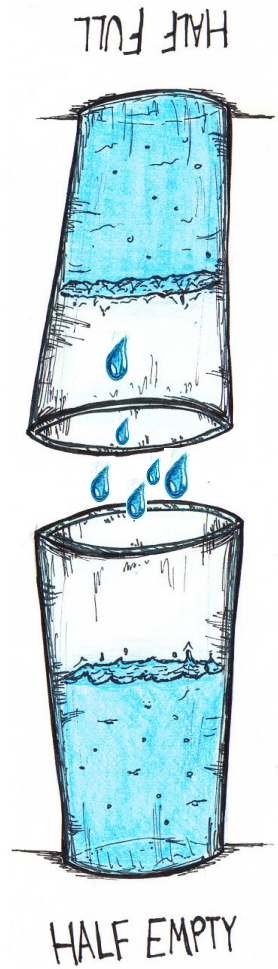


Why are we here?



We are Seeking New Water



New Water Needs to be Safe

Treatment Must be Cost-Effective
& Environmentally Responsible:

A Call for Innovation

Implementing Innovation is Hard



Typical time from conceiving an Idea to early commercial adoption* of water technology is 15 – 20 years



Development and Application of a Model to Study Water Technology Adoption
Paul O'Callaghan, Glen Daigger, Lakshmi Adapa, , Cees Buisman

*Consulting engineers specify the technology, >12 full-scale systems

Innovation Matters

> 900 treatment systems

> 20 different contaminants



Bayoxide E33

Adsorption media for arsenic and heavy metals removal



MnO₂ Catalytic Media

Arsenic, iron, manganese, and hydrogen sulfide removal media



WaterPOD

Plug and play containerized treatment solution



Backwash recycle system with a 99.7% water recovery rate



Biological filtration for the removal of nitrate, perchlorate and other contaminants from groundwater



Biological filtration for the removal of ammonia, arsenic, iron, and other contaminants from water



911box

Remote programming trouble shooting for immediate response



Flow-Reversal RO Technology for higher recovery and lower wastewater volume

High Recovery Flow Reversal Technology

Keeping RO Simple & Efficient

Ronit Erlitzki, PhD

Director of BD & Innovation



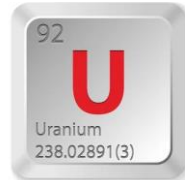
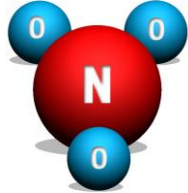
**BREAKING
NEWS**

1st Flow-Reversal RO System in the US

October 2019

- 88% RR with FR-RO vs. 75% with Conventional RO
- 50% reduction in concentrate flow

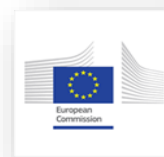
800gpm Idle well:



