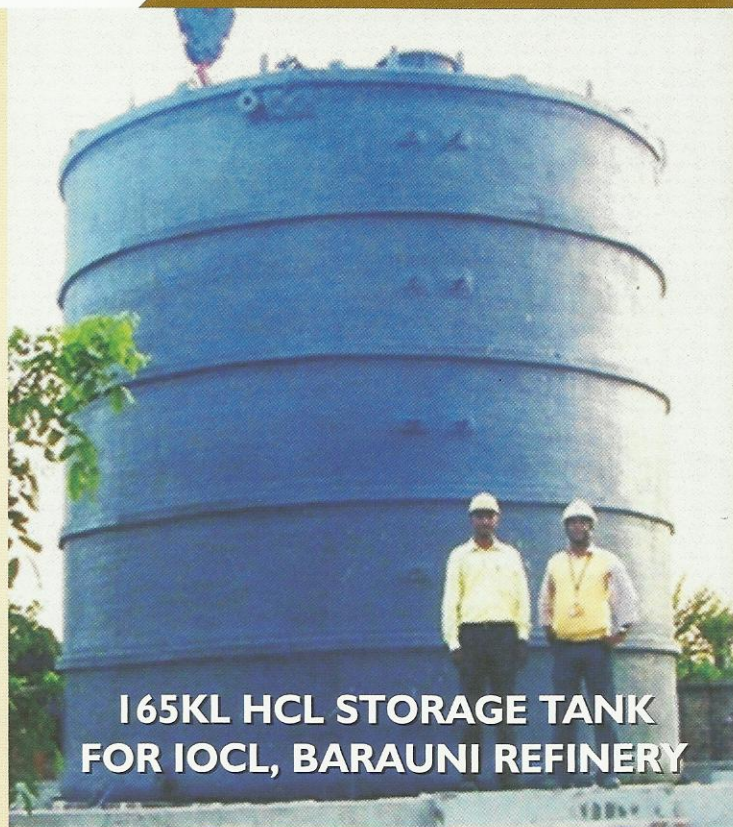


Tanks & Vessels

Plastic material have been used in numerous applications where corrosive chemicals are present. Thermoplastics are well-known for their excellent chemical resistance and are commonly used in piping, valves, halves, hoods and tank linings. They unfortunately do not have sufficient mechanical strength to make them suitable for large structures such as storage vessels, towers and stacks.

New Generation Fibreglass Reinforced Plastic (FRP), on the other hand, have excellent mechanical properties.

The combination of thermoplastic liners and FRP thermoset composites provides structures, commonly called "Dual-Laminate" with excellent chemical resistance and structural strength. Dual-Laminates are now used in numerous applications replacing exotic metals & alloys, lined steel (glass, stoneware or rubber).



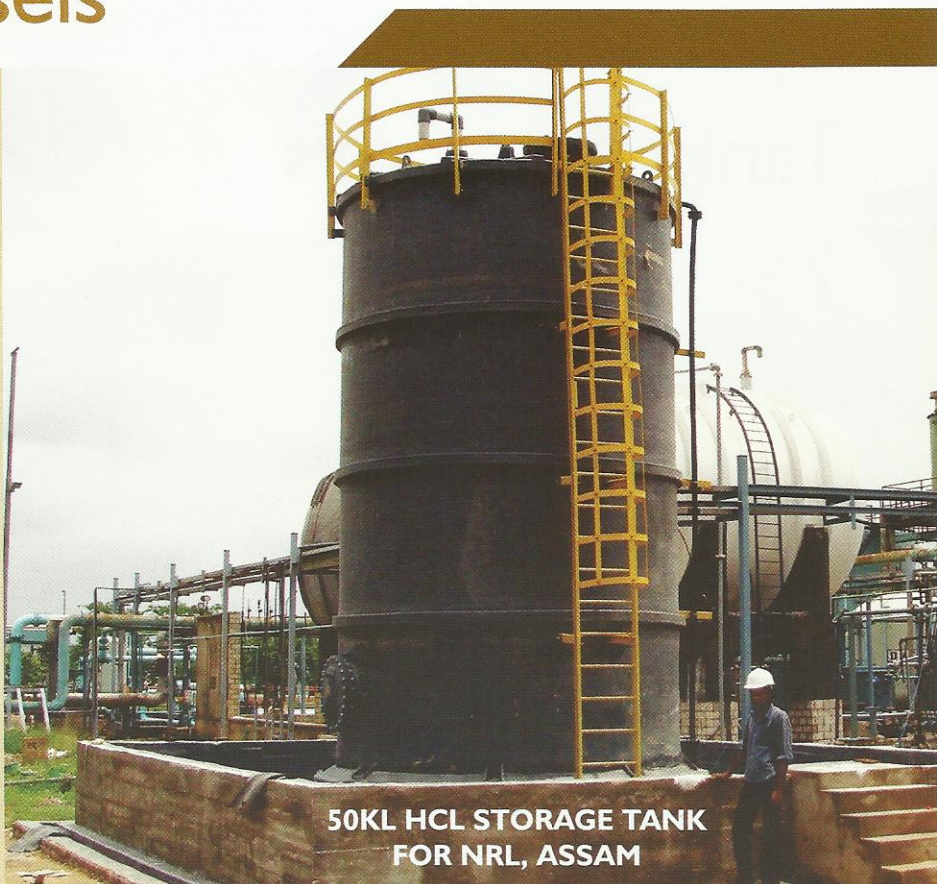
**165KL HCL STORAGE TANK
FOR IOCL, BARAUNI REFINERY**



