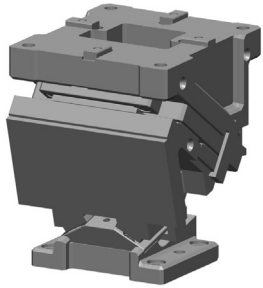


# Aerial Cam Unit General Description of UCMSNR

NAAMS STANDARD



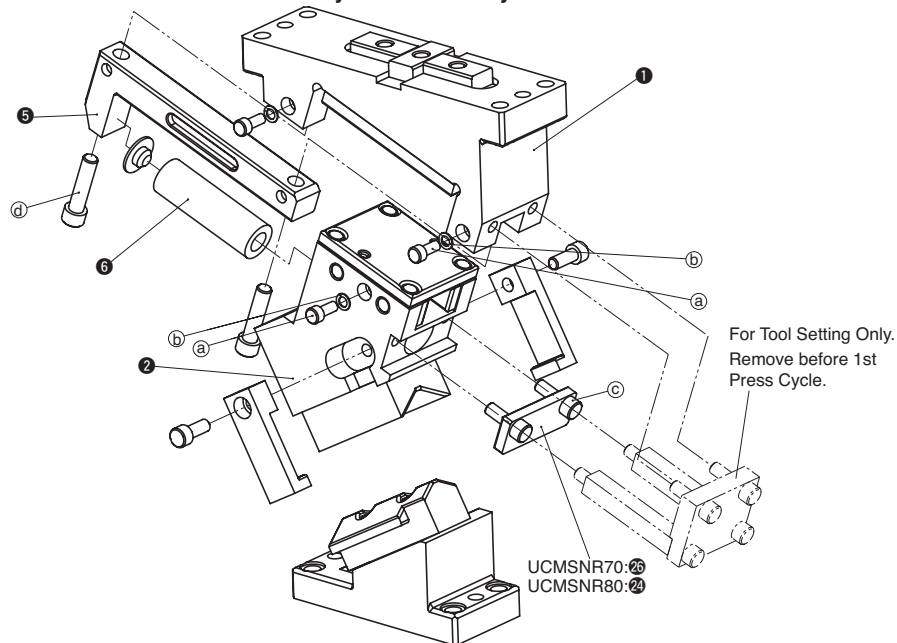
- Mounting surface widths 70, 80, 165, 200, 300, and 400 mm.
- Working angles from 0° to 60° in 5° increments.
- Easier adjustment of Slide Lock for the mounting surface width 165 mm or more.
- High-rigid structure with the material S45C.
- NAAMS Standard adapted.

▲ 65°/ 70°/ 75° upon request.

▲ **Gas Spring**

Please contact your local sales representative, if you prefer to use a gas spring not specified in our catalog. For use and maintenance of gas spring, please contact the manufacturer directly.

## ■ UCMSNR 70 and 80 Assembly / Dis-assembly



### ● Disassembling UCMSNR 70 and 80

- 1) Remove Hexagon Socket Head Bolt (a) and Coned Disc Spring (b).
- 2) Loosen Hexagon Socket Head Bolt (c), and remove Spring Stopper Plate (UCMSNR70: ⑥ UCMSNR80: ②). Pull out Spring (⑥).
- 3) Loosen Hexagon Socket Bolt (d), and remove Guide Bar (⑤) and Cam Slider (②) from Cam Holder (①).
- 4) Pull up to remove Guide Bar from Cam Slider.

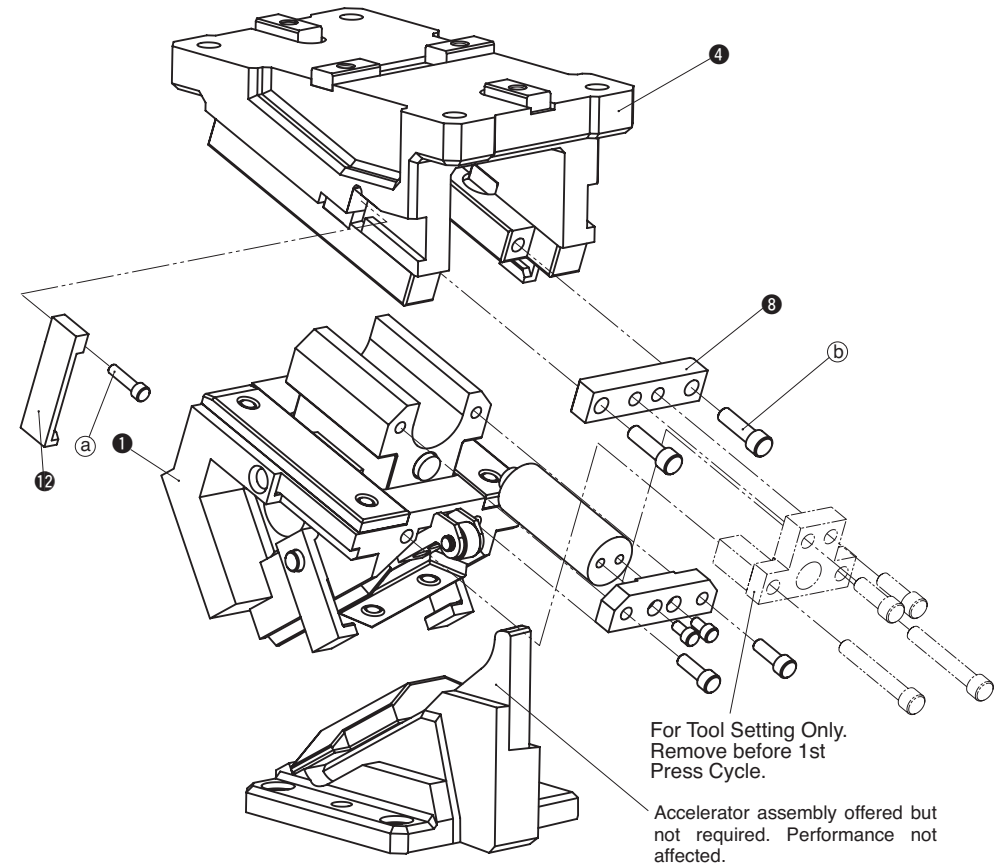
### ● Re-assembly

Reassembly in the reverse procedure of disassembly.

**NOTES** ● Ensure that all parts are clean, particularly the sliding components, to which a small amount of grease is applied and is then placed on position.

- Take care the respective tolerances are observed when assembling the slider and holder, which also should be identified by the same serial number.
- Ensure that all bolts are tightened to the recommended torque.

## ■ UCMSNR 165, 200, 300, and 400 Assembly / Dis-assembly



### ● Disassembling UCMSNR 165, 200, 300, and 400

- 1) Loosen Hexagon Socket Head Bolt (a) and remove Safety Plate (12).
- 2) Loosen Hexagon Socket Head Bolt (b) and remove Stopper Plate (8).
- 3) Pull up to remove Cam Slider (1) from Cam Holder (4).

### ● Re-assembly

Reassembly in the reverse procedure of disassembly.

**NOTES** ● Ensure that all parts are clean, particularly the sliding components, to which a small amount of grease is applied and is then placed on position.

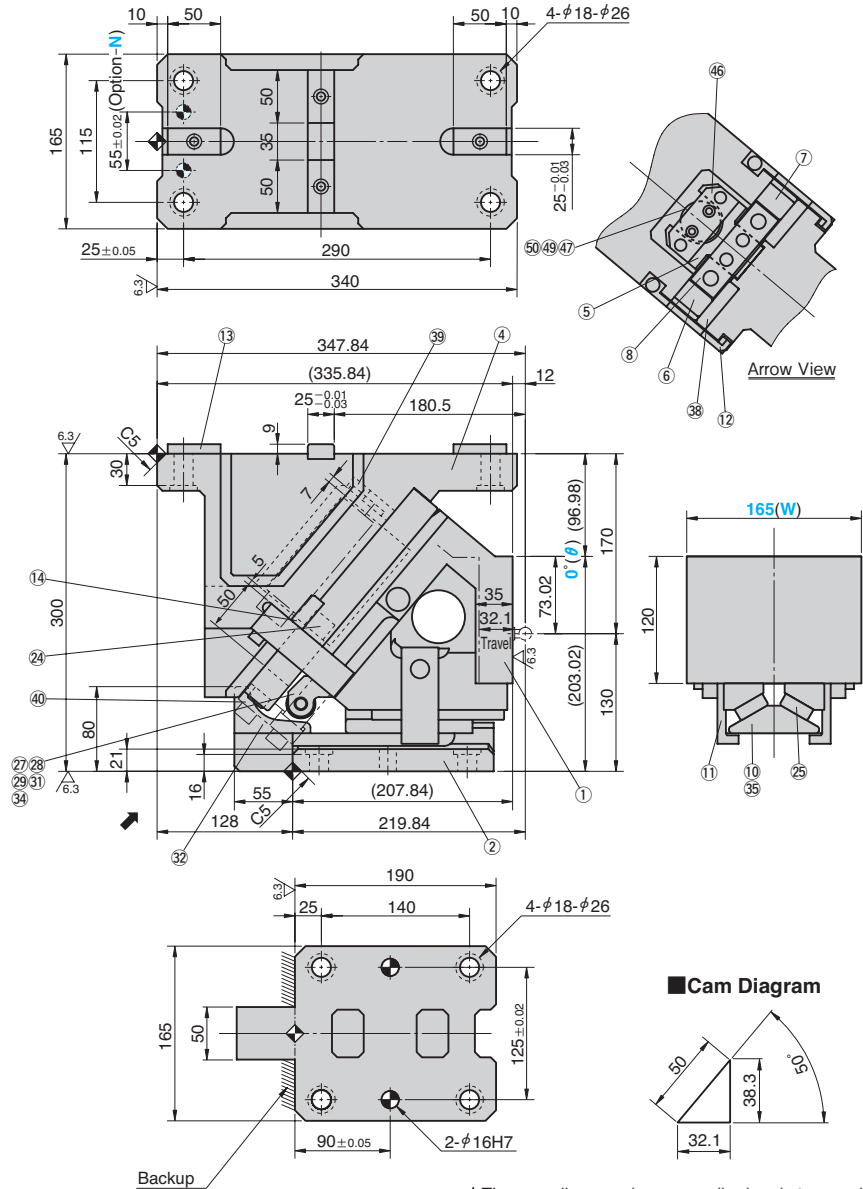
- Take care the respective tolerances are observed when assembling the slider and holder, which also should be identified by the same serial number.
- Ensure that all bolts are tightened to the recommended torque.

# Aerial Cam Unit

NAAMS STANDARD

CAD FILE

UCMSNR165-00



Cam Diagram

\* The cam diagram shows no roller bracket assemblies or accelerators. If these items are needed, please contact our sales department for details.

Travel S	Working Force kN(tonf)	Spring Force N(kgf)		Return Force N(kgf)	Total Weight (Slider Weight) kg	Catalog No.	W	θ	Spring Type PS
		Initial Load	Final Load						
32.1	294.2 (30.0)	-	3430.0 (349.8)	4743 (484.0)	76.1 (25.2)	UCMSNR	165	00	GK *NGK
			3518.0 (358.7)						GD *NGD
			3490.0 (355.9)						GS *NGS
			449.1 (45.8)						2694.0 (274.7)

\* When supplying your own Nitrogen Spring, please add "N" at the beginning of your spring selection to ensure you are supplied the correct mounting hardware.



