TremiFlo



EVERYTHING YOU NEED TO KNOW

Installation and operating guide

How to install, set up and run your TremiFlo shaker table for the best mineral recovery.

INTRODUCTION

Welcome to TremiFlo

The TremiFlo shaker table recovers heavy minerals by gravity separation, with precise control over feed, deck angle, water and deck speed. This guide explains how to install, set up and run your table for the best possible recovery.

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Key features

- Rugged steel frame
- Specialised mining mat with two-stage diagonal riffles
- Single-point linkage system
- Clean water pump
- Lightweight deck
- Independently valved stainless steel water manifold
- 220 L water reservoir
- IP66-rated variable speed drive (VSD)

The four key parameters

Feed rate

Feed rate has a large effect on recovery, even though it is often left unchanged. Feeding slowly gives better control over separation. Overfeeding causes riffle packing: crowded riffles on the mat, and mineral lost to tailings.

Deck angle

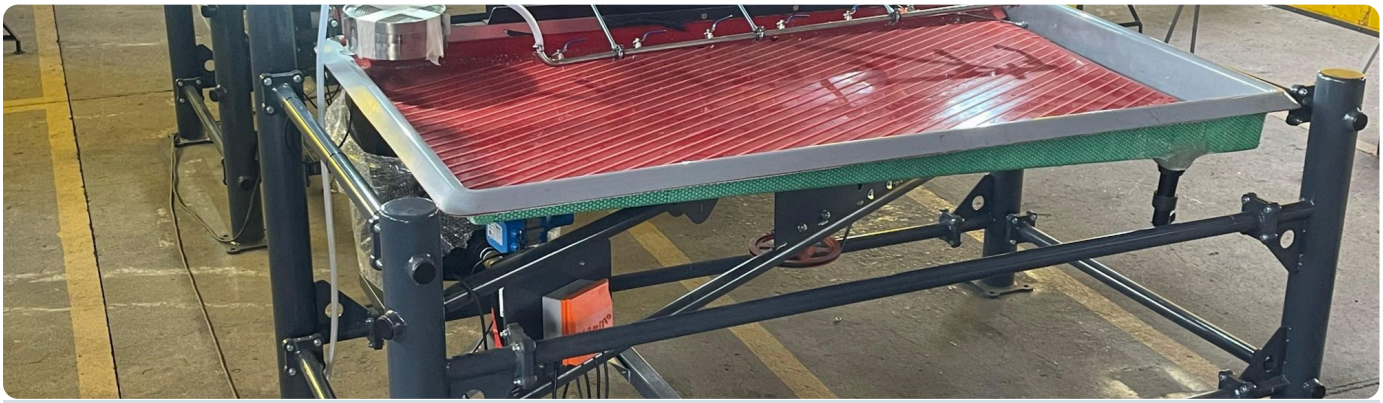
The deck angle controls how strongly gravity acts across the deck. It is set using the holes in the linkage plate, and getting it right is essential for good separation.

Water flow

The independently valved manifold and flexible nozzles let you increase or reduce water and direct it where it is needed, helping minerals separate and move across the deck.

Deck speed and stroke

Deck speed is set on the VSD: turning the dial clockwise increases the frequency and the shaking speed. The stroke of the table is set with the bumper.



SAFETY FIRST

Read before installing or servicing

Review these safety and compliance requirements before you install, operate or service your TremiFlo. Failing to follow site procedures or equipment warnings can cause serious injury, electric shock or damage to the machine.

Electrical safety

Before any electrical work, apply lockout/tagout and verify isolation. Use only certified, earthed circuits, and have all wiring and testing done by a qualified electrician.

Mechanical hazards

Never touch the belts, springs or pulleys while the table is running. The steel frame surrounds the deck to stop people touching or leaning on it; do not reach over the frame while the deck is moving.

PPE

Minimum PPE: hard hat, safety glasses and safety boots. Follow the PPE rules for your site, and wear any additional PPE required by the site risk assessment.

Environment

Install and run the table under a roof, so that direct sunlight does not fall on the mat. Make sure all work areas are well lit.

