

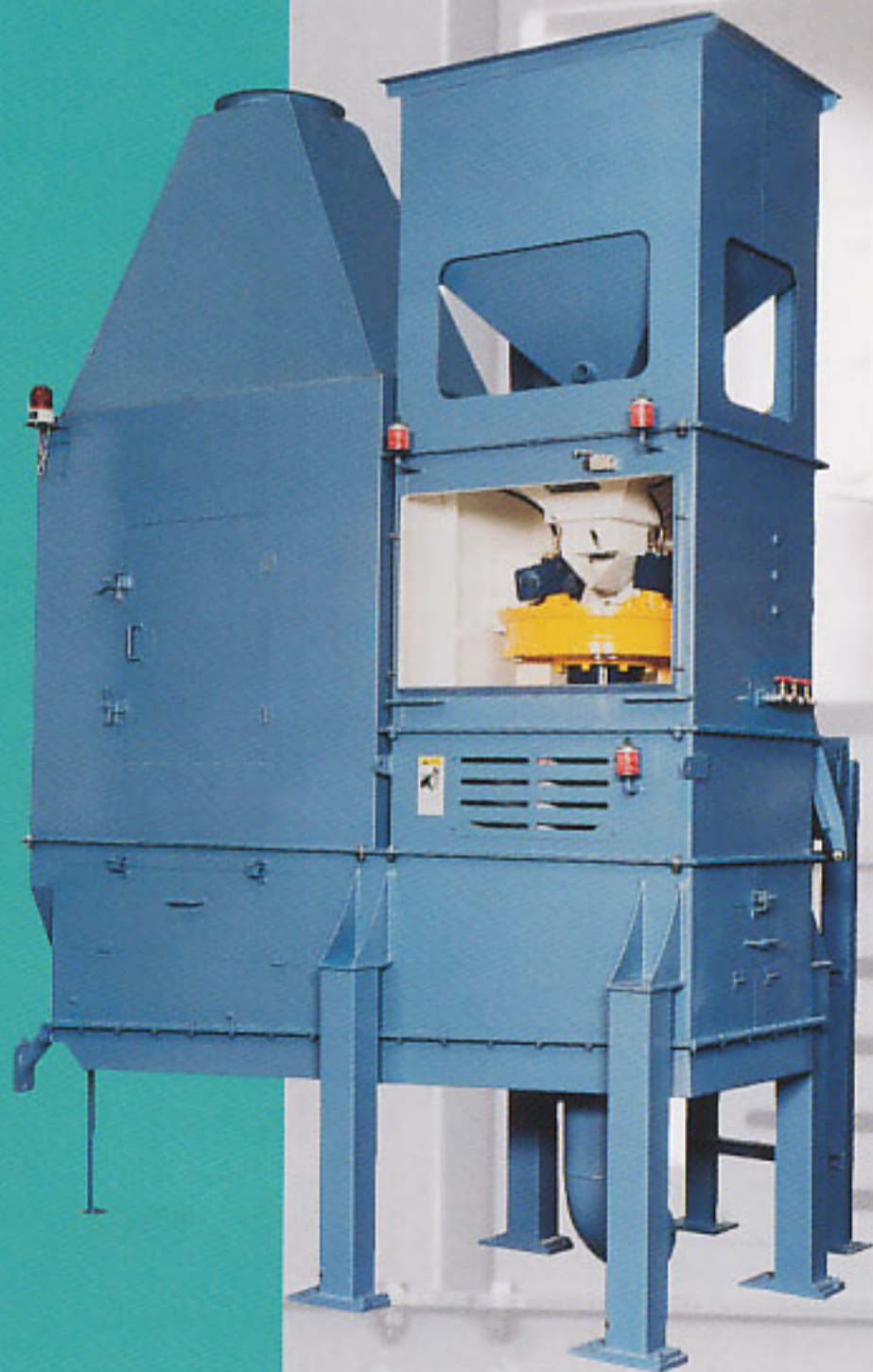
# CASTING TECHNOLOGY

## Sand Reclaimer Series

USR-II·III



USR-I



WSR-II



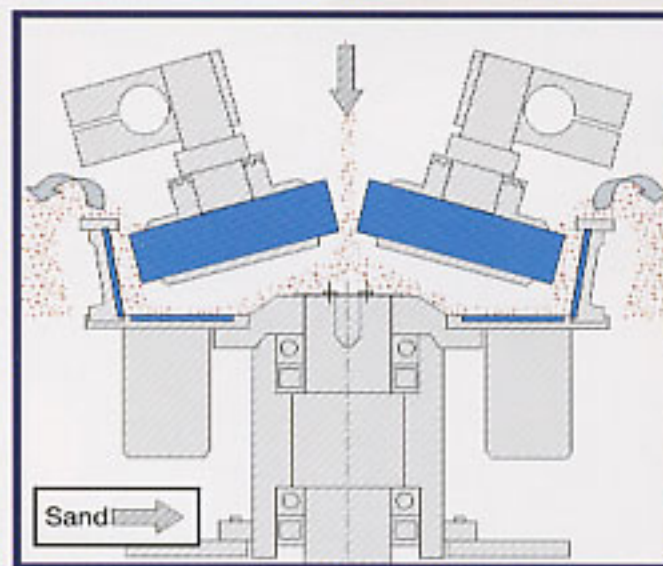
These Sand Reclaimer Series can reclaim both chemically bonded sand and green sand for the total cost reduction in waste sand treatment.

