

# Serve Your Future With Foresight

# Our Principle

ENDO KOGYO supplies our products with customer satisfaction in pursuit of being successful company which provides user-friendly and eco-friendly machinery.

Our persevere development and innovation will predict a change of the world and keep us at the cutting edge of Industry-wide trend cooperating with all our business partners.



# Material handling equipment

P02-P03 ..... Spring balancer P04-P05 ..... Air hoist P12..... Air balancer

P12.....Self lock

#### **Environmental machine**

P08-P09......Uniaxial crusher / Biaxial crusher

# **Power Supply equipment**

P06-P07..... Cable reel P13..... Hose reel P13..... Slip ring

# **Industrial machine**

P10-P11..... Circular sawing machine





# ASSEMBLY FACTORY

AIR TOOL BALANCER

Air Tool Balancers contribute to reduce workers' burden of handling tools in assembly factories.



# **AUTOMOTIVE FACTORY**

**SPRING BALANCER** 

Spring Balancers are utilized to decrease workers' fatigue for handling heavy welding guns.





# **AUTOMOTIVE ASSEMBLY LINE**

SPRING BALANCER

The wide range of applications is provided for suspending Nut Runners, Welding Guns, Cables for Factory Robots, etc.

Product guidance

# Energy-less Equipment with ZENMAI (spring)

SPRING BALANCER is designed with the balancing mechanism. Tapered Drum provides the steady spring torque movement and enable to lift up / down by hand without difficulty. Workers can handle Electric tools, Air tools, Welding guns, etc. with minimal power, and it contributes to more efficient work and reduction of workers' fatigue.

# SPRING BALANCER

#### Standard type EWF / EWS / EW series

Multipurpose type for various work places:

- Lifting Tools and Materials
- Cable lifting for Factory robots
- ▶ Balancing for any equipment



#### Light Capacity type EK/ERP series

For lifting light tools:

Lifting Electric screwdriver, etc.



#### Long Stroke type ELF series

For attachment on high-ceiling area:

- Lifting Tools and Materials
- Cable lifting for Factory robots
- ▶ Balancing for any equipment

# Heavy Capacity type ETP series For lifting heavy tools or

Lifting Nut runners

Auxiliary power for Large size doors



# AIR TOOL BALANCERS

Both hose reeling and balancing function are provided to organize air tools and hoses.

Air Tool Balancer ATB series

Tool Hose Balancer THB series





#### TORQUE REEL

Long stroke and Ratchet gear system allow suspending any tools or equipments.







# **SHIPPING OPERATION**

AIR HOIST EHL-025TS

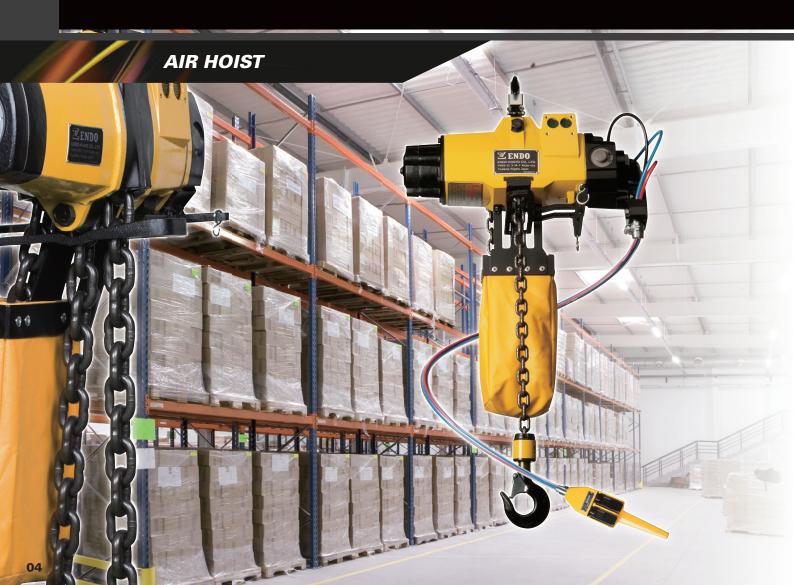
Air hoist is applied to lifting heavy load in shipping operation.



