



**WALLACE & TIERNAN**

**PRODUCTS FOR  
DRINKING WATER**

Tuesday, November 22, 2016

# Who is Wallace & Tiernan compagny?

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- **1913** **First Gas chlorination built**  
called “Chlorinator” by Charles F. **Wallace** et Martin F. **Tiernan**
  
- **1935** **First inline water analyzer** for chlorine
  
- **1945** **First construction of On site electrochlorination**

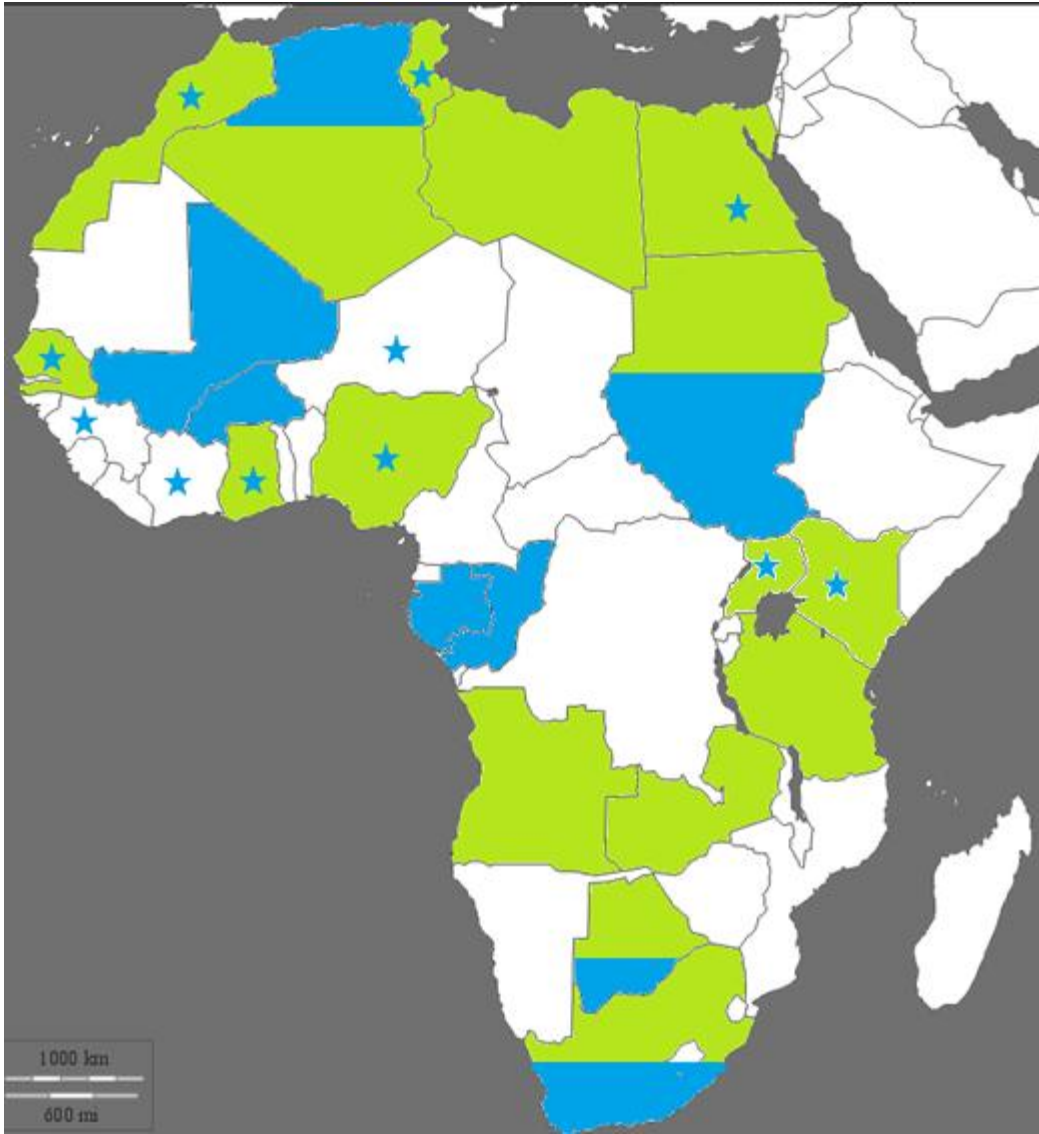
## Wallace and Tiernan facts

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- **W&T Factories in USA, Germany, Mexico, Singapore & Australia**
- **Employees: >300 in Europe**
- **Partners all over the world**



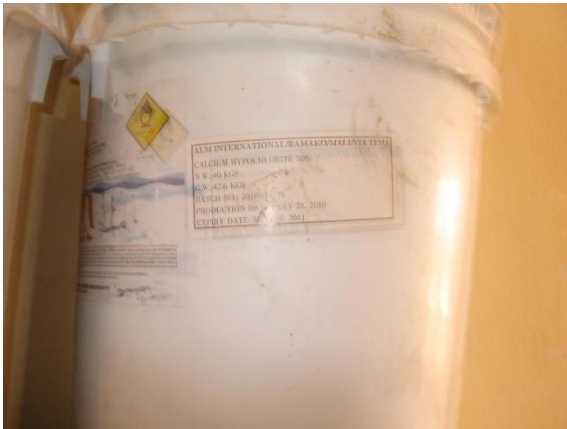
## Water disinfection in Africa: 3 possibilities



- **Calcium hypochlorite**
  - Lowest invest
  - Most common
- **Chlorine Gas**
  - Used for decades
  - Still important
- **Electrochlorination**
  - Since 15 years
  - More & More projects ★

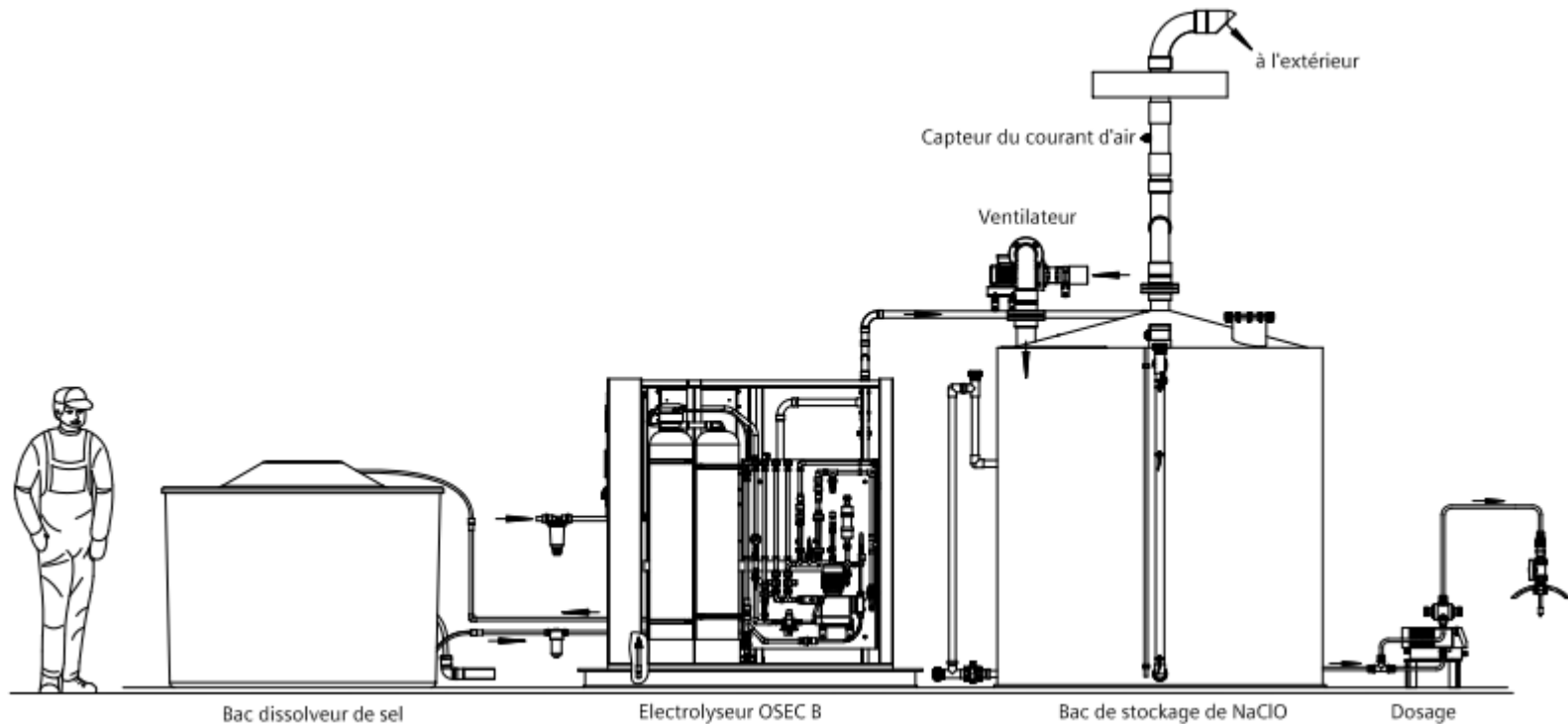


# Why electrochlorination?



- **Logistics**
  - Salt is no chemical
  - No problem to find it
- **Low operation costs**
  - Salt is unexpensive
- **Reliable and no risk**
  - Long life term with constant production rate
  - No danger for anybody
- **No need of pipe maintenance**
  - No pipe blockage

# How does it work?



- **Only 1 thing to do**

- Add salt in a tank

- **Routine checks**

- Water hardness

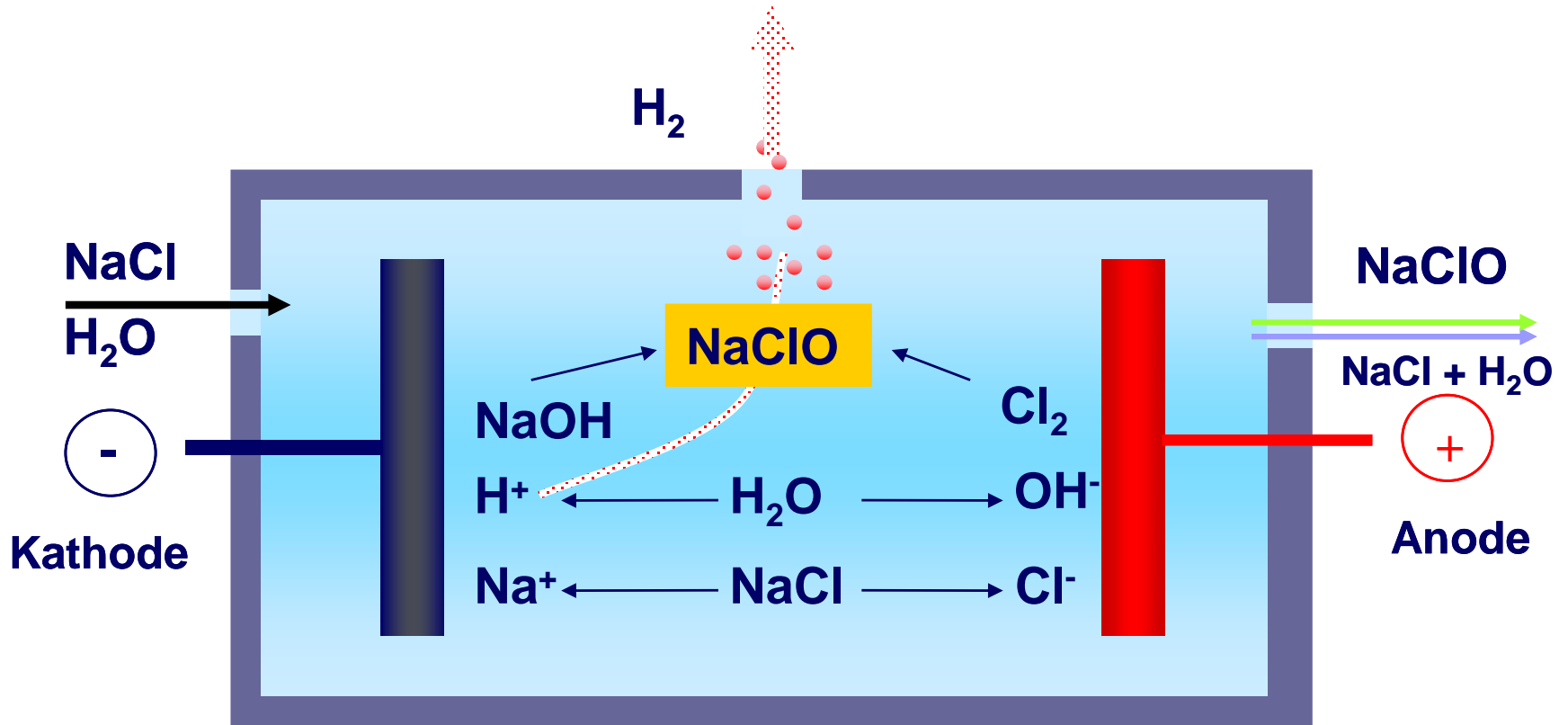
- **Time to time checks**

- Cell voltage

- **Maintenance**

- On dosing pumps

# How does it work?



**Product concentration c = 6 g/l chlorine**



## Our reference list in Africa

<b>City</b>	<b>Land</b>	<b>unit</b>	<b>year</b>
Bobo-Dioulasso	BURKINA FASO	2	1999
Ouagadougou	BURKINA FASO	1	2002
ZIGA	BURKINA FASO	1	2003
ZIGA	BURKINA FASO	1	2004
Ain Tinn	ALGERIA	3	2006
Koudiat	ALGERIA	2	2006
Ziga	BURKINA FASO	1	2007
Ouagadougou	BURKINA FASO	1	2007
Kinshasa	CONGO	1	2008
Brazzaville	CONGO	3	2008
Ziga	BURKINA FASO	1	2011
Banfora & Koupela	BURKINA FASO	2	2011
Gamba	GABON	1	2013
Ouagadougou	BURKINA FASO	1	2013
Koudougou	BURKINA FASO	1	2013
Kaya	BURKINA FASO	1	2014
Bobo-Dioulasso	BURKINA FASO	1	2014
Ziga	BURKINA FASO	1	2014
Bamako	MALI	5	2014
Legadadi	ETHIOPIA	5	2014



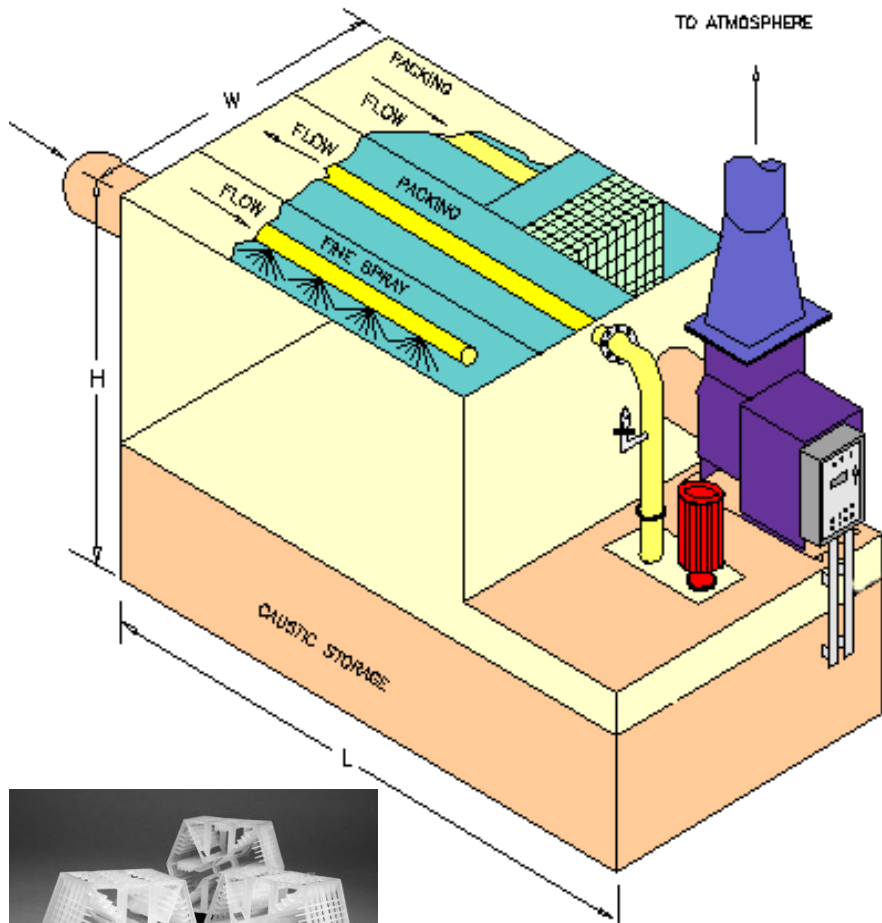


# Emergency Chlorine Scrubber Systems

- **Standard Models include:**
- **Since 1991 Evoqua (dba RJ Environmental, USFilter, Siemens) has provided more than 680 emergency chlorine scrubbers to municipal and industrial customers in 30 Countries.**
  - RJ-150-2,-4,-6 (70 to 400 kg)
  - RJ-2000 (1 to 3 tonne)
  - RJ-2000C (1 tonne, container size)
  - RJ-2000 Bulk (4 to 90 tonnes)
- **Custom scrubbers can be designed at a price.**



## THE RJ-2000 PROCESS



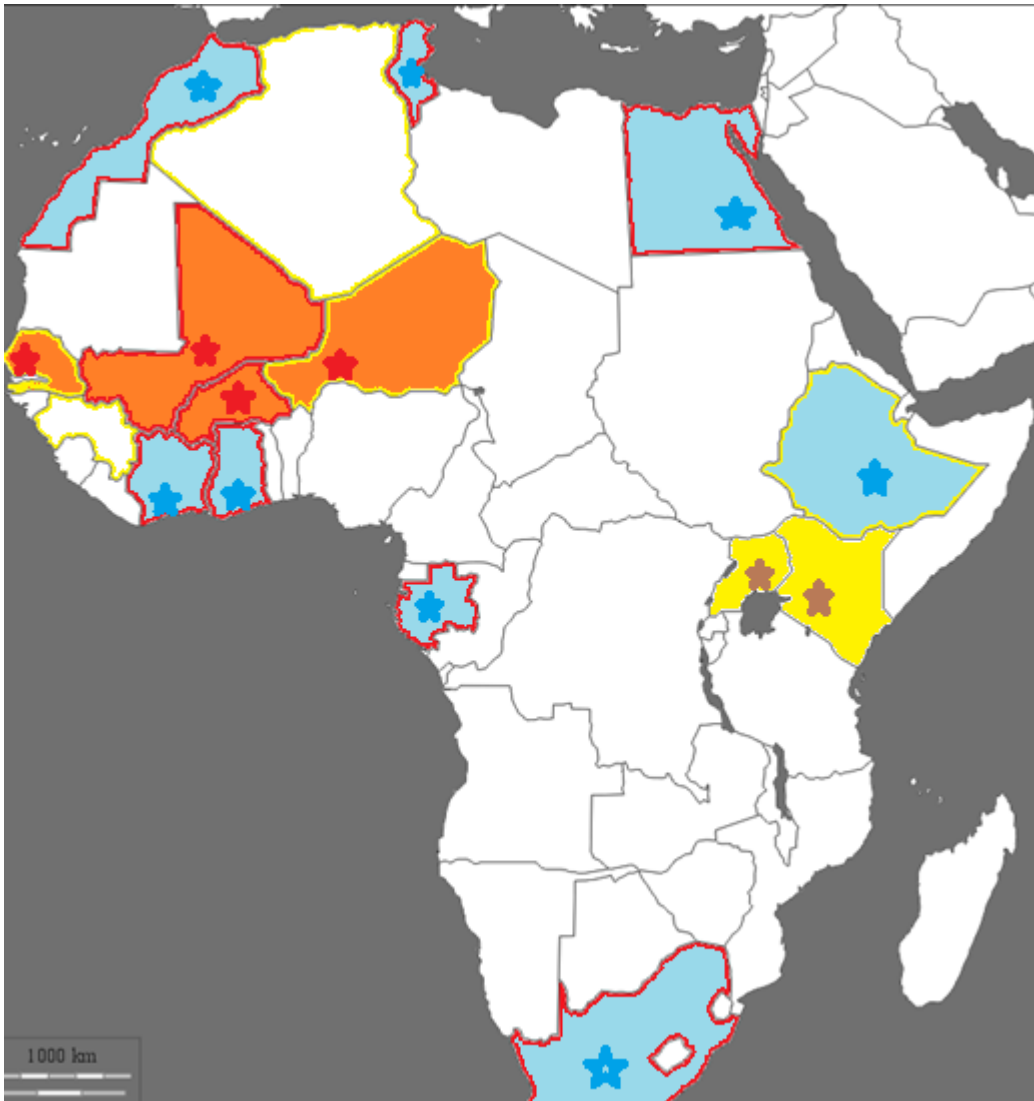
- The horizontal scrubber sits on top of a caustic storage tank.
- A pump circulates the caustic over a high efficiency polypropylene scrubber packing media (Lanpac 3.5) at a very high liquid-to-gas ratio.
- A fan is installed at the scrubber outlet and pulls the chlorine gas through the scrubber.
- The gas makes three passes through the packed bed stages, a demister stage, and then through the fan and out the stack.



Evoqua: Disinfection

Date: November 22, 2016

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- **Our capacities**
  - Supply material
  - Supply salt
  - Training
  - Commissioning
  - Maintenance



# Bamako: From building construction to continuous support: all in 1!





- **Chlorine Gas**

Small to very big plants

- **Analysers**

- MFC & SFC DEPOLOX 5 for drinking water or pools

- **Dosing pumps**

- **UV lamps**





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