Reduction of waste sand discharged from foundries is an important subject in preserving the global environment. Various types of sand reclaimers are offered from Sintokogio, so that they meet the molding process, type of sand and amount of sand to be reclaimed. This makes it possible to reclaim sand at an optimum condition, and reduce the total cost.

## Series Variation

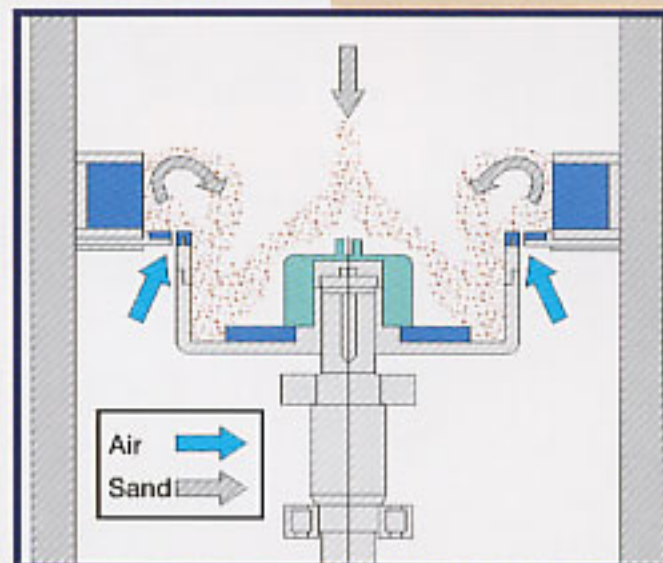
Squeeze roller system      Continuous type, Model USR-II·III

This is a highly efficient sand reclaimer. Sand reclaiming ability can be controlled using the pressurizing roller.



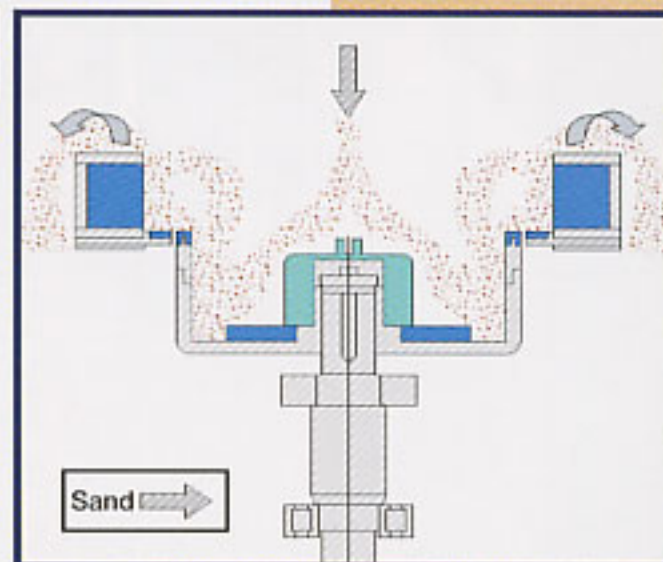
Rotary system      Batch type, Model URS-I

This is a batch type reclaimer suitable for reclaiming chemically bonded sand at the rate of 1.5 tons/hr.

