

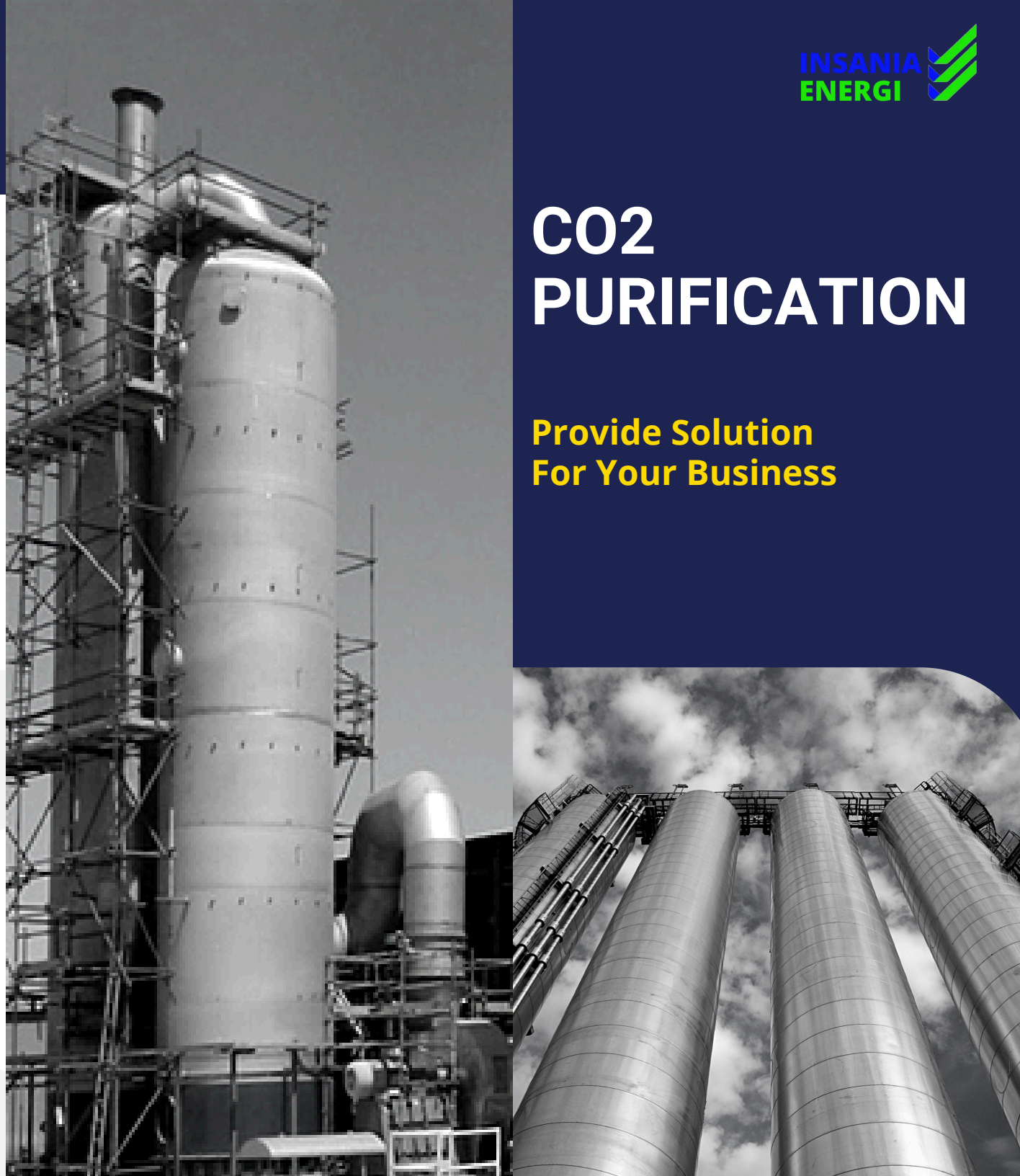
About Us

INSANIA ENERGI serve you to increase your performance as well as to create a long term relationship with you to help you stay ahead at the competition. To do so, we provide a variety of structured consultancy programmers in combination with implementation skills in all relevant areas.

We see our key strengths not only in the development of innovative technologies, which help improve product quality and performance but also in provide service as supervision unloading, loading, start-up process, troubleshooting, evaluate performance and our commitment to close customer relationships. With sales offices two branch in java area, INSANIA ENERGI can meet market requirements for speciality chemical and equipment wherever that market may be. Therefore we are very appreciate your interest in our product and look forward to serving your needs.

