

Going global from Toyama!



M-Dia strives to be a comprehensive environmental company by using our unique technology to make recycling machines.



“Mottainai!” Into Resources
M-Dia & Co., Ltd.

General Information Catalog

“Mottainai!” Into Resources

At M-Dia, we develop our own technologies and create new possibilities through the circulation of resources.

Introduction

Our company operates on the corporate philosophy of ““Mottainai!” Into Resources”.

It is our mission to shape the world with recycling so that we can leave an even better environment for future generations.

Changing the world as a comprehensive environmental company.

Becoming a company that contributes to society by solving the world’s environmental problems.

These are our main hopes.



Hiroyoshi Mori,
Representative Director

⊕ M-Dia Products



Pg. 3: Separator/Shredder Eco-Separates



Pg. 5: Cutter Eco-Cutter 900 (hydraulic)



Pg. 5: Cutter Eco-Cutter 900e (electric)



Pg. 6: Cutter Eco-LoopCutter (hydraulic)



Pg. 7: Substrate peeler Eco-Collector



⊕ Business Overview

Selling and manufacturing recycling machines

At M-Dia, we deal in machinery/equipment that recycle mixed material waste such as optic cables, plastic/tire waste, cardboard tubes, automobile parts, etc..

Building a recycling-oriented society and preserving the global environment are the goals of M-Dia. We can propose more effective plants than ever based on our prior experience and achievements.

Recycling

At M-Dia, we engage in the export of recycled products, mediation of recycling material transactions, and development of secondary products made from recycled materials.

Recycling Achievements

- Special plastics (factory-produced goods) recycling
- Mediating recyclers and makers



Inspection, repair, and modification of industrial machines and machine tools

At M-Dia, our highly qualified staff inspect, repair, and modify a variety of industrial machines, machine tools, food machines, and other products.

Our work is not limited only to Toyama. Throughout Japan, we engage in the inspection and repair of a wide variety of machinery from hydraulic machines (presses, molders, cutters) to industrial machines and machine tools for many fields such as metalworks, pharmacy, papermaking, electronic equipment, scrapping, and more

If necessary parts are not available because they are out of production or made overseas, we can respond to client needs in a timely manner by developing and producing them ourselves.

Inspection, Repair, Improvement Achievements

- All types of hydraulic machines (presses, etc.)
- Crushers, shredders, transport devices (conveyors, etc.)
- Injectors, concrete molders
- Various types of general-purpose machine tools (drill machines, millers, lathes, saws)
- Industrial machines, food machines



Hydraulic 400 t Press



Hydraulic 1,200 t Press



Separator/Shredder Eco-Separates Series

Domestic/overseas
patents obtained

Low-cost shredders that can separate and handle mixed materials into any size



MTR-850S
(W1,959mm×L2,370mm×H2,066mm)



MTR-400S
(W1,240mm×L2,645mm×H2,050mm)



MTR-1450S
(W2,991mm×L3,500mm×H3,150mm)

Configuration

Product name	Dimensions (mm)	Opening width (mm)	Weight (t)
MTR-250S	W800×L1,385×H1,350	W222×L525	1.2
MTR-400S	W1,240×L2,645×H2,050	W414×L710	4.5
MTR-850S	W1,959×L2,370×H2,066	W798×L762	7
MTR-1450S	W2,991×L3,500×H3,150	W1,470×L710	13

- * Product configuration and specifications may change without notice.
- * Dimensions and weight may change according to placement or attachments.
- * Dimensions do not include hoppers and conveyors.

Processing Volume Referral

Product name	Motor power	Processing speed (resin)	Processing speed (waste tires)
MTR-250S	20 HP	0.02~0.2t/H	
MTR-400S	50 HP	0.1~1.0t/H	
MTR-850S	70 HP	0.2~2.0t/H	0.2~1.5t/H
MTR-1450S	120 HP	0.4~4.0t/H	0.3~2.5t/H

Processing speed can fluctuate greatly depending on the operation method and the shape, nature, particle size, and quality of the object.