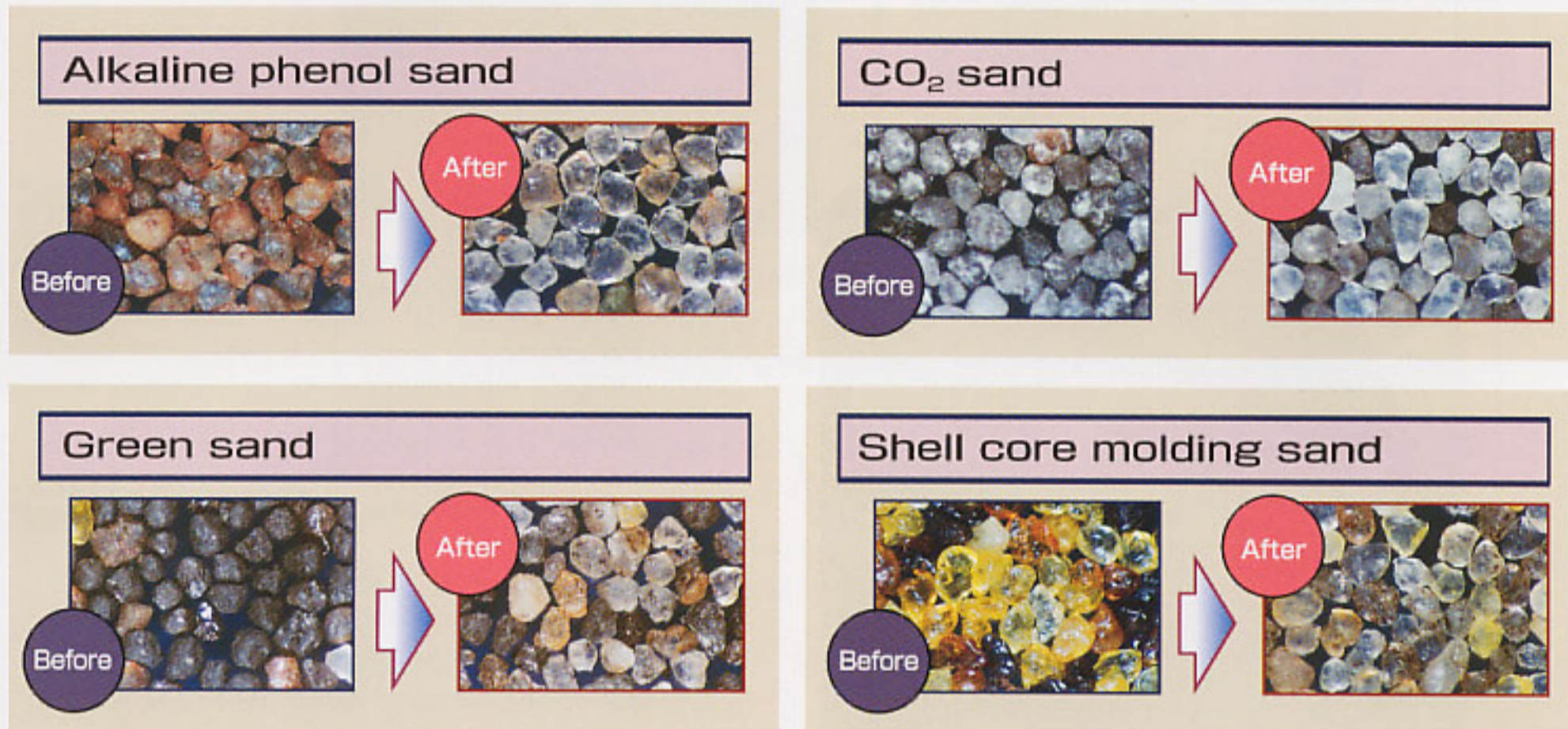


Rotary system      Continuous type, Model WSR-II

This is a rotary type continuous sand reclaimer and mainly used for furan process sand.



Various type of sand are reclaimed at an optimum condition.



### Process chart

Process	Sand	Reclaiming capacity			
		0.5~1.5t/h	1.5~3t/h	3~5t/h	5~10t/h
Furan	Silica sand		<b>WSR-II</b>		
Alkaline phenol	Silica sand		<b>USR-I</b>		
Phenol urethane	Silica sand				
Alkaline phenol	Celabeads		<b>USR-II · III</b>		
Phenol urethane	Celabeads				
CO <sub>2</sub>	Silica sand		<b>USR-II · III</b>		
Sodium silicate, Ester hardening	Silica sand				
Green sand	Silica sand		<b>USR-II · III</b>		
Shell core molding sand	Silica sand				

# USR-II·III



Wear resistant ceramic squeeze rollers restore green sand and chemically bonded sand to binder-free molding sand.



## Features

### High reclamation efficiency

Squeeze roller pressure is fully adjustable, allowing the USR to optimally reclaim green sand and any types of chemically bonded sand, such as Furan, Alkaline-phenol, Phenol-furan, and CO<sub>2</sub>.

### Energy saving

Treatment time necessary to reduce Loss On Ignition (LOI) is half that of conventional sand reclaimers.

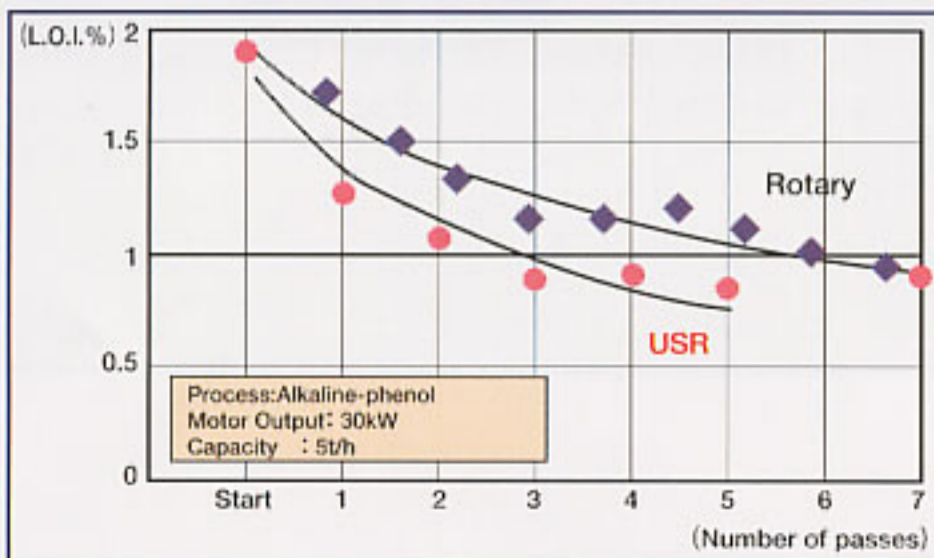
### Compact design

A compact integrated design used less installation space.