CO₂ PURIFICATION

**Provide Solution
For Your Business**



CARBON DIOXIDE PLANTS

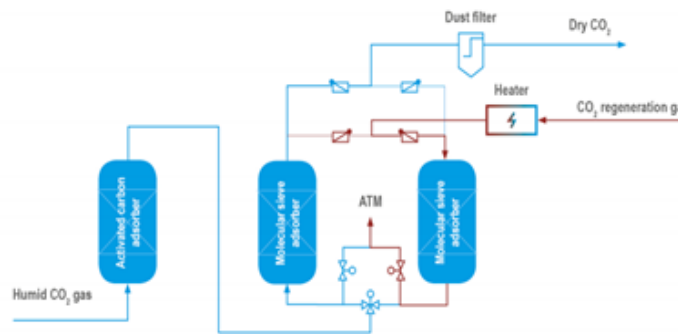
Carbon dioxide (CO₂) is mainly known as a greenhouse gas, but it is also an important raw material in many industrial sectors. We offer intelligent technologies that reduce carbon dioxide emissions, benefiting both the environment and plant operators. CO₂ recovery plants offer the most efficient way of extracting high purity CO₂ as a raw material. This can be used, for example, in breweries, chemical plants or in the production of dry ice.

CARBON DIOXIDE APPLICATIONS

- For Pneumatic Conveying Systems
- As Extracting Agent for the Extraction of Essential Oils
- As Refrigerant Agent
- CO₂ and Potable Water Technology, Sea Water Desalination as Solvent of Minerals
- As Shielding Gas for Welding
- Fire Protection System

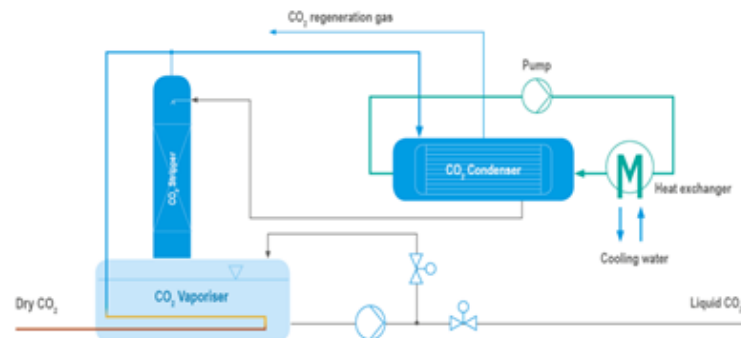
CO₂ Drier and Purification Units

- Natural CO₂ sources
- From fermentation processes (breweries and distilleries)
- Activated carbon
- KMnO₄



CO₂ Liquefaction

Dry Ice Production (recovery and re-liquefaction of gaseous CO₂ to generate a more efficient dry ice production process).



DRY ICE PRODUCTION CO₂ as Dry-ice Pellets used in Dry Ice Blasting – a Non-Abrasive Cleaning Technology for Cleaning Purposes (Electronic, Printing, Shipbuilding Industry for Various Kinds of Equipment)

- Dry Ice Production for Food Applications
- Catering Configuration for: Airports, Railway Companies, Large Events

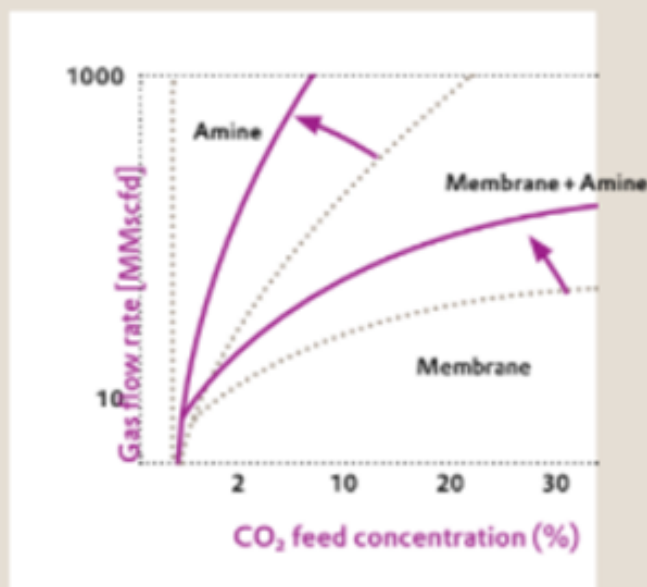
FOOD AND BEVERAGE INDUSTRY

- For sparkling beverages
- For packaging of food under protective gas atmosphere
- For greenhouses, used as fertilizer for enhancement of production
- Food grade quality acc. to EIGA standard or COCA-COLA standard
- Industrial and chemical processes (combustion processes, hydrogen production/steam reforming or synthesis gas production)
- Amine based processes
- KMnO₄ washing