# **CNC MACHINING CENTERS**

AIR HOIST EHL-025TS

Air hoist lifts heavy materials and carries to the position where you want.





# **MULTILEVEL WAREHOUSE**

**AIR HOIST** 

Air hoist gives easy transfer of the stocks carried out from the multilevel warehouse.

Product guidance

# NEED FOR QUICK TASK

AIR HOIST has simple mechanism using compressed air. With its advantages, high-speed lifting and anti-electrical operation, AIR HOIST is well applied to Chemical plants, Paint shop, etc. for an anti-explosion purpose.

# 



# WIRE TYPE EHW series 60kg type 120kg type 120kg type MTH series 1T type 2T type 2T type 6.3T type 6.3T type



# **GIGANTIC CRANE**

CABLE REEL Torque motor type

Cable reel is applied to power supply for cranes.





#### **STAGE LIGHTING**

CABLE REEL Spring type

Cable reel is used for lighting maintenance.

# Product guidance

# STABLE POWER SUPPLY

For any movable equipments and machinery, CABLE REEL provides winding a wide range of cable. We approach various applications for winding cables like cranes, carriage trolleys, etc. We can also supply with lots of winding power source, Spring, Torque motor, Inverter-driven motor, Servomotor, hydraulic motor, etc., meeting to the your request.

#### SPRING TYPE

## Small type CRF series

For Inside equipments:

- ▶Trolley:
- Auto warehouse, etc.



# Standard type CRL series

For a wide range of purpose:

- ▶Trolleys
- ▶ Electric hoists
- Lighting systems, etc.



#### Large type CRE series

For large-scale equipments.

▶ Gantry crane, etc.



#### MOTOR TYPE

#### Torque motor type

Cable winding with Torque motor gives an advantage for long retrieving, high frequent use and high-speed winding.



#### Inverter-driven motor type

Inverter system on the motor improves efficiency of electric consumption, and makes the cable life longer.



#### Servomotor type

Servomotor system gives more efficient electric consumption and longer cable life than Inverter system.



#### Con torque motor type

Totally-enclosed-fan-cooled motor (IP55) allows installing in a hostile environment.

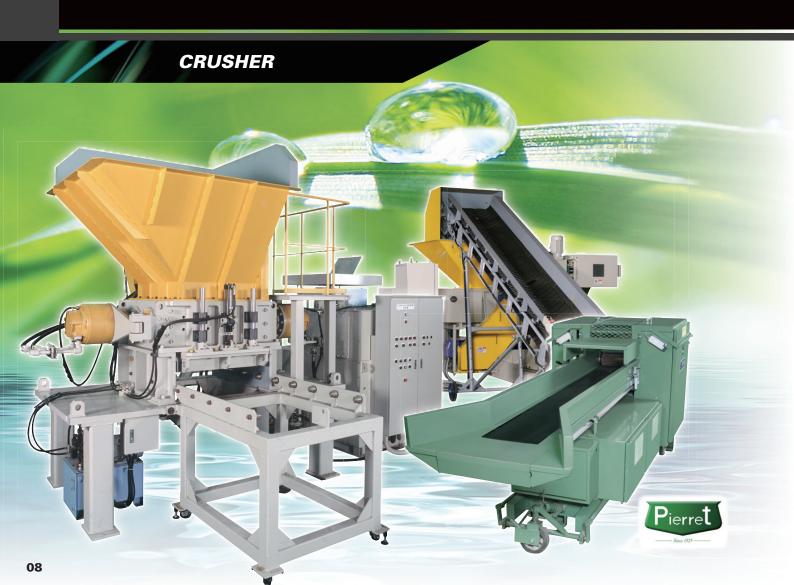




# RECYCLING PRUNED BRANCHES

**BIAXIAL CRUSHER** 

Crusher is applied to fragmentize pruned branches and recycle them into composts.





# RECYCLING LABELS AND STICKERS

**BIAXIAL CRUSHER** 

Labels and stickers with adhesive compounds are crushed and recycled into solid fuels.