Order

Catalog No.	W	θ	PS
UCMSNR	165	00	GK
UCMSNR	165	00	NGK
UCMSNR	165	00	NISO

.....Without gas spring  
.....Without coil spring



Option

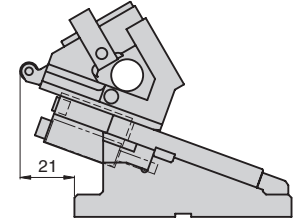
Option Code	Specification
N	φ16H7 dowel hole is drilled on the cam holder.
NF	Nitrogen gas not charged.



Order

UCMSNR165 - 00 - GK - N  
UCMSNR165 - 00 - GK - NF

Space for removing



## Spring Specification

No.	PS	Spring Model	Remark
47	GK	TU250-63.5	Gas Spring (KALLER)
	GD	L300.063.138	Gas Spring (DADCO)
	GS	SPF.250.63	Gas Spring (SDT)
	ISO	TJM40-178	Coil Spring (constant =44.9N/mm)

Guideline of spring durability 500,000 strokes

## Table of Components

No.	Description	Qty	Material and Remark
1	Cam Slider	1	FC250
2	Cam Driver	1	FC250
4	Cam Holder	1	FC250
5	Spring Guide	1	Bronze with Graphite
6	Base Plate D-R	1	S45C(1045)
7	Base Plate D-L	1	S45C(1045)
8	Stopper Plate	1	S45C(1045)
10	Cam Slide Guide	1	Bronze with Graphite
11	Positive Return Follower	2	S45C(1045)
12	Safety Plate	2	SS400(1020)
13	Key A	4	SS400(1020)
14	Key B	2	SS400(1020)
24	Stopper	1	Urethane
25	Slide Plate	2	S45C(1045)

No.	Description	Qty	Material and Remark
27	Roller	1	S45C(1045)
28	Roller Pin	1	S45C(1045)
29	Bushing	1	Bronze with Graphite SOB12-18-16
31	Roller Bracket	1	SS400(1020)
32	Roller Driver	1	S45C(1045)
34	Snap Ring E type	2	φ9
35	Key C	1	SS400(1020)
38	Wear Plate	2	Bronze with Graphite
39	Spring Support	1	SS400(1020)
40	Slide Lock Plate	1	SS400(1020)
46	Spring Guide Plate	1	SS400(1020)
47	Spring	1	Refer to the Spring Specification Table.
49	Washer	1	S45C(1045) ISO specification only
50	Spring Guide Pin	1	S45C(1045) ISO specification only



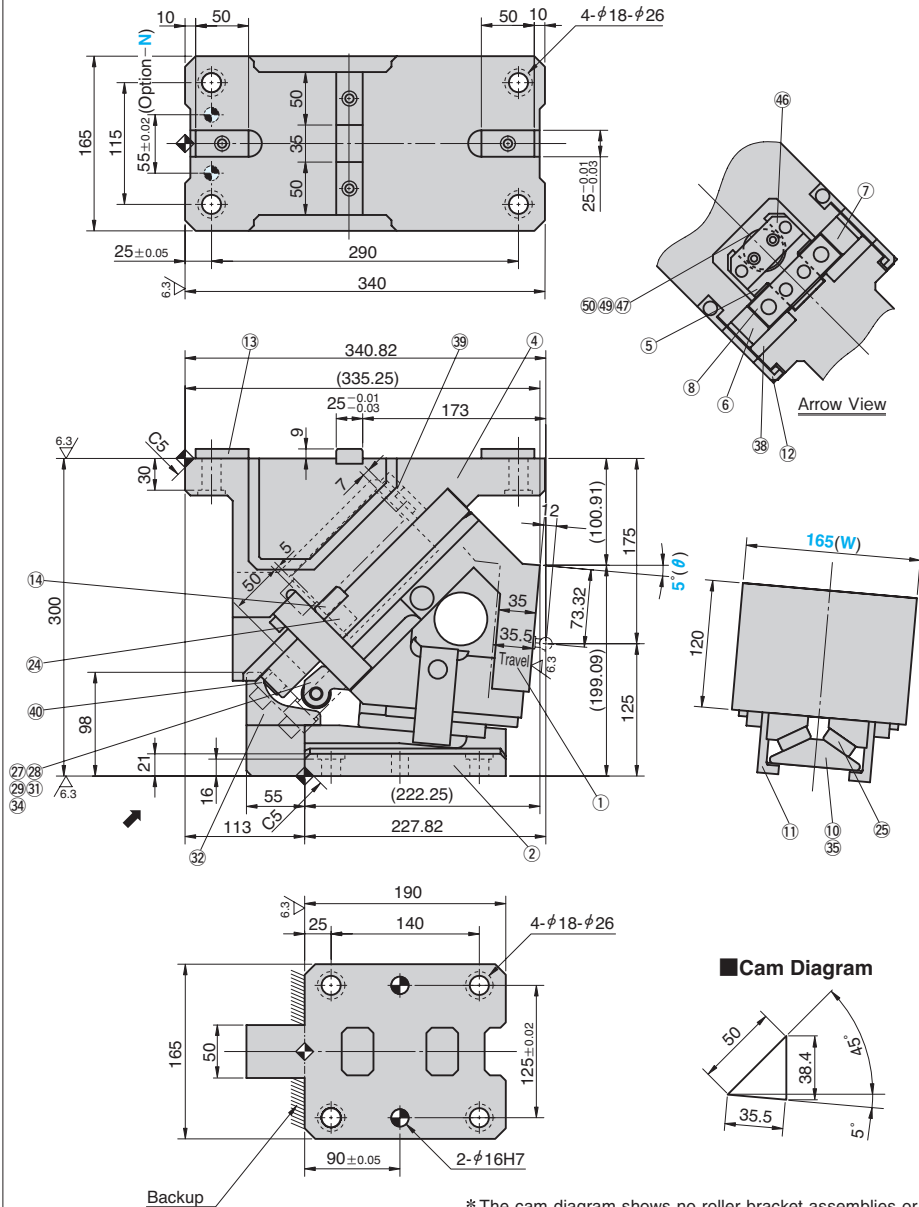
Bolts for assembly are not indicated.

# Aerial Cam Unit

NAAMS STANDARD

CAD FILE

UCMSNR165-05



\* The cam diagram shows no roller bracket assemblies or accelerators. If these items are needed, please contact our sales department for details.

Travel S	Working Force kN(tonf)	Spring Force N(kgf)		Return Force N(kgf)	Total Weight (Slider Weight) kg	Catalog No.	W	θ	Spring Type PS
		Initial Load	Final Load						
35.5	294.2 (30.0)	-	3430.0 (349.8)	4721 (481.7)	74.2 (25.2)	UCMSNR	165	05	GK *NGK
			3518.0 (358.7)						GD *NGD
			3490.0 (355.9)						GS *NGS
			2694.0 (274.7)						ISO *NISO

\* When supplying your own Nitrogen Spring, please add "N" at the beginning of your spring selection to ensure you are supplied the correct mounting hardware.



Order

Catalog No.	W	θ	PS
UCMSNR	165	05	GK
UCMSNR	165	05	NGK
UCMSNR	165	05	NISO

.....Without gas spring  
.....Without coil spring



Option

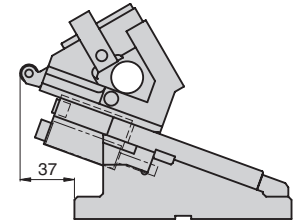
Option Code	Specification
N	φ16H7 dowel hole is drilled on the cam holder.
NF	Nitrogen gas not charged.



Order

UCMSNR165 - 05 - GK - N  
UCMSNR165 - 05 - GK - NF

Space for removing



## Spring Specification

No.	PS	Spring Model	Remark
47	GK	TU250-63.5	Gas Spring (KALLER)
	GD	L300.063.138	Gas Spring (DADCO)
	GS	SPF.250.63	Gas Spring (SDT)
	ISO	TJM40-178	Coil Spring (constant =44.9N/mm)

Guideline of spring durability 500,000 strokes

## Table of Components

No.	Description	Qty	Material and Remark
1	Cam Slider	1	FC250
2	Cam Driver	1	FC250
4	Cam Holder	1	FC250
5	Spring Guide	1	Bronze with Graphite
6	Base Plate D-R	1	S45C(1045)
7	Base Plate D-L	1	S45C(1045)
8	Stopper Plate	1	S45C(1045)
10	Cam Slide Guide	1	Bronze with Graphite
11	Positive Return Follower	2	S45C(1045)
12	Safety Plate	2	SS400(1020)
13	Key A	4	SS400(1020)
14	Key B	2	SS400(1020)
24	Stopper	1	Urethane
25	Slide Plate	2	S45C(1045)

No.	Description	Qty	Material and Remark
27	Roller	1	S45C(1045)
28	Roller Pin	1	S45C(1045)
29	Bushing	1	Bronze with Graphite SOB12-18-16
31	Roller Bracket	1	SS400(1020)
32	Roller Driver	1	S45C(1045)
34	Snap Ring E type	2	φ9
35	Key C	1	SS400(1020)
38	Wear Plate	2	Bronze with Graphite
39	Spring Support	1	SS400(1020)
40	Slide Lock Plate	1	SS400(1020)
46	Spring Guide Plate	1	SS400(1020)
47	Spring	1	Refer to the Spring Specification Table.
49	Washer	1	S45C(1045) ISO specification only
50	Spring Guide Pin	1	S45C(1045) ISO specification only



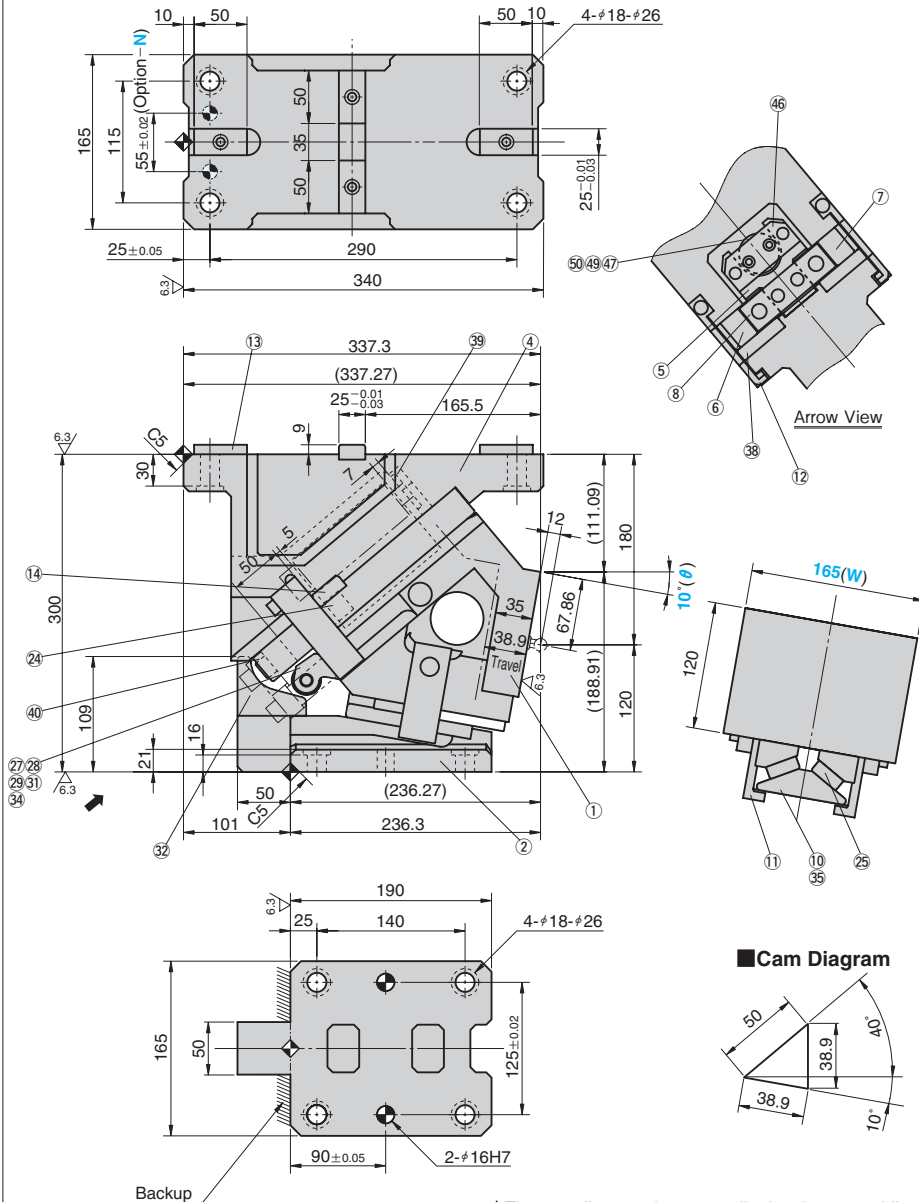
Bolts for assembly are not indicated.