Regulatory

Comply with the mining health and safety laws that apply where the table is installed (in South Africa, the Mine Health and Safety Act 29 of 1996 and its regulations), and obtain any site-specific permits before starting work. Keep records of inspections and certifications.

BEFORE EVERY START

Check that the deck area is clear, everyone near the table is wearing PPE, and all hands are clear of the deck before you switch on the drive.

INSTALLATION

Preparing the site and frame

IMPORTANT

TremiFlo shaker tables must be installed and operated under a roof and out of direct sunlight.

Foundation preparation

1. Construct a 180 mm reinforced concrete base.
2. Drill 16 holes, 18 mm in diameter.
3. Secure the frame to the base with M16 threaded bar, levelling nuts and chemical anchors.

Frame and levelling

1. Check that all nuts and bolts are tight, especially after transport to site.
2. Use the levelling nuts to make the beam the rollers run on perfectly level. We call this beam the golden highway.

Rollers

1. Make sure the rollers move freely and are not overtightened.
2. The third roller, at the bottom, is an anti-lift device that stops the deck dislodging during transport. Spare third rollers are supplied with the table.

Linkage and manifold position

1. Tighten the linkage to the linkage plate. The table is pre-set at a suitable starting angle for your operation.
2. Set the manifold about 200–250 mm from the deck wall to the nozzle tip, then tighten the pipe clamps. Adjust the nozzles once material is running.



The frame, drive and 220 L water reservoir.



Drive motor, control box and water reservoir.

INSTALLATION CONTINUED

Power, final checks and handover

Power connection

1. The steel frame is designed to house and raise as many of the power connections and electrical components as possible.
2. Confirm the electrical supply (voltage, frequency and short-circuit current rating) with the site electrical team before connecting.

Final checks

1. Carry out a final site inspection: check for obstructions, and make sure PPE is worn at all times on site.
2. Set up exclusion zones and signage, confirm emergency access, and notify the operations and safety teams before running any machinery.

Handover and training

We offer free operator training at our factory in the East Rand of Johannesburg. If you are unsure about any part of the set-up, contact us by email or a WhatsApp video call and we will talk you through it.

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Inspecting the deck during start-up on site.

SET-UP AND OPERATION

Power and deck speed

Starting the table

1. Turn the isolator switch clockwise to power the unit.
2. Make sure all hands are clear of the deck, then turn the middle switch to the right to start the drive.
3. Turn the VSD speed knob clockwise to an initial setting of about 43–48 Hz for the deck's shaking frequency.

> **TIP**
> Turning the dial clockwise increases the frequency and the shaking speed of the deck.



VSD controls: 1 isolator, 2 run switch, 3 speed knob.

Setting your deck: the spanner test

1. Set the VSD to about 45 Hz.
2. Have your assistant place a spanner on riffle no. 5, counting from the front corner of the feed end.
3. While the table runs, adjust the bumper with a 24 mm spanner until the test spanner travels up the riffle quickly and smoothly.



Riffles are counted from the front corner. The test spanner on riffle no. 5 should travel up the riffle in the direction of the arrow.

SET-UP AND OPERATION CONTINUED

Tuning, feeding and monitoring

Adjusting the bumper

The bumper (B) sets the stroke of the deck. Adjust it at the nut (A) with a 24 mm spanner while the table is running.

Fine tuning

Make small VSD and bumper adjustments together with your assistant while timing the test spanner's travel. Aim for the fastest movement before you start feeding material.

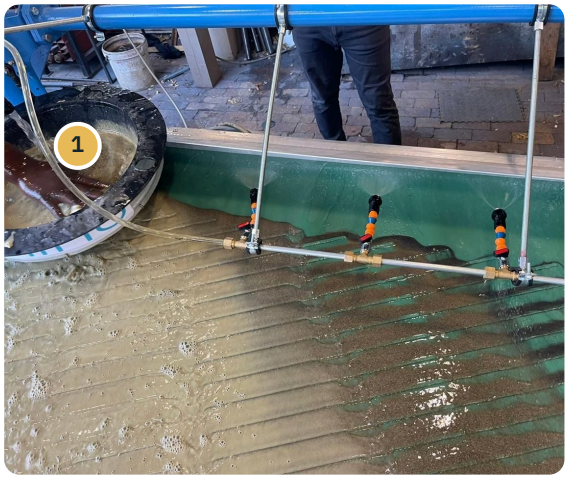


A: adjusting nut · B: bumper.