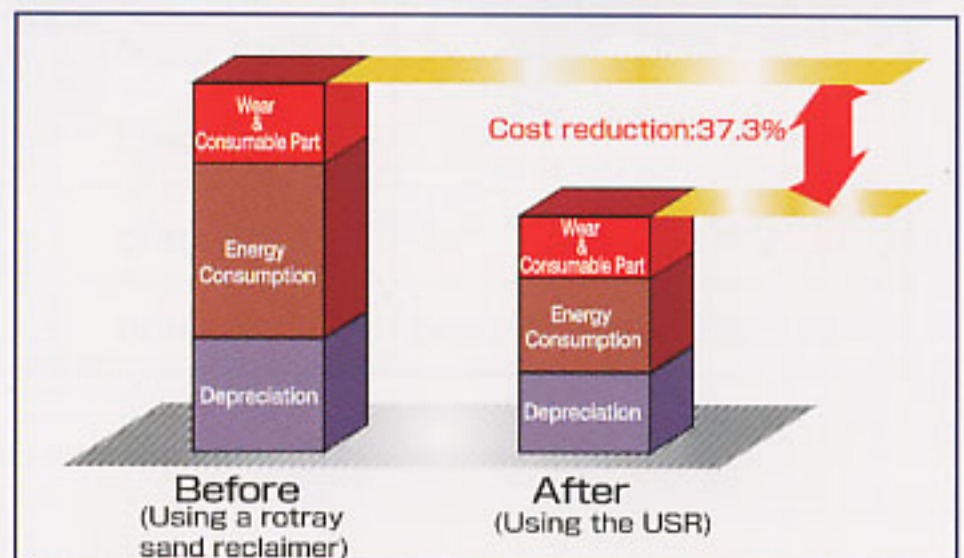
### Easy maintenance

Squeeze rollers mounted on a swinging axis, allowing for easy maintenance and replacement.

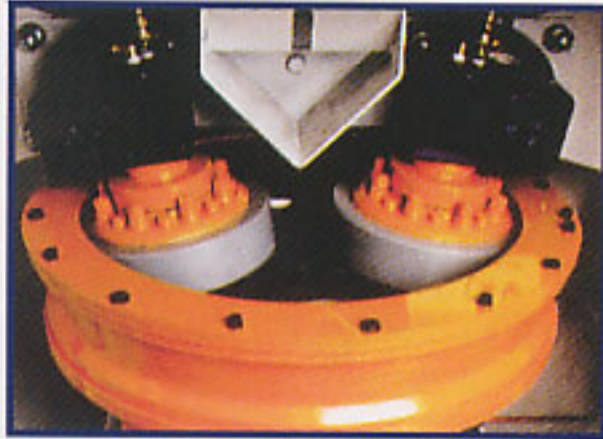
## Reclamation comparison USR & Rotary reclaimers



