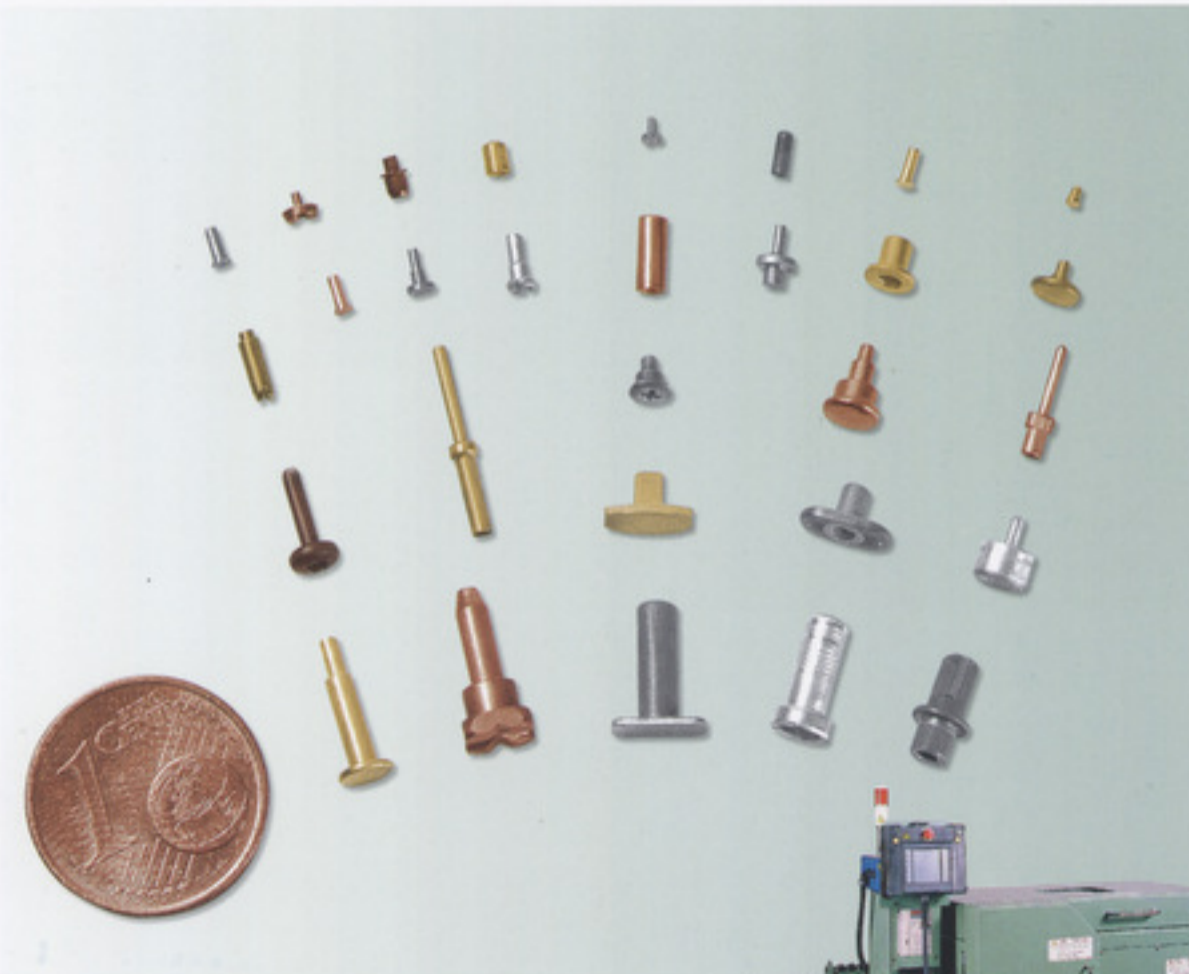




Nakashimada Engineering Works, Ltd.

Micro Headers and Parts Formers



MH/MF Series





Nakashimada Engineering Works, Ltd.