Innovative, but not New



Large beverage company



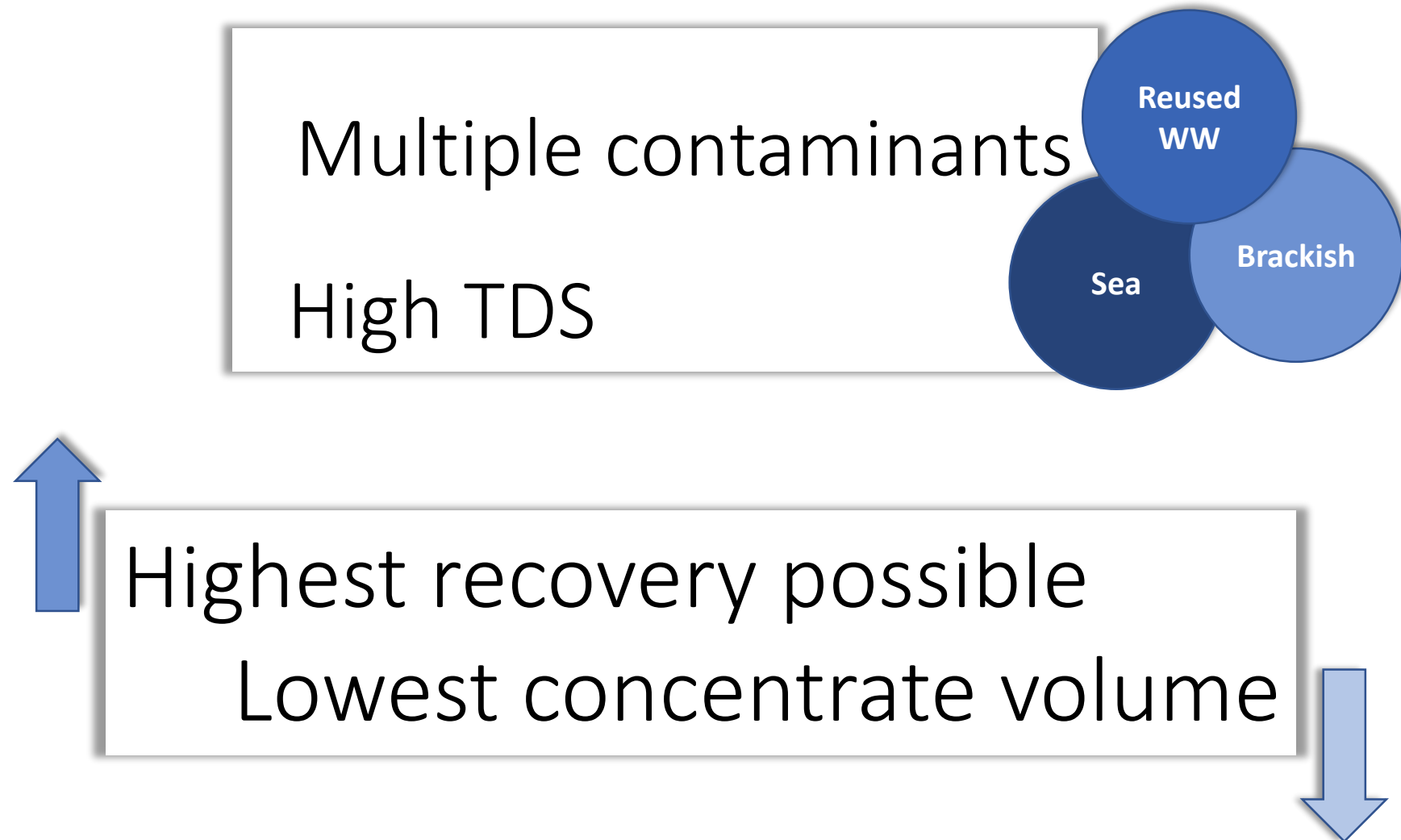
Another beverage company

Voted "The Most Valuable Technology"
Singapore International Water Week July 2018

Voted "The Most Important Desal Technology"
TX Desal Sep 2018



Desalination is Essential for New Water

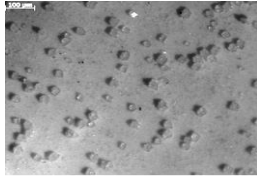


Flow-Reversal RO

Conventional RO with a (patented)

The word "twist" is written in a blue, lowercase, sans-serif font. It is centered within a white square that has a thin grey border and a subtle drop shadow.

- New RO systems
- Retrofit
- Recovery RO Systems



75% is Totally 70's

Lower or comparable power consumption

More water

Less concentrate

Site	Conventional RO RR	Flow-Reversal RO RR	% Increase (permeate)	% Decrease (concentrate)
Beverage company	65%	85%	20%	57%
Brewery	75%	92%	27%	68%
Municipal Water Plant	81%	89%	8%	39%
Fracking water	70%	89%	19%	63%
Cooling tower	71%	91%	20%	69%
Beverage company	80%	90%	10%	66%
SWRO 2 nd pass	90%	98%	8%	80%
Municipal Reuse	75%	90%	15%	60%

>\$93,000
Savings / Y

>\$325,000
Savings / Y

> \$650,000
Revenue / Y

What Can Flow-Reversal RO Technology Do?