# Aerial Cam Unit

NAAMS STANDARD

CAD FILE

UCMSNR165-10



\* The cam diagram shows no roller bracket assemblies or accelerators. If these items are needed, please contact our sales department for details.

Travel S	Working Force kN(tonf)	Spring Force N(kgf)		Return Force N(kgf)	Total Weight (Slider Weight) kg	Catalog No.	W	θ	Spring Type PS
		Initial Load	Final Load						
38.9	294.2 (30.0)	-	3430.0 (349.8)	4697 (479.3)	73.8 (25.2)	UCMSNR	165	10	GK *NGK
			3518.0 (358.7)						GD *NGD
			3490.0 (355.9)						GS *NGS
			449.1 (45.8)						ISO *NISO

\* When supplying your own Nitrogen Spring, please add "N" at the beginning of your spring selection to ensure you are supplied the correct mounting hardware.



Order

Catalog No.	W	θ	PS
UCMSNR	165	10	GK
UCMSNR	165	10	NGK
UCMSNR	165	10	NISO

.....Without gas spring  
.....Without coil spring



Option

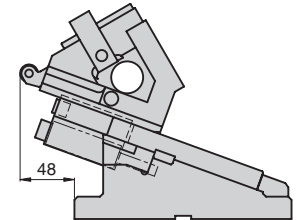
Option Code	Specification
N	φ16H7 dowel hole is drilled on the cam holder.
NF	Nitrogen gas not charged.



Order

UCMSNR165-10-GK-N  
UCMSNR165-10-GK-NF

Space for removing



## Spring Specification

No.	PS	Spring Model	Remark
47	GK	TU250-63.5	Gas Spring (KALLER)
	GD	L300.063.138	Gas Spring (DADCO)
	GS	SPF.250.63	Gas Spring (SDT)
	ISO	TJM40-178	Coil Spring (constant =44.9N/mm)

Guideline of spring durability 500,000 strokes

## Table of Components

No.	Description	Qty	Material and Remark
1	Cam Slider	1	FC250
2	Cam Driver	1	FC250
4	Cam Holder	1	FC250
5	Spring Guide	1	Bronze with Graphite
6	Base Plate D-R	1	S45C(1045)
7	Base Plate D-L	1	S45C(1045)
8	Stopper Plate	1	S45C(1045)
10	Cam Slide Guide	1	Bronze with Graphite
11	Positive Return Follower	2	S45C(1045)
12	Safety Plate	2	SS400(1020)
13	Key A	4	SS400(1020)
14	Key B	2	SS400(1020)
24	Stopper	1	Urethane
25	Slide Plate	2	S45C(1045)

No.	Description	Qty	Material and Remark
27	Roller	1	S45C(1045)
28	Roller Pin	1	S45C(1045)
29	Bushing	1	Bronze with Graphite SOB12-18-16
31	Roller Bracket	1	SS400(1020)
32	Roller Driver	1	S45C(1045)
34	Snap Ring E type	2	φ9
35	Key C	1	SS400(1020)
38	Wear Plate	2	Bronze with Graphite
39	Spring Support	1	SS400(1020)
40	Slide Lock Plate	1	SS400(1020)
46	Spring Guide Plate	1	SS400(1020)
47	Spring	1	Refer to the Spring Specification Table.
49	Washer	1	S45C(1045) ISO specification only
50	Spring Guide Pin	1	S45C(1045) ISO specification only



Bolts for assembly are not indicated.

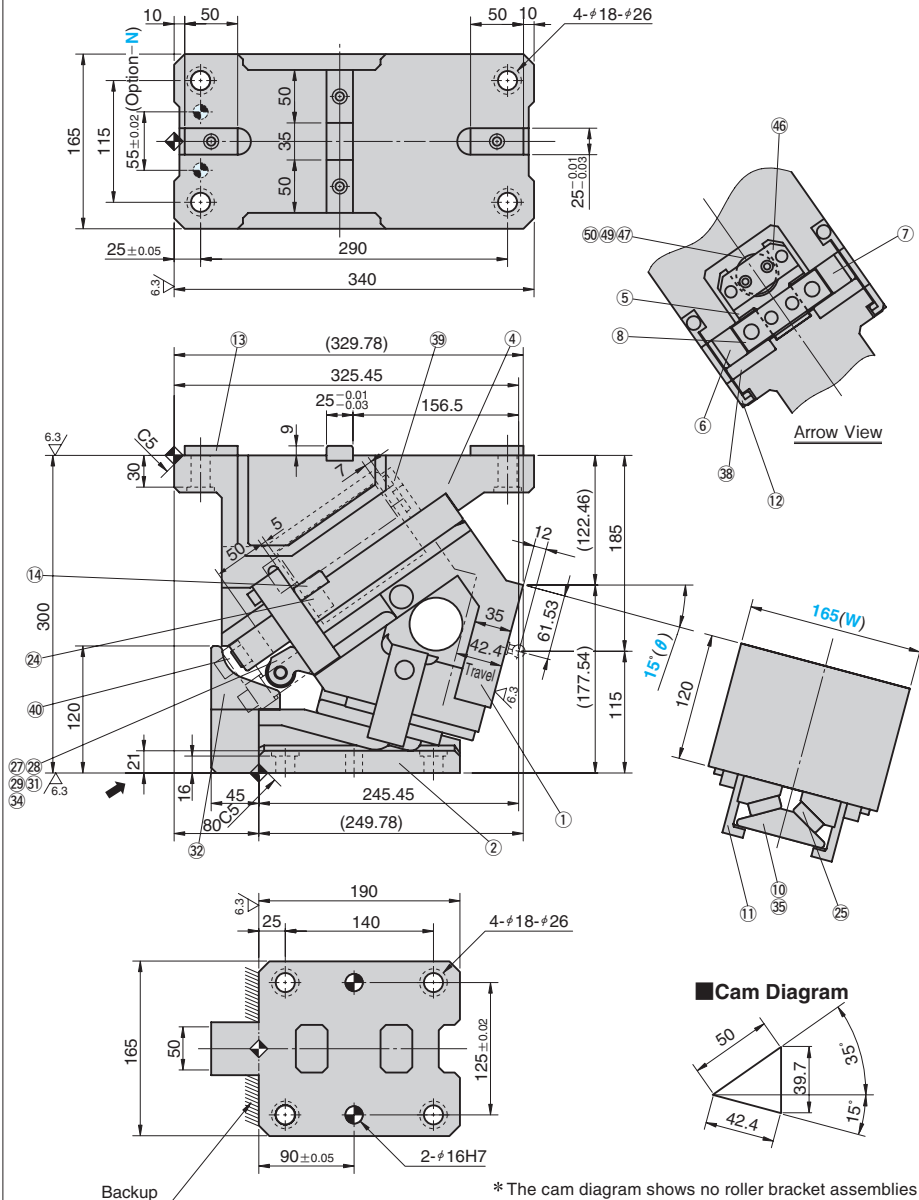


# Aerial Cam Unit

NAAMS STANDARD

CAD FILE

UCMSNR165-15



\* The cam diagram shows no roller bracket assemblies or accelerators. If these items are needed, please contact our sales department for details.

Travel S	Working Force kN(tonf)	Spring Force N(kgf)		Return Force N(kgf)	Total Weight (Slider Weight) kg	Catalog No.	W	θ	Spring Type PS
		Initial Load	Final Load						
42.4	294.2 (30.0)	-	3430.0 (349.8)	4671 (476.7)	73.1 (25.2)	UCMSNR	165	15	GK *NGK
			3518.0 (358.7)						GD *NGD
			3490.0 (355.9)						GS *NGS
			2694.0 (274.7)						ISO *NISO

\* When supplying your own Nitrogen Spring, please add "N" at the beginning of your spring selection to ensure you are supplied the correct mounting hardware.



Order

Catalog No.	W	θ	PS
UCMSNR	165	15	GK
UCMSNR	165	15	NGK
UCMSNR	165	15	NISO

.....Without gas spring  
.....Without coil spring



Option

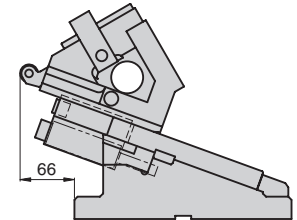
Option Code	Specification
N	φ16H7 dowel hole is drilled on the cam holder.
NF	Nitrogen gas not charged.



Order

UCMSNR165 - 15 - GK - N  
UCMSNR165 - 15 - GK - NF

Space for removing



### Spring Specification

No.	PS	Spring Model	Remark
47	GK	TU250-63.5	Gas Spring (KALLER)
	GD	L300.063.138	Gas Spring (DADCO)
	GS	SPF.250.63	Gas Spring (SDT)
	ISO	TJM40-178	Coil Spring (constant =44.9N/mm)

Guideline of spring durability 500,000 strokes

### Table of Components

No.	Description	Qty	Material and Remark
①	Cam Slider	1	FC250
②	Cam Driver	1	FC250
④	Cam Holder	1	FC250
⑤	Spring Guide	1	Bronze with Graphite
⑥	Base Plate D-R	1	S45C(1045)
⑦	Base Plate D-L	1	S45C(1045)
⑧	Stopper Plate	1	S45C(1045)
⑩	Cam Slide Guide	1	Bronze with Graphite
⑪	Positive Return Follower	2	S45C(1045)
⑫	Safety Plate	2	SS400(1020)
⑬	Key A	4	SS400(1020)
⑭	Key B	2	SS400(1020)
⑲	Stopper	1	Urethane
⑳	Slide Plate	2	S45C(1045)
⑳	Roller	1	S45C(1045)
㉑	Roller Pin	1	S45C(1045)
㉒	Bushing	1	Bronze with Graphite SOB12-18-16
㉓	Roller Bracket	1	SS400(1020)
㉔	Roller Driver	1	S45C(1045)
㉕	Snap Ring E type	2	φ9
㉖	Key C	1	SS400(1020)
㉗	Wear Plate	2	Bronze with Graphite
㉘	Spring Support	1	SS400(1020)
㉙	Slide Lock Plate	1	SS400(1020)
㉚	Spring Guide Plate	1	SS400(1020)
㉛	Spring	1	Refer to the Spring Specification Table.
㉜	Washer	1	S45C(1045) ISO specification only
㉝	Spring Guide Pin	1	S45C(1045) ISO specification only