# Product guidance

# CREATE A RECYCLING SOCIETY

ENDO CRUSHER can crush any recyclable materials like a plastic, wood, scrap metal, printed circuit board, etc. We supply a wide range of series from small types for general factories to large types for Industrial waste disposers or Recycle facilities.

#### SMALL BIAXIAL CRUSHER

Biaxial crusher, with small body, is easy to install and adapted for crushing small materials like plastic bottles, videotapes, CDs, raw garbage, etc. This type also provides easy maintenance.



#### LARGE BIAXIAL CRUSHER

Large crusher is suitable for mass disposal of large size waste like industrial wastes, wastes from a garbage-processing center, etc. Two motor driven systems, hydraulic drive and electric drive, are available



# UNIAXIAL CRUSHER

Uniaxial crusher gives finer crush than Biaxial crusher. With its crush size adjustment, the crusher is useful for a wide range of purposes.







# STEEL CUTTING

**CIRCULAR SAWING MACHINE** 





# **ALUMINUM BILLET CUTTING**

**CIRCULAR SOWING MACHINE** 

Product guidance

# TAKING PRIDE AND CONFIDENCE IN PERFORMANCE

ENDO Circular sawing machine provides an excellent cutting of aluminum / copper / steel billets, slabs, etc. High-rigidity design contributes to high-speed cutting and hard materials cutting.

For aluminum billet



For extrusion application



For straight cutting of extruded aluminum



For angle cutting of extruded aluminum

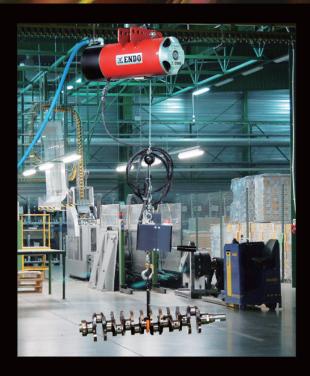


For cutting iron and steel



For cutting copper / copper-steel alloy





# ASSEMBLY WORKS

**AIR BALANCER** 

Easy lifting and transfer help assembly works.

# AIR BALANCER

ENDO "AIR BALANCER"SERIES

#### Air balancer

Air balancer can help to lift heavy suspended load easily with a customer-selected control module installed to the body. They have lifting or balancing function as Air hoists or Spring balancers.



#### Full-automatic balancer

In addition to the function of the Air balancer, Full Auto Balancer hoists various loads in different weight and gives fine balancing and easy positioning by single hand operation with Automatic Weight Sensing.





# **CONSTRUCTION SITES**

**SELF LOCK** 

Self locks are used for construction sites where require high safety.

# SELF LOCK

ENDO"SELF LOCK"SERIES

#### Self lock

Self lock is a fall prevention device to protect the worker's life at shipyards, construction sites, etc., where people works in high places.

Designed for high reliability.



#### Self lock for object-use

Self lock prevents falls of equipment and lifted material in high places. Best for preventing falls of various equipment or robot installed on wall in factory, gym equipment, etc.





# **FACTORY**

**HOSE REEL** 

Air hose is tidily winded on the hose reel.

# HOSE REEL

**ENDO"HOSE REEL"SERIES** 

# Hose reel

Used for winding hose for fluid used in factory such as water, air, etc.

Suitable for high-pressure use such as water jet shield machine.



# HR type

For winding hose, transfer car, washing equipment, machine tool, etc.



#### **WORY** type

For vehicle mounted cranes, gondola arm, crane cylinder, crane boom, etc.





# **OBSERVATION WHEEL**

**SLIP RING** 

Slip ring is used for axis rotation and power supply for the observation wheel.

#### SLIP RING

ENDO"SLIP RING"SERIES

#### Slip ring

Transmit power and signal to equipment with rotation such as filling machines, auto-packing machines, game machine, etc.

The compact design enables easy handling and long life.