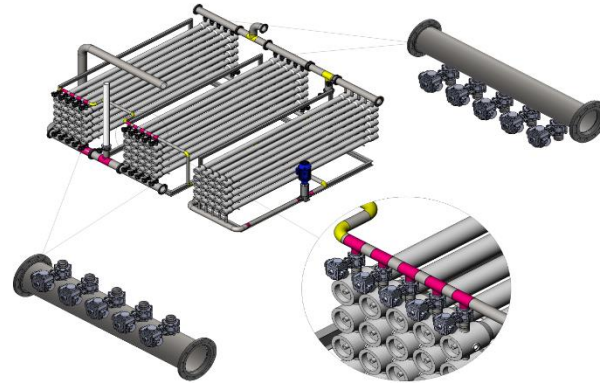
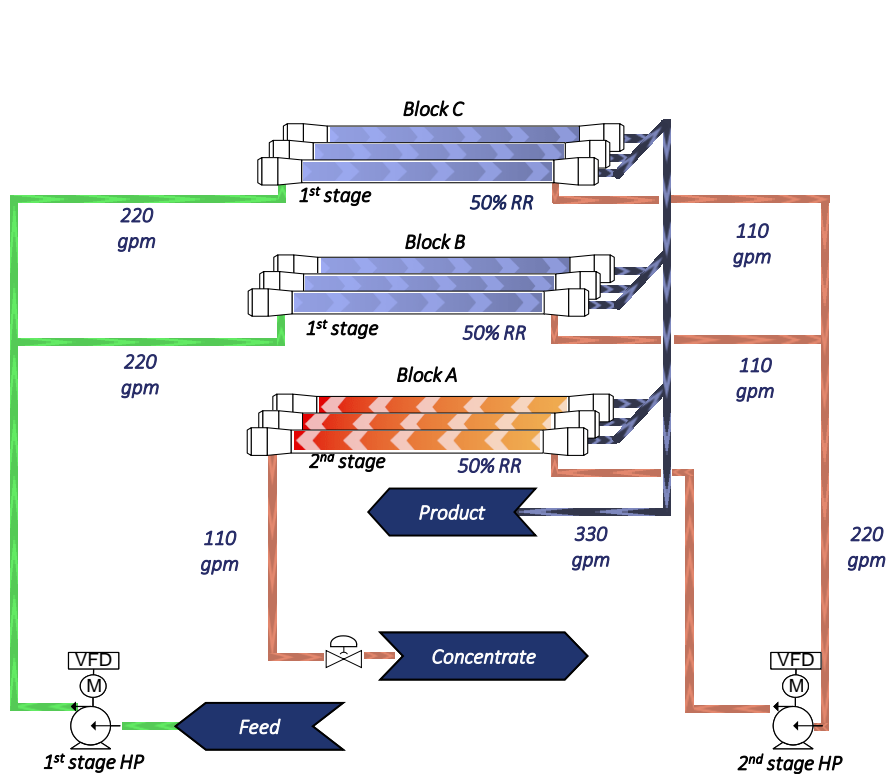
(A 15 min teaser)

Facilitate Concentrate Management

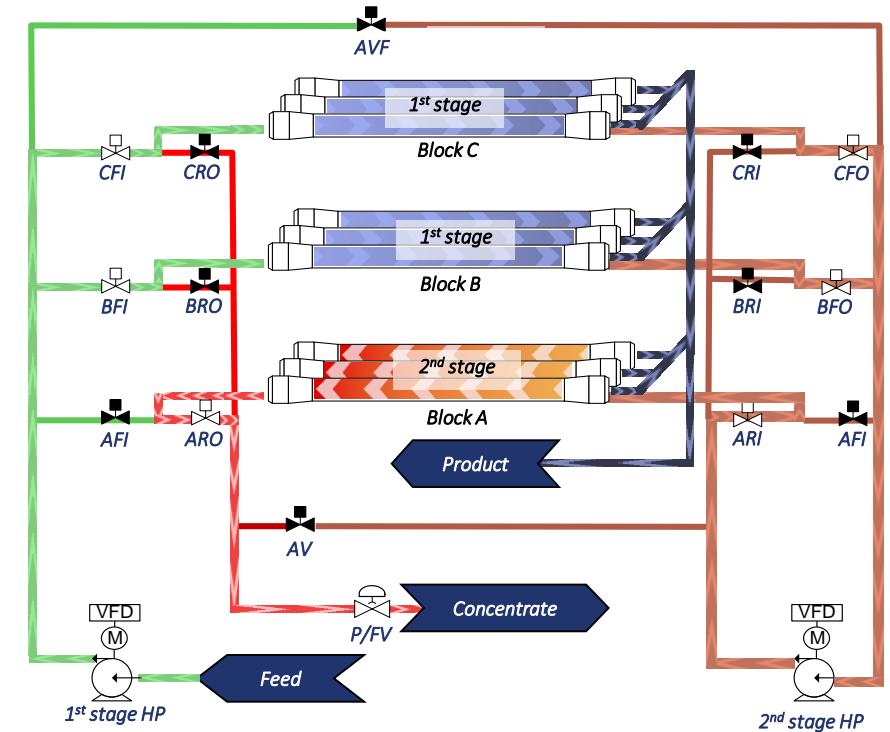
1. **Maximize** recovery-rate
2. **Optimize** feed water use
3. **Minimize** concentrate volume

