



*Exceeding Your
Expectations!*



DMP Corporation
Industrial Water Treatment
Rock Hill, South Carolina, USA
800. 845.3681
www.DMPCORP.com



DMP Corporation's Manufacturing Plant in Rock Hill, SC



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DMP History

DMP offers a complete line of equipment to solve virtually any industrial water treatment challenge. Plus, through our Partner Program, DMP can deliver a combined process and treatment package, enabling you to work with just one supplier for the whole project!

Our Total Water Production Package includes all you need, from automated continuous-flow or batch wastewater treatment systems to state-of-the-art clean water and recycle water systems and everything in between.

DMP is active in, among others, all facets of the industrial manufacturing: metal finishing industry from aerospace to aluminum anodizing, the corrugated paper processing industry, the chemical industry, the food industry, the automotive and heavy equipment related industries, and the groundwater remediation industry. With in-house personnel, DMP provides engineering, manufacturing, delivery and installation, start-up and training, and the industry's best support services.

DMP Corporation is a privately-held company, founded in 1971, and is a leader in the manufacture of industrial water treatment systems. More than a two thousand DMP systems are in operation today around the United States. Internationally, DMP has manufactured and supplied systems for companies and government agencies in dozens of locations around the world, including the Peoples Republic of China, Egypt, South Korea, Singapore, Turkey, Luxembourg, Yugoslavia, Canada, Mexico, Chile, Brazil, Poland, England, Puerto Rico, Thailand, and Vietnam.

40+ Years of solving Industrial Water Treatment Problems

Over 2000 Systems Installed
Written Guarantee of Compliance
We install our equipment
Guaranteed schedule
Facilities in house for:

Lab Services

Engineering Design

Controls

- Design

- Fabrication of UL Panels

- Programming

Manufacturing

Installation

Service and Support

Technologies DMP uses

Reverse Osmosis

Ion Exchange / DI

BioFilm Towers

Chemical Precipitation

Ultra Filters

Membrane Bio-Reactors

Dissolved Air Flotation Clarifiers

Microfiltration

DMP Media for trace removal of
metals (As, Se, Hg, Cr)

DMP Experience



DMP's Global Vision

Become a leading, trusted and environmentally responsible global leader for water recycling and the best option for our customers, employees and partners.

DMP - Global Presents



DMP Advantages

Lab service

DMP provides services for life of system

- ▶ DMP can provide analysis for all aspects of our systems
- ▶ Our lab has more than 39 years experience in treatability's
- ▶ DMP can look at alternate process chemistries
- ▶ DMP can provide treatment recommendations in difficult situations

Experienced Personnel



DMP Systems Applications / Industries

Metal Finishing
Food / Beverage
Glass Works
Medical Waste
Ground Water
River Water
Bearing Manufacturing
Porcelain Process/Coating
Plywood Manufacturing
Fleet and Tank Truck Wash
Ink and Dye Waste
Drum Reconditioning
Rubber Tire Manufacturing

Glue and Sealants Manufacturing
Die Casting Waste
Engine and Transmission Rebuilding
Wallpaper Printing
Textile Waste
Medical Prosthesis
Food Wash Up Waste
Solar Panel Manufacturing
Stone Wash Jeans
Paper Industry
Chemical Manufacturing Wash up Waste
Printing Wash up Waste
Oil Separation

Industrial Solutions

- ▶ DMP Corporation offers a complete range of equipment options
- ▶ Pre-engineered solutions from 5 to 400 gpm
- ▶ Custom solutions up to and have exceeded 1,400 gpm
- ▶ A range of batch solutions

DMP In-House Project Capabilities

Reduce Operational Manpower

Remote Alarm Reporting

Facility and process survey

Startup / Commissioning

Remote Data Collection

Historical Trending

Technical Support

Custom Web Access

Performance Guarantee

Treatability study

On-line Service Support

Engineering Design

Written Discharge Guarantee

Lab Services - Treatability

Install / Start-up & Operation Training

Control System Design (PLC & HMI)

Treatment system design and manufacturing



DMP Advantages


Web Support

- ▶ Drawings – all drawings available on the web
- ▶ ESpare – spare parts, view and order on the web
- ▶ DMP Help – Instruction on the web

Controls

- ▶ DMP provides controls with maximum advantage of technology for superior operation of the system.
- ▶ DMP provides multiple languages
- ▶ All of DMP's controllers are equipped with DMP's exclusive TECHLink, eliminates 98% of on-site service calls.
- ▶ All DMP Systems include a custom web page for drawings and spare parts

E/10 Series

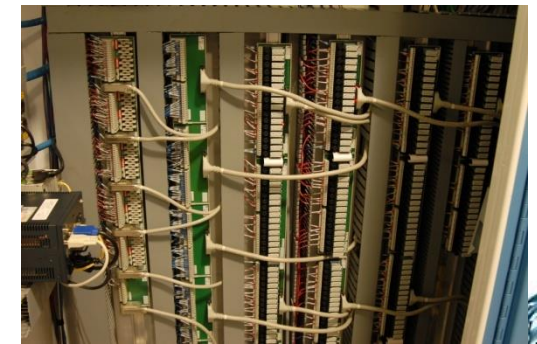
- ▶ Graphics based interface
- ▶ Allen Bradley 
- ▶ Historical data collection
- ▶ Remote monitor and data collection
- ▶ Multiple security levels for operation
- ▶ Controls any combination of sub-systems