# SPM type

For low current and signal transfer



#### **SR Type**

For power and signal transfer





# **▼EW.EWS.EWF**

Model	Capacity(kg)	Stroke(m)	Mass(kg)	C€
EW-3	1.0~3.0	1.3	1.4	0
EW-5	2.5~5.0	1.3	1.5	_
EWS-3	1.5~3.0	1.3	1.9	0
EWS-5	3.0~5.0	1.3	2.1	0
EWS-7	5.0~7.0	1.3	2.1	0
EWF-9	4.5~9.0	1.3	3.5	0
EWF-15	9.0~15.0	1.3	3.8	0
EWF-22	15.0~22.0	1.5	7.3	0
EWF-30	22.0~30.0	1.5	7.7	0
EWF-40	30.0~40.0	1.5	9.7	0
EWF-50	40.0~50.0	1.5	10.1	0
EWF-60	50.0~60.0	1.5	11.1	0
EWF-70	60.0~70.0	1.5	11.4	0
EWF-90	70.0~90.0	2.0	21.9	0
EWF-105	85.0~105.0	2.0	24.0	0
EWF-120	100.0~120.0	2.0	27.5	0
EWF-90A	70.0~90.0	2.0	21.9	0
EWF-105A	85.0~105.0	2.0	24.0	0
EWF-120A	100.0~120.0	2.0	27.5	0



# **▼EK.ERP**

Model	Capacity(kg)	Stroke(m)	Mass(kg)	C€
EK-00	0.5~1.5	0.5	0.2	0
EK-0	0.5~1.5	1.0	0.5	0
ERP-06E	0.3~0.6	1.5	0.4	0
ERP-1E	0.5~1.0	1.5	0.4	0
ERP-2E	1.0~2.0	1.5	0.4	0



# **▼ETP**

Model	Capacity(kg)	Stroke(m)	Mass(kg)	C€
ETP-14	120.0~140.0	1.2	24.1	0
ETP-15	140.0~170.0	1.2	28.7	0
ETP-16	170.0~200.0	1.2	29.7	0



# **▼RSB**

Model	Capacity(kg)	Stroke(m)	Mass(kg)	C€
RSB-15	9.0~15.0	1.5	7.4	0
RSB-22	15.0~22.0	1.5	7.7	0
RSB-30	22.0~30.0	1.5	8.1	0
RSB-40	30.0~40.0	1.5	8.5	0



# **▼ELF**

Model	Capacity(kg)	Stroke(m)	Mass(kg)	C€
ELF-3	1.5~3.0	2.5	4.6	0
ELF-5	3.0~5.0	2.5	4.8	0
ELF-9	5.0~9.0	2.5	5.4	0
ELF-15	9.0~15.0	2.5	10.0	0
ELF-22	15.0~22.0	2.5	10.2	0
ELF-30	22.0~30.0	2.5	11.0	0
ELF-40	30.0~40.0	2.5	14.5	0
ELF-50	40.0~50.0	2.5	14.9	0
ELF-60	50.0~60.0	2.5	17.1	0
ELF-70	60.0~70.0	2.5	18.0	0



# **▼**ATB

Model	Capacity(kg)	Stroke(m)	Air inlet(φmm)	Mass(kg)	C€
ATB-0	0.5~1.5	1.3	6.3	1.58	0
ATB-1	1.5~3.0	1.3	6.3	1.66	0
ATB-2	3.0~5.0	1.3	6.3	1.73	_



# **▼THB**

Model	Capacity(kg)	Stroke(m)	Air inlet(φmm)	Mass(kg)	C€
THB-15	0.5~1.5	1.3	8.5	1.9	0
THB-25	1.5~2.5	1.3	8.5	2.0	0
THB-35	2.5~3.5	1.3	8.5	2.1	0
THB-50	3.5~5.0	1.3	8.5	2.1	0
THB-65	5.0~6.5	1.3	8.5	2.2	0



# **▼ATR**

Model	Max tension N{kgf}	Stroke(m)	Air inlet(φmm)	Mass(kg)	CE
ATR-5	49 {5.0}	2.0	10.0	3.8	0
ATR-5-1	49 {5.0}	2.0	10.0	4.2	0



