



New **VP** series

**SPRING END GRINDER**

**Z** SHODA ZOKI CO., LTD.



# NewVP for spring end grinder series

(Vertical double-sided grinding and dry)

Each model of the NewVP spring grinder series is the product which we of the specialized maker built up based on experience and the results since 1952.

For the NewVP spring grinder series, there are 2 S type models equipped with two pieces of grindstones up and down and there are 3 D type models equipped with four pieces of grindstones up and down. According to line diameter, outer diameter, height, the materials and demand precision, production of processing springs amount, you can choose a model deserving to be you most from the NewVP spring grinder series.

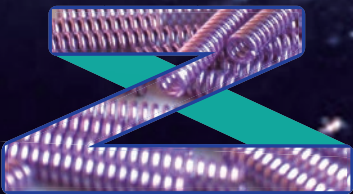
The each model of the NewVP spring grinder series include a distinguished function to improve grinding precision, production efficiency, safety, operability, durability.

Furthermore, making it became feasible the thorough saving of labor, person-saving by each model of the NewVP spring grinder series adding an automatic feeder.



## LINE UP

- A lot of spring end grinder
- The automatic feeder (with a division unit)·Discharge apparatus
- A lot of the Spring Setting device
- Special plane grinder

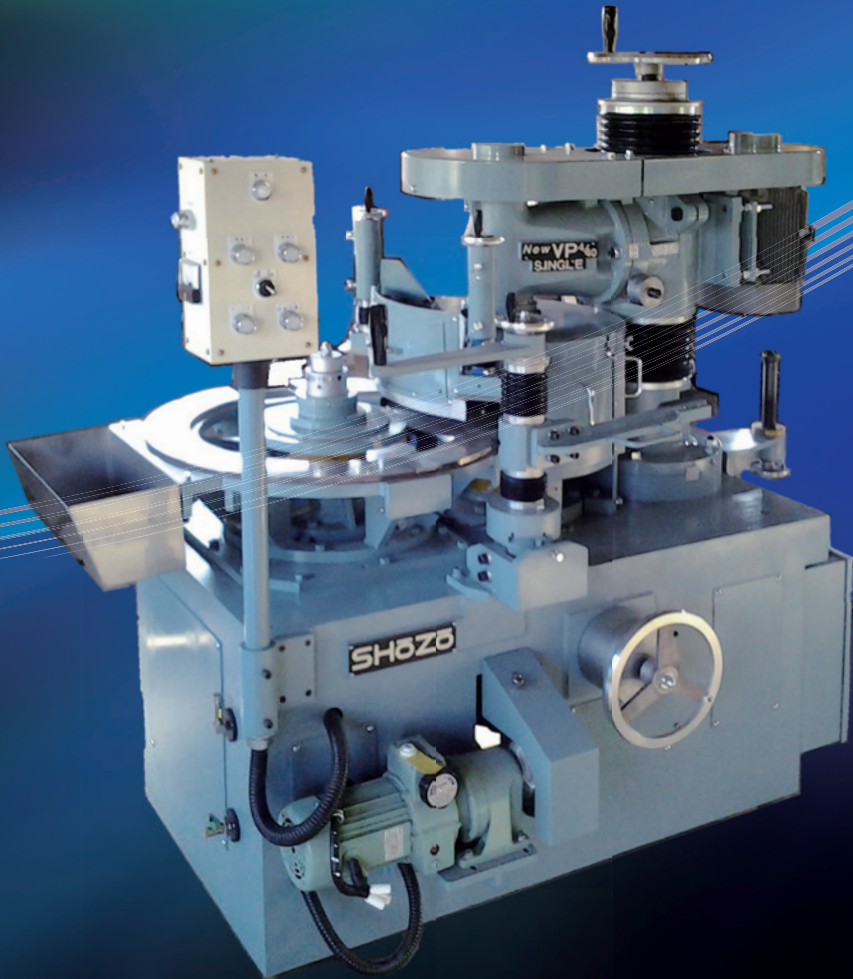


# NewVP-S type

## SPRING END GRINDER

(grinding of both sides , dry process)

- The general-purpose computer which is most suitable for an extensive use by the simplest type.
- In the case of particularly a large quantity of production, use an automatic supply device, exhaust system together; and becoming it is possibility a person-saving.
- The installation of the CBN (artificial diamond) foil is possible, too.