UL Licensed – Panel Builder

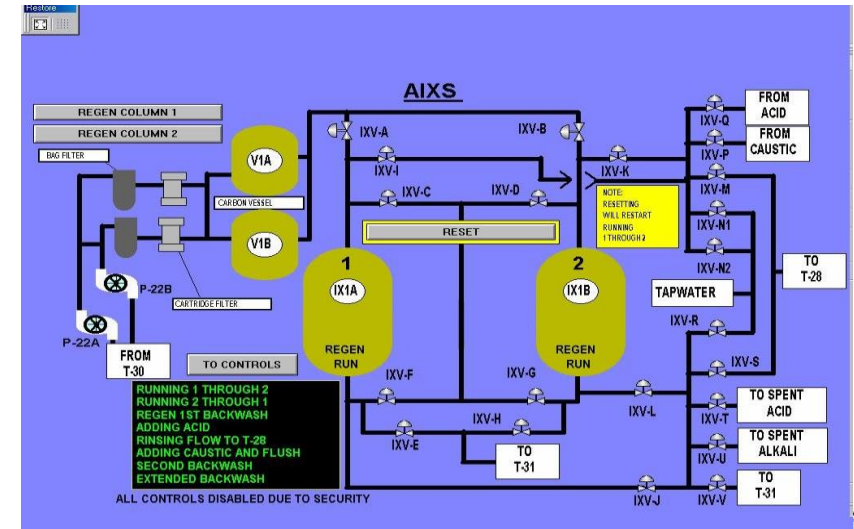
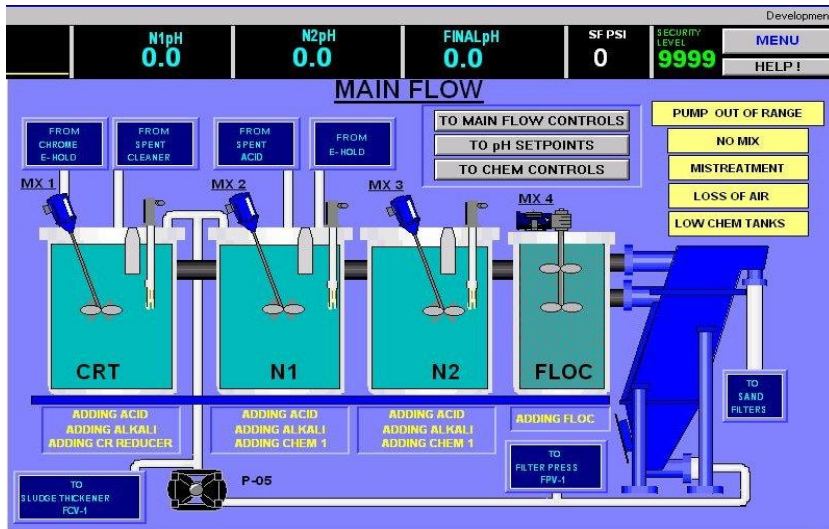
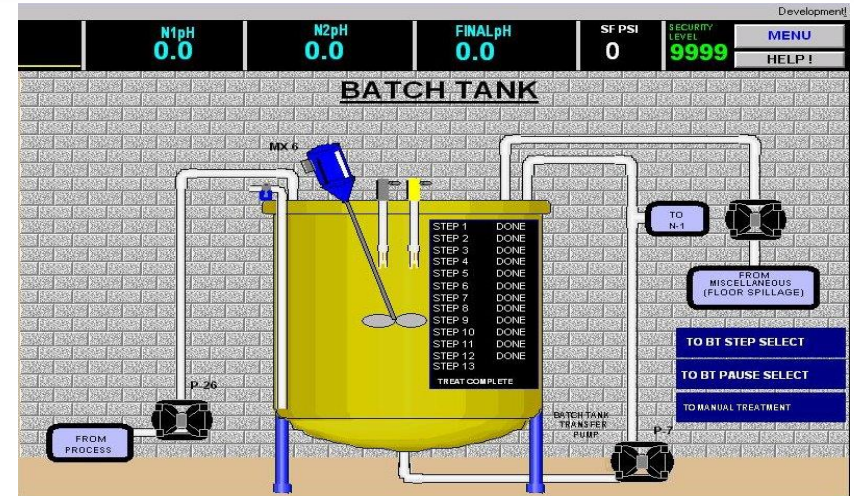




**Main control panels DMP supplies
DMP is a UL Approved Panel Shop**



Typical E/10 Screen Shots



DMP TechLink Service



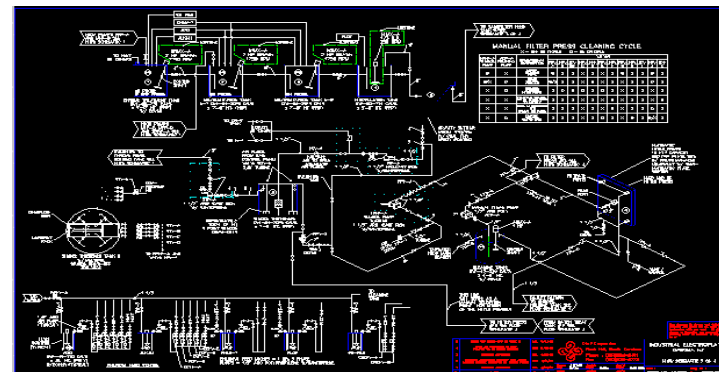
DMP E-Spares®

Acad format for all drawings



Main page on the website

Sample of simplified parts search and ordering



Drawings which are available



Is this the part you are looking for?

DMP Engineering Services



DMP Laboratory Services



DMP Manufacturing / Fabrication floor



Pre Engineered approach to design and installation



All support structure is designed, built, blasted, painted and pre assembled at DMP to insure quality control and reduce installation time at the owner's site.



1 1/2" Filter Press Feed Pump Module



1 1/2" Pinch Valve Rack



Single 1 1/2" Air Diaphragm pump



Dual 1 1/2" Air Diaphragm pumps



Single Centrifugal pump

Modularization of pumps and automatic valves

Modular Design / Manufacturing



Customer Profile

Emerging technology developed in one of these industries

- Electronics
- Aerospace
- General Metal Finishing
- Solar
- Medical
- Automotive
- Paint / Coating Finishing
- Oil / Nat Gas (Fracturing) / Mining
- Corrugated / Flexographic Printing
- Laundry
- Semi Conductor
- Ink and Dye Waste (Textile)
- Pharmaceutical
- Hazardous Waste

Unique or unusual application

- Select the best technology to treat the water
- Develop the selected technology to fit the application

Partial Special Customer List 1

3C Alliance **Battery Manufacture**
Alcan (2) **Anodizing**
American Coatings **Coating Waste**
American Mirror **Mirror Manufacturer**
Becromal **Capacitors**
BFI **Autoclave (2)**
BFI (7) **Medical Incinerators**
BFI **Groundwater**
Balexco **Bahrain Aluminum Extrusions**
Belgian Egyptian Co. **Military Plating**
Besnier **Cheese Manufacturing**
Bootz Manufacturing **Porcelain**
Bristol Compressor **Compressors**
Buffalo China **Porcelain**
CG Conn **Musical Instruments**
CMW **Electrical Components**
Campbell Soup **Vegetable Processing**
Central States **Central Waste Treatment**
Cessna Aircraft **Groundwater**
Charlotte Pipe & Foundry (3) **Cast Iron**
Chase Bag **Bag Manufacture**
Columbia Flooring (3)
Conbraco **Brass Foundry**
Consolidated Mirror (2) **Mirror Manufacture**

