



KEYHOLE TECHNOLOGY MEETING

November 8-9, 2017 - Winters, CA

Colin Donoahue | Ox Equipment



Ox Equipment Inc.

Ox Equipment is the exclusive North American distributor for German manufactured MTS GmbH Dry Suction Excavation Equipment

Dry suction powerfully excavates without the use of water, and eliminates issues related to slurry disposal as well as overweight loads. The system utilizes proprietary twin-fan technology, which generates over 24,000 CFM, and utilizes a 10" diameter suction hose, which is precisely manipulated via a mechanical Power Arm

Functional side-tipping allows for fast and efficient dumping from the 10 cubic yard spoils container, either directly on-site or into roll-off bins, and allows the excavator to stay on site all day effectively doubling productivity when compared to a hydrovac, or other dry vacuum systems



MTS / Mobile Tiefbau Saugsysteme

MTS was founded in 1998

Based in Germersheim, Germany, with over 5000 m² production facility and employing over 75 full-time staff

MTS supplies suction systems to Europe, Africa and Asia, Australia, Canada and the United States, with MTS manufactured suction excavators operating in over 35 countries

Currently producing over 60 suction excavators per year in various sizes and capacities

Over 600 units in operation today



North American MTS Equipment



Dino 3

- Twin Fan Technology / 24,000 CFM
- 10" Suction Tube with Power Arm
- 10.5 Cubic Yard Capacity / Side Tipping
- 160 or 300 CFM Compressor @ 105PSI

Note: All North American units are up fitted on American manufactured cab & chassis



Dino 2

- Twin Fan Technology / 24,000 CFM
- 10" Suction Tube with Power Arm
- 5.8 Cubic Yard Capacity / Side Tipping
- 160 or 300 CFM Compressor @ 105PSI



City Dino

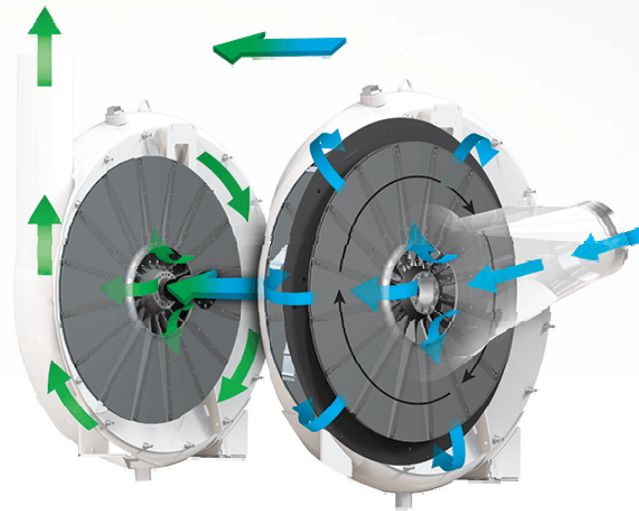
- Twin Fan Technology / 10,800 CFM
- 8" Suction Tube with Optional Power Arm
- 2.6 Cubic Yard Capacity
- 160 CFM Compressor @ 105PSI



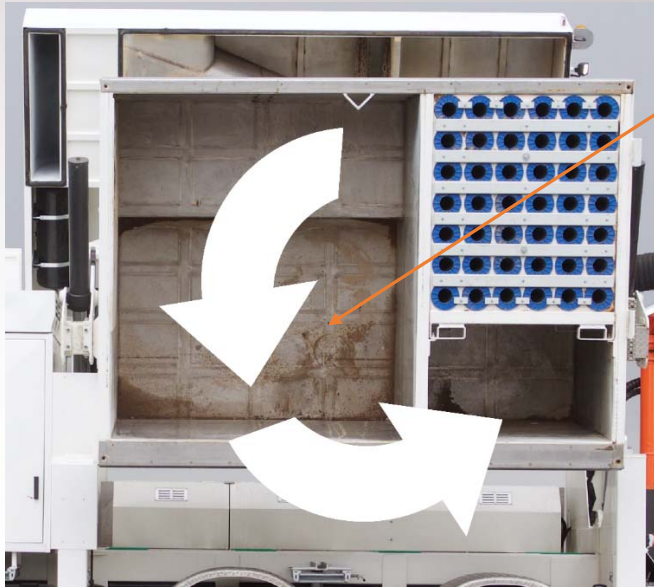
Twin Fan Technology



- Twin Fan System creates 24,000 CFM of air conveyance
- Patented Technology
- Ability to pull materials up to 200 meters horizontally and up to 50 meters vertically



