UNICHEM
INDUSTRIAL & ENGINEERING SERVICES

30+ YEARS OF EXPERTISE

Wastewater treatment plants, designed and built by Unichem.

Advanced neutralization, heavy metal precipitation and effluent clarification, tailored for pretreatment and anodizing lines and compliant with environmental regulations.



30+

years of field experience in chemical pretreatment and metal surface finishing

Custom turnkey

systems engineered around your effluent streams and operating needs

Egyptian standards

final discharge to public sewers within heavy metal and TSS limits

Also made by Unichem: demineralization (DM) plants and reverse osmosis (RO) plants, used in pretreatment lines for the final rinse to deliver zero-conductivity water.

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ADDRESS
Plant No. 757, Industrial Zone, Third Settlement,
New Cairo – Egypt.

HOW OUR PLANT WORKS

From segregated effluent to clean, compliant discharge.

STEP 01
Equalization
Coated underground sumps for segregated balancing.

STEP 02
MRM reaction
In-line mixing, pH tuning and metal oxide precipitation.

STEP 03
Flocculation
PAM polymer injection forms large agglomerates.

STEP 04
IPC clarification
Inclined plate lamella sedimentation.

STEP 05
Filter dewatering
Sludge press produces a dry cake for disposal.



Coagulation and neutralization



Inclined plate clarifier (IPC)



Filter press

STREAMS WE TREAT

Alkaline concentrates
Spent baths from alkaline degreasing and caustic etching.

Acidic concentrates
Exhausted de-smutting, polishing, etching and phosphating baths.

Alkaline rinses
Rinse overflows and waste from demineralization plants.

Acidic rinses
Rinse water after de-smutting, polishing, and EPD.

DESIGN PRINCIPLES

Stream segregation
Concentrates collected separately and injected into rinse streams.

Single reactor module
One reaction vessel saves footprint, energy and capital.

Metal drop and neutralization
Heavy metal removal and pH neutralization in one step.

Load reduction
Cuts COD, BOD and TSS to meet sewer discharge standards.

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WATER PLANTS FOR YOUR PRETREATMENT LINE

WHERE THEY FIT

Demineralization and reverse osmosis plants, made by Unichem.

Both are used in pretreatment lines for the final rinse, giving zero-conductivity water so no salts are left on the part before it is painted.



Demineralization (DM) plants

Manufactured in Egypt and sized for your line.



Reverse osmosis (RO) plants

Manufactured in Egypt and sized for your line.

Degrease → Rinse → Conversion coat → Rinse → **Final rinse: DM or RO water** → Paint

ONE PARTNER FOR YOUR WHOLE LINE

Surface treatment chemicals

Degreasers, conversion coatings and more for powder, liquid paint and enameling lines.

DI and RO water plants

Zero-conductivity water for the final rinse.

Wastewater treatment plants

Custom turnkey MRM and IPC systems for compliant discharge.

Talk to our engineering team

Tell us about your line and effluent, and we will design a turnkey solution to your operational requirements.

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