VOL.
2

Coolant Filtration Unit/Chip Processing System

GENERAL CATALOG

BUNRI®

Bunri Inc. / Bunri Industry Inc.

Table of Contents

Grinding

Cutting

Secondary Processing

Floating Oil/Scum Recovery

Magnet Application Equipment

Company Profile

Providing the Most Suitable Solution to Your Production Site

BUNRI is a specialized manufacturer that provides development, manufacturing, sales, and after-sales service for the coolant filtration and chip processing system, which is a unit that filters coolant mixed with chips generated in the product manufacturing process.
With a persistent focus on developing one-of-a-kind products for 60 years
We are a pioneer in coolant filtration and chip treatment systems.

Company Profile

Name of company	**Bunri Inc.**
Representative	President: Mr. Makoto Tashiro
Established	May 1960
Capital	60 million yen
Business content	Development and sale of coolant filtration unit for machine tools
Headquarters location	1-34-8 Oi, Shinagawa-ku, Tokyo 140-0014 TEL: 03-3778-2061 FAX: 03-3778-2063

Name of company	**Bunri Industry Inc.**
Representative	President: Mr. Makoto Tashiro
Established	June 1960
Capital	36.78 million yen
Business content	Development and manufacture of coolant filtration unit for machine tools
Headquarters location	708 Homanbo Takajo cho, Miyakonojo-shi, Miyazaki-ken 885-1202 TEL: 0986-58-5678 FAX: 0986-58-3333

Installation Flow

We carry out all processes consistently in-house, from the before-sales service to unit design/manufacturing and after-sales service.
In line with the slogan "Responsible for our products to the end," all employees are working together to support our products.

Consultation
Our experienced sales staff will visit customers and check the production site in order to gain a comprehensive understanding of the present situation.

▼

Proposal/meeting
From our extensive product lineup, we will propose equipment that has suitable specifications and functions for your production site.

▼

Drawing/quotation
Based on information discussed at the meeting, we will consider the price, delivery date, and performance, and create drawings and quotations that match machine tools and the specifications of your production site.

▼

Your consideration
If you want to share any opinions or requests, we will meet again and make adjustments until you are satisfied, including to the delivery date and quotation.

▼

Order/manufacturing
After receiving your order, we will start manufacturing at our factory. We design and manufacture the equipment that suits the requirements of our customers and the production site.

▼

Delivery

Trading company and user
We will deliver the equipment to customers, and our staff members will handle everything from setting up machine tools to installation work. We will explain the operation method and safety aspects of the unit in detail to the person in charge at the site.

Machine tool manufacturer
After delivery, the machine manufacturer will set up the machine tools. Our sales representative will visit your site regularly to check the operating status. We will propose repairs and maintenance of the unit according to your requirements. If an unexpected problem occurs, sales staff and technical support staff with knowledge of the unit will rush from the service bases in each region and respond promptly.

▼

After-sales support
Our sales representative will visit your site regularly to check the operating status. We will propose repairs and maintenance of the unit according to your requirements. If an unexpected problem occurs, sales staff and technical support staff with knowledge of the unit will rush from the service bases in each region and respond promptly.

7 Commitments

While responding to the changing needs of society coupled with increasing environmental awareness, we want to stay close to our customers and deliver products that support their businesses. To that end, BUNRI has identified seven areas to persistently focus on.

Quality
All company staff work together to achieve "zero problems". We are working tirelessly to deliver high-quality products.

Performance
This contributes to improving work efficiency at production sites by, for example, reducing industrial waste and consumables, reducing the rate of defects, reducing maintenance labor costs, and securing line operation.

Product lineup
Our custom-made products can be installed on machine tools produced by any manufacturer. We offer comprehensive proposals regardless of the material the chips are made of, such as magnetic, non-magnetic, cutting, grinding, oil-based, and water-soluble.

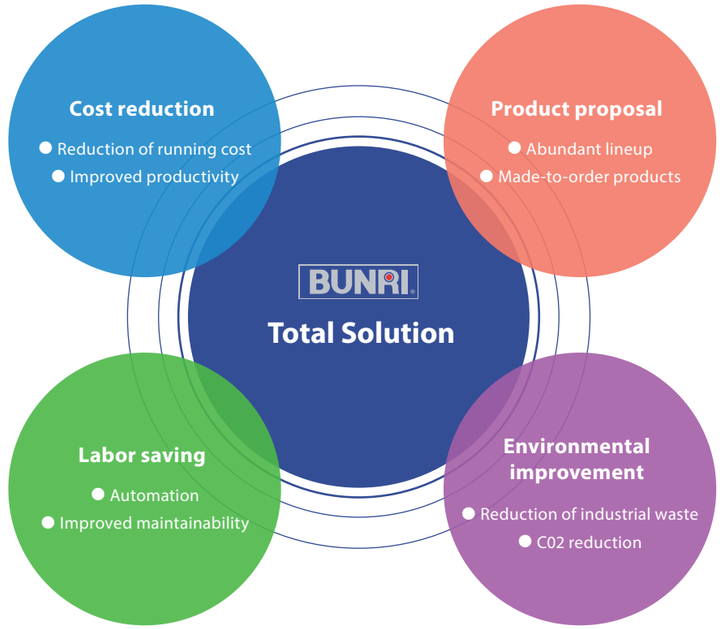
Spirit of innovation
We are striving to create one-of-a-kind products in terms of mechanisms and performance. BUNRI's advantage is to create products that do not need consumables and that are low-maintenance.

Environment
We are developing products that are friendly to people and the earth, taking into consideration everything from the global environment to the environment of the production sites where products are used.

Company structure
Through communication between sales staff and customers, we reflect throughout the company the information and opinions we receive and utilize them to create products that satisfy our customers.

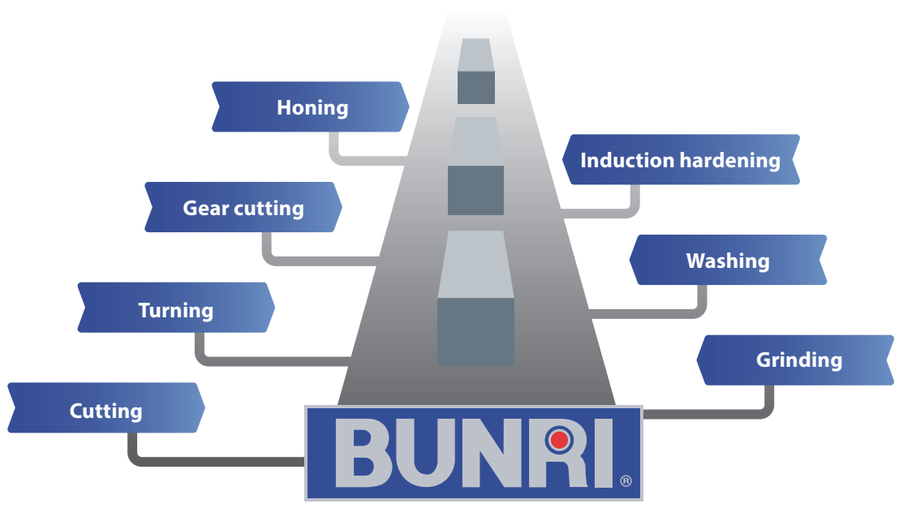
Support power
We offer a wide range of support services, from pre-sales service to after-sales service. Our policy since our founding has been "We responsibly support products developed in-house until the end of their services lives".

Total Solution for Coolant Filtration Unit



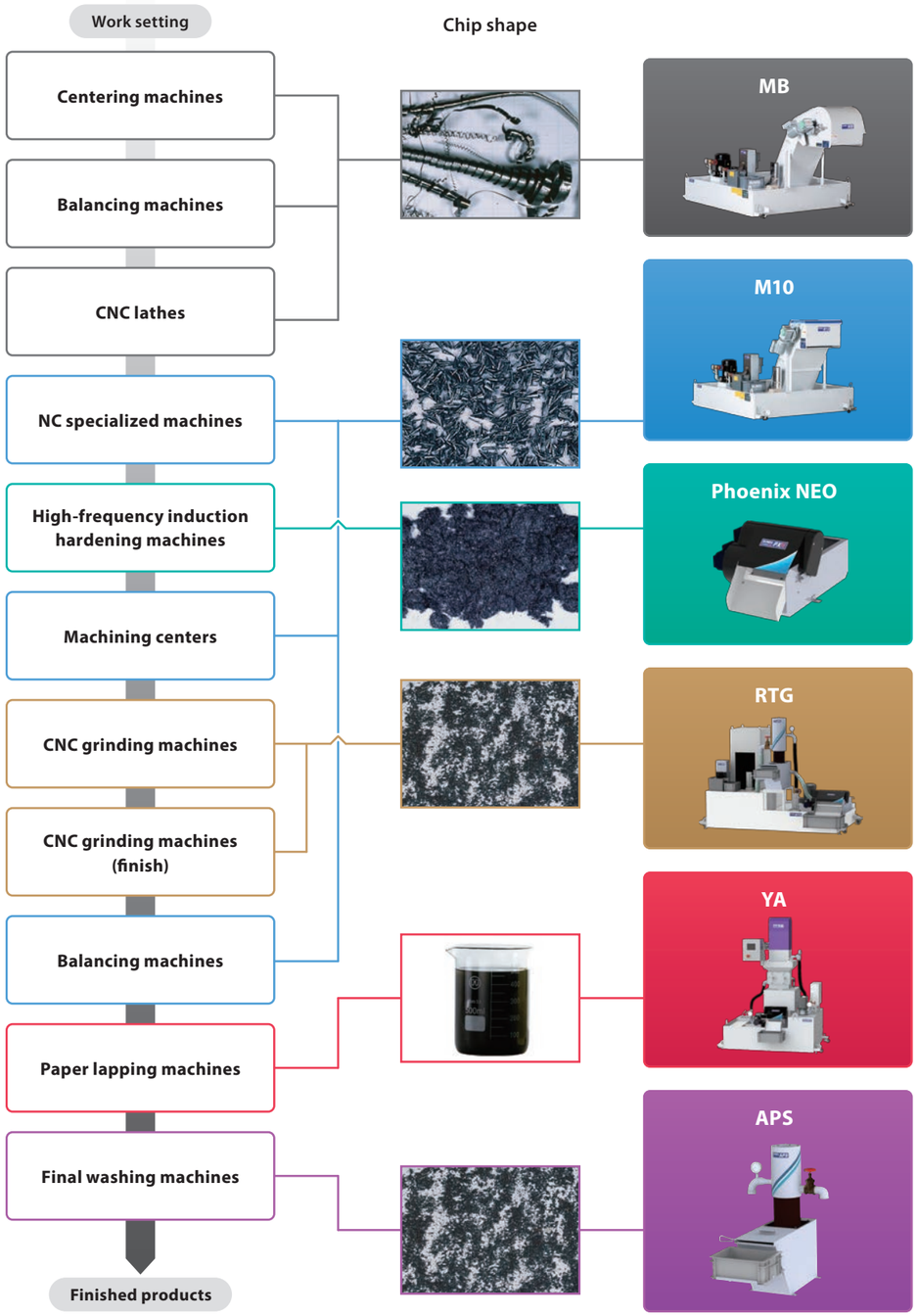
Total Coordination for Customer's Processing Equipment Line

Custom-made product design tailored to the customer



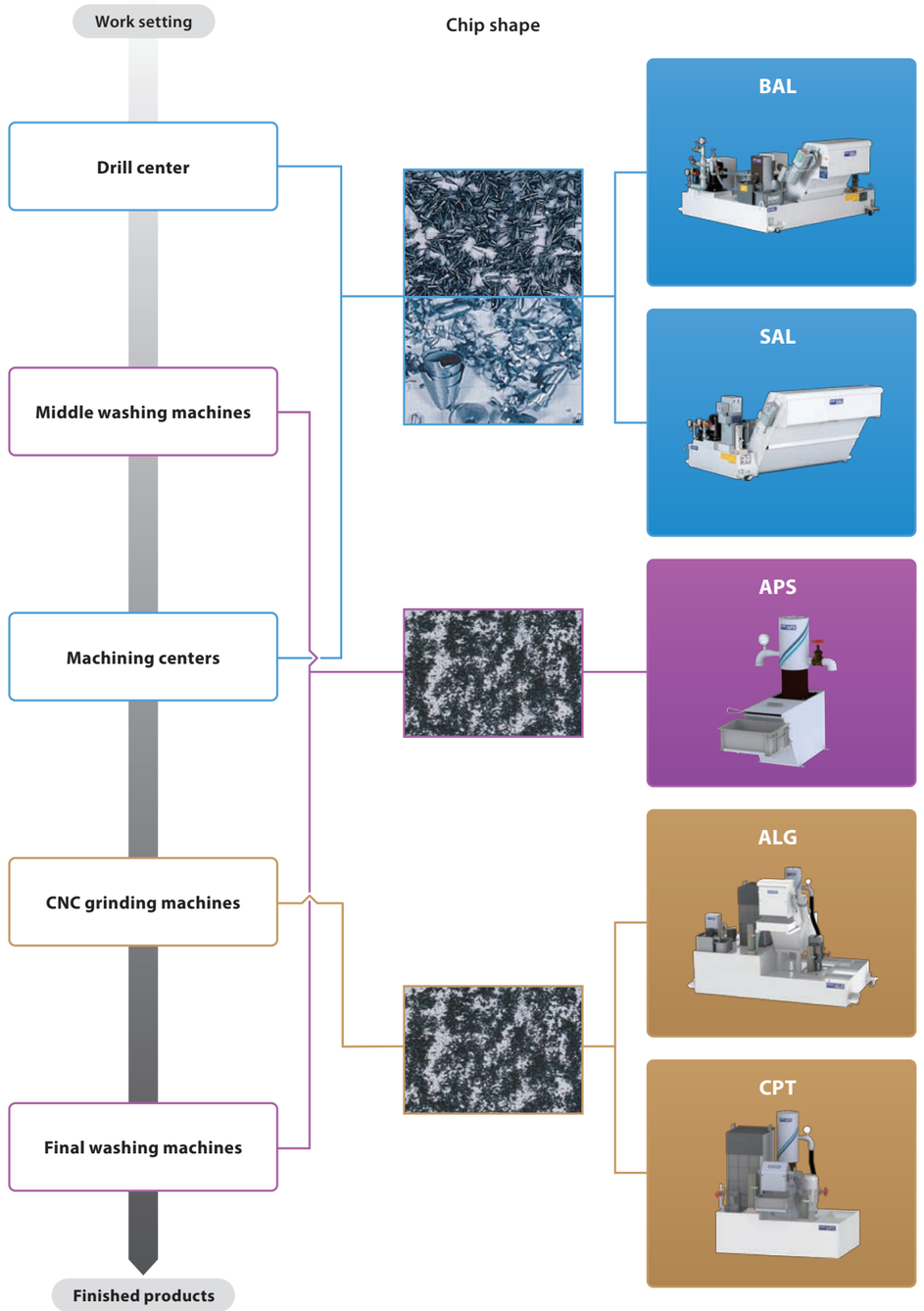
Magnetic Material Example

Product model line: (Example) Camshaft processing line



Non-magnetic Material Example

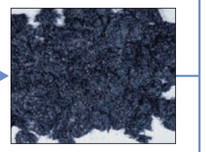
Product model line: (Example) Cylinder head processing line



Magnetic material sludge compatible products

Machine tool (Example)	Chip shape	Product lineup

Grinding machines
Washing machines
Induction hardening machines



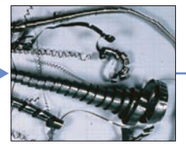
Magnetic separator
Phoenix NEO
- Filtration accuracy
  PXK 20µm 90% or more
  PXH 15µm 90% or more
  PXN 10µm 90% or more
  PXP 10µm 95% or more
- Typical coolant filtration unit for filtering grinding sludge of magnetic material

Drastic cleaning reduction for grinding coolant system
RTG
- Filtration accuracy: 10 µm 90% or more
- Primary processing: Magnetic separator
  Secondary processing: Cyclone filter

Machining centers
Specialized machines

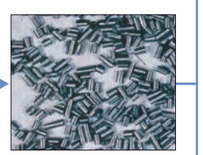
Super strong magnetic drum conveyor
M10
- Filtration accuracy: 10µm 90% or more
- Available for cutting chips from castings and iron.

NC lathes
Gun drill machines



Magnetic belt conveyor
MB
- Filtration accuracy: 100µm 90% or more
- Available for tangled dumpling-shaped or curl-shaped chips.

Gear cutting machine
Broach machine
Induction hardening machines



Powerful magnetic roller conveyor
RCC
- Filtration accuracy: 50µm 90% or more
- Available for various chips such as tangled small curl-shaped (up to 100 mm), needle-shaped, sand-shaped, and cotton-shaped chips.

Magnetic screw conveyor
SCC/VS
- Filtration accuracy:
  SCC 80µm 90% or more
  Vs 80µm 90% or more

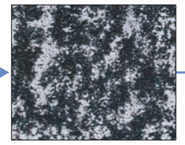
Honing machines
Paper lapping machines
Carbide/tool grinding machine

Ultra-precision filtration coolant system
SB Filter YA
- Filtration accuracy: 5µm 90% or more
- Ultra-precision filtration system that uses steel balls as the filter medium

Non-magnetic material sludge compatible products

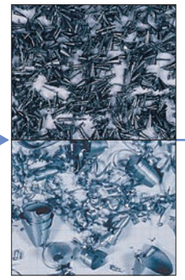
Machine tool (Example)	Chip shape	Product lineup

Grinding machines
Washing machines



Drastic cleaning reduction for grinding coolant system
ALG
- Filtration accuracy: 10 µm 90% or more
- Optimum for grinding sludge processing of non-magnetic materials.

Machining centers
Specialized machines
NC lathes
Gun drill machines



Rolling filter conveyor
AL
- Filtration accuracy: 200µm 90% or more
- Conveyor equipped with the punching filter that does not require backwashing

Rolling filter conveyor
SAL
- Filtration accuracy: 200µm 90% or more
- Double-conveyor-type punching filter conveyor.

Microfiltration filter conveyor
BAL
- Filtration accuracy: 20µm 90% or more
- Precision drum filter conveyor that does not require secondary processing

Drastic cleaning reduction for cutting coolant system
SLC
- Filtration accuracy: 10 µm 90% or more
- Primary filtration: Punching filter conveyor
  Secondary filtration: Cyclone filter

Other products

Chain bucket skimmer
CBS
- Seven times recovery capacity of the belt system
- Effective for low-viscosity floating oil and warming liquids in washing machines.

Cyclone filter
APOLLO-S APS
- Filtration accuracy: 10 µm 90% or more
- Regardless of magnetic or non-magnetic material
- Non-foaming clean liquid is supplied by the defoaming mechanism.

Rolling filter conveyor
MAL
- Filtration accuracy: 200µm 90% or more
- Available for processing cutting chips of magnetic and non-magnetic materials with a single machine.

Magnetic filter
MF
- Removes chips and sludge captured with one touch.

Magnetic separator Phoenix NEO
PXK/PXH/PXN/PXP

You can view the product information on our website

PATENTED

Magnetic material Filtration accuracy: 10 to 20 µm

Magnetic separator using rare earths, which has about 10 times the magnetic energy* of ferrite.
By renewing the drive mechanism of the magnetic separator, there is no wear due to sludge or abrasive grains.
A lineup of four models is provided to suit your requirements.

* Maximum energy product

PXH: BUNRI standard model

Use/Performance

Coolant	Water soluble/Oil-based*1
Category	Magnetic material
Processing details	Grinding
Work material	FC/FCD, steel
Chip shape	Sandy, cottony, granular, needle-shaped
Grinding chip size	Ultrafine particles (5 µm to 10 µm), fine particles (10 µm to 100 µm), coarse particles (0.1 mm to 0.5 mm)
Machine tool	Grinding machine, Saving machine, Thread rolling machine, Washing machine, Induction hardening machine, Honing machine, Super finishing machine (Super finisher), Tool grinding machine

* The filtration accuracy is based on the results of our experiments, and does not imply that this level of accuracy is guaranteed.
*1 When the oil viscosity exceeds 30 mm^2/s, please consult us.

Features

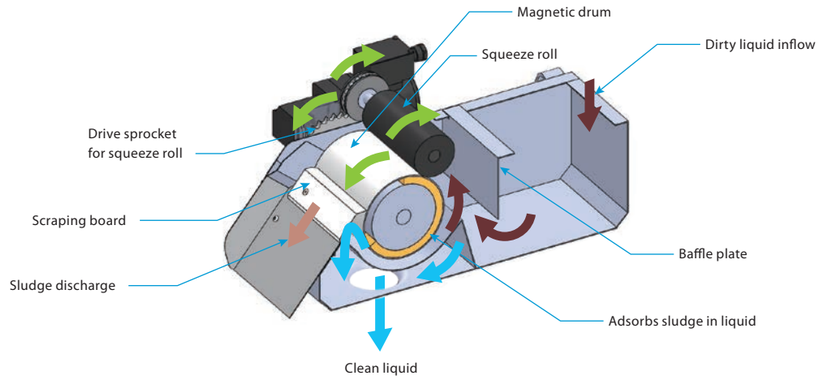
- **Typical coolant filtration unit that filters grinding sludge of magnetic materials.**
- **Because the driving part (chain/sprocket) is installed outside the main body, there is no wear due to sludge or abrasive grains. In addition, parts replacement and maintenance are easy.**
- **The magnetic drum has improved wear resistance due to surface hardening treatment.**
- **Since it is a squeezing roll with a sprocket, it suppresses slip caused by sludge and oily coolant. In addition, by changing the adjustment mechanism of the squeezing roll, adjustment of the squeezing condition and maintenance have become easier.**
- **This product does not use any consumables such as cartridge filters or paper filters, so no industrial waste is generated.**
- **We have a lineup of four models with different strength magnets and magnetic drum diameters.It is possible to select the optimum separator to suit the customer's processing conditions and the required filtration accuracy.**

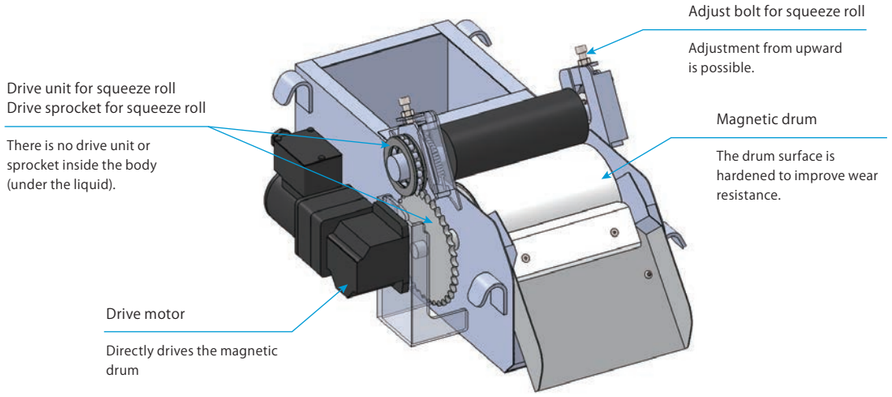
Type	Features	Applied machine tool	Filtration accuracy*1	Flow rate (L/min)
PXK	Low-priced model with a φ100 drum	Grinding machine (Inner surface grinding, surface grinding, outer diameter grinding, centerless, rotary), Shaving machine, Thread rolling machine, etc.	20 µm 90% or more	30 to 240
PXH	BUNRI standard model with a φ140 drum		15 µm 90% or more	40 to 240 360 to 500*
PXN	High-performance middle range model upgraded with a φ140 drum	Honing machine, Super finishing machine (Super finisher), Induction hardening machine, etc.	10 µm 90% or more	
PXP	High-end model that supports microfiltration with a large φ214 drum and large flow rate processing of 1000 L/min	Applicable to all grinding machines and machine tools mentioned above.	10 µm 95% or more	40 to 180 240 to 1000*

* Processing flow rate for medium and large size models (large flow rate). Please contact us for details.
*1 The filtration accuracy is based on the results of our experiments, and does not imply that this level of accuracy is guaranteed.

Mechanism

① When the dirty liquid that flowed into this machine passes through the filtration section (magnetic drum), the sludge in the liquid is adsorbed by the magnetic force of the magnet, and filtered.
② After filtration, the clean liquid is discharged to the outside of the main body.
③ The adsorbed sludge is as a result of the rotation of the magnetic drum. The water in the sludge is dehydrated by the squeeze roll.
④ The dehydrated sludge is scraped off by the scraping board that comes in contact with the magnetic drum, and discharged to the outside of the main body.

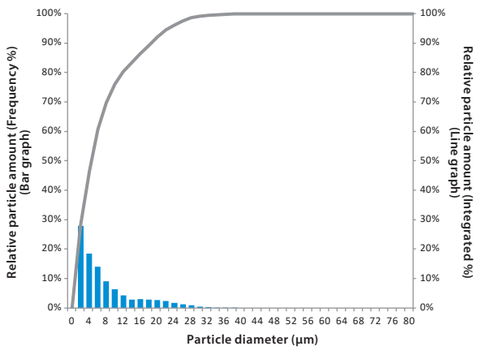




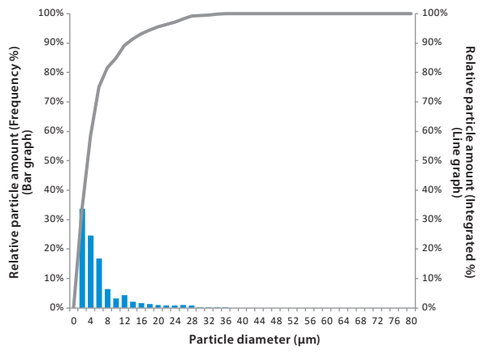
Sludge distribution status

Machine tool: Inner diameter grinding machine **Coolant:** Water soluble **Processing flow rate:** 60 L/min **Chip material:** Steel

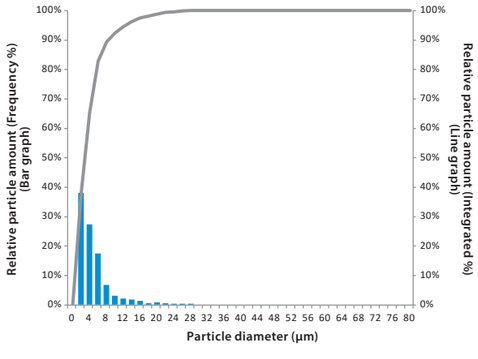
Particle size distribution PXK clean liquid



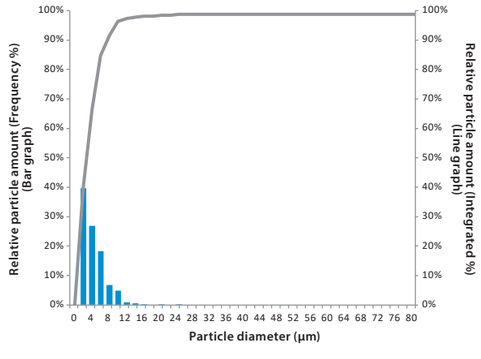
Particle size distribution PXH clean liquid



Particle size distribution PXN clean liquid



Particle size distribution PXP clean liquid



Comparison with old models

Mode	Ferrite Magnet	Rare earths Magnet		Rare earths Magnet		
	NW	SPK	**PXK**	MTZ	SPH	**PXH**
Item						
Magnetic drum diameter	ø100	**ø100**		ø100	ø100	**ø140**
Sludge removal ratio of clean liquid	51.8 %	**59.5 %**		62.3 %	**75.7 %**	
Water content ratio of the removed sludge	40 %	**35 %**		40 %	**35 %**	

Mode	Rare earths Magnet			Rare earths Magnet		
	STZ	SPN	**PXN**	SSZ	SPP	**PXP**
Item						
Magnetic drum diameter	ø140	**ø140**		ø200	**ø214**	
Sludge removal ratio of clean liquid	89.8 %	**95.5 %**		85.6 %	**97.0 %**	
Water content ratio of the removed sludge	40 %	**35 %**		40 %	**35 %**	

Machine tool: Cylindrical grinding machine **Processing detail:** Medium finish **Whetstone grit size:** #80
Coolant: Water-soluble **Chip material:** S45C (carbon steel for mechanical structure) * Values are based on our comparison.

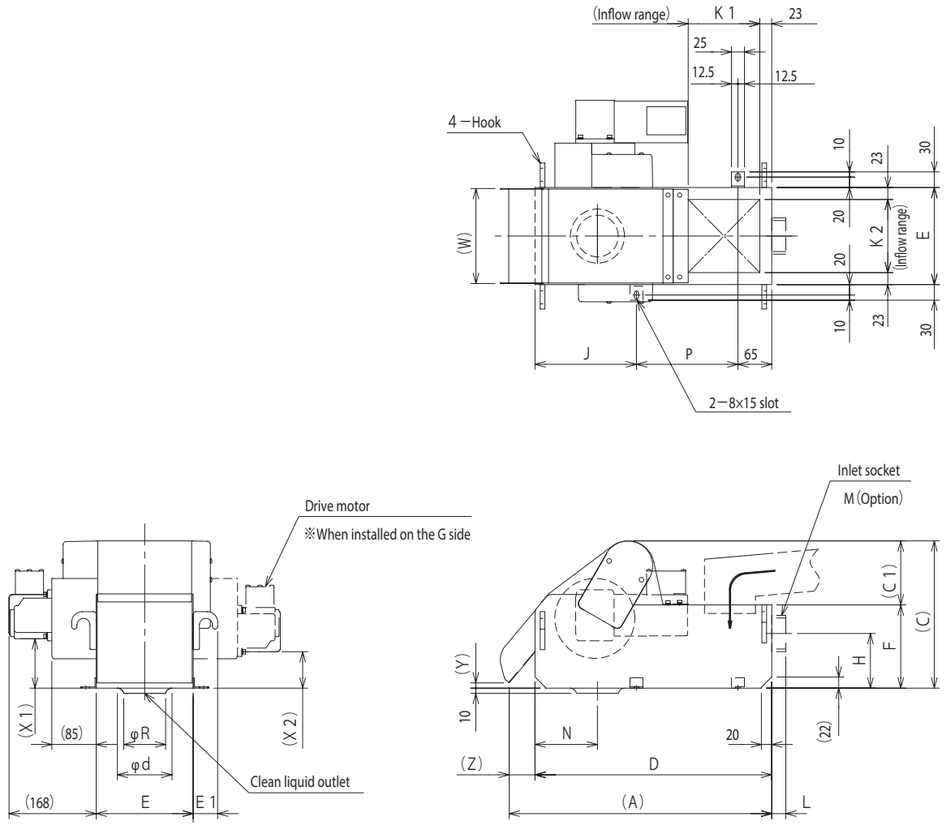
Comparison of water content ratio of removed sludge

Model	MTZ	**Model**	SPK	**Model**	PXN
Water content ratio	40%	**Water content ratio**	35%	**Water content ratio**	35%

* Values are based on our comparison. * The processing materials in the comparison photos are different.