## Case data

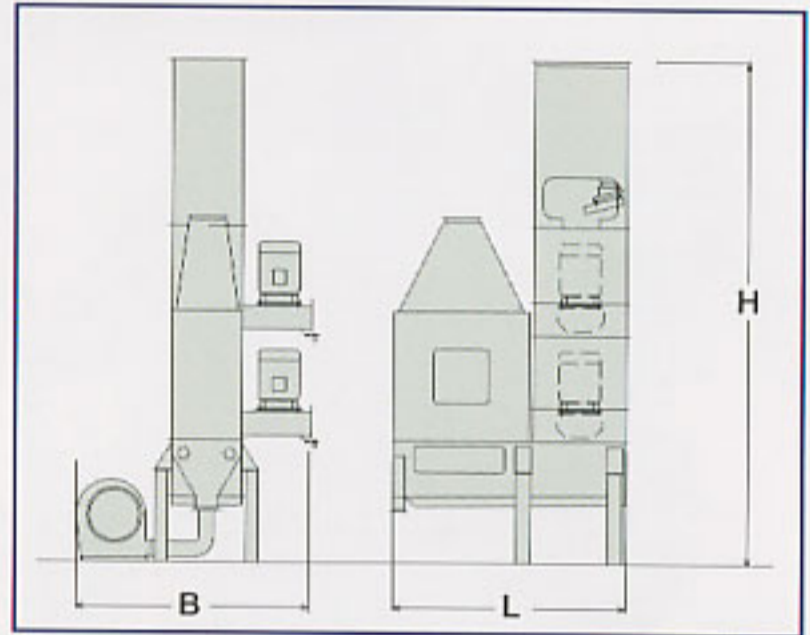


### Squeeze roller

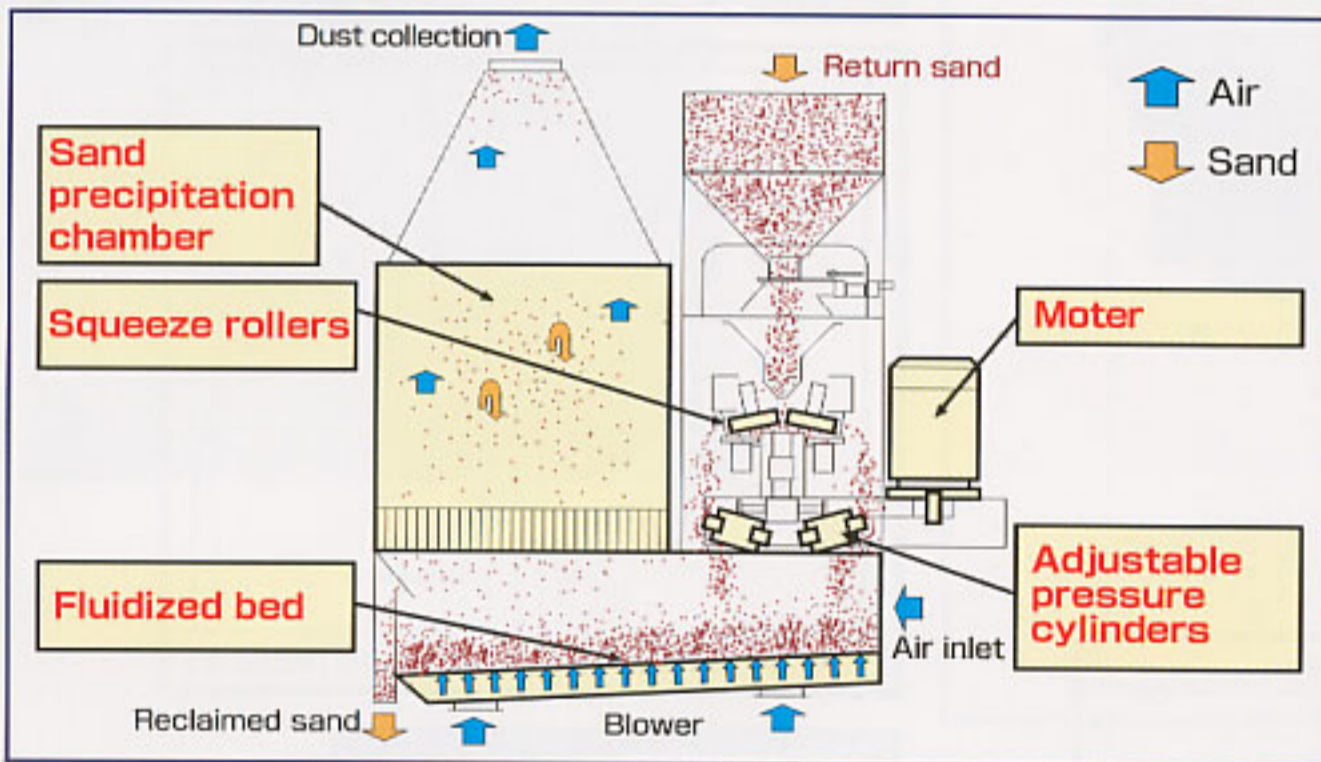


Sand falls into the rotating drum and is pressed against the sides of the drum by centrifugal force. Ceramic squeeze rollers then push against the sand causing the sand grains to rub together. Rubbing efficiently removes the binders that have adhered to the sand.

### Machine size



### Mechanism



### Specifications

Model	USR-II							USR-III				
	1-1	2-1	3-1	4-1	2-2	3-2	4-2	5-1	10-1	5-2	10-2	
Motor (kW)	15×1	22×1	30×1	37×1	22×2	30×2	37×2	55×1	75×1	55×2	75×2	
Throughput (t/h)	5							10				
Blower (kW)	5.5							11				
Dust collection air volume (m <sup>3</sup> /min)	60							85				
Dimension (mm)	H	3550			4700			5550		7550		
	L	2500							3100			
	B	1975							2650			

for batch type suitable for small capacity

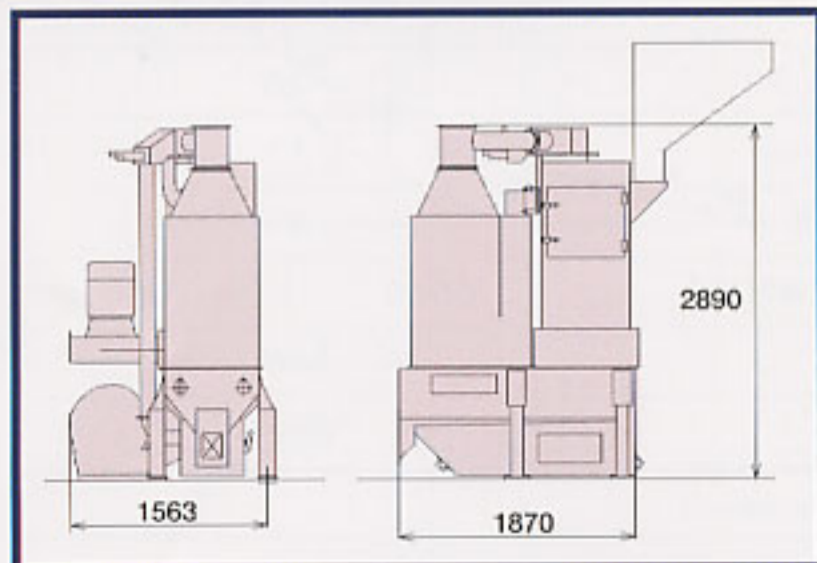
# USR-1



## Specifications

Model	USR-1
Throughput (kg/batch)	25~40
Moter (kW)	30×1
Blower (kW)	5.5
Dust collection air volume (m <sup>3</sup> /min)	60

## Machine size



## Features

### ■ Suitable for small amount of sand

Most suitable for small amount of chemically bonded sand less than 40kgs/batch and 1.5 tons/hr.

### ■ Simple mechanism and easy maintenance

Decompressed seal method is used. The number of moving parts has been reduced, making maintenance easy.