Rate of Separation

Object	Operation condition	Separation Rate
Waste tires	250 mm or less, φ20 screen	95%
Optic fiber (drop type)	300 mm or less, φ10 screen	95%
Wooden pallets	500 mm or less, φ25 screen	99%

- * Separation rate may decrease depending on shape and characteristics of the object.
- * Combustion may occur after separation/shredding depending on the material/physical properties of the objects.

Optional Functions

- Reverse rotation mechanism
- Rotation speed control and power saving via inverter control
- Input amount control via heavy load detection
- Abrasion-resistant steel frame
- Dust collection duct
- Addition of emergency stop switches
- Hopper chute production based on machine layout
- Special control panel production (programmable control panels, etc.)
- Soundproofing
- Atomizer
- Remote diagnosis

You can consult us regarding any additional options.

- * Product configuration and specifications may change without notice.
- * Values listed in the catalog may vary depending on usage conditions and are not guaranteed.

Example Installation Eco-Separates with attachments



MTR-850S type example installation
(Required dimensions: W: 12,500 mm x D: 3,400 mm x H: 3,800 mm)

Ancillary equipment

- Input conveyor
- Input hopper and output chute
- Output conveyor
- Suspended magnetic sorter and mount

Examples of separation and shredding

Optic cables



Indoor optic cables (drop type)

Iron core + Resin, Optic fiber

Waste tires



Waste tires

Rubber chips + Iron

Circuit boards



Circuit boards

Resin, etc. + Iron

Wooden pallets



Wooden pallets

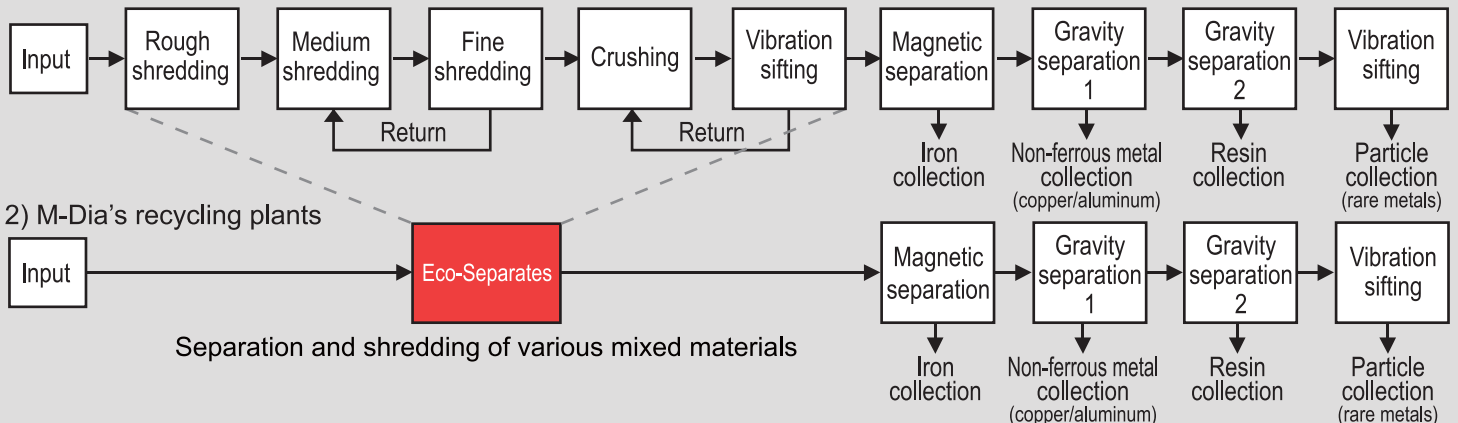
Wood chips + Nails

Features

- Uniaxial shredder **that excels at separating materials.**
- **Processing objects of various shapes and materials** with hammer, scraping, shearing, and separation.
- Improved rotor function **even without a pusher.**
- Individual blade replacement **allows for reduced maintenance costs.**
- Installing a simple system enables separation and crushing, **saving space, and reducing facility costs.**
- Easily replaceable screen **determines the size of materials after shredding.**
- Easily adjustable distance between the rotary and fixed blades.

