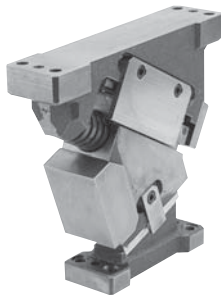


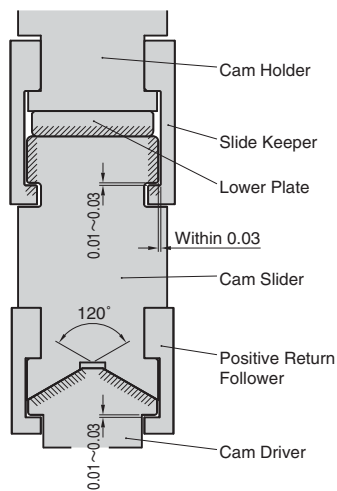
Improved Return Force Type (for Thick Metal Pierce) Aerial Cam Unit General Description of HUCTF

OUTLINE OF HUCTF



- Standard working force (one million strokes): 68.7 kN, Allowable working force (300,000 strokes): 137.3 kN.
- Strong type with the return force of 600 kgf or larger.
- Automatic alignment mechanism of the V-shaped guide.
- Available angle is 0° to 75° at increments of 5°.
- Optimum for thick sheet or piercing of high strength steel.
- ISO spring is used.

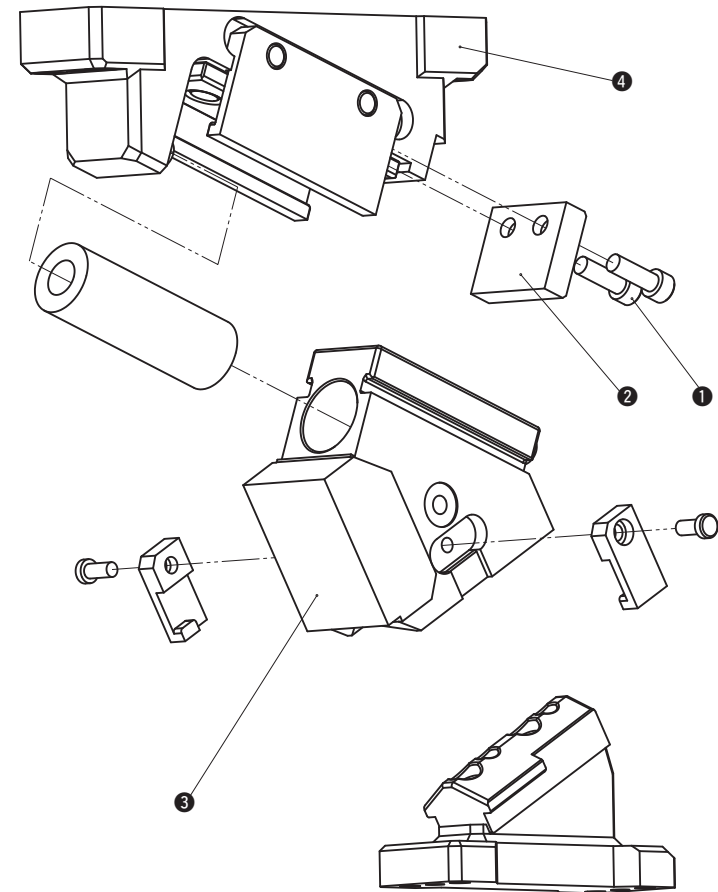
Slide Structure and Positive Return Structure



*Oilless system at hatched area

- Clearance between the Cam Holder and Cam Slider is within 0.03.
 - Clearance between Cam Slider and Cam Driver is between 0.01 and 0.03. This makes smooth movement for slide and positive return.
- * If a bigger clearance for Cam Holder or Cam Slider is needed, please contact Sankyo Oilless sales department.

HUCTF Structure and Assembly / Disassembly



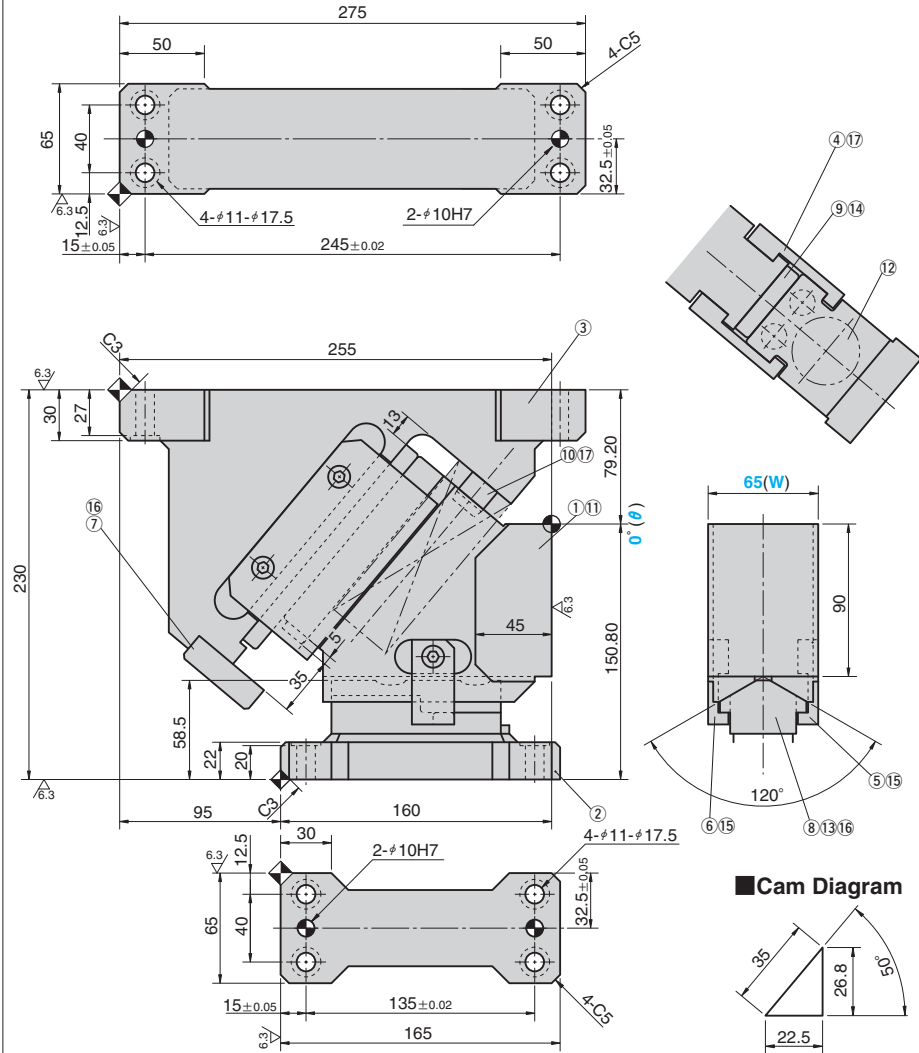
Disassembly method of HUCTF

- 1) Loosen hexagon socket head bolt (1) and remove stopper plate (2). Pull and remove cam slider (3) from cam holder (4) to the rear.

Assembly method of HUCTF

- 1) Assemble components in the reverse order of disassembly.
 - Make sure that there is no foreign matter on the sliding area and assemble components.
 - The clearance between the cam slider and the cam holder is controlled. Match the stamped serial number on the holder and slider before assembly.
 - When cam is disassembled and then reassembled, please do not forget to assemble all bolts provided.

HUCTF65 - 00



Cam Diagram

Travel S	Working Force kN (tonf)		Spring Force N (kgf)		Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load				
22.5	68.7 (7.0)	137.3 (14.0)	0.0 (0.0)	5988.5 (610.7)	18.4	HUCTF	65	00

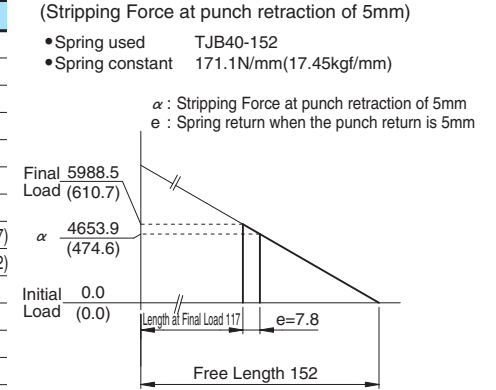
Order **Catalog No.** **(W)** - **(θ)**
HUCTF 65 - 00

Option Refer to page 551 for detailed specifications of tapped holes and dowel pin holes (prepared hole, finish hole) for retainer.

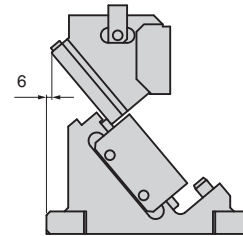
Table of Components

No.	Description	Qty	Material and Remark
①	Cam Slider	1	FCD500 with Graphite
②	Cam Driver	1	FCD500
③	Cam Holder	1	FCD500
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower B	1	S45C(1045)
⑥	Positive Return Follower A	1	S45C(1045)
⑦	Stopper Plate	1	SS400(1020)
⑧	Cam Slide Guide	1	Bronze with Graphite(SO#50SP7)
⑨	Lower Plate	1	Bronze with Graphite(SO#50SP2)
⑩	Spring Guide Pin	1	SS400(1020)
⑪	Stopper	2	Urethane
⑫	Coil Spring	1	TJB40-152
⑬	Dowel Pin with Female Thread	2	SUJ2 φ10×30
⑭	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS10-20
⑮	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS8-18
⑯	Hexagon Socket Head Bolt	4	SCM435 M10×30
⑰	Hexagon Socket Head Bolt	5	SCM435 M8×20