# **▼ER**

Model	Max. initial tension N	(Tension at retracted) {kgf}	Active cable travel (m)		ased on by out wire {kgf}	Effective spring turns	Ratchet 0/-	Wire rope dia.(¢mm)	Mass (kg)	C€
ER-3A	18	1.8	3	12	1.2	Approx. 16	0	2.38	1.4	0
ER-3B	18	1.8	3	12	1.2	Approx. 16	_	2.38	1.3	0
ER-5A	25	2.5	3	25	2.5	Approx. 13	0	2.38	1.5	-
ER-5B	25	2.5	3	25	2.5	Approx. 13	_	2.38	1.4	_
ER-10A	49	5.0	4	49	5.0	Approx. 13	0	2.38	4.5	_
ER-10B	49	5.0	4	49	5.0	Approx. 13	_	2.38	3.8	_

Note: The tension increases gradually as the wire rope is pulled out. For example, on ER-5A, supporting that the tension of spring is adjusted at 25N (2.5kgf) when the wire rope is fully retracted, the tension of spring (when the cable is pulled out 3m) is equal to 50N (25+25).



# **▼**SL.SLM

Model	Capacity (kg)	Rope length (m)	Standard accessory	C€
SL-7H	30~120	7		_
SL-10L	30~100	10		_
SL-17H	30~120	17	Shackle	_
SL-25L	30~100	25	Sling rope	_
SL-30H	30~120	30		_
SL-35H	30~120	35		_
SLM-12	30~120	12	Karabiner	_
SLM-15	30~120	15	narabiner	_



Model	Capacity (kg)	Stroke (m)	Air pressure MPa {kgf/cm²}	Lifting speed (m/min)	Air consumption (m³/min)	Air inlet	Mass(kg)	C€
			0.4 {4}	18.5	0.55			
EHW-60	60	1.9	0.5 {5}	22.5	0.70	R,3/8	9.2	_
			0.6 {6}	26.0	0.88			
			0.4 {4}	18.5	0.55			
EHW-60R	60	1.9	0.5 {5}	22.5	0.70	Rc,3/8	9.5	_
			0.6 {6}	26.0	0.88			
			0.4 {4}	11.0	0.59			
EHW-120	120	1.9	0.5 {5}	13.5	0.75	R,3/8	9.4	_
			0.6 {6}	16.0	0.93			
			0.4 {4}	11.0	0.59			
EHW-120R	120	1.9	0.5 {5}	13.5	0.75	Rc,3/8	9.7	_
			0.6 {6}	16.0	0.93			
	160		0.4 {4}	9.0	0.75			
AH-250R	200	2.5	0.5 {5}	10.0	0.92	Rc,1/2	18.2	_
	250		0.6 {6}	11.0	1.10			



# **▼AT.ATC.EHL**

Model	Capacity	Stroke (m)	Air pressure MPa {kgf/cm²}	Lifting speed (m/min)	Air consumption (m³/min)	Chain (size x fall)	Air inlet	Mass (kg)	CE	
AT-60K			0.4 {4}	16.5	0.52			12.3	_	
AT COL E	60kg	3	0.5 {5}	20.0	0.67	4.0 x 1	Rc,3/8	10.0		
AT-60K-5			0.6 (6)	23.5	0.85			13.0	0	
ATC-60K			0.4 {4}	14.0	0.52			14.3	_	
ATC-60K-5	60kg	2	0.5 {5}	18.0	0.67	4.0 x 1	Rc,3/8	14.3	0	
ATC-00K-3			0.6 (6)	20.0	0.85			14.5		
AT-120K	4001	_	0.4 {4}	10.0	0.55	40.4	D 0/0	12.5	_	
AT-120K-5	120kg	3	0.5 (5)	12.0	0.71	4.0 x 1	Rc,3/8	13.2	0	
			0.6 (6)	14.5	0.9					
ATC-120K	120kg	2	0.4 {4}	6.5	0.55	4.0 x 1	Rc,3/8	14.5	_	
ATC-120K-5	120kg		0.5 (5)	10.5 12.0	0.71	4.0 X 1	nc,5/6	14.5	0	
			0.6 (6)	12.0	0.9					
EHL-025TS	250kg	3	0.5 (5)	16.0	1.3	6.3 x 1	Rp,1/2	18.7		
22 020.0	2001.9		0.6 (6)	18.0	1.6	0.0 %	,			
			0.4 {4}	7.5	0.95					
EHL-05TS	500kg	3	0.5 (5)	9.0	1.3	6.3 x 1	1 Rp,1/2	Rp,1/2	18.7	0
			0.6 [6]	10.5	1.65					
EHL-098TW	980kg		0.4 {4}	3.7	0.95					
2112 000111	Cooking	3	0.5 {5}	4.5	1.3	6.3 x 2	Rp,1/2	24.2	0	
EHL-1TW	1t		0.6 (6)	5.2	1.65					
			0.4 {4}	4.0	1					
EHL-1TS	1t	3	0.5 {5}	5.2	1.4	7.1 x 1	Rp,1/2	34.0	0	
			0.6 (6)	6.0	1.8					
			0.4 {4}	2.0	1					
EHL-2TW	2t	3	0.5 {5}	2.6	1.4	7.1 x 2	Rp,1/2	42.0	0	
			0.6 (6)	3.0	1.8					
			0.4 {4}	2.0	1.75				_	
EHL-3TS	3t	3	0.5 {5}	2.6	2.47	12.5 x 1	Rp,3/4	75.0		
			0.6{6}	3.0	3.14					
			0.4 {4}	1.0	1.75					
EHL-6TW	6t	3	0.5 {5}	1.3	2.47	12.5 x 2	2 Rp,3/4 96.0	96.0		
			0.6 (6)	1.5	3.14					