CP Rail **Truck Rebuild Washes**
Cray Research **Ion Exchange**
Croft **Anodizing**
Crosby Group **Mechanical Finishing**
Crystal Tissue **Dye Waste**
Dana Truck Washing **Truck Wash**
Daramic **BOD, O/G Removal**
Daymond **Anodizing**
Disc Makers **Compac Disc**
Dixon **Pencils**
Dow **Process Waste**
Dowty **Singapore - Aircraft Repair**
Drum (2) **Drum Reconditioner**
Duncan-Aviation **Aircraft Repair**
Eastman Kodak
E-Systems **Aircraft Repair**
Embry **Anodize and Aluminum Manufacture**
Envirosearch **Groundwater**
FIAMM **Batteries**
Fiber Dynamics **Non-Woven Fabric**
Fiesta **Barbeque Manufacturer**
Felker Brothers **Stainless Pipe**
Galvacore **Hot Dip Galvanizing**

Gas Springs **Shocks**
Gaylord **Boxboard**
Gayston **Slag Run-Off**
General Electric **Oil Water Separation**
General Electric **Leaded Ceramics**
General Electric **Jet Engines**
Getzen **Musical Instruments**
Globe **Rubber Thread**
Gould **Ni-Cad Battery**
Greenville Technology **Paint Booth Solids**
H. B. Fuller **Glue Manufacturer**
Hall Buck **Port Facility**
Hanna Steel (2)
Howmet **Alum Manufacture**
ICI **Chemical Processing**
Ina Bearing **Bearings Manufacture**
Ingersol-Rand **Compressors**
Inland (6) **Boxboard**
International Crankshaft **Auto Parts**
JMC **Specialty Steel**
Jarl Extrusions **Aluminum Extrusion**
Jasco **Heat Treating**
Jasper Engine (2) **Engine Rebuild**
J P Industries **Bearings**
Jupiter Aluminum

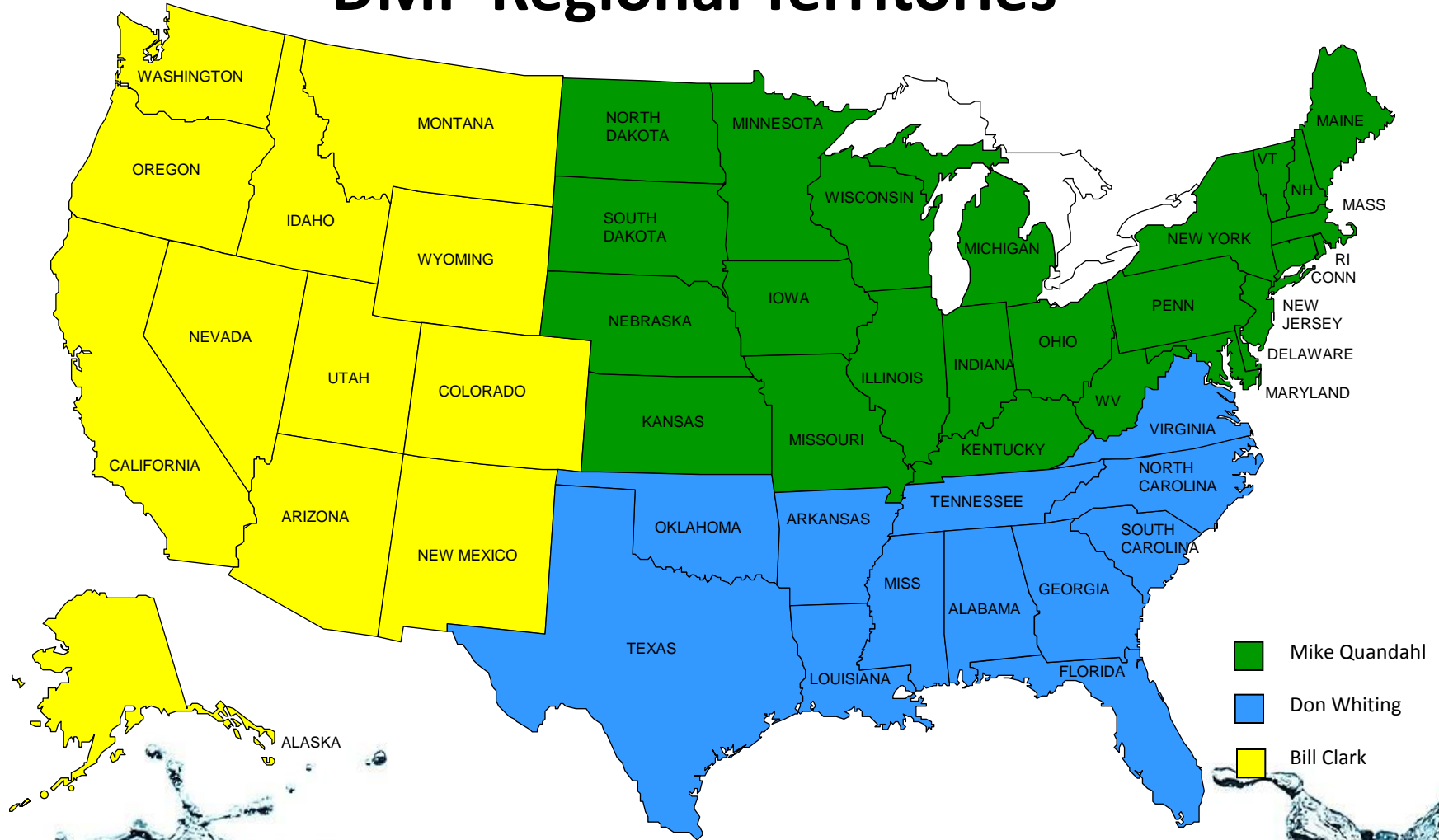
Partial Special Customer List 2

Katzenbach & Warren **Wallpaper**
Kenmore Research **Laboratory**
Kentucky Apparel **Stone Wash Jeans**
Key Plastic **Paint on Plastic**
Kiswire (Tire Cord) (2)
Koppers **Piston Rings**
Kramer **Ground Water Leachate**
Lawrence Berkeley Labs **Special**
Levine
Lida **Textile**
Marathon Battery **Ni-Cad Battery**
Mason Chamberlain **Oil Removal**
Matlack **Truck Wash** (2)
Mead **Boxboard**
Monroe Prints **Printed Fabric**
Nassau Recycle **Ground Water**
National Hand Tool **Vibratory Finishing**
Newport Steel **Groundwater**
Nucor **Steel** (2)
Midway Wire **Pickling & Phosphate**
OHM (3) **Groundwater**