Converting a Conventional RO to FR-RO is Simple

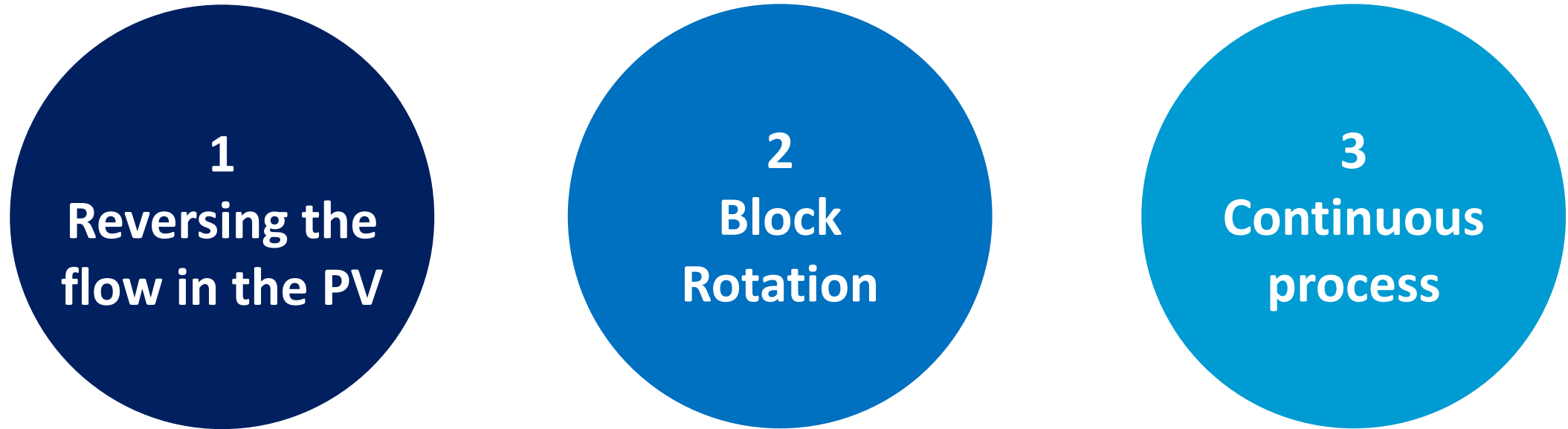
Conventional RO



Flow-Reversal RO



How Does FR-RO Work?