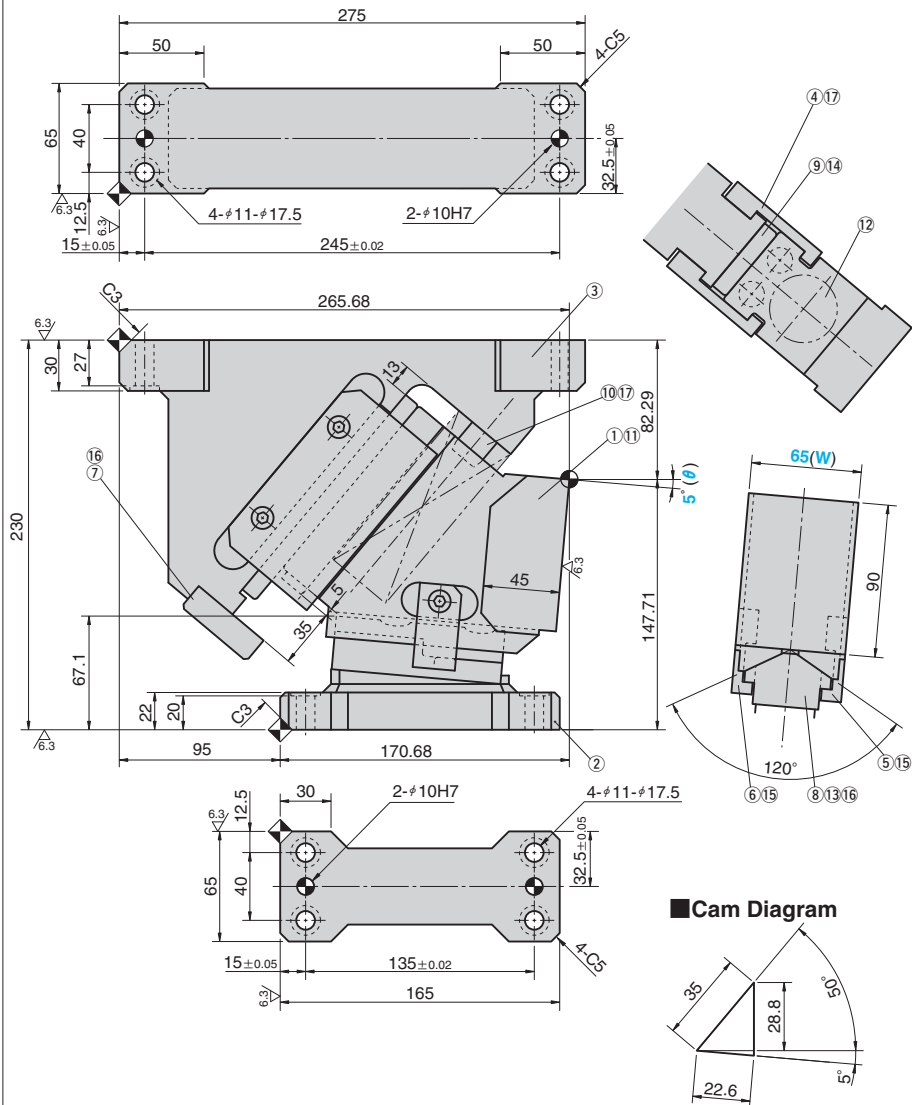
Spring Diagram



Space for removing



HUCTF65 - 05



Cam Diagram

Travel S	Working Force kN (tonf)		Spring Force N (kgf)		Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load				
22.6	68.7 (7.0)	137.3 (14.0)	0.0 (0.0)	5988.5 (610.7)	18.6	HUCTF	65	05

Order **Catalog No.** **(W)** - **(θ)**
HUCTF 65 - 05

Option Refer to page 551 for detailed specifications of tapped holes and dowel pin holes (prepared hole, finish hole) for retainer.

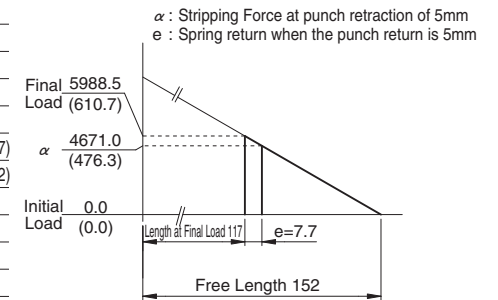
Table of Components

No.	Description	Qty	Material and Remark
①	Cam Slider	1	FCD500 with Graphite
②	Cam Driver	1	FCD500
③	Cam Holder	1	FCD500
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower B	1	S45C(1045)
⑥	Positive Return Follower A	1	S45C(1045)
⑦	Stopper Plate	1	SS400(1020)
⑧	Cam Slide Guide	1	Bronze with Graphite(SO#50SP7)
⑨	Lower Plate	1	Bronze with Graphite(SO#50SP2)
⑩	Spring Guide Pin	1	SS400(1020)
⑪	Stopper	2	Urethane
⑫	Coil Spring	1	TJB40-152
⑬	Dowel Pin with Female Thread	2	SUJ2 #10×30
⑭	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS10-20
⑮	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS8-18
⑯	Hexagon Socket Head Bolt	4	SCM435 M10×30
⑰	Hexagon Socket Head Bolt	5	SCM435 M8×20

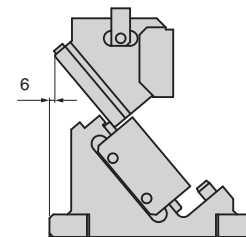
Spring Diagram

(Stripping Force at punch retraction of 5mm)

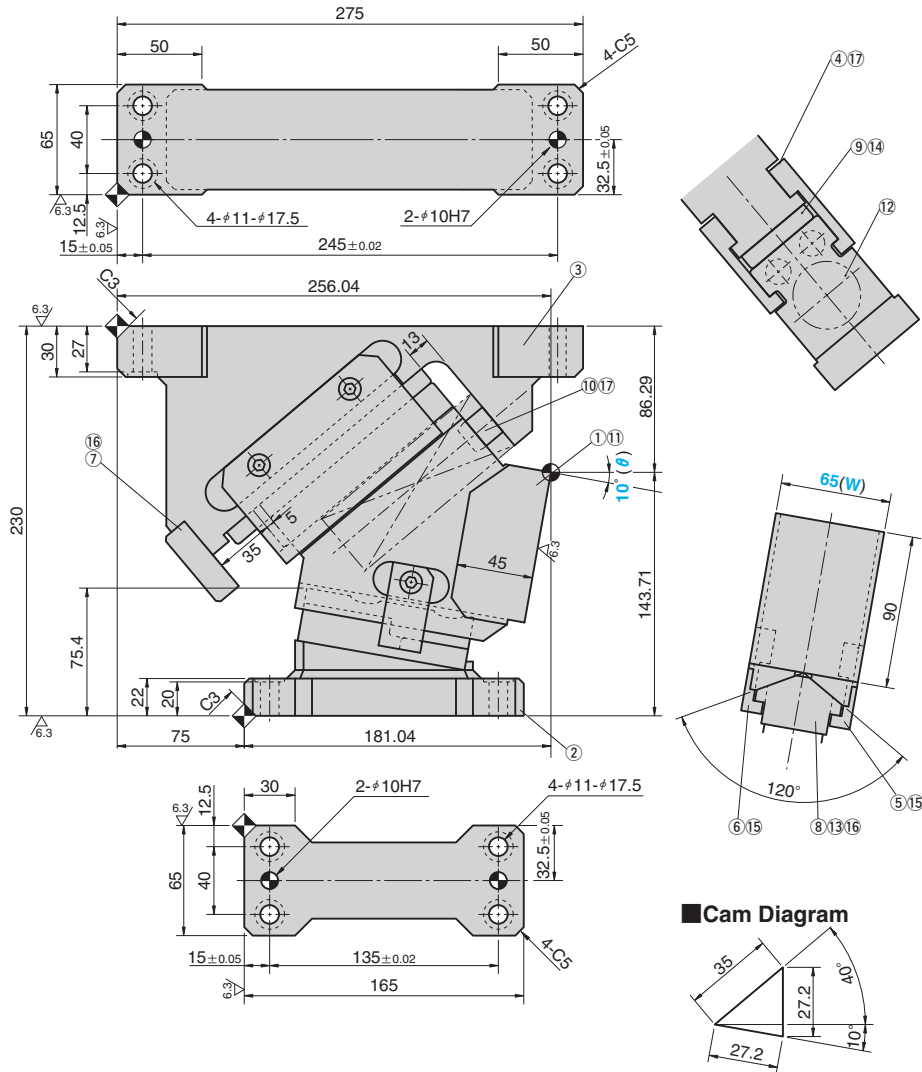
- Spring used TJB40-152
- Spring constant 171.1N/mm(17.45kgf/mm)



Space for removing



HUCTF65 - 10



Travel S	Working Force kN (tonf)		Spring Force N (kgf)		Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load				
27.2	68.7 (7.0)	137.3 (14.0)	0.0 (0.0)	5988.5 (610.7)	17.4	HUCTF	65	10

Order **Catalog No.** (W) - (θ)
HUCTF 65 - 10

Option Refer to page 551 for detailed specifications of tapped holes and dowel pin holes (prepared hole, finish hole) for retainer.

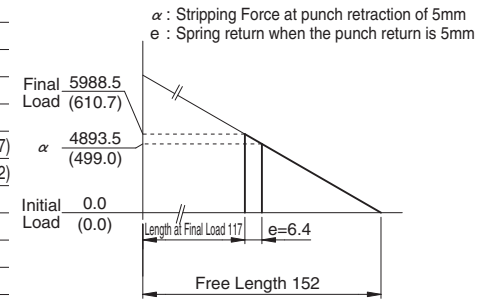
Table of Components

No.	Description	Qty	Material and Remark
①	Cam Slider	1	FCD500 with Graphite
②	Cam Driver	1	FCD500
③	Cam Holder	1	FCD500
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower B	1	S45C(1045)
⑥	Positive Return Follower A	1	S45C(1045)
⑦	Stopper Plate	1	SS400(1020)
⑧	Cam Slide Guide	1	Bronze with Graphite(SO#50SP7)
⑨	Lower Plate	1	Bronze with Graphite(SO#50SP2)
⑩	Spring Guide Pin	1	SS400(1020)
⑪	Stopper	2	Urethane
⑫	Coil Spring	1	TJB40-152
⑬	Dowel Pin with Female Thread	2	SUJ2 φ10×30
⑭	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS10-20
⑮	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS8-18
⑯	Hexagon Socket Head Bolt	4	SCM435 M10×30
⑰	Hexagon Socket Head Bolt	5	SCM435 M8×20

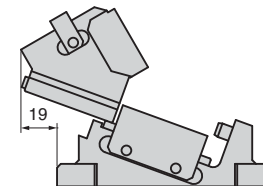
Spring Diagram

(Stripping Force at punch retraction of 5mm)