Olin **Chemical Manufacture**
Penn Jacobson **Mechanical Plating**
Pennwalt **Chemical Compounder**
Perko **Marine Products**
PMC **Pipe Couplings**
PMC **Tianjin China**
Porcelain Industries **Ceramics** (2)
Polygram Compact Disc
Ram Car **Batteries**
Reliance Universal **Paint Manufacture**
Republic Container **Steel Drums**
Rival **Porcelain**
RollCoater **Coil Coater**
Sara Lee **Dye Waste**
Seagate Substrates **Hard Disk Memory**
Seneca Wire **Automotive Coil Springs**
Siemens **Special Finishing**
SIVACO **Steel Pickling**
SKF Bearing **Bearings Manufacture**
Skitex **Compact Disc**
Sommers Fiber Dynamics
Non-Woven Fabric

Sonopress **Compact Discs**(2)
Sony **Compact Discs**(3)
Southern Aluminum **Anodizing**
Spectra **Anodizing**
St Joe **BOD**
St Joe (2) **Starch and Ink**
Summit Container **Boxboard**
Sunbelt **Neutralizer**
Superior Metal **Anodizing**
Talley Steel
Techniglass **TV Picture Tubes**
Toolex USA **Compact Disc**
Topy **Aluminum Wheels**
Trefil Arbed **Steel Tire chord**
Turkish Air force **Turkey - Aircraft Repair**
Union Camp (7) **Boxboard & Bag**
United Drum **Drum Reconditioner**
UNISYS **EDTA Recovery**
US Air force **Groundwater**
Volvo **Truck Manufacturing**
Wells Aluminum **Anodizing**
Westvaco (3) **Boxboard**
Weyerhaeuser (17) **Starch and Ink**
Williamsport Wirerope Works

DMP Regional Territories



- Mike Quandahl
- Don Whiting
- Bill Clark



20 gpm Chemical Precipitation System

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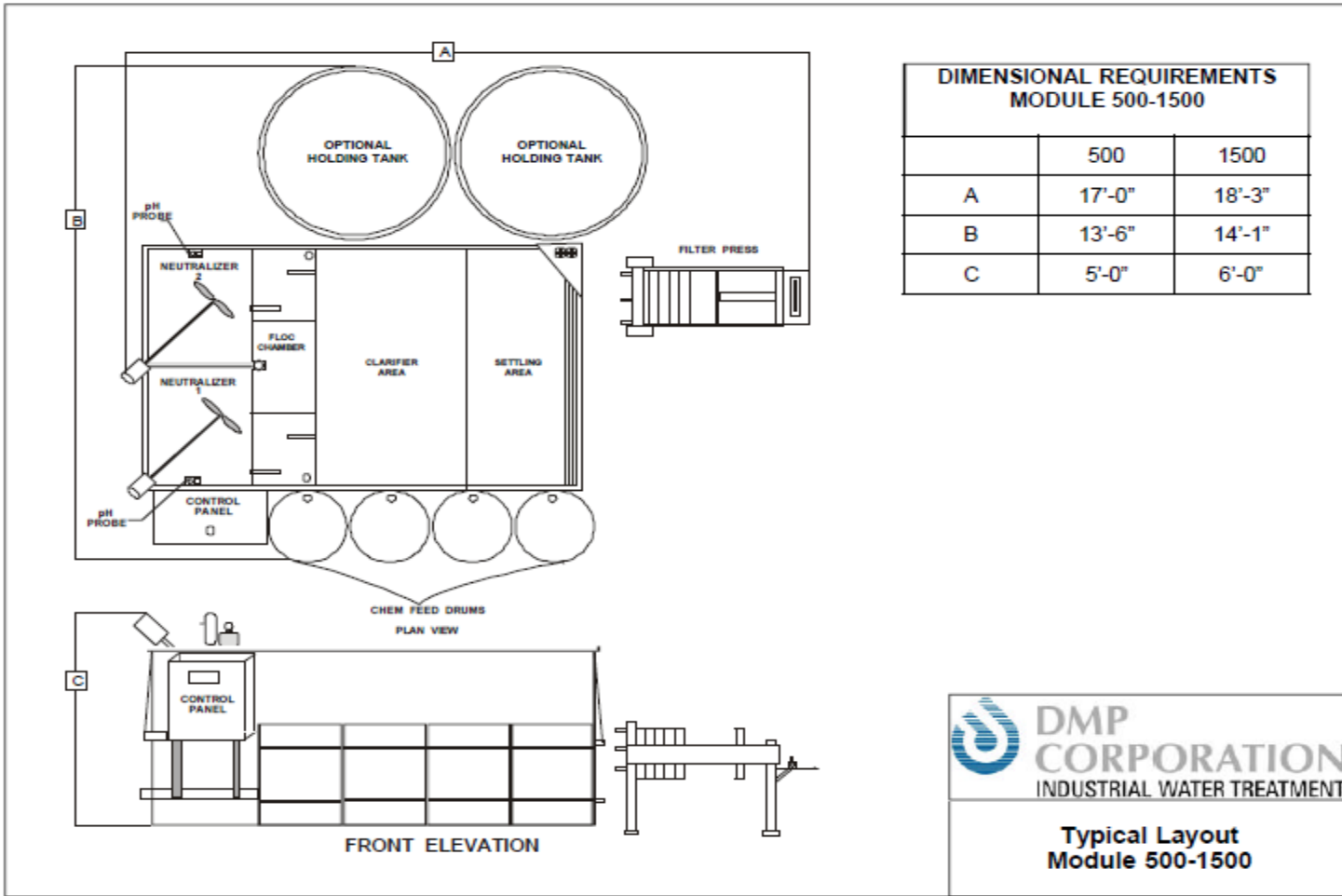


60 gpm Chemical Precipitation System

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Module 1500 (5-15) Gallon Capacity