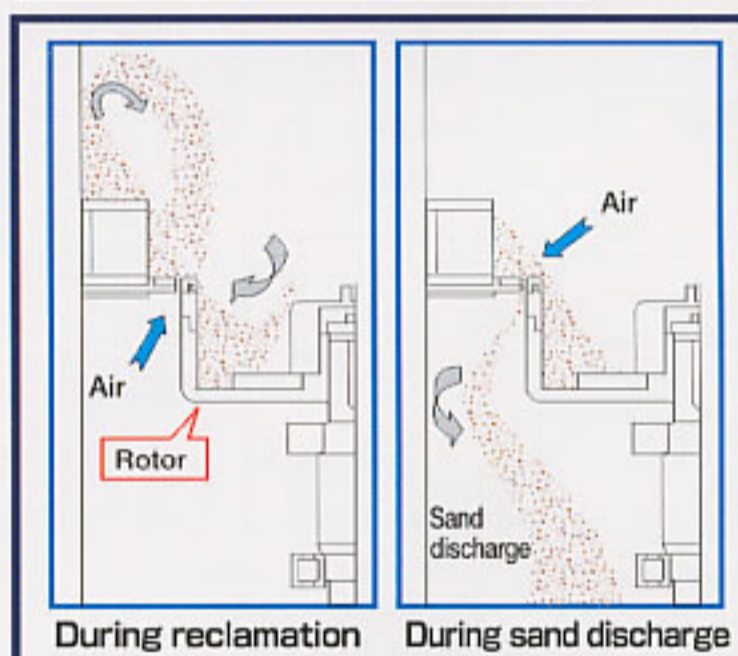
### ■ Sand reclamation efficiency can be controlled

The batch type makes reclamation time changeable using a timer.

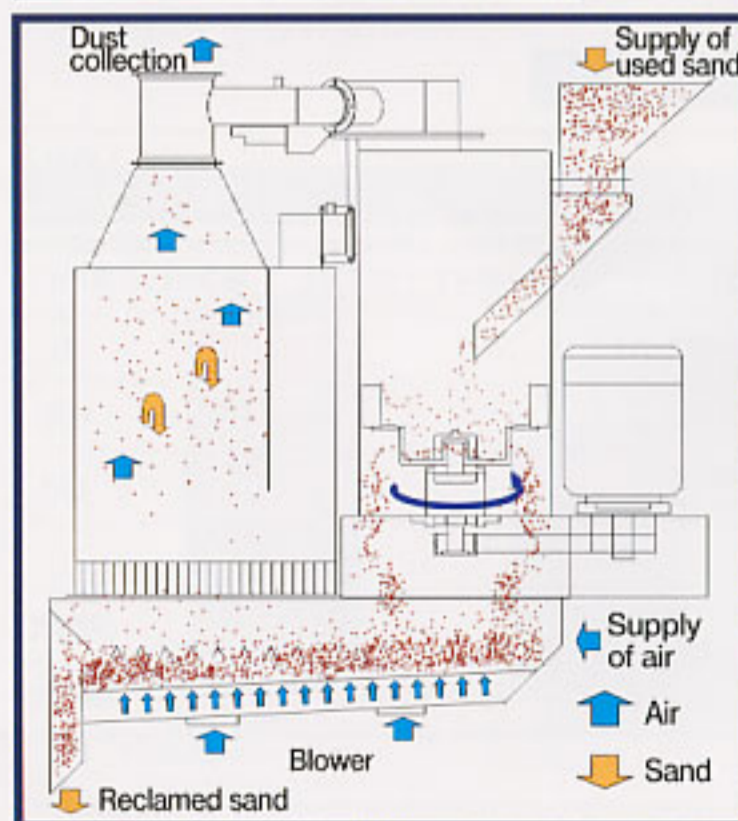
### ■ Wear resistant parts are used for long service life

Wear resistant ceramics are used for the parts directly exposed to sand to be reclaimed, achieving long service life.