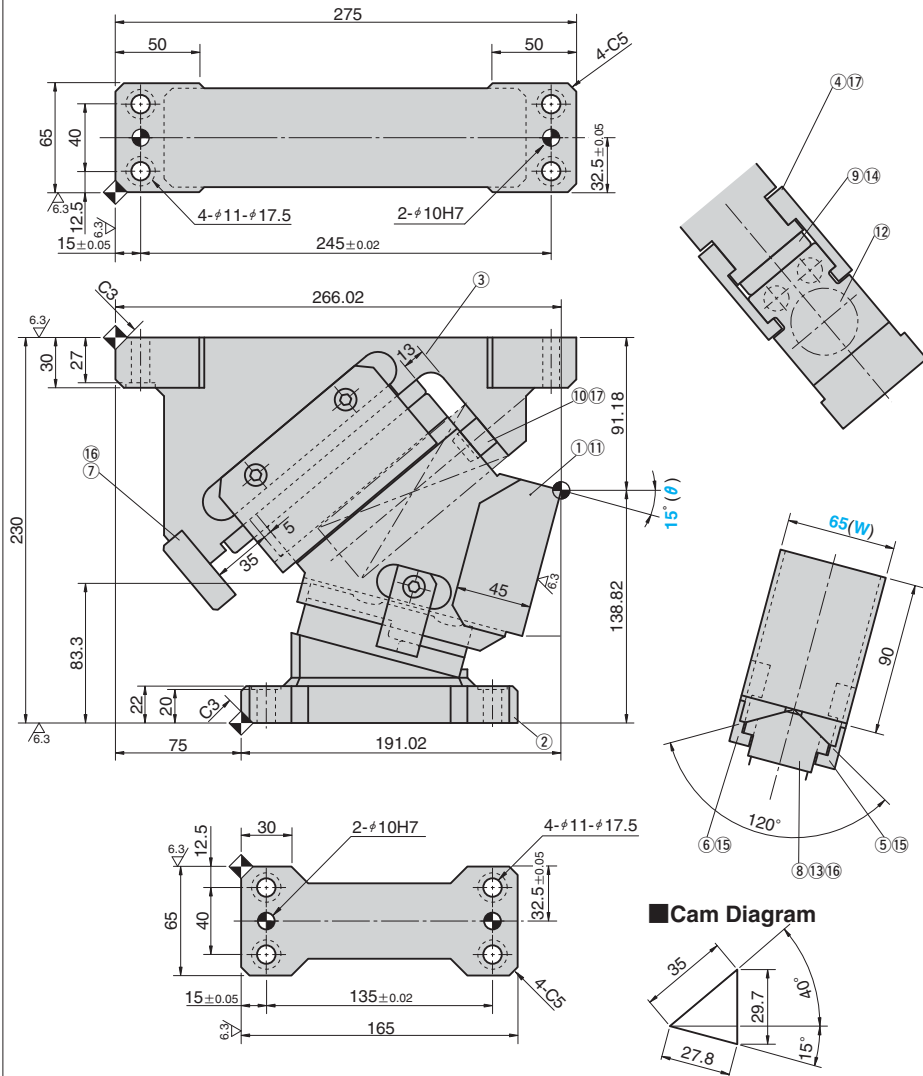
- Spring used TJB40-152
- Spring constant 171.1N/mm(17.45kgf/mm)



Space for removing



HUCTF65 - 15



Travel S	Working Force kN (tonf)		Spring Force N (kgf)		Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load				
27.8	68.7 (7.0)	137.3 (14.0)	0.0 (0.0)	5988.5 (610.7)	17.5	HUCTF	65	15

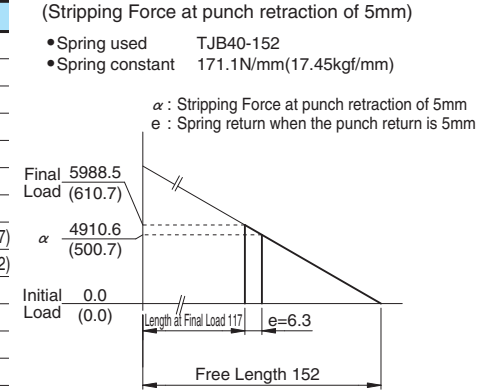
Order **Catalog No.** **(W)** - **(θ)**
HUCTF 65 - 15

Option Refer to page 551 for detailed specifications of tapped holes and dowel pin holes (prepared hole, finish hole) for retainer.

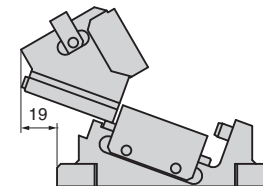
Table of Components

No.	Description	Qty	Material and Remark
①	Cam Slider	1	FCD500 with Graphite
②	Cam Driver	1	FCD500
③	Cam Holder	1	FCD500
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower B	1	S45C(1045)
⑥	Positive Return Follower A	1	S45C(1045)
⑦	Stopper Plate	1	SS400(1020)
⑧	Cam Slide Guide	1	Bronze with Graphite(SO#50SP7)
⑨	Lower Plate	1	Bronze with Graphite(SO#50SP2)
⑩	Spring Guide Pin	1	SS400(1020)
⑪	Stopper	2	Urethane
⑫	Coil Spring	1	TJB40-152
⑬	Dowel Pin with Female Thread	2	SUJ2 φ10×30
⑭	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS10-20
⑮	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS8-18
⑯	Hexagon Socket Head Bolt	4	SCM435 M10×30
⑰	Hexagon Socket Head Bolt	5	SCM435 M8×20

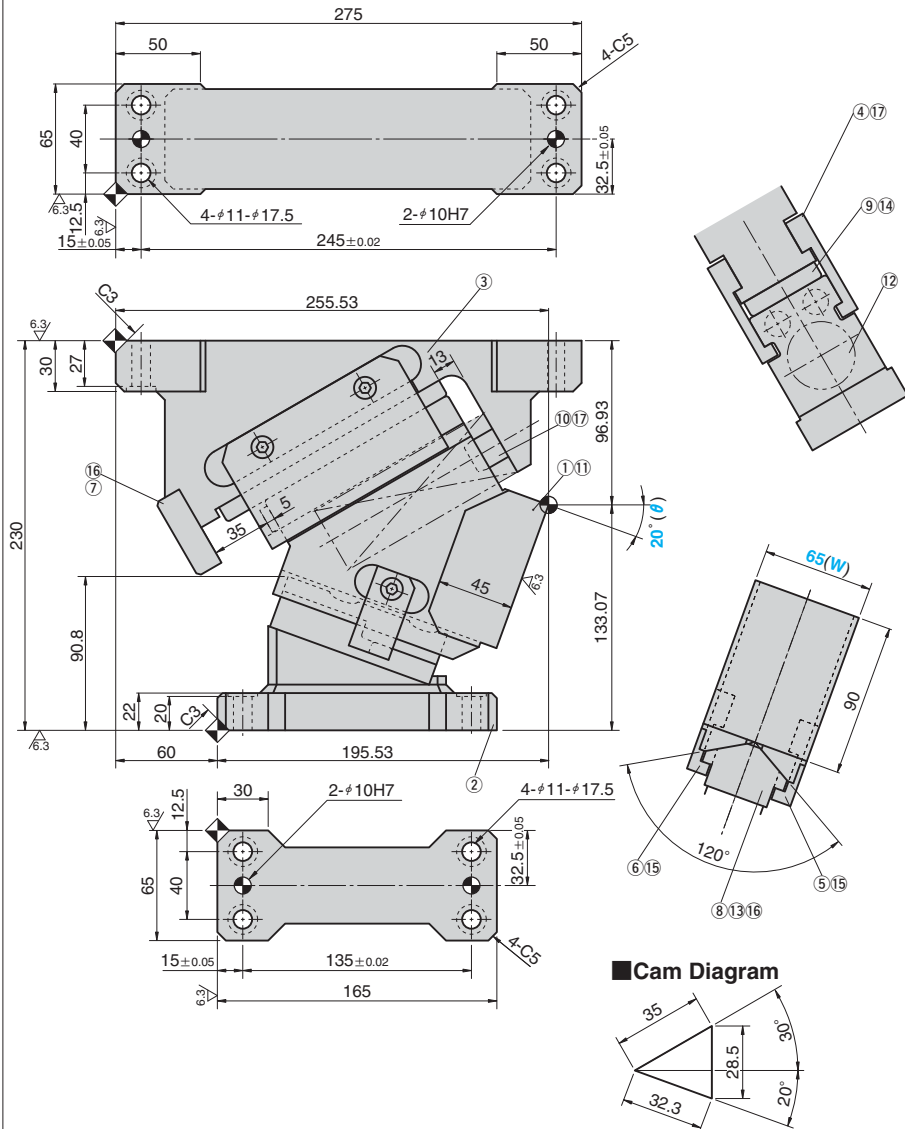
Spring Diagram



Space for removing



HUCTF65 - 20



Travel S	Working Force kN (tonf)		Spring Force N (kgf)		Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load				
32.3	68.7 (7.0)	137.3 (14.0)	0.0 (0.0)	5988.5 (610.7)	16.6	HUCTF	65	20

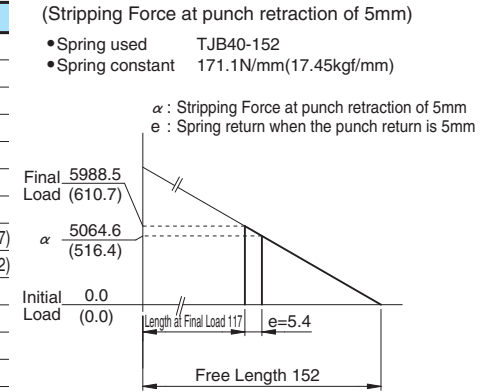
Order **Catalog No.** **(W)** - **(θ)**
HUCTF 65 - 20

Option Refer to page 551 for detailed specifications of tapped holes and dowel pin holes (prepared hole, finish hole) for retainer.

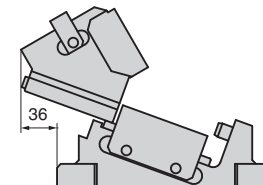
Table of Components

No.	Description	Qty	Material and Remark
①	Cam Slider	1	FCD500 with Graphite
②	Cam Driver	1	FCD500
③	Cam Holder	1	FCD500
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower B	1	S45C(1045)
⑥	Positive Return Follower A	1	S45C(1045)
⑦	Stopper Plate	1	SS400(1020)
⑧	Cam Slide Guide	1	Bronze with Graphite(SO#50SP7)
⑨	Lower Plate	1	Bronze with Graphite(SO#50SP2)
⑩	Spring Guide Pin	1	SS400(1020)
⑪	Stopper	2	Urethane
⑫	Coil Spring	1	TJB40-152
⑬	Dowel Pin with Female Thread	2	SUJ2 φ10×30
⑭	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS10-20
⑮	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS8-18
⑯	Hexagon Socket Head Bolt	4	SCM435 M10×30
⑰	Hexagon Socket Head Bolt	5	SCM435 M8×20

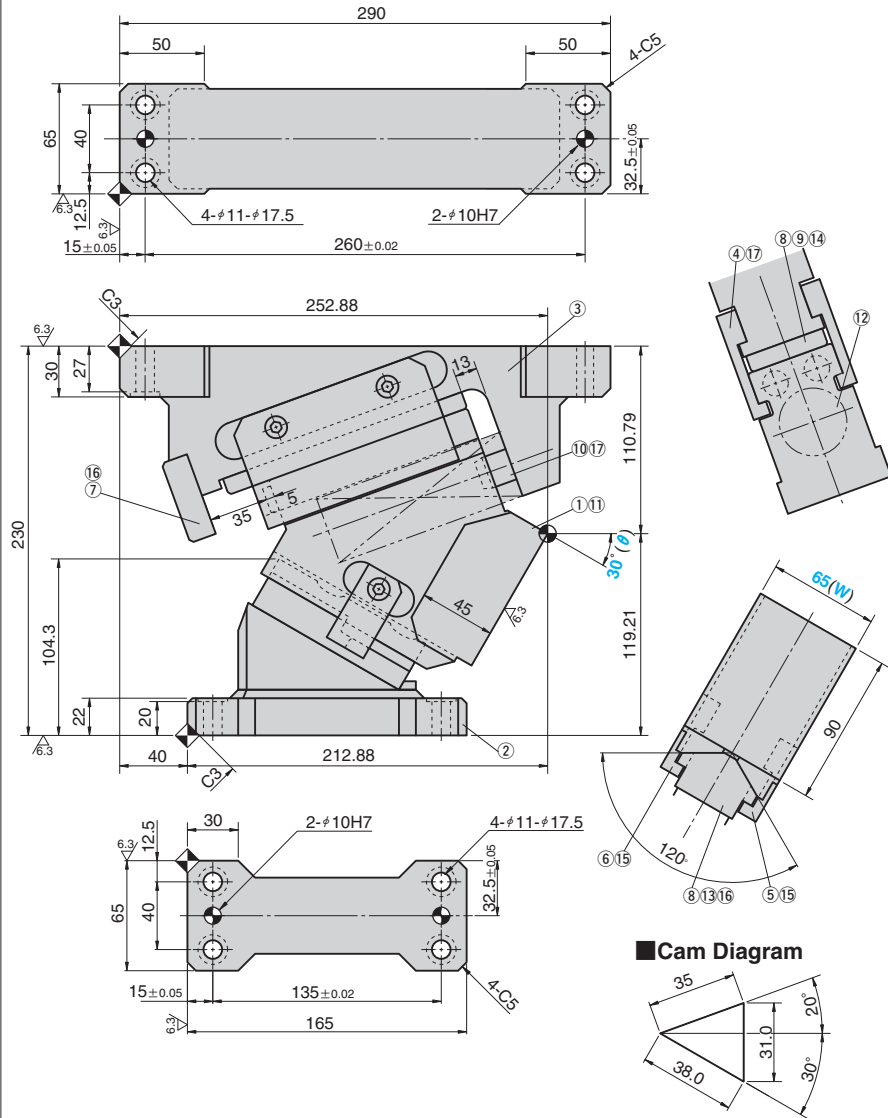
Spring Diagram



Space for removing



HUCTF65 - 30



Travel S	Working Force kN (tonf)		Spring Force N (kgf)		Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load				
38.0	68.7 (7.0)	137.3 (14.0)	0.0 (0.0)	5988.5 (610.7)	16.9	HUCTF	65	30

Order

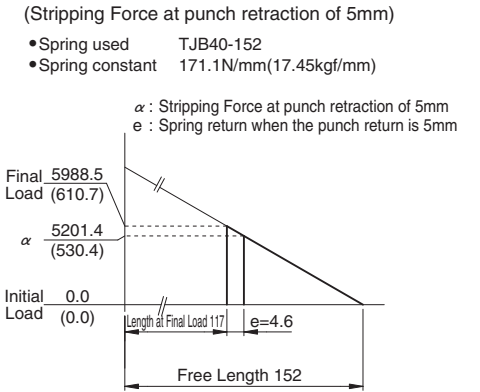
Catalog No.	(W)	-	(θ)
HUCTF	65	-	30

Option Refer to page 551 for detailed specifications of tapped holes and dowel pin holes (prepared hole, finish hole) for retainer.

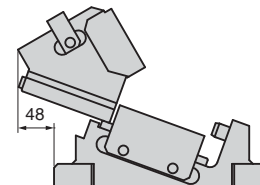
Table of Components

No.	Description	Qty	Material and Remark
①	Cam Slider	1	FCD500 with Graphite
②	Cam Driver	1	FCD500
③	Cam Holder	1	FCD500
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower B	1	S45C(1045)
⑥	Positive Return Follower A	1	S45C(1045)
⑦	Stopper Plate	1	SS400(1020)
⑧	Cam Slide Guide	1	Bronze with Graphite(SO#50SP7)
⑨	Lower Plate	1	Bronze with Graphite(SO#50SP2)
⑩	Spring Guide Pin	1	SS400(1020)
⑪	Stopper	2	Urethane
⑫	Coil Spring	1	TJB40-152
⑬	Dowel Pin with Female Thread	2	SUJ2 φ10×30
⑭	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS10-20
⑮	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS8-18
⑯	Hexagon Socket Head Bolt	4	SCM435 M10×30
⑰	Hexagon Socket Head Bolt	5	SCM435 M8×20

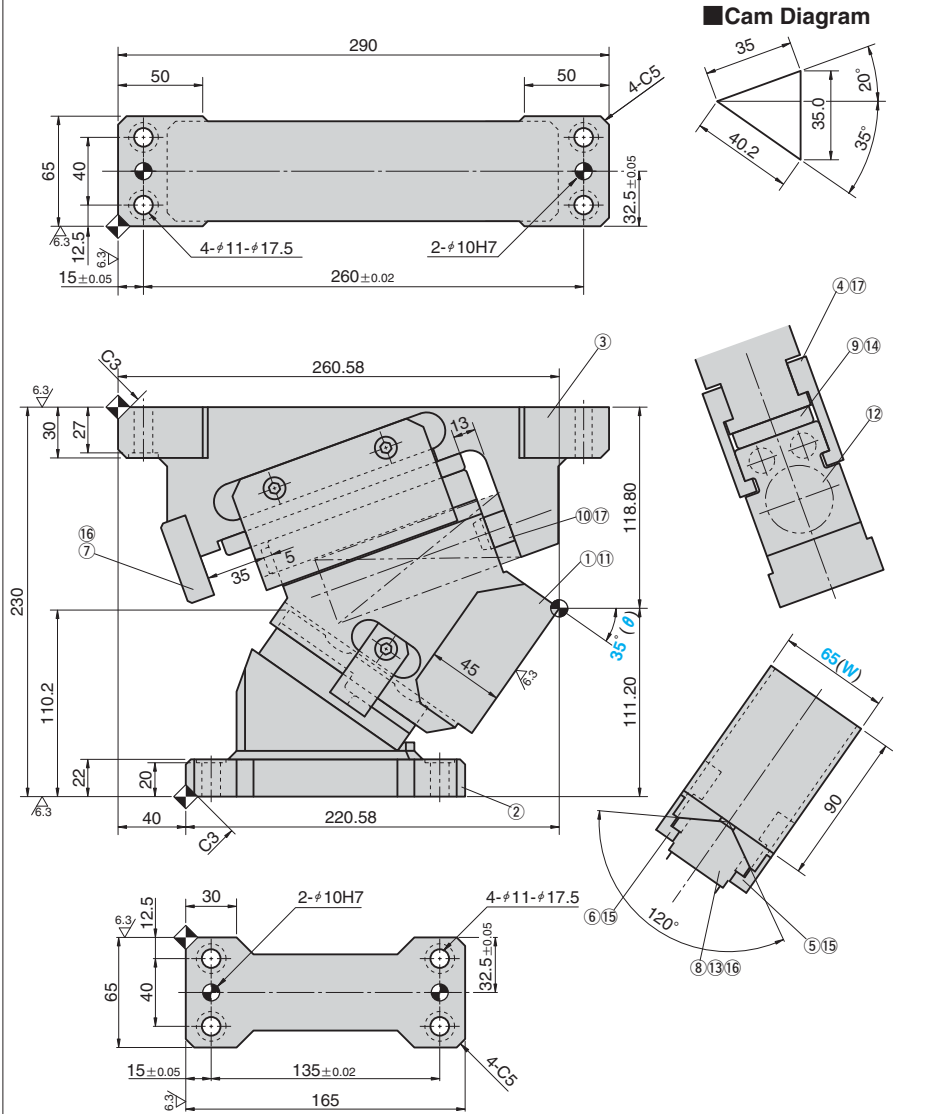
Spring Diagram



Space for removing



HUCTF65 - 35



Travel S	Working Force kN (tonf)		Spring Force N (kgf)		Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load				
40.2	68.7 (7.0)	137.3 (14.0)	0.0 (0.0)	5988.5 (610.7)	17.0	HUCTF	65	35

Order **Catalog No.** **(W)** - **(θ)**
HUCTF 65 - 35

Option Refer to page 551 for detailed specifications of tapped holes and dowel pin holes (prepared hole, finish hole) for retainer.

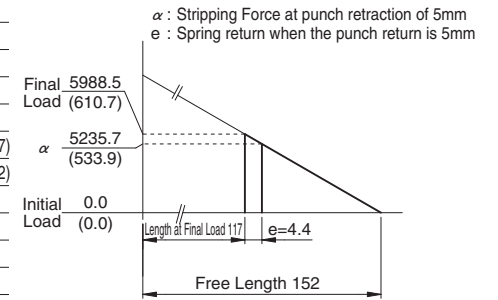
Table of Components

No.	Description	Qty	Material and Remark
①	Cam Slider	1	FCD500 with Graphite
②	Cam Driver	1	FCD500
③	Cam Holder	1	FCD500
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower B	1	S45C(1045)
⑥	Positive Return Follower A	1	S45C(1045)
⑦	Stopper Plate	1	SS400(1020)
⑧	Cam Slide Guide	1	Bronze with Graphite(SO#50SP7)
⑨	Lower Plate	1	Bronze with Graphite(SO#50SP2)
⑩	Spring Guide Pin	1	SS400(1020)
⑪	Stopper	2	Urethane
⑫	Coil Spring	1	TJB40-152
⑬	Dowel Pin with Female Thread	2	SUJ2 φ10×30
⑭	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS10-20
⑮	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS8-18
⑯	Hexagon Socket Head Bolt	4	SCM435 M10×30
⑰	Hexagon Socket Head Bolt	5	SCM435 M8×20

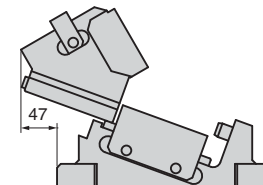
Spring Diagram

(Stripping Force at punch retraction of 5mm)

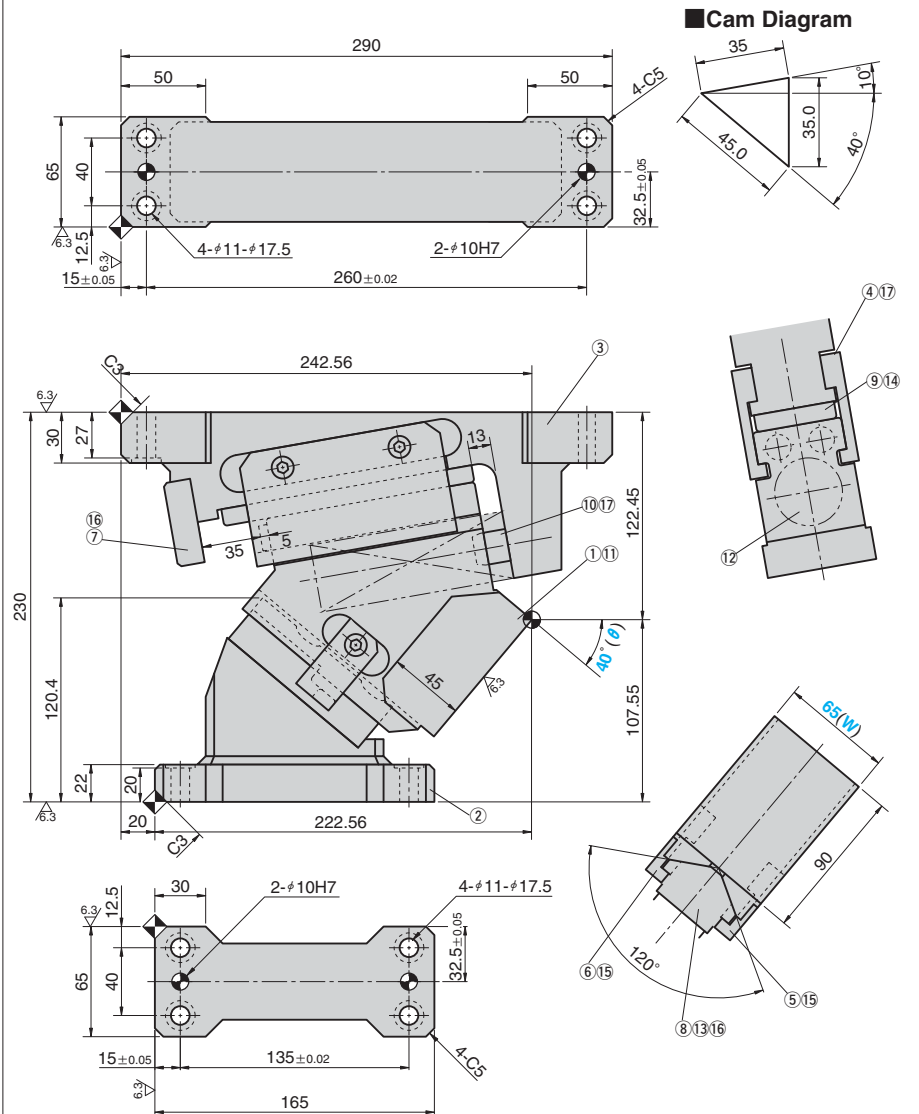
- Spring used TJB40-152
- Spring constant 171.1N/mm(17.45kgf/mm)



Space for removing



HUCTF65 - 40



Cam Diagram

Travel S	Working Force kN (tonf)		Spring Force N (kgf)		Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load				
45.0	68.7 (7.0)	137.3 (14.0)	0.0 (0.0)	5988.5 (610.7)	16.4	HUCTF	65	40

Order

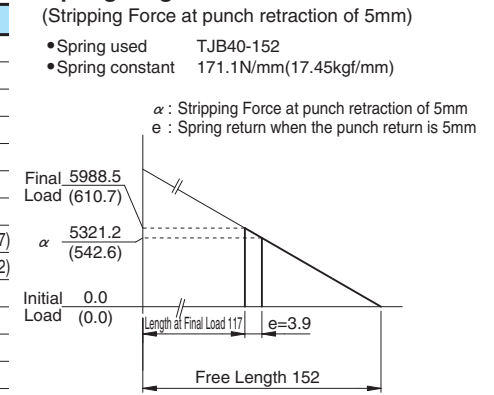
Catalog No.	(W)	-	(θ)
HUCTF	65	-	40

Option Refer to page 551 for detailed specifications of tapped holes and dowel pin holes (prepared hole, finish hole) for retainer.

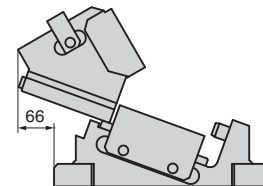
Table of Components

No.	Description	Qty	Material and Remark
①	Cam Slider	1	FCD500 with Graphite
②	Cam Driver	1	FCD500
③	Cam Holder	1	FCD500
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower B	1	S45C(1045)
⑥	Positive Return Follower A	1	S45C(1045)
⑦	Stopper Plate	1	SS400(1020)
⑧	Cam Slide Guide	1	Bronze with Graphite(SO#50SP7)
⑨	Lower Plate	1	Bronze with Graphite(SO#50SP2)
⑩	Spring Guide Pin	1	SS400(1020)
⑪	Stopper	2	Urethane
⑫	Coil Spring	1	TJB40-152
⑬	Dowel Pin with Female Thread	2	SUJ2 φ10×30
⑭	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS10-20
⑮	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS8-18
⑯	Hexagon Socket Head Bolt	4	SCM435 M10×30
⑰	Hexagon Socket Head Bolt	5	SCM435 M8×20

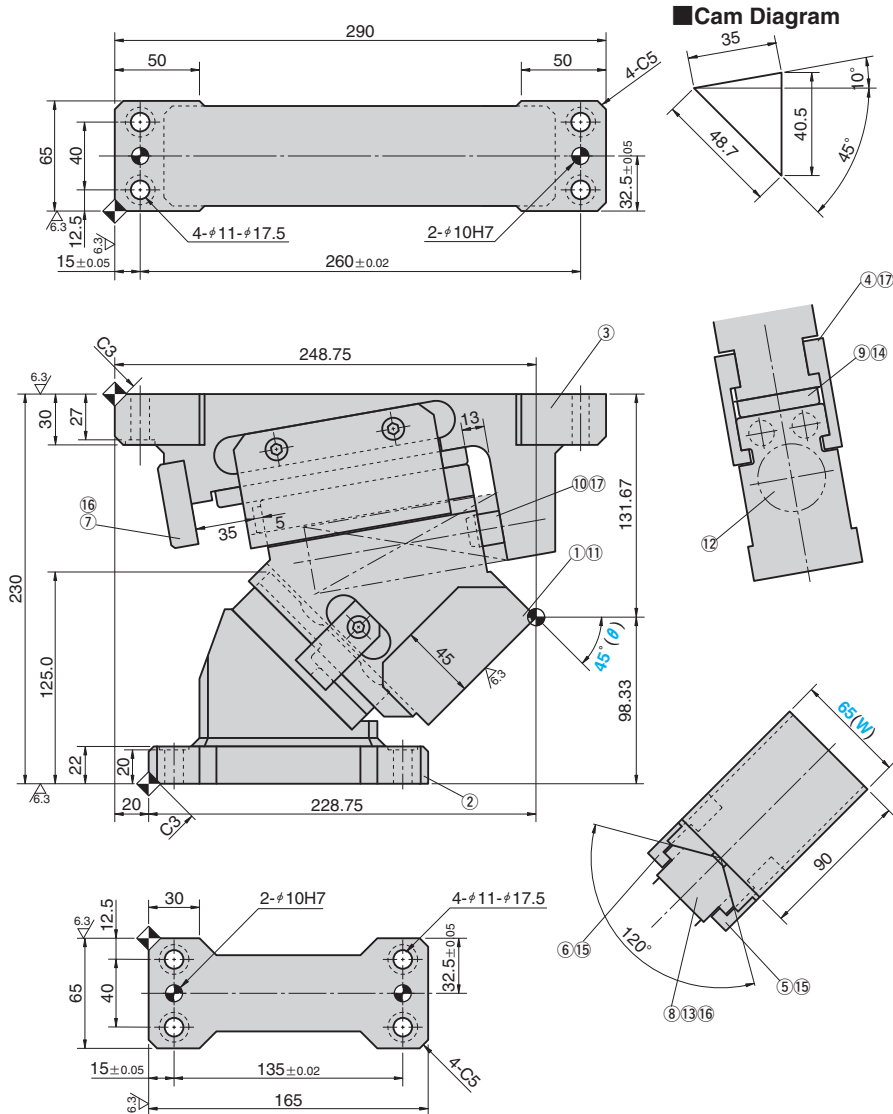
Spring Diagram



Space for removing



HUCTF65 - 45



Travel S	Working Force kN (tonf)		Spring Force N (kgf)		Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load				
48.7	68.7 (7.0)	137.3 (14.0)	0.0 (0.0)	5988.5 (610.7)	16.6	HUCTF	65	45



Order

Order	Catalog No.	(W)	-	(θ)
	HUCTF	65	-	45



Option

Refer to page 551 for detailed specifications of tapped holes and dowel pin holes (prepared hole, finish hole) for retainer.

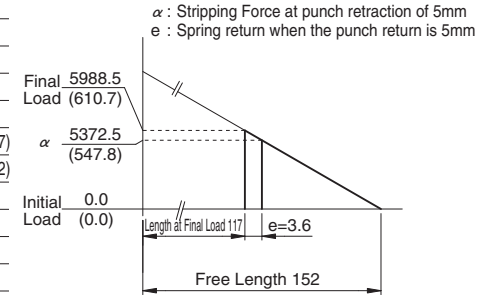
Table of Components

No.	Description	Qty	Material and Remark
①	Cam Slider	1	FCD500 with Graphite
②	Cam Driver	1	FCD500
③	Cam Holder	1	FCD500
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower B	1	S45C(1045)
⑥	Positive Return Follower A	1	S45C(1045)
⑦	Stopper Plate	1	SS400(1020)
⑧	Cam Slide Guide	1	Bronze with Graphite(SO#50SP7)
⑨	Lower Plate	1	Bronze with Graphite(SO#50SP2)
⑩	Spring Guide Pin	1	SS400(1020)
⑪	Stopper	2	Urethane
⑫	Coil Spring	1	TJB40-152
⑬	Dowel Pin with Female Thread	2	SUJ2 φ10×30
⑭	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS10-20
⑮	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS8-18
⑯	Hexagon Socket Head Bolt	4	SCM435 M10×30
⑰	Hexagon Socket Head Bolt	5	SCM435 M8×20

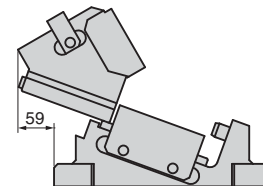
Spring Diagram

(Stripping Force at punch retraction of 5mm)

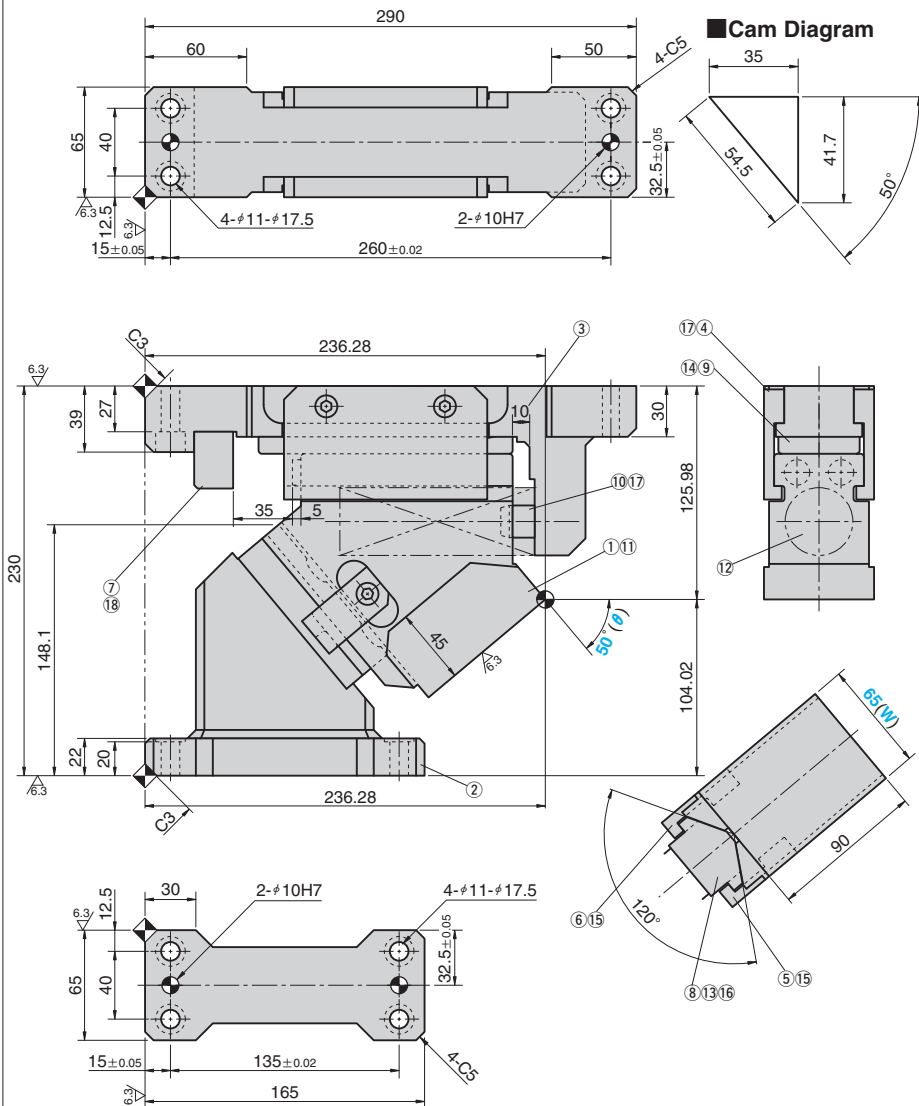
- Spring used TJB40-152
- Spring constant 171.1N/mm(17.45kgf/mm)



Space for removing



HUCTF65 - 50



Travel S	Working Force kN (tonf)		Spring Force N (kgf)		Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load				
54.5	68.7 (7.0)	137.3 (14.0)	0.0 (0.0)	5988.5 (610.7)	15.9	HUCTF	65	50



Order

Catalog No.	(W)	-	(θ)
HUCTF	65	-	50



Option

Refer to page 551 for detailed specifications of tapped holes and dowel pin holes (prepared hole, finish hole) for retainer.

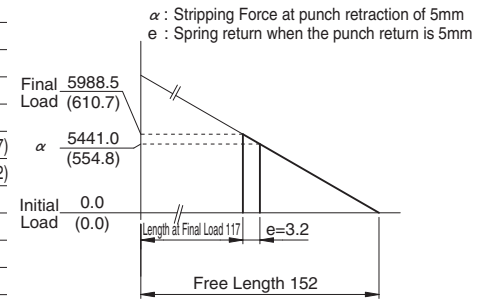
Table of Components

No.	Description	Qty	Material and Remark
①	Cam Slider	1	FCD500 with Graphite
②	Cam Driver	1	FCD500
③	Cam Holder	1	FCD500
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower B	1	S45C(1045)
⑥	Positive Return Follower A	1	S45C(1045)
⑦	Stopper Plate	1	SS400(1020)
⑧	Cam Slide Guide	1	Bronze with Graphite(SO#50SP7)
⑨	Lower Plate	1	Bronze with Graphite(SO#50SP2)
⑩	Spring Guide Pin	1	SS400(1020)
⑪	Stopper	2	Urethane
⑫	Coil Spring	1	TJB40-152
⑬	Dowel Pin with Female Thread	2	SUJ2 φ10×30
⑭	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS10-20
⑮	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS8-18
⑯	Hexagon Socket Head Bolt	2	SCM435 M10×30
⑰	Hexagon Socket Head Bolt	5	SCM435 M8×20
⑱	Hexagon Socket Head Bolt	2	SCM435 M10×40

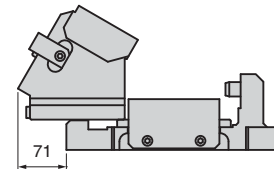
Spring Diagram

(Stripping Force at punch retraction of 5mm)

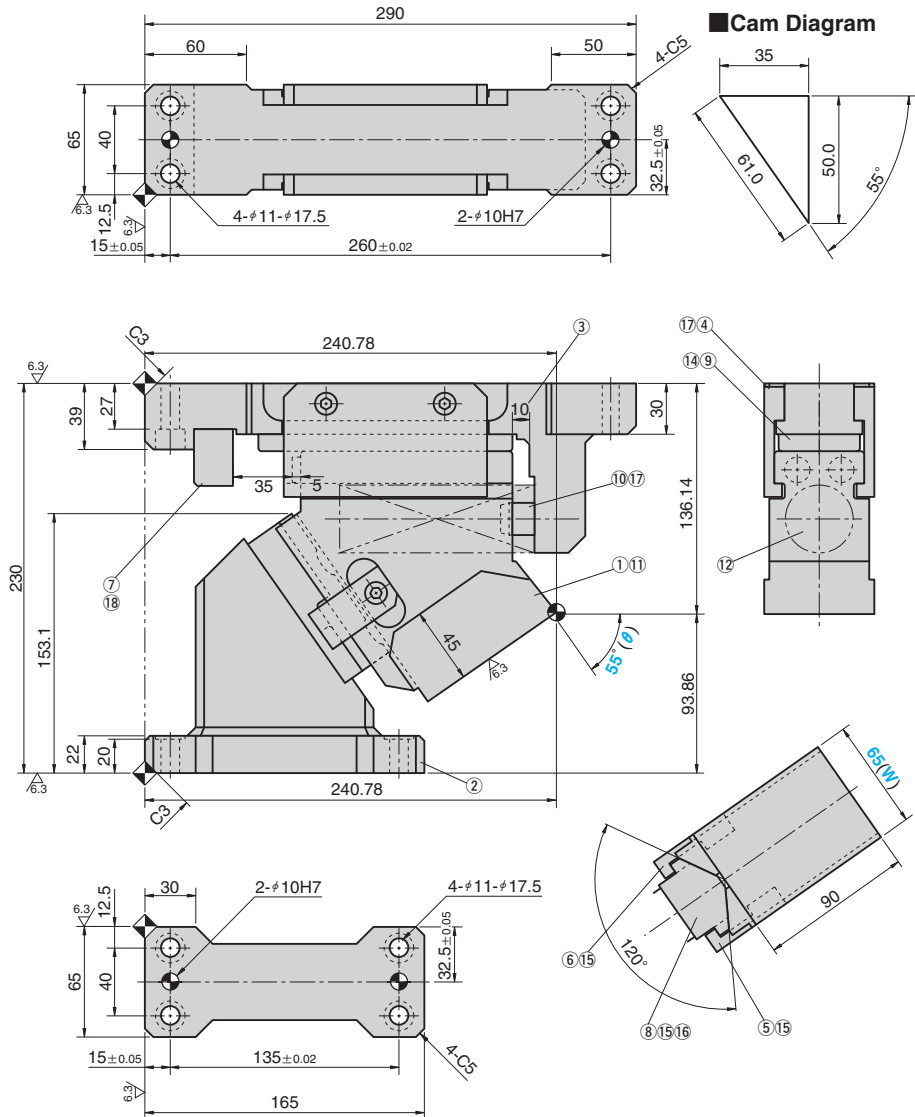
- Spring used TJB40-152
- Spring constant 171.1N/mm(17.45kgf/mm)



Space for removing



HUCTF65 - 55



Travel S	Working Force kN (tonf)		Spring Force N (kgf)		Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load				
61.0	68.7 (7.0)	137.3 (14.0)	0.0 (0.0)	5988.5 (610.7)	16.1	HUCTF	65	55

Order **Catalog No.** **(W)** - **(θ)**
HUCTF 65 - 55

Option Refer to page 551 for detailed specifications of tapped holes and dowel pin holes (prepared hole, finish hole) for retainer.

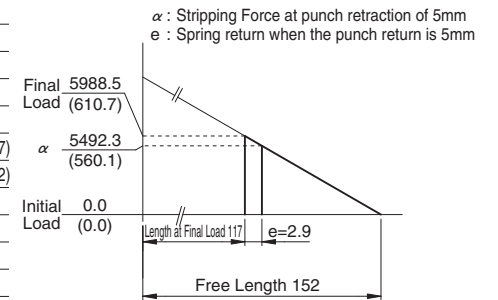
Table of Components

No.	Description	Qty	Material and Remark
①	Cam Slider	1	FCD500 with Graphite
②	Cam Driver	1	FCD500
③	Cam Holder	1	FCD500
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower B	1	S45C(1045)
⑥	Positive Return Follower A	1	S45C(1045)
⑦	Stopper Plate	1	SS400(1020)
⑧	Cam Slide Guide	1	Bronze with Graphite(SO#50SP7)
⑨	Lower Plate	1	Bronze with Graphite(SO#50SP2)
⑩	Spring Guide Pin	1	SS400(1020)
⑪	Stopper	2	Urethane
⑫	Coil Spring	1	TJB40-152
⑬	Dowel Pin with Female Thread	2	SUJ2 φ10×30
⑭	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS10-20
⑮	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS8-18
⑯	Hexagon Socket Head Bolt	2	SCM435 M10×30
⑰	Hexagon Socket Head Bolt	5	SCM435 M8×20
⑱	Hexagon Socket Head Bolt	2	SCM435 M10×40

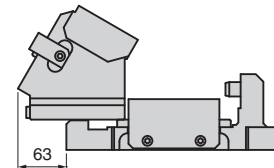
Spring Diagram

(Stripping Force at punch retraction of 5mm)

