

# Punch Former

Grinding Accessories



**A01-A62**

# Punch Former

## 50010 PFH350 Precision Punch Former

PUNCH FORMER



PAT:M386114  
ZL 2010 2 0190858.6



N.W. 10kg

Note :V-block is made of SKD11 in order to enhance hardness



- V block is adjustable for calibration even when small workpiece is clamped.
- Two clamp plates on both side of V block helps the consistent movement.
- Release the screw when make adjustable and lock with slight force.

Precisely ground screw rod for fine-tuning of V-block vertical movement.



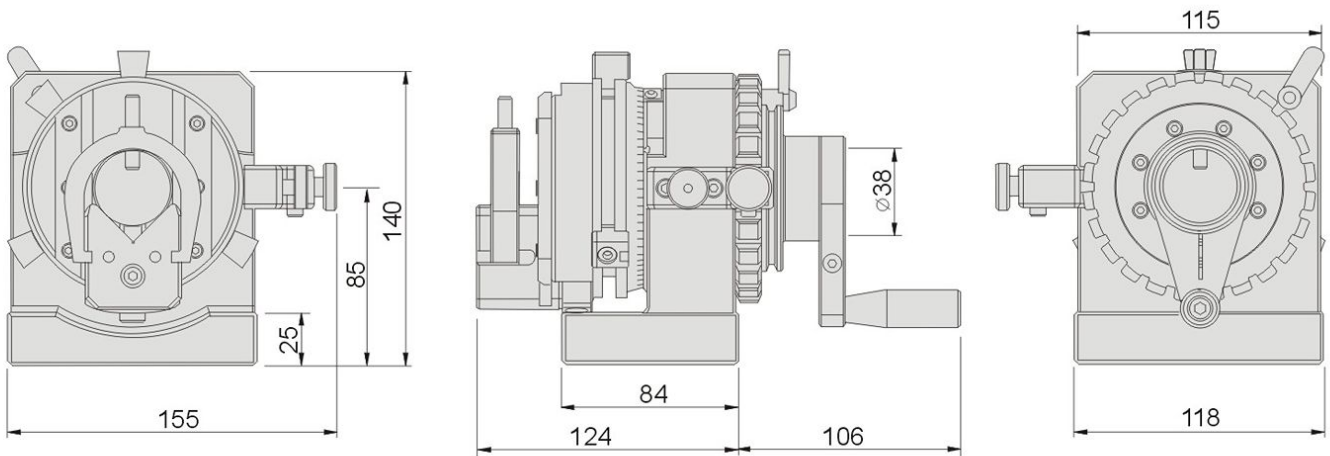
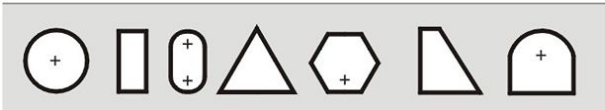
### Features :

- ▶ Suitable for grinding and EDM machines.
- ▶ Compact and durable structure with through hole design which makes it capable of forming various shapes of punches as well as electrode.
- ▶ Stopper design for fast positioning polygonal punches.
- ▶ Fine-tuning for vertical movement of V-block, easy for clamping workpiece and center calibration.
- ▶ Adopting high precision double bearings to achieve higher stability and accuracy, it also makes longer lifecycle.
- ▶ Made of stainless steel, rustless & maintenance easy.

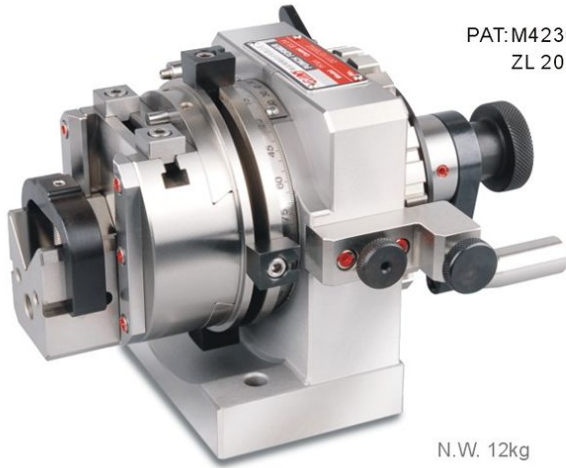
### Main parameters:

Center height .....	85 ± 0.5mm
Clamping dia. range of V-block .....	∅ 3~38mm
Travel of V-block .....	30mm
Indexer tooth q'ty & accuracy .....	24, 15° ± 5"
Clamping accuracy (50mm) .....	0.005mm
Through hole diameters .....	∅ 36mm

### Punch forming applications



**50020** PFH450 Precision Punch Former



PAT: M423023  
ZL 2010 2 0190858.6

N.W. 12kg



**Features :**

- ▶ Suitable for grinding and EDM machines.
- ▶ Compact and durable structure which makes it capable of forming various shapes of punches as well as electrode.
- ▶ With slide plate horizontal movement, it can make eccentric radius punches.
- ▶ Stopper design for fast positioning polygonal punches.
- ▶ Fine-tuning for vertical movement of V-block, easy for clamping workpiece and center calibration.
- ▶ Adopting high precision double bearings to achieve higher stability and accuracy, it also makes longer lifecycle.
- ▶ Made of stainless steel, rustless & maintenance easy.

Note :V-block is made of SKD11 in order to enhance hardness

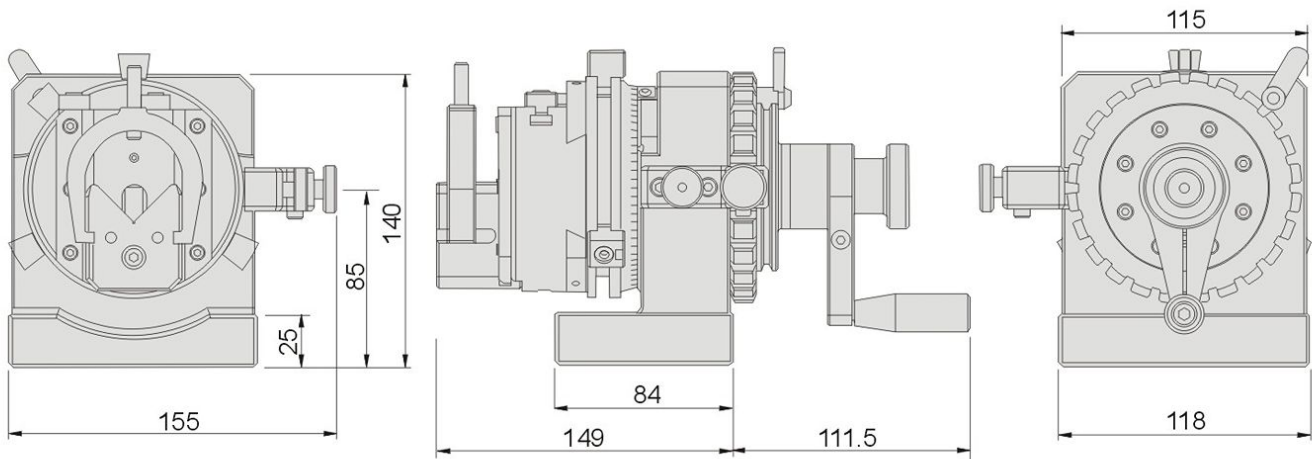
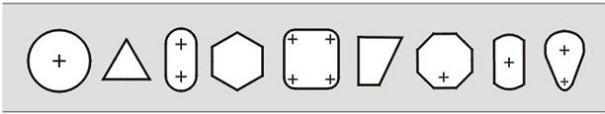


- V block is adjustable for calibration even when small workpiece is clamped.
- Two clamp plates on both side of V block helps the consistent movement.
- Release the screw when make adjustable and lock with slight force.

**Main parameters:**

Center height .....	85 ± 0.5mm
Clamping dia. range of V-block .....	∅ 3~38mm
Travel of V-block .....	38mm
Indexer tooth q'ty & accuracy .....	24, 15° ± 5"
Clamping accuracy (50mm) .....	0.005mm
Slide plate horizontal movement .....	±18mm

**Punch forming applications**



PUNCH FORMER



# Punch Former

**50030**

PFH

Multi-Flex Punch Former - Body only



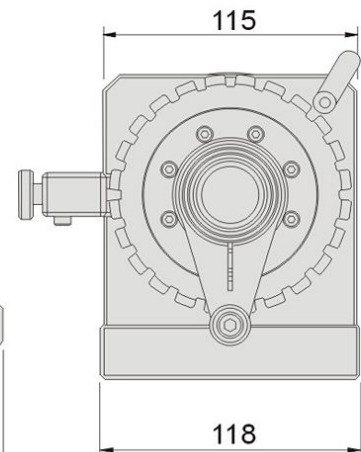
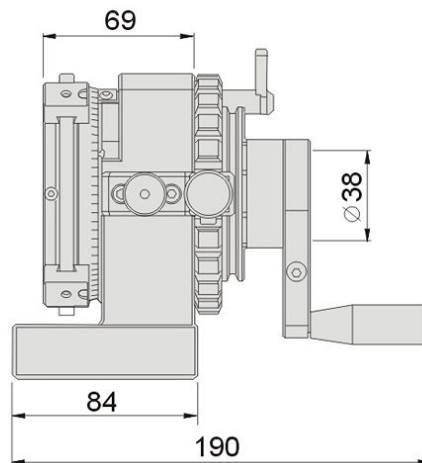
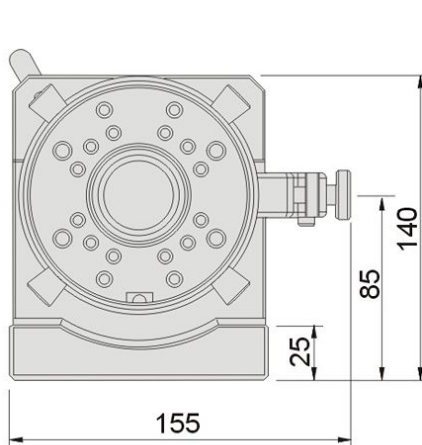
PAT:M421169  
ZL 2010 2 0190858.6



## Features :

- ▶ Suitable for grinding and EDM machines.
- ▶ Compact and durable structure with through hole design which makes it capable of forming various shapes of punches.
- ▶ Adopting high precision double bearings to achieve higher stability and accuracy, it also makes longer lifecycle.
- ▶ Modulisation with various components(See page A04) to achieve cost effect effectiveness.
- ▶ Made of stainless steel, rustless & maintenance easy.

N.W.7.8kg



Order No.	Model	N.W.
50030	PFH**	7.8kg
50035-00	SC40	2.2kg
50035-01	SC04	1.0kg
50035-02	SC05	7.0kg
50035-03	SER20*	0.48kg
50035-04	SER32*	0.51kg
50035-05	SER50*	0.55kg
50035-07	3R24	0.6kg
50035-08	3R28	1.0kg
50035-09	EQC50	0.6kg
50035-10	EQC100	2.0kg



## Features :

- ▶ Modulisation
- ▶ High rigidity, accuracy and stability
- ▶ Strong clamping force
- ▶ Various clamping size
- ▶ Flexible, fast and convenient
- ▶ Unique design with special surface treatment, longer lifecycle

Modularise components  
(see next page for more info.)

\*\*Body only

\*Collet excluded



**50035** Modularise Components for PFH & EPF

PUNCH FORMER



50035-00  
SC40



50035-01/02  
SC04/05



50035-03/04/05  
SER/20/32/50  
(Collet excluded)



50035-07  
3R24



50030  
PFH



50035-09  
EQC50



50035-08  
3R28



50035-10  
EQC100



50030-07  
PFH-3R24



50030-09   
PFH-EQC50



50030-08   
PFH-3R28



50030-10   
PFH-EQC100



50030-00   
PFH-SC40



50030-01/02   
PFH-SC04/05



50030-03/04/05   
PFH-SER20/32/50

# Punch Former

## 50030-00 PFH-SC40 Super Precision 3-Jaws Punch Former

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### Features :

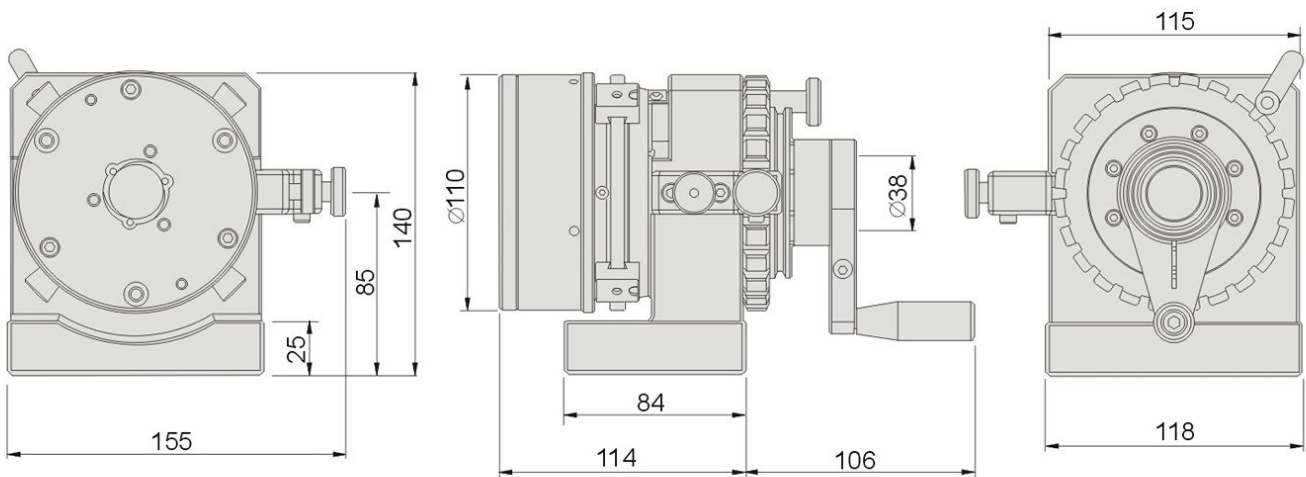
- ▶ PFH-SC40 is adopting quality stainless steel with waterproof and stronger structure leading lasting durability.
- ▶ Special designed SC40 3-Jaw Chuck provide rapid clamping and it suitable for mass production,, workpiece with round shaped can precisely & rapidly clamped.
- ▶ Torque wrench included for precision performance
- ▶ Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.

N.W. 10kg

Note : Apply Torque Wrench at all time, due to SC40 3-Jaw Chuck has high precision structure design, avoiding any possible damage.

### Main parameters:

Center height .....  $85 \pm 0.5\text{mm}$   
 Indexer tooth q'ty & accuracy .....  $24, 15^\circ \pm 5''$   
 Through hole diameters.....  $\varnothing 25\text{mm}$   
 Hole dia. of 3-Jaw Chuck .....  $\varnothing 25\text{mm}$   
 Min. clamping range .....  $\varnothing 1\text{mm}$   
 Max. clamping range .....  $\varnothing 25\text{mm}$   
 Rotational accuracy .....  $0.003\text{mm}$   
 Repeat accuracy ..... within  $0.003\text{mm}$



**50030-01** PFH-SC04 Precision 3-Jaws Punch Former



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**Features :**

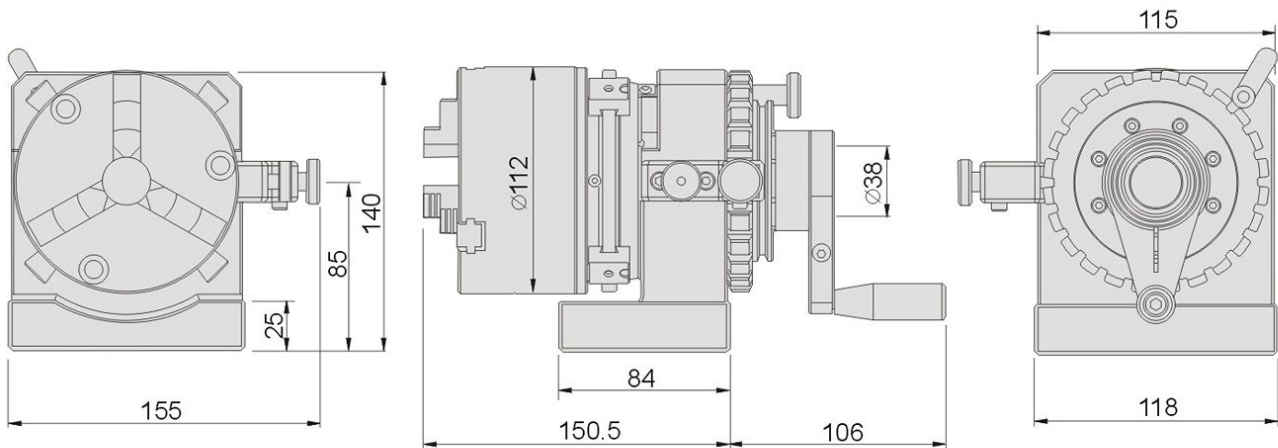
- ▶ PFH-SC04 is adopting quality stainless steel with waterproof and stronger structure leading lasting durability.
- ▶ SC04 3-Jaw Chuck provide rapid clamping and it suitable for mass production, workpiece with round shaped can precisely & rapidly clamped.
- ▶ Due to accumulated tolerance when clamping different sizes of workpieces, special design in adjustment for user own application.
- ▶ Jaw attachment can clamp workpeice with larger diameters.
- ▶ Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.

N.W. 8.8kg

Note: SC04 is made of FCD45 material.

**Main parameters:**

Center height	85 ± 0.5mm
Indexer tooth q'ty & accuracy	24, 15° ± 5"
Through hole diameters	∅ 32mm
Hole dia. of 3-Jaw Chuck	∅ 32mm
Min. clamping range	O.D. ∅3mm, I.D. ∅32mm
Max. clamping range	O.D. ∅90mm, I.D. ∅84mm
Rotational accuracy	0.003mm
Repeat accuracy	0.015mm





# Punch Former

## 50030-02 PFH-SC05 Precision 3-Jaws Punch Former

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N.W. 14.8kg



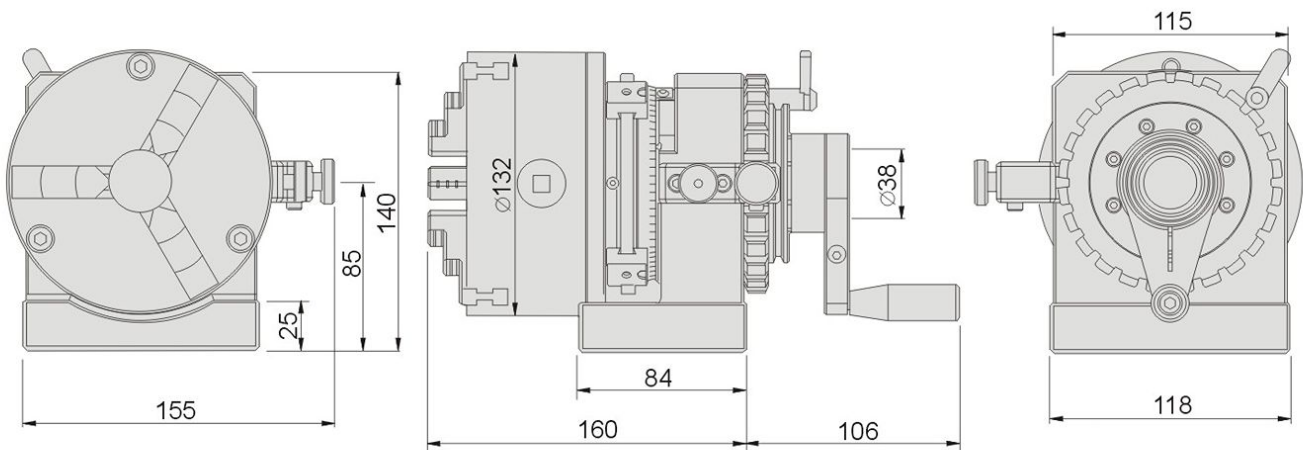
### Features :

- ▶ PFH-SC05 is adopting quality stainless steel with waterproof and stronger structure leading lasting durability.
- ▶ SC05 3-Jaw Chuck provide rapid clamping and it suitable for mass production, workpiece with round shaped can precisely & rapidly clamped.
- ▶ Due to accumulated tolerance when clamping different sizes of workpieces, special design in adjustment for user own application.
- ▶ Jaw attachment can clamp workpeice with larger diameters.
- ▶ Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.

Note: SC04 is made of FCD45 material.

### Main parameters:

Center height	85 ± 0.5mm
Indexer tooth q'ty & accuracy	24, 15° ± 5"
Through hole diameters	∅ 32mm
Hole dia. of 3-Jaw Chuck	∅ 32mm
Min. clamping range	O.D. ∅ 3mm, I.D. ∅ 35mm
Max. clamping range	O.D. ∅ 110mm, I.D. ∅ 110mm
Rotational accuracy	0.003mm
Repeat accuracy	0.015mm

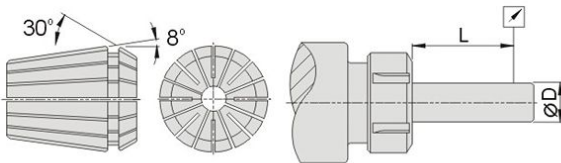


**50030-03/04/05 PFH-SER Precision ER Collet Punch Former**

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Note: ER & ER Nut are not made of stainless steel.