## Decompression seal system



## Mechanism



for reclamation of furan sand

# WSR-II



## Features

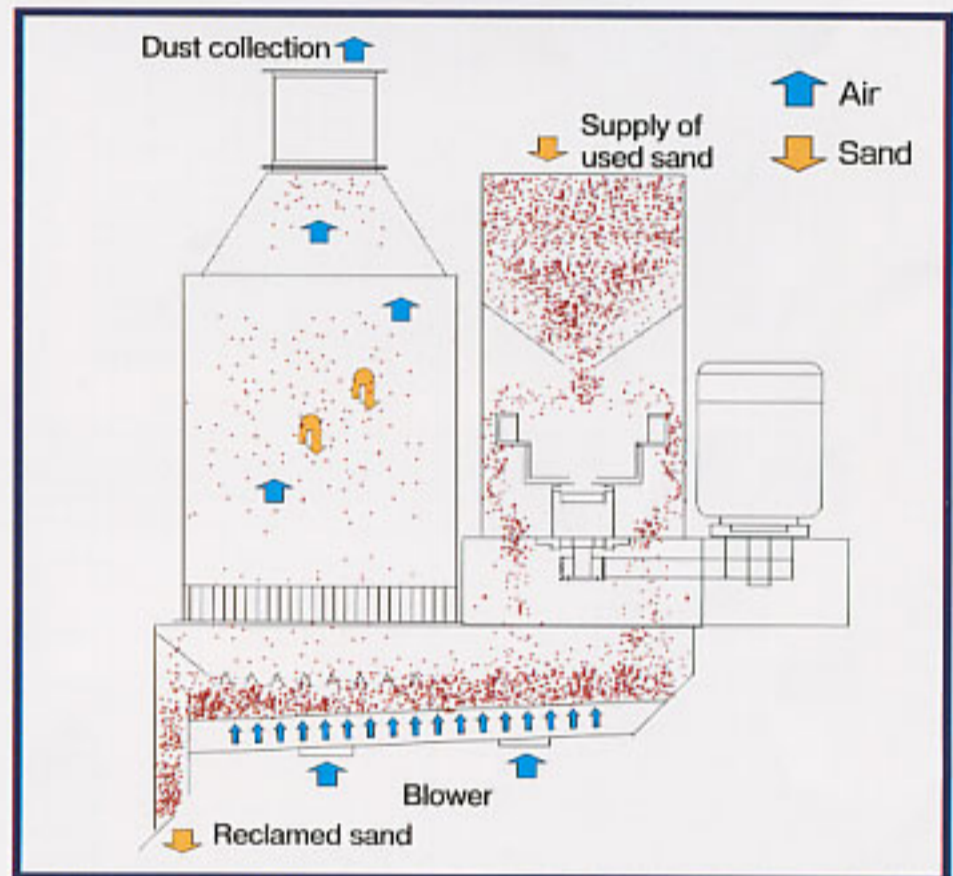
### Suitable for furan sand

Through the combination of the rotary grinding type reclaiming and the fluidized-bed fine removing, the high reclamation efficiency can be achieved.

### Long service life

The use of ceramic parts assures the long service life of consumable parts.

## Mechanism



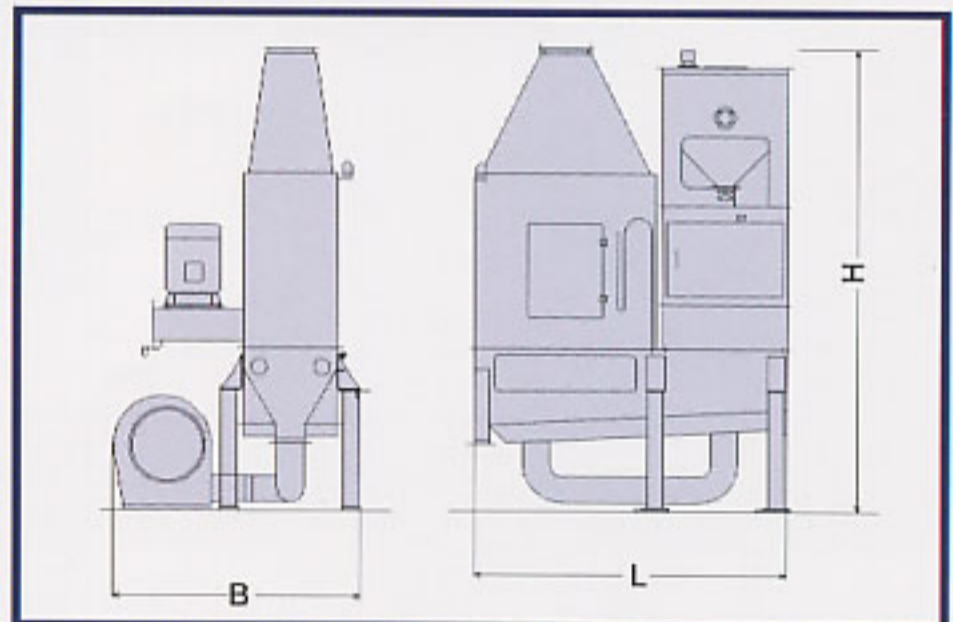
## Specifications

Model		WSR-II			
		2-1	2-2	3-1	3-2
Throughput (t/h) <sup>①</sup>		1.5~5		3~10	
Motor (kW)		22×1	22×2	30×1	30×2
Blower (kW)		5.5			
Dimension (mm)	H	2800	3845	2800	3845
	L	2000 <sup>②</sup>			
	B	2003			

① Throughput is depend on sand to be used, and sand to metal ratio.

② Select to 2,500mm, if throughput is more than 7t/h.