# **▼EAB**

Model		Air pressure MPa	Capacity(kg)		(m)	Mass (kg)	Wire rope dia.(mm)	Air inlet	CE
		{kgf/cm²}	ABC-11	ABC-5G · 5P	(111)	(Ng)	uia.(IIIII)		
EAB-45	ABC-11	0.5 {5}	30	40	1.9 3		φ4.76	ABC-11 Rc 1/4 ABC-5G · 5P Tube outside \$\phi\$12	_
	ABC-5G	0.4 {4}	25	30		32			-
	ABC-5P	0.3{3}	20	20					_
EAB-85S	ABC-11	0.5{5}	50	60	1.85	38			_
	ABC-5G	0.4{4}	40	45					_
	ABC-5P	0.3{3}	30	30					_
EAB-85L	ABC-11	0.5 {5}	50	60	2.75	50			_
	ABC-5G	0.4 {4}	40	45					_
	ABC-5P	0.3{3}	30	30					_
EAB-130	ABC-12	0.5 {5}	70	85	1.85	45			_
	ABC-5G	0.4{4}	55	62.5					_
	ABC-5P	0.3{3}	40	40					_

<sup>\*</sup> Air inlet Rc3/8 is available for ABC-5G and ABC-5P as an alternative option.



# $\blacksquare MTH$

Model	Capacity (t)	Air pressure MPa {kgf/cm²}	Traveling speed (m/min)	Air consumption (m³/min)	Available beam width(mm)	Min. radius for curve(mm)	Air inlet	Mass (kg)	C€
		0.4 {4}	20	0.55					
MTH-1T-5	1	0.5 {5}	25	0.6	100 • 125	800	1/2	Approx. 35	_
		0.6 (6)	28	0.65	100 120				
	2	0.4 {4}	16	1.05		1000	1/2	Approx.	_
MTH-2T-5		0.5 {5}	17	1.3	125 • 150				
		0.6 (6)	18	1.6					
	6.3	0.4 {4}	17	1.05		2500	3/4	Approx. 127	_
MTH-6.3T		0.5 {5}	18	1.3	150 • 175 • 190				
		0.6 (6)	19	1.6					

- Four push buttons control (4 direction) is available as well as two push buttons control (2 direction).
   I hook type is available as well as Hook on type for hanging Air hoist on the MTH.
   Filter or Lubricator is recommended to set as close to MTH as possible.



#### Corporate profile

ENDO KOGYO CO., LTD. • Name

Address 3-14-7, Akibacho, Tsubame, Niigata, Japan

 Established May, 1935

• Capital 60 Million YEN KOROKU ENDO • Director

• Number of employees

189 Members

Approx.51,000sq meters, of which • Site Area

14,000sq meters building area

#### Plant & Offices

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