SEPURAN® NG MEMBRANES

SEPURAN® NG is an especially robust, hollow fibre membrane, which is based on a high-performance plastic that can withstand extreme pressure and temperatures. This enables particularly selective separation of the sour gases from the natural gas, high tolerance of the higher hydrocarbons contained in the natural gas, and consistently high performance of the membrane throughout its lifetime. The membrane is designed for the challenging process conditions of natural gas processing with complex gas compositions and typical pressure and temperature conditions up to 70°C.

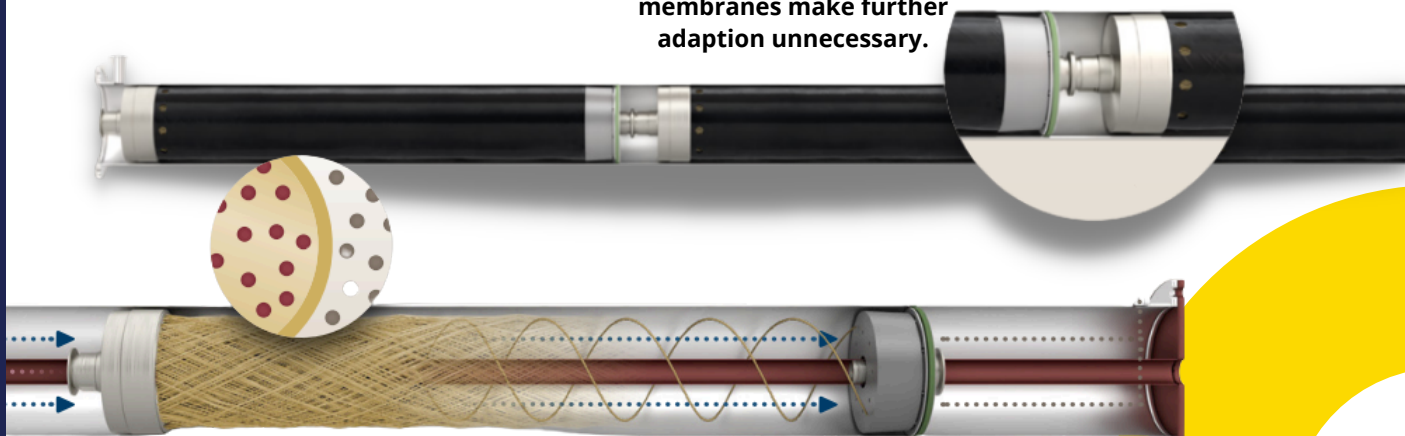
It can be used particularly effectively in natural gas sources with a high concentration of carbon dioxide because, under these conditions, the separating properties of the membrane remain intact. The modular structure of SEPURAN® NG has been designed for conventional, membrane-based natural gas processing plants so that, during the membrane exchange, no further adaptations are required to the existing equipment.



MODULAR STRUCTURE

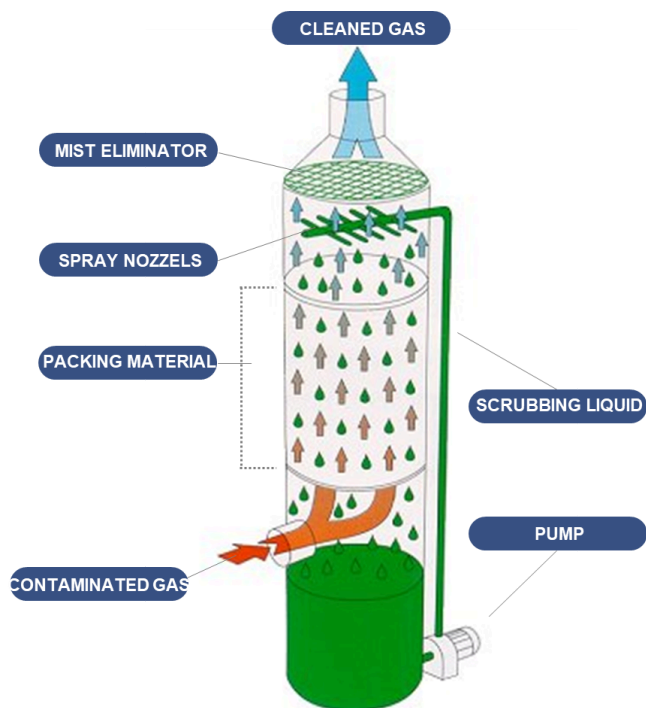
Our membranes have been designed for conventional, membrane-based natural gas processing plants. As plug-in replacement for all standard 8" membranes no further adaptations are required to the existing equipment