Eco-Separates Separator/Shredder vs. Other Shredder

1) Other company's recycling plants



Separator/shredder Precautions for operation

- Casting, reinforcing bars, steel plates, or other block-type metals, and natural stones
- Metal (iron) fragments or rods that exceed about 5 mm in thickness

Inputting the following materials may drastically reduce the blade's lifespan:

- Soil, sand, concrete blocks, glass, FRP, etc.

* Some items may be subject to legal restrictions even if shredding is possible.

* There is a possibility of combustion or explosion depending on the nature of the processed material. Some items may require a fire extinguishing equipment.

Exceptionally sharp cutter capable of consecutive cutting

Standard cutting machine model

Eco-Cutter 600



- **External dimensions:** Width: 1,479 mm x Depth: 1,632 mm x Height: 2,527 mm
- **Weight:** 3.3 t (excluding the hydraulic unit)
- **Maximum cutting power:** 42 t (21 Mpa/hr)
- **Blade width:** 780 mm
- **Effective blade stroke:** 250 mm * Changeable
- **Hydraulic tank capacity:** 400 L (VG46 or its equivalent is required)
- **Hydraulic Pump Motor Capacity:** 11 kw 200 V
- **Stroke Speed:** Up: Approx. 7 sec./stroke (for a 250 mm stroke)
Down: Approx. 7 sec./stroke (for a 250 mm stroke)
- **Conveyor:** Length: 900 mm, Width: 600 mm

Reliable, high-powered cutter.

Eco-Cutter 900



- **External dimensions:** Width: 1,579 mm x Depth: 1,791 mm x Height: 2,515 mm
- **Weight:** 4 t (excluding the hydraulic unit)
- **Maximum cutting power:** 64 t (21 Mpa/hr)
- **Blade width:** 1,080 mm
- **Effective blade stroke:** 250 mm * Changeable
- **Hydraulic tank capacity:** 400 L (VG46 or its equivalent is required)
- **Hydraulic Pump Motor Capacity:** 11 kw 200 V
- **Stroke Speed:** Up: Approx. 7 sec./stroke (for a 250 mm stroke)
Down: Approx. 7 sec./stroke (for a 250 mm stroke)
- **Conveyor:** Length: 990 mm, Width: 900 mm

Electric Type Cutter. Quiet, and space/energy-efficient

Eco-Cutter 900e



- **External dimensions:** 1,579 mm x Depth: 1,722 mm x Height: 3,110 mm
- **Weight:** 5.5 t
- **Maximum cutting power:** 64 t
- **Blade width:** 1,080 mm
- **Effective blade stroke:** 220 mm * Changeable
- **Motor capacity:** 200 V, 7 kw servomotor x 2
- **Conveyor:** Length: 990 mm, Width: 900 mm
- **New functions:** Comes equipped with a user-friendly touch panel.
Allows you to set individual speeds for conveying/ascending/-descending/multi-time cutting.

Features

- Cuts hard-to-cut materials such as aramid fiber (used in bulletproof vests).
- Continuous automatic inputting enables cutting in large quantities.
- Four places for blades are available and cost-saving since each blade can be polished individually.
- The contents of cut objects can be taken out since the cross section is not crushed after cutting.

Optional Functions

- Conveyor extension, Cold district specifications (excluding electric types)
- Indicator lights, Transport devices, Work holding roller installation
- High-speed specifications, Safety devices, Air cylinder work holder
- Dispenser function, Remote diagnosis function

You can consult us regarding any additional options.

* Product configuration and specifications may change without notice.

* Values listed in the catalog may vary depending on usage conditions and are not guaranteed.