## Specifications for New VP Series Spring End Grinders

Type of Machine		NewVP2/20	NewVP4/40	Remarks
Wire diameter of spring to be processed	(mm)	0.3~1.6	0.5~3.5	Wide of wire diameter is 2 pass grinding
Outside diameter of spring to be processed	(mm)	2~20	5~40	
Free height of spring to be processed	(mm)	3~60 (100)	6~120 (200)	
Production capacity (1-pass grinding)	Hr	5000~700	4800~500	Inclination at grinding finish : 1°certain level
Dimensions of grinding wheel (Cd x thickness x ID)	mm	255×50×86	455×75×105	Bolt-mounted type
No. of wheel revolution (Mg grinding wheel)	r.p.m	1805	1015	
Grinding wheel moter (2units)	kw	1.5×4P	3.7×4P	
Outside dimension of table	mm	405	680	Divided into 2 fan-shaped sections
No. of table revolution	r.p.m	0.1~1.5	0.08~1.2	Variable speed change
Grinding speed of table	mm/min	100~1810	140~2160	
Variable speed motor for table	kw	0.1×4P	0.2×4P	
Grinding locus length of spring to be processed	mm	222~188	369~299	
Dimensions of machine (length x width x height)	mm	1.1×0.9×1.2	1.5×1.4×1.4	
Weight of machine	kg	520	1100	

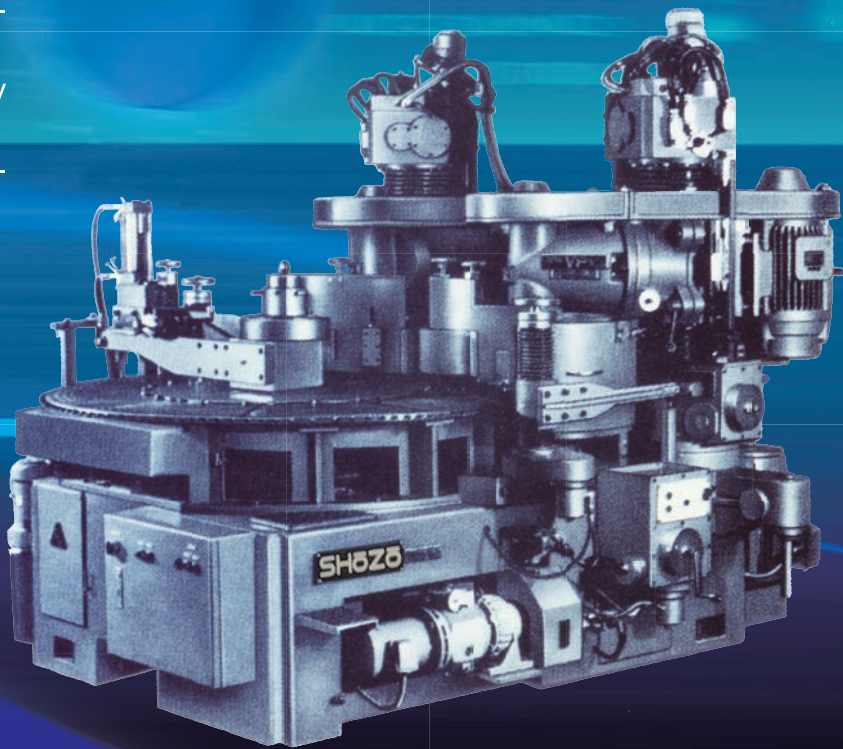
● Special accessories  
Table · Bush (Manufactured by processed goods size) · Dust collector · Automatic feeder.



# NewVP-D type SPRING END GRINDER

(grinding of both sides, dry process)

- The grinding precision and the production efficiency are distinguished.
- Labor saving such as the supply of the artefact is possible.
- Operability and safety , the durability of the machine are perfect.



## Specifications for New VP-D Type Spring End Grinders

Type of Machine		NewVP4/40-D	NewVP6/60-D	NewVP8/80-D	Remarks
Wire diameter of spring to be processed	mm	1.6~4.5	2.3~6	2.9~7	Wide of wire diameter is 2~3 pass grinding
Outside diameter of spring to be processed	mm	10~50	15~70	18~80	
Free height of spring to be processed	mm	10~120(200)	15~150(300)	20~150(300)	( ) Special Specification
Production capacity (1-pass grinding)	Hr	5800~460	3600~370	4300~1100	Inclination at grinding finish : 1°certain level
Dimensions of grinding wheel (Cd x thickness x ID)	mm	455x75x105	610x90x135	760x90x170	Bolt-mounted type
No. of wheel revolution (Mg grinding wheel)	r.p.m	1015	770	620	
Grinding wheel moter (4units)	kw	3.7x4P	5.5x6P	7.5x6P	Sudden stop at the time of the original reverse change type
Motor for the top surface grinding wheel going up and down (2units)	kw	0.2x4P	0.4x4P		Geared Vertical
Outside dimension of table	mm	1140	1520	1760	2・4・8 divided sector-type
No. of table revolution	r.p.m	0.07~0.42	0.04~0.24	0.035~0.21	Variable speed change
Grinding speed of table	mm/min	210~1460	180~1110	170~1130	Variable speed chang
Variable speed motor for table	kw	0.4x4P	0.75x4P	1.5x4P	
Grinding locus length of spring to be processed	kw	696~864	936~1173	1184~1388	
Dimensions of machine (length x width x height)	m	2.03x1.79x1.80	2.55x2.38x2.12	2.94x2.87x2.48	
Weight of machne	kg	4200	8400	12700	

●Table and Bush produce it by artefact dimensions.



## Specifications Description for NewVP-D Type SS Spring End Grinders

Type of Machine	SS Type	Remarks
Classification of equipment specifications	Standard features	Main point explanation of the equipment
It starts sequentially automatically of Grind stone motor	Option	All grind stone turns start by operation of 1 push
Driving change forward and reverse of Grind stone motor	◎	
Electric inching lift of the top surface grind stone	◎	
Automatic repetition movement of dressing	Option	The setting of the dressing speed controls variableness
Automatic exhaust system of the completion artefact to grind	×	It is table automatic shutoff at the time of discharge abnormality

## Detailed explanation of the specifications contents of the NewVP-D type spring grinder

### It starts sequentially automatically of Grind stone motor

Four grind stone motors start by one push operation sequentially automatically.  
Four motors instantly stop by one push operation in the stop all at once.

### Electric inching lift of the top surface grind stone

Grind stone interval adjustment and the grinding wheel exchange of the upper and lower surfaces can be easily operated with one-touch of the up-and-down levers.  
In addition, fine positioning can also adjust manually.

### Automatic exhaust system of the completion artefact to grind

Processing spring to complete the finish grinding is forced discharged by the automatic discharge device.Also, if there is an abnormal discharge it has built also a safety device that automatically stop the work table.

### Forward and reverse operation switch of grind stone motors

When the grinding wheel has become poor sharpness clogged, causing the native blade while continuing the grinding reversed driving the grindstone, you can reduce the frequency of troublesome dressing work.

### Automatic repetition movement of dressing

The operation of the dresser arm will continuous operation in the hydraulic drive by the one-push.When you stop the operation will automatically return to press the stop button dresser is always fixed position.frequency of troublesome dressing work.





# The automatic feeder of the New VP spring grinder

All add an automatic feeder to each model of the New VP spring grinder series can make it the rational saving of labor and a person-saving. Our automatic feeder caught the study trial manufacture subsidy of the Ministry of international Trade and Industry in 1969 and developed it and it was based on the first product which acquired a patent of Japan, U.S.A, Germany and added improvement, improvement and continued up to the present day. This automatic feeder plays a big role for end grinding to hold most man-hours in the process of manufacture of the compression coil spring. In the case of mass production lot, the reduction effect becomes in particular great when you change into the simple repetition work that a hand inserts an artefact in and use the automatic feeder. In addition, further labor-saving or unmanned driving is enabled when you exchange it with a general grinding wheel and use CBN (artificial diamond) foil.



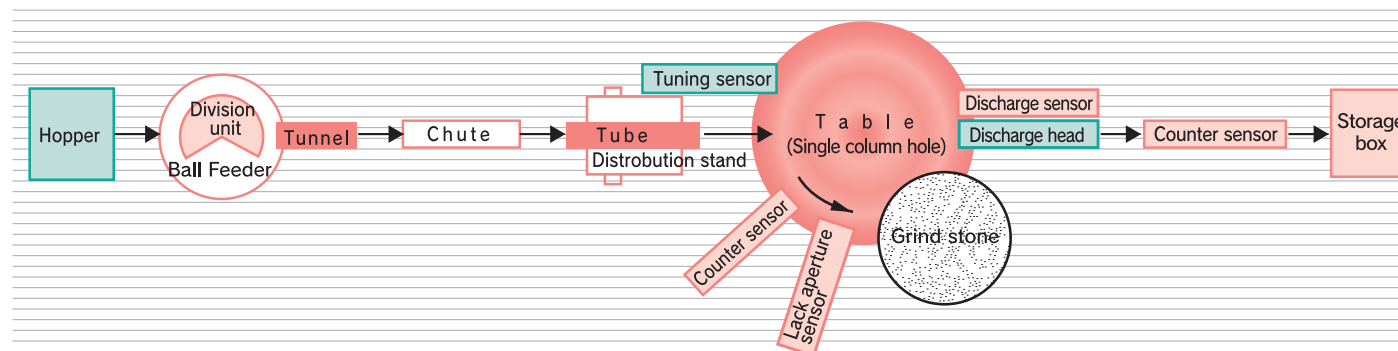
The automatic feeder with the New VP spring grinder

## The spring which it can automatic feeder with New VP spring grinder

Type of Machine		S Type		D Type	
		NewVP2/20	NewVP4/40	NewVP4/40	NewVP6/60
Wire diameter of spring to be processed	(mm)	0.3~1.0	0.6~2.3	1.8~4	2.3~5
Outside diameter of spring to be processed	(mm)	2~12	5~28	12~45	18~55
Free height of spring to be processed	(mm)	3~25	6~38	14~55	22~65
Production capacity	1-pass grinding (Hr)	2,500~700	3,600~500	3,000~350	2,000~300
	2-pass grinding (Hr)	5,000~2,000	4,800~1,500	6,200~1,100	4,000~600
Remarks		Outside diameter/wire diameter certain level 6 ~ 12 Free height/outside diameter ≧ more than 1.2 The number of total turns ≧ more than 4			

※In the case of specifications processing spring mentioned above out of the range, please refer.

## The automatic feeder of the Basic example (Single column hole)



## Each part explanation of the automatic feeder of the New VP

### Hopper

It stores a processing spring and supply ball feeder as needed.

### Ball Feede

Align processing springs by vibration and send it out to a shot through a tunnel block. A processing spring with linkage and the tangle is the division unit which I had built-in, and processing is possible.

### Tunnel block

It jets jet air intermittently to prevent the inflow of the artefact of the excessive line diameter and waist.

### Chute

It is a shot to lead a sent processing spring to the distribution level from a tunnel block and prevent the introduction of the processing spring of the appropriate amount in the chute that there is a shutter on the way.

### Distribution stand

The distribution stand has a tube passing a processing spring built-in and comprises a shutter and supplies a processing spring by the opening and shutting of the shutter according to the tuning signal of the table turn of the grinder. When a feeder error occurred, I open the safety door of the distribution stand and can handle it.

### Storage box

The foreign substance mixture except the spring of the completion to grind in the box of the sealing up type is prevented.

### Other main point

The movement of the feeder model uses air pressure, and the air dryer is established to the compressed air with much humidity because it causes the trouble of the movement. The control of each feeder part reaches with a sequencer. When abnormality occurs during supply movement, a lamp and a warning to display an abnormal point automatically turn it on, and the supply movement stops it.

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**Spring End Grinder, Production, Sale, Maintenance,  
Overhaul, Grind stone, Various parts**

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