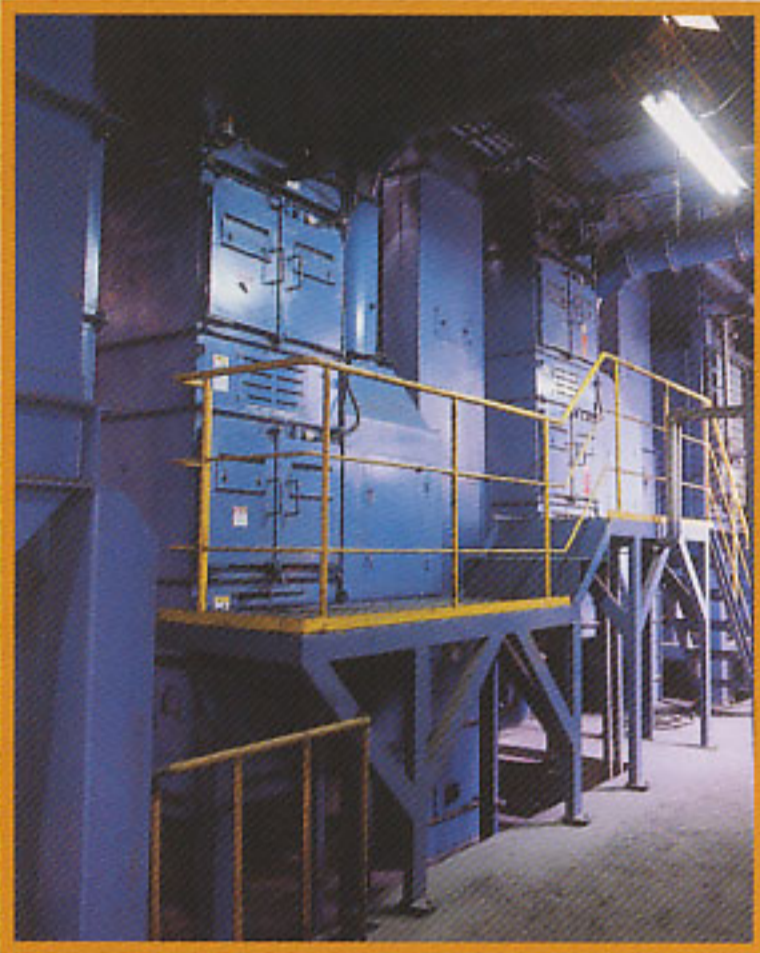
## Machine size



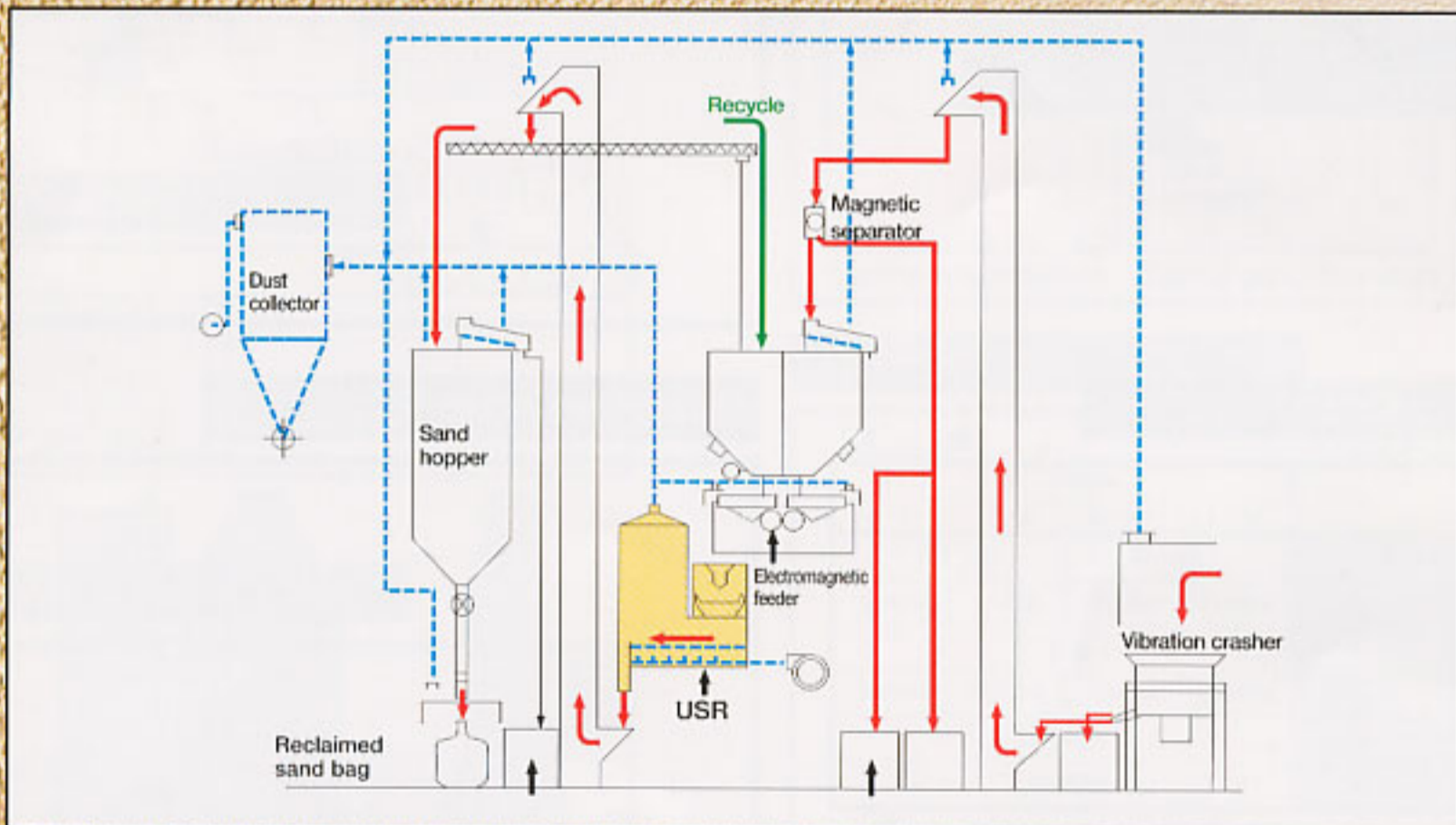
# Total Sand Reclamation system

An example of chemically bonded sand reclamation system

Sintokogio will offer the total sand reclamation system.



Flow Chart of Chemically Bonded Sand Reclamation system



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