Plug-in replacements for all standard 8" membranes make further adaption unnecessary.



Industrial Scrubbers

Industrial scrubbers are pollution control devices that use liquid to wash unwanted pollutants from a gas stream, or that inject a dry reagent or slurry into a dirty exhaust stream to “wash out” acid gases. Industrial scrubbers are one of the primary devices that control gaseous emissions, especially acid gases.

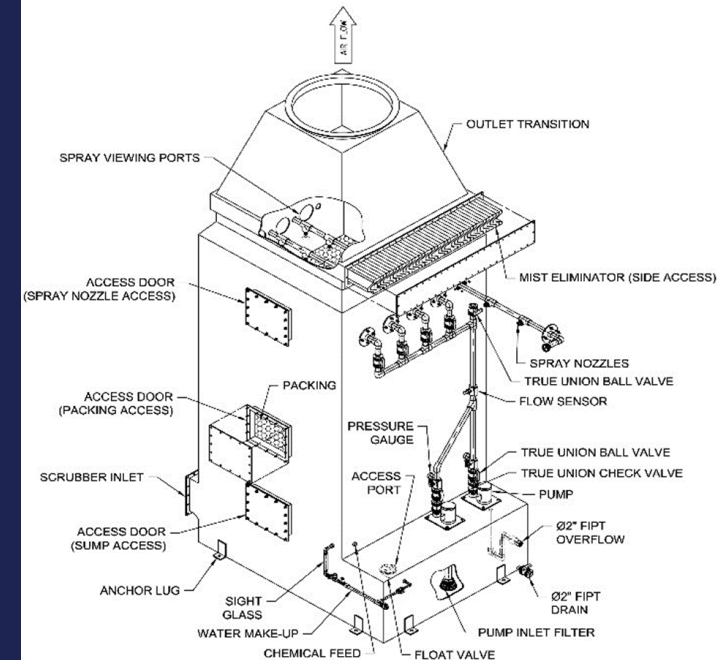


Advantages

- Low-risk processing of incendiary gases
- Ability to handle high-temperature, high-humidity gas streams without temperature limit or condensation problems
- Small space requirements mean lower capital costs and site location flexibility – scrubbers reduce the temperature and volume of unsaturated exhaust streams, permitting vessel sizes, fans and ducts to be more compact. This also enables retro-fitting into existing systems
- No secondary dust sources – once particulate matter is collected, it cannot escape from hoppers or during transport
- Ability to absorb gas and solid particulate matter via a single device
- Ability to neutralize corrosive gases

Product

- **Effluent Scrubber**
Wet gas scrubber, SO₂, HCl emissions from kiln, preheater exhaust.
- **Cement Kiln Dust (CKD) scrubber**
emissions from kiln
- **Gas Scrubber**
preheater exhaust



Ceco Filters (CF)

Candle filters, Acid services

- High temperature – more than 2400°F
 - Abrasion Resistant Linings - Extended Equipment life
 - Internal or External insulation
 - Explosion Venting/Containment
 - Design Flexibility - Space and Performance requirements
 - Ultra-high Efficiency - product recovery or emission control
 - High pressure or vacuum design, ASME “U” stamp
 - Corrosion Resistant Alloys
-
- Main factors for cyclone efficiency
How quickly the particle moves towards the wall or collection area
 - Time available for collection: **Residence Time**
 - Two main factors describe cyclone performance
Pressure drop
Fractional efficiency curve (FEC)