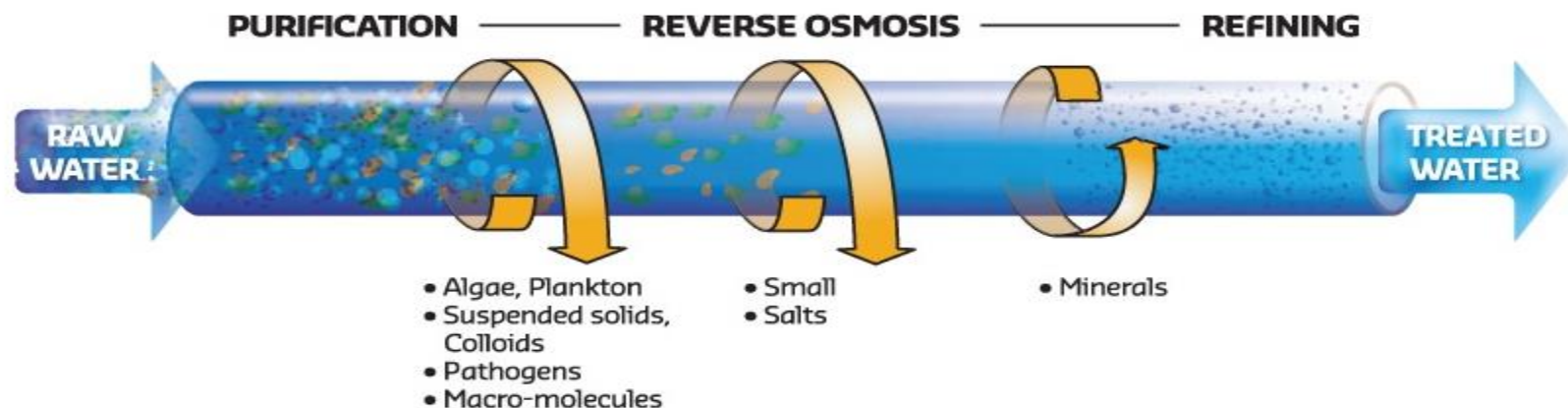
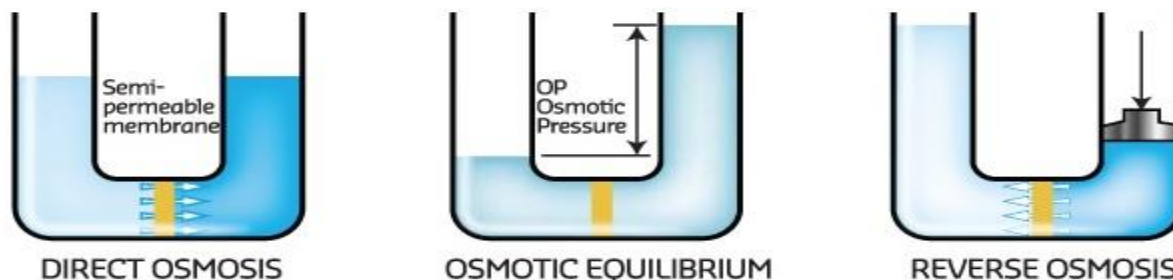


Module 500 -1500 (5-15) Gallon Capacity Layout



Batch Treatment 5000 Gallon Capacity

RO Recycling System Skids





15 gpm fully automatic RO for Water Recovery

150gpm RO Recycling System

- ▶ Three 50 gpm trains
- ▶ 600 psi design for 80% recovery with high TDS Feed
- ▶ Duplex 150 hp pumps w/variable speed drive
- ▶ On-board Cleaning System





• 60 gpm Automatic DI with carbon



10 gpm Ion Exchange Water Recovery/Recycle Skid

RO vs. DI Differences

RO

Best for high TDS

**Less robust; will not
tolerate oxidizers**

**Rejection of weak ions
is pH dependent**

**Typically simplex, down
for cleaning**

**Quality varies with
influent, membrane
age & condition**

DI

Most efficient at low TDS

**More robust; low levels of
oxidizers OK, 0-14 pH**

Good removal of weak ions

**Must have carbon to remove
non-ionics**

Typically duplexed

Consistent quality



Custom Media Filter Plumbing Skid (3" CPVC Piping)

Technology

DAF

PCL Series (Cross Flow Plate Pack Design)

PWL Series (Open Tank Design)



Resource DAF Proprietary Design

Unique Design Features

- Progressive Water Extraction
- Cross Flow Design
- Plate Separators
- Polypropylene Design
- Cone Bottom
Sludge Removal
- Dissolved Air

Benefits

- High Performance
- Low Operational Costs
- Maximum Longevity
- Small Footprint



Progressive Water Extraction

- As a fluid transitions from turbulent to laminar, particle separation begins at a rapid pace. As the particles interact with each other and concentrates, the separation slows.
- This is a designed technique to separate the initial fluid (absent of particles) immediately. As more separation occurs, more fluid is removed from the vessel. The result provides far more time for the concentrated (difficult to separate) solids to be removed.



Definition DAF/DNF/DGF

Dissolved air flotation (DAF) is a liquid/solid separator process that clarifies wastewaters by the removal of suspended matter such as oil or solids.

The removal is achieved by dissolving air in the water or wastewater under pressure and then releasing the air at atmospheric pressure in a flotation tank.

The released air forms tiny bubbles which adhere to the suspended matter causing the suspended matter to float to the surface of the water where it will be removed by a skimming device.

MBBR

- ▶ **Advanced Biofilm Technology**
 - Static Looped Composite Chord (HRBF, SAGR)
 - Moving Bed Biofilm Reactor (MBBR)