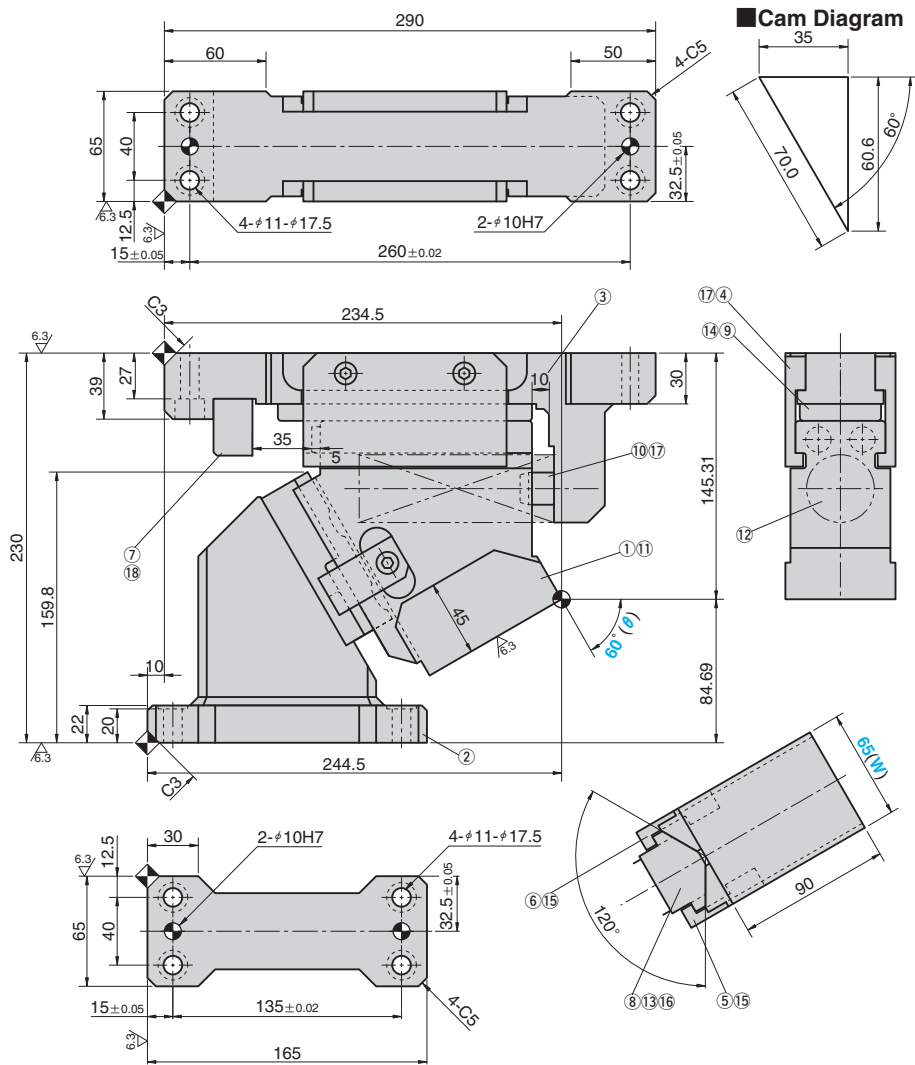
- Spring used TJB40-152
- Spring constant 171.1N/mm(17.45kgf/mm)



Space for removing



HUCTF65 - 60



Travel S	Working Force kN (tonf)		Spring Force N (kgf)		Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load				
70.0	68.7 (7.0)	137.3 (14.0)	0.0 (0.0)	5988.5 (610.7)	16.4	HUCTF	65	60

Order **Catalog No.** **(W)** - **(θ)**
HUCTF 65 - 60

Option Refer to page 551 for detailed specifications of tapped holes and dowel pin holes (prepared hole, finish hole) for retainer.

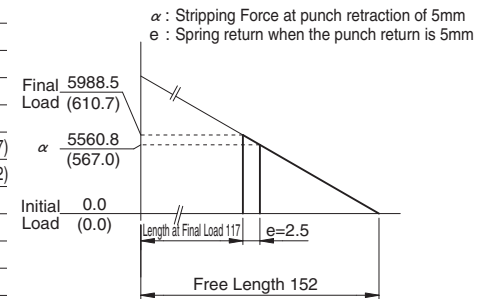
Table of Components

No.	Description	Qty	Material and Remark
①	Cam Slider	1	FCD500 with Graphite
②	Cam Driver	1	FCD500
③	Cam Holder	1	FCD500
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower B	1	S45C(1045)
⑥	Positive Return Follower A	1	S45C(1045)
⑦	Stopper Plate	1	SS400(1020)
⑧	Cam Slide Guide	1	Bronze with Graphite(SO#50SP7)
⑨	Lower Plate	1	Bronze with Graphite(SO#50SP2)
⑩	Spring Guide Pin	1	SS400(1020)
⑪	Stopper	2	Urethane
⑫	Coil Spring	1	TJB40-152
⑬	Dowel Pin with Female Thread	2	SUJ2 φ10×30
⑭	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS10-20
⑮	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS8-18
⑯	Hexagon Socket Head Bolt	2	SCM435 M10×30
⑰	Hexagon Socket Head Bolt	5	SCM435 M8×20
⑱	Hexagon Socket Head Bolt	2	SCM435 M10×40

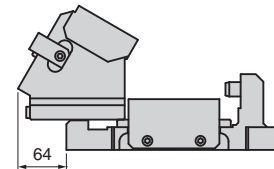
Spring Diagram

(Stripping Force at punch retraction of 5mm)

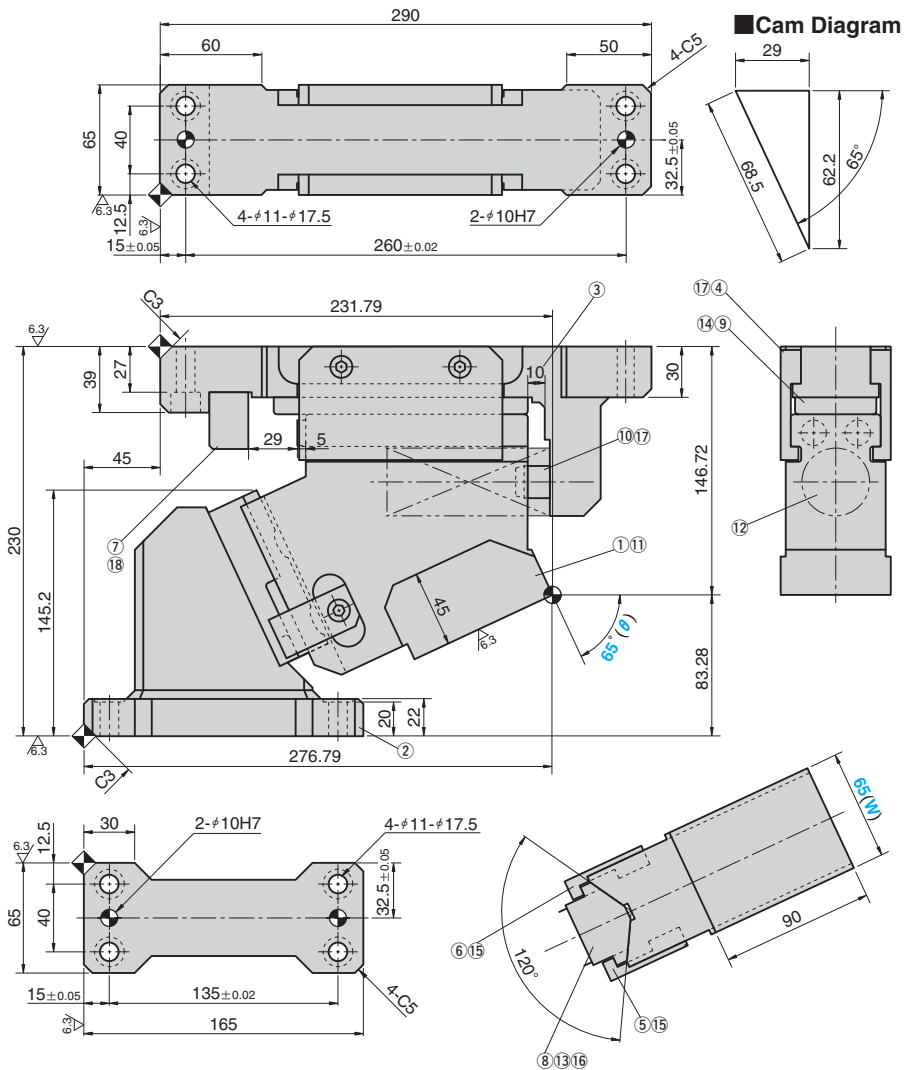
- Spring used TJB40-152
- Spring constant 171.1N/mm(17.45kgf/mm)



Space for removing



HUCTF65 - 65



Travel S	Working Force kN (tonf)		Spring Force N (kgf)		Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load				
68.5	68.7 (7.0)	137.3 (14.0)	0.0 (0.0)	5936.3 (605.3)	18.0	HUCTF	65	65

Order **Catalog No.** **(W)** - **(θ)**
HUCTF 65 - 65

Option Refer to page 551 for detailed specifications of tapped holes and dowel pin holes (prepared hole, finish hole) for retainer.

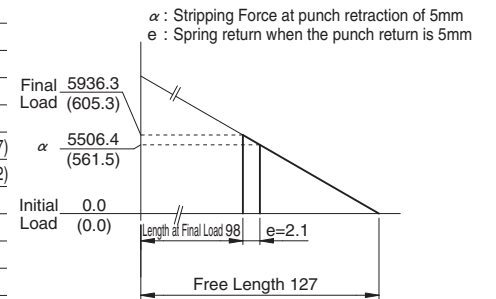
Table of Components

No.	Description	Qty	Material and Remark
①	Cam Slider	1	FCD500 with Graphite
②	Cam Driver	1	FCD500
③	Cam Holder	1	FCD500
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower B	1	S45C(1045)
⑥	Positive Return Follower A	1	S45C(1045)
⑦	Stopper Plate	1	SS400(1020)
⑧	Cam Slide Guide	1	Bronze with Graphite(SO#50SP7)
⑨	Lower Plate	1	Bronze with Graphite(SO#50SP2)
⑩	Spring Guide Pin	1	SS400(1020)
⑪	Stopper	2	Urethane
⑫	Coil Spring	1	TJB40-127
⑬	Dowel Pin with Female Thread	2	SUJ2 φ10×30
⑭	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS10-20
⑮	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS8-18
⑯	Hexagon Socket Head Bolt	2	SCM435 M10×30
⑰	Hexagon Socket Head Bolt	5	SCM435 M8×20
⑱	Hexagon Socket Head Bolt	2	SCM435 M10×40

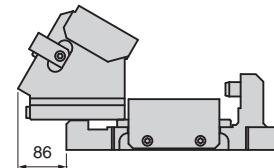
Spring Diagram

(Stripping Force at punch retraction of 5mm)