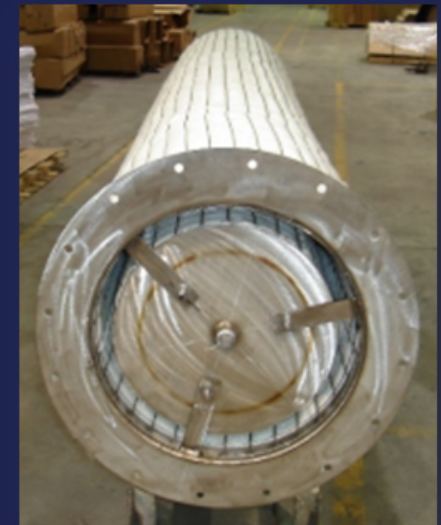
Advantages

- Low Total Cost of Ownership
- Specifically tailored efficiency to meet your application needs
- Sophisticated computer modeling allows us to offer guaranteed performance when provided with complete operating information
- High reliability
- Long life due to premium quality materials and abrasion resistant linings
- Maximum performance and efficiency



Product

- Drying Tower (Impaction Candle Filters, Mesh Pad)
- Intermediate, Interpass Absorption Tower (Impaction Candle Filters)
- Final Absorption Tower (Impaction Candle Filters)
- Oleum Production (Impaction Candle Filters)
- Acid Mist Elimination (Impaction Candle Filters)
- Scrubbing Tower (Impaction Candle Filters)



OUR CHEMICAL SUPPPORT

Sulfur Removal Catalyst



Desulfurizer Catalyst is an ultra-high porosity; high surface area zinc oxide adsorbent for the desulfurization of natural gas, off-gas, and other light hydrocarbon feed stocks in low temperature applications. Typical sulfur absorption capacity is from 10 - 24 wt% depending upon actual operating conditions. UNICAT SR-110CX has twice the surface area and porosity of standard density ZnO products.

Catalytic Oxidizers (CATOX) Catalyst



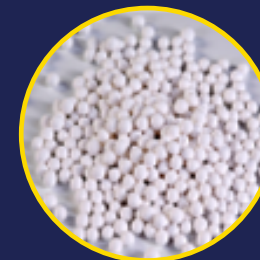
Catalytic Oxidizers (CATOX) use a catalyst to promote the oxidation reaction to occur. Catalytic Oxidizers (Catox) are an effective treatment solution for the removal of Volatile Organic Compounds (VOC's). A catalyst bed enables operation at lower treatment temperatures (330°C - 600°C) than thermal oxidation. Catalytic oxidation converts volatile organic compounds (VOC) into carbon dioxide and water.

SYLOBEAD® Molecular Sieves



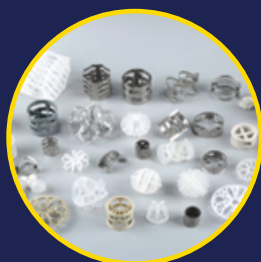
Zeolite molecular sieves are crystalline, highly porous materials, which belong to the class of aluminosilicates. These crystals are characterised by a three-dimensional pore system, with identical pores of precisely defined diameter. This structure is formed by tetrahedras of (AlO₄) and (SiO₄). For instance, the sodium form of zeolite A has a pore opening of approximately 4 Ångstrom (4 x 10⁻¹⁰ m), called 4A molecular sieve.

SYLOBEAD® Activated Alumina



Activated alumina are made from aluminum hydroxide (Al₂O₃.nH₂O) with dehydroxylating in a way that produces highly porous material. Activated alumina desiccant is a standard high performance, high porosity, high surface area activated alumina in beaded form. It has been specially designed to be used in the removal of moisture content from gas and liquid streams and the removal of other polar compound.

Random Packing



Random packing is used in separation columns, such as a distillation column, to increase surface area for vapor/liquid contact so that chemical separation is more efficient. In most chemical separation processes, vapor is driven upward in the column by heat and pressure while liquid falls downward under the force of gravity.

The small pieces of random packing in a distillation column are designed to form a large surface area where the reactants can interact while minimizing complexity within the column. Random packing is designed to maximize the surface-to-volume ratio and minimize pressure drop. The efficiency of random packing depends upon a few factors - efficiency, pressure drop and capacity.



INSANIA GROUP



TOTAL PETROKEM
INDONESIA



INSANIA
AIR SOLUTION



PETROSORB
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INSANIA
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In Collaboration with

CECO
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GRACE
Enriching Lives, Everywhere®

Magma
Catalysts



TEKNOKATALIS
Total Solution Adsorbent And Catalyst



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