We at DM Engineering Co. fabricate Dual-Laminate equipment such as scrubbers, Process vessels and tanks, which have been used for over 30 years offering a cost effective solutions in highly corrosive applications. These are commonly found in the anodizing, electroplating, chemical process industry , pulp and paper and metal refining where chemicals such as chlorine & chlor - alkali products, strong acids, strong bases, organic compounds and others are present.

Tanks & Vessels

- MOC of Tanks fabricated at D.M.Engineering Co.: PP, PVC, HDPE, FRP, PP+ FRP, PVC+ FRP.
- Tanks are made in compliance with international standards viz.: Bs4994.
- ASTM 4097 D, ASME, EN13121
- To ensure welds are pinhole free, all the weld seams are spark tested at 5-10 KV/MM.
- DME offers tanks in various shapes as per clients requirement viz. Cylindrical, rectangular, dish ended, conical ended.



**50KL HCL STORAGE TANK
FOR NRL, ASSAM**

CUSTOMER DATA/
QUESTIONNAIRE

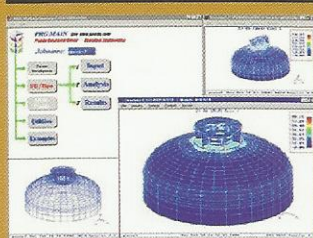
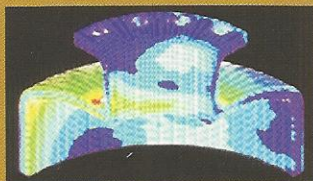
DESIGNING

MODELING

ANALYSES

FABRICATION

TESTING



DME has always believed & in convergence of technologies & used it very effectively. Every job at DME follows a flow chart, which ensures 100% quality & reliability.

Our design engineers & consultant use modern engineering software tools like AutoCAD, Pro-E, Ansys, CFD etc to visualize & analyze storage tanks, reactors under different loads viz. Circumferential load, hydrostatic load, seismic load, wind load etc.

These tools help us to evaluate & analyze our design & give us indication of any over/under designing. This feedback obviously enables DME to zero-in on optimum design thus promising cost effectiveness.



D. M. ENGINEERING CO.



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Filtration Equipments in FRP

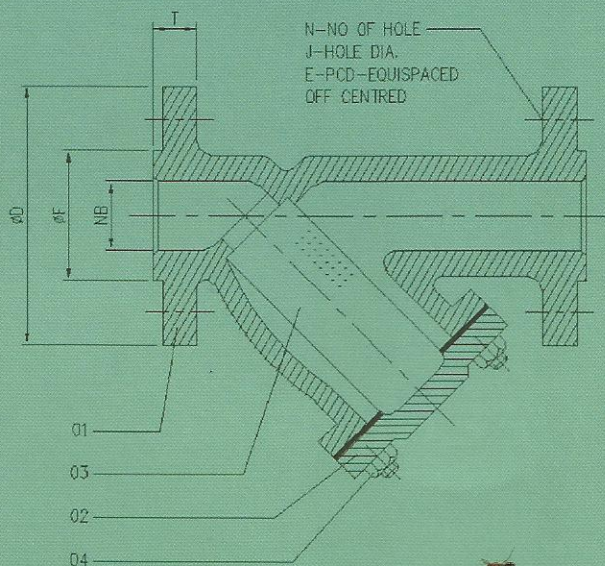
Filtration is an indispensable process in any industry. A typical pre-treatment part of a water treatment plant or a desalination plant consists of settling tanks, sand filters, strainers & micron filters. The turbidity level is brought down to the acceptable range in various stages using progressively lower/finer filtration rating equipment, before feeding it to high pressure pumps and then in turn to core filtration system like RO plant. Various water conditioning & membrane protecting chemicals and additives are also added to water in this stage before the water enters membranes.