- ▶ **Advanced Membrane Technology**
 - bioFLOW
 - bioPULSE™
 - bioTRIPURE™

bioFAS MBBR Moving Bed Biofilm Reactor

bioFAS MBBR Process Applications

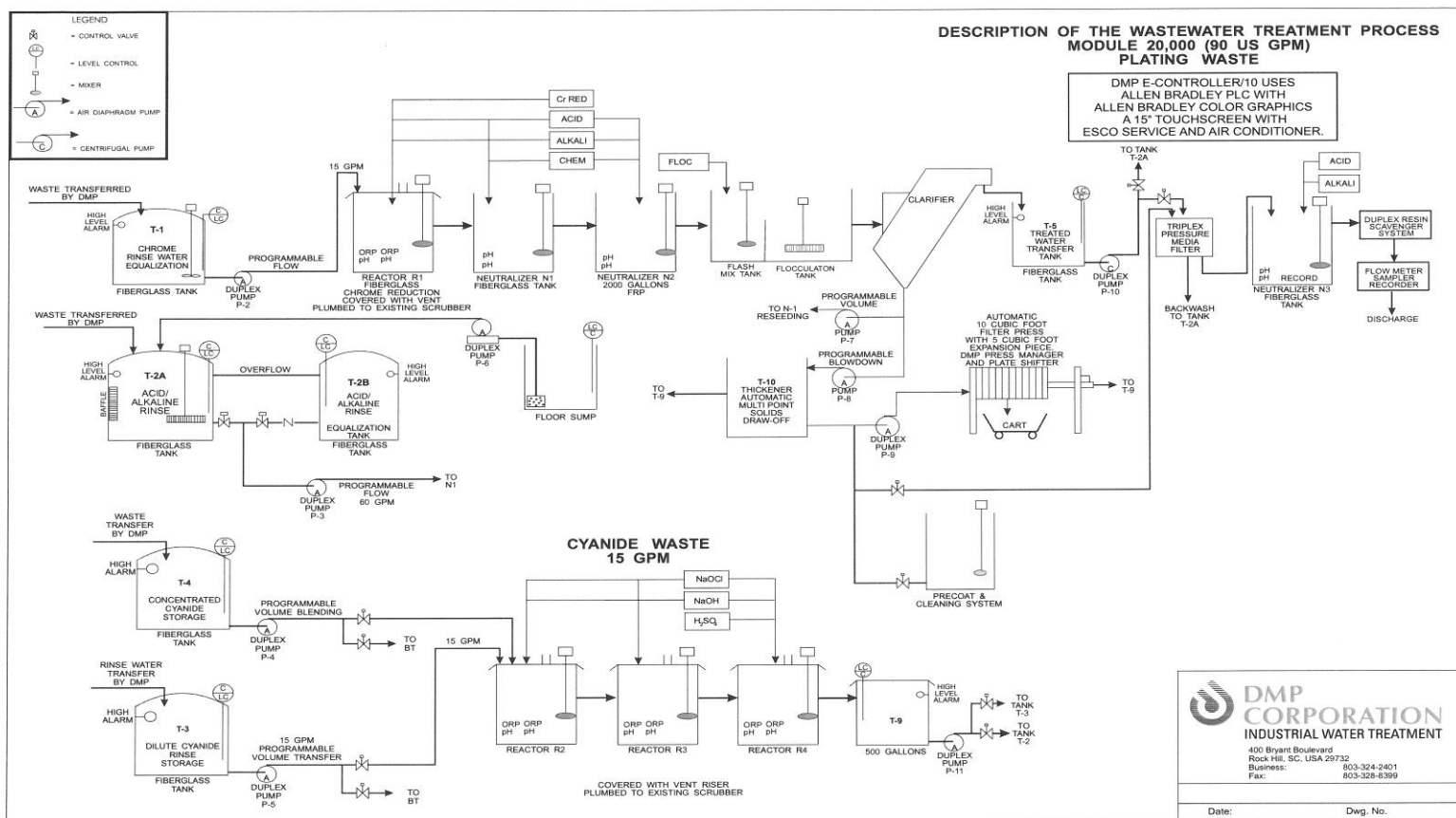
- ▶ Single-stage BOD Roughing Reactor
 - Up to 90% Reduction
 - Low HRT
- ▶ Multi-stage Bioreactor
 - 90 - 99%+ BOD Reduction
 - BOD Reduction/Nitrification
- ▶ Total Nitrogen Removal Systems
 - Modified Luzak Ettinger (MLE)
 - Modified 4-stage Barden-pho
- ▶ IFAS (integrated fixed film with activated sludge)
- ▶ Hybrid MBBR>MBR process



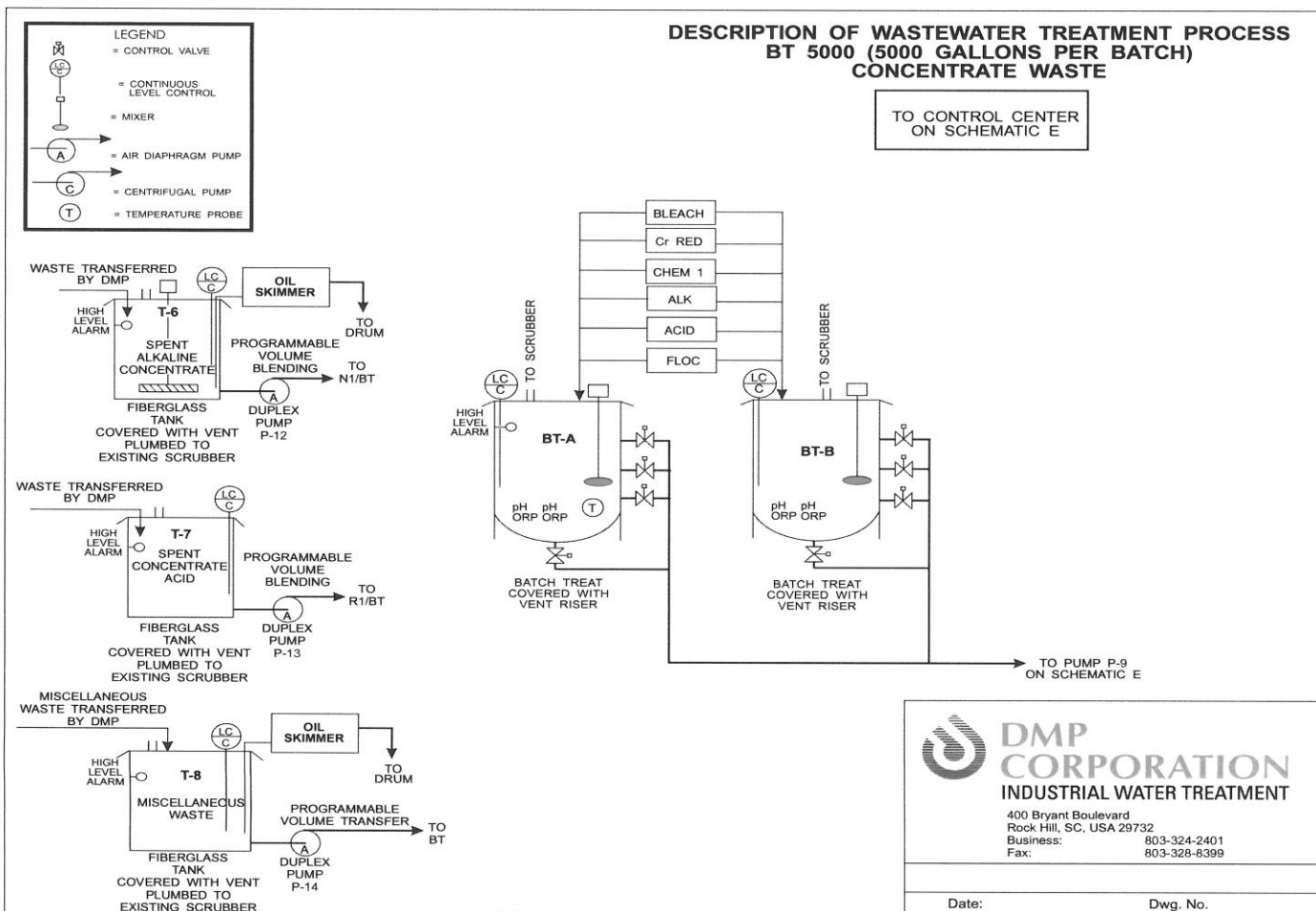



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Process of Engagement



Flow Schematic for the job shop plater (1 of 2)

