

**Mineral Processing Technologies (Pty) Limited** is a South African company specialising in the design, supply and fabrication of Processing Equipment for the Minerals Processing, Petrochemical, Food and Beverage and other related industries. **MPTeq** offers expert advice to our clients in terms of correct application of our range of products with the focus on implementing high quality, cost effective and fit for purpose technology solutions.

## OUR PRODUCTS

MPTec in association with VMix supplies a range of Mineral Processing Equipment and have more than 20 years' combined industry experience. MPTeq is the exclusive distributor to the complete VMix product range in Africa. All MPTeq products are manufactured in accordance with international standards and can be CE Certified.

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### Agitation and Mixing Systems

The MPTeq mixing products include a large variety of agitators designed for the chemical, food and mineral processing industries. These include sizes from lab scale models to Plant/ Production vessels from 0.12 kW portable agitators to 350 kW heavy duty applications.

We endeavour to supply excellent, robust and high efficient agitation equipment. Each mixer and agitator is custom designed to the specific requirements of the application.

Mixer types include:

- Marine Propeller Type – VXP-3
- Pitched Blade Turbine Type – VXT-4
- Saw Tooth Cutter – VXHS-5
- Curved Blade Turbine – VXFT-7
- Concave Blade Disc Turbine – VXDT-8
- Straight Blade Turbine – VXST-9
- Hi-Efficiency Axial Flow – VXHE-10
- Hydrofoil Type Impeller – VXHF-11
- Anchor Type Impeller – VXAN-12



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### **Inline Static Mixers**

Our static mixers are specifically suitable for slurry conditioning duties such as flotation reagent preparation and addition as well as flocculent mixing and addition to thickener and filtration feed slurries.



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### **Side Entry Agitators**

Side Entry Agitators work efficiently where a tank is too large for convenient installation of a top-entering mixer or where head room is severely limited.

The MPTeq side entry mixers are available in a variety of configurations for a wide range of applications including pulp and paper, petroleum, chemical, edible oil and food processing.



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### Horizontal Vacuum Belt Filters

The Horizontal Vacuum Belt Filters are designed for high efficient drying in flexible applications which includes corrosive slurries at varying throughputs. Our careful selection of the required material of construction in each custom designed unit ensures our Horizontal Vacuum Belt Filters are reliable and fit for purpose in each required application.



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### Filter Press

MPTeq offers a range of Manual, Semi-Automatic and Automatic Filter Presses. These are highly efficient and operational friendly machines designed and developed by VMix.



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### **Packed bed clarifiers**

Our packed bed clarifiers are designed to remove solids in SX PLS streams as well as standalone units. The equipment is Custom designed to client's application requirements.

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### **Multi Media sand filters**

Each individual sand filter consists of 5 different filtration layers. This design ensures a high dirt holding capacity with a reduction of multimedia handling.



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### **Attrition Scrubbers**

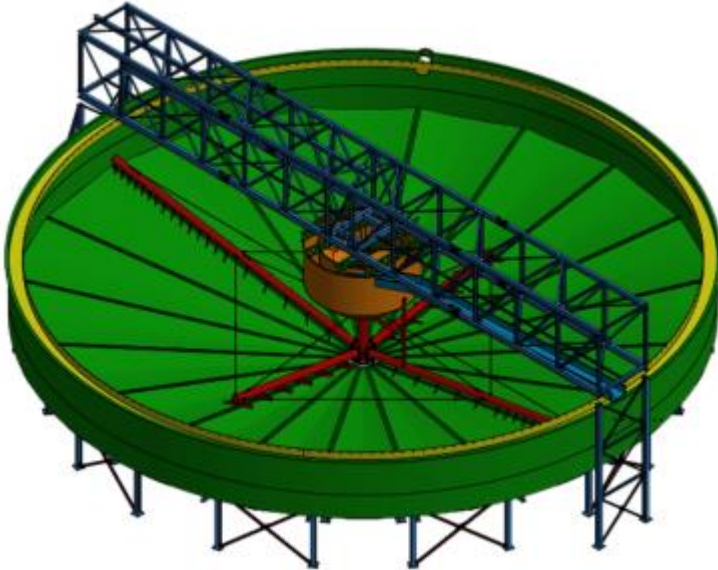
MPTeq has a world leading range of proven attrition scrubbers which are suitable for scrubbing and dissolving hard to dissolve minerals and chemicals as well as removing inactive surface layers from minerals.



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## Thickeners

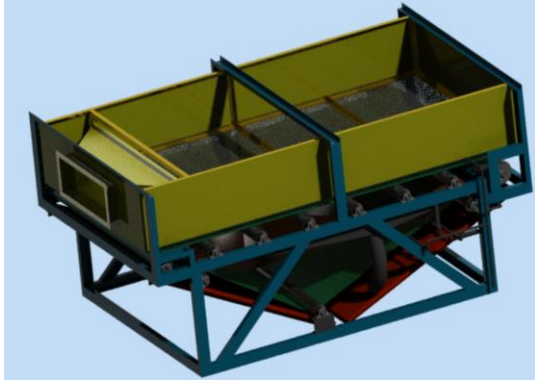
Our proven designed thickeners are robust and reliable. Thickener selections and designs are done in close consultation with our clients in order to ensure we properly understand the requirements of each application. Sizes of our installed base of thickness range from diameter of 1m to 76m.