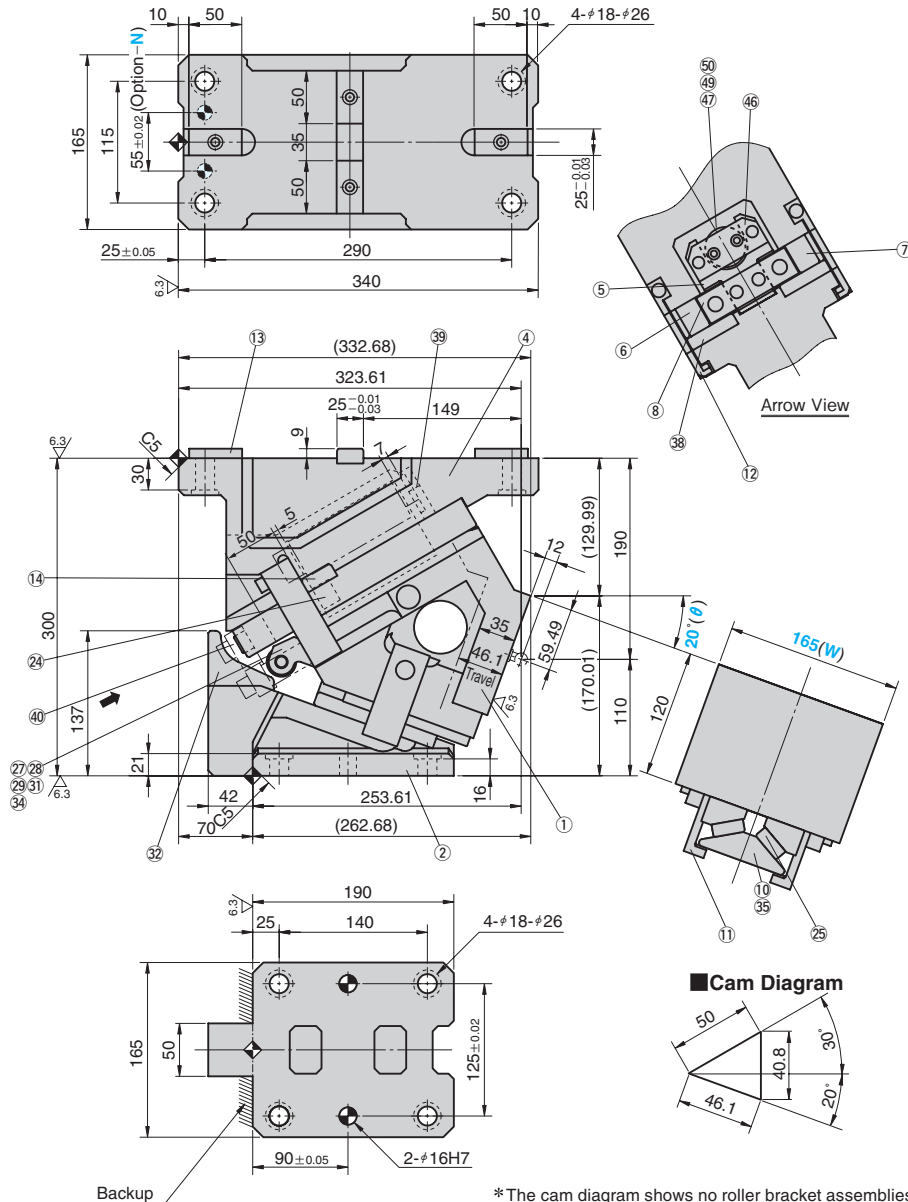
Bolts for assembly are not indicated.

# Aerial Cam Unit

NAAMS STANDARD

CAD FILE

UCMSNR165-20



\*The cam diagram shows no roller bracket assemblies or accelerators. If these items are needed, please contact our sales department for details.

Travel S	Working Force kN(tonf)	Spring Force N(kgf)		Return Force N(kgf)	Total Weight (Slider Weight) kg	Catalog No.	W	θ	Spring Type PS
		Initial Load	Final Load						
46.1	294.2 (30.0)	-	3430.0 (349.8)	4645 (474.0)	72.3 (25.2)	UCMSNR	165	20	GK *NGK
			3518.0 (358.7)						GD *NGD
			3490.0 (355.9)						GS *NGS
			2694.0 (274.7)						ISO *NISO

\* When supplying your own Nitrogen Spring, please add "N" at the beginning of your spring selection to ensure you are supplied the correct mounting hardware.



Order

Catalog No.	W	θ	PS
UCMSNR	165	20	GK
UCMSNR	165	20	NGK
UCMSNR	165	20	NISO

.....Without gas spring  
.....Without coil spring



Option

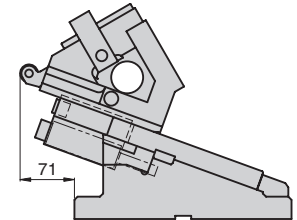
Option Code	Specification
N	φ16H7 dowel hole is drilled on the cam holder.
NF	Nitrogen gas not charged.



Order

UCMSNR165 - 20 - GK - N  
UCMSNR165 - 20 - GK - NF

Space for removing



## Spring Specification

No.	PS	Spring Model	Remark
47	GK	TU250-63.5	Gas Spring (KALLER)
	GD	L300.063.138	Gas Spring (DADCO)
	GS	SPF.250.63	Gas Spring (SDT)
	ISO	TJM40-178	Coil Spring (constant =44.9N/mm)

Guideline of spring durability 500,000 strokes

## Table of Components

No.	Description	Qty	Material and Remark
1	Cam Slider	1	FC250
2	Cam Driver	1	FC250
4	Cam Holder	1	FC250
5	Spring Guide	1	Bronze with Graphite
6	Base Plate D-R	1	S45C(1045)
7	Base Plate D-L	1	S45C(1045)
8	Stopper Plate	1	S45C(1045)
10	Cam Slide Guide	1	Bronze with Graphite
11	Positive Return Follower	2	S45C(1045)
12	Safety Plate	2	SS400(1020)
13	Key A	4	SS400(1020)
14	Key B	2	SS400(1020)
24	Stopper	1	Urethane
25	Slide Plate	2	S45C(1045)

No.	Description	Qty	Material and Remark
27	Roller	1	S45C(1045)
28	Roller Pin	1	S45C(1045)
29	Bushing	1	Bronze with Graphite SOB12-18-16
31	Roller Bracket	1	SS400(1020)
32	Roller Driver	1	S45C(1045)
34	Snap Ring E type	2	φ9
35	Key C	1	SS400(1020)
38	Wear Plate	2	Bronze with Graphite
39	Spring Support	1	SS400(1020)
40	Slide Lock Plate	1	SS400(1020)
46	Spring Guide Plate	1	SS400(1020)
47	Spring	1	Refer to the Spring Specification Table.
49	Washer	1	S45C(1045) ISO specification only
50	Spring Guide Pin	1	S45C(1045) ISO specification only



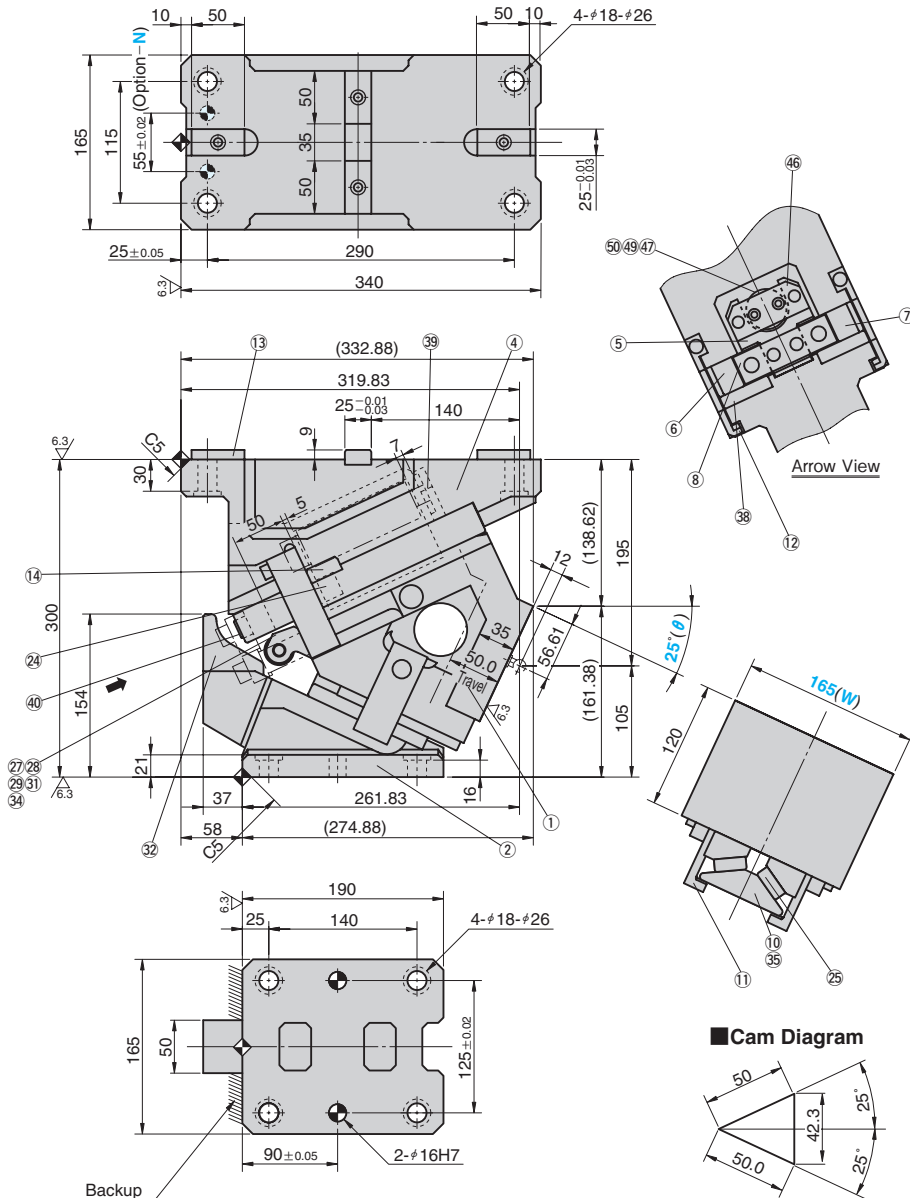
Bolts for assembly are not indicated.

# Aerial Cam Unit

NAAMS STANDARD

CAD FILE

UCMSNR165-25



Cam Diagram

\* The cam diagram shows no roller bracket assemblies or accelerators. If these items are needed, please contact our sales department for details.

Travel S	Working Force kN(tonf)	Spring Force N(kgf)		Return Force N(kgf)	Total Weight (Slider Weight) kg	Catalog No.	W	θ	Spring Type PS
		Initial Load	Final Load						
50.0	294.2 (30.0)	-	3430.0 (349.8)	4618 (471.2)	72.1 (25.2)	UCMSNR	165	25	GK *NGK
			3518.0 (358.7)						GD *NGD
			3490.0 (355.9)						GS *NGS
			2694.0 (274.7)						ISO *NISO

\* When supplying your own Nitrogen Spring, please add "N" at the beginning of your spring selection to ensure you are supplied the correct mounting hardware.



Order

Catalog No.	W	θ	PS
UCMSNR	165	25	GK
UCMSNR	165	25	NGK
UCMSNR	165	25	NISO

.....Without gas spring  
.....Without coil spring



Option

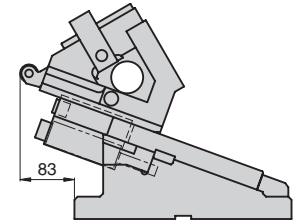
Option Code	Specification
N	φ16H7 dowel hole is drilled on the cam holder.
NF	Nitrogen gas not charged.



