

SUPER ARIO

UNATTENDED AUTOMATIC WORKPIECE ACCUMULATOR

Preventing nicks and dents to newly machined, beautiful workpieces from CNC and Swiss-type lathes machines.

5 Basic models available to accommodate various set-ups.

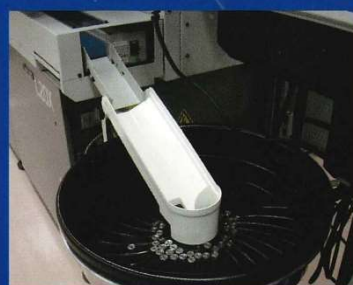
SPA-500/500H



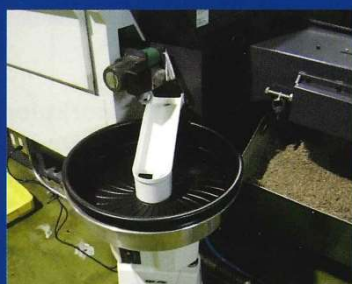
SPA-500



SPA-500H



SPA-500H installed at A factory



SPA-500 installed at B factory

SPA-350/350h



SPA-350



SPA-350h



UNATTENDED AUTOMATIC WORKPIECE ACCUMULATOR

Super Ario SPA-500 Standard Model

The basic model.

Preventing dents & scratches on beautiful workpieces.

Background Story

Ario Techno is specialized in processing super high precision metal parts and therefore a user of various types of CNC Automatic Lathe Machines. Our long-time headaches have been dents and scratches on works caused by accidental collision of works when works are being collected and dropped, piled up in the conventional container as they come out from the lathe machine carried by the conveyor belt. How to prevent dents and scratches, and to minimize the loss, to cut the cost, and to improve work efficiencies enabling night time unattended operations safely.....we've gone through many tries and many samples, improvements after improvements, and here they are from the Team Ario, Super Arios !



SPA-500 installed at C factory

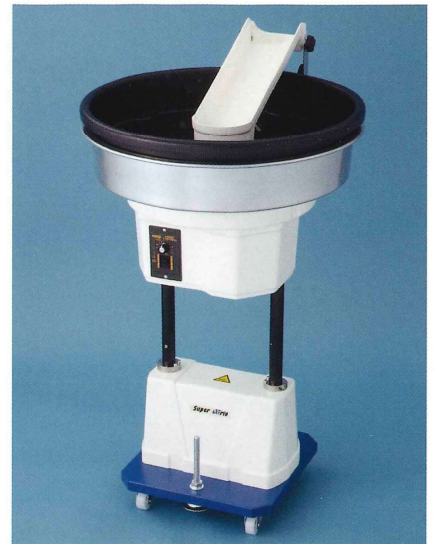


Super Ario SPA-500H Standard Model (High Profile Type)

The most recommended model for highest safety protection of workpieces. Ideal when lathes emitter height is >750mm and up to 850mm from the floor.



SPA-500H installed at D factory



Features

- Super Ario catches a workpiece out of the Lathe conveyor belt in the center of the collection ramp, and a workpiece slides down the ramp onto the middle of the receptacle plastic tray rotating clockwise, and a workpiece is moved out to perimeter, providing clear space for the next workpiece to drop onto the tray, thus preventing collision which can cause dents, abrasion on workpieces. This process repeats until the end of the run.
- The workpiece tray and the aluminum bucket can be filled with washing fluid to remove oil residue, chips and debris from workpieces, and prevent damage from abrasion between newly machined workpieces. While the workpieces are being accumulated in the tray, they will be roughly washed in washing fluid.
- Oil running down on the lathe emitter belt can be caught at the top of the collection ramp, and through the drain hose oil will be fed back to the lathe oil tank for re-use.
- Super Arios are equipped with 4 casters (except SPA-350), enabling an easy moving and installations.
- Unattended run length depends on workpiece size, processing time and the holding capacity of the receptacle tray. The rotation speed can be adjusted to accommodate the job's production rate.

SPA500/SPA500H Service parts



Aluminum Bucket Φ500
B0014-06-001



Receptacle Tray Φ500
B0014-06-013



Receptacle Tray Φ500 with 3-tier-stage
B0014-06-303

A 3-tier-stage receptacle tray can hold about 3 times as many as workpieces compared to the standard tray, and run length can be extended to 15~16 hours. (workpiece size Φ16mm, L32.8mm, processing time 95 seconds)



Collection Ramp B0014-00-023

3 Basic Capacity Systems (Ø500, 350, & 700), offering 5 Models for Accommodating Various Setting Conditions

Super Ario SPA-350 Compact Model

The smallest and low cost model.
Best for set-up in limited space.

The end of the collection ramp (round end) must be seated properly onto the center of the receptacle tray (applied to all the models) keeping the 90 degree straight-up angle, and to assist this proper setting, ramp (shooter) slide(up & down) and ramp (shooter) locking bracket are provided. When a proper seating (in the center at 90 degree straight-up) is made, tighten the locking flat knobs. This locking device will prevent workpieces jamming back into the collection ramp circle underneath which would cause abrasion and damage to the workpieces.