Feeding the table

1. Your assistant feeds damp material steadily into the sieve (1). Add more as soon as bare TremiFlo mat appears.
2. A heavier water flow is usually needed at the feed point. Remove the white nozzle and open the valve to increase the flow.

> AVOID OVERFEEDING
> Too much feed packs the riffles, and mineral is lost to the tailings.

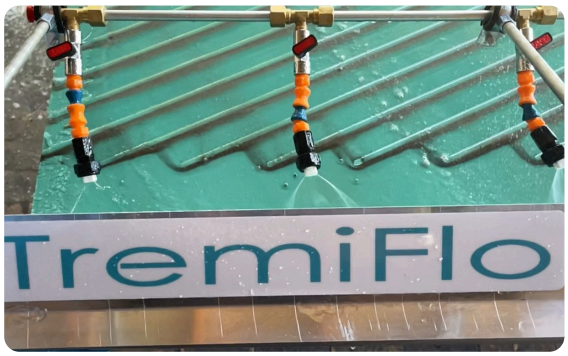


Feeding damp material into the sieve.

Monitor and adjust

Stand on the manifold side to watch the minerals separate.

Adjust the water with the individual valves, and point the nozzles left or right where more or less water is needed.



Independently valved nozzles on the stainless steel manifold.

SUITABLE MINERALS

What can TremiFlo recover?

Shaker tables separate minerals by differences in density, so they are used to recover a wide range of heavy minerals. These are some of the elements commonly recovered with a shaker table.

24 Cr Chromium	26 Fe Iron	29 Cu Copper	30 Zn Zinc	45 Rh Rhodium
47 Ag Silver	50 Sn Tin	51 Sb Antimony	73 Ta Tantalum	74 W Tungsten
76 Os Osmium	78 Pt Platinum	79 Au Gold		

Precious metals are highlighted. Recovery depends on how the mineral occurs in your material and on its particle size.

TEST YOUR MATERIAL FIRST

We recommend a demo run of your sample at our factory, so you can see how your mineral separates before you buy.



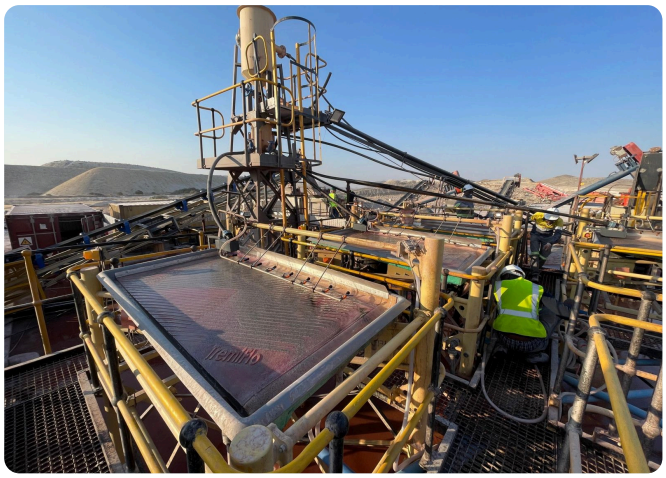
Copper concentrate band forming along the riffles during a test run.

TABLE BANKS

Scaling up with TremiFlo banks



More throughput. Table banks increase the tonnage you can process.



Gravity advantage. An elevated structure lets concentrate, middlings and tailings flow by gravity to their catchment areas.

Support and training

- **Free operator training** at our factory in the East Rand of Johannesburg for every TremiFlo customer.
- **Demo runs on your own material.** Bring a sample and see the concentrate before you buy.
- **Direct technical support** by email or WhatsApp video call from the team that built your table.
- **Spare parts,** including the third anti-lift rollers, manufactured in the same factory.

BOOK A DEMO OR TRAINING
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MANUFACTURER
TremiFlo is designed and manufactured by KFP Rail, trading as KFP Projects.