

# REVERSE OSMOSIS DESALINATION Master Class

Safeguarding the Sustainability  
of your Water Resources



**FOR BOOKING**

Email: [admin@cskba.co.za](mailto:admin@cskba.co.za)

*Call to find out more*



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[www.cskba.co.za](http://www.cskba.co.za)

## About CSK BA

We provide high-quality business conferences, seminars and skills-building workshops that adds value in terms of knowledge and skill. The aim is to provide extremely good value for the time and money clients have invested. Our events are thoroughly researched, practical and case study-related, ensuring clients are empowered with the latest information as well as providing superb networking opportunities with leading business colleagues and executives.

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Our planet's water reserves are becoming more and more of a scarce resource. Water use for a series of domestic and industrial applications is governed by regulatory compliance requirements and numerous Health & Safety and Environmental (HSE) considerations. At the same time, disposal rules are also becoming increasingly stringent and pose demanding requirements which often require and dictate water treatment. On the other hand, water is priceless and irreplaceable. Every single drop needs to be managed carefully and sustainably.

Drinking water reserves are being depleted faster than the respective replacement and/or regeneration. This is another critical sector that needs careful management and raises once more the need for treatment. Reverse Osmosis (RO) Desalination provides answers to all the above challenges. The areas covered in this Reverse Osmosis Desalination training courses are the use of RO desalination in drinking water production, dialysis water production, landfill leachates treatment, production of ultrapure water in the pharmaceutical industry, polishing of water used in the cosmetics and detergents manufacturing industry, etc.

**By the end of this Reverse Osmosis Desalination training Course, the participants will be able to:**

- ❖ Understand the global water scarcity problem
- ❖ Develop their skills in assessing water quality
- ❖ Learn how to choose the proper water treatment technique
- ❖ Understand the principles of Reverse Osmosis
- ❖ Apply decision rules on the management of RO water

## Organisational Impact

Reverse Osmosis desalination is a widely accepted and employed membrane-based water treatment technique. The organisation will benefit from this training course by:

- ❖ Acquiring expertise in the overall assessment of the water quality in different applications
- ❖ Developing the ability to decide on the water treatment techniques to be used
- ❖ Understanding the benefits and limitations arising from the use of RO desalination
- ❖ Enhancing the ability to combine RO desalination with other water treatment techniques
- ❖ Developing awareness on water quality monitoring programmes involving RO water
- ❖ Learning how to deal with problems arising from the improper use of RO water

## Personal Impact

By attending this Reverse Osmosis Desalination training course, the participants will gain the following:

- ❖ Develop their skills in effectively assessing the fitness-for-purpose of water for different uses
- ❖ Enhance their knowledge in relation to the composition of water
- ❖ Understand the meaning and significance of the physical, chemical and microbiological properties of water, and especially RO water
- ❖ Improve their troubleshooting ability and self-confidence during on-site inspections
- ❖ Understand the principles behind membrane treatment processes

## Who Should Attend

This Reverse Osmosis Desalination training course is suitable to a wide range of professionals but will greatly benefit:

- ❖ Water Boards/Local Water Authorities QC Inspectors and Technicians
- ❖ Hygiene Inspectors
- ❖ Chemical and Environmental Engineers
- ❖ Process Engineers and Process Chemists working in RO plants
- ❖ Drinking-Water Quality Regulators
- ❖ Water Quality Consultants



## GLOBAL WATER CONSUMPTION FACTS

- ❖ Global demand and supply figures – The Water Cycle
- ❖ Water uses in different sectors
- ❖ Water scarcity and quality issues
- ❖ The need for Water Treatment
- ❖ Technologies used in Water Treatment

## WATER TREATMENT TECHNIQUES

- ❖ Membrane techniques in water treatment
- ❖ Reverse Osmosis (RO) desalination and its applications
- ❖ Source water quality considerations & risks
- ❖ Source water options and intake configurations
- ❖ Design of RO Desalination Plants – Process Flow Diagram

## BASIC DEFINITIONS IN RO DESALINATION

- ❖ RO Membrane types
- ❖ Pore size, Rejection, flux, osmotic pressure, salt passage, concentration polarisation
- ❖ Front and back permeate
- ❖ Biofouling and scale deposition
- ❖ The Silt Density Index (SDI)