Cutters Eco-LoopCutter

More than just a cutter

Cutter for ring-shaped (loop-shaped) cables

Eco-LoopCutter



■ External dimensions:	Width: 1,400 mm x Depth: 2,190 mm x Height: 2,361 mm
■ Weight:	2.5 t (including the hydraulic unit)
■ Maximum cutting power:	25 t (21 MPa/hr)
■ Blade width:	300 mm
■ Effective blade stroke:	300 mm *Changeable
■ Hydraulic tank capacity:	160 L (VG46 or its equivalent is required)
■ Hydraulic pump motor capacity:	5.5 kw 200 V
■ Stroke Speed	Up: Approx. 2 sec./stroke (for a 300 mm stroke) Down: Approx. 3 sec./stroke (for a 300 mm stroke)



Cutting



The cross section is not crushed after cutting.



Cutting



Features

- One single blade is capable of cutting both paper and thin iron plates.
- Loop (ring)-shaped cables can be cut in large quantities.
- The contents of cut objects can be taken out since the cross section is not crushed after cutting.
- Aramid fiber (used in bulletproof vests) can be cut.
- A foot switch allows for even easier cutting.
- Four places for blades are available and cost-saving since each blade can be polished individually.

Optional Functions

High-speed specifications, Cold district specifications, Indicator lights
Special work holder, Transport devices, Remote diagnosis function
Exchange of operation switch, Safety devices

You can consult us regarding any additional options.

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* Values listed in the catalog may vary depending on usage conditions and are not guaranteed.

Cutters Precautions for operation

The following items cannot be processed:

- Casting, reinforcing bars, steel plates, or other block-type metals, and natural stones
- Metal (iron) fragments or rods that exceed about 5 mm in thickness

* Some items may be subject to legal restrictions.

* There is a possibility of combustion or explosion depending on the nature of the processed material. Some items may require a fire extinguishing equipment.

Cutting the following materials may drastically reduce the blade's lifespan:

- Soil, sand, concrete blocks, glass, FRP, etc.

Substrate peeling machine Eco-Collector

Patented

A peeling machine that instantly removes only chips from a circuit board



KBHS600 (single-side peeling type)
(W: 970 mm, L: 2,000 mm, H: 1,115 mm)

- **External dimensions:** Width: 970 mm x Depth: 2,000 mm x Height: 1,115 mm
- **Weight:** 1 t
- **Motor capacity:** 200 V 4 kw

Features

- Mounted chips are removed from waste circuit boards.
- Almost none of the mounted parts (chips) remain on the board after peeling.
Improved recovery rate of precious metals.
- Peeled parts (chips) are less damaged than by other machines, so it's easier to sort out them.
* Their undestroyed forms make it easy to be sorted out by AI-driven image recognition or wind power.
- * Target board size is 200 mm x 300 mm with a thickness of 1-2mm (not including mounted parts).
- * Substrates that are wider than the conveyor (600 mm) and small ones that are less than 200 mm in both length and width cannot be processed.



Pre-peeling substrate



Peeled substrate (board)



Removed parts (chips)

Optional Functions

Conveyor extension Transport devices Safety devices
Pedestal extension Indicator lights Remote diagnostic functions
Dust collection duct, soundproofing

You can consult us regarding any additional options.

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Substrate Peeler Precautions for operation

Inputting the following materials may drastically reduce the blade's lifespan:

- Circuit boards that mount iron or stainless-steel parts
- Remove batteries from boards before processing them.

Products

Module (IoT technology) Improving safety, security, and productivity

Product Technology

Machines can undergo remote diagnoses and operating status is visualized by attaching the modules of M-Dia.

Basic Information Screen



Remote Diagnosis!



Visible operating status!



Remote stop!

