Technical Information Sheet

1. Name of technology	Gravity separator for wastes
2. Type of technology	A high-precision, high-capacity gravity separator equipped with special nets; Sorts the material being processed into heavy material, light material, and quality sand using differences in specific gravity; in particular, thickness detection allows the achievement of unparalleled performance. Depending on the materials being sorted, the sort parameters are as follows: Deck angle, vibration frequency, blast volume, and specification of net The newly developed net has significantly improved accuracy and capacity.
3. Description of technology	
Objective, application, characteristics, delivery record, and price of technology	A high-precision, high-capacity gravity separator that uses differences in specific gravity **[Objective and application of the technology]** Industrial waste often has to be crushed during the intermediate treatment process. Our technology can be used to process the fine particles that are generated in this process. Our system is also able to process fine-grained sand in the treatment of noncombustible rubble caused by earthquake disasters. In specific terms, when waste is subjected to mechanical sorting (such as in air or magnetic separators), or material that requires it is subjected to manual sorting, residues smaller than around 50 mm are generated. Although, these residues have hitherto been subject to permanent disposal, our machine is capable of sorting them, thereby dramatically improving the recycling rates for construction waste materials. The high-precision, high-capacity sorting of fine-grained materials - which cannot be processed by conventional mechanical or manual methods - has emerged as a major use of this technology. **[Characteristics of the technology]** The machine consists of a separation deck, deck vibration mechanism, deck air blowing mechanism, material feed mechanism, and dust collection mechanism. The elliptical rotation of an eccentric shaft generates the deck vibration and an external blower supplies air. Whilst undergoing agitation, the materials being processed are separated using careful manipulation of vibrations and air current. Although exact values are not known due to the materials processed being extremely varied in size and shape, the machine generates various different vectors, with a maximum acceleration of around 2.0 G and a maximum superficial air velocity of several m/s. This technology also detects differences in the thickness of the materials being processed, thereby improving sorting performance. The technology provides far greater precision than other air-table type gravity separators. **[Delivery record]** 260 units have been installed in waste disposal facilities (as of the end of December 2012) Machines have been shipped throughout Japan - with an even distribution - from Hokkaido to Kyushu, but not overseas. It is important that the value of this technology be quickly recognized abroad. **[Price and other inquiries]** ¥8 million to ¥30 million (including ancillary equipment such as dust collectors) Example: Mixed construction waste material residues (incombustible rubble fragments smaller than 50 mm); gravity separator SHB-25 with a capacity of 10 m^3/hour: ¥30 million/unit

4. Classification of technology	
(1) Applicable fields	Municipal solid waste treatment, Industrial waste treatment (including treatment of incombustible rubble caused by earthquake disasters), Recycling (material and thermal)
(2) Target waste	Waste plastic, Plastic bottles, Food waste/ raw garbage, Construction waste (such as incombustible rubble caused by earthquake disasters), Electric home appliances, Fluorescent tubes, Electronic products, Cellular phones, Automobiles, Waste tires, Other(trash from factory cleaning (zero emission))
(3) Services provided	Plant construction, Sales of machinery and equipment, Technical cooperation/ licensing, Consulting
5. Countries to which this technology can be provided	All countries in Asia without import restrictions, Middle Eastern regions, Canada, Australia, and North America
6. Keywords	Sorting, recycling, waste materials, industrial waste, municipal waste
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