Introduction

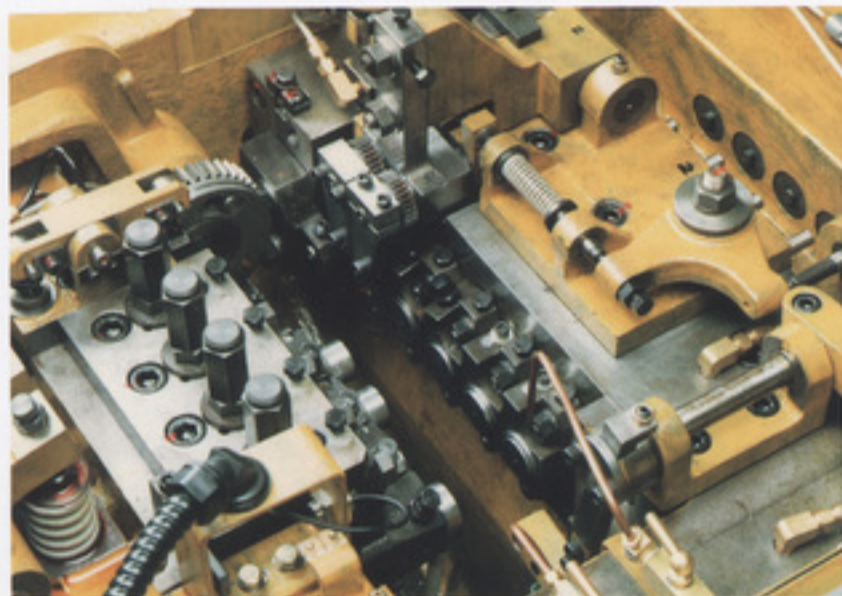
The Nakashimada MH/MF Micro Headers and Formers are designed to manufacture high precision miniature components.

All the MH/MF series feature Punch (Fingerless) Transfer incorporating a unique Sliding-Die mechanism for short, difficult to transfer, parts.

For maximum precision, all the sliding areas are hand-scraped to micron level by highly trained craftsmen. Precision design and assembly combine smooth mechanical movement of components to achieve repeatable high efficiencies.

As a result, more than 1000 units have already been delivered to most of the major electronic, computer, watch and phone parts manufacturers world-wide. Nakashimada's MH/MF series have gained an enviable reputation for precision, reliability and durability.

With more than 20 years of miniature cold forming experience, Nakashimada are able to offer the most suitable equipment to meet your parts production needs. Available from 0.5mm to 3.5mm diameter in size, and from 1Die/2Blow to 4Die/5Blow in configuration, the variety and range of the MH/MF Series presents a flexible choice for the manufacture of a wide variety of miniature precision components.



Die Block Area of MF420 Micro Former



Hand Scraped Liners



ISO 9001 certified



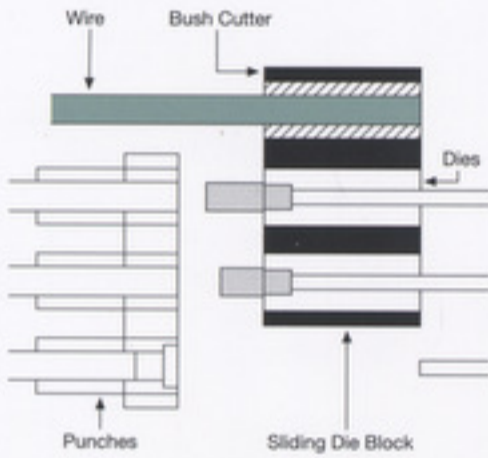
Wide Variety of Applications



Major Features

Rear side Wire Installation and Fingerless Transfer with Sliding Die Block mechanism

All the MH/MF Series feature rear-side wire feeding systems. The wire is fed from the rear side of the machine through the cut-off knife and directly into the cut-off bush in the sliding die block, for a completely enclosed bush cut-off. This enables extremely short cut-off lengths.



2Die/3Blow Sequence of Operations



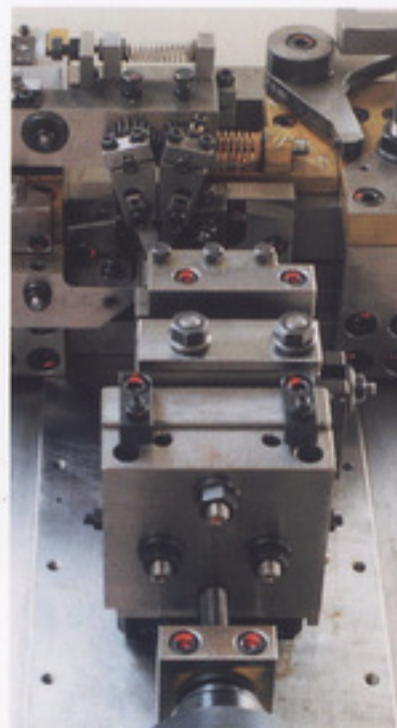
Punch transfer, eliminates the need for finger transfer from cut-off to final station. Conventional transfer finger for 1st Station is available as an option for closed forward extrusions.

Easy Operation

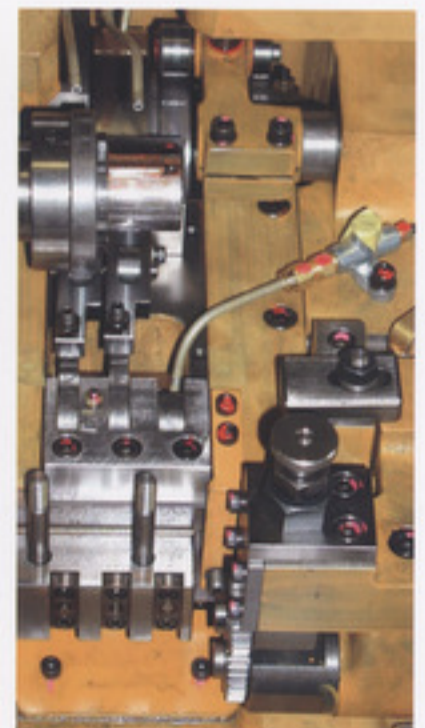
Compact ergonomic design of the machine results in easy operation. Most of the adjustment mechanisms are within easy reach of the operator's position, including Feed length adjustment and Die Kickout timing.

Cam Driven

The MF 200 and MHC 130A micro machines incorporate a cam driven ram rather than the conventional crank drive. This feature has been specifically designed to control the ram stroke and acceleration of the punches during forming. This feature reduces heat, increases precision and extends tool life significantly, especially for hard materials such as stainless steel.



MF200 Alignment Fixture



MF200 Ram Slider



Nakashimada Engineering Works, Ltd.

Standard Equipment and Options

(These Features are Standard on most of MH/MF models)

■ Out feed Wire Stopper

Micro switch placed between the machine and wire straightener, catches the end of wire and stops the machine automatically.

■ Short Feed Detector

Proximity switch for MH series and touch sensor for MF series. When the wire does not reach the sensor, the machine stops immediately to avoid defects.

■ Warning Indicator

A series of indicators is available that assist the operator in pinpointing machine stoppage, such as, wire feed, oil pressure, production count, etc.

■ Patrol Light

Red light mounted on top of the machine to inform the operator that the machine has stopped. Three colour patrol light is available as an option.

■ 1st Station Transfer Finger

Necessary when closed extrusion in the 1st Die is required. The finger holds the blank instead of the 1st Punch, so that an impact pin can be used.



MF200 Control Panel



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Please see <Options and Accessories> for following available options & details

■ Self-Turning Wire Stand (Coil Master)

A powered decoiler can be provided. This is very effective when the equality of wire tension is important. Provided by Coilmaster, available as an option.

■ Fixed Timing PKO

Keeps the blank in the die after forging. The timing of kickout is fixed, but the stroke can be adjusted by changing the cam.

■ Variable Speed Drive

Constant variable speed control using inverter. Equipped with a dial for handy operation.

■ Philip Punch Checker

Mostly for MH series. Detects chipped or broken punches.

■ Dead Point Checker (DM Monitor)

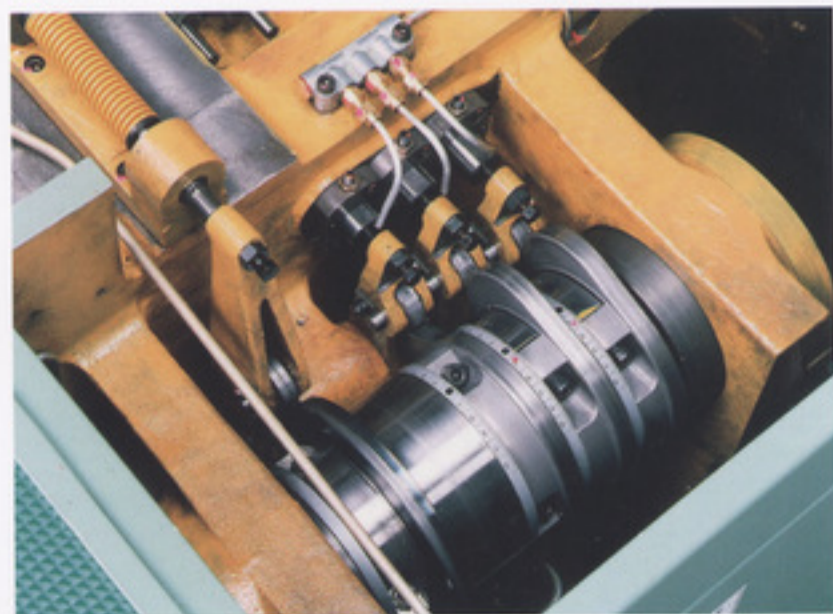
Measures the position of front dead-point of the ram to micron level. Any variance due to tool breakage or blank drop stops the machine automatically.

■ Electric Pre-set Counter

Counts the number of parts produced up to 6 Digits (999,999). When the parts production number is pre-set the machine stops automatically at that number.

■ Vacuum Chute

For extremely small, light products that do not fall easily under gravity. The air vacuum tube collects parts from the last die and transports them to a collection box by air induced vacuum.



MF220 Die Kickout

Standard Equipment and Options are subject to change without notice.

MH MF Series

SPECIFICATIONS

Oct. 29, 2007 revised

MODEL	MH05	MH05B	MH10	MH10A	MHC130A	MF200	MF220	MF420	MF460
Feeding Method	One-way Clutch	One-way Clutch	One-way Clutch	One-way Clutch	One-way Clutch	One-way Clutch	One-way Clutch	One-way Clutch	One-way Clutch
Direction of Wire Feeding	Rear	Rear	Rear	Rear	Rear	Rear	Rear	Rear	Rear
Punch Shift	Slide-Die Shift	Slide-Die Shift	Slide-Die Shift	Slide-Die Shift	Slide-Die Shift	Slide-Die Shift	Slide-Die Shift	Slide-Die Shift	Slide-Die Shift
Cutter	Bush	Bush	Bush	Bush	Bush	Bush	Bush	Bush	Bush
Max. Cutoff Dia. (450N) (mm)	2.5	2.5	3.5	3.5	3.5	1.0	2.5	2.5	7.0
Max. Cutoff Dia. (700N) (mm)	2.0	2.0	2.8	2.8	2.8	0.8	2.0	2.0	6.0
Min. Cutoff Dia. (mm)	0.5	0.5	1.0	1.0	1.0	0.3	0.5	0.5	1.0
Max. Cutoff L. (mm)	18	30	25	30	30	5	18	18	30
Min. Cutoff L. (Std) (mm)	2.5	2.5	3.5	3.5	3.5	1.0	2.5	2.5	7.0
Min. Cutoff L. (Spl) (mm)	1xD	1xD	1xD	1xD	1xD	1xD	1xD	1xD	1xD
Max. Shank L. (mm)	12	25	15	25	25	5	12	12	30
Min. Shank L. (mm)	0.5	0.5	1.0	1.0	1.0	0.5	1.0	1.0	2.0
Max. Transfer L. (mm)	-	-	-	-	-	5	20	20	35
Cutting Die (DxL) (mm)	12×25	12×32	12×32	12×32	12×32	8×19	12×24	12×25	20×50
#1 Die (DxL) (mm)	25×30	25×35	30×40	30×40	30×40	15×19	18×39	25×50	45×50
#2 Die (DxL) (mm)	-	-	-	-	-	15×20	30×40	25×50	45×50
#3 Die (DxL) (mm)	-	-	-	-	-	-	-	25×50	45×50
#4 Die (DxL) (mm)	-	-	-	-	-	-	-	25×50	45×50
#1 Punch (DxL) (mm)	15×34	15×34	20×45	20×45	20×45	10×20 (Slide) 10×18 (Impact)	15×34 (Slide) 12×37 (Impact)	25×40 (Slide) 12×39 (Impact)	28×50 (Slide) 20×54 (Fix)
#2 Punch (DxL) (mm)	18×35	18×35	22×63	22×63	22×48	10×20 (Slide)	15×34 (Slide)	25×40 (Slide)	28×50 (Slide)
#3 Punch (DxL) (mm)	-	-	-	-	-	15×20 (Fix)	18×35 (Fix)	25×40 (Slide)	28×50 (Slide)
#4 Punch (DxL) (mm)	-	-	-	-	-	-	-	25×40 (Slide)	28×50 (Slide)
#5 Punch (DxL) (mm)	-	-	-	-	-	-	-	30×40 (Fix)	45×50 (Fix)
Die Relief Str. (Opt) (mm)	-	-	-	-	-	-	-	-	-
#1 DKO Stroke (mm)	12	25	15	25	25	5	25	20	35
#2 DKO Stroke (mm)	-	-	-	-	-	5	12	12	30
#3 DKO Stroke (mm)	-	-	-	-	-	-	-	12	30
#4 DKO Stroke (mm)	-	-	-	-	-	-	-	12	30
#1 PKO Stroke (Opt) (mm)	(10)	(10)	(10)	(10)	(10)	(3)	10	10	20
#2 PKO Stroke (Opt) (mm)	(5)	(5)	(5)	(5)	(5)	3	10	10	20
#3 PKO Stroke (Opt) (mm)	-	-	-	-	-	1	5	10	20
#4 PKO Stroke (Opt) (mm)	-	-	-	-	-	-	-	10	20
#5 PKO Stroke (Opt) (mm)	-	-	-	-	-	-	-	5	10
Max. Speed (ppm)	250·200	200·150	250·220	220·180	200·180	250	80~200	80~170	50~80
Main Motor (kW)	1.5 / 4P	1.5 / 6P	3.7 / 6P	3.7 / 6P	3.7 / 6P	0.75 / 6P	2.2 / 6P	3.7 / 6P	11 / 6P
Heading Tonnage (kN)	30	30	100	100	100	10	30	30	250
Tank Capacity (L)	25	25	25	25	25	2	18	18	35
Dimension (LxWxH) (mm)	1310×790×1225	1310×790×1225	1720×1025×1300	1720×1025×1300	1670×960×1450	1100×740×1366	1665×1005×1572	1810×1100×1570	2820×1390×1795
Weight (Kg)	1,300	1,300	2,100	2,100	2,100	800	2,300	3,100	8,000

Note: 1) PF210/PF210S and MF460 are built by special order.

Note: 2) All Specifications are subject to change without notice.