Machine Specifications

Function type	Function name	Function description
Status Display	1. Basic Information Screen	<ul style="list-style-type: none"> Displays the status of the machine. Machine ON/OFF, emergency stop ON/OFF, breakdown, etc. Displays observed values of the machine. (various measurements, operating rate, operating time)
	2. Status History Screen	Displays the times when the machine turned ON/OFF, emergency stops ON/OFF, and breakdowns occur and recovery.
	3. Status History Download	The status history described above can be downloaded and saved. (The download file is in CSV format.)
Remote Diagnosis	Notifies the time for replacement of consumable parts (1. Basic Information Screen)	The times for blade replacement, grease injection, etc. will be shown in the notification field.
Remote Stop	Remote Stop (1. Basic Information Screen)	The machine can be stopped remotely via the Status Display Screen. Be sure to ensure safety before stopping the machine.
Other	Changing Data Update Timing (4. Settings Screen)	The time interval (polling interval) at which machine data is sent from the IoT Module to the cloud server can be changed.
	User Management (4. Login Screen)	IDs and passwords to log in to each machine can be set.

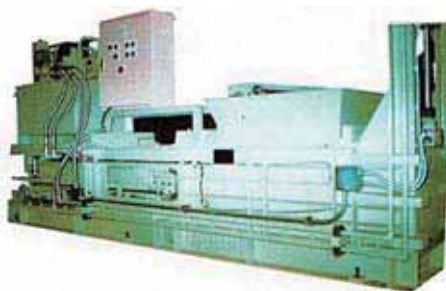
* Product configuration and specifications may change without notice.

Roller Mill (patented)



External dimensions
W: 900 mm x D: 2,000 mm x H: 1,300 mm
Capable of shredding glass wool used in refrigerators.

Chip press



External dimensions
W: 3,250 mm x D: 600 mm x H: 1,990 mm
Output dimensions
W: 400 mm x D: 300 mm x H: 400 mm
Compresses chips and beverage cans into cube-shaped blocks.

Sharp Press



External dimensions
W: 1,000 mm x D: 1,600 mm x H: 3,000 mm
Capable of cutting gas cylinders.

* Product configuration and specifications may change without notice.

* Values listed in the catalog may vary depending on usage conditions and are not guaranteed.

⊕ Sale, maintenance, and repair of used machines/foreign-made injection molding machines.

We sell used but still functioning machines as well as foreign-made environmental machines and injection molding machines.

M-Dia also engages in the repair, inspection, and improvement of these machines.

In addition to the above-listed areas of work, we also handle machines made by other companies.

Equipment Summary

Machine tools (excerpt)

Table-type boring machine	Toshiba Machine: BTD-200QH X1500×Y1200×Z700×W400	1 unit
Bed-type CNC vertical milling machine	IWASHITA INDUSTRIAL: NC500S X1000×Y500×H600	1 unit
Ram-type general-purpose milling machine with horizontal milling attachment	ROKU-ROKU SANGYO: RUM-5 X1250×Y750×H400 with 3D linear scale	1 unit
1600 radial drilling machine	Hotaka Sangyo: HR-1600S Drilling capacity φ50, arm length 1600mm	1 unit
Keyway milling machine	Takara Machines: TK-50	1 unit
CNC/Precision lathe	DAINICHI KINZOKU KOGYO: DLX65×200 type, maximum working dimensions: φ650×2000L	1 unit
600 lathe	Overseas made: Maximum working dimensions: φ405×750 L	1 unit
Precision surface grinding machine	Kuroda Precision Industries: JK-156 ATD,TYPE II Maximum Working Area: L1550×W600×H400	1 unit
Bending press	Amada: RG-50 2m 50 t	1 unit
Hydraulic press	Sato Kogyo: 500 t	1 unit
Corner shear	Amada: CS-220 220mm×220mm 3.2 t	1 unit
Shearing	Amada: M2545 Thickness: 4.5mm×2500mm	1 unit
Saw board	Amada: H-250SA	1 unit
Band saw	Amada: VA-400	1 unit
Accordion-style painting booth	Andex: Merit BM-51HS	1 unit

Small machine tools

Desktop drilling machines	3 units
Tapper	1 unit
Belt sanders	2 units
Bending roll	1 unit

Welding machines (excerpt)

Semi-automatic welding machines	1 unit
Plasma cutting machines	1 unit
Argon welding machines	1 unit
Arc welder	1 unit

Transport Devices

Overhead traveling crane	5 t	2 units
	2.8 t	1 unit
Truck equipped w/crane	2.8 t	1 car
Forklift	1.5 t	1 unit
Pallet jack	2.5 t	1 unit

Company Overview

Company Name: M-Dia Co., Ltd.