Self-Cleaning Filtration System



3 Stage System

Air nozzles used during automatic self-cleaning filter process



- Automated Jet Pulse System
- 42 special multi-jet cleaning nozzles and air storage tank
- Polyester conical filter cartridge (replaceable)
- Dust falls into lower filter chamber – separates into regular and “fines”
- Self cleaning filters allows for maximum suction at all times – no reductions due to clogged filters
- Ti-15 Filter Efficiency 98% at 4 microns
- Patented 3 stage system
- Large volumes and surfaces together with the shortest airflow route
- 98% of the material is separated and falls in to the container before the reduced airflow reaches the filter system

Power Arm / Mega Arm



Power Arm

- 10 inch diameter hose with 5 flexible joints
- Standard on all Dino 2 & 3 Models
- 180 degree swivel
- Wireless remote controlled



Mega arm

- 32 foot dig tube
- Increased reach
- Optional

Vibrator System



- Suction Hose Vibrator System (Max Flow) eliminates potential clogging issues



Side Tip Dump / Dry Excavation



- Dry material stays on site, eliminating repeated trips to speciality dumping sites
- Contaminated materials are not exposed to water / no ground contamination of surrounding areas with injected water
- Dry material can be reused as back fill material
- Cleaner safer excavation work site
- Dump on site, into a bin, or directly into a dump truck for removal
- Equipment stays on site all day working
- Productivity is effectively doubled



Soft Dig Excavating System



- Soft / Safe digging with Rubber Suction Tube
- Full 10" diameter opening allows for high rates of air conveyance
- Flexible rubber and will not damage utilities



On-board Tooling Options

Air Spade™

Utilizing on-board compressors with either a 150 CFM or 225 CFM nozzle, the Air Spade allows for safe excavations which will not disturb even the most fragile pipe coatings



Pneumatic Power Shovel

Actuated with compressed oiled air, the power shovel gently penetrates harder ground conditions, eliminating utility damages possible with hand shovels



Jack Hammer

Powered by onboard compressor and used to breakthrough paved surfaces



IKE Excavating System



- Used in “All Clear” situations only, outside of the tolerance zone
- Allows for a “mechanical” advantage when excavating impacted / clay soils
- Oscillate or continuous rotation



VERSATILE



Why Dry?

- Eliminates costly wet slurry dumping fees
- Air is safer for excavating around aged or brittle underground plant / no chance of operator error which is possible with high pressure water systems
- Excavated soil can be used as backfill
- Excavated soil is not considered “contaminated” when dry
- When excavating “contaminated” soils, disposal and transfer can be completed using plated trucks, or soils can be left on site
- Eliminates overload issues commonly associated with hydrovac trucks
- Never need to refill with air, unlike hydrovac systems which will run out of water
- Operators and excavation area remain clean, safe and dry
- Dump on site / Stay on site all day / Equipment stays working all day, not traveling to dump sites



Bradley Tanks Inc. / BTI

Bradley Tanks Inc. (BTI) provides environmentally sound waste management and waste disposal solutions to its customers, primarily throughout California

BTI is a certified hazardous and non-hazardous waste transporter using end dumps, rocket launchers, as well as a the first fleet of MTS Dino dry suction excavation equipment in the United States

BTI also has an extensive fleet of equipment for rent; including frac tanks, low pro bins, vacuum boxes, 20 CY and 40 CY bins and mud tanks

BTI is a WMBE company (Women & Minority Business Enterprise) and was awarded 2016 Pacific Gas & Electric Gas Operations Supplier of the Year





BTI & PG&E / Dry Suction Excavation Program

- BTI named 2016 Pacific Gas & Electric Gas Operations Supplier of the Year
- BTI supplies PG&E with frack tanks, roll off bins and all transportation and logistical issues related to Hydrovac slurry disposal throughout North California service area
- PG&E mandated reductions in costs related in slurry disposal
- Increased adoption of dry vacuum excavation equipment identified to mitigate costs related to hydrovac slurry disposal
- Current dry vacuum equipment unsuitable to larger excavations / not comparable to hydrovac productivity / unable to achieve cost savings required
- Evaluation of MTS Dino-3 commenced early 2017 with Ox Equipment
- Purchased and deployment of first unit March 2017 by BTI
- Subsequent Dino-3 units deployed by BTI
- Additional Dino-3 & Dino-2 units deploying early 2018
- Significant costs savings established with dry vacuum excavation program for PG&E



PERFORMANCE DRIVEN.



Questions?



**ADVANCED
EXCAVATION
TECHNOLOGY**