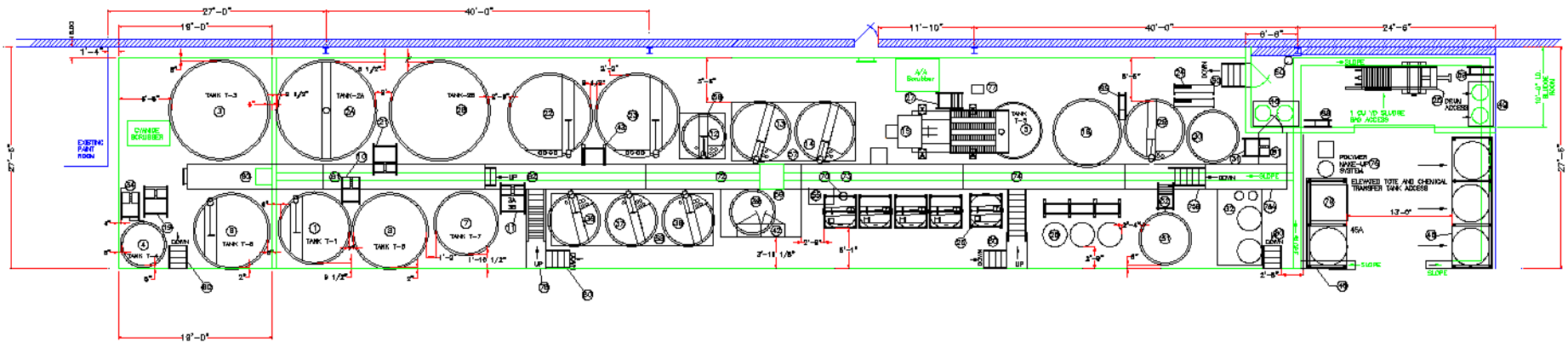



DMP CORPORATION
INDUSTRIAL WATER TREATMENT

400 Bryant Boulevard
Rock Hill, SC, USA 29732
Business: 803-324-2401
Fax: 803-328-8399

Date: _____ Dwg. No. _____

Flow Schematic for the job shop plater (2 of 2)



Equipment Layout for a large job shop plater



90 gpm Chrome and Cyanide Treatment System for the job shop plater



90 gpm Treatment System with custom colored fiberglass tanks for the job shop plater



Chemical feed system with automatic make up for the job shop plater

- Mexinox – San Luis Potosi, Mexico
- 100 GPM / Water Reuse / Zero Discharge



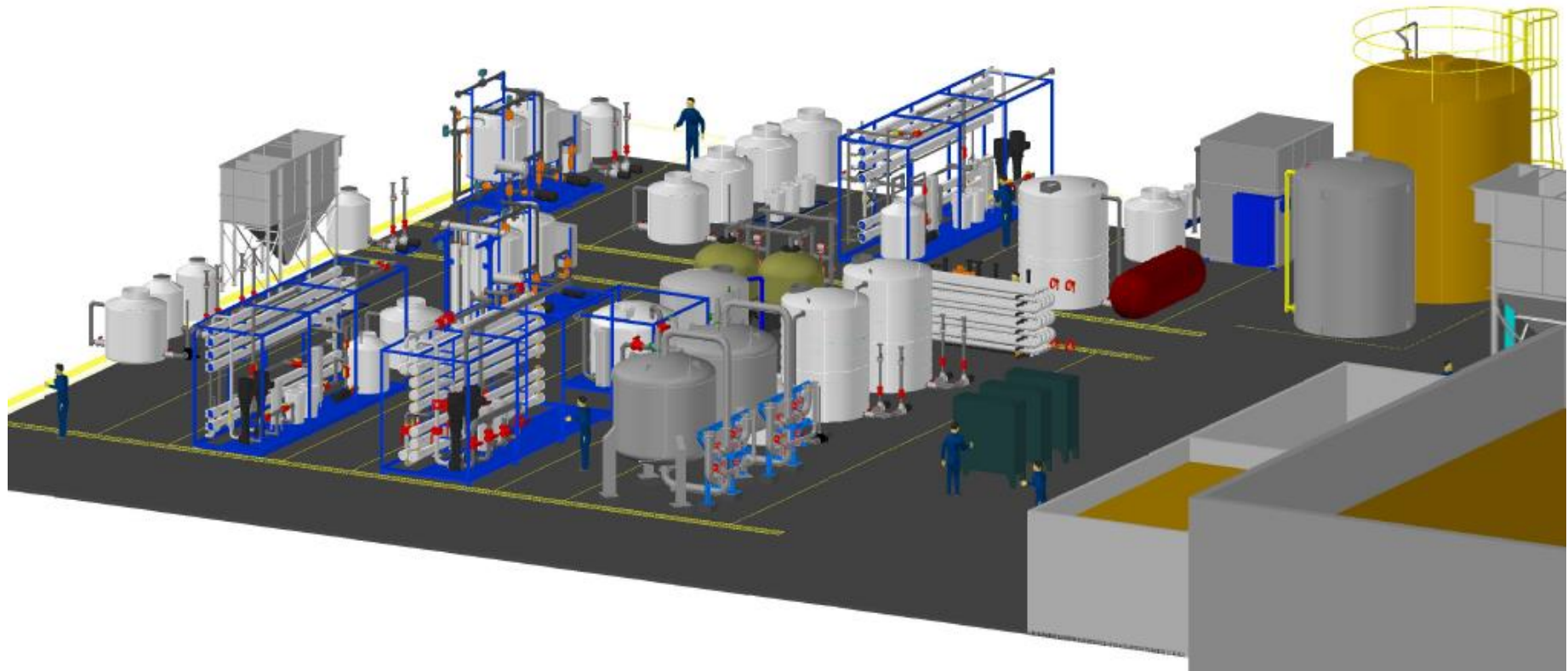
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3 RO Systems for Water Recovery/Recycle at 225 gpm



