer advises that the use of the DR 3900 (model with RFID module) outside of the above-mentioned General Information regions may contravene national laws. Press
Initialize RFID Tag to write the sample ID to an optional location RFID tag (not available on all models). 137 9.1 Accessories .....
                                                                                                                                                                3. Select the data category to be transferred, e.g. Data Log. 12. Press IP-Address and enter the IP address or select Server Name and enter the server name. 111 6.8.1 Instrument Information .....
                                                                                                                                                                                                           .. Make yourself familiar with the necessary safety procedures and the correct handling of the
•RFID done: Activates/deactivates a short sound with variable volume when a RFID transfer is done. Only use a shielded cable (e.g. STP, FTP, S/FTP) with a maximum length of 20 m for the Ethernet port. 67 5.5.5.1 Update barcode tests with test packaging (not available on all models) .....
                                                                                                                                                                                                                                              ... Standard programs 7.Enter the current date and
                                                                                                                                                                   . 4. Press Setup to display the Printer Setup screen. As an example, Netdrive Setup is described here. Note: The alphanumeric keypad for entering
time. 92 6.2.2 Delete a favorite program.
                                                                                   ... 56 5.4.2 Stored programs options...
the password appears when a user tries to reach a locked setting. 4. Press OK to confirm the entry. All functions can be allocated to three different security levels: • not secured: every operator can make changes in this area. 13 Section 3 Installation.....
                                                                                                                                                                                                                                                                 .... 5.2.10perator ID Use this
option to enter up to 30 sets of operator initials (up to ten characters each) into the instrument. Note: The arrow on top of the cell adapter indicates the direction of the light beam path. 4. Select a Time Format for the time. Successful connection is indicated by a sound. The use of the DR 3900 (model with RFID module) is currently permitted in the
following countries: EU, CH, NO, HR, RS, MK, TR, CY, US, CA, AU, NZ. Select between: •100 dpi, •150 dpi and •300 dpi. 4.Turn on the power supply (Figure 1, page 16). 2.Select Sleep Timer and press OK. 8.Press OK to confirm the entry. A list is displayed. Press Subnet Mask and enter the address.
2.During the startup process, touch any point on the screen and maintain contact until the option for selecting a language is shown (approximately 45 seconds). 3.Press Filter: On/Off. 2.Select the required action. 31 5.2.4 Security settings .
                                                                                                                                                                                                                                                        . 25 5.1
                                                                                                                                                              ... DOC022.52.90323 DR 3900 USER MANUAL 04/2013 Edition 3A © HACH-LANGE GmbH. 2011. 2013. 4.Press Operator Password. 68 5.5.5.3 Manual
                                                                            .. 73 6.1 User programs.....
Overview...
check/revision of test data.
                                                             . 63 5.4.11 Add stored programs to the favorite programs list ......
                                                                                                                                              . •Without cell adapter A, 50-mm cells, 1-inch rectangular cells and 1-inch flow cells can be used directly in cell compartment (2). 81 6.1.2 "Free programming" program type
                                                                                                                         ... • Light shield, fitted as standard in the DR 3900 • Operator RFID tag (not available on all models) • Basic operating instructions DR 3900, operating instructions LINK2SC Further information,
                                             . 27 5.2.1.1 Operator RFID tag (not available on all models) .....
detailed user manuals and documentation are available on the website of the manufacturer. • The ambient temperature must be 10-40 °C (50-104 °F). Press Initialize RFID tag (not available on all models). User programs make "made to measure analysis" possible: User Programs • Users can
program methods they have developed themselves • Existing HACH and LANGE methods can be stored as user programs. Single wavelength readings: The light absorbed by the sample is measured in absorbance units. The icons on the right and left of the screen are described in Table 1. Favorites List of methods/tests
                                                                                                                  ... 1.Connect the power cable to the benchtop power supply, 108 6.7.2 Time course scan reading ......
created by the user to suit his own requirements. 121 6.8.4.5 Performing AQA measurement......
                                                                                                                                                                                                                                               .... Pay attention to all danger and caution
                                                                                 statements. 73 6.1.1 Program a user method..
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Ultra Low Range Total and Reactive Phosphorus for use with DR 2700, DR 2800, DR 3800, DR 3900 and DR 5000 Hach Spectrophotometers LIT2097 : English US: 105 KB: 2012-06: Ed 2: Wastewater and Biosolids Analysis Manual

Digestion and Selected Methods for Determining Metals, Minerals, and Other Related Parameters 49028-88 Table IC notes: 1 All parameters are expressed in micrograms per liter (µg/L) except for Method 1613B, in which the parameters are expressed in picograms per liter (pg/L).. 2 The full text of Methods 601-613, 1613B, 1624B, and 1625B are provided at appendix A, Test Procedures for Analysis of Organic Pollutants. The standardized test procedure to be used to determine the ... Ultra Low Range Total and Reactive Phosphorus for use with DR 2700, DR 3800, DR 3

Digestion and Selected Methods for Determining Metals, Minerals, and Other Related Parameters 49028-88 Table IC notes: 1 All parameters are expressed in micrograms per liter (µg/L). 2 The full text of Methods 601-613, 1613B, 1624B, and 1625B are provided at appendix A, Test Procedures for Analysis of Organic Pollutants. The standardized test procedure to be used to determine the ... This instrument connects to Claros, Hach's innovative Water Intelligence System, enabling you to seamlessly connect and manage instruments, data, and process – anywhere, anytime. The result is greater confidence in your data and improved efficiency in your operations. To unlock the full potential of Claros, insist on Claros, Enabled instruments. This instrument connects to Claros, Hach's innovative Water Intelligence System, enabling you to seamlessly connect and manage instruments, data, and process – anywhere, anytime. The result is greater confidence in your data and improved efficiency in your operations. To unlock the full potential of Claros, insist on Cla

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