Order

UCMSNR165 - 25 - GK - N  
UCMSNR165 - 25 - GK - NF

Space for removing



## Spring Specification

No.	PS	Spring Model	Remark
47	GK	TU250-63.5	Gas Spring (KALLER)
	GD	L300.063.138	Gas Spring (DADCO)
	GS	SPF.250.63	Gas Spring (SDT)
	ISO	TJM40-178	Coil Spring (constant =44.9N/mm)

Guideline of spring durability 500,000 strokes

## Table of Components

No.	Description	Qty	Material and Remark
1	Cam Slider	1	FC250
2	Cam Driver	1	FC250
4	Cam Holder	1	FC250
5	Spring Guide	1	Bronze with Graphite
6	Base Plate D-R	1	S45C(1045)
7	Base Plate D-L	1	S45C(1045)
8	Stopper Plate	1	S45C(1045)
10	Cam Slide Guide	1	Bronze with Graphite
11	Positive Return Follower	2	S45C(1045)
12	Safety Plate	2	SS400(1020)
13	Key A	4	SS400(1020)
14	Key B	2	SS400(1020)
24	Stopper	1	Urethane
25	Slide Plate	2	S45C(1045)

No.	Description	Qty	Material and Remark
27	Roller	1	S45C(1045)
28	Roller Pin	1	S45C(1045)
29	Bushing	1	Bronze with Graphite SOB12-18-16
31	Roller Bracket	1	SS400(1020)
32	Roller Driver	1	S45C(1045)
34	Snap Ring E type	2	φ9
35	Key C	1	SS400(1020)
38	Wear Plate	2	Bronze with Graphite
39	Spring Support	1	SS400(1020)
40	Slide Lock Plate	1	SS400(1020)
46	Spring Guide Plate	1	SS400(1020)
47	Spring	1	Refer to the Spring Specification Table.
49	Washer	1	S45C(1045) ISO specification only
50	Spring Guide Pin	1	S45C(1045) ISO specification only



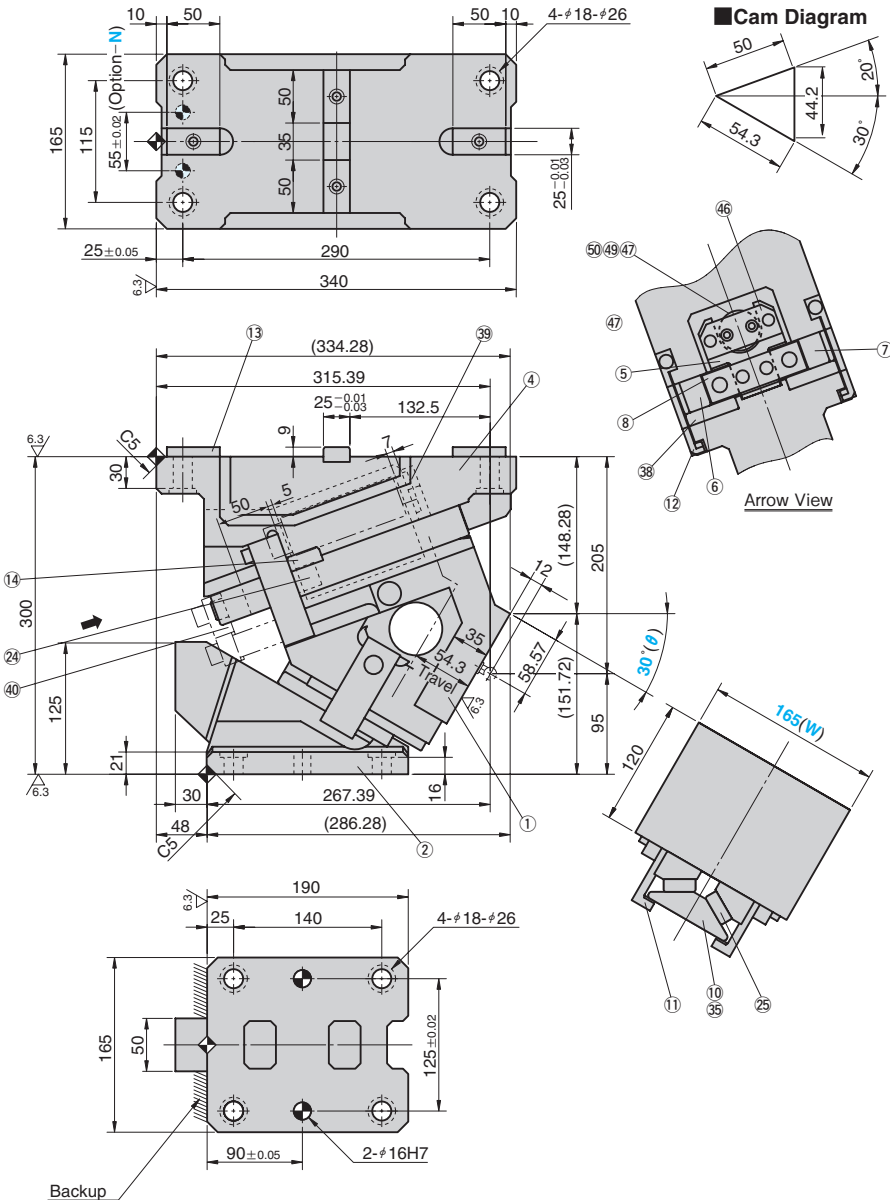
Bolts for assembly are not indicated.

# Aerial Cam Unit

NAAMS STANDARD

CAD FILE

UCMSNR165-30



Travel S	Working Force kN(tonf)	Spring Force N(kgf)		Return Force N(kgf)	Total Weight (Slider Weight) kg	Catalog No.	W	θ	Spring Type PS
		Initial Load	Final Load						
54.3	294.2 (30.0)	-	3430.0 (349.8)	4589 (468.3)	71.9 (25.2)	UCMSNR	165	30	GK *NGK
		-	3518.0 (358.7)						GD *NGD
		-	3490.0 (355.9)						GS *NGS
		449.1 (45.8)	2694.0 (274.7)						ISO *NISO

\* When supplying your own Nitrogen Spring, please add "N" at the beginning of your spring selection to ensure you are supplied the correct mounting hardware.



Order

Catalog No.	W	θ	PS
UCMSNR	165	30	GK
UCMSNR	165	30	NGK
UCMSNR	165	30	NISO

.....Without gas spring  
.....Without coil spring



Option

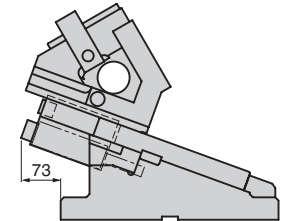
Option Code	Specification
N	φ16H7 dowel hole is drilled on the cam holder.
NF	Nitrogen gas not charged.



Order

UCMSNR165 - 30 - GK - N  
UCMSNR165 - 30 - GK - NF

Space for removing



## Spring Specification

No.	PS	Spring Model	Remark
47	GK	TU250-63.5	Gas Spring (KALLER)
	GD	L300.063.138	Gas Spring (DADCO)
	GS	SPF.250.63	Gas Spring (SDT)
	ISO	TJM40-178	Coil Spring (constant =44.9N/mm)

Guideline of spring durability 500,000 strokes

## Table of Components

No.	Description	Qty	Material and Remark
1	Cam Slider	1	FC250
2	Cam Driver	1	FC250
4	Cam Holder	1	FC250
5	Spring Guide	1	Bronze with Graphite
6	Base Plate D-R	1	S45C(1045)
7	Base Plate D-L	1	S45C(1045)
8	Stopper Plate	1	S45C(1045)
10	Cam Slide Guide	1	Bronze with Graphite
11	Positive Return Follower	2	S45C(1045)
12	Safety Plate	2	SS400(1020)
13	Key A	4	SS400(1020)

No.	Description	Qty	Material and Remark
14	Key B	2	SS400(1020)
24	Stopper	1	Urethane
25	Slide Plate	2	S45C(1045)
35	Key C	1	SS400(1020)
38	Wear Plate	2	Bronze with Graphite
39	Spring Support	1	SS400(1020)
40	Slide Lock Plate	1	SS400(1020)
46	Spring Guide Plate	1	SS400(1020)
47	Spring	1	Refer to the Spring Specification Table.
49	Washer	1	S45C(1045) ISO specification only
50	Spring Guide Pin	1	S45C(1045) ISO specification only

▲ Bolts for assembly are not indicated.

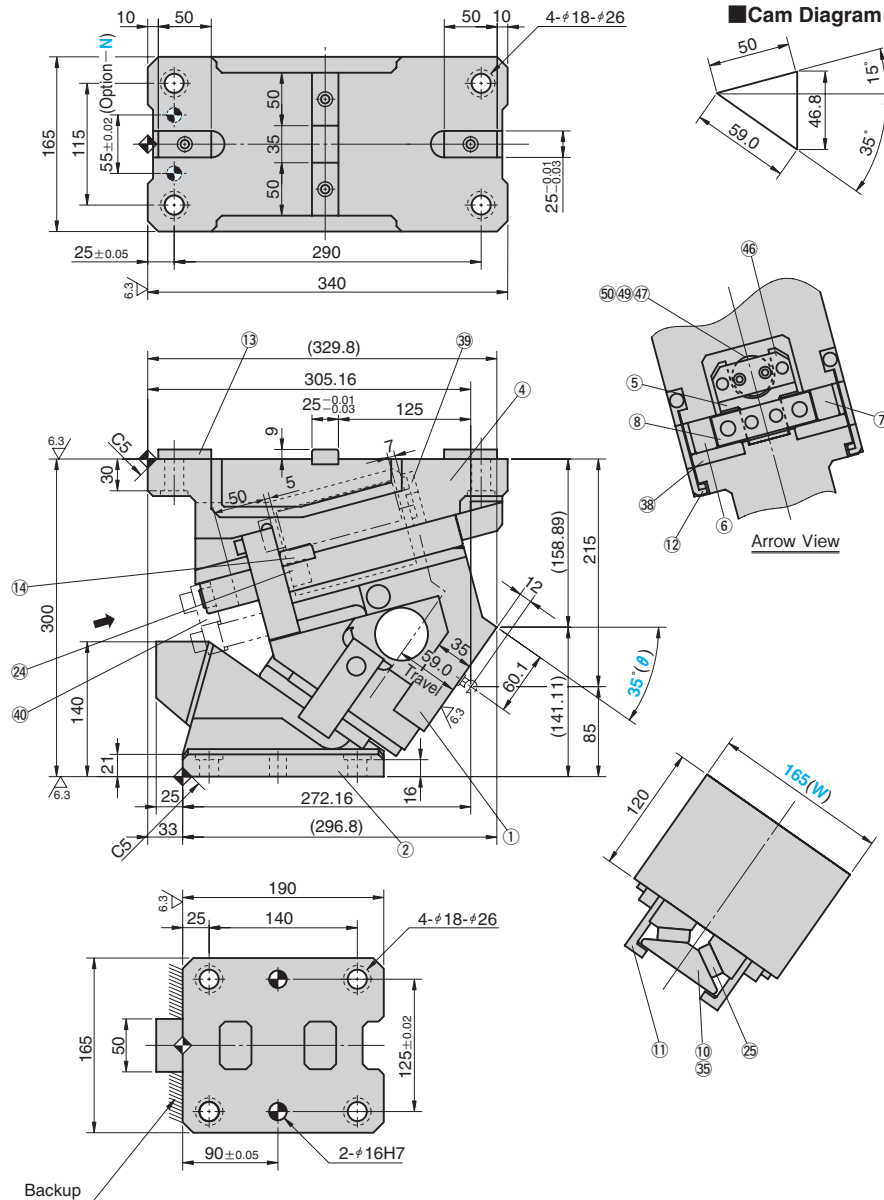


# Aerial Cam Unit

NAAMS STANDARD

CAD FILE

UCMSNR165-35



Travel S	Working Force kN(tonf)	Spring Force N(kgf)		Return Force N(kgf)	Total Weight (Slider Weight) kg	Catalog No.	W	θ	Spring Type PS
		Initial Load	Final Load						
59.0	294.2 (30.0)	-	3430.0 (349.8)	4561 (465.4)	72.2 (25.2)	UCMSNR	165	35	GK *NGK
			3518.0 (358.7)						GD *NGD
			3490.0 (355.9)						GS *NGS
			2694.0 (274.7)						ISO *NISO

\* When supplying your own Nitrogen Spring, please add "N" at the beginning of your spring selection to ensure you are supplied the correct mounting hardware.