Many industrial Water treatment plants & Sea water desalination plants handle water having extremely high TDS. This high TDS water, along with conditioning chemicals, demands for exotic quality of SS like Super duplex as an MOC for the filter housings.

At D. M. Engineering co. we have indigenously developed PP + FRP, PVC + FRP, FRP filtration equipments like

1. Y', 'T' type strainers,
2. Basket strainers & Bag Filter
3. Cartridge Filters

which offers exceptionally good corrosion resistance at 1/5th cost of duplex steel materials. These filters are offered in simplex or Duplex, manual or automatic mode depending on the requirement of customer.



FRP 'Y', 'T' type strainers:

These are simple type of filters with name based on the geometry of the housing.

Salient Features:

1. They are meticulously designed
Considering required degree of filtration, clean condition pressure drop & free flow area ratios.
2. Filter mesh is also offered in LDPE or PP
3. Easy to clean in situ with drain plug
4. MOC: PP, PVC, PVDF, FRP
5. Typically used for acid/alkali suction pumps, sea water intake suction pump.

Filteration Equipments in FRP

FRP Basket strainers & Bag Filter

They are meticulously designed Considering required degree of filtration, clean condition pressure drop & free flow area ratios

Salient features

- Ideally suited for Desalination plant.
- Multiple bag filter housing can be offered
- Cost effective substitute over duplex steel and MSRL housings
- Light in weight
- Non metallic mesh & strainer element
- excellent resistance to highly saline water and corrosive conditions
- Designed in compliance with EN13121, ASTM4097 D
- Can be offered as duplex skid mounted unit for continuous operation
- Basket strainers Can be offered in **MANUAL OR AUTO mode**
- Hot dip galvanized Davit arm & wheel for easy swivel of cover dish.
- Flow rates: up to 1000 m³/hr



FRP Cartridge Filter Housing

Salient features

- can be custom made for any given flow rates & number of cartridges
- PARKER make CARTRIDGES
- Compatibility with all standard types of cartridges (double open end, single open end, flat top, arrow head, HI FLO cartridges)
- Meticulously designed for number of cartridges required, clogged condition pressure drop across tube sheet
- Designed in compliance with EN13121, ASTM4097 D
- Can be offered as duplex skid mounted unit for continuous operation
- Perfectly designed knife edge arrangement in PP to ensure 100% filtration & no by pass.
- Inlet baffle to reduce flow impact on cartridges
- Hot dip galvanized Davit arm & wheel for easy swivel of cover dish.
- All wetted parts in Poly propylene.

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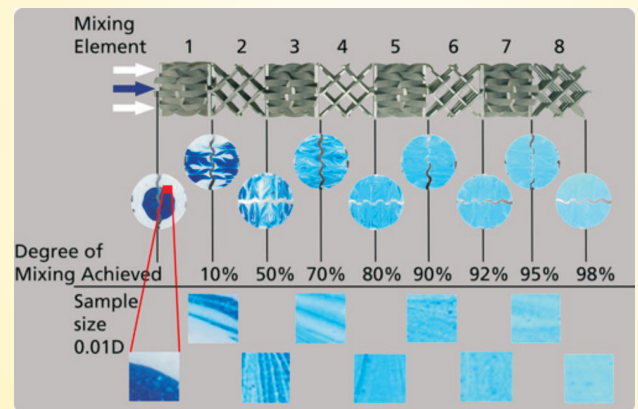
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Static Mixers

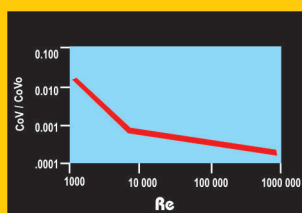
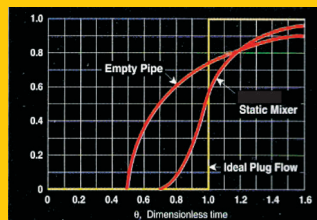
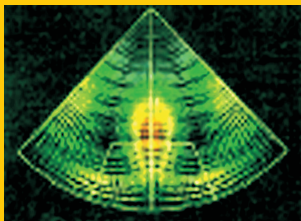
Mixing is an important & indispensable part of any chemical process industry. It is very important to achieve better mixing in a very cost effective way. DME Static Mixer provides the best solution for such requirements.

