NP SERIES

ENGLISH

2DIE 3BLOW PART FORMERS

NEW

NP SERIES 2 DIE 3 BLOW PART FORMERS

Nakashimada NP Series 2 Die 3 Blow Cold Headers are developed for manufacturing high precision components. With 30 years of continuous improvement, we have delivered more than 1,000 sets of NP machines to major parts manufacturers, automotive and aerospace industries worldwide.

Newly designed rigid machine frame ensures greater stability at high speed, allowing longer machine life and enhanced performance. Available from 2.5mm to 18mm in wire diameter, and up to 135mm in shank length, the NP series presents a flexible choice for manufacturers of a wide variety of precision components.

The unique 2 Die 3 Blow configuration with fingerless punch transfer, combined with kickout in both Punches and Dies, enable the manufacturer of complex, short, difficult to transfer parts, free from the critical timing or alignment issues normally associated with finger transfer. The configuration also enables 2 Die 4 Blow capabilities, as the second punch strikes both first and second dies. This is particularly useful for tubular and trimmed parts.

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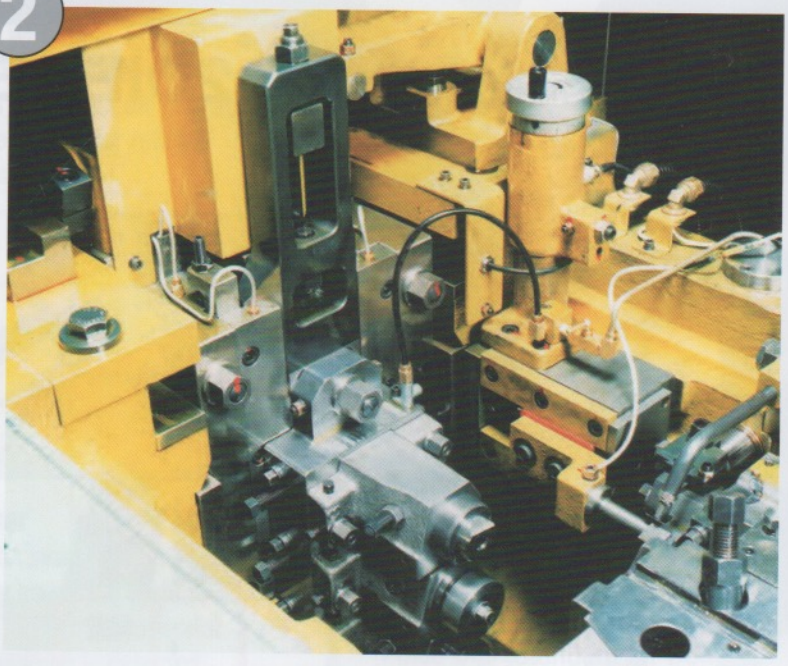