Order

Catalog No.	W	θ	PS
UCMSNR	165	35	GK
UCMSNR	165	35	NGK
UCMSNR	165	35	NISO

.....Without gas spring  
.....Without coil spring



Option

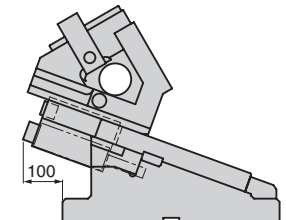
Option Code	Specification
N	φ16H7 dowel hole is drilled on the cam holder.
NF	Nitrogen gas not charged.



Order

UCMSNR165 - 35 - GK - N  
UCMSNR165 - 35 - GK - NF

Space for removing



## Spring Specification

No.	PS	Spring Model	Remark
47	GK	TU250-63.5	Gas Spring (KALLER)
	GD	L300.063.138	Gas Spring (DADCO)
	GS	SPF.250.63	Gas Spring (SDT)
	ISO	TJM40-178	Coil Spring (constant =44.9N/mm)

Guideline of spring durability 500,000 strokes

## Table of Components

No.	Description	Qty	Material and Remark
1	Cam Slider	1	FC250
2	Cam Driver	1	FC250
4	Cam Holder	1	FC250
5	Spring Guide	1	Bronze with Graphite
6	Base Plate D-R	1	S45C(1045)
7	Base Plate D-L	1	S45C(1045)
8	Stopper Plate	1	S45C(1045)
10	Cam Slide Guide	1	Bronze with Graphite
11	Positive Return Follower	2	S45C(1045)
12	Safety Plate	2	SS400(1020)
13	Key A	4	SS400(1020)

No.	Description	Qty	Material and Remark
14	Key B	2	SS400(1020)
24	Stopper	1	Urethane
25	Slide Plate	2	S45C(1045)
35	Key C	1	SS400(1020)
38	Wear Plate	2	Bronze with Graphite
39	Spring Support	1	SS400(1020)
40	Slide Lock Plate	1	SS400(1020)
46	Spring Guide Plate	1	SS400(1020)
47	Spring	1	Refer to the Spring Specification Table.
49	Washer	1	S45C(1045) ISO specification only
50	Spring Guide Pin	1	S45C(1045) ISO specification only

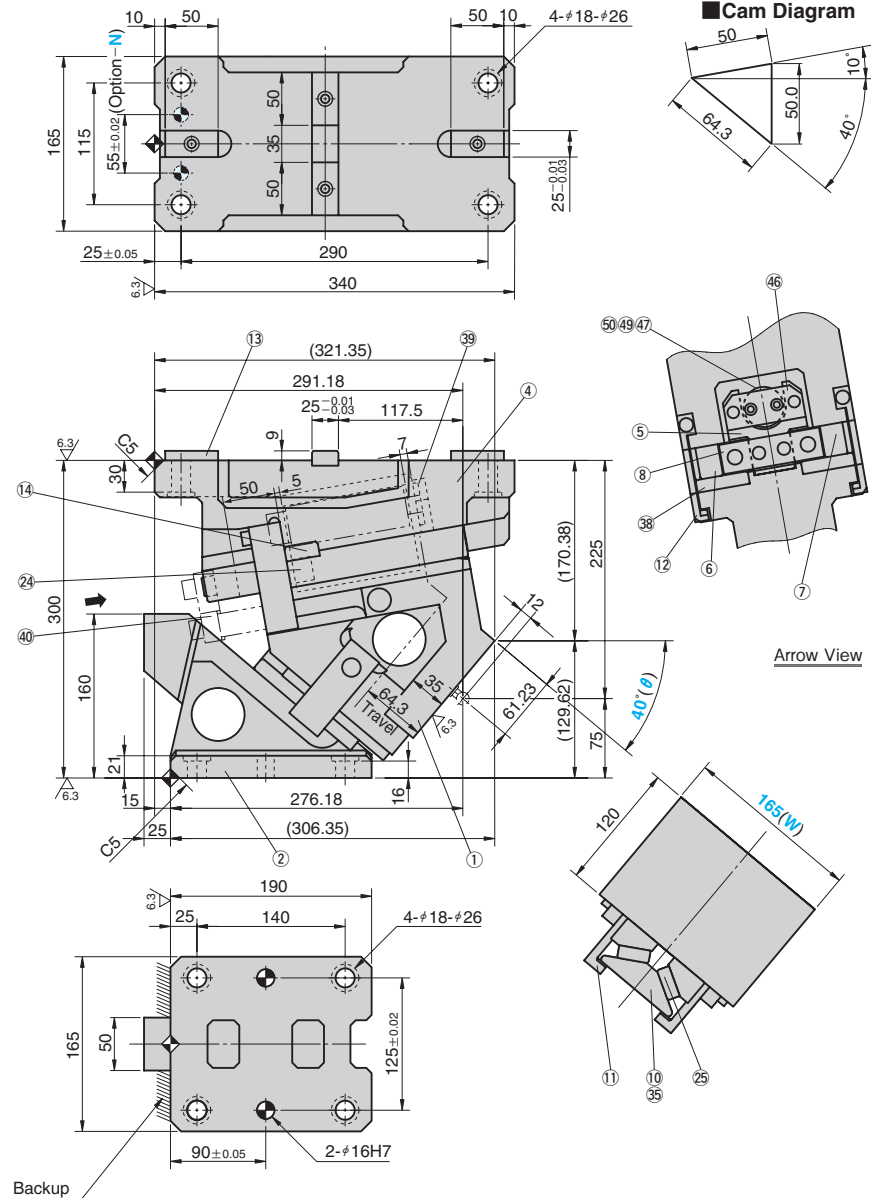
▲ Bolts for assembly are not indicated.

# Aerial Cam Unit

NAAMS STANDARD

CAD FILE

UCMSNR165-40



Travel S	Working Force kN(tonf)	Spring Force N(kgf)		Return Force N(kgf)	Total Weight (Slider Weight) kg	Catalog No.	W	θ	Spring Type PS
		Initial Load	Final Load						
64.3	294.2 (30.0)	-	3430.0 (349.8)	4533 (462.5)	72.4 (25.2)	UCMSNR	165	40	GK *NGK
			3518.0 (358.7)						GD *NGD
			3490.0 (355.9)						GS *NGS
			2694.0 (274.7)						ISO *NISO

\* When supplying your own Nitrogen Spring, please add "N" at the beginning of your spring selection to ensure you are supplied the correct mounting hardware.



Order

Catalog No.	W	θ	PS
UCMSNR	165	40	GK
UCMSNR	165	40	NGK
UCMSNR	165	40	NISO

.....Without gas spring  
.....Without coil spring



Option

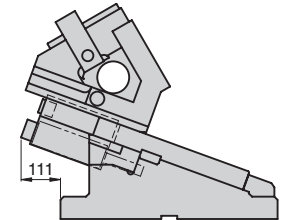
Option Code	Specification
N	φ16H7 dowel hole is drilled on the cam holder.
NF	Nitrogen gas not charged.



Order

UCMSNR165 - 40 - GK - N  
UCMSNR165 - 40 - GK - NF

Space for removing



## Spring Specification

No.	PS	Spring Model	Remark
47	GK	TU250-63.5	Gas Spring (KALLER)
	GD	L300.063.138	Gas Spring (DADCO)
	GS	SPF.250.63	Gas Spring (SDT)
	ISO	TJM40-178	Coil Spring (constant =44.9N/mm)

Guideline of spring durability 500,000 strokes

## Table of Components

No.	Description	Qty	Material and Remark
1	Cam Slider	1	FC250
2	Cam Driver	1	FC250
4	Cam Holder	1	FC250
5	Spring Guide	1	Bronze with Graphite
6	Base Plate D-R	1	S45C(1045)
7	Base Plate D-L	1	S45C(1045)
8	Stopper Plate	1	S45C(1045)
10	Cam Slide Guide	1	Bronze with Graphite
11	Positive Return Follower	2	S45C(1045)
12	Safety Plate	2	SS400(1020)
13	Key A	4	SS400(1020)

No.	Description	Qty	Material and Remark
14	Key B	2	SS400(1020)
24	Stopper	1	Urethane
25	Slide Plate	2	S45C(1045)
35	Key C	1	SS400(1020)
38	Wear Plate	2	Bronze with Graphite
39	Spring Support	1	SS400(1020)
40	Slide Lock Plate	1	SS400(1020)
46	Spring Guide Plate	1	SS400(1020)
47	Spring	1	Refer to the Spring Specification Table.
49	Washer	1	S45C(1045) ISO specification only
50	Spring Guide Pin	1	S45C(1045) ISO specification only

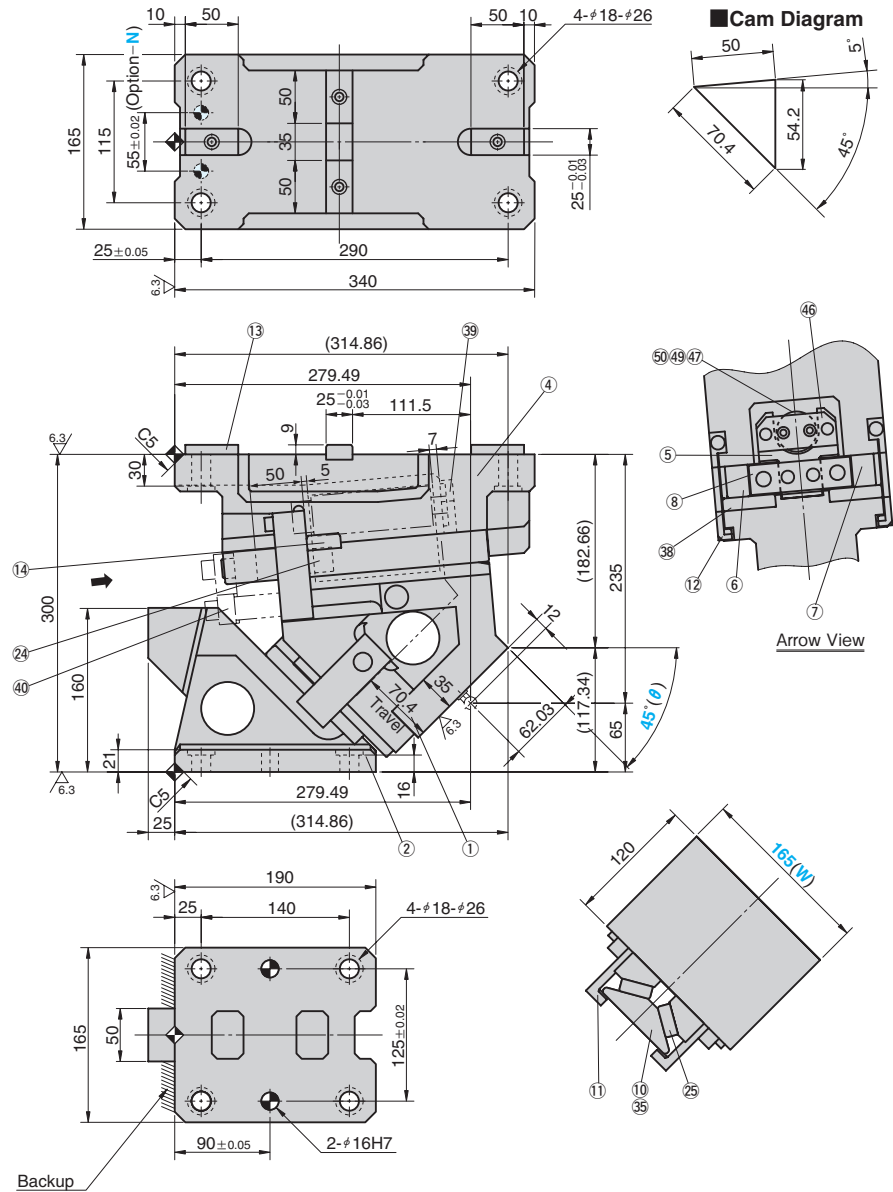
▲ Bolts for assembly are not indicated.

