

Installation Qualification (IQ)

The validation procedures must be accomplished with the agreement of the customer. This certificate of IQ validation must be signed and stamped by both the customer and the performer of the validation. It will then be handed to the customer.

Identification of the instrument and accessories

Indicate the model as shown on the frontpanel of the instrument. Indicate the code (cat. no.) as shown on the invoice. Indicate the serial number as shown on the back of the instrument. Indicate the supply voltage as shown on the adapter.

Instrument (model)	
Code (see invoice)	
Serial number	
Power supply (V)	

Verify if the accessories below were supplied with the instrument and indicate it in one of the last two columns.

Accessories (model)	Description	Quantity	Yes	No

Identification of the location, customer and users

Indicate all required data. The validation will only be valid for below location!

Customer	
Address	
Division	
Department	
Room	
Users	

Required installation conditions

Check if all steps below have been accomplished.

	Yes	No
The packing material has been removed.		
There are no mechanical damages of the cabinet.		
The instrument has been installed on the functioning place.		
The ambient temperature of the room is 0...40° C.		
The relative humidity of the room is 0...95%, non condensing.		
The mains voltage is 210...250 VAC (or 120...130 VAC), 48...62 Hz.		
The customer accepts responsibility for providing an appropriate earthed mains supply.		
Connect the instrument to the mains.		

Result of the validation

				Yes	No
The unit has been installed according to the manufacturer's instructions.					
Date:	Supplier:	Signature:	Customer:	Signature:	

Operational Qualification (OQ)

The OQ validation can only be performed after the IQ validation. The validation procedures must be accomplished with the agreement of the customer. This certificate of OQ validation must be signed and stamped by both the customer and the performer of the validation. It will then be handed to the customer.

Identification of the instrument and accessories

Indicate the model as shown on the frontpanel of the instrument. Indicate the code (cat. no.) as shown on the invoice. Indicate the serial number as shown on the back of the instrument. Indicate the supply voltage as shown on the adapter.

Instrument (model)	
Code (see invoice)	
Serial number	
Power supply (V)	

Identification of the location, customer and users

Indicate all required data. The validation will only be valid for below location!

Customer	
Address	
Division	
Department	
Room	
Users	

Present situation

	Yes	No
The instrument has been installed.		
The IQ validation has been performed.		

Functional testing of the instrument and electrodes

Check if all steps below have been accomplished.

	Yes	No
Switch the instrument on and verify that the display is functioning normally.		
Perform the Set-Up of the instrument according to the instructions of the manual.		
Store the supplied electrodes in distilled water for at least 1 hour.		
Make sure that all calibration solutions are at room temperature $\pm 0.5^{\circ}\text{C}$		
Connect the supplied electrodes.		
Make sure to rinse the electrodes twice between the calibrations: first thoroughly in distilled water and then with a small amount of the next solution to be used.		
Always stir the solutions while measuring (use a magnetic stirrer!).		
Allow the electrodes sufficient time to stabilise while calibrating. A stability indicator on the instrument prompts the user when readings should be taken.		
Calibrate them according to the instructions of the manual.		
Did the calibrations occur without error messages?		

Result of the validation

				Yes	No
If all steps of this protocol result in a favourable answer, then the instrument is operational according to the manufacturer's instructions.					
Date:	Supplier:	Signature:	Customer:	Signature:	

Performance Qualification (PQ)

The PQ validation can must be performed immediately after the OQ validation. The validation procedures must be accomplished with the agreement of the customer. This certificate of PQ validation must be signed and stamped by both the customer and the performer of the validation. It will then be handed to the customer.

Identification of the instrument and accessories

Indicate the model as shown on the frontpanel of the instrument. Indicate the code (cat. no.) as shown on the invoice. Indicate the serial number as shown on the back of the instrument. Indicate the supply voltage as shown on the adapter.

Instrument (model)	
Code (see invoice)	
Serial number	
Power supply (V)	

Identification of the location, customer and users

Indicate all required data. The validation will only be valid for below location!

Customer	
Address	
Division	
Department	
Room	
Users	

Present situation

	Yes	No
The instrument has been installed.		
The IQ validation has been performed.		
The OQ validation has been performed not later than 1 hour ago.		

Performance testing of the instrument and electrodes

Check if all steps below have been accomplished.

	Yes	No
Switch the instrument on.		
All electrodes have been calibrated not later than 1 hour ago during the IQ validation.		
Make sure that all calibration solutions are at room temperature $\pm 0.5^{\circ}\text{C}$		
Make sure to rinse the electrodes twice between the measurements: first thoroughly in distilled water and then with a small amount of the next solution to be used.		
Always stir the solutions while measuring (use a magnetic stirrer!).		
Allow the electrodes sufficient time to stabilise while measuring. A stability indicator on the instrument prompts the user when readings should be taken.		
Measure the values of the appropriate calibration solutions.		
Do the values lay between the correct values of the calibration solutions \pm (its specified accuracy + the specified accuracy of the instrument) ?		

Result of the validation

				Yes	No
If all steps of this protocol result in a favourable answer, then the instrument is operational according to the manufacturer's instructions.					
Date:	Supplier:	Signature:	Customer:	Signature:	