Static Mixer/ In-line Mixers are unique in a way where material itself is moved through elements/blades as against blades through material in dynamic mixers. Be it paste, slurry, liquid or gas, STATIC MIXER eliminate costly downtime and enhance product and process control. DME static mixers have no moving parts to cause maintenance problems, and they deliver exceptionally long, worry-free life.



After careful study & consideration of various process parameters such as Viscosity, Density, Flow rate, Pressure Drop, desired CoV Coefficient of variation (a measure for degree of mixing), Reynold's number & flow type- Laminar or turbulent; we at D. M. Engineering Co. design & fabricate static mixers for various applications.

Our vast experience & expertise in field of composites enable us to offer static mixers in various material of construction viz: PP, PVC, FRP, PVDF, PTFE, SS, and MSRL to suit highly corrosive conditions.



salient features of DME Static mixers

- Highly efficient mixing
- Low energy consumption
- No moving parts for maintenance free operation
- No direct motive power required
- No need for tanks in most cases
- Ease of installation
- Minimal space requirement
- Totally enclosed pipe designs
- Optional injectors and sample points
- Available in all sizes
- Available in a wide range of materials
- Custom designed

Static Mixers

Applications of Static Mixers:

Water and waste wastewater

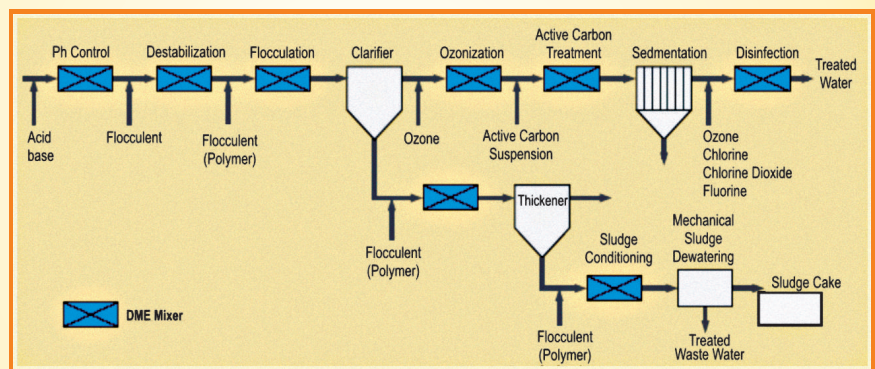
- Aerating water for Fe and Mn removal
- Neutralization by addition of caustic
- Dissolving ozone
- Mixing of flocculants such as FeCl_3

Cosmetics and detergents

- Saponifying greases with caustic soda
- Diluting surfactants

Chemicals

- Mixing miscible/dispersing immiscible reactants
- Neutralization of process streams
- Mixing of gases in front of catalytic reactors combustion



**STATIC MIXING EQUIPMENT
WITH NO MOVING PARTS**
for the Continuous Processing of
Polymers, Liquids, Gases and Solids

Energy

- Mixing blast furnace and coke oven gas
- Blending fuel gases with air before combustion

Polymers

- Mixing additives, catalysts, into polymers
- Rapid heating of polymers
- Homogenization of temperature and colorants in polymer