# Aerial Cam Unit

NAAMS STANDARD

CAD FILE

UCMSNR165-45



Travel S	Working Force kN(tonf)	Spring Force N(kgf)		Return Force N(kgf)	Total Weight (Slider Weight) kg	Catalog No.	W	θ	Spring Type PS
		Initial Load	Final Load						
70.4	294.2 (30.0)	-	3430.0 (349.8)	4504 (459.6)	65.5 (25.2)	UCMSNR	165	45	GK *NGK
			3518.0 (358.7)						GD *NGD
			3490.0 (355.9)						GS *NGS
			449.1 (45.8)						2694.0 (274.7)

\* When supplying your own Nitrogen Spring, please add "N" at the beginning of your spring selection to ensure you are supplied the correct mounting hardware.



Order

Catalog No.	W	θ	PS
UCMSNR	165	45	GK
UCMSNR	165	45	NGK
UCMSNR	165	45	NISO

.....Without gas spring  
.....Without coil spring



Option

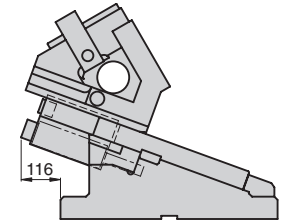
Option Code	Specification
N	φ16H7 dowel hole is drilled on the cam holder.
NF	Nitrogen gas not charged.



Order

UCMSNR165 - 45 - GK - N  
UCMSNR165 - 45 - GK - NF

Space for removing



## Spring Specification

No.	PS	Spring Model	Remark
47	GK	TU250-63.5	Gas Spring (KALLER)
	GD	L300.063.138	Gas Spring (DADCO)
	GS	SPF.250.63	Gas Spring (SDT)
	ISO	TJM40-178	Coil Spring (constant =44.9N/mm)

Guideline of spring durability 500,000 strokes

## Table of Components

No.	Description	Qty	Material and Remark
1	Cam Slider	1	FC250
2	Cam Driver	1	FC250
4	Cam Holder	1	FC250
5	Spring Guide	1	Bronze with Graphite
6	Base Plate D-R	1	S45C(1045)
7	Base Plate D-L	1	S45C(1045)
8	Stopper Plate	1	S45C(1045)
10	Cam Slide Guide	1	Bronze with Graphite
11	Positive Return Follower	2	S45C(1045)
12	Safety Plate	2	SS400(1020)
13	Key A	4	SS400(1020)

No.	Description	Qty	Material and Remark
14	Key B	2	SS400(1020)
24	Stopper	1	Urethane
25	Slide Plate	2	S45C(1045)
35	Key C	1	SS400(1020)
38	Wear Plate	2	Bronze with Graphite
39	Spring Support	1	SS400(1020)
40	Slide Lock Plate	1	SS400(1020)
46	Spring Guide Plate	1	SS400(1020)
47	Spring	1	Refer to the Spring Specification Table.
49	Washer	1	S45C(1045) ISO specification only
50	Spring Guide Pin	1	S45C(1045) ISO specification only

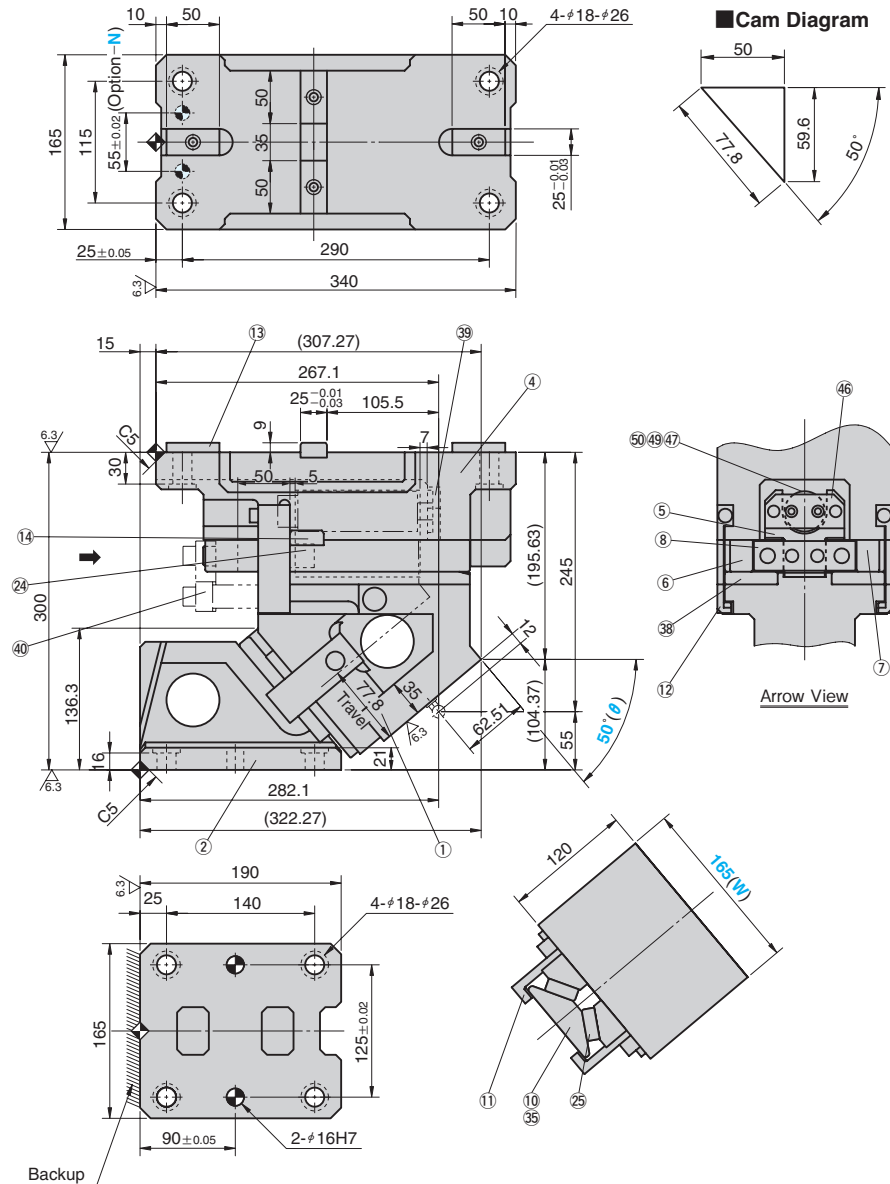
▲ Bolts for assembly are not indicated.

# Aerial Cam Unit

NAAMS STANDARD

CAD FILE

UCMSNR165-50



Travel S	Working Force kN(tonf)	Spring Force N(kgf)		Return Force N(kgf)	Total Weight (Slider Weight) kg	Catalog No.	W	θ	Spring Type PS
		Initial Load	Final Load						
77.8	294.2 (30.0)	-	3430.0 (349.8)	4476 (456.7)	64.3 (25.2)	UCMSNR	165	50	GK *NGK
			3518.0 (358.7)						GD *NGD
			3490.0 (355.9)						GS *NGS
			2694.0 (274.7)						ISO *NISO

\* When supplying your own Nitrogen Spring, please add "N" at the beginning of your spring selection to ensure you are supplied the correct mounting hardware.



Order

Catalog No.	W	θ	PS
UCMSNR	165	50	GK
UCMSNR	165	50	NGK
UCMSNR	165	50	NISO

.....Without gas spring  
.....Without coil spring



Option

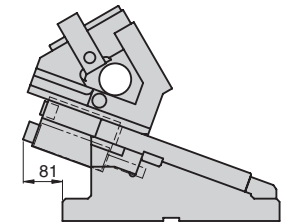
Option Code	Specification
N	φ16H7 dowel hole is drilled on the cam holder.
NF	Nitrogen gas not charged.



Order

UCMSNR165 - 50 - GK - N  
UCMSNR165 - 50 - GK - NF

Space for removing



## Spring Specification

No.	PS	Spring Model	Remark
47	GK	TU250-63.5	Gas Spring (KALLER)
	GD	L300.063.138	Gas Spring (DADCO)
	GS	SPF.250.63	Gas Spring (SDT)
	ISO	TJM40-178	Coil Spring (constant =44.9N/mm)

Guideline of spring durability 500,000 strokes

## Table of Components

No.	Description	Qty	Material and Remark
1	Cam Slider	1	FC250
2	Cam Driver	1	FC250
4	Cam Holder	1	FC250
5	Spring Guide	1	Bronze with Graphite
6	Base Plate D-R	1	S45C(1045)
7	Base Plate D-L	1	S45C(1045)
8	Stopper Plate	1	S45C(1045)
10	Cam Slide Guide	1	Bronze with Graphite
11	Positive Return Follower	2	S45C(1045)
12	Safety Plate	2	SS400(1020)
13	Key A	4	SS400(1020)

No.	Description	Qty	Material and Remark
14	Key B	2	SS400(1020)
24	Stopper	1	Urethane
25	Slide Plate	2	S45C(1045)
35	Key C	1	SS400(1020)
38	Wear Plate	2	Bronze with Graphite
39	Spring Support	1	SS400(1020)
40	Slide Lock Plate	1	SS400(1020)
46	Spring Guide Plate	1	SS400(1020)
47	Spring	1	Refer to the Spring Specification Table.
49	Washer	1	S45C(1045) ISO specification only
50	Spring Guide Pin	1	S45C(1045) ISO specification only

⚠ Bolts for assembly are not indicated.