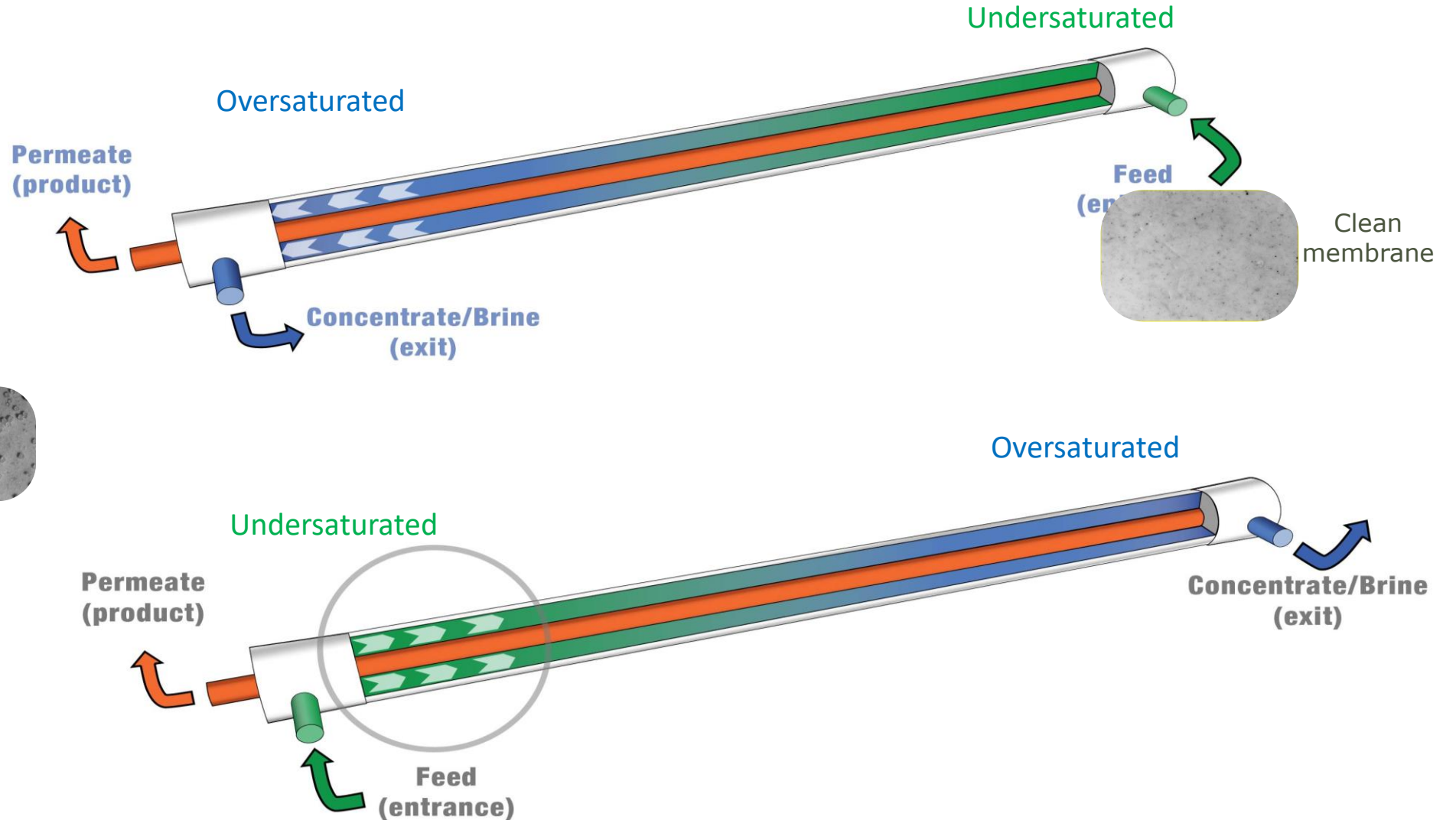
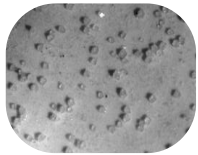
The results: Scale prevention