Specifications

Dimensional drawing



		Processing flow rate*1	Product weight*2*3	Paint color*4
PXK	Water soluble	30 to 240L/min	20 to 46 kg	Medium metallic (Approximate color: Munsell No. N-6.7)
PXH	Water soluble	40 to 240L/min	27 to 56 kg	Medium metallic (Approximate color: Munsell No. N-6.7)
PXN	Water soluble	40 to 240L/min	29 to 60 kg	Medium metallic (Approximate color: Munsell No. N-6.7)
PXP	Water soluble	40 to 180L/min	37 to 67 kg	Champagne gold (Approximate color: Munsell No. N-2.5Y6/2)

*1 We also provide medium and large size models (large flow rate). Please contact us for details.
*2 For details, please check the product dimensions.
*3 The product weight varies depending on the specifications, options, etc.
*4 For information about the specified color, please consult us.

Drive/geared motor
25W

* The medium and large size models have different specifications.

Option
Inlet socket, nipple, pipe, flange
Outlet With socket on the left and right sides

* Please contact us for details.

Dimension table

Standard model		Processing flow rate (L/min) Water soluble	Oil-based (Viscosity mm²/s) 10	20	30	Drum diameter	External dimensions A	B	C	Main body dimensions D	E	E1	F	C1	W	X1	X2
PXK-	3H-NU	30	25	20	15	φ100	453	402	250	420	187	47	140	110	183	75	50
	4H-NU	40	30	25	20		505		270	455			160			95	70
	6H-NU	60	50	40	30		540	432		490	217		213				
	8H-NU	80	65	50	40		561	463	295		248		185		244	120	95
	12H-NU	120	100	80	60		574	554	310		339		200		335	135	110
	15H-NU	150	120	100	75		579	615			400				396		
	18H-NU	180	145	120	90		604	676	340	495	461		230		457	165	140
	24H-NU	240	190	160	120			829			614				610		
PXH- PXN-	4H-NU	40	30	25	20	φ140	539	395	299	490	187	40	175	124	183	91	66
	6H-NU	60	50	40	30		585	425	304	535	217		180		213	96	71
	8H-NU	80	65	50	40		601	456	324		248		200		244	116	91
	12H-NU	120	100	80	60		605	547	334		339		210		335	126	101
	15H-NU	150	120	100	75		620	608		550	400				396		
	18H-NU	180	145	120	90		659	669	354	595	461		230		457	146	121
	24H-NU	240	190	160	120			822			614				610		
PXP-	4H-NU	40	30	25	20	φ214	615	395	356	550	187	40	230	126	183	117	92
	6H-NU	60	50	40	30		645	425		580	217				213		
	8H-NU	80	65	50	40		705	456		640	248				244		
	12H-NU	120	100	80	60		710	547	361	645	339		235		335	122	97
	18H-NU	180	145	120	90			669	396		461		270		457	157	132

Standard model		Main body dimensions Y	Z	J	P	Inflow range K1	K2	Inlet socket (Rc) (Option) H	M	L	Clean liquid outlet N	R	d	Weight kg	Chip box Model code	Capacity
PXK-	3H-NU	11	33	195	160	102	141	80	40A/(1.1/2B)	22	120	80	105	20	S-7	7L
	4H-NU		50		195	137		105	50A/(2B)	27				21		
	6H-NU				230	172	171							22	S-10	10L
	8H-NU		71				202	130	65A/(2.1/2B)	31				25		
	12H-NU		84				293	145	80A/(3B)	38				29	S-22	22L
	15H-NU						354							34		
	18H-NU		109		235	177	415	165			130	116	140	39		
	24H-NU						568		100A/(4B)	44				46	EG35	35L
PXH- PXN-	4H-NU	6	49	55	370	129	141	115	50A/(2B)	27	130	80	105	27/29	S-7	7L
	6H-NU	10	50		415	174	171	120						29/31	S-10	10L
	8H-NU		66				202	145	65A/(2.1/2B)	31				32/34		
	12H-NU		70			169	293	155	80A/(3B)	38	135			38/41	S-22	22L
	15H-NU				430	184	354							42/45		
	18H-NU		64		475	200	415	165				116	140	47/51		
	24H-NU						568		100A/(4B)	44				56/60	EG35	35L
PXP-	4H-NU	43	65	55	430	102	141	175	50A/(2B)	27	115	80	105	37	S-7	7L
	6H-NU				460	132	171				120			40	S-10	10L
	8H-NU	20			520	172	202		65A/(2.1/2B)	31	140			42		
	12H-NU	25			525	177	293	180	80A/(3B)	38				53	S-22	22L
	18H-NU	36				158	415	215			155	116	140	67		

* The specifications and dimensions are subject to change without notice.
* When the oil viscosity exceeds 30 mm²/s, please consult us.
* **For information about custom products other than standard products, please consult us.**

Model code

Magnetic separator Phoenix NEO "PXK·PXH·PXN·PXP"

PX K – 3 a H – N U – FW – S – A – UL

Model

PX : Magnetic separator

Magnetic drum

K : φ100 Powerful magnet
H : φ140 Powerful magnet
N : φ140 Super strong magnet
P : φ214 Super strong magnet

Processing capacity

3 : 30 L/min (for water-soluble coolant)
* PXK : The types o f 30 to 240 L/min are provided.
* PXH/PXN : The types o f 40 to 500 L/min are provided.
* PXP : The types o f 40 to 1000 L/min are provided.

Minor change symbol

Motor mounting orientation

No code : Center motor specifications * Applied only to PXP-80 (800 L/min) or more.
H : Left when viewed from the chip box side (standard)
G : Right when viewed from the chip box side

Inlet

N : No inlet socket(standard)
M : With one inlet socket(option)
O : With one inlet nipple(option)
I : With one inlet pipe(option)
F : With inlet flange(option) * Please contac t us for details.
P : With nipple socket (option) when inflowing from the top surf ace by pump-up
* As a general rule, pump-up is inflow from the top surface, so the nipple cannot be set to the A type (inclined bottom).
* The inlet socket,nipple,flange and pipe cannot be attached to the A type. (Inclind bottom)

Clean liquid outlet direction

U : Bottom discharge (standard)
Y : Side discharge (option)
YG : Right when viewed from the chip box side
YH : Left when viewed from the chip box side
YGH : Both left and right when viewed from the chip box side
* PXP types are PXP-4 to 50.

Applicable chips

No code : Fine particles/ultrafine particles (for general grinding)
FW : Needle-shaped, coarse particles (for shaving and secondary cuting)

Others

No code : Standard
SA : Stainless specification "A" (Heating 60℃ or less)
SB : Stainless specification "B" (Heating 61 to 75℃)
* The stainless steel specification will be selected through a meeting.

Shape of bottom plate

No code : Standard_Fine particles/ultrafine particles (for general grinding)
A : Inclined bottom _ Needle-shaped, coarse particles (for shaving and secondary cuting)

Overseas standard

No code : Standard
UL : UL standard compliant (for America)
CE : CE standard compliant (for Europe)
CC : CCC standard compliant (for China)
* Overseas standards (UL/CE/CCC) and different voltages are optional.
* For information about PXP-80 to 100, please contact us.

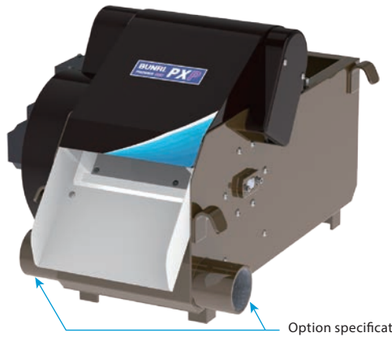
Product Photo (Example)

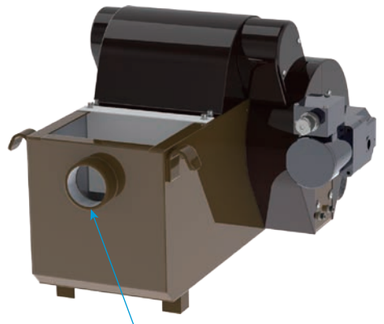
Standard (without inlet socket, Bottom discharge)

PXH-6aH-NU

PXP-6aH-NU

Option (with inlet socket, side discharge)





PXP-6aH-IYGH

Unit

PXH-6aH-NU
With tank, pump, and liquid level gauge

Chip discharge image

* Photos are product images for illustration purposes only. Specifications differ from the actual product.

Related Products

Drastic cleaning reduction for grinding coolant system

› P22

Model: RTG

Grinding system equipped with a new magnetic separator and a new cyclone filter in a uniquely designed tank structure.
Optimum for grinding sludge processing of magnetic materials.

Ultra-precision filtration coolant system

› P30

Model: SB Filter YA

Ultra-precision filtration system that uses steel balls as the filter medium.
The filter media is automatically cleaned by performing operations on the touch panel.
Optimum for grinding sludge processing on honing machines and super-finishing machines.

Drastic cleaning reduction for grinding coolant system COMPACT

› P42

Model: CPT

Grinding system with a new cyclone filter mounted on the uniquely designed tank.
Compatible with both magnetic materials and non-magnetic materials. This is a space-saving model that reduces the space required for installation by 60% compared to that of conventional models.

Drastic cleaning reduction for grinding coolant system
RTG

You can view the product information on our website.

PATENTED

Magnetic material Filtration accuracy: 10 µm 90% or more

Grinding system equipped with a new magnetic separator and a new cyclone filter in a uniquely designed tank structure.

Optimum for grinding sludge processing of magnetic materials.

Use/Performance

Coolant	Water soluble
Category	Magnetic material
Processing details	Grinding
Work material	FC/FCD, steel
Chip shape	Sandy, cottony
Grinding chip size	Ultrafine particles (5 µm to 10 µm), fine particles (10 µm to 100 µm), coarse particles (0.1 mm to 0.5 mm)
Machine tool	Grinding machine, Tool grinding machine

* The filtration accuracy is based on the results of our experiments, and does not imply that this level of accuracy is guaranteed.

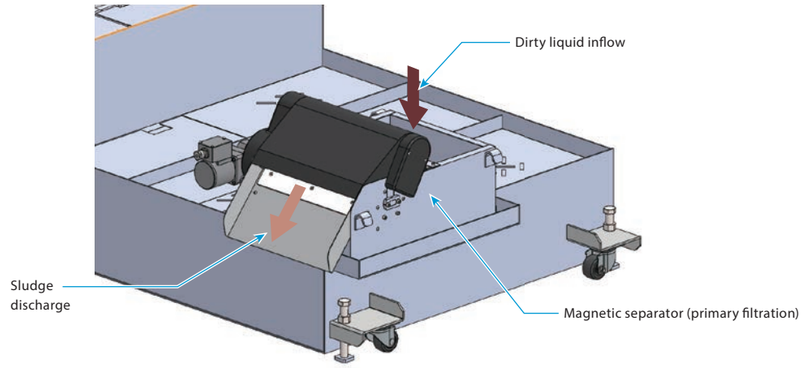
Features

- **Suitable for sandy and cottony magnetic sludge.**
- **The primary filtration is performed by the magnetic separator, and the secondary filtration is performed by the cyclone filter.**
- **A vortex is generated in the primary tank using the inflow of the primarily filtered clean liquid and the overflow of the secondary tank.With its centripetal force*, sludge and abrasive grains are collected in the center of the tank.**
- **By improving the primary tank structure, the rotating velocity of the vortex flow has tripled compared to before the improvement. Improved centripetal force* reduces sludge and abrasive deposits in the tank.**
  As no shower pump is required, power consumption is reduced.
- **This product does not use any consumables such as cartridge filters or paper filters, so no industrial waste is generated.**

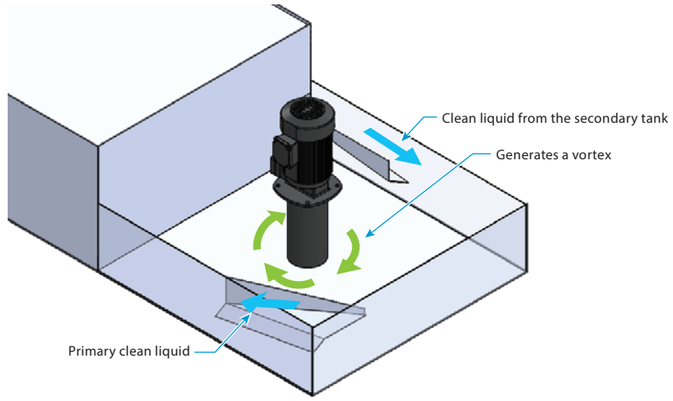
* Refers to the force that acts toward the center of the circle.Vortex.

Mechanism

① The dirty liquid is primarily filtered by first passing through the magnetic separator.

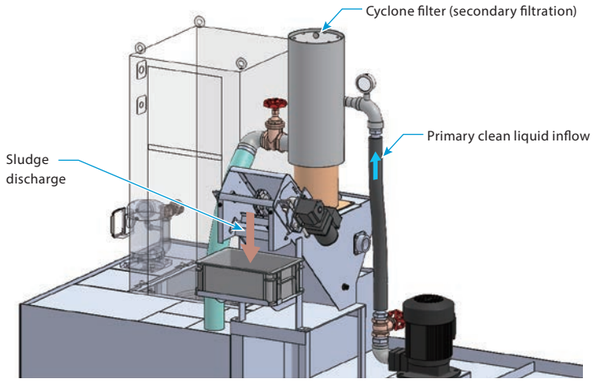


② The primarily filtered clean liquid flows into the primary tank to generate a vortex. With its centripetal force, sludge and abrasive grains accumulate in the center of the tank.

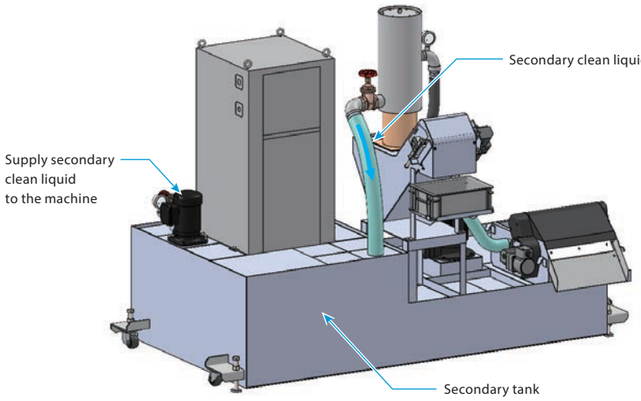


③ The supply pump in the center of the tank pumps the accumulated sludge and abrasive grains.

④ The primarily filtered clean liquid is secondarily filtered by the cyclone filter.

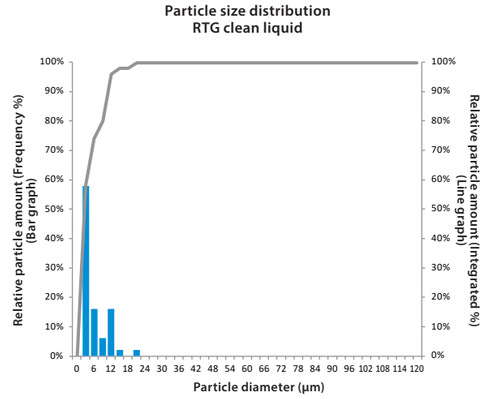


⑤ The secondarily filtered clean liquid flows into the secondary tank, and it is supplied to the machine by the pump.



Sludge distribution status

Machine tool: Grinding machine **Coolant:** Water soluble **Processing flow rate:** 100 L/min **Chip material:** Steel



Model code

Drastic cleaning reduction for grinding coolant system "RTG"

PXH-4aH-NU + APS-2a-SH-240a + CBS-100-2a + OC

Magnetic separator model

PXK : φ100 Powerful magnet
PXH : φ140 Powerful magnet
PXN : φ140 Super strong magnet
PXP : φ214 Super strong magnet
* For details about the model, please refer to "Phoenix NEO".

Cyclone filter model

APS : Cyclone filter "APOLLO-S" (Non -foaming type)
* For details about the model, please refer to "APS".

Chain bucket skimmer model

CBS : Chain bucket skimmer
* For details about the model, please refer to "CBS".

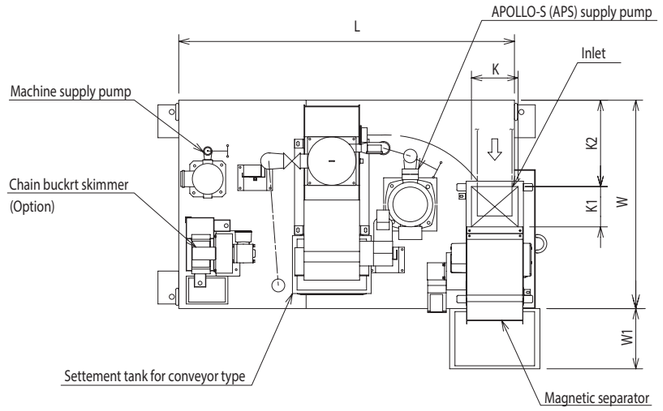
Oil cooler

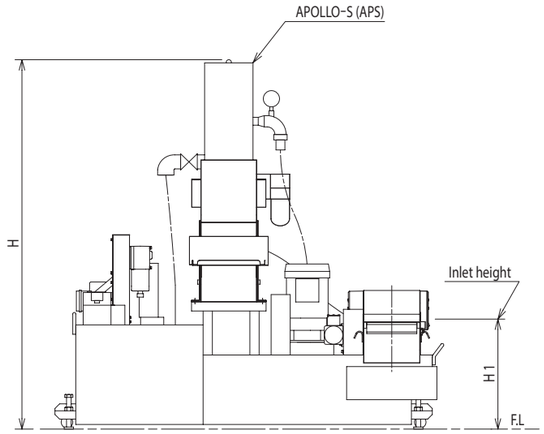
No code : None
OC : Attached (Option)

* The control panel is optional.

Specifications

Dimensional drawing





		Processing flow rate	Product weight*1
Without oil cooler	Water soluble	60 L/min	350 kg
	Water soluble	120 L/min	400 kg
	Water soluble	200 L/min	550 kg
With oil cooler	Water soluble	60 L/min	450 kg
	Water soluble	120 L/min	500 kg
	Water soluble	200 L/min	650 kg

*1 The product weight varies depending on the specifications, options, etc.

Paint color

Silver gray (Munsell No. N-8.0)

* For information about the specified color, please consult us.

Option

Settlement tank for conveyor type (Drive motor: 25W)
Chain bucket skimmer CBS
Relay terminal box
Control panel, Operation box

* Please contact us for details.

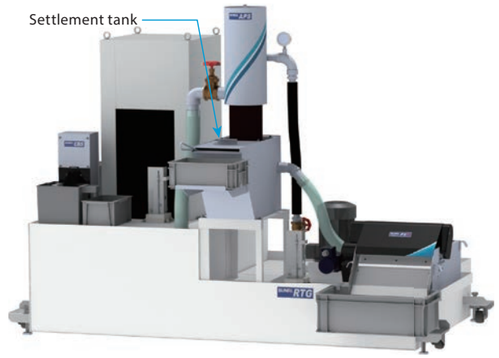
Dimension table

Model code		Processing flow rate (L/min)	Dimensions (mm)								Weight (kg)
		Water soluble	W	W1	L	H	H 1	K	K 1	K 2	
RTG-0.6	Without oil cooler	60	900	260	1450	1595	475	202	174	373	350
RTG-1.2		120	1100	291	1650	1615	485	354	184	558	400
RTG-2		200	1400	320	1950	1715	545	568	200	813	550
RTG-0.6-OC	With oil cooler	60	900	260	1800	1595	475	202	174	373	450
RTG-1.2-OC		120	1100	291	2000	1615	485	354	184	558	500
RTG-2-OC		200	1400	320	2300	1715	545	568	200	813	650

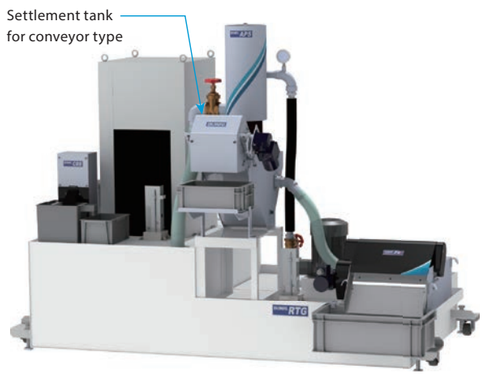
* The specifications and dimensions are subject to change without notice.
* For the oil-based specifications, please consult us.
* **For information about custom products other than standard products, please consult us.**

Product Photo (Example)

With settlement tank



With settlement tank for conveyor type



Related Products

Magnetic separator Phoenix NEO

› P12

Model: PXK/PXH/PXN/PXP

Magnetic separator using rare earths, which has about 10 times the magnetic energy* of ferrite.
By renewing the drive mechanism of the magnetic separator, there is no wear due to sludge or abrasive grains.
A lineup of four models is provided to suit your requirements.
* Maximum energy product

Drastic cleaning reduction for grinding coolant system

› P36

Model: ALG

Grinding system with a new cyclone filter mounted on the uniquely designed tank.
Optimum for grinding sludge processing of non-magnetic materials.

Drastic cleaning reduction for grinding coolant system COMPACT

› P42

Model: CPT

Grinding system with a new cyclone filter mounted on the uniquely designed tank.
Compatible with both magnetic materials and non-magnetic materials. This is a space-saving model that reduces the space required for installation by 60% compared to that of conventional models.

Cyclone filter APOLLO-S

› P114

Model: APS

Cyclone-type secondary processing unit that you can use extensively regardless of magnetic or non-magnetic materials.
Compatible with fine cutting chips and grinding sludge.
The defoaming mechanism supplies the non-foaming clean liquid.
The main body has been downsized while maintaining the filtration accuracy and defoaming mechanism of the old type.

Chain bucket skimmer

› P132

Model: CBS

Approximately seven times the recovery capacity of the belt system. Oil skimmer that uses the unique bucket system.
Optimum for recovering floating oil and scum.

Ultra-precision filtration coolant system
SB Filter YA

You can view the product information on our website.

PATENTED

Magnetic material Filtration accuracy: 5 µm 90% or more

Ultra-precision filtration system that uses steel balls as the filter medium.

The filter media is automatically cleaned by performing operations on the touch panel.

Optimum for grinding sludge processing on honing machines and super-finishing machines.

Use/Performance

Coolant	Water-soluble/Oil-based
Category	Magnetic material
Processing details	Grinding
Work material	FC/FCD, steel
Grinding chip size	Ultrafine particles (5 µm to 10 µm), fine particles (10 µm to 100 µm)
Machine tool	Honing machine, Super finishing machine (Super finisher)

* The filtration accuracy is based on the results of our experiments, and does not imply that this level of accuracy is guaranteed.

Features

- The filtration and cleaning cycle is controlled by the timer.
- The operation can be performed on the touch panel.
  The operation mode can be switched between automatic and manual modes.
  Even if an abnormality occurs, it is displayed on the touch panel screen.
- The filter medium (steel ball) can be removed from the main body for cleaning and maintenance.
- A vortex is generated in the primary tank using the inflow of the primarily filtered clean liquid and the overflow of the secondary tank. With its centripetal force*, sludge and abrasive grains are collected in the center of the tank.
- By improving the primary tank structure, the rotating velocity of the vortex flow has tripled compared to before the improvement. Improved centripetal force* reduces sludge and abrasive deposits in the tank.
- This product is not a bag type or cartridge type, so there is no need to replace the element.
- This product does not use any consumables such as cartridge filters or paper filters, so no industrial waste is generated.

* Refers to the force that acts toward the center of the circle.Vortex.

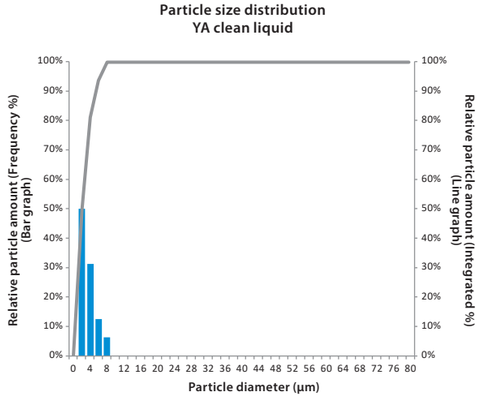
Before-and-after coolant status by filtration

Left: Before - Dirty liquid Right: After - Clean liquid

* This is the result of our experiments, and it does not imply that this level of cleaning ability has been verified.

Sludge distribution status

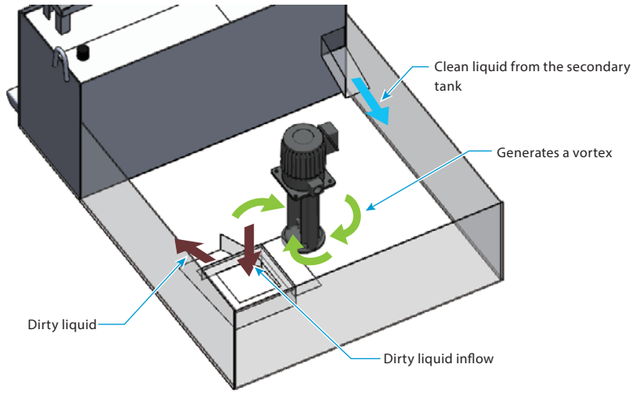
Machine tool: Grinding machine **Coolant:** Water soluble **Processing flow rate:** 50 L/min **Chip material:** FC



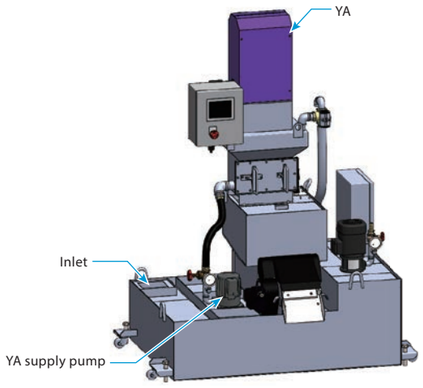
Mechanism

① A vortex is generated when the dirty liquid flows into the primary tank. With its centripetal force*, sludge accumulates in the center of the tank.

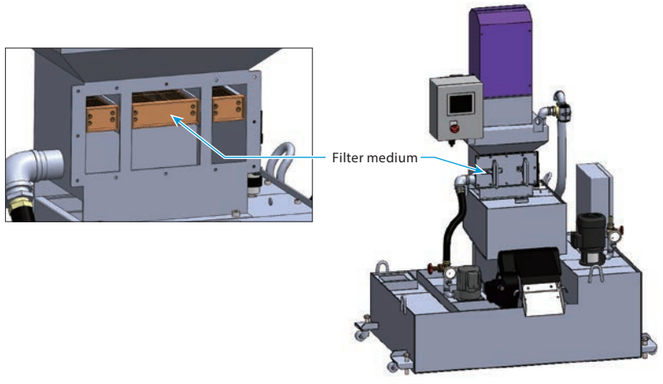
* Refers to the force that acts toward the center of the circle. Vortex.



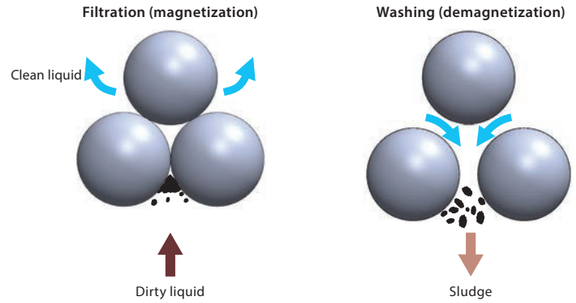
② The YA supply pump in the center of the tank pumps the accumulated sludge.



③ The dirty liquid flows into the filtration tank with the magnetized filter medium (steel ball). Sludge is adsorbed and filtered as it passes through the filter medium (steel balls).

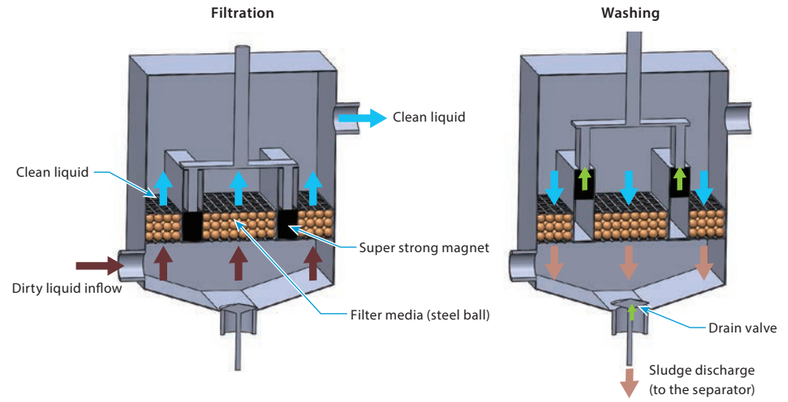


Steel Ball Detailed View



④ The clean liquid is sent to the secondary tank.

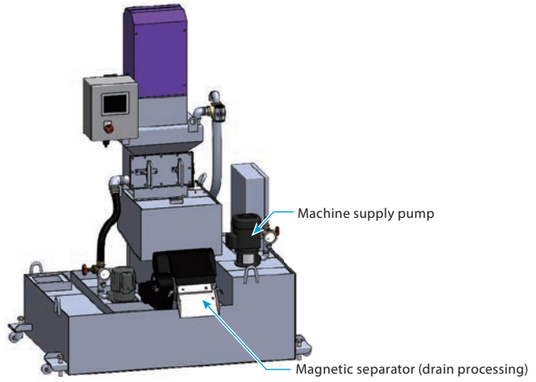
⑤ The filter medium (steel ball) is demagnetized to remove the sludge adsorbed on the filter medium (steel ball). Clean the filter medium (steel ball) using the clean liquid remaining in the filtration tank.



⑥ After the filter medium is cleaned, the liquid mixed with sludge is supplied to the magnet separator to act as a drain.

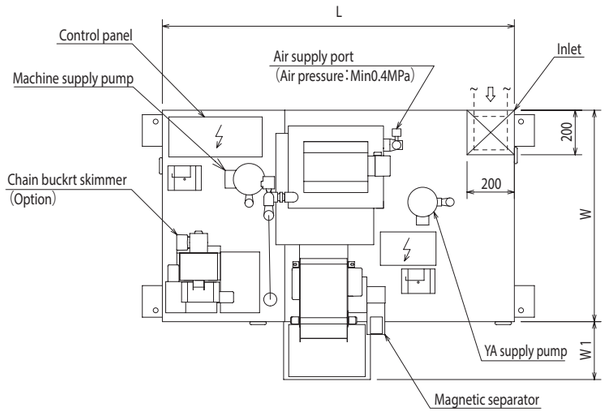
⑦ The drain is filtered by the magnetic separator. The sludge is discharged to the outside of the main body, and the clean liquid is sent to the primary tank.

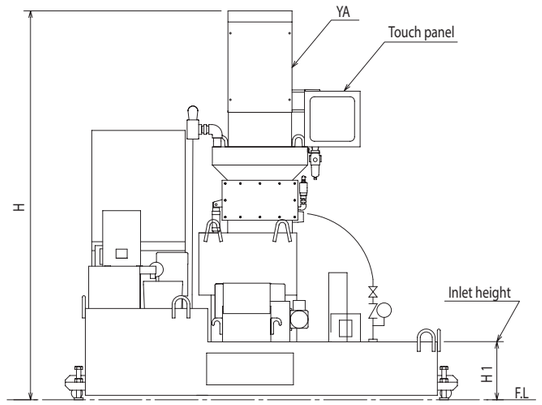
⑧ The clean liquid from YA is stored in the secondary tank and supplied to the machine.



Specifications

Dimensional drawing





		Processing flow rate*1*2	Product weight*3
YA-05	Water soluble	50 L/min	365 kg
YA-1	Water soluble	100 L/min	415 kg
YA-2	Water soluble	200 L/min	620 kg
YA-05Y	Oil-based (10 mm²/s or less)	40 L/min	365 kg
	Oil-based (11 to 20 mm²/s)	25 L/min	
YA-1Y	Oil-based (10 mm²/s or less)	80 L/min	415 kg
	Oil-based (11 to 20 mm²/s)	50 L/min	
YA-2Y	Oil-based (10 mm²/s or less)	160 L/min	620 kg
	Oil-based (11 to 20 mm²/s)	100 L/min	

*1 When the oil viscosity exceeds 20 mm²/s, please consult us.
*2 The oil viscosity is the value at 40°C.
*3 The product weight varies depending on the specifications, options, etc.

Paint color
Silver gray (Munsell No. N-8.0)

* For information about the specified color, please consult us.

Dimension table

Model code	Coolant	Processing flow rate (L/min)	Dimensions (mm)				
			W	W1	L	H	H 1
YA - 05	Water soluble	50	950	260	1500	1820	330
YA - 1		100	1150		1850	1970	375
YA - 2		200	1400	290	2200	2160	445
YA - 05Y	Oil-based Upper level: 10 mm²/s or less Lower lever: 11 to 20 mm²/s	40	900	260	1250	1820	330
		25					
YA - 1Y		80	1000		1750	1970	375
		50					
YA - 2Y		160	1250	290	2075	2160	445
		100					

* The specifications and dimensions are subject to change without notice.
* When the oil viscosity exceeds 20 mm²/s, please consult us.
* The oil viscosity is the value at 40°C.
* **For information about custom products other than standard products, please consult us.**

Model code

Ultra-precision filtration coolant system "SB Filter YA"

YA – 05 Y

Model
YA : Ultra-precision filtration coolant system "SB Filter YA"

Processing flow rate

Water soluble	Oil-based (10mm²/s or less)	Oil-based (11 to 20mm²/s)
YA-05 : 50 L/min	YA-05Y : 40 L/min	YA-05Y : 25 L/min
YA- 1 : 100 L/min	YA- 1Y : 80 L/min	YA- 1Y : 50 L/min
YA- 2 : 200 L/min	YA- 2Y : 160 L/min	YA- 2Y : 100 L/min

Others
No code : Water soluble (standard)
Y : Oil-based

Related Products

Magnetic separator Phoenix NEO › P12

Model: PXK/PXH/PXN/PXP

Magnetic separator using rare earths, which has about 10 times the magnetic energy* of ferrite.
By renewing the drive mechanism of the magnetic separator, there is no wear due to sludge or abrasive grains.
A lineup of four models is provided to suit your requirements.
* Maximum energy product

Chain bucket skimmer › P132

Model: CBS

Approximately seven times the recovery capacity of the belt system. Oil skimmer that uses the unique bucket system.
Optimum for recovering floating oil and scum.

Drastic cleaning reduction for grinding coolant system
ALG

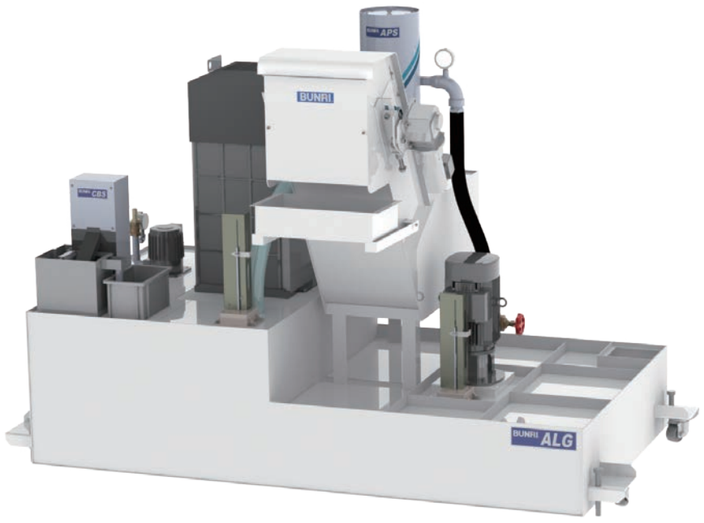
You can view the product information on our website.

PATENTED

Non-magnetic material Filtration accuracy: 10 μm 90% or more

Grinding system with a new cyclone filter mounted on the uniquely designed tank.

Optimum for grinding sludge processing of non-magnetic materials.



Use/Performance

Coolant	Water soluble
Category	Non-magnetic material
Processing details	Grinding
Work material	Aluminum, stainless steel, copper, titanium, mixed chips (aluminum + FC or sintered metal)
Chip shape	Sandy
Grinding chip size	Ultrafine particles (5 μm to 10 μm), fine particles (10 μm to 100 μm), coarse particles (0.1 mm to 0.5 mm)
Machine tool	Grinding machine

* The filtration accuracy is based on the results of our experiments, and does not imply that this level of accuracy is guaranteed.

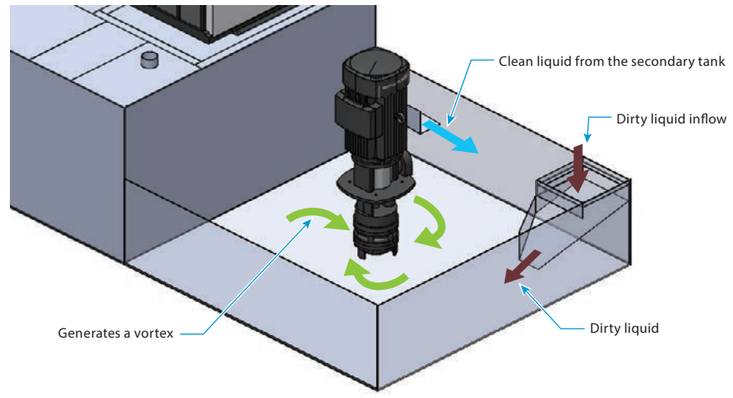
Features

- **Suitable for sandy non-magnetic sludge.**
- **The entire amount of liquid is filtered using the cyclone filter.**
- **The primary tank generates a vortex as a result of the inflow of dirty liquid. With its centripetal force*, sludge and abrasive grains are collected in the center of the tank.**
- **The primary tank constantly generates a liquid flow as a result of centripetal force in order to prevent sludge from accumulating.**
  As no shower pump is required, power consumption is reduced.
- **By improving the primary tank structure, the rotating velocity of the vortex flow has tripled compared to before the improvement. Improved centripetal force* reduces sludge and abrasive deposits in the tank.**
- **This product does not use any consumables such as cartridge filters or paper filters, so no industrial waste is generated.**

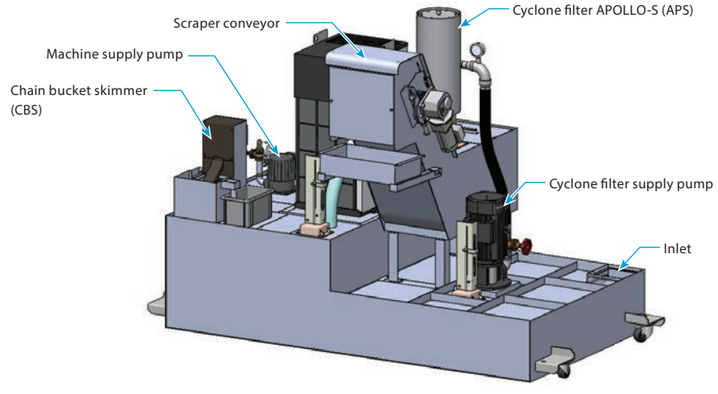
* Refers to the force that acts toward the center of the circle.Vortex.

Mechanism

① The dirty liquid flows into the primary tank to generate a vortex. With its centripetal force, sludge and abrasive grains accumulate in the center of the tank.

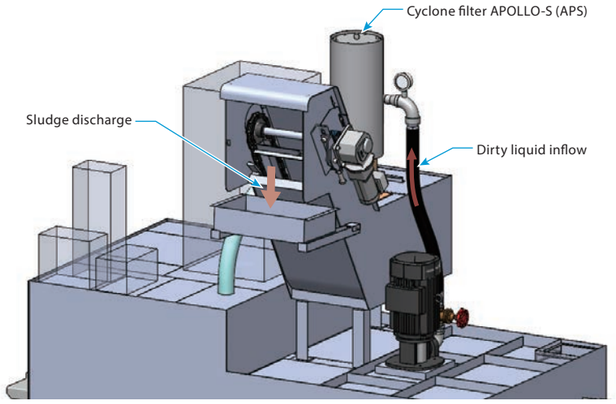


② The supply pump in the center of the tank pumps the accumulated sludge and abrasive grains.

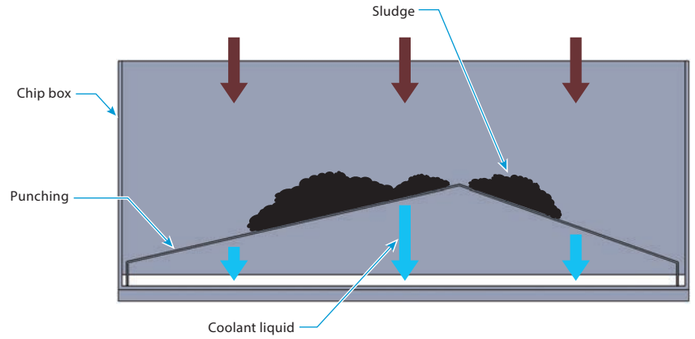


③ The dirty liquid is filtered by the cyclone filter.

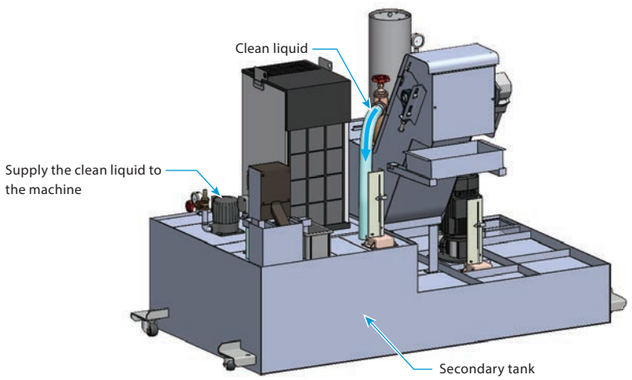
④ Sludge is discharged from the drain section of the cyclone filter through the scraper conveyor.



Detailed view of chip box for scraper conveyor

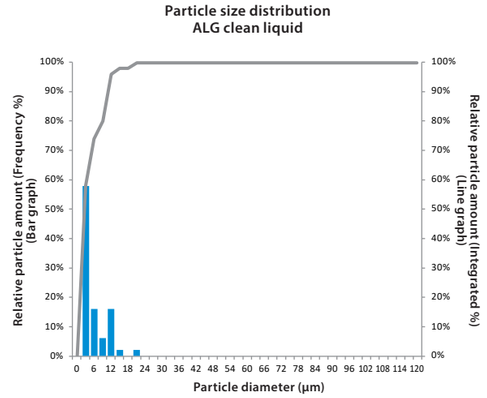


⑤ After the clean liquid flows into the secondary tank, it is supplied to the machine by the pump.



Sludge distribution status

Machine tool: Grinding machine **Coolant:** Water soluble **Processing flow rate:** 100 L/min **Chip material:** Steel



* This is the numeric value based on the Cyclone filter APOLLO-S (APS).

Model code

Drastic cleaning reduction for grinding coolant system "ALG"

APS-2a + S40HLA-165 + CBS-100-2a + OC

Cyclone filter model

APS : Cyclone filter "APOLLO-S" (Non -foaming type)
* For details about the model, please refer to "APS".

Conveyor model

S : Scraper conveyor
* For details about the model, please refer to "AL/ALL/MAL".

Chain bucket skimmer model

CBS : Chain bucket skimmer
* For details about the model, please refer to "CBS".

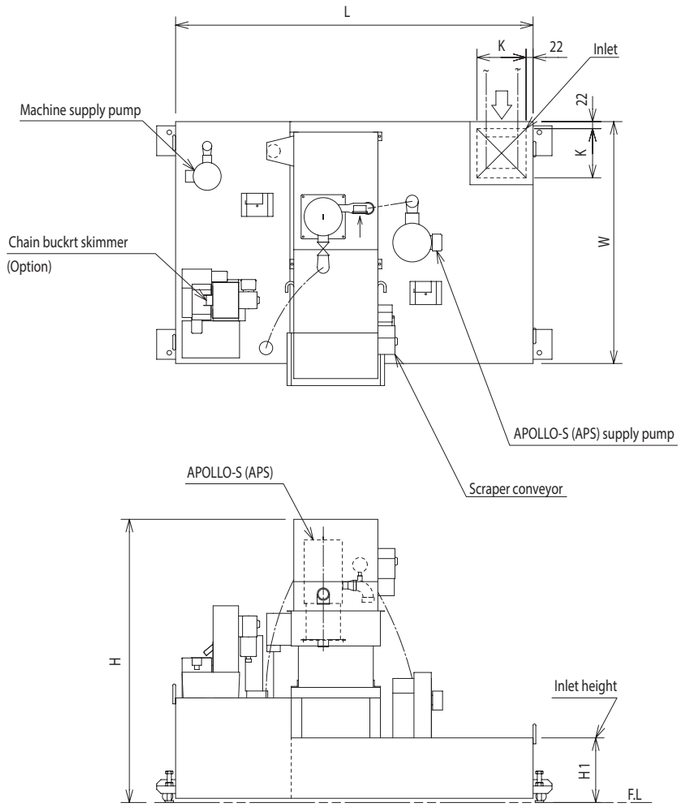
Oil cooler

No code : None
OC : Attached (Option)

* The control panel is optional.

Specifications

Dimensional drawing



		Processing flow rate	Product weight*1
Without oil cooler	Water soluble	60 L/min	305 kg
	Water soluble	120 L/min	355 kg
	Water soluble	200 L/min	490 kg
With oil cooler	Water soluble	60 L/min	455 kg
	Water soluble	120 L/min	505 kg
	Water soluble	200 L/min	740 kg

*1 The product weight varies depending on the specifications, options, etc.

Paint color	Geared motor
Silver gray (Munsell No. N-8.0)	**Scraper conveyor 15W**

* For information about the specified color, please consult us.

Option

Chain bucket skimmer CBS
Relay terminal box
Control panel, Operation box

* Please contact us for details.

Dimension table

Model code		Processing flow rate (L/min)	Dimensions (mm)					Weight (kg)
		Water soluble	W	L	H 1	H	K	
ALG-0.6	Without oil cooler	60	950	1350	320	1560	156	305
ALG-1.2		120	1150	1550	360	1600		355
ALG-2		200	1300	1800	410	1650	206	490
ALG-0.6-OC	With oil cooler	60	950	1750	320	1560	156	455
ALG-1.2-OC		120	1150	1950	360	1680		505
ALG-2-OC		200	1300	2200	410	1680	206	740

* The specifications and dimensions are subject to change without notice.
* For the oil-based specifications, please consult us.
* **For information about custom products other than standard products, please consult us.**

Related Products

Drastic cleaning reduction for grinding coolant system › P22

Model: RTG

Grinding system equipped with a new magnetic separator and a new cyclone filter in a uniquely designed tank structure.
Optimum for grinding sludge processing of magnetic materials.

Drastic cleaning reduction for grinding coolant system COMPACT › P42

Model: CPT

Grinding system with a new cyclone filter mounted on the uniquely designed tank.
Compatible with both magnetic materials and non-magnetic materials. This is a space-saving model that reduces the space required for installation by 60% compared to that of conventional models.

Cyclone filter APOLLO-S › P114

Model: APS

Cyclone-type secondary processing unit that you can use extensively regardless of magnetic or non-magnetic materials.
Compatible with fine cutting chips and grinding sludge.
The defoaming mechanism supplies the non-foaming clean liquid.
The main body has been downsized while maintaining the filtration accuracy and defoaming mechanism of the old type.

Chain bucket skimmer › P132

Model: CBS

Approximately seven times the recovery capacity of the belt system. Oil skimmer that uses the unique bucket system.
Optimum for recovering floating oil and scum.

Drastic cleaning reduction for grinding coolant system **COMPACT** CPT

You can view the product information on our website.

PATENTED

Magnetic material/Non-magnetic material Filtration accuracy: 10 µm 90% or more

Grinding system with a new cyclone filter mounted on the uniquely designed tank.
Compatible with both magnetic and non-magnetic materials.
Space-saving model that reduces the space required for installation by 60% compared to that of conventional models.

Use/Performance

Coolant	Water soluble
Category	Magnetic material/Non-magnetic material
Processing details	Grinding
Work material	FC/FCD, steel, aluminum, stainless steel, copper, titanium, mixed chips (aluminum + FC or sintered metal)
Chip shape	Sandy
Grinding chip size	Ultrafine particles (5 µm to 10 µm), fine particles (10 µm to 100 µm), coarse particles (0.1 mm to 0.5 mm)
Machine tool	Grinding machine

* The filtration accuracy is based on the results of our experiments, and does not imply that this level of accuracy is guaranteed.

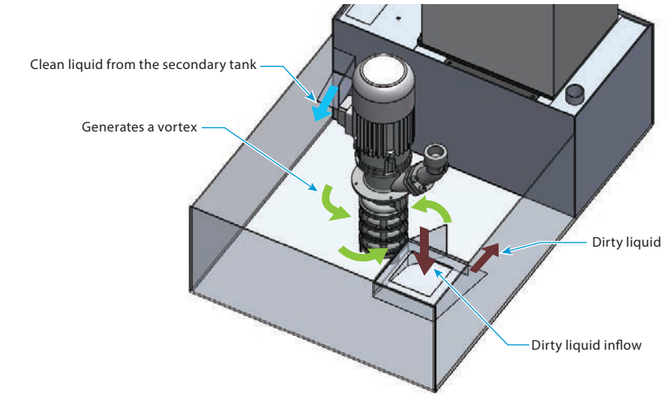
Features

- **Suitable for sandy magnetic and non-magnetic sludge.**
- **Compared to the conventional products*1, space was saved by reducing the amount of liquid in the tank.**
- **The entire amount of liquid is filtered using the cyclone filter.**
- **The primary tank generates a vortex as a result of the inflow of dirty liquid. With its centripetal force*2, sludge and abrasive grains are collected in the center of the tank.**
- **By improving the primary tank structure, the rotating velocity of the vortex flow has tripled compared to before the improvement. Improved centripetal force*2 reduces sludge and abrasive deposits in the tank.**
- **This product does not use any consumables such as cartridge filters or paper filters, so no industrial waste is generated.**

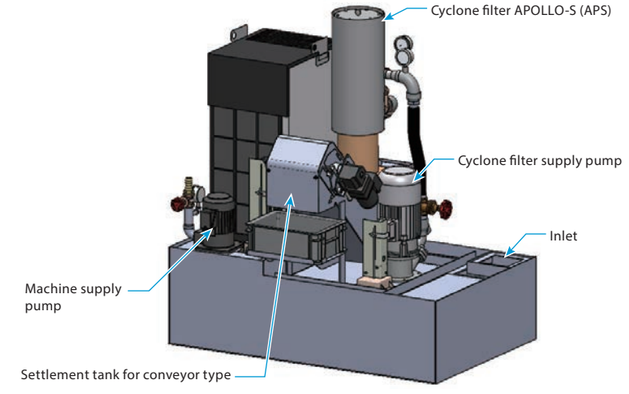
*1 Drastic cleaning reduction for grinding coolant system "ALG".
*2 Refers to the force that acts toward the center of the circle.Vortex.

Mechanism

① The dirty liquid flows into the primary tank to generate a vortex. With its centripetal force, sludge and abrasive grains accumulate in the center of the tank.

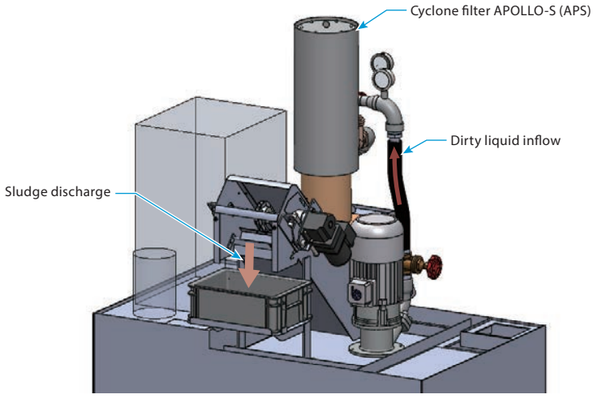


② The supply pump in the center of the tank pumps the accumulated sludge and abrasive grains.

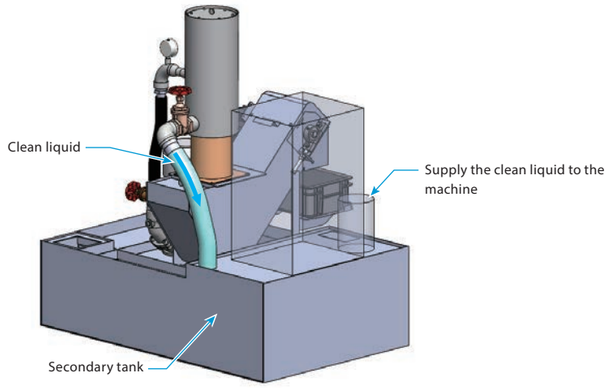


③ The entire amount of dirty liquid is filtered by the cyclone filter.

④ Sludge is discharged from the drain section of the cyclone filter to the settlement tank for conveyor type, and discharged by the scraper.

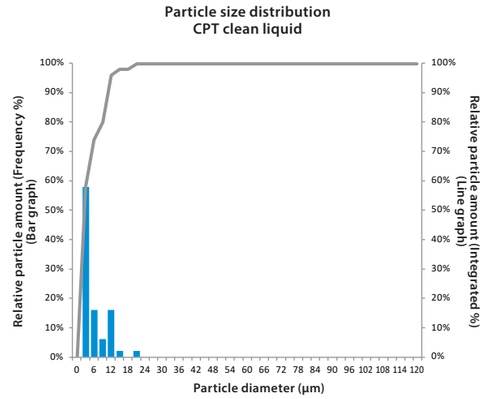


⑤ After the clean liquid flows into the secondary tank, it is supplied to the machine by the pump.



Sludge distribution status

Machine tool: Grinding machine **Coolant:** Water soluble **Processing flow rate:** 100 L/min **Chip material:** Steel



* This is the numeric value based on the Cyclone filter APOLLO-S (APS).

Model code

Drastic cleaning reduction for grinding coolant system "COMPACT (CPT)"

APS-2a-SH-240a + CBS-100-2a

Cyclone filter model

APS : Cyclone filter "APOLLO-S" (Non -foaming type)
* For details about the model, please refer to "APS".

Chain bucket skimmer model

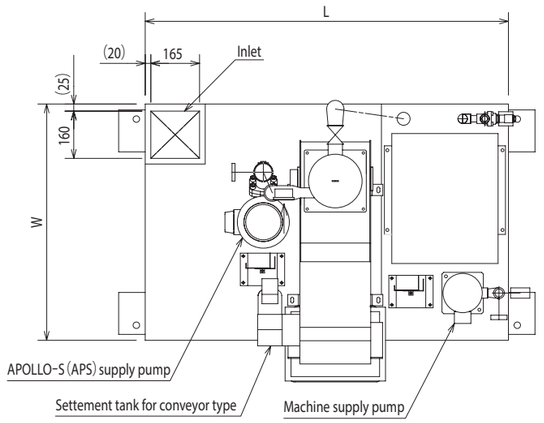
CBS : Chain bucket skimmer
* For details about the model, please refer to "CBS".

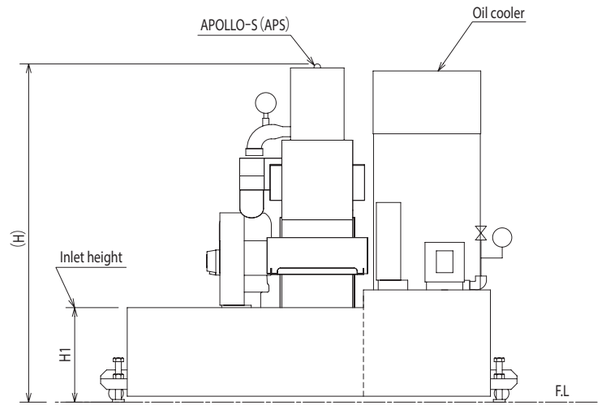
* An oil cooler to reduce the heat generated by the cyclone filter (AP) supply pump and machine supply pump is attached as standard.

* The system includes the control panel for the cyclone filter (AP) supply pump, settlement tank for conveyor type, chain bucket skimmer, and oil cooler. (The control circuitry for chain bucket skimmer is included only if selected.)

Specifications

Dimensional drawing





		Processing flow rate	Product weight*1
With oil cooler	Water soluble	120 L/min	320 kg
	Water soluble	200 L/min	410 kg

*1 The product weight varies depending on the specifications, options, etc.

Paint color
Silver gray (Munsell No. N-8.0)

* For information about the specified color, please consult us.

Option
Magnetic separator Phoenix NEO
Settlement tank for conveyor type (Drive motor: 25W)
Chain bucket skimmer CBS
Relay terminal box
Control panel, Operation box

* Please contact us for details.

Dimension table

Model code	Processing flow rate (L/min)	Dimensions (mm)				Weight (kg)
	Water soluble	W	L	H 1	H	
CPT-1	120	900	1330	360	1320	320
CPT-2	230	1100	1780	400	1380	410

* The specifications and dimensions are subject to change without notice.
* For the oil-based specifications, please consult us.
* **For information about custom products other than standard products, please consult us.**

Related Products

Magnetic separator Phoenix NEO › P12

Model: PXK/PXH/PXN/PXP

Magnetic separator using rare earths, which has about 10 times the magnetic energy* of ferrite.
By renewing the drive mechanism of the magnetic separator, there is no wear due to sludge or abrasive grains.
A lineup of four models is provided to suit your requirements.
* Maximum energy product

Drastic cleaning reduction for grinding coolant system › P22

Model: RTG

Grinding system equipped with a new magnetic separator and a new cyclone filter in a uniquely designed tank structure.
Optimum for grinding sludge processing of magnetic materials.

Drastic cleaning reduction for grinding coolant system › P36

Model: ALG

Grinding system with a new cyclone filter mounted on the uniquely designed tank.
Optimum for grinding sludge processing of non-magnetic materials.

Cyclone filter APOLLO-S › P114

Model: APS

Cyclone-type secondary processing unit that you can use extensively regardless of magnetic or non-magnetic materials.
Compatible with fine cutting chips and grinding sludge.
The defoaming mechanism supplies the non-foaming clean liquid.
The main body has been downsized while maintaining the filtration accuracy and defoaming mechanism of the old type.

Chain bucket skimmer › P132

Model: CBS

Approximately seven times the recovery capacity of the belt system. Oil skimmer that uses the unique bucket system.
Optimum for recovering floating oil and scum.

Powerful magnetic drum conveyor MMS
Super strong magnetic drum conveyor M10
Powerful magnetic drum conveyor HMS
#30 Super strong magnetic drum conveyor M10

You can view the product information on our website.

PATENTED *1

Magnetic material Filtration accuracy: 10 to 30 µm 90% or more

Microfiltration conveyor equipped with powerful magnetic drum.
Optimum for cutting chip processing of castings and iron.

Super strong magnetic drum conveyor M10

Use/Performance

Coolant	Water-soluble/Oil-based
Category	Magnetic material
Processing details	Cutting
Work material	FC/FCD, steel
Chip shape	Sandy, cottony, granular, needle-shaped, small curl-shaped (50 mm or less)
Machine tool	Machining center, #30 Machining center, Broaching machine, Gear cutting machine, Gun drill machine, Cutting specialized machine, Washing machine

* The filtration accuracy is based on the results of our experiments, and does not imply that this level of accuracy is guaranteed.
*1 The patented product is "Super strong magnetic drum conveyor M10".

Features

- **No mist is generated by the in-liquid filtration, which helps improve the environment in the factory.**
- **80 to 90% of chips settle near the dirty fluid inlet, so the magnetic drum provides efficient filtration.**
- **Since the power source is the geared motor of the conveyor, it helps reduce power consumption.**
  The chain scraper and magnetic drum are driven by the same geared motor.
- **The chip discharge port of the conveyor has a structure that drains liquid, which ensures that chips are drained before being discharged.**
  This processing reduces the load to carry out coolant (means that coolant is discharged together with chips).
- **Optimal design with consideration for maintenance.**
- **This product does not use any consumables such as cartridge filters or paper filters, so no industrial waste is generated.**

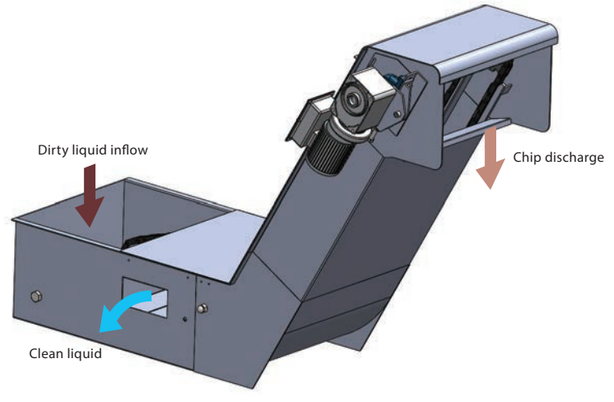
Type	Features	Filtration accuracy*	Flow rate (L/min)
MMS	Standard coolant conveyor that filters cutting chips of magnetic materials.	20 µm 90% or more	150 to 300
M10	• Optimum for castings that generate fine chips because the magnetic force of the magnetic drum is higher than that of MMS. • This product does not require any secondary processing, and supports high-pressure pumps of up to 3 MPa.	10 µm 90% or more	
HMS	The height of the main body in the filtration section is suppressed to capture chips using the magnet on the bottom of the conveyor instead of the magnetic drum, enabling this product to be installed in the frontage of a low-floor machine.	30 µm 90% or more	100 to 300
M10 (#30)	• Magnetic drum conveyor for machining center #30. • This product does not require any secondary processing, and supports high-pressure pumps of up to 3 MPa.	10 µm 90% or more	200

* The filtration accuracy is based on the results of our experiments, and does not imply that this level of accuracy is guaranteed.

Mechanism

MMS/M10/M10(#30)

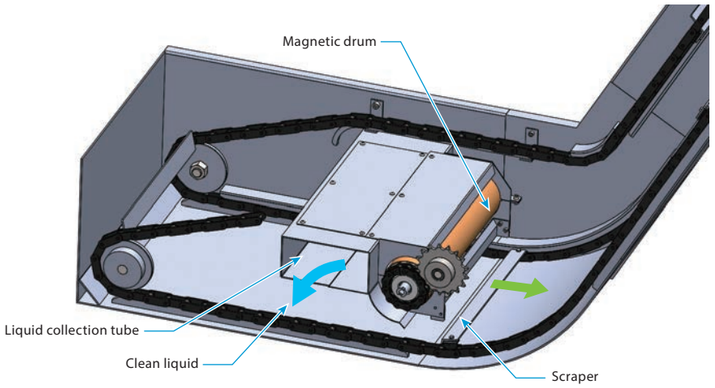
① The dirty liquid flows onto the conveyor, and 80 to 90% of chips settle on the bottom of the conveyor.



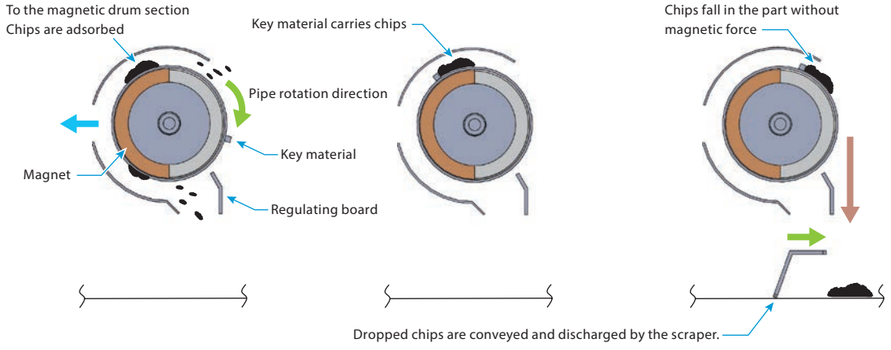
② 10 to 20% of chips that do not settle are captured by the magnetic drum. The captured chips are demagnetized at the part of the magnetic drum that is not magnetic, and settle on the bottom of the conveyor.

③ The dirty liquid passes through the magnetic drum to become a clean liquid, which is supplied to the clean tank.

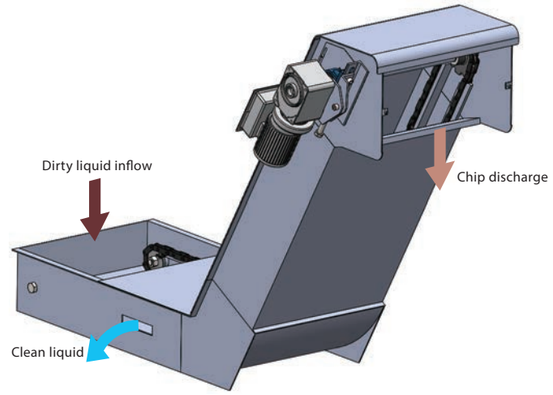
④ The settled chips are conveyed by the scraper and discharged to the outside of the main body. Chips are temporarily stored in the conveyor outlet, drained, and then discharged.



Filtration Section Detailed View



HMS

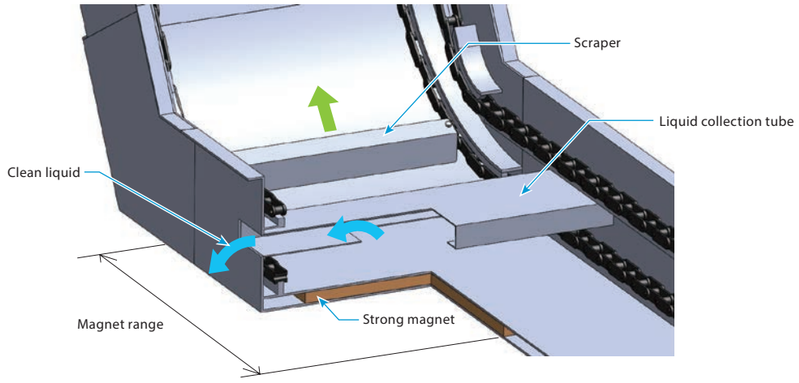


① The dirty liquid flows onto the conveyor.

② Chips are captured by the magnet installed on the bottom of the conveyor.

③ Chips captured by the magnet on the bottom of the conveyor are conveyed by the scraper.

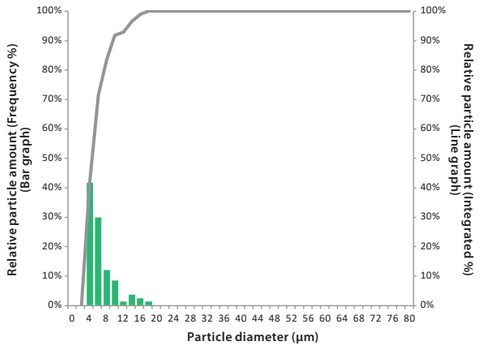
④ Chips are temporarily stored in the conveyor outlet, drained, and then discharged.



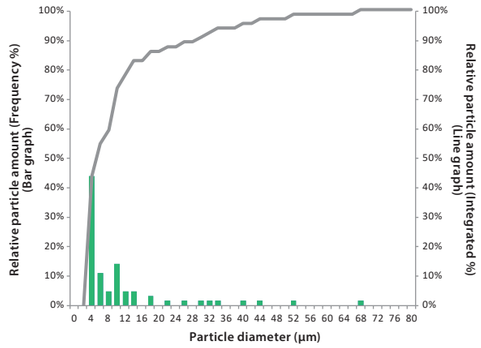
Sludge distribution status

Machine tool: Machining center **Coolant:** Water soluble **Processing flow rate:** 200 L/min **Chip material:** FC

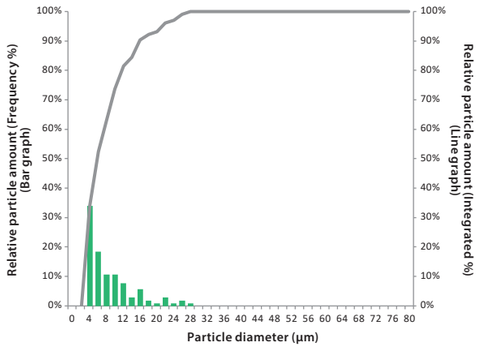
Particle size distribution
M10 clean liquid



Particle size distribution
HMS clean liquid



Particle size distribution
MMS clean liquid



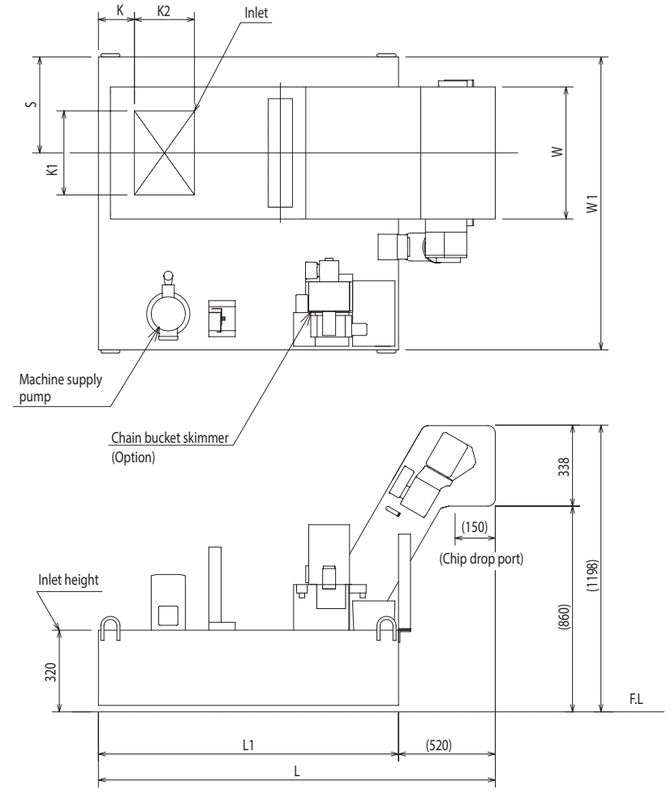
* M10/HMS/MMS only

Specifications

M10

Dimensional drawing

* MMS has the same dimensions as M10.



		Processing flow rate	Product weight*1
M10-1 (M10-45HLA-235(11-1.5))	Water soluble	150 L/min	370 kg
M10-2 (M10-55HLA-245(11-2))	Water soluble	200 L/min	430 kg
M10-3 (M10-70HLA-260(11-3))	Water soluble	300 L/min	550 kg

*1 For details, please check the product dimensions. Also, the product weight varies depending on the specifications, options, etc.

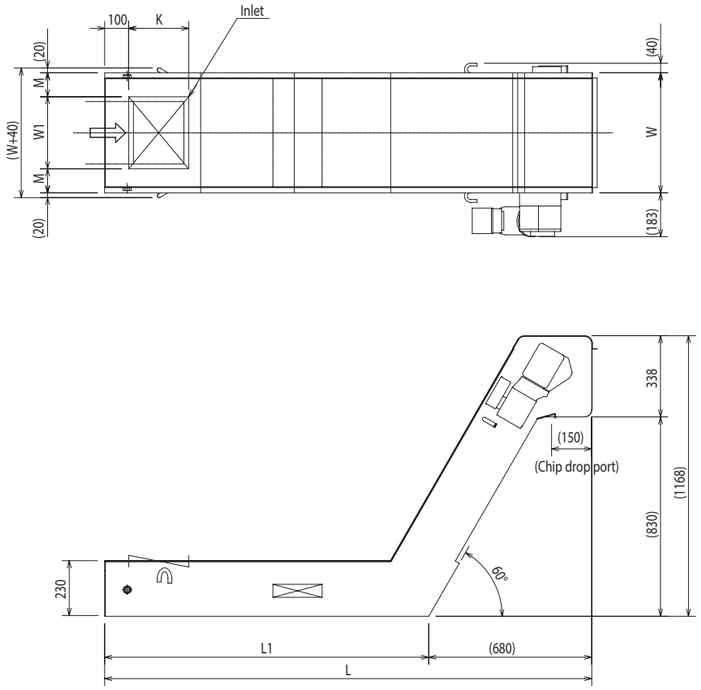
Dimension table

Model code	Processing capacity Water soluble (L/min)	Dimensions (mm)								Weight (kg)
		W	W 1	L	L 1	S	K	K 1	K 2	
M10-1 (M10-45HLA-235(11-1.5))	150	450	1200	1970	1450	305	350	250	200	370
M10-2 (M10-55HLA-245(11-2))	200	550	1300			355	250	350		430
M10-3 (M10-70HLA-260(11-3))	300	700	1500	2320	1800	425	450		250	550

* The specifications and dimensions are subject to change without notice.
* For the oil-based specifications, please consult us.
* **For information about custom products other than standard products, please consult us.**

HMS

Dimensional drawing



		Processing flow rate	Product weight*1
HMS-1 (HMS30HLA-245)	Water soluble	100 L/min	160 kg
HMS-2 (HMS40HLA-280)	Water soluble	200 L/min	180 kg
HMS-3 (HMS50HLA-280)	Water soluble	300 L/min	200 kg

*1 For details, please check the product dimensions. Also, the product weight varies depending on the specifications, options, etc.

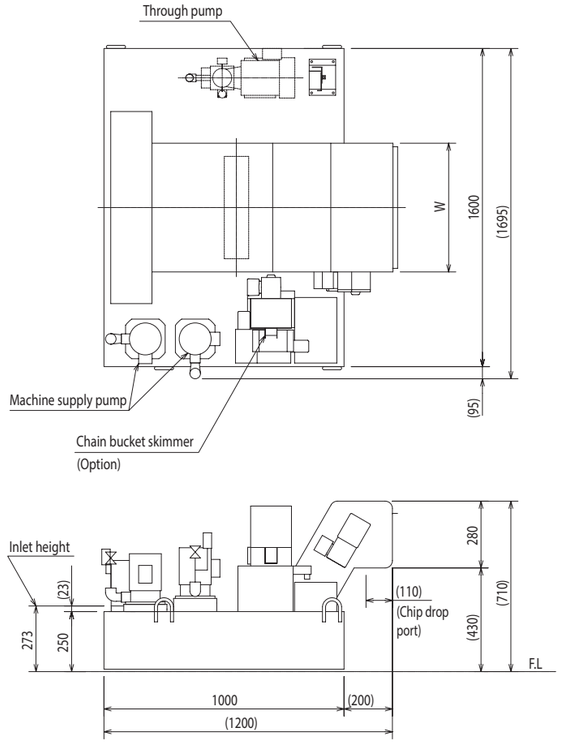
Dimension table

Model code	Processing capacity Water soluble (L/min)	Dimensions (mm)						Weight (kg)
		W	L	L1	W1	K	M	
HMS-1 (HMS30HLA-245)	100	300	1680	1000	200	200	50	160
HMS-2 (HMS40HLA-280)	200	400	2030	1350	300			180
HMS-3 (HMS50HLA-280)	300	500			350	250	75	200

* The specifications and dimensions are subject to change without notice.
* For the oil-based specifications, please consult us.
* **For information about custom products other than standard products, please consult us.**

M10 (#30)

Dimensional drawing



		Processing flow rate	Product weight*1
#30-M10-1 (M10-1F-C-CBS)	Water soluble	140 L/min	330 kg
#30-M10-2 (M10-2F-C-CBS)	Water soluble	200 L/min	350 kg

*1 For details, please check the product dimensions. Also, the product weight varies depending on the specifications, options, etc.

Dimension table

Model code	Processing capacity Water soluble (L/min)	Dimensions (mm)	Weight (kg)
		W	
#30-M10-1 (M10-1F-C-CBS)	140	550	330
#30-M10-2 (M10-2F-C-CBS)	200	750	350

* The specifications and dimensions are subject to change without notice.
* For the oil-based specifications, please consult us.
* **For information about custom products other than standard products, please consult us.**

Geared motor

M10/MMS/HMS 100W
M10 (#30) 25W

* The medium and large size models have different specifications.

Paint color

Silver gray (Munsell No. N-8.0)

* For information about the specified color, please consult us.

Option

Chain bucket skimmer CBS
Relay terminal box
Control panel, Operation box

* Please contact us for details.

Model code

Super strong magnetic drum conveyor "M10"

Powerful magnetic drum conveyor "MMS"

M10 55 H L A – 230 ( ) 1 1 – 2

Model
M10 : Super strong magnetic drum conveyor
MMS : Powerful magnetic roller conveyor

Conveyor width
55 : 550 mm
* The conveyor width is 450/550/600/700 mm as stan dard, which is designed to correspond to the processing flow rate and layout.

Motor mounting orientation
H : Left when viewed from the chip box side (standard)
G : Right when viewed from the chip box side

Shape of main body
L : L type (Horizontal part + Inclined part)

Motor mounting method
A : Direct connection type (standard)
B : Folded type (option)

Overall length of main body
230 : 2300 mm (Horizontal part + Inclined part)

Magnetic drum mounting method
No code : Standard (Drum driven by conveyor chain)
B : Horizontal type (a separate motor is attached to drive the magnetic drum)

Magnetic drum diameter
1 : φ100 mm

Number of magnetic drums
1 : 1 unit
* The number of drums is set depending on the processing flow rate.

Processing flow rate
2 : 200 L/min

Powerful magnetic drum conveyor "HMS"

HMS – 40 H L A – 230

Model
HMS : Powerful magnetic drum conveyor

Conveyor width
40 : 400 mm
* The conveyor width is min. 350 to 50 mm pitch, which is designed to correspond to the processing flow rate and layout.

Motor mounting orientation
H : Left when viewed from the chip box side (standard)
G : Right when viewed from the chip box side

Shape of main body
L : L type (Horizontal part + Inclined part)

Motor mounting method
A : Direct connection type (standard)
B : Folded type (option)

Overall length of main body
230 : 2300 mm (Horizontal part + Inclined part)

* For the M10 (#30) model, please consult us.

Product Photo (Example)

MMS/M10 option (CBS)

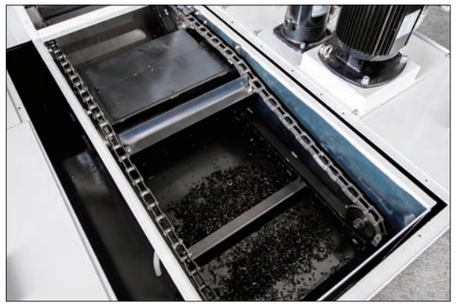
HMS

M10 (#30) option (CBS)

* For information about custom products other than standard products, please consult us.

Chip discharge image

MMS/M10/HMS



MMS/M10

* Photos are product images for illustration purposes only. Specifications differ from the actual product.

Related Products

Chain bucket skimmer

› P132

Model: CBS

Approximately seven times the recovery capacity of the belt system. Oil skimmer that uses the unique bucket system.
Optimum for recovering floating oil and scum.

Magnetic belt conveyor MB

You can view the product information on our website.

Magnetic material Filtration accuracy: 100 μm 90% or more

Conveyor that conveys the tangled chips of magnetic material using the belt while adsorbing them with the magnet.
Optimum for processing tangled dumpling-shaped or curl-shaped chips.

Use/Performance

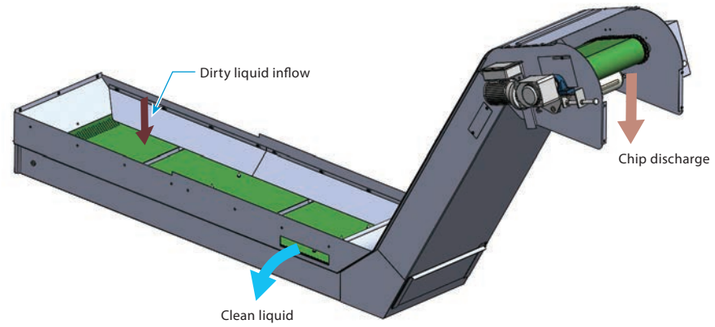
Coolant	Water-soluble/Oil-based
Category	Magnetic material
Processing details	Cutting
Work material	FC/FCD, steel
Chip shape	Long curl-shaped (101 mm or more), dumpling-shaped
Machine tool	Machining center, NC lathes, Automation machine, Cutting specialized machine

* The filtration accuracy is based on the results of our experiments, and does not imply that this level of accuracy is guaranteed.

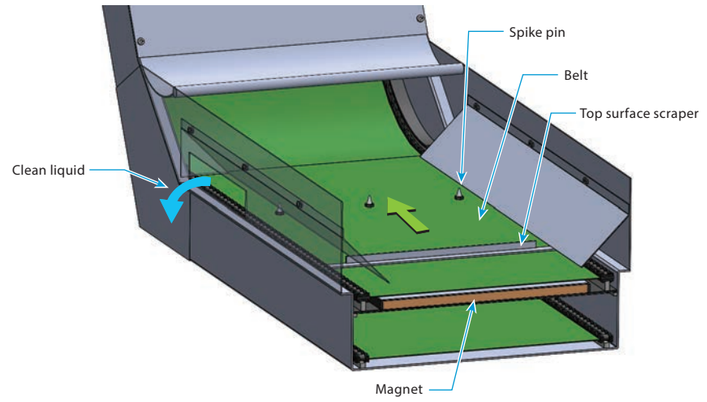
Features

- Conveyor of which the internal magnet captures magnetic chips via the belt.
- Suitable for curl-shaped or dumpling-shaped magnetic chips that are easily entangled.
- The driven/transfer magnetic drum and mechanical screw firmly discharge chips that have entered the bottom of the conveyor or the back of the belt.
- A lineup of belt types is provided to suit chip conditions.
- This product does not use any consumables such as cartridge filters or paper filters, so no industrial waste is generated.

Mechanism

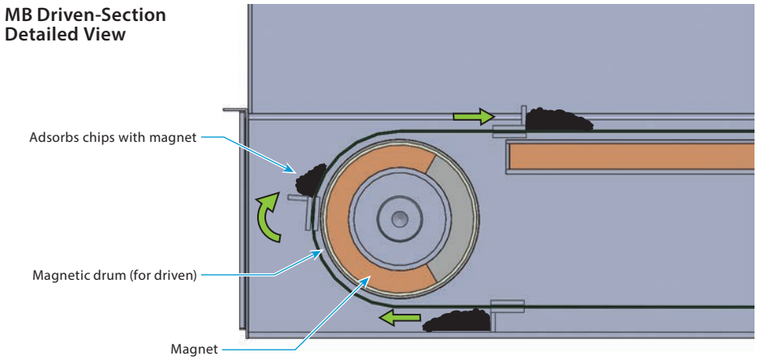


① The dirty liquid flows onto the conveyor.
② The internal magnet adsorbs the chips on the belt and conveys the chips using the assistance of the scraper. Curl-shaped and dumpling-shaped chips are also hooked using spike pins and conveyed.



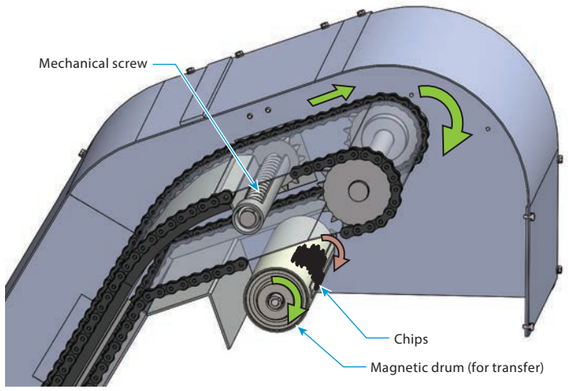
③ Chips that have accumulated on the bottom of the conveyor are conveyed to the conveyor driven section (rear side) by the return scraper, and adsorbed by the magnetic drum (driven section), then conveyed onto the belt.

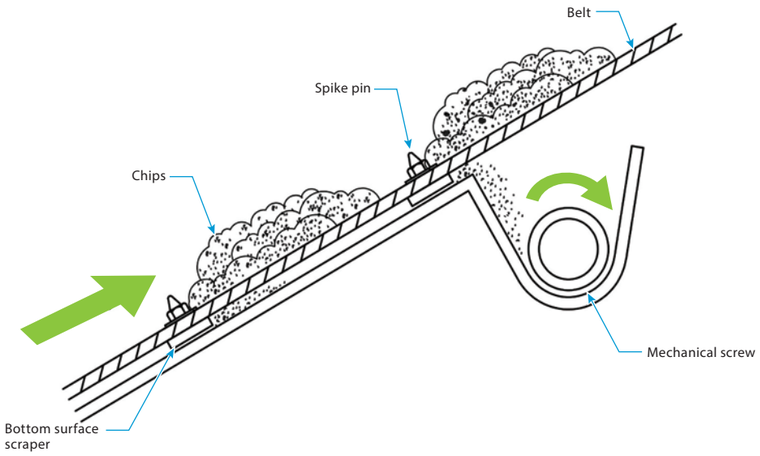
MB Driven-Section Detailed View

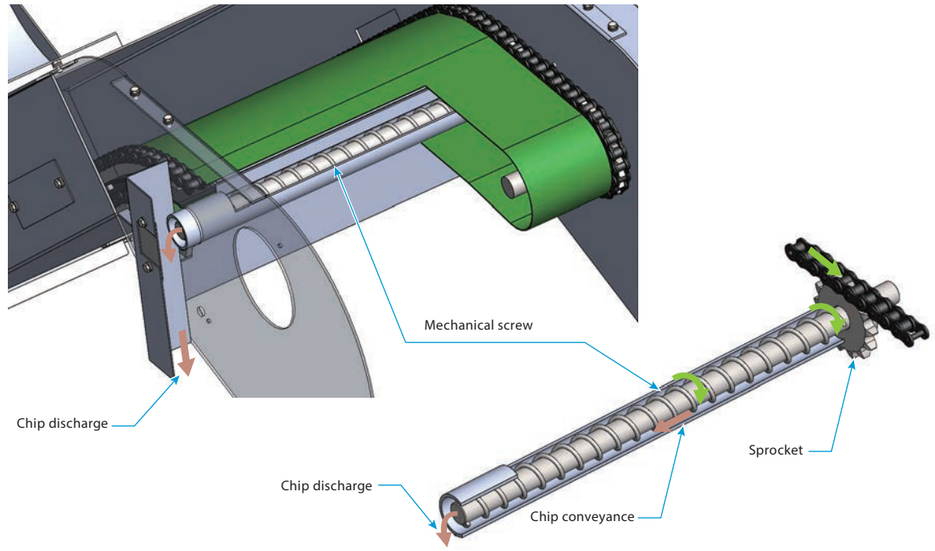


④ Chips that have entered between the belt and the magnet are conveyed by the scraper on the back side of the belt and discharged to the outside of the main body by the mechanical screw attached to the top of the conveyor.

⑤ Chips remaining on some belt surfaces are adsorbed on the magnetic drum (for transfer) and forcibly discharged to prevent chips from getting caught.

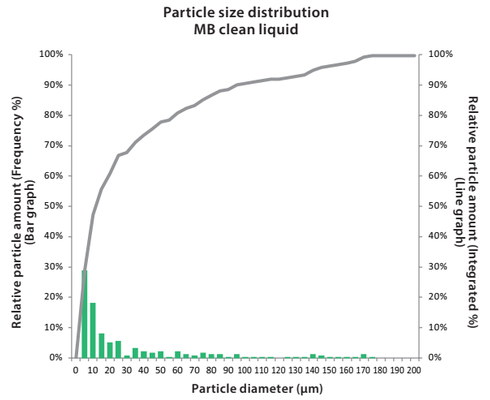






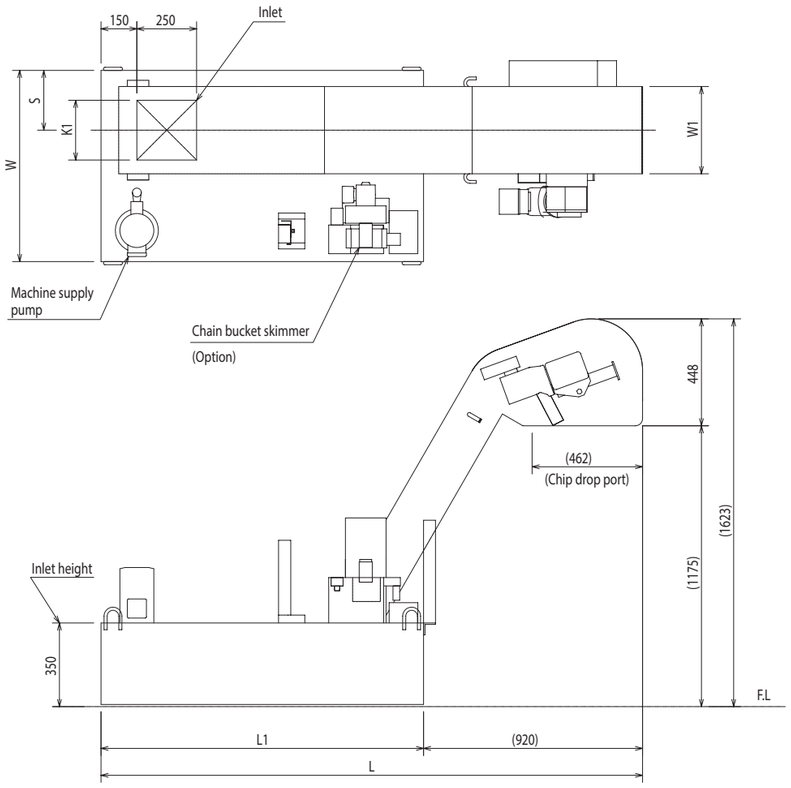
Sludge distribution status

Machine tool: Machining center **Coolant:** Oil-based **Processing flow rate:** 250 L/min **Chip material:** SUS440 (magnetic)



Specifications

Dimensional drawing



		Processing flow rate	Product weight*1
MB-1 (MB25HLA-293)	Water soluble	100 L/min	500 kg
MB-2 (MB35HLA-310)	Water soluble	200 L/min	600 kg
MB-3 (MB45HLA-328)	Water soluble	300 L/min	700 kg

*1 The product weight varies depending on the specifications, options, etc.

Geared motor
100W

Paint color
Silver gray (Munsell No. N-8.0)

* For information about the specified color, please consult us.

Dimension table

Model code	Processing capacity Water soluble (L/min)	Dimensions (mm)						Weight (kg)
		W	W 1	L	L 1	S	K1	
MB-1 (MB25HLA-293)	100	800	365	2270	1350	250	250	500
MB-2 (MB35HLA-310)	200	900	465	2420	1500	300	300	600
MB-3 (MB45HLA-328)	300	1150	565	2620	1700	350		700

* The specifications and dimensions are subject to change without notice.
* For the oil-based specifications, please consult us.
* **For information about custom products other than standard products, please consult us.**

Model code

Magnetic belt conveyor "MB"

MB – 30 H L A – 230

Model
MB : Magnetic belt conveyor

Belt width
30 : 300 mm
* The belt width is min. 150 to 50 mm pitch, which is designed to correspond to the processing flow rate and layout.

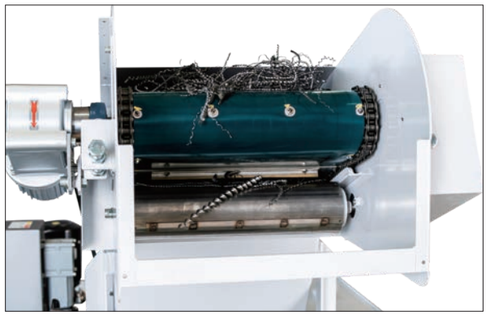
Motor mounting orientation
H : Left when viewed from the chip box side (standard)
G : Right when viewed from the chip box side

Shape of main body
L : L type (Horizontal part + Inclined part)
M : M type (Inclined part)

Motor mounting method
A : Direct connection type (standard)
B : Folded type (option)

Overall length of main body
230 : 2300 mm (Horizontal part + Inclined part)

Chip discharge image



* Photos are product images for illustration purposes only. Specifications differ from the actual product.

Powerful magnetic roller conveyor RCC
Magnetic roller conveyor RC

You can view the product information on our website.

Magnetic material Filtration accuracy: 50 to 80 µm 90% or more

Roller conveyor to perform filtration and chip transport using the magnetic drum.

A wide range of processing is possible; from long chips of about 100 mm to fine chips.

Powerful magnetic roller conveyor RCC (L type)

Use/Performance

Coolant	Water-soluble/Oil-based
Category	Magnetic material
Processing details	Cutting
Work material	FC/FCD, steel
Chip shape	Sandy, cottony, granular, needle-shaped, small curl-shaped (50 mm or less), small curl-shaped (51 mm to 100 mm)
Machine tool	Machining center, Broaching machine, Automation machine, Gear cutting machine, Gun drill machine, Cutting specialized machine

* The filtration accuracy is based on the results of our experiments, and does not imply that this level of accuracy is guaranteed.

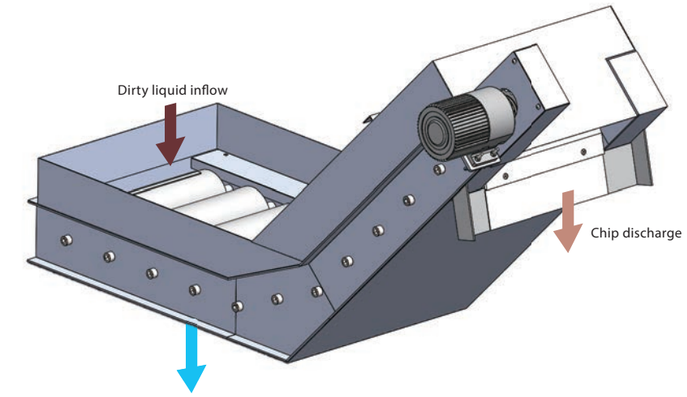
Features

- **Also suitable for work materials and hard chips. The structure is less likely to cause problems due to biting.**
- **This product does not use any consumables such as cartridges or paper filters, so no industrial waste is generated.**

Type	Features	Filtration accuracy*	Flow rate (L/min)
RCC	A single machine can process various chips such as tangled small curl-shaped (max. 100 mm), needle-shaped, sand-shaped, and cotton-shaped chips.	50 µm 90% or more	150 to 350
RC	This product can be used as a workpiece or scrap conveyor.	80 µm 90% or more	

* The filtration accuracy is based on the results of our experiments, and does not imply that this level of accuracy is guaranteed.

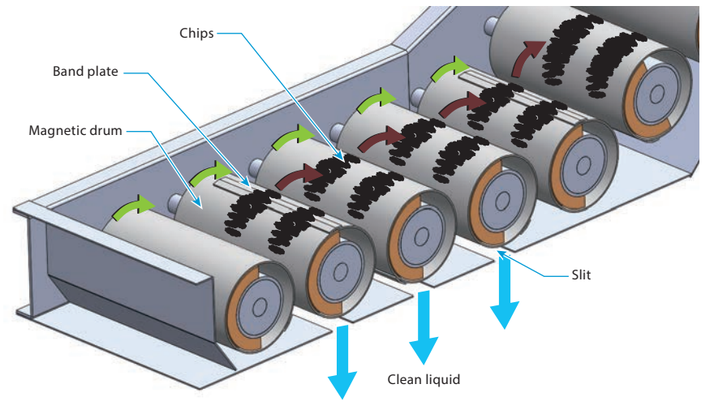
Mechanism



① The dirty liquid flows onto the conveyor.

② The dirty liquid is filtered when it passes through the gap between the magnetic drums, and flows from the slit of the bottom plate to the clean tank.

③ The captured chips fall onto the next magnetic drum as a result of the rotation of the magnetic drum. By repeating this process, chips are moved to the top of the conveyor and discharged.

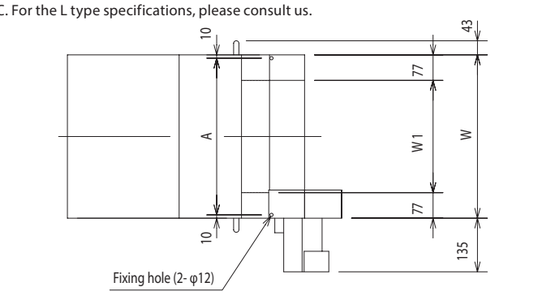


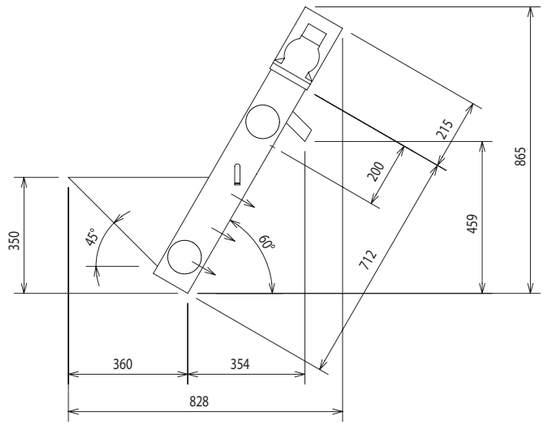
Specifications

RCC (M type)

Dimensional drawing

* RC has the same dimensions as RCC. For the L type specifications, please consult us.





		Processing flow rate[*1]	Product weight[*1*2]
RCC205 (RCC20FHMA-0.72)	Water soluble	150 L/min	40 kg
RCC305 (RCC30FHMA-0.72)	Water soluble	250 L/min	60 kg
RCC405 (RCC40FHMA-0.72)	Water soluble	350 L/min	80 kg

*1 This is the specified value of the standard model.
*2 The product weight varies depending on the specifications, options, etc.

Geared motor
60W (standard model)

Paint color
Medium metallic (Approximate color: Munsell No. N-6.7)

* For information about the specified color, please consult us.

Dimension table

Model code	Processing capacity	Body width	Fixing hole pitch	Drum	Number of units	Weight (kg)
		W (mm)	A (mm)	Width W 1 (mm)		
RCC205 (RCC20FHMA-0.72)	150	354	334	200	5	40
RCC305 (RCC30FHMA-0.72)	250	454	434	300		60
RCC405 (RCC40FHMA-0.72)	350	554	534	400		80

* The specifications and dimensions are subject to change without notice.
* For the oil-based specifications, please consult us.
* **For information about custom products other than standard products, please consult us.**

Model code

Powerful magnetic roller conveyor "RCC"

Magnetic roller conveyor "RC"

RCC – 30 F H L A – 2.3

Model
RCC : Powerful magnetic roller conveyor
RC : Magnetic roller conveyor

Roller width
30 : 300 mm
* The width is min. 150 to 50 mm pitch, which is designed to correspond to the processing flow rate and layout.

Roller type
F : For cutting chips (coarse chips)

Motor mounting orientation
H : Left when viewed from the chip box side (standard)
G : Right when viewed from the chip box side

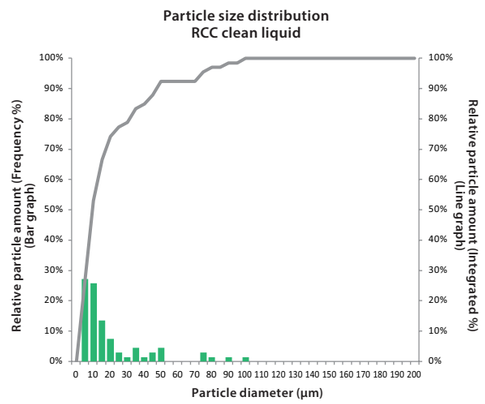
Shape of main body
L : L type (Horizontal part + Inclined part)
M : M type (Inclined part (rising part))

Motor mounting method
A : Direct connection type (standard)
B : Folded type (option)

Overall length of main body
2.3 : 2300 mm (Horizontal part + Inclined part)
* Length of the inclined part for M type.

Sludge distribution status

Machine tool: Gun drill machine **Coolant:** Water soluble **Processing flow rate:** 250 L/min **Chip material:** FCD



* RCC only

Product Photo (Example)

RCC (L type)

RCC (M type)

With chip trolley

* For information about custom products other than standard products, please consult us.

Chip discharge image

RCC (L type)

RCC (M type)

* Photos are product images for illustration purposes only. Specifications differ from the actual product.

Powerful magnetic screw conveyor SCC
Magnetic screw conveyor SC
Powerful vertical magnetic screw conveyor VS

You can view the product information on our website.

Magnetic material Filtration accuracy: 80 µm to 20 mm 90% or more

Screw type conveyor using magnet.

The rotating part is not exposed, so this can be used safely and securely.

Optimum for cutting chip processing of gear cutting machines, broach machines, etc.

SCC

VS

Use/Performance

Coolant	Water-soluble, Oil-based
Category	Magnetic material
Processing details	Cutting
Work material	FC/FCD, steel
Chip shape	Grain-shaped, small curl-shaped (50 mm or less)
Machine tool	Machining center, Broaching machine, Gear cutting machine

* The filtration accuracy is based on the results of our experiments, and does not imply that this level of accuracy is guaranteed.

Features

- **The rotation axis of the magnet is inside the fixed pipe, so there are only a few problems such as chip biting, which enables you to use this product safely.**
- **Also suitable for dry processing based on the heat resistant specifications.**
- **This product does not use any consumables such as cartridges or paper filters, so no industrial waste is generated.**

Type	Features	Filtration accuracy*	Flow rate (L/min)
SCC	Suitable for grain-shaped or curl-shaped (50 mm or less) chip processing.	80 µm 90% or more	150
SC	This product can be used as a workpiece conveyor, etc.	20 mm 90% or more	
VS	SCC space-saving type. The winding that assists in transportation and the magnetic drum for transfer that assists in chip discharge are included as standard.	80 µm 90% or more	200

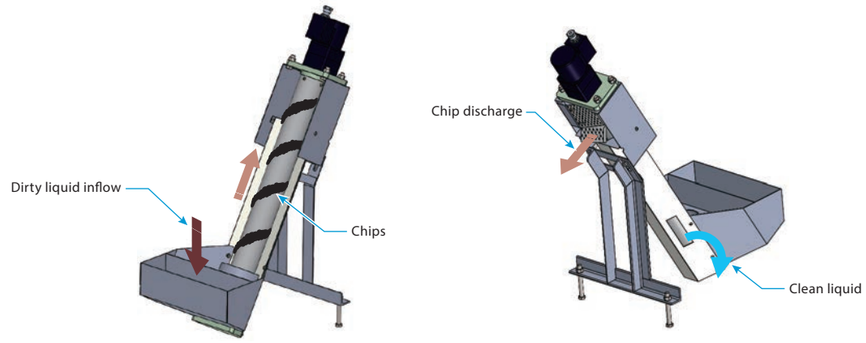
* The filtration accuracy is based on the results of our experiments, and does not imply that this level of accuracy is guaranteed.

Mechanism

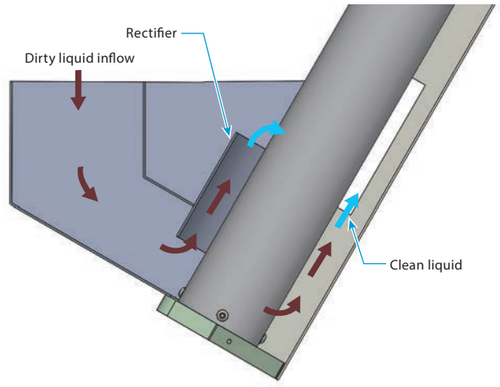
SCC/SC

① The dirty liquid flows onto the conveyor.

② Chips are absorbed and captured by the magnet inside the fixed pipe.

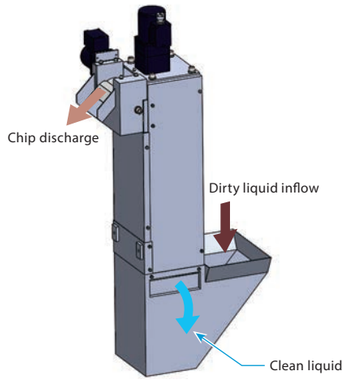


③ By rotating the magnet shaft inside, chips are discharged while moving on the surface of the pipe.

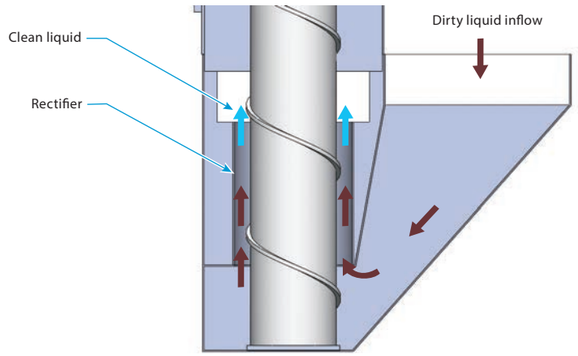


VS

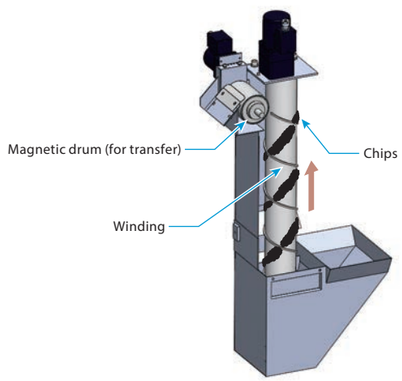
① The dirty liquid flows onto the conveyor.



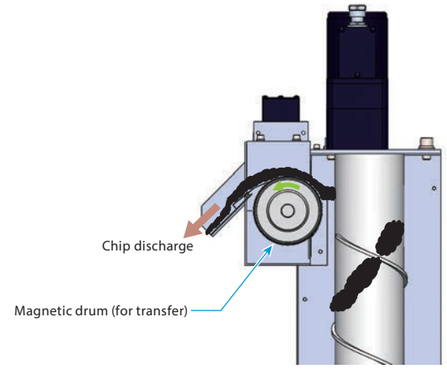
② Chips are absorbed and captured by the magnet inside the fixed pipe.



③ By rotating the magnet shaft inside, chips are transported to the top of the main body while moving on the surface of the pipe. At that time, the winding assists transportation.



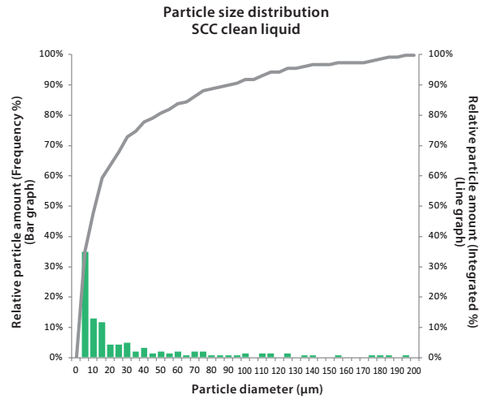
④ Chips fall from the pipe onto the magnetic drum (for transfer) near the outlet, and are discharged



Sludge distribution status

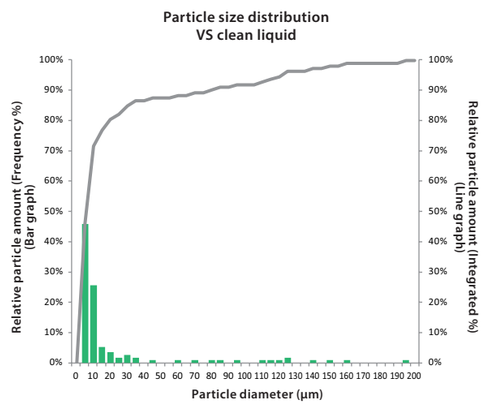
SCC

Machine tool: Machining center **Coolant:** Water soluble **Processing flow rate:** 50 L/min **Chip material:** S45C



VS

Machine tool: Machining center **Coolant:** Water soluble **Processing flow rate:** 120 L/min **Chip material:** Steel

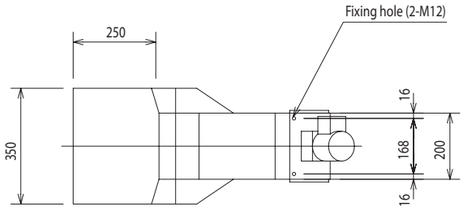


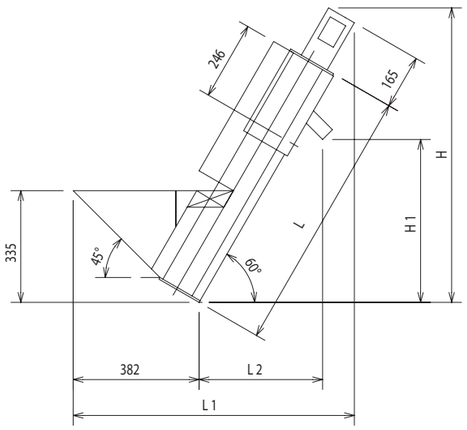
Specifications

SCC

Dimensional drawing

* SC has the same dimensions as SCC.





		Processing flow rate*1	Product weight*1*2
SCC-8	Water soluble	150 L/min	30 kg
SCC-10	Water soluble	150 L/min	33 kg
SCC-12	Water soluble	150 L/min	36 kg

*1 This is the specified value of the standard model.
*2 The product weight varies depending on the specifications, options, etc.

Dimension table

Model code	Processing capacity Water soluble (L/min)	Dimensions (mm)					Weight (kg)
		L	L1	L2	H	H1	
SCC-8	150	799	850	357	888	456	30
SCC-10		999	950	457	1061	629	33
SCC-12		1199	1050	557	1234	803	36

* The specifications and dimensions are subject to change without notice.
* For the oil-based specifications, please consult us.
* For information about custom products other than standard products, please consult us.

Drive motor

Drive motor 40W

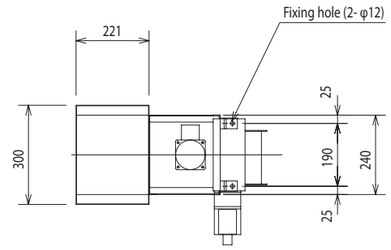
Paint color

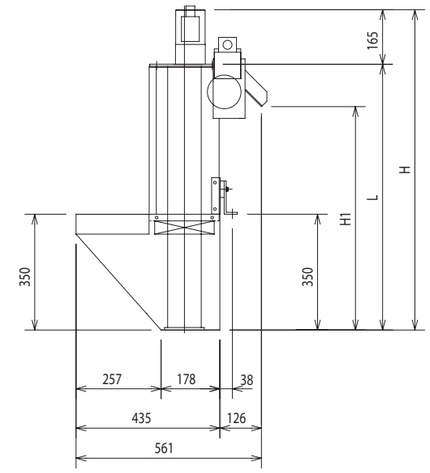
Medium metallic (Approximate color: Munsell No. N-6.7)

* For information about the specified color, please consult us.

VS

Dimensional drawing





		Processing flow rate*1	Product weight*1*2
VS-8	Water soluble	200 L/min	40 kg
VS-10	Water soluble	200 L/min	43 kg
VS-12	Water soluble	200 L/min	46 kg

*1 This is the specified value of the standard model.
*2 The product weight varies depending on the specifications, options, etc.

Dimension table

Model code	Processing capacity Water soluble (L/min)	Dimensions (mm)			Weight (kg)
		L	H	H1	
VS-8	200	804	969	676	40
VS-10		1004	1169	876	43
VS-12		1204	1369	1076	46

* The specifications and dimensions are subject to change without notice.
* For the oil-based specifications, please consult us.
* For information about custom products other than standard products, please consult us.

Drive motor

Drive motor 40W
Transfer drum motor 25W

Paint color

Medium metallic (Approximate color: Munsell No. N-6.7)

* For information about the specified color, please consult us.

Model code

Powerful magnetic screw conveyor "SCC"

SCC – 8 A D – M

Model

SCC : Powerful magnetic screw conveyor

Stainless steel pipe length

8 : 800 mm
* The length is 200 mm pitch, which is 8 (800 mm) to 20 (2000 mm).
* SCC has a stainless steel pipe diameter of φ101.6 mm.
* The gutter and dedicated hopper are included as standard.

Motor mounting method

A : Direct connection type (standard)
B : Folded type (option)

Transfer drum

No code : None (standard)
D : Attached (option)

Winding

No code : No winding (standard)
M : With winding on the pipe surface (option)

Magnetic screw conveyor "SC"

SC – 1 A S D – 8 B – M

Model

SC : Magnetic screw conveyor

Stainless steel pipe diameter

1 : Type 1 (φ76.3 mm)
2 : Type 2 (φ101.6 mm)

Motor mounting orientation

A : Direct connection type (standard)
B : Folded type (option)

Gutter

No code : None
S : Attached

Transfer drum

No code : None (standard)
D : Attached (option)

Stainless steel pipe length

8 : 800 mm
* The length is 200 mm pitch.
Type 1 : 8 (800 mm) to 20 (2000 mm)
Type 2 : 22 (2200 mm) to 40 (4000 mm)

Heat resistant specifications

No code : Without heat resistant specifications (standard)
B : Heat resistant specifications/Use of heat resistant bond (option)
BB : With heat resistant specifications/Heat resistant bond + Magnet fixing wire (option)

Winding

No code : Without winding (standard)
M : With winding on the pipe surface (option)

Powerful vertical magnetic screw conveyor "VS"

VS – 8

Model

VS : Powerful vertical magnetic screw conveyor

Stainless steel pipe length

8 : 800 mm
* The length is 200 mm pitch, which is 8 (800 mm) to 20 (2000 mm).
* The transfer drum is included as standard.
* The gutter and dedicated hopper are included as standard.

* Winding wire*1 is included as standard.
*1 For non-slip pipe surface

Product Photo (Example)

SCC/SC

VS

* For information about custom products other than standard products, please consult us.

Chip discharge image

SCC/SC chip discharge

SCC/SC workpiece conveyance

VS chip discharge

* Photos are product images for illustration purposes only. Specifications differ from the actual product.

Microfiltration filter conveyor
BAL

You can view the product information on our website.

PATENTED

Non-magnetic material Filtration accuracy: 20 μm 90% or more

Precision drum filter conveyor with high-rigidity sintered material filter.
Optimum for cutting chip processing of non-magnetic materials.

Use/Performance

Coolant	Water soluble
Category	Non-magnetic material
Processing details	Cutting
Work material	Aluminum, stainless steel, copper, titanium, magnesium
Chip shape	Sandy, cottony, granular, needle-shaped, small curl-shaped (50 mm or less), small curl-shaped (51 mm to 100 mm)
Machine tool	Machining center, Cutting specialized machine

* The filtration accuracy is based on the results of our experiments, and does not imply that this level of accuracy is guaranteed.

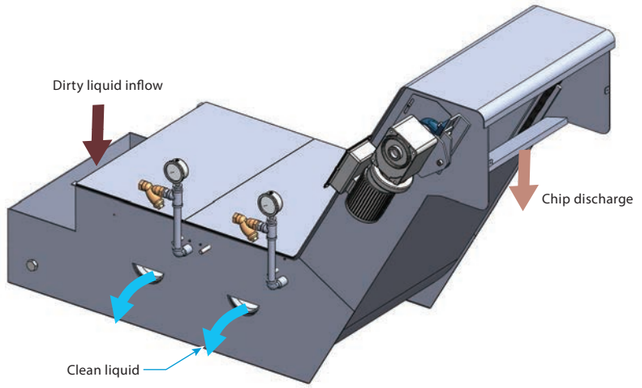
Features

- **The filtration accuracy is as high as 20 μm 90% or more, so secondary processing is not required.**
- **This product does not require any secondary processing, and supports high-pressure pumps of up to 3 MPa.**
- **The filter uses a high-rigidity sintered material filter that is difficult to tear.**
- **It is automatically cleaned by shower cleaning to prevent clogging.**
- **The chip discharge port of the conveyor has a structure that drains liquid, which ensures that chips are drained before being discharged. This processing reduces the load to carry out coolant (means that coolant is discharged together with chips).**
- **This product does not use any consumables such as cartridge filters or paper filters, so no industrial waste is generated.**

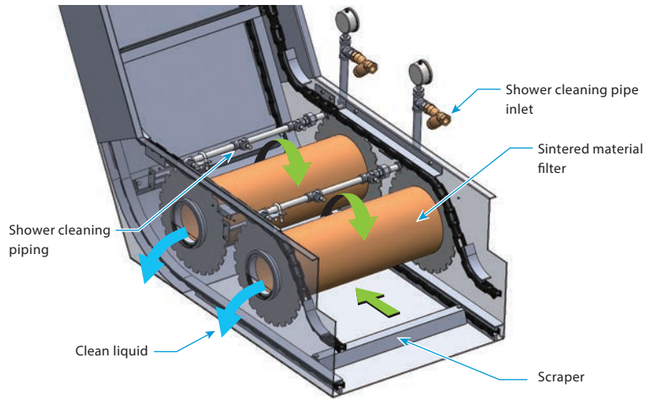
* The filtration accuracy is based on the results of our experiments, and does not imply that this level of accuracy is guaranteed.

Mechanism

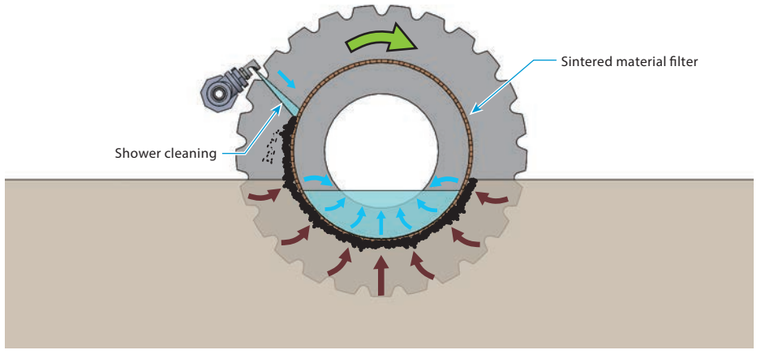
① The dirty liquid flows onto the conveyor.



② The dirty liquid is filtered when it passes through the rotating sintered material filter. The clean liquid is sent from the inside of the sintered material filter to the outside of the main body.



③ Chips adhering to the surface of the sintered material filter are shower-cleaned from the outside of the filter. Clogging is prevented by showering the filter that has come out of the liquid and performing automatic cleaning.



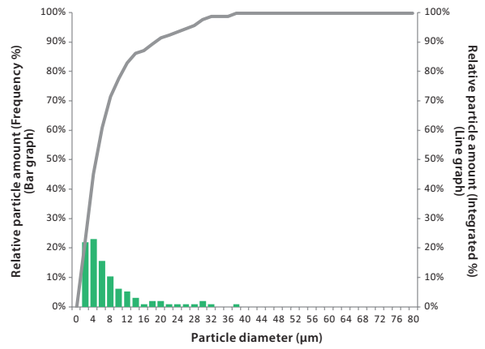
④ Chips that have settled on the bottom of the conveyor are conveyed by the scraper.

⑤ Chips are temporarily stored in the conveyor outlet, drained, and then discharged.

Sludge distribution status

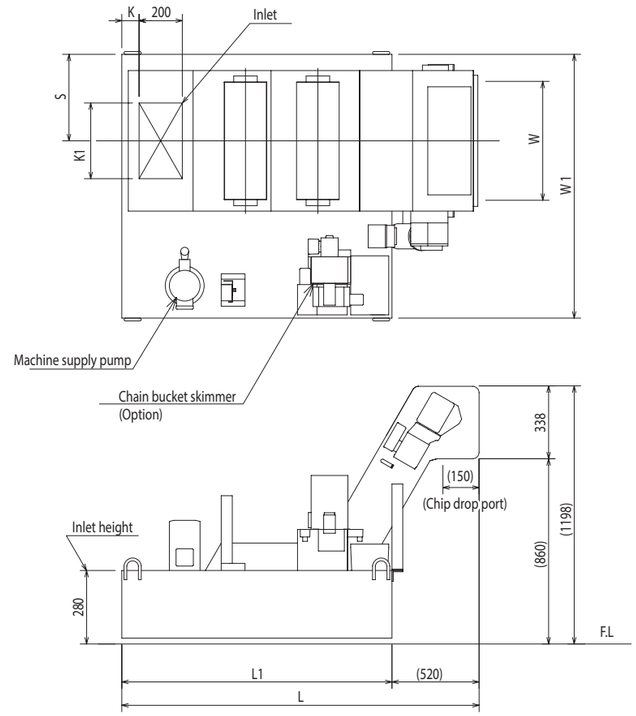
Machine tool: Machining center **Coolant:** Water soluble **Processing flow rate:** 200 L/min **Chip material:** ADC12

Particle size distribution
BAL clean liquid



Specifications

Dimensional drawing



		Processing flow rate	Product weight*
BAL-1 (BAL-1F-CBS)	Water soluble	100 L/min	370 kg
BAL-2 (BAL-2F-CBS)	Water soluble	200 L/min	450 kg
BAL-3 (BAL-3F-CBS)	Water soluble	300 L/min	550 kg

* The product weight varies depending on the specifications, options, etc.

Dimension table

Model code	Processing capacity Water soluble (L/min)	Dimensions (mm)							Weight (kg)
		W	W 1	L 1	L	K	K 1	S	
BAL-1 (BAL-1F-CBS)	100	550	1200	1450	1970	150	250	360	370
BAL-2 (BAL-2F-CBS)	200	650	1500	1550	2070	150	250	410	450
BAL-3 (BAL-3F-CBS)	300	750	1700	1900	2420	250	350	460	550

* The specifications and dimensions are subject to change without notice.
* For the oil-based specifications, please consult us.
* **For information about custom products other than standard products, please consult us.**

Geared motor	Option
100W	**Chain bucket skimmer CBS** **Relay terminal box** **Control panel, Operation box**

Paint color
Silver gray **(Munsell No. N-8.0)**

* For information about the specified color, please consult us.

* Please contact us for details.

Model code

Microfiltration filter conveyor "BAL"

BAL – 55 H L A – 230 (3 2 – 2.6)

Model

BAL : Microfiltration filter conveyor

Conveyor width

55 : 550 mm
* The conveyor width is 550/650/750 mm as standard, which is designed to correspond to the processing flow rate and layout.

Motor mounting orientation

H : Left when viewed from the chip box side (standard)
G : Right when viewed from the chip box side

Shape of main body

L : L type (Horizontal part + Inclined part)

Motor mounting method

A : Direct connection type (standard)
B : Folded type (option)

Overall length of main body

230 : 2300 mm (Horizontal part + Inclined part)

Filter diameter

2 : φ200 mm
3 : φ300 mm
* The φ300 specifications are only applicable to conveyor widths of 550 and 750 mm.
* Set based on the specifications and processing flow rate.

Number of filters

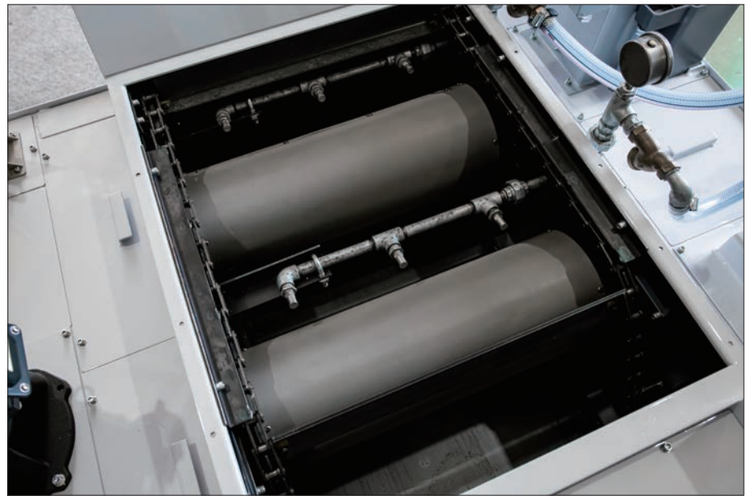
2 : Two pieces
* The number of filters is set based on the processing flow rate.

Processing flow rate

2.6 : 260 L/min

Product Photo (Example)

Filter section



Shower cleaning image

Related Products

Rolling filter conveyor › P88

Model: AL/ALL/SKA

Conveyor equipped with the punching filter that does not require backwashing.
The filter is automatically cleaned, reducing maintenance load. Optimum for cutting chip processing of non-magnetic materials.

Chain bucket skimmer › P132

Model: CBS

Approximately seven times the recovery capacity of the belt system. Oil skimmer that uses the unique bucket system.
Optimum for recovering floating oil and scum.

Rolling filter conveyor AL
Rolling filter conveyor ALL
#30 Rolling filter conveyor SKA

You can view the product information on our website.

Non-magnetic material Filtration accuracy: 200 to 400 µm

Conveyor with punching filter that does not require backwashing.
The filter is automatically cleaned, reducing maintenance load.
Optimum for cutting chip processing of non-magnetic materials.

AL/ALL

Use/Performance

Coolant	Water-soluble, Oil-based
Category	Non-magnetic material
Processing details	Cutting
Work material	Aluminum, stainless steel, copper, titanium, magnesium, mixed chips (aluminum + FC or sintered metal)
Chip shape	Grain-shaped, small curl-shaped (50 mm or less), small curl-shaped (51 mm to 100 mm)
Machine tool	Machining center, #30 Machining center, Broaching machine, NC lathe, Automation machine, Gear cutting machine, Gun drill machine, Cutting specialized machine

* The filtration accuracy is based on the results of our experiments, and does not imply that this level of accuracy is guaranteed.

Features

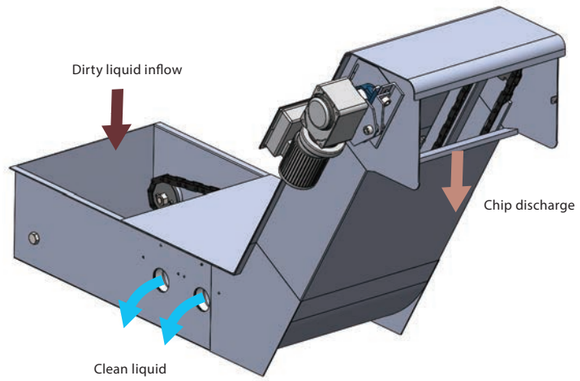
- **The punching filter captures cutting chips.**
- **The punching filter is always in contact with the scraping board and rotates to prevent clogging.**
- **No backwashing is required, so no mist is generated, which helps improve the environment in the factory.**
- **The chip discharge port of the conveyor has a structure that drains liquid, which ensures that chips are drained before being discharged. This processing reduces the load to carry out coolant (means that coolant is discharged together with chips).**
- **This product does not use any consumables such as cartridge filters or paper filters, so no industrial waste is generated.**

Type	Features	Filtration accuracy*	Flow rate (L/min)
AL	Uses the punching filter that is more rigid than the mesh filter.	200 µm 90% or more	100 to 300
ALL	Uses a punching filter with higher rigidity than AL to apply to sturdy chips.		
SKA	Rolling filter conveyor for machining center #30. Optimum for automatic discharge of net basket (manual scraping system). Chips are automatically discharged from the manual scraping system (net basket tank). This product is also subject to consideration for its space-saving layout.	400 µm 80% or more	200

* The filtration accuracy is based on the results of our experiments, and does not imply that this level of accuracy is guaranteed.

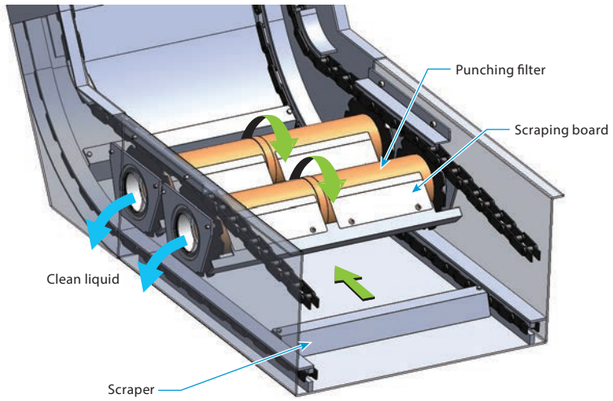
Mechanism

① The dirty liquid flows onto the conveyor.
② The dirty liquid is filtered as it passes through the rotating punching filter, and the clean liquid is sent from the inside of the punching filter to the outside of the main body.



③ Chips captured in the punching filter are scraped off by the scraping board and settle on the bottom of the conveyor.

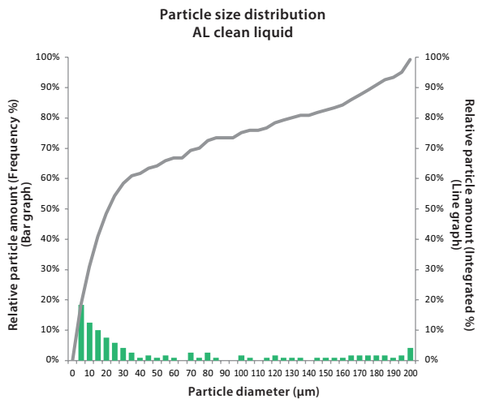
④ Chips that have settled on the bottom of the conveyor are conveyed by the scraper.



⑤ Chips are temporarily stored in the conveyor outlet, drained, and then discharged.

Sludge distribution status

Machine tool: Machining center **Coolant:** Water soluble **Processing flow rate:** 700 L/min **Chip material:** Aluminum



Model code

Rolling filter conveyor "AL/ALL"

AL – 55 H L A – 230 (1 2 – 3.4)

Model

AL : Rolling filter conveyor (Standard filter, Hole diameter Φ0.5 mm)
ALL : Rolling filter conveyor (Rigidity filter, Hole diameter Φ0.7 mm)

Conveyor width

55 : 550 mm
* The conveyor width is min. 350 to 50 mm pitch, which is designed to correspond to the processing flow rate and layout.

Motor mounting orientation

H : Left when viewed from the chip box side (standard)
G : Right when viewed from the chip box side

Shape of main body

L : L type (Horizontal part + Inclined part)

Motor mounting method

A : Direct connection type (standard)
B : Folded type (option)

Overall length of main body

230 : 2300 mm (Horizontal part + Inclined part)

Filter diameter

1 : φ100 mm
1.5 : φ150 mm
2 : φ200 mm
* Set based on the specifications and processing flow rate.

Number of filters

2 : Two pieces
* The number of filters is set based on the processing flow rate.

Processing flow rate

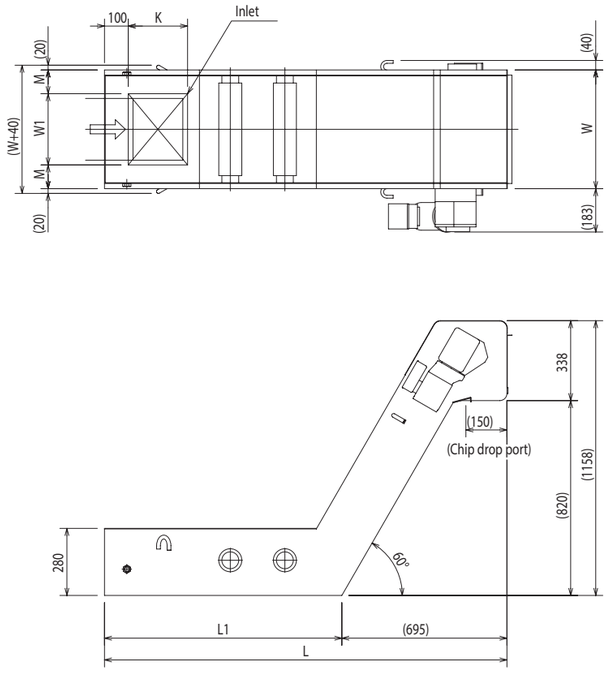
3.4 : 340 L/min

* For SKA, please consult us.

Specifications

AL/ALL

Dimensional drawing



		Processing flow rate[*1]	Product weight[*1*2]
AL-1 (AL35HLA-235 (12-1))	Water soluble	100 L/min	130 kg
AL-2 (AL55HLA-250 (12-2))	Water soluble	200 L/min	160 kg
AL-3 (AL55HLA-310 (13-3))	Water soluble	300 L/min	185 kg

*1 This is the specified value of the standard model.
*2 The product weight varies depending on the specifications, options, etc.

Dimension table

Model code	Processing capacity Water soluble (L/min)	Dimensions (mm)						Weight (kg)
		W	L	L 1	W 1	K	M	
AL-1 (AL35HLA-235 (12-1))	100	350	1695	1000	250	200	50	130
AL-2 (AL55HLA-250 (12-2))	200	550	1845	1150	350	250	100	160
AL-3 (AL55HLA-310 (13-3))	300		2445	1750				185

* The specifications and dimensions are subject to change without notice.
* For the oil-based specifications, please consult us.
* **For information about custom products other than standard products, please consult us.**

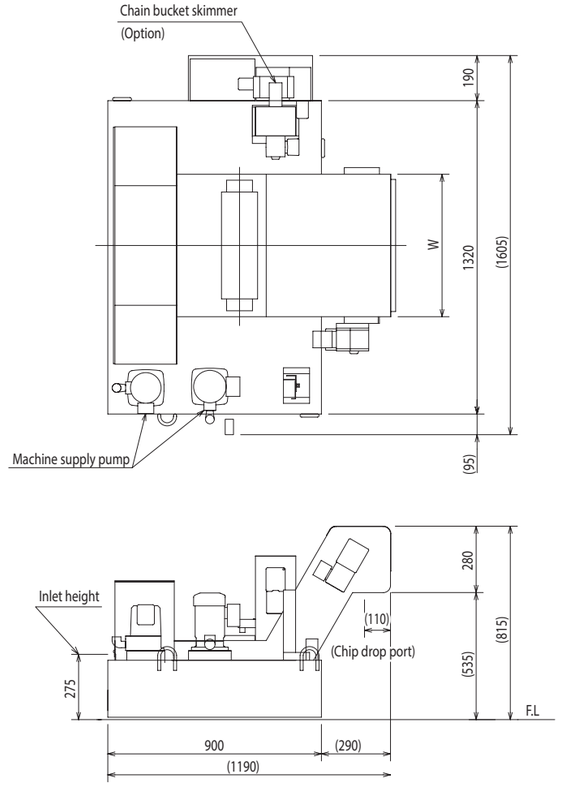
Geared motor
100W

Paint color
Silver gray
(Munsell No. N-8.0)

* For information about the specified color, please consult us.

SKA

Dimensional drawing



		Processing flow rate[*1]	Product weight[*1*2]
SKA-1 (SKA-1LF-B-E-CBS)	Water soluble	140 L/min	230 kg
SKA-2 (SKA-2LF-B-E-CBS)	Water soluble	200 L/min	250 kg

*1 This is the specified value of the standard model.
*2 The product weight varies depending on the specifications, options, etc.

Dimension table

Model code	Processing capacity Water soluble (L/min)	Dimensions (mm)	Weight (kg)
		W	
SKA-1 (SKA-1LF-B-E-CBS)	140	450	230
SKA-2 (SKA-2LF-B-E-CBS)	200	600	250

* The specifications and dimensions are subject to change without notice.
* For the oil-based specifications, please consult us.
* **For information about custom products other than standard products, please consult us.**

Geared motor
25W

Paint color
Silver gray
(Munsell No. N-8.0)

* For information about the specified color, please consult us.

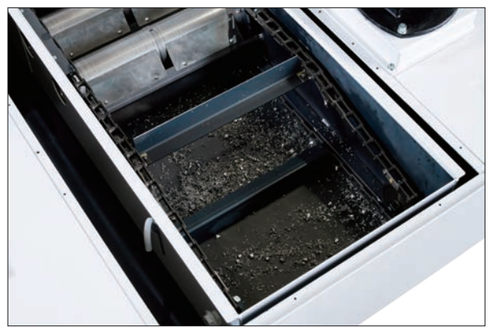
Product Photo (Example)

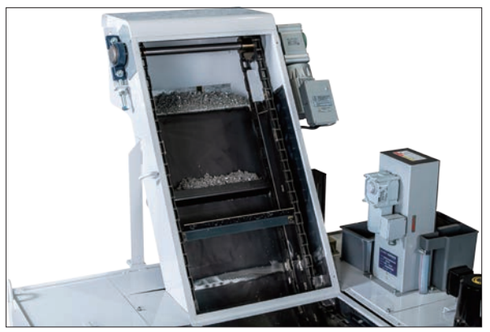
AL/ALL option (CBS)

SKA option (CBS)

* For information about custom products other than standard products, please consult us.

Chip discharge image





* Photos are product images for illustration purposes only. Specifications differ from the actual product.

Related Products

Microfiltration filter conveyor ❯P82

Model: BAL

Precision drum filter conveyor with high-rigidity sintered material filter.
Optimum for cutting chip processing of non-magnetic materials.

Drastic cleaning reduction for cutting coolant system ❯P96

Model: SLC

Cutting chip processing system that combines the punching filter and a new cyclone filter in a unique configuration.
The cyclone filter filters cutting chips, so clean liquid can always be supplied to the machine.

Rolling filter conveyor SAL ❯P102

Model: SAL

Double-conveyor-type punching filter conveyor.
Reduces the tank cleaning frequency. Optimum for cutting chip processing of non-magnetic materials.

Chain bucket skimmer ❯P132

Model: CBS

Approximately seven times the recovery capacity of the belt system. Oil skimmer that uses the unique bucket system.
Optimum for recovering floating oil and scum.

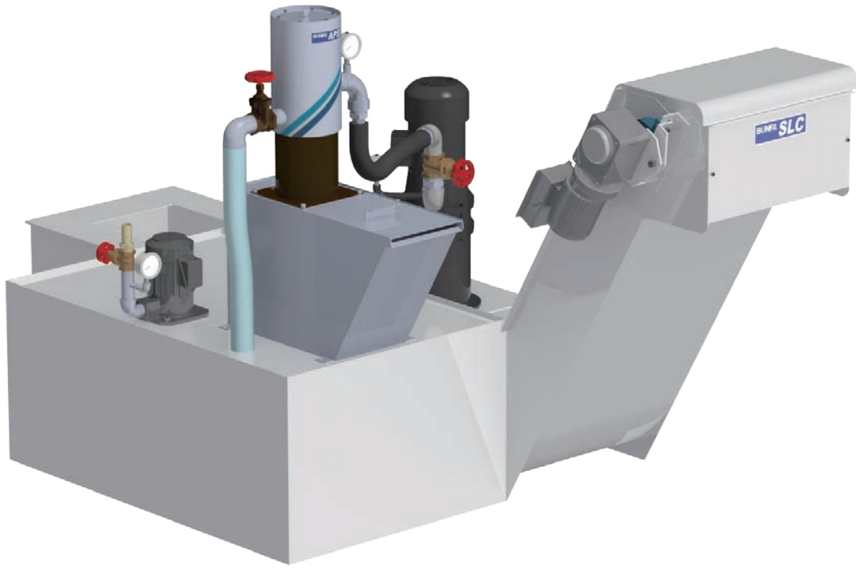
Drastic cleaning reduction for cutting coolant system
SLC

You can view the product information on our website.

PATENTED

Non-magnetic material Filtration accuracy: 10 μm 90% or more

Cutting chip processing system that combines the punching filter and a new cyclone filter in a unique configuration.
The cyclone filter filters cutting chips, so clean liquid can always be supplied to the machine.



Use/Performance

Coolant	Water soluble
Category	Non-magnetic material
Processing details	Cutting
Work material	Aluminum, stainless steel, titanium, mixed chips (aluminum + FC or sintered metal)
Chip shape	Grain-shaped, small curl-shaped (50 mm or less), small curl-shaped (51 mm to 100 mm)
Machine tool	Machining center, Gun drill machine, Cutting specialized machine

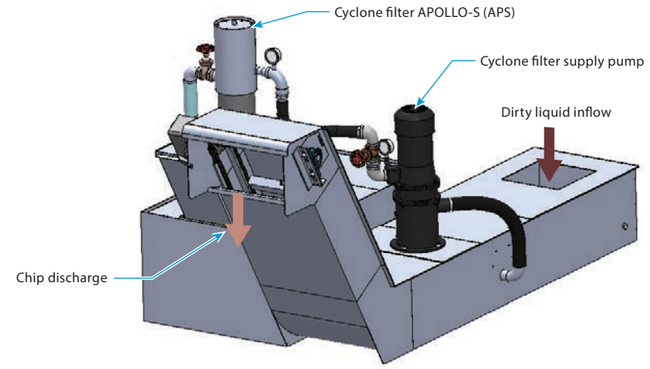
* The filtration accuracy is based on the results of our experiments, and does not imply that this level of accuracy is guaranteed.

Features

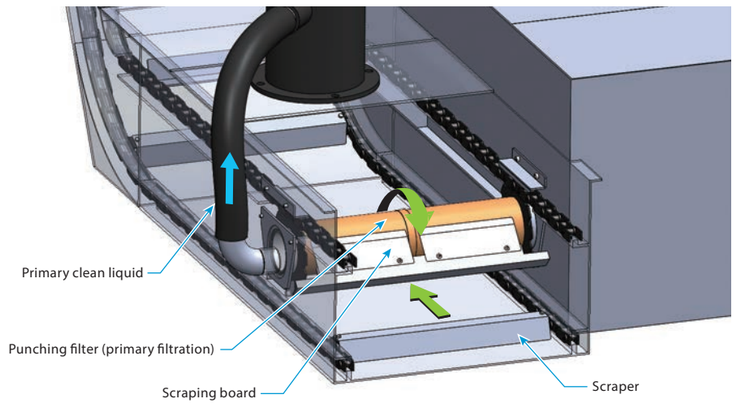
- **The primary filtration is performed by the punching filter conveyor, and the secondary filtration is performed by the cyclone filter.**
- **The punching filter is always in contact with the scraping board and rotates to prevent clogging.**
- **No backwashing is required, so no mist is generated, which helps improve the environment in the factory.**
- **The chip discharge port of the conveyor has a structure that drains liquid, which ensures that chips are drained before being discharged. This processing reduces the load to carry out coolant (means that coolant is discharged together with chips).**
- **The primary clean liquid is supplied directly from the conveyor (punching filter) to the cyclone filter, so no primary tank is required.**
- **This product does not use any consumables such as cartridge filters or paper filters, so no industrial waste is generated.**

Mechanism

① The dirty liquid flows onto the conveyor.

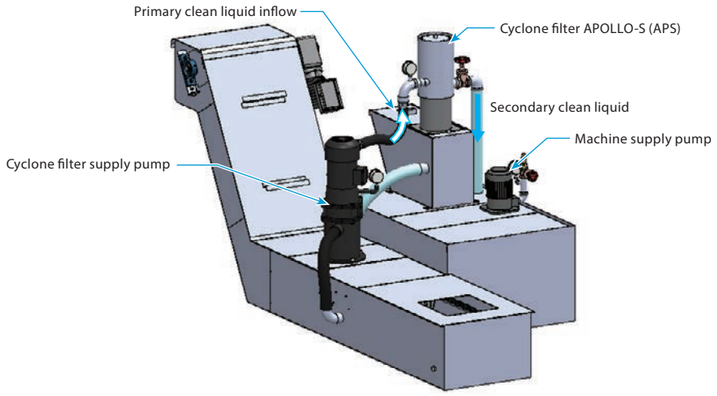


② The dirty liquid is supplied to the cyclone filter via the punching filter that is rotated by the coolant pump.



③ The primary clean liquid that was primarily filtered when passing through the punching filter is secondarily filtered by the cyclone filter.

④ The secondary clean liquid flows into the tank and is supplied to the machine by the pump.



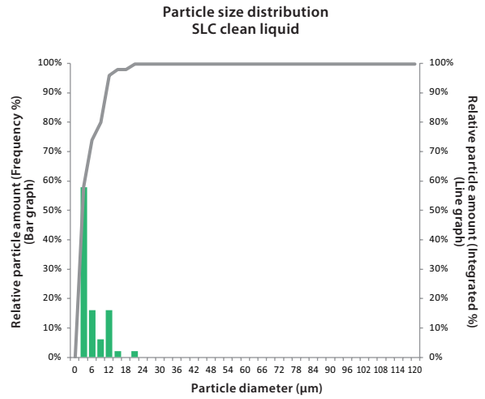
⑤ Chips captured in the punching filter are scraped off by the scraping board and settle on the bottom of the conveyor.

⑥ Chips that have settled on the bottom of the conveyor are conveyed by the scraper.

⑦ Chips are temporarily stored in the conveyor outlet, drained, and then discharged.

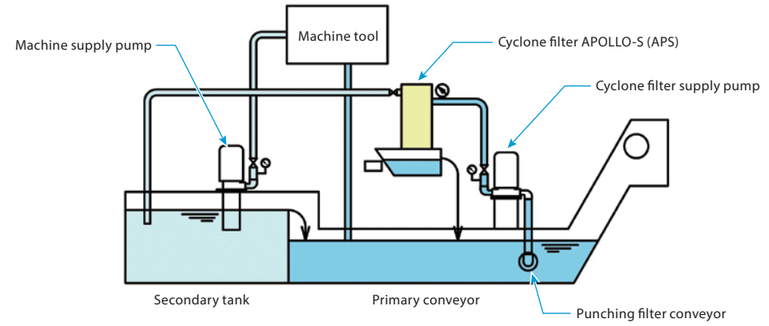
Sludge distribution status

Machine tool: Grinding machine **Coolant:** Water soluble **Processing flow rate:** 100 L/min **Chip material:** Steel



* This is the numeric value based on the Cyclone filter APOLLO-S (APS).

Flow Sheet



Model code

Drastic cleaning reduction for cutting coolant system "SLC"

ALL – 45 H L A – 350 (1 2 – 2) + APS-1a-SH-240a + CBS-100-2a

Model

ALL : Rolling filter conveyor (Rigidity filter, Hole diameter 0.7mm)

Conveyor width

45 : 450 mm
* The conveyor width is min 350 to 50 mm pitch, which is designed to correspond to the processing flow rate and layout.

Motor mounting orientation

H : Left when viewed from the chip box side (standard)
G : Right when viewed from the chip box side

Shape of main body

L : L type (Horizontal part + Inclined part)

Motor mounting method

A : Direct connection type (standard)
B : Folded type (option)

Overall length of main body

350 : 3500 mm (Horizontal part + Inclined part)

Filter diameter

1 : φ100 mm

Number of filters

2 : Two pieces
* The number of filters is set based on the processing flow rate.

Processing flow rate

2 : 200 L/min

Cyclone filter model

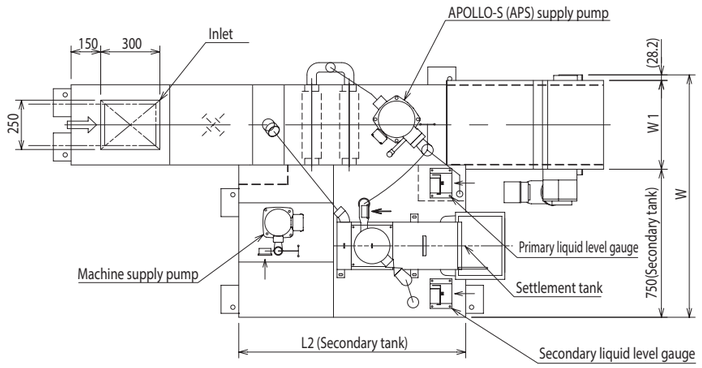
APS : Cyclone filter "APOLLO-S" (Non -foaming type)
* For details about the model, please refer to "APS".

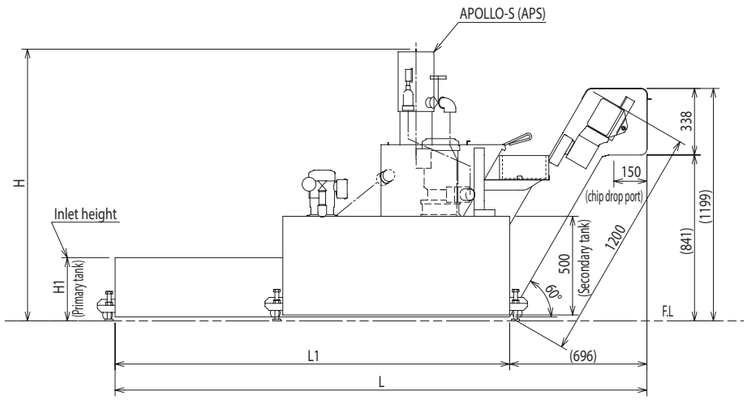
Chain bucket skimmer model

CBS : Chain bucket skimmer
* For details about the model, please refer to "CBS".

Specifications

Dimensional drawing





		Processing flow rate[*1]	Product weight[*1*2]
SLC-1 (ALL45HLA-335 (11-1) + APS-1)	Water soluble	100 L/min	585 kg
SLC-2 (ALL65HLA-397 (12-2) + APS-2)	Water soluble	200 L/min	690 kg

*1 This is the specified value of the standard model.
*2 The product weight varies depending on the specifications, options, etc.

Dimension table

Model code	Processing flow rate (L/min)	Dimensions (mm)							Weight (kg)
	Water soluble	W	W 1	L	L 1	L 2	H	H 1	
SLC-1 (ALL45HLA-335(11-1)+APS-1)	100	450	1240	2670	2000	1150	1370	340	585
SLC-2 (ALL65HLA-397(12-2)+APS-2)	200	650	1440	3290	2620	1800	1590		690

* The specifications and dimensions are subject to change without notice.
* For the oil-based specifications, please consult us.
* **For information about custom products other than standard products, please consult us.**

Geared motor	Paint color
SLC-1 100W **SLC-2 100W**	**Silver gray** **(Munsell No. N-8.0)**

* For information about the specified color, please consult us.

Related Products

Rolling filter conveyor › P88

Model: AL/ALL/SKA

Conveyor equipped with the punching filter that does not require backwashing.
The filter is automatically cleaned, reducing maintenance load. Optimum for cutting chip processing of non-magnetic materials.

Cyclone filter APOLLO-S › P114

Model: APS

Cyclone-type secondary processing unit that you can use extensively regardless of magnetic or non-magnetic materials.
Compatible with fine cutting chips and grinding sludge.
The defoaming mechanism supplies the non-foaming clean liquid.
The main body has been downsized while maintaining the filtration accuracy and defoaming mechanism of the old type.

Chain bucket skimmer › P132

Model: CBS

Approximately seven times the recovery capacity of the belt system. Oil skimmer that uses the unique bucket system.
Optimum for recovering floating oil and scum.

Rolling filter conveyor
SAL

You can view the product information on our website.

Non-magnetic material Filtration accuracy: 200 µm 90% or more

Double-conveyor-type punching filter conveyor.

Reduces the tank cleaning frequency.

Optimum for cutting chip processing of non-magnetic materials.

Use/Performance

Coolant	Water-soluble, Oil-based
Category	Non-magnetic material
Processing details	Cutting
Work material	Aluminum, stainless steel, copper, titanium, magnesium, mixed chips (aluminum + FC or sintered metal)
Chip shape	Grain-shaped, small curl-shaped (50 mm or less), small curl-shaped (51 mm to 100 mm)
Machine tool	Machining center, Gun drill machine, Cutting specialized machine

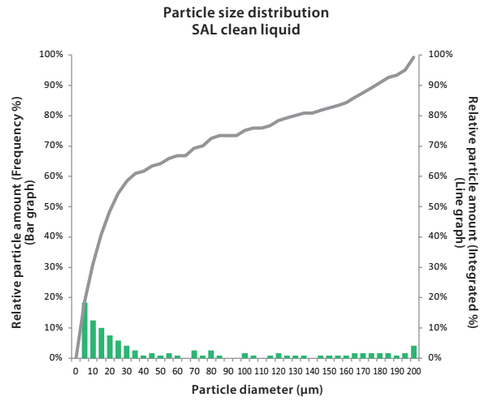
* The filtration accuracy is based on the results of our experiments, and does not imply that this level of accuracy is guaranteed.

Features

- Conveyor in which the punching filter conveyor and the scraper conveyor are arranged in parallel.
- Both conveyors can be operated with a single geared motor.
- Chips are captured in the punching filter as the primary filtration.
- The punching filter is always in contact with the scraping board and rotates to prevent clogging.
- No backwashing is required, so no mist is generated, which helps improve the environment in the factory.
- Fine chips that have passed through the punching filter accumulate in the scraper conveyor section used to collect sludge.
- The chip discharge port of the conveyor has a structure that drains liquid, which ensures that chips are drained before being discharged. This processing reduces the load to carry out coolant (means that coolant is discharged together with chips).
- This product does not use any consumables such as cartridge filters or paper filters, so no industrial waste is generated.

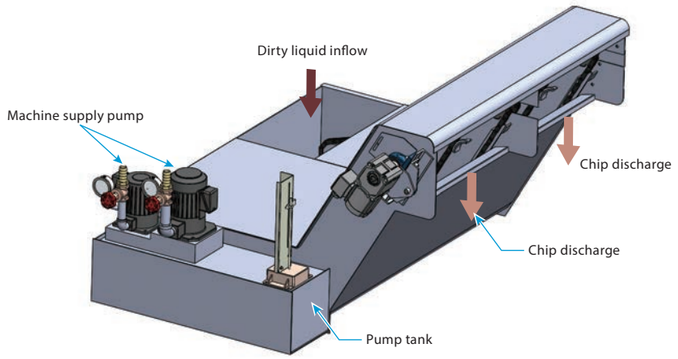
Sludge distribution status

Machine tool: Machining center **Coolant:** Water soluble **Processing flow rate:** 700 L/min **Chip material:** Aluminum

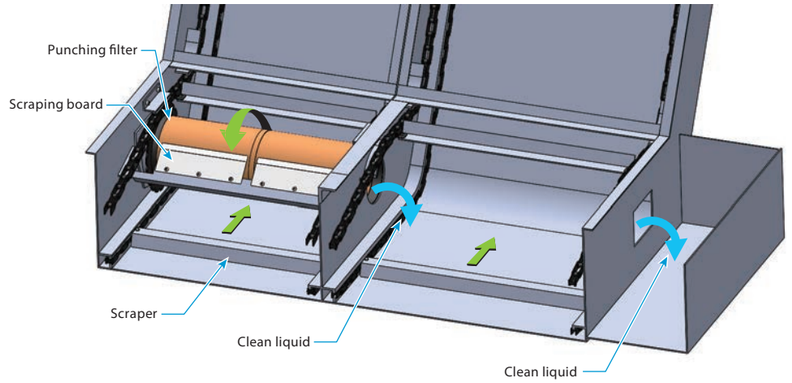


Mechanism

① The dirty liquid flows into the punching filter conveyor (AL).



② Chips captured in the punching filter are scraped off by the scraping board and settle on the bottom of the conveyor. Then, they are discharged by the scraper.



③ The clean liquid that is primarily filtered by the punching filter conveyor flows into the scraper conveyor.

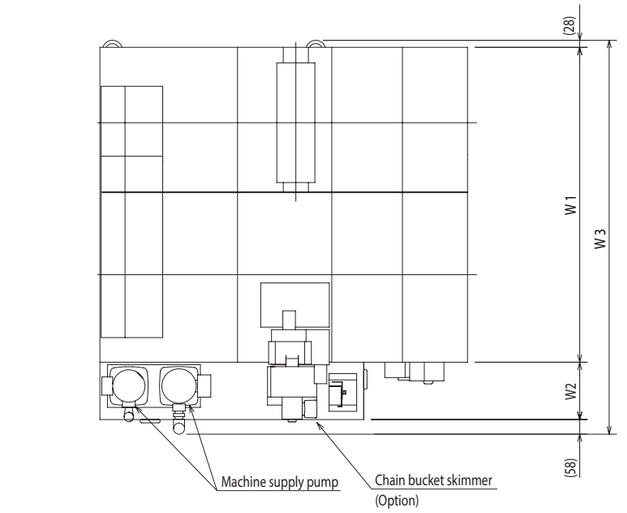
④ Fine chips that have passed through the punching filter conveyor settle on the bottom of the conveyor, and are discharged to the outside of the main body.

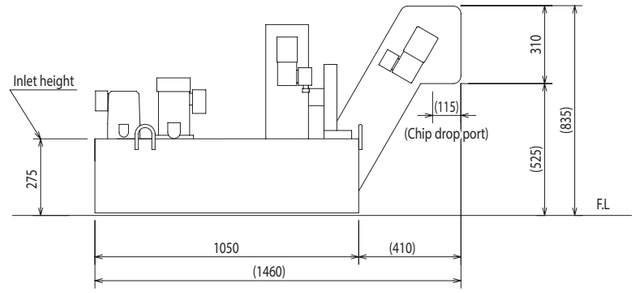
⑤ The clean liquid that is secondarily filtered by the scraper filter conveyor is sent to the pump tank, and supplied to the machine.

⑥ Chips are temporarily stored in the conveyor outlet, drained, and then discharged.

Specifications

Dimensional drawing





		Processing flow rate*1	Product weight*1*2
SAL-1 (SAL-1F-B-CBS)	Water soluble	140 L/min	250 kg
SAL-2 (SAL-2F-B-CBS)	Water soluble	200 L/min	270 kg

*1 This is the specified value of the standard model.
*2 The product weight varies depending on the specifications, options, etc.

Dimension table

Model code	Processing capacity Water soluble (L/min)	Dimensions (mm)			Weight (kg)
		W 1	W 2	W 3	
SAL-1 (SAL-1F-B-CBS)	140	1103	228	1417	250
SAL-2 (SAL-2F-B-CBS)	200	953	528	1567	270

* The specifications and dimensions are subject to change without notice.
* For the oil-based specifications, please consult us.
* **For information about custom products other than standard products, please consult us.**

Geared motor
40W

Paint color
Silver gray (Munsell No. N-8.0)

* For information about the specified color, please consult us.

Product Photo (Example)

Filtration section

* For information about custom products other than standard products, please consult us.

Chip (sludge) discharge image

* Photos are product images for illustration purposes only. Specifications differ from the actual product.

Related Products

Rolling filter conveyor

› P88

Model: AL/ALL/SKA

Conveyor equipped with the punching filter that does not require backwashing.
The filter is automatically cleaned, reducing maintenance load. Optimum for cutting chip processing of non-magnetic materials.

Chain bucket skimmer

› P132

Model: CBS

Approximately seven times the recovery capacity of the belt system. Oil skimmer that uses the unique bucket system.
Optimum for recovering floating oil and scum.

Rolling filter conveyor
MAL

You can view the product information on our website.

Magnetic material/Non-magnetic material Filtration accuracy: 200 µm 90% or more

Conveyor that supports both magnetic and non-magnetic materials with a combination of magnet and punching filter.
Optimum for those who process both magnetic and non-magnetic materials using a single machine tool.

Use/Performance

Coolant	Water-soluble, Oil-based
Category	Magnetic material/Non-magnetic material
Processing details	Cutting
Work material	Mixed chips (aluminum + FC or sintered metal)
Chip shape	Grain-shaped, small curl-shaped (50 mm or less), small curl-shaped (51 mm to 100 mm)
Machine tool	Machining center, Broaching machine, Automation machine, NC lathe, Automation machine, Gear cutting machine, Gun drill machine, Cutting specialized machine

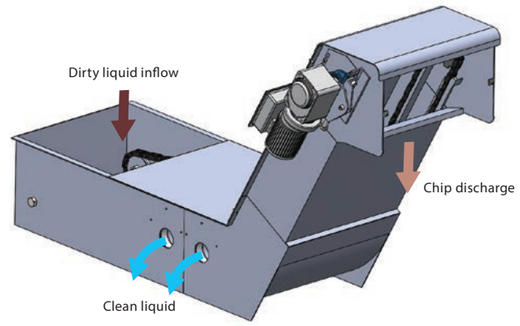
* The filtration accuracy is based on the results of our experiments, and does not imply that this level of accuracy is guaranteed.

Features

- **A single machine is suitable for chips of both magnetic materials and non-magnetic materials.**
- **The magnet installed on the bottom of the conveyor captures magnetic chips.**
- **The punching filter captures non-magnetic chips.**
- **The punching filter is automatically cleaned by constantly rotating in contact with the scraping board, preventing it from becoming clogged.**
- **No backwashing is required, so no mist is generated, which helps improve the environment in the factory.**
- **The chip discharge port of the conveyor has a structure that drains liquid, which ensures that chips are drained before being discharged. This processing reduces the load to carry out coolant (means that coolant is discharged together with chips).**
- **This product does not use any consumables such as cartridge filters or paper filters, so no industrial waste is generated.**

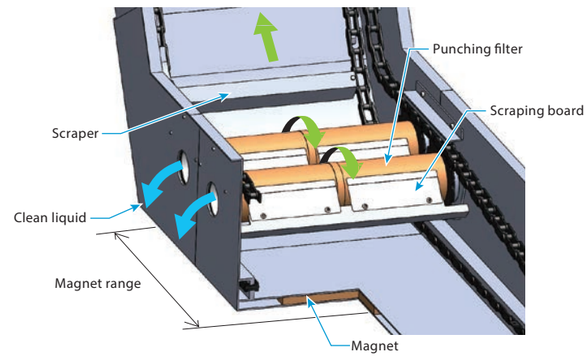
Mechanism

① The dirty liquid flows onto the conveyor.



② Magnetic chips are captured by the magnet installed on the bottom of the conveyor.

③ The dirty liquid is filtered when it passes through the rotating punching filter. The resultant clean liquid flows from the inside of the punching filter to the tank.



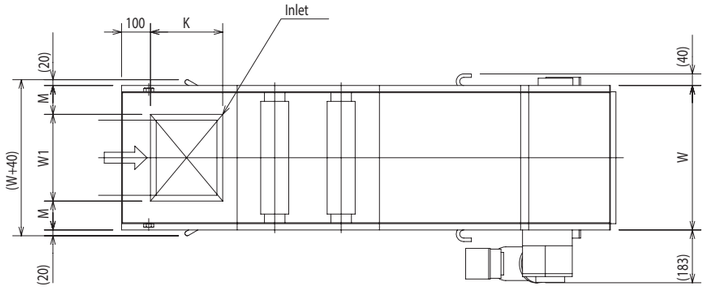
④ Chips captured in the punching filter are scraped off by the scraping board and settle on the bottom of the conveyor.

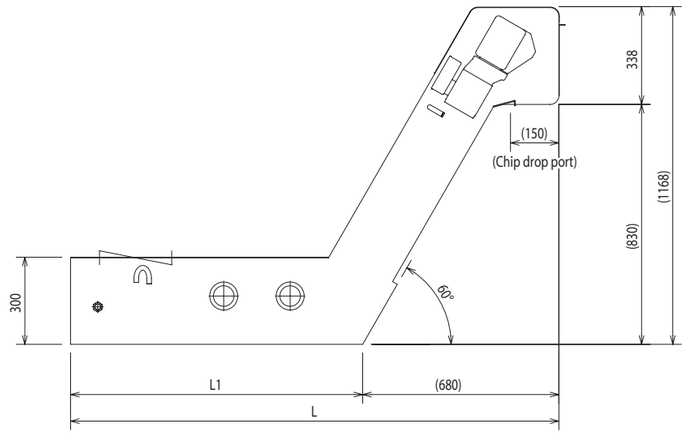
⑤ Magnetic chips captured by the magnet on the bottom of the conveyor and chips that have settled on the bottom of the conveyor are conveyed by the scraper.

⑥ Chips are temporarily stored in the conveyor outlet, drained, and then discharged.

Specifications

Dimensional drawing





		Processing flow rate[*1]	Product weight[*1*2]
MAL-1 (MAL35HLA-235 (12-1))	Water soluble	100 L/min	150 kg
MAL-2 (MAL55HLA-250 (12-2))	Water soluble	200 L/min	180 kg
MAL-3 (MAL55HLA-310 (13-3))	Water soluble	300 L/min	200 kg

*1 This is the specified value of the standard model.
*2 The product weight varies depending on the specifications, options, etc.

Dimension table

Model code	Processing capacity Water soluble (L/min)	Dimensions (mm)						Weight (kg)
		W	L	L 1	W 1	K	M	
MAL-1 (MAL35HLA-235 (12-1))	100	350	1680	1000	250	200	50	150
MAL-2 (MAL55HLA-250 (12-2))	200	550	1830	1150	350	250	100	180
MAL-3 (MAL55HLA-310 (13-3))	300		2430	1750				200

* The specifications and dimensions are subject to change without notice.
* For the oil-based specifications, please consult us.
* **For information about custom products other than standard products, please consult us.**

Geared motor	Option
100W	**Cyclone filter APOLLO-S** **Chain bucket skimmer CBS** **Relay terminal box** **Control panel, Operation box**
Paint color	
Silver gray **(Munsell No. N-8.0)**	

* For information about the specified color, please consult us.

* Please contact us for details.

Model code

Rolling filter conveyor "MAL"

MAL – 55 H L A – 230 (1 2 – 3.4)

Model
MAL : Rolling filter conveyor (with magnetic base, Hole diameter Φ0.5 mm)

Conveyor width
55 : 550 mm
* The conveyor width is min. 350 to 50 mm pitch, which is designed to correspond to the processing flow rate and layout.

Motor mounting orientation
H : Left when viewed from the chip box side (standard)
G : Right when viewed from the chip box side

Shape of main body
L : L type (Horizontal part + Inclined part)

Motor mounting method
A : Direct connection type (standard)
B : Folded type (option)

Overall length of main body
230 : 2300 mm (Horizontal part + Inclined part)

Filter diameter
1 : φ100 mm
1.5 : φ150 mm
2 : φ200 mm
* Set based on the specifications and processing flow rate.

Number of filters
2 : Two pieces
* The number of filters is set based on the processing flow rate.

Processing flow rate
3.4 : 340 L/min

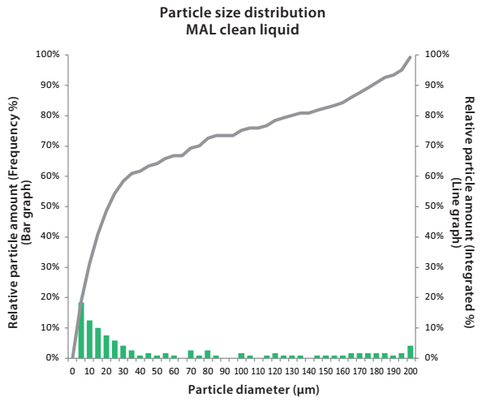
Product Photo (Example)

Option (CBS)

* For information about custom products other than standard products, please consult us.
* MAL and AL have the same appearance.

Sludge distribution status

Machine tool: Machining center **Coolant:** Water soluble **Processing flow rate:** 700 L/min **Chip material:** Aluminum



Related Products

Cyclone filter APOLLO-S › P114

Model: APS

Cyclone-type secondary processing unit that you can use extensively regardless of magnetic or non-magnetic materials.
Compatible with fine cutting chips and grinding sludge.
The defoaming mechanism supplies the non-foaming clean liquid.
The main body has been downsized while maintaining the filtration accuracy and defoaming mechanism of the old type.

Chain bucket skimmer › P132

Model: CBS

Approximately seven times the recovery capacity of the belt system. Oil skimmer that uses the unique bucket system.
Optimum for recovering floating oil and scum.

Cyclone filter APOLLO-S
APS

You can view the product information on our website

PATENTED

Magnetic material/Non-magnetic material Filtration accuracy: 10 µm 90% or more

Cyclone-type secondary processing unit that you can use extensively regardless of magnetic or non-magnetic materials.
Compatible with fine cutting chips and grinding sludge.
The defoaming mechanism supplies the non-foaming clean liquid.
The main body has been downsized while maintaining the filtration accuracy and defoaming mechanism of the old type.

Use/Performance

Coolant	Water soluble/Oil-based*1
Category	Magnetic material/Non-magnetic material
Processing details	Grinding, Cutting
Work material	FC/FCD, steel, aluminum, stainless steel, copper, titanium, carbide, mixed chips (aluminum + FC or sintered metal)
Chip shape	Sandy
Grinding chip size	Ultrafine particles (5 µm to 10 µm), fine particles (10 µm to 100 µm), coarse particles (0.1 mm to 0.5 mm)
Machine tool	Grinding machine, Tool grinding machine, Machining center, NC lathe, Induction hardening machine, Cutting specialized machine, Washing machine

* The filtration accuracy is based on the results of our experiments, and does not imply that this level of accuracy is guaranteed.
*1 When the oil viscosity exceeds 10 mm ^{2}/s, please consult us.

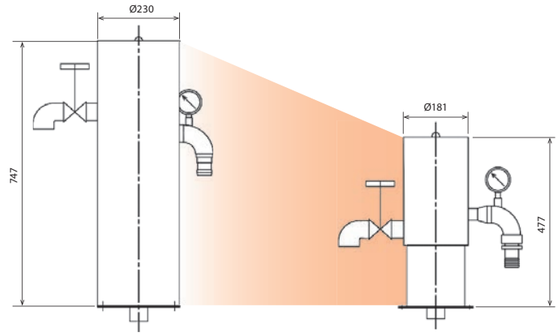
Features

- Cyclone-type secondary filtration equipment that deals with coolant containing fine chips and sludge.
- It has a built-in defoaming mechanism that suppresses the foaming of clean liquid.
- By combining this equipment with the settlement tank or the settlement tank for conveyor type, drained chips and sludge can be discharged.
- By standardizing the "drain part exchange type" for wear countermeasures, even if the drain discharge part wears over time due to sludge of hard materials, you can use it for a long time by replacing parts.
- The main unit has been made approximately 40% smaller while maintaining the filtration accuracy and defoaming mechanism of the old type. As a result, the motor capacity of the supply pump can be reduced by 40-50%.
- This product does not use any consumables such as cartridge filters or paper filters, so no industrial waste is generated.

Conventional model
AP-1

New model
APS-1

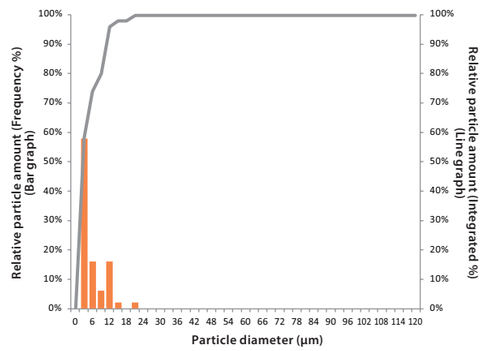
Approximately 40% smaller than conventional model.



Sludge distribution status

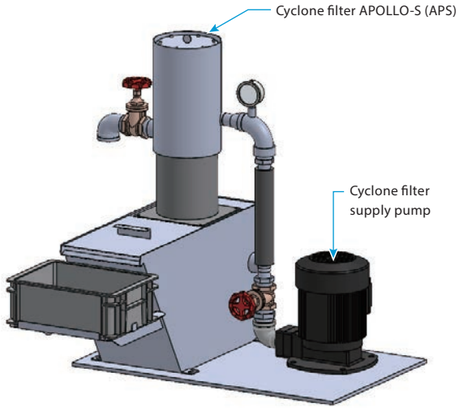
Machine tool: Grinding machine **Coolant:** Water soluble **Processing flow rate:** 100 L/min **Chip material:** Steel

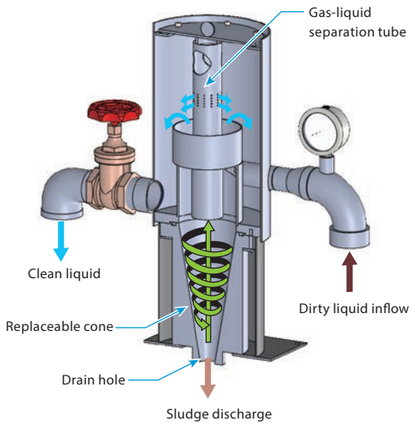
Particle size distribution
APS clean liquid



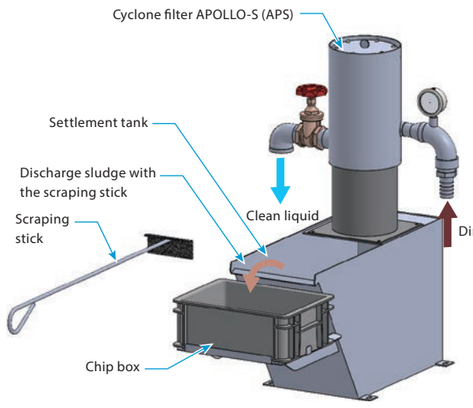
Mechanism

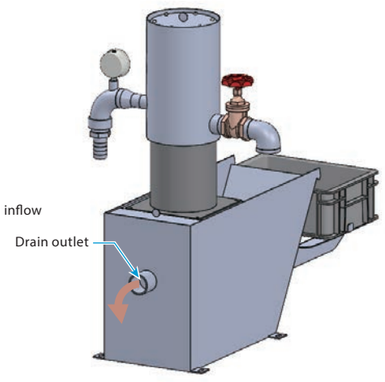
① The dirty liquid flows into the main body due to the action of the APOLLO supply pump.
② The dirty liquid is rotated at high speed inside the main body, and chips and sludge are separated by centrifugal force.
③ The separated chips and sludge are discharged from the drain port at the bottom of the main body.
④ The foam is taken out of the clean liquid when it passes through the gas-liquid separation pipe and sent to the outside of the main body.



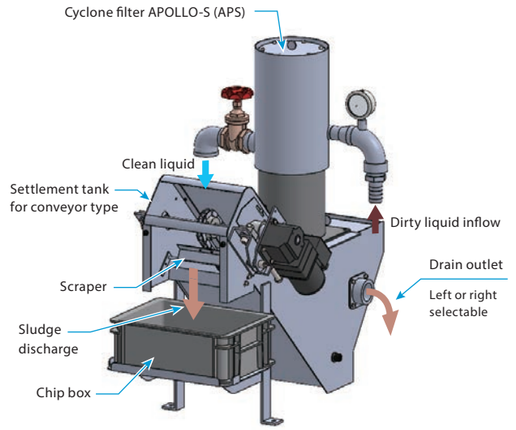


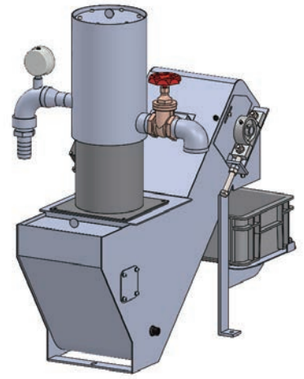
With settlement tank



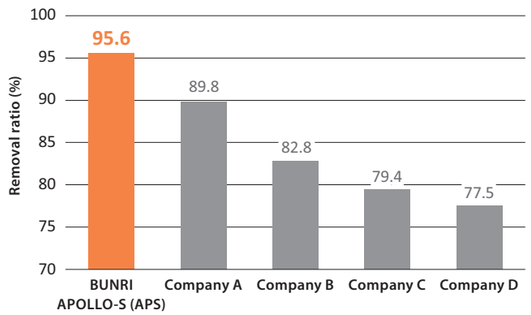


With settlement tank for conveyor type





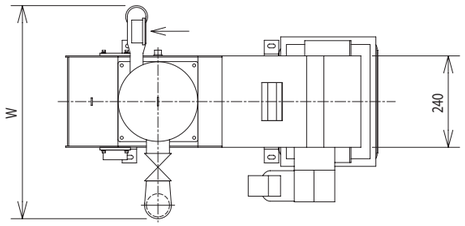
Comparison of removal rate with other companies' cyclones

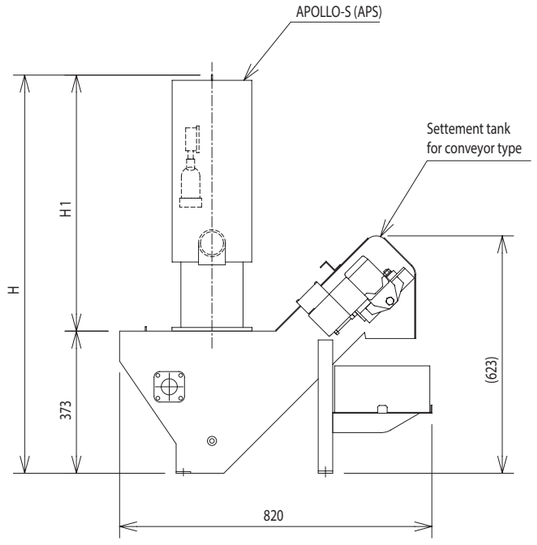


Details of verification Compare the removal rate when filtering dirty liquid with the same chip concentration level.
Condition Cyclone filter (open drain type) 50L/min type
Machine tool: Cylindrical grinding machine **Processing detail:** Medium finish **Whetstone grit size:** #80
Coolant: Water-soluble **Sludge material:** Steel (S45C)
* Values are based on our experimental results.

Specifications

Dimensional drawing





		Processing flow rate*1	Product weight*1	Supply pump*2
APS-1	Water soluble	95 to 105L/min	50 kg	110L/min×0.21MPa or more
APS-2	Water soluble	180 to 200L/min	65 kg	210L/min×0.26MPa or more

*1 The product weight varies depending on the specifications, options, etc.
*2 For details on how to select the supply pump, please contact us.

Drive motor	Paint color
25W (Settlement tank for conveyor type)	**Medium metallic (Approximate color: Munsell No. N-6.7)**

* For information about the specified color, please consult us.

Dimension table

Model code	Processing flow rate (L/min)	Dimensions (mm)			Weight (kg)	Chip box	
	Water soluble	W	H	H 1		Model code	Capacity
APS-1	95 to 105	515	870	497	50	S-7	7 L
APS-2	180 to 200	557	1045	672	65		

* The specifications and dimensions are subject to change without notice.
* When the oil viscosity exceeds 10 mm ^{2}/s, please consult us.
* **For information about custom products other than standard products, please consult us.**

Model code

Cyclone filter "APOLLO-S (APS)"

APS – 1 a Y S – SH – 240 a – P – NB

Model
APS : Cyclone filter "APOLLO-S" (Non -foaming type)

Processing flow rate
APS- 1 : 95 to 105 L/min
APS- 2 : 180 to 200 L/min

Minor change symbol (APS)

Others
No code : Standard
Y : Oil-based specifications
S : Made of stainless steel (opti on)

Drain processing
No code : Main body only
C : With settlement tank
SH : With settlement tank for conveyor type
* The model is indicated as " SG" when the "SH" motor is attached to the opposite side.

Conveyor width
240 : 240mm
* Notation applies only to sedimentation tank conveyors.

Minor change symbol (SH/SG)
* Notation applies only to sedimentation tank conveyors.

Supply pump
No code : Without pump
P : With pump

Mounting base
NB : Without mounting base
B : With mounting base
* For the specifications, please contact us separately.

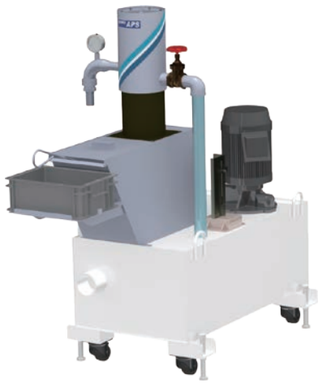
Product Photo (Example)

Standard

With settlement tank

With settlement tank for conveyor type

Unit



Unit with through pump

* The specifications and dimensions are subject to change without notice.
* For information about custom products other than standard products, please consult us.

Chip discharge image

Settlement tank for conveyor type

Settlement tank

* Photos are product images for illustration purposes only.
  Specifications differ from the actual product.

Related Products

Drastic cleaning reduction for grinding coolant system › P22

Model: RTG

Grinding system equipped with a new magnetic separator and a new cyclone filter in a uniquely designed tank structure.
Optimum for grinding sludge processing of magnetic materials.

Drastic cleaning reduction for grinding coolant system › P36

Model: ALG

Grinding system with a new cyclone filter mounted on the uniquely designed tank.
Optimum for grinding sludge processing of non-magnetic materials.

Drastic cleaning reduction for grinding coolant system COMPACT › P42

Model: CPT

Grinding system with a new cyclone filter mounted on the uniquely designed tank.
Compatible with both magnetic materials and non-magnetic materials. This is a space-saving model that reduces the space required for installation by 60% compared to that of conventional models.

Drastic cleaning reduction for cutting coolant system › P96

Model: SLC

Cutting chip processing system that combines the punching filter and a new cyclone filter in a unique configuration.
The cyclone filter filters cutting chips, so clean liquid can always be supplied to the machine.

Bunri Filter RBF

You can view the product information on our website

Magnetic material/Non-magnetic material Filtration accuracy: 5 to 100 µm

Bag-filter-type filtration unit with a simple structure and high-precision filtration.

Optimum as a secondary filtration filter for cutting and grinding.

Use/Performance

Coolant	Water soluble/Oil-based*1
Category	Magnetic material/Non-magnetic material
Processing details	Grinding, Cutting
Work material	FC/FCD, steel, aluminum, stainless steel, copper, titanium, carbide, magnesium, mixed chips (aluminum + FC or sintered metal)
Chip shape	Sandy, cottony, granular, needle-shaped
Grinding chip size	Ultrafine particles (5 µm to 10 µm), fine particles (10 µm to 100 µm), coarse particles (0.1 mm to 0.5 mm)
Machine tool	Grinding machine, Tool grinding machine, Shaving machine, Honing machine, Super finishing machine (Super finisher), Thread rolling machine, Machining center, Broaching machine, NC lathe, Automation machine, Gear cutting machine, Gun drill machine, Induction hardening machine, Cutting specialized machine, Washing machine

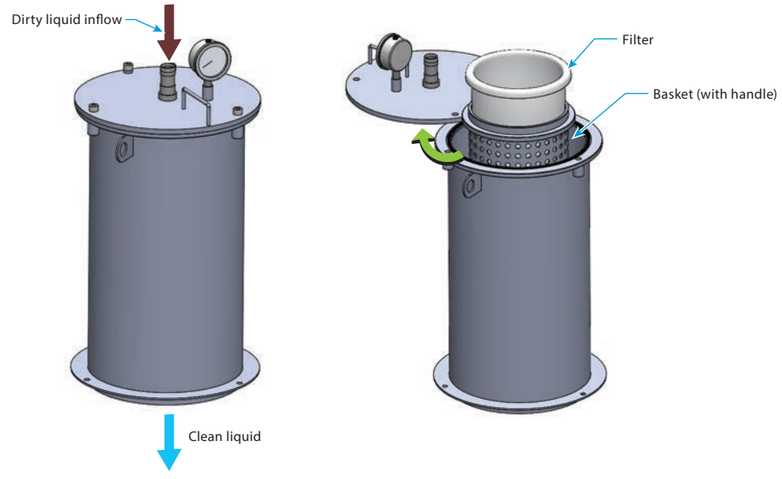
* The filtration accuracy is based on the results of our experiments, and does not imply that this level of accuracy is guaranteed.
*1 When the oil viscosity exceeds 15 mm ^{2}/s, please consult us.

Features

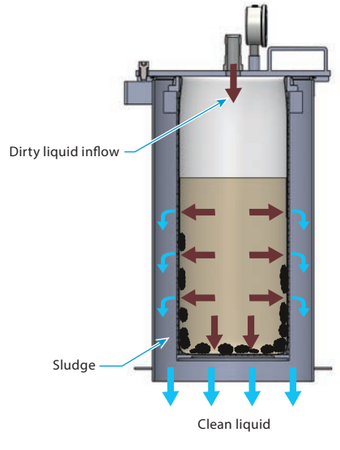
- **Bag filter for tank set Set up as a set of two filters. When clogged, filters can be replaced one by one by switching the inflow to the main body with the three-way valve, thereby, enabling continuous operation.**
- **Optimum as a secondary filtration filter for cutting and grinding chips and sludge.**
- **You can check whether the filter is clogged using the pressure gauge at the top of the main body or the pressure sensor of the inflow pipe.**
- **The outlet side of the clean liquid is an open type, which does not require air bleeding. Therefore, you can easily handle and safely use this product.**
- **No need for clean liquid piping.**

Mechanism

① The dirty liquid pumped by the coolant pump flows in from the top of the main body.

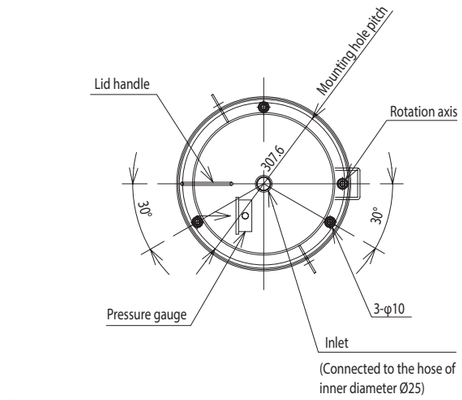


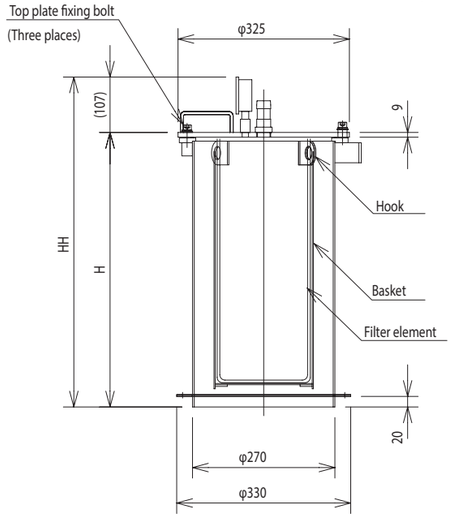
② The dirty liquid is filtered by the filter, and the clean liquid is supplied to the clean tank from the bottom of the main body.



Specifications

Dimensional drawing





		Product weight*1	Paint color*2
RBF-1	Water-soluble/Oil-based	25 kg	Silver gray (Munsell No. N-8.0)
RBF-2	Water-soluble/Oil-based	32 kg	Silver gray (Munsell No. N-8.0)

*1 The product weight varies depending on the specifications, options, etc.
*2 For information about the specified color, please consult us.

Dimension table

Model code	Dimensions (mm)		Weight (kg)
	H	HH	
RBF-1	520.5	627.5	25
RBF-2	770.5	877.5	32

* The specifications and dimensions are subject to change without notice.
* When the oil viscosity exceeds 50 mm ^{2}/s, please consult us.
* **For information about custom products other than standard products, please consult us.**

Model code

Bunri Filter "RBF"

RBF – 1

Model

RBF : Bunri filter

Processing flow rate

1 :

Element filtration accuracy (μm)	Processing flow rate (L/min)			
	Water soluble	Oil-based (viscosity mm²/s)		
		10	30	50
5	50	40	25	12
10	60	50	30	15
25	75	65	50	25
50/70/100	90	80	65	35

(PP felt)

2 :

Element filtration accuracy (μm)	Processing flow rate (L/min)			
	Water soluble	Oil-based (viscosity mm²/s)		
		10	30	50
5	100	75	50	25
10	120	90	60	30
25	150	130	100	50
50/70/100	180	155	130	65

(PP felt)

Product Photo (Example)

Main body

Basket section

Unit

Magnetic filter MF

You can view the product information on our website.

Line filter that uses a magnet as a filter medium to capture cutting chips and grinding sludge of magnetic materials.
The filter medium is a magnet, so there are no consumables and parts replacement is not required.

Use/Performance

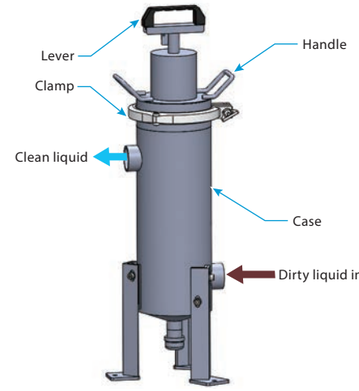
Coolant	Water-soluble/Oil-based
Category	Magnetic material
Processing details	Grinding, Cutting
Work material	FC/FCD, steel, carbide
Chip shape	Sandy, cottony, granular, needle-shaped
Grinding chip size	Ultrafine particles (5 µm to 10 µm), fine particles (10 µm to 100 µm), coarse particles (0.1 mm to 0.5 mm)
Machine tool	Grinding machine, Tool grinding machine, Shaving machine, Honing machine, Super finishing machine (Super finisher), Thread rolling machine, Machining center, NC lathe, Automation machine, Gear cutting machine, Gun drill machine, Induction hardening machine, Cutting specialized machine, Washing machine

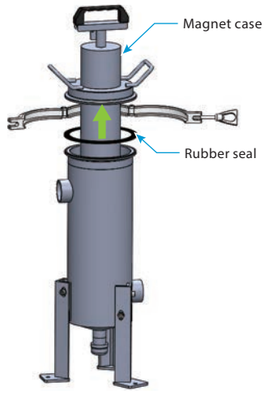
Features

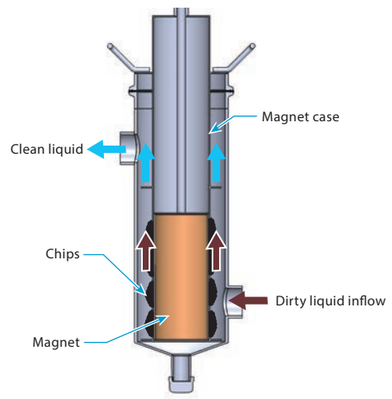
- **This product filters the coolant by creating a strong magnetic field inside the housing.**
- **Chips and sludge can be captured using a one touch operation.**
- **The filter medium is a magnet, so no replacement is required.**
- **This product can be installed on the existing flow line and does not require additional power. Therefore, it does not take time to install and operate.**
- **This product does not use any consumables such as cartridges or paper filters, so no industrial waste is generated.**
- **This product can be used both as a line filter and as a suction filter.**

Mechanism

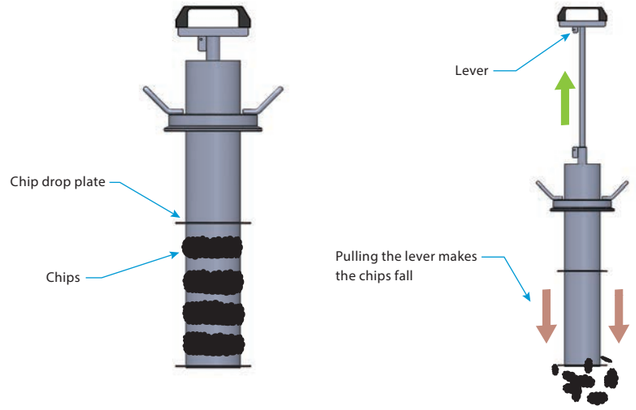
① The dirty liquid pumped by the coolant pump is filtered when passing through the magnet, and the clean liquid is sent from the top of the main body to the outside of the main body. Chips and sludge are captured by the magnet part.







② Chips and sludge are able to be recovered at any time. Remove the clamp and packing, lift the handle, and remove the main body from the case. Sludge falls from the main body when the lever is pulled.

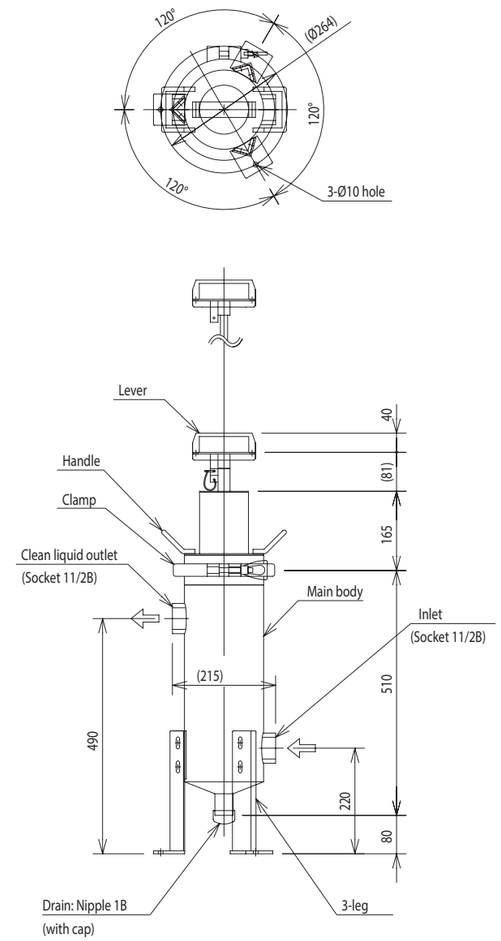


Chip (sludge) recovery image

* Photos are product images for illustration purposes only. Specifications differ from the actual product.

Specifications

Dimensional drawing



	Product weight	Paint color*1
Water soluble 200 L/min	20 kg	Silver gray (Munsell No. N-8.0)

*1 For information about the specified color, please consult us.

* The specifications and dimensions are subject to change without notice.
* For the oil-based specifications, please consult us.
* **For information about custom products other than standard products, please consult us.**

Chain bucket skimmer CBS

You can view the product information on our website.

PATENTED

Approximately seven times the recovery capacity of the belt system*.

Oil skimmer that uses the unique bucket system.

Optimum for collecting floating oil and scum.

Use/Performance

Recovery capacity*	CBS-50 (365cc/hr), CBS-100 (730cc/hr), CBS-250 (2250cc/hr)
Coolant	Water soluble
Category	Floating oil, scum
Machine tool	Grinding machine, Tool grinding machine, Shaving machine, Honing machine, Super finishing machine (Super finisher), Thread rolling machine, Machining center, #30 Machining center, Broaching machine, NC lathe, Automation machine, Gear cutting machine, Gun drill machine, Induction hardening machine, Cutting specialized machine, Washing machine

* The recovery capacity is based on the resulting data of our experiments, and it does not imply that this level of capacity is guaranteed.
* This unit is premised on the use of water-soluble coolant. If you want to use this unit for water or cleaning solution, please consult us.

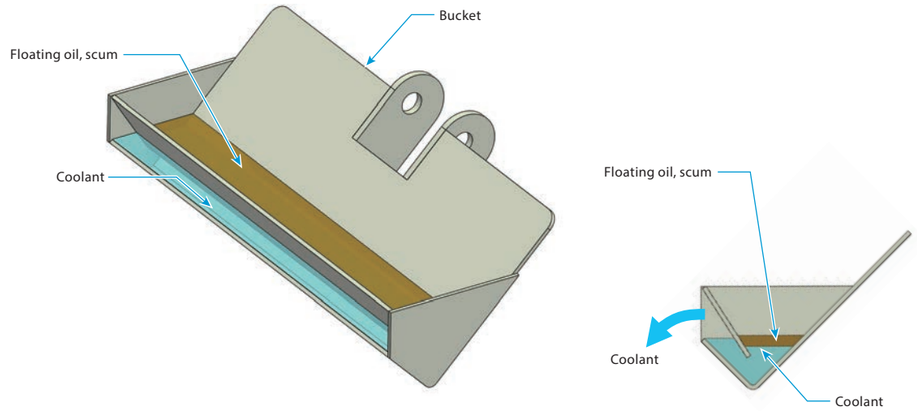
Features

- **The recovery capacity is about seven times*1 compared to that of the belt system.**
- **This unit removes hydraulic oil, lubricating oil, and scum mixed in the water-soluble coolant to prevent liquid spoilage and odors from being generated.**
- **The unique bucket shape efficiently collects floating oil and scum.**
- **This unit is also effective for low-viscosity floating oil and liquid that are heated*2 in the washing machine.**

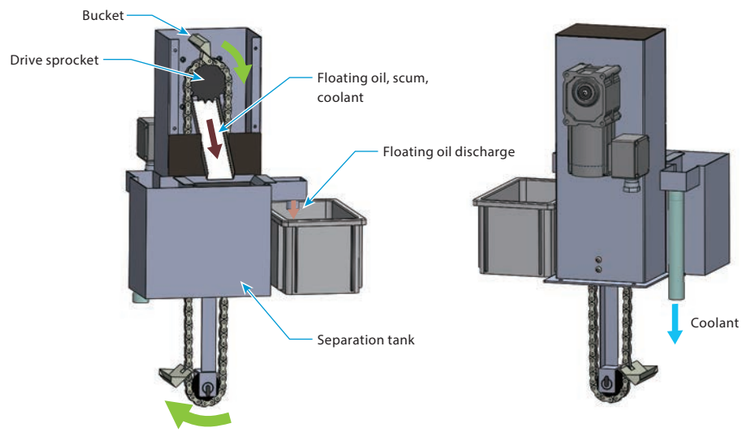
*1 In-house ratio.
*2 If you want to heat it or if the liquid temperature exceeds 60°C, please consult us.

Mechanism

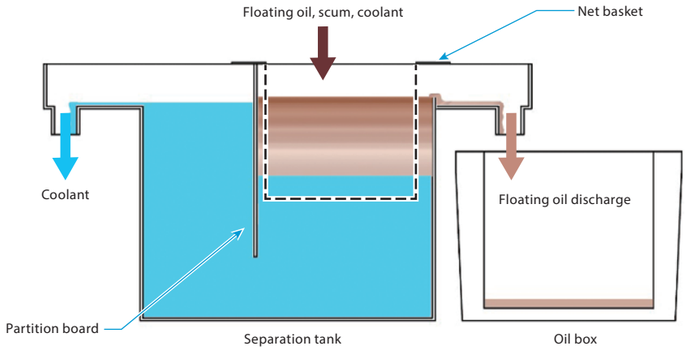
① The unique bucket shape collects oil and scum floating on the liquid surface of the coolant.



② The collected coolant, oil, and scum are discharged from the chute of the main body to the separation tank.

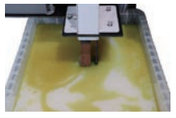
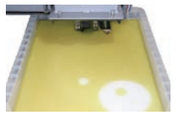
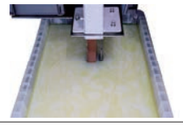
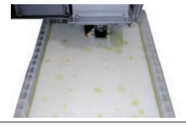


③ Coolant is separated from scum/oil in the separation tank using the difference in specific gravity between the coolant and scum/oil. Then, the oil is discharged to the oil box, and the coolant is returned to the tank again.



* This unit is premised on the use of water-soluble coolant. If you want to use this unit for water or cleaning solution, please consult us.

Comparison with belt system

Model code	Belt type	CBS-50	CBS-100
Recovery capacity	110cc/hr	365cc/hr	730cc/hr
Recovery of low viscosity oil	△	○	
Oil resistance and durability	△	○	
Before operation			
One hour after operation			

* The recovery capacity is based on the resulting data of our experiments, and it does not imply that this level of capacity is guaranteed.

Model code

Chain bucket skimmer "CBS"

CBS – 100 S – 1 a A – CE

Model

CBS : Chain bucket skimmer

Bucket width

50 mm : CBS-50
100 mm : CBS-100
250 mm : CBS-250

Special specifications

No code : Standard
S : Stainless steel specifications

Model No.

1	CBS-50	CBS-100	CBS-250
2			
3			
4	-		
5			
6			-
7			
8			

Minor change code

Sprocket

No code : Sprocket welding type (standard)
A : Sprocket exchange system

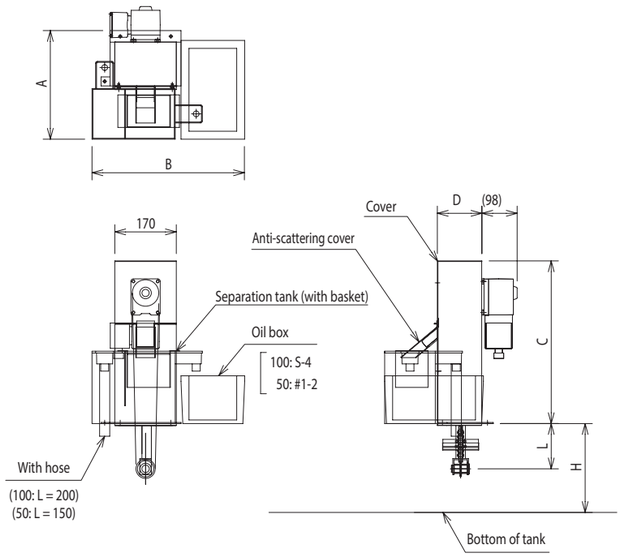
Overseas standard

No code : Standard (Nissei)
UL : UL standard compliant (for America)
CE : CE standard compliant (for Europe)
CC : CCC standard compliant (for China)
* Overseas standards (UL/CE/CCC) and different voltages are optional.

Specifications

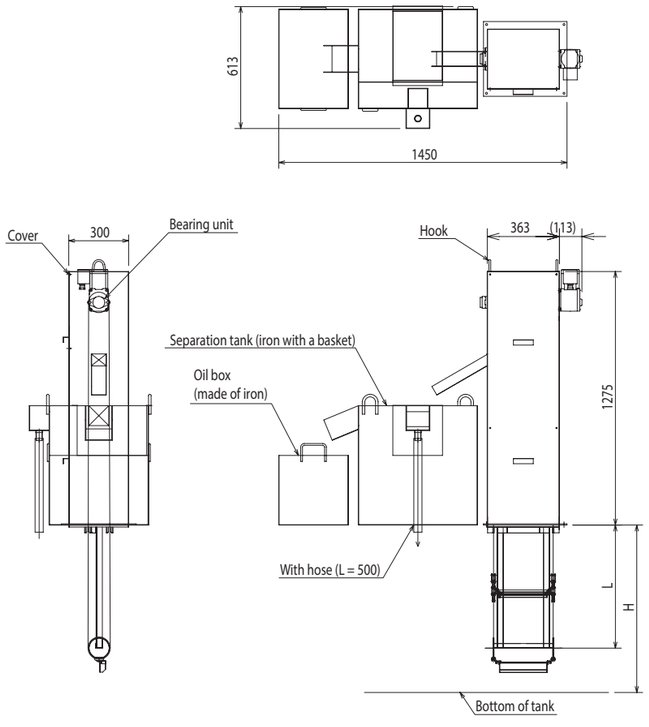
CBS-50/CBS-100

Dimensional drawing



CBS-250

Dimensional drawing



	Product weight[*1*2]	Paint color[*3]
CBS-50-1 to 3	Approx. 8 kg	Main body Medium metallic Cover Dark gray metallic
CBS-100-1 to 4	Approx. 8 kg	Main body Medium metallic Cover Dark gray metallic
CBS-100-5 to 8	Approx. 9 kg	Main body Medium metallic Cover Dark gray metallic
CBS-250	Approx. 100 kg	Medium metallic

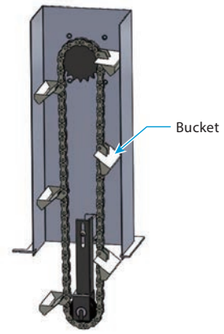
*1 For details, please check the product dimensions.
*2 The product weight varies depending on the specifications, options, etc.
*3 For information about the specified color, please consult us.

Geared motor

CBS-50 15W
CBS-100 15W
CBS-250 40W

Option

Bucket double specifications



* Please contact us for details.

Dimension table

Model code	No.	Dimensions (mm) L	Minimum tank depth (reference) H	External dimensions (mm) A	B	C	D	Weight (kg)
CBS-50	1	125	220	232	373	400	73	8
	2	176	270					
	3	278	380					
CBS-100	1	125	220	300	422	450	123	8
	2	176	270					
	3	278	380					
	4	328	430					
	5	430	530					
	6	532	630					9
	7	633	730					
	8	735	830					
CBS-250 *Large type (for centralized equipment)	1	619	842	*Large type (for centralized equipment) For information about the CBS-250 installation dimensions, please check the Dimensional drawing.				100
	2	1000	1223					
	3	1381	1604					
	4	1762	1985					
	5	2143	2366					

* The specifications and dimensions are subject to change without notice.
* **For information about custom products other than standard products, please consult us.**

Product Photo (Example)

Standard

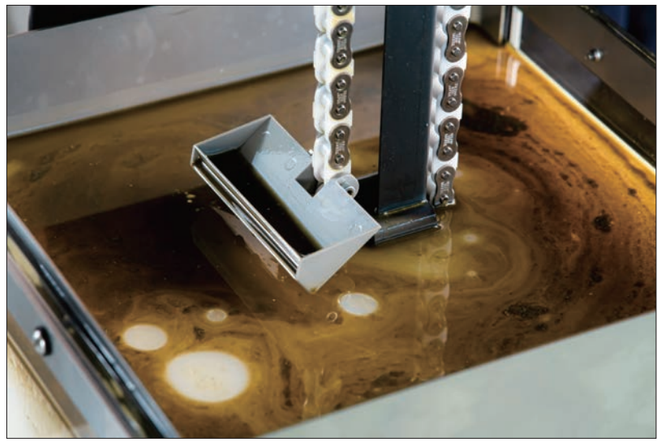
CBS-50

CBS-100

Large type (for centralized equipment)

CBS-250

Floating oil recovery image



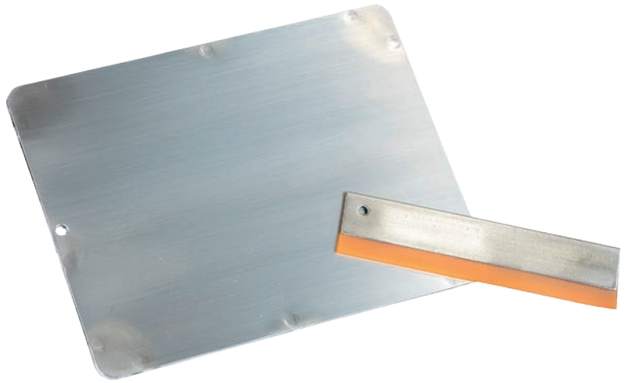
* Photos are product images for illustration purposes only. Specifications differ from the actual product.

Magnetic Sweeper SW
Powerful Magnetic Sweeper MSW
Magnetic plate PL

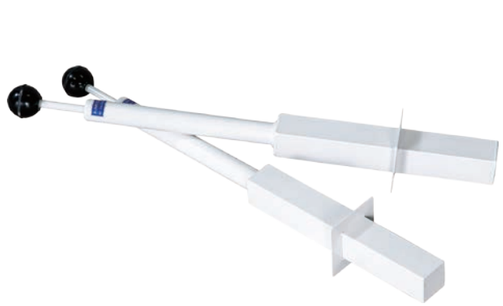
You can view the product information on our website.

Magnet application equipment that collects cutting chips and grinding sludge from magnetic materials.

Optimum for cleaning insides of coolant tanks and places that are out of reach.



PL



SW

MSW

Use/Performance

Coolant	Water-soluble/Oil-based
Category	Magnetic material
Processing details	Grinding, Cutting
Work material	FC/FCD, steel, carbide
Chip shape	Sandy, cottony, granular, needle-shaped, small curl-shaped (50 mm or less), small curl-shaped (51 mm to 100 mm)
Grinding chip size	Ultrafine particles (5 µm to 10 µm), fine particles (10 µm to 100 µm), coarse particles (0.1 mm to 0.5 mm)

Features

Type	Features
SW	• Suitable for cleaning the inside of the coolant tank and places that are out of reach.
MSW	• Compact and high magnetic force type compared to SW. • Optimum for cleaning magnetic chips and sludge in narrow spaces such as the T-groove of the machine table.
PL	• Available to remove cutting chips and grinding sludge from the coolant tank and hydraulic tank. • This unit can be installed either horizontally or vertically.

Chip (sludge) recovery image

SW / MSW

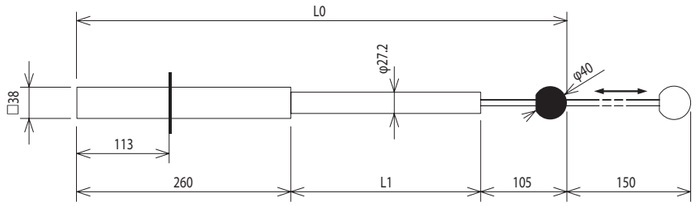
PL

* Photos are product images for illustration purposes only. Specifications differ from the actual product.

Specifications

SW

Dimensional drawing and dimension table

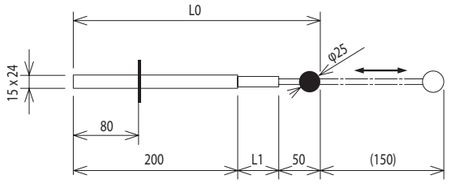


	Dimensions (mm)		Weight (kg)
	L1	L0	
SW-A	230	595	1.5
SW-B	500	865	2
SW-C	1000	1365	2.8

* The specifications and dimensions are subject to change without notice.
* For information about custom products other than standard products, please consult us.

MSW

Dimensional drawing and dimension table

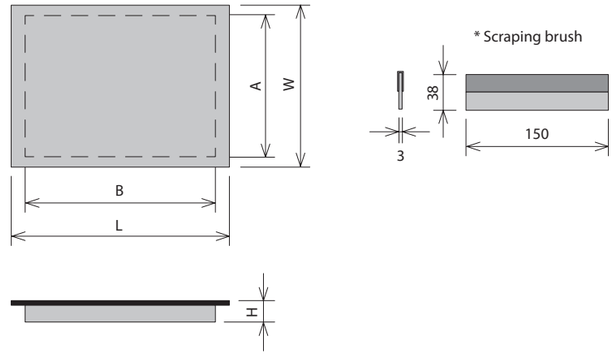


	Dimensions (mm)		Weight (kg)
	L1	L0	
MSW-A	0	250	0.3
MSW-B	250	500	0.5
MSW-C	550	800	0.8

* The specifications and dimensions are subject to change without notice.
* For information about custom products other than standard products, please consult us.

PL

Dimensional drawing and dimension table



	Dimensions (mm)					Weight (kg)
	A	B	W	L	H	
PL0808	80	78	100	100	20	0.5
PL1010	100	98	120	120		0.8
PL1520	150	198	170	220		2.2
PL2025	200	248	220	270		3.7
PL2030		298		320		4.5

* The specifications and dimensions are subject to change without notice.
* For information about custom products other than standard products, please consult us.

	Product weight[*1*2]	Paint color[*3]
SW	1.5 to 2.8 kg	Silver gray (Munsell No. N-8)
MSW	0.3 to 0.8 kg	Silver gray (Munsell No. N-8)
PL	0.5 to 4.5 kg	Silver gray (Munsell No. N-8)

*1 For details, please check the product dimensions.
*2 The product weight varies depending on the specifications, options, etc.
*3 For information about the specified color, please consult us.

MEMO

MEMO

Precautions for Using the Catalog

- The contents of the catalog are for reference specifications only. Please note that the shape, dimensions, materials, etc. may change depending on the specifications.
- Specifications and dimensions are subject to change without notice due to product improvements.
- Numerical values such as the filtration accuracy and recovery capacity are based on the results of our experiments, and they do not imply that these levels of efficiency are guaranteed.
- Please note that the colors and shapes of products in the catalog may differ from those of actual products.
- For details, please contact our service representative or our company.
- The rights related to trademarks, logos, and trade names used in this catalog belong to our company or the owners of the respective rights.
- It is prohibited to reprint or copy the contents of this catalog without our permission.

Warranty period and scope

1. The warranty period of this unit is one year after shipment from the factory.
2. During the warranty period, we will repair or replace parts free of charge only for defects attributable to us despite normal use.
3. The above warranty shall cover the mechanical warranty of defective parts, and shall not compensate for various expenses and damage caused by failures.

Repair for a fee

1. Regardless of the warranty period, you will be charged for the costs of dispatching technicians, repairs, replacements, and others for failures, damage, and functional deterioration due to the following causes:

   ① You do not observe the compliance items and prohibitions for installation, piping, wiring work, adjustment, operation, maintenance, and inspection.

   ② The tank is not cleaned regularly according to the amount of processing and the operating rate of the machine in order to use the coolant unit normally.

   ③ You have carried out repairs or remodeling without our consent.

   ④ You have performed an operation such as changing the workpiece material or coolant, or one that has led to an excessive flow rate that is not specified in the specifications.

   ⑤ Problems are caused by equipment that we did not deliver.

   ⑥ Problems are caused due to manufacturing all or part of this unit as defined in the specifications you determined.

   ⑦ When machining aluminum containing copper, as a result of contact with dissimilar metals and formation of oxygen concentration cells, corrosion of tanks and liquid leakage occur.

   ⑧ The warranty period expired.

   ⑨ Problems are caused by consumables.

   ⑩ Problems are caused by natural disasters, disasters caused by natural disasters, and accidental force.

2. If the cause of the abnormality is unclear, we will discuss with the customer who purchased this product to decide measures.

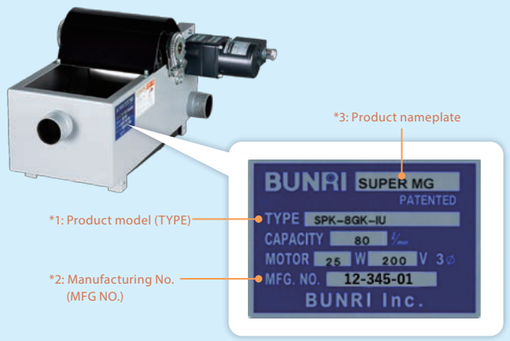
Caution

We manage information about our products by serial numbers. When making inquiries, please inform us of the product model and serial number.

Confirmation method

For the product model (*1) and serial number (*2), check the product nameplate (*3) affixed to the side of the main unit (either left or right).

If you cannot confirm the information on the product nameplate (for example, it has peeled off and been lost), please state to that effect.



After-sales support

Failure/problem

We will listen to and evaluate information about the present state, and propose the optimal recovery method.
Please contact us by through the inquiry form dedicated to the after-sales support on our website.

Maintenance/parts

We will listen to and evaluate information about the present state, and propose the optimal recovery method.
Please contact us by through the inquiry form dedicated to the after-sales support on our website.

Others

Please also leave the technical support up to us. We will listen to and evaluate your requests and present the optimal proposal.
Please contact us first.

After-sales support inquiry desk	**https://www.bunri.com/en/support/**

Contact Information

For product inquiries, please contact your service representative.
We will respond promptly to your requests from submitting quotations and accepting your orders to providing technical support.

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