Duplex 175 GPM IX System with carbon and media filters

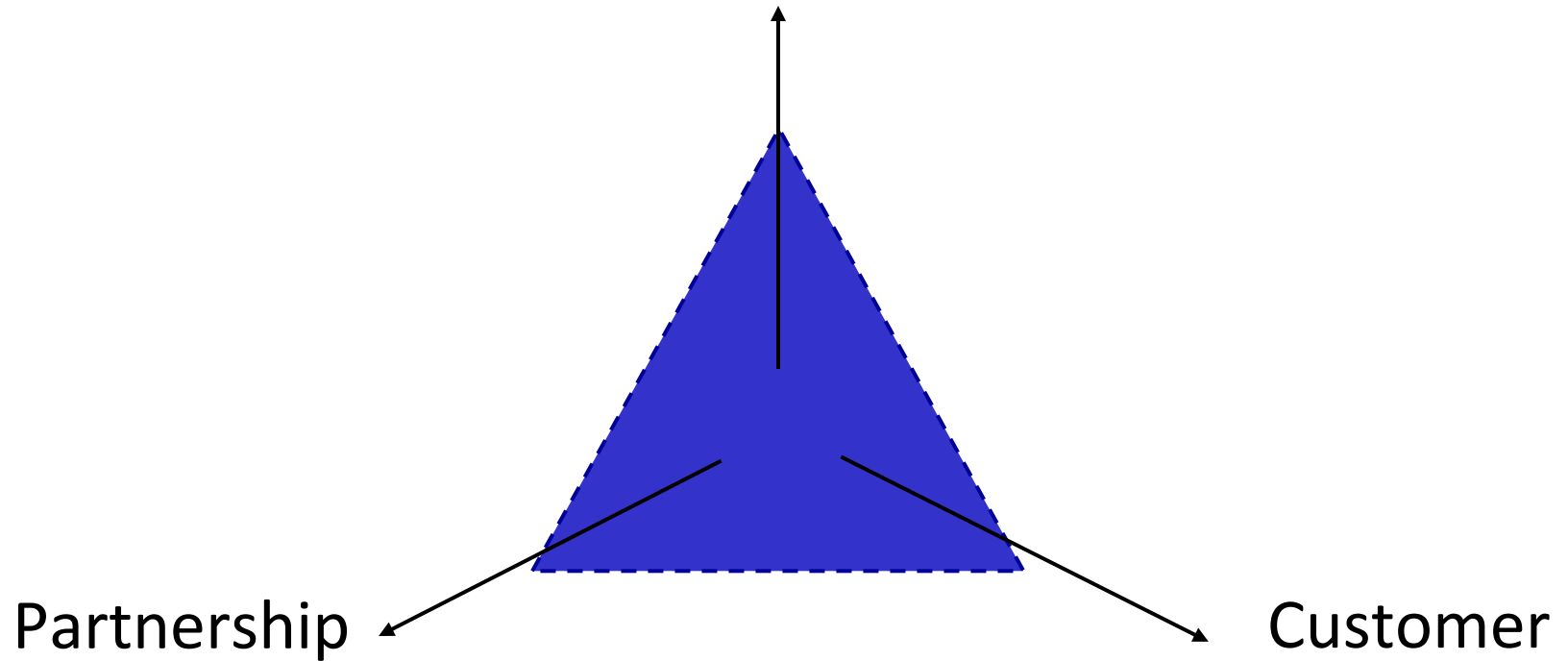


We at DMP Corporation realize this is a large investment for any company to make right now. DMP is here to make sure that the new system you purchase will perform as expected and last for years to come. DMP Corporation has a long history of building Industrial Water Treatment equipment with many repeat customers. Several companies have purchased more than 10 systems from us. Below is a list of all the advantages and benefits which DMP Corporation brings to this relationship:

- Over 40 years of manufacturing and 2,000+ Industrial Water Treatment Systems provided worldwide.
- In-house wet laboratory and Chemist at your disposal for testing chemistries as well as recommending treatment solutions. This service is provided to all DMP customers for the life of their equipment at no cost.
- Fully staffed service department you can depend on to be there when you need them.
- TECHLink Service free for one year.
- Available TECHLink Net/TECHLink View Service for remote monitoring of the system.
- Control Panels are designed and built in-house using proven industrial components and designs. DMP is a license UL approved panel builder and can provide UL certification for the control panel upon request.
- Automated controls make operating the system user friendly as well as reducing human errors and operator hours.
- Modular manufacturing design which reduces installation time and costs.
- Guaranteed project schedule
- Expandable design
- Maximum Recovery rates for water recycle

* NOTE: The first DMP system sold was a wastewater recycle system using resin and reverse osmosis technologies in 1972. This was a U.S. Government-funded project to review water recycle for a metal finishing application.

- System Automation
 - o Reduce operational manpower
 - o Remote alarm reporting
 - o Ability to record events
 - o Historical trending
 - o Remote data collection
 - o Programmable flow
 - o Programmable bleed rate
 - o Component maintenance scheduling
 - o Different levels of security to control access at the main panel
- DMP website is exclusive to each end user
 - o Operation manual
 - o Electrical drawings
 - o Process schematic drawings
 - o Spare parts listing per schematic
 - o Please visit www.dmpspares.com/demo User ID: demo, Password: demo
- DMP has over 40 employees
- DMP Project Ranges:
 - o Batch Treatment: 500 – 10,000 Gallons
 - o Water Recycle: Resin Technology: 5 GPM – 200 GPM
 - o Water Recycle: Reverse Osmosis Technology: 5GPM – 400 GPM
 - o Wastewater Flow Through Treatment: 5 GPM – 1,600 GPM
 - o DMP has DI skids designed for 5 GPM to 200 GPM
- DMP employees have Technical Degrees in:
 - o Civil Engineering – Director of Engineering
 - o Electrical Engineering – Technical Service Manager
 - o Mechanical Engineering – Sales
 - o Chemistry – Director of Laboratory Services
 - o Industrial Technology – Sales



If This Is True.....



**We are ready to help you.
Strength through a working Partnership**

Partnering for the Future



Strength through a working Partnership