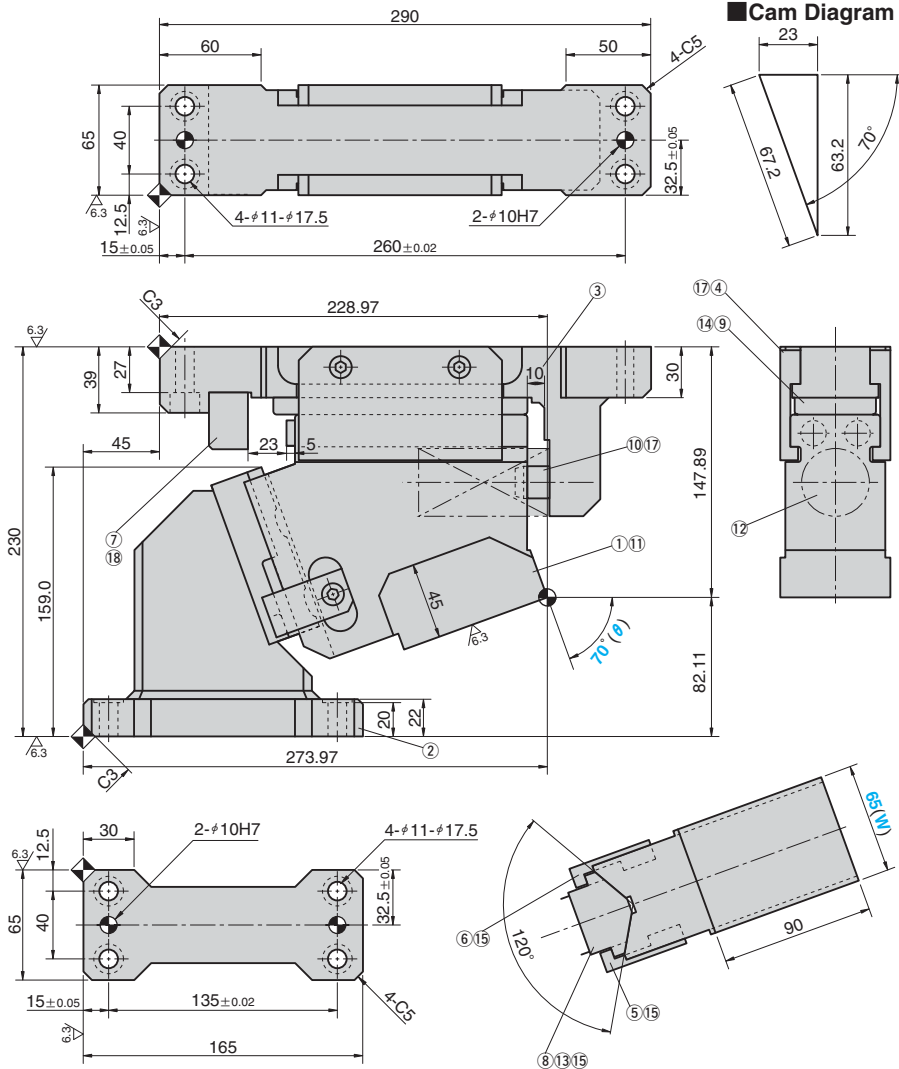
- Spring used TJB40-127
- Spring constant 204.7N/mm(20.87kgf/mm)



Space for removing



HUCTF65 - 70



Cam Diagram

Travel S	Working Force kN (tonf)		Spring Force N (kgf)		Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load				
67.2	68.7 (7.0)	137.3 (14.0)	0.0 (0.0)	5862.7 (597.8)	18.0	HUCTF	65	70

Order

Catalog No.	(W)	-	(θ)
HUCTF	65	-	70

Option Refer to page 551 for detailed specifications of tapped holes and dowel pin holes (prepared hole, finish hole) for retainer.

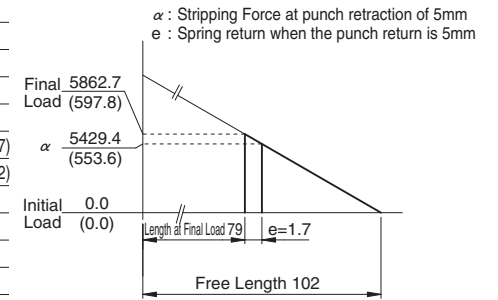
Table of Components

No.	Description	Qty	Material and Remark
①	Cam Slider	1	FCD500 with Graphite
②	Cam Driver	1	FCD500
③	Cam Holder	1	FCD500
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower B	1	S45C(1045)
⑥	Positive Return Follower A	1	S45C(1045)
⑦	Stopper Plate	1	SS400(1020)
⑧	Cam Slide Guide	1	Bronze with Graphite(SO#50SP7)
⑨	Lower Plate	1	Bronze with Graphite(SO#50SP2)
⑩	Spring Guide Pin	1	SS400(1020)
⑪	Stopper	2	Urethane
⑫	Coil Spring	1	TJB40-102
⑬	Dowel Pin with Female Thread	2	SUJ2 φ10X30
⑭	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS10-20
⑮	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS8-18
⑯	Hexagon Socket Head Bolt	2	SCM435 M10×30
⑰	Hexagon Socket Head Bolt	5	SCM435 M8×20
⑱	Hexagon Socket Head Bolt	2	SCM435 M10×40

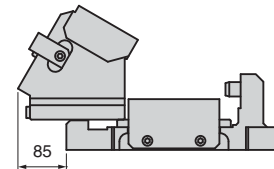
Spring Diagram

(Stripping Force at punch retraction of 5mm)

- Spring used TJB40-102
- Spring constant 254.9N/mm(25.99kgf/mm)

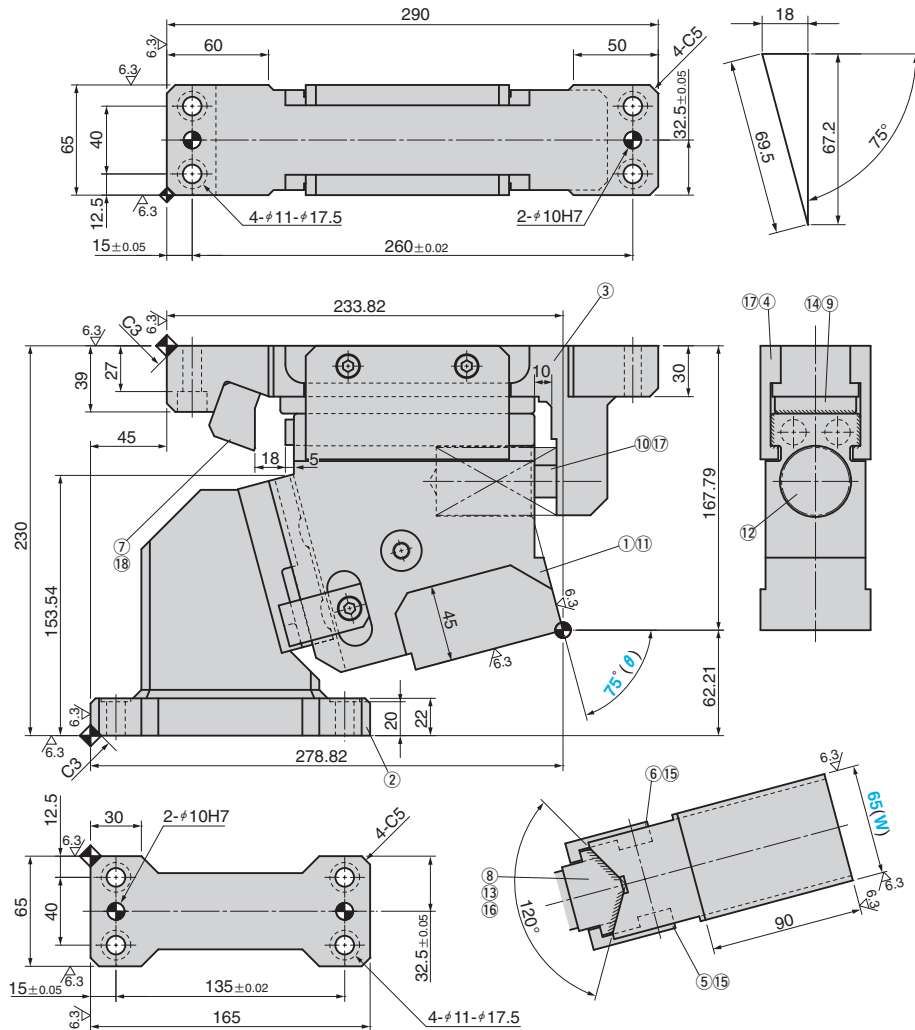


Space for removing



HUCTF65 - 75

Cam Diagram



Travel S	Working Force kN (tonf)		Spring Force N (kgf)		Total Weight kg	Catalog No.	(W)	(θ)
	Standard Working Force (one million strokes)	Allowable Working Force (300,000 strokes)	Initial Load	Final Load				
69.5	68.7 (7.0)	137.3 (14.0)	0.0 (0.0)	5257.8 (536.1)	20.0	HUCTF	65	75

Order **Catalog No.** **(W)** - **(θ)**
HUCTF 65 - 75

Option Refer to page 551 for detailed specifications of tapped holes and dowel pin holes (prepared hole, finish hole) for retainer.

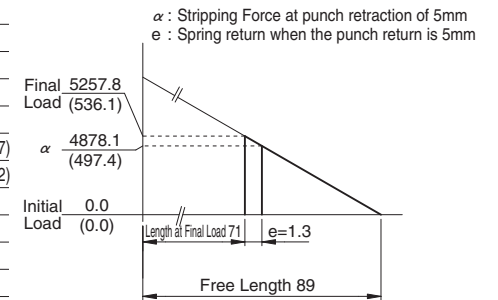
Table of Components

No.	Description	Qty	Material and Remark
①	Cam Slider	1	FCD500 with Graphite
②	Cam Driver	1	FCD500
③	Cam Holder	1	FCD500
④	Slide Keeper	2	S45C with Graphite
⑤	Positive Return Follower B	1	S45C(1045)
⑥	Positive Return Follower A	1	S45C(1045)
⑦	Stopper Plate	1	SS400(1020)
⑧	Cam Slide Guide	1	Bronze with Graphite(SO#50SP7)
⑨	Lower Plate	1	Bronze with Graphite(SO#50SP2)
⑩	Spring Guide Pin	1	SS400(1020)
⑪	Stopper	2	Urethane
⑫	Coil Spring	1	TJB40-89
⑬	Dowel Pin with Female Thread	2	SUJ2 φ10×30
⑭	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS10-20
⑮	Hexagon Socket Brazier Head Bolt	2	SCM435 LCS8-18
⑯	Hexagon Socket Head Bolt	2	SCM435 M10×30
⑰	Hexagon Socket Head Bolt	5	SCM435 M8×20
⑱	Hexagon Socket Head Bolt	2	SCM435 M10×40

Spring Diagram

(Stripping Force at punch retraction of 5mm)

- Spring used TJB40-89
- Spring constant 292.1N/mm(29.8kgf/mm)



Space for removing