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## Linear Screens

Linear screen is widely used for trash removal before feeding into the main process. Our custom design varies in sizes and is capable of screening between 150  $\mu\text{m}$  to 2000  $\mu\text{m}$ .



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### **Flocculent and Reagent preparation & Dosing systems**

The MPTeq custom designed flocculent and reagent preparation and dosing systems are designed and fabricated as compact and robust units. The skid mounted flocculent plants are supplied as fully automated units complete with a pre-programmed PLC which is set up to each specific application.



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### **QAV Log washers**

The QAV log washers or 'Rock Washing Machine' is used to break competent clay briquettes and clay lumps. It's ability to remove clay from agglomerated rock and stone makes this product ideal for diamond aggregate. It has proven to be far more effective than rotary scrubbers.



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## Jigs

The Metanza Jigs are new generation designs for a mature, jigging technology. The leading-edge design supports a more effective recovery process and, ultimately, produces a superior concentrate while consistently delivering on lower capital and operational costs with minimum environmental impact.

Metanza Materials Handling designs and supplies new generation density separation solutions that offers the mineral processing industry a progressive approach to a technology that has been used for decades. On offer are a range of PLC-controlled jigs that deliver on low costs, a more effective recovery process, and a higher product yield. These improvements are made possible with the innovative pulse action and a unique product-gate design of the jigging equipment. This is complemented by a host of metallurgical engineering services that include research and development, test-work programs, plant and process design, project financing, commissioning, outsourced operations and maintenance services, and after sales support.

Metanza Jigs can be used to treat the following commodities with opportunities for treating new commodities being explored continuously:

- Coal



- Minerals – gold, iron, manganese, chrome, tin, tantalum, tungsten and colton
- Slags– ferrometals
- Diamonds

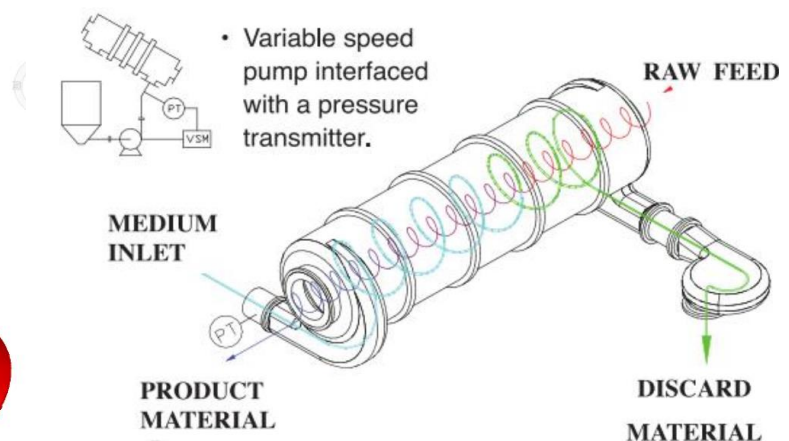
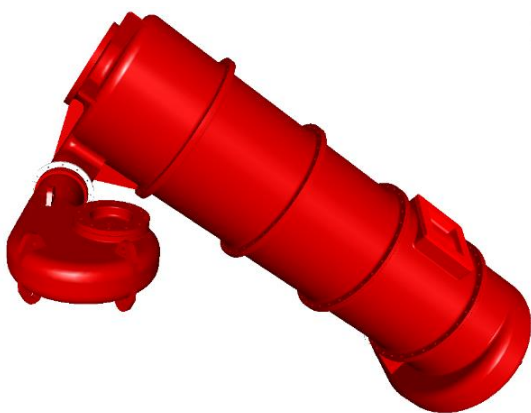


### DEMSEP's

The DEMSEP is a Dense Medium Separation vessel designed to beneficiate feed material sized from 0.5mm to a top size of 150mm, depending on the vessel size selected. The DEMSEP circuit utilises a single circulating medium pump.

The DEMSEP offers a consistent separating density throughout its length and is classified as a zero off-set vessel.

The vessel is capable of treating feedstock with a wide range of product yields. Typically, the vessel has the capacity to treat material with up to eighty percent of the feed reporting to either the sink or float outlets of the vessel.



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## LABORATORY SERVICES

Metanza Metallurgical Laboratories was established in March 2016 to assist clients in the mining and engineering services industries to conduct experimental research, process development and efficiency testing, and related specialised services. The Metanza laboratory combines the depth of mineral processing test work expertise held within Metanza and the breadth of commitment to quality service through high standards of accuracy, reliability and technical excellence.

All aspects of the laboratory are supervised by experienced process engineers who ensure that the test work meets a client's specific requirements, provides a high level of strategic design in selecting process parameters, and delivers a meaningful set of data that will best position the upscaling of the process to deliver effectively. Furthermore, Metanza is developing test work equipment that is PLC-controlled to eliminate operator error and ensure repeatability.

- Laboratory work includes the following:
- Bulk sample preparation
- Milling
- Flotation
- Gravity separation
- Magnetic separation
- Settling tests in support of thickener and clarifier designs
- Attrition tests
- Filter tests