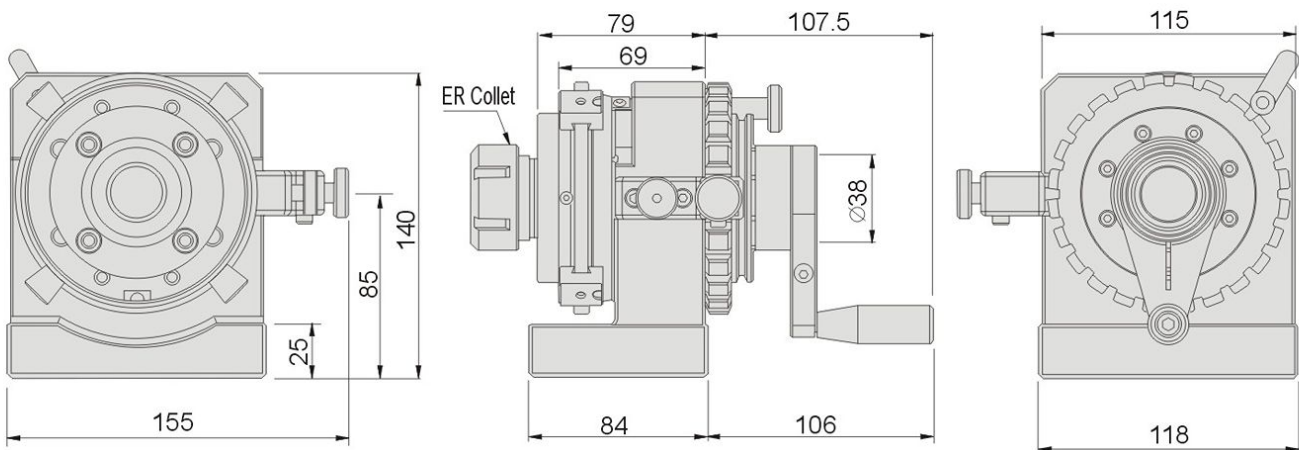
L	D	Accuracy
6	1.0-1.6	0.01
10	1.6-3.0	0.01
16	3.0-7.0	0.01
25	7.0-10.0	0.01
40	10.0-18.0	0.01
50	18.0-24.0	0.01
60	24.0-34.0	0.01

**Features :**

- ▶ PFH-SER is adopting quality stainless steel with waterproof and stronger structure leading lasting durability.
- ▶ With ER collets, the flexible range of collet is 1mm.
- ▶ Capable collet clamping range: Min.  $\varnothing$ 2mm, Max.  $\varnothing$ 34mm
- ▶ PFH-SER can rapidly clamp the workpiece and achieving higher stability during processing, no need to adjust the center accuracy.
- ▶ Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.
- ▶ This model is compatible with various ER collets such as ER20, ER32, ER50 etc...

**Main parameters:**

Center height .....  $85 \pm 0.5$ mm  
 Indexer tooth q'ty & accuracy .....  $24, 15^\circ \pm 5''$   
 Through hole diameters .....  $\varnothing 36$ mm  
 Rotational accuracy ..... 0.003mm



Order No.	Model	ER Collet spec.	N.W.
50030-03	PFH-SER20	3, 4, 6, 8, 10	8.3kg
50030-04	PFH-SER32	4, 8, 12, 16, 20	8.3kg
50030-05	PFH-SER50	12, 18, 20, 30, 34	8.4kg

# Punch Former

## 50030-07/08 PFH-3R Precision 3R Punch Former

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### Features :

- ▶ PFH-3R is adopting quality stainless steel with waterproof and stronger structure leading lasting durability.
- ▶ With interchangeable design, components can be chosen according to users' demand.
- ▶ Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.
- ▶ This model also works with EROWA Positioning Chuck to achieve modulisation.

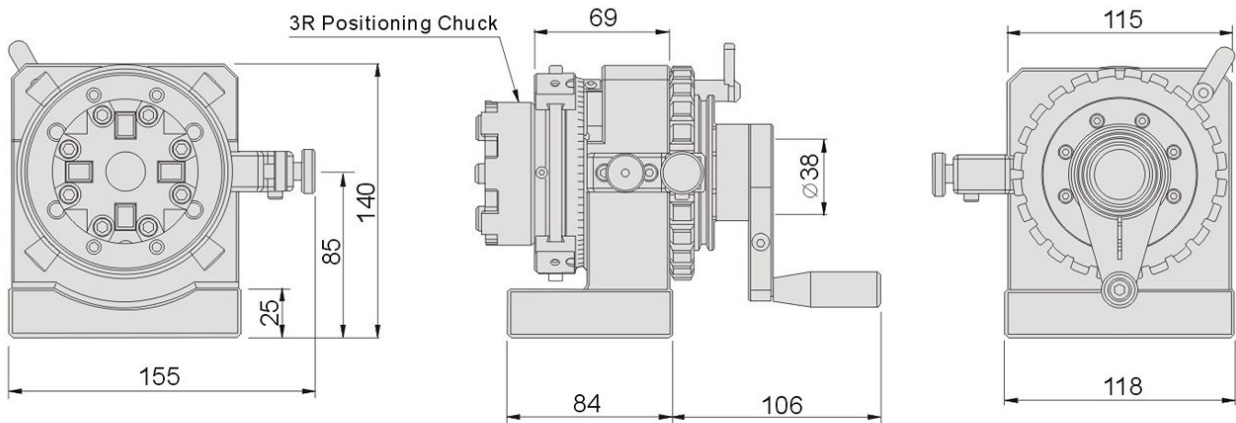
PFH-3R24



PFH-3R28

### Main parameters:

Center height .....  $85 \pm 0.5\text{mm}$   
 Indexer tooth q'ty & accuracy .....  $24, 15^\circ \pm 5''$   
 Rotational accuracy .....  $0.003\text{mm}$   
 Repeat accuracy .....  $0.003\text{mm}$

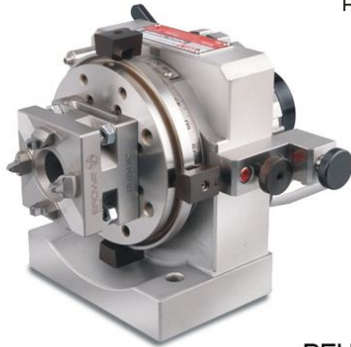


Order No.	Model	Positioning Chuck spec	N.W.
50030-07	PFH-3R24	3R24	8.4kg
50030-08	PFH-3R28	3R28	8.8kg



**50030-09/10** **PFH-EQC** Precision EQC Punch Former

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PFH-EQC50



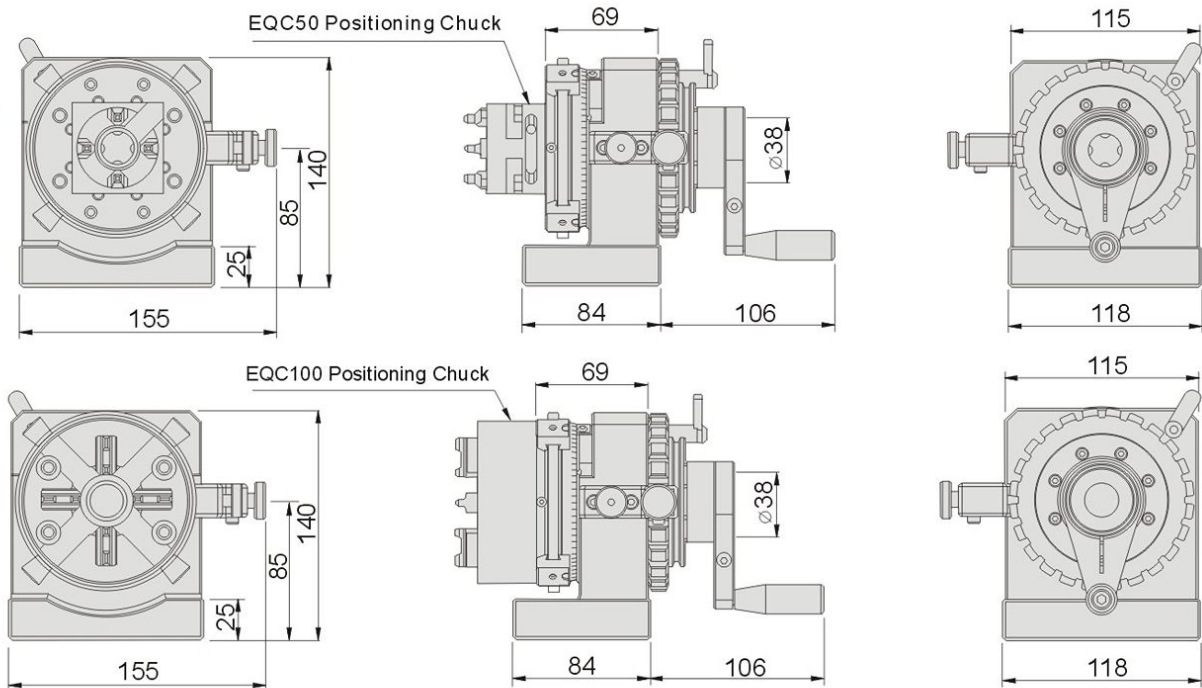
PFH-EQC100

**Features :**

- ▶ PFH-EQC is adopting quality stainless steel with waterproof and stronger structure leading lasting durability.
- ▶ With interchangeable design, components can be chosen according to users' demand.
- ▶ Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.
- ▶ This model also works with System 3R Positioning Chuck to achieve modulisation.

**Main parameters:**

Center height ..... 85 ± 0.5mm  
 Indexer tooth q'ty & accuracy..... 24, 15° ± 5"  
 Rotational accuracy..... 0.003mm  
 Repeat accuracy ..... 0.003mm



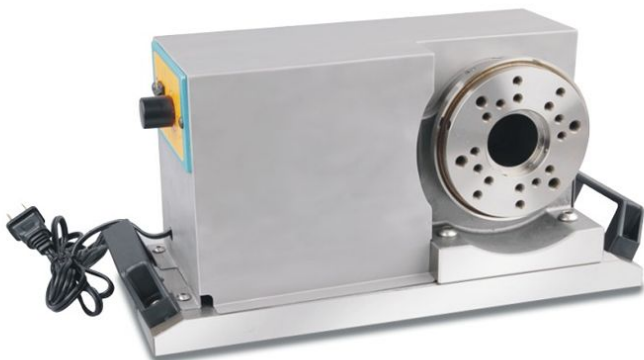
Order No.	Model	Positioning Chuck spec	N.W.
50030-09	PFH-EQC50	EQC50	8.4kg
50030-10	PFH-EQC100	EQC100	9.8kg

# Punch Former

## 50050 PFHM Motorised Multi-Flex Punch Former - Body only

PUNCH FORMER

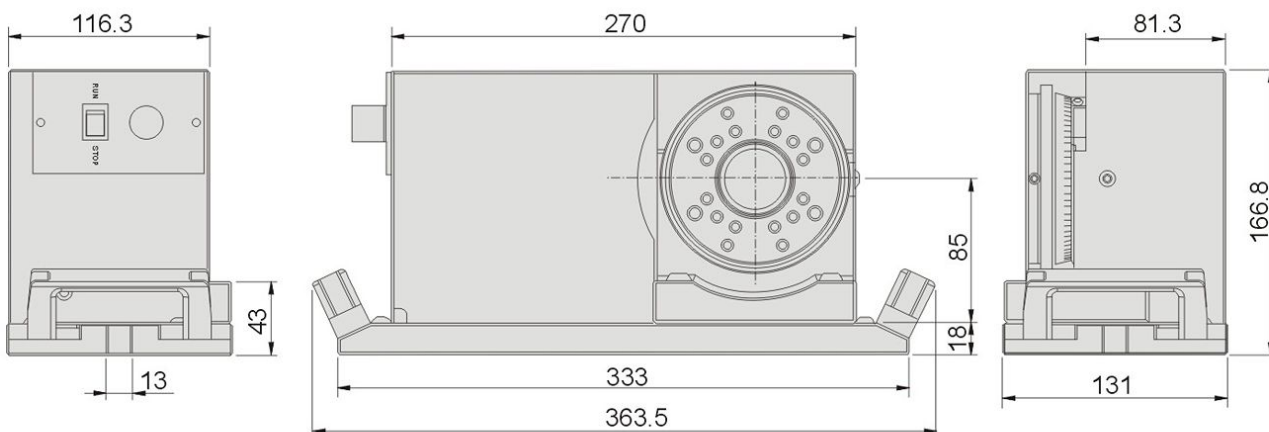
PAT:M421169  
ZL 2010 2 0190858.6



N.W. 24kg

### Features :

- ▶ PFHM is adopting quality stainless steel with waterproof and stronger structure leading lasting durability.
- ▶ Motorised function prevent human fatigue when processing.
- ▶ With interchangeable design, components can be chosen according to users' demand such as SC40, SC04, SC05 3-Jaw Chuck, ER20, ER32, ER50 collets.
- ▶ Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.
- ▶ Depending on any demands in processing, optional accessories in 50035 page A12 are available to achieve cost effective.



Order No.	Model	Voltage	N.W.
50050-110	PFHM	110V	24kg
50050-220		220V	
50050-00-110	PFHM-SC40	110V	31kg
50050-00-220		220V	
50050-01-110	PFHM-SC04	110V	25kg
50050-01-220		220V	
50050-02-110	PFHM-SC05	110V	31.5kg
50050-02-220		220V	
50050-03-110	PFHM-SER20	110V	24.9kg
50050-03-220		220V	
50050-04-110	PFHM-SER32	110V	24.8kg
50050-04-220		220V	
50050-05-110	PFHM-SER50	110V	25.7kg
50050-05-220		220V	



### Features :

- ▶ Modulisation
- ▶ High rigidity, accuracy and stability
- ▶ Strong clamping force
- ▶ Various clamping size
- ▶ Flexible, fast and convenient
- ▶ Unique design with special surface treatment, longer lifecycle

Interchangeable components  
(see next page for more information)

**50050** PFHM Motorised Multi-Flex Punch Former - Body only



50035-00  
SC40

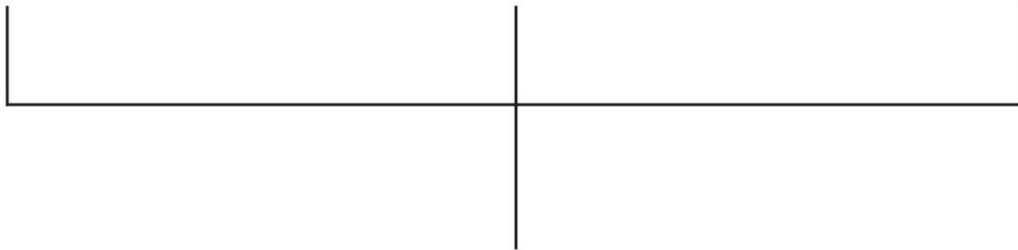


50035-01/02  
SC04/05

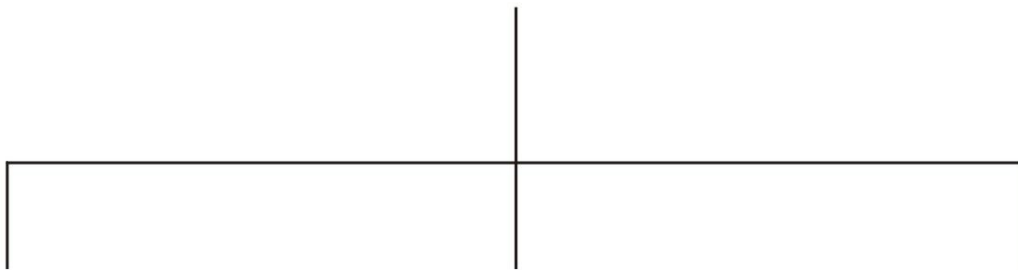


50035-03/04/05  
SER20/32/50  
(Collet excluded)

PUNCH FORMER



50050 PFHM



50050-00 PFHM-SC40



50050-01/02 PFHM-SC04/05



50050-03/04/05 PFHM-SER20/32/50



# Punch Former

## 50050-00 PFHM-SC40 Motorised Super Precision 3-Jaws Punch Former

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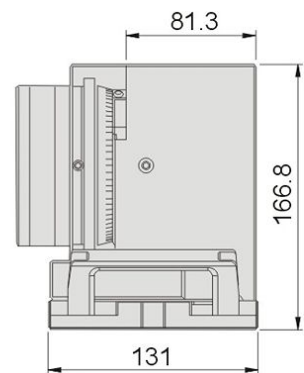
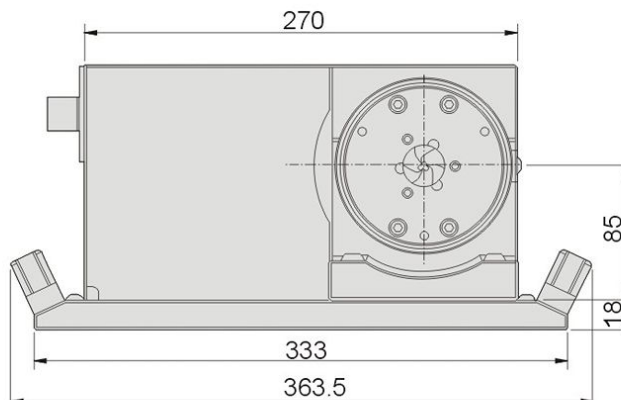
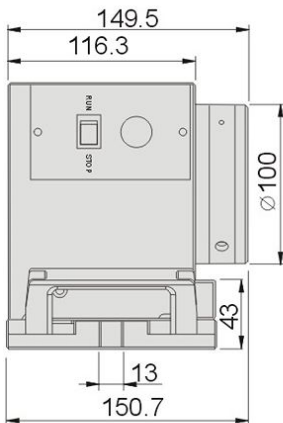
Note: Apply Torque Wrench at all time, due to SC40 3-Jaw Chuck has high precision structure design, avoiding any possible damage.

### Features :

- ▶ PFHM-SC40 is adopting quality stainless steel with waterproof and stronger structure leading lasting durability.
- ▶ Special designed SC40 Precision 3-Jaw Chuck provide rapid clamping and it suitable for mass production, workpiece with round shaped can precisely & rapidly clamped.
- ▶ Motorised function prevent human fatigue when processing.
- ▶ Torque wrench is included for precision performance
- ▶ Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.

### Main parameters:

Center height .....  $85 \pm 0.5\text{mm}$   
 Through hole diameters .....  $\varnothing 36\text{mm}$   
 Hole dia. of 3-Jaw Chuck .....  $\varnothing 25\text{mm}$   
 Motor : 110V/60Hz ..... 50~550RPM  
 Motor : 220V/50Hz ..... 50~550RPM  
 Min. clamping range .....  $\varnothing 1\text{mm}$   
 Max. clamping range .....  $\varnothing 25\text{mm}$   
 Rotational accuracy ..... 0.003mm  
 Repeat accuracy ..... 0.003mm



Order No.	Model	Chuck Spec.	Voltage	N.W.
50050-00-110	PFHM-SC40	SC40	110V	31kg
50050-00-220			220V	31kg

**50050-01** PFHM-SC04 Motorised Precision 3-Jaws Punch Former



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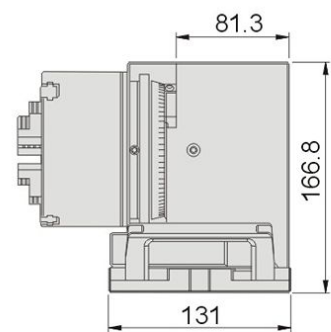
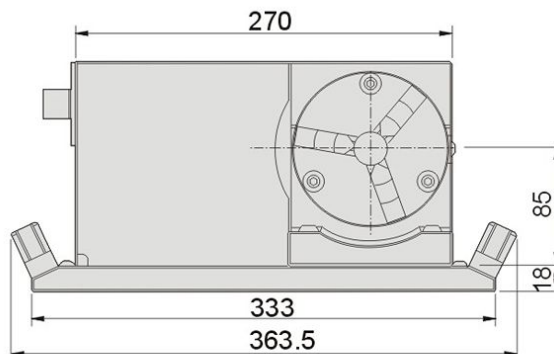
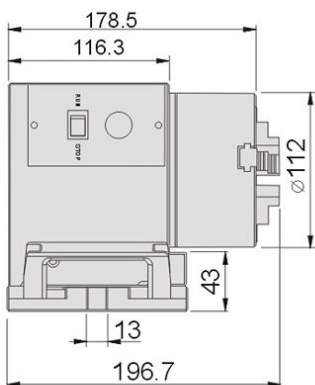
Note: Apply Torque Wrench at all time, due to SC04 3-Jaw Chuck has high precision structure design, avoiding any possible damage.

**Features :**

- ▶ PFHM-SC04 is adopting quality stainless steel with waterpro of and stronger structure leading lasting durability.
- ▶ Special designed SC04 Precision 3-Jaw Chuck provide rapid clamping and it suitable for mass production, workpiece with round shaped can precisely & rapidly clamped.
- ▶ Motorised function prevent human fatigue when processing.
- ▶ Further attachment Jaw provides capability of clamping larger workpiece.
- ▶ Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.

**Main parameters:**

Center height ..... 85 ± 0.5mm  
 Through hole diameters ..... Ø 36mm  
 Hole dia. of 3-Jaw Chuck ..... Ø 32mm  
 Min. clamping range O.D. Ø3mm, I.D. Ø32mm  
 Max. clamping range O.D. Ø3mm, I.D. Ø4mm  
 Motor : 110V/60Hz ..... 50~550RPM  
 Motor : 220V/50Hz ..... 50~550RPM  
 Rotational accuracy ..... 0.003mm  
 Repeat accuracy ..... 0.015mm



Order No.	Model	Chuck Spec.	Voltage	N.W.
50050-01-110	PFHM-SC04	SC04	110V	25kg
50050-01-220			220V	25kg

# Punch Former

## 50050-02 PFHM-SC05 Motorised Precision 3-Jaws Punch Former

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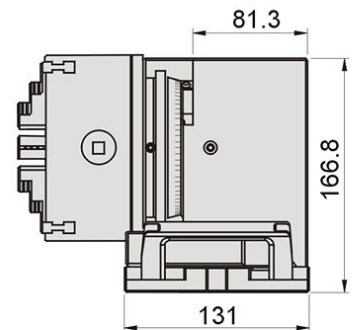
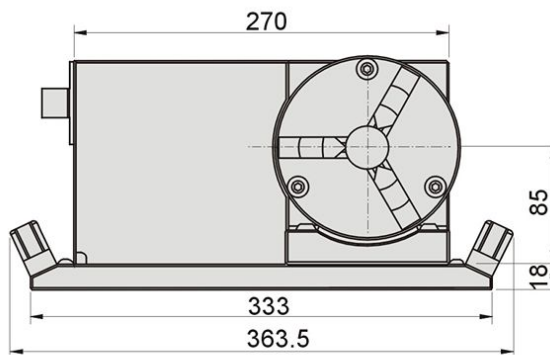
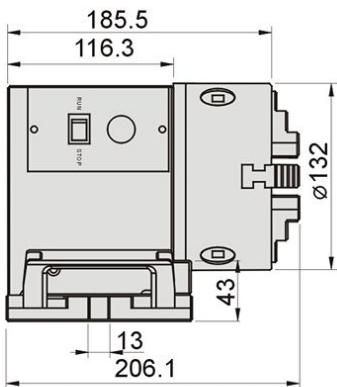
### Features :

- ▶ PFHM-SC05 is adopting quality stainless steel with waterproof and stronger structure leading lasting durability.
- ▶ Special designed SC05 Precision 3-Jaw Chuck provide rapid clamping and it suitable for mass production, workpiece with round shaped can precisely & rapidly clamped.
- ▶ Motorised function prevent human fatigue when processing.
- ▶ Further attachment Jaw provides capability of clamping larger workpiece.
- ▶ Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.

Note: Apply Torque Wrench at all time, due to SC05 3-Jaw Chuck has high precision structure design, avoiding any possible damage.

### Main parameters:

Center height..... 85 ± 0.5mm  
 Through hole diameters..... Ø 36mm  
 Hole dia. of 3-Jaw Chuck..... Ø 32mm  
 Min. clamping range O.D.Ø3mm,I.D.Ø32mm  
 Max. clamping range O.D.Ø3mm,I.D.Ø84mm  
 Motor : 110V/60Hz..... 50~550RPM  
 Motor : 220V/50Hz..... 50~550RPM  
 Rotational accuracy..... 0.003mm  
 Repeat accuracy..... 0.015mm

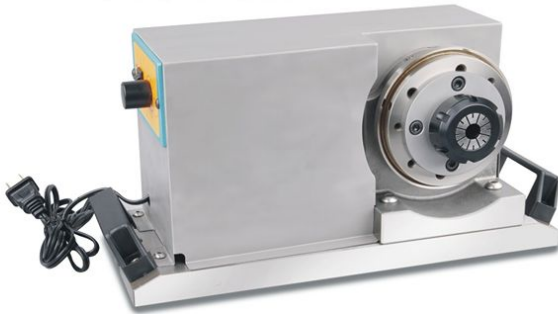


Order No.	Model	Chuck Spec.	Voltage	N.W.
50050-02-110	PFHM-SC05	SC05	110V	31.5kg
50050-02-220			220V	31.5kg

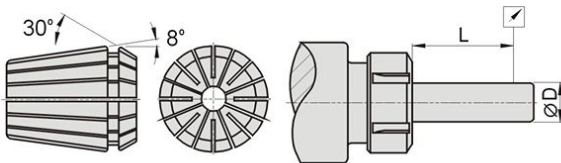


**50050-03/04/05 PFHM-SER Motorised Precision ER Collet Punch Former**

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ZL 2010 2 0190858.6



Note: ER & ER Nut are not made of stainless steel.



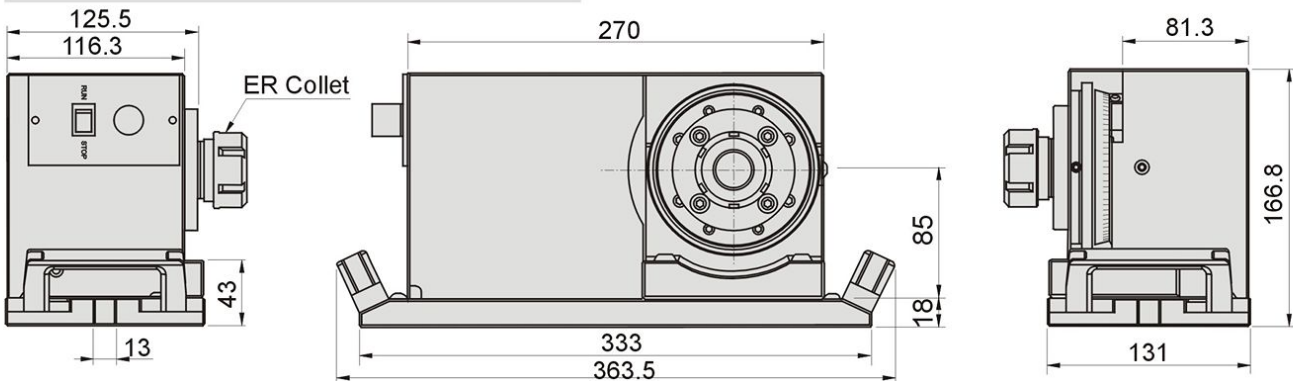
L	D	Accuracy
6	1.0-1.6	0.01
10	1.6-3.0	0.01
16	3.0-7.0	0.01
25	7.0-10.0	0.01
40	10.0-18.0	0.01
50	18.0-24.0	0.01
60	24.0-34.0	0.01

**Features :**

- ▶ PFHM-SER is adopting quality stainless steel with waterproof and stronger structure leading lasting durability.
- ▶ With ER collets, the flexible range of collet is 1mm.
- ▶ Capable collet clamping range: Min.  $\varnothing$ 2mm, Max.  $\varnothing$ 34mm
- ▶ PFH-SER can rapidly clamp the workpiece and achieving higher stability during processing, no need to adjust the center accuracy.
- ▶ Motorised function prevent human fatigue when operating.
- ▶ Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.
- ▶ This model is compatible with various ER collets such as ER20, ER32, ER50 etc...

**Main parameters:**

Center height .....  $85 \pm 0.5$ mm  
 Motor : 110V/60Hz ..... 50~550RPM  
 Motor : 220V/50Hz ..... 50~550RPM  
 Rotational accuracy ..... 0.003mm



Order No.	Model	ER Collet specification	Voltage	N.W.
50050-03-110	PFHM-SER20	3, 4, 6, 8, 10	110V	24.9kg
50050-03-220			220V	24.9kg
50050-04-110	PFHM-SER32	4, 8, 12, 16, 20	110V	24.8kg
50050-04-220			220V	24.8kg
50050-05-110	PFHM-SER50	12, 18, 20, 30, 34	110V	25.7kg
50050-05-220			220V	25.7kg

# Punch Former

## 50060 PF350 Fine-tuning Type Punch Former

PUNCH FORMER



N.W. 8.2kg

### Features :

- ▶ Suitable for surface grinder.
- ▶ Compact and durable structure with through hole design which makes it capable of forming various shapes of punches as well as electrode.
- ▶ Stopper design for fast positioning polygonal punches.
- ▶ Fine-tuning for vertical movement of V-block, easy for clamping workpiece and center calibration.
- ▶ Adopting high precision bearings and ball bearing to achieve higher stability and accuracy, it also makes longer lifecycle.
- ▶ Improvement in dust-proof and water resistance level.



- Precisely ground screw rod for fine-tuning of V-block movement.
- Two clamp plates on both side of V block helps the consistent movement.

V block is adjustable for calibration even when small workpiece is clamped.

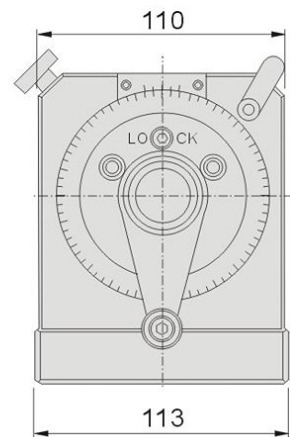
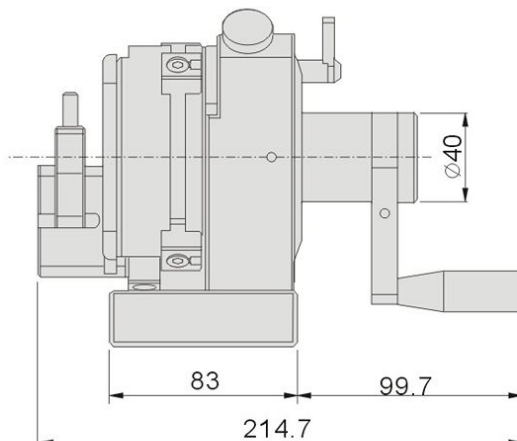
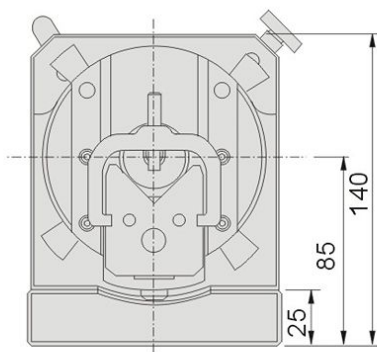
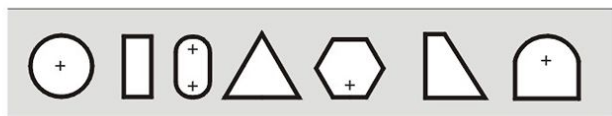
Release the screw when make adjustable and lock with slight force.



### Main parameters:

Center height .....	85 ± 0.5mm
Clamping dia. range of V-block .....	∅ 3~30mm
Travel of V-block .....	25mm
Indexer tooth q'ty & accuracy .....	24, 15° ± 10"
Through hole diameters .....	∅ 30mm
Clamping accuracy (50mm) .....	0.005mm

### Punch forming applications





**50070** PF450 Fine-tuning Type Punch Former (Dual)



N.W. 9.2kg



- Stopper block for horizontal movement.
- Screw rod for V block vertical movement..
- Release the screw when make adjustable and lock with slight force.

Precisely ground screw rod for fine-tuning of V-block movement.



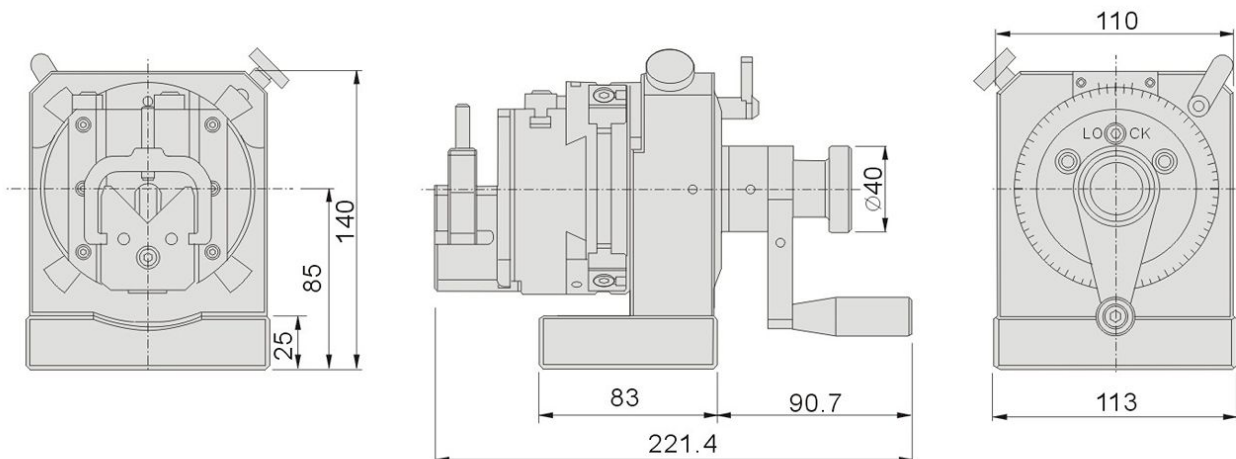
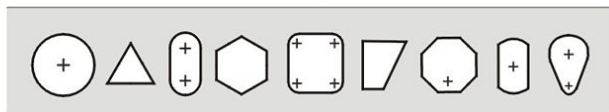
**Features :**

- ▶ Suitable for surface grinder.
- ▶ Compact and durable structure which makes it capable of forming various shapes of punches.
- ▶ With slide plate horizontal movement, it can make eccentric radius punches as well as electrode.
- ▶ Stopper design for fast positioning polygonal punches.
- ▶ Fine-tuning for vertical movement of V-block, easy for clamping workpiece and center calibration.
- ▶ Adopting high precision bearings and ball bearing to achieve higher stability and accuracy, it also makes longer lifecycle.
- ▶ Improvement in dust-proof and water resistance level.

**Main parameters:**

Center height .....	85 ± 0.5mm
Clamping dia. range of V-block .....	∅ 3~30mm
Travel of V-block .....	45mm
Slide plate horizontal movement .....	±18mm
Indexer tooth q'ty & accuracy .....	24, 15° ± 10"
Clamping accuracy (50mm) .....	0.005mm

**Punch Forming Applications**



PUNCH FORMER



# Punch Former

**50080**

PF550

3-Jaw Punch Former



**PF550-SC40**



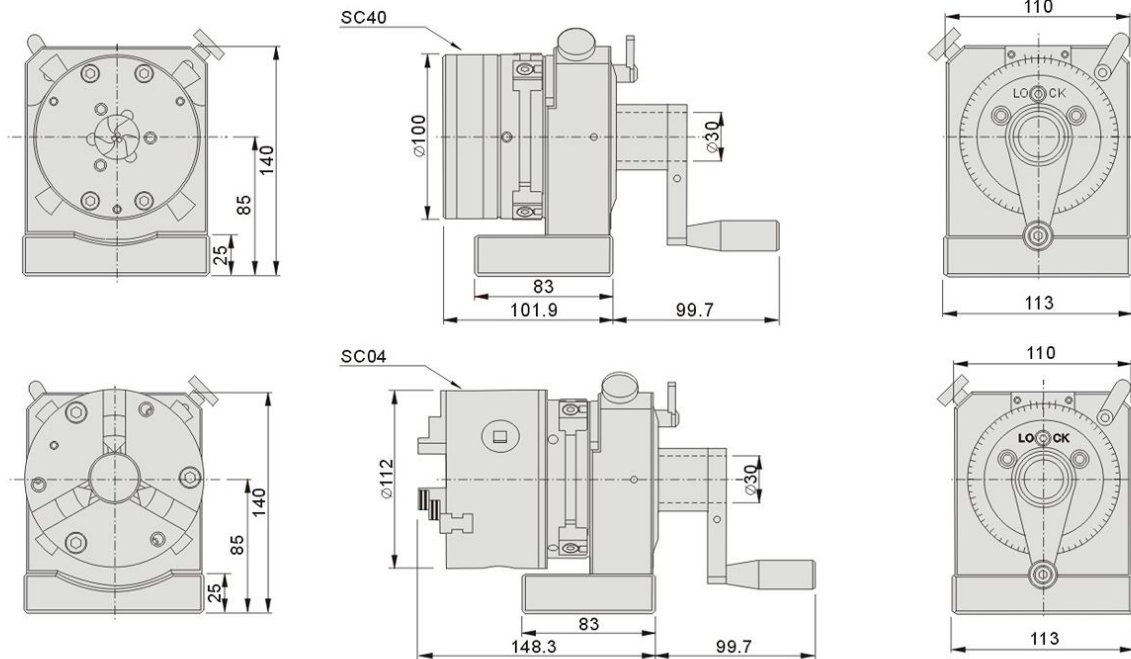
**PF550-SC04**

## Features :

- ▶ Special stainless steel made for SC40 chuck provide rapid clamping accuracy with precision performance.
- ▶ Torque wrench is included for precision performance (Only for SC40)
- ▶ Adopting high precision bearings and ball bearing to achieve higher stability and accuracy, it also makes longer lifecycle.
- ▶ PF550-SC04 Jaw attachment enable larger outer diameter workpiece to be clamped.

## Main parameters:

Center height ..... 85 ± 0.5mm  
 Indexer tooth q'ty & accuracy ..... 24, 15° ± 10"  
**SC40 3-Jaw Chuck**  
 Min. clamping range ..... ø1mm  
 Max. clamping range ..... 25mm  
 Rotational accuracy ..... 0.003mm  
 Repeat accuracy ..... 0.003mm  
**SC04 3-Jaw Chuck hole dia.** ..... ø32mm  
 Min. clamping range O.D. ø3mm, I.D. ø32mm  
 Max. clamping range O.D. ø90mm, I.D. ø84mm  
 Repeat accuracy ..... 0.015mm



Order No.	Model	Chuck Spec.	N.W.
50080-00	PF550-SC40	SC40	8.5kg
50080-01	PF550-SC04	SC04	7.8kg

**50085** PF550M Precision Motor 3-Jaws Punch Former



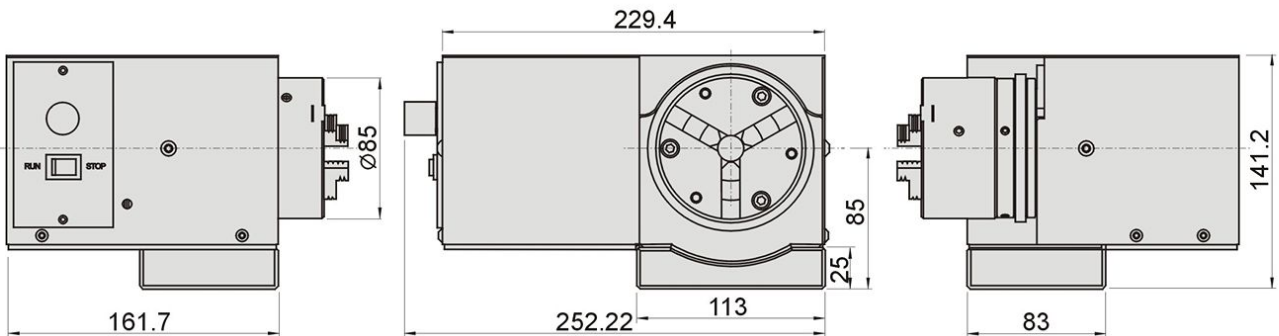
PUNCH FORMER

**Features :**

- ▶ PF550M have stronger structure leading lasting durability.
- ▶ 3-Jaw Chuck provide rapid clamping and it suitable for mass production, workpiece with round shaped can precisely & rapidly clamped.
- ▶ Due to accumulated tolerance when clamping different sizes of workpieces, special design in adjustment of horizontal and roundness for user own application.
- ▶ Jaw attachment can clamp workpeice with larger diameters.
- ▶ Motorised function prevent human fatigue when processing.
- ▶ Adopting high precision bearings and ball bearing to achieve higher stability and accuracy, it also makes longer lifecycle.

**Main parameters:**

Center height ..... 85 ± 0.5mm  
 Through hole diameters ..... Ø 16mm  
 Hole dia. of 3-Jaw Chuck ..... Ø 16mm  
 Min. clamping range O.D. Ø 2mm, I.D. Ø 24mm  
 Max. clamping range O.D. Ø 70mm, I.D. Ø 64mm  
 Motor : 110V/60Hz ..... 50~550RPM  
 Motor : 220V/50Hz ..... 50~550RPM  
 Rotational accuracy ..... 0.003mm  
 Repeat accuracy ..... 0.015mm



Order No.	Model	Chuck Spec.	Voltage	N.W.
50085-110	PF550M	SC03	110V	17kg
50085-220			220V	17kg

# Punch Former

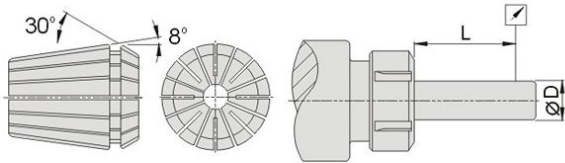
## 50090 PF650 ER Collet Punch Former

PUNCH FORMER



### Features :

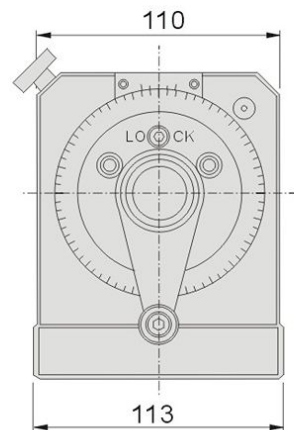
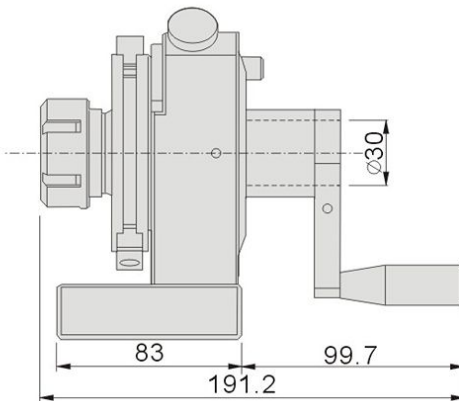
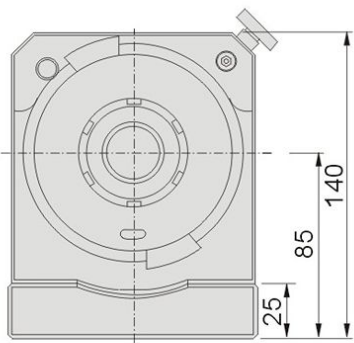
- ▶ PF650 has stronger structure leading lasting durability.
- ▶ With ER collets, the flexible range of collet is 1mm.
- ▶ Capable collet clamping range: Min.  $\varnothing 2\text{mm}$ , Max.  $\varnothing 26\text{mm}$
- ▶ PF650 can rapidly clamp the workpiece and achieving higher stability during processing, no need to adjust the center accuracy.
- ▶ Adopting high precision bearings and ball bearing to achieve higher stability and accuracy, it also makes longer lifecycle.



L	D	Accuracy
6	1.0-1.6	0.01
10	1.6-3.0	0.01
16	3.0-7.0	0.01
25	7.0-10.0	0.01
40	10.0-18.0	0.01
50	18.0-24.0	0.01
60	24.0-34.0	0.01

### Main parameters:

Center height .....  $85 \pm 0.5\text{mm}$   
 Indexer tooth q'ty & accuracy .....  $24, 15^\circ \pm 10''$   
 Through hole diameters .....  $\varnothing 30\text{mm}$   
 Rotational accuracy .....  $0.003\text{mm}$



Order No.	Model	ER Collet spec.	N.W.
50090-01	PF650-ER20	3, 4, 6, 8, 10	5.5kg
50090-02	PF650-ER32	4, 8, 12, 16, 20	6.5kg
50090-03	PF650-ER40	6, 10, 16, 20, 25,	6.6kg



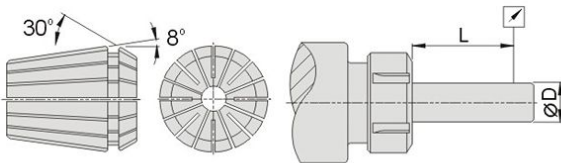
**50095** PF650M Motorised Precision ER Collet Punch Former

PUNCH FORMER



**Features :**

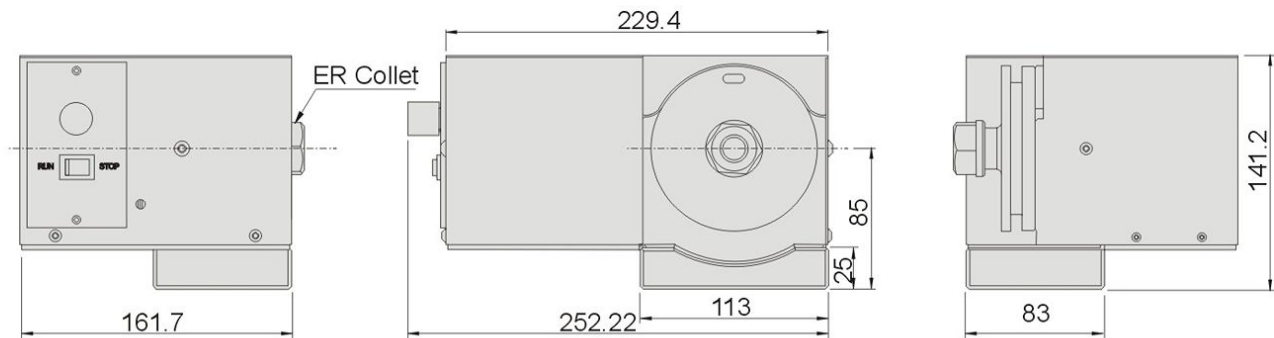
- ▶ PF650M has stronger structure leading lasting durability.
- ▶ Motorised function prevent human fatigue when processing.
- ▶ With ER collets, the flexible range of collet is 1mm.
- ▶ Capable collet clamping range: Min.  $\varnothing$ 2mm, Max.  $\varnothing$  26mm
- ▶ PF650 can rapidly clamp the workpiece and achieving higher stability during processing, no need to adjust the center accuracy.
- ▶ Adopting high precision bearings and ball bearing to achieve higher stability and accuracy, it also makes longer lifecycle.



L	D	Accuracy
6	1.0-1.6	0.01
10	1.6-3.0	0.01
16	3.0-7.0	0.01
25	7.0-10.0	0.01
40	10.0-18.0	0.01
50	18.0-24.0	0.01
60	24.0-34.0	0.01

**Main parameters:**

Center height .....  $85 \pm 0.5$ mm  
 Motor : 110V/60Hz ..... 50~550RPM  
 Motor : 220V/50Hz ..... 50~550RPM  
 Rotational accuracy ..... 0.003mm



Order No.	Model	ER Collet spec.	Voltage	N.W.
50095-01-110	PF650M-ER20	3, 4, 6, 8, 10	110V	17kg
50095-01-220			220V	17kg
50095-02-110	PF650M-ER32	4, 8, 12, 16, 20	110V	18kg
50095-02-220			220V	18kg
50095-03-110	PF650M-ER40	6, 10, 16, 20, 25	110V	19kg
50095-03-220			220V	19kg

# Punch Former

## 50300 PFH240 Precision Punch Former (Medium Type)

PUNCH FORMER



PAT: M421169  
ZL 2010 2 0190858.6

N.W. 13.0kg

### Features :

- ▶ PFH240 Precision Punch Former have stronger compact structure and long lasting durability.
- ▶ Suitable of application on surface grinding machine and capable of forming various shapes of punches as well as electrode.
- ▶ PFH240 has through hole design for longer punch & ejector pins to be clamped in processing.
- ▶ V-block clamping can accurately stabilize workpieces and vertical fine-tuning function can makes setting center easier.
- ▶ Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.
- ▶ Stopper design in position slot and easier for precisely stabilize polygonal punches.
- ▶ Improvement in dust-proof and water resistance.



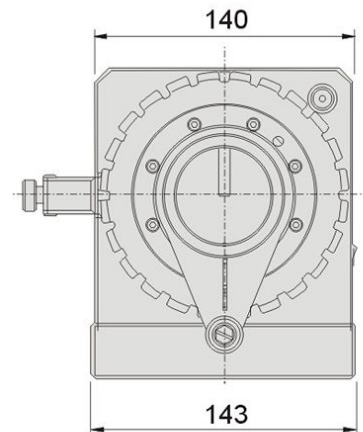
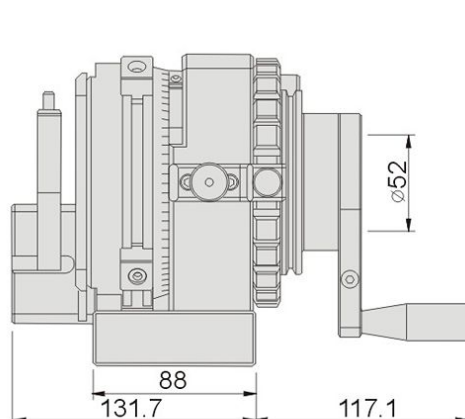
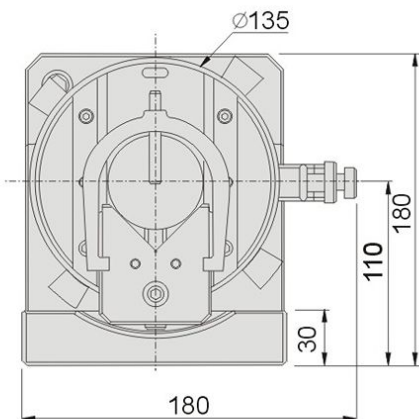
- Precisely ground screw rod for fine-tuning of V-block vertical movement.
- Two clamp plates on both side of V block helps the consistent movement.

### Punch forming applications



### Main parameters:

- Center height ..... 110 ± 0.5mm
- Clamping dia. range of V-block ..... Ø 5~50mm
- Travel of V-block ..... 34mm
- Indexer tooth q'ty & accuracy ..... 24, 15° ± 5"
- Through hole diameters ..... Ø 52mm
- Clamping accuracy (50mm) ..... 0.005mm



**50350** PFH280 Precision Punch Former (Medium Type)

PAT:M421169  
ZL 2010 2 0190858.6



N.W. 14.7kg



- Stopper block for horizontal movement.
- Two clamp plates on both side of V block helps the consistent movement.



Precisely ground screw rod for fine-tuning of V-block vertical movement.

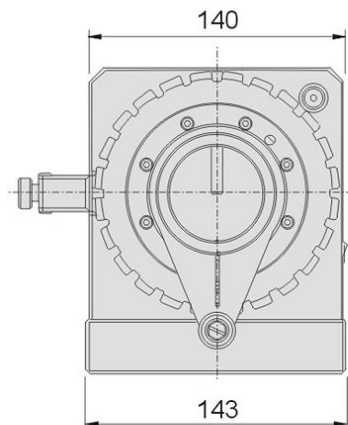
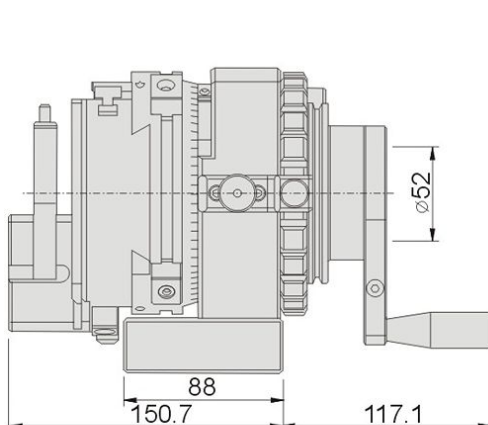
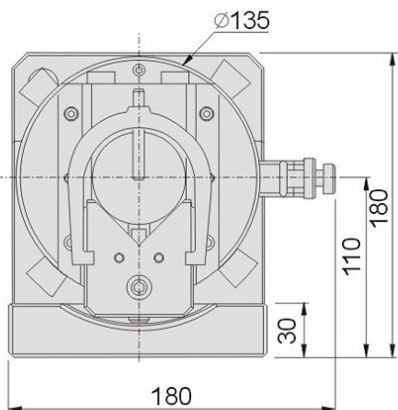
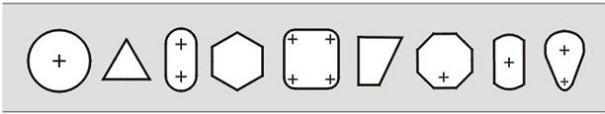
**Features :**

- ▶ PFH280 Precision Punch Former have stronger compact structure and long lasting durability.
- ▶ Suitable of application on surface grinding machine and capable of forming various shapes of punches as well as electrode.
- ▶ Due to its vertical & horizontal adjustment function, it is specially suitable for oval punch grinding.
- ▶ V-block clamping can accurately stabilize workpieces and vertical fine-tuning function can makes setting center easier.
- ▶ Adopting high precision double bearings in it's structure to achieve higher accuracy, rigidity and stability.
- ▶ Stopper design in position slot and easier for precisely stabilize polygonal punches.
- ▶ Improvement in dust-proof and water resistance.

**Main parameters:**

Center height .....	110 ± 0.5mm
Clamping dia. range of V-block .....	∅ 5~50mm
Travel of V-block .....	36mm
Indexer tooth q'ty & accuracy .....	24, 15° ± 5"
Through hole diameters .....	∅52mm
Clamping accuracy (50mm) .....	0.005mm

**Punch forming applications**



PUNCH FORMER



# Punch Former

**50500**

**PFH300**

**Precision Punch Former (Big Type)**

PUNCH FORMER



PAT:M421169  
ZL 2010 2 0190858.6

N.W. 23.5kg

## Features :

- ▶ PFH300 Precision Punch Former have stronger compact structure and long lasting durability.
- ▶ Suitable of application on surface grinding machine and capable of forming various shapes of punches as well as electrode.
- ▶ PFH300 has through hole design for longer punch & ejector pins to be clamped in processing.
- ▶ V-block clamping can accurately stabilize workpieces and vertical fine-tuning function can makes setting center easier.
- ▶ Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.
- ▶ Stopper design in position slot and easier for precisely stabilize polygonal punches.
- ▶ Improvement in dust-proof and water resistance.

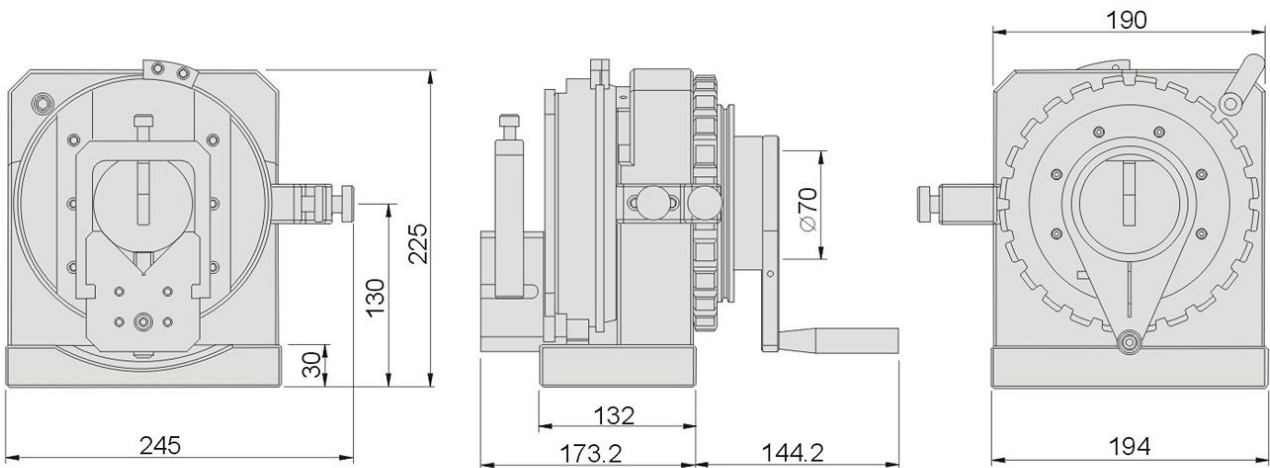


- Precisely ground screw rod for fine-tuning of V-block vertical movement.
- Two clamp plates on both side of V block helps the consistent movement.

## Main parameters:

Center height ..... **130 ± 0.5mm**  
 Clamping dia. range of V-block .....  $\varnothing$  3~69.5mm  
 Travel of V-block ..... 48mm  
 Indexer tooth q'ty & accuracy ..... 24,  $15^\circ \pm 5''$   
 Through hole diameters .....  $\varnothing$  70mm  
 Clamping accuracy (50mm) ..... 0.005mm

## Punch forming applications



**50550** PFH500 Precision Punch Former (Big Type)



PAT:M421169  
ZL 2010 2 0190858.6

N.W. 27kg



- Stopper block for horizontal movement.
- Screw rod for V block vertical movement.
- Release the screw when make adjustable and lock with slight force.



Precisely ground screw rod for fine-tuning of V-block movement.

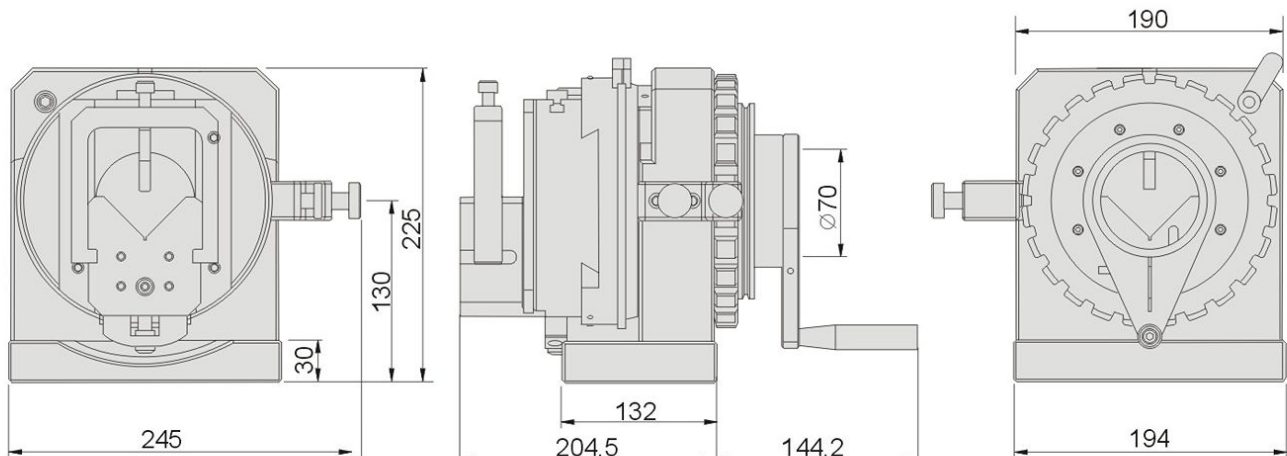
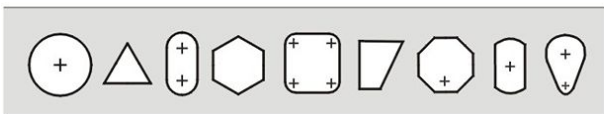
**Features :**

- ▶ PFH500 Precision Punch Former have stronger compact structure and long lasting durability.
- ▶ Suitable of application on surface grinding machine and capable of forming various shapes of punches as well as electrode.
- ▶ Due to its vertical & horizontal adjustment function, it is specially suitable for oval punch grinding.
- ▶ V-block clamping can accurately stabilize workpieces and vertical fine-tuning function can makes setting center easier.
- ▶ Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.
- ▶ Stopper design in position slot and easier for precisely stabilize polygonal punches.
- ▶ Improvement in dust-proof and water resistance.

**Main parameters:**

- Center height ..... 130 ± 0.5mm
- Clamping dia. range of V-block ..... Ø 3~69.5mm
- Travel of V-block ..... 48mm
- Indexer tooth q'ty & accuracy ..... 24, 15° ± 5"
- Through hole diameters ..... Ø70mm
- Clamping accuracy (50mm) ..... 0.005mm
- Slide plate horizontal movement ..... ±30mm

**Punch forming applications**



PUNCH FORMER

# Punch Former

## 50600 PFH600 Precision 3-Jaws Punch Former (Big Type)

PUNCH FORMER



PAT:M421169  
ZL 2010 2 0190858.6

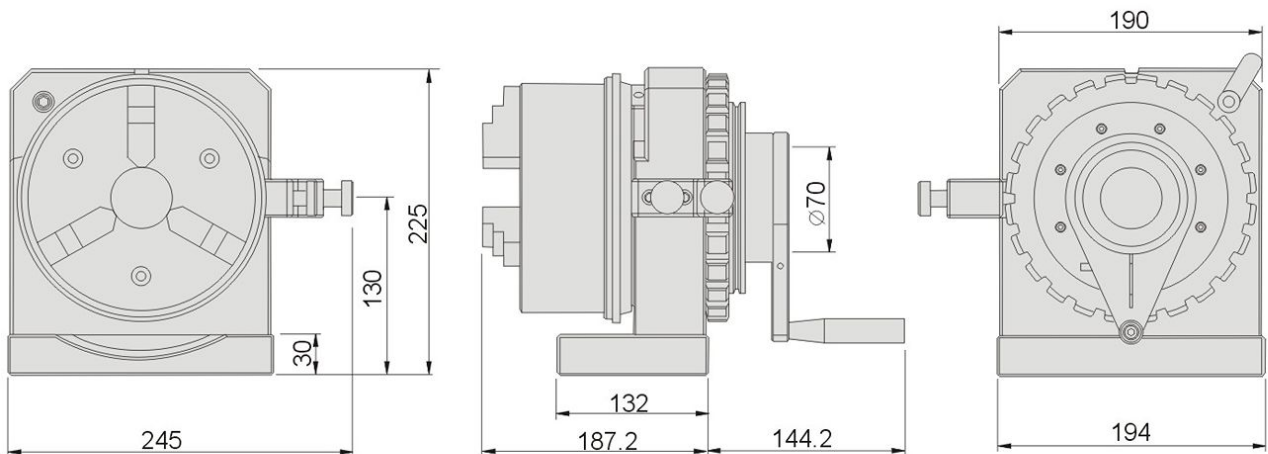
### Features :

- ▶ PFH600 have stronger structure leading lasting durability.
- ▶ PFH600 provide rapid clamping and it suitable for mass production, workpiece with round shaped can precisely & rapidly clamped.
- ▶ Due to accumulated tolerance when clamping different sizes of workpieces, special design in adjustment of for user own application.
- ▶ Further jaw attachment can clamp workpeice with larger diameters.
- ▶ Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.

N.W. 27kg

### Main parameters:

Center height ..... 130 ± 0.5mm  
 Indexer tooth q'ty & accuracy ..... 24, 15° ± 5"  
 Through hole diameters ..... Ø 70mm  
 Hole dia. of 3-Jaw Chuck ..... Ø 45mm  
 Min. clamping range O.D. Ø 4mm, I.D. Ø 48mm  
 Max. clamping range O.D. Ø 160mm, I.D. Ø 150mm  
 Rotational accuracy ..... 0.003mm  
 Repeat accuracy ..... 0.015mm





**50650** PFH600M Motorised Precision 3-Jaws Punch Former (Big Type)



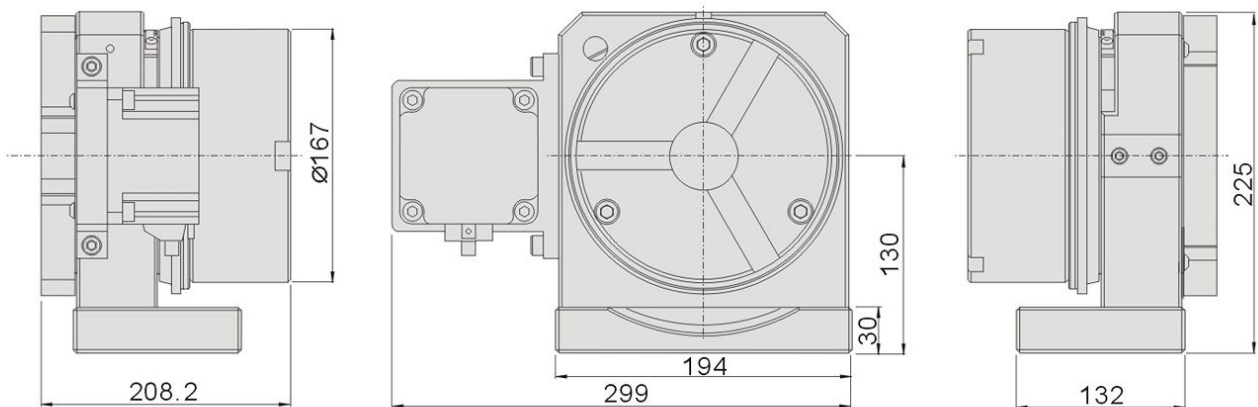
PUNCH FORMER

**Features :**

- ▶ Motorised function prevent human fatigue when processing.
- ▶ PFH600M provide rapid clamping and it suitable for mass production, workpiece with round shaped can precisely & rapidly clamped.
- ▶ Due to accumulated tolerance when clamping different sizes of workpieces, special design in adjustment for user own application.
- ▶ Further jaw attachment can clamp workpeice with larger diameters.
- ▶ Adopting high precision double bearings in its structure to achieve higher accuracy, rigidity and stability.

**Main parameters:**

Center height ..... 130 ± 0.5mm  
 Indexer tooth q'ty & accuracy ..... 24, 15° ± 5"  
 Through hole diameters ..... Ø 70mm  
 Hole dia. of 3-Jaw Chuck ..... Ø 45mm  
 Min. clamping range O.D. Ø 4mm, I.D. Ø 48mm  
 Max. clamping range O.D. Ø 160mm, I.D. Ø 150mm  
 Motor : 110V/60Hz ..... 50~550RPM  
 Motor : 220V/50Hz ..... 50~550RPM  
 Rotational accuracy ..... 0.003mm  
 3-Jaw chuck clamping repeat accuracy .. 0.015mm

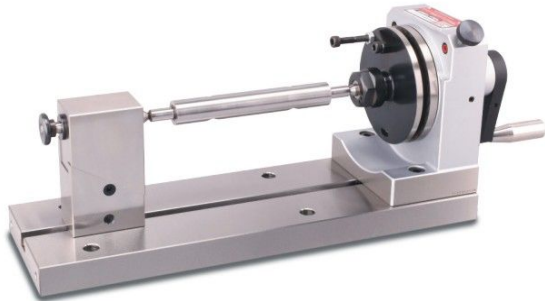


Order No.	Model	Chuck Spec.	Voltage	N.W.
50650-110	PFH600M	SC06	110V	30kg
50650-220			220V	30kg

# Center Punch Former

**50700** GPFE Center Punch Former

PUNCH FORMER

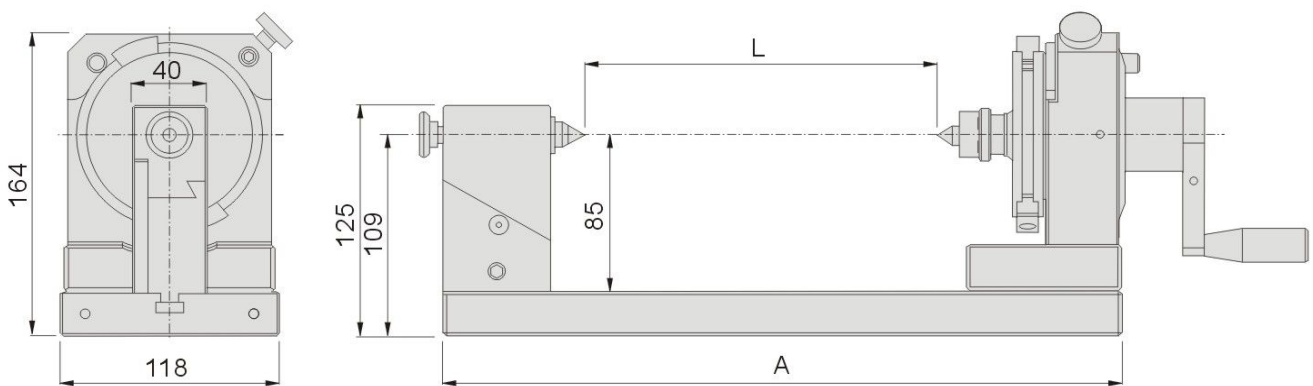


## Features :

- ▶ Center Punch Former apply Live Center at both sides to clamp punch to achieve concentricity.
- ▶ Live center stabilize the processing and achieve higher accuracy.
- ▶ It is mainly apply on bushes and cylinder which needs precision cylindrical grinding on surface grinding machines.

## Main parameters:

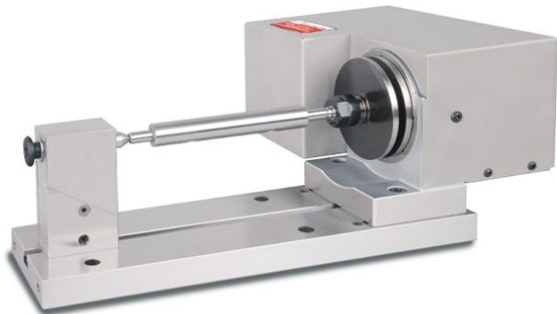
Center height without base ..... 85mm  
 Center height with base ..... 109mm  
 Indexer tooth quantity & accuracy ..... 24, 15° ± 10"  
 Live Center clamping range ..... 0~450mm  
 Material ..... SKS3, HRC60~62°  
 Roundness ..... 0.002mm  
 Parallelism ..... 0.002mm/100mm  
 Squareness ..... 0.002mm/100mm



Unit:mm

Order No.	Model	A	L	Rotary Angle	N.W.
50700-15	GPFE150	375	0~150	360°	20kg
50700-25	GPFE250	475	0~250		23kg
50700-35	GPFE350	575	0~350		26kg
50700-45	GPFE450	675	0~450		29.5kg

**50750** GPFEM Motorised Center Punch Former



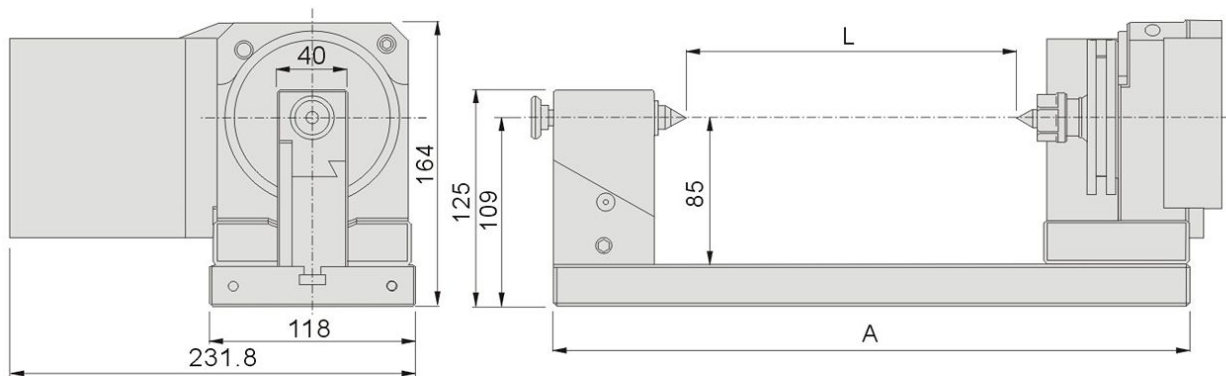
**Features :**

- ▶ Center Punch Former apply Live Center at both sides to clamp punch to achieve concentricity.
- ▶ Motorised function prevent human fatigue when processing.
- ▶ Live center stabilize the processing and achieve higher accuracy.
- ▶ It is mainly apply on bushes and cylinder which needs precision cylindrical grinding on surface grinding machines.



**Main parameters:**

Center height without base ..... 85mm  
 Center height with base ..... 109mm  
 Clamping range ..... 0~450mm  
 Motor output, Voltage ..... 15W, IPH, 110/220V  
 Motor speed ..... 50/60HZ50~550RPM  
 Material of Punch Former ..... SKS3, HRC60~62°  
 Roundness ..... 0.002mm  
 Parallelism ..... 0.002mm/100mm  
 Squareness ..... 0.002mm/100mm



Unit:mm

Order No.	Model	A	L	Rotary Angle	N.W.
50750-15-110	GPFE150M	375	0~150	360°	23kg
50750-15-220					
50750-25-110	GPFE250M	475	0~250		26kg
50750-25-220					
50750-35-110	GPFE350M	575	0~350		29kg
50750-35-220					
50750-45-110	GPFE450M	675	0~450	32.5kg	
50750-45-220					



# Center Punch Former

## 50800 GPFC 3-Jaws Center Punch Former

PUNCH FORMER



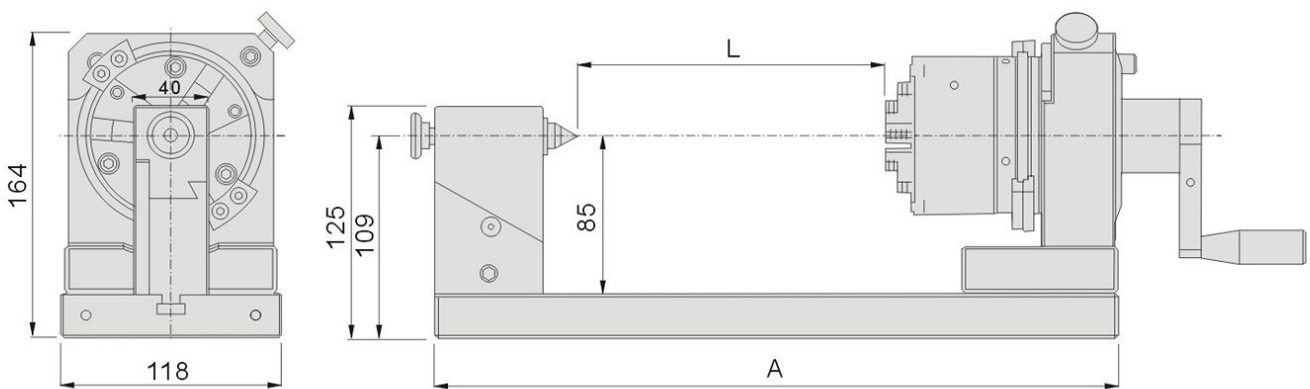
### Features :

- ▶ 3-Jaw Center Punch Former apply 3-Jaw Chuck to clamping workpieces with rapid and easy loading process.
- ▶ It is capable of grinding long punches which cannot be processing by conventional Punch Formers.
- ▶ Live center stabilize the processing and achieve higher accuracy.
- ▶ It is mainly apply on bushes and cylinder which needs precision cylindrical grinding on surface grinding machines.

Material:  
 Punch Former:SKS3 HRC60~62°  
 3-Jaw Chuck:Meehanite cast iron

### Main parameters:

Center height without base ..... 85mm  
 Center height with base ..... 109mm  
 Indexer tooth quantity & accuracy ..... 24, 15° ± 10"  
 Hole dia. of 3-Jaw Chuck ..... Ø 16mm  
 Diameter of 3-Jaw Chuck ..... Ø 85mm  
 Roundness ..... 0.002mm  
 Parallelism ..... 0.002mm/100mm  
 Squareness ..... 0.002mm/100mm



Unit:mm

Order No.	Model	O.D. Range	I.D. Range	A	L	Rotary Angle	N.W.
50800-15	GPFC150	Ø2~70	Ø24~64	375	0~150	360°	20kg
50800-25	GPFC250			475	0~250		23kg
50800-35	GPFC350			575	0~350		26kg
50800-45	GPFC450			675	0~450		29.5kg

**50850** GPFCM Motorised 3-Jaws Center Punch Former



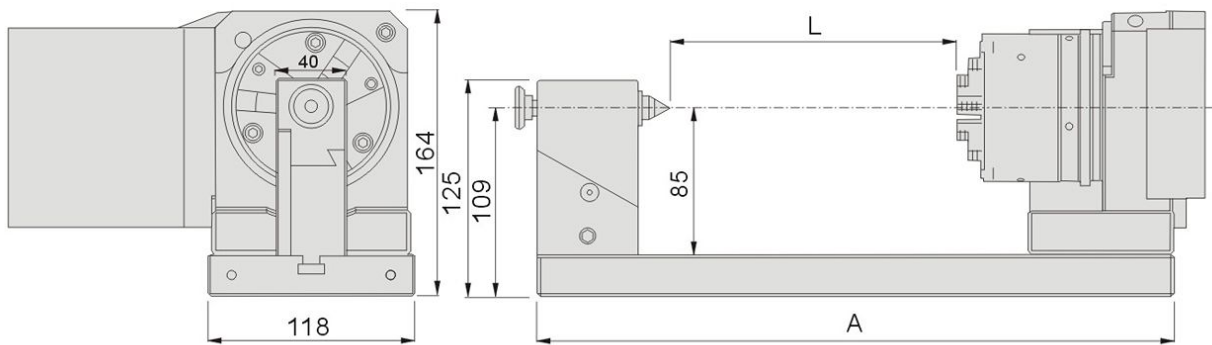
Material:  
 Punch Former: SKS3 HRC60~62°  
 3-Jaw Chuck: Meehanite cast iron

**Features :**

- ▶ 3-Jaw Center Punch Former apply 3-Jaw Chuck to clamping workpieces with rapid and easy loading process.
- ▶ Motorised function prevent human fatigue when processing.
- ▶ Live center stabilize the processing and achieve higher accuracy.
- ▶ It is mainly apply on bushes and cylinder which needs precision cylindrical grinding on surface grinding machines.

**Main parameters:**

Center height without base ..... 85mm  
 Center height with base ..... 109mm  
 Motor output, Voltage 15W ..... 110/220V  
 Motor speed ..... 50/60HZ 50~550RPM  
 Hole dia. of 3-Jaw Chuck ..... Ø 16mm  
 Diameter of 3-Jaw Chuck ..... Ø 85mm  
 Roundness ..... 0.002mm  
 Parallelism ..... 0.002mm/100mm  
 Squareness ..... 0.002mm/100mm



Unit:mm

Order No.	Model	O.D. Range	I.D. Range	A	L	Rotary Angle	N.W.
50850-15-110	GPFC150M	Ø2~70	Ø24~64	375	0~150	360°	23kg
50850-15-220							
50850-25-110	GPFC250M			475	0~250		26kg
50850-25-220							
50850-35-110	GPFC350M			575	0~350		29kg
50850-35-220							
50850-45-110	GPFC450M	675	0~450	32.5kg			
50850-45-220							

# Punch Former

**51000** PF300 >> Punch Former (big)

PUNCH FORMER



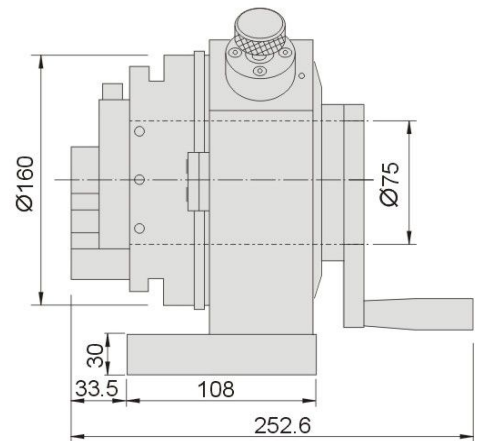
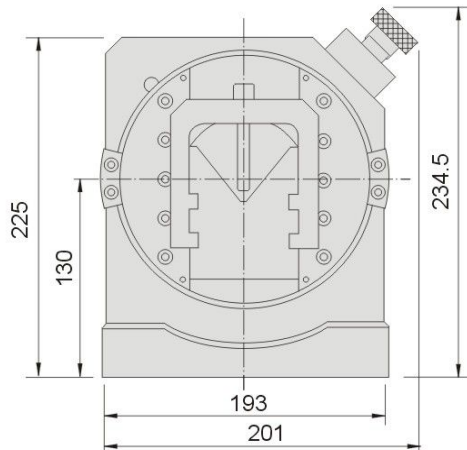
N.W. 21.3kg

## Features :

- ▶ PF300 Punch Former is special designed for larger punch under  $\varnothing 70$ .
- ▶ Suitable of forming various shapes of punches as well as electrode.
- ▶ PF300 has through hole design for longer punch & ejector pins to be clamped in processing.
- ▶ V-block clamping can accurately stabilize workpieces and vertical fine-tuning function can makes setting center easier.

## Main parameters:

Center height ..... 130mm  
 Clamping dia. range of V-block .....  $\varnothing 70$ mm  
 Travel of V-block..... 60mm  
 Indexer tooth q'ty & accuracy ..... 24,  $15^\circ \pm 10''$   
 Through hole diameters .....  $\varnothing 75$ mm  
 Clamping accuracy (50mm) ..... 0.008mm





**51050** PF500 >> Punch Former (big)



N.W. 23.3kg

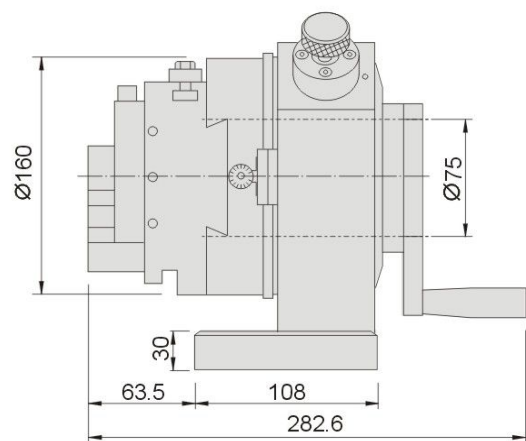
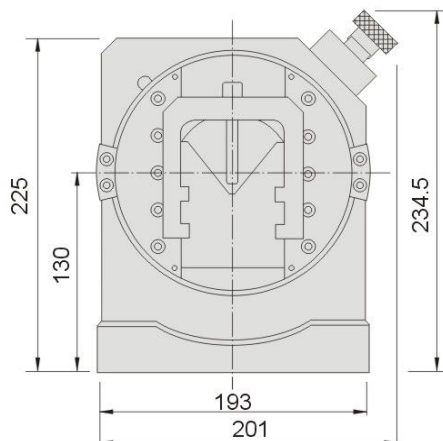
PUNCH FORMER

**Features :**

- ▶ PF500 Punch Former is special designed for larger punch.
- ▶ Due to its vertical & horizontal adjustment function, it is especially suitable for oval punch grinding as well as electrode.
- ▶ V-block clamping can accurately stabilize workpieces and vertical fine-tuning function can makes setting center easier.

**Main parameters:**

Center height ..... 130mm  
 Clamping dia. range of V-block ..... Ø70mm  
 Travel of V-block ..... 60mm  
 Slide plate horizontal movement ..... ±25mm  
 Indexer tooth q'ty & accuracy ..... 24, 15°±10"  
 Clamping accuracy (50mm) ..... Ø75mm  
 Through hole diameters ..... 0.008mm



# Punch Former

## 51080 PF600 3-Jaws Punch Former (big)



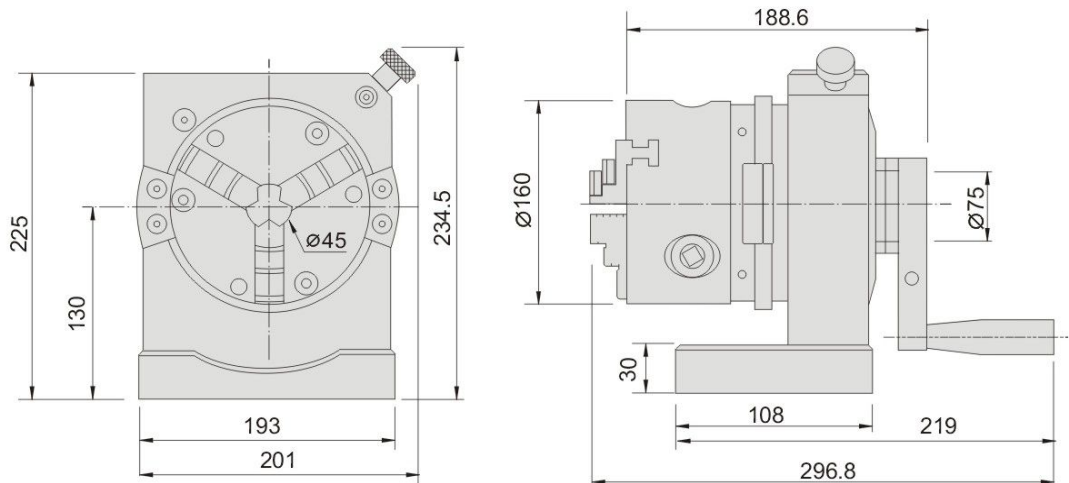
N.W. 24.3kg

### Features :

- ▶ PF600 provide rapid clamping and it suitable for mass production, workpiece with round shaped can precisely & rapidly clamped.
- ▶ Due to accumulated tolerance when clamping different sizes of workpieces, special design in adjustment of horizontal and roundness for user own application.
- ▶ Further jaw attachment can clamp workpeice with larger diameters.

### Main parameters:

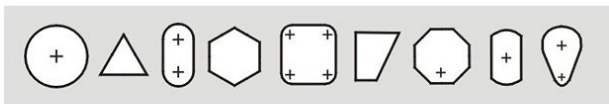
Center height .....	130mm
Indexer tooth q'ty & accuracy .....	24, $15^{\circ} \pm 10''$
Through hole diameters .....	$\varnothing 45\text{mm}$
Hole dia. of 3-Jaw Chuck .....	$\varnothing 45\text{mm}$
3-Jaw chuck repeat accuracy .....	0.015mm
Min. clamping range: Outer dia. ....	$\varnothing 4\text{mm}$
Inner dia. ....	$\varnothing 48\text{mm}$
Max. clamping range: Outer dia. ....	$\varnothing 160\text{mm}$
Inner dia. ....	$\varnothing 150\text{mm}$



**51100** PFA **Punch Former (Dual)**



N.W. 8.6kg

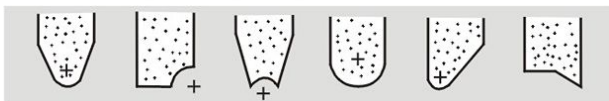


Punch Forming Applications

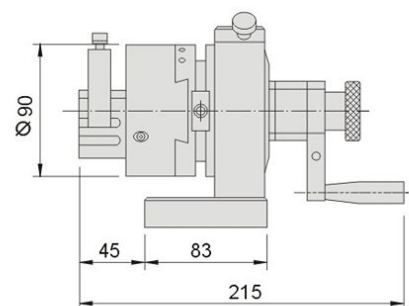
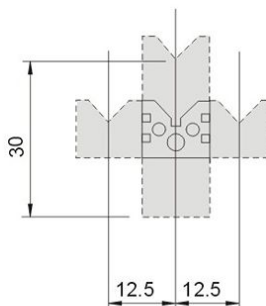
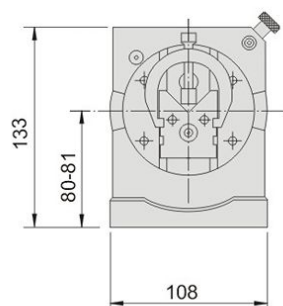
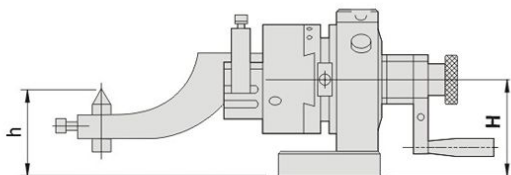


Crank

Diamond pin is not included



Wheel Dressing Applications



**Features :**

- ▶ Suitable for precision grinding different kinds of punches and electrodes of EDM in a surface grinding machine.
- ▶ Thanks to its vertical & horizontal movement allows oval punch forming.
- ▶ V-block needs to be adjusted to center depending on different dia. Of the workpieces in order to achieve 0.005mm accuracy.
- ▶ Standard accessory; crank for dressing grinding wheel into various cross sections of flat or curved shoes.

**Main parameters:**

- Center height ..... 80 ~ 81mm
- Clamping dia. range of V-block ..... Ø 4 ~ 30mm
- Travel of V-block ..... 30mm
- Slide plate horizontal movement ..... ±12.5mm
- Indexer tooth q'ty & accuracy ..... 24, 15° ±10"
- Clamping accuracy (50mm) ..... 0.005mm
- Capable wheel size of dressing ..... Ø 200mm
- Max. radius dressing Convex ..... R48mm
- Concave ..... R100mm

**Calculation Formula:**

- Dressing convex arc .....  $h=H-R$
- Dressing concave arc .....  $h=H+R$
- h: distance from tip of diamond to base of Punch Former
- H: Center height of Punch Former
- R: Radius of the arc to be dress

PUNCH FORMER



# Punch Former

## 51150 PFB Punch Former

PUNCH FORMER



### Features :

- ▶ PFB has same function as PFA except for the eccentric horizontal movement due to its through hole design for longer ejector pins processing capability.
- ▶ Standard accessory; crank for dressing grinding wheel into various cross sections of flat or curved shaes.
- ▶ Optional accessory PFB1 to achieve angular wheel dressing.
- ▶ Optional accessory SVB to achieve min.  $\varnothing 0.5\text{mm}$  clamping capability.

### Main parameters:

Center height .....	80 ~ 81mm
Clamping dia. range of V-block.....	$\varnothing 4 \sim 30\text{mm}$
Travel of V-block .....	30mm
Indexer tooth q'ty & accuracy .....	24, $15^\circ \pm 10''$
Clamping accuracy (50mm).....	0.005mm
Through hole dia. ....	$\varnothing 30\text{mm}$
Capable wheel size of dressing .....	$\varnothing 200\text{mm}$
Max. radius dressing Convex .....	R48mm
Concave .....	R100mm

**51150-01**  
**PFB1**

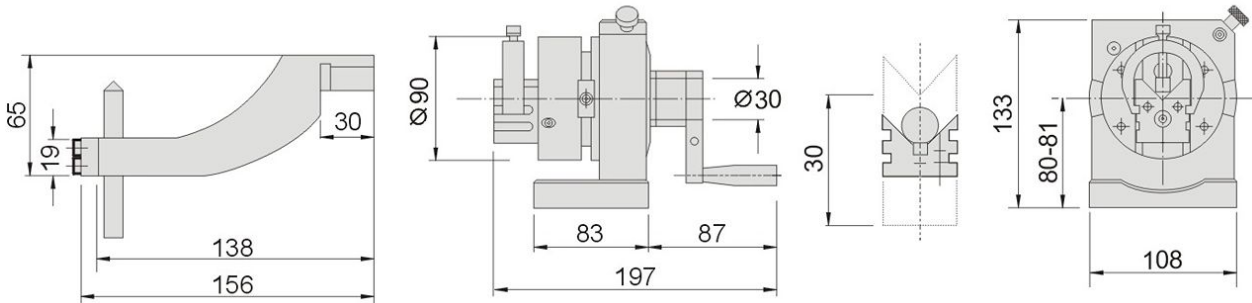


N.W. 0.6kg

**51150-02**  
**SVB**



N.W. 0.2kg



Punch forming applications

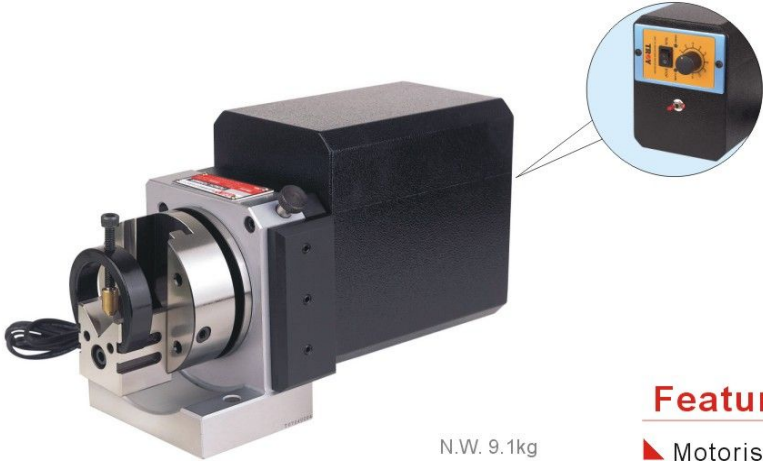


Grinding wheel dressing application



**51160** PFBM Motorised Punch Former

PUNCH FORMER



N.W. 9.1kg

**Features :**

- ▶ Motorised function prevent human fatigue when processing.
- ▶ Increase efficiency when processing punches.

**Main parameters:**

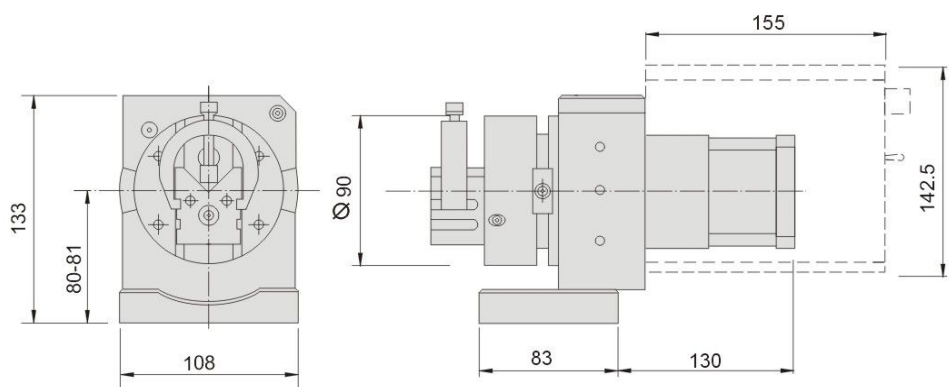
- Center height ..... 80 ~ 81mm
- Clamping diameter in V-slot .....  $\varnothing$  4 ~ 30mm
- Travel of V-block ..... 25mm
- Clamping accuracy (50mm) ..... 0.005mm
- Roller driving motor 110V/60HZ ..... 50~300rpm
- Roller driving motor 220V/50HZ ..... 50~300rpm



View without dust cover

**Note:**

Variable speed from 1 to 100 ratio, when 100 is set the top speed is 300rpm, when set on 100 rpm, the panel is set approx. 30 ratio.



Order No.	Model	Volts
51160-110	PFBM	AC110V
51160-220		AC220V

# Punch Former

## 51200 PFC 3-Jaw Punch Former



N.W. 7.6kg

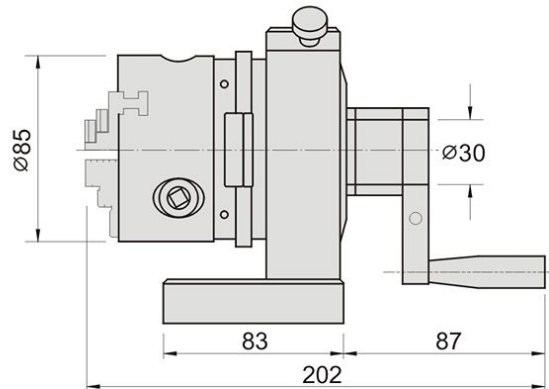
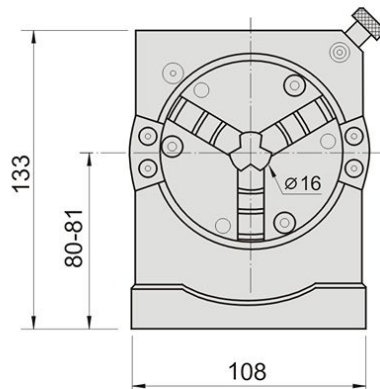


### Features :

- ▶ Precision 3-Jaw Chuck provide rapid clamping and it suitable for mass production.
- ▶ Due to the accumulated tolerance incurred, there is design for adjustment function for users, both horizontal and roundness.
- ▶ Further reversed jaw attachment provides capability of clamping larger workpeice.

### Main parameters:

Center height .....	80 ~ 81mm
Indexer tooth q'ty & accuracy.....	24,15° ± 10"
Through hole diameters.....	∅30mm
Rotational accuracy.....	0.003mm
Repeat accuracy.....	0.015mm
Hole dia. of 3-Jaw Chuck .....	∅16mm
Min. clamping range	O.D. ∅2mm, I.D. ∅24mm
Max. clamping range	O.D. ∅70mm, I.D. ∅64mm





**51210 PFCM Motorised 3-Jaw Punch Former**

PUNCH FORMER



N.W. 10.1kg



View without dust cover

**Features :**

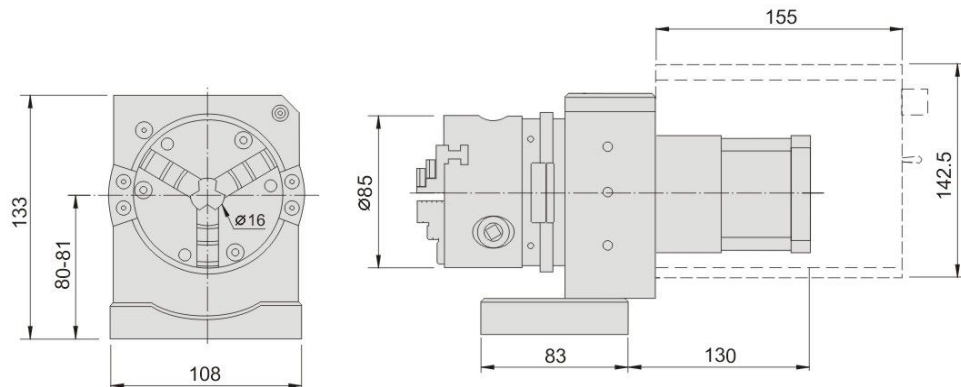
- ▶ Motorised function prevent human fatigue when processing.
- ▶ Increase efficiency when processing punches.

**Main parameters:**

Center height .....	80 ~ 81mm
Rotational accuracy .....	0.003mm
Repeat accuracy .....	0.015mm
Hole dia. of 3-Jaw Chuck .....	∅ 16mm
Min. clamping range	O.D. ∅ 2mm, I.D. ∅ 24mm
Max. clamping range	O.D. ∅ 70mm, I.D. ∅ 64mm
Motor : 110V/60Hz .....	50 ~ 300 RPM
Motor : 220V/50Hz .....	50 ~ 300 RPM

**Note:**

Variable speed from 1 to 100 ratio, when 100 is set the top speed is 300rpm, when set on 100 rpm, the panel is set approx. 30 ratio.



Order No.	Model	Volts
51210-110	PFCM	AC110V
51210-220		AC220V

# Punch Former

**51250**

PFD

ER Collet Punch Former

PUNCH FORMER



ER40

ER32

ER16

## Features :

- ▶ With ER collets, the flexible range of collet is 1mm.
- ▶ Clamping under 4mm apply ER16 collet.
- ▶ PFD can rapidly clamp the workpiece and achieving higher stability during processing, no need to adjust the center accuracy.
- ▶ PFD-SE16 come with high precision SE16 collet it has accuracy within 0.005mm and flexible range clamping is 0.5mm

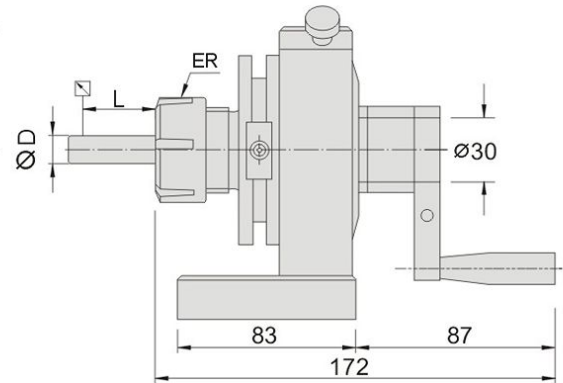
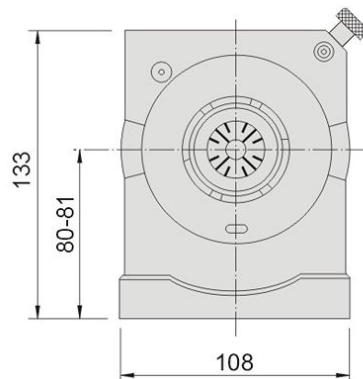
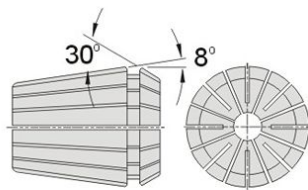
PFD-SE16



N.W. 5.6kg



SE16



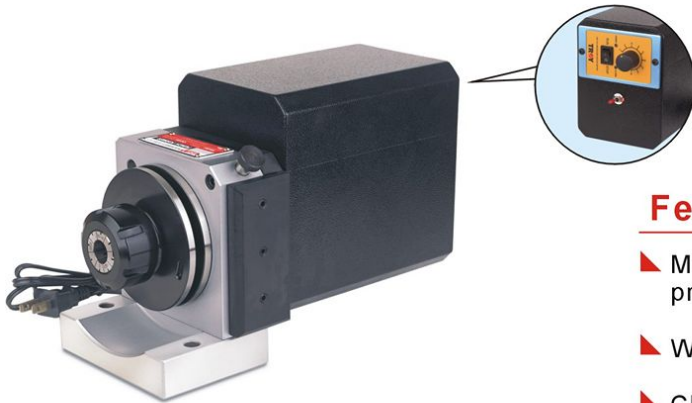
Collet Standard Accuracy

L	D	Accuracy
6	1.0-1.6	0.015
10	1.6-3.0	0.015
16	3.0-7.0	0.015
25	7.0-10.0	0.015
40	10.0-18.0	0.020
50	18.0-24.0	0.020
60	24.0-34.0	0.020

Order No.	Model	Collet Size	Collet Accuracy	N.W.
51250-16	PFD-ER16	2, 3, 4, 6, 8	0.010	5.6kg
51250-32	PFD-ER32	4, 8, 12, 16, 20	0.008	6.6kg
51250-40	PFD-ER40	6, 10, 16, 20, 25	0.008	7.6kg
51250-16A	PFD-SE16	2, 3, 4, 6, 8	0.005	5.6kg

**51260** PFDM Motorised ER Collet Punch Former

PUNCH FORMER



View without dust cover



ER40 ER32 ER16

**Features :**

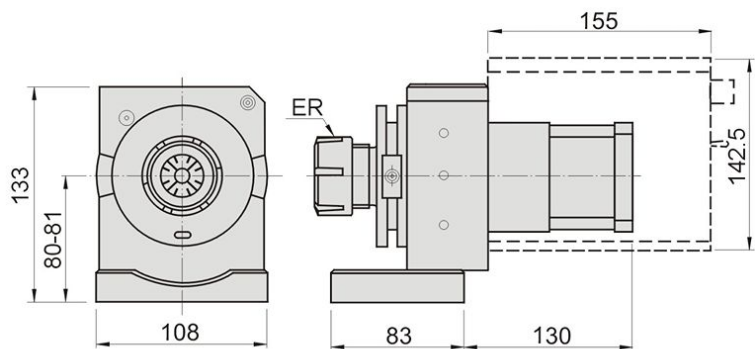
- ▶ Motorised function prevent human fatigue when processing.
- ▶ With ER collets, the flexible range of collet is 1mm.
- ▶ Clamping under 4mm apply ER16 collet.
- ▶ PFDM can rapidly clamp the workpiece and achieving higher stability during processing, no need to adjust the center accuracy.
- ▶ This model is compatible with various ER collets such as ER16, ER32, ER40 etc...

**Main parameters:**

Center height ..... 80 ~ 81mm  
 Motor : 110V/60Hz ..... 50 ~ 300 RPM  
 Motor : 220V/50Hz ..... 50 ~ 300 RPM

**Note:**

Variable speed from 1 to 100 ratio, when 100 is set the top speed is 300rpm, when set on 100 rpm, the panel is set approx. 30 ratio.



Order No.	Model	Collet Size	Volts	N.W.
51260-16-110	PFDM-ER16	2、3、4、6、8	AC110V	8.2kg
51260-16-220			AC220V	
51260-32-110	PFDM-ER32	4、8、12、16、20	AC110V	9.2kg
51260-32-220			AC220V	
51260-40-110	PFDM-ER40	6、10、16、20、25	AC110V	10.2kg
51260-40-220			AC220V	



# Punch Former

**51300**

SPF50

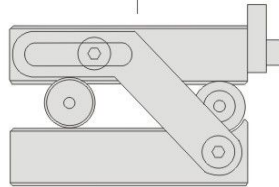
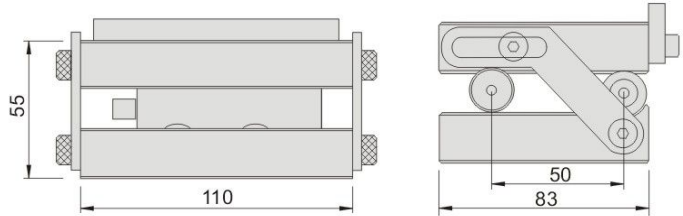
Sine Plate for Punch Former



## Features :

- ▶ SPF50 Sine Plate is designed for applying on PFA, PFB, PFC & PFD to make sine angles for processing workpiece.
- ▶ Hardness:HRC55°
- ▶ Accuracy:within 0.005mm
- ▶ Max. angle is 55°
- ▶ Gauge block for angle setting refer to 55070.

N.W. 3.3kg



## Sine Punch Former



51300-01  
SPFB



51300-02  
SPFC

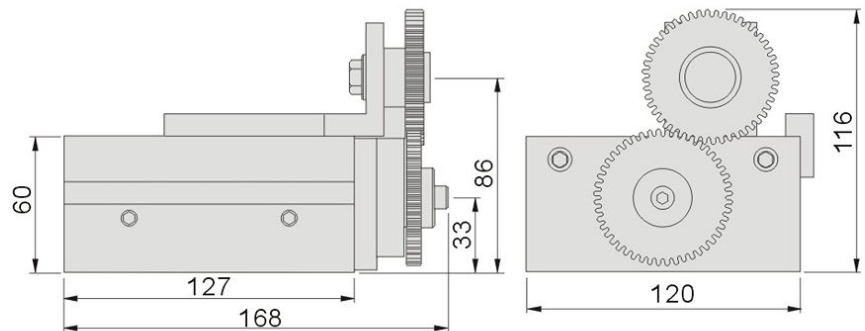


51300-03/04/05  
SPFD-ER16/32/40

**51320** GTF >> Replaceable type Thread Grinding Slider

**Features :**

- ▶ GTF Sine Plate is designed for applying on Punch Formers (PFB, PFC & PFD) to make thread grinding.
- ▶ Depending the thread pitch needs, choosing appropriate accessories. (Pitch 0.5/0.7/0.8/1.0/1.25/1.5/1.75/2.0).
- ▶ Standard accessory: P 1.0, and two extra thread bars from abovementioned spec. , Dust proof cover is also included.
- ▶ Custom made thread bar is available.



**Application examples:**



Thread Bars



Examples:



N.W. 7.6kg

**GTF 51320**

**Thread Grinding Slider.**



**51320-01 GTFB**

N.W. 15.2kg



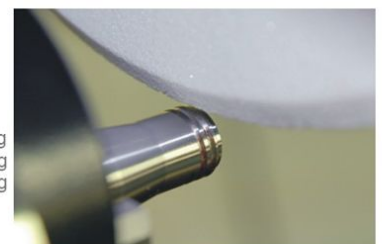
**51320-02 GTFC**

N.W. 15.2kg



**51320-03/04/05 GTFD-ER16/32/40**

N.W. 13.2kg  
14.2kg  
15.2kg



# Punch Former

**51450**

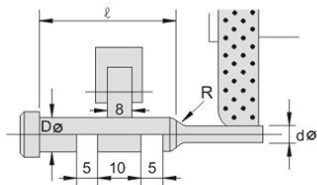
PGA

Punch Grinder



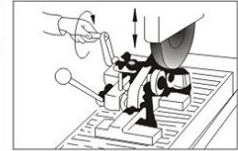
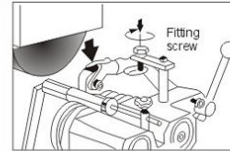
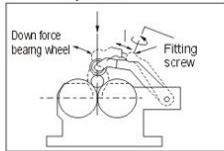
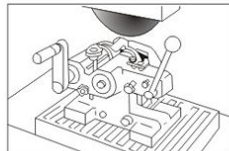
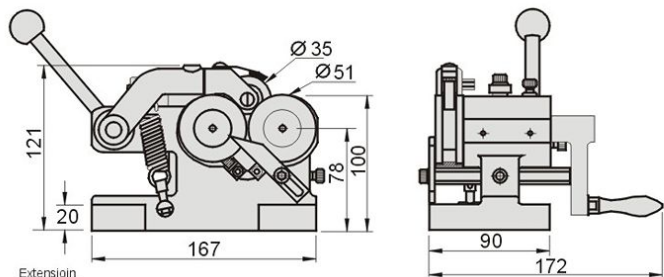
PAT: 208219  
ZL 02 2 52581.5

N.W. 5.6kg



## Features :

- ▶ PGA can be applied on surface grinder and automatically find concentricity for cylindrical grinding.
- ▶ The rollers can be used to adjust the workpiece before grinding.
- ▶ Use screw pressure for firm holding as shown in the picture for heavy grinding.
- ▶ Accuracy of roller is within 0.005mm. It can grind punches of outside diameter from 1.5 to 25mm, extended grinding length is within 5-35mm.



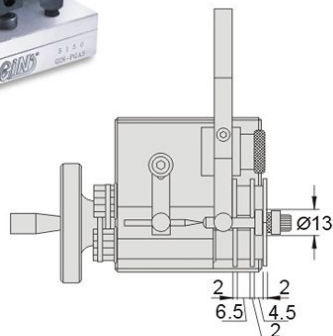
**51500**

PGAS

Punch Grinder

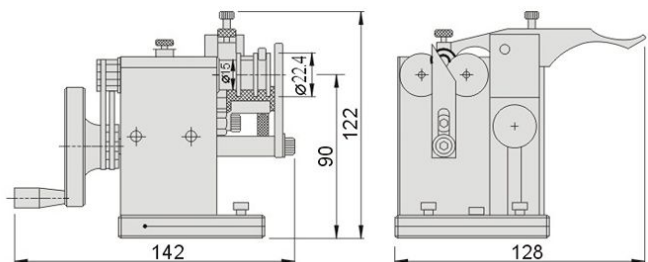


N.W. 2.5kg



## Features :

- ▶ PGAS can be applied on surface grinder and automatically find concentricity for cylindrical grinding from  $\text{Ø}0.5$  to  $\text{Ø}10\text{mm}$ , for longer workpiece job, refer to 55441 PGCF model.
- ▶ For measuring concentricity purpose, PGAS can measure from  $\text{Ø}0.5$  to  $\text{Ø}25\text{mm}$  with accuracy 0.003mm.





**51550** PGAM Motorised Punch Grinder



N.W. 10.2kg

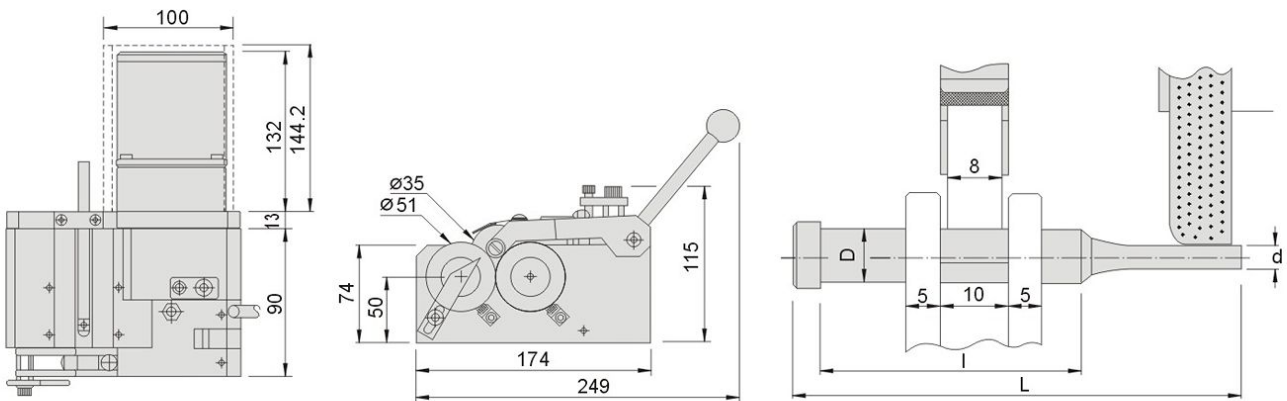
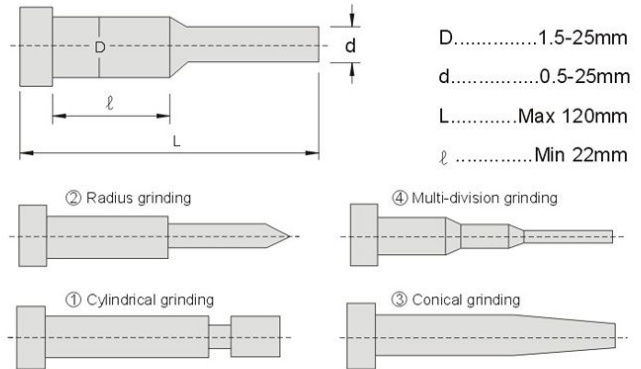
**Features :**

- ▶ Motor Punch Grinder just by putting on surface grinding machine.
- ▶ No center alignment necessary .Just put work on rollers.
- ▶ Portable with single hand, thus easily set on grinding.
- ▶ With rollers motor-driven attention can be concentrated on table wheel feeds.
- ▶ Double roller unit available for long pin or punch grinding.
- ▶ It can be used with magnetic sine plate to grind various angle profile punch.



**Main parameters:**

Length of Workpiece .....	20-120mm
Outside Grinding Length .....	5-35mm
Grinding Diameter .....	Ø1.5-Ø25mm
Accuracy.....	0.005mm
Roller driving motor 110V/60HZ .....	129rpm
Roller driving motor 220V/50HZ .....	108rpm



Order No.	Model	Volts
51550-110	PGAM	AC110V 1Phase
51550-220		AC220V 1Phase

# Wheel Dresser

## 52100 WD165 Universal Wheel Dresser



PAT: 156082  
ZL 99 2 11126.9



N.W. 6.6kg

### Features :

- ▶ Mode WD165 Universal Wheel Dresser Adaptable on surface grinding machine and universal tool grinder for dressing grinding wheels into various cross sections of flat or curved shapes.
- ▶ Diamond pin is not included.

### Calculation Formulars

$H=L=0R$

To dress convex arc surface :  $H=L+R$

To dress concave arc surface :  $H=L-R$

H: distance between outer generating lines of two locating pins.

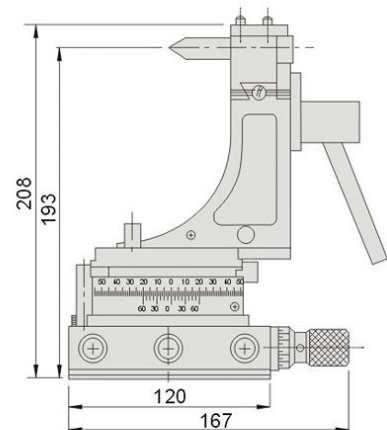
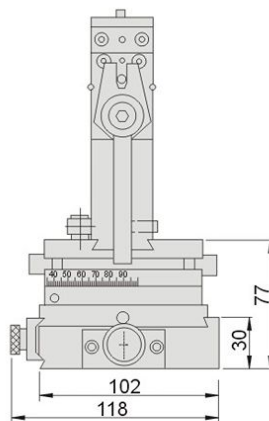
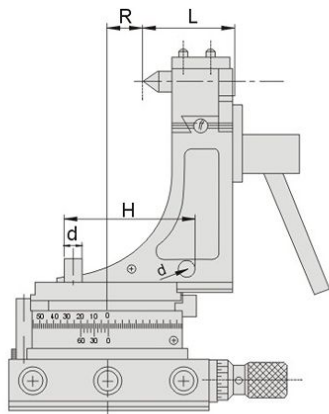
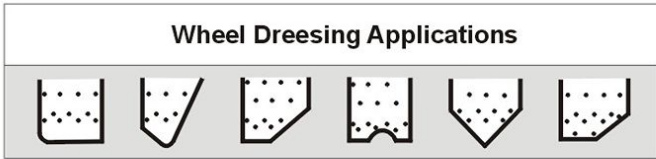
R: Radius of the arc surface to be dressed.

L: distance from tip of diamond cutter to base plate

### Main parameters:

- Center height ..... 193mm
- Measuring guide diameter .....  $\varnothing 10\text{mm}$
- Max. swing distance of diamond cutter.....  $\pm 14\text{mm}$
- Max. wheel diameter .....  $\varnothing 205\text{mm}$
- Reading accuracy of turret index..... 5'
- Max. translation of feed..... 25mm
- Feed per division of handle scale ..... 0.01mm
- Max.dressing convex arc 50R ,concave arc 0~100

Order No.	Model	Spec
52100-11	WD165	Inch
52100-12		Metric



**52150 RDA Radius and Angle Dresser**

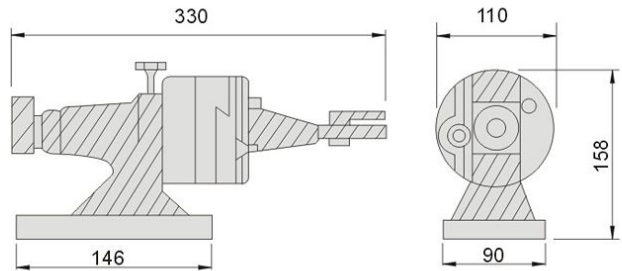


N.W. 10.5kg



**Features :**

- Automatic return to zero, by applying with gauge block and you can get the desire concave and convex angle.
- Max. convex R45mm, Max concave R100mm, Max horizontal movement is 65mm. Max.applicable wheel dressing is  $\varnothing$ 350mm



**52200 RDB Radius and Angle Dresser**

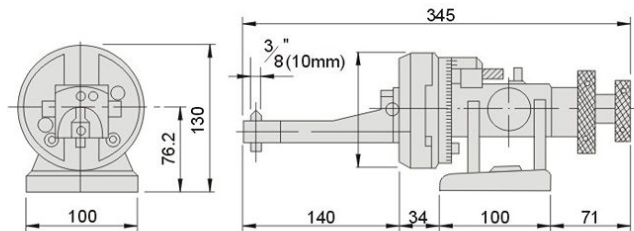


N.W. 8.5kg

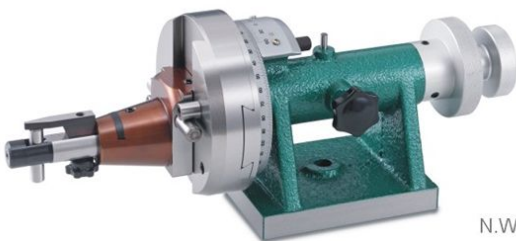


**Features :**

- RDB Max. convex R45mm, Max concave R100mm, Max horizontal movement is 65mm Max. applicable wheel dressing is  $\varnothing$ 325mm



**52250 RDC Radius and Angle Dresser**

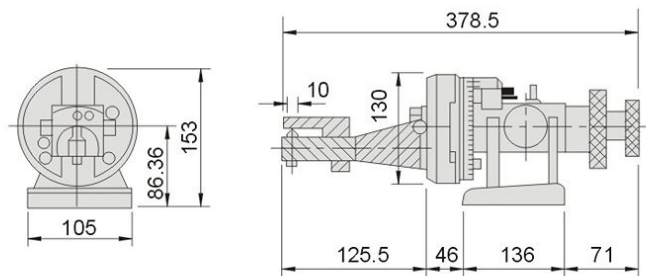


N.W. 9.5kg



**Features :**

- RDC Max. convex R60mm, Max concave R150mm, Max horizontal movement is 90mm.
- Max. applicable wheel dressing is  $\varnothing$ 279mm





# Wheel Dresser

**52300**

**KT50**

**Visual Radius Angle Dresser**

WHEEL DRESSER

PAT: 160112  
ZL 99 2 11127.7



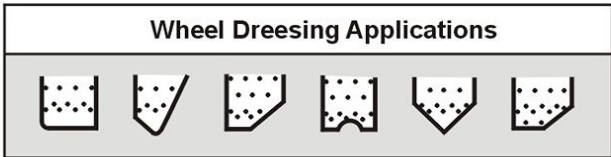
N.W. 3.8kg

## Features :

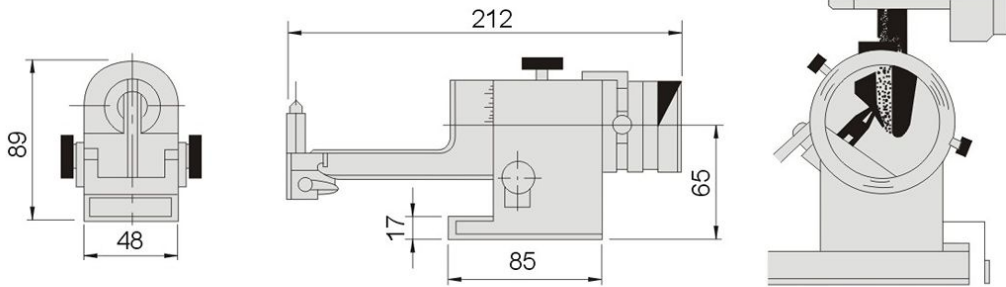
- ▶ KT50 is mainly applied on surface grinding machine and universal tool grinder.
- ▶ By “sighting” the diamond point through the lens, radius and angles can easily be made into various cross sections of flat or curved shapes.

## Main parameters:

Center height ..... 65mm  
 Max. wheel dia. .... Ø205mm  
 Max. Convex radius ..... 0.2~10mm  
 Max. Concave radius ..... 0.2~25.4mm  
 Dressing Angle ..... 95°-0° -95°  
 Tangential travel ..... 22.5mm



Order No.	Model	Spec
52300-11	KT50	Inch
52300-12		Metric



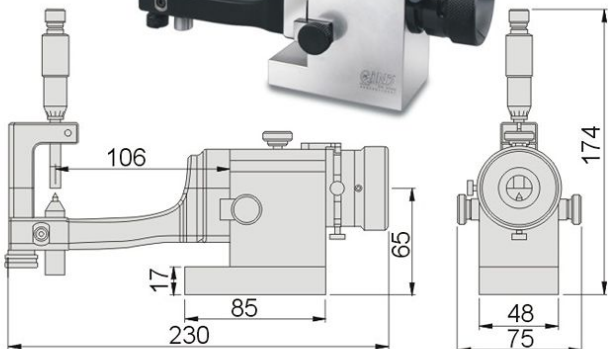
**52320**

**KT50S**

**Visual Radius and Angle Dresser**



N.W. 3.5kg



## Features :

- ▶ KT50S is mainly applied on surface grinding machine and universal tool grinder.
- ▶ By “sighting” the diamond point through the lens, radius and angles can easily be made into various cross sections of flat or curved shapes.

## Main parameters:

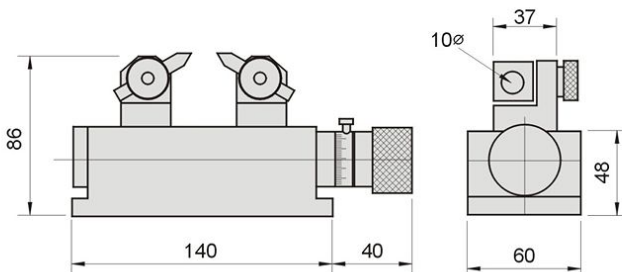
Center height ..... 65mm  
 Max. wheel dia. .... Ø205mm  
 Max. Convex radius ..... 10mm  
 Max. Concave radius ..... 25.4mm  
 Dressing Angle ..... 95°-0° -95°



**52350** DF60 Precision Duplex Dresser



N.W. 3.2kg



**Features :**

- ▶ Specially designed for simultaneously dressing both sides of grinding wheel, achieving accurate performance and more efficient than conventional dressers .

**Specifications:**

Maxi width of wheel ..... 40mm(1-9/16")  
 Maxi dressing depth..... 40mm(1-9/16")  
 Mini dressing width..... 0.2mm(0.0079")  
 scale reading / DIV.....0.02mm(0.001")

Max.thickness	Min.thickness	Max.depth
40mm	0.2mm	40mm

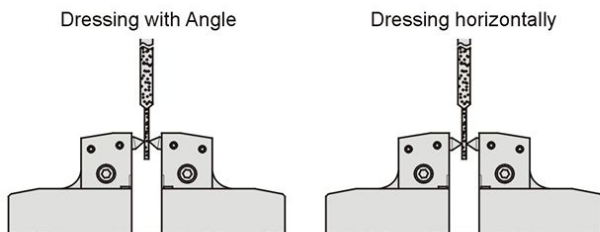
Order No.	Model	Spec
52350-11	DF60	Inch
52350-12		Metric

**52360** DF50 Precision Duplex Dresser

PAT: 174305  
 ZL 00 2 31135.6

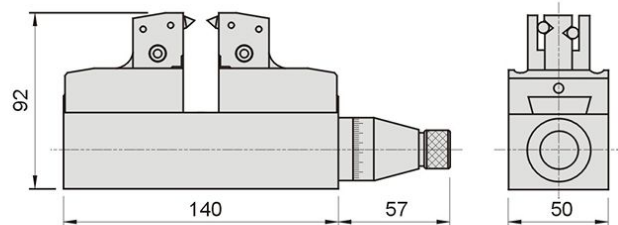


N.W. 3.4kg



**Features :**

- ▶ It adopts sealed construction and keep the dust out, with large surface of the guiderail, it stabilize and ensure accuracy.
- ▶ Diamond nibs can be adjusted parallel or with angle, and center aligned, scale reading 0.01mm on each division.
- ▶ Made of stainless steel.



Max.thickness	Min.thickness	Max.depth
20mm	0.2mm	40mm

Order No.	Model	Spec
52360-11	DF50	Inch
52360-12		Metric



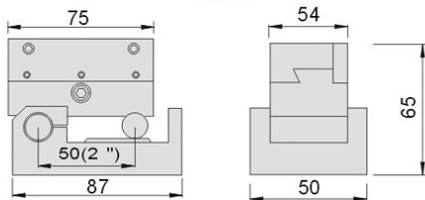
# Wheel Dresser

## 52380 AP50H Angle Sine Dresser

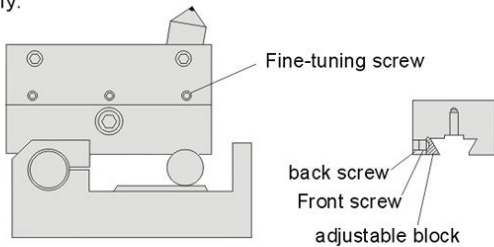


PAT: ZL 2007 2 0196026.3  
M 333986

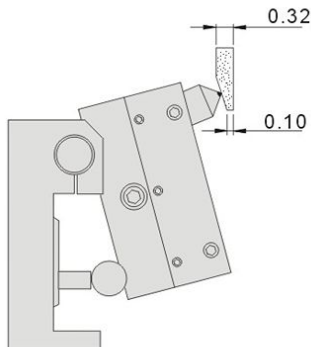
N.W. 1.4kg



AP50H has three screw holes for fine-tuning purpose, each holes contain two screws, one at the front, the other one at the rear. When adjusting rear screw pushing front screw forward and make the wedge moves, then move the slide until work smoothly.



Before applying AP50H, check the slide is tight or loose, if loose, simply light adjust fine-tuning screw until it smooth. This tool is high precision and capable of dressing any angles.

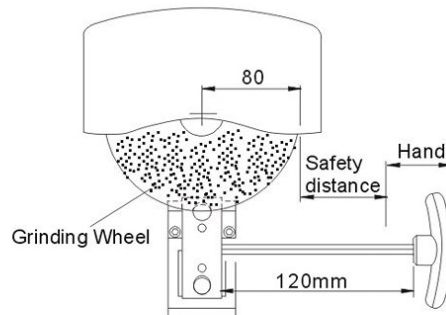


### Features :

- ▶ AP50H provides gear driven and it is designed for better prevention and protection for the beginner.
- ▶ Double axis center accuracy is  $\pm 0.002\text{mm}$
- ▶ It has the same function as model (52400 AP50D).
- ▶ It has stroke of 60mm.

Order No.	Model	Spec
52380-11	AP50H	Inch
52380-12		Metric

Applying gears driven to make forward/backward movement and installed with diamond pin on the slide. For safety purpose, hexagon wrench is applied with certain safety distance in order to support user to function AP50H and thus precisely dressing the demand angle.



AP50H has its own Patent and it basically the improved version of original type. Below is the comparison.

AP50H	AP50
<ol style="list-style-type: none"> <li>1. Applying gears driven</li> <li>2. Safety distance when applying</li> <li>3. Three fine-tuning screw at side</li> <li>4. Easy to achieve precision dressing for any user</li> </ol>	<ol style="list-style-type: none"> <li>1. Applying manually</li> <li>2. Close to wheel when applying</li> <li>3. No fine-tuning function</li> <li>4. Must have specialist to make precision dressing</li> </ol>



**52400** AP50 Angle Sine Dresser

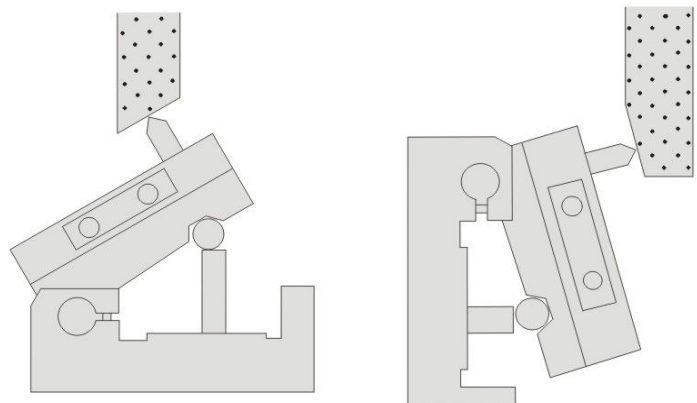
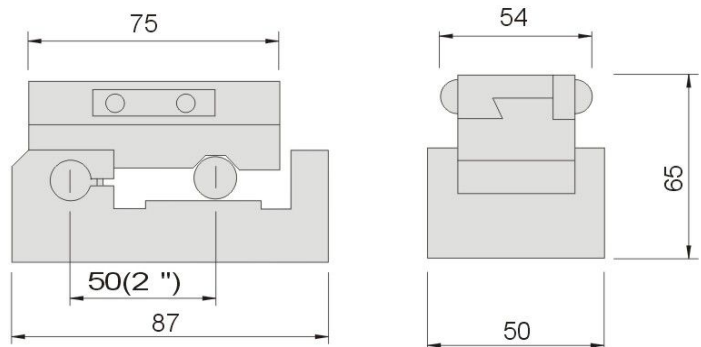
PAT: 191154  
ZL 99 2 11094.7



N.W. 1.4kg

**Features :**

- ▶ AP50 has various Patents, regardless inconvenience of the conventional Angle Sine Dresser, release screws on both side and free to adjust any needed angle.
- ▶ Remove the slide block and it can be used as 50mm Sine Plate.
- ▶ Suitable for vertical or horizontal angles, sine angle 0-60° (horizontal), 45-90°(vertical) and both are within 0.005mm accuracy.
- ▶ Double axis accuracy is  $\pm 0.002\text{mm}$ .
- ▶ It has stroke of 65mm.



Order No.	Model	Spec
52400-11	AP50	Inch
52400-12		Metric

# Wheel Dresser

**52430**

RD30

Precision Concave Convex Forming Dresser

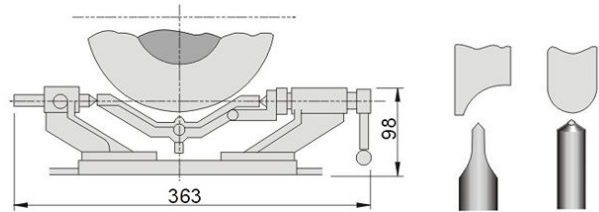
WHEEL DRESSER



N.W. 2.6kg

## Features :

- ▶ RD30 is accurately controlled by handle, suitable for small convex/concave dressing, Convex R0.2~12mm, Concave R0.2~20mm.
- ▶ Suitable for applying wheel under  $\varnothing 205\text{mm}$



**52440**

RD30A

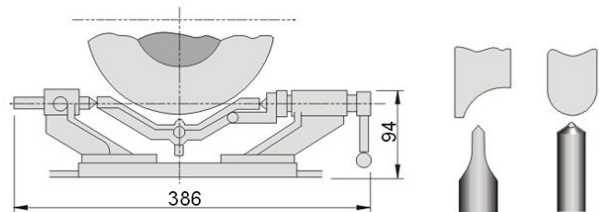
Precision Concave Convex Forming Dresser



N.W. 2.8kg

## Features :

- ▶ RD30A is accurately controlled by handle, suitable for small convex/concave dressing, Convex R0.2~12mm, Concave R0.2~20mm.
- ▶ Suitable for applying wheel under  $\varnothing 205\text{mm}$



**52450**

RD40

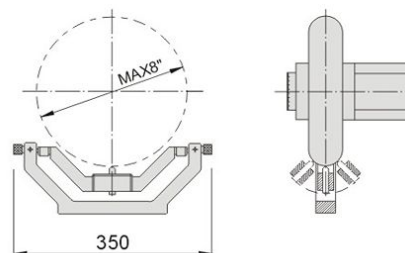
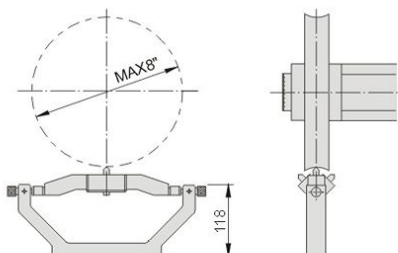
Concave Convex Forming Dresser



N.W. 6.2kg

## Features :

- ▶ This medium type dresser is applied to surface grinders for convex and concave dressing.
- ▶ Suitable for wheels under 8" ( $\varnothing 205\text{mm}$ ).
- ▶ Work range : Convex R0.5-40mm
- ▶ Concave R0.5-90mm
- ▶ Diamond pin is optional



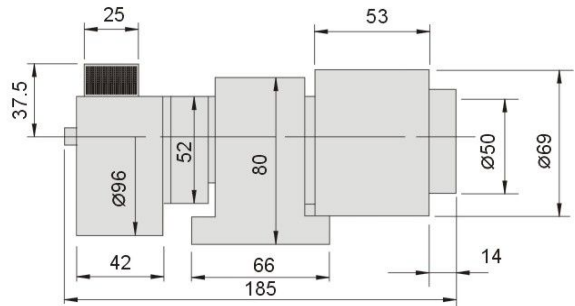
**52500** DT100 >> Diamond Wheel Trimmer



N.W. 4.5kg

**Features :**

- ▶ DT100 is designed for dress peripheral wheels on machines with a vertical or horizontal spindle.
- ▶ The diamond wheel can be changed depending on the wheel that is going to be dressed. Especially, CBN or Diamond.



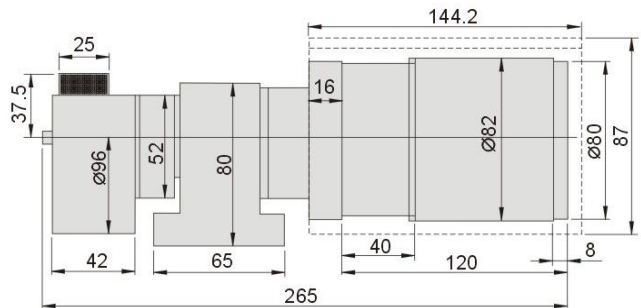
**52550** DTM100 >> Motorised Diamond Wheel Trimmer



N.W. 6.0kg

**Features :**

- ▶ Motorised resin emery wheel can dress the diamond wheel flatness easily
- ▶ The diamond wheel can be changed depending on the wheel that is going to be dressed. Especially, CBN or Diamond.
- ▶ Roller driving motor 110V/60HZ ..... 129rpm
- ▶ Roller driving motor 220V/50HZ ..... 108rpm



Order No.	Model	Volts
52550-110	DTM100	AC110V 1Phase
52550-220		AC220V 1Phase



# Grinding Machine Accessories

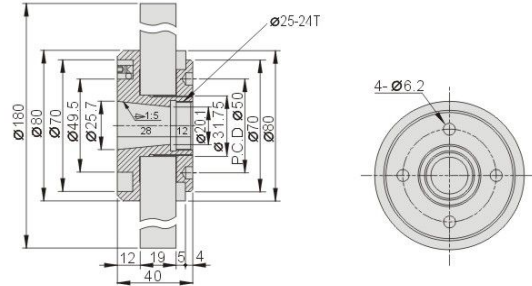
**52554** F250 F250 Flange



N.W. 0.7kg

## Features :

- F250 Flange is used in cylinder of KENT grinding machines.



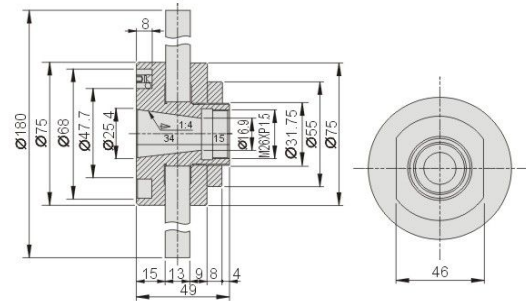
**52556** F350 F350 Flange



N.W. 0.9kg

## Features :

- F350 Flange is used in cylinder of TATUNG-OKUMA grinding machines.



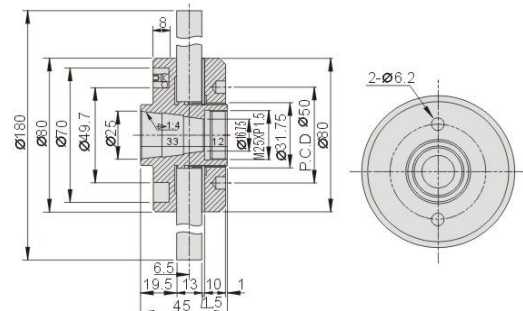
**52558** F450 F450 Flange



N.W. 0.9kg

## Features :

- F450 (USA) is used in cylinder of US standard grinding machines.



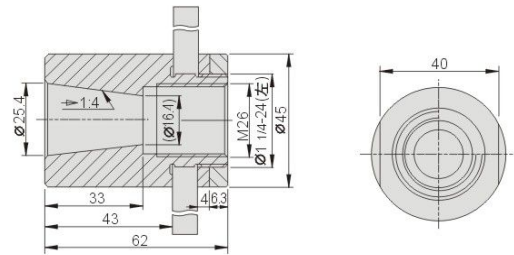
**52560** F300 F300 Flange



N.W. 0.6kg

**Features :**

- ▶ F300 is applied to 614, 618 surface grinding machine.



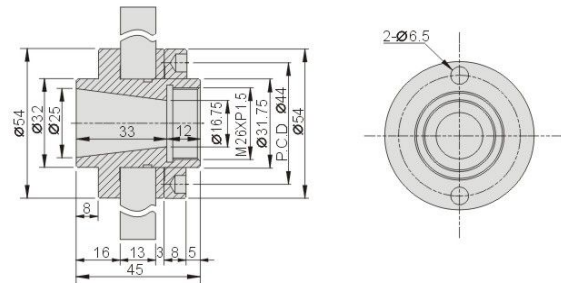
**52562** F320 F320 Flange



N.W. 0.4kg

**Features :**

- ▶ F320 is used for cylinder of Tool Grinder.



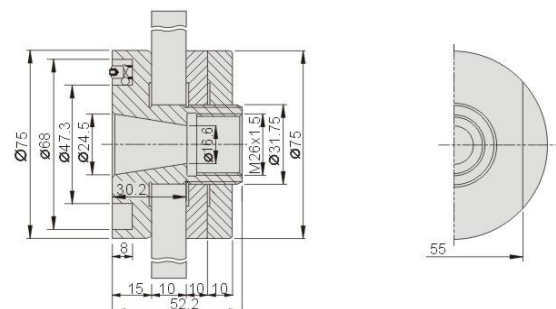
**52564** F520 F520 Flange



N.W. 1.0kg

**Features :**

- ▶ F520 is used in OKAMOTO 52DX cylinder and control the tolerance within 0.003mm.



# Grinding Machine Accessories

**52566**

W20

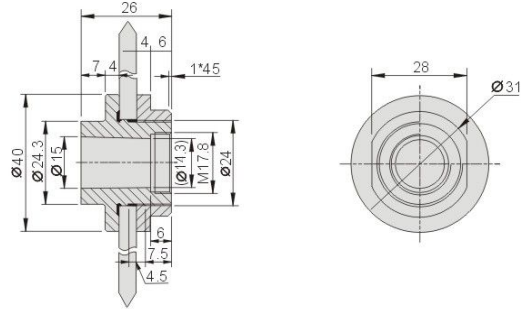
W20 Flange



N.W. 0.1kg

## Features :

- W20 is used in WAIDA Optical Profile Grinder.



**52568**

W40

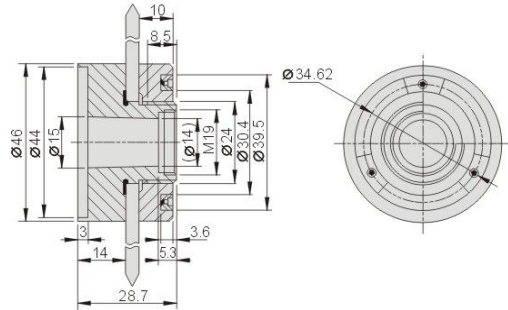
W40 Flange



N.W. 0.2kg

## Features :

- W40 is used in WAIDA Optical Profile Grinder.



**52570**

P60

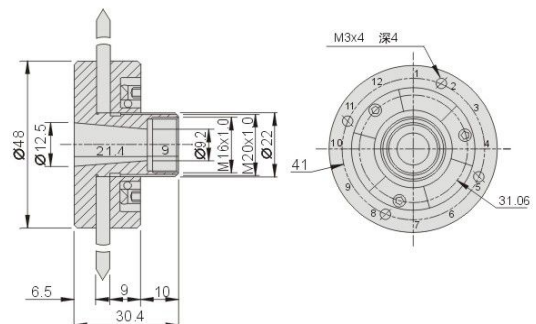
P60 Flange



N.W. 0.2kg

## Features :

- P60 is used in Petewe Optical Profile Grinder.





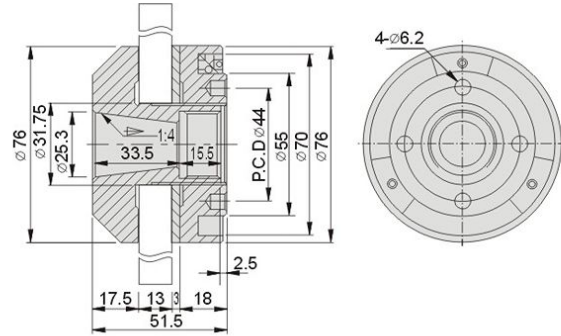
**52572** FC110 FC110 Flange



N.W. 1.1kg

**Features :**

- ▶ Suitable for applying on WASINO Grinders.



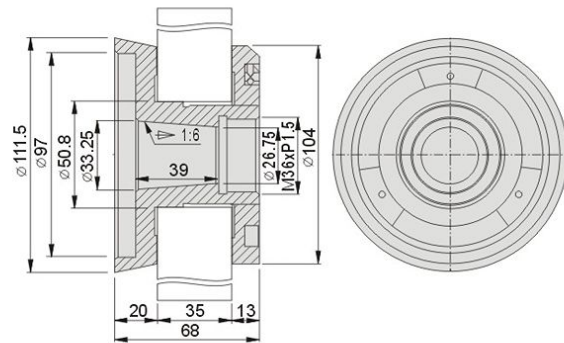
**52574** FC520 FC520 Flange



N.W. 1.95kg

**Features :**

- ▶ Suitable for OKAMOTO ACC-52DX Grinders.



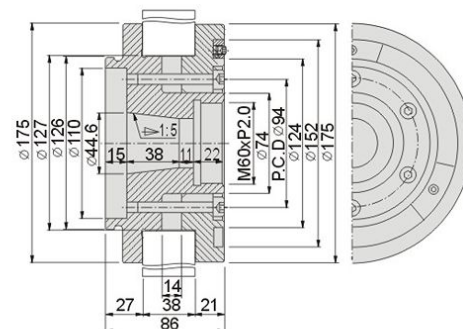
**52576** FC630 FC630 Flange



N.W. 8.0kg

**Features :**

- ▶ Suitable for OKAMOTO ACC-63DX, TATUNG PSG-64 Grinders.



# Grinding Machine Accessories

**52578**

FEB10

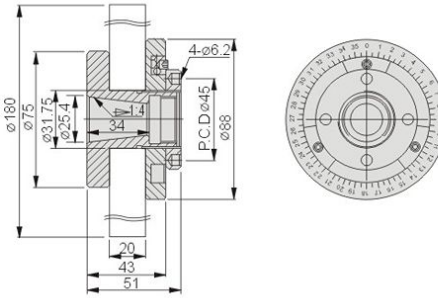
FEB10 Flange



N.W. 1kg

## Features :

- ▶ Laser mark graduation reading on plates
- ▶ Suitable for TATUNG EN350 Grinders.



**52580**

FEB15

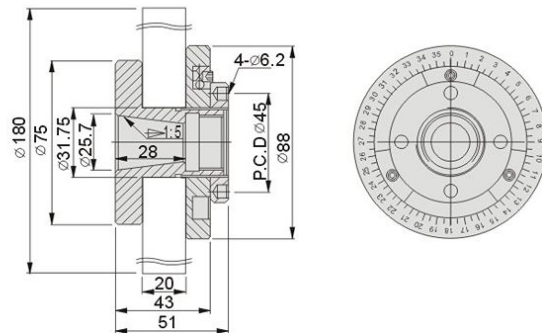
FEB15 Flange



N.W. 1kg

## Features :

- ▶ Laser mark graduation reading on plates
- ▶ Suitable for KENT EN250 Grinders.



**52582**

FEB18

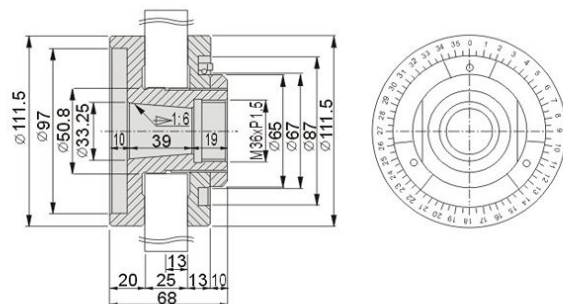
FEB18 Flange



N.W. 2.2kg

## Features :

- ▶ Laser mark graduation reading on plates
- ▶ Suitable for OKAMOTO ACC-52DX Grinders.



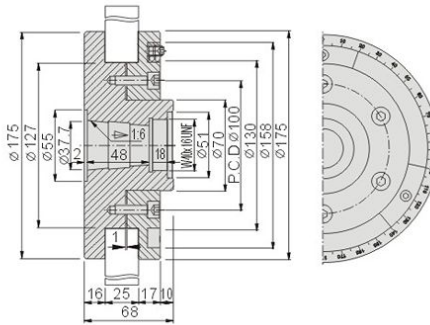
**52584** FEB20 >> FEB20 Flange



N.W. 8kg

**Features :**

- ▶ Laser mark graduation reading on plates
- ▶ Suitable for KENT 410 Grinders.



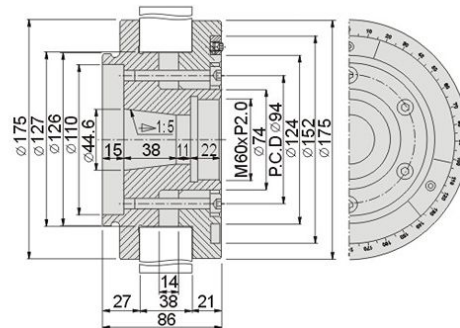
**52586** FEB22 >> FEB22 Flange



N.W. 8kg

**Features :**

- ▶ Laser mark graduation reading on plates
- ▶ Suitable for OKAMOTO ACC-63DX, TATUNG PSG-64 Grinders.



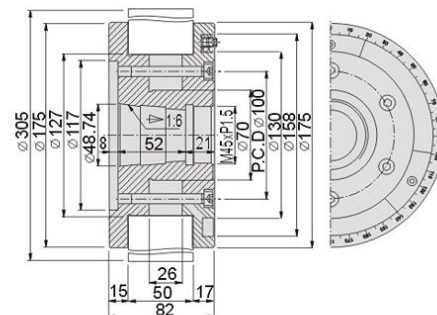
**52588** FEB25 >> FEB25 Flange



N.W. 2.2kg

**Features :**

- ▶ Laser mark graduation reading on plates
- ▶ Suitable for KENT 515 3<sup>rd</sup> generation Grinders.





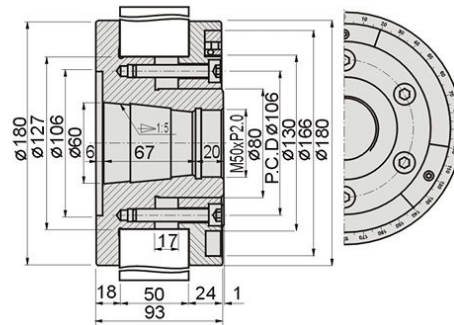
# Grinding Machine Accessories

## 52590 FEB30 FEB30 Flange



### Features :

- ▶ Laser mark graduation reading on plates
- ▶ Suitable for CHEVALIER 0701 Grinders.

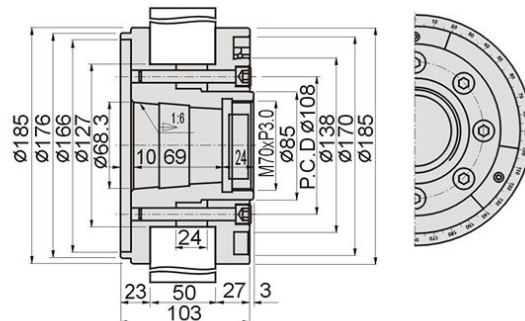


## 52592 FEB35 FEB35 Flange



### Features :

- ▶ Laser mark graduation reading on plates
- ▶ Suitable for KENT 816 Grinders.

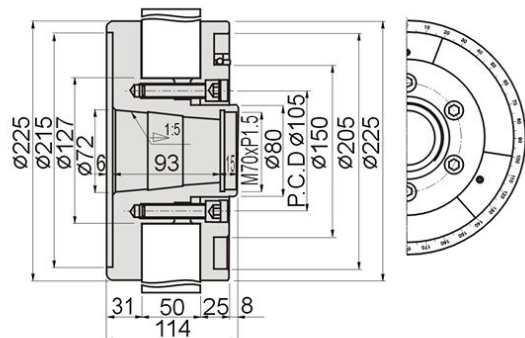


## 52594 FEB40 FEB40 Flange



### Features :

- ▶ Laser mark graduation reading on plates
- ▶ Suitable for large OKAMOTO Grinders.

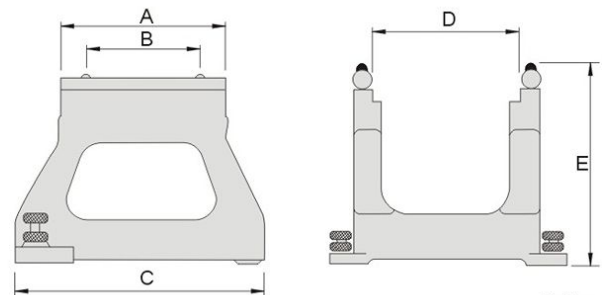


**52596** LBS08/14 Level Balancing Stand



**Features :**

- ▶ The machine includes a level which can be adjusted by three screws on the machine.
- ▶ Upper round rod and the slide surface had taken heat treatment, hardness 56°-58°.
- ▶ Max. applicable dia. of wheel: LBS08 .....Ø205mm  
LBS14 .....Ø355mm



Unit:mm

Order No.	Model	Max. Applicable Dia	A	B	C	D	E	N.W.
52596-08	LBS08	205	155	130	226	115	185	4kg
52596-14	LBS14	355	180	160	260	125	235	4.6kg

**52598** WBS300 Wheel Balancing Stand



N.W. 14kg

\*\*Custom made for Max. Ø800mm is available on request

**Features :**

- ▶ Better cost effectiveness and extend grinding wheel life.
- ▶ Portable and adjustable with friendly operation.
- ▶ Adopting super-sensitive bearings.
- ▶ Made of aluminum alloy with lightweight design.
- ▶ 4 precisely ground and polished revolving discs hardened HRC56°~58°
- ▶ Max. range of the two side-rollers is 300mm.
- ▶ Max. applicable dia. of wheel:Ø508mm.