## OPERATION AND MAINTENANCE OF RO PLANTS

- ❖ Pretreatment: Membrane/granular media filtration, gravity filters
- ❖ Reverse Osmosis Section: High-pressure pumps, RO trains/configurations, Energy Recovery
- ❖ Concentrate Disposal: Open Sea/On-shore Discharges
- ❖ Post Treatment: Ion Exchange Resins, Remineralization Beds, pH Adjustment, and Disinfection
- ❖ Product Water Storage - Maintenance Considerations

## DOWNSTREAM MONITORING CONSIDERATIONS

- ❖ Quality control of desalinated water
- ❖ Interactions of RO water with distribution system
- ❖ Control of Biofouling
- ❖ Scale Deposition Effect – The LSI & CCPP Indices
- ❖ Handling consumers complaints and enquiries
- ❖ Drinking Water Regulations and the role of RO Desalination



BUSINESS ARCHITECTS

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# REGISTRATION FORM

There is so much to see and hear and so many people to meet that you can not cover everything alone. Take advantage of unbeatable

Please complete and return this form to:

ATT Admin

[admin@cskba.co.za](mailto:admin@cskba.co.za)/[admin@cskba.com](mailto:admin@cskba.com)

Tick Preference

**R 8,999** per delegate Excl. VAT – F2F

**R 6,999** per delegate Excl. VAT - Online

## Reverse Osmosis Desalination

22<sup>nd</sup> – 23<sup>rd</sup> of Feb  24<sup>th</sup> – 25<sup>th</sup> of April 2024 - Johannesburg

7<sup>th</sup> – 8<sup>th</sup> of March  9<sup>th</sup> – 10<sup>th</sup> of May 2024 - Durban

Face to Face  On-line

First Name:		Surname:	
Company / Organisation:		Designation:	
Phone:		Fax:	
EmailAddress:		CompanyVAT No.:	
PostalAddress:		PostalCode:	
Person dealing with Accounts:		Country:	
EmailAddress:			
Signature:			Date:

By completing & signing this form, the authorising signatory accepts the terms and conditions as stated on the registration form

### Delegate Attendance Information:

NOTE: Please provide information as you wish it to appear on your name badge and on the official participant database.

Title	Delegate Name & Surname	Position	Contact Number	Email

SwiftCode	FIRNZAJJ	Name of Bank	First National Bank (SA)
Branch name	Randburg Main	Branch Code	254005
Account name	CSK Business Architects (Pty) Ltd	Account number	62759500187
Reference	Insert invoice number or company name on the deposit slip		

Registration fees above include the following entitlements: entrance to sessions, registration pack, daily lunch and refreshment breaks.

#### Terms & conditions

- Payments Terms: on the return of a registration form, full payment is required within 7 working days. Payment must be received prior to the event date. CSK Business Architects reserves the right to refuse entry into the conference should full payment not have been received prior to the event date. Cancellations will be charged under the terms set out below.
- Cancellations, no show and substitutions: cancellations received in writing more than 21 days prior to the event being held carry a 50% cancellation fee. Should cancellations be received between 21 days and the date of the event, full conference fees will be payable and non-refundable. Non-payment or non-attendance does not constitute cancellation. No shows will be charged the full registration fee. Cash back alternatives will not be offered, however, substitutions at no extra charge are welcome.
- Alterations to the advertised package: CSK Business Architects reserves the right to alter this program without notice or penalty and in such situations no refunds or part refunds or alternative offers will be made. Should CSK Business Architects permanently cancel an event, for any reasons whatsoever, the client shall be provided with a credit of the equivalent amount paid towards the cancelled event. In the event of a postponed or cancelled event CSK Business Architects will not be responsible for covering air fares, accommodation and transportation.
- Interest will be charged on all overdue amounts at a rate of three percent (3%) per month after thirty days.
- In the event of CSK Business Architects instructing an attorney to enforce compliance with the terms hereof, the above mentioned company on the registration form agrees to pay such attorneys on an attorney and client scale and will be liable to pay the costs of letters of demand or any other cost involving cancellations or no shows to the event.

**PLEASE NOTE – CSK Business Architects HAS A STRICT NO CASH REFUND POLICY**

#### PAYMENT BY MEANS OF A BANK TRANSFER

- \* Please state your full names clearly on the money transfer.
- \* Please note, bank charges are for your OWN account and this should be stipulated to your bank. Please advise your bank that the charges should be included in your deposit amount.
- \* A copy of the bank deposit receipt should accompany your registration form & must be emailed or faxed to the following: