

# EQUIPMENT AND ANALYTICAL

Water Treatment Catalogue ♦ 2017  
Europe, Middle East, Africa






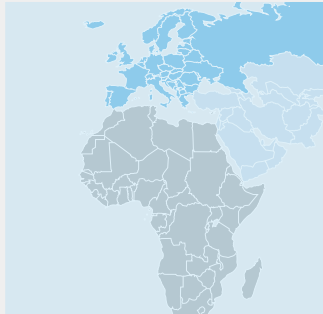
## Solutions

NALCO WATER solutions consist of consultancy, chemistry, equipment, analytical products, automation, engineering and services.



## Navigation

Click  to go to the home page.  
Press <Ctrl><F> on your keyboard to search.  
Press <Ctrl><L> to toggle full screen.



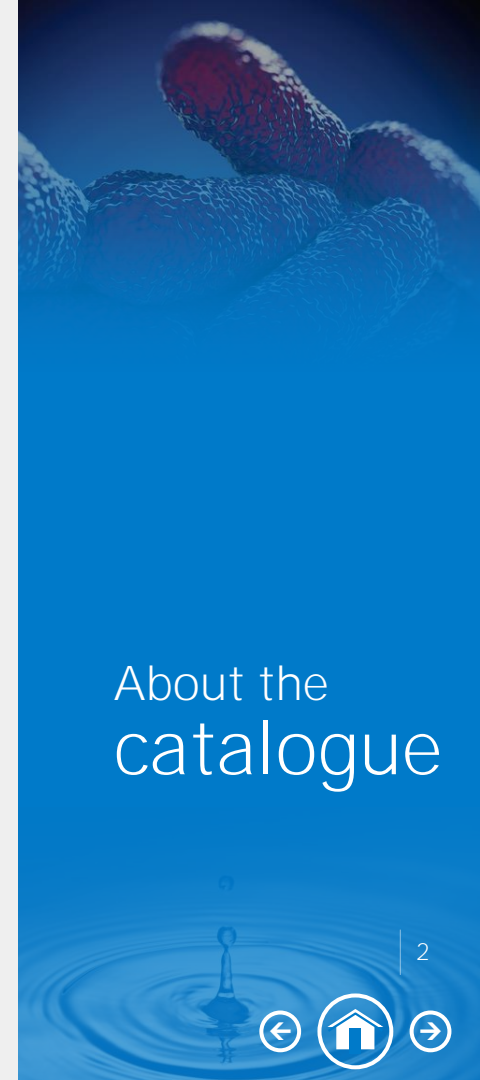
## Contents

The catalogue contains NALCO WATER treatment equipment and analytical products for the regions Europe, Middle East and Africa.



## Water

NALCO WATER helps you manage and treat the water in your cooling systems, boilers, pre-treatment, post-treatment and processes.



# About the catalogue



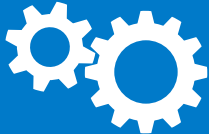
# TOTAL WATER MANAGEMENT



Cooling



Boiler



Process



Pre-treatment



Post-treatment

**MINIMIZE Water**  
**MAXIMIZE Results**  
**OPTIMIZE Costs**



INVESTMENT IN **ECOLAB**

**>100% = eROI**



3D TRASAR™  
APEX™  
ENVIROX™

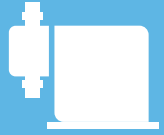
FASTPATH™  
FILLERTEK™  
FLOCMASTER™

NEXGUARD™  
OXIPRO™  
PARETO™

PORTA-FEED™  
PURATE™



Instrumentation



Feed



Storage



Separation



Analytical

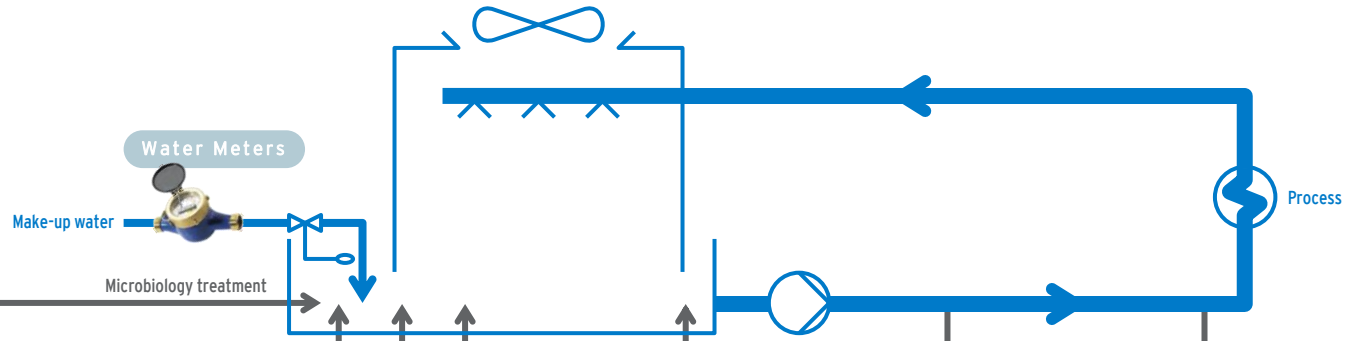


Safety

**PRODUCT LINES**



# Cooling system



**Storage**

PURATE

PURATE, H<sub>2</sub>SO<sub>4</sub>

Feed System

Water

Corrosion, scaling and microbiology treatment

Injection valves included with dosing system / station / pump

**Tubing**

**Accessories**

**Dosing Systems**

**Dosing Stations**

**Dosing Pumps**

**Connector**

**Level Monitor**

**PORTA-FEED**

Product Storage

Remote experts watching your system and alarming when needed, 24/7

**3D TRASAR**

Monitoring and Control

**Filters**

**Self Cleaning**

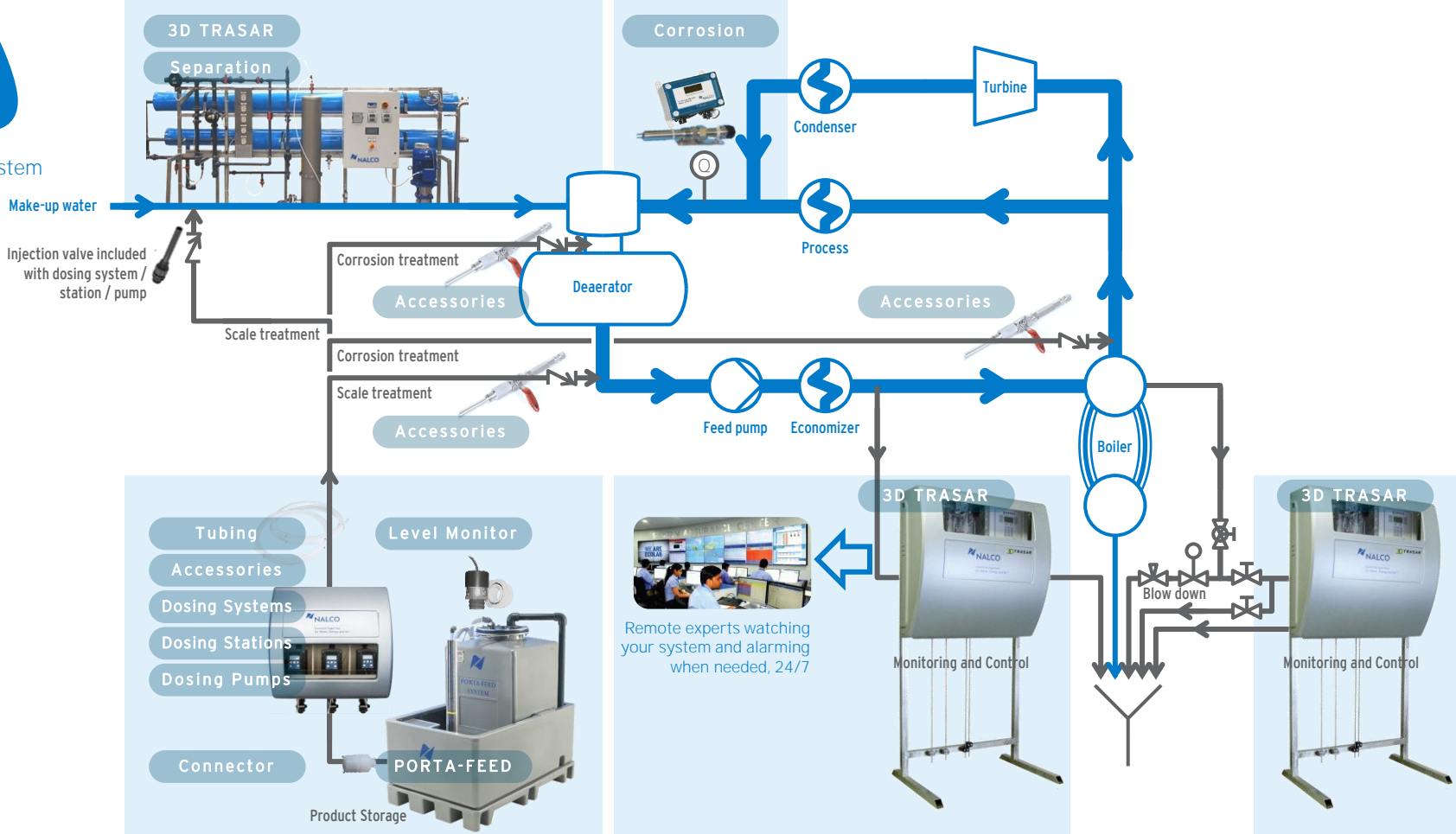
**Water Meters**

**Bleed Valves**





# Boiler system



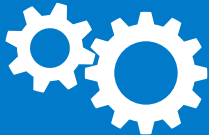
# TOTAL WATER MANAGEMENT



Cooling



Boiler



Process



Pre-treatment



Post-treatment

Reverse Osmosis  
High Value Package



Reverse Osmosis  
Medium Value Package



Raw Water Treatment  
Separation, Feed



Potable Water  
Bio-management



3D TRASAR™  
APEX™  
ENVIROX™

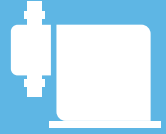
FASTPATH™  
FILLERTEK™  
FLOCMASTER™

NEXGUARD™  
OXIPRO™  
PARETO™

PORTA-FEED™  
PURATE™



Instrumentation



Feed



Storage



Separation



Analytical

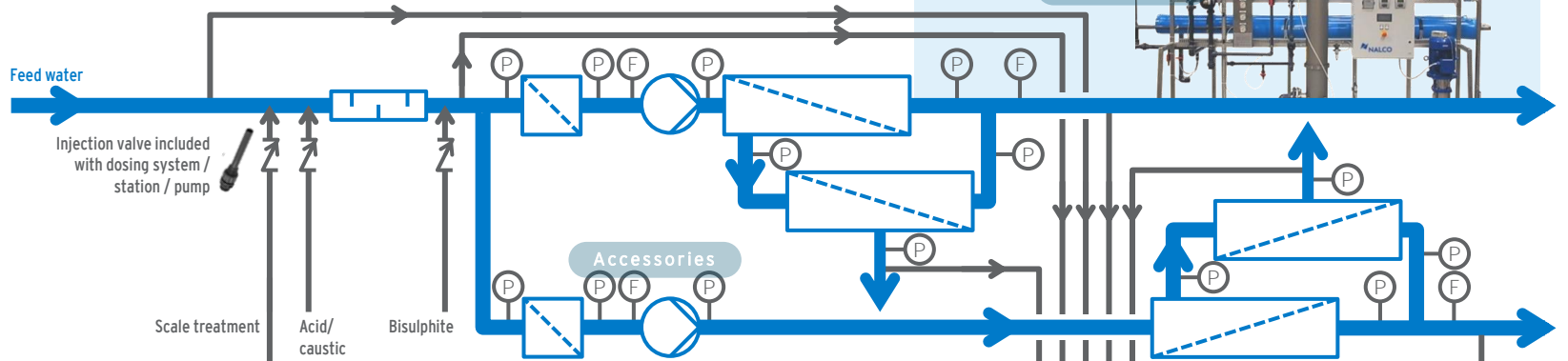


Safety

**PRODUCT LINES**



# Membrane system



**Tubing**

**Accessories**

**Dosing Systems**

**Dosing Stations**

**Dosing Pumps**

**Connector**

**Level Monitor**

**PORTA-FEED**

**Product Storage**

**Monitoring and Control**

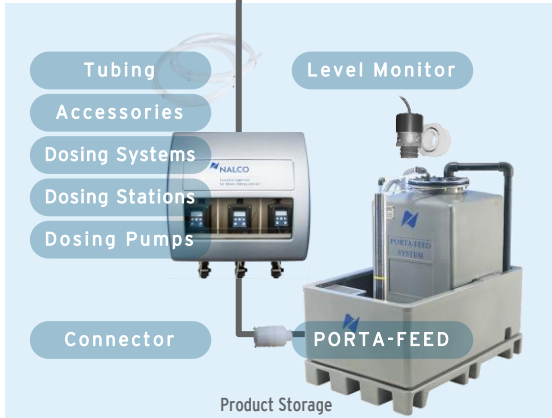
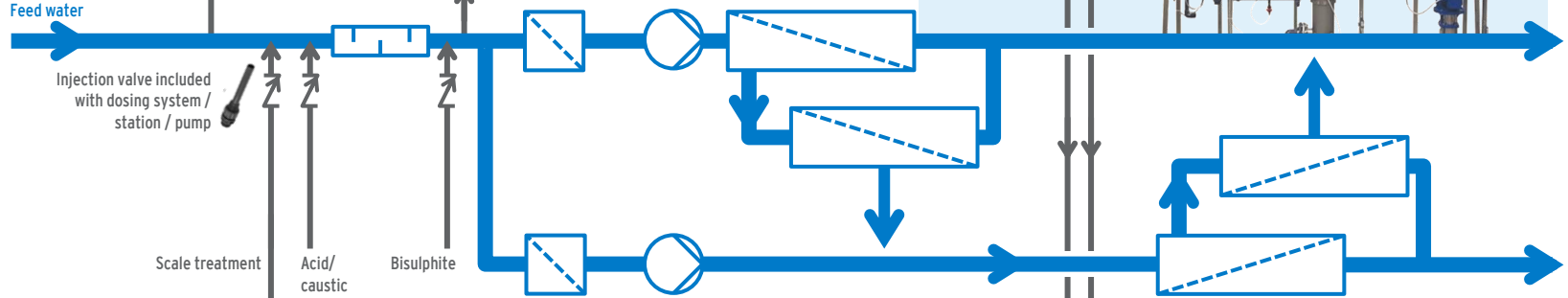
**3D TRASAR**

Remote experts watching your system and alarming when needed, 24/7. Performance reports to optimise production, save costs, water and energy, minimise upsets.





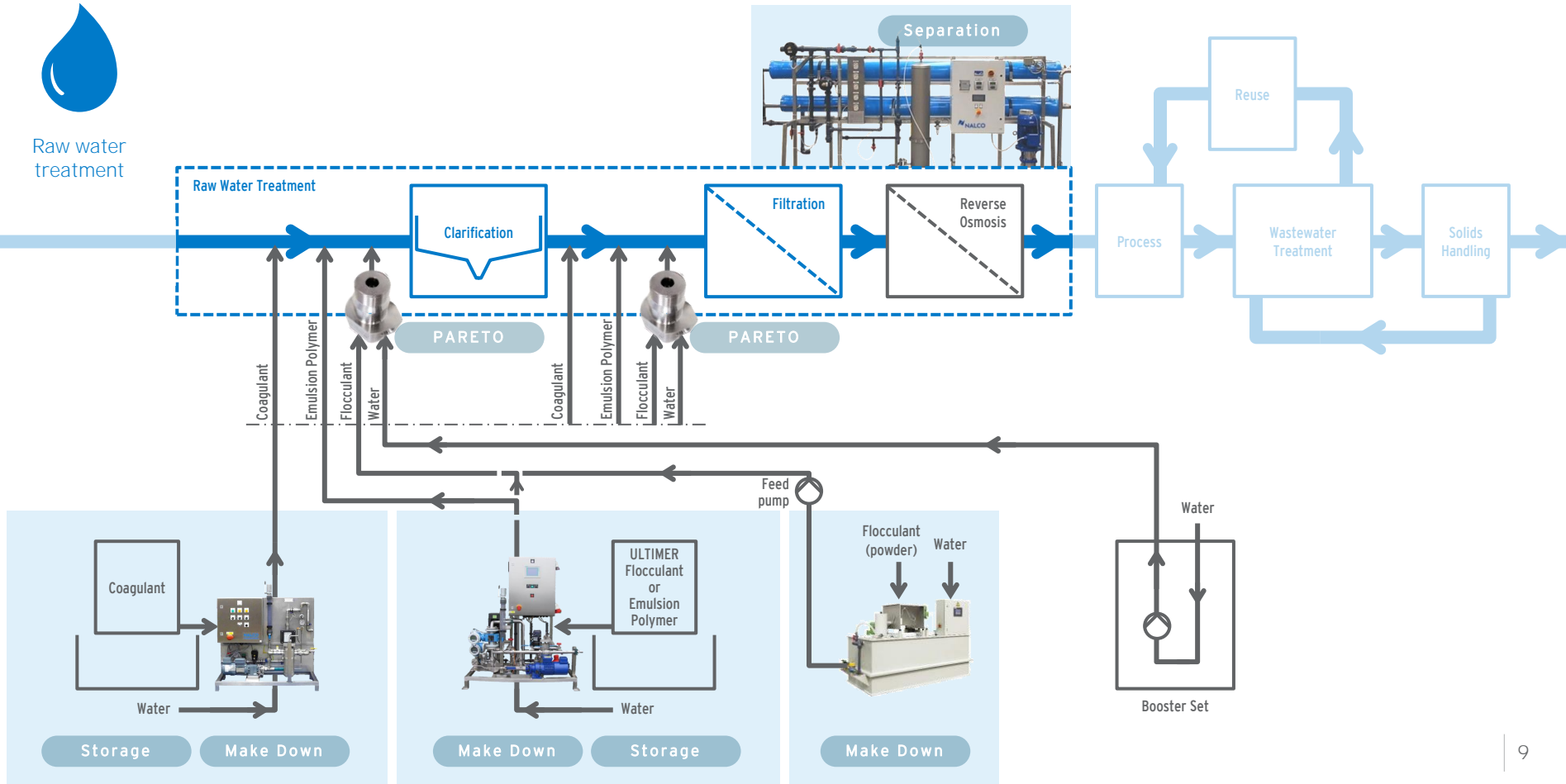
Membrane system





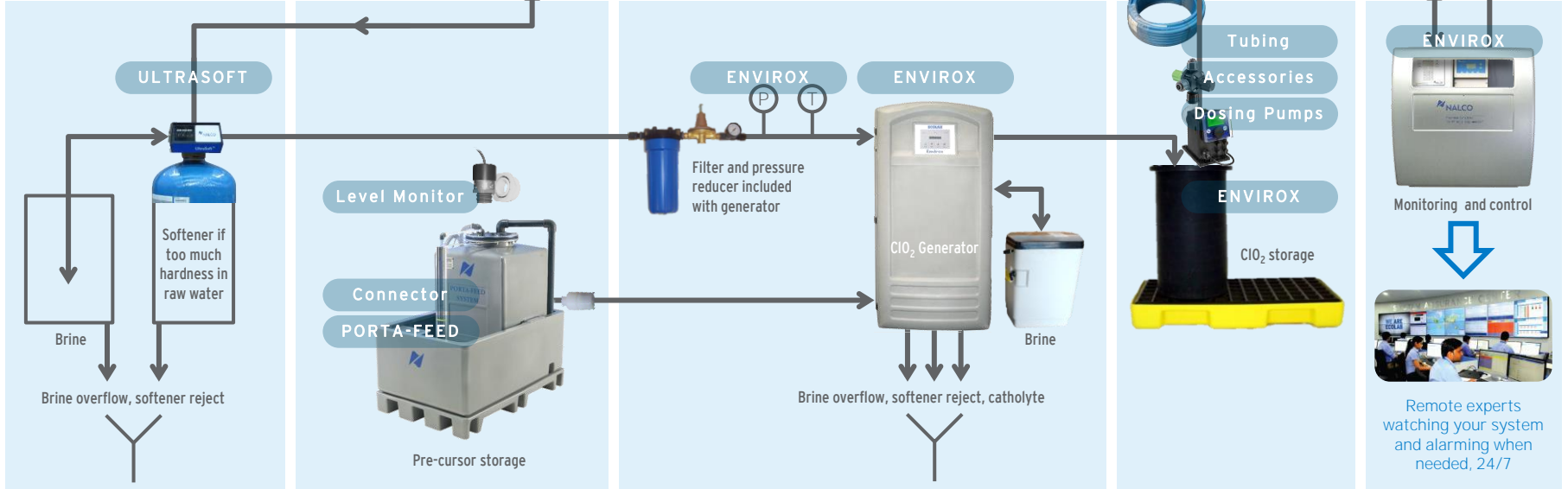
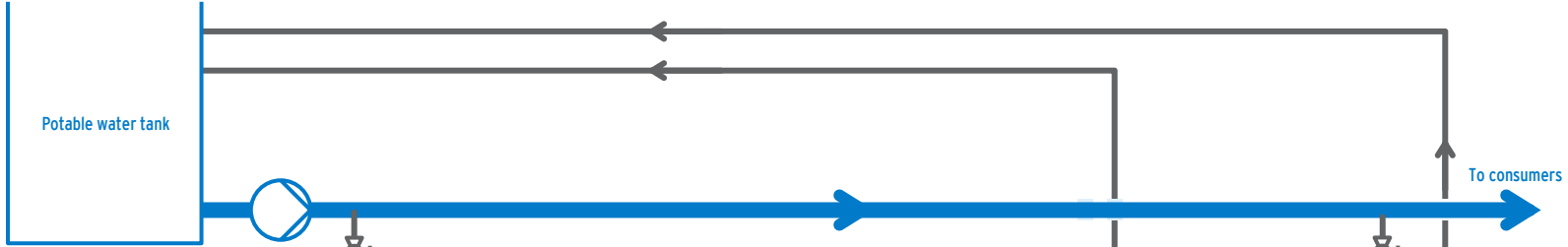


# Raw water treatment





Potable water



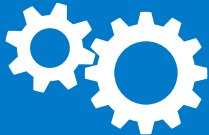
# TOTAL WATER MANAGEMENT



Cooling



Boiler



Process



Pre-treatment



Post-treatment

Post-treatment  
Feed



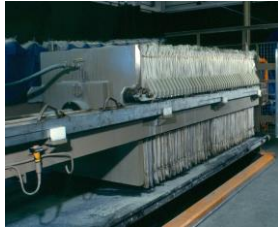
Post-treatment  
Monitoring, Control



Water Reuse  
Separation, Feed



Post-treatment  
Solids Handling



Automotive  
Paint Detackification



3D TRASAR™  
APEX™  
ENVIROX™

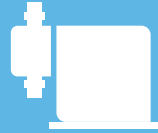
FASTPATH™  
FILLERTEK™  
FLOCMASTER™

NEXGUARD™  
OXIPRO™  
PARETO™

PORTA-FEED™  
PURATE™



Instrumentation



Feed



Storage



Separation



Analytical

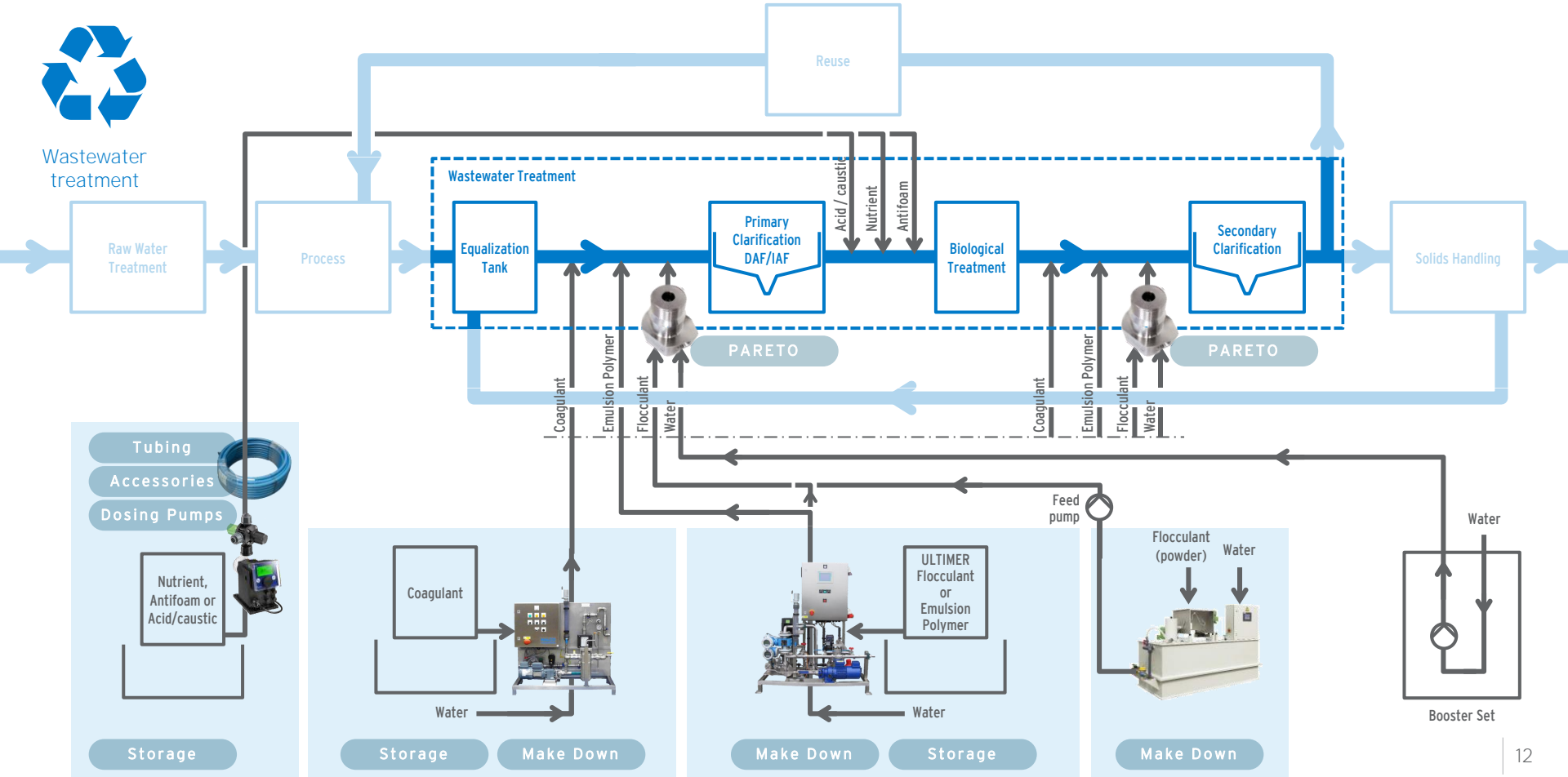


Safety

**PRODUCT LINES**

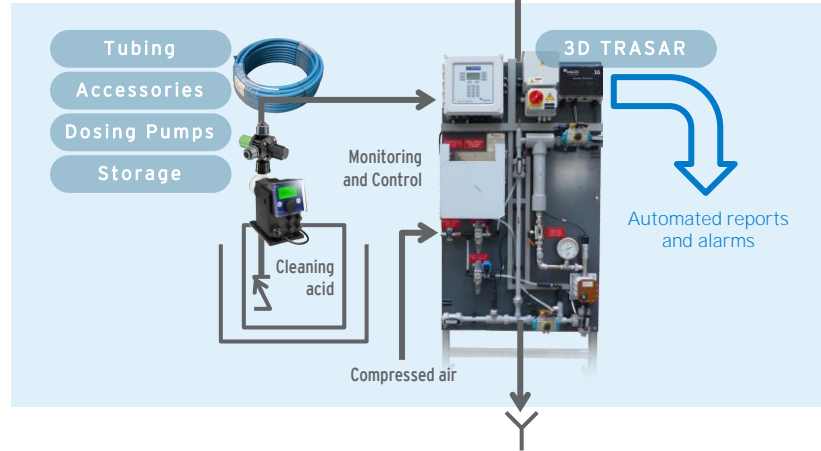
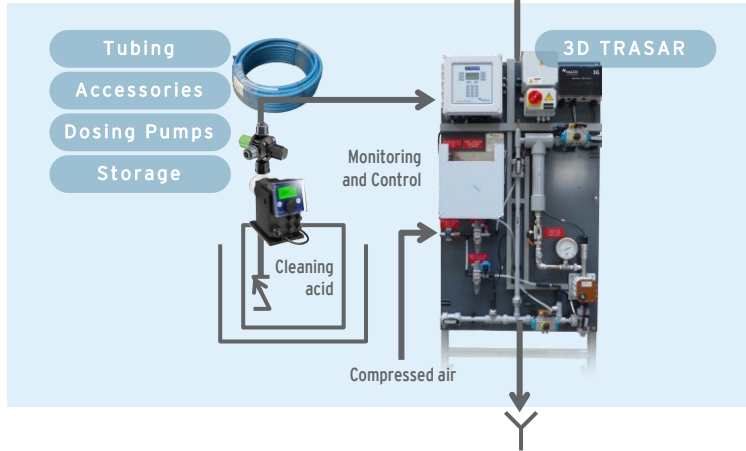
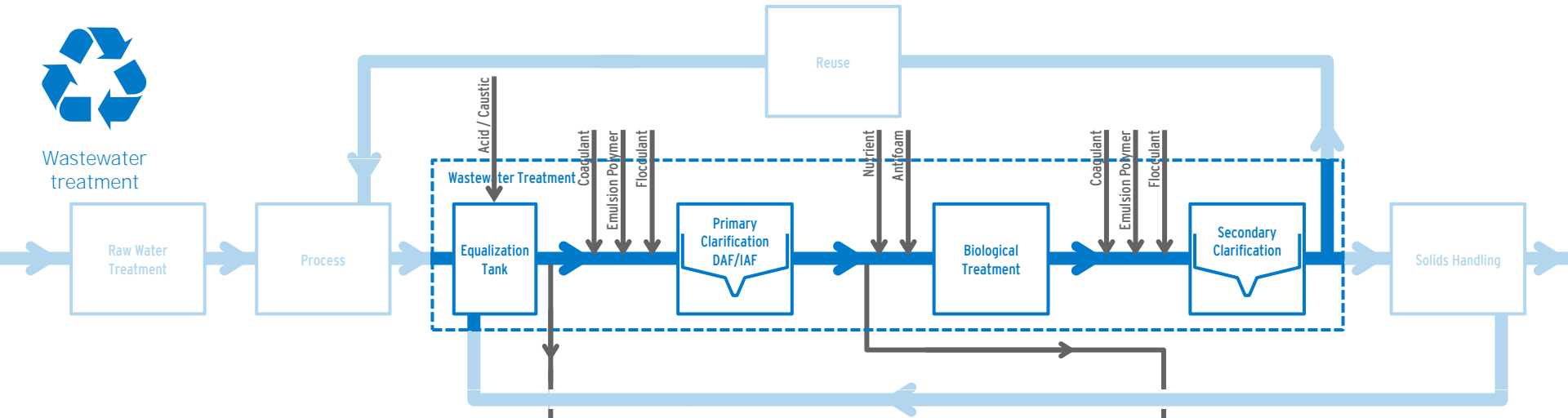


Wastewater treatment



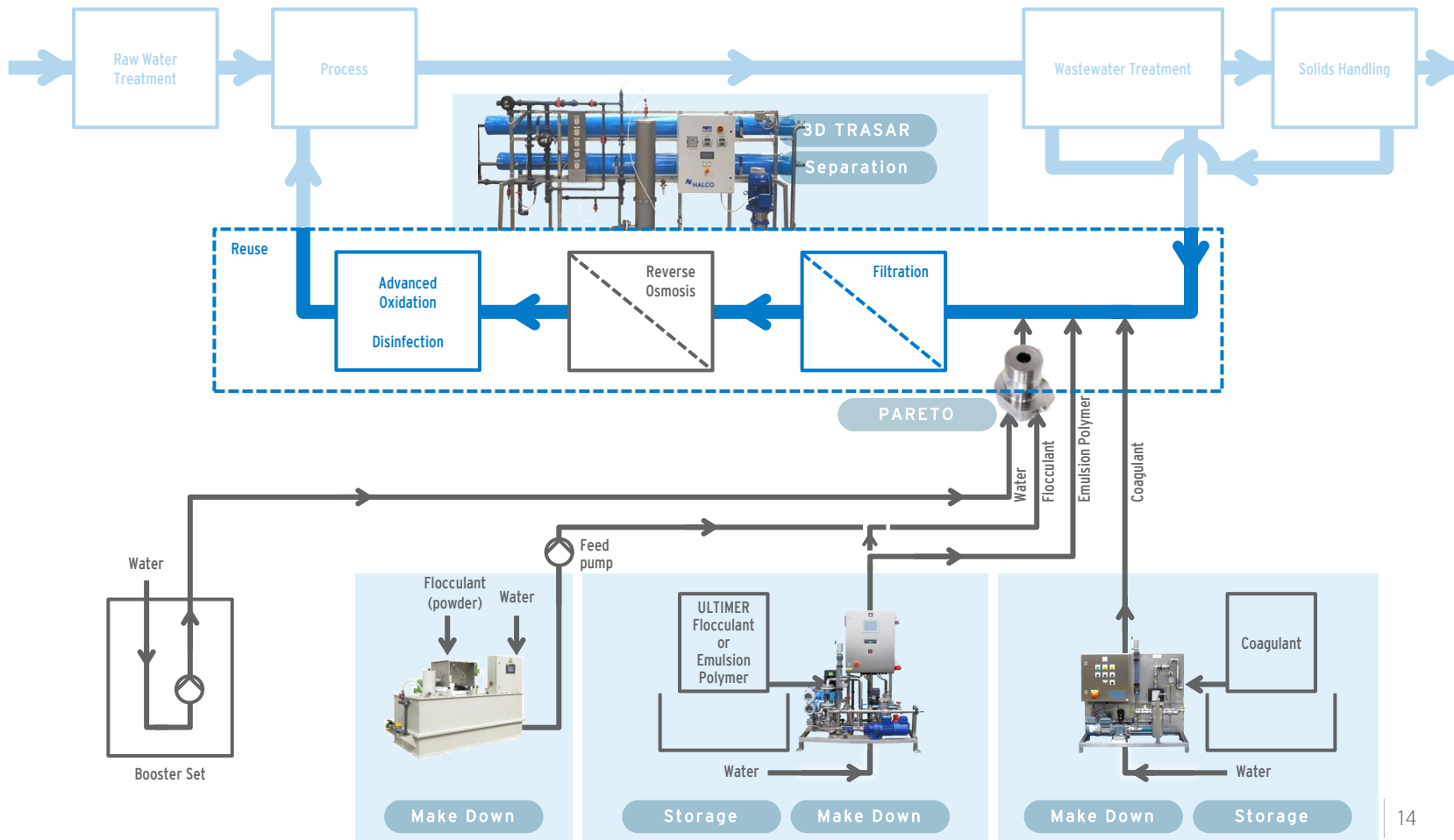


Wastewater treatment



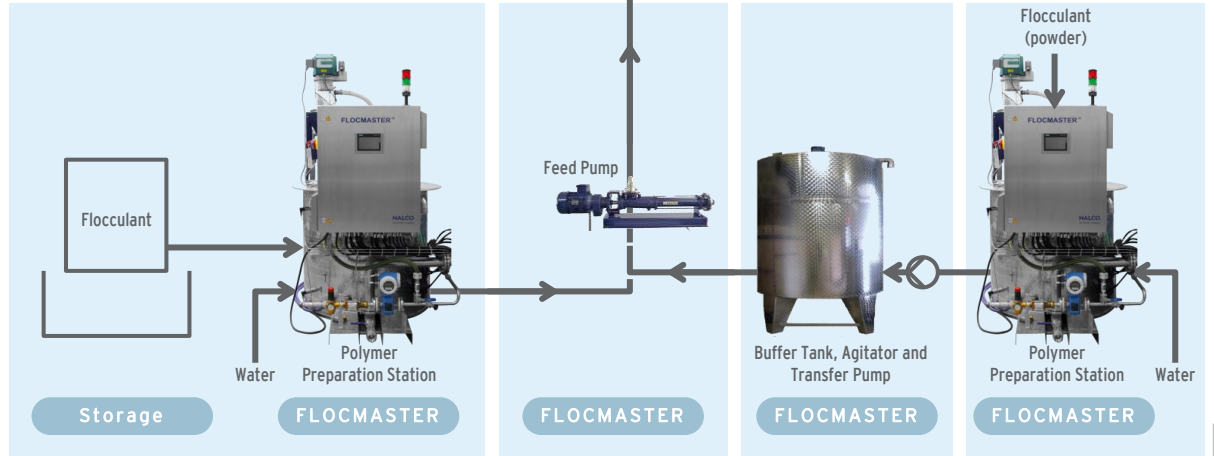
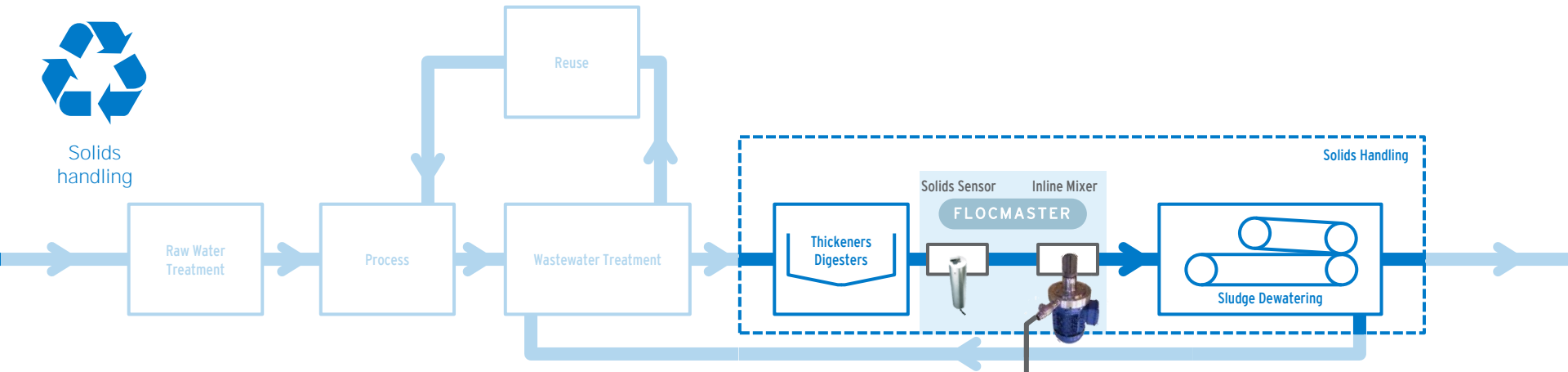


Water reuse



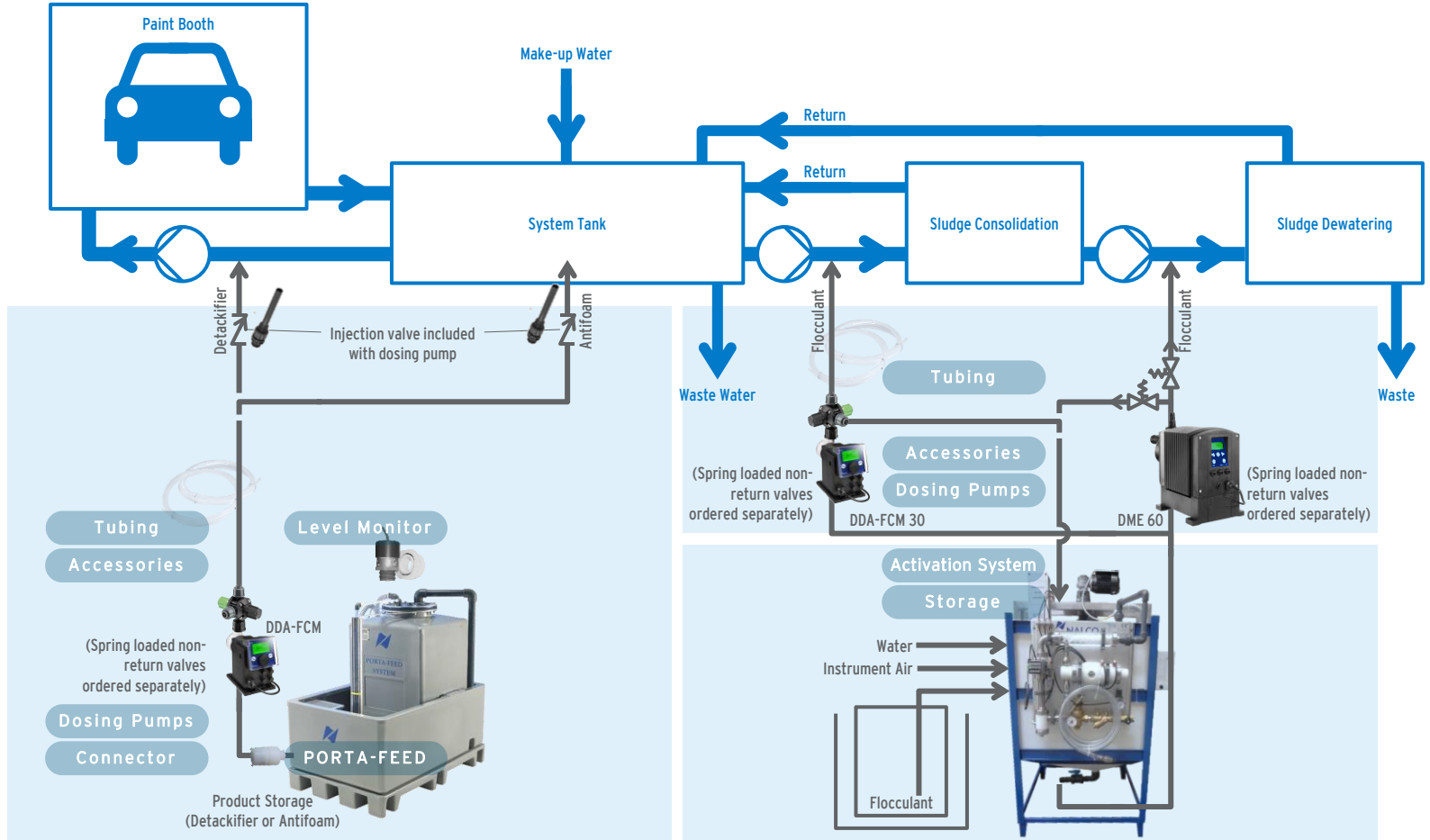


Solids handling





# Paint Detackification





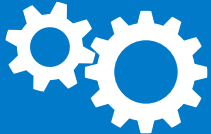
# TOTAL WATER MANAGEMENT



Cooling



Boiler



Process



Pre-treatment



Post-treatment

Paper  
Formation



Paper  
Slime Control



Paper  
Raw Material Reduction



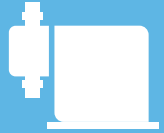
Food and Beverage  
Bottle and Can  
Pasteurisers



Food and Beverage  
Can Pasteurisers with a  
History of Can Tab Staining



Instrumentation



Feed



Storage



Separation



Analytical



Safety

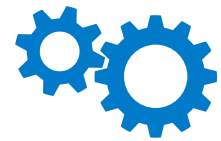
3D TRASAR™  
APEX™  
ENVIROX™

FASTPATH™  
FILLERTEK™  
FLOCMASTER™

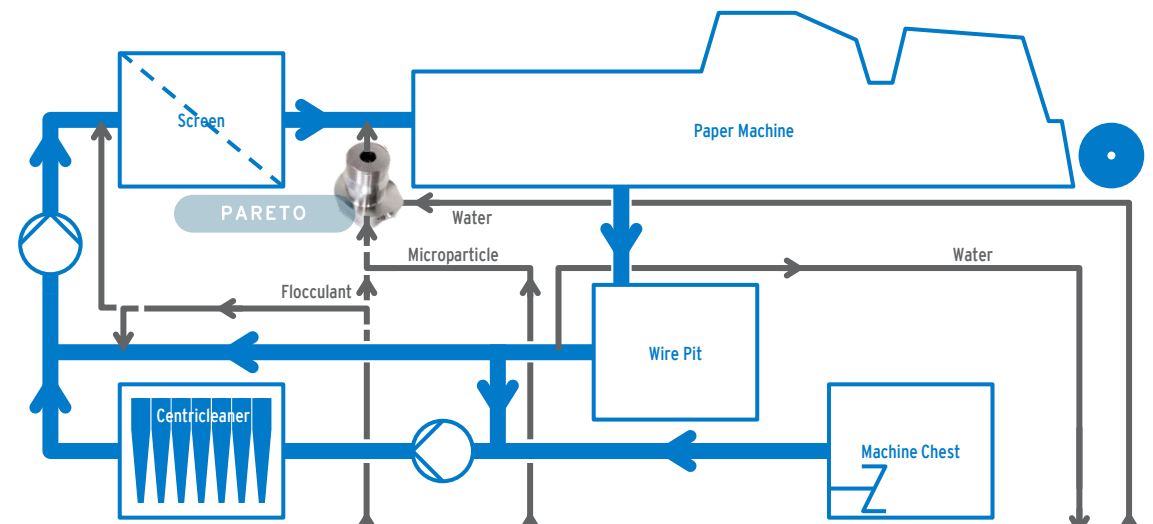
NEXGUARD™  
OXIPRO™  
PARETO™

PORTA-FEED™  
PURATE™

**PRODUCT LINES**



Paper machine,  
formation



Make Down

Storage

Make Down

Filter

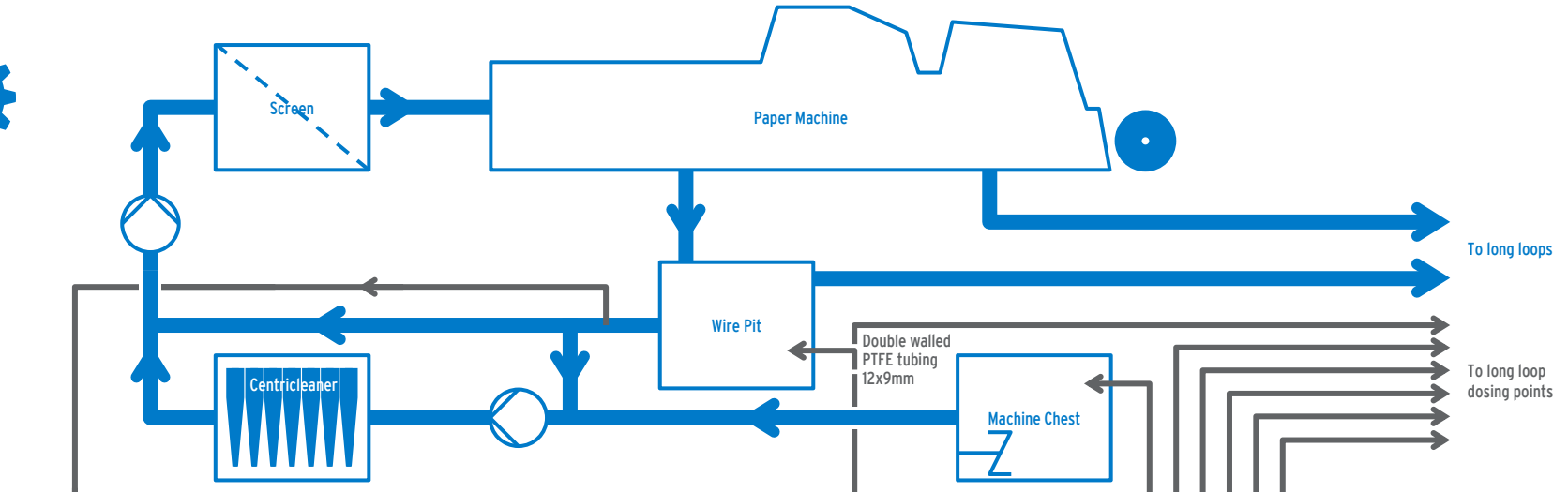
UltraPositek

Booster





Paper machine, slime control



OxiPRO Monitor

Remote access

N74808

Tubing-to-tee connector is injection valve (included with dosing pump / system)

Hypo

Reaction Tee is installed close to dosing point

N74808 Stabiliser, Hypo

- OxiPRO Tees
- Tubing
- Dosing Systems
- Dosing Pumps
- Accessories
- Storage

OxiPRO Feed

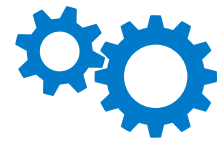
PURATE Feed

Feed System

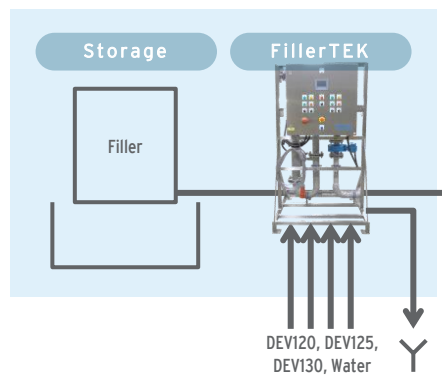
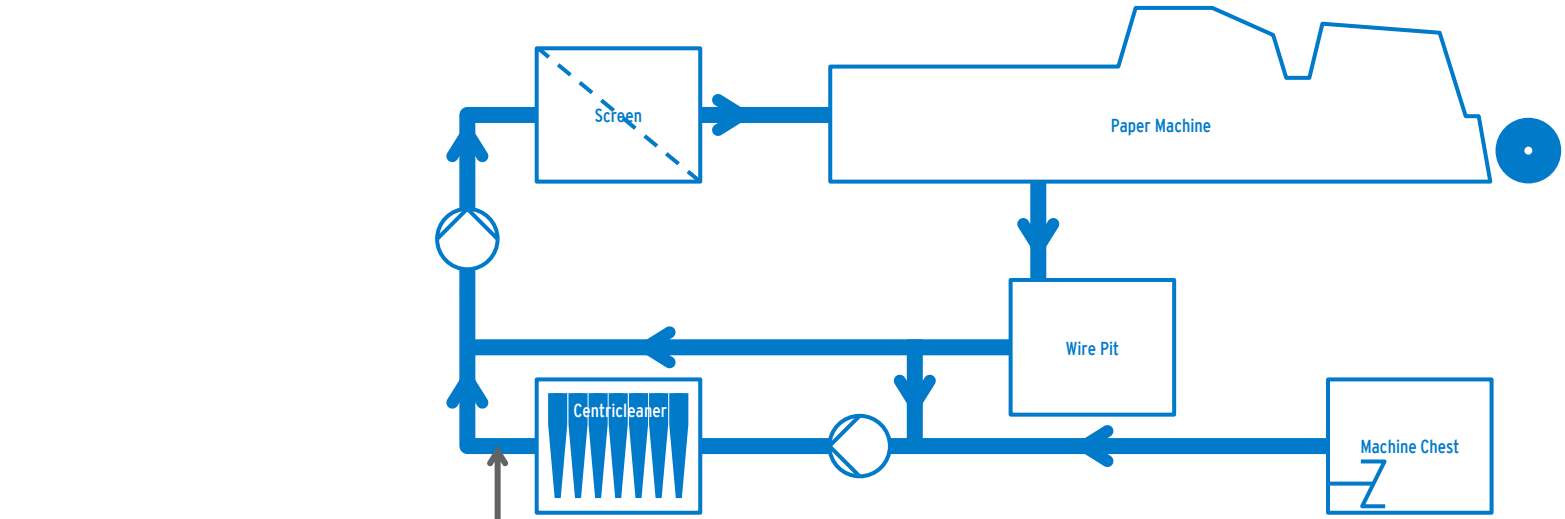
Water (softened for OxiPRO)

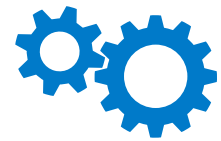
OxiPRO: N74650 Stabiliser, Hypo, Caustic	PURATE: PURATE, H <sub>2</sub> SO <sub>4</sub>
--	--





Paper machine,  
raw material  
reduction





Pasteuriser Tunnel



Water Meters

Feed water

Filters  
Self Cleaning

Oxidant  
Oxidant Monitoring and Control

3D TRASAR  
3D TRASAR Monitoring and Control

Automated reports and alarms

Biocide Distribution

3D TRASAR

Tubing

Accessories

Dosing Systems

Dosing Stations

Dosing Pumps

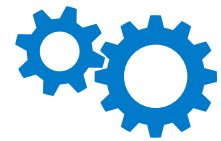
Connector

Level Monitor

PORTA-FEED

Product storage





Pasteuriser Tunnel



Water Meters

Feed water

Oxidant

Oxidant Monitoring and Control

3D TRASAR

3D TRASAR Monitoring and Control

Automated reports and alarms

Filters

Self Cleaning

3D TRASAR

Biocide Distribution

Tubing

Accessories

Dosing Systems

Dosing Stations

Dosing Pumps

Connector

Level Monitor

PORTA-FEED

Product storage



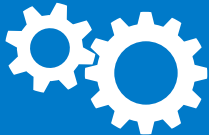
# TOTAL WATER MANAGEMENT



Cooling



Boiler



Process



Pre-treatment



Post-treatment

3D TRASAR  
Cooling Water



3D TRASAR  
Boilers



3D TRASAR  
Pasteurisers



3D TRASAR  
Membranes



TRASAR  
Reverse Osmosis



3D TRASAR  
DAF



Tank Level  
Monitoring



NALCO WATER  
Corrosion  
Monitoring (NCM)



Corrosion Test  
Racks



Cooling Water  
Systems



General Purpose  
Controllers



NALCO WATER  
Oxidant Controller



ENVIROX ClO<sub>2</sub>  
Potable Water



Water Meters



OXIPRO  
Deposit Control



OPTICLAR  
Thickener



-

-

-

-

3D TRASAR™  
APEX™  
ENVIROX™

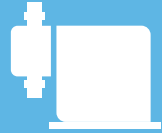
FASTPATH™  
FILLERTEK™  
FLOCMASTER™

NEXGUARD™  
OXIPRO™  
PARETO™

PORTA-FEED™  
PURATE™



Instrumentation



Feed



Storage



Separation



Analytical



Safety

**PRODUCT LINES**

## NEXT GENERATION

# 3D TRASAR Technology for Cooling Water

The Next Generation 3D TRASAR instrumentation is an integral part of our total service package for cooling water. It helps you minimize water usage, maximize performance and optimize TCO. The technology is designed to determine and control the scaling potential of your cooling water, microbial activity, as well as corrosion levels. Compressed air clean minimizes manual sensor cleaning. Smart sensors help enforce reliable readings. Our System Assurance Center provides 24/7 expert monitoring and advice, using the readings and alarms that are sent to NALCO WATER via wireless gateway.

**Sample water:** Typically 1-1.5m<sup>3</sup>/h, depending on required flow for corrosion sensors. 25mm PVC solvent weld connections (3/4" fBSP connectors included).

**Power supply:** 120-240Vac, max. 1800VA depending on connected devices.

**Signal connections:** 7x control relay (pot. free or Vac), 1x alarm relay, 8x analogue input, 8x analogue output, 16x digital input, Modbus.

**Included:** Fluorometer, sensors (conductivity, pH, ORP, mild steel corrosion, copper corrosion), wireless gateway, start-up kit **500-NGTSRKIT.88**.

**Part No.** **3D TRASAR System**  
**3DT-CW8214.88** Model CW8214, wall mount  
**3DT-CW8544.88** Model CW8544, enclosed, floor mount, with hot-return ORP and chemical sensor clean components

**Part No.** **Option for model CW8214**  
**3DT-CWFRM1.88** Floor mount frame  
**3DT-CWMU1.88** Add-on module, make-up water conductivity  
**3DT-CWCC2.88** Add-on module, chemical sensor clean pipe kit, 240Vac  
**3DT-CWHR0.88** Add-on module, hot return water ORP, 240Vac  
**3DT-CWHR2.88** Add-on module, hot return water ORP, 240Vac, with acid clean injection components

**Part No.** **Option for model CW8544**  
**3DT-CWMU2.88** Add-on module, make-up water conductivity



CW8214  
Frame

CW8544

Minimizes water, maximizes results, and optimizes TCO.

Provides advanced scaling, microbio and corrosion control.

24/7 supervision by our System Assurance Center experts.



# Accessories for 3D TRASAR Cooling Water Instrumentation

	Part No.	Accessory
Calibration	460-S0800.74	Cleaning solution, sulfuric acid, 10%, 0.5L
External antenna	060-TR5284.88	Antenna, external, for Nalco Global Gateway (NGG), no cable
	060-TR5284C25.88	Cable, 8m, for external NGG antenna
	060-TR5284C100.88	Cable, 33m, for external NGG antenna
Sensors	3DT-NCMBRS.88	Corrosion sensor, NCM, Brass
	3DT-NCMTSTMS.88	Test sensor, corrosion NCM, mild steel, 5mpy, for testing circuit board
	3DT-NCMTSTCU.88	Test sensor, corrosion NCM, copper, 0.5mpy, for testing circuit board
Sample filtration	6002106	Cartridge Filter, 25micron, NW25, 1" mBSP
	6035389	Bracket, PP, for wall mount of cartridge filters NW18-NW32
	6002104	Pressure gauge, 10bar, for cartridge filters NW18-NW32
	6002099	Sleeves (5), 100micron, for cartridge filter NW25



CARTRIDGE FILTERS

# Replacement Parts for 3D TRASAR Cooling Water Instrumentation

## Part No.

**3DT-CWMKIT1.88**

## Consumable Parts

Value maintenance package, for 6 months preventative maintenance

**500-NGTSRKIT.88**

Start-up kit

**500-P2817.88**

Brush for Fluorometer cleaning

**500-P0116.88**

Beaker, plastic, 800ml

**500-P2147.88**

Syringe for Fluorometer calibration

**3DT-PHPRB1.88**

Sensor, pH

**3DT-ORPPRB1.88**

Sensor, ORP

**3DT-NCMMS1.88**

Sensor, corrosion NCM, mild steel

**3DT-NCMCU1.88**

Sensor, corrosion NCM, copper

**3DT-NCMBRS.88**

Sensor, corrosion NCM, Brass

**500-P5035A.88**

Corrosion coupon, mild steel

**500-P5038A.88**

Corrosion coupon, copper

## Part No.

**460-S0940.75**

3D TRASAR, 1L

**460-S0297.75**

Conductivity, 3000uS/cm, 1L

**460-S0298.75**

Conductivity, 600uS/cm, 1L

**460-S0407.75**

pH7, 1L

**460-S0406.75**

pH4, 1L

**460-S0800.74**

Sulfuric acid, 10%, 500ml, for manual cleaning of sensors

## Part No.

**3DT-COND1.88**

## Sensors

Sensor, conductivity, inductive

**3DT-COND1.88**

Sensor, conductivity, contacting

**060-TR5220.88**

Fluorometer, 3D TRASAR, 1/4" NPT

**060-TR5226.88**

Desiccant kit for Fluorometer

**3DT-NCMTSTMS.88**

Test sensor, NCM, mild steel, 5mpy

**3DT-NCMTSTCU.88**

Test sensor, NCM, copper, 0.5mpy

**3DT-CNDTCAB1.88**

Cable for inductive conductivity sensor

**3DT-CNDCCAB1.88**

Cable for contacting conductivity sensor

**060-TR5221.88**

Cable for Fluorometer

**3DT-PHCBL10.88**

Cable for pH sensor

**3DT-ORPCBL1.88**

Cable for ORP sensor

**3DT-NCMCAB1.88**

Cable for NCM corrosion sensor

**3DT-TLMCAB1.88**

Cable for smart TLM sensor, 4.5m/15ft

**3DT-CONDTOR.88**

O-ring for toroidal inductive conductivity sensor

**3DT-CNDCOR.88**

O-ring for contacting conductivity sensor

**3DT-NCMOR.88**

O-ring for NCM corrosion sensor

## Part No.

**3DT-FUSEM8.88**

## Controller

Mains fuse, 8A (240Vac)

**3DT-FUSER2.88**

Relay fuse, 2A (240Vac)

**3DT-FUSEM15.88**

Mains fuse, 15A (120Vac)

**3DT-FUSER4.88**

Relay fuse, 4A (120Vac)

**060-NGG2SIM.88**

Simcard, AT&T

## Part No.

**991-05064613.88**

## Flow meters

Flow meter, magnetic, digital, SS

**991-05064594.88**

Cable, 5m, for flow meter 991-05064613.88, Micro DC connector

**6000668**

Flow switch, T-style

**991-05053773.88**

Flow switch, T-style, 7m, 20ft cable

**991-19590712.88**

Flow meter and switch, 10gpm, 2.2m<sup>3</sup>/h, for make-up conductivity

**991-19268712.88**

Flow meter, 10gpm, 2.2m<sup>3</sup>/h, for toroidal inductive conductivity

## Part No.

**991-05053373.88**

## Piping

T-strainer, 1", PP, clear bowl, SS screen, 20mesh, 08mm

**3DT-POBLOCK2.88**

Sample block for pH+ORP sensors

**3DT-NCMTEE1.88**

Tee for NCM

**500-P5082A.88**

Coupon holder rod, 4", Nylon

**991-00506535.88**

Air quill for Fluorometer

**991-05064501.88**

Air filter/regulator, 1/4"

## 3D TRASAR Technology for Boilers



Corrosion in boiler systems is influenced by dissolved oxygen, pH, temperature, dissolved inorganics, dissolved organics and metallurgy. The 3D TRASAR system for boilers controls oxygen scavenger dosage as needed with the Nalco corrosion stress monitor (NCSM). The NCSM monitors corrosivity at near boiler pressures and temperatures.

Scaling is optimised by monitoring traced NEXGUARD scale inhibitor levels in a cooled sample and accurately dosing inhibitor accordingly. The System Assurance Center provides 24/7 expert monitoring and advice via email or phone, based on the readings and alarms that are sent to the myNalco/enVision website via a wireless gateway.

Advanced monitoring and control of corrosivity and scale inhibitor dosage.

24/7 supervision by our System Assurance Center experts.

Model	Application	Corrosivity control (NCSM)	Sample conditioning	Scale control (TRASAR)	pH+ Cond.	Controller	Floor mount	Sample flow (L/h)	Sample pressure (bar)	Sample temp. (°C)	Cooling water (L/h) @ 15°C
060-BLM55210H.88	Feed water	●	●	●	●	●	●	15-30	0.5-103	<260	115-450
060-BLM5320.88	Feed water	●	-	-	-	●	-	15-30	0.5-165	<260	-
060-BLM5341.88	Feed water	●	●	-	-	●	●	15-30	0.5-103	<260	115-450
060-BLM53410H.88	Feed water	●	●	-	●	●	●	15-30	0.5-103	<260	115-450
060-BLM54210H.88	Feed water	-	●	●	●	●	●	15-30	0.5-103	<260	115-450
060-BLM5421.88	Blow down	-	●	●	-	●	●	15-60	0.5-103	<260	115-450
060-BLM5221.88	Blow down	-	●	●	-	-	●	15-60	0.5-103	<260	115-450



# Accessories for 3D TRASAR Boiler Instrumentation

	Part No.	Accessory
Calibration	460-S0800.74	Cleaning solution, sulfuric acid, 10%, 0.5L
Module	060-ROMAIM101.88	Analogue Input Module (8x 4-20mA for pressure/flow signals)
Nalco Global Gateway	060-TR5284.88	Antenna, external, for Nalco Global Gateway (NGG), no cable
	060-TR5284C25.88	Cable, 8m, for external NGG antenna
	060-TR5284C100.88	Cable, 33m, for external NGG antenna
Sensors	060-BLM5200.88	NCSM, wall mount, no controller, connects to 3D TRASAR Boiler controller
	060-BDP100C.88	Sensor, conductivity, 5-10,000uS/cm, K1.0, 17.2bar, 200°C, 20cm PTFE cable, includes RTD, includes 3/4" cross-piece
	6040034	Particle Monitor, including 1 sensor and 1 constant pressure weir
	6040035	Sensor, particles, for Particle Monitor (add max 3)
	6040036	Weir, for constant pressure, 1 required for each particle sensor
Piping and other	6038502	Frame, SS, for floor mounting a wall mounted 3D TRASAR Boiler system
	6049226	Solenoid, 120Vac, for replacing 240Vac solenoid of Sample Conditioning System (SCS)



## Particle Monitor

The Particle Monitor monitors particulates in water systems, e.g. iron oxide in boiler feed water. It measures particulate contamination by Dynamic Light Obscuration (DLO). Max. 4 sensors can be connected (1 included).

**Monitor:** Power 85-264Vac max 0.5A, particle index 0-9999, 1-4x remote sensor, 4x 4-20mA output, 1x 24Vdc alarm output.

**Remote Sensor:** 4-wire twisted shielded pair, 0.8mm, max 300m, 0-49°C.

**Constant Pressure Device (weir):** Sample water: 0.5-1.0L/min, 1/4" tubing connection or 1/4" mNPT, outlets to drain (no pressure), SS pipe, PVC parts.

**Bulletin:** BEU-376

# Replacement Parts

## Part No. Consumable, Calibration

- 500-BTSRKIT.88 Kit, start-up, calibration, prev.maint., Fluorometer
- 6018909 Kit, start-up, preventative maintenance, NCSM
- 001-H07641.75 Cal.soln., 10000uS/cm, 1L
- 460-S0743.75 Cal.soln., 200uS/cm, 1L
- 460-S0297.75 Cal.soln., 3000uS/cm, 1L
- 460-S0299.75 Cal.soln., 40uS/cm, 1L
- 001-H07642.75 Cal.soln., 5000uS/cm, 1L
- 460-S0298.75 Cal.soln., 600uS/cm, 1L
- 460-S0408.75 Cal.soln., pH10, 1L
- 460-S0407.75 Cal.soln., pH7, 1L
- 460-S0980.75 Cal.soln., TRASAR #3,
- 460-S0800.74 Clean.soln., sulfuric acid, 10%, 0.5L
- 6018930 Ref.soln., KCl, 0.1N, 125ml, NCSM ref.
- 6018931 Test soln., KCl, 3.8M, 125ml, NCSM test



## Part No. Calibration

- 500-P0120.88 Beaker, plastic, 0.5L
- 6018914 Grease, 150g, for NCSM ref.
- 500-P2147.88 Syringe, 60ml, for Fluorom.
- 500-P2817.88 Brush, for Fluorometer cell



## Part No. Controller

- 060-BT5211.88 Controller
- 991-05047661.88 Cable, Ethernet, crossover
- 060-TR5461.88 Receptacle, Ethernet
- 991-50473718.88 Fuse, 2.5A, 250V, glass



- Part No. Consumable, Sensor
- 060-TR5411.88 Sensor, pH, for 100-10,000uS/cm water
- 6035381 Sensor, pH, for 1-10,000uS/cm water

## Part No. Sensors

- 6035386 Sensor, cond, 1-500uS/cm
- 6035385 Sensor, cond., 5-10,000uS
- 060-TR5226.88 Desiccant kit, for Fluorom.
- 060-TR5221.88 Cable, for Fluorometer
- 060-TRM5225.88 Fitting, lower, luer lock, Fluorometer
- 060-TRM5224.88 Fitting, upper, Fluorometer
- 060-BT3221.88 Fluorometer, blowdown
- 060-BT3220.88 Fluorometer, feed water
- 6026390 Cable, NCSM, ORP, ref.
- 991-05058545.88 Cable, NCSM, RTD
- 991-05058544.88 Cable, NCSM, ORP-PT-REF
- 991-05058543.88 Reference electrode, NCSM
- 991-05058541.88 ORP, RTD electrodes, with cross
- 991-05058542.88 ORP, RTD electrodes
- 6035382 Cable for pH sensor 6035381, 1.3m
- 6044662 pH fitting, compression, 1"mNPT
- 991-19010820.88 Ferrule, back, for 6044662
- 991-19010819.88 Ferrule, front, for 6044662
- 6041554 Sensor, temp., PT1000, 1/4" FBSP

## Part No. Modules

- 991-05063394.88 Cable, for dig./ana. input module
- 991-05047821.88 Power supply, 24Vdc (for modules)



- Part No. Piping and Other
- 6046735 Pressure gauge, 0-250bar, 1/4"
- 6045296 Sample conditioning system
- 500-531062.88 Sample cooler, SS316, 1 sq ft
- 6026028 Tape, insulation, 5x0.3cm, 15m
- 6048485 Cartridge, 100um, for brass strainer
- 991-05061715.88 Cartridge, 200um, for SS strainer
- 991-05061712.88 Cartridge, 40um, for SS strainer
- 6041465 T-strainer, brass, 1"FBSP
- 6044736 Wrench, for brass strainer
- 6041555 Flow meter, 0.1-1.0L/min, 1/4"
- 6041553 Flow switch, 0.1-2.5L/min, 1/4"
- 6022242 Ball valve, 1/4", for Fluorometer inlet
- 6044108 Ball valve, 1/4", lockable
- 6041602 Needle valve, 6mm
- 6041603 Pressure reduction valve, SS316, 1/4"
- 6041601 Pressure relief valve, SS316, 6mm
- 6041447 Solenoid valve, 230Vac, SS316, 1/4"
- 6037311 Cover, protective, 89x89x31cm

## Part No.

- 060-NGG2SIM.88 Simcard, AT&T
- 060-NGG2ANT.88 Antenna, magnetic mount
- 6050023 Bracket, SS, wall mount, for 6047611
- 060-NGG3110E1.88 Nalco Global Gateway, 3G



BACK



# 3D TRASAR Technology for Pasteurisers

Pasteuriser warm zones are susceptible to corrosion of cans or bottle crown corks; cold zones to microbio. 3D TRASAR Systems for Pasteurisers monitor inhibitor levels, pH, ORP in the cold zones. Oxidising biocide concentrations is controlled with ORP or an external chlorine analyser. These systems are identical to 3D TRASAR Cooling Water systems [3D TRASAR Cooling Water systems](#).

If your can pasteuriser has a history of can staining, then use 3D TRASAR System 060-PAM3521.88 to monitor corrosion inhibitor and corrosion levels for the warm zones; pH in the warm or cold water. Oxidising biocide for the cold zones is controlled with ORP or an external chlorine analyser. The cold water sample cools the warm sample. The 3D TRASAR system includes cartridge filters for both sample lines.

## Specifications 3D TRASAR Systems for PAM3521:

**Sample water:** warm: 100-200L/h,  $\leq 80^{\circ}\text{C}$ ,  $\frac{3}{4}$ "fBSP inlet,  $\frac{1}{2}$ "fBSP outlet; cold: 1-1.6m<sup>3</sup>/h,  $\leq 35^{\circ}\text{C}$ , 25mm PVC solvent weld.

**Power supply:** 240Vac, 900VA.

Part No.	System
<b>3DT-TU8314.88</b>	3D TRASAR System for Bottle/Can Pasteurisers, wall mount (identical to <a href="#">3DT-CW8214.88 + frame, excluding copper NCM</a> )
<b>3DT-TU8544.88</b>	3D TRASAR System for Bottle/Can Pasteurisers, floor mount (identical to <a href="#">3DT-CW8544.88</a> )
<b>060-PAM3521.88</b>	3D TRASAR System for Can Pasteurisers with a history of can staining
<b>060-PAM1000.88</b>	Oxidising Biocide Distribution System, wall mount, for three cold zones

**Signal connections:** 7x control relay (pot. free or Vac), 1x alarm relay, 2x analogue input, 8x analogue output, 2x digital input, 1x remote start/stop, 1x Modbus.

**Included:** Fluorometer, pH sensor, ORP sensor, 1100 AI corrosion sensor ( $\leq 70^{\circ}\text{C}$ ), wireless Nalco Global Gateway (NGG), start-up kit.



060-PAM3521.88

060-PAM1000.88

Monitors corrosion inhibitor and corrosion levels.

Controls microbio levels.

Hourly data communication to the myNalco/enVision website for performance reporting.

# Accessories for 3D TRASAR Pasteuriser Instrumentation

	Part No.	Accessory	Instrumentation Models: TU8314 PAM3521	
Calibration Modules	460-S0800.74	Cleaning solution, sulfuric acid, 10%, 0.5L	●	●
	060-PAM1000.88	Oxidising Biocide Distribution System, wall mount, for three cold zones	●	●
	6025742	Communicator, Modbus to Profibus	●	●
NGG	060-TR5284.88	Antenna, external, for Nalco Global Gateway (NGG), no cable	●	●
	060-TR5284C25.88	Cable, 8m, for external NGG antenna	●	●
	060-TR5284C100.88	Cable, 33m, for external NGG antenna	●	●
Piping and other	060-PAM3529.88	Piping, for external free chlorine controller (flow meter, diaphragm valve). Does not fit PAM550#.	-	●
	160VTGV100	CD, with Vantage SPC software	●	●
Sensors	6016180	Sensor, NCM, corrosion, aluminium (6061)	●	●
	6016182	Sensor, NCM, corrosion, aluminium (1100), incl. with PAM3521	●	-
	400-NCMAC2.88	Test sensor, mild steel, 5mpy, for testing NCM corrosion part of red printed circuit board	●	●
Sample filtration	6002108	Cartridge Filter, 25micron, NW50, 2", mBSP	●	-
	6002097	Sleeves (5), 100micron, for cartridge filter NW18	●	-
	6002103	Sleeves (5), 100micron, for cartridge filters NW50	●	-
	6002424	Self Cleaning Filter, 105-135micron, RF2", manual backwash	●	●
	6002431	Self Cleaning Filter, 105-135micron, RF-RAM2", automatic backwash	●	●



**Biocide Distribution**  
 Water in/out: 1x in, 3x out,  
 25mm PVC solvent weld  
 Biocide in: 2x 1/2" fBSP  
 Flow: 1-1.6m<sup>3</sup>/h  
 Bulletin: BEU-371



**Profibus**  
 Power: 120/240Vac  
 In: Modbus RTU from  
 3D TRASAR controller  
 Out: Profibus DP to your  
 system/PLC  
 Bulletin: BEU-232



**Corrosion Sensor**  
 Aluminium: 6061 or 1100  
 (1100 sensor included with  
 3D TRASAR Can Pasteuriser  
 system)  
 Sample water: 70°C at  
 6.9bar



CARTRIDGE FILTERS

# Replacement Parts for 3D TRASAR Pasteuriser Instrumentation

## Part No.

6039663  
460-S0940.75  
460-S0932A.75  
460-S0933A.75  
460-S0408.75  
460-S0407.75  
460-S0800.74

## Consumable, Calibration, All Models

Kit, start-up, calibration  
Calibration solution, 3D TRASAR, 1L  
Calibration solution, ORP, 200mV, 1L  
Calibration solution, ORP, 600mV, 1L  
Calibration solution, pH10, 1L  
Calibration solution, pH7, 1L  
Cleaning solution, sulfuric acid, 10%, 0.5L



## Part No.

060-TR5421.88  
060-TR5411.88

## Consumable, Sensor, All Models

Sensor, ORP, 3/4"mNPT  
Sensor, pH, 3/4"mNPT, for 100-10,000uS/cm water  
Sensor, NCM, corrosion, aluminium (I100)



## Part No.

500-P0120.88  
500-P2147.88  
500-P2817.88

## Calibration, All Models

Beaker, plastic, 500ml, for sensor calibration  
Syringe, 60ml, for Fluorometer calibration  
Brush, for cleaning Fluorometer flow cell



## Part No.

060-TR5226.88  
060-TR5221.88  
060-TRM5225.88

## Sensor, All Models

Desiccant indicator kit, for Fluorometer  
Cable, for Fluorometer  
Fitting, lower, uPVC, 1/4"mBSP, for Fluorometer, includes luer lock injection valve  
Fitting, upper, uPVC, 1/4"mBSP, for Fluorometer  
Fluorometer, tag polymer, TRASAR #2, bio-reporter, bio-product, turbidity, cell fouling, 1/4"mBSP



400-NCMAC15.88  
6003232  
060-TR5422.88  
060-TR5412.88

Restraint, SS, for NCM corrosion sensor  
Fitting, compression, Nylon, 3/4"mBSP, for NCM  
Cable, for ORP sensor  
Cable, for pH sensor

## Part No.

060-TR5212.88  
991-05047661.88

060-TR5464.88  
060-TR5461.88  
991-50473718.88  
060-TR5217.88

## Controller, All Models

Controller, 3D TRASAR Cooling Water  
Cable, Ethernet, cross over, laptop-controller communication  
Cable, firmware recovery, RS-232  
Receptacle, Ethernet, with cover  
Fuse, 2.5A, 250V, fast blow, glass, 5x20mm  
Printed circuit board (aka red board, for sensors)



## Part No.

060-NGG2SIM.88  
060-NGG2ANT.88  
6050023  
060-NGG3110E1.88

## Nalco Global Gateway, All Models

Simcard, AT&T  
Antenna, magnetic mount  
Bracket, SS, wall mount, for 6047611  
Nalco Global Gateway, wireless, 3G



## Part No.

6040431  
6040432  
6022242  
6022238  
6047746

## Piping and Other, All Models

Flow meter, 250L/h, uPVC connectors, vertical  
Flow switch, reed type, for flow meter  
Ball valve, brass, 1/4", for Fluorometer inlet  
Ball valve, uPVC, DN20, 25mm  
Cover, protective, 63x63x25cm, biocide distribution system



SPARES FOR MODELS TU8###

BACK







## 3D TRASAR Technology for Membranes

- Monitor your membrane system's key performance indicators, permeate water flow and salt passage.
- Ensure performance by avoiding scale: monitor and control PERMACARE Anti-scalant.
- Monitor recovery and normalised information to optimise membrane lifespan, cleaning intervals, water usage, energy usage and maintenance hours.

**Sample water:** 15-30L/h, 0.5-5bar. 1/2" fBSP.

**Power supply:** 120Vac or 240Vac, 1200VA.

**Signal connections:** 7x control relay (pot. free or Vac), 1x alarm relay, 4x analogue input, 8x analogue output, 2x digital input, 1-2x remote start/stop.

**Included:** Fluorometers, sensors (conductivity, pH, ORP), wireless gateway.

An Input module or Protocol Converter module is required for pressure and flow signals from the membrane system. The start-up kit is not included, please order separately.

Monitors your KPI's.

Ensures performance by avoiding scale.

Provides information for optimising maintenance and water/energy usage.

Part No.	Trains	Feed water lines with anti-scalant dosage	Passes	Fluorescence interference correction
060-ROM61110.88	1	1	1	No
060-ROM6111B.88	1	1	1	Yes
060-ROM61120.88	1	1	2	No
060-ROM6112B.88	1	1	2	Yes
060-ROM62110.88	2	1	1	No
060-ROM6211B.88	2	1	1	Yes
060-ROM62210.88	2	2	1	No
060-ROM6221B.88	2	2	1	Yes

# Accessories for 3D TRASAR Membrane Instrumentation

## Part No.

### Start-up, Calibration

- 500-3DROMKIT.88** Kit, start-up, calibration, preventative maintenance
- 460-S0800.74** Cleaning solution, sulfuric acid, 10%, 0.5L

## Part No.

### Modules, Communication

- 060-ROMAIM101.88** Input Module, 8x 4-20mA (pressure/flow)
- 060-ROMAIM201.88** Input Module, 16x 4-20mA (pressure/flow)
- 060-ROMAIM301.88** Input Module, 8x 4-20mA (pressure), 7x digital input (flow)
- 060-ROMPC101.88** Protocol Converter Module (Ethernet)
- 060-ROMPC201.88** Protocol Converter Module (Profibus DP)
- 060-ROMSRB200.88** Signal Splitter Box, 4x 4-20mA inputs, 240Vac
- 991-05059316.88** Signal splitter, 1x 4-20mA input, add-on for **060-ROMSRB200.88** (add max 2)
- 060-ROMSRB100.88** Signal Splitter Box, 4x 4-20mA inputs, 120Vac
- 991-05059312.88** Signal splitter, 1x 4-20mA input, add-on for **060-ROMSRB100.88** (add max 2)

## Part No.

### Nalco Global Gateway

- 060-TR5284.88** Antenna, external, for Nalco Global Gateway (NGG), no cable
- 060-TR5284C25.88** Cable, 8m, for external NGG antenna
- 060-TR5284C100.88** Cable, 33m, for external NGG antenna



## Part No.

### Sensor, Pressure, Flow

- 6047262** Pressure transducer, 0-10bar, 1/4"mBSP, 4-20mA output
- 6047263** Pressure transducer, 0-40bar, 1/4"mBSP, 4-20mA output
- 060-ROEXC005.88** Cable, 5m, for 10/40bar pressure transducer
- 060-ROEXC010.88** Cable, 10m, for 10/40bar pressure transducer
- 060-ROEXC030.88** Cable, 30m, for 10/40bar pressure transducer
- 6022275** Flow meter, paddle wheel, cPVC, DN25-DN100
- 6047088** Flow meter, paddle wheel, SS316L, DN25-DN100
- 6028501** T-piece, PVC, DN25 (for PVC/SS flow meter)
- 6022988** Saddle, PVC, DN50 (for PVC/SS flow meter)
- 6035473** Saddle, PVC, DN80 (for PVC/SS flow meter)
- 6047089** Saddle, PVC, DN100 (for PVC/SS flow meter)
- 6046611** T-piece, SS316L, DN25 (for PVC/SS flow meter)
- 6026485** Weld-on adapter, SS316L, DN40-225 (for PVC/SS flow meter)

## Part No.

### RO with Cleaning in Place (CIP)

- 060-ROMSVK200.88** Solenoid valve kit (for concentrate sample inlet, 240Vac)
- 060-ROMSVK100.88** Solenoid valve kit (for concentrate sample inlet, 120Vac)
- 6047076** Solenoid, 120Vac (to replace 240Vac solenoid)

# Replacement Parts for 3D TRASAR Membrane Instrumentation

## Part No.

500-3DROMKIT.88  
460-S0940.75  
460-S0743.75  
460-S0297.75  
460-S0299.75  
460-S0298.75  
460-S0932A.75  
460-S0933A.75  
460-S0406.75  
460-S0407.75  
460-S0800.74

## Consumable, Calibration

Kit, start-up, calibration, prev. maintenance  
Calibration solution, 3D TRASAR, 1L  
Calibration solution, 200uS/cm, 1L  
Calibration solution, 3000uS/cm, 1L  
Calibration solution, 40uS/cm, 1L  
Calibration solution, 600uS/cm, 1L  
Calibration solution, ORP, 200mV, 1L  
Calibration solution, ORP, 600mV, 1L  
Calibration solution, pH4, 1L  
Calibration solution, pH7, 1L  
Cleaning solution, sulfuric acid, 10%, 0.5L



## Part No.

060-TR5421.88  
060-TR5411.88

## Consumable, Sensor

Sensor, ORP  
Sensor, pH, for 100-10,000uS/cm water

## Part No.

500-P0120.88  
500-P2147.88  
500-P2817.88  
500-P0237.88

## Calibration

Beaker, plastic, 0.5L  
Syringe, 60ml, for Fluorometer calibration  
Brush, for cleaning Fluorometer flow cell  
Wash bottle, plastic, 230ml, 8oz



## Part No.

060-BT5211.88  
991-05047661.88  
060-TR5461.88  
991-50473718.88

## Controller

Controller, 3D TRASAR Membrane  
Cable, Ethernet, cross over  
Receptacle, Ethernet, for controller  
Fuse, 2.5A, 250V, fast blow, glass, 5x20mm



## Part No.

991-05063394.88  
991-05047821.88  
991-05047825.88

## Modules

Cable, for digital/analogue input module  
Power supply, 24Vdc (for input modules)  
Power supply, 6Vdc (for power and Fluorometer input module)



## Part No.

6045624  
6041272

6041271

060-TR5226.88

060-TR5221.88

060-TRM5225.88

060-TRM5224.88

060-TRM3220.88

060-TR5422.88

060-TR5412.88

## Sensor

Cable, for conductivity sensor  
Sensor, conductivity, 1-500uS/cm, KO.1, 13.8bar, 70°C, incl. RTD, 0.2m cable  
Sensor, conductivity, 5-10,000uS/cm, K1.0, 13.8bar, 70°C, incl. RTD, 0.2m cable  
Desiccant indicator kit, for Fluorometer  
Cable, for Fluorometer  
Fitting, lower, uPVC, 1/4"mBSP, for Fluorometer, includes luer lock injection valve  
Fitting, upper, uPVC, 1/4"mBSP, for Fluorometer  
Fluorometer, TRASAR #2, 1/4"mBSP  
Cable, for ORP sensor  
Cable, for pH sensor



## Part No.

060-NGG2SIM.88

060-NGG2ANT.88

6050023

060-NGG3110E1.88

## Nalco Global Gateway

Simcard, AT&T  
Antenna, magnetic mount  
Bracket, SS, wall mount, for 6047611  
Nalco Global Gateway, wireless, 3G



## Part No.

6029686

6046193

6040432

6046653

6046650

6022192

6046654

6037311

## Piping and other

Fittings, for Fluorometer (inlet valve, outlet union)  
Flow meter, 5-50L/h  
Flow switch, reed type, for flow meter  
Ball valve, SS316, 1/4"  
Ball valve, uPVC, EPDM, DN15, 20mm  
Diaphragm valve, uPVC, EPDM, DN15, 1/2"  
Solenoid valve, SS, EPDM, 230Vac, 1/2"FBSP  
Cover, protective, 89x89x31cm

# TRASAR Technology for Reverse Osmosis

The TRASAR Technology for Reverse Osmosis Anti-scalant Control System is a basic version of the 3D TRASAR Membrane systems. It is intended for sites where personnel are already anticipating and preventing upsets by monitoring and interpreting normalised plant parameters and recovery, or when production, environment, upsets and peace of mind are lower priorities.

**Sample water:** 15-30L/h, 0.5-5bar, 1/2" fBSP.

**Power supply:** 120Vac or 240Vac, 1200VA.

**Signal connections:** 7x control relay (pot. free or Vac), 1x alarm relay, 4x analogue input, 8x analogue output, 2x digital input, 1x remote start/stop.

**Included:** Fluorometer, conductivity/temperature sensor, wireless gateway.

**Part No.**

**060-ROM4500.88**

**TRASAR System**

Reverse Osmosis Anti-scalant Control System, 240Vac, floor mount. Wall mount also possible (by not using the included stainless steel frame).

The [option](#) to correct for background fluorescence interference may be required. It is installed after delivery.

Calibration start-up materials are not included, please order the [calibration materials](#) separately.



Ensures performance by avoiding scale.

# Accessories for TRASAR RO Instrumentation

**Part No.**  
**060-ROMBGTKIT.88**

**Sensor**  
Fluorometer, TRASAR #2, includes piping for monitoring background on TRASAR RO

**060-TR5411.88**  
**060-TR5421.88**  
**060-TR5412.88**  
**060-TR5422.88**

Sensor, pH, 3/4"mNPT, for 100-10,000uS/cm  
Sensor, ORP, 3/4"mNPT  
Cable, for pH sensor  
Cable, for ORP sensor

**Part No.**

**Calibration**

**460-S0940.75**  
**460-S0298.75**  
**460-S0297.75**  
**460-S0407.75**  
**460-S0408.75**  
**460-S0932A.75**  
**460-S0933A.75**  
**460-S0800.74**  
**500-P2147.88**  
**500-P0120.88**  
**500-P2817.88**

Calibration solution, 3D TRASAR, 1L  
Calibration solution, 600uS/cm, 1L  
Calibration solution, 3000uS/cm, 1L  
Calibration solution, pH7, 1L  
Calibration solution, pH10, 1L  
Calibration solution, ORP, 200mV, 1L  
Calibration solution, ORP, 600mV, 1L  
Cleaning solution, sulfuric acid, 10%, 0.5L  
Syringe, 60ml, for Fluorometer calibration  
Beaker, plastic, 500ml, for sensor calibration  
Brush, for cleaning Fluorometer flow cell

**Part No.**  
**060-TR5284.88**  
**060-TR5284C25.88**  
**060-TR5284C100.88**

**Nalco Global Gateway**  
Antenna, external, no cable  
Cable, 8m, for external NGG antenna  
Cable, 33m, for external NGG antenna

**Part No.**  
**6047076**

**120Vac**  
Solenoid, 120Vac (replaces 240Vac solenoid on TRASAR RO system and background option)



# Replacement Parts for TRASAR RO Instrumentation

**Part No.**  
**060-TR5226.88**  
**060-TR5221.88**  
**060-TRM5225.88**  
**060-TRM5224.88**  
**060-TRM3220.88**

**Sensor**  
Desiccant indicator kit, for Fluorometer  
Cable, for Fluorometer  
Fitting, lower, for Fluorometer, incl. luer lock  
Fitting, upper, for Fluorometer  
Fluorometer, TRASAR #2, 1/4"mBSP

**Part No.**  
**060-BT5211.88**  
**991-05047661.88**  
**060-TR5461.88**  
**991-50473718.88**

**Controller**  
Controller, TRASAR RO  
Cable, Ethernet, cross over  
Receptacle, Ethernet, with cover  
Fuse, 2.5A, 250V, fast blow, glass, 5x20mm

**Part No.**  
**060-NGG2SIM.88**  
**060-NGG2ANT.88**  
**6050023**  
**060-NGG3110Ei.88**

**Nalco Global Gateway**  
Simcard, AT&T  
Antenna, magnetic mount  
Bracket, SS, wall mount, for **6047611**  
Nalco Global Gateway, wireless, 3G

**Part No.**  
**6029686**  
**6046193**  
**6040432**  
**6022242**  
**6046653**  
**6046650**  
**6022192**  
**6046654**  
**6037311**

**Piping and Other**  
Fittings, for Fluorometer (inlet valve, outlet union)  
Flow meter, 5-50L/h  
Flow switch, reed type, for flow meter  
Ball valve, brass, 1/4", for Fluorometer inlet  
Ball valve, SS316, 1/4"  
Ball valve, uPVC, EPDM, DN15, 20mm  
Diaphragm valve, uPVC, EPDM, DN15, 1/2"  
Solenoid valve, SS, EPDM, 230Vac, 1/2"FBSP  
Cover, protective, 89x89x31cm



BACK



# 3D TRASAR Technology for DAF

3D TRASAR instrumentation for DAF is the innovative monitoring and control component of our integrated solutions for DAF systems. The instrumentation controls the feed of NALCO WATER treatment chemical with the advanced TRASAR IR (infrared) Turbidimeter. Process parameters are monitored in the effluent stream to optimise DAF performance.

**Sample water:** 120...250L/h; adjustable with manual ball valve or booster pump if present, 2...7bar, PVC ¾" fBSP connections

**Power supply:** 110...240Vac, 50/60Hz, 10A for 120Vac; 20A for 240Vac

**Compressed air:** For air flushing (cleaning): 1-2bar for pneumatic valve operation: 5-6bar

**Signal connections:** 7x control relay, 1x alarm relay, 4x analogue input, 8x analogue output, 2x digital input, 1-2x remote start/stop

Turbidimeter fouling is removed during a periodic ultrasonic cleaning cycle. Debris in the sample line is removed periodically with compressed air. Turbidimeter scaling can be removed by periodically feeding cleaning acid with an optional external feed system. A debubbler aids in removing air bubbles in the sample water that may interfere with turbidity measurements.

Part No.	3D TRASAR instrumentation, including start-up kit (060-3DTRAFKIT.88)
060-3DTRAFEFFC2.88	For DAF Effluent, floor mount, enclosed
060-3DTRAFINFC2.88	For DAF Influent, floor mount, enclosed
060-3DTRAFEFF2.88	For DAF Effluent, floor mount, not enclosed
060-3DTRAFINF2.88	For DAF Influent, floor mount, not enclosed



3D TRASAR technology for dissolved air flotation (DAF) systems helps you to optimise discharge compliance, system reliability and cost of operation.

# Accessories for 3D TRASAR Technology for DAF

- Part No.** [Nalco Global Gateway Accessories](#)  
**060-TR5284.88** External antenna (when GSM signal is insufficient), without cable  
**060-TR5284C25.88** Antenna cable, 8m for **060-TR5284.88**  
**060-TR5284C100.88** Antenna cable, 33m for **060-TR5284.88**



- Part No.** [Cleaning Accessory](#)  
**060-3DTDAFACID.88** Chemical clean feed system for Turbidimeter (pump, tank, bund, suction lance, multi-function valve).

- Part No.** [120Vac Accessories](#)  
**6055438** Solenoid, 120Vac, 50Hz, for replacing 240Vac solenoid on the air injection solenoid valve (**6049920**), EV210B  
**6055440** Solenoid, 120Vac, 50Hz, for replacing 240Vac solenoid on the pneumatic actuator with stainless steel valve (**6049774**), DN7

- Part No.** [Signal Accessories](#)  
**060-ROMAIM101.88** Analog Input Module (8x 4-20mA for pressure/flow signals)  
**060-ROMAIM201.88** Analog Input Module (16x 4-20mA for pressure/flow signals)  
**060-ROMAIM301.88** Analog Input Module (8x 4-20mA for pressure, 7x digital input for flow signals)  
**6057312** Signal splitter box, 240Vac, 2x 4-20mA input  
**6057313** Signal splitter box, 120Vac, 2x 4-20mA input  
**6021293** Relay box, 4 powered (Vac) input signals, 4 contact output outputs



# Replacement Parts for 3D TRASAR Technology for DAF

## Part No.

060-3DTRDAFKIT1.88

## Consumable, Calibration

Start-up kit

956-26606-49EU

Calibration solution, turbidity, 1NTU, 0.5L

001-H07958.88EU

Calibration solution, turbidity, 1000NTU, 0.5L

460-50726.75

Cleaning solution turbidimeter, HCl 1:1 1L,

460-50800.74

Cleaning solution turbidimeter, H<sub>2</sub>SO<sub>4</sub>, 10%, 0.5L

460-50407.75

Calibration solution, pH7, 1L

460-50408.75

Calibration solution, pH10, 1L



## Part No.

060-TR5411.88

## Consumable, Sensor

Sensor, pH, for 100-10,000uS/cm water

## Part No.

500-P0120.88

## Calibration

Beaker, plastic, 0.5L

500-P2147.88

Syringe, 60ml, for Fluorometer calibration

500-P2817.88

Brush, for cleaning Fluorometer flow cell



## Part No.

6054911

## Sensor

Turbidimeter with SS mounting rod and Al jacket

060-BT3230.88

Turbidimeter cable

060-TR5226.88

Turbidimeter desiccant

6054408

Stainless steel mounting rod and aluminum jacket

060-TR5412.88

Cable, for pH sensor

6041554

RTD (temperature sensor)



## Part No.

6054405

## Ultrasonic Probe

Ultrasonic converter (black cap with cable)

6054406

Ultrasonic probe tip only, 40kHz

6054261

O-rings for ultrasound, washers for flowmeter

991-05064106.88

Ultrasonic probe mounting hardware

## Part No.

060-BT5211.88

## Controller and Electrical Panels

Controller, 3D TRASAR DAF, Boiler, Membrane

991-0506767.88

Ultrasonic control panel

6050797

Solenoid interface box



## Part No.

060-NGG2SIM.88

## Nalco Global Gateway

Simcard, AT&T

060-NGG2ANT.88

Antenna, magnetic mount

6050023

Bracket, SS, wall mount, for antenna 6047611

060-NGG310EI.88

Nalco Global Gateway, wireless, 3G



## Part No.

6044921

## Acid Clean

Dosing pump DDA-FCM, PVDF/FKM (order 6045953)

6045953

Non-return valves (2), PVDF/PTFE

6045958

Diaphragm for dosing pump, PTFE

6045964

Multi-function valve for dosing pump, PVDF/FKM

6045966

Injection valve, 1/2"mBSP, PVDF/FKM (order 6045953)

6050467

Suction lance + level switch, 690mm, 6x4mm, 12x9mm

## Part No.

6050795

## Piping and Other

Ball valve, cPVC, 3-way, DN20

6055071

Ball valve, cPVC, 2-way, DN20

6022242

Ball valve, brass, 2-way, 1/4", for Turbidimeter

991-05057623.88

Check valve

6055082

Flowmeter

6049193

Seal for Flowmeter 6055082

6049922

Cable for Flowmeter 6055082

6054261

O-rings for ultrasound, washers for flowmeter

6049920

Solenoid valve

6051509

Debubbler complete, cPVC

6022182

Air pressure regulator

6049774

Pneumatic actuator with stainless steel valve

6050768

Pressure gauge

BACK





# Tank Level Monitoring

**Save Time** travelling from tank to tank, taking manual readings of level gauges. Tank level sensors do all the work, so your local team can focus on what is important to you.

**Increase safety** by detecting chemical feed problems immediately. Remote monitoring also aides troubleshooting, without having to send someone out to the plant, or up on a ladder to check large bulk tanks.

**Improve system performance** by using historical trend data, along with usage alerts, to more accurately predict future usage rates, leading to improved system performance.

**One centralized website** reports information in a consistent format for all of your tanks.

Degassing products require a pressure level sensor from the TLM300 series. The sensor is lowered to the bottom of the tank. An ultrasonic level sensor is used for other (non-degassing) products. The sensor is mounted on top of the tank.

**Part No.** [Nalco Global Gateway \(NGG\)](#)  
**060-NGG3110E1.88** Nalco Global Gateway, 3G

**Part No.** [Wired level sensor, signal / power wired to NGG \(max 4\)](#)

**060-TLM100.88** Ultrasonic level sensor, 0.1...2.1m, 1"mNPT, includes 2"mNPT adapter

**060-TLM105.88** Ultrasonic level sensor, 0.3...4m, 1"mNPT, includes 2"mNPT adapter

**060-TLM120.88** Ultrasonic level sensor, max. 8m, 2"mNPT

**060-TLM305.88** Pressure level sensor, 0...5psi (0...3.4m with product density of 1.0kg/L), D=43mm

**060-TLM320.88** Pressure level sensor, 0...20psi (0...13.8m with product density of 1.0kg/L), D=43mm

**Part No.** [Wireless level sensor, battery powered, wireless to NGG \(max 10\)](#)

**060-TLM200C.88** Ultrasonic level sensor, 0.1...2.1m, 2"mNPS

**060-TLM205C.88** Ultrasonic level sensor, 0.3...4m, 2"mNPS



Tank Level Monitoring eliminates the burden of manual tank level collection, while assuring an appropriate supply of product.

# Accessories and Replacement Parts for Tank Level Monitoring

## Part No.

060-TR5284.88  
060-TR5284C25.88  
060-TR5284C100.88

## Accessories, for NGG

Antenna, external, no cable  
Cable, 8m, for **060-TR5284.88**  
Cable, 33m, for **060-TR5284.88**



## Part No.

6040771  
6042972  
6042973  
6042072  
060-TLM005.88

## Accessories, for wired sensors

Extension tee for 1 sensor  
Extension cable, shielded, for 2 sensors  
Extension cable, shielded, for 4 sensors  
Junction box, for 4 cables  
Display, for local level indication (1 per sensor)

## Part No.

060-NGG2SIM.88  
060-NGG2ANT.88  
6050023

## Replacement Parts, for NGG

Simcard, AT&T  
Antenna, magnetic mount, for NGG  
Bracket, wall mount, for **060-NGG2ANT.88**





## NALCO WATER Corrosion Monitor (NCM)

The NALCO WATER Corrosion Monitor (NCM) and sensor provides information that can be used for analysing, when and how corrosion levels change in relation to other parameters. The readings take approx. 30 seconds, which is much faster than with the more accurate corrosion coupon (test >1 month).

**Sample water:** 70°C at 6.9bar; 176°C at 69 bar (for hot water boiler condensate sensor)

**Electrical:** 9Vdc battery / 24Vdc power, 1x 4-20mA out

Part No.	Starter Kit with NCM sensor, NCM100 monitor, compression fitting, serial cable and test sensor
6003237	With mild steel sensor (max. 70°C)
6003236	With copper sensor (max. 70°C)
400-NCM100KB.88	With mild steel boiler condensate sensor (max. 176°C) and tee + reducer

Part No.	Accessory
400-NCMAC4.88	Cable, for 4-20mA output / 24Vdc
400-NCMAC15.88	Sensor restraint, SS (not for boiler)

Part No.	Consumable Part
400-NCMP1B.88	Mild steel sensor
400-NCMP2B.88	Copper sensor
500-P6116.88	Mild steel tips (2) for boiler sensor
500-P6113.88	O-rings (2) for boiler sensor

Part No.	Replacement Part
400-NCM100.88	NCM100 corrosion monitor only
6003232	Compression fitting, 3/4"mBSP
400-NCMAC3.88	Serial cable
400-NCMAC2.88	Test sensor to test electronic part of NCM100 monitor (indicates 5mpy mild steel)
400-NCMP6.88	Boiler sensor (excl. tips/o-ring)
400-NCMAC13.88	Boiler sensor tee and reducer
400-NCMAC14.88	Boiler sensor cable

Part No.	NCM Sensor, to create your own kit with monitor 400-NCM100.88, compression fitting 6003232, serial cable 400-NCMAC3.88, test sensor 400-NCMAC2.88, and:
400-NCMP7B.88	Brass sensor
400-NCMP4B.88	Cu/Ni 90/10 sensor
400-NCMP5B.88	Cu/Ni 70/30 sensor
6016180	Aluminium 6061 sensor
6016182	Aluminium 1100 sensor

Monitors the leading cause of process equipment and piping failures, corrosion.

Provides critical information for optimising corrosion control and improve performance.

# Corrosion Test Racks

Corrosion monitoring with NCM sensors provides trends that are used to determine, when and how corrosion levels change in relation to other parameters. Accurate long term corrosion values are determined with corrosion coupons. Corrosion test racks provide space for 4 corrosion coupons and 2 NCM sensors.

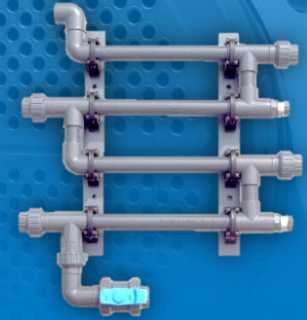
**Sample water:** Temperature: 55°C at 3.5bar, 38°C at 7bar; pressure: ≤ 7bar (PVC rack), ≤ 20bar (mild steel rack); connections: 1" fBSP.

**Dimensions:** Approx. 70x50x10cm, 32mm/DN25

<b>Part No.</b>	<b>Corrosion Test Rack</b>
6001226	PVC version
6001234	PVC version with 2 clear view sections
6001235	Mild steel version
6001236	Mild steel version with 2 clear view sections

<b>Part No.</b>	<b>Flow orifice, one required per corrosion test rack</b>
6001229	#1, 0.2-0.3m/s at 3.5-7bar
6001230	#2, 0.5-0.7m/s at 3.5-7bar
6001231	#3, 1.0-1.4m/s at 3.5-7bar
6001232	#4, 1.7-2.3m/s at 3.5-7bar
6001233	#5, 2.5-3.5m/s at 3.5-7bar

<b>Part No.</b>	<b>Replacement Part</b>
6001227	1" PVC plug for holding rod
500-P5006A.88	Nylon holding rod, includes bolt and nut
500-P5069.88	Nylon bolt and nut set (10/set)
6001228	1" mild steel plug for holding rod
500-P5007A.88	SS304 holding rod, bolt, nut
500-P5070.88	SS304 bolt, nut and PTFE washer set (10/set)



Provides space for 4 corrosion coupons and 2 corrosion sensors.

Mimics the approx. water velocity in the critical part of your water system.

# Corrosion Coupons

Bar-style corrosion coupons are used to accurately measure corrosion in water systems and process pipelines. A coupon made of a metal alloy similar to that used in the system is inserted into a corrosion test rack. After removal, the coupon is sent to the NALCO WATER laboratory where the corrosion rate is determined.

Coupons are manufactured to rigid specifications to provide a high quality coupon with reproducible characteristics. They come complete with data card and return mailer. Coupon part numbers do not include analysis.

76x13mm coupons are used in 32mm / DN25 (1") corrosion test racks; 76x10mm in (old-style) 25mm / DN20 ( $\frac{3}{4}$ " ) racks.

## Part No.

**500-P5034A.88**

**500-P5035A.88**

**500-P5048A.88**

**500-P5054A.88**

**500-P5036A.88**

**500-P5037A.88**

**500-P5038A.88**

**500-P5039A.88**

**500-P5040A.88**

**500-P5049A.88**

**500-P5057A.88**

## Part No.

**500-P5071.88**

**500-P5072.88**

**500-P5073.88**

## Bar style coupon, 76x13mm

Copper Nickel (70/30)

Mild steel, MS1010

Mild steel, MS1010 scaling, 6 holes

Mild steel, MS1010, passivated

Stainless steel, SS316

Stainless steel, SS304

Copper

Aluminium, 1100

Admiralty Brass

Copper Nickel (90/10)

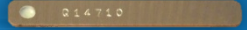
Galvanised, hot dip

## Bar style coupon, 76x10mm

Mild steel, MS1010

Copper Nickel (70/30)

Copper Nickel (90/10)



Corrosion Coupon

Manufactured to rigid specifications, to provide a high quality coupon with reproducible characteristics.

Comes with a data card and return mailer.

# Cooling Water Control Systems

If one of the 3D TRASAR systems for cooling water is not a fit for your cooling tower, the cooling water control systems offers basic control of your cooling water treatment in light commercial and industrial applications.

The controller can handle water meter based inhibitor dosing, conductivity controlled bleed, time controlled biocide dosage and pH controlled acid dosage. Logged historical data can be downloaded to a USB memory stick.

**Sample water:** 100-300L/h, 1-6bar. 25mm PVC.

**Power supply:** 100-240Vac, 8A.

**Signal connections:** 4x control relay (Vac), 1x alarm relay (Vac), 1x analogue output (optional), 3x digital input.

**Included:** Conductivity sensor, flow meter and switch.

**Part No.**  
**6036582**  
**6036583**

**Cooling Water Control System**  
WDT610, Conductivity, pH  
WCT610, Conductivity

**Part No.**  
**6002789**

**Accessory**  
Analogue output, 4-20mA (max. 1)

**Part No.**  
**6002858**

**Consumable Part**  
pH sensor

**Part No.**  
**6002791**  
**6002763**

**Replacement Part**  
Conductivity sensor  
Tee for conductivity or pH sensor,  
3/4" FNPT

**6002757**

Nut for conductivity or pH sensor  
and tee

**6002758**

O-ring for conductivity or pH sensor  
and tee

**6002760**

Housing and pre-amplifier for pH  
sensor, 1.5m cable

**6047746**

Protective cover, with window



Basic control for cooling water treatment.

Commercial and light industrial use.



# General Purpose Controllers

The inductive conductivity sensor of the WEC410 controller may be applied in harsh chemical applications, including oily cleaner baths, chromates, rinse tanks and fume scrubbers. The WPH410 controller and ORP sensor can be used for oxidising biocide dosing. Logged historical data can be downloaded to a USB memory stick.

**Sample water:** max. 9.5bar at 37°C, max. 60°C, connections WPH410: 3/4" fNPT, connections WEC410: 2" fNPT

**Power supply:** 110-240Vac, 8A.

**Signal connections:** 4x control relay (Vac), 1x alarm relay (Vac), 1x analogue output (optional), 5x digital input.

**Included:** Conductivity or ORP sensor

**Part No.**  
**6002856**

## Controller

WEC610 controller, inductive conductivity sensor, 2" tee

**6002920**

WPH610 controller, ORP sensor, backboard, manifold for flow switch/sensor

**Part No.**  
**6002789**

## Accessory

Analogue output, 4-20mA (max. 1)

**Part No.**  
**6002857**

## Consumable Part

ORP sensor

**Part No.**  
**6002790**

## Replacement Part

Inductive conductivity sensor

**6002827**

2" tee for inductive sensor

**6002760**

Housing and pre-amplifier ORP sensor

**6002763**

Tee for ORP sensor, 3/4" fNPT

**6002757**

Nut for sensor and tee

**6002758**

O-ring for sensor and tee

**6002792**

Manifold, with flow switch



Conductivity monitoring in harsh applications.

ORP monitoring and control.



# NALCO WATER Oxidant Controller

The NALCO WATER oxidant controller is designed to monitor free chlorine, chlorine dioxide or ozone levels with the included low maintenance self-cleaning sensor. Simply select the required measurement on the controller. A flow regulator device is also included to provide a constant sample water flow for stable, accurate and reliable readings. The sensor's electrode surfaces can be cleaned automatically up to 12 times per day. During the innovative and effective cleaning process, hydrogen and oxygen are produced at the electrode surfaces, 'blasting away' persistent coatings. Oxygen oxidizes organic coatings. Hydrogen reduces organic and inorganic substances, especially iron and manganese oxides.

**Sample water:** ≤6bar@20°C, reduced to 30L/h, pressure loss 0.2bar, 5...50°C. Make sure to provide a flow of ≤1bar, ≥35L/h, without air bubbles, turbidity ≤30NTU.

**Power:** 85...250Vac, 40...60Hz, 10VA

**Outputs:** 1x 4...20mA (recorder, PID control), 2x control relay (start/stop, PID pulse), 1x alarm relay)

**Inputs:** 2x digital input

**Part No.**  
**400-P1380.88**

**Part No.**  
**6058966**

**Part No.**  
**6061575**

**Part No.**  
**6057003**  
**6057002**

**6059384**

**6059386**

**6056982**  
**6057005**  
**6057712**  
**6058968**

**400-P1385.88**

**NALCO WATER Oxidant Controller**  
Model P1380, includes sensor and flow regulator device

## Option

Data log upgrade for P1380 (order when P1380 will not be connected to a 3D TRASAR controller)

## Consumable replacement part

Yearly preventative maintenance kit, with oxidant sensor, membrane, spring, valve pin, o-ring set, batteries

## Repair replacement part

Flow regulator device  
Flow switch, PT100 temperature sensor, ground  
Membrane, spring and valve pin, for flow regulator device  
O-ring set, for flow regulator device  
Oxidant sensor  
Holder for oxidant sensor  
Isolation valves, sample valve  
Battery, button cell, 5/pkg, for oxidant controller  
Oxidant controller



Suitable for pasteuriser tunnels.  
Do not use for cooling water or other applications yet.

Continuously monitor free chlorine, chlorine dioxide or ozone levels.

Accurately control dosage of e.g. bleach or Acti-Brom™ + bleach.

Minimize manual maintenance with the reagent free, self-cleaning sensor.





# ENVIROX Potable Water Control System

Chlorine dioxide (ClO<sub>2</sub>) concentrations in potable water need to be in a tight range. The ENVIROX potable water control system monitors and controls ClO<sub>2</sub> levels. It measures ORP as an indication of other oxidants. Copper pipe corrosion is affected by ClO<sub>2</sub>. Copper corrosion is therefore monitored with a corrosion sensor. The ENVIROX ClO<sub>2</sub> generator can also be monitored for troubleshooting purposes.

Logged historical readings provide additional compliance with water hygiene regulations. The System Assurance Center provides 24/7 expert monitoring and advice via email or phone, based on the readings/alarms that are sent to the myNalco/enVision website via wireless gateway.

**Power supply:** 240Vac, 6A.

**Signal connections:** 1x control (pot. free), 1x alarm relay, 2x analogue input, 8x analogue output, 2x digital input, 1x Modbus.

**Sample water:** 0.4...0.6m<sup>3</sup>/h, 2-4bar, 5...50°C, 25mm PVC connections.

**Included:** Sensors (ClO<sub>2</sub>, ORP, copper corrosion), wireless gateway, ORP calibration solutions.

**Part No.** **060-TCE5400.88** **Control System**  
ENVIROX potable water control system

**Part No.** **6038502** **Accessory**  
Floor mount frame, SS  
**6034243** Pressure switch and temperature sensor for ENVIROX ClO<sub>2</sub> generator inlet water

**Part No.** **6034226** **Consumable Part**  
ClO<sub>2</sub> reference electrode  
**6034240** ORP sensor

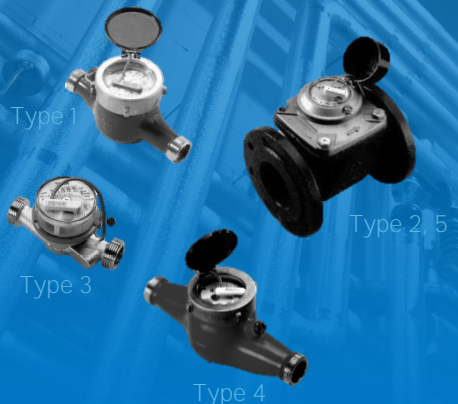
**Part No.** **6034236** **Replacement Part**  
Strainer screen ORP/ClO<sub>2</sub>



Historical data provides additional compliance with water hygiene regulations.

Expert monitoring and reporting offer increased safety and peace of mind.

# Water Meters



Pulse output for flow count signal to e.g. a 3D TRASAR controller or for proportional dosing pump control.

Horizontal installation (type 1-5). Vertical installation (type 2, 3, 5).

Part No.	Type	DN	Nom. flow (m <sup>3</sup> /h)	K-factor	Length (mm)	Temp (°C)
6003820	1	15	1.5	1	170	≤30
6003822				5		
6003821				10		
6003824		20	2.5	1	190	
6003827				2.5		
6003828				5		
6003825				10		
6003829		25	3.5	1	260	
6003833				2.5		
6003834				5		
6003830				10		
6003835				1		
6003837		30	5	5		
6003836				10		
6003839		40	10	1	300	
6003842				5		
6003840				10		

Part No.	Type	DN	Nom. flow (m <sup>3</sup> /h)	K-factor	Length (mm)	Temp (°C)
6003863	2	50	15	5	200	≤40
6003861				10		
6003862				100		
6003865		65	25	10	225	
6003868		80	40	10		
6037172		100	60	10	250	
6037173	100					
6003748	3	15	1.5	10	110	≤90
6003753		20	2.5	5	130	
6003806	4	25	3.5	10	260	
6003782	5	50	15	5	200	≤110
6003781				100		

## Part No. Replacement Part

**60056196** Reed switch EIJM and cable for pulse output. For water meters with indications 'G2' and 'AQUATEL'.

**6003800** Reed switch ILSS and cable for pulse output. For older water meters.



# OxiPRO Deposit Control Monitor



OxiPRO Monitor

OxiPRO Deposit Control [Technology](#) is our innovative, SMART Solutions offering for enhanced control of microbial growth and deposit formation in paper making systems. It uses proprietary chemistry that is the best technical fit for the system to provide maximum performance and wet-end compatibility.

The real-time OxiPRO [Monitor](#) measures surface deposition, microbial activity and process conditions to ensure the maximum benefit from the deposit control offering. Data analysis tools and application expertise also ensure that feed points and dosing strategies are continuously optimised to prevent unnecessary downtime and product defects.

## Specifications

**Air inlet:** 1/2" fBSP, 5.5bar

**Inlet/outlet ports:** 1" fBSP

**Dimensions:** 960x870x159cm (WxDxH)

**Power supply:** 240Vac, 50/60Hz (120Vac on request)

OxiPRO Deposit Control Technology provides control of microbial growth, surface deposits, operational costs and chemical usage.

Part No.	OxiPRO System
6049124	OxiPRO Monitor, combined activity and biological
6049126	OxiPRO Monitor, biological only
6049127	OxiPRO Monitor, activity only

The involvement of a NALCO WATER Customer Project Engineer is required to ensure proper installation.



## OPTICLAR Thickener Automation

With varying thickener slurry characteristics, the automated OPTICLAR M system brings value to your customer by monitoring thickener performance and preventing problems from occurring.

The OPTICLAR system provides reliable and automated monitoring and data logging of all required parameters to ensure optimum thickener performance. It automatically responds to changes in the slurry and/or other process parameters (e.g. pH, temperature, flow and sludge levels) and controls the flocculant / coagulant dosage. The customer can also receive multiple readings in their DCS with a single cable through the Modbus protocol.

The OPTICLAR M system has been designed for any chemical-physical waste water system, mainly in mining, steel mills, paper mills and soil recoveries.

**Part No.**    **System**  
**6039392**    OPTICLAR M System

**Part No.**    **Option**  
**6040153**    Photoelectrode, sludge, sensor, DS1  
**6044551**    Remote GSM connection

### Monitoring and control cycle

1. The measurement cell is automatically cleaned and calibrated.
2. The cell is filled with sample from the centre well, after which it measures the settling rate, turbidity and sludge density.
3. The feed rate of the polymers is adjusted, based on the readings.
4. The sample is drained and the cycle starts again.

Thickener monitoring for optimum control of flocculent and coagulant improves process efficiency, reduces TOC, decreases downtime and optimises chemical consumption.

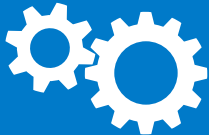
# TOTAL WATER MANAGEMENT



Cooling



Boiler



Process



Pre-treatment



Post-treatment

Dosing Pump Selection Guide



Next Gen. 3D TRASAR Dosing Cabinet



Dosing Systems



Dosing Stations



Dosing Pumps



Dosing Spares, Accessories



Bleed Valves



PARETO Polymer Feed



Liquid Polymer Feed



Polymer Solution Feed



Dry Polymer Feed



FLOCMASTER Polymer Feed



APEX Polymer Feed



ULTRAPOSITEK Feed



FILLERTEK Feed



Progressing Cavity Pumps



Foamer High Volume



OXIPRO Biocide Feed for N74650



OXIPRO Reaction Tee for N74808



PURATE ClO<sub>2</sub> Feed 90kg/h



ENVIROX ClO<sub>2</sub> Feed 20gr/h



3D TRASAR™  
APEX™  
ENVIROX™

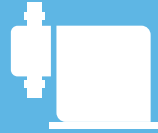
FASTPATH™  
FILLERTEK™  
FLOCMASTER™

NEXGUARD™  
OXIPRO™  
PARETO™

PORTA-FEED™  
PURATE™



Instrumentation



Feed



Storage



Separation



Analytical



Safety

**PRODUCT LINES**

# Dosing Pump Selection Guide

Chemical Product	Advanced + Degassing DDA-FCM	Advanced DDA-AR	Standard DDC-AR	Economy DDE-P
	Inhibitor	●	○	●
Non-oxidising biocide	●	○	●	○
Oxidising biocide (degassing product)	●	○	○	-
Dispersant (viscous)	● <sup>1)</sup>	-	● <sup>1)</sup>	-
Bio-reporter (very low flow)	●	-	●	○
Sulphuric acid (H <sub>2</sub> SO <sub>4</sub> )	●	○	●	-
Hydrochloric acid (HCl)	● <sup>2)</sup>	-	● <sup>2)</sup>	○ <sup>2)</sup>
NaOH	-	-	-	●
Boiler (high pressure)	●	●	-	-
Reverse Osmosis Anti-scalant	● <sup>3)</sup>	●	-	-
Reverse Osmosis Sodium Sulphite	● <sup>3)</sup>	-	●	-

● Recommended ○ Optional - Do not use

<sup>1)</sup> Order spring loaded PVDF/FKM valves DDC pump works in slow mode-most suitable for viscous products.

<sup>2)</sup> Order PVDF non-return valves with PTFE seals.

<sup>3)</sup> Where flow control and measurement very critical.



The innovative stepper motor driven dosing pumps provide reliability, long pump life and continuous smooth product dosage.



## Dosing Pump Cabinet, for Next Generation 3D TRASAR Cooling Water Total Service Package

Reduce the risks of chemical sprays and spills from dosing pumps with a pump cabinet. Reduce chemical contact during pump replacement with isolation and flush valves. The optional mixer for Acti-Brom and bleach ensures safe mixing in a closed environment.

Up to four DDA, DDC or DDE dosing pumps can be installed in the pump cabinet. Each pump has its own drip tray with a drain valve. Walls between the dosing pumps ensure that chemical products are not mixed. A transparent cover protects against sprays from the pressure side of the dosing pumps.

The dosing pump cabinet is intended to be installed on the back of a Next Generation 3D TRASAR device, or on the wall. It comes with a wall mount bracket that is first mounted on the wall. You can then safely hang the cabinet on the bracket, and fix it with two bolts. The pumps have a baseplate with a click connection, so they can easily be removed for troubleshooting or replacement.

Part no.	Description
6059754	Dosing pump cabinet, for up to 4 DDA, DDC or DDE dosing pumps (order pumps and multi-function valves separately)
6059874	Isolation and flush valve set for one dosing pump
6059905	Mixing components for Acti-Brom and bleach
3DT-CWFRM1.88	Frame, SS, for floor mounting dosing cabinet

**Materials:** Cabinet PVC, isolation/flush valves: PVDF/PTFE

**Tubing connections:** 12x9mm (6x4mm connectors included to replace 12x9mm connectors)

**Dimensions:** 92x70x34cm (without drain valves)

Reduce the risks of chemical sprays.

Safely contain pump leaks.

Isolate and flush dosing pumps safely before servicing.

Safely mix Acti-Brom™ and bleach.



# Dosing Systems

NALCO WATER Dosing Systems are compact quick and cost effective to install. The enclosure protects operators and components. Multi-function valves and isolation ensure safe/reliable operation and maintenance. The drip tray with 3 compartments avoids spills and mixing of chemistry.

**Dosage:** DDC-AR 9: 9ml/h-9L/h, 7bar; DDA-FCM 7.5: 25ml/hr-7.5L/h, 16bar. DDA-AR 17: 17ml/hr-17L/h, 7bar. DDA pumps include a week timer.

**Included:** Pumps, multi-function valves, isolation valves, 3 drip trays / drain valves, ABS cover.

Part No.	Dosing System
6036570	With 3x DDC-AR 9 (e.g. for inhibitor, acid, non-oxidising biocide)
6036611	With 2x DDC-AR 9 (e.g. for inhibitor, non-oxidising biocide)
6036612	With 1x DDC-AR 9 (e.g. for non-oxidising biocide)
6036613	With 2x DDC-AR 9 (e.g. for inhibitor, non-oxidising biocide) and 1x DDA-FCM 7.5 (e.g. for oxidising biocide)
6036614	With 1x DDC-AR 9 (e.g. for inhibitor) and 1x DDA-FCM 7.5 (e.g. for oxidising biocide)

Part No.	Dosing System (continued)
6037342	With 3x DDA-AR 17-7 dosing pump
6037341	With 2x DDA-AR 17-7 dosing pump
6037312	With 1x DDA-AR 17-7 dosing pump

Part No.	Accessory
6036617	3-way rinse valve for suction line, 6x4mm tubing connections, PVDF
6036618	As previous, 9x6mm
6036619	As previous, 12x9mm

Part No.	Components to create your own dosing system. Select the dosing system below. Select max. 3 DDA, DDC, DDE dosing pumps, 3 multi-function valves and 3 isolation valves below. Assemble on site.
6036615	Dosing system, incl. drain valves and cover.
6040251	Isolation valve for discharge line, 6x4mm tubing connections, PVDF
6036620	As previous, 9x6mm
6036622	As previous, 12x9mm
6036621	As previous, 12x6mm, PVDF/PVC



Safe, compact dosing systems protect against chemical sprays, spills, component failures and mixing of chemical products.



# Dosing Systems for Boiler Water

NALCO WATER Dosing Systems for Boilers are compact quick and cost effective to install. The enclosure protects operators and components. Multi-function valves and isolation ensure safe/reliable operation and maintenance. The drip tray with 3 compartments avoids spills and mixing of chemistry.

**Dosage:** DDA-AR 7.5: 25ml/hr-7.5L/h, 16bar

**Included:** Dosing pumps, multi-function valves, isolation valves, enclosure with 3 drip trays / drain valves, ABS cover.

**Pump positions:** In systems with 1 dosing pump, the pump is located in the middle compartment. In systems with 2 dosing pumps, they are located in the left and right compartments.

<b>Part No.</b>	<b>Boiler Dosing system</b>
<b>6036624</b>	SS, with 1x DDA-AR 7,5-16 dosing pump
<b>6036623</b>	SS, with 2x DDA-AR 7,5-16 dosing pump
<b>6036626</b>	PP, with 1x DDA-AR 7,5-16 dosing pump
<b>6036625</b>	PP, with 2x DDA-AR 7,5-16 dosing pump

<b>Part No.</b>	<b>Accessory</b>
<b>6036617</b>	3-way rinse valve for suction line, 6x4mm tubing connections, PVDF

**Part No.** Components to create your own dosing system. Select the dosing system below. Select max. 3 DDA dosing pumps and 3 assemblies below. Assemble on site.

<b>6036627</b>	Boiler dosing system, SS, no pumps
<b>6036628</b>	Pressure relief/isolation valve assembly, SS, for left DDA pump
<b>6036629</b>	As previous, for right DDA pump
<b>6036630</b>	As previous, for middle DDA pump



Safe, compact dosing systems protect against chemical sprays, spills, component failures and mixing of chemical products.

# Dosing Stations

When it is not possible to store your NALCO WATER chemical product in a PORTA-FEED base tank, the next best solution is a tank with a dosing pump, suction lance, injection valve and discharge tubing. NALCO WATER supply these components as packaged dosing stations that can be ordered with a single part number, ready for on-site assembly. Make sure to order a containment bund, when not available on site. Also make sure to use a transfer pump to safely fill the dosing station.

**Power dosing pump:** 100-240Vac, 50-60Hz

**Flow, pressure:** DDC 9: 9ml/h-9L/h, 7bar; DDE-P 6: 6ml/h-6L/h

**Dosing tank, optional bund:** PE

**Suction lance:** PVC

**Optional transfer pumps:** 240Vac; PP pump: max. density: 1.3kg/dm<sup>3</sup>, max. viscosity: 300mPas. PVDF pump: max. density: 1.8kg/dm<sup>3</sup>, max. viscosity: 800mPas.

## Part No.

6018121

6018123

6018125

6034433

6034436

6018130

## Part No.

6018696

6018697

6018698

6036335

6036336

## Part No.

6017406

6017404

6017405

## Dosing Station

With DDC 9 dosing pump, 60L tank

With DDC 9 dosing pump, 100L tank

With DDC 9 dosing pump, 200L tank

With DDE-P 6 dosing pump, 60L tank

With DDE-P 6 dosing pump, 100L tank

With DDE-P 6 dosing pump, 200L tank

## Accessory

Bund, PE, 60L

Bund, PE, 100L

Bund, PE, 200L

Transfer pump set with 1m PP shaft and variable speed.

As previous, with PVDF shaft

## Replacement Part

Tank, PE, cylindrical, 60L

Tank, PE, cylindrical, 100L

Tank, PE, cylindrical, 200L

Dosing Station



Optional Transfer Pump

The next best solution when your NALCO WATER chemical product is not stored in a PORTA-FEED base tank.



# Dosing Pumps

The innovative Smart Digital DDA, DDC and DDE dosing pumps have an electronically controlled variable speed stepper motor. The advanced DDA pumps provide features for critical and degassing products. The DDC pump is the standard version with the main operation modes. The DDE pump is the economy version with basic functions.

Part No.	Dosing Pump
6044921	DDA-FCM 7.5L/h 16bar, PVDF/FKM
6044923	DDA-AR 7.5L/h, 16bar, PVDF/FKM
6044925	DDA-AR 17L/h, 7bar, PVDF/FKM
6044927	DDA-AR 30L/h, 4bar, PVDF/FKM
6044928	DDC-AR 9L/h, 7bar, PVDF/FKM
6044929	DDE-P 6L/h, 10bar, PVC/FKM
6044930	DDE-P 15L/h, 4bar, PVC/FKM
6007028	DME 60, 60L/h, 10bar, PVDF/FKM

**Power supply:** 100-240V, 50-60Hz

**Current consumption:** Nominal 0.09A, surge current at 100/230V is 8/25A for 2ms.

**Included with DDA/DDC/DDE pumps:** Control cable for remote start/stop or analogue control, floor/wall mounting plate, installation kit (PE suction tubing, discharge tubing and PVC vent tubing; foot valve; injection valve; tubing connectors), 6 sets of tubing connectors (2 of each size): 6x9mm, 9x12mm, 6x12mm, 5x8mm, 6x8, 1/4"x3/8", manual in 29 languages on CD, quick start-up guide. DDE pumps also come with a bridge plug.

**Included with DME pumps:** Manual in 14 languages on CD, quick start-up guide.

**IMPORTANT:** Do not control/power the dosing pumps directly with 110-240Vac from a controller (3D TRASAR controller or other). [Use the included control cable](#) instead, and use an external 110-240Vac power supply for the dosing pump.



The innovative stepper motor driven dosing pumps provide reliability, long pump life and continuous smooth product dosage.

# Dosing Pumps - Features



Features	DDA-FCM	DDA-AR	DDC-AR	DDE-P	DME60
Pump head / seals	PVDF/FKM	PVDF/FKM	PVDF/FKM	PVC/FKM	PVDF/FKM
LCD display	●	●	●	-	●
LCD display front or side mounted	●	●	●	-	-
Turn-down ratio	1 : 3000	1 : 1000	1 : 1000	1 : 1000	1 : 1000
Manual control, pulse control (e.g. water meter), external start/stop, stop on tank empty	●	●	●	●	●
Analogue control	●	●	●	-	●
Scaling for analogue input	●	-	-	-	-
Week timer	●	●	-	-	-
Interval timer	-	-	-	-	●
Batch control	●	●	-	-	●
Auto-deaeration during standby	●	●	-	-	-
Flow control-fault diagnosis, pressure monitoring (min/max), flow measurement, auto flow adapt	●	●	-	-	-
Slow mode (anti-cavitation)	●	●	●	-	●
Relay outputs	2	2	2	-	1
Analogue output	1	1	-	-	-

# Dosing Pumps - Accessories by Pump

	DDA-FCM 7.5L/h 16bar	DDA-AR 7.5L/h 16bar	DDA-AR 17L/h 7bar	DDA-AR 30L/h 4bar	DDC-AR 9L/h 7bar	DDE-P 6L/h 10bar	DDE-P 15L/h 4bar	DME 60 60L/h 10bar
Connection size	6x4mm		12x9mm			6x4mm	12x9mm	27x19mm
Multi-function valve, 5/8" fBSP, DN8, PVDF/PTFE/FKM	6045964				6045965			-
Non-return valves, spring loaded, PVDF/FKM, for high viscosity products	6045951	6045952		6045951	-			6018943
Non-return valves, PVDF/PTFE, for products not compatible with FKM	6045953	6045954		6045953		6045954	6018942	
Pressure loading valve, if back pressure < 3bar	6045976	-						
Input cable + plug, 5m, for analog 0-20/4-20mA, pulse, remote start/stop signal or level (level not for DME 60)				6045978				6003091
Plug only (functionality as previous)				6045980				6008879
Level switch, cable + plug, 5m				-				6003092
Plug only (functionality as previous)				-				6008940
Output cable + plug, signal output or relay output alarm and warning, 5m				6045981				-
Control cable with plug, start/stop input, pump run output, 5m				-				6007026
Alarm relay cable with plug, 5m				-				6021305
Plug output only (same as above)				6045982				-
Suction lance + level switch, 500mm, 6x4mm, 12x9mm				6050461				-
Suction lance, 500mm (no level switch), 6x4mm, 12x9mm				6050464				-
Suction lance + level switch, 1200mm, 6x4mm, 12x9mm				6050465				-
Suction lance, 1200mm (no level switch), 6x4mm, 12x9mm				6050466				-
Suction lance + level switch, 690mm, 6x4mm, 12x9mm				6050467				-
25kg pail cap for suction lance				6017401				-



Multi-function Valve



Control Plug / Cable



Suction Lance



25kg Pail Cap  
for Suction Lance

# Dosing Pumps - Tubing

Part No.					Diameter, Outer x Inner	Length (m)	Pressure Max. (bar)
Single Walled MDPE	Double Walled MDPE	Single Walled PTFE	Double Walled PTFE	Single Walled PVC Braided			
6003014	6002990	6003062	6002966	-	3/8" x 1/4"	30	19
6003015	6002991	6003063	6002967	-		50	
6003016	6002992	6003064	6002968	-		100	
6003022	6002998	6003070	6002974	-	6x4mm	30	19
6003023	6002999	6003071	6002975	-		50	
6003024	6003000	6003072	6002976	-		100	
6003034	6003006	6003082	6002986	-	8x5mm	30	23
6003035	6003007	6003083	6002987	-		50	
6003036	6003008	6003084	6002988	-		100	
6031727	-	-	-	-	9x6mm	50	13
6003030	6003010	6003078	6002982	-	12x9mm	30	13
6003031	6003011	6003079	6002983	-		50	
6003032	6003012	6003080	6002984	-		100	
-	-	-	-	6031153	12x6mm	25	23
-	-	-	-	6031155		50	
-	-	-	-	6031156		100	



Double wall:  
inner tubing is  
surrounded by  
a 3/4" LDPE  
outer tube

# Dosing Pumps - Other Accessories



## Injection Quills

Process connection: 1/2" mBSP  
Pressure: Max. 40 bar

Part No.	Description
6007024	ChemQuill, with isolation valve and non-return valve, 155mm insertion length, SS316
6007025	As previous, 80mm insertion length
6003089	Compression fitting for ChemQuill, SS, 6mm outside diameter
6003090	As previous, 8mm outside diameter

Bulletin BEU-191



## Hot Water Injection Assembly

Process connection: 1/2" mBSP  
Tubing connection: 9x6mm PVDF  
Temperature: Max. 150°C

Part No.	Description
6008941	Injection assembly for hot water applications, 1/2" ball valve, 10x8mm SS tubing



## PORTA-FEED connector

Process connection: 1/2" mBSP  
Tubing connection: 6x4mm and 12x9mm included

Part No.	Description
6021304	PORTA-FEED connector, PVDF

# Dosing Pumps - Replacement Parts by Pump

	DDA-FCM 7.5L/h 16bar	DDA-AR 7.5L/h 16bar	DDA-AR 17L/h 7bar	DDA-AR 30L/h 4bar	DDC-AR 9L/h 7bar	DDE-P 6L/h 10bar	DDE-P 15L/h 4bar	DME 60 60L/h 10bar
Maintenance kit with 1 diaphragm, 2 non-return valves (includes pump head for DME 60)	6045958		6045957	6045959	6045958	6045955	6045956	6003146
Installation kit with tubing, injection valve, foot valve	6045960			6045961		6045962	6045963	-
Foot valve, PVDF, 6x4mm, 12x9mm, G5/8"				6050469				6003144
Foot valve, PE, 6x4mm, 12x9mm, G5/8"				6050468				-
Injection valve			6045966			6045967		6003145
Bridge plug. Required when controlling a DDE-P pump with a potential free contact. Not required when a level switch is connected to the pump.			-			6048657		-
Tubing adapter, PVDF, 6x4mm					6045968			
Tubing adapter, PVDF, 8x5mm					6045969			
Tubing adapter, PVDF, 8x6mm					6045970			
Tubing adapter, PVDF, 9x6mm					6045971			
Tubing adapter, PVDF, 12x6mm					6045972			
Tubing adapter, PVDF, 12x9mm					6045973			
Tubing adapter, PVDF, 1/4"x1/8"					6045974			
Tubing adapter, PVDF, 3/8"x1/4"					6045975			



Foot Valves



Injection Valves



Installation Kit



Bridge Plug



# Bleed Valves

**Motorised bleed valves** can be directly controlled/powered by a 3D TRASAR controller. A relay box is not required. The motor valves have two 240Vac power inputs. One 240Vac input is connected to the 3D TRASAR controller's relay. The other 240Vac input requires continuous (external) power. The valves can also be connected to other controllers (e.g. WCT410), as long as input 1 is connected to the controller's N/O output and input 2 is continuously powered (and not connected to the N/C output).

**Solenoid bleed valves** require an isolation valve and strainer kit to protect the valve from blockage and to prevent passing. The kit must be installed prior to the solenoid valve.

**Power:** 240Vac

**Temperature:** Motorised valve: brass -20...90°C; PVC 0...60°C; solenoid valve: -10...90°C

**Pressure:** Motorised valve: 0-16bar; solenoid valve: 0-10bar

Part No.	Motorised Bleed Valves
6037050	PVC, 25mm (DN20)
6037111	PVC, 32mm (DN25)
6037112	PVC, 40mm (DN32)
6037113	PVC, 63mm (DN50)
6037093	Brass, 1/2" (DN15)
6037094	Brass, 3/4" (DN20)
6037095	Brass, 1" (DN25)
6037096	Brass, 1 1/2" (DN40)
6037097	Brass, 2" (DN50)

Part No.	Solenoid Valves
6002779	Brass, 1/2" (DN15)
6002781	Brass, 3/4" (DN20)
6002783	Brass, 1" (DN25)
6002777	Brass, 2" (DN50)

Part No.	Strainer and Ball Kit for Solenoid Valves
6002837	Brass, 1/2" (DN15)
6002838	Brass, 3/4" (DN20)
6002839	Brass, 1" (DN25)
6002841	Brass, 2" (DN50)



These motorised bleed valves can be directly controlled / powered by a 3D TRASAR controller without the need for an additional external relay box.



# PARETO Mixing Technology

PARETO Mixing Technology enhances chemical performance by optimizing the injection of the chemical additives into process streams. It allows for a more uniform additive distribution in a shorter time compared to traditional injection systems. Water savings, energy savings, increased production and quality improvement can all be achieved when this innovative solution is used to replace traditional injection technologies for e.g. flocculant addition into the wet-end of the paper machine system.

## Part No. PARETO Optimizer, main

- 6051383 Optimizer, Coupling, Large, 10.0mm, 2.1
- 6051384 Optimizer, Coupling, Small, 10.0mm, 2.1

## Part No. PARETO Pressure Booster Set

- 6042930 15/20m<sup>3</sup>/h, Automatic
- 6042931 15/20m<sup>3</sup>/h, Semi-automatic
- 6042932 15/20m<sup>3</sup>/h, Manual
- 6042933 50m<sup>3</sup>/h, Automatic
- 6042934 50m<sup>3</sup>/h, Semi-automatic
- 6042935 50m<sup>3</sup>/h, Manual
- 6051499 100m<sup>3</sup>/h, Automatic (Andritz pump)

## Part No. PARETO Accessory

- 6042938 Optimizer, Connect, Polymer
- 6042937 Optimizer, Connect, Water, 15/20m<sup>3</sup>/h
- 6042944 Optimizer, Water, Connect, 15/20m<sup>3</sup>/h
- 6042948 Optimizer, Water, Connect, POL, 50m<sup>3</sup>/h
- 6042943 SBM, Manifold, INT, POL, 4OUTL, 20m<sup>3</sup>/h
- 6042946 SBM, Manifold, POL, 4OUTL, 50m<sup>3</sup>/h
- 6042942 SBM, Manifold, INT, POL, 3OUTL, 15m<sup>3</sup>/h
- 6040097 Threaded Adaptor
- 6033144 Adapter, 316, 1<sup>1</sup>/<sub>4</sub> FBSPP
- 6042936 Booster, Hose, DN50, 5m, 15/20m<sup>3</sup>/h
- 6042947 SBM, Hose, Optimizer, DN32, 5m, 50m<sup>3</sup>/h
- 6042945 Booster, Hose, DN65, 5m, 50m<sup>3</sup>/h
- 6042940 Optimizer, Hose, DN32, 5m, 50m<sup>3</sup>/h
- 6042939 Optimizer, Hose, DN20, 5m, 15/20m<sup>3</sup>/h
- 6042941 Optimizer, Water, Valve, NRV, 50m<sup>3</sup>/h

The involvement of a NALCO WATER Customer Project Engineer is required to ensure proper installation.



Pressure Booster Set

PARETO Mixing Technology has been specifically designed to reduce the inefficiencies and challenges that are inherent in e.g. traditional papermaking methods.

# G2010, G1010 Polymer Feed Systems

The G2010 range of Polymer Feed Systems offer the very best in polymer dilution, in manual, batch or online operation. Safety systems and high performing fully automatic modes provide continuous high quality emulsions and therefore an economic product application and usage. Due to its small space requirements, the G2010 Polymer Feed System can be integrated and assembled very easily into any existing facility.

The G2010 Polymer Feed System is a fully automatic batching and dosing station for liquid polymers. The liquid polymer available from the bulk storage tank is blended in the mixing pump by a specially developed mixing unit with the solution water to the desired concentration of the solution, all controls and adjustments are achieved through the touch panel located on the front of the electrical control panel.

G1010 Polymer Feed System has been designed for online process application, so that solution can be dosed directly without intermediate storage tank. If required the system can also be operated in batch operation mode using an aging tank with a dosing pump.

Part No.	Feeder Model	Water (m <sup>3</sup> /h)	Polymer (kg/h)
<b>G2010 Polymer Feed System</b>			
<b>6046449</b>	G2010, 3-25-2.5	2.5	2.5-25
<b>6046461</b>	G2010, 3-60-6	6	6-60
<b>6046462</b>	G2010, 3-100-10	10	10-100
<b>6046463</b>	G2010, 3-150-15	15	15-150

<b>G2010 Polymer Feed System, with inductive solution flow meter, PID controlled dosing pump</b>			
<b>6046464</b>	G2010, 6-25-2.5	2.5	2.5-25
<b>6046465</b>	G2010, 6-60-6	6	6-60
<b>6046468</b>	G2010, 6-100-10	10	10-100
<b>6046469</b>	G2010, 6-150-15	15	15-150

<b>G1010 Polymer Feed System</b>			
<b>6017581</b>	G1010, 10-1	1.0	0.5-10
<b>6017582</b>	G1010, 30-2.5	2.5	2-30



G2010 Polymer Feed Systems offer the very best in polymer dilution, in manual, batch or online operation.

G1010 Polymer Feed Systems offer automatic in-line dosing or into an aging tank.

# Coagulant Polymer Feed Systems

Coagulant Polymer Feed Systems have been designed for online process application, so that solution can be dosed directly without intermediate storage tank.

The feed systems feature a switching / control cabinet approved to VDE / UVV Regulations and is built on a stainless steel frame.

**Power:** 400V, 3-Phase

**Solution:** 1-10%

**Min. water pressure:** 3.5bar

**Dimensions LxWxH:** 1.0x0.5x1.1m

Part No.	Feeder Model	Water (m <sup>3</sup> /h)	Polymer (kg/h)
<b>6017559</b>	CF 10-1	1.0	0.5-10
<b>6017580</b>	CF 30-2.5	2.5	2-30

## Part No. Accessory

<b>6017660</b>	Filter with by-pass for stock polymer with spare basket 1200um
<b>6017595</b>	Polymer flow control, inline flow switch to observe the polymer flow (flow / no flow)



Polymer Feed Systems for automatic in-line dosing of coagulant polymers.



# Polymer Solution Dosing Systems

The polymer solution dosing systems have been designed to give a wide variable range of flows to suit your customer needs. The pumps have a configuration with a simplex single pump or a duplex duty/standby option. Other configuration are available upon request.

All pump systems have the facility to be started and stopped via the customer's volt free dry contact process interlock. Pump flow rate option to be controlled locally on the main panel or from your customer's DCS flow signal. Output signal indicating solution flow rate is available, local indication of flow from magnetic flowmeter (Magflo).

The systems are delivered as a ready-to-use device, complete with all electrical wiring and internal piping. The electrical panel features all switching / control cabinet approved to VDE / UVV Regulations and is built on a stainless-steel chassis so that you only need to install signal and electrical connections.

## Features

- ▲ Fully enclosed control panel
- ▲ Solution output with inductive flowmeter controlled by frequency drive
- ▲ Eccentric-screw pump/ pumps, stainless steel rotor / Viton stator
- ▲ Stainless steel chassis and internal piping

**Power supply:** 400 V, 50 Hz, 4.5 kW (other voltages on request)

**Dimensions (WxDxH):** Approx. 1.8 x 0.9 x 1.6m

Part No.	Polymer Solution Dosing System
6049581	Simplex, 2m <sup>3</sup> /h
6049582	Simplex, 4m <sup>3</sup> /h
6049583	Simplex, 6m <sup>3</sup> /h
6049584	Duplex, 2m <sup>3</sup> /h
6049585	Duplex, 4m <sup>3</sup> /h
6049586	Duplex, 6m <sup>3</sup> /h

Solution pumps available in simplex single pump or duplex two pump duty/standby operation.



# Dry Polymer Feed Systems



TWINDOS



POLYDOS

The stainless steel TWINDOS and plastic POLYDOS dry polymer systems dissolve powder in batch operation mode. Fully automatic operation ensures consistent polymer solution quality.

**Power supply:** 400/230V, 50Hz, 5kW (TWINDOS), 2kW (POLYDOS)

**Water pressure:** min. 5bar

**Ingress protection:** Cabinet IP65, motors IP55

Fully automatic dry polymer feed ensures consistent solution quality.

## Part No. TWINDOS Polymer Feed System

- 6051290** 1m<sup>3</sup> solution, 5kg/h polymer
- 6051291** 2m<sup>3</sup> solution, 10kg/h polymer
- 6051302** 3m<sup>3</sup> solution, 15kg/h polymer
- 6051303** 4m<sup>3</sup> solution, 20kg/h polymer
- 6051305** 5m<sup>3</sup> solution, 25kg/h polymer
- 6051306** 6m<sup>3</sup> solution, 30kg/h polymer
- 6051307** 7m<sup>3</sup> solution, 35kg/h polymer
- 6051308** 10m<sup>3</sup> solution, 50kg/h polymer

## Part No. POLYDOS Polymer Feed System

- 6051309** 0.5m<sup>3</sup> solution, 5kg/h polymer
- 6051310** 1m<sup>3</sup> solution, 10kg/h polymer
- 6051311** 2m<sup>3</sup> solution, 20kg/h polymer

# FLOCMASTER Mixing Technology

Sludge is produced at every step of the waste water operation. Sludge dewatering is an essential step in meeting environmental and TCO targets. Poor dewatering has a significant impact on sludge volume, disposal route and cost. Achieve quantifiable sustainability performance and operational efficiency in sludge dewatering with the innovative and unique NALCO WATER FLOCMASTER mixing technology. It integrates your chemical and equipment needs for an optimum sludge management operation.

**Part No.** FLOCMASTER Inline Mixer, connects to control cabinet of Polymer Preparation Station

**6046794** V3, 2-100m<sup>3</sup>/h sludge, PN16, DN100  
**6046795** AT, 2-200m<sup>3</sup>/h sludge, PN16, DN150

**Part No.** FLOCMASTER Inline Mixer with Control Cabinet

**6046808** V3, 2-100m<sup>3</sup>/h sludge, PN16, DN100  
**6046809** AT, 2-200m<sup>3</sup>/h sludge, PN16, DN150

**Part No.** DosingStation Control Cabinet  
**6046803** For Inline Mixer, Polymer Solution Dosing Pump and Flow Meter

**Part No.** FLOCMASTER Polymer Preparation Station

**6060541** Light, Liquid Polymer 6L/h, 0.1-3.0%\*  
**6046785** PS1, Liquid Polymer 12L/h, 0.1-4.0%\*  
**6046801** PS4L, Liquid Polymer 60L/h, 0.1-4.0%\*  
**6046802** PS4LD, Liquid Polymer 60L/h, Dry Polymer 40kg/h, 0.1-2.0%\* for dry

\* Concentration depends on process and chemical product

**Part No.** Polymer Solution Dosing Pump, for Polymer Preparation Station or DosingStation

**6046791** 550L/h, 10bar, freq. control, with flow meter  
**6046792** 3000L/h, 15bar, freq. control, with flow meter  
**6062176** Option to control a 2<sup>nd</sup> dosing line with a Polymer Preparation Station (PS1, PS4) or DosingStation

**Part No.** Buffer Tank with Agitator, Transfer Pump  
**6046788** Volume 2.0m<sup>3</sup>, transfer 18m<sup>3</sup>/h

**Part No.** Automation solids probe technology with controller, sensor, pipe and armature

**6053907** Solid Probe Kit, for DN100  
**6053909** Solid Probe Kit, for DN150



Inline Mixer



Polymer Station

Innovative and unique package designed to deliver quantifiable sustainability performance and operational efficiency in sludge dewatering applications.

# FLOCMASTER Replacement Parts

## Part No. Polymer Preparation and Dosing

- 6053450** Service kit, for PS4LD, Dry (O-rings, strainer, cartridge heater, sensor)
- 6053895** Service kit, for PS1L-PS4L, Liquid (pump spare kit\*, strainer)
- 6053896** Filter element for powder conveying system FG 205 of PS4LD, Dry
- 6053897** PVC tube with Co-litz wire for powder conveying system FG 205
- 6062968** Carbon brushes (set) for powder conveying system FG 205
- 6062969** Limit switch Liquiphant FTL260
- 6062970** Dry run sensor for all pumps (flow sensor LMT100)
- 6062967** Filter mat for fan of control cabinet (148x148mm)
- 6062965** Filter mat for fan of control cabinet (276x276mm)
- 6053898** Spare kit\* for transfer pump NM038BY01LO6B of **6046788**
- 6053900** Spare kit\* for small dosing pump CY06/1000
- 6053901** Spare kit\* for small dosing pump NM015BY01LO6B
- 6053903** Spare kit\* for dosing pump 3000L/h, NM031BY04S24B of **6046792**
- 6063001** Spare kit\* for dosing pump 550L/h, NM015BY02S12B of **6046791**

\* Includes rotor, stator, seals, accessory kit

## Part No. Solids Sensor

- 6053467** Wiper kit for solids sensor (5pc)
- 6053463** Solids sensor, measurement range up to 500g/L, stainless steel, wiper, 10m cable, max. 40°C, max. 5bar
- 6053440** Solids controller, 2x DI, 2x 20mA output, 100-240VAC
- 6053465** Safety inline armature, retractable with ball valve, DN65, for solids sensor, stainless steel, max. 5bar
- 6053461** Fixed sensor holder, DN65, for solids sensor, stainless steel, max. 1bar
- 6053462** DN100,65,100 flange, T-pipe for solids sensor
- 6053464** DN150,65,150 flange, T-pipe for solids sensor
- 6053466** Extension cable, 50m, for solids sensor

## Part No. Polymer Preparation FLOCMASTER Light

- 6060551** PLC Controller, CPU1215C
- 6060561** PLC Controller Module, SM1234
- 6060563** Touch Panel, KTP400Basic, (for Version 1.0 / 2.0)
- 6062934** Touch Panel, KTP400Comfort, (for Version 3.0)
- 6060564** Frequency drive, 0.55kW
- 6060566** Frequency drive, 4.0kW
- 6060567** Dosing Valve, Motor controlled, DN15, (CV-001)
- 6062936** Dosing Valve, spare part kit, (for CV-001)
- 6060568** Flowmeter for Water, DN12, (FT-01)
- 6060571** Flowmeter for Polymer, 6MM, (FT-02)
- 6060572** Mixing pump, (P-001)
- 6060573** Mixing pump, spare part kit (seal, wear out parts, O-ring set), (P-001)
- 6060576** Polymer pump, (P-002), (for Version 1.0 / 2.0)
- 6062938** Polymer pump with external cooling, (P-002), (for Version 3.0)
- 6060577** Calibration pump, manual, (P-003)
- 6060579** Pressure reducer, DN25, (PC-001), (for Version 1.0)
- 6062939** Pressure reducer, DN15, (PC-001), (for Version 2.0 / 3.0)
- 6060580** Solenoid valve, DN25, (V-003), (for Version 1.0)
- 6062940** Solenoid valve, DN15, (V-003), (for Version 2.0 / 3.0)
- 6060581** Non-Return valve, DN25, (V-004), (for Version 1.0)
- 6062971** Non-Return valve, DN15, (V-004), (for Version 2.0 / 3.0)
- 6060582** Pressure-Relief valve, DN15



# Polymer Make Down/Activation System for Flocculation Applications

This make down/activation system can be used in the automotive industry, Paper industry and post-treatment applications.

In the automotive industry it is part of the innovative APEX technology for Paint Detackification. The technology aims to reduce cost of operation, increase system performance and provide a step-change improvement in programme sustainability. APEX polymers require 0.1-2% make down and an activation/ageing period. The make down/activation system ensures the best possible performance of the APEX polymers.

**Power supply:** 24Vdc or 240Vac

**Compressed air:** 3-8bar, 6x4mm

**Inlet water:** 0.1-3.0m<sup>3</sup>/h, 2-6bar, 1-43°C, 3/4" fBSP

**Solution:** 0.1-2%, **6046351:** 3/4" fBSP, **6046657:** 1" fBSP

Part No.	Description
<b>6046351</b>	POLIMAT polymer make down system
<b>6049934</b>	Polymer make down system with Dosatron pump and tank
<b>6046657</b>	Dilution system, with polymer make-down system, 370L PE tank, level switch, agitator and electrical cabinet
<b>6046663</b>	Bund for <b>6046657</b> , PE, 600L
Part No.	Replacement part
<b>6050793</b>	Dosatron pump



6046351

6046657

NALCO WATER innovation helps to meet sustainability goals across the automotive industry, paper industry, and post-treatment applications.



# UltraPositek™ Feed Systems

UltraPositek Feeders are compact devices for the automatic production of UltraPositek solution. UltraPositek is dosed directly into a static mixer using magnetic membrane pumps. For rinsing purposes the Feeder is fitted with an automatic rinsing system. A consistent solution is guaranteed through the pressure-reducer built into the water-flow path.

Power: 400V, 3-Phase

Solution: 0.1-5%

Min. water pressure: 3.5bar

## Part No.

6017661

6017597

6017595

## Accessory

Duplex filter KF-2, for filtering the neat UltraPositek, 1200um

MID flow meter (4-20mA output)

Polymer flow control, inline flow sensor (flow/no flow)

Part No.	Feeder type	Polymer flow (L/h)	Water flow (m <sup>3</sup> /h)	Piping	Frame
6017583	UPF 3-25-2.5	2-25	2.5	PVC	PP
6017586	UPF 6-25-2.5	2-25	2.5	SS	SS
6017584	UPF 6-60-6	6-60	6	SS	SS
6017585	UPF 6-100-10	10-100	10	SS	SS



## FillerTEK Technology

Paper producers are under pressure to improve the overall efficiency of their operations in the face of unforeseen economic challenges, shifting market demands, and escalating costs.

FillerTEK is one of the NALCO WATER technology based solutions to reduce total cost of operation by using less expensive raw materials while preserving end product quality. The program successfully delivers higher sheet ash levels than previously attainable in the past. This technology is designed for customers utilizing either PCC, GCC or a blend of these carbonates as their filler source.

Part No.	Description
6057412	FillerTEK feeder, GCC
6057414	FillerTEK feeder, PCC
6057413	Dilution module, for GCC Feeder
6057415	Dilution module, for PCC Feeder
6057417	Flow meter, for polymer solution

**Increased sheet ash level:** The NALCO WATER filler treatment allows customers to increase their total sheet ash content up to 5% points and maintain the critical strength and optical properties of the end product.

**Utilization of less expensive raw materials:** FillerTEK allows the papermaker to use less fiber and more filler. The technology may also provide the opportunity to use less expensive fiber sources.

**Improved internal bond strength of final sheet:** FillerTEK can also be used to achieve increased internal bond strength at the mill's current level of sheet ash.

**Sheet less prone to linting and dusting:** Commercial sheets produced with FillerTEK were found to dust less in printing and converting studies.

**Final product with good press room runnability:** Commercial UCFS produced with FillerTEK showed no negative impact in print trials.

**Reduced steam consumption:** Sheets containing higher levels of ash are easier to dry.

**Staying competitive with the global economy.**

**Low maintenance programme.**



Reduced TCO with less expensive raw materials. Increased sheet ash content. A paper sheet that is less likely to dust or lint in printing and converting operations. Ability to sell excess pulp to the market.





## Progressing Cavity Pumps

Netzsch/Nemo pumps are positive displacement pumps designed for dosing highly viscous material. The key components are the rotor (a rotating part) and the stator (a fixed part), the former rotating in the latter. The rotor is a type of extremely coarse pitch threaded screw with a deep thread and narrow core. The stator has twice the pitch of the rotor. As the rotor turns within the stator cavities are formed between the stator and the eccentrically turning rotor, pumping product from the inlet to the outlet of the pump.

**Power:** 400V, 3-Phase

**Control:** For use with Frequency Inverter (frequency inverter is not included)

**Max pressure:** 6bar

**Materials:** FKM stator, SS rotor

Progressing cavity pumps are designed for dosing highly viscous products.

Part No.	Pump Type	Flow (L/h)	Frequency (Hz)	Power (kW)	Part No. Spare Stator	Part No. Spare Rotor
6017672	NM003-FU	0.5-3.0	0-100	0.55	6031118	6031119
6017673	NM005-FU	2.0-14.0			6031120	6031121
6017674	NM008-FU	6.0-60			6031122	6031123
6017675	NM011-FU	24-170			6031124	6031125
6017676	NM015-FU	75-550		0.75	6031126	6031127
6017677	NM021-FU	125-1100		1.5	6031128	6031129
6017678	NM038-FU	800-4000		2.2	6031130	6031131



## High Volume Foamer

The NALCO WATER High Volume SS Foamer is an air-assisted, water-driven venturi system that dilutes chemical concentrates and projects high quality foam onto any surface, providing for superior cleaning and visual assurance of complete coverage.

A high concentration dilution ratio can be applied for tough cleaning jobs. The foamer does not have moving parts, which ensures very low maintenance. The foam coverage is up to 46m<sup>2</sup>/min; the foam throw distance up to 9m.

Part No.	Description
6035373	High Volume Foamer
6035371	NPT to BSP adapter for High Volume Foamer

- ▲ Machined SS foamer body
- ▲ SS mounting bracket, SS hose rack
- ▲ Air regulator
- ▲ Discharge hose with quick disconnects, SS ball valve, PP foam wand and 0° nozzle

Compressed Air: 113-453L/min

Water Pressure: 3.4-8.6bar

Water Flow Rate: 14L/min @ 3.4bar

Discharge Hose: 22.9m x 1" (ID)

A high concentration dilution ratio can be applied for tough cleaning jobs. The foamer does not have moving parts, which ensures very low maintenance.

# OxiPRO Deposit Control Feed System



OxiPRO Feed System  
for Nalco 74650

OxiPRO Deposit Control [Technology](#) is our innovative, SMART Solutions offering for enhanced control of microbial growth and deposit formation in paper making systems. It uses proprietary chemistry that is the best technical fit for the system to provide maximum performance and wet-end compatibility.

The OxiPro [Feed System](#) activates and doses the NALCO WATER three-component chemistry biocide feed programme (Halogen Stabiliser, Bleach and Caustic) to the application points on the paper machine.

All operations and control parameters are available from the HMI PLC screen.

The feed system comes in two sizes: Low Flow and High Flow. It can feed to up to six addition points.

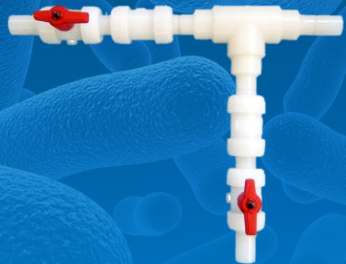
Process control and interlocks to the customers process are built into the standard feed system ensuring safe operation at your customers plant.

[The involvement of a NALCO WATER Customer Project Engineer is required to ensure proper installation.](#)

OxiPRO Deposit Control Technology provides control of microbial growth, surface deposits, operational costs and chemical usage.

Part No.	Description	Bleach Max. flow (L/h)	Caustic Max. flow (L/h)	Stabilizer Max. flow (L/h)
6058624	OxiPRO Feeder Low Flow	60	7.5	60
6058625	OxiPRO Feeder High Flow	375	12	375

Part No.	Description	Chiller model	Bleach heat cooler	Stabilizer heat cooler
6059484	OxiPRO Low Chiller/Heat Exchanger	ENR 008	M10Hx20	M10Hx30
6059804	OxiPRO High Chiller/Heat Exchanger	ENR 010	M10Hx50	M10Hx60



OxiPRO Reaction Tee  
for Nalco 74808

Safe mixing of Nalco 74808  
and Sodium Hypochlorite  
chemicals

## OxiPRO Reaction Tees

The OxiPRO Reaction Tees have been designed for safe mixing of Nalco 74808 and Sodium Hypochlorite chemicals. Each chemical product has its own injection inlet to the reaction vessel where the chemical products are then mixed within the Tee and discharged to the injection point.

The Reaction Tee can also be used for mixing other chemical products, e.g. ACTI-BROM™ and Sodium Hypochlorite.

Each inlet port is fitted with a PVDF non-return valve, which are fitted with PTFE coated springs, allowing position of the Tee in any plane. The reaction Tee is filled with PTFE 'rasher rings' to aid the mixing process. The Tee must be positioned within the 5m of the addition point.

Applications: machine stock systems, process control, waste neutralisation, cooling water.

Part No.	Description
6036971	Reaction Tee, 50ml
6036973	Reaction Tee, 20ml

Material: PVDF, fusion welded

Inlet connections: Two, 1/2" fBSP

Outlet connections: One, for 12x9mm tubing

Discharge tubing: 5m, PTFE (supplied)



# PURATE SVP-Pure Chlorine Dioxide Generator

Chlorine dioxide ( $\text{ClO}_2$ ) is an effective biocide that can be applied in treatment of recirculating cooling tower water, paper process water, wastewater, odour control, and drinking water. As a dissolved gas, it penetrates and removes biofilm. Chlorine dioxide is also effective over a broad pH range from 4-10.

SVP-Pure generators use two precursors, PURATE and sulphuric acid ( $\text{H}_2\text{SO}_4$ ), for safe and efficient production of chlorine dioxide. PURATE is a unique stabilised solution of sodium chlorate and hydrogen peroxide. SVP-Pure AD models require 78%  $\text{H}_2\text{SO}_4$ . SVP-Pure MSA models require 78%-98%  $\text{H}_2\text{SO}_4$ . Models with -DS extension come with a distribution system for 1 to 4 dosing points, avoiding a  $\text{ClO}_2$  storage tank.

**Inlets:** 1x water, 1x PURATE precursor, 1x acid precursor

**Outlets:** 1x  $\text{ClO}_2$ , DS models: 4x  $\text{ClO}_2$

**Communication:** Wireless 3G

**Dimensions (WxHxD):** DS/AD models: 2.2x1.9x1.4m, MSA models: 2.2x2.6x1.4m

**Power supply:** 400V, 3 phase, 50Hz, 32...50A

## Part No.

**PUREU-AD8.88**

**PUREU-AD18.88**

**PUREU-AD52.88**

**PUREU-AD90.88**

**PUREU-AD-DS8.88**

**PUREU-AD-DS18.88**

**PUREU-AD-DS32.88**

**PUREU-AD-DS52.88**

**PUREU-MSA8.88**

**PUREU-MSA18.88**

**PUREU-MSA-DS8.88**

**PUREU-MSA-DS18.88**

**PUREU-MSA-DS32.88**

**PUREU\_DSX.88**

## Description

Generator AD, 8kg/h

Generator AD, 18kg/h

Generator AD, 52kg/h

Generator AD, 90kg/h

Generator AD-DS, 8kg/h

Generator AD-DS, 18kg/h

Generator AD-DS, 32kg/h

Generator AD-DS, 52kg/h

Generator MSA, 8kg/h

Generator MSA, 18kg/h

Generator MSA-DS, 8kg/h

Generator MSA-DS, 18kg/h

Generator MSA-DS, 32kg/h

Add on DS with 1-4 dosing points

## Part No.

**6057374**

**6057375**

**6057376**

**6057379**

## Gas detectors and parts

Nalco1 EC28I, 0.3m cable

Nalco1 EC sensor, 2m cable

Nalco2, with cabinet, 2m cable

Minibump gas generator, without  $\text{ClO}_2$  cell



SVP-Pure generators reliably produce chlorine dioxide up to 2160kg/day, 90kg/h, with 95% plus efficiency, using two precursors.





# ENVIROX Chlorine Dioxide Generator

Chlorine dioxide is an effective biocide that can be applied in treatment of recirculating cooling tower water, paper process water, wastewater, odour control, and drinking water. As a dissolved gas, it penetrates and removes biofilm. Chlorine dioxide is also effective over a broad pH range from 4-10.

The ENVIROX generator uses a single chemical precursor to safely generate  $\text{ClO}_2$ . Bleach or acid are not required. The chlorine dioxide and catholyte outlets **must never** be pressurised. To ensure the proper installation and safe application, all chlorine dioxide generators require the involvement of a NALCO WATER Customer Project Engineer.

**$\text{ClO}_2$  production:** SRE1000: 0.12...0.48kg/day, 5...20gr/h (1...4 cassettes)

**Power supply:** SRE1000: 0.2...0.8kW (1...4 cassettes)

**Inlet water:** 10...245L/h (1...4 cassettes), 2.7...6.9bar, 5...45°C, potable or equivalent

**Inlet water quality:** pH: 4-10, hardness: <320ppm, although soft water is preferred, alkalinity: <300ppm, conductivity: 1-1000uS/cm, chloride: <280ppm,  $\text{CO}_2$ : <50ppm,  $\text{SiO}_2$ : <25ppm, Fe and Mn: <1ppm

**Part No.**  
**161-SRE1001CE.88** **Generator**  
ENVIROX SRE1000 Generator  
(cassettes are ordered separately)

**Part No.**  
**991-DOS053002.88** **Accessory**  
Chlorine Dioxide storage tank,  
PTFE lined, bund, carbon filter,  
level probes, leak detection  
**6057377** Gas detector, wall mount  
**987-650505** Chlorine Dioxide drop titration  
test kit

**Part No.** **Consumable Part**  
**161-CASSRE005NS.88** Cassette, 5gr/h, for SRE1000  
from  $\geq$  Aug-2016  
**6017775** Cassette, 5gr/h, for SRE1000  
from < Aug-2016  
**6017776** Cassette, 20gr/h for SRE2000  
**991-FIL0019.88** 4x 10" feed water filter cartridges,  
10um, for SRE1000  
**991-FIL0020.88** 4x 20", feed water filter  
cartridges, 20um, for SRE2000  
**991-FIL0002.88** 4x Carbon filter, for  $\text{ClO}_2$  storage  
tank **991-DOS053002.88**

See the 'ENVIROX SRE Spare Parts List' guide for a complete overview of spare parts.



The ENVIROX generator safely produces chlorine dioxide, up to 0.48kg/day, 20gr/h using a single precursor.

1...4 electrochemical cassettes can be installed, to produce the quantity of  $\text{ClO}_2$  as needed.



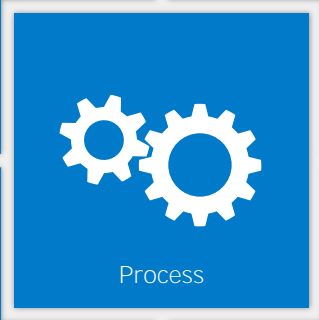
# TOTAL WATER MANAGEMENT



Cooling



Boiler



Process



Pre-treatment



Post-treatment

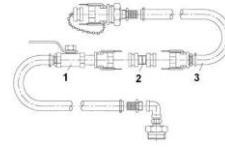
## PORTA-FEED Accessories Selection Procedure



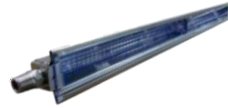
## PORTA-FEED Accessories Selection Guide

Accessory	Standard		Not compatible with	
	ITEM	IPCEM	ITEM	IPCEM
Level Gauge	000093	000135	000094	000136
Level Gauge	000093	000135	000094	000136
Feed Assembly	000097	000139	000098	000140
Manifold	000097	000139	000098	000140
Level Gauge	Level Gauge PCL Connectors			
Level Gauge PCL	000093	000135	000094	000136
Level Gauge PCL	000093	000135	000094	000136
Level Gauge Comp.	000093	000135	000094	000136
Overflow Pipe	000097	000139	000098	000140
Manifold	000097	000139	000098	000140
Level Gauge	Level Gauge PCL			
Level Gauge	000093	000135	000094	000136
Feed Assembly	000097	000139	000098	000140
Manifold	000097	000139	000098	000140
Level Gauge	Level Gauge PCL			
Level Gauge	000093	000135	000094	000136
Level Gauge Comp.	000093	000135	000094	000136
Overflow Pipe	000097	000139	000098	000140
Manifold	000097	000139	000098	000140

## PORTA-FEED Accessories Transfill Lines



## PORTA-FEED Accessories Level Gauges



## PORTA-FEED Accessories Vents, Overflow Pipes



## PORTA-FEED Accessories Manifolds



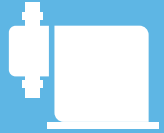
## PORTA-FEED Accessories Other



## Dosing Tanks, Bunds



Instrumentation



Feed



Storage



Separation



Analytical



Safety

3D TRASAR™  
APEX™  
ENVIROX™

FASTPATH™  
FILLERTEK™  
FLOCMASTER™

NEXGUARD™  
OXIPRO™  
PARETO™

PORTA-FEED™  
PURATE™

**PRODUCT LINES**

# Selection Procedure

All PORTA-FEED base tanks should be kept in good condition. To ensure safe operation and uninterrupted transfer services, defective and incorrect accessories must be replaced. All accessories in this catalogue are approved by the NALCO WATER Packaging Systems department. Approval from Packaging Systems is mandatory, if other accessories are required.

Step 1. Determine the base tank type and material(s) of construction. Check the labels on the base tank. The type can also be found in the NALCO WATER SAP system (IQ09) with the serial number of the base tank. The models and materials are shown below and on the right.

Step 2. Determine the NALCO WATER part number of the accessory with the [selection guide](#) or from these sections: transfill lines, level gauges, vent assemblies/overflow pipes, manifolds, other.

Step 3. Check the compatibility with the chemical product in the SDS or CPP to make sure that the product is compatible with the standard accessory materials as indicated in this catalogue. If not compatible, select one of the alternative accessories from this catalogue. Make sure that the piping materials of the complete accessory assembly are identical.

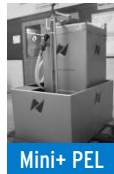
Step 4. Place your order the same way as for other equipment items.



Micro PEL



Mini SS



Mini+ PEL



Junior/Mini+ Plastic

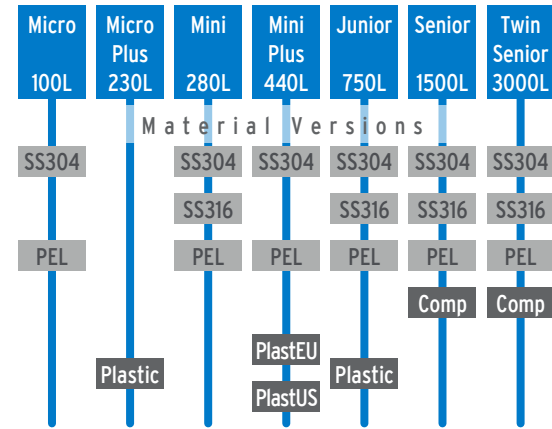


Senior Comp



Twin Senior SS

## PORTA-FEED Base Tank Models



SS304

Unlined Stainless Steel tank. The UN-plate on the base tank shows if the material is SS304 or SS316.

SS316

PEL

Stainless Steel base tank with a PE lining.

Comp

Composite: Stainless Steel frame with a PE bottle.

Plastic

PE base tank.

PlastEU

PlastUS

Note: For the Mini Plus Plastic, determine the manufacturer (indicated on the base tank), to select the correct accessories:

- ▲ US manufacturer: Hoover
- ▲ EU manufacturers: Promens, Bonar, T+D Bison

# Selection Guide

Click on these links for: [standard transfill lines](#), [other transfill lines](#), [level gauges](#), [vent assemblies/overflow pipes](#) and [manifolds](#), [extensions](#)

Accessory	Standard			Not compatible with			Standard			Not compatible with			Standard			Not compatible with												
	FKM	PVC	PVC/FKM	FKM	PVC	PVC/FKM	FKM	PVC	PVC/FKM	FKM	PVC	PVC/FKM	FKM	PVC	PVC/FKM	FKM	PVC	PVC/FKM										
	<b>Senior Twin SS</b>						<b>Junior SS</b>			<b>Mini Plus PEL</b>						<b>Mini PEL</b>												
Transfill Line	6000926	6008246 <sup>3)</sup>			6001162 <sup>2)</sup>			6027382			6027330 <sup>2)</sup>			6027382			6027330 <sup>2)</sup>			6027382								
Level Gauge	6000851	6025442	6000851	6025442			6001046			6001071			6025472			6029568			6001171			6029566						
Vent Assembly	5)						5)			6024006						6001163			6001163									
Manifold	6000927	6025441 <sup>3)</sup>	6000927	6025441 <sup>3)</sup>			6000891			6025441			6025474 + 6001172			6031004 + 6031006			6025474 + 6001172			6031004 + 6031006						
	<b>Senior Twin PEL / Composite</b>						<b>Junior PEL</b>			<b>Mini Plus Plastic EU</b>						<b>Micro Plus Plastic</b>												
Transfill Line	6025445	6008246 <sup>3)</sup>			6027330 <sup>2)</sup>			6027382			6027330 <sup>2)</sup>			6027382			6027330 <sup>2)</sup>			6027382								
Level Gauge PEL <sup>5)</sup>	6000973	6027354			6001078			6027355			6026297			6025518			6027361			6027361			6025519					
Level Gauge Comp. <sup>5)</sup>	6036885		6036881			-			-			-			-			-			-							
Overflow Pipe	-						-			-			6026298			6027364			-									
Manifold	6025447	6027357 <sup>3)</sup>			6000982			6027357			6026296			6028572			6027383 <sup>4)</sup>			6026296			6028572			6027383		
	<b>Senior SS</b>						<b>Junior Plus Plastic</b>			<b>Mini Plus Plastic US</b>						<b>Micro SS</b>												
Transfill Line	6000918 <sup>1)</sup>	6008246			6027330 <sup>2)</sup>			6027382			6027330 <sup>2)</sup>			-			6027330 <sup>2)</sup>			6027382								
Level Gauge	6000851	6025442	6000851	6025442			6027331			6025517			6025501			6002711			6029571									
Vent Assembly	5)						5)			6024006						5)			-									
Overflow Pipe	-						6027365			Not Setup						6002721			-									
Manifold	6000891	6025441	6000891	6025441			6026296			6028572			6027383			6025511			6002716			6029569						
	<b>Senior PEL / Composite</b>						<b>Mini Plus SS</b>			<b>Mini Plus SS</b>						<b>Micro PEL</b>												
Transfill Line	6000996 <sup>1)</sup>	6008246			6001162 <sup>2)</sup>			6027382			6001162 <sup>2)</sup>			6027382			6027330 <sup>2)</sup>			6027382								
Level Gauge PEL	6000973	6027354			6025514			6029567			6001184			6029565			6001184			6029565			6002729			6029572		
Level Gauge Comp.	6036885		6036881			-			-			-			-			-			-							
Vent Assembly	5)						6024006			6001163 for SS304, 6001190 for SS316						5)			-									
Overflow Pipe	-						-			6001186 for SS316, N/A for SS304						6002737			-									
Manifold	6000982	6027357			6025515 + 6031007			6025515 + 6031007			6025515 + 6031007			6025515 + 6031007			6002730			6029570								

<sup>1)</sup> When a 20m hose is required, use for Senior SS: [6001064](#) + [6025450](#) + [6001068](#); Senior PEL: [6001089](#) + [6001096](#) + [6001097](#).

<sup>2)</sup> Swagelok coupling [6001185](#) required for Kathon chemical products. <sup>3)</sup> Without link. <sup>4)</sup> PVDF. <sup>5)</sup> Vent assembly included in level gauge.



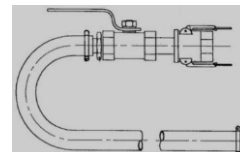
# Transfill Lines, Standard, 3m

Part No.	PORTA-FEED Type	Transfill line	Coupling	Elbow connect to lid	Old Part No.
6000926	Senior Twin SS	2"	Camlok SS	Included for both	003-581-525
6025445	Senior Twin PEL/Composite		Camlok PP	PORTA-FEED tanks	003-583-525
6000918	Senior SS		Camlok SS	Included	003-581-300
6000996	Senior PEL/Composite		Camlok PP		003-583-300
6027330	Junior PEL <sup>1)</sup> Mini Plus Plastic EU <sup>2)</sup> Junior Plus Plastic <sup>2)</sup> Mini Plus Plastic US <sup>1)</sup> Micro Plus Plastic <sup>2)</sup> Mini (Plus) PEL Micro PEL / SS	1"	Camlok PP	Not Included	N/A
6001162	Junior SS <sup>1) 2)</sup> Mini (Plus) SS		Camlok SS	Included	009-100-300
6001185	Junior SS316/PEL <sup>2)</sup> Mini (Plus) PEL Junior Plus Plastic <sup>2)</sup> Mini Plus Plastic EU/US <sup>2)</sup> Micro Plus Plastic <sup>2)</sup> Mini SS316 <sup>3)</sup> Micro PEL		Swagelok SS	Included for PEL only	009-400-300

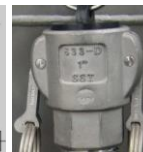
The transfill lines above that come without an elbow can also be supplied including an elbow, in case the elbow on the base tank is missing or needs to be replaced. See transfill lines below.

6001052	Junior SS <sup>1)</sup>	1"	Camlok SS	Included	004-581-300
6025449	Junior 316SS/PEL <sup>1)</sup>		Swagelok SS		004-581-300K
6001080	Junior PEL <sup>1)</sup>		Camlok PP		004-583-300
6025512	Mini Plus Plastic US <sup>4)</sup>				009-700-300
6001179	Micro PEL Mini (Plus) PEL				009-300-300
6002719	Micro SS		Camlok SS		015-100-300

<sup>1)</sup> Delivered without dust plug. Click here for 1" dust plugs. <sup>2)</sup> Do not use the included elbow. [Click here](#) if an elbow is required. <sup>3)</sup> For the Mini (Plus) SS, only the included transfill line hose tail should be used. The elbow is welded on the base tank. <sup>4)</sup> Delivered with dust plug included. Dust plug is connected to the camlok coupling.



Transfill Line



Camlok Coupl.



Swagelok Coupling

Material: PVC

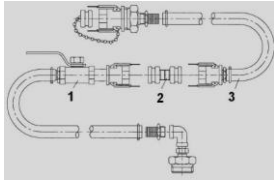
Seals: FKM

Couplings: SS or PP

A transfill line is approx. 2m long. The transporter tank must be positioned next to the base tank, for the NALCO WATER Delivery Specialist to see all components involved in the transfer. The Senior base tank can be equipped with a 20m transfill line, and a transfer pump.

The NALCO WATER Delivery Specialist will only transfer chemical product when the proper coupling is installed. Camlok couplings are the standard. Swagelok couplings are used for Kathon products (Isothiazolin > 15ppm).

# Other Transfill Lines



1. Transfill line 1", from base tank to transfer pump, 20m
2. Connector
3. Transfill line 1", from transfer pump to transporter, 1m



Petro Transfill Line



Dust Plug



Camlok Coupling



Elbow on Lid

## Transfill Lines, 20m, for Senior PORTA-FEED

Part No.	PORTA-FEED Type	Description	Old Part No.
6001064	Senior 304/316SS	Transfill line (1.)	004-581-320
6025450		Transfill line (3.)	004-581-385
6001068		Connector (2.)	004-581-395
6001089	Senior PEL / Composite	Transfill line (1.)	004-583-320
6001096		Transfill line (3.)	004-583-385
6001097		Connector (2.)	004-583-395

Complete 20m transfill line sets:

- ▲ Senior SS: 6001064, 6025450, 6001068.
- ▲ Senior PEL: 6001089, 6001096, 6001097.

## Alternative Transfill Lines

For products not compatible with the standard transfill line material PVC and/or FKM gaskets.

Part No.	PORTA-FEED Type	Transfill Line	Materials
6008246 <sup>1)</sup>	Senior SS	2", Petro, 2m	Camlok SS PTFE
6027356 <sup>2)</sup>	Senior PEL/Comp.	2", 2m	Camlok PP PVC / PTFE
6028571 <sup>2)</sup>	Junior, Mini, Micro Plus Plastic	1", 2m	PVC / PTFE
6027382 <sup>1)</sup>	Junior SS Mini (Plus) SS Micro SS	1", Petro, 3m	Camlok SS PTFE

<sup>1)</sup> Use when product not compatible with PVC/FKM. Elbow on lid not included.

<sup>2)</sup> Use when product not compatible with FKM. Elbow on lid incl.

## Transfill Line Accessories

Dust plugs, elbows and Camlok couplings.

Part No.	PORTA-FEED Type	Description
6027362	(Twin) Senior SS Senior PEL/Composite	Dust Plug 2" PP
6026284	All Junior, Mini and Micro	Dust plug 1" PP
6027323	Junior, Mini (EU), Micro Plus Plastic	Elbow on lid to connect transfill line
6027328	Junior PEL Junior, Mini, Micro Plus Plastic Mini (Plus) PEL Micro PEL / SS	Camlok Coupling, Female, 1" PP
6027329	(Twin) Senior PEL	Camlok Coupling, Female, 2" PP

# Level Gauges

## Standard Level Gauges

Part No.	PORTA-FEED Type	Connection to Manifold	Level Gauge Vent	Old Part No.	
6000851	Senior (Twin) SS	SS	Included	003-581-100	
6000973	Senior (Twin) PEL	PVC		003-583-100	
6036885	Senior (Twin) Composite			-	
6027331	Junior Plus Plastic			004-900-100	
6001046	Junior SS	SS		004-581-100	
6001078	Junior PEL	PVC		004-583-100	
6025514	Mini Plus SS <sup>1)</sup>	SS		Not Included <sup>1)</sup>	009-800-100
6025472	Mini Plus PEL <sup>1)</sup>	PVC		Included	009-600-100
6026297	Mini Plus Plastic				009-900-100
6025501	Mini Plus Plastic US <sup>1)</sup>			Not Included <sup>1)</sup>	009-700-100
6001184	Mini SS <sup>1)</sup>		SS		009-400-100
6001171	Mini PEL <sup>1)</sup>	PVC	Included	009-300-100	
6027361	Micro Plus Plastic	PVC		015-900-100	
6002711	Micro SS			015-100-100	
6002729	Micro PEL			015-200-100	

<sup>1)</sup> These PORTA-FEED types have a vent from lid to level gauge. [Click here](#) for vent assemblies.

**SS base tank:** Glass tube, FKM seals

**PEL base tanks, Mini Plus Plastic US:** Glass tube, FKM seals

**Plastic base tank (EU):** Duran tube, no seals (glued)

## Alternative Level Gauges

Part No.	PORTA-FEED Type	Connection to manifold	Gaskets	Use when product not compatible with	Old Part No.
6025442	Senior SS	SS	PTFE	PVC / FKM	003-582-100S
6027354	Senior PEL	PVC		FKM	003-583-100S
6036881	Senior Com			-	
6025517	Junior Plus Plastic	PVDF	FKM	PVC	0204M076
6001071	Junior SS	SS	PTFE	PVC / FKM	004-581-100S
6027355	Junior PEL	PVC		FKM	004-583-100S
6025518	Mini Plus Plastic	PVDF	FKM	PVC	0204M084
6025519	Micro Plus Plastic				0204M085
6029567	Mini Plus SS	SS	PTFE	PVC / FKM	009-800-100S
6029568	Mini Plus PEL	PVC		FKM	009-600-100S
6029565	Mini SS	SS		PVC / FKM	009-100-100S
6029566	Mini PEL	PVC		FKM	009-300-100S
6029571	Micro SS	SS		PVC / FKM	015-100-100S
6029572	Micro PEL	PVC		FKM	015-200-100S

## Indicator Strip

Part No.	Description
6027327	Level Indicator Strip, Yellow



# Vent Assemblies and Overflow Pipes

Part No.	PORTA-FEED Type	Material	Old Part No.
<b>Vent Assemblies</b>			
6024006	Mini Plus Plastic US Mini Plus SS Mini Plus PEL	LDPE tubing PVC, PP fittings	009-100-450A
6001163	Mini 304SS Mini PEL		009-100-400
6001190	Mini 316SS		009-400-500

<b>Overflow Pipes</b>			
6027365	Junior Plus Plastic	PVC	N/A
6026298	Mini Plus Plastic EU		N/A
6001186	Mini 316SS		009-400-400
6027364	Micro Plus Plastic		N/A
6002721	Micro SS		015-100-400
6002737	Micro PEL		015-200-400



Vent Assembly



Overflow Pipe

Air is allowed out when the base tank is filled and allowed in when a dosing pump pumps product out of a PORTA-FEED base tank. The air flows through a vent assembly or an overflow pipe. Vent assemblies are supplied with level gauges. [Click here](#) for level gauges.

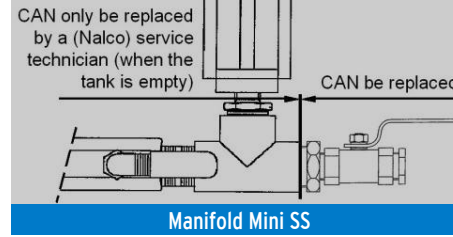


# Manifolds

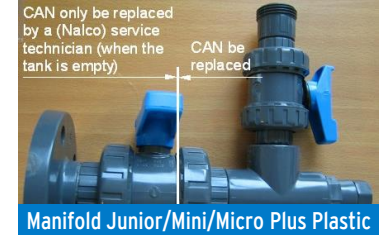
A PORTA-FEED Manifold connects the tank outlet, the level gauge and the suction line of the dosing pump.



Manifold Senior SS



Manifold Mini SS



Manifold Junior/Mini/Micro Plus Plastic

## Standard Manifolds

Part No.	PORTA-FEED Type	Material	Gaskets	Old Part No.
6000927	Twin Senior SS <sup>1)</sup>	SS	FKM	003-581-550
6025447	Twin Senior PEL/Composite <sup>1)</sup>	PVC		003-583-550
6000891	Senior/Junior SS	SS		003-581-200
6000982	Senior PEL/Composite Junior PEL	PVC		003-583-200

The following manifolds can only be replaced by a specialised technician:

6026296	Junior/Micro Plus Plastic Mini Plus Plastic EU	PVC	FKM	N/A
6025511	Mini Plus Plastic US			009-700-200
6025515 + 6031007 (ext)	Mini (Plus) SS	SS	PTFE	009-800-200 + 009-100-200 (ext)
6025474 + 6001172 (ext)	Mini (Plus) PEL	PVC	FKM	009-600-200 + 009-300-200 (ext)
6002716	Micro SS			015-100-200
6002730	Micro PEL			015-200-200

<sup>1)</sup> Includes the link between the two PORTA-FEED base tanks

## Alternative Manifolds

Part No.	PORTA-FEED Type	Material	Gaskets	Use when product is not compatible with standard manifold material	Old Part No.
6025441	Senior SS Junior SS	SS (Petro)	PTFE	PVC + FKM	003-581-200S
6027357	Senior PEL/Comp. Junior PEL	PVC		FKM	003-583-200S
6028572	Junior Plus Plastic Mini Pl. Plastic EU Micro Plus Plastic		PVDF	FKM	PVC
6027383	Junior Plus Plastic Mini Plus Plastic Micro Plus Plastic	PVC			
6031004	Mini Plus PEL		009-300-200A		
6031006	Mini PEL		015-100-200S		
6029569	Micro SS		015-200-200S		
6029570	Micro PEL				

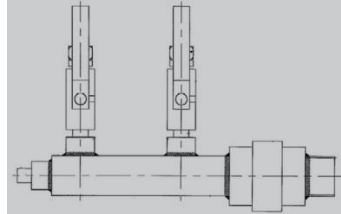
# Manifold Extensions for Multiple dosing pumps

Part No.	PORTA-FEED Type	Outlets	Material	Gaskets	Old Part No.
<b>Manifold extensions are connected to the manifold on the base tank:</b>					
6000914	Senior/Junior SS	2	SS	FKM	003-581-270
6000917	Senior/Junior SS	3			003-581-280
6000993	Senior PEL/Composite Junior PEL	2	PVC		003-583-220
6000994	Senior PEL/Composite Junior PEL	3			003-583-230
6027384	Junior/Mini/Micro Plus Plastic	2	PVDF		N/A
6027385		3			N/A
6025520	Mini Plus Plastic EU	2	PVC		0204M086
6025521	Junior/Micro Plus Plastic	3			0204M087
6025522		4			0204M088
6025523		5			
6025524		6			
6001194	Mini Plus Plastic US	2		009-700-220	
6031007	Mini (Plus) SS	1		009-100-200	
6001172	Mini (Plus) PEL	1		009-300-200	
6027326	Mini (Plus) SS/PEL	1	PVDF	N/A	
6001149		2	PVC	009-100-220	
6001158		3		009-100-230	
6001160		4		009-100-240	

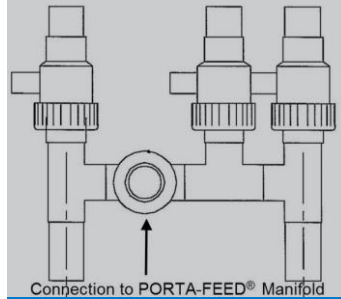
For Micro SS/PEL base tanks, a new manifold has to be ordered:

6002717	Micro SS	2	PVC	FKM	015-100-220
6002718		3			015-100-230
6002731	Micro PEL	2			015-200-220

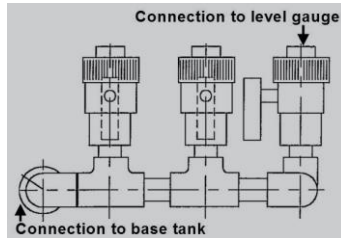
When ordering a new Micro SS/PEL base tank, indicate on the Base Tank Feasibility Checklist that a manifold with multiple outlets is required, to avoid replacing the standard manifold after delivery.



Double Manifold Extension Senior SS



Triple Manifold Extension Mini+ Plast



Double Manifold Micro PEL

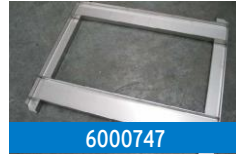
# Other Accessories



## Containment Bunds for Junior/Senior

Junior and Senior SS, PEL and Composite base tanks are supplied without containment bund.

Part No.	PORTA-FEED Type	LxWxH (cm)	Material
6028592	Junior SS	175x122x76	SS
6029853	Junior PEL	175x122x76	SS with PE inside
6028591	Senior SS	188x152x91	SS
6029683	Senior PEL / Composite	188x152x91	SS with PE inside
6059892	Twin Senior SS	TBD	SS
6059894	Twin Senior SS, PEL	TBD	SS with PE inside



6000747



6008245

## Stacking Equipment for Senior

Stacking frame **6008245** and stacking adapter **6000747** can be used to stack one IBC/OWC (one-way container) or Junior PORTA-FEED tank on top of a (Twin) Senior PORTA-FEED base tank.

Part No.	PORTA-FEED Type	Stacked on Top	Material
6008245	(Twin) Senior SS/PEL/Comp	IBC/OWC or Junior	Galvanised Steel
6000747	Senior SS/PEL (not Composite)	Junior	SS



## Dip Tubes

A product that foams requires a dip tube to fill the base tank from the bottom, instead of the product falling into the tank. All Micro, Mini base tanks and the Junior Plus Plastic base tank are always equipped with a dip tube. The dip tube is optional for Senior/Junior SS/PEL base tanks.

Part No.	Description
6026290	SS316 dip tube for Senior SS
6026291	SS316 dip tube for Junior SS
6026292	PVC dip tube for Senior PEL/Composite
6026293	PVC dip tube for Junior PEL

# Other Accessories



## Heating Coils

Heating Coils allow for warm water, hot water or steam, depending on the version, to flow through a PORTA-FEED base tank.

	<b>Heating Coil SS</b>	<b>Heating Coil PP</b>
<b>Lid (included):</b>	Universal Senior lid SS	Universal Senior lid PE-lined
<b>Connections:</b>	1" mBSP	1" mBSP
<b>Heating medium:</b>	Water or steam, max. 150°C	Water, max. 80°C
<b>Pipe material:</b>	SS, 1"	PP, 32-20mm

<b>Part No.</b>	<b>Heating Coil</b>
<b>6026313</b>	SS, for Junior/Senior SS
<b>6026314</b>	PP, for Junior/Senior PEL
<b>6026315</b>	Heating Coil and Agitator Combined, SS, for Junior/Senior SS

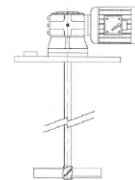


## Heating Jackets

The Explosion Proof Zone 2 Heating Jackets come with heating cables inside the jacket. A junction box is included to connect electrical power.

<b>Power Supply:</b>	240Vac, 4A
<b>Ex-Proof:</b>	ATEX, Zone 2, II 2G EEx edm IIC T6
<b>Thermostat:</b>	Yes, product temperature: max. 30°C
<b>Material:</b>	Polymer

<b>Part No.</b>	<b>Heating Jacket</b>
<b>6026303</b>	For Senior SS/PEL
<b>6026304</b>	For Junior SS/PEL
<b>6026305</b>	For Mini Plus SS/PEL
<b>6026306</b>	For Mini SS/PEL



## Agitators

The Gear driven agitators are directly mounted on a universal Senior or Junior PORTA-FEED lid.

<b>Impeller:</b>	4 blades, Ø350mm, 200rpm
<b>Motor:</b>	IP55, 0.75kW, 400V 3 phase

<b>Part No.</b>	<b>Agitator, SS316</b>
<b>6026307</b>	For Senior SS
<b>6026308</b>	For Junior SS
<b>6026310</b>	ATEX, for Senior SS
<b>6026311</b>	ATEX, for Junior SS
<b>6026315</b>	Heating coil and agitator combined for Junior/Senior SS

# Other Accessories



## Dosing Pump Platforms

New PORTA-FEED base tanks that are delivered with a containment bund, come with a single pump platform on the bund. When more pump platforms are required, please mention this on your base tank requests (on the feasibility checklist).

Part No.	Pump Platform
6027322	For Junior/Senior SS/PEL/Comp. SS/PEL, WxDxH 300400x300mm
6026288	For Mini (Plus)/Micro SS/PEL, WxD 210x260mm
6026289	For Junior/Mini/Micro Plus Plastic, WxD 210x260mm



## Dosing Pump Connectors

The dosing pump connectors fit the 1/2" fBSP pump outlet on the base tanks.

Part No.	Pump Type	Description	Tubing Connection	Material
6021304	Grundfos DD/DM	Dosing pump connector	6x4mm + 12x9mm	PVDF
6021304 + 6018945	Grundfos other	Dosing pump connector + Tubing adapter	9x6mm	PVDF
6021304 + 6018946	Prominent		8x5mm	
6027359	LMI	Dosing pump connector	6x3mm	PTFE
6021304 + 6018947		Dosing pump connector + Tubing adapter	8x6mm	PVDF
6021304 + 6017400	Miscellaneous		12x6mm	PP
6021304 + 6018948			3/8" x 1/4"	
6027360			Dosing pump connector	
6027381			1/4" x 1/2"	

# Dosing Tanks and Containment Bunds



## Dosing Tanks

Tank and bund material: PE

Part No.	Description
6017406	Dosing tank, 60L, ø415x575mm
6017404	Dosing tank, 100L, ø470x790mm
6017405	Dosing tank, 200L, ø600x845mm
6018696	Bund for 60L tank, ø500x540mm
6018697	Bund for 100L tank, ø500x700mm
6018698	Bund for 200L tank, ø655mmx730mm

Bulletin BEU-395



6059895



6059896



6059899

## Containment Bunds for IBC's, Drums, Pails

Bund material: PE

Part No.	Description
6059895	Containment bund for one 1000L IBC (IBC not included), BxWxH: 1280x1910x895mm
6059896	Containment bund for one 200L drum (drum not included), BxWxH: 900x760x525mm
6059899	Containment bund for one or two 25L pails (pails not included), BxWxH: 800x600x130mm

Bulletins BEU-392, BEU-393, BEU-394

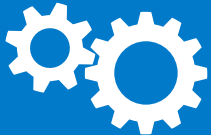
# TOTAL WATER MANAGEMENT



Cooling



Boiler



Process



Pre-treatment



Post-treatment

ULTRASOFT  
Softener Overview



ULTRASOFT  
Heavy Industrial



Custom RO



Cartridge Filters  
Self-cleaning



3D TRASAR™  
APEX™  
ENVIROX™

ULTRASOFT  
Residential



ULTRARO  
Commercial Grade



RO Membranes



Duplex Cartridge  
Filter



FASTPATH™  
FILLERTEK™  
FLOCMASTER™

ULTRASOFT  
Eco DVGW



ULTRARO  
Light Industrial



Sand Filters  
Cooling Systems



NEXGUARD™  
OXIPRO™  
PARETO™

ULTRASOFT  
Light Industrial



ULTRARO  
Heavy Industrial



Cartridge Filters



PORTA-FEED™  
PURATE™



Instrumentation



Feed



Storage



Separation



Analytical



Safety

**PRODUCT LINES**

# ULTRASOFT Softeners Overview

ULTRASOFT softeners cover residential, light commercial and heavy industrial applications. They come complete with pressure vessel, potable mono-sphere high capacity ion exchange resin, multi-port control valve, and electronic and electro-mechanical control. All softeners are equipped with a no hard water bypass valve to stop hard water passing to service during regeneration.

Standard systems are designed for flows up to 60m<sup>3</sup>/h and have exchange capacities of up to 130,000gms. To convert the capacity from gms (grams of hardness as CaCO<sub>3</sub>) to m<sup>3</sup>, divide it by the incoming water hardness in mg/l as CaCO<sub>3</sub>.

Operating meter pressure: 3-6bar

Water temperature: < 43°C

Electrical consumption: Max. 10VA

Power supply: 240Vac, 50Hz

Series	Simplex	Duplex	Water meter control	Timer	Flow (m <sup>3</sup> /h)	Flow @ 1bar, 15°C (m <sup>3</sup> /h)	Water usage (L/regen.)	Salt usage (kg/regen.)
Residential	Yes	No	Yes	Yes	0.04-1.5	2.6-3.2	52-188	1.3-3.9
Residential, Hot Water (60°C)	Yes	No	No	Yes	0.04-1.5	2.6-3.2	52-188	1.3-3.9
Eco	Yes	No	No	Yes	0.04-2.5	2.2-2.8	37-272	0.9-4.5
Eco DVGW	Yes	No	No	Yes	0.04-2.5	2.2-2.8	37-272	0.9-4.5
Light Industrial	Yes	Yes	Yes	Yes	0.1-23	0.1-23	131-2946	3.25-74.75
Heavy Industrial	Yes	Yes	Yes	Yes	1.2-60	17.5-50	1630-15242	39-338



Covering residential to heavy industry applications





# ULTRASOFT Residential and Residential Hot Water Series

Residential softener systems that are tailored to meet your requirements are available via our Engineering departments. Examples of these softener systems are shown on this page.

Model	Valve	Vessel type	Resin volume (L)	Water volume (L/regen.)	Salt usage (kg/regen.)	Min flow in (m <sup>3</sup> /h)	Max flow in (m <sup>3</sup> /h)	System Flow @ 1bar, 15°C (m <sup>3</sup> /h)	Capacity (gms) Each Vessel
<b>Residential Simplex, time clock control</b>									
FS56C10C	5600 (Noryl™)	8x17	10	52	1.30	0.04	0.5	3.2	500
FS56C20C		8x30	20	105	2.60	0.08	1	2.6	1000
FS56C30C		10x35	30	188	3.90	0.12	1.5	3	1500
<b>Residential Simplex, water meter control</b>									
FS56V10C	5600 (Noryl)	8x17	10	52	1.30	0.04	0.5	3.2	500
FS56V20C		8x30	20	105	2.60	0.08	1	2.6	1000
FS56V30C		10x35	30	188	3.90	0.12	1.5	3	1500
<b>Residential Hot Water Simplex, max. 60°C, time clock control</b>									
FS46C10H	4600 (Bronze)	8x17	10	52	1.30	0.04	0.5	3.2	500
FS46C20H		9x35	20	105	2.60	0.08	1	2.6	1000
FS46C30H		10x35	30	188	3.90	0.12	1.5	3	1500



**Pressure vessels:**  
Housed within an integral cabinet style brine tank for reduced footprint.

**Bulletins**  
BEU-170, BEU-171



# ULTRASOFT Eco DVGW Series

Part No.	Model	Valve	Vessel type	Resin volume (L)	Water volume (L/regen)	Salt usage (kg/regen)	Min flow in (m <sup>3</sup> /h)	Max flow in (m <sup>3</sup> /h)	System Flow @ 1bar, 15°C (m <sup>3</sup> /h)	Capacity (gms) Each Vessel
<b>Eco DVGW Simplex - Separate brine tank</b>										
6030842	FS66E10	6665 (Noryl)	8x22	10	37	0.90	0.04	0.5	2.8	500
6030803	FS66E20		7x35	20	74	1.80	0.08	1	2.2	1000
6030804	FS66E30		8x44	30	133	2.70	0.12	1.5	2.6	1500
6030805	FS66E50		10x44	50	272	4.50	0.2	2.5	2.2	2500

Eco DVGW with an integral cabinet and Eco Simplex without DVGW are available via our Engineering departments.



Counter current regeneration and reduced brining levels of 90g/L of resin improves efficiency and waste management.

The DVGW (German norm) valve has immediate up-flow regeneration, with chlorination and 'pause-vacancy' position

[Bulletin BEU-172](#)

# ULTRASOFT Light Industrial Series

Simplex				Duplex			Vessel type	Resin volume (L)	Water volume (L/regen)	Salt usage (kg/regen)	Min flow in (m <sup>3</sup> /h)	Max flow in (m <sup>3</sup> /h)	System Flow @ 1bar, 15°C (m <sup>3</sup> /h)	Capacity (gms) Each Vessel							
Part No. Electronic Time Clock	Part No. Water Meter Control	Model	Valve	Part No. Water Meter Control	Model	Valve															
6030827	6030861	FS25SE25	2510	6030812	FD91SE25	9100	10x35	25	131	3.25	0.1	1.25	1.25	1250							
6030828	6030862	FS25SE50		6030813	FD91SE50		10x54	50	247	6.50	0.2	2.5	2.5	2500							
6030829	6030863	FS25SE75		6030814	FD91SE75		13x54	75	371	9.75	0.3	3.75	3.75	3750							
6030830	6030864	FS25SE100		6030815	FD91SE100		14x65	100	495	13.00	0.4	3.75	5	5000							
6030832	6030866	FS28SE125	2850	6030817	FD95SE125	9500	16x65	125	659	16.25	0.5	5	5	6250							
6030834	6030868	FS28SE150	2850	6030819	FD95SE150		18x65	150	715	19.50	0.6	6 7.5	6 7.5	7500							
6030835	6030869	FS29SE150HF	2910	6030820	FD29NT150HF	2910	21x60	225	1073	29.25	0.9	8 11.25	8 11.25	11250							
6030836	6030870	FS28SE225	2850	6030821	FD95SE225										9500						
6030837	6030871	FS29SE225HF	2910	6030822	FD29NT225HF	2910	24x69	300	1502	39.00	1.2	15	15	15000							
6030839	6030873	FS29SE300HF	2910	6030824	FD29NT300HF		2910	30x72	450	2253	58.50	1.8	18	18	22500						
6030840	6030874	FS29SE450		6030825	FD29NT450	450										2253	58.50	1.8	18	18	22500
6030841	6030875	FS29SE575		6030826	FD29NT575	575										2946	74.75	2.3	23	23	25000



Bulletins  
BEU-173, BEU-174



# ULTRASOFT Heavy Industrial Series

Heavy Industrial softener systems that are tailored to meet your requirements are available via our Engineering departments. Examples of these softener systems are shown on this page.

Simplex Electronic Time Clock	Duplex Water Meter Control	Valve	Vessel type	Resin volume (L)	Water volume (L/regen)	Salt usage (kg/regen)	Min flow in (m <sup>3</sup> /h)	Max flow in (m <sup>3</sup> /h)	System Flow @ 1bar, 15°C (m <sup>3</sup> /h)	Capacity (gms) Each Vessel
Model	Model									
SS36EASY300	SD36EASY300	V360	24x69	300	1630	39	1.2	15	17.5	15000
SS36EASY500	SD36EASY500		30x72	500	2652	65	2	25	21	25000
SS36EASY650	SD36EASY650		36x72	650	3448	84.5	2.6	30	24	32500
SS36EASY900	SD36EASY900		42x78	900	4774	117	3.6	35	25	45000
SS36EASY1200	SD36EASY1200		48x82	1200	6366	156	4.8	60	45.9	60000
SS36EASY1600	SD36EASY1600		55x120	1600	8487	208	6.4	60	50	80000
SS36EASY2100	SD36EASY2100		55x130	2100	12311	273	8.4	60	47	105000
SS36EASY2600	SD36EASY2600		55x140	2600	15242	338	10.4	60	43	130000



# ULTRARO Commercial Grade Series MiniBP-S

Commercial grade reverse osmosis systems that are tailored to meet your requirements are available via our Engineering departments. Examples of these reverse osmosis systems are shown on this page.

Commercial grade RO systems feature high rejection low-pressure 2.5" diameter membrane modules. A microprocessor controller provides simple operation and advanced diagnostics and control functions.

## Requirements and Specifications:

- ▲ Max salinity inlet 2000ppm NaCl.
- ▲ Max feed water temperature 35°C.
- ▲ Medium 10% residual salinity in treated water.

## Notes:

- ▲ Data are valid for clear water (S.D.I.<3) - iron and chlorine free - temperature 20°C - salinity 1000ppm NaCl.
- ▲ Indicated working pressure may vary due to fluctuations in supply water pressure and/or quality to all RO's.



Reliable and efficient removal of dissolved solids from water for commercial applications.

Model	Membranes			Pressurization pump			Pressures (bar)		
	N°	Type	Permeate Flow (L/h)	Flow (L/h)	Power (kW)	Power Supply	Feed water	Working	Permeate
MiniBP-S/100	1	LP-2540	100	400	0.37	240Vac 50Hz	2.5	10	0.8
MiniBP-S/200	2		200	800	0.55			8	
MiniBP-S/300	3		300	800	0.55			9	



# ULTRARO Light Industrial Series BP-S

Light Industrial reverse osmosis systems that are tailored to meet your requirements are available via our Engineering departments. Examples of these reverse osmosis systems are shown on this page.

Light industrial grade RO systems feature high rejection low-pressure 4" diameter membrane modules. A microprocessor controller is included for simple operation, advanced diagnostics and control functions.

## Requirements and Specifications:

- ▲ Max salinity inlet 8000ppm NaCl.
- ▲ Max salinity inlet 2000ppm NaCl.

- ▲ Max feed water temperature 35°C.
- ▲ Max feed water temperature 35°C.
- ▲ Preset for periodical washing of membranes.
- ▲ Preset for installation of chemical feeders.
- ▲ Medium 5-8% residual salinity in treated water.

## Notes:

- ▲ Data are valid for clear water (S.D.I.<3) - iron and chlorine free - temperature 20°C - salinity 1000ppm NaCl.
- ▲ Indicated working pressure may vary due to fluctuations in supply water pressure and/or quality to all RO's.

Model	Membranes			Pressurization pump			Pressures (bar)		
	N°	Type	Permeate Flow (L/h)	Flow (L/h)	Power (kW)	Power Supply	Feed water	Working	Permeate
BP-S/1	1	ESPA1 4040	180	1200	1.1	400V 50Hz 3 phase + Neutral	2.5	7.5	0.8
BP-S/2	2		360	1500				7.7	
BP-S/3	3		640	1700	1.5			8.9	
BP-S/4	5		1200	2200	2.2			10.3	
BP-S/5	6		1500	2600				11	
BP-S/6	8		2000	3700	3			12.2	
BP-S/7	3	ESPA2+	3000	7000	4	9.3	1.0		
BP-S/8	4		4000	7800	5.5	9.9			
BP-S/9	5		5000	9000		9.8			



Reliable and efficient removal of dissolved solids from water for light industrial applications.



# ULTRARO Heavy Industrial Series AP-S

Heavy Industrial reverse osmosis systems that are tailored to meet your requirements are available via our Engineering departments. Examples of these reverse osmosis systems are shown on this page.

Heavy industrial RO systems feature high rejection low-pressure 8" diameter membrane modules. A PLC is included for simple operation, advanced diagnostics and control functions.

## Requirements and Specifications:

- ▲ Max salinity inlet 8000ppm NaCl.
- ▲ Max feed water temperature 35°C.

- ▲ Unit for chemical washing of membranes.
- ▲ Pre-assembled metering installation for chemical products of pre and post treatment.
- ▲ Medium 5-8% residual salinity in treated water.

## Notes:

- ▲ Data are valid for clear water (S.D.I.<3) - iron and chlorine free - temperature 20°C - salinity 1000ppm NaCl.
- ▲ Indicated working pressure may vary due to fluctuations in supply water pressure and/or quality to all RO's.

Model	Membranes		Pressurization pump			Pressures (bar)			
	N°	Type	Permeate Flow (m³/h)	Flow (m³/h)	Power (kW)	Power Supply	Feed water	Working	Permeate
AP-S/1	5	ESPA 2+	6	10.2	5.5	400V 50Hz 3 phase + Neutral	2	11	1
AP-S/2	7		8	12.2	7.5				
AP-S/3	9		10	14.2	11				
AP-S/4	11		12	16	15			12	
AP-S/5	12		15	21.2	18.5				
AP-S/6	15		18	25	30				
AP-S/7	17		20	27	30			13	
AP-S/8	21		22	32	30				
AP-S/9	21		25	35	30				
AP-S/10	26		30	42	30				



Reliable and efficient removal of dissolved solids from water for heavy industrial applications.



## Other Custom Reverse Osmosis Systems



Reverse Osmosis System



3D TRASAR System for Membranes

Custom reverse osmosis systems that are tailored to meet your requirements are available via our Engineering departments.



# Reverse Osmosis Membranes

## Hydranautics Membranes

Part No.	Type	Size	Model
6027542	Low Energy	4"x40"	ESPA1-4040
6027543			ESPA2-4040
6027532		8"x40"	ESPA1
6027534			ESPA2+
6027531	Brackish		CPA2

## Filmtec Membranes

Part No.	Type	Size	Model
6022776	Light Industry	2.5"x40"	LP-2540
6001839		4"x40"	BW 30-4040
6022775			LP-4040
6001840	Low Energy		XLE-4040
6001837	Light Industry	8"x40"	BW 30-4040
6023610	Low Energy Brackish		LE-400



## Side Stream Sand Filter Systems for Cooling Towers

Side stream sand filter systems are tailored to meet your requirements and are available via our Engineering departments. Examples of these filter systems are shown on this page.

Side stream filters for filtration of particles in cooling water systems. The filters are ready-for-use, compact and mounted on a Euro pallet. The GRP vessels are filled with quartz sand and stabilizing sand, and are pressure resistant up to 6bar.

The filters are ready-for-use, compact, mounted on a Euro pallet, and ensure maximum operating flows.

### Advantages:

- ▲ Automatic, time controlled backwash.
- ▲ The integrated feed pump ensures maximum operating flows.
- ▲ High separating performance due to quartz sand with the best possible distribution of grain sizes.
- ▲ Straightforward installation as the filter is pre-assembled and pre-wired.
- ▲ Filtration speeds between 25m/h and 36m/h.
- ▲ The filter can also be installed in the main flow of the cooling tower, as long as the maximum permissible flow pressure is not exceeded.

Model	Flow rate at 25m/h (m <sup>3</sup> /hr/m <sup>2</sup> )	Flow rate at 36m/h (m <sup>3</sup> /hr/m <sup>2</sup> )
SF 200	7	11
SF 320	11	17
SF 580	17	24



# Cartridge Filters

The transparent bowl facilitates visual inspection of impurity deposits. When used for drinking water, it is recommended that the filter bag is changed at least twice a year.

**Water:** Max. 50°C, NW18-NW32: max 10bar, NW50-NW75: max 16bar

**Average yield for a 0.2bar drop across the filter (with 25um bag):** NW18: 3.5m<sup>3</sup>/h, NW50: 20m<sup>3</sup>/h,

NW25: 5.5m<sup>3</sup>/h, NW62: 25m<sup>3</sup>/h, NW32: 6.5m<sup>3</sup>/h, NW75: 30m<sup>3</sup>/h

**Inlet/outlet couplings:** Included with NW18/25/32 (plastic), optional with NW50/62/75 (brass).

Part No.	Option
6002104	Pressure gauge for NW18-NW32, 10bar
6035389	Wall bracket for NW18-NW32, PP
6037043	Two couplings for NW50, 2", brass
6037044	Two couplings for NW62, 2 1/2", brass
6037045	Two couplings for NW75, 3", brass

Part No.	Replacement Part
6035391	Pressure gauge for NW50-NW75, 20bar
6035388	O-ring for NW18-NW32

Part No.	Cartridge Filter Complete, 25um	Part No. Five 25um Replacement Filters	Part No. Five 100um Optional Filters
6002105	NW18, 3/4" mBSP	6002096	6002097
6002106	NW25, 1" mBSP	6002098	6002099
6002107	NW32, 1 1/4" mBSP	6002100	6002101
6002108	NW50, 2" mBSP		
6002109	NW62, 2 1/2" mBSP	6002102	6002103
6002110	NW75, 3" mBSP		



The flow of water entering the Cintropur cartridge filter is transformed into a vortex using a centrifugal vane, which precipitates the large particles to the base of the filter bowl.



# Self Cleaning Filters

Surface corrosion in pipe work and other water systems can be minimised by filtering out Iron oxide (rust), dirt, sand, precipitated Calcium Carbonate, installation residue. Filtrate is uninterrupted during backwash maintaining a constant supply to service. The filters with automatic backwash are timer controlled and require a 240Vac electrical supply.

For hygiene reasons, it is recommended to service the filter every 6 months. All materials used comply with drinking water regulations. The filters have been granted the German DIN/DVGW certificate.

**Filter element:** SS, 105-135µm

**Max. water temperature:** RF: 40°C, RFF: 70°C

**Water pressure:** 1.5...16bar

**Pressure gauge:** Differential pressure

Part No.	Manual Backwash	Part No.	Automatic Backwash	Max. Flow	Weight	Connections
6002421	RF1"	6002428	RF-RAM1"	7.2m <sup>3</sup> /h	3.1kg	1"
-	-	6002429	RF-RAM1 1/4"	7.8m <sup>3</sup> /h	3.3kg	1 1/4"
6002424	RF2"	6002431	RF-RAM2"	11.5m <sup>3</sup> /h	4.8kg	2"
6002427	RFF100	-	-	54m <sup>3</sup> /h	60.5kg	DN100



The backwash of the self cleaning filters is manual or time controlled, depending on the version.





## Duplex Basket Strainers

Duplex basket strainers are compact and robust complete systems for filtering media with different viscosities.

- ▲ Easy isolation with inlet and outlet valves.
- ▲ Pressure gauges in both vessels.
- ▲ Safe filter change at low pressures with vent and drain valves.
- ▲ Robust stainless steel skid and piping.
- ▲ Easy process connection with metric threads.

**Material:** Stainless steel 1.4571

**Filter element:** 50-1500µm

**Max. medium pressure:** 10bar

Robust mechanical filtration  
of varying viscosity fluids

Part No.	Model	Max. water flow	Max. flow at 600mPas	Dimensions
6017661	KF-2	2m <sup>3</sup> /h	0.6m <sup>3</sup> /h	0.7x0.4x0.5m
6017662	KF-18	18m <sup>3</sup> /h	6m <sup>3</sup> /h	0.75x0.55x0.9m
6017663	KF-36	36m <sup>3</sup> /h	12m <sup>3</sup> /h	0.75x0.75x1.3m



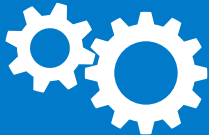
# TOTAL WATER MANAGEMENT



Cooling



Boiler



Process



Pre-treatment



Post-treatment

Hand-held Instruments



Test Selection Guide

Parameter	Method	Scale	Unit	Range	Min.	Max.	Model
Acidity	Digital Titration	Field or Lab	mg/L CaCO <sub>3</sub>	0 to 1000	0	1000	800-348
Alkalinity	Titration	Lab	mg/L CaCO <sub>3</sub>	0 to 3000	0	3000	800-342
	Digital Titration	Field or Lab	mg/L CaCO <sub>3</sub>	0 to 3000	0	3000	800-348
Ammonia	Nesslerization	Lab	mg/L NH <sub>3</sub> -N	0 to 10	0	10	800-342
	Digital Titration	Field or Lab	mg/L NH <sub>3</sub> -N	0 to 10	0	10	800-348
Bromine	Titration	Lab	mg/L Br <sub>2</sub>	0 to 10	0	10	800-342
	Digital Titration	Field or Lab	mg/L Br <sub>2</sub>	0 to 10	0	10	800-348
Calcium	EDTA	Lab	mg/L Ca	0 to 1000	0	1000	800-342
	Digital Titration	Field or Lab	mg/L Ca	0 to 1000	0	1000	800-348
Chloride	Mercuric Nitrate	Lab	mg/L Cl <sup>-</sup>	0 to 1000	0	1000	800-342
	Digital Titration	Field or Lab	mg/L Cl <sup>-</sup>	0 to 1000	0	1000	800-348
Copper	EDTA	Lab	mg/L Cu	0 to 10	0	10	800-342
	Digital Titration	Field or Lab	mg/L Cu	0 to 10	0	10	800-348
Iron	EDTA	Lab	mg/L Fe	0 to 10	0	10	800-342
	Digital Titration	Field or Lab	mg/L Fe	0 to 10	0	10	800-348
Nitrate	Cadmium Reduction	Lab	mg/L NO <sub>3</sub> -N	0 to 1000	0	1000	800-342
	Digital Titration	Field or Lab	mg/L NO <sub>3</sub> -N	0 to 1000	0	1000	800-348
Sulfate	Barium Chloride	Lab	mg/L SO <sub>4</sub>	0 to 1000	0	1000	800-342
	Digital Titration	Field or Lab	mg/L SO <sub>4</sub>	0 to 1000	0	1000	800-348
Total Hardness	EDTA	Lab	mg/L CaCO <sub>3</sub>	0 to 1000	0	1000	800-342
	Digital Titration	Field or Lab	mg/L CaCO <sub>3</sub>	0 to 1000	0	1000	800-348

Microbiology Tests



NALCO WATER Engineer Test Kits



Instrumentation



Feed

Application Test Kits



Drop/Comparator Test Kits



Titration Test Kits



Spectrophotometer Tests



Storage



Separation

Other Test Kits



Calibration Solutions



Analytical Accessories



Analytical



Safety

3D TRASAR™  
APEX™  
ENVIROX™







FASTPATH™  
FILLERTEK™  
FLOCMASTER™

NEXGUARD™  
OXIPRO™  
PARETO™

PORTA-FEED™  
PURATE™

**PRODUCT LINES**

# Instrument Selection Guide

	Part No.	Hand-held Instrument	Product (ppm)	Conductivity (mS/cm)	pH	Disolved Oxygen (ppm)	Redox (mV)	Temperature (°C)	Turbidity (NTU)	ClO <sub>2</sub> gas (ppm)	Various gasses
	060-TSR2PENII.88	<a href="#">TRASAR Pen Fluorometer #2</a>	0...10k	-	-	-	-	5...50	-	-	-
	060-TSR3PENII.88	<a href="#">TRASAR Pen Fluorometer #3</a>	0...10k	-	-	-	-	5...50	-	-	-
	6032962	<a href="#">CyberScan PCD650</a>	-	0...500	-2...20	0...90	+/-2000	-10...110	-	-	-
	6032961	<a href="#">CyberScan PC650</a>	-	0...500	-2...20	-	+/-2000	-10...110	-	-	-
	6032910	<a href="#">CyberScan CON600</a>	-	0...200	-	-	-	0...80	-	-	-
	6032909	<a href="#">CyberScan PH600</a>	-	-	-2...20	-	+/-2000	-10...110	-	-	-
	008-014-100.88	<a href="#">CyberScan PC450</a>	-	0...200	-2...16	-	-	-10...110	-	-	-
	6032907	<a href="#">CyberScan CON410</a>	-	0...200	-	-	-	0...80	-	-	-
	6032905	<a href="#">CyberScan PH310</a>	-	-	-2...16	-	+/-2000	-10...110	-	-	-
	008-024-000.88	<a href="#">CyberScan D0300</a>	-	-	-	0...20	-	0...50	-	-	-
	6032963	<a href="#">Pocket Meter PCTestr35</a>	-	0...20	0...14	-	-	0...50	-	-	-
	008-028-100.88	<a href="#">Pocket Meter ECTestr11</a>	-	0...20	-	-	-	0...50	-	-	-
	008-026-000.88	<a href="#">Pocket Meter PHTestr30</a>	-	-	-1...15	-	-	0...50	-	-	-
	008-027-000.88	<a href="#">Pocket Meter ORPTestr10</a>	-	-	-	-	+/-1000	-	-	-	-
	008-025-000.88	<a href="#">TN100 Turbidity Meter</a>	-	-	-	-	-	-	0...1k	-	-
	008-029-000.88	<a href="#">LolliTemp</a>	-	-	-	-	-	-10...200	-	-	-
	008-030-000.88	<a href="#">TempTestrIR</a>	-	-	-	-	-	-18...260	-	-	-
	6017771	<a href="#">Gas Detector</a>	-	-	-	-	-	-	-	0...1	-
	6023383	<a href="#">Gas Detector</a>	-	-	-	-	-	-	-	-	●
	6038083	<a href="#">Refractometer</a>	-	-	-	-	-	-	-	-	-

## TRASAR #2, #3 Pen Fluorometers

Use the waterproof Pen Fluorometer to ensure that the NALCO WATER scale inhibitor is present at the expected treatment levels. The Pen can also be used for leak detection and diagnostic studies. Two TRASAR Pen Fluorometers are available:

- ▲ **Dye #3 TRASAR Pen:** For boiler applications, treated with NEXGUARD internal treatment products.
- ▲ **Dye #2 TRASAR Pen:** For cooling water applications, treated with 3D TRASAR scale inhibitors. They are also used for membrane applications that are treated with PERMACARE Anti-scalants.

**Note:** Turbid samples need to be filtered with the included filter kit. The manuals provide guidelines on when to use the filters: dye #2 > 20NTU, dye #3 > 80NTU. Do not use other types of filters (e.g. Nylon).

**Power:** 4x 1.55V Silver Oxide battery (Duracell 357 Silver Oxide (303/357B) or Energizer Silver Oxide (357/303)), battery life +/- 1000 readings.

**Measurement:** 0-9999ppm product, resolution: 0.1ppm, relative accuracy: 5% of reading, temperature measurement: 5-50°C.

### Part No.

**060-TSR3PENII.88**

**060-TSR2PENII.88**

### Pen Fluorometer

For boiler systems (dye #3)

For cooling, membrane, pasteuriser systems (dye #2)

Included: 4x battery, 2x disposable syringe, 50x filter syringe cartridge, 45um, 2x calibration plugs (black), 1x operation manual.

### Part No.

**460-S0980.75**

**460-S0920.75**

**460-S0726.71**

**460-S0800.74**

**111-P01047.88**

**500-P0197.88**

**460-DND299.74**

### Accessory

Calibration solution, dye #3, 1L

Calibration solution, dye #2, 1L

Cleaning solution HCl, 1:1, 50ml

Cleaning soln, H2SO4, 10%, 0.5L

Cell cleaning brush, 6mm, 3/pkg

Beaker, plastic, 100ml, with screw cap

Diagnostic reagent, dye #2, 0.5L

### Part No.

**500-P1424.88**

### Consumable Part

Filter syringe cartridges 0.45um, 50/pkg

### Part No.

**6017888**

**500-P1692.88**

**500-P2166.88**

### Replacement Part

Battery, Silver Oxide, 1.55V, 1/pkg

Calibration plugs, 10/pkg

Disposable syringe, plastic, 10ml



Confirm scale inhibitor concentrations in boiler, cooling or membrane applications.

Perform diagnostic studies in water systems.



# CyberScan pH, Redox, Cond., DO, Temp., Meters



600 Series

300-400 Series PC450

600 Series: High accuracy, advanced data management.

300-400 Series: A balance of convenience and performance.

## 600 Series

**Conductivity:** 0...500mS/cm; resolution: 0.01uS/cm...0.1mS/cm  
**pH:** range: -2...20; resolution: 0.001pH  
**Dissolved Oxygen:** 0...90ppm; res.: 0.01ppm

Part No.	CyberScan Meter
6032962	PCD650 cond., pH, DO, redox, TDS, temp.
6032961	PC650 cond., pH, redox, TDS, temp.
6032910	CON600 cond., TDS, temp.
6032909	PH600 pH, redox, temp.

Part No.	Consumable Part
6032951	pH sensor
008-024-006.88	DO electrolyte (50ml)
008-024-002.88	DO membranes (5)

Part No.	Maintenance Accessory
008-024-004.88	DO membrane removal tool
008-024-005.88	DO electrode guard removal tool

Part No.	Replacement Part
6032949	Conductivity sensor
6033133	PH600 temperature sensor
008-024-001.88	DO sensor
008-024-003.88	DO membrane cap housing

## 300-400 Series

**Conductivity:** 0...200mS/cm; resolution: 0.01uS/cm...1mS/cm  
**pH:** range: -2...16; resolution: 0.01pH  
**Dissolved Oxygen:** 0...20ppm; res.: 0.01ppm

Part No.	CyberScan Meter
008-014-100.88	PC450 cond., pH, temp.
6032907	CON410 cond., TDS, temp.
6032905	PH310 pH, redox, temp.
008-024-000.88	DO300 dissolved oxygen, temp.

Part No.	Consumable Part
008-014-001.88	pH sensor, 1m cable
008-024-006.88	DO electrolyte (50ml)
008-024-002.88	DO membranes (5)

Part No.	Maintenance Accessory
008-024-004.88	DO membrane removal tool

Part No.	Replacement Part
008-014-002.88	Conductivity sensor, 1m cable
6032952	PH310 temperature sensor
008-024-001.88	DO sensor
008-024-003.88	DO membrane cap housing
008-014-003.88	4x 1.5V battery, size AAA

# Other Hand-held Instruments



## Pocket Meters, pH, Redox, Conductivity

pH: -1...15 (pHTestr30), 0...14 (PCTestr35)

ORP: -1000...1000mV

Conductivity: 0...20mS/cm

Bulletin: BEU-341

Part No.	Pocket Meter
6032963	PCTestr35 cond., pH, temp. meter
008-026-000.88	pHTestr30 pH meter
008-027-000.88	ORPTestr10 redox meter
008-028-100.88	ECTestr11 cond. meter

Part No.	Consumable Part
6032946	PCTestr35 pH, cond. sensor
008-026-001.88	pHTestr30 pH sensor
008-027-001.88	ORPTestr10 redox sensor

Part No.	Replacement Part
008-028-001.88	ECTestr11 cond. sensor
008-026-002.88	Batteries (4), button cell



## Turbidity Meter

Range: 0.01...20 / 20..100 / 100...1000NTU

Resolution: 0.01 / 1NTU

Accuracy: 0...500 NTU: 2% of measurement;

501...1000 NTU: 3% of measurement

Bulletin: BEU-341

Part No.	Description
008-025-000.88	TN100 turbidity meter

Part No.	Replacement Part
008-025-001.88	Calibration kit
008-025-002.88	Cuvettes (3)



## Temperature Meters

Bulletin: BEU-341

Part No.	Description
008-030-000.88	TempTestr IR infrared temp. meter, -18...260°C; resolution: 0.5°C
008-029-000.88	LolliTemp thermometer, -10...200°C, resolution 0.1°C

# Other Hand-held Instruments



## ATEX Gas Detectors

Combustibles: 0...100% (0-5% v/v)  
Oxygen: range: 0...30%  
Carbon Monoxide: 0...999ppm  
Hydrogen Sulphide: 0...300ppm  
Chlorine Dioxide: 0...1ppm  
ATEX: II 1 G EEx ia IIC T4  
Bulletin: BEU-341

Part No.	Gas Detector
6017771	1-Gas detector ClO <sub>2</sub> , ATEX
6023383	5-Gas Detector ClO <sub>2</sub> , Combustibles, O <sub>2</sub> , CO, H <sub>2</sub> S, ATEX

Part No.	Accessory
6023384	Cradle and vehicle charger for 5-Gas Detector
6023385	Manual aspirator pump for 5-Gas Detector



## Brix Refractometer

Range: 0...32%

Part No.	Description
6038083	Refractometer, Brix, 0...32%

# Test Selection Guide, A-E

Parameter	Method	Part No. / AP	Units	Min	Max	Bulletin
Acidity	<a href="#">Digital Titration</a>	Hach AP-8201, AP-8202	mg/l CaCO <sub>3</sub>	10	4000	BEU-348
	<a href="#">Drop Titration</a>	008-400-000	mg/l H <sub>2</sub> SO <sub>4</sub>	100	3000	BEU-342
Alkalinity	<a href="#">Digital Titration</a>	Hach AP-8203	mg/l CaCO <sub>3</sub>	10	4000	BEU-348
	<a href="#">Burette Titration</a>	420-C0204.88 420-C0205.88 AP-059		0	Unlimited	-
	<a href="#">Drop Titration</a>	008-401-000		50	600	BEU-342
		008-402-000		200	3200	
Aluminium	<a href="#">DR2800/DR1900</a>	AP-028	mg/l Al	0.002	0.25	BEU-343
	<a href="#">DR900/DR890</a>	AP-106		0.013	0.8	BEU-340
Amine	<a href="#">Colour Comparator</a>	420-C0039.88 AP-066	mg/l	0.04	1.1	-
Ammonia	<a href="#">DR2800/DR1900</a>	AP-073	mg/l NH <sub>3</sub>	0.04	0.6	BEU-343
	<a href="#">DR900/DR890</a>	AP-073		0.04	0.5	BEU-340
	<a href="#">Colour Comparator</a>	420-C0041.88 AP-085		0.1	10	-
	<a href="#">Colour Chart</a>	008-403-000	mg/l NH <sub>3</sub> N	0	5	BEU-342
Boron	<a href="#">DR2800/DR1900</a>	AP-030	mg/l B	0.6	11.7	BEU-343
Bromine		AP-087	mg/l Br <sub>2</sub>	0.05	4.5	
	<a href="#">DR900/DR890</a>			0.05	4.5	BEU-340
	<a href="#">Colour Comparator</a>	008-454-000		0	4	BEU-354
	<a href="#">Colour Chart</a>	008-404-000		0	10	BEU-342
Carbon Dioxide	<a href="#">Digital Titration</a>	Hach AP-8205	mg/l CO <sub>2</sub>	10	100	BEU-348

Parameter	Method	Part No. / AP	Units	Min	Max	Bulletin
Chloride	<a href="#">Digital Titration</a>	Hach AP-8206, 8207	mg/l Cl	10	8000	BEU-348
	<a href="#">Burette Titration</a>	420-C0204.88 AP-059		0	unlimited	-
	<a href="#">Colour Chart</a>	008-405-000		0	20	BEU-342
	<a href="#">Drop Titration</a>	008-406-000		50	1000	
	<a href="#">Strips</a>	500-P3208.88	30	600	-	
Chlorine Dioxide	<a href="#">DR900/DR890</a>	AP-126	mg/l ClO <sub>2</sub>	0.04	5	BEU-340
	<a href="#">Drop Titration</a>	987-650505		0.16	12	BEU-342
Chlorine, Free	<a href="#">DR2800/DR1900</a>	AP-034	mg/l Cl <sub>2</sub>	0.02	2	BEU-343
	<a href="#">DR900/DR890</a>			0.02	2	BEU-340
	<a href="#">Drop Titration</a>	008-408-000		5	150	BEU-342
Chlorine, Total	<a href="#">DR2800/DR1900</a>	AP-035		0.02	2	BEU-343
	<a href="#">DR900/DR890</a>			0.02	2	BEU-340
Chlorine, Free and Total	<a href="#">Physical Meas.</a>	6031023		0	10/100	BEU-351
	<a href="#">Pocket</a>	001-H11782.88		0.02	8	BEU-352
	<a href="#">Colour Compar.</a>	008-457-000		0	2	BEU-354
	<a href="#">Colour Chart</a>	008-407-000		0	4	BEU-342
Copper	<a href="#">DR2800/DR1900</a>	AP-045	ug/l Cu	2	210	BEU-343
	<a href="#">DR900/DR890</a>			5.4	210	BEU-340
	<a href="#">Colour Compar.</a>	008-459-000	mg/l	0	4	BEU-354
	<a href="#">Colour Chart</a>	008-409-000		0	4	BEU-342
Eliminox	<a href="#">DR2800/DR1900</a>	AP-060	ug/l	100	6000	BEU-343
	<a href="#">DR900/DR890</a>			180	6000	BEU-340

# Test Selection Guide, H-O

Parameter	Method	Part No. / AP	Units	Min	Max	Bulletin
Hardness Total	DR2800/DR1900	AP-067	ug/l CaCO <sub>3</sub>	13	1000	BEU-343
		AP-043	mg/l CaCO <sub>3</sub>	0.5	4	
	DR900/DR890	AP-043		0.5	4	BEU-340
		Burette Titration	420-C0204.88 AP-059		0	unlimited
	420-C0205.88 AP-059			0	unlimited	
	420-C0033.88 AP-059			0	unlimited	
	Digital Titration	Hach AP-8213		10	4000	BEU-348
	Drop Titration	008-411-000		50	600	BEU-342
		008-412-000		0	20	
	Hardness Calcium	Digital Titration	Hach AP-8204		10	4000
	Drop Titration	008-410-000		50	600	BEU-342
Hardness Soap Test		008-414-000		30	400	
		008-426-000		2	60	
Hydrazine	DR2800/DR1900	AP-050	ug/l N <sub>2</sub> H <sub>4</sub>	4	600	BEU-343
	DR900/DR890	AP-050		16	500	BEU-340
Iron (II)	DR2800/DR1900	AP-022	ug/l Fe <sub>2</sub>	3	150	BEU-343
		AP-103		3	1400	
	DR900/DR890	AP-022		10	150	BEU-340
		AP-103		10	1400	
		AP-016		100	3000	
Iron Total	DR2800/DR1900	AP-088		4	1400	BEU-343
		AP-016		4	160	
		AP-023		11	1400	BEU-340
		AP-088		30	3000	
	DR900/DR890	AP-016		11	160	
		AP-023				
		AP-023				

Parameter	Method	Part No. / AP	Units	Min	Max	Bulletin
Iron Total	Colour Compar.	008-466-000	mg/l Fe	1	10	BEU-354
	Colour Chart	008-415-000		0	10	BEU-342
		008-416-000		0	2	
Microbio	Dip-slide	Dip-slides	CFU/ml	10 <sup>2</sup>	10 <sup>7</sup>	-
	Legionella detection	6026031 6032324		10 <sup>2</sup>	unlimited	BEU-347
Molybdate/ Molybdenum	DR2800/DR1900	AP-002	mg/l Mo	0.3	40	BEU-343
	DR900/DR890	AP-002		0.2	40	BEU-340
Molybdate	Colour Compar.	008-467-000	mg/l MoO <sub>4</sub>	0	100	BEU-354
	Colour Chart	008-417-000		0	350	BEU-342
NALCOOL 2000	Drop Titration	420-C0145.88 AP-062		See chart		-
NEXGUARD	DR2800/DR1900	AP-125		See AP		BEU-343
		AP-117				
	DR900/DR890	AP-117				BEU-340
Nitrate	Colour Chart	008-418-000	mg/l NO <sub>3</sub>	0	80	BEU-342
Nitrite	DR2800/DR1900	AP-003	mg/l NO <sub>2</sub>	2	250	BEU-343
		AP-003		3	150	BEU-340
	DR900/DR890	008-419-000	mg/l NaNO <sub>2</sub>	150	2000	BEU-342
	Strips	500-P3205.88	mg/l NO <sub>2</sub>	0	50	-
Oxygen Dissolved	Colour Comparator	420-C0030.88 AP-081	mg/l O <sub>2</sub>	0	12	-
		420-C0032.88 AP-082		0	1	
	420-C0031.88 AP-082	ug/l O <sub>2</sub>	0	100		
	420-C0029.88 AP-082		0	40		

# Test Selection Guide, O-Z

Parameter	Method	Part No. / AP	Units	Min	Max	Bulletin
Oxygen Scavenger	<a href="#">Colour Compar.</a>	008-455-000	mg/l DEHA	0	0.5	BEU-354
	<a href="#">Colour Chart</a>	008-425-000		0	0.5	BEU-342
Peroxide	<a href="#">Strips</a>	500-P3211.88	mg/l	0	25	-
pH		500-P3204.88	pH units	0	14	
		500-P3207.88		5	10	
Phosphate Inorganic	<a href="#">DR2800/DR1900</a>	AP-004	mg/l PO <sub>4</sub>	0.1	5	BEU-343
	<a href="#">DR900/DR890</a>			0.1	5	BEU-340
Phosphate, Ortho Inorganic	<a href="#">DR2800/DR1900</a>	AP-029		1	25	BEU-343
	<a href="#">DR900/DR890</a>			1	25	BEU-340
Phosphate, Total Inorganic	<a href="#">DR2800/DR1900</a>	AP-005		0.1	5	BEU-343
	<a href="#">DR900/DR890</a>			0.1	5	BEU-340
Phosphate, Total Organic / Inorg.	<a href="#">DR2800/DR1900</a>	AP-101		0.1	19.99	BEU-343
	<a href="#">DR900/DR890</a>			1	19.99	BEU-340
Phosphate, Ortho	<a href="#">Colour Compar.</a>	008-470-000		0	20	BEU-354
	<a href="#">Colour Chart</a>	008-420-000		0	100	BEU-342
Phosphonate	<a href="#">DR2800/DR1900</a>	AP-025		0.1	13.9	BEU-343
		AP-070		0.1	125	
	<a href="#">DR900/DR890</a>	AP-025		0.6	13.9	BEU-340
		AP-070		0.1	125	
	<a href="#">Drop Titration</a>	6018816 / AP-138		0	unlimited	BEU-342
Polymer Active	<a href="#">DR2800/DR1900</a>	AP-116	mg/l	0.6	20	BEU-343
	<a href="#">DR900/DR890</a>			1.7	20	BEU-340
Silica	<a href="#">DR2800/DR1900</a>	AP-006	mg/l SiO <sub>2</sub>	1	100	BEU-343
		AP-007		0.01	1.6	

Parameter	Method	Part No. / AP	Units	Min	Max	Bulletin
Silica	<a href="#">DR900/DR890</a>	AP-006	mg/l SiO <sub>2</sub>	1	75	BEU-340
		AP-007		0.02	1.6	
	<a href="#">Colour Compar.</a>	008-471-000		0	4	BEU-354
		<a href="#">Colour Chart</a>	008-422-000		0	200
		008-421-000		0	10	
Silt Density Index	<a href="#">Physical Measurement</a>	6024340		-		BEU-349
Sulphate	<a href="#">DR2800/DR1900</a>	AP-008	mg/l SO <sub>4</sub>	2	70	BEU-343
	<a href="#">DR900/DR890</a>			5	70	BEU-340
Sulphide	<a href="#">DR2800/DR1900</a>	AP-056	ug/l S	10	800	BEU-343
	<a href="#">DR900/DR890</a>			10	700	BEU-340
Sulphite	<a href="#">Digital Titration</a>	Hach AP-8216	mg/l SO <sub>3</sub>	4	1600	BEU-348
	<a href="#">Burette Titration</a>	420-C0204.88 AP-059		0	60	
		420-C0205.88 AP-059	0	60		
	<a href="#">Drop Titration</a>	008-423-000	15	100	BEU-342	
	<a href="#">Strips</a>	500-P3241.88	100	500		
Sur-gard	<a href="#">DR2800/DR1900</a>	AP-009	ug/l	103	6199	BEU-343
	<a href="#">DR900/DR890</a>			103	6199	BEU-340
Tannin	<a href="#">Drop Titration</a>	008-424-000	mg/l	50	300	BEU-342
	<a href="#">DR2800/DR1900</a>	AP-074		0.1	16	
Triazole	<a href="#">DR900/DR890</a>			0.7	16	BEU-340
	<a href="#">Drop Titration</a>			0.01	3	BEU-343
Zinc	<a href="#">DR2800/DR1900</a>	AP-015	mg/l Zn	0.02	3	BEU-340
	<a href="#">DR900/DR890</a>			0	4	BEU-354
	<a href="#">Colour Compar.</a>	008-477-000				



FASTPATH In-line Test Kit

The FASTPATH Legionella test is designed to detect Legionella Pneumophila Serogroup1, which is responsible for over 90% of all reported cases of Legionnaires' disease.

## Microbiology Testing: Legionella

The presence of Legionella Pneumophila Serogroup1 (LP SG1) bacteria causes a test line to turn red. A control line is included which should always turn red if the test has been performed correctly. The test has been successfully evaluated for cross reactivity in typical cooling water, domestic water and pool/spa systems.

The In-line Filter Kit concentrates a 250ml sample taken directly from a sample point. This allows a detection limit down to 100 CFU/L.

The Vacuum Filter Kit allows you to concentrate a 1L sample. This allows a detection limit down to 170 CFU/L.

Part No.

6032324

TBD

Test Kit

Test Kit for 5 In-line tests.

Test Kit for 5 vacuum filtration tests and vacuum filter kit

COMING SOON

Part No.

460-100118.71

Accessory

65ml Thiosulphate solution for use when oxidising biocides need to be removed if the test is not carried out immediately

Part No.

6032325

Replacement Part

Sample point adaptor (each application requires a sample point adaptor, adaptors should not be used at more than one application to avoid cross-contamination)

460-100119.71

Recovery buffer solution, 65ml, vacuum filtration kit only

6026453

Vacuum filtration pump

6026454

Vacuum manifold

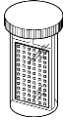
6026524

Filter cups (20/pkg)

6026452

Timer

# Microbiology Testing



## Microbio Quick Test (MQT) Kit

0-10<sup>7</sup> organisms/ml total bacteria. Bacteria are filtered out of the sample onto a special pad. The test solution reacts with the bacteria to produce a pink colour.

Analytical Procedure: AP-068

Part No.	Test Kit
420-C0260.88	Microbio Quick Test (Colour Chart)

Part No.	Replacement Part
460-S0780.71	MQT-1, Form: Liquid, 50ml
500-C0092.88	Pressure Filter, includes cylinder and filter bulb

500-P0120.88	500ml Plastic Beaker
500-P1427.88	A/E Glass Microfiber Filter, 47mm (100/Pkg)

500-P2107.88	1ml Disposable Sterile Pipette
500-P2804.88	Forceps, blunt tip



## Aerobic/Anaerobic Dip-slides

A dip-slide consists of specially prepared agars affixed to a plastic paddle. Dip into the sample, return to plastic sleeve and **incubate**. Compare the slide to charts to estimate the microbio level.

Part No.	Dip-slide Test
008-300-000	Anaerobic Bacteria Test (20/pkg)
008-300-001	Total Bacteria Dip-slides (20/pkg)
008-300-003	Yeast and Mould Dip-slides (20/pkg)
008-300-004	Plate Count Agar TTC (20/pkg)
500-AP8099.88	3M Aerobic Petrifilm Test Kit, Yeast and Mould (AC02502), requires courier shipment
500-P3055.88	3M Aerobic Petrifilm Count Plates (100), requires refrigeration and courier shipment

Part No.	Accessory
008-312-000	Incubator for 12 dip-slides, 240Vac, 12Vdc car adapter



## Surface Microbial Monitoring Test Kit

Test kit for monitoring sessile populations of micro organisms primarily associated with metal surfaces. In most cases, corrosion coupons will be used as the sampling surface. This kit contains the supplies necessary to aseptically sample a surface for subsequent microbiological analyses and does not contain supplies for the analyses themselves.

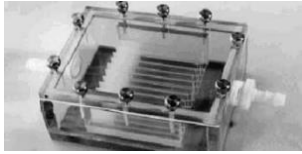
Analytical Procedure: AP-105

Part No.	Test Kit
420-C0243.88	Surface Microbial Monitoring Test Kit

Part No.	Replacement Part
500-P0214.88	75 x 175 mm Sterile Whirl-Pak Bag
500-P3065.88	Sterile Cotton Swabs, 100/box
500-P3066.88	10ml Sterile Buffer in Plastic Test Tubes



# Microbiology Testing



## Bio-box

The Bio-Box provide a visual means of monitoring fouling in systems that are closed and difficult to inspect. Micro-organisms will grow on the box and the microscope slides and form a biofilm. Once the biofilm exceeds 50 microns, it will become visible. Any build up will indicate the need for improved bacteria control and/or dispersancy.

Pressure: Max. 1.3bar  
Bulletin: SPEC-402

**Part No.**      **Bio-box**  
**440-P3060.88**    NALCO WATER Bio-box with slide holder

**Part No.**      **Accessory**  
**500-P3014.88**    Microscope Slides (72), Flat  
**500-P3063.88**    50ml Centrifuge Tube  
**500-P0214.88**    75 x 175 mm Sterile Whirl-Pak Bag



## ChloroSense Total/Free Chlorine Test

ChloroSense introduces **reagent free** chlorine measurement to water treatment monitoring. It uses a unique electrochemical sensor to measure free and total chlorine in water samples. Analysis takes less than one minute and has a very wide operating range.

Bulletin: BEU-351

**Part No.**      **Test Kit**  
**6031023**      ChloroSense Startup Kit incl. instrument, 100 sensors, cal./batch chip, USB cable

**Part No.**      **Replacement Part**  
**6031021**      ChloroSense Sensor Kit incl. 100 sensors and cal./batch chip  
**6031009**      ChloroSense instrument  
**6031022**      ChloroSense USB cable for download of data log files



## DPD Free/Total Chlorine Test

Test kit for monitoring sessile populations of micro organisms primarily associated with metal surfaces. In most cases, corrosion coupons will be used as the sampling surface. This kit contains the supplies necessary to aseptically sample a surface for subsequent microbiological analyses and does not contain supplies for the analyses themselves.

Bulletin: BEU-352

**Part No.**      **Colorimeter**  
**001-H11782.88**    Pocket Chlorine Colorimeter including carrying case, manual, reagents and sample cells

**Part No.**      **Accessory**  
**460-S0460A.87**    Free Chlorine powder pillows (100)  
**460-S0461.87**    Total Chlorine powder pillows (100)

# NALCO WATER Engineer Test Kits with Spectrophotometers

Designed to support best practice test methods:

- ▲ **Drop titrations:** Chlorine Dioxide (using CD02A) and Phosphonate (AP-138).
- ▲ **Digital titrations:** Alkalinity (AP-8203, P / Total), Chloride (AP-8207), Hardness (AP-8204 / 8213, Calcium / Total) and Sulphite (AP-8216) (using liquid reagents where possible).
- ▲ **Spectrophotometric:** Active Polymer (AP-116), Bromine (AP-087), Chlorine (AP-034, 035, Total and Free), Copper (AP-045), ELIMIN-OX (AP-060), Hydrazine (AP-050), Iron (AP-016, 022, 023, Total and Fe-2), Molybdenum (AP-002), NEXGUARD (AP-117), Nitrite (AP-003), Phosphate (AP-004 / 005, Ortho / Total Inorganic), Silica (AP-006 / 007, Low / High).

## Engineer Test Kit hardware

- ▲ DR900 colorimeter or DR1900 spectrophotometer
- ▲ PC300 pH and cond. meter (+ spare pH probe)
- ▲ TRASAR Pen Fluorometers, dye#2 and dye#3
- ▲ Digital Titrator with straight and hooked delivery tubes

## Part No.

6033943

## Test Kit

NALCO WATER Engineer Test Kit with DR900, aluminium case and instrument bag. Reagent Start-up Kit not included.

6033948

NALCO WATER Engineer Test Kit with DR1900, aluminium case and instrument bag. Reagent Start-up Kit not included.

## Part No.

008-080-000

## Accessory

Reagent Start-up Kit. Reagents and solutions for test kits 6033943, 6033948.

6033950

Reagent case and Instrument bag only (contains no hardware)

## Part No.

6033950

- ▲ 1.25ml syringes and 3-way valves for quick titrations
- ▲ Syringes, filters, cylinders, beakers, sample containers, wash bottle, flasks, timer, snips
- ▲ Storage boxes and foam cut outs for reagents
- ▲ Drop down work surface

Everything you need to get you started with analytical field testing.



# Application Test Kits

**Cooling Water Test Kits:** Alkalinity (008-401-000), Total Hardness (008-412-000), Ortho-Phosphate (008-420-000), Free and Total Chlorine (008-407-000) and Phosphonate (6018816) tests. Space for two other tests.

**Boiler Water Test Kits:** Alkalinity (008-401-000), Total Hardness (008-412-000), Ortho-Phosphate (008-420-000) and Sulphite (008-423-000) tests are provided as standard. Space for two other tests.

**Legionella Compliance Test Kits:** Total Bacteria Dip-slides (008-300-001), Free and Total Chlorine

test (008-407-000). Space for four other tests. An incubator (008-312-000) is required for proper incubation of the dip-slides.

**Instruments:** Premium test kits are supplied with a PC300 conductivity, pH and temperature meter (008-014-000.88). Economy test kits are supplied with pocket conductivity (008-028-100.88) and pH (008-026-000.88) meters.

<b>Part No.</b>	<b>Accessory</b>
6024492	Plastic case only
6024495	A5 binder



Part No.	Application	Type	PC300 Cond./pH Meter	Pocket Cond. Meter	Pocket pH Meter	Chlorine Test	Hardness Test	Alkalinity Test	Phosphate Test	Phosphonate Test	Sulphite Test	Filter Kit	Dip-slides
6024474	Cooling Water	Premium	●			●	●	●	●	●			
6024475	Water	Economy		●	●	●	●	●	●	●			
6024476	Boiler Water	Premium	●				●	●	●		●	●	
6024477		Economy		●	●		●	●	●		●	●	
6024479	Legionella Compliance	Economy		●	●	●							●

Application Test Kits will help you to conveniently manage your water system and allow you the flexibility to choose the kit you need now and in the future.



# Drop Test Kits

Drop Test Kits are particularly suitable for customer use. When the reagents are used up simply order replacement kits. When ordering replacement reagents ([click here](#)), please note that they are in larger sizes than supplied with the Drop Test Kits (e.g. 65ml instead of 30ml). The larger reagents of the Drop Test Kits Plus can be replaced individually.

Part No.	Drop Test Kit	Range (ppm)
008-400-000	Acidity	10-3000
008-401-000	Alkalinity, LR	50-600
008-402-000	Alkalinity, HR	200-3200
008-403-000	Ammonia	0-5
008-404-000	Bromine, Total	0-10
008-405-000	Chloride, LR	0-20
008-406-000	Chloride, HR	50-1000
008-407-000	Chlorine, Free, Total	0-4
008-408-000	Chlorine, Free Colour	5-150
987-650505	Chlorine Dioxide	0.16-12
008-409-000	Copper	0-4
008-410-000	Hardness, Calcium	50-600
008-411-000	Hardness, Total, HR	50-600
008-412-000	Hardness, Total, LR	0-20

Part No.	Drop Test Kit	Range (ppm)
008-414-000	Hardness Soap Test, HR	30-400
008-426-000	Hardness Soap Test, LR	2-60
008-415-000	Iron, HR	0-10
008-416-000	Iron, LR	0-2
008-417-000	Molybdate	0-350
008-418-000	Nitrate	0-80
008-419-000	Nitrite	150-2000
008-420-000	Phosphate, Ortho	0-100
6018816	Phosphonate	0-25
008-421-000	Silica, LR	0-10
008-422-000	Silica, HR	0-200
008-423-000	Sulphite	15-100
008-424-000	Tannin	50-300
008-425-000	Oxygen Scav. (DEHA)	0-0.5

Part No.	Drop Test Kits Plus	Range (ppm)
008-501-000	Alkalinity, P+M, LR/HR	50-3200
008-510-000	Hardness, Calcium	50-600
008-511-000	Hardness, Total, LR/HR	5-600
008-519-000	Nitrite	150-2000
008-523-000	Sulphite	15-100



Drop Test Kit Plus

Drop Test Kit

Drop Test Kits cover the most common analyses required in the field. They are particularly suitable for customer use.



## Comparator Test Kits

Comparator Test Kits come complete with a comparator, continuous gradient colour disc, test tubes, syringe, reagents and instructions in a rugged plastic case.

In most cases, the test chemistries are the same as the Drop Test Kits. However where the drop test kits use simple colour charts, the comparator test kits use a comparator and disc to aid the accurate assessment of the intensity of the colour produced by the test.

Part No.	Test Kit	Range (ppm)
008-454-000	Bromine, Free, Total	0-4
008-457-000	Chlorine, Free, Total	0-2
008-459-000	Copper	0-4
008-466-000	Iron	1-10
008-467-000	Molybdate	0-100
008-470-000	Phosphate, Ortho	0-20
008-471-000	Silica	0-4
008-475-000	Oxygen Scavenger (DEHA)	0-0.5
008-477-000	Zinc	0-1

### Part No. Replacement Part

6035054	Comparator disc for Bromine test
6035056	Comparator disc for Chlorine test
6035058	Comparator disc for Copper test
6035059	Comparator disc for Iron test
6035014	Comparator disc for Molybdate test
6035016	Comparator disc for Ortho Phosphate test, 0-20ppm
6038181	Comparator disc for Ortho Phosphate test, High Range, 0-80ppm
6035038	Comparator disc for Silica test
6035039	Comparator disc for Oxygen Scavenger test
6035040	Comparator disc for Zinc test
6035051	Comparator test tube, 5/10ml
6035052	Comparator syringe, 10ml
6035053	Comparator disc holder
6020733	Phosphonate sample filtration kit

Comparator test kits use a comparator and disc to aid the accurate assessment of the intensity of the colour produced by the test.



# Replacement Reagents for Drop/Comparator Tests

Part No.	Description	Cross-reference	Part No.	Description	Cross-reference
460-R1.71	Reagent1, Acidity, Alkalinity, 65ml	PA1, NDR029, 987-662001, 987-020516, 987-653036	460-R31.81	Reagent31, Molybdate, Tannin, 20g	TN1, NDR058, 987-662016
460-R2.71	Reagent2, Acidity, 65ml	ACD3	460-R32.71	Reagent32, Nitrate, 65ml	NITRATE1
460-R3.71	Reagent3, Alkalinity, 65ml	TA3, NDR048, 987-662027, 987-653032	460-R33.81	Reagent33, Nitrate, 20g	NITRATE2
460-R4.71	Reagent4, Alkalinity, 65ml	PA2, 987-662002	460-R34.71	Reagent34, Nitrite, 65ml	NI, NDR027, 987-662014
460-R5.71	Reagent5, Alkalinity, 65ml	TA4	460-R35.71	Reagent35, Nitrite, 65ml	N2
460-R6.71	Reagent6, Ammonia, 65ml	AMMONIA1	460-R36.71	Reagent36, Phosphate, Ortho, 65ml	CRP, NRR025
460-R7.71	Reagent7, Ammonia, 65ml	AMMONIA2	460-R37.81	Reagent37, Phosphate, Ortho, 20g	AA
460-R8.81	Reagent8, Ammonia, 20g	AMMONIA3	460-R38.71	Reagent38, Silica, 65ml	SILICA1
460-R9.71	Reagent9, Chlorine, 65ml	FCL1, NRR274	460-R39.71	Reagent39, Silica, 65ml	SILICA2
460-R10.71	Reagent10, Chlorine, 65ml	FCL2, NRR275	460-R40.81	Reagent40, Silica, 20g	SILICA3
460-R11.71	Reagent11, Chlorine, 65ml	FCL3, NRR276	460-R44.81	Reagent44, Sulphite, 20g	S1, NDR044, 987-662025, 987-653028
460-R12.86	Reagent12, Bromine, Chlorine, 50tabs	DPD1, NRR033, 987-020089	460-R45.71	Reagent45, Sulphite, 65ml	S2, NDR045, 987-662026
460-R13.86	Reagent13, Bromine, Chlorine, 50tabs	DPD4	460-R46.71	Reagent46, Tannin, 65ml	TN2, NDR059, 987-662017
460-R14.71	Reagent14, Chloride, 65ml	CHLORIDEA	460-R47.71	Reagent47, Oxygen, Scavenger, 65ml	DEHAA/B, NRR025
460-R15.71	Reagent15, Chloride, 65ml	CHLORIDEB	460-R48.71	Reagent48, Oxygen, Scavenger, 65ml	DEHAC
460-R16.71	Reagent16, Chloride, 65ml	BC1, CC1, NRR903, 987-662004	460-R49.71	Reagent49, Hardness, 65ml	SOAPLR
460-R17.71	Reagent17, Chloride, 65ml	CC2, NRR903, 987-662006	460-R50.71	Reagent50, Silica, 65ml	ACIDMOLY, NRR187
460-R18.71	Reagent18, Chloride, 65ml	BC2, NDR138, 987-662005	460-R53.71	Reagent53, Zinc, 65ml	ZINC1
460-R19.86	Reagent19, Copper, 50tabs	COPPERHR	460-R54.81	Reagent54, Zinc, 20g	ZINC2
460-R20.71	Reagent20, Hardness, Calcium, 65ml	CH2, NDR014, 987-662012, 987-653038	460-R56.86	Reagent56, Bromine, 50tabs	DPDNitrite, NRR212
460-R21.81	Reagent21, Hardness, Calcium, 20g	CH1P, 987-653033	460-R57.86	Reagent57, Chlorine, 50tabs	DPD3, NRR034
460-R22.71	Reagent22, Hardness, Calcium, 65ml	CH3, NDR015, 987-662010	987-651100	Reagent, Cd01, Chlorine, Dioxide, 65ml	CD01
460-R24.71	Reagent24, Hardness, Iron, 65ml	TH2, NDR054, 987-662008, 987-653038	987-651101	Reagent, Cd02a, Chlorine, Dioxide, 65ml	CD02A
460-R25.81	Reagent25, Hardness, 20g	THIP, 987-653037, 987-662007	460-PD488.71	Soln, Phosphonate Titrating, 60ml	PD488
460-R26.71	Reagent26, Hardness, 65ml	TH3, NDR055, 987-662009	460-PD488.74	Soln, Phosphonate Titrating, 500ml	PD488
460-R26B.71	Reagent26b, Hardness, 65ml	TH4, NDR056, 987-662010	460-PD489.71	Soln, Pdq Indicator/Buffer, 30ml	PD489
460-R28.71	Reagent28, Hardness, 65ml	SOAPHR	460-PD489.74	Soln, Pdq Indicator/Buffer, 500ml	PD489
460-R29.71	Reagent29, Iron, Molybdate, 65ml	FE6	460-PD490.71	Phosphonate pH adjustor, 60ml	-
460-R30.71	Reagent30, Iron, 65ml	FE5, NRR036	460-PD491.71	Phosphonate sulphate suppressor, 60ml	-

# Titration Test Kits

## Digital Titration

The Digital Titrator offers higher levels of precision and accuracy than drop count procedures. The titrator accommodates interchangeable titrant cartridges, so multiple titrations involve changing the cartridge and delivery tube. Snapping cartridges in and out saves the time associated with cleaning and assembling cumbersome, fragile glass burettes and virtually eliminates the possibilities of cross contamination. Order the Digital Titrator Kit as well as the reagents ([click here](#)) required to perform the test as specified on the applicable procedure.

## Syringe Titration

The titrator cartridges can also be used together with a 3-way valve and 1.25ml syringe. The syringe is specially graduated with 100 steps for greater accuracy. The analytical procedure is identical to the Digital Titrator. The factor is simply 10x the Digital Titrator factor. This method is quicker than the Digital Titrator method with sufficient accuracy.

**Part No.** **956-16900-01** **Titration**  
Digital Titrator, delivery tubes (5) and manual

**6033951** Titrator Syringe (1.25ml with 100 grads)

**Part No.** **6007269** **Accessory**  
3-way valve for syringe titration

**956-17205-00** Delivery tubes (5)

**6033955** Delivery tubes, straight (5)

**500-P1505.88** Flask 250ml

**500-P1503.88** Flask 125ml

**Digital Titrator:** 800 digits/ml, Accuracy: +/-1%. Uncertainty of readings is 1 digit. Most samples require more than 100 digits, weight: 132g

**Syringe Titration:** Volume 1.25ml, delivery 80 graduations/ml

**Cartridges:** Volume 13ml, tests: 50-100 (most reagents are formulated to provide 100 typical titrations; number of tests may vary depending on sample strength), weight (full): 57g



Digital Titrator

Syringe Titration

Digital titration offers higher levels of precision and accuracy than drop count procedures

# Titration Reagents

Test	Part No.	Description
<b>Acidity</b> Hach AP-8201, AP-8202	008-300-011	NaOH, 0.1600 N, 10-40-160mg/L CaCO <sub>3</sub>
	008-300-013	NaOH, 1.600 N, 100-400-800-2000-4000mg/L CaCO <sub>3</sub>
	956-14550-99	Bromphenol Blue PP 50ml pk/100
	956-942-99	Phenolphthalein PP pk/50 x2
<b>Alkalinity</b> Hach AP-8203	008-300-014	H <sub>2</sub> SO <sub>4</sub> , 0.1600 N, 10-40-160mg/L CaCO <sub>3</sub>
	008-300-015	H <sub>2</sub> SO <sub>4</sub> , 1.600 N, 100-400-800-2000-4000mg/L CaCO <sub>3</sub>
	956-943-99	Bromcresol Green - Methyl Red Indicator PP pk/50 x2
	956-23292-32	Bromcresol Green - Methyl Red Indicator, 100ml
	956-942-99	Phenolphthalein Indicator PP pk/50 x2
956-162-32	Phenolphthalein Indicator, 100ml	
<b>Carbon Dioxide</b> Hach AP-8205	008-300-012	NaOH, 0.3636 N, 10-50-100mg/L CO <sub>2</sub>
	956-942-99	Phenolphthalein PP pk/50 x2
<b>Chloride</b> Hach AP-8207	008-300-017	AgNO <sub>3</sub> , 0.2256 N, 10-40-100mg/L as Cl <sup>-</sup>
	008-300-018	AgNO <sub>3</sub> , 1.128 N, 100-400-1000-4000-10,000 mg/L as Cl <sup>-</sup>
	956-1057-66	Chloride 2 Ind PP 100ml pk/50
<b>Calcium Hardness</b> Hach AP-8204	008-300-010	EDTA, 0.0800 M, 10-40-160mg/L CaCO <sub>3</sub>
	008-300-019	EDTA, 0.800 M, 100-400- 800-2000-4000mg/L CaCO <sub>3</sub>
	008-300-021	EDTA, 0.714 M, 10-40-25-100-200 German degrees of hardness
	008-300-022	EDTA, 0.1428 M, 1-4-16 German degrees of hardness
	956-282-32	Potassium Hydroxide 8N 100ml
956-852-99	Calver 2 PP 50ml pk/100	

Test	Part No.	Description
<b>Total Hardness</b> Hach AP-8213	008-300-010	EDTA, 0.0800 M, 10-40-160mg/L CaCO <sub>3</sub>
	008-300-019	EDTA, 0.800 M, 100-400- 800-2000-4000mg/L CaCO <sub>3</sub>
	008-300-021	EDTA, 0.714 M, 10-40-25-100-200 German degrees of hardness
	008-300-022	EDTA, 0.1428 M, 1-4-16 German degrees of hardness
956-424-32	Buffer Solution Hardness 1 Test Solution, 100ml	
956-425-32	Buffer Solution Hardness 2 Test Solution, 100ml	
956-851-99	Manver 2 PP 50ml pk/100	
<b>Total Hardness Sequential</b> Hach AP-8329	008-300-010	EDTA, 0.0800 M, 10-40-160mg/L CaCO <sub>3</sub>
	008-300-019	EDTA, 0.800 M, 100-400- 800-2000-4000mg/L CaCO <sub>3</sub>
	008-300-021	EDTA, 0.714 M, 10-40-25-100-200 German degrees of hardness
	008-300-022	EDTA, 0.1428 M, 1-4-16 German degrees of hardness
	956-424-32	Buffer Solution Hardness 1 100ml
	956-928-99	Manver 2 PP 50ml pk/50 x2
	956-282-32	Potassium Hydroxide 8N 100ml
956-947-99	Calcium Ind PP Pk/100	
956-2449-32	Sulphuric Acid 5.25N 100TS MDB	
<b>Sulphite</b> Hach AP-8216	008-300-023	KIO <sub>3</sub> /KI, 0.3998 N, 100-160-400-1600 mg/L as SO <sub>3</sub> <sup>2-</sup>
	956-987-99	Dissolved Oxygen 3 PP Pk/100
	956-349-32	Starch Indicator Solution 100ml
	956-2038-32	Sulphuric Acid, 19.2N, 100ml



# Spectrophotometers

## DR1900 vs. DR900



DR1900



DR900

	DR1900	DR900
<b>Use</b>		
Specification	DR1900	DR900
Waterproof	Yes (IP67)	Yes (IP67)
Weight	1.5kg	0.6kg
Dimensions	26x18x10cm	24x9x5cm
Languages	26	26
Storage log	500 readings	50 readings
Operating temperature	0...40°C	0...50°C
<b>Power</b>		
Batteries	4x AA Alkaline or 4x Rechargeable NiMH	4x AA Alkaline
Max. battery life	100 measurements	650 measurements
Battery charger	Included	Not applicable
External power	110-240Vac, 50/60Hz	Not applicable
<b>Measurement</b>		
Wavelength range	340...800nm	420, 520, 560, 610nm
Photometric range	0...3Abs	0...2Abs
Photometric accuracy	3mAbs @ <0.5Abs 1% @ >0.5Abs	5mAbs @ 1Abs
Sample cell compatibility	□10mm, ○13mm, ○16mm, ○/□25mm. Flow-thru cell for □10mm, □25mm.	○16mm, ○/□25mm

Test	Procedure	DR1900	DR900
A Aluminium	Aluminium	AP-106	X
	Aluminium, Low Range	AP-028	●
	Ammonia	AP-073	●
B Bromine	AP-087	●	●
C Chlorine Free (DPD)	Chlorine Free (DPD)	AP-034	●
	Chlorine Total (DPD)	AP-035	●
	Chlorine Dioxide Free (DPD)	AP-126	X
	Copper	AP-045	●
E ELIMIN-OX	AP-060	●	●
H Hardness	Hardness	AP-043	●
	Hardness, Total Ultra Low Range	AP-067	●
	Hydrazine	AP-050	●
I Iron, Total, High Level	Iron, Total, High Level	AP-016	●
	Iron, Total, Low Level	AP-023	●
	Iron, Total, Low Level, Extended Range	AP-088	●
	Iron, Low Level	AP-022	●
	Iron, Low Level, Extended Range	AP-103	●
M Molybdate/Molybdenum, High Range	AP-002	●	●
N NexGuard	NexGuard	AP-117	●
	NexGuard	AP-125	●
	Nitrite, High Range	AP-003	●
O Orthophosphate, Inorganic	Orthophosphate, Inorganic	AP-004	●
	Orthophosphate, Inorganic, High Level	AP-029	●
P Phosphate, Total Organic and Inorganic	Phosphate, Total Organic and Inorganic	AP-101	●
	Phosphate, Total Inorganic	AP-005	●
	Phosphate, Soluble Organic (EASIPHOS 11)	AP-025	●
	Phosphonate Persulfate UV Oxidation	AP-070	●
Polymer, Active	AP-116	●	●
S Silica, High Range	Silica, High Range	AP-006	●
	Silica, Low Range	AP-007	●
	Sulfate	AP-008	●
	Sulfide	AP-056	●
	SUR-GARD 1700	AP-009	●
T Triazole, Benzotriazole/Tolyltriazole	AP-074	●	●
Z Zinc	AP-015	●	●

# DR1900 Portable Spectrophotometer

The portable DR1900 spectrophotometer is robust, lightweight, battery-powered and can be plugged into a mains socket. Its multilingual display works well in direct sunlight and indoors. These features make the instrument highly suitable for both field and laboratory use.

The DR1900 features pre-programmed calibrations to run over 90 tests, push-button method selection, automatic wavelength selection, and data logging capability. Analysis requires a minimum of time and preparation, with results displayed directly on the large crystal display. The instrument is dust proof, chemical resistant, and waterproof for years of reliable service.

The spectrophotometer comes complete with 2 sample cells (10ml/□25mm), and 4 sample cell adapters. Also included are a USB/power/charger module, 4 rechargeable batteries, a protective light shield and a dust cover. The basic instrument manual comes in 28 languages; the full manual in 6 languages.

**Part No.**  
**400-P1900.88**

**Spectrophotometer Kit**  
DR1900 Spectrophotometer kit

**Part No.**  
**500-P2500.88**  
**500-P2502.88**  
**500-P2523.88**

**Accessory**  
Sample cells (2), □25mm, 10ml  
Sample cells (2), □25mm, 25ml  
Sample cells (12), □25mm, 25ml, disposable (plastic), with cap  
Sample cells (6), ○25mm, 10-20-25ml, w/cap  
Check absorbance standards

**500-P2555.88**  
**956-27639-00**

**Part No.**  
**400-P1901A.88**  
**500-P1910.88**  
**500-P1911.88**  
**520-0M0259TD.88**

**Spare**  
DR1900 Spectrophotometer only  
Cell adapter set (4)  
Dust cover  
CD with manuals, procedures



Suitable for field use and laboratory use

Lightweight and waterproof

26 language display





## DR900 Hand-held Colorimeter

The DR900 is designed specifically for easy on-site testing. The instrument features pre-programmed calibrations to run over 90 tests, push-button method selection, automatic wavelength selection, and data logging capability. Analysis requires a minimum of time and preparation, with results displayed directly on the large crystal display. The instrument is dust proof, chemical resistant, and waterproof for years of reliable service.

The colorimeter comes complete with two Ø25mm sample cells marked at 10-20-25ml, a 16mm vial adapter, batteries, instrument manual and procedures manual.

### Part No.

**400-P0900.88**

### Colorimeter

DR900 Colorimeter

### Part No.

**500-P0891A.88**

**500-P0892A.88**

**500-P2555.88**

**956-27639-00**

### Accessory

Instrument carrying case

Data transfer adapter

Sample cells (6), round, 10-20-25ml w/cap

Check absorbance standards

### Part No.

**500-P0952.88**

### Spare

Light shield

Suitable for field use

Compact, lightweight and waterproof

26 language display

# Reagents and Parts for DR2800 / DR1900 / DR900 / DR890, A-H

Part No. Active Polymer Test for DR2800, DR1900, DR900, DR890 ♦ AP-116  
460-S0811.75 Polymer Reagent, Form: Liquid, 1L (35 tests)  
460-S0726.71 HCl 1:1, Form: Liquid, 50ml

Part No. Aluminium Test for DR2800, DR1900 ♦ AP-028  
460-P3113.88 Aluminium DR/2800 10ml Reagent Set, Form: Solid/Liquid, 100 tests (HM): ALECR-1, ALECR-2, ALECR-3  
460-S0726.71 HCl 1:1, Form: Liquid, 50ml

Part No. Aluminium Test for DR900, DR890 ♦ AP-106  
460-P3120.88 Aluminium DR900, DR890 Reagent Set

Part No. Ammonia Test for DR2800, DR1900, DR900, DR890 ♦ AP-073  
460-P3110.88 Ammonia DR2800, DR900, DR890 10ml Reagent Set, Form: Solid, 100 tests (HM): AM-1, AM-2

Part No. Boron Test for DR2800, DR1900 ♦ AP-030  
460-S0793.71 B-1, Form: Liquid, 50ml  
460-S0793.74 B-1, Form: Liquid, 500ml  
460-S0794.81 B-2, Form: Solid, 50g

Part No. Bromine Test for DR2800, DR1900, DR900, DR890 ♦ AP-087  
460-S0461.87 DPD-T, Form: Solid, 100 pillows  
460-S0243.71 Sulphuric Acid N/1 (H2SO4), Form: Liquid, 50ml

Part No. Chlorine Test for DR2800, DR1900, DR900, DR890 ♦ AP-035  
460-S0460A.87 DPD-F, Form: Solid, 100 pillows  
460-S0461.87 DPD-T, Form: Solid, 100 pillows  
460-S0243.71 Sulphuric Acid N/1 (H2SO4), Form: Liquid, 50ml

Part No. Chlorine Dioxide Test for DR900, DR890 ♦ AP-126  
460-P3122.88 Chlorine Dioxide, Free Reagent Set (contains DPD-F and Glycine reagent)  
460-S0460A.87 DPD-F, Form: Solid, 100 pillows  
460-S0310.70 Glycine reagent, 29ml

Part No. Copper Test for DR2800, DR1900, DR900, DR890 ♦ AP-045  
460-P3100.88 Copper DR2800, DR1900, DR900, DR890 10ml Reagent Set, Form: Solid, 100 tests (HM): CUP-1, CUP-2, CUP-3  
460-S0801.74 Nitric Acid 10%, Form: Liquid, 500ml

Part No. ELIMIN-OX Test for DR2800, DR1900, DR900, DR890 ♦ AP-060  
460-P3115.88 ELIMIN-OX DR2800, DR1900, DR900, DR890, 25ml Reagent Set, Form: Solid/Liquid, 100 tests (HM): ELIMIN-OX-1 (S0195), ELIMIN-OX-2 (S0196)  
460-S0726.71 HCl 1:1, Form: Liquid, 50ml  
460-S0734.71 Fe-4, Form: Liquid, 50ml (HM)  
460-S0195.87 ELIMIN-OX Reagent 1, Form: Solid, 100 pillows  
460-S0196.72 ELIMIN-OX Reagent 2, Form: Liquid, 100ml

Part No. Hardness Test for DR2800, DR1900, DR900, DR890 ♦ AP-043  
460-P3116.88 Hardness DR2800, DR1900, DR900, DR890 25ml Reagent Set, Form: Liquid, 100 tests (HM): Alkali, Calcium and Magnesium Indicator, EDTA, EGTA

Part No. Hardness Test, Ultra Low Range for DR2800, DR1900 ♦ AP-067  
460-S0471.70 CDTA Reagent, Form: Liquid, 10ml  
460-S0472.87 Chlorophosphonazo Ind, Form: Solid, 100 pillows

Part No. Hydrazine Test for DR2800, DR1900, DR900, DR890 ♦ AP-050  
460-S0718.71 HZ-1, Form: Liquid, 50ml

MORE

BACK



# Reagents and Parts for DR2800 / DR1900 / DR900 / DR890, I-P

Part No. Iron Test , High Level Total for DR2800, DR1900, DR900, DR890 ♦ AP-016  
460-S0466.87 Fe-HL, Form: Solid, 100 pillows  
460-S0726.71 HCl 1:1, Form: Liquid, 50ml

Part No. Iron Test, Low Level Fe(II) for DR2800, DR1900, DR900, DR890 ♦ AP-022, AP-103  
460-S0799.72 Fe (II), Form: Liquid, 100ml (HM)  
460-S0726.71 HCl 1:1, Form: Liquid, 50ml

Part No. Iron Test, Low Level Total for DR2800, DR1900, DR900, DR890 ♦ AP-023, AP-088  
460-S0451.72 Fe-4, Form: Liquid, 100ml (HM)  
460-S0726.71 HCl 1:1, Form: Liquid, 50ml

Part No. Molybdate/Molybdenum Test, High Range for DR2800, DR1900, DR900, DR890 ♦ AP-002  
460-P3102.88 Molybdenum DR2800, DR1900, DR900, DR890 10ml Reagent Set, Form: Solid, 100 tests (HM): MO-1, MO-2, MO-3

Part No. NEXGUARD Test for DR2800, DR1900, DR900, DR890 ♦ AP-117  
460-P3106.88 NEXGUARD DR900, DR890 25ml Reagent Set, Form: Liquid, 100 tests (HM): PA-1 (S0635), PA-2 (S0636), PA-1 (S0635), PA-2 (S0636)

Part No. NEXGUARD Test for DR2800, DR1900 ♦ AP-125  
460-S0811.75 Polymer Reagent, Form: Liquid, 1L (35 tests)  
460-S0726.71 HCl 1:1, Form: Liquid, 50ml

Part No. Nitrite Test, High Range for DR2800, DR1900, DR900, DR890 ♦ AP-003  
460-S0464.87 NT-2, Form: Solid, 100 pillows, 10ml

Part No. Phosphate Test, High Level Inorganic Ortho for DR2800, DR1900, DR900, DR890 ♦ AP-029  
460-P3109.88 Ortho and Total Inorganic Phosphate DR2800, DR1900, DR900, DR890 25ml Reagent Set, Form: Solid/Liquid, 100 tests (HM): TP-1 (SH357), XP-2 (S5091), 1:1 HCl (S0726), 60ml dropper bottle (P0359)  
460-S0726.71 HCl 1:1, Form: Liquid, 50ml  
460-S5091.80 XP-2, Form: Solid, 25 g  
460-SH357.72 TP-1, Form: Liquid, 100ml

Part No. Phosphate Test, Inorganic Ortho for DR2800, DR1900, DR900, DR890 ♦ AP-004  
460-P3109.88 Ortho and Total Inorganic Phosphate DR2800, DR1900, DR900, DR890 25ml Reagent Set, Form: Solid/Liquid, 100

tests (HM): TP-1 (SH357), XP-2 (S5091), 1:1 HCl (S0726), 60ml dropper bottle (P0359)  
460-S0726.71 HCl 1:1, Form: Liquid, 50ml  
460-S5091.80 XP-2, Form: Solid, 25 g  
460-SH357.72 TP-1, Form: Liquid, 100ml

Part No. Phosphate Test, Total Inorganic for DR2800, DR1900, DR900, DR890 ♦ AP-005  
460-P3109.88 Ortho and Total Inorganic Phosphate DR2800, DR1900, DR900, DR890 25ml Reagent Set, Form: Solid/Liquid, 100 tests (HM): TP-1 (SH357), XP-2 (S5091), 1:1, HCl (S0726), 60ml dropper bottle (P0359)  
460-S5091.80 XP-2, Form: Solid, 25 g  
460-SH357.72 TP-1, Form: Liquid, 100ml

Part No. Phosphate Test, Total Organic and Inorganic for DR2800, DR1900, DR900, DR890 ♦ AP-101  
460-S0726.71 HCl 1:1, Form: Liquid, 50ml  
460-S0735.80 POE-1, Form: Solid, 25 g  
460-S0736.71 POE-2, Form: Liquid, 50ml  
460-S0801.74 Nitric Acid 10%, Form: Liquid, 500ml  
460-S5091.80 XP-2, Form: Solid, 25 g  
460-SH357.72 TP-1, Form: Liquid, 100ml



# Reagents and Parts for DR2800 / DR1900 / DR900 / DR890, P-Z

**Part No.** Phosphate, Organic Soluble EASIPHOS II for DR2800, DR1900, DR900, DR890 ♦ AP-025

**460-P3108.88** EASIPHOS II Organic Phosphate DR2800, DR1900, DR900, DR890 25ml Reagent Set, Form: Solid/Liquid, 100 tests (HM): EP-1 (SO321), EP-2 (SO322), EP-5 (SO325), EP-6 (SO326)

**460-S0321.71** EP-1, Form: Liquid, 50ml

**460-S0322.80** EP-2, Form: Solid, 25 g

**460-S0325.80** EP-5, Form: Solid, 25 g

**460-S0326.72** EP-6, Form: Liquid, 100ml

**460-S0726.71** HCl 1:1, Form: Liquid, 50ml

**Part No.** Phosphonate Test, Persulphate UV Oxidation for DR2800, DR1900, DR900, DR890 ♦ AP-070

**460-S0324A.87** EP-4, Form: Solid, 100 pillows

**460-S0327.87** Persulphate Pillows, Form: Solid, 100 pillows

**460-S0726.71** HCl 1:1, Form: Liquid, 50ml

**Part No.** Silica Test, High Range for DR2800, DR1900, DR900, DR890 ♦ AP-006

**460-P3111.88** High Range Silica DR2800, DR1900, DR900, DR890 10ml Reagent Set, Form: Solid, 100 tests (HM): SIH-1 (SO622), SIH-2/SIL-2 (SO623), SIH-3 (SO625)

**460-S0622.87** SIH-1, Form: Solid, 100 pillows

**460-S0623.87** SIH-2/SIL-2, Form: Solid, 100 pillows

**460-S0625.87** SIH-3, Form: Solid, 100 pillows

**Part No.** Silica Test, Low Range for DR2800, DR1900, DR900, DR890 ♦ AP-007

**460-P3112.88** Low Range Silica DR2800, DR1900, DR900, DR890 10ml Reagent Set, Form: Solid/Liquid, 100 tests (HM): SIL-1 (SO626), SIH-2/SIL-2 (SO623), SIL-3 (S617P)

**460-S0626.71** SIL-1, Form: Liquid, 50ml

**460-S0623.87** SIH-2/SIL-2, Form: Solid, 100 pillows

**460-S617P.87** SIL-3, Form: Solid, 100 pillows

**Part No.** Sulphate Test for DR2800, DR1900, DR900, DR890 ♦ AP-008

**460-S0465.87** SO4-1P, Form: Solid, 100 pillows, 10ml

**Part No.** Sulphide Test for DR2800, DR1900, DR900, DR890 ♦ AP-056

**460-P3117.88** Sulphide DR2800, DR1900, DR900, DR890 , 25ml Reagent Set, Form: Liquid, 100 tests (HM): Sulphide 1, Sulphide 2

**460-S0467.70** Bromine Water, Form: Liquid, 30g/l, 25ml

**460-S0468.70** Phenol Solution, Form: Liquid, 30 g/l, 25ml

**Part No.** SUR-GARD 1700 Test for DR2800, DR1900, DR900, DR890 ♦ AP-009

**460-P3105.88** SUR-GARD DR2800, DR1900, DR900, DR890 , 10ml Reagent Set, Form: Liquid, 100 tests (HM): SG-1 (SO201), SG-2 (SO202), SG-3 (SO203)

**460-S0201.72** SG-1, Form: Liquid, 100ml

**460-S0202.80** SG-2, Form: Solid, 5 g

**460-S0203.71** SG-3, Form: Liquid, 50ml

**460-S0726.71** HCl 1:1, Form: Liquid, 50ml

**Part No.** Triazole Test for DR2800, DR1900, DR900, DR890 ♦ AP-074

**460-P3119.88** Triazole DR2800, DR1900, DR900, DR890 25ml Reagent Set, Form: Solid, 100 tests (HM): Triazole Reagent Powder Pillows

**460-S0243.71** Sulphuric Acid N/1 (H2SO4), Form: Liquid, 50ml

**460-S0469.70** Rochelle Salt Solution, Form: Liquid, 25ml

**Part No.** Zinc Test for DR2800, DR1900, DR900, DR890 ♦ AP-015

**460-P3103.88** Zinc DR2800, DR1900, DR900, DR890 10ml Reagent Set, Form: Solid/Liquid, 100 tests (HM): ZN-5 (SO605), ZN-6

**460-S0726.71** HCl 1:1, Form: Liquid, 50ml

**460-S0279.73** H-6 Calcium Hardness Buffer, Sodium Hydroxide 1N, Form: Liquid, 250ml

# Hardware for DR2800 / DR1900 / DR900 / DR890 Tests

Part No.	Description
420-C0091.88	Pressure Filter (with filters)
500-P0010.88	5ml/10ml Drop Count Tube
500-P0015.88	1ml Plastic Dropper Pipette w/Bulb
500-P0018.88	0.1g Plastic Spoon
500-P0119.88	50ml Glass Beaker
500-P0197.88	100ml Plastic Beaker w/Cap
500-P0237.88	235ml Wash Bottle
500-P0346A.88	Bottle, plastic, 120ml w/0.5-1.0ml pipette
500-P0349.88	30ml Vial w/0.1g Scoop
500-P0354A.88	0.1 and 0.5g Scoops, Red/Blue for Vials (3/each)
500-P0359.88	60ml Plastic Bottle w/Dropper Tip
500-P1204.88	25ml Glass Graduated Cylinder w/Plastic Cap
500-P1206.88	50ml Glass Graduated Cylinder w/Stopper
500-P1208.88	100ml Glass Graduated Cylinder w/Stopper
500-P1214.88	100ml Plastic Graduated Cylinder w/Stopper (translucent)
500-P1216.88	25ml Plastic Graduated Cylinder

Part No.	Description
500-P1405.88	Metrical Membrane Filter, 0.45um, 47mm (100/Pkg)
500-P1413.88	GF/B Glass Microfiber Filter 47mm (100/Pkg)
500-P1424.88	25 mm (0.45um) Syringe Filter Cartridge (50/pkg)
500-P1431.88	25 mm (0.45um) Nylon Syringe Filter Cartridge (25/Pkg)
500-P1501.88	250ml Glass Erlenmeyer Flask (wide mouth)
500-P1503.88	125ml Glass Erlenmeyer Flask
500-P1512.88	50ml Glass Erlenmeyer Flask
500-P1605.88	Powder Pillow Snippers
500-P1725.88	60ml PTFE Boiling Chips
500-P2020.88	-10 to 260°C, Lab Thermometer, Glass
500-P2107.88	1ml Disposable Sterile Pipette
500-P2132.88	5ml Glass Serological Pipette
500-P2135.88	10ml Glass Serological Pipette (short)
500-P2150.88	5.0ml Glass Volumetric Pipette
500-P2162.88	1ml Glass Serological Pipette



Part No.	Description
500-P2166.88	10cc Disposable Plastic Syringe
500-P2167.88	20cc Disposable Plastic Syringe
500-P2171.88	5ml Glass Serological Pipette (wide tip)
500-P2179.88	0.5-1.0ml Dropper Assembly (pipette/cap/bulb) for P0346
500-P2554.88	UV Lamp with power supply, 230 VAC
500-P2721.88	0-10ml Pi-Pump Pipettor
500-P3004.88	50ml Volumetric Tube
500-P3037.88	#8 Red Plastic Stopper (for P1501)
500-P3204.88	pH Test Strips 0-14 pH (100/box)
500-P3207.88	pH Test Strips 5-10 pH (100/box)
500-P3750.88	1000ul Pipettor
500-P3753.88	200-1000ul Pipettor Tips (100/pkg)

# Other Test Kits

## Alkalinity, Chlorides, Hardness and Sulphite Burette Titration Test Kits

A wide variety of high and low range titrations necessary to control many water treatment programmes can be performed easily using the auto burette.

The auto burette has a built-in reservoir. Simply squeeze the rubber bulb until the burette is filled, release the bulb and the liquid levels off at zero. The test kits do not include a burette stand.

**Analytical procedure:** AP-059

Part No.	Burette Titration Test Kit
420-C0204.88	Alkalinity, Chloride, Hardness, Sulphite
420-C0205.88	Alkalinity, Hardness, Sulphite
420-C0033.88	Hardness

Part No.	Replacement Part
460-S0209.80	Barium Chloride Crystals, Form: Solid, 25g
460-S0222.72	P-Indicator (Phenolphthalein), Form: Liquid, 100ml (HM)
460-S0226.74	Sulphuric Acid N/50, Form: Liquid, 500ml
460-S0226.75	Sulphuric Acid N/50, Form: Liquid, 1L
460-S0229.75	AgNO <sub>3</sub> 0.0172N, Form: Liquid, 1L
460-S0260.72	Special Indicator M, Form: Liquid, 100ml
460-S0274.75	H-1 High Range Titrant, Form: Liquid, 1L
460-S0275.74	H-2 Total Hardness Buf., Form: Liquid, 500ml
460-S0277.81	H-3 Total Hardness Ind., Form: Solid, 50g
460-S0279.71	Sodium Hydroxide 1N, Form: Liquid, 50ml
460-S0447.75	LH-3 Titrant, Form: Liquid, 1L
460-S0279.74	H-6 Calcium Hardness Buffer, Sodium Hydroxide 1N, Form: Liquid, 500ml
460-S0280.81	H-7 Calcium Hardness Ind, Form: Solid, 50g
460-S0613.80	ST-1 Drop-wise Sulphite, Form: Solid, 25g
460-S0614.72	ST-2 Drop-wise Sulphite, Form: Liquid, 100ml
460-S0726.71	HCl 1:1, Form: Liquid, 50ml

Part No.	Replacement Part
460-S0729.81	De-ionisation Resin, Form: Solid, 50 g
460-S0224.73	Potassium Chromate, Form: Liquid, 250ml
460-S0442.80	NR-2, Form: Solid, 25 g
500-P0237.88	235ml Wash Bottle
500-P0346A.88	Bottle, plastic, 60ml w/0.5-1.0ml pipette
500-P0351.88	30ml Plastic Bottle w/Dropper Tip
500-P0401.88	10ml Auto Burette w/475ml Clear Glass Bottle
500-P0402.88	10ml Auto Burette w/475ml Amber Glass Bottle
500-P0701.88	140ml Porcelain Casserole
500-P1201.88	50ml Glass Graduated Cylinder
500-P1403.88	Whatman #5 Fine Filter Paper, 15cm (100)
500-P1501.88	250ml Glass Erlenmeyer Flask (wide mouth)
500-P1610.88	Crucible Tongs
500-P1701.88	90mm Liquid Funnel
500-P2302.88	150mm Plastic Stirring Rod
500-P3301.88	Boiler Water Test Report Forms (25)
500-P3303.88	Cooling Water Test Report Forms (25)

MORE





# Other Test Kits

## Filming Amine Test Kit

Filming amines are used to inhibit corrosion in steam generating condensate systems.

**Analytical Procedure:** AP-066

Part No.	Test Kit
<b>420-C0039.88</b>	Filming Amine Comparator Test Kit

Part No.	Replacement Part
<b>460-P0320.88</b>	Filming Amine Reagent Refill Pack, Form: Liquid, (20/pkg) (HM)
<b>500-P1125.88</b>	Filming amine comparator

## Ammonia Test Kit

The Ammonia Test can be used to analyse steam condensate, and also samples from most rivers, lakes and streams.

**Analytical Procedure:** AP-085

Part No.	Test Kit
<b>420-C0041.88</b>	Ammonia Comparator Test Kit

Part No.	Replacement Part
<b>460-P0316.88</b>	Ammonia Reagent Refill (0-10 ppm), Form: Liquid, 30/pkg (HM)
<b>460-P0317.88</b>	Ammonia Stabilising Soln., Form: Liquid

## Dissolved Oxygen Test Kits

Dissolved oxygen in boiler feed water is a major cause of corrosion to boiler internals. Oxygen levels must be monitored closely to detect the loss of oxygen removal efficiency of de-aerator and oxygen scavenger products. Self-filling ampoules provide high sensitivity and minimise atmospheric contamination.

**Analytical Procedures:** AP-081, AP-082

Part No.	Dissolved Oxygen Test Kit
<b>420-C0029.88</b>	0-4Oppb
<b>420-C0031.88</b>	0-100ppb
<b>420-C0032.88</b>	0-1ppm
<b>420-C0030.88</b>	0-12ppm



Part No.	Replacement Part
<b>460-S0279.73</b>	H-6 Calcium Hardness Buffer, Sodium Hydroxide 1N, Form: Liquid, 250ml
<b>460-S0726.71</b>	HCl 1:1, Form: Liquid, 50ml
<b>500-P3204.88</b>	pH Test Strips 0-14 pH (100/box)
<b>500-P3207.88</b>	pH Test Strips 5-10 pH (100/box)
<b>460-P0303.88</b>	Dissolved Oxygen Refill, 0-12ppm O <sub>2</sub> (30/pkg), Form: Liquid
<b>460-P0304.88</b>	Dissolved Oxygen Refill, 0-40 or 0-100ppb O <sub>2</sub> (30/pkg), Form: Liquid
<b>460-P0305.88</b>	Dissolved Oxygen Refill, 0-1ppm O <sub>2</sub> (30/pkg), Form: Liquid
<b>500-P0310.88</b>	0-40ppb O <sub>2</sub> Comparator
<b>500-P1122.88</b>	0-100ppb O <sub>2</sub> Comparator

# Other Test Kits



## Strong and Weak Acid Test Kit (SWAT)

Determination of strong (HCl, SO<sub>x</sub>) and weak (H<sub>2</sub>S, CO<sub>2</sub>) acids in refinery overheads.

Analytical Procedure: TM029

Part No.	Test Kit
420-C0280.88	SWAT Test Kit

Part No.	Replacement Part
460-S0222.72	P-indicator, 100ml
460-S0260.72	Special indicator, 250ml
460-S0781.73	NaOH, 250ml
460-S0782.82	Dyed cation resin, 100g
500-P0111.88	Beaker, glass, 100ml
500-P2181.88	Pipets (25), plastic, disposable, 5ml
500-P2242.88	Syringe, disposable, plastic, 60cc
500-P2243.88	Cation trap assembly, 11ml



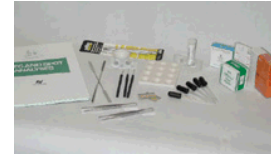
## NALCOOL 2000 Test Kit

Designed to be a quick, easy method for determining concentration of NALCOOL 2000 in diesel cooling water. It is a very simple test requiring no formal analytical training or experience, and can be run by any operator.

Analytical Procedures: AP-062

Part No.	Test Kit
420-C0145.88	NALCOOL 2000 Drop Test Kit

Part No.	Replacement Part
460-S0620.73	NALCOOL 2000-1, form: liquid, 250ml
460-S0621.74	NALCOOL 2000-2, form: liquid, 500ml
500-P0347.88	60ml plastic bottle w/0.5-1.0ml dropper
500-P0351.88	30ml plastic bottle w/dropper tip



## Paper Speck and Spot Test Kit

Part No.	Test Kit
440-C0152.88	Speak and Spot Test Kit

Part No.	Replacement Part
460-S5400.70	SS-1, form: liquid, 25ml
460-S5408.70	SS-9, form: liquid, 25ml
460-S5409.70	SS-10, form: liquid, 25ml
500-P0704.88	Porcelain spot well, 12 cavity
500-P2802.88	Pencil magnet
500-P3203.88	Lead acetate test strips for Sulphide (100/box)
500-P3204.88	pH test strips 0-14 pH (100/box)
520-P9991.88	Speck and Spot procedure manual

# Other Test Kits



## SMART PATCH Test Kit

Quantitatively evaluates the effectiveness of corrosion inhibitors in the canning industry, to properly determine inhibitor treatment dosages.

**Analytical Procedure:** AP-039

Part No.	Test Kit
<b>440-C0130.88</b>	SMART PATCH Test Kit

Part No.	Replacement Part
<b>460-S0734.71</b>	Fe-4, form: liquid, 50ml (HM)
<b>460-S0734.74</b>	Fe-4, form: liquid, 500ml (HM)
<b>460-S0789.71</b>	Corrosion reference solution, form: liquid, 50ml
<b>500-P0111.88</b>	100ml glass beaker
<b>500-P0212.88</b>	150 x 230 mm plastic Zip-Lock bag
<b>500-P0348.88</b>	120ml amber glass bottle w/0.5 - 1.0ml dropper
<b>500-P0965A.88</b>	SMART PATCH 3/4"/19mm wide (200)
<b>500-P1206.88</b>	50ml glass graduated cylinder with stopper



## Silt Density Test Kit

The SILT DENSITY INDEX is a key measurement required for the specification of Reverse Osmosis systems. It is simply a controlled measurement of the rate that the water blinds a filter.

**Bulletin:** BEU-349

Part No.	Test Kit
<b>6024340</b>	Silt Density Test Kit, SDI005

Part No.	Replacement Part
<b>6024401</b>	Valve, SDI010
<b>6024403</b>	Regulator, SDI015
<b>6024404</b>	Gauge, SDI020
<b>6024406</b>	Hose, SDI025
<b>6024408</b>	Filter holder, WA1068
<b>6024409</b>	Filters (100), WA6008-47
<b>6024410</b>	Cylinder, WA1046
<b>6024411</b>	Timer, WA1067



## Jar Mixers

Jar Mixers are used to carry out flocculation tests to determine the most appropriate product solution. The Portable FP4 Jar Mixer can be easily moved from one site to another. The unit can be powered from 100-240Vac or from a car cigarette lighter. The JLT4 Jar Mixer can be powered from 100-240Vac.

**Bulletin:** BEU-353

Part No.	Jar Mixer
<b>6035392</b>	Portable FP4 Jar Mixer, 100-240Vac, 50/60Hz or 12Vdc, 13kg
<b>6035394</b>	JLT4 Jar Mixer, 100-240Vac, 50/60Hz, 17kg
<b>6035393</b>	Carry case for FP4
<b>500-P0115.88</b>	1000ml glass beaker



## Calibration Solutions

Part No.	TRASAR Calibration Solution
460-S0940.75	3D TRASAR, Cooling Water, 1L
460-S0910.75	TRASAR 1, Factor 1, 1L
460-S0910.74	TRASAR 1, Factor 1, 0.5L
460-S0921.75	TRASAR 2, Factor 0.25, 1L
460-S0920.75	TRASAR 2, Factor 1, 1L
460-S0920.74	TRASAR 2, Factor 1, 0.5L
460-S0928.75	TRASAR 2, Factor 2, 1L
460-S0980.75	TRASAR 3, Factor 1, 1L (NEXGUARD)
460-S0922.75	TRASAR 3, 1L (not for boilers)

Part No.	Blank Calibration Solution
01-S0470-08	Demineralised Water, 4L

Part No.	Conductivity Calibration Solution
460-S0297.74	3000uS/cm, 0.5L
460-S0297.75	3000uS/cm, 1L
460-S0298.74	600uS/cm, 0.5L
460-S0298.75	600uS/cm, 1L
460-S0299.74	40uS/cm, 0.5L
460-S0299.75	40uS/cm, 1L

Part No.	pH Calibration Solution
460-S0406.75	pH 4.0, 1L
460-S0407.75	pH 7.0, 1L
460-S0408.75	pH 10.0, 1L

Part No.	Redox (ORP) Calibration Solution
460-S0932A.75	200mV, 1L
460-S0933A.75	600mV, 1L

Part No.	Conductivity, pH Calibration Solutions
6024491	Four solutions, 65ml: pH4, pH7, pH10, 1413uS/cm

Accurate sensor measurements help ensure reliable water treatment results.



# Analytical Accessories, B-C

Part No.	Bags
500-P0212.88	150 x 230 mm Plastic Zip-Lock BAG
500-P0214.88	75 x 175 mm Sterile Whirl-Pak BAG
500-P0214A.88	75 x 175 mm Sterile Whirl-Pak BAG (500/case)

Part No.	Beakers, Glass
500-P0105.88	400ml (short)
500-P0106.88	150ml
500-P0111.88	100ml
500-P0112.88	800ml
500-P0113.88	600ml
500-P0115.88	1000ml
500-P0119.88	50ml

Part No.	Beakers, Plastic
500-P0116.88	800ml
500-P0118.88	250ml
500-P0120.88	500ml
500-P0197.88	100ml, w/Cap

Part No.	Bottles, Dropper
500-P0237.88	Wash bottle, 235ml
500-P0346A.88	Plastic bottle, 120ml, w/0.5-1.0ml pipette
500-P0347.88	Plastic bottle, 60ml, w/0.5-1.0ml Dropper
500-P0351.88	Plastic bottle, 30ml, w/Dropper Tip
500-P0359.88	Plastic bottle, 60ml, w/Dropper Tip
500-P2179.88	Dropper assembly (pipette/cap/bulb), 0.5-1.0ml, for P0346

Part No.	Bottles, Plain
500-P0218A.88	Glass bottle, 475ml, w/Cap
01-P2550	Mixing bottle, 25ml
500-P0219A.88	Plastic bottle, 475ml, w/Cap
500-P0221A.88	Plastic bottle, 1L, w/Cap
500-P0258.88	Plastic bottle, 1L, w/Cap (Nalge - HDPE)
500-P0260.88	Plastic bottle, 475ml, w/Cap (NALGENE - HDPE)
500-P4209A.88	Plastic bottle, 475ml, w/Cap (wide mouth)
500-P4216A.88	Plastic bottle, 250ml, w/Cap
500-P4218A.88	Plastic bottle, 120ml, w/Cap (wide mouth)
500-P4229A.88	Plastic bottle, 235ml, w/Cap (wide mouth)
500-P4257A.88	Plastic bottle, 60ml, w/Cap (wide mouth)

Part No.	Cleaning Brush
500-P2817.88	For 3D TRASAR Fluorometer flow cell
500-P2818.88	For 3D TRASAR Pellet Feeder
111-P01047.88	For TRASAR 3000 flow cell

Part No.	Case / Box
6036051	Reagent storage boxes (10/pkg), used in the NALCO WATER Engineer Test Kit
956-30902-00	Reagent Storage case
956-30903-00	Storage case
500-P0636.88	Carrying case, 11"x19"x11" (28x48x28cm), blue

MORE



# Analytical Accessories, C-F

Part No. COD Vial, Hach  
956-21258-25 LR HW3 25/pkg  
956-21259-25 HR EEC 25/pkg

Part No. Cylinder, Graduated, Glass  
500-P1201.88 50ml  
500-P1204.88 25ml, w/plastic cap  
500-P1206.88 50ml, w/stopper  
500-P1208.88 100ml, w/stopper  
500-P1210.88 100ml

Part No. Cylinder, Graduated, Plastic  
500-P1209.88 1000ml  
500-P1212.88 100ml  
500-P1214.88 100ml, w/stopper (translucent)  
500-P1216.88 25ml  
500-P1217.88 50ml  
500-P1221.88 500ml (assembly for Polymer Test)  
500-P1222.88 250ml

Part No. Flask  
500-P1503.88 Glass Erlenmeyer flask, 125ml  
500-P1505.88 Plastic Erlenmeyer flask, 250ml  
500-P1501.88 Glass Erlenmeyer flask (wide mouth), 250ml  
500-P1508.88 Glass Erlenmeyer flask (wide mouth), 500ml  
500-P1512.88 Glass Erlenmeyer flask, 50ml  
500-P2574.88 Flask, 50ml  
500-P3037.88 #8 red plastic stopper (for 500-P1501.88)

Part No. Filter  
500-P1401.88 Filter paper, 6" (100)  
500-P1402.88 Filter paper, 5" (100)  
500-P1405.88 Metrical membrane filter, 0.45um, 47mm (100/Pkg)  
500-P1413.88 GF/B glass microfiber filter 47mm (100/Pkg)  
500-P1427.88 A/E Glass microfiber filter, 47mm (100/Pkg)  
500-P1428.88 Cellulose Nitrate membrane filter, 24 mm, 0.45 um (100/pkg)  
500-P1431.88 25mm (0.45um) Nylon syringe filter Cartridge (25/Pkg)  
500-P1434.88 25mm (0.45um) Nylon syringe filter Cartridge (50/Pkg)  
500-P1436.88 110mm (0.45um) filter paper (100/Pkg)  
500-P2240.88 25mm reusable filter holder (for 50cc syringe)



Flasks, Erlenmeyer



Cylinder, Graduated, Plastic

MORE

BACK



# Analytical Accessories, M-P

Part No.	Microbiology, Agar
008-313-013	Pseudomonas selective CFC agar (10/pkg)
008-313-012	Tomato Juice Agar (10/pkg)
008-313-015	MRS agar 9cm (10/pkg)
008-313-003	Iron Sulphite agar (40/pkg)
500-P3027.88	Sulphate Reducer agar tubes, 9ml (100/box)
500-P3042.88	Sulphate Reducer agar tubes, 9ml (20/box)

Part No.	Microbiology, Dilution Tubes, Sterile
500-P3023A.88	Narrow mouth, 9.9ml (100/box)
500-P3056A.88	Narrow mouth, 9.0ml (100/box)
500-P3057.88	Wide mouth, 9.0ml (100/box)
500-P3704.88	Wide mouth, 9.9ml (100/box)

Part No.	Microbiology, Incubator
008-312-000	Portable, for 12 dip-slides, 240Vac, 12Vdc car adapter

Part No.	Microbiology, Supplies, Miscellaneous
008-313-007	Crossley milk, 40/pkg
008-313-008	Paraffine wax, 10ml, 40/pkg
500-P3014.88	Microscope slides, flat (72/box)
500-P3707.88	Nutrient packages, 5/pkg

Part No.	Pipettes and Droppers
500-P2707.88	BULB, 3-WAY, SAFETY, RBR
500-P2107.88	Pipette, disposable, sterile, 1ml
500-P2182.88	Pipette, disposable, 10ml (25/pkg)
500-P2195.88	Pipette, disposable, 1ml
500-P0015.88	Dropper pipette, plastic, w/bulb, 1ml
500-P2120.88	Dropper pipette, glass, w/bulb, 0.5-1ml
500-P2130.88	Serological pipette, glass, 10ml
500-P2150.88	Volumetric pipette, glass, 5ml
500-P2151.88	Volumetric pipette, glass, 10ml
500-P3753.88	Pipettor tips, 200-1000ul (200/pkg)
500-P3754.88	Pipettor tips, 50-200ul (384/pkg)
500-P2721.88	Pi-Pump pipettor, 0-10ml
500-P3750.88	Pipettor, 1000ul
500-P3752.88	Pipettor, 100ul



Incubator  
008-312-000



Pipettes  
Disposable

MORE

BACK



# Analytical Accessories, S-T

## Part No. Sample Shippers

500-P0276.88	Hazardous (Air), 1L
500-P0228.88	Microbio, bottles, 4x50ml, and cooling gel pack
500-P0243.88	High Purity (EE), w/2 plastic pre-cleaned bottles, 120ml
500-P0268.88	Mailer Bio Eng.
900-010-000	Plastic, 2x500ml
900-020-000	Microbio tubes, 6x30ml
900-040-000	Glass, 1x500ml
900-050-000	Legionella, plastic, 2x500ml

## Part No. Syringes, Disposable Plastic

500-P2242.88	50cc, w/Luer-Lock
500-P2147.88	60cc, w/Luer-Lock
500-P2163.88	1cc
500-P2164.88	3cc
500-P2165.88	5cc
500-P2166.88	10cc
500-P2167.88	20cc
500-P2197.88	1cc, sterile, w/25 GA, 16mm needle



Syringe



Sample Shipper  
900-010-000



Sample Shipper  
900-020-000



Sample Shipper  
900-050-000

## Part No. Test Strips

500-P3203.88	Lead Acetate, for Sulphide (100/box)
500-P3204.88	0-14pH (100/box)
500-P3207.88	5-10pH (100/box)
500-P3205.88	Nitrite 0-50mg/L (100/box)
500-P3208.88	Chloride, QUANTABS, 30-600 ppm (40/box)
500-P3211.88	Peroxide, 0-25mg/L (100/box)
500-P3241.88	Sulphite, 10-500mg/L (100/box)

## Part No. Tubes

500-P0010.88	Drop count tube, glass, 5ml/10ml
500-P1318.88	Tube, with cap, glass, 7.5ml/15ml
500-P1323.88	Sample cells, 10ml (6/pkg)
500-P3001.88	Comparator tube, 13mm (for P1101)
500-P3004.88	Volumetric tube, 50ml
500-P2505.88	#4 Red Plastic stopper (for tube 500-P3004.88)
500-P3061.88	TRA-CIDE cuvettes (200/pkg)

## Part No. Miscellaneous

500-P1605.88	Powder pillow snippers
500-P1612.88	Stop watch
500-P1725.88	Boiling chips, PTFE, 60ml
500-P2302.88	Stirring rod, plastic, 150mm



# TOTAL WATER MANAGEMENT



Cooling



Boiler



Process



Pre-treatment



Post-treatment

3D TRASAR  
Cooling Water



3D TRASAR  
Boilers



3D TRASAR  
Pasteurisers



3D TRASAR  
Membranes



TRASAR  
Reverse Osmosis



3D TRASAR  
DAF



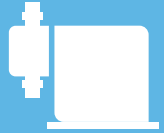
TRASAR  
Pen



Calibration  
Solutions



Instrumentation



Feed



Storage



Separation



Analytical



Safety

3D TRASAR™  
APEX™  
ENVIROX™

FASTPATH™  
FILLERTEK™  
FLOCMASTER™

NEXGUARD™  
OXIPRO™  
PARETO™

PORTA-FEED™  
PURATE™

**PRODUCT LINES**

145

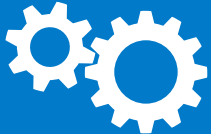
# TOTAL WATER MANAGEMENT



Cooling



Boiler



Process



Pre-treatment



Post-treatment

ENVIROX  
Potable Water ClO<sub>2</sub>



ENVIROX  
ClO<sub>2</sub> Generator



3D TRASAR™  
APEX™  
ENVIROX™

FASTPATH™  
FILLERTEK™  
FLOCMASTER™

NEXGUARD™  
OXIPRO™  
PARETO™

PORTA-FEED™  
PURATE™



Instrumentation



Feed



Storage



Separation



Analytical



Safety

**PRODUCT LINES**

146

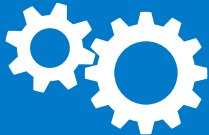
# TOTAL WATER MANAGEMENT



Cooling



Boiler



Process



Pre-treatment



Post-treatment

3D TRASAR Boiler  
(NEXGUARD)



TRASAR Pen  
(NEXGUARD)



NALCO WATER Engineer  
Test Kits (NEXGUARD)



Spectrophotometer Tests  
(NEXGUARD)



Calibration Solutions  
(NEXGUARD)



3D TRASAR™  
APEX™  
ENVIROX™

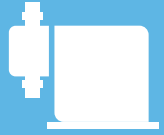
FASTPATH™  
FILLERTEK™  
FLOCMASTER™

NEXGUARD™  
OXIPRO™  
PARETO™

PORTA-FEED™  
PURATE™



Instrumentation



Feed



Storage



Separation



Analytical



Safety

**PRODUCT LINES**

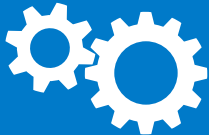
# TOTAL WATER MANAGEMENT



Cooling



Boiler



Process



Pre-treatment



Post-treatment

OXIPRO  
Deposit Control



OXIPRO  
Feed System, for N74808



OXIPRO  
Reaction Tee, for N74650



3D TRASAR™  
APEX™  
ENVIROX™

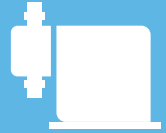
FASTPATH™  
FILLERTEK™  
FLOCMASTER™

NEXGUARD™  
OXIPRO™  
PARETO™

PORTA-FEED™  
PURATE™



Instrumentation



Feed



Storage



Separation



Analytical



Safety

**PRODUCT LINES** 148

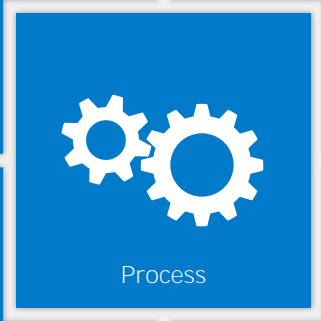
# TOTAL WATER MANAGEMENT



Cooling



Boiler



Process



Pre-treatment

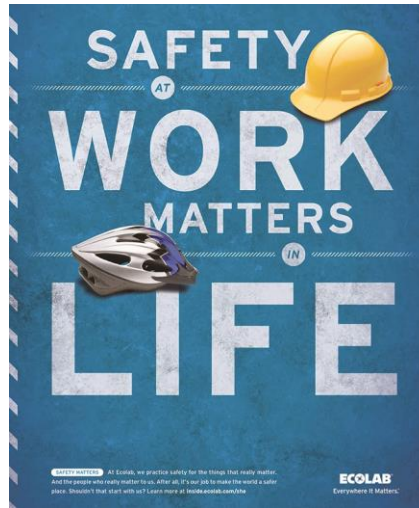


Post-treatment

## Personal Protective Equipment (PPE)

PPE for Ecolab associates is carefully assessed and selected by the SHE department of Ecolab. Click the button below to select your PPE.

MY PPE



3D TRASAR™  
APEX™  
ENVIROX™

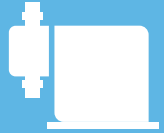
FASTPATH™  
FILLERTEK™  
FLOCMASTER™

NEXGUARD™  
OXIPRO™  
PARETO™

PORTA-FEED™  
PURATE™



Instrumentation



Feed



Storage



Separation



Analytical



Safety

PRODUCT LINES

149

NALCO WATER, An Ecolab Company

North America: Headquarters - 1601 West Diehl Road • Naperville, Illinois 60563 • USA  
Nalco Champion - 7705 Highway 90-A • Sugar Land, Texas 77478 • USA

Europe: Richtstrasse 7 • 8304 Wallisellen • Switzerland

Asia Pacific: 2 International Business Park • #02-20 The Strategy Tower 2 • Singapore 609930

Latin America: Av. das Nações Unidas 17.891 • 6º Andar 04795-100 • São Paulo • SP • Brazil

[www.nalco.com](http://www.nalco.com)

3D TRASAR, TRASAR, PORTA-FEED, ENVIROX, ULTRASOFT, ULTRARO, PARETO, FILLERTEK, OXIPRO, FLOCMaster, APEX, NALCOOL, NEXGUARD, OPTICLAR, PERMACARE, ULTIMER, ULTRAPOSITEK, PURATE, SVP-PURE, NALCO, Ecolab and the logo are trademarks of Ecolab USA, Inc.

All other trademarks are the property of their respective owners.

©2016 Ecolab USA, Inc. All Rights Reserved 11/16 Catalogue CEU-101 E



**NALCO** Water  
An Ecolab Company