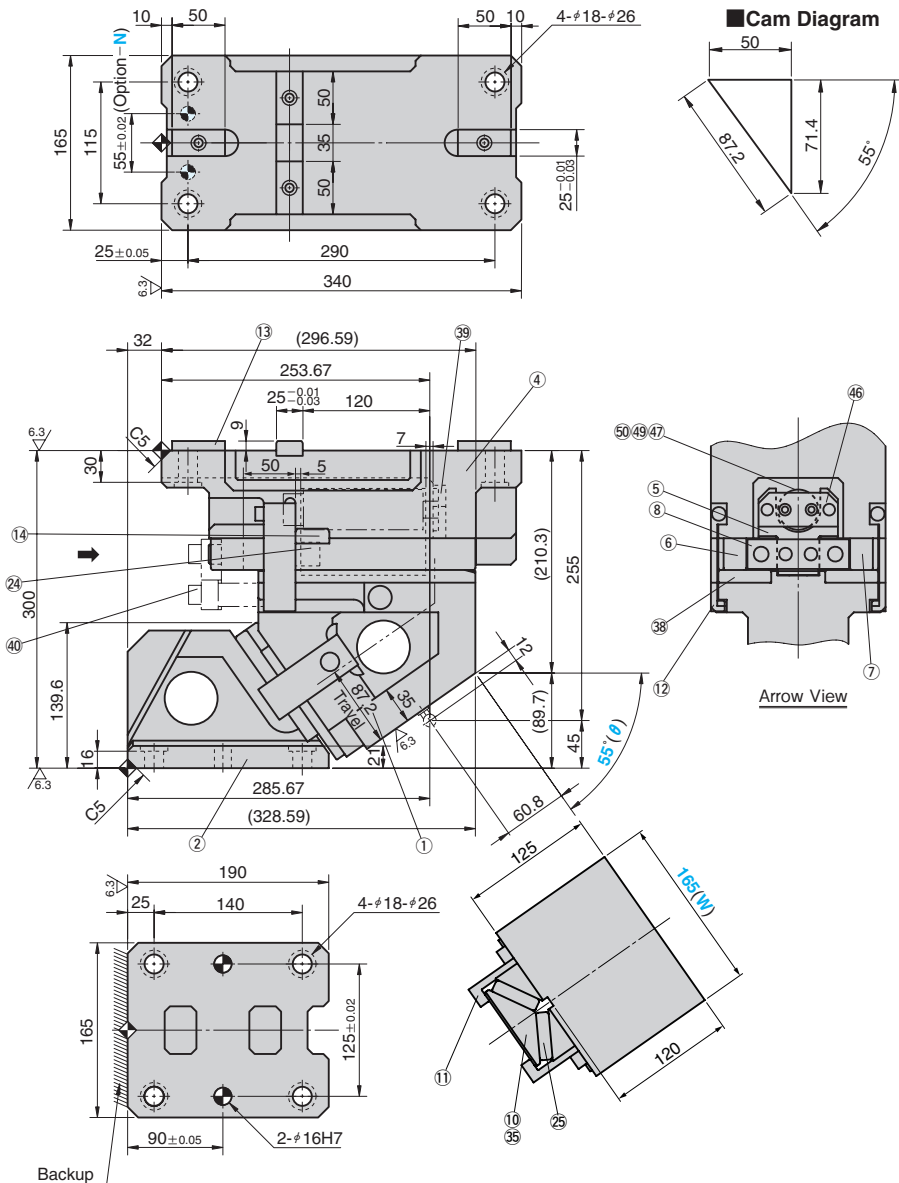


# Aerial Cam Unit

NAAMS STANDARD

CAD FILE

UCMSNR165-55



Travel S	Working Force kN(tonf)	Spring Force N(kgf)		Return Force N(kgf)	Total Weight (Slider Weight) kg	Catalog No.	W	θ	Spring Type PS
		Initial Load	Final Load						
87.2	294.2 (30.0)	-	3430.0 (349.8)	4867 (496.6)	65.2 (26.4)	UCMSNR	165	55	GK *NGK
			3518.0 (358.7)						GD *NGD
			3490.0 (355.9)						GS *NGS
		449.1 (45.8)	2694.0 (274.7)						ISO *NISO

\* When supplying your own Nitrogen Spring, please add "N" at the beginning of your spring selection to ensure you are supplied the correct mounting hardware.



Order

Catalog No.	W	θ	PS
UCMSNR	165	55	GK
UCMSNR	165	55	NGK
UCMSNR	165	55	NISO

.....Without gas spring  
.....Without coil spring



Option

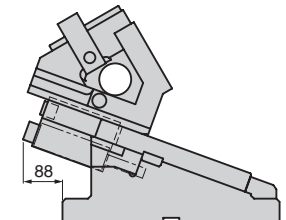
Option Code	Specification
N	φ16H7 dowel hole is drilled on the cam holder.
NF	Nitrogen gas not charged.



Order

UCMSNR165 - 55 - GK - N  
UCMSNR165 - 55 - GK - NF

Space for removing



## Spring Specification

No.	PS	Spring Model	Remark
47	GK	TU250-63.5	Gas Spring (KALLER)
	GD	L300.063.138	Gas Spring (DADCO)
	GS	SPF.250.63	Gas Spring (SDT)
	ISO	TJM40-178	Coil Spring (constant =44.9N/mm)

Guideline of spring durability 500,000 strokes

## Table of Components

No.	Description	Qty	Material and Remark
1	Cam Slider	1	FC250
2	Cam Driver	1	FC250
4	Cam Holder	1	FC250
5	Spring Guide	1	Bronze with Graphite
6	Base Plate D-R	1	S45C(1045)
7	Base Plate D-L	1	S45C(1045)
8	Stopper Plate	1	S45C(1045)
10	Cam Slide Guide	1	Bronze with Graphite
11	Positive Return Follower	2	S45C(1045)
12	Safety Plate	2	SS400(1020)
13	Key A	4	SS400(1020)

No.	Description	Qty	Material and Remark
14	Key B	2	SS400(1020)
24	Stopper	1	Urethane
25	Slide Plate	2	S45C(1045)
35	Key C	1	SS400(1020)
38	Wear Plate	2	Bronze with Graphite
39	Spring Support	1	SS400(1020)
40	Slide Lock Plate	1	SS400(1020)
46	Spring Guide Plate	1	SS400(1020)
47	Spring	1	Refer to the Spring Specification Table.
49	Washer	1	S45C(1045) ISO specification only
50	Spring Guide Pin	1	S45C(1045) ISO specification only

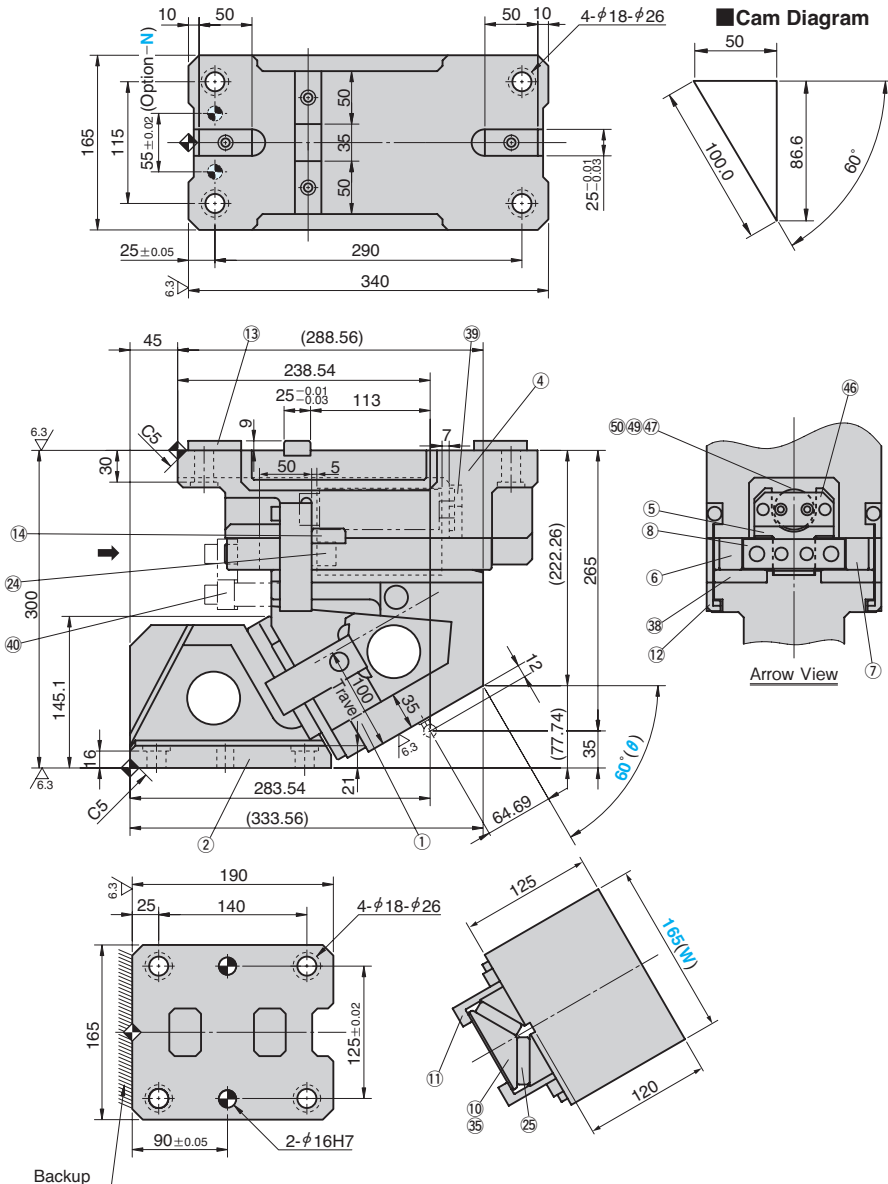
⚠ Bolts for assembly are not indicated.

# Aerial Cam Unit

NAAMS STANDARD

CAD FILE

UCMSNR165-60



Travel S	Working Force kN(tonf)	Spring Force N(kgf)		Return Force N(kgf)	Total Weight (Slider Weight) kg	Catalog No.	W	θ	Spring Type PS
		Initial Load	Final Load						
100.0	294.2 (30.0)	-	3430.0 (349.8)	5380 (548.9)	66.6 (26.8)	UCMSNR	165	60	GK *NGK
			3518.0 (358.7)						GD *NGD
			3490.0 (355.9)						GS *NGS
			2694.0 (274.7)						ISO *NISO

\* When supplying your own Nitrogen Spring, please add "N" at the beginning of your spring selection to ensure you are supplied the correct mounting hardware.



Order

Catalog No.	W	θ	PS
UCMSNR	165	60	GK
UCMSNR	165	60	NGK
UCMSNR	165	60	NISO

.....Without gas spring  
.....Without coil spring



Option

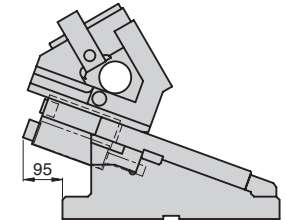
Option Code	Specification
N	φ16H7 dowel hole is drilled on the cam holder.
NF	Nitrogen gas not charged.



Order

UCMSNR165 - 60 - GK - N  
UCMSNR165 - 60 - GK - NF

Space for removing



## Spring Specification

No.	PS	Spring Model	Remark
47	GK	TU250-63.5	Gas Spring (KALLER)
	GD	L300.063.138	Gas Spring (DADCO)
	GS	SPF.250.63	Gas Spring (SDT)
	ISO	TJM40-178	Coil Spring (constant =44.9N/mm)

Guideline of spring durability 500,000 strokes

## Table of Components

No.	Description	Qty	Material and Remark
1	Cam Slider	1	FC250
2	Cam Driver	1	FC250
4	Cam Holder	1	FC250
5	Spring Guide	1	Bronze with Graphite
6	Base Plate D-R	1	S45C(1045)
7	Base Plate D-L	1	S45C(1045)
8	Stopper Plate	1	S45C(1045)
10	Cam Slide Guide	1	Bronze with Graphite
11	Positive Return Follower	2	S45C(1045)
12	Safety Plate	2	SS400(1020)
13	Key A	4	SS400(1020)

No.	Description	Qty	Material and Remark
14	Key B	2	SS400(1020)
24	Stopper	1	Urethane
25	Slide Plate	2	S45C(1045)
35	Key C	1	SS400(1020)
38	Wear Plate	2	Bronze with Graphite
39	Spring Support	1	SS400(1020)
40	Slide Lock Plate	1	SS400(1020)
46	Spring Guide Plate	1	SS400(1020)
47	Spring	1	Refer to the Spring Specification Table.
49	Washer	1	S45C(1045) ISO specification only
50	Spring Guide Pin	1	S45C(1045) ISO specification only

⚠ Bolts for assembly are not indicated.