



UNITED STATES DEPARTMENT OF DEFENSE

HUMANITARIAN DEMINING R&D PROGRAM

Orbit Screen

Self-powered mobile screener that continuously sifts materials, gently separating larger, mine-like objects from soil

The Orbit Screen is a stationary sifter that can be used to clear landmines by continuously sifting to separate larger materials from a soil mix. Three different screen sizes supplied with the Orbit Screen have mesh openings of 3/4 inch, 2 inches, and 3 inches. According to the materials being screened and the density of the soil, the screens can easily be changed to separate small soil particles from larger bulky items, such as mines and unexploded ordnance.

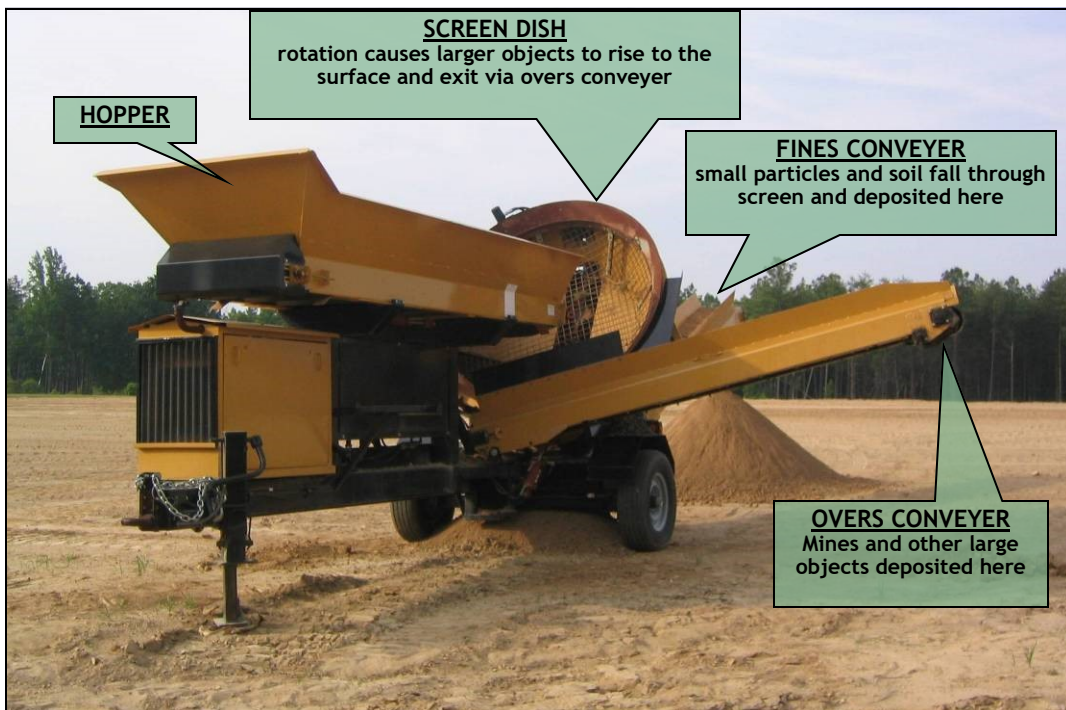
STATUS

Afghanistan—Two screens are under evaluation with the HALO Trust. More than 209,800 m³ of contaminated soil have been sifted with 801 mines and 486 pieces of stray ammunition recovered.

Mozambique—From January 2009–December 2014, HALO used the Orbit to sift 196,000 m³ of contaminated soil while finding 338 AP mines and pieces of stray ammunition. Mozambique achieved mine safe status in early 2015.

Iraq—The Mines Advisory has used the Orbit Screen to sift over 101,100 m³ of contaminated soil while clearing 90 mines and UXO during its ongoing evaluation.

Ecuador—Ecuador Army Demining Command completed an evaluation in 2012. More than 34,000 m³ of rocky river mud were sifted and the areas released to civilian use.



An armored loader dumps mine-suspect soil into the hopper. A conveyor belt at the floor of the hopper feeds the soil into the screen dish. Once in the rotating screen dish, the soil rolling over itself allows larger and lighter particles to rise to the surface. The larger particles are deposited onto the overs conveyer where a trained explosive ordnance disposal operator can sort through the pile to identify dangerous items. The processed soil is fed out the fines conveyer free of landmines and other items larger than the screen's mesh openings.

Cutting-Edge Solutions
DEMINING TECH

MINE CLEARANCE



FEATURES

- Principles of material flow effect an easy, quick and natural particle size separation
- Can be used continuously on any material, including rocks up to 100 lbs.
- Hydraulic stabilizers for instant leveling
- Easy to set up, easy to operate, can change screens in minutes
- Can be fitted with optional remote control

Resistant to Plugging: Plastic, paper, sticks, roots, weeds, and grass rise to the surface of the turning material and quickly exit the screen.

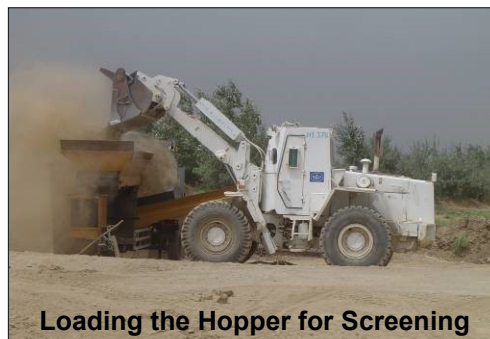
Self-Cleaning: During operation the screen's mesh holes rotate, continually exposing a new side of the hole to the flowing materials. This action helps by wiping off some of the moist materials, small sticks, grass or weeds etc. from the wire.

Transport: Can be accomplished with every day equipment. The plant is easily transported on streets, as well as around the work site.



APPLICATIONS

- Sifting for AP mines or UXO in various soil types
- Optional "Grizzly" screens placed over the material hopper can screen out large heavy objects or screen for AT mines
- Can be loaded directly with contaminated soil using armored loaders or excavators



Loading the Hopper for Screening



Optional Grizzly Pre-screener

SPECIFICATIONS

Orbit Screen Model 68 Diesel

Operating Weight	3,518 kg (7,740 lb)
Engine Type	Yanmar Water Cooled Diesel 3TNV828
Net Engine Power	19.4 kW (26 hp)
Length x Width x Height	10.3 x 2.3 x 2.9 m (33'10" x 7'6" x 9'6")
Axle Weight	2,773 kg (6,100 lb)
Screen Drive	Hydraulic—Variable Volume
Conveyor Drive	Hydraulic—Fixed Volume
Hopper Feeder Drive	Hydraulic—Variable Volume
Hopper Feeder Capacity	1.38 m ³ (1.8 yards ³)
Hopper Loading Height	2.4 m (7'8")
Screen Diameter	1.8 m (72")
Mfg. Nominal Rating	38.2 m ³ (50 Cubic Yards/Hour)
Screened Material Discharge Height	(10'-11')
Overs Material Discharge Height	(6'6")
Hitch Type	2 5/16" Ball or Pintle Ring

US Army RDECOM CERDEC NVESD
 info@nvl.army.mil
 10221 Burbeck Road
 Fort Belvoir, VA 22060-5806 USA
 www.humanitarian-demining.org