Reversing the Flow in the PV

1
Reversing the
flow in the PV

3
Continuous
process

Signs of
scaling





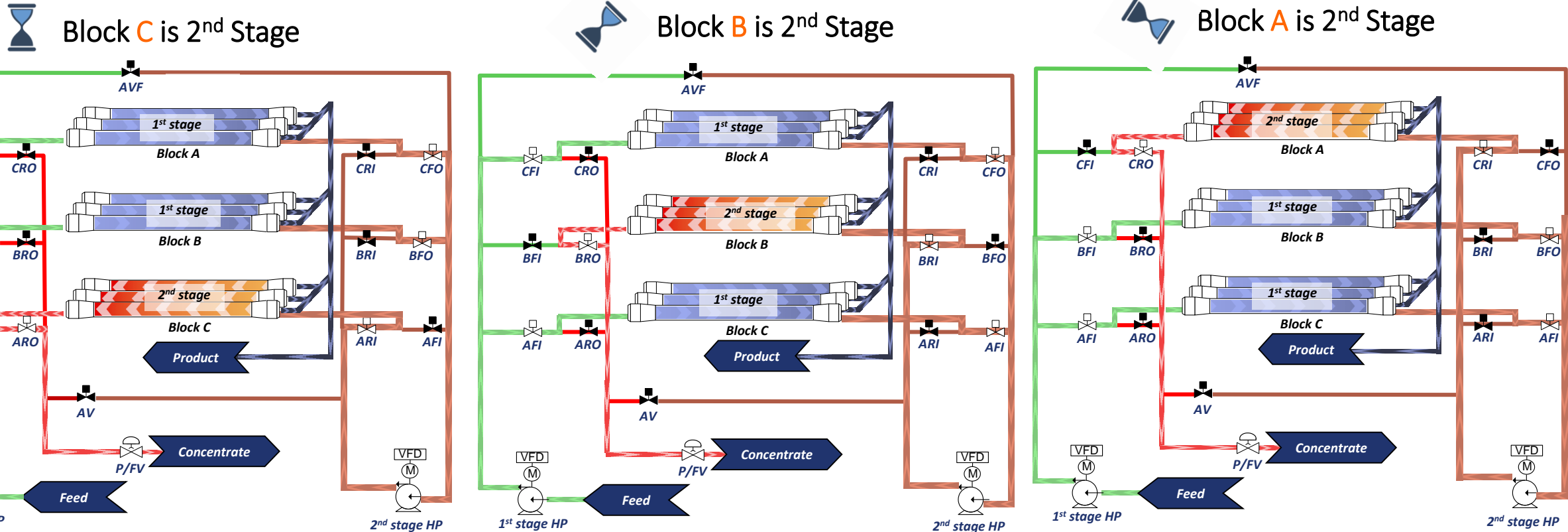
2
Block
Rotation

3
Continuous
process

3 Continuous process

Block Rotation

Flow Reversal adaptation to tapered flow array in a 2-Stage RO System

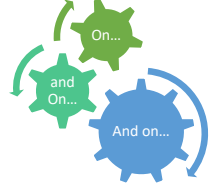


Why Flow-Reversal RO is so Unique?



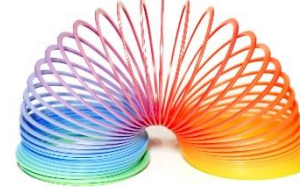
It's Working

>30 systems worldwide
US presence!



Continuous process

works just like conventional RO



New & existing Retrofit



No proprietary equipment

Adhere to manufacturers' specs



No special operator training is needed



Low risk 100% Fallback



Added value Reduced biofouling



OPEX Chemicals & Power

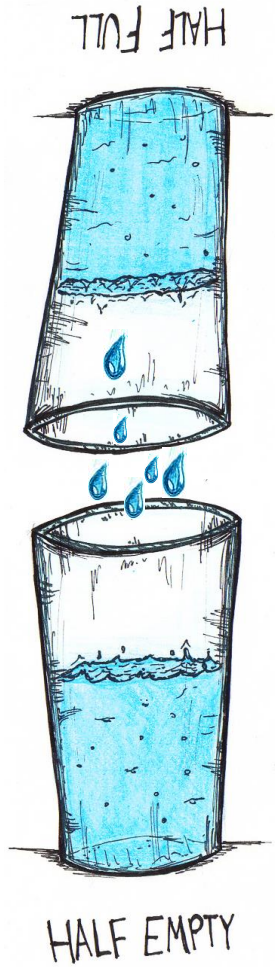


ROxy

"Hi y'all, my name is ROxy, and yes, that is with a capital RO. I may be from Atlanta, Georgia, but don't let this Southern Gal fool you. I've travelled the world exploring communities like this to help them clean their groundwater. My current trip to BGNDRF was funded by my foster families - AdEdge Water Technologies in the U.S. and Rotec, LTD in Israel. At first, when I realized I was simply just a pilot system and not a full-scale solution, I was a bit disappointed; however, I am highly dedicated to demonstrating how the Flow-Reversal Reverse Osmosis (FR-RO) desalination process works. "

LADY OF BGNDRF





Time to Reverse the Flow.

mental

- New RO systems
- Retrofit
- Recovery RO