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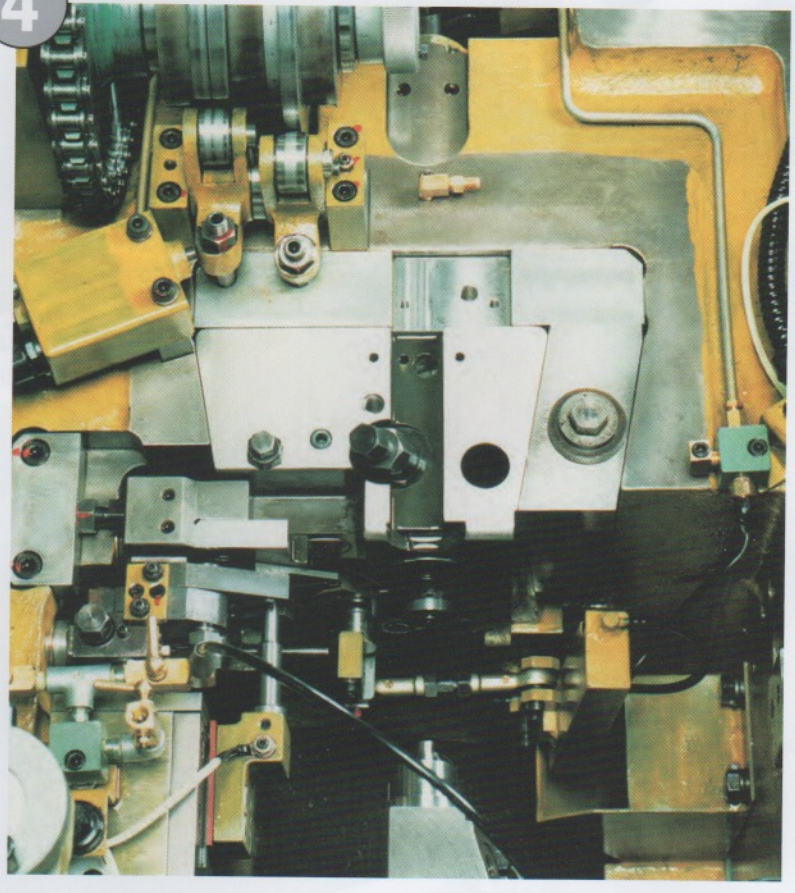

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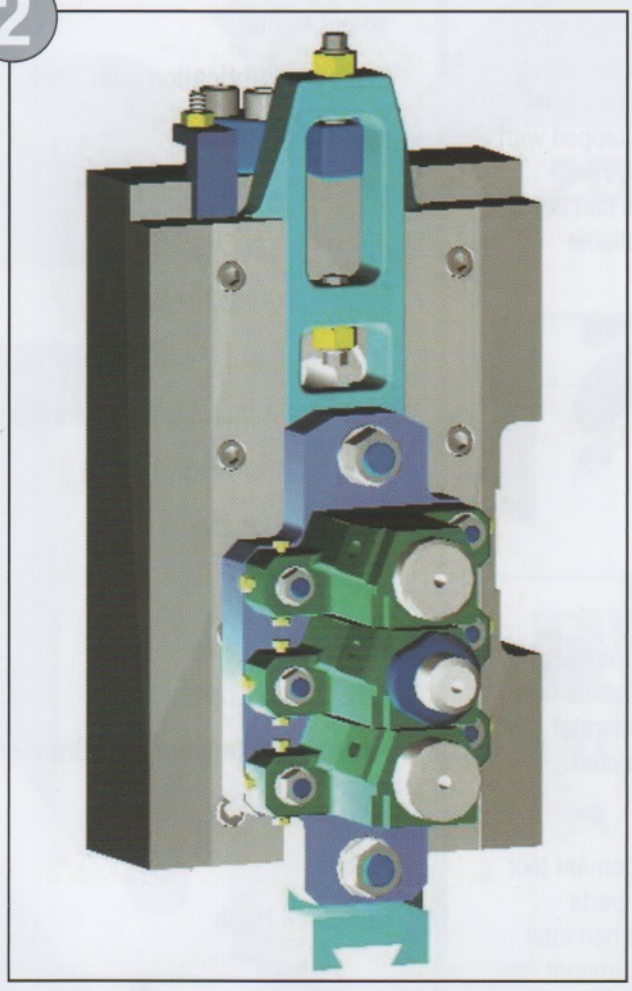

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1 Bush Cutter

Bush Cutter and heavy duty shearing cam provide a clean, square cut-off, avoiding burrs and irregularities.

2 Vertical Punch Slider

Punch blocks are securely mounted on a vertical punch slider. The punches are positively locked during the forming operation and can be adjusted separately for better alignment and timing. This vertical punch shift mechanism ensures simple set up and maintenance, higher production speed, accurate and concentric part production, with exceptional tool life.

3 Ram Slider

All sliding parts, including the heading slide, are hand-scraped to micron level for high tolerance, durability and extended wear life. In order to maintain the accuracy of the heading slide, it is equipped with a tapered liner guide system for clearance adjustment, after extended use.

4 Easy Operation

Improved precision ensures repeatable accurate set-up. Ergonomic machine design provides set up adjustments within easy reach of the operator's position, ensuring efficient trouble-free fast change-overs.

5 Pulse Dial (standard for Ø8mm or above)

Ram can be moved back and forth by turning a small dial (Nakashimada Patent) on the control panel. Useful for critical timing adjustment and efficient set-up.

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NP SERIES

Major Standard Features

Wire Feed Auto On/Off Device
A switch in reach of operator to automatically start or stop the wire feed.

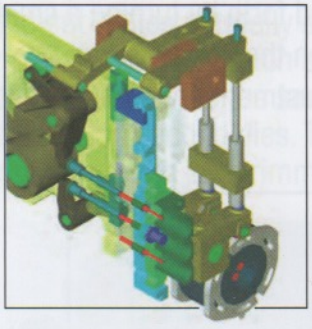
End of Coil Detector
Micro switch placed between the main machine and the wire straightener, catches the end of coil and stops the machine automatically.

Wire Short Feed Detector
Wire stopper is fitted with a touch sensor. When wire short feeds and does not reach the sensor the machine stops immediately, to avoid manufacture and mixing of defective parts with good parts.

Vertical Wire Straightener
Paired with traditional horizontal straightener, it removes bends and irregularities in the wire, making it more reliable for production.

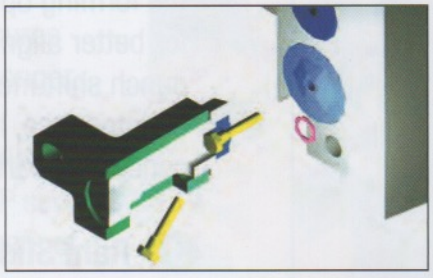
Variable Speed Drive (Inverter)
Inverter controlled VSD, the speed of the main motor can easily be changed by simply turning a dial.

Timed PKO
PKO device that keeps the headed blank in the die after forging is fitted in all three punches, with extended PKO in the second punch to assist punch transfer. PKO timing is fixed with the machine motion. The stroke can be adjusted by changing the PKO cam.



NEW

DKO Relief + Stripper
An individual DKO Relief is installed to the standard DKO mechanism. This enables the position of DKO pin to be advanced or retarded between blows, to enable tubular and trimmed parts to be produced with ease. Equipped with an external plate Stripper Device, tubular parts in the last die can be pulled off the die pin for reliable accurate discharge.



Signal Tower
Error detection system illuminates a high-intensity beacon and shuts down the machine to warn the operator when a malfunction is detected.

Preset Counter
An easy production management tool that counts the number of parts produced up to 6 digits. When total output reaches the preset amount, the machine stops automatically.

Warning Light
Error indicator system warns of overload, end of wire, short feed, low air pressure and other problems.

Jam-Release Hydraulic Pump
If, for some unforeseen reason, the machine ever gets stuck on the blow during the forming operation, an automatic hydraulic jack can be used on bigger machines to move the ram backward, releasing quickly the punch and die.

Major Optional Accessories

Total Counter

Separate Lubrication with Tank

Trimming Device

Slug Separator

Philip Punch Checker

#1 Punch Pin Checker

Catch Chute

Dead Point Checker (DM Monitor)

2nd Transfer Finger

Oil Micro Separator

Segment DKO

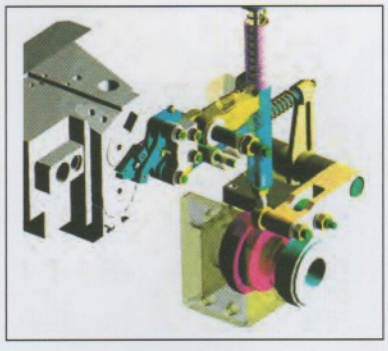
Wire Cutter

Wire Power Loader

Pulse Dial (Standard for Ø8mm or above)

NCS III

Die Block Hook



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NP Series

Specification Summary

2014/04/01 Updated

MODEL		NP40	NP60	NP81	NP100	NP121	NP160
		Part Former	Part Former	Part Former	Part Former	Part Former	Part Former
Feeding Method (Mechanism)		Roller Feed (Rachet Type)	Roller Feed (Rachet Type)	Roller Feed (Rachet Type)	Roller Feed (Rachet Type)	Roller Feed (Rachet Type)	Roller Feed (Rachet Type)
Transfer Method		Vertical Fingerless	Vertical Fingerless	Vertical Fingerless	Vertical Fingerless	Vertical Fingerless	Vertical Fingerless
Cutter		Bush	Bush	Bush	Bush	Bush	Bush
No. of Dies		2	2	2	2	2	2
No. of Punches		3	3	3	3	3	3
Max. Cutoff Dia.(450N)	(mm)	5	7	9.5	12	16	18
Max. Cutoff Dia. (600N)	(mm)	4	6	8	10	14	16
Min. Cutoff Dia.	(mm)	2,5	3	3,5	5,5	6	7
Max. Cutoff Length	(mm)	25	60	100	120	127	170
Min. Cutoff Length	(mm)	7	9	18	22	22	32
Min Cutoff Length (OPTION)	(mm)	4	5	10	10	13	16
Max Shank Length	(mm)	30	50	80	100	100	135
Max Transfer Length	(mm)	35	60	85※2	130	130	175
Cutoff Die (DxL)	(mm)	16×30	20×35	30×50	35×60	45×90	55×110
#1 Die (DxL)	(mm)	30×80※1	45×100※1	45×135※1	60×190※1	80×190※1	100×240※1
#2 Die (DxL)	(mm)	45x81※1	45×102※1	60×140※1	80×192※1	100×192※1	120×242※1
#1 Punch (DxL)	(mm)	16×49 (Pin Type) 20×49 (Slide Type)	20×54 (Pin Type) 28×62 (Slide Type)	25×82 (Pin Type) 25×92.5 (Slide Type)	35×100 (Pin Type) 40×95 (Slide Type)	50×126 (Pin Type) 50×121 (Slide Type)	50×145 (Pin Type) 70×140 (Slide Type)
#2 Punch (DxL)	(mm)	26×49	28×62	35×87.5	40×95	50×119	70×140
#3 Punch (DxL)	(mm)	26×52	35×55	40×82.5	50×95	65×125.5	80×150
#2 Die Relief Stroke	(mm)	6	10	10	10	15	15
#1 DKO Stroke	(mm)	50	75	115	160	160	180
#2 DKO Stroke	(mm)	30	50	80	100	100	135
#1 PKO Stroke	(mm)	15	20	20	20	20	35
#2 PKO Stroke	(mm)	15	25	30	35	40	50
#3 PKO Stroke	(mm)	6	10	10	15	20	30
Speed (w/h inverter)	(ppm)	70~240	70~200	55~160	40 ~ 120	40 ~ 100	40 ~ 80
Main Motor	(kW)	7.5 / 4P	7.5 / 4P	15 / 6P	22 / 6P	30 / 4P	37 / 4P
Lub. Oil Tank Volume	(L)	40	60	80	100	120	120
Machine Size (LxWxH)	(mm)	3,240x1,140x1,600	3,335x1,420x1,595	4,495x1,540x2,000	5,130x2,140x2,250	5,750x2,905x2,360	7,450x3,165x2,750
Weight	(Kg)	3.900	5.000	11.000	15.000	20.000	30.000

Note: 1)Specifications are subject to change without notice. 2)Specifications are subject to change depending on the conditions in which optional accessories are used. Please contact us for more information.

※1 Total length of die and spacer ※2 #2 Punch is Fixed Punch. •Machine size shown includes wire straightener and signal tower.