Super Ario SPA-350h Compact High Profile Model

The compact model with high profile reach.



Collection Ramp End Circle where a workpiece touchdowns



Properly seated Collection Ramp end and the receptacle tray (90 degree)



Features

- SPA-350 Compact & Low Profile model is most suitable for the limited setting space and the low emitter belt height (less than 460mm) of the lathes.
- Either a 3-tier-stage tray or a flat tray is available and can be selected. The advantage of a 3-tier-stage tray is it can hold workpieces nearly 3 times as many as a flat tray. Workpieces will be stored up from the top stage, then rolling down to the second stage, and then falling down to the bottom space. When accumulation volume/numbers is a priority, a 3-tier-stage tray is recommended, but if prevention of damages to the workpieces should be more important, a flat tray is recommended. Depending on the size, shape, material of the workpieces, rolling down or dropping down from the upper to the lower stage should better be avoided. If the material is hard type and the workpiece is round shaped, and a larger accumulation volume/number is preferred, a 3-tier-staged tray is recommended.

SPA350/SPA350h Service parts



Aluminum Bucket Ø350
B2081-12-001



Receptacle Tray Ø350 with 3-tier-stage (Standard) B2081-12-003



Receptacle Tray Ø350
Flat type (Option) B2081-12-008★

★An optional flat type receptacle tray is recommended for very sensitive delicate workpieces requiring very careful handling allowing absolutely no damage at all. For the maximum safety of such sensitive workpieces, avoid double or triple layers of workpieces accumulation.



Collection Ramp B2081-10-003

Super Ario SPA-500/Φ700 Conversion Model

The highest capacity model.
Ideal for extended period of unattended workpiece accumulation.



SPA-500/Φ700 installed at E factory



SPA-500/Φ700 with 3-tier receptacle tray

Features

Φ700 Plastic Receptacle Tray is now available.

- Based on and utilizing SPA-500 parts as many as possible, SPA-500/Φ700 Conversion Model with a Φ700 Receptacle Tray is now available.
- Φ700 Tray Flat Type can hold workpieces about 2 times as many as Φ500 flat tray, and Φ700 Tray 3-tier-staged can hold about 6 times as many as Φ500 flat tray.
- Please note SPA-500/Φ700 Conversion Model requires a larger setting space, and an aluminum bucket is not accompanied with.

SPA-500Φ700 Conversion Model

Specifications

Power Source		AC220/240V 50/60Hz, 25W or AC100/120V 50/60Hz, 25W
Accompanied Standard Flat Bottom Receptacle Tray		Φ700mm(Outside Diameter) Φ652mm(Inside Diameter), 138mm depth
Storable Maximum Weight		50kg
Rotation Speed		with Speed Controller 0.3~4.6rpm/50Hz, 0.3~5.5rpm/60Hz
Workpiece Size Applicable	Max Diameter	Φ30mm(Optional Customized up to Φ45 × 40mm available)
	Max Length	L80mm(Optional Customized up to 100mm available)
Workpieces Accumulation Capacity (based on Ario Techno simulation)	Standard Flat Bottom Receptacle Tray	Approx. 2 times of Φ500 flat bottom tray (cf. Φ25mm × L.50mm workpiece 150pcs.)
	Optional 3-tier-staged Receptacle Tray	Approx. 6 times of Φ500 flat bottom tray (cf. Φ25mm × L.50mm workpiece 450pcs.)
Dimensions	When standard flat receptacle tray mounted	Φ700 × Adjustable Height 712~812mm (excluding protrusions)
	When optional 3-tier-staged tray mounted	Φ700 × Adjustable Height 783~883mm (excluding protrusions)
Weight	When standard flat receptacle tray mounted	Approx. 30kg
	When optional 3-tier-staged tray mounted	Approx. 33kg

Introducing Super Ario Special Customized Models

CNC and Swiss-type lathe machines now being operated at the customers' factories vary in many waysdifferent manufacturers and various models and specifications, workpiece emitter locations, its dimensions and height, with or without oil tray, distance from the chip conveyor, size of workpiece, its material, shape, production rates and run durations....All these factors must be taken into considerations to select the most proper model of Super Ario, and quite often the standard models do not fit, in which case we have made customization and here are some of the customized special models.



SPA-500L Low Profile Model

460mm Height fixed at the collection ramp top
No height adjustment



SPA-500 Special High Profile Model

1145mm $\pm$ 40mm adjustable height
to match with Mazak Integrex i-100 Bartac-S



SPA-500LM 600mmH Model

Just 600mm height $\pm$ 0mm
Put 140mmH caster blocks on SPA-500L
to make 600mmH demanded by a customer



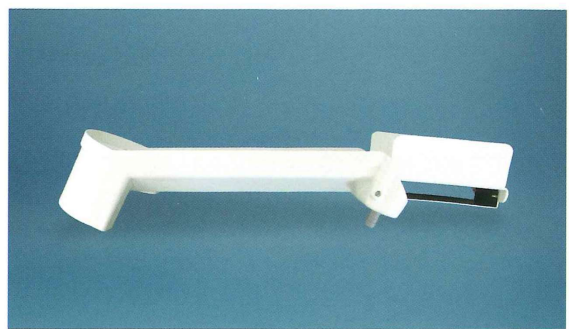
SPA-500L/Φ350

Very narrow limited setting space no room for
Φ500 bucket, but a customer still requires
SPA-500L specifications. So, we put Φ350 tray
& bucket, and an extended collection ramp to
cope with Miyano lathe BNA-42DHY2



SPA-500S Ultra Low Profile Model

325mmH the lowest model to match with
DMG Mori Seiki lathe NL-1500.
No casters, no height adjustment.



Special Extended Collection Ramp Kit

When setting Super Ario, the biggest challenge is interference of an oil tray of the lathe, or the chip conveyor blocking an access of Super Ario. This extended collection ramp kit is an assemble of the standard collection ramp(B0014-00-023), and the extension ramp(B6001-57-004), joint bracket(B6001-57-003) to reach the lathe emitter over the oil tray. This is just one example of our customization, and we keep challenging to bring solutions to the customers.

Basic Four (4) Models' Specifications

	SPA-500 Standard	SPA-500H High	SPA-350 Compact	SPA-350h mid-High
Power Source	AC220/240V 50/60Hz or AC100/120V 50/60Hz	AC220/240V 50/60Hz or AC100/120V 50/60Hz	AC220/240V 50/60Hz or AC100/120V 50/60Hz	AC220/240V 50/60Hz or AC100/120V 50/60Hz
Aluminum Bucket	Φ500mm Depth 95mm	Φ500mm Depth 95mm	Φ350mm Depth 120mm	Φ350mm Depth 120mm
Rotation Speed	with Speed Controller 0.3~4.6rpm/50Hz 0.3~5.5rpm/60Hz	with Speed Controller 0.3~4.6rpm/50Hz 0.3~5.5rpm/60Hz	with Speed Controller 0.3~5.6rpm/50Hz 0.3~6.8rpm/60Hz	with Speed Controller 0.3~4.6rpm/50Hz 0.3~5.5rpm/60Hz
Height (Floor to Collection Ramp Top)	adjustable 650~750mm	adjustable 750~850mm	460mm fixed	adjustable 725~825mm
Storable Max Weight	25kg (including rinsing liquid about 7kg)	25kg (including rinsing liquid about 7kg)	25kg (including rinsing liquid about 7kg)	25kg (including rinsing liquid about 7kg)
Workpiece Size Applicable	Φ4mm~25mm L. 75mm max	Φ4mm~25mm L. 75mm max	Φ4mm~15mm L. 50mm max	Φ4mm~15mm L. 50mm max
Dimensions	Φ500 x Height 650~750mm (excluding protrusions)	Φ500 x Height 750~850mm (excluding protrusions)	Φ350 x Height 460mm (excluding protrusions)	Φ365 x Height 725~825mm (excluding protrusions)
Weight	20.3kg	21.0kg	15.0kg	20.3kg

Note (1) : Customer-sized collection ramp may be available at additional cost to accommodate customers request such as larger size workpieces, increased storage capacity, etc. Please contact your area sales/engineering representative, or directly send an e-mail to Ario Techno.

Serviceable Parts (these items come with the unit as the standard package, but are also available as serviceable replacement parts.)

Part Number	Part Description	Picture
B0014-06-001	Aluminum Bucket Φ500	
B0014-06-013 B0014-06-303	Plastic Receptacle Tray Φ500 Plastic Receptacle Tray Φ500 with 3-tier-stage	
B0014-00-023	Collection Ramp for SPA-500, 500H	
B2081-12-001	Aluminum Bucket Φ350	
B2081-12-003	Plastic Receptacle Tray Φ350 Standard 3-tier-stage	
B2081-12-008	Plastic Receptacle Tray Φ350 Flat type (Optional)	
B2081-10-003	Collection Ramp for SPA-350/350h	

Note (2) : Products' specifications and appearance are subject to change without notice.

Manufacturer :  **Ario Techno Co., Ltd.**

Head Office : 10-145 Minami Hatsushima-cho, Amagasaki City, Hyogo Pref. 660-0833 Japan
Tel. : +81-6-4868-5001 Fax : +81-6-4868-5010

South Plant : 10-118 Minami Hatsushima-cho, Amagasaki City, Hyogo Pref. 660-0833 Japan
Tel. : +81-6-6488-5550 Fax : +81-6-6488-5540

URL : <http://www.ario.co.jp> E-Mail : info@ario.co.jp