Representative Director: Hiroyoshi Mori

Locations: Headquarters

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Tokyo Office

5F Tokyo Toyama Kaikan Bldg., 5-1-3 Hakusan, Bunkyo-ku, Tokyo 112-0001

Tel: +81-3-3816-3378

Founded: June 1979

Established: November 21, 2005

Capital: ¥30 million

Business Overview: Selling and manufacturing recycling machines

Recycling

Inspection, repair, and modification of industrial machines
and machine tools

Clients: Toyota Motor Corp. Group / Toyota Tsusho Corp. Group / Hitachi Ltd. Group

Panasonic Corp. Group / Fuji Electric Co., Ltd. / Nomura Kohsan Co., Ltd.

Sumitomo Metal Mining Co., Ltd. Group / BICCAMERA INC. Group

Fujikura Ltd. Group / Furukawa Electric Co., Ltd. Group

JX Nippon Mining & Metals Corp. Group / Sumitomo Electric Industries Ltd. Group

Sekisui House Ltd. Group / Sony Corp. Group

License Applications: Machinery and Equipment Installation Permit (Transportation-28) No. 14962

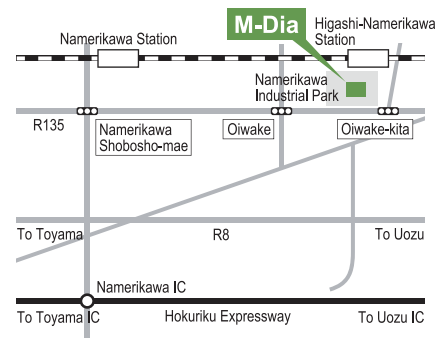
Machine Tool Business License (No. 501100007462)

Industrial Waste Collection and Transportation Permit (including transshipment and storage) Permit No. 01617184235

Japan Importer/Exporter Standard Code (Code No. P0013E590000)



Head Office Buildings



Awards/Patents/Trademarks

All patents, trademarks, and awards acquired by M-Dia

Japanese Patents/International Patents

Japanese Patent: No. 3029620

Japanese Patent: No. 5713252

US Patent: No. US6,481,650B1

Japanese Patent: No. 6554454

Chinese Patent: No. 120494

Japanese Patent: No. 5713253

Korean Patent: No. 10-0677868

Trademark Registration in Japan and China

Japan Registration No. 5447570

Japan Registration No. 6186193

Japan Registration No. 5474701

China Trademark Registration No. 11320462

Japan Registration No. 5397721

China Trademark Registration No. 11320460

Rewards Received

- Toyama Prefectural Federation of Societies of Commerce and Industry Chairman' s Award at Excellent Manufacturing Company Award
Sponsored by Toyama Prefectural Federation of Societies of Commerce and Industry
- Monozukuri Grand Award at the 1st Toyama Prefecture Manufacturing Award
Sponsored by Toyama Prefecture
- EOY 2012 Japan
1st Tokai/Hokuriku Tournament "Entrepreneur Award" in Challenge Spirit Category
Sponsored by ShinNihon LLC
- The 1st Small/Medium Enterprise Genki Toyama Award in the Small/Medium Enterprise category
Sponsored by Toyama Prefecture
- Excellence Award at Environmental Awards
Sponsored by National Institute for Environmental Studies
- The Small and Medium Enterprise Agency Director' s Award at Excellent Environmental Equipment Award
Sponsored by the Japan Society of Industrial Machinery Manufacturers



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Shaping Trust and Security
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