Petrochemical

- Chlorination of hydrocarbons

Pulp & Paper

- Mixing bleaching chemicals with pulp

D. M. ENGINEERING CO.



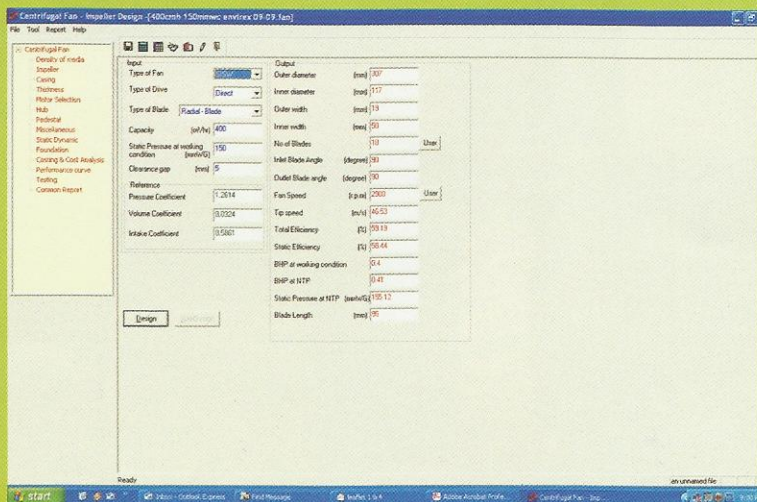
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Air Pollution Control Equipments

An air pollution control system is a must for chemical, pharmaceutical, sugar, paint, textile & metal finishing industry. It is now days mandatory to install such equipments to treat waste gases & release treated gases in atmosphere as per guidelines of pollution control boards.



Centrifugal Blowers & Fume Exhaust System

Air handling equipment plays a vital role in chemical, pharmaceutical & various other industries where poisonous & corrosive gases laden with vapors and particulates have to be handled. Our Specialized knowledge of the use of thermoplastic & thermoset materials with complete design know-how has enabled us to design most efficient, cost effective & reliable fume exhaust systems.

Depending on the application blowers are classified into low pressure – high volume, medium pressure medium volume & high pressure low volume categories. With help of advanced customized software we at D.M. Engineering Co., design & fabricate, chemical & corrosion resistant blowers and ducting for fume extraction as per customer's requirements & plant demands. Our software tools helps us to precisely select the optimum blade design from wide range of options giving us most economical design.

Blower are available in different capacities and pressure ratings & with belt driven & direct driven option.

MOC of DME blowers: PP, PVC, FRP, PP + FRP, PVC + FRP

Air Pollution Control Equipments

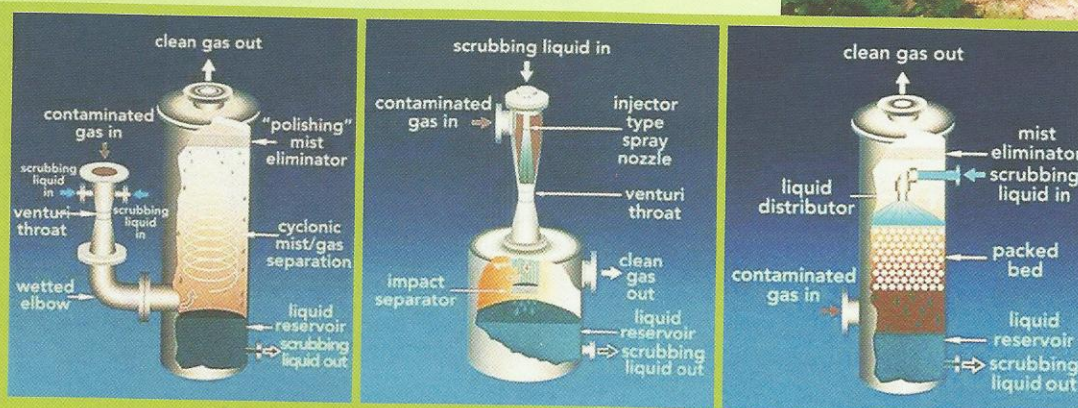
Gas scrubbing systems: how it works?

At DME we offer various gas scrubbing solutions wherein, Waste gases are sucked with the help of centrifugal blower or by vacuum created at ventury. A scrubbing liquid is made to flow in counter current direction to the gas flow. The packing media present in the column offers large mass transfer area thereby causing the gas absorption process. The mist created by spray nozzles is eliminated by mist eliminator. The treated gases coming out of scrubber are released to atmosphere through chimney.

With our vast experience in plastic & composites fabrication & with the help of renowned process consultants, we at D. M. Engineering Co. design, fabricate, install highly efficient, corrosion resistant packed bed columns & ventury scrubbers, Cyclone separator.

Special consideration is given to specifications of gases & liquids like Vapor pressure, flooding velocity, and exotherm of reaction. This makes our scrubbers offer efficiency up to 99% with treated gas parameters as per local pollution control boards.

MOC offered: PP, PVC, PVDF